REQUEST FOR QUALIFICATIONS (RFQ) #2023-010813

STUDENT LEGACY PARK RESURFACING

ISSUE DATE: January 23, 2023

RFQ DUE DATE/TIME: February 22, 2023 at 2:00 PM Pacific Time **via electronic submission to bids@oregonstate.edu**

NON-MANDATORY PRE-SOLICITATION RESPONSE CONFERENCE: January 31, 2023 at 1:00 PM in the Dixon Recreation Center Conference Room 209 located at 425 SW 26th Street Corvallis, Oregon 97331

QUESTION DEADLINE: February 10, 2023 at 10:00 AM Pacific Time

PROJECT NUMBER: 2395-22

CONTRACT ADMINISTRATOR:
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APPEALS:
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It is the Offerors responsibility to continue to monitor the OSU Business and Bid Opportunities website for Addenda. Failure to acknowledge any Addenda in the Transmittal Letter may cause your Solicitation response to be considered non-responsive.

OSU standards and policies govern this solicitation (Procurement Thresholds and Methods, Procurement Solicitations and Contracts) unless otherwise referenced or stated.

1.0 INTRODUCTION

1.1 Oregon State University ("**OSU**") is conducting a competitive **ONE-STEP** or **TWO-STEP** RFQ to retain ONE (1) General Contractor ("**GC**") for the Student Legacy Park Resurfacing project described herein (the "**Project**"). Firms interested in providing these services to OSU may submit a response to this Request for Qualifications ("**RFQ**"). The responses for this RFQ will be evaluated/scored by a qualified committee which may include other non-scoring members who serve as advisors but do not score responses.

A NON-MANDATORY PRE-SUBMITTAL CONFERENCE will be held on January 31, 2023 at 1:00 pm in the Dixon Recreation Center Conference Room 209 located at 425 SW 26th Street Corvallis, Oregon 97331. Attendance will be documented by OSU.

OSU will be accepting responses via email only at **bids@oregonstate.edu**, until 2:00 PM Pacific Time, February 22, 2023 for the project located in Corvallis, Oregon.

OSU WILL ONLY BE ACCEPTING SEALED RESPONSES ELECTRONICALLY.
Responses are to be submitted to bids@oregonstate.edu by the Due Date/Time.

Naming convention details for the e-mail submission are as follows:

E-Mail Subject Line – RFQ 2023-010813 Student Legacy Park Resurfacing – FIRM NAME
Uploaded document – One (1) pdf titled the same as listed above.

When selected, the GC will be a part of a construction team comprised of OSU, the Architect and other Project consultants through the completion of the Project. The GC must demonstrate experience and expertise in managing exterior construction in a crowded campus environment, developing schedules, understanding construction methods and techniques, coordinating construction processes, and managing construction activity. The GC must be able to communicate the construction-related aspects of the project to all team members throughout the construction phases. In addition, the GC must be familiar with the local labor and sub-contracting market.

The attached sample Public Improvement Contract ("Contract") contains contract terms and conditions applicable to the work, and will form the basis of the Contract.

1.2 Background. Founded in 1868 as Oregon's land grant institution, OSU serves the state, the nation and the world as a premier 21st-century research university. OSU is committed to exceptional research, discovery, innovation and engagement, and to integrating its research and engagement mission with the delivery of a high-quality, globally relevant and affordable education for the people of Oregon and beyond. OSU is one of only two land, sea, space and sun grant universities in the U.S. and is the only university in Oregon to have earned both Carnegie Classifications for Very High Research Activity and Community Engagement.

The university's 570-acre main campus is located in the city of Corvallis, a vibrant college town of nearly 58,000 in the heart of Western Oregon's Willamette Valley. Corvallis consistently ranks among the safest, most highly educated and greenest small cities in the nation.

OSU in Corvallis, OR is located within the traditional homelands of the Mary's River or Ampinefu Band of Kalapuya. Following the Willamette Valley Treaty of 1855 (Kalapuya etc. Treaty), Kalapuya people were forcibly removed to reservations in Western Oregon. Today, living descendants of these people are a part of the Confederated Tribes of Grand Ronde Community of Oregon (https://www.grandronde.org) and the Confederated Tribes of the Siletz Indians (https://ctsi.nsn.us).

Oregon State University and Dixon Recreation Sports is proposing to improve sport surfaces at the Student Legacy Park and the McAlexander Field House. The improvements at both locations will include resurfacing and updates for the synthetic turf, jogging track, and tennis courts with other minor improvements to the sand volleyball courts and lawn areas within Student Legacy Park. This project will enhance the playing surfaces for OSU students and community promoting safety, happiness and wellbeing.

The size and scope of this project, limited construction window, market volatility and supply chain issues, may require an extended construction schedule. It is OSU's preference to consolidate efforts and complete the contract within 2023.

1.3 Location. Student Legacy Park is located between 26th Street and 30th Street along Washington Way. McAlexander Field House is located between Washington Way and Jefferson Way along Benton Place. Information may be available here:
https://guides.library.oregonstate.edu/buildings
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1.4 Summary of Work. The Summary of Work is located in Exhibit Section 01 11 00 Summary of Work located in the Specifications provided by D.A. Hogan & Associates, Inc. dated December 2022.

1.5 Scope of Work ("SOW"). The SOW will include the following:

- Managing multiple trade partners.
- Coordination with adjacent construction activities including work on Washington Way.
- Removal and Replacement of Fields 1 and 2 synthetic turf surfacing, including installation of a supplemental resilient pad system.
- Removal and Replacement of the McAlexander Field House synthetic turf.
- Removal and Replacement of fencing identified on the plans.
- Installation of new fencing and supports where identified on the plans.
- Repair of the existing jogging track, and application of new pigmented polyurethane structural spray coats.
- Minor repairs and resurfacing of six outdoor tennis courts.
- Resurfacing of four indoor tennis courts.
- Resurfacing of one outdoor basketball court.
- Improvements to existing landscape/lawn area, including conversion to synthetic turf.
- Improvements at the existing sand volleyball courts

1.6 Scope of Services ("SOS"). At minimum, the SOS must include a Kick-off Meeting, Existing Conditions Review, a Future Scenarios Analysis, Conceptual Design Studies, an Order of Magnitude Cost Estimates and Operating Budgets, a Refined Preferred Recommendation, and a Final Strategic Plan.

Offerors are encouraged to make recommendations and revisions to the scope of work based on Offerors practical experience in sports field synthetic turf and rubberized sport surfaces.

1.7 Kick-Off Meeting

Following release of the Notice Proceed, the selected Contractor must convene a project kick-off meeting. The agenda for the meeting must include a review of the contract administration requirements, the confirmation of the project scope of work, the approval of a project schedule, and a review of the project delivery process. *Deliverables: Meeting agenda, team meeting summary, project scoping document, project schedule.*

2.0 SCHEDULE

Solicitation Issue Date	January 23, 2023
Non-Mandatory Pre Solicitation Response Meeting and Site Visit	January 31, 2023 at 1:00 PM in the Dixon Recreation Center Conference Room 209 located at 425 SW 26th Street Corvallis, Oregon 97331
Question Deadline	February 10, 2023 at 10:00 AM Pacific Time
Final Addendum Issuance (if necessary)	February 16, 2023
Solicitation response Due Date/Time	February 22, 2023 at 2:00 PM Pacific Time (PT) via electronic submission to bids@oregonstate.edu

The following dates are tentative and subject to change without notice:

Estimated notification of finalists (If Applicable)	Week of March 6, 2023
Presentations/Interviews (If applicable)	Week of March 20, 2023
Notice of Intent to Award	By March 27, 2023
Estimated Contract execution	By April 21, 2023
Estimated Notice to Proceed	By April 21, 2023

OSU will make every effort to adhere to the above schedule. It is however, subject to change.

The anticipated construction start date is June 19, 2023.

3.0 QUESTIONS, SOLICITATION REVISION REQUESTS, CHANGE OR MODIFICATION, APPEALS

3.1 Questions.

3.1.1 All questions and contacts with OSU regarding any information in this RFQ must be addressed in writing via email to the **Contract Administrator** no later than the **Question Deadline** as stated in Section 2.0. If an Offeror is unclear about *any* information contained in this document or its exhibits (Project, scope, etc.), they are urged to submit those questions for formal clarification.

3.2 Solicitation Process Revision Requests.

3.2.1 Offerors may submit a written request for change of particular solicitation process provisions to the **Construction Contracts Manager** at the address or email listed in this document. Such requests for change shall be received no later than the **Question Deadline** as stated in Section 2.0.

3.2.2 Such requests for change shall include the reasons for the request and any proposed changes to the solicitation process provisions.

3.3 Change or Modification.

3.3.1 Any change or modification to the specifications or the procurement process will be in the form of addenda to the RFQ and will be made available to all firms on the **OSU Business and Bid Opportunities** web site. It is the responsibility of each firm to visit the website and download any addenda. No information received in any other manner different than described herein shall serve to change the RFQ in any way, regardless of the source of the information. Any request for clarification or change or protest of anything contained in an addendum not received by the date and time stated in the addendum will not be considered.

3.3.2 OSU will not be responsible for any other explanation or interpretation of this RFQ or the documents included as exhibits to this RFQ.

3.4 Appeals.

3.4.1 Appeals related to the OSU solicitation process and award decisions and actions shall be pursuant to OSU Standards ***(Procurement Thresholds and Methods, Procurement Solicitations and Contracts)*.** All written appeals must be delivered to the **Construction Contracts Manager** at the address given in this RFQ.

4.0 PUBLIC RECORD

4.1 OSU will retain this RFQ and one electronic copy of each Solicitation response received, together with electronic copies of all documents pertaining to the award of a contract. These documents will be made a part of a file or record, which shall be open to public inspection after OSU has announced its intent to award a contract. If a Solicitation response contains any information that is considered a trade secret under ORS 192.345(2), you must mark each trade secret with the following legend: **"This data constitutes a trade secret under ORS 192.345(2), and shall not be disclosed except in accordance with the Oregon Public Records Law, ORS Chapter 192."**

4.2 The Oregon Public Records Law exempts from disclosure only bona fide trade secrets, and the exemption from disclosure applies only "unless the public interest requires disclosure in the particular instance."

4.2.1 Therefore, non-disclosure of documents or any portion of a document submitted as part of a proposal may depend upon official or judicial determination made pursuant to the Public Records Law.

4.3 In order to facilitate public inspection of the non-confidential portion of the proposal, material designated as confidential shall accompany the proposal, but shall be readily separable from it. Prices, makes, model or catalog numbers of items offered, scheduled delivery dates, and terms of payment shall be publicly available regardless of any designation to the contrary. Any proposal marked as a trade secret in its entirety may be considered non-responsive and shall be rejected.

5.0 FORM OF AGREEMENT. A sample Contract and Oregon State University General Conditions for Public Improvement Contracts ("Public Improvement General Conditions") are included as Exhibit B and Exhibit C; and contain contract terms and conditions applicable to the work. The sample Contract may contain certain notes or alternative provisions. Those alternative provisions will be included at the sole discretion of OSU.

6.0 BUREAU OF LABOR AND INDUSTRIES (BOLI) PREVAILING WAGES

In compliance with Oregon Prevailing Wage Law, the following is incorporated into this RFQ and the resulting Contract:

The Contractor and all subcontractors shall comply with the provisions of Oregon Revised Statues (ORS) 279C.800 through 279C.870, relative to Prevailing Wage Rates (PWR) as outlined in Sections C.1 and C.2 of the Public Improvement General Conditions. This RFQ and the resulting Contract is subject to the following Oregon State Bureau of Labor and Industries (BOLI) wage rate requirements, which are incorporated herein by reference:

- January 11, 2023 Prevailing Wage Apprenticeship Rates
- January 11, 2023 Prevailing Wage Rates Amendments
- January 5, 2023 Prevailing Wage Rates for Public Works Contracts in Oregon
- July 1, 2018 Definitions of Covered Occupations for Public Works Contracts in Oregon

These BOLI PWR are available on line at:
https://www.oregon.gov/boli/employers/Pages/prevailing-wage-rates.aspx

7.0 INSTRUCTIONS TO OFFERORS

7.1 Summary of Work. The Work contemplated in this document shall be for OSU in connection with the Project described in the Summary of Work in Section **1.0** of this document.

7.2 Pre Solicitation Response Conference and Examination of Site Conditions.

7.2.1 Offeror may attend the non-mandatory Pre-Solicitation Response Conference, which may include a site walk through. Attendance will be documented through a sign-in sheet prepared by OSU.

7.2.2 No statement made by any officer, agent, or employee of OSU in relation to the physical conditions pertaining to the Work site will be binding on OSU, unless included in writing in the documents included as exhibits to this RFQ or an Addendum.

7**.2.3** Date, Time and Location of mandatory Pre-Solicitation Response Conference is located on the cover sheet of this Solicitation.

7.2.4 Physical distancing guidelines will be utilized during the pre-submittal and pre-bid conferences. These guidelines will include but are not limited to maintaining a distance of six feet from others and not shaking hands. Face covering are welcome but not required while on the property with attendees required to provide their own Personal Protective Equipment (PPE).

7.3 Solicitation Response Submission.

7.3.1 Submit **one (1) electronic version via email** to be received by the Due Date/Time listed in this document to bids@oregonstate.edu as stated in this RFQ. **Electronic versions must be sized appropriately for transfer (under 10 MB).**

7.3.2 All responses must be received by OSU before the Due Date/Time. OSU's official clock shall prevail in any time conflict. Any response received after the Due Date/Time will be rejected and will be retained and made part of OSU's archive records in accordance with OSU Standards.

7.3.3 All Offerors must be registered and licensed with the Oregon Construction Contractors Board and have on file with the Construction Contractors Board the required public works bond prior to submitting Solicitation Responses. Failure to be licensed and have the bond in place will be sufficient cause to reject Solicitation Responses as non-responsive.

7.4 Solicitation Response Requirements.

7.4.1 Your Solicitation response must be contained in a document **not to exceed twenty (20) pages,** including pictures, charts, graphs, tables and text the Offeror deems appropriate to be part of the review of your Solicitation response. Resumes of key individuals proposed to be involved in this Project are exempted from the twenty (20) page limit and should be **appended to the end of your Solicitation response**. No supplemental information to the twenty (20) page Solicitation response will be allowed. The Bid Form, appended resumes of the proposed key individuals, along with a transmittal letter, table of contents, front and back covers, and blank section/numerical dividers, and references will not be counted in the twenty (20) page limit.

7.4.2 Your response must follow the format outlined in 7.4.3, 7.4.4, 7.4.5, 7.4.6, 7.4.7, 7.4.8, and 7.4.9 below; and include a Transmittal/Cover Letter signed by an officer of your firm(s) with the authority to commit the firm(s) and must also acknowledge receipt of all addenda. An email address must be included on the Transmittal/Cover letter for communication purposes.

7.4.3 Your response format must also be in order of the Evaluation Criteria in 7.8.

7.4.4 Your response must also include the Bid Form in Exhibit A. Alterations and/or additions to the Bid Form are not allowed except to enter the required information on the Bid Form.

7.4.5 The electronic response should be **should be sized appropriately for transfer (under 10 MB)** and formatted with page size of **8 ½ x 11 inches** with no fold-outs (except for project schedule or other large format document required by evaluation criteria). The basic text information should be presented in standard business font size, and reasonable margins.

7.4.6 OSU may reject any response not in compliance with all applicable OSU solicitation procedures and requirements, and may cancel this solicitation or reject for good cause, all responses upon a finding by OSU that it is in the public interest to do so.

7.4.7 Note that throughout this procurement process, OSU will not accept responses that require OSU to pay the cost of production or delivery.

7.4.8 Telephone and facsimile transmitted responses **will not be accepted**. Responses received *after* the Due Date/Time **will not be considered**.

7.4.9 Each response shall be emailed to bids@oregonstate.edu. Responses must be received at the time and in the format specified herein. The email line should contain the RFQ No., RFQ Title and Firm Name. Only those responses received at this email address by the Due Date/Time shall be considered responsive. Responses submitted directly to the **Contract Administrator**, either in physical format or via email will NOT be considered responsive. It is highly recommended that the Respondent confirm receipt of the email with the **Contract Administrator**. **The Contract Administrator or their designee** may open the email to confirm receipt but will NOT verify the integrity of the attachment(s), answer questions related to the content of the Proposal, or address overall responsiveness.

7.5 Acceptance or Rejection of Solicitation Responses by OSU.

7.5.1 The procedures for Contract awards shall be in compliance with the provisions of OSU standards and policies adopted by OSU.

7.5.2 OSU reserves the right to reject any or all Solicitation Responses and to waive minor informalities in compliance with the provisions of OSU standards and policies adopted by OSU.

7.6 Withdrawal of Solicitation Response.

7.6.1 At any time prior to the Due Date/Time an Offeror may withdraw its Solicitation response in accordance with OSU Standards. This will not preclude the submission of another Solicitation response by such Offeror prior to the Due Date/Time.

7.6.2 After the Due Date/Time, Offerors are prohibited from withdrawing their Solicitation response, except as provided by OSU Standards.

7.7 Evaluation Process.

The written response to this RFQ is **potentially** the only step in the selection of a firm for this Project. The Solicitation Responses received in response to this RFQ will be evaluated by a Selection Committee.

The members of the Selection Committee will discuss the strengths and weaknesses of all Offerors. The members of the Selection Committee will then score the Offerors based on all information received and presented in the Solicitation Responses. Optional Reference Checks may be undertaken to aid in final scoring. Upon completion of final scoring, an Intent to Award will be issued identifying the Apparent Successful Offeror and negotiations may commence with the Apparent Successful Offeror in order to finalize a contract in accordance with Section 7.12 below.

OR

The written response to this RFQ is the first in a **potential** two-step process in the selection of a firm for this Project. The Solicitation Responses received in response to this RFQ will be evaluated by a Selection Committee with the top scoring firms being invited to advance to further evaluation steps including virtual Proprietary Discussions and Presentations/Interviews should the committee determine they are necessary.

Presentations/Interviews will include a **Twenty (20) minute** presentation period, immediately followed by a separate **Thirty (25) minute** Q&A session.

After all of the Presentations/Interviews are completed, the members of the Selection Committee will discuss the strengths and weaknesses of the finalists. The members of the Selection Committee will then score the finalists based on all information received, presented and heard during the Presentations/Interviews. Optional Reference Checks may also be undertaken to aid in final scoring. Upon completion of final scoring, negotiations may commence with all Offerors submitting responsive Solicitation Responses or all Offerors in the competitive threshold.

Final scoring of the Interviews will be **separate and not cumulative** from the short-listing.

7.8 Evaluation Criteria. The following items constitute the evaluation criteria for the Selection Committee to score Solicitation Responses. Respond to each criterion in numerical order. For ease in scoring the Solicitation Responses, provide tabs keyed to each of the following criteria numbers. Indicate in writing the following information about your firm's ability and desire to perform this work.

7.8.1 Firm Background and Experience (20 Points)

Describe your firm's history. Include information identifying the firm's annual volume, financial/bonding capacity for this Project, and speak to the firm's stability in the market place. Explain relevant experience particularly with working on projects of similar scope for public entities. Information identifying the firm's strengths and weaknesses along with special capabilities that may be appropriate to this Project will assist in the evaluation.

Describe your firm's experience with synthetic turf and construction practices as related to sports and recreation activities. Demonstrate experience either managing or performing similar work. Include information around coordinating with adjacent construction work and how to mitigate impacts as it relates to access.

7.8.2 Key Personnel (15 Points)

Provide the names of the Project Manager and Superintendent that you will commit to this Project. Demonstrate their specific experience on projects of similar type, size and scope. Provide specific job experience as it relates to their experience with the GC process and working under OSU or similar large public contracting agencies' contracting rules. Identify their length of employment with your firm and, if less than three years, recent prior firm(s), their responsibility on this Project, and their primary office locations.

7.8.3 Proposed Project Schedule (15 Points)

Prepare a proposed Project schedule that identifies milestones and duration for each proposed activity.

7.8.4 Proposed Site Logistics and Site Safety Plan - 10 points

Describe your firm's approach to the management and administration of on-site construction activities for this Project. Address mobilization, construction staging, site access, vehicular circulation, pedestrian circulation, noise, material storage, onsite offices, security, etc. Describe how you will keep construction workers, students, faculty, staff and visitors to campus safe while minimizing impact to the day-to-day operations of the campus. Note that OSU has projects around campus that may impact access to this site at different times and is located near a busy intersection on campus.

Describe how you will coordinate construction activities with Washington Way construction. How and where will you stage equipment and materials? Provide a trucking plan with having no access along Washington Way. 15th Street, 26th Street, 30th Street, and 35th Street will remain open.

7.8.5 Workforce Diversity Plan (20 Points)

(a) Provide a description and identification of Minority Business Enterprise (MBE), Women Business Enterprise (WBE), Emerging Small Business (ESB), or Disabled Service Veterans (DSV) certifications for your team and a description of your nondiscrimination practices. Provide historical information on MBE, WBE, ESB, or DSV Joint Ventures, subcontracting or mentoring plan, and utilization history for projects completed by your firm within the past three (3) years.

(b) Provide a narrative description of your current workforce diversity program/plan, and the plan for obtaining subcontracting, consulting, and supplier diversity for this Project. Include a description of the outreach program or plan, including a schedule of events and specific steps that will be taken to maximize broad based and inclusive participation and the plan to provide mentoring, technical or other business development services to subcontractors/subconsultants needing or requesting such services.

The GC must perform the Work according to the means and methods described in the workforce plan described in its Proposal, unless changes are requested and approved in writing in advance by OSU or are required by applicable laws, ordinances, codes, regulations, rules or standards.

7.8.6 Bid – 20 points

Submit lump sum bids for the base and alternates listed separately for the project on the Bid Form included in Exhibit A. Alternates will be evaluated in partnership with the base bid. The proposer with the lowest total bid will receive full points, higher cost proposers will receive proportionally lower points according to the formula:

[(Proposer's bid - low proposer's bid)/proposer's bid] X Fee Points Available.

7.9 Point Summary Table.

Criteria	Point Value
Firm Background & Experience	**20**
Key Personnel	**15**
Proposed Project Schedule	**10**
Proposed Site Logistics and Site Safety Plan	**10**
Workforce Diversity Plan	**20**
Bid	**20**

7.10 Optional Reference Checks (5 Points).

In addition to responding to the evaluation criteria above, provide the names, addresses, phone numbers and e-mail addresses of three (3) references. Do not include references from any firms or individuals included in your consulting team for this Proposal or any OSU personnel. OSU may check with these references and with other references associated with past work of your firm.

OSU *may* check with these references or other references associated with past work of your firm.

7.11 Equity Contracting. OSU will require the successful Contractor to comply with OSU Standards, policies, rules and procedures requiring good faith efforts in subcontracting with minority, women, emerging small business or service-disabled veteran owned business enterprises.

8.0 MISCELLANOUS

8.1 Execution of Agreement.

8.1.1 The Offeror shall be required to execute the Contract as provided, within any time period provided in an award notification. The Contract Documents shall be delivered to OSU in the manner stated in an award notification.

8.1.2 Work Commencement. Work shall commence upon execution of a Public Improvement Contract with the selected Offeror unless otherwise stated in the Public Improvement Contract.

8.2 Financial Responsibility.

8.2.1 OSU reserves the right to investigate, at any time prior to execution of the Public Improvement Contract, the Offeror's financial responsibility to perform the anticipated Public Improvement Contract. Submission of a Solicitation response will constitute approval for OSU to obtain any credit report information OSU deems necessary to conduct the evaluation. OSU will notify Offerors, in writing, of any other documentation required, which may include, but need not be limited to: recent profit-and-loss history; current balance statements; assets-to-liabilities ratio, including number and amount of secured versus unsecured creditor claims; availability of short and long-term financing; bonding capacity and credit information. Failure to promptly provide this information may result in rejection of the Solicitation response.

8.2.2 OSU may postpone the award or execution of a Public Improvement Contract or selection of finalists in order to complete its investigation and evaluation. Failure of a firm to demonstrate financial responsibility may render it non-responsible and constitute grounds for Solicitation response rejection.

8.3 Project Termination. OSU is seeking to award a Contract to a GC for construction services. However, OSU reserves the right to terminate the Project or contract with other parties during any phase in the Project.

8.4 Insurance Provisions. During the term of the resulting Agreement, the successful Offeror will be required to maintain in full force, at its own expense, from insurance companies authorized to transact the business of insurance in the state of Oregon, each insurance coverage/policy as set forth in the Agreement.

8.5 Non-Discrimination. By submission of a Solicitation response, the Offeror certifies under penalty of perjury that the Offeror has not discriminated against minority, women or emerging small business enterprises in obtaining any required subcontracts.

8.6 AA/EEO Employer. OSU is an AA/EEO employer.

9.0 EXHIBITS

Exhibit A- Bid Form

Exhibit B- Sample Public Improvement Contract

Exhibit C- Oregon State University General Conditions for Public Improvement Contracts

Exhibit D- Oregon State University Supplemental General Conditions to the Public Improvement General Conditions

Exhibit E- Sample Payment Bond

Exhibit F- Sample Performance Bond

Exhibit G- MWESB Project Contract Report Instructions and Report

Exhibit H Division 1 Specifications drafted by OSU dated January 2023

Exhibit I- Specifications, drafted DECA Architects dated June 2022

Exhibit J- Drawings, Permit Set stamped by Robert Harding dated January 03, 2023

End of RFQ

In accordance with Section 7.4.4 of this RFQ, Exhibit A pages 2, 3, and 4 must be completed and added to the RFQ. Alterations and/or additions to this document are not allowed except to enter the required information.

Oregon State University

BID FORM

ITB NUMBER & NAME: **#2023-010813, Student Legacy Park Resurfacing**

BID DUE DATE AND TIME: _____
(fill in)

FROM: _____
(Name of Contractor)

TO: Oregon State University ("Owner")
Construction Contracts Administration
644 SW 13th Street
Corvallis, Oregon 97333

1. The Undersigned hereby proposes to furnish all material and labor and perform all work hereinafter indicated for the above project in strict accordance with the Contract Documents for the Base Bid as follows:

_____ Dollars ($_____)

and the Undersigned agrees to be bound by the documents either contained in or incorporated by reference in the Invitation to Bid and ADDENDA numbered ____ through____, inclusive. ***(fill in blanks)***

The Undersigned proposes to add to or deduct from the Base Bid indicated above the items of work relating to the following Alternate(s) as designated in the Specifications:

Alternate 1: E-Layer at Student Legacy Park West and East Recreational Athletic Fields, adds a paved-in-place 25mm paved-in-place elastic layer supplemental pad system on the prepared Field Aggregate Base(s). **(circle one)** ADD/DEDUCT: $ _____

Alternate 2: General description of the work – Alternate Bid Item 1, Alternative Infill Materials at Student Legacy Park West and East Recreational Athletic Fields, substitutes granular cork and spec sand for the base bid infill. This Alternate will only be Awarded in conjunction with Award of Alternate Bid Item 1. **(circle one)** ADD/DEDUCT: $ _____

Alternate 3: Alternative Synthetic Turf Product at Student Legacy Park West and East Recreational Athletic Fields, allows the bidder to propose an unspecified synthetic turf product, perhaps proprietary. Bidders must submit a comprehensive Product Description with their Bids. Refer to Section 32 18 24, paragraph 2.11.B.4 for additional information. **(circle one)** ADD/DEDUCT: $ _____

Alternate 4:Student Legacy Park Fields Fencing, includes removal of all fence fabric, rails, and hardware, reinstallation of all hardware with "offset" type bands and clamps with existing rails, to the field side of the posts. Replace all "eye top" top rail hardware on 4' fences with boulevard-type clamps & set screws. Reinstall existing chain link fabric above 10' ht. Install new chain link fabric (as specified) on the field side of the framing, at Student Legacy Park West and East Recreational Athletic Fields.	**(circle one)**	ADD/DEDUCT:	$ _____
Alternate 5: Student Legacy Park Plaza Improvements, includes additional Temporary Erosion & Sediment Controls, Sod Stripping & Excavation including Hand-Work within Sensitive Tree Root Zones, Irrigation Systems Selective Demolition & Reconfiguration, Installation of Pre-Engineered Tensioned-Fabric Shade Structures including Structural Engineering Design, Installation of Root Barriers and Synthetic Turf Edge Anchors, and Installation of Ballasted Landscape Synthetic Turf .	**(circle one)**	ADD/DEDUCT:	$ _____
Alternate 6: Sand Volleyball Improvements, includes additional Temporary Erosion & Sediment Controls, Sod Stripping & Excavation, Irrigation Systems Selective Demolition & Reconfiguration, Installation of Pre-Engineered Tensioned-Fabric Shade Structures including Structural Engineering Design, Installation of Aggregate Base and Concrete Flatwork, Installation of Synthetic Turf Edge Anchors, Installation of Non-Infilled Landscape Synthetic Turf, Installation of Site Furnishings, and Installation of 4' Architectural Fencing.	**(circle one)**	ADD/DEDUCT:	$ _____

2. The work shall be completed within the time stipulated and specified in Division 1, Section 01 11 00, of the Specifications.

3. The Undersigned certifies that: (1) This Bid has been arrived at independently and is being submitted without collusion with and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment or services described in the invitation to bid designed to limit independent bidding or competition; and (2) The contents of the Bid have not been communicated by the Undersigned or its employees or agents to any person not an employee or agent of the Undersigned or its surety on any Bid security furnished with the Bid and will not be communicated to such person prior to the official opening of the Bid.

4. The Undersigned agrees, if awarded a contract, to comply with the provisions of ORS 279C.800 through 279C.870 pertaining to the payment of the prevailing wages.

5. Contractor's CCB license number is _____. As a condition to submitting a Bid, Contractor must be licensed with the Oregon Construction Contractors Board in accordance with ORS 701.021 to 701.128, and disclose the license number. Failure to be licensed and disclose the number will render the Bid unresponsive and it will be rejected, unless contrary to federal law.

6. The Bidder hereby certifies that all subcontractors who perform construction work as described in ORS 701.005(5) are licensed with the Construction Contractors Board in accordance with ORS 701.021 to 701.128 at the time the Bid is submitted.

7. Contractor's Project Manager for this project is: _____,

Email:_____ Cell Phone:_____

8. The Undersigned agrees, if awarded the Contract, to deliver to Owner, a satisfactory Performance Bond and Payment Bond, each in an amount equal to one hundred (100) percent of the Contract sum, using forms provided by the Owner. The surety requested to issue the Performance Bond and Payment Bond will be:

_____.
(name of surety company - not insurance agency)

The Undersigned hereby authorizes said surety company to disclose any information to the Owner concerning the Undersigned's ability to supply a Performance Bond and Payment Bond each in the amount of the Contract.

By signature below, Contractor agrees to be bound by this Bid.

NAME OF FIRM: _____

ADDRESS: _____

_____

FEDERAL TAX ID: _____

TELEPHONE NO: _____

EMAIL: _____

SIGNATURE: _____
Authorized Signature

_____
Printed Name

***** *END OF BID* *****

OREGON STATE UNIVERSITY
PUBLIC IMPROVEMENT CONTRACT
# #
PROJECT NAME

This Public Improvement Contract for the _____(the "Contract"), made by and between Oregon State University, hereinafter called OWNER, and _____ hereinafter called the CONTRACTOR (collectively the "Parties"), shall become effective on the date this Contract has been signed by all the Parties, whichever is later.

1. Contract Price, Contract Documents and Work.

The CONTRACTOR, in consideration of the sum of **$**_____ (the "Contract Price"), to be paid to the CONTRACTOR by OWNER in the manner and at the time hereinafter provided, and subject to the terms and conditions provided for in the Instructions to Bidders and other Contract Documents (as defined in the Oregon State University General Conditions referenced within the Instructions to Bidders), all of which are incorporated herein by reference, hereby agrees to perform all Work described and reasonably inferred from the Contract Documents. The Contract Price is the amount contemplated by the Base Bid as indicated in the accepted Bid.

Also, the following documents are incorporated by reference in this Contract and made a part hereof if checked for inclusion [X]:

[ ] (RESERVED)

2. Representatives.

CONTRACTOR has named **(Insert Name)** its' Authorized Representative to act on its behalf. OWNER designates, or shall designate, its Authorized Representative as indicted below (check one):

A. [ ] Unless otherwise specified in the Contract Documents, the OWNER designates **(Insert Name)** as its Authorized Representative in the administration of this Contract. The above-named individual shall be the initial point of contact for matters related to Contract performance, payment authorization, and to carry out the responsibilities of the OWNER.

B. [X] Name of OWNER'S Authorized Representative shall be submitted by OWNER in a separate writing.

3. Contract Dates.

COMMENCEMENT DATE: Within _____ days of the execution of the Contract ("Execution"). Or certain date.

SUBSTANTIAL COMPLETION DATE: Within _____ days of the execution of the Contract ("Execution"). Or certain date.

FINAL COMPLETION DATE: Within _____ days of the execution of the Contract ("Execution"). Or certain date.

4. Integration

The Contract documents constitute the entire agreement between the parties. There are no other understandings, agreements or representations, oral or written, not specified herein regarding this Contract. CONTRACTOR, by the signature below of its authorized representative, hereby acknowledges that it has read this Contract, understands it, and agrees to be bound by its terms and conditions.

In witness whereof, Oregon State University executes this Contract and the CONTRACTOR does execute the same as of the day and year indicated below.

CONTRACTOR DATA:

_____
_____
_____

CONTRACTOR FEDERAL ID # _____

CONTRACTOR CCB # _____

[Payment information will be reported to the IRS under the name and taxpayer ID # provided above. Information must be provided prior to contract approval. Information not matching IRS records could subject Contractor to 31 percent backup withholding.]

CONTRACTOR SIGNATURE

By_____
Name/Title Date

Oregon State University

By_____

Paul J. Odenthal, PE, CEM Date
Senior Associate Vice President for Administration

OREGON STATE UNIVERSITY
GENERAL CONDITIONS
FOR PUBLIC IMPROVEMENT CONTRACTS

June 30, 2017

INSTRUCTIONS: The attached **Oregon State University General Conditions for Public Improvement Contracts ("Public Improvement General Conditions")** apply to all designated Public Improvement contracts. Changes to the Public Improvement General Conditions (including any additions, deletions or substitutions) should only be made by attaching Public Improvement Supplemental General Conditions. The text of these Public Improvement General Conditions should not otherwise be altered.

TABLE OF SECTIONS

SECTION A
GENERAL PROVISIONS

A.1 DEFINITION OF TERMS

In the Contract Documents the following terms shall be as defined below:

AMENDMENT, means a writing which, when fully executed by the Parties to this Contract, constitutes a change to a Contract Document. Amendments shall be issued in accordance with the changes provisions of Section D and, if applicable, establish a Contract Price or Contract Time adjustment.

APPLICABLE LAWS, means federal, state and local laws, codes, rules, regulations and ordinances applicable to the Work and to the Contract.

ARCHITECT/ENGINEER, means the Person appointed by the Owner to make drawings and specifications and, to provide contract administration of the Work contemplated by the Contract to the extent provided herein or by supplemental instruction of Owner (under which Owner may delegate responsibilities to the Architect/Engineer), in accordance with ORS Chapter 671 (Architects) or ORS Chapter 672 (Engineers) and administrative rules adopted thereunder.

CHANGE ORDER, means a written order issued by the Owner to be later included as an Amendment. A Change Order shall not be effective until codified as an Amendment.

CLAIM, means a demand by Contractor pursuant to Section D.3 for review of the denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, submitted in accordance with the requirements and within the time limits established for review of Claims in these Public Improvement General Conditions.

CONSTRUCTION CHANGE DIRECTIVE, means a written order by the Owner to the Contractor requiring a change in the Work within the general scope of the Contract Documents, issued under the changes provisions of Section D.

CONSTRUCTION SCHEDULE, means the schedule prepared by the Contractor in CPM format and approved by the Owner, and all adjustments thereto approved by the Owner, that describes sequence and timing of the Work.

CONTRACT, means the written agreement between the Owner and the Contractor comprised of the Contract Documents which describe the Work to be done and the obligations between the parties.

CONTRACT DOCUMENTS, means the Public Improvement Contract, Public Improvement General Conditions, Supplemental General Conditions if any, the accepted Offer, Plans, Specifications, Construction Change Directives, Solicitation Document and addenda thereto, Instructions to Offerors, and Supplemental Instructions to Offerors, the CM/GC's RFQ proposal, the GMP Amendment, and any other Amendment, the Construction Schedule prepared and approved in accordance with the Construction Documents, and all other required Submittals.

CONTRACT PERIOD, as set forth in the Contract Documents, means the total period of time beginning with the full execution of a Contract and, if applicable, the issuance of a Notice to Proceed and concluding upon Final Completion.

CONTRACT PRICE, means the total of the awarded Offer amount, as increased or decreased by the price of approved alternates, as indicated in the Contract Documents.

CONTRACT TIME, means any incremental period of time allowed under the Contract to complete any portion of the Work as reflected in the project schedule.

CONTRACTOR, means the Person awarded the Contract for the Work contemplated.

CPM, means a critical path method format to be used for the Construction Schedule.

DAYS, are calendar days, including weekdays, weekends and holidays, unless otherwise specified.

DIRECT COSTS, means, unless otherwise provided in the Contract Documents, the cost of materials, including sales tax, cost of delivery; cost of labor, including social security, Medicare and unemployment insurance, and fringe benefits required by agreement or custom; worker's compensation insurance; project specific insurance (including, without limitation, Builder's Risk Insurance and Builder's Risk Installation Floater); bond premiums, rental cost of equipment, and machinery required for execution of the Work; and the additional costs of field personnel directly attributable to the Work.

FINAL COMPLETION, means the final completion of all requirements under the Contract, including Contract Closeout as described in Section K but excluding Warranty Work as described
in Section I.2, and the final payment and release of all retainage, if any, released.

FINAL PAYMENT, means the last payment to the Contractor, including retainage, in connection with the Work.

FORCE MAJEURE, means an act, event or occurrence caused by f i r e , riot, war, acts of God, nature, sovereign, or public enemy, strikes, freight embargoes or any other act, event or occurrence that is beyond the control of the party to this Contract who is asserting Force Majeure.

MWESB REPORT, means an accurate report by the Contractor to the Owner identifying all Minority, Women and Emerging Small Business (MWESB) enterprises, as those terms are defined in ORS 200.005, receiving contracts throughout the course of the Work. An initial MWESB report is required (see Section E.2.9) and MWESB Reports are required annually (see Section E.2.9) and as a condition of final payment (see Section K.1). The initial report shall include the total number of contracts and subcontracts awarded to MWESB enterprises and the dollar value of their respective contracts and subcontracts. The annual reports shall include the total number of contracts and subcontracts awarded to MWESB enterprises, the dollar value of each, and the expenditure toward each contract and subcontract during the previous twelve (12) months. The final report shall include the total number of contracts and subcontracts awarded to MWESB enterprises and the dollar value of their respective contracts and subcontracts including all Contracts and Amendments incorporated during the course of the project. The reports shall only include enterprises certified with the State of Oregon as MWESB enterprises and shall include individual identification of each enterprise as a Minority business enterprise, a Women business enterprise, and/or an Emerging Small Business Enterprise, as applicable.

NOTICE TO PROCEED, means the official written notice from the Owner stating that the Contractor is to proceed with the Work defined in the Contract Documents. Notwithstanding the Notice to Proceed, Contractor shall not be authorized to proceed with the Work until all initial Contract requirements, including the Contract, performance bond and payment bond, and certificates of insurance, have been fully executed and submitted to Owner in a suitable form.

OFFER, means a bid in connection with Instructions to Bidders or a proposal in connection with a Request for Proposals.

OFFEROR, means a bidder in connection with Instructions to Bidders or a proposer in connection with a Request for Proposals.

OVERHEAD, means those items which may be included in the Contractor's markup (general and administrative expense and profit) and that shall not be charged as Direct Cost of the Work,
including without limitation such Overhead expenses as wages or salary of personnel above the level of foreman (i.e., superintendents and project managers), expenses of Contractor's offices and supplies at the job site (e.g. job trailer) and at Contractor's principal place of business and including expenses of personnel staffing the job site office and Contractor's principal place of business, and Commercial General Liability Insurance and Automobile Liability Insurance.

OWNER, means Oregon State University(OSU). Owner may elect, by written notice to Contractor, to delegate certain duties to more than one party, including without limitation, to an Architect/Engineer. However, nothing in these Public Improvement General Conditions is intended to abrogate the separate design professional responsibilities of Architects under ORS Chapter 671 or of Engineers under ORS Chapter 672.

PERSON, means a natural person or entity doing business as a sole proprietorship, a partnership, a joint venture, a corporation, a limited liability company or partnership, or any other entity possessing the legal capacity to contract.

PLANS, means the drawings which show the location, type, dimensions, and details of the Work to be done under the Contract.

PROJECT, means the development, design, construction

PUNCH LIST, means the list of Work yet to be completed or deficiencies which need to be corrected in order to achieve Final Completion of the Contract.

RECORD DOCUMENT, means the as-built Plans, Specifications, testing and inspection records, product data, samples, manufacturer and distributor/supplier warranties evidencing transfer of ownership to Owner, operational and maintenance manuals, shop drawings, Construction Change Directives, MWESB Reports, correspondence, certificate(s) of occupancy, and other documents listed in Subsection B.9.1 of these Public Improvement General Conditions, recording all Services performed.

SOLICITATION DOCUMENT, means Instructions to Bidders or Offerors or a Request for Proposal or a Request for Quotes.

SPECIFICATION, means any description of the physical or functional characteristics of the Work, or of the nature of a supply, service or construction item. Specifications may include a description of any requirement for inspecting, testing or preparing a supply, service or construction item for delivery and the quantities or qualities of materials to be furnished under the Contract. Specifications generally will state the results or products to be obtained and may, on occasion, describe the method and manner of doing the Work to be performed. Specifications may be incorporated by reference and/or may be attached to the Contract.

SUBCONTRACT, means a contract between the Contractor and a subcontractor for the performance of a portion of the Work.

SUBCONTRACTOR, means a Person having a direct contract with the Contractor, or another Subcontractor, to perform one or more items of the Work.

SUBMITTAL, means a shop drawing, product data, sample, catalog cut, or similar item for specific portions of the Work as required by the Construction Documents.

SUBSTANTIAL COMPLETION, means the date when the Owner accepts in writing the construction, alteration or repair of the improvement to real property constituting the Work or any designated portion thereof as having reached that state of completion when it may be used or occupied for its intended purpose. Substantial Completion of facilities with operating systems occurs only after thirty (30) continuous Days of successful, trouble-free operation of the operating systems as provided in Section K.3.2.

SUBSTITUTIONS, means items that in function, performance, reliability, quality, and general configuration are the same or better than the product(s) specified. Approval of any substitute item shall be solely determined by the Owner. The decision of the Owner is final.

PUBLIC IMPROVEMENT SUPPLEMENTAL GENERAL CONDITIONS, means those conditions that remove from, add to, or modify these Public Improvement General Conditions. Public Improvement Supplemental General Conditions may be included in the Solicitation Document or may be a separate attachment to the Contract.

WORK, means the furnishing of all materials, equipment, labor, transportation, services and incidentals necessary to successfully complete any individual item or the entire Contract and the carrying out of duties and obligations imposed by the Contract Documents.

A.2 SCOPE OF WORK

The Work contemplated under this Contract includes all labor, materials, transportation, equipment and services for, and incidental to, the completion of all construction work in connection with the project described in the Contract Documents. The Contractor shall perform all Work necessary so that the project can be legally occupied and fully used for the intended use as set forth in the Contract Documents. Execution of the Contract by the Contractor is an express representation (1) that the Contractor understands the intent stated herein with respect to the Preconstruction Phase Services, and (2) the Contractor's execution of an Amendment, including the GMP Amendment, shall be an express and unqualified representation that the Contractor understands the intent stated herein and therein.

A.3 INTERPRETATION OF CONTRACT DOCUMENTS

A.3.1 Unless otherwise specifically defined in the Contract

Documents, words which have well-known technical meanings or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings. Contract Documents are intended to be complementary. Whatever is called for in one, is interpreted to be called for in all. However, in the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following descending order of precedence:

(a) Amendments and Construction Change Directives, with those of later date having precedence over those of an earlier date;

(b) The Supplemental General Conditions;

(c) Public Improvement General Conditions;

(d) The Public Improvement Contract;

(e)) Construction Change Directive;

(f) Division One (General Requirements) of the Specifications;

(g) Detailed Schedules of finishes, equipment and other items included in the Specifications;

(h) Plans and Specifications (other than Division One and the Detailed Schedules to the Specifications);

(i) Large-scale drawings on Plans;

(j) Small-scale drawings on Plans;

(k) Dimension numbers written on Plans which shall prevail and take precedence over dimensions scaled from Plans;

(l) The Solicitation Document, and any addenda thereto.

(m) The Contractor's RFQ proposal.

A.3.2 In the case of an inconsistency between Plans and Specifications or within either document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance with the Owner's interpretation in writing.

A.3.3 If the Contractor finds discrepancies in, or omissions from the Contract Documents, or if the Contractor is in doubt as to their meaning, the Contractor shall at once notify the Owner in writing. Matters concerning and interpretation of requirements of the Contract Documents will be decided by the Owner, who may delegate that duty in some instances to the Architect/Engineer. Responses to Contractor's requests for interpretation of Contract Documents will be made in writing by Owner (or the Architect/Engineer) within any time limits agreed upon or otherwise with reasonable promptness. Interpretations and decisions of the Owner (or Architect/Engineer) will be consistent with the intent of and reasonably inferable from the Contract Documents. Contractor shall not proceed without direction in writing from the Owner (or Architect/Engineer).

A.3.4 References to standard specifications, manuals, codes of any technical society, organization or association, to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, laws or regulations in effect in the jurisdiction where the project is occurring on the first published date of the Solicitation Document, except as may be otherwise specifically stated.

A.4 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE

A.4.1 It is understood that the Contractor, before submitting an Offer, has made a careful examination of the Contract Documents; has become fully informed as to the quality and quantity of materials and the character of the Work required; and has made a careful examination of the location and conditions of the Work and the sources of supply for materials. The Owner will in no case be responsible for any loss or for any unanticipated costs that may be suffered by the Contractor as a result of the Contractor's failure to acquire full information in advance in regard to all conditions pertaining to the Work. No oral agreement or conversation with any officer, agent, or personnel of the Owner, or with the Architect/Engineer either before or after the e x e c u t i o n of this Contract, shall affect or modify any of the terms or obligations herein contained.

A.4.2 Should the Plans or Specifications fail to particularly describe the materials, kind of goods, or details of construction of any aspect of the Work, Contractor shall have the duty to make inquiry of the Owner and Architect/Engineer as to what is required prior to performance of the Work. Absent Specifications to the contrary, the materials or processes that would normally be used to produce first quality finished Work shall be considered a part of the Contract requirements.

A.4.3 Any design errors or omissions noted by the Contractor shall be reported promptly to the Owner and confirmed in writing, including without limitation, any nonconformity with Applicable Laws.

A.4.4 If the Contractor believes that adjustments to cost or Contract Time is involved because of clarifications or instructions issued by the Owner (or Architect/Engineer) in response to the Contractor's notices or requests for information, the Contractor must submit a written request to the Owner, setting forth the nature and specific extent of the request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt by Contractor of the clarifications or instructions issued. If the Owner denies Contractor's request for additional compensation, additional Contract Time, or other relief that Contractor believes results from the clarifications or instructions, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process. If the Contractor fails to perform the obligations of Sections A.4.1 to A.4.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations.

A.5 INDEPENDENT CONTRACTOR STATUS

The service or services to be performed under this Contract are those of an independent contractor as defined in ORS 670.600.

Contractor represents and warrants that it is not an officer, employee or agent of the Owner as those terms are used in ORS 30.265.

A.6 RETIREMENT SYSTEM STATUS AND TAXES

Contractor represents and warrants that it is not a contributing member of the Public Employees' Retirement System and will be responsible for any federal or state taxes applicable to payment r e c e i v e d under this Contract. Contractor will not be eligible for any benefits from these Contract payments of federal Social Security, employment insurance, workers' compensation or the Public Employees' Retirement System, except as a self-employed individual. Unless the Contractor is subject to backup withholding, Owner will not withhold from such payments any amount(s) to cover Contractor's federal or state tax obligations.

A.7 GOVERNMENT EMPLOYMENT STATUS

A.7.1 If this payment is to be charged against federal funds, Contractor represents and warrants that it is not currently employed by the Federal Government. This does not preclude the Contractor f r o m holding another contract with the Federal Government.

A.7.2 Contractor represents and warrants that Contractor is not an employee of the State of Oregon for purposes of performing Work under this Contract

SECTION B
ADMINISTRATION OF THE CONTRACT

B.1 OWNER'S ADMINISTRATION OF THE CONTRACT

B.1.1 The Owner shall administer the Contract as described in the Contract Documents (1) during construction (2) until Final Payment is due and (3) during the one-year period for correction of Work. The Owner will act as provided in the Contract Documents, unless modified in writing in accordance with other provisions of the Contract. In performing these tasks, the Owner may rely on the Architect/Engineer or other consultants to perform some or all of these tasks.

B.1.2 The Owner will visit the site at intervals appropriate to the stage of the Contractor's operations (1) to become generally familiar with and to keep the Owner informed about the progress and quality of the portion of the Work completed, (2) to endeavor to guard the Owner against defects and deficiencies in the Work, and (3) to determine in general if Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. The Owner will not make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Owner will neither have control over or charge of, nor be responsible for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work. Inspection of the progress, quantity, or quality of the Work done by the Owner, any Owner representative, and public agency, the Architect/Engineer, or any inspector, shall not relieve the Contractor of any responsibility for the compliance of all Work with the Contract Documents.

B.1.3 Except as otherwise provided in the Contract Documents or when direct communications have been specifically authorized, the Owner and Contractor shall communicate with each other about matters arising out of or relating to the Contract. Communications by and with the Architect/Engineer's consultants shall be through the Architect/Engineer. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

B.2 Based upon the Architect/Engineer's evaluations of the Contractor's Application for Payment, or unless otherwise stipulated by the Owner, the Architect/Engineer will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts. CONTRACTOR'S MEANS AND METHODS; MITIGATION OF IMPACTS

B.2.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures.

B.2.2 The Contractor is responsible to protect and maintain the Work during the course of construction and to mitigate any adverse impacts to the project, including those caused by authorized changes, which may affect cost, schedule, or quality.

B.2.3 The Contractor is responsible for the actions of all its personnel, laborers, suppliers, and Subcontractors on the project. The Contractor shall enforce strict discipline and good order among Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of persons who are unfit or unskilled for the tasks assigned to them.

B.3 MATERIALS AND WORKMANSHIP

B.3.1 The intent of the Contract Documents is to provide for the construction and completion in every detail of the Work described. All Work shall be performed in a professional manner and unless the means or methods of performing a task are specified elsewhere in the Contract Documents, Contractor shall employ methods that are generally accepted and used by the industry, in accordance with industry standards.

B.3.2 The Contractor is responsible to perform the Work as required by the Contract Documents. Defective Work shall be corrected at the Contractor's expense.

B.3.3 Work done and materials furnished shall be subject to inspection and/or observation and testing by the Owner to determine if they conform to the Contract Documents. Inspection of the Work by the Owner does not relieve the Contractor of responsibility for the Work in accordance with the Contract Documents.

B.3.4 Contractor shall furnish adequate facilities, as required, for the Owner to have safe access to the Work including without limitation walkways, railings, ladders, tunnels, and platforms. Producers, suppliers, and fabricators shall also provide proper facilities and access to their

facilities.

B.3.5 The Contractor shall furnish Samples of materials for testing by the Owner and include the cost of the Samples in the Contract Price.

B.4 PERMITS

Contractor shall obtain and pay for all necessary permits, licenses and fees, except for those specifically excluded in the Supplemental General Conditions, for the construction of the Work, for temporary obstructions, enclosures, opening of streets for pipes, walls, utilities, environmental Work, etc., as required for the project.
Contractor shall be responsible for all violations of the law, in connection with the construction or caused by obstructing streets, sidewalks or otherwise. Contractor shall give all requisite notices to public authorities.

B.5 COMPLIANCE WITH GOVERNMENT REGULATIONS

B.5.1 Contractor shall comply with Applicable Laws pertaining to the Work and the Contract. Failure to comply with such requirements shall constitute a breach of Contract and shall be grounds for Contract termination. Without limiting the generality of the foregoing, Contractor expressly agrees to comply with the following, as applicable: (i) Title VI and VII of Civil Rights Act of 1964, as amended; (ii) Section 503 and 504 of the Rehabilitation Act of 1973, as amended; (iii) the Health Insurance Portability and Accountability Act of 1996; (iv) the Americans with Disabilities Act of 1990, as amended; (v) ORS Chapter 659; as amended; (vi) ORS Chapter 659A; as amended; (vii) all regulations and administrative rules established pursuant to the foregoing laws; and (vii) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations.

B.5.2 Contractor shall comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations, and

(a) Contractor shall not discriminate against Disadvantaged, Minority, Women or Emerging Small Business enterprises, as those terms are defined in ORS 200.005, or a business enterprise that is owned or controlled by or that employs a disabled veteran, as that term is defined in ORS 408.225, in the awarding of subcontracts.

(b) Contractor shall maintain, in current and valid form, all licenses and certificates required by Applicable Laws or this Contract when performing the Work.

B.5.3 Unless contrary to federal law, Contractor shall certify that it shall not accept a bid from Subcontractors to perform Work as described in ORS 701.005 under this Contract unless such Subcontractors are registered with the Construction Contractors Board in accordance with ORS 701.021 to 701.068 at the time they submit their bids to the Contractor.

B.5.4 Unless contrary to federal law, Contractor shall certify that each landscape contractor, as defined in ORS 671.520(2), performing Work under this Contract holds a valid landscape contractor's license issued pursuant to ORS 671.560.

B.5.5 The following notice is applicable to Contractors who perform excavation Work. ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-00100. You may obtain copies of the rules by calling the center at (503)232-1987.

B.5.6 Failure to comply with any or all of the requirements of B.5.1 through B.5.5 shall be a breach of Contract and constitute grounds for Contract termination. Damages or costs resulting from such noncompliance shall be the responsibility of Contractor.

B.6 SUPERINTENDENCE

Contractor shall keep on the site, during the progress of the Work, a competent superintendent and any necessary assistants who shall be satisfactory to the Owner and who shall represent the Contractor on the site. Directions given to the superintendent by the Owner shall be confirmed in writing to the Contractor.

B.7 INSPECTION

B.7.1 Owner shall have access to the Work at all times.

B.7.2 Inspection of the Work will be made by the Owner at its discretion. The Owner will have authority to reject Work that does not conform to the Contract Documents. Any Work found to be not in conformance with the Contract Documents, in the discretion of the Owner, shall be removed and replaced at the Contractor's expense.

B.7.3 Contractor shall make or obtain at the appropriate time all tests, inspections and approvals of portions of the Work required by the Contract Documents or by Applicable Laws or orders of public authorities having jurisdiction. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work. The Contractor shall give the Owner timely notice of when and where tests and inspections are to be made so that the Owner may be present for such procedures. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Owner.

B.7.4 As required by the Contract Documents, Work done or material used without required inspection or testing and/or without providing timely notice to the Owner may be ordered removed at the Contractor's expense.

B.7.5 If directed to do so any time before the Work is accepted, the Contractor shall uncover portions of the completed Work for inspection. After inspection, the Contractor shall restore such portions of Work to the standard required by the Contract. If the Work uncovered is unacceptable or was done without required testing or inspection or sufficient notice to the Owner, the uncovering and restoration shall be done at the Contractor's expense. If the Work uncovered is acceptable and was done with sufficient notice to the

Owner, the uncovering and restoration will be paid for pursuant to an Amendment.

B.7.6 If any testing or inspection reveals failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Owner's and Architect/Engineer's services and expenses, shall be at the Contractor's expense.

B.7.7 When the United States government participates in the cost of the Work, or the Owner has an agreement with other public or private organizations, or if any portion of the Work is being performed for a third party or in close proximity to third party facilities, representatives of these organizations shall have the right to inspect the Work affecting their interests or property. Their right to inspect shall not make them a party to the Contract and shall not interfere with the rights of the parties of the Contract. Instructions or orders of such parties shall be transmitted to the Contractor, through the Owner.

B.8 SEVERABILITY

If any provision of this Contract is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular provision held to be invalid.

B.9 ACCESS TO RECORDS

B.9.1 Contractor shall keep, at all times on the Work site, one record copy of the complete Contract Documents, including the Plans, Specifications, Construction Change Directives and addenda, in good order and marked currently to record field changes and selections made during construction, and one record copy of

Shop Drawings, Product Data, Samples and similar Submittals, and shall at all times give the Owner access thereto.

B.9.2 Contractor shall retain and the Owner and its duly authorized representatives shall have access, for a period not less than ten (10) years, to all Record Documents, financial and accounting records, and other books, documents, papers and records of Contractor which are pertinent to the Contract, including records pertaining to Overhead and indirect costs, for the purpose of making audit, examination, excerpts and transcripts. If for any reason, any part of the Work or this Contract shall be subject to litigation, Contractor shall retain all such records until all litigation is resolved and Contractor shall continue to provide Owner and/or its agents with full access to such records until such time as all litigation is complete and all periods for appeal have expired and full and final satisfaction of any judgment, order or decree is recorded and Owner receives a record copy of documentation from Contractor.

B.10 WAIVER

Failure of the Owner to enforce any provision of this Contract shall not constitute a waiver or relinquishment by the Owner of the right to such performance in the future nor of the right to enforce any other provision of this Contract.

B.11 SUBCONTRACTS AND ASSIGNMENT

B.11.1 Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound by the terms and conditions of these Public Improvement General Conditions, and to assume toward the Contractor all of the obligations and responsibilities which the Contractor assumes toward the Owner thereunder, unless (1) the same are clearly inapplicable to the subcontract at issue because of legal requirements or industry practices, or (2) specific exceptions are requested by Contractor and approved in writing by Owner. Where appropriate, Contractor shall require each Subcontractor to enter into similar agreements with sub-subcontractors at any level.

B.11.2 At Owner's request, Contractor shall submit to Owner prior to their execution either Contractor's form of subcontract, or the subcontract to be executed with any particular Subcontractor. If Owner disapproves such form, Contractor shall not execute the form until the matters disapproved are resolved to Owner's satisfaction. Owner's review, comment upon or approval of any such form shall not relieve Contractor of its obligations under this Agreement or be deemed a waiver of such obligations of Contractor.

B.11.3 Contractor shall not assign, sell, or transfer its rights, or delegate its responsibilities under this Contract, in whole or in part, without the prior written approval of the Owner. No such written approval shall relieve Contractor of any obligations of this Contract, and any transferee shall be considered the agent of the Contractor and bound to perform in accordance with the Contract Documents. Contractor shall remain liable as between the original parties to the Contract as if no assignment had occurred.

B.12 SUCCESSORS IN INTEREST

The provisions of this Contract shall be binding upon and shall accrue to the benefit of the parties to the Contract and their respective permitted successors and assigns.

B.13 OWNER'S RIGHT TO DO WORK

Owner reserves the right to perform other or additional work at or near the project site with other forces than those of the Contractor. If such work takes place within or next to the project site, Contractor shall coordinate work with the other contractors or forces, cooperate with all other contractors or forces, carry out the Work in a way that will minimize interference and delay for all forces involved, place and dispose of materials being used so as not to interfere with the operations of another, and join the Work with the work of the others in an acceptable manner and perform it in proper sequence to that of the others. The Owner will resolve any disagreements that may arise between or among Contractor and the other contractors over the method or order of doing all work (including the Work). In case of unavoidable interference, the Owner will establish work priority (including the Work) which generally will be in the sequence that the contracts were awarded.

B.14 OTHER CONTRACTS

In all cases and at any time, the Owner has the right to execute other contracts related to or unrelated to the Work of this

Contract. The Contractor of this Contract shall fully cooperate with any and all other contractors without additional cost to the Owner in the manner described in section B.13.

B.15 GOVERNING LAW

This Contract shall be governed by and construed in accordance with the laws of the State of Oregon without regard to principles of conflict of laws.

B.16 LITIGATION

Any Claim between Owner and Contractor that arises from or relates to this Contract and that is not resolved through the Claims Review Process in Section D.3 shall be brought and conducted solely and exclusively within the Circuit Court of Benton County for the State of Oregon; provided, however, if a Claim must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. In no event shall this section be construed as a waiver by the State of Oregon on any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. CONTRACTOR, BY EXECUTION OF THIS CONTRACT, HEREBY CONSENTS TO THE IN PERSONAM JURISDICTION OF THE COURTS REFERENCED IN THIS SECTION B.16.

B.17 ALLOWANCES

B.17.1 The Contractor shall include in the Contract Price all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct.

B.17.2 Unless otherwise provided in the Contract Documents:

(a) when finally reconciled, allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

(b) Contractor's costs for unloading and handling at the site, labor, installation costs, Overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Price but not in the allowances;

(c) whenever costs are more than or less than allowances, the Contract Price shall be adjusted accordingly by Amendment. The amount of the Amendment shall reflect (i) the difference between actual costs and the allowances under Section B.17.2(a) and (2) changes in Contractor's costs under Section B.17.2(b).

(d) Unless Owner requests otherwise, Contractor shall provide to Owner a proposed fixed price for any allowance work prior to its performance.

B.18 SUBMITTALS, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

B.18.1 The Contractor shall prepare and keep current, for the Architect's/Engineer's approval (or for the approval of Owner if approval authority has not been delegated to the Architect/Engineer), a schedule and list of Submittals which is coordinated with the Contractor's construction schedule and allows the Architect/Engineer reasonable time to review Submittals. Owner reserves the right to finally approve the schedule and list of Submittals. Submittals include, without limitation, Shop Drawings, product data, and samples which are described below:

(a) Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor (including any sub-subcontractor), manufacturer, supplier or distributor to illustrate some portion of the Work.

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

(c) Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

B.18.2 Shop Drawings, Product Data, Samples and similar Submittals are not Contract Documents. The purpose of their Submittal is to demonstrate for those portions of the Work for which Submittals are required by the Contract Documents the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review of Submittals by the Architect/Engineer is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, or for approval of safety precautions or, unless otherwise specifically stated by the Architect/Engineer, of any construction means, methods, techniques, sequences or procedures, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect/Engineer's review of the Contractor's Submittals shall not relieve the Contractor of its obligations under the Contract Documents. The Architect/Engineer's approval of a specific item shall not indicate approval of an assembly of which the item is a component. Informational Submittals upon which the Architect/Engineer is not expected to take responsive action may be so identified in the Contract Documents. Submittals which are not required by the Contract Documents may be returned by the Architect/Engineer without action.

B.18.3 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect/Engineer Shop Drawings, Product Data, Samples and similar Submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect/Engineer without action.

B.18.4 Approving and submitting shop drawings, product data, samples and similar Submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such Submittals with the requirements of the Work and of the Contract Documents.

B.18.5 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar Submittals until the respective Submittal has been approved by the Architect/Engineer.

B.18.6 The Work shall be in accordance with approved Submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect/Engineer's review or approval of Shop Drawings, Product Data, Samples or similar Submittals unless the Contractor has specifically informed the Architect/Engineer in writing of such deviation at the time of submittal and (i) the Architect/Engineer has given written approval to the specific deviation as a minor change in the Work, or (ii) an Amendment or Construction Change Directive has been executed by Owner authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar Submittals by the Architect/Engineer's review or approval thereof.

B.18.7 In the event that Owner elects not to have the obligations and duties described under this Section B.18 performed by the Architect/Engineer, or in the event no Architect/Engineer is employed by Owner on the project, all obligations and duties assigned to the Architect/Engineer hereunder shall be performed by the Owner.

B.19 SUBSTITUTIONS

The Contractor may make Substitutions only with the written consent of the Owner, after evaluation by the Owner and only in accordance with an Amendment or Construction Change Directive. Substitutions shall be subject to the requirements of the bid documents. By making requests for Substitutions, the Contractor: represents that the Contractor has personally investigated the proposed substitute product; represents that the Contractor will provide the same warranty for the Substitution that the Contractor would for the product originally specified unless approved otherwise; certifies that the cost data presented is complete and includes all related costs under this Contract including redesign costs, and waives all claims for additional costs related to the Substitution which subsequently become apparent; and will coordinate the installation of the accepted Substitution, making such changes as may be required for the Work to be completed in all respects.

B.20 USE OF PLANS AND SPECIFICATIONS

Plans, Specifications and related Contract Documents furnished to Contractor by Owner or Owner's Architect/Engineer shall be used solely for the performance of the Work under this Contract. Contractor and its Subcontractors and suppliers are authorized to use and r e p r o d u c e applicable portions of such documents appropriate to the execution of the Work, but shall not claim any ownership or other interest in them beyond the scope of this Contract, and no such interest shall attach. Unless otherwise indicated, all common law, statutory and terminate the Contract.

B.21 FUNDS AVAILABLE AND AUTHORIZED

If Owner fails to receive funding, appropriations, allocations or other expenditure authority as contemplated by Owner's budget and Owner determines, in its assessment and ranking of the policy objectives explicit or implicit in Owner's budget, Owner may other reserved rights, in addition to copyrights, are retained by Owner.

B.22 NO THIRD PARTY BENEFICIARIES

Owner and Contractor are the only parties to this Contract and are the only parties entitled to enforce its terms. Nothing in this Contract gives, is intended to give, or shall be construed to give or provide any benefit or right, whether directly, indirectly, or otherwise, to third persons unless such third persons are individually identified by name herein and expressly described as intended beneficiaries of the terms of this Contract.

SECTION C
WAGES AND LABOR

C.1 MINIMUM WAGE RATES ON PUBLIC WORKS

Contractor shall comply fully with the provisions of ORS 279C.800 through 279C.870. Documents establishing those conditions, as determined by the Commissioner of the Bureau of Labor and Industries (BOLI), are included as attachments to or are incorporated by reference in the Contract Documents. Pursuant to ORS 279C.830(1)(c), Contractor shall pay workers at not less than the specified minimum hourly rate of wage, and shall include that requirement in all subcontracts. If the Work is subject to both the state prevailing wage rate law and the federal Davis-Bacon Act, Contractor shall pay the higher of the applicable state or federal prevailing rate of wage. Contractor shall provide written notice to all workers of the number of hours per day and days per week such workers may be required to work.

C.2 PAYROLL CERTIFICATION AND FEE REQUIREMENTS

C.2.1 In accordance with ORS 279C.845, the Contractor and every Subcontractor shall submit written certified statements to the Owner, on the form prescribed by the Commissioner of the Bureau of Labor and Industries, certifying the hourly rate of wage paid each worker which the Contractor or the Subcontractor has employed on the project and further certifying that no worker employed on the project has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified in the Contract, which certificate and statement shall be verified by the oath of the Contractor or the Subcontractor that the Contractor or Subcontractor has read the certified statement, that the Contractor or Subcontractor knows the contents of the certified statement, and, that to the Contractor's or Subcontractor's best knowledge and belief, the certified statement is true. The certified statements shall set out accurately and completely the payroll records for the prior week, including the name and address of each worker, the worker's correct classification, rate of pay, daily and weekly number of

hours worked, deductions made, and actual wages paid. Certified statements for each week during which the Contractor or Subcontractor has employed a worker on the project shall be submitted once a month, by the fifth business day of the following month. The Contractor and Subcontractors shall preserve the certified statements for a period of ten (10) years from the date of completion of the Contract.

C.2.2 Pursuant to ORS 279C.845(7), the Owner shall retain 25 percent of any amount earned by the Contractor on this public works project until the Contractor has filed the certified statements required by section C.2.1. The Owner shall pay to the Contractor the amount retained under this subsection within 14 days after the Contractor files the required certified statements, regardless of whether a Subcontractor has failed to file certified statements. Pursuant to ORS 279C.845(8), the Contractor shall retain 25 percent of any amount earned by a first-tier Subcontractor on this public works project until the first-tier Subcontractor has filed with the Owner the certified statements required by C.2.1. Before paying any amount retained under this subsection, the Contractor shall verify that the first-tier Subcontractor has filed the certified statement. Within 14 days after the first-tier Subcontractor files the required certified statement the Contractor shall pay the first-tier Subcontractor any amount retained under this subsection.

C.2.3 In accordance with statutory requirements and administrative rules promulgated by the Commissioner of the Bureau of Labor and Industries, the fee required by ORS 279C.825(1) will be paid by Owner to the Commissioner.

C.3 PROMPT PAYMENT AND CONTRACT CONDITIONS

C.3.1 As a condition to Owner's performance hereunder, the Contractor shall:

C.3.1.1 Make payment promptly, as due, to all persons supplying to Contractor labor or materials for the prosecution of the Work provided for in this Contract.

C.3.1.2 Pay all contributions or amounts due the State Industrial Accident Fund from such Contractor or Subcontractor incurred in the performance of the Contract.

C.3.1.3 Not permit any lien or claim to be filed or prosecuted against the Owner on account of any labor or material furnished. Contractor will not assign any claims that Contractor has against Owner, or assign any sums due by Owner, to Subcontractors, suppliers, or manufacturers, and will not make any agreement or act in any way to give Subcontractors a claim or standing to make a claim against the Owner.

C.3.1.4 Pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.

C.3.2 As a condition to Owner's performance hereunder, if Contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to the Contractor of a Subcontractor by any person in connection with the project as such claim becomes due, the proper officer(s) representing the Owner may pay the claim and charge the amount of the payment against funds due or to become due Contractor under this Contract. Payment of claims in this manner shall not relieve the Contractor or the Contractor's surety from obligation with respect to any unpaid claims.

C.3.3 Contractor shall include in each subcontract for property or services entered into by the Contractor and a first-tier subcontractor, including a material supplier, for the purpose of performing a construction contract, a payment clause that obligates the Contractor to pay the first-tier Subcontractor for satisfactory performance under its subcontract within ten (10) Days out of such amounts as are paid to the Contractor by the public contracting agency under such contract.

C.3.4 All employers, including Contractor, that employ subject workers who work under this contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. Contractor shall ensure that each of its Subcontractors complies with these requirements.

C.4 PAYMENT FOR MEDICAL CARE

As a condition to Owner's performance hereunder, Contractor shall promptly, as due, make payment to any person, partnership, association or corporation furnishing medical, surgical, and hospital care or other needed care and attention, incident to sickness or injury, to the employees of such Contractor, all sums of which the Contractor agrees to pay for such services and all moneys and sums which the Contractor has collected or deducted from the wages of personnel pursuant to any law, contract or agreement for the purpose of providing or paying for such services.

C.5 HOURS OF LABOR

As a condition to Owner's performance hereunder, no person shall be employed to perform Work under this Contract for more than ten (10) hours in any one day or forty (40) hours in any one week, except in cases of necessity, emergency or where public policy absolutely requires it. In such instances, Contractor shall pay the employee at least time and a half pay:

(a) For all overtime in excess of eight (8) hours a day or forty (40) hours in any one week when the work week is five consecutive Days, Monday through Friday; or

(b) For all overtime in excess of ten (10) hours a day or forty (40) hours in any one week when the work week is four consecutive Days, Monday through Friday; and

(c) For all Work performed on Saturday and on any legal holiday specified in ORS 279C.540.

This section C.5 will not apply to Contractor's Work under this Contract to the extent Contractor is currently a party to a collective bargaining agreement with any labor organization.

This Section C.5 shall not excuse Contractor from completion of the Work within the time required under this Contract.

SECTION D
CHANGES IN THE WORK

D.1 CHANGES IN WORK

D.1.1 The terms of this Contract shall not be waived, altered, modified, supplemented or amended in any manner whatsoever, without prior written agreement and then only after any necessary approvals have been obtained. An Amendment or Change Order is required, which shall not be effective until its execution by the parties to this Contract and all approvals required by public contracting laws have been obtained.

D.1.2 It is mutually agreed that changes in Plans, quantities, or details of construction are inherent in the nature of construction and may be necessary or desirable during the course of construction. Within the general scope of this Contract, the Owner may at any time, without notice to the sureties and without impairing the Contract, require changes consistent with this Section D.1. All changes to the Work shall be documented and Amendments shall be executed under the conditions of the Contract Documents. Such changes may include, but are not limited to:

(a) Modification of specifications and design.
(b) Increases or decreases in quantities.
(c) Increases or decreases to the amount of Work.
(d) Addition or elimination of any Work item.
(e) Change in the duration of the project.
(f) Acceleration or delay in performance of Work.
(g) Deductive changes,
(h) Changed conditions.

Deductive changes are those that reduce the scope of the Work, and shall be made by mutual agreement whenever feasible. In cases of suspension or partial termination under Section J, Owner reserves the right to unilaterally impose a deductive change and to self-perform such Work, for which the provisions of B.13 (Owner's Right to Do Work) shall then apply. Adjustments in compensation shall be made under the provisions of D.1.3, in which costs for deductive changes shall be based upon a Direct Costs adjustment together with the related percentage markup specified for profit, Overhead and other indirect costs, unless otherwise agreed to by Owner.

D.1.3 The Owner and Contractor agree that adjustments to or deletions from the Work shall be administered and compensated according to the following:

(a) Unit pricing may be utilized at the Owner's option when unit prices or solicitation alternates were provided that established the cost for adjustments to Work, and a binding obligation exists under the Contract on the parties covering the terms and conditions of the adjustment to Work.

(b) If the Owner elects not to utilize unit pricing, or in the event that unit pricing is not available or appropriate, fixed pricing may be used for adjustments to or deletions from the Work. In fixed pricing, the basis of payments or total price shall be agreed upon in writing between the parties to the Contract, and shall be established before the Work is done whenever feasible. Notwithstanding the foregoing, the mark-ups set forth in D.1.3(c) shall be utilized in establishing fixed pricing, and such mark-ups shall not be exceeded. Cost and price data relating to adjustments to or deletions from the Work shall be supplied by Contractor to Owner upon request, but Owner shall be under no obligation to make such requests.

(c) In the event that unit pricing and fixed pricing are not utilized, then adjustments to or deletions from the Work shall be performed on a cost reimbursement basis for Direct Costs. Such Work shall be compensated on the basis of the actual, reasonable and allowable cost of labor, equipment, and material furnished on the Work performed. In addition, the following markups shall be added to the Contractor's or Subcontractor's Direct Costs as full compensation for profit, Overhead and other indirect costs for Work directly performed with the Contractor's or Subcontractor's own forces:

On Labor.....	15%
On Equipment.....	10%
On Materials.....	10%

(d) When adjustments to or deletions from the Work under D.1.3(c) are invoiced by an authorized Subcontractor at any level, each ascending tier Subcontractor or Contractor will be allowed a supplemental mark-up on each piece of subcontract Work covered by an Amendment as follows:

$0.00 - $5,000.00 10%,
and then Over $5,000.00
5%

Notwithstanding the foregoing, the maximum aggregate markup to be billed shall not exceed 10% regardless of the number of Subcontract tiers.

Payments made to the Contractor shall be complete compensation for Overhead, profit, and all costs that were incurred by the Contractor or by other forces furnished by the Contractor, including Subcontractors, for adjustments to or deletions from the Work pursuant to an Amendment or Change Order. Owner may establish a maximum cost for additional Work under this Section D.1.3, which shall not be exceeded for reimbursement without additional written authorization from Owner in the form of an Amendment or Change Order. Contractor shall not be required to complete such additional Work without additional authorization.

D.1.4 Any necessary adjustment of Contract Time that may be required as a result of adjustments to or deletions from the Work must be agreed upon by the parties before the start of the revised Work unless Owner authorizes Contractor to start the revised Work before agreement on Contract Time adjustment. Contractor shall submit any request for additional compensation (and additional Contract Time if Contractor was authorized to start Work before an adjustment of Contract Time was approved) as soon as possible but no later than thirty (30) Days after receipt of Owner's request for additional Work. Contractor agrees that this thirty (30) Day notice period is adequate time for it to request and document the amount of additional compensation or adjustment of Contract Time. If Contractor's request for additional compensation or adjustment of Contract Time is not made within the

thirty (30) Day time limit, Contractor agrees its requests pertaining to that additional Work shall be barred. The thirty (30) Day time limit for making requests shall not be extended for any reason, including without limitation Contractor's claimed inability to determine the amount of additional compensation or adjustment of Contract Time, unless an extension is granted in writing by Owner. If the Owner denies Contractor's timely request for additional compensation or adjustment of Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process. No other reimbursement, compensation, or payment will be made, except as provided in Section D.1.5 for impact claims.

D.1.5 If any adjustment to Work under Section D.1.3 causes an increase or decrease in the Contractor's cost of, or the Contract Time required for the performance of any other part of the Work under this Contract, Contractor shall submit a written request to the Owner, setting forth the nature and specific extent of the request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt of Owner's request for adjustments to or deletions from the Work by Contractor.

The thirty (30) Day time limit applies to claims of Subcontractors, suppliers, or manufacturers who may be affected by Owner's request for adjustments to or deletions from the Work and who request additional compensation or an extension of Contract Time to perform; Contractor has responsibility for contacting its Subcontractors, suppliers, or manufacturers within the thirty (30) Day time limit, and including their requests with Contractor's requests. If the request involves Work to be completed by Subcontractors, or materials to be furnished by suppliers or manufacturers, such requests shall be submitted to the Contractor in writing with full analysis and justification for the adjustments to compensation and Contract Time requested. The Contractor shall analyze and evaluate the merits of the requests submitted by Subcontractors, suppliers, and manufacturers to Contractor prior to including those requests and Contractor's analysis and evaluation of those requests with Contractor's requests for adjustments to compensation or Contract Time that Contractor submits to the Owner. Failure of Subcontractors, suppliers, manufacturers or others to submit their requests to Contractor for inclusion with Contractor's requests submitted to Owner within the time period and by the means described in this section shall constitute a waiver of these Subcontractor claims. The Owner will not consider direct requests or claims from Subcontractors, suppliers, manufacturers or others not a party to this Contract. The consideration of such requests and claims under this section does not give any Person, not a party to the Contract the right to bring a claim against Owner, whether in this claims process, in litigation, or in any dispute resolution process.

If the Owner denies the Contractor's request for adjustment to compensation or Contract Time and the request is timely as set forth herein, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

D.1.6 Contractor agrees that no request or Claim for additional costs or an adjustment of Contract Time shall be allowed if made after receipt of Final Payment application under this Contract. Final Payment application must be made by Contractor within the time required under Section E.6.4.

D.1.7 It is understood that changes in the Work are inherent in construction of this type. The number of changes, the scope of those changes, and the effect they have on the progress of the original Work cannot be defined at this time. The Contractor is notified that numerous changes may be required and that there will be no compensation made, unless and only to the extent otherwise provided in the Contract Documents, to the Contractor directly related to the number of changes. Each change will be evaluated for extension of Contract Time and increase or decrease in compensation based on its own merit.

D.2 DELAYS

D.2.1 Delays in construction include "Avoidable Delays", which are defined in Section D.2.1.1, and "Unavoidable Delays", which are defined in Section D.2.1.2. The effect of Avoidable Delays is described in Section D.2.2 and the effect of Unavoidable Delays is described in Section D.2.3.

D.2.1.1 Avoidable Delays include any delays other than Unavoidable Delays, and include delays that otherwise would be considered Unavoidable Delays but that:

(a) Could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors.

(b) Affect only a portion of the Work and do not necessarily prevent or delay the prosecution of other parts of the Work or the completion of the whole Work within the Contract Time.

(c) Do not impact activities on the accepted CPM Construction Schedule.

(d) Are associated with the reasonable interference of other contractors employed by the Owner that do not necessarily prevent the completion of the whole Work within the Contract Time.

D.2.1.2 Unavoidable Delays include delays other than Avoidable Delays that are:

(a) To the extent caused by any actions of the Owner, or any other employee or agent of the Owner, or by separate contractor employed by the Owner.

(b) To the extent caused by any site conditions that differ materially from what was represented in the Contract Documents or from conditions that would normally be expected to exist and be inherent to the construction activities defined in the Contract Documents. The Contractor agrees to notify the Owner immediately of differing site conditions before the area has been disturbed. The Owner will investigate the area and make a determination as to whether the conditions differ materially from either the conditions stated in the Contract Documents or those that could reasonably be expected in execution of this particular Contract. If Contractor and the Owner agree that a differing site condition exists, any adjustment to compensation or Contract Time will be determined based on the process set forth in Section D.1.5 for adjustments to or deletions from Work. If the Owner disagrees that a differing site

condition exists and denies Contractor's request for additional compensation or Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

(c) To the extent caused by Force Majeure acts, events or occurrences that could not have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its Subcontractors.

(d) To the extent caused by adverse weather conditions. Any adverse weather conditions must be substantiated by documentary evidence that weather conditions were abnormal for the specific time period claimed, could not have been anticipated by the Contractor, and adversely impacted the Project in a manner that could not be avoided by rescheduling the Work or by implementing measures to protect against the weather so that the Work could proceed. A rain, windstorm, high water, or other natural phenomenon for the specific locality of the Work, which might reasonably have been anticipated from the previous 10-year historical records of the general locality of the Work, shall not be construed as abnormal. The parties agree that rainfall greater than the following levels cannot be reasonably anticipated:

(i) Daily rainfall equal to, or greater than, 0.50 inch during a month when the monthly rainfall exceeds the normal monthly average by twenty- five percent (25 %) or more.

(ii) daily rainfall equal to, or greater than, 0.75 inch at any time.

The Office of the Environmental Data Service of the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce nearest the Project site shall be considered the official agency of record for weather information.

D.2.2 Contractor agrees it is not entitled to additional compensation or additional Contract Time for Avoidable Delays.

D.2.3 In the event of Unavoidable Delays, based on principles of equitable adjustment, Contractor may be entitled to the following:

(a) Contractor may be entitled to additional compensation or additional Contract Time, or both, for Unavoidable Delays described in Section D.2.1.2 (a) and (b).

(b) Contractor may be entitled to additional Contract Time for Unavoidable Delays described in Section D.2.1.2(c) and (d).

In the event of any requests for additional compensation or additional Contract Time, or both, as applicable, arising under this Section D.2.3 for Unavoidable Delays, other than requests for additional compensation or additional Contract Time for differing site conditions for which a review process is established under Section D.2.1.2 (b), Contractor must submit a written notification of the delay to the Owner within two (2) Days of the occurrence of the cause of the delay. This written notification shall state the cause of the potential delay, the project components impacted by the delay, and the anticipated additional Contract Time extension or the additional compensation, or both, as applicable, resulting from the delay. Within seven (7) Days after the cause of the delay has been mitigated, or in no case more than thirty (30) Days after the initial written notification, the Contractor agrees to submit to the Owner, a complete and detailed request for additional compensation or additional Contract Time, or both, as applicable, resulting from the delay. If the Owner denies Contractor's request for additional compensation or adjustment of Contract Time, the Contractor may proceed to file a Claim under Section D.3, Claims Review Process, provided Contractor has complied with the requirement in this Section D.2.3. Contractor agrees any Claim it may have is barred if Contractor does not comply with the requirements herein.

If Contractor does not timely submit the notices required under this Section D.2, then unless otherwise prohibited by law, Contractor's Claim shall be barred.

D.3 CLAIMS REVIEW PROCESS

D.3.1 All Contractor Claims shall be referred to the Owner for review. Contractor's Claims, including Claims for adjustments to compensation or Contract Time, shall be submitted in writing by Contractor to the Owner within five (5) Days after a denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, provided that such initial request has been submitted in accordance with the requirements and within the time limits established in these Public Improvement General Conditions. Within thirty (30) Days after the initial Claim, Contractor shall submit to the Owner a complete and detailed description of the Claim (the "Detailed Notice") that includes all information required by Section D.3.2. Contractor agrees that, unless the Claim is made in accordance with these time requirements, Contractor voluntarily waived all rights to prosecute its Claim.

D.3.2 The Detailed Notice of the Claim shall be submitted in writing by Contractor and shall include a detailed, factual statement of the basis of the Claim, pertinent dates, Contract provisions which support or allow the Claim, reference to or copies of any documents which support the Claim, the dollar value of the Claim, and the Contract Time adjustment requested for the Claim. If the Claim involves Work to be completed by Subcontractors, the Contractor will analyze and evaluate the merits of the Subcontractor claim prior to forwarding it and that analysis and evaluation to the Owner. The Owner will not consider direct claims from Subcontractors, suppliers, manufacturers, or others not a party to this Contract. Contractor agrees that it will make no agreement, covenant, or assignment, nor will it commit any other act that will permit or assist any Subcontractor, supplier, manufacturer, or other to directly or indirectly make a claim against Owner.

D.3.3 The Owner will review all Claims and take one or more of the following preliminary actions within ten (10) Days of receipt of the Detailed Notice of a Claim: (1) request additional supporting information from the Contractor; (2) inform the Contractor and Owner in writing of the time required for adequate review and response; (3) reject the Claim in whole or in part and identify the reasons for rejection; (4) based on principles of equitable adjustment,

recommend approval of all or part of the Claim; or (5) propose an alternate resolution.

D.3.4 The Owner's decision shall be final and binding on the Contractor unless appealed by written notice to the Owner within fifteen (15) Days of receipt of the decision. The Contractor must present written documentation supporting the Claim within fifteen (15) Days of the notice of appeal. After receiving the appeal documentation, the Owner shall review the materials and render a decision within thirty (30) Days after receiving the appeal documents.

D.3.5 The decision of the Owner shall be final and binding unless the Contractor delivers to the Owner its request for mediation, which shall be a non-binding process, within fifteen (15) Days of the date of the Owner's decision. The mediation process will be considered to have commenced as of the date the Contractor delivers the request. Both parties acknowledge and agree that participation in mediation is a prerequisite to commencement of litigation of any disputes relating to the Contract. Both parties further agree to exercise their best efforts in good faith to resolve all disputes within sixty (60) Days of the commencement of the mediation through the mediation process set forth herein.

In the event that a lawsuit must be filed within this sixty (60) Day period in order to preserve a cause of action, the parties agree that, notwithstanding the filing, they shall proceed diligently with the mediation to its conclusion prior to actively prosecuting the lawsuit, and shall seek from the Court in which the lawsuit is pending such stays or extensions, including the filing of an answer, as may be necessary to facilitate the mediation process. Further, in the event settlements are reached on any issues through mediation, the plaintiff shall promptly cause to be entered by the Court a stipulated general judgment of dismissal with prejudice, or other appropriate order limiting the scope of litigation as provided in the settlement.

D.3.6 Should the parties arrive at an impasse regarding any Claims or disputed Claims, it is agreed that the parties shall participate in mediation as specified in Section D.3.5. The mediation process will be considered to have been commenced as of the date one party delivers to the other its request in writing to mediate. The mediator shall be an individual mutually acceptable to both parties, but in the absence of agreement each party shall select a temporary mediator and the temporary mediators shall jointly select the permanent mediator. Each party shall pay its own costs for the time and effort involved in mediation. The cost of the mediator shall be split equally between the two parties. Both parties agree to exercise their best effort in good faith to resolve all disputes in mediation. Participation in mediation is a mandatory requirement of both the Owner and the Contractor. The schedule, time and place for mediation will be mutually acceptable, or, failing mutual agreement, shall be as established by the mediator. The parties agree to comply with Owner's administrative rules governing the confidentiality of mediation, if any, and shall execute all necessary documents to give effect to such confidentiality rules. In any event, the parties shall not subpoena the mediator or otherwise require the mediator to produce records, notes or work product, or to testify in any future proceedings as to information disclosed or representations made in the course of mediation, except to the extent disclosure is required by law.

D.3.7 Unless otherwise directed by Owner, Contractor shall proceed with the Work while any Claim, or mediation or litigation arising from a Claim, is pending. Regardless of the review period or the final decision of the Owner, the Contractor shall continue to diligently pursue the Work as identified in the Contract Documents. In no case is the Contractor justified or allowed to cease or Delay Work, in whole or in part, without a written stop work order from the Owner.

SECTION E
PAYMENTS

E.1 SCHEDULE OF VALUES

The Contractor shall submit, at least ten (10) Days prior to submission of its first application for progress payment, a schedule of values ("Schedule of Values") for the contracted Work. This schedule shall provide a breakdown of values for the contracted Work and will be the basis for progress payments. The breakdown shall demonstrate reasonable, identifiable, and measurable components of the Work.
Unless objected to by the Owner, this schedule shall be used as the basis for reviewing Contractor's applications for payment. If objected to by Owner, Contractor shall revise the schedule of values and resubmit the same for approval of Owner.

E.2 APPLICATIONS FOR PAYMENT

E.2.1 Owner shall make progress payments on the Contract monthly as Work progresses, in accordance with the requirements of this Section E.2. Applications for payment shall be based upon estimates of Work completed and the Schedule of Values. As a condition precedent to Owner's obligation to pay, all applications for payment shall be approved by the Owner. A progress payment shall not be considered acceptance or approval of any Work or waiver of any defects therein. Owner shall pay to Contractor interest for overdue invoices at the rate of two- thirds of one percent per month on the progress payment, not including retainage, due the Contractor. Overdue invoices will be those that have not been paid within forty-five (45) days from the latest of:

(a) The date of the receipt of the accurate invoice;
(b) The date Owner receives the correct application for payment if no invoice is received;
(c) The date all goods and services have been received; or
(d) The date a Claim is made certain by agreement of the parties or by operation of law.

Notwithstanding the foregoing, in instances when an application for payment is filled out incorrectly, or when there is any defect or impropriety in any submitted application or when there is a good faith dispute, Owner shall so notify the Contractor within fifteen (15) Days stating the reason or reasons the application for payment is defective or improper or the reasons for the dispute. A defective or improper application for payment, if corrected by the Contractor within seven (7) Days of being notified by the Owner, shall not cause a payment to be made later than specified in this section unless interest is also paid. Payment of interest will be postponed when payment on the principal is delayed because of disagreement between the Owner and the Contractor.

Owner reserves the right, instead of requiring the Contractor to correct or resubmit a defective or improper application for payment, to reject the defective or improper portion of the application for payment and pay the remainder of the application for such amounts which are correct and proper.

Owner, upon written notice to the Contractor, may elect to make payments to the Contractor only by means of Electronic Funds Transfers (EFT) through Automated Clearing House (ACH) payments. If Owner makes this election, the Contractor shall arrange for receipt of the EFT/ACH payments.

E.2.2 .2 Contractor shall submit to the Owner an application for each payment and, if required, receipts or other vouchers showing payments for materials and labor including payments to Subcontractors. Contractor shall include in its application for payment a schedule of the percentages of the various parts of the Work completed, based on the Schedule of Values which shall aggregate to the payment application total, and shall include, on the face of each copy thereof, a certificate in substantially the following form:

"I, the undersigned, hereby certify that the above bill is true and correct, and the payment therefore, has not been received.

Signed: _____
Dated: ",

E.2.3 Generally, applications for payment will be accepted only for materials that have been installed. Under special conditions, applications for payment for stored materials will be accepted at Owner's sole discretion. Such a payment, if made, will be subject to the following conditions:

(a) The request for stored material shall be submitted at least thirty (30) Days in advance of the application for payment on which it appears. Applications for payment shall be entertained for major equipment, components or expenditures only.

(b) The Contractor shall submit applications for payment showing the quantity and cost of the material stored.

(c) The material shall be stored in a bonded warehouse and Owner shall be granted the right to access the material for the purpose of removal or inspection at any time during the Contract Period.

(d) The Contractor shall name the Owner as co-insured on the insurance policy covering the full value of the property while in the care and custody of the Contractor until it is installed. A certificate noting this coverage shall be issued to the Owner.

(e) Payments shall be made for materials and equipment only. The submitted amount in the application for payment shall be reduced by the cost of transportation from the storage site to the project site and for the cost of an inspector to verify delivery and condition of the goods at the storage site. The cost of storage and inspection shall be borne solely by the Contractor.

(f) Within sixty (60) Days of the application for payment, the Contractor shall submit evidence of payment covering the material and/or equipment stored and of payment for the storage site.

(g) Payment for stored materials and/or equipment shall in no way indicate acceptance of the materials and/or equipment or waive any rights under this Contract for the rejection of the Work or materials and/or equipment not in conformance with the Contract Documents.

(h) All required documentation shall be submitted with the respective application for payment.

E.2.4 The Owner reserves the right to withhold all or part of a payment, or may nullify in whole or part any payment previously made, to such extent as may be necessary in the Owner's opinion to protect the Owner from loss because of:

(a) Work that is defective and not remedied, or that has been demonstrated or identified as failing to conform with Applicable Laws or the Contract Documents,

(b) third party claims filed or evidence reasonably indicating that such claims will likely be filed unless security acceptable to the Owner is provided by the Contractor;

(c) failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment (in which case Owner may issue checks made payable jointly to Contractor and such unpaid persons under this provision, or directly to Subcontractors and suppliers at any level under Section C.3.2.);

(d) reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;

(e)) damage to the Work, Owner or another contractor;

(f) reasonable evidence that the Work will not be completed within the Contract Time required by the Contract, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;

(g) failure to carry out the Work in accordance with the Contract Documents; or

(h) assessment of liquidated damages, when withholding is made for offset purposes.

E.2.5 Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

(a) Take that portion of the Contract Price properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Price allocated to that portion of the Work in the Schedule of Values, less retainage as provided in Section E.5. Pending final determination of cost to the Owner of changes in the Work, no amounts for changes in the Work can be included in applications for payment until the Contract Price has been adjusted by an Amendment or Change Order;

(b) Add that portion of the Contract Price properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner pursuant to Section E.2.3, suitably stored off the site at a location agreed upon in writing), less retainage as provided in Section E.5;

(c) Subtract the aggregate of previous payments made by the Owner; and

(d) Subtract any amounts for which the Owner has withheld or nullified payment as provided in the Contract Documents.

E.2.6 Contractor's applications for payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay to a Subcontractor or material supplier.

E.2.7 The Contractor warrants to Owner that title to all Work covered by an application for payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an application for payment all Work for which payments are received from the Owner shall be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided financing, labor, materials and equipment relating to the Work.

E.2.8 If Contractor disputes any determination by Owner with regard to any application for payment, Contractor nevertheless shall continue to expeditiously perform the Work. No payment made hereunder shall be or be construed to be final acceptance or approval of that portion of the Work to which such partial payment relates or shall relieve Contractor of any of its obligations hereunder.

E.2.9 Contractor shall submit its initial MWESB Report within ten (10) Days of Contractor's execution of the Contract, or if there will be a Guaranteed Maximum Price (GMP) Amendment, then within ten (10) Days of Contractor's execution of the GMP Amendment. Contractor shall submit annual MWESB Reports on June 30 of each year the Contract is active. Contracts (or GMP Amendments) first executed by Contractor within ninety (90) Days before June 30 of the year of execution by Contractor may at the discretion of Owner be exempt from submitting the annual MWESB Report otherwise due on that June 30. The final MWESB Report shall be filed with the application for final payment. Timely receipt of MWESB Reports by Owner shall be a condition precedent to Owner's obligation to pay any progress payments or final payment otherwise due.

E.3 PAYROLL CERTIFICATION REQUIREMENT

Owner's receipt of payroll certification pursuant to Section C.2 of this Contract shall be a condition precedent to Owner's obligation to pay any progress payments or final payment otherwise due.

E.4 DUAL PAYMENT SOURCES

Contractor shall not be compensated for Work performed under this Contract from any state agency other than the agency that is a party to this Contract.

E.5 RETAINAGE

E.5.1 Retainage shall be withheld and released in accordance with the requirements set forth in OSU Standard580-063-0045.

E.5.1.1 Owner may reserve as retainage from any progress payment an amount not to exceed five percent of the payment. As Work progresses, Owner may reduce the amount of retainage on or may eliminate retainage on any remaining monthly Contract payments after 50 percent of the Work under the Contract is completed if, in the Owner's discretion, such Work is progressing satisfactorily. Elimination or reduction of retainage shall be allowed at Owner's sole discretion and only upon written application by the Contractor, which application shall include written approval of Contractor's surety; except that when the Work is 97-1/2 percent completed the Owner may, at its discretion and without application by the Contractor, reduce the retained amount to 100 percent of the value of the Work remaining to be done. Upon receipt of written application by the Contractor, Owner shall respond in writing within a reasonable time.

E.5.1.2 Contractor may request in writing:

(a) to be paid amounts which would otherwise have been retained from progress payments where Contractor has deposited acceptable bonds and securities of equal value with Owner or in a custodial account or other mutually- agreed account satisfactory to Owner, with an approved bank or trust company to be held in lieu of the cash retainage for the benefit of Owner;

(b) for construction projects over $1,000,000, that retainage be deposited in an interest bearing account, established through the State Treasurer for state agencies, in a bank, savings bank, trust company or savings association for the benefit of Owner, with earnings from such account accruing to the Contractor; or

(c) that the Owner allow Contractor to deposit a surety bond for the benefit of Owner, in a form acceptable to Owner, in lieu of all or a portion of funds retained, or to be retained. Such bond and any proceeds therefrom shall be made subject to all claims in the manner and priority as set forth for retainage.

When the Owner has accepted the Contractor's election of option (a) or (b), Owner may recover from Contractor any additional costs incurred through such election by reducing Contractor's final payment. Where the Owner has agreed to Contractor's request for option (c), Contractor shall accept like bonds from Subcontractors and suppliers on the project from which Contractor has required retainages.

E. 5.1.3 The retainage held by Owner shall be included in and paid to the Contractor as part of the Final Payment of the Contract Price. The Owner shall pay to Contractor interest at the rate of two- thirds of one percent per month on the final payment due Contractor, interest to commence forty-five (45) Days after the date which Owner receives Contractor's final approved application

for payment and Work under the Contract has been completed and accepted and to run until the date when final payment is tendered to Contractor. The Contractor shall notify Owner in writing when the Contractor considers the Work complete and deliver to Owner its final application for payment and Owner shall, within fifteen (15) Days after receiving the written notice and the application for payment, either accept the Work or notify the Contractor of Work yet to be performed on the Contract. If Owner does not within the time allowed notify the Contractor of Work yet to be performed to fulfill contractual obligations, the interest provided by this subsection shall commence to run forty-five (45) Days after the end of the 15- Day period.

E.5.1.4 Owner will reduce the amount of the retainage if the Contractor notifies the controller of the Owner that the Contractor has deposited in an escrow account with a bank or trust company, in a manner authorized by the Owner, bonds and securities of equal value of a kind approved by the Owner and such bonds and securities have in fact been deposited.

E.5.1.5 Contractor agrees that if Contractor elects to reserve a retainage from any progress payment due to any Subcontractor or supplier, such retainage shall not exceed five percent of the payment, and such retainage withheld from Subcontractors and suppliers shall be subject to the same terms and conditions stated in Subsection E.5 as apply to Owner's retainage from any progress payment due to Contractor.

E.6 FINAL PAYMENT

E.6.1 Upon completion of all the Work under this Contract, the Contractor shall notify the Owner, in writing, that Contractor has completed Contractor's obligations under the Contract and shall prepare its application requesting final payment. Upon receipt o f such notice and application for payment, the Owner will inspect the Work, and, if acceptable, submit to the Owner a recommendation as to acceptance of the completed Work and the final estimate of the amount due the Contractor. If the Work is not acceptable, Owner will notify Contractor within fifteen (15) Days of Contractor's request for Final Payment. Upon approval of this final application for payment by the Owner and compliance by the Contractor with provisions in Section K, and Contractor's satisfaction of other provisions of the Contract Documents as may be applicable, the Owner shall pay to the Contractor all monies due under the provisions of these Contract Documents.

E.6.2 Neither Final Payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner (1) a certificate evidencing that insurance required by the Contract Documents to remain in force after Final Payment is currently in effect and will not be canceled or allowed to expire until at least thirty (30) Days' prior written notice has been given to the Owner, (2) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (3) consent of surety, if any, to Final Payment and (4), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

E.6.3 Acceptance of Final Payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final application for payment.

E.6.4 Contractor agrees to submit its final payment application within ninety (90) Days after Substantial Completion, unless written extension is granted by Owner. Contractor shall not delay Final Payment application for any reason, including without limitation nonpayment of Subcontractors, suppliers, manufacturers or others not a party to this Contract, or lack of resolution of a dispute with Owner or any other person of matters arising out of or relating to the Contract. If Contractor fails to submit its Final Payment application within ninety (90) Days after Substantial Completion, and Contractor has not obtained written extension by Owner, all requests or Claims for additional costs or an extension of Contract Time shall be waived.

SECTION F
JOB SITE CONDITIONS

F.1 USE OF PREMISES

Contractor shall confine equipment, storage of materials and operation of Work to the limits indicated by Contract Documents, Applicable Laws, permits or directions of the Owner. Contractor shall follow the Owner's instructions regarding use of premises, if any.

F.2 PROTECTION OF WORKERS, PROPERTY AND THE PUBLIC

F.2.1 Contractor shall maintain continuous and adequate protection of all of the Work from damage and shall protect the Owner, workers and property from injury or loss arising in connection with this Contract. Contractor shall remedy acceptably to the Owner any damage, injury, or loss, except such as may be directly due to errors in the Contract Documents or caused by authorized representatives or personnel of the Owner. Contractor shall adequately protect adjacent property as provided by law and the Contract Documents.

F.2.2 Contractor shall take all necessary precautions for the safety of all personnel on the job site or otherwise engaged in the undertaking of the Work and shall comply with the Contract Documents, best practices and all applicable provisions of federal, state and municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the Work is being performed. Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards f o r protection of workers and the public against any hazards created by construction. Contractor shall designate a responsible employee or associate on the Work site, whose duty shall be the prevention of accidents. The name and position of the person designated shall be reported to the Owner. The Owner has no responsibility for Work site safety. Work site safety shall be the responsibility of the Contractor.

F.2.3 Contractor shall not enter upon private property without first obtaining permission from the property owner or its duly authorized representative. Contractor shall be responsible for the preservation of all public and private property along and adjacent to the Work contemplated under the Contract and shall use every precaution necessary to prevent damage thereto. In the event the Contractor damages any property, the Contractor shall at once notify the property owner and make, or arrange to make, full restitution. Contractor shall, immediately and in writing, report to the Owner, all pertinent facts relating to such property damage and the ultimate disposition of the claim for damage.

F.2.4 Contractor shall be responsible for protection of adjacent work areas including impacts brought about by activities, equipment, labor, utilities, vehicles and materials on the site.

F.2.5 Contractor shall at all times direct its activities in such a manner as to minimize adverse effects on the environment. Handling of all materials shall be conducted so no release will occur that may pollute or become hazardous.

F.2.6 In an emergency affecting the safety of life or limb or of the Work or of adjoining property, the Contractor, without special instruction or authorization from the Owner, shall act reasonably to prevent threatened loss or injury, and shall so act, without appeal, if instructed by the Owner. Any compensation claimed by the Contractor on account of emergency work shall be determined in accordance with section D.

F.3 CUTTING AND PATCHING

F.3.1 Contractor shall be responsible for coordinating all cutting, fitting, or patching of the Work to make its several parts come together properly and fit to receive or be received by work of other contractors or Subcontractors shown upon, or reasonably implied by, the Contract Documents.

F.3.2 Contractor shall be responsible for restoring all cut, fitted, or patched surfaces to an original condition; provided, however, that if a different condition is specified in the Contract Documents, then Contractor shall be responsible for restoring such surfaces to the condition specified in the Contract Documents.

F.4 CLEANING UP

From time to time as may be prudent or ordered by the Owner and, in any event, immediately after completion of the Work, the Contractor shall, at its own expense, clean up and remove all refuse and unused materials of any kind resulting from the Work. If Contractor fails to do so within twenty-four hours after notification by the Owner the work may be done by others and the cost charged to the Contractor and deducted from payment due the Contractor.

F.5 ENVIRONMENTAL CONTAMINATION

F.5.1. Contractor shall be held responsible for and shall indemnify, defend (with counsel of Owner's choice),and hold harmless Owner from and against any costs, expenses, damages, claims, and causes of action, (including attorneys' fees), or any of them, resulting from all spills, releases, discharges, leaks and disposal of environmental pollution, including storage, transportation, and handling during the performance of the Work or Contractor's obligations under the Contract which occur as a result of, or are contributed by, the negligence or actions of Contractor or its personnel, agents, or Subcontractors or any failure to perform in accordance with the Contract Documents (except to the extent otherwise void under ORS 30.140). Nothing in this section F.5.1 shall limit Contractor's responsibility for obtaining insurance coverages required under Section G.3 of this Contract, and Contractor shall take no action that would void or impair such coverages.

F.5.1.1 Contractor agrees to promptly dispose of such spills, releases, discharge or leaks to the satisfaction of Owner and regulatory agencies having jurisdiction in a manner that complies with Applicable Laws. Cleanup shall be at no cost to the Owner and shall be performed by properly qualified and, if applicable, licensed personnel.

F.5.1.2 Contractor shall obtain the Owner's written consent prior to bringing onto the Work site any (i) environmental pollutants or
(ii) hazardous substances or materials, as the same or reasonably similar terms are used in any Applicable Laws. Notwithstanding such written consent from the Owner, the Contractor, at all times, shall:

(a) properly handle, use and dispose of all environmental pollutants and hazardous substances or materials brought onto the Work site, in accordance with all Applicable Laws;

(b) be responsible for any and all spills, releases, discharges, or leaks of (or from) environmental pollutants or hazardous substances or materials which Contractor has brought onto the Work site; and

(c) promptly clean up and remediate, without cost to the Owner, such spills, releases, discharges, or leaks to the Owner's satisfaction and in compliance with all Applicable Laws.

F.5.2 Contractor shall report all reportable quantity releases, as such releases are defined in Applicable Laws, including but not limited to 40 CFR Part 302, Table 302.4 and in OAR 340-142- 0050, to applicable federal, state, and local regulatory and emergency response agencies. Upon discovery, regardless of quantity, Contractor must telephonically report all releases to the Owner. A written follow-up report shall be submitted to Owner within 48 hours of the telephonic report. Such written report shall contain, as a minimum:

(a) Description of items released (identity, quantity, manifest numbers, and any and all other documentation required by law.)

(b) Whether amount of items released is EPA/DEQ reportable, and, if so, when reported.

(c) Exact time and location of release, including a description of the area involved.

(d) Containment procedures initiated.

(e) Summary of communications about the release between Contractor and members of the press or Stat, local or federal officials other than

Owner.

(f) Description of cleanup procedures employed or to be employed at the site, including disposal location of spill residue.

(g) Personal injuries, if any, resulting from, or aggravated by, the release.

F.6 ENVIRONMENTAL CLEAN-UP

F.6.1 Unless disposition of environmental pollution is specifically a part of this Contract, or was caused by the Contractor (reference F.5 Environmental Contamination), Contractor shall immediately notify Owner of any hazardous substance(s) which Contractor discovers or encounters during performance of the Work required by this Contract. "Hazardous substance(s)" means any hazardous, toxic and radioactive materials and those substances defined as "hazardous substances," "hazardous materials," "hazardous wastes," "toxic substances," or other similar designations in any federal, state, or local law, regulation, or ordinance, including without limitation asbestos, polychlorinated biphenyl (PCB), or petroleum, and any substances, materials or wastes regulated by 40 CFR, Part 261 and defined as hazardous in 40 CFR S 261.3. In addition to notifying Owner of any hazardous substance(s) discovered or encountered, Contractor shall immediately cease working in any particular area of the project where a hazardous substance(s) has been discovered or encountered if continued work in such area would present a risk or danger to the health or well-being of Contractor's or any Subcontractor's work force, property or the environment.

F.6.2 Upon being notified by Contractor of the presence of hazardous substance(s) on the project site, Owner shall arrange for the proper disposition of such hazardous substance(s).

F.7 FORCE MAJEURE

A party to this Contract shall not be held responsible for delay or default due to Force Majeure acts, events or occurrences unless they could have been avoided by the exercise of reasonable care, prudence, foresight, and diligence by that party. The Owner may terminate this Contract upon written notice after determining that delay or default caused by Force Majeure acts, events or occurrences will reasonably prevent successful performance of the Contract.

SECTION G INDEMNITY, BONDING, AND INSURANCE

G.1 RESPONSIBILITY FOR DAMAGES / INDEMNITY

G.1.1 Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay that may be caused by, or result from, the carrying out of the Work to be done under this Contract, or from any act, omission or neglect of the Contractor, its Subcontractors, sub-subcontractors of any tier, suppliers, employees, guests, visitors, invitees and agents.

G.1.2 To the fullest extent permitted by law, Contractor shall indemnify, defend (with counsel approved by Owner) and hold harmless the Owner, Architect/Engineer, Architect/Engineer's consultants, and their respective officers, directors, agents, employees, partners, members, stockholders and affiliated companies (collectively "Indemnitees") from and against all liabilities, damages, losses, claims, expenses (including reasonable attorney fees), demands and actions of any nature whatsoever which arise out of, result from or are related to, (a) any damage, injury, loss, expense, inconvenience or delay described in this Section G.1., (b) any accident or occurrence which happens or is alleged to have happened in or about the project site or any place where the Work is being performed, or in the vicinity of either, at any time prior to the time the Work is fully completed in all respects, (c) any failure of the Contractor or its Subcontractors, sub-subcontractors of any tier, suppliers, employees, or consultants to observe or perform any duty or obligation under the Contract Documents which is to be observed or performed by the Contractor, or any breach of any agreement, representation or warranty of the Contractor contained in the Contract Documents or in any subcontract, (d) the negligent acts or omissions of the Contractor, a Subcontractor, sub-subcontractor of any tier, a supplier, a consultant, or anyone directly or indirectly employed by them or any one of them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder (except to the extent otherwise void under ORS 30.140), and (e) any lien filed upon the project or bond claim in connection with the Work. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section G.1.2.

G.1.3 In claims against any person or entity indemnified under Section G.1.2 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section G.1.2 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

G.2 PERFORMANCE AND PAYMENT SECURITY; PUBLIC WORKS BOND

G.2.1 When the Contract Price is $100,000 or more (or $50,000 or more in the case of Contracts for highways, bridges and other transportation projects), the Contractor shall furnish and maintain in effect at all times during the Contract Period a performance bond in a sum equal to the Contract Price and a separate payment bond also in a sum equal to the Contract Price. Contractor shall furnish such bonds even if the Contract Price is less than the above thresholds if otherwise required by the Contract Documents.

G.2.2 Bond forms furnished by the Owner and notarized by awarded Contractor's surety company authorized to do business in Oregon are the only acceptable forms of performance and payment security, unless otherwise specified in the Contract Documents.

G.2.3 Before execution of the Contract the Contractor shall file with the Construction Contractors Board, and maintain in full force and effect, the separate public works bond required by Oregon Laws 2015, Chapter 279C, and OAR 839-025-0015, unless otherwise exempt under those provisions. The Contractor shall also include in every subcontract a provision requiring the Subcontractor to have a public works bond filed with the

Construction Contractors Board before starting Work, unless otherwise exempt, and shall verify that the Subcontractor has filed a public works bond before permitting any Subcontractor to start Work.

G.3 INSURANCE

G.3.1 Primary Coverage: Insurance carried by Contractor and Subcontractors under this Contract shall be the primary coverage. The coverages indicated are minimums unless otherwise specified in the Contract Documents.

G.3.2 Workers' Compensation: All employers, including Contractor, that employ subject workers who work under this Contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. This shall include Employer's Liability Insurance with coverage limits of not less than the minimum amount required by statute for each accident. Contractors who perform the Work without the assistance or labor of any employee need not obtain such coverage if the Contractor certifies so in writing. Contractor shall ensure that each of its Subcontractors complies with these requirements. The Contractor shall require proof of such Workers' Compensation coverage by receiving and keeping on file a certificate of insurance from each Subcontractor or anyone else directly employed by either the Contractor or its Subcontractors.

G.3.3 Builder's Risk Insurance:

G.3.3.1 Builder's Risk: During the term of this Contract, for new construction the Contractor shall obtain and keep in effect Builder's Risk insurance on an all risk forms, including earthquake and flood, for an amount equal to the full amount of the Contract, plus any changes in values due to modifications, Change Orders and loss of materials added. Such Builder's Risk shall include, in addition to earthquake and flood, theft, vandalism, mischief, collapse, transit, debris removal, and architect's fees "soft costs" associated with delay of project due to insured peril. Any deductible shall not exceed $50,000 for each loss, except the earthquake and flood deductible which shall not exceed 2 percent of each loss or $50,000, whichever is greater. The deductible shall be paid by Contractor if Contractor or its Subcontractors are negligent. The policy will include as loss payees Owner, the Contractor and its Subcontractors as their interests may appear.

G.3.3.2 Builder's Risk Installation Floater: For Work other than new construction, Contractor shall obtain and keep in effect during the term of this Contract, a Builder's Risk Installation Floater for coverage of the Contractor's labor, materials and equipment to be used for completion of the Work performed under this Contract. The minimum amount of coverage to be carried shall be equal to the full amount of the Contract. The policy will include as loss payees Owner, the Contractor and its Subcontractors as their interests may appear. Owner may waive this requirement at their sole and absolute discretion.

G.3.3.3 Such insurance shall be maintained until Owner has occupied the facility.

G.3.3.4 Loss insured under the Builder's Risk insurance shall be adjusted by the Owner and made payable to the Owner as loss payee. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and

by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their sub-subcontractors of any tier in similar manner. The Owner shall have power to adjust and settle a loss with insurers.

G.3.4 General Liability Insurance:

G.3.4.1 Commercial General Liability: Upon issuance of a Contract, Contractor shall obtain, and keep in effect at Contractor's expense for the term of the Contract, Commercial General Liability Insurance covering bodily injury and property damage in the amount of $1,000,000 per claim and $2,000,000 per occurrence in a form satisfactory to Owner. This insurance shall include personal injury liability, products and completed operations, no subcontractors' limitations, and blanket contractual liability coverage for the indemnities provided under this Contract (to the extent contractual liability coverage for the indemnity is available in the marketplace), and shall be issued on an occurrence basis.

G.3.4.2 Automobile Liability: Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this Contract, Automobile Liability Insurance covering owned, and/or hired vehicles, as applicable. The coverage may be written in combination with the Commercial General Liability Insurance. Contractor shall provide proof of insurance of not less than $1,000,000 per claim and $2,000,000 per occurrence. Contractor and its Subcontractors shall be responsible for ensuring that all non-owned vehicles maintain adequate Automobile Liability insurance while on site.

G.3.4.3 Owner may adjust the insurance amounts required in Section G.3.4.1 and G.3.4.2 based upon institution specific risk assessments through the issuance of Supplemental General Conditions and a Contract.

G.3.4.4 "Tail" Coverage: If any of the required liability insurance is arranged on a "claims made" basis, "tail" coverage will be required at the completion of this Contract for a duration of 36 months or the maximum time period available in the marketplace if less than 36 months. Contractor shall furnish certification of "tail" coverage as described or continuous "claims made" liability coverage for 36 months following Final Completion. Continuous "claims made" coverage will be acceptable in lieu of "tail" coverage, provided its retroactive date is on or before the effective date of this Contract. Owner's receipt of the policy endorsement evidencing such coverage shall be a condition precedent to Owner's obligation to make final payment and to Owner's final acceptance of Work or services and related warranty (if any).

G.3.4.5: Umbrella Liability: Contractor shall obtain, at Contractor's expense, and keep in effect during the term of this Contract, Umbrella liability Insurance over and above the general liability, automobile liability and workers' compensation coverage if required by Owner in specified limits at time of requirement.

G.3.4.6 Pollution Liability (if required by Owner through issuance of Supplemental General Conditions): Contractor shall obtain, at Contractor's expense, and

keep in effect during the term of this Contract, Pollution liability Insurance in minimum amounts of $3,000,000 naming Owner as "additional insured," as noted in the "additional insured section below.

G.3.5 Additional Insured: The general liability insurance coverage, professional liability, umbrella, and pollution liability if required, shall include the Owner as additional insureds but only with respect to the Contractor's activities to be performed under this Contract, and shall include completed operations coverage.

If Contractor cannot obtain an insurer to name the Owner as additional insureds, Contractor shall obtain at Contractor's expense, and keep in effect during the term of this Contract, Owners and Contractors Protective Liability Insurance, naming the Owner as additional insureds with not less than a $2,000,000 limit per occurrence. This policy must be kept in effect for at least 36 months following Final Completion. As evidence of coverage, Contractor shall furnish the actual policy to Owner prior to execution of the Contract.

G.3.6 Notice of Cancellation or Change: If the Contractor receives a non-renewal or cancellation notice from an insurance carrier affording coverage required herein, or receives notice that coverage no longer complies with the insurance requirements herein, Contractor agrees to notify Owner by fax within five (5) business days with a copy of the non-renewal or cancellation notice, or written specifics as to which coverage is no longer in compliance. When notified by Owner, the Contractor agrees to stop Work pursuant to this Contract, unless all required insurance remain in effect. Any failure to comply with the reporting provisions of this insurance, except for the potential exhaustion of aggregate limits, shall not affect the coverages provided to the Owner and its institutions, divisions, officers, and employees.

Owner shall have the right, but not the obligation, of prohibiting Contractor from entering the Work site until a new certificate(s) of insurance is provided to Owner evidencing the replacement coverage. The Contractor agrees Owner reserves the right to withhold payment to Contract until evidence of reinstated or replacement coverage is provided to Owner.

G.3.7 Certificate(s) of Insurance: As evidence of the insurance coverage required by this Contract, the Contractor shall furnish certificate(s) of insurance to the Owner prior to execution of the Contract. The certificate(s) will specify all of the parties who are additional insureds or loss payees for this contract. Insurance coverage required under this Contract shall be obtained from insurance companies or entities acceptable to the Owner and that are eligible to provide such insurance under Oregon law. Eligible insurers include admitted insurers that have been issued a certificate of authority from the Oregon Department of Consumer and Business Services authorizing them to conduct an insurance business and issue policies of insurance in the state of Oregon, and certain non-admitted surplus lines insurers that satisfy the requirements of applicable Oregon law and which are subject to approval by the Owner. The Contractor shall be financially responsible for all deductibles, self-insured retentions and/or self-insurance included hereunder. Any deductible, self-insured retention and/or self-insurance in excess of $50,000 shall be subject to approval by the Owner in writing and shall be a condition precedent to the effectiveness of any Contract. The Owner has the right to require the Contractor at any time during the performance of the Work to furnish to Owner copies of the Contractor's actual policies.

SECTION H
SCHEDULE OF WORK

H.1 CONTRACT PERIOD

H.1.1 Time is of the essence. The Contractor shall at all times carry on the Work diligently, without delay and punctually fulfill all requirements herein. If required by the Contract Documents, Contractor shall commence Work on the site within fifteen (15) Days of Notice to Proceed, unless directed otherwise.

H.1.2 Unless specifically extended by an Amendment or Change Order, all Work shall be complete by the date contained in the Contract Documents. The Owner shall have the right to accelerate the completion date of the Work, which may require the use of overtime. Such accelerated Work schedule shall be an acceleration in performance of Work under Section D.1.2 (f) and shall be subject to the provisions of Section D.1.

H.1.3 The Owner shall not waive any rights under the Contract by permitting the Contractor to continue or complete in whole or in part the Work after the date described in Section H.1.2 above.

H.2 SCHEDULE

H.2.1 Contractor shall provide, by or before the pre-construction conference, the initial as-planned Construction Schedule for review and acceptance by the Owner. The submitted Construction Schedule must illustrate Work by project components, labor trades, and long lead items broken down by building and/or floor where applicable. If Owner shall so elect, Contractor shall provide the Construction Schedule in CPM format showing the graphical network of planned activities, including i) a reasonably detailed list of all activities required to complete the Work; ii) the time and duration that each activity will take to completion; and iii) the dependencies between the activities. Construction Schedules lacking adequate detail, or unreasonably detailed, will be rejected. The Construction Schedule shall include the following: Notice to Proceed or the date the Work commences, if no Notice to Proceed is issued by Owner, Substantial Completion, and Final Completion. Construction Schedules shall be updated monthly, unless otherwise required by the Contract Documents, and submitted with the monthly application for payment. Acceptance of the Construction Schedule by the Owner does not constitute agreement by the Owner as to the Contractor's sequencing, means, methods, or durations. Any positive difference between the Contractor's scheduled completion and the Contract completion date is float owned by the Owner. Owner reserves the right to negotiate the float if it is deemed to be in Owner's best interest to do so. In no case shall the Contractor make a claim for delays if the Work is completed within the Contract Time but after Contractor's scheduled completion.

H.3 PARTIAL OCCUPANCY OR USE

H.3.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage, provided such occupancy or use is consented to by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have reasonably accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, insurance or self-insurance, maintenance, heat, utilities, and damage to the Work, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents with respect to such portion of the Work. Approval by the Contractor to partial occupancy or use shall not be unreasonably withheld. Immediately prior to such partial occupancy or use, the Owner and Contractor shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work. Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

SECTION I
CORRECTION OF WORK

I.1 CORRECTION OF WORK BEFORE FINAL PAYMENT

The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects, and that the Work will conform to the requirements of the Contract Documents. Work failing to conform to these requirements shall be deemed defective. Contractor shall promptly remove from the premises and replace all defective materials and equipment as determined by the Owner, whether incorporated in the Work or not. Removal and replacement shall be without loss or expense to the Owner, and Contractor shall bear the cost of repairing all Work destroyed or damaged by such removal or replacement. Contractor shall be allowed a period of no longer than thirty (30) Days after Substantial Completion for completion of defective (Punch List) work. At the end of the thirty-day period, or earlier if requested by the Contractor, Owner shall arrange for inspection of the Work by the Architect/Engineer. Should the work not be complete, and all corrections made, the costs for all subsequent re-inspections shall be borne by the Contractor. If Contractor fails to complete the Punch List work within the thirty (30) Day period, Owner may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) Days after demand without affecting Contractor's obligations.

I.2 WARRANTY WORK

I.2.1 Neither the final certificate of payment nor any provision of the Contract Documents shall relieve the Contractor from responsibility for defective Work and, unless a longer period is specified, Contractor shall correct all defects that appear in the Work within a period of one year from the date of issuance of the written notice of Substantial Completion by the Owner except for latent defects which will be remedied by the Contractor at any time they become apparent. The Owner shall give Contractor notice of defects with reasonable promptness. The Contractor shall perform the warranty Work by correcting defects within twenty-four (24) hours of notification by Owner, unless otherwise specified in the Contract Documents. Should the Contractor fail to respond within the specified response time, the Owner may, at its option, complete the necessary repairs using another contractor or its own forces. If Owner completes the repairs using Owner's own forces, Contractor shall pay Owner at the rate of one and one-half (1½) times the standard hourly rate of Owner's forces, plus related overhead and any direct non-salary costs. If Owner completes the repairs using another contractor, Contractor shall pay Owner the amount of Owner's direct costs billed by the other contractor for the work, plus the direct salary costs and related overhead and direct non-salary expenses of Owner's forces who are required to monitor that contractor's work. Work performed by Owner using Owner's own forces or those of another contractor shall not affect the Contractor's contractual duties under these provisions, including warranty provisions. In the event of warranty work consisting of emergency repairs, Owner may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) Days after demand, without affecting Contractor's obligations.

I.2.2 Nothing in this Section I.2 provision shall negate guarantees or warranties for periods longer than one year including without limitation such guarantees or warranties required by other sections of the Contract Documents for specific installations, materials, processes, equipment or fixtures.

I.2.3 In addition to Contractor's warranty, manufacturer's warranties shall pass to the Owner and shall not take effect until such portion of the Work covered by the applicable warranty has been accepted in writing by the Owner.

I.2.4 The one-year period for correction of Work shall be extended with respect to portions of Work performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work, and shall be extended by corrective Work performed by the Contractor pursuant to this Section, as to the Work corrected. The Contractor shall remove from the site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

I.2.5 Nothing contained in this Section I.2 shall be construed to establish a period of limitation with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the period for correction of Work as described in this Section I.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

I.2.6 If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Price will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

SECTION J
SUSPENSION AND/OR TERMINATION OF THE WORK

J.1 OWNER'S RIGHT TO SUSPEND THE WORK

J.1.1 The Owner has the authority to suspend portions or all of the Work due to the following causes:

(a) Failure of the Contractor to correct unsafe conditions;

(b) Failure of the Contractor to carry out any provision of the Contract;

(c) Failure of the Contractor to carry out orders;

(d) Conditions, in the opinion of the Owner, which are unsuitable for performing the Work;

(e) Time required to investigate differing site conditions;

(f) Any reason considered to be in the public interest.

J.1.2 The Owner shall notify Contractor and the Contractor's Surety in writing of the effective date and time of the suspension, and Owner shall notify Contractor and Contractor's surety in writing to resume Work.

J.2 CONTRACTOR'S RESPONSIBILITIES

J.2.1 During the period of the suspension, Contractor is responsible to continue maintenance at the project just as if the Work were in progress. This includes, but is not limited to, protection of completed Work, maintenance of access, protection of stored materials, temporary facilities, and clean-up.

J.2.2 When the Work is recommenced after the suspension, the Contractor shall replace or renew any Work damaged during the suspension, remove any materials or facilities used as part of temporary maintenance, and complete the project in every respect as though its prosecution had been continuous and without suspension.

J.2.3 **COMPENSATION FOR SUSPENSION**

J.2.4

J.2.1 Depending on the reason for suspension of the Work, the Contractor or the Owner may be due compensation by the other party. If the suspension was required due to acts or omissions of Contractor, the Owner may assess the Contractor actual costs of the suspension in terms of administration, remedial work by the Owner's forces or another contractor to correct the problem associated with the suspension, rent of temporary facilities, and other actual costs related to the suspension. If the suspension was caused by acts or omissions of the Owner, the Contractor may be due compensation which shall be defined using Section D, Changes in Work. If the suspension was required through no fault of the Contractor or the Owner, neither party shall owe the other for the impact.

J.4 OWNER'S RIGHT TO TERMINATE CONTRACT

J.4.1 The Owner may, without prejudice to any other right or remedy, and after giving Contractor seven (7) Days' written notice and an opportunity to cure, terminate the Contract in whole or in part under the following conditions:

(a) If Contractor should, voluntarily or involuntarily, seek protection under the United States Bankruptcy Code and Contractor as debtor-in-possession or the Trustee for the estate fails to assume the Contract within a reasonable time;

(b) If Contractor should make a general assignment for the benefit of Contractor's creditors;

(c) If a receiver should be appointed on account of Contractor's insolvency;

(d) If Contractor should repeatedly refuse or fail to supply an adequate number of skilled workers or proper materials to carry on the Work as required by the Contract Documents, or otherwise fail to perform the Work in a timely manner;

(e) If Contractor should repeatedly fail to make prompt payment to Subcontractors or for material or labor, or should disregard laws, ordinances or the instructions of the Owner; or

(f) If Contractor is otherwise in breach of any part of the Contract.

(g) If Contractor is in violation of Applicable Laws, either in the conduct of its business or in its performance of the Work.

J.4.2 At any time that any of the above occurs, Owner may exercise all rights and remedies available to Owner at law or in equity, and, in addition, Owner may take possession of the premises and of all materials and appliances and finish the Work by whatever method it may deem expedient. In such case, the Contractor shall not be entitled to receive further payment until the Work is completed. If the Owner's cost of finishing the Work exceeds the unpaid balance of the Contract Price, Contractor shall pay the difference to the Owner.

J.5 TERMINATION FOR CONVENIENCE

J.5.1 Owner may terminate the Contract in whole or in part whenever Owner determines that termination of the Contract is in the best interest of Owner or the public.

The Owner shall provide the Contractor with seven (7) Days prior written notice of a termination for Owner's or for public convenience. After such notice, the Contractor shall provide the Owner with immediate and peaceful possession of the premises and materials located on and off the premises for which the Contractor received progress payment under Section E. Compensation for Work terminated by the Owner under this provision will be according to Section E. In no circumstance shall Contractor be entitled to lost profits for Work not performed due to termination.

J.6 ACTION UPON TERMINATION

J.6.1 Upon receiving a notice of termination, and except as directed otherwise by the Owner, Contractor shall immediately cease placing further subcontracts or orders for materials, services, or facilities. In addition, Contractor shall terminate all subcontracts or orders to the extent they

relate to the Work terminated and, with the prior written approval of the Owner, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts and orders.

J.6.2 As directed by the Owner, Contractor shall, upon termination, transfer title and deliver to the Owner all Record Documents, information, and other property that, if the Contract had been completed, would have been required to be furnished to the Owner.

I.6.3 Upon Owner's notice of termination pursuant to either Section J.4 or J.5, if Owner shall so elect, Contractor shall assign the Owner such subcontracts and orders as Owner shall specify. In the event Owner elects to take assignment of any such subcontract or order, Contractor shall take such action and shall execute such documents as Owner shall reasonably require for the effectiveness of such assignment and Contractor shall ensure that no contractual arrangement between it and its subcontractors or suppliers of any tier or sub-tier shall prevent such assignment.

SECTION K
CONTRACT CLOSE OUT

K.1 RECORD DOCUMENTS

As a condition of final payment (refer also to section E.6), Contractor shall comply with the following: Contractor shall provide Record Documents for the entire project to Owner. Record Documents shall depict the project as constructed and shall reflect each and every change, modification, and deletion made during the construction. Record Documents are part of the Work and shall be provided prior to the Owner's issuance of final payment. Record Documents include all modifications to the Contract Documents unless otherwise directed, and accurate MWESB Reports.

K.2 OPERATION AND MAINTENANCE MANUALS

As part of the Work, Contractor shall submit two completed operation and maintenance manuals ("O & M Manuals") for review by the Owner prior to submission of any pay request for more than 75% of the Work. Owner's receipt of the O & M Manuals shall be a condition precedent to any payment thereafter due. The O & M Manuals shall contain a complete set of all Submittals, all product data as required by the specifications, training information, telephone list and contact information for all consultants, manufacturers, installer and suppliers, manufacturer's printed data, record and shop drawings, schematic diagrams of systems, appropriate equipment indices, warranties and bonds. The Owner shall review and return one O & M Manual for any modifications or adjustments required. Prior to submission of its final pay request, Contractor shall deliver two (2) complete and approved sets of O & M Manuals in paper form and one (1) complete and approved set in electronic form to the Owner and Owner's receipt of the O & M Manuals shall be a condition precedent to Owner's obligation to make final payment.

K.3 COMPLETION NOTICES

K.3.1 Contractor shall provide Owner written notice of both Substantial and Final Completion. The certificate of Substantial Completion shall state the date of Substantial Completion, the responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and the time within which the Contractor shall finish all items on the Punch List accompanying the Certificate. Both completion notices must be signed by the Contractor and the Owner to be valid. The Owner shall provide the final signature on the notices. The notices shall take effect on the date they are signed by the Owner.

K.3.2 Substantial Completion of a facility with operating systems (e.g., mechanical, electrical, HVAC) shall be that degree of completion that has provided a minimum of thirty (30) continuous Days of successful, trouble-free operation, which period shall begin after all performance and acceptance testing has been successfully demonstrated to the Owner. All equipment contained in the Work, plus all other components necessary to enable the Owner to operate the facility in the manner that was intended, shall be complete on the Substantial Completion date. The Contractor may request that a Punch List be prepared by the Owner with submission of the request for the Substantial Completion notice.

K.4 TRAINING

As part of the Work, and prior to submission of the final application for payment, the Contractor shall schedule with the Owner training sessions for all equipment and systems as required by the Contract Documents. Contractor shall schedule training sessions at least two weeks in advance of the date of training to allow Owner to provide its personnel with adequate notice. The O & M Manual shall be used as a basis for training. In addition to any off-site training required by the Contract Documents, training shall include a formal session conducted at the Work site after the equipment and/or system is completely installed and operational in its normal operating environment.

K.5 EXTRA MATERIALS

As part of the Work, Contractor shall provide spare parts, extra maintenance materials, and other materials or products in the quantities specified in the Contract Documents prior to final payment. Delivery point for extra materials shall be designated by the Owner.

K.6 ENVIRONMENTAL CLEAN-UP

As part of the Final Completion notice, or as a separate written notice submitted with or before the notice of Final Completion, the Contractor shall notify the Owner that all environmental and pollution clean-up, remediation and closure have been completed in accordance with all Applicable Laws and pursuant to the authority of all agencies having jurisdiction, and Contractor shall provide Owner with any and all documentation related to the same, including but not limited to directives, orders, letters, certificates and permits related to or arising from such environmental pollution. The notice shall reaffirm the indemnification given under Section F.5.1 above. Contractor's completion of its obligations under this Section K.6 and Owner's receipt of documents evidencing such completion shall be a condition precedent to Owner's obligation to make final payment.

K.7 CERTIFICATE OF OCCUPANCY

Owner's receipt of an unconditioned certificate of occupancy from the appropriate state and/or local building officials shall be a condition precedent to Owner's obligation to make final payment, except to the extent failure to obtain an unconditional certificate of occupancy is due to the sole fault or neglect of Owner.

K.8 OTHER CONTRACTOR RESPONSIBILITIES

The Contractor shall be responsible for returning to the

Owner all property of Owner issued to Contractor during construction such as keys, security passes, site admittance badges, and all other pertinent items. Upon notice from Owner, Contractor shall be responsible for notifying the appropriate utility companies to transfer utility charges from the Contractor to the Owner. The utility transfer date shall not be before Substantial Completion and may not be until Final Completion, if the Owner does not take beneficial use of the facility and the Contractor's forces continue with the Work.

K.9 SURVIVAL

All warranty and indemnification provisions of this Contract, and all of Contractor's other obligations under this Contract that are not fully performed by the time of Final Completion or termination, shall survive Final Completion or any termination of the Contract.

OREGON STATE UNIVERSITY

SUPPLEMENTAL GENERAL CONDITIONS

To The

PUBLIC IMPROVEMENT GENERAL CONDITIONS

Project Name: Student Legacy Park Resurfacing

The following modify the June 30, 2017 Oregon State University General Conditions ("OSU Public Improvement General Conditions") for this Contract. Where a portion of the OSU General Conditions is modified by these Supplemental General Conditions, the unaltered portions shall remain in effect.

SG-1 Section B.4 is modified as follows: Revise to read:

"Contractor shall obtain and pay for all necessary permits and licenses, except for those specifically excluded in the Supplemental General Conditions, for the construction of the Work, for temporary obstructions, enclosures, opening of streets for pipes, walls, utilities, environmental Work, etc., as required for the project. Owner shall obtain and pay for the general building permit and pay for any specialty permits required for the Work. Contractor shall be responsible for all violations of the law, in connection with the construction or caused by obstructing streets, sidewalks or otherwise. Contractor shall give all requisite notices to public authorities. The Contractor shall pay all royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent or other proprietary rights and save harmless and blameless from loss, on account thereof, Oregon State University, and its departments, divisions, members and employees.

SG-2 Section F.2.4 is modified as follows: Add the following:

"Contractor shall verify that all mechanical or electrical equipment in the construction areas that may be affected by the Work is in working order and shall notify the Owner, in writing, of any equipment not in working order prior to the start of the Work. Start of Work will be considered as acknowledgement that all equipment is in good working order. Contractor shall be required to restore equipment to its original, or better, condition upon completion of the Project."

SG-3 Section H.2.1 is replaced with the following:

"Contractor shall provide, by or before the pre-construction conference, a detailed Construction Schedule for review and acceptance by the Owner. The submitted Construction Schedule must illustrate Work by significant project components, significant labor trades, long lead items, broken down by building and/or floor where applicable. Each Construction Schedule item shall account for no greater than 5% of the monetary value of the Project or 5% of the available time. Schedules with activities of less than one day or valued at less than 1% of the Contract shall be considered too detailed and shall not be accepted. Schedules lacking adequate detail, or unreasonably detailed, shall be rejected. Included within the Construction Schedule are the following: Notice to Proceed, Substantial Completion, and Final Completion. Contractor shall provide an updated, full project schedule with each payment request. In addition, twice monthly, the Contractor shall provide an updated three-week forward-looking Construction Schedule. Acceptance of the Schedule by the Owner does not constitute agreement by the Owner as to the Contractor's sequencing, means, methods, or durations. Any positive difference between the Contractor's scheduled completion and the contract completion date is float owned by the Project. Use of the float shall be negotiated. In no case shall the Contractor make a claim for delays if the Work is completed within the Contract time but after Contractor's scheduled completion."

OREGON STATE UNIVERSITY

PAYMENT BOND

Bond No. _____
Solicitation _____
Project Name _____

_____(Surety #1)	Bond Amount No. 1:	$ _____
_____(Surety #2)*	Bond Amount No. 2:*	$ _____
** If using multiple sureties*	Total Penal Sum of Bond:	$ _____

We, _____, as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Oregon State University (OSU) the sum of (Total Penal Sum of Bond) _____ _____ (Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety), and

WHEREAS, the Principal has entered into contract No. _____ with OSU, the plans, specifications, terms and conditions of which are contained within the Contract resulting from the above-referenced Solicitation;

WHEREAS, the terms and conditions of the contract, together with applicable plans, standard specifications, special provisions, schedule of performance, and schedule of contract prices, are made a part of this Payment Bond by reference, whether or not attached to the contract (all hereafter called "Contract"); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans and specifications, and schedule of contract prices which are set forth in the Contract and any attachments, and all authorized modifications of the Contract which increase the amount of the work, or the cost of the Contract, or constitute authorized extensions of time for performance of the Contract, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal shall (1) faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, (2) shall well and truly and fully do and perform all matters and things by it undertaken to be performed under said Contract and any duly authorized modifications that are made, upon the terms set forth therein, and within the time prescribed therein, or as extended therein as provided in the Contract, with or without notice to the Sureties, (3) shall save, defend, indemnify and hold harmless OSU, and its officers, board members, employees, agents and other representatives, against any claim for direct or indirect damages of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by the Contractor or its subcontractors, (4) shall promptly pay all persons supplying labor, materials or both to the Principal or its subcontractors for prosecution of the work provided in the Contract; (5) shall promptly pay all contributions due the State Industrial Accident Fund and the State Unemployment Compensation Fund from the Principal or its

subcontractors in connection with the performance of the Contract; (6) shall pay over to the Oregon Department of Revenue all sums required to be deducted and retained from the wages of employees of the Principal and its subcontractors pursuant to ORS 316.167;(7) shall permit no lien nor claim to be filed or prosecuted against the State or OSU on account of any labor or materials furnished; and (8) shall do all things required of the Principal by the laws of this State, then this obligation shall be void; otherwise, it shall remain in full force and effect.

Nonpayment of the bond premium will not invalidate this bond, nor shall OSU be obligated for the payment of any premiums.

This bond is given and received under authority of ORS Chapters 279C and 352, the provisions of which hereby are incorporated into this bond and made a part hereof.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES:

Dated this _____day of _____, 20__.

PRINCIPAL: _____

By _____
Signature

_____
Official Capacity

Attest: _____
Corporation Secretary

SURETY: _____
[Add signatures for each if using multiple bonds]

BY ATTORNEY-IN-FACT:
[Power-of-Attorney must accompany each bond]

_____
Name

_____
Signature

_____
Address

_____
City State Zip

_____
Phone Fax

OREGON STATE UNIVERSITY

PERFORMANCE BOND

Bond No. _____
Solicitation _____
Project Name _____

_____(Surety #1)	Bond Amount No. 1:	$_____
_____(Surety #2)*	Bond Amount No. 2:*	$_____
** If using multiple sureties*	Total Penal Sum of Bond:	$_____

We, _____as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Oregon State University (OSU), the sum of (Total Penal Sum of Bond)

_____

(Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety), and

WHEREAS, the Principal has entered into contract No. _____with the OSU, the plans, specifications, terms and conditions of which are contained within the Contract resulting from the above-referenced Solicitation;

WHEREAS, the terms and conditions of the Contract, together with applicable plans, standard specifications, special provisions, schedule of performance, and schedule of Contract prices, are made a part of this Performance Bond by reference, whether or not attached to the contract (all hereafter called "Contract"); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans and specifications, and all authorized modifications of the Contract which increase the amount of the work, the amount of the Contract, or constitute an authorized extension of the time for performance, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal herein shall (1) faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, (2) shall well and truly and fully do and perform all matters and things undertaken by Contractor to be performed under the Contract, upon the terms set forth therein, and within the time prescribed therein, or as extended as provided in the Contract, with or without notice to the Sureties, (3) shall save, defend, indemnify and hold harmless OSU and its officers, board members, employees, agents and other representatives, against any direct or indirect damages or claim of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by

the Principal or its subcontractors, and (4) shall in all respects perform said contract according to law, then this obligation is to be void; otherwise, it shall remain in full force and effect.

Nonpayment of the bond premium will not invalidate this bond, nor shall OSU be obligated for the payment of any premiums.

This bond is given and received under authority of ORS Chapters 279C and 352, the provisions of which hereby are incorporated into this bond and made a part hereof.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES.

Dated this _____ day of _____, 20__.

PRINCIPAL: _____

By_____
Signature

_____
Official Capacity

Attest: _____
Corporation Secretary

SURETY: _____
[Add signatures for each surety if using multiple bonds]

BY ATTORNEY-IN-FACT:
[Power-of-Attorney must accompany each surety bond]

_____
Name

_____
Signature

_____
Address

_____
City State Zip

_____ _____
Phone Fax

As indicated in the General Conditions of your contract(s) Section E.2.9, OSU requires that we gather MWESB (Minority, Women's Emerging Small Business) Contractor/Subcontractor information. This is an Oregon State University requirement and the information will be gathered annually and at time of final payment.

- **You must do this step first or the report will not let you add any information: In Row 1 Column B there is a drop down menu. You must select yearend (if the job has not been completed) or final (if the job is completed and you have submitted for retention). Once you choose yearend or final in the drop down menu there will be areas highlighted in light green and red. Those are the areas that you are required to fill out. If you did not use or planning to use any MWESB then the left side of the report (Light Green area) still needs to be filled out and the red area needs to remain blank.**

- **If your agency is an MWESB or if you are using/used an MWESB subcontractor then you need to fill out the information in the report that is highlighted in light green and red (see instructions in the next bullet). If you are not an MWESB or used a Subcontractor that is an MWESB then you need to fill out the left side of the form (Light Green areas) and leave the red area blank.**

- **In row 2 Column B there is another drop down menu, click the drop down menu and choose Fiscal Year 2015.**

- **In Row 4 Column B there is another drop down menu, click there and choose OSU.**

Oregon University System

CapCon MWESB Subcontractor Report

REPORT BEING SUBMITTED	

OVERALL PROJECT DATA

Reporting Period	2011
Campus	
General Contractor's Name	
Contract Number	
Project Name	
Contract Execution Date (Date Contract was Signed by the Owner)	
Date of Final Payment Application	
Initial Total Contract Value	
Total Contract Value billed within the fiscal year (July 1 - June 30)	
Final Total Contract Value	
Total Number of Subcontractors/Suppliers Used on Project	
Total Number of First-Tier Subcontractors/Suppliers Used on Project	
Number of First-Tier MWESB Subcontractors/Suppliers	

CALCULATED REPORTING DATA (Self Calculating - No Data Entry)

Number of MWESB Subcontractors/Suppliers	0
% MWESB Subcontractors/Suppliers	
% First-Tier MWESB Subcontractors/Suppliers	

CERTIFIED MWESB TOTALS

Value Awarded to MWESB Contractors/Suppliers	$0.00
% Value Awarded to MWESB Contractors/Suppliers	
Value - **minority-owned** MWESB subcontractors/suppliers	$0.00
% - **minority-owned** MWESB subcontractors/suppliers	
Value - **women-owned** MWESB subcontractors/suppliers	$0.00
% - **women-owned** MWESB subcontractors/suppliers	
Value - **emerging small business** MWESB subcontractors/suppliers	$0.00
% - **emerging small business** MWESB subcontractors/suppliers	

SELF-IDENTIFIED or OTHER CERTIFIED MWESB TOTALS

Value - **self-identified or other certified** subcontractors/suppliers	$0.00
% - **self-identified or other certified** subcontractors/suppliers	

OVERALL PROJECT CONTRACT HISTORY

% Value Awarded to MWESB Contractors/suppliers at Initial Contract	#DIV/0!
% Value Awarded to MWESB Contractors/suppliers at Final Contract	#DIV/0!

FOR OFFICIAL USE ONLY:	
Date Received by the Campus	
Initials of Campus staff who checked the document	

Individual Contractor/Sub-Contractor/Supplier Data Entry Matrix

Name of MWESB General/ Subcontractor/ Supplier	State of Oregon MWESB Certification Number	Self-Identified or Other Certified	Initial Sub-Contract Value	Sub-Contract value billed within the fiscal year (July 1-June 30)	Final Sub-Contract Value	Minority-Owned	Women-Owned	Emerging Small Business

SECTION 01 23 00

ALTERNATES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. The alternates described in this Section may be exercised at the option of the Owner within 120 days of the execution of the Contract.

B. It is generally the practice of the Owner to exercise alternates in numerical order.

C. The Owner reserves the right to accept the alternates without regard to order or sequence; but, such acceptance shall not impair the selection of a low, responsible and responsive bidder to whom the Contract may be awarded under an equitable bid procedure.

1.02 QUALITY ASSURANCE

A. For each alternate which is accepted, coordinate the work of the various trades involved, and modify surrounding work as required to complete the project as intended.

B. In the change-in-price figure for each alternate, include incidental costs which are attributable to adjustments in the work of other trades which may be required to achieve the contemplated and final conditions.

C. Questions:
   1. If there is a question regarding the extent, scope, nature, or intent of the alternates, contact the Owner's Authorized Representative for clarification.
   2. Failure on the part of the Contractor to clarify any unclear items shall not relieve the Contractor of the responsibility for performing the selected alternates in accordance with the intent and requirements of the Project Manual and Drawings.
   3. The description of the alternates hereinafter is qualitative and not quantitative; the Contractor shall determine the quantities of labor and materials and the extent of same required to execute the selected alternates in accordance with the intent and requirements of the Project Manual and Drawings.
   4. The applicable Sections of the Specifications apply to the work under each alternate.

1.03 LIST OF ALTERNATES

A. Alternate 1: E-Layer at Student Legacy Park West and East Recreational Athletic Fields, adds a paved-in-place 25mm paved-in-place elastic layer supplemental pad system on the prepared Field Aggregate Base(s).

B. Alternate 2: General description of the work – Alternate Bid Item 1, Alternative Infill Materials at Student Legacy Park West and East Recreational Athletic

Fields, substitutes granular cork and spec sand for the base bid infill. This Alternate will only be Awarded in conjunction with Award of Alternate Bid Item 1.

C. Alternate 3: Alternative Synthetic Turf Product at Student Legacy Park West and East Recreational Athletic Fields, allows the bidder to propose an unspecified synthetic turf product, perhaps proprietary. Bidders must submit a comprehensive Product Description with their Bids. Refer to Section 32 18 24, paragraph 2.11.B.4 for additional information.

D. Alternate 4: Student Legacy Park Fields Fencing, includes removal of all fence fabric, rails, and hardware, reinstallation of all hardware with “offset” type bands and clamps with existing rails, to the field side of the posts. Replace all “eye top” top rail hardware on 4’ fences with boulevard-type clamps & set screws. Reinstall existing chain link fabric above 10’ ht. Install new chain link fabric (as specified) on the field side of the framing, at Student Legacy Park West and East Recreational Athletic Fields.

E. Alternate 5: Student Legacy Park Plaza Improvements, includes additional Temporary Erosion & Sediment Controls, Sod Stripping & Excavation including Hand-Work within Sensitive Tree Root Zones, Irrigation Systems Selective Demolition & Reconfiguration, Installation of Pre-Engineered Tensioned-Fabric Shade Structures including Structural Engineering Design, Installation of Root Barriers and Synthetic Turf Edge Anchors, and Installation of Ballasted Landscape Synthetic Turf.

F. Alternate 6: Sand Volleyball Improvements, includes additional Temporary Erosion & Sediment Controls, Sod Stripping & Excavation, Irrigation Systems Selective Demolition & Reconfiguration, Installation of Pre-Engineered Tensioned-Fabric Shade Structures including Structural Engineering Design, Installation of Aggregate Base and Concrete Flatwork, Installation of Synthetic Turf Edge Anchors, Installation of Non-Infilled Landscape Synthetic Turf, Installation of Site Furnishings, and Installation of 4’ Architectural Fencing.

END OF SECTION

SECTION 01 24 76

APPLICATIONS FOR PAYMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Work of this Section includes forms and procedures for progress payments.

B. Related work specified elsewhere.
   1. For the primary discussion of payments, refer to OSU General Conditions, Section E, as supplemented.
   2. In compliance with OSU General Conditions, Section K, no payments beyond 75% will be made by the Owner before two complete copies of the draft Operation and Maintenance Manuals have been received for review by the Owner.

1.02 APPLICATION FORMS

A. For applications for payment, use sample contract payment request on company letterhead, or AIA Document G702, supported by AIA Document G703, Continuation Sheet, or similar document.

B. Prepare the Schedule of Values in such a manner that each major item of Work and each subcontracted item of Work is shown as a line item broken down in terms of material and labor costs on AIA Document G703, Application Certification of Payment, Continuation Sheet or similar format. The sample continuation sheet shall be the minimum Schedule of Values breakdown.

C. The Schedule of Values shall be submitted for review by the Owner prior to the first application for payment; and may be used when, and only when, accepted in writing by the Owner.

D. Payment request is to include the Contractor's Federal Tax Identification number and return address.

1.03 PAYMENTS

A. The Owner will make progress payments on account of the Contract once monthly for the scheduled duration of the project (i.e. three (3) payments on a three-month project), based on the value of work accomplished or materials on the job site, as stated in the Schedule of Values on the Application and Certificate Payment.

B. Notwithstanding the foregoing, as this project is scheduled to take three (3) month to complete, Owner will only make three (3) payments, plus a final retainage payment, as applicable.

C. Complete and forward Application to the Owner on or about the 15th day of each month for work performed the previous month and include certified payroll statements as specified in the OSU General Conditions.

D. Submit one (1) copy of forms requesting payment to the Owner.

E. Payments will be made on protected materials on hand at the job site properly stored, protected, and insured.

F. Estimated quantities shall be subject to the Owner's review and judgment.

1.04 EARLY PURCHASE AND PAYMENT OF MATERIALS AND EQUIPMENT

A. Order materials and equipment requiring a long lead or waiting time early so as not to delay progress of the Work.

B. The Contractor will be reimbursed for early order materials or equipment upon receipt and verification of quality and quantity against submittals and shipping documents by the Owner's Authorized Representative.

C. Receipt shall be to the job site or stored at Owner's other premises in an orderly and safe manner, secured from normal weather damage.

D. Security remains the responsibility of the Contractor.

END OF SECTION

CONTRACT PAYMENT REQUEST

DATE: _____

TO: Oregon State University (OSU)
OSU Financial Services
University Facilities, Infrastructure and Operations
Western Building
850 SW 35th Street
Corvallis, OR 97333
Email: Facservcontracts@oregonstate.edu

DATE: _____

Payment Request No. _____Contract No. _____ Period from _____ to _____

Project: _____

Original Contract Amount ..... $_____

Change Orders (Net Amount) ..... $_____

Contract Total to Date ..... $_____

==========

Total Completed and Stored to Date ..... $_____

Less Retainage (5%), if applicable ..... $_____

Total Earned, Less Retainage (if applicable) ..... $_____

Less Previous Payments ..... $_____

Net Amount Due this Request ..... $_____

The undersigned Contractor certifies that, to the best of his/her knowledge, information, and belief, the Work covered by this request has been completed in accordance with the Contract Documents, that all amounts have been paid for Work for which previous applications for Payment were issued and payments received from the Owner, and that the amount shown herein is now due.

Contractor:_____

By: _____Date: _____

Federal Tax ID Number:_____

Address:_____

_____

CONTINUATION SHEET

Project Name:

Application No.:

Date:

Period To:

WRN No.:

NOTES:

Amounts are stated to the nearest penny.
Use Column I on Contracts where variable retainage for line items may apply, or if retainage is required.

Change Orders are usually listed as the last items of the basic schedule.

A	B	C	D	E	F	G		H	I
Item No.	**Description of work**	**Scheduled Value**	**Work Completed**		**Materials Presently Stored (Not in D or E)**	**TOTAL Completed & Stored (D+E+F)**	**% Completed (G/C)**	**Balance to Finish (C-G)**	**Retainage**
			From Previous Applications	This Period					
TOTALS									

SECTION 01 25 00

PRODUCT SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General requirements for the Work in relation to substitutions and product options.

B. Submit to the Owner's property insurance carrier shop drawings, samples, and product data (such as manufacturer's standard schematic drawings and other literature) when required by individual Specifications sections.

C. Related Work Specified Elsewhere
   1. Instructions to Bidders.
   2. OSU General Conditions.

1.02 REQUESTS FOR SUBSTITUTIONS

A. Requests for substitution of products in place of those specified shall be in accordance with Instructions to Bidders, and as specified herein.

1.03 CONTRACTOR'S RESPONSIBILITIES

A. Investigate proposed products and determine that they are equal or superior in all respects to products specified.

B. Provide same guarantee for accepted substitutions as for products specified.

C. Coordinate installation of accepted substitutions into the Work, making such changes as may be required for the Work to be complete in all respects.

1.04 SUBSTITUTIONS DURING BIDDING

A. Submit two (2) copies of the following information with each request to the Owner:
   1. CSI substitution request form.
   2. Comparison of proposed substitution with product, material or system specified.
   3. Complete data, substantiating compliance of proposed substitution with the Contract Documents.
   4. Test numbers and supporting reports, indicating compliance with referenced standards.
   5. Evidence that warranty requirements are acceptable.
   6. Details indicating specific deviations proposed for the substitution.
   7. Reference and applicable Specification sections.
   8. Applicable product samples.

B. All substitution requests shall be received in the Owner's office no less than five (5) calendar days before bid opening. Requests received after this date will not be considered.

1.05 SUBSTITUTIONS DURING CONSTRUCTION

A. Substitutions will normally not be considered after date of Contract except when required due to unforeseen circumstances.

B. Within a period of thirty (30) days after date of Contract, the Owner may, at its option, consider formal written requests for substitution of products in place of those specified,

when submitted in accordance with the requirements stipulated herein.

C. One or more of the following conditions must be documented in any such request:
   1. Required for compliance with final interpretation of code or insurance requirements.
   2. Required due to unavailability of a specified product.
   3. Required because of the inability of the specified product to perform properly or to fit in the designated space.
   4. Substitution would be substantially in the best interest of the Owner in terms of cost, time, or other considerations.

1.06 SUBSTITUTIONS NOT PERMITTED

A. If implied on submittals without first requesting approval thereof.

B. If acceptance will require substantial revision of the Contract Documents.

END OF SECTION

SUBSTITUTION REQUEST FORM

TO: _____

PROJECT: _____

SPECIFIED ITEM:

_____	_____	_____	_____
Section	Page	Paragraph	Description

The undersigned requests consideration of the following:

PROPOSED SUBSTITUTION: _____

Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes description of changes to Contract Documents which proposed substitution will require for its proper installation.

The undersigned states that the following paragraphs, unless modified on attachments, are correct:

1. The proposed substitution does not affect dimensions shown on Drawings.

2. The undersigned will pay for changes to the building design, including engineering design, detailing and construction costs caused by the requested substitution.

3. The proposed substitution will have no adverse effect on other trades, the construction schedule, or specified warranty requirements.

4. Maintenance and service parts will be locally available for the proposed substitution.

The undersigned further states that the function, appearance and quality of the Proposed Substitution are equivalent or superior to the Specified Item.

Submitted by:

Signature _____

Firm _____

Address _____

_____

Date _____

Telephone _____

Attachments:

For use by Design Consultant:

☐ Accepted ☐ Accepted as noted

☐Not Accepted ☐ Received too late

By _____

Date _____

Remarks _____

SECTION 01 31 19

PROJECT MEETINGS

PART 1 GENERAL

1.01 PRE-CONSTRUCTION MEETING

A. Architect/Engineer/Designer, Contractor and Owner will meet prior to start of the Work (within seven (7) days after notice to proceed) to discuss at least the following topics and any others of mutual interest.
   1. Schedule of Values
   2. Permit Status/tree protection/erosion control
   3. List of sub-contractors
   4. Job inspections.
   5. Early purchase of, and/or lead time requirements for material and equipment/prepurchase of equipment
   6. Monthly payment date/SOP for pay requests
   7. Portion of site to be occupied by construction.
   8. Parking/Staging areas
   9. Non-smoking campus requirements
   10. Maintenance of access and safety.
   11. Processing of field decisions and change orders
   12. Labor provisions/labor rates for subs
   13. Material submittals/deferred submittals
   14. Owner access during construction.
   15. Review of Contract Documents/review ADA requirements/cross-slopes
   16. Coordination procedures and separate contracts.
   17. Progress schedules.
   18. Critical Work sequencing.
   19. Safety and emergency procedures/24 hour contact numbers
   20. Security procedures.
   21. Hazardous materials.
   22. Progress meetings.
   23. Contract close-out.

B. Location of Meeting: Project site

1.02 PROGRESS MEETINGS

A. The Contractor will schedule and administer progress meetings and will:
   1. Prepare agendas.
   2. Schedule progress meetings, frequency, time and day to be determined during pre-construction meeting.
   3. Make physical arrangements for and preside at meetings.
   4. Record minutes and include decisions.
   5. Distribute copies of minutes to participants within four (4) days after meetings.

B. Location of Meetings: Project site.

C. Attendance:
   1. The Owner or Owner's Authorized Representative.
   2. Contractor.
   3. Subcontractors affected by agenda.
   4. Project Architect/Engineer/as necessary.
   5. Owner will attend meeting to ascertain Work is expedited consistent with progress schedule and with Contract Documents.

D. Minimum Agenda:
   1. Review and approve minutes from previous meeting.
   2. Review Work progress since previous meeting.
   3. Discuss field observations, and problems.
   4. Review delivery schedules, construction schedule, and identify problems which impede planned progress.
   5. Review proposed changes.
   6. Material submittals.
   7. Note all new subcontractors performing Work at the job site.

END OF SECTION

SECTION 01 33 23

SHOP DRAWINGS, PRODUCT DATA, SAMPLES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submit to the Owner shop drawings, samples, and product data (such as manufacturer's standard schematic drawings and other literature) when required by individual Specifications sections.

B. Related Work Specified Elsewhere
   1. Instructions to Bidders.
   2. OSU General Conditions.

1.02 SUBMITTAL SCHEDULING

A. For items requiring review by the Owner only, submittals shall be sent to the Owner at least 15 calendar days before the date each is required for fabrication or installation.

B. Submittals to be reviewed by Owner's consultants shall be sent to the Owner at least 20 calendar days before the date each is required for fabrication or installation.

C. Submittals to be reviewed by Owner's property insurance carrier shall be sent to Owner as directed in individual specification sections.

D. Submittals involving Substitution requests or other modifications requiring review by the Owner and/or the Owner's consultants shall be sent to the Owner at least 20 calendar days before the date each is required for fabrication or installation.

1.03 SUBMITTAL CONTENT AND FORMAT

A. General Requirements:
   1. Shop Drawings: Submit in electronic format and, if requested by Owner's Authorized Representative, submit one reproducible transparency and 1 print of each drawing.
   2. Product Data: Submit electronically, and if requested by Owner's Authorized Representative, up to 6 hard copies.
   3. Samples: Submit the number and type stated in each Specification Section. Submit a minimum of three sets of color samples where color selection is required.
   4. Submittals shall include:
      a. Date and revision dates return date requested.
      b. Project title and number.
      c. The names of the Contractor, subcontractor, supplier, and manufacturer.
      d. Identification of product or material, with Specification Section number.

e. Relation to adjacent critical features of work or materials.
f. Field dimensions, clearly identified as such.
g. Applicable standards, such as ASTM number or Federal Specification.
h. Identification of deviations from Contract Documents, and for products accompanied by Substitution request as required by Section 01 25 00.
i. Contractor's stamp legibly signed, essentially as follows:
   1) The undersigned, acting on behalf of the Contractor, certifies that this submittal has been reviewed and is approved; products have been verified as being as specified, field measurements and field construction criteria have been or will be coordinated, and the submittal is in compliance with Contract Documents.

5. Re-submission Requirements:
   a. Revise initial drawings as required and resubmit as specified for initial submittal.
   b. Indicate on drawings any changes which have been made other than those requested by the Owner or the owner's consultants.
6. The Owner may return without review any submittal not meeting the requirements listed above.

B. Shop Drawings:
1. Present data in a clear and thorough manner.
2. Details shall be identified by reference to sheet and detail, schedule or room numbers shown on Contract Documents.
3. Structural items shall be identified by location in the completed structure. Identify details by reference to contract sheet and detail numbers.
4. Minimum sheet Size: 8 ½ x 11".

C. Product Data:
1. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data:
   a. Clearly mark each copy to identify pertinent product or models.
   b. Show dimensions, weights, and clearances required.
   c. Show performance data consisting of capabilities, ROM, KW, pressure drops, design characteristics and consumption; conforming as closely as possible to the test methods referenced in the Plans and Specifications.
   d. Show wiring or piping diagrams and controls.
2. Manufacturer's standard schematic drawings and diagrams:
   a. Modify to delete information which is not applicable.
   b. Supplement standard information to provide information specifically applicable to the Work.

D. Samples:
1. Insure that samples are of sufficient size to indicate the general visual effect or color.
2. Where samples must show a range of color, texture, finish, graining, or

other property, submit sets of pairs illustrating the full scope of this range.

3. One (1) sample or one (1) set of approved samples will be retained by the Owner; final work will be measured against approved samples.

1.04 QUALITY ASSURANCE

A. Process submittals in ample time for review, as applicable, so as to not delay the Work. All submittals shall be received by the Owner within ten (10) days after pre-construction.

1.05 DEFINITIONS

A. The Owner will mark reviewed materials as follows:
   1. “No Exception Taken,” which means fabrication, manufacture and/or installation may proceed.
   2. “Make Revisions Noted,” which means fabrication, manufacture and/or installation may proceed with revisions as noted.
   3. “Revise and Resubmit,” which means that fabrication, manufacture and/or installation may not proceed.
   4. “Rejected,” which means do not proceed; make arrangements for the review of the proposed Work with the Owner as soon as possible.

1.06 PROCESSING

A. Review submittals, make necessary corrections, and become familiar with the content of the submittals.

B. Mark each item with Contractor’s stamp.

C. Accompany submittals with a transmittal letter bearing the project name, Contractor’s name, number of items, and other pertinent data.

D. Keep one copy of each reviewed submittal on the job site at all times.

E. Be responsible for obtaining and distributing prints of shop drawings to the various suppliers, and the Owner once review process has been completed. Make prints of reviewed shop drawings only from transparencies which carry the appropriate stamp and endorsement.

END OF SECTION

SECTION 01 42 13

ABBREVIATIONS AND SYMBOLS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Words which may be found elsewhere in the Project Manual and Drawings are abbreviated in accordance with the standards set forth in the following table:

A/C	air conditioning
AB	anchor bolt
AC	asphaltic concrete
ACT	acoustical tile
AD	area drain
ADD	addendum
ADD'L	additional
ADH	adhesive
AFF	above finish floor
AGG	aggregate
AL	aluminum
ALLOW	allowable
ALT	alternate
ANOD	anodized
AP	access panel
APPRX	approximate
ARCH	architect(ural)
ASPH	asphalt
AUTO	automatic
AVE	avenue
BD	board
BIT	bituminous
BLDG	building
BLKG	blocking
BM	bench mark, beam(s)
BOT	bottom
BRZ	bronze
BS	both side
CB	catch basin
CEM	cement
CF	cubic foot

CFOI	contractor furnished owner installed
CG	corner guard
CH	ceiling height
CI	cast iron
CJ	control joint
CKBD	chalkboard
CL	centerline
CLG	ceiling
CLR	clear(ance)
CM	construction manager
CMT	ceramic mosaic (tile)
CMU	concrete masonry unit
COL	column
COM	communications
CONC	concrete
CONN	connect(ion)
CONST	construction
CONT	continuous or continue
CONTR	contract(or)
CPT	carpet
CRS	course(s)
CS	countersink
CSMT	casement
CT	ceramic tile
CTR	center
CVG	clear vertical grain
CW	cold water
CWT	ceramic wall tile
CY	cubic yard

D	depth
DEMO	demolish, demolition
DEP	depressed
DF	drinking fountain
DIA	diameter
DIAG	diagonal
DIM	dimension
DISP	dispenser
DIV	division
DL	dead load
DMT	demountable
DN	down
DP	dampproofing
DR	door

DS	downspout
DT	drain tile
DTL	detail
DW	dumbwaiter
DWG	drawing(s)
DWR	drawer
EA	each
EB	expansion bolt
EF	each face
EJ	expansion joint
EL	elevation
ELEC	electric(al)
EMBED	embedment
EMER	emergency
ENCL	enclose(ure)
EP	electrical panel board
EQ	equal
EQUIP	equipment
EST	estimate
EVT	equiviscious temperature
EW	each way
EWC	electric water cooler
EX.EXIT	existing
EXH	exhaust
EXP	exposed
EXT	exterior
FA	fire alarm
FAF	fluid applied flooring
FARF	fluid applied resilient floor
FAS	fasten, fastener
FBD	fiberboard
FBT	finished blowing temperature
FD	floor drain, fire damper
FE	fire extinguisher
FEC	fire extinguisher cabinet
FF	factory finish
FGL	fiberglass
FHMS	flathead machine screw
FHWS	flathead wood screw
FIN	finish(ed)
FLCO	floor cleanout
FLR	floor(ing)
FLUR	fluorescent

FND	foundation
FOC	face of concrete
FOIC	furnished by owner/installed by contractor
FOIO	furnished by owner/installed by owner
FOM	face of masonry
FP	fireproofing, flash point
FPHB	freeze-proof hose bib
FR	fire resistive, fire rated
FRM	frame(d), (ing)
FS	full size
FSS	finished structural slab
FT	foot
FTG	footing
FTS	finished topping slab
GA	gage, gauge
GALV	galvanized
GB	grab bar or gypsum board
GC	general contractor
GI	galvanized iron
GL	glass, glazing
GLS	glass resin wall surfacing
GP	gypsum
HB	hose bib
HBD	hardboard
HC	hollow core
HD	heavy duty
HDR	header
HDW	hardware
HM	hollow metal
HOR	horizontal
HP	high point
HR	hour
HT	height
HTG	heating
HVAC	heating, ventilating, air conditioning
HWD	hardwood
HWH	hot water heater
ID	inside diameter, identification
IN	inch
INCIN	incinerator
INCL	include(d), ion)
INT	interior

INV	invert
JB	junction box
JC	janitor's closet
JT	joint
KD	kiln dried
KCP	Keene's cement plaster
KO	knockout
KP	kick plate
LAB	laboratory
LAM	laminate(d)
LAV	lavatory
LBS	pounds
LH	left hand
LL	live load
LONGIT	longitudinal
LP	low point
LW	lightweight
MAX	maximum
MB	machine bolt
M. MECH	mechanic(al)
MFR	manufacture(r)
MH	manhole
Min	minimum, minute
MISC	miscellaneous
MO	masonry opening
MO#	model number
MOD	modular
MPH	miles per hour
MS	machine screw
MTL	metal
MULL	mullion
MWP	membrane waterproofing
NAT	natural, natural finish
NIC	not in contract
NO	number
NOM	nominal
NTS	not to scale

OA	overall
OBS	obscure
OC	on center(s)
OD	outside diameter
OF	overflow
OFCI	owner furnished contractor installed
OFOI	owner furnished owner installed
OHMS	ovalhead machine screw
OHWS	ovalhead wood screw
OPG	opening
OPP	opposite
OZ	ounce(s)
P	paint(ed)
PB	push button
PCF	pounds per cubic foot
PCP	putting coat plaster
PERF	perforate(d)
PL	plate, property line
PLAM	plastic laminate
PLAS	plaster
PNL	panel
PP	push plate
PR	pair
PREP	prepare
PSF	pounds per square foot
PSI	pounds per square inch
PT	point, pressure treated
PTN	partition
PVC	polyvinyl chloride
PWD	plywood
QT	quarry tile
R	rise
RA	return air
RAD	radius
RCP	reflected ceiling plan
RD	roof drain
REF	reference
REFR	refrigerator
REINF	reinforce(ing)
REQ	required
RET'G	retaining
REV	revision(s), revised

RH	right had
RM	room
RO	rough opening
RSF	resilient sheet flooring
SC	solid core
SCHED	schedule
SEC	section
SF	square feet (foot)
SHT	sheet
SHTHG	sheathing
SIM	similar
SL	sleeve
SOG	slab on grade
SPEC	specification(s)
SQ	square
SS	storm sewer
S4S	finished 4 sides
SD	storm drain
ST	steel, street
ST ST	stainless steel
STD	standard
STR	structural
SUPP	supplement
SUPT	support
SUSP	suspended
SV	sheet vinyl
T	tread
TBM	top bench mark
T&G	tongue and groove
TB	towel bar
TC	top of curb
TEL	telephone
TEMP	tempered
THK	thickness
TKBD	tackboard
TO	top of
TP	top of paving
TRANS	transverse
TS	top of slab
TV	television
TW	top of wall
TYP	typical

UNO	unless noted otherwise
VAT	vinyl asbestos tile
VB	vapor barrier
VCT	Vinyl Composition Tile
VERT	vertical
VG	vertical grain
VIF	verify in field
VWC	vinyl wall covering
W	width, wide, water
W/	with
W/O	without
WC	water closet
WD	wood, wood finish
WP	waterproof(ing)
WNS	wainscot
WR	water resistant
WS	waterstop
WW	window wall
WWC	wood wall covering
WWF	woven wire fabric

B. Words which may be found elsewhere in the Project Manual and Drawings are abbreviated in accordance with the standards set forth in the following table:

&	and
λ	angle
@	at
ι	diameter, round
"	inches
:	is, shall b
'	feet
ζ	perpendicular
/	per
%	percent
#	pound, number
X	by (as in 2 by 4)

END OF SECTION

SECTION 01 42 16

DEFINITIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Words which may be found elsewhere in the Contract Documents are defined in accordance with the standards set forth in the following table:

Approve:

Where used in conjunction with Architect's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of term "approved" will be limited to the Architect's responsibilities and duties as specified in General and Supplementary Conditions. In no case will "approval" by Architect be interpreted as a release of Contract requirements.

As Detailed, As Shown:

Where “as detailed”, “as shown” or words of similar importance are used, it shall be understood that reference to the Drawings accompanying the Specifications is made unless otherwise stated.

As Directed, As Required, As Authorized, As Reviewed, As Accepted:

Where “as directed”, “as required”, “as authorized”, “as reviewed”, “as accepted” or words of similar importance are used, it shall be understood that the direction, requirement, permission, authorization, review, or acceptance of the Architect is intended, unless otherwise stated.

As Indicated:

Where “as indicated” is used it shall be understood that reference to Drawings and/or Specifications is made unless otherwise stated.

Directed, Requested, etc.:

Terms such as "directed," "requested," "authorized," "selected," will be understood as "directed by Architect," "requested by Architect," and similar phrases shall not be interpreted to extend Architect's responsibility into Contractor's responsibility for construction supervision.

Furnish:

Except as otherwise defined in greater detail the term "furnish" is used to mean supply and deliver to project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.

Indicated:

The term "indicated" is a cross-reference to graphic representations, notes or schedules on drawings, to other paragraphs or schedules in the specifications

and to similar means of recording requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for purpose of helping reader locate cross-reference and no limitation of location is intended except as specifically noted.

Install:

Except as otherwise defined in greater detail, the term "install" is used to describe operations at project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.

Installer:

The term "installer" is defined as the entity (person or firm) engaged by Contractor, or its subcontractor or subsubcontractor for performance of a particular unit of Work at project site, including installation, erection, application and similar required operations. It is a general requirement that such entities (Installers) be expert in operations they are engaged to perform.

Provide:

Except as otherwise defined in greater detail, term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.

END OF SECTION

SECTION 01 42 19

REFERENCE STANDARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Quality Assurance.

B. Location of References.

C. Schedule of References.

1.02 QUALITY ASSURANCE

A. For products or quality of work specified by association, trade, or federal standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by date of issue current on date of Contract Documents.

C. General Applicability of Standards: Except where Contract Documents include more stringent requirements, applicable standards of the construction industry have the same force and effect as if bound or copied directly into Contract Documents.

D. Such standards are made a part of the Contract Documents by reference.

E. Individual sections indicate which codes and standards the Contractor must keep at the project site, available for reference.

F. Referenced industry standards take precedence over standards which are not referenced but recognized in industry as applicable.

G. Non-referenced standards are not directly applicable to the Work, except as a general requirement of whether the Work complies with standards recognized in the construction industry.

1.03 LOCATION OF REFERENCES

A. Valley Library, Oregon State University.

1.04 SCHEDULE OF REFERENCED ASSOCIATIONS

AIA	American Institute of Architects WWW.AIA.ORG

AISC	American Institute of Steel Construction WWW.AISC.ORG
AISI	American Iron and Steel Institute WWW.STEEL.ORG
ANSI	American National Standards Institute WWW.ANSI.ORG
APA	American Plywood Association WWW.APAWOOD.ORG
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers WWW.ASHRAE.ORG
ASTM	American Society for Testing and Materials WWW.ASTM.ORG
AWPA	American Wood Protection Association WWW.AWPA.COM
AWS	American Welding Society WWW.AWS.ORG
BIA	Masonry Institute of America WWW.MASONRYINSTITUTE.ORG
BOLI	Oregon Bureau of Labor and Industries WWW.BOLI.STATE.OR.US
CCB	Construction Contractors Board WWW.OREGON.GOV.CCB/
CDA	Copper Development Association WWW.COPPER.ORG
CISPI	Cast Iron Soil Pipe Institute WWW.CISPI.ORG
CSI	Construction Specification Institute WWW.CSINET.ORG
DEQ	Department of Environmental Quality (Oregon) WWW.OREGON.GOV/DEQ/
DHI	Door and Hardware Institute WWW.DHI.ORG

DOT	Department of Transportation WWW.DOT.GOV
EPA	U.S. Environmental Protection Agency WWW.EPA.GOV
FM	Factory Mutual System WWW.FMGLOBAL.COM
FS	Federal Specification General Services Administration Specifications and Consumer Information Distribution Section (WFSIS) WWW.GSA.GOV/PORTAL/CONTENT/103856
IBC	International Building Code WWW.ICCSAFE.ORG
ICBO	International Conference of Building Officials PUBLICECODES.CITATION.COM/ICOD/IBG/INDEX.HTM
IRS	Internal Revenue Service WWW.IRS.GOV
ISA	Instrumentation Systems and Automation Society WWW.ISA.ORG
NAAMM	National Association of Architectural Metal Manufacturers WWW.NAAMM.ORG
NBFU	National Board of Fire Underwriters WWW.NFPA.ORG
NEC	National Electric Code WWW.NECPLUS.ORG
NEMA	National Electrical Manufacturers' Association WWW.NEMA.ORG
NESC	National Electrical Safety Code WWW.IEEE.ORG
NFPA	National Fire Protection Association WWW.NFPA.ORG
NRCA	National Roofing Contractors' Association WWW.NRCA.NET
OAR	Oregon Administrative Rules ARCWEB.SOS.STATE.OR.US/404.HTML

OESP	State of Oregon Electrical Specialty Code http://www.bcd.oregon.gov/programs/online_codes.html
ORS	Oregon Revised Statutes LANDRU.LEG.STATE.OR.US/ORS/
OSHA	Occupational Safety and Health Administration WWW.OSHA.GOV
OSSC	Oregon Structural Specialty Code http://www.bcd.oregon.gov/programs/online_codes.html
PS	Product Standard STANDARDS.GOV/STANDARDS.CFM
SDI	Steel Door Institute WWW.STEELDOOR.ORG
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association WWW.SMACNA.ORG
SPRI	Single Ply Roofing Institute WWW.SPRI.ORG
SSPC	Steel Structures Painting Council WWW.SSPC.ORG
SWRI	Sealing, Waterproofing and Restoration Institute WWW.SWIRONLINE.ORG
UBC	Uniform Building Code (See ICBO)
UFC	Uniform Fire Code WWW.NFPA.ORG
UL	Underwriters' Laboratories, Inc. WWW.UL.COM
UMC	Uniform Mechanical Code WWW.UBC.COM
UPC	Uniform Plumbing Code WWW.UBC.COM
WHL	Warnock Hersey Laboratories WWW.INTEK.COM/MARKS/WH/
WCLIB	West Coast Lumber Inspection Bureau

WWW.WCLIB.ORG

WWPA Western Wood Products Association
WWW.WWPA.ORG

END OF SECTION

SECTION 01 45 00

QUALITY CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Codes, regulations and permits.

B. Procedures for quality control.

1.02 OWNER RESPONSIBILITIES

A. Owner's Authorized Representative will provide on-site observation during construction.

1.03 CODES, REGULATIONS AND PERMITS

A. All Work shall conform with the Oregon Structural Specialty Code (OSSC) based on the International Building Code (IBC), as amended by the State of Oregon Building Codes Division and the edition designated by the governing authority.

B. Contractor shall comply with all applicable state and local construction codes.

C. References to codes, Specifications and standards referred to in the Contract Documents shall mean, and are intended to be, the latest edition, amendment or revision of such reference standard in effect as of the date of these Contract Documents.

D. The Owner shall be responsible for all permits and City of Corvallis plan review fees; the Contractor shall be responsible for all licenses and associated fees required for the Project.

E. Contractor shall arrange and attend all required permit inspections and furnish evidence of approved City inspection reports per Section 01 77 00.

1.04 QUALITY OF WORK

A. It is the true and specific intent of these Specifications that quality of Work on all phases of the construction and embracing all the trade sections shall be of high quality performed by workers skilled in their trade and performing their Work only according to the standard of best practice of the trade.

B. All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with manufacturer's directions unless otherwise specified.

C. If Work is required in a manner to make it impossible to produce first quality Work, or should discrepancies appear among Contract Documents, request interpretation from Architect before proceeding with Work.

D. Failure to secure interpretation may cause rejection by Architect or owner of installation.

1.05 LAYOUT

A. Be responsible for properly laying out the Work and for lines and measurements for the Work.

B. Verify the figures shown on the drawings before laying out the Work and report errors or inaccuracies to the Architect before commencing Work.

C. Strict compliance with maximum slopes is required. Accessible parking spaces and adjacent access aisles with slope exceeding 2% in any direction, as determined by OSU, shall be removed and replaced by the contractor at their expense.

D. Strict compliance with maximum slopes is required. New sidewalks exceeding 1:20 slope or with cross slope exceeding 2%, as determined by OSU, shall be removed and replaced by the contractor at their expense. Ramps exceeding 1:16 slope or with cross slope exceeding 2%, as determined by OSU, shall be removed and replaced by the contractor at their expense.

1.06 SUPERVISION

A. The Contractor shall maintain effective supervision on the project at all times Work is being performed.

B. The superintendent shall be the same person throughout the project and shall attend the preconstruction conference.

1.07 INSPECTIONS AND TESTING

A. Contractor shall notify the Owner at least twenty-four (24) hours in advance of any required progress inspection or final inspection including final punch list inspection.

B. Cooperate with laboratory personnel, provide access to Work and furnish incidental equipment material and labor required for field testing and sample taking.

1.08 EVALUATION OF TESTS AND INSPECTIONS

A. Results of laboratory and/or field control tests and inspections shall be the principal basis upon which satisfactory completion of Work shall be judged.

B. If results of tests and inspections indicate Work is below requirements of Contract Documents, that portion of Work is subject to rejection.

1.09 ADJUSTMENTS

A. Remove and replace Work so rejected at Contractor's expense including costs of subsequent tests and inspections until Work meets requirements of Contract Documents.

B. The Owner reserves the right to perform any testing as may be required to determine compliance with the Contract Documents.

C. Costs for such testing will be the Owner's responsibility unless testing indicates noncompliance. Cost for such testing indicating noncompliance shall be borne by the Contractor.

D. Noncomplying Work shall be corrected and testing will be repeated until the Work complies with the Contract Documents.

E. Contractor will pay costs for retesting noncomplying Work.

END OF SECTION

SECTION 01 51 00

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. This Section specifies requirements for temporary services and facilities, including utilities, construction and support facilities, security and protection.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction.

B. Standards: Comply with NFPA Code 241, "Building Construction and Demolition Operations", ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition".

C. Electrical Service: Comply with NEMA, NEC and UL standards and regulations for temporary electric service; install service in compliance with National Electric Code (NFPA 70).

D. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use; obtain required certifications and permits if required.

1.03 PROTECTION

A. Protect sidewalks, asphalt paving, concrete, trees, shrubs, and lawn areas at all times from damage resulting from construction activities.

B. Prevent materials from clogging catch basins and yard drains; leave drains clean and in proper working condition.

C. Protect Existing Irrigation Systems:
   1. In the event damage occurs to an underground irrigation system as a direct result of a Contractor's activities, the Contractor shall repair/replace or be assessed a charge at the discretion of the Owner.
   2. If repairs are to be made by the Contractor, the repairs will be inspected by the Owner’s Authorized Representative prior to backfilling.
   3. Any galvanized pipe that requires repair shall be repaired at a threaded coupling, not by use of a compression coupling.

D. Protect Existing Air Handling Systems:
   1. Contractor shall be responsible for protection of the cleanliness of the existing air handling system at all times. This protection shall include:
      a. During site work or building demolition, prefilters shall be provided and maintained on all building outside air intakes at all times throughout the construction duration.
      b. During any interior work that may create dust in the interior space and

adjacent corridor/hallways, air filters shall be provided and maintained on all affected air return and exhaust grilles. Where air flow in or out of the space is not required, all air duct openings shall be temporarily blanked off with plywood or sheet metal.

c. Prior to starting any work, the Contractor shall record and submit to the Owner's Authorized Representative, pressure readings across all existing air handler air filter banks before installation of new prefilters.
d. Upon completion of all Work affecting existing air handling systems, the Contractor shall remove all temporary filters, covers and associated parts and restore the system to its original operating condition unless otherwise stated elsewhere in the Contract Documents

E. Clean, repair, resurface, or restore existing surfaces to their original, or better, condition, or completely replace such surfaces to match existing, where damaged by construction operations.

F. Security is the responsibility of the Contractor.

G. Construction Debris:
1. Debris shall not be allowed to remain around the buildings during performance of Work, but shall be disposed of as rapidly as it accumulates.
2. On completion of Work, the buildings and grounds shall be left in a condition that is equal to or better than original condition.
3. In case of failure to do so, the Owner may remove rubbish and charge the cost to the Contractor.

H. The Contractor shall manage a safe job environment for both the safety of all the people around the Work site as well as the safety of the Owner's and general public's property.

I. The Contractor shall provide and maintain suitable barricades, shelters, lights, and danger signals during the progress of the Work; they shall meet the requirements of the local building code and OSHA.

1.04 DRAINAGE

A. Verify that all rain drains in the construction areas are in working order and notify the Owner's Authorized Representative in writing of any rain drains that are plugged, prior to the start of the Work.

B. Start of Work will be considered as acknowledgment that all drains are clear and in good working order.

C. All drains shall be left in a clean and proper working condition.

1.05 CONSTRUCTION PROJECT SAFETY FORM

A. Contractor shall submit to the Owner, prior to signing the Contract, the completed "Construction Project Safety Form", which is provided with instructions at the end of this Section.

1.06 TEMPORARY UTILITIES

A. Temporary Utilities:
   1. Prepare a schedule indicating dates for implementation and termination of each temporary utility.
   2. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of the permanent service.

B. Conditions of Use:
   1. Keep temporary services and facilities clean and neat in appearance.
   2. Operate in a safe and efficient manner.
   3. Take necessary fire prevention measures.
   4. Do not overload facilities or permit them to interfere with progress.
   5. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

C. Electrical Service:
   1. Service limited to 20 amp 120V circuits will be paid for by the Owner.
   2. Connection to the service shall be the responsibility of the Contractor, with the Owner's approval.
   3. Coordinate with the Owner's Authorized Representative.

D. Water Service:
   1. Service in reasonable quantities for the Project will be paid for by the Owner.
   2. Connection to the service shall be the responsibility of the Contractor, with the Owner's approval.
   3. Coordinate with the Owner's Authorized Representative.

1.07 TEMPORARY SUPPORT FACILITIES

A. Temporary Sanitary Facilities:
   1. Provide and maintain an adequate number of facilities for the use of all persons employed on the Work during construction.
   2. Provide enclosed, weatherproof facilities with heat as required.
   3. Use of new or existing Owner's facilities will not be permitted.

B. Temporary Heat and Ventilation:
   1. As necessary, provide temporary heat and ventilation required by construction activities, for curing or drying of completed installations or protection of installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.

C. Telephone Equipment: Provide telephone communications at project site.

D. Existing Services:
   1. Do not interrupt any existing service.

2. Prior request and approval of the Owner's Representative will enable the Owner to shut down any utility required by the Work.
3. Contractor shall not shut down utilities.

1.08 ODORS

A. Work that causes excessive odors shall be performed only after coordination with the Owner's Authorized Representative. Filtering of air intakes to units may be required to prevent odors and vapors from entering the buildings.
B. Contractor shall provide 7 days advance notice to the Owner's Authorized Representative in order for advance notice to be forwarded to building occupants. Work stoppage may occur if advance notification has not been coordinated or odors and vapors from the work are found to generate complaints from building occupants.

1.09 FIRE SAFETY

A. Ensure that required exit routes remain unobstructed while building is occupied.

B. Abide by all fire safety requirements for buildings under construction, alteration or demolition as required by Article 87, of the Uniform Fire Code as adopted by the State of Oregon.

C. An emergency telephone shall be provided on site. Cellular telephone equipment is acceptable.

D. Fire Suppression Equipment:
   1. Install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers", and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations".
   2. Maintain equipment in working condition with current inspection certificate attached to each.
   3. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
   4. Store combustible materials in containers in fire-safe locations.
   5. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways, and other access routes for fighting fires.
   6.
   6. Provide continual supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.
   7. When possible, relocate hot work to a designated hot work area.
   8. If the materials or equipment cannot be relocated to a designated hot work area, use the least hazardous form of hot work that will get the job done and prepare the area properly.
   9. Manage mobile hot work using the formal hot work permit system. (mentioned in the next bullet point and also a directive in the OSU Hot Work

Safety Program)
10. Make sure both fire protection and hot work equipment work properly.
11. Train all personnel involved in hot work operations and activities so that they have the understanding, knowledge, and skills necessary to safely perform their jobs.

1.10 CONSTRUCTION AIDS

A. Scaffolding: comply with applicable OSHA requirements.

B. Material Handling Equipment:
   1. Provide necessary cranes, hoists, towers, or other lifting devices.
   2. Use only experienced operators.
   3. Remove equipment as soon as possible after task is ended.
   4. Coordinate placement of such equipment with Owner's Authorized Representative.
   5. Obtain required permits and meet requirement of governing authorities regarding applicable regulations.

C. Materials or debris shall not be allowed to free fall from building.

D. The use of chutes or conveyors must be approved by Owner.

1.11 TEMPORARY CONTROLS

A. Protection:
   1. Protect installed Work and provide special protection where specified in individual specification sections.
   2. Prohibit traffic or storage upon waterproofed or roofed surfaces.

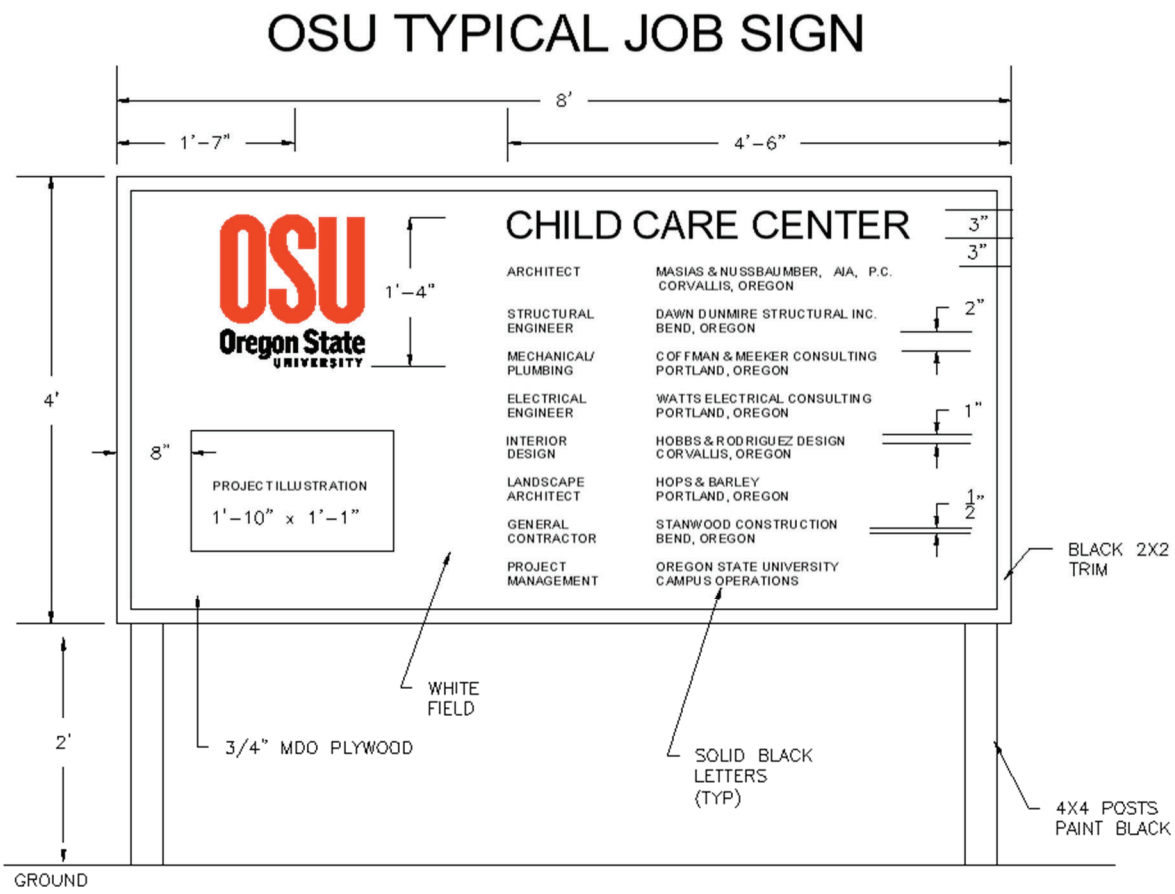
B. Security:
   1. Provide security and facilities to protect Work and existing facilities and Owner's operations from unauthorized entry, vandalism, or theft.
   2. Coordinate operations with Owner's Authorized Representative.

C. Temporary Traffic Control /Pedestrian Accessibility
   1. A continuous route for all pedestrians, including persons with disabilities and bicyclists, shall be maintained at all times. When existing pedestrian facilities are disrupted, closed, or relocated in a construction zone, temporary pedestrian facilities shall be provided.
   2. Temporary pedestrian facilities should be safe and accessible. There should be no curbs or abrupt changes in grade that could cause tripping or be a barrier to wheelchair use.
   3. Signage shall be provided directing people to the temporary accessible route. The signage shall include the International Symbol of Accessibility.
   4. Contractors shall not block temporary walkways with vehicles, equipment, construction materials, signs, trash, or other objects that might prohibit pedestrian passage.

5. Construction equipment and equipment operation must be separated from any open walkways. At construction zones, pedestrian fences or other protective barriers shall be provided to prevent access into the construction zone.

1.12 PROJECT SIGNAGE

A. Contractor is permitted to post only one project identification sign based on the following example:



1.13 PREPARATION

A. Consult with Owner to review jobsite areas required for field offices, material storage and stockpiles, equipment storage, access to different locations, etc.

1.14 PERFORMANCE

A. Confine equipment, apparatus, and storage of material to work limits. The Owner will not be responsible for protection of materials and equipment from damage, pilfering, etc.

B. Install temporary facilities in such a manner that the installed work will not be damaged.

C. Do not use facilities of existing building unless authorized in writing by the Owner.

D. Effective September 1, 2012, OSU became a non-smoking campus and smoking is prohibited on all Campus property.

E. Keep facilities well maintained.

F. Relocate temporary facilities as required during job progress.

G. At Substantial Completion, clean and renovate permanent facilities that have been used during the construction period, including but not limited to:
   1. Replace air filters and clean inside of ductwork and housings.
   2. Replace significantly worn parts and parts that have been subject to unusual operating conditions.
   3. Replace lamps that are burned out or noticeably dimmed by substantial hours of use.

END OF SECTION

Oregon State University Construction and Maintenance Safety Requirements

EH&S, 130 Oak Creek Building, Corvallis, OR 97331-7405, (541) 737-2505, FAX (541) 737-9090

Complete OSU Construction and Maintenance Safety Form - Send completed documents (including Site Safety Plan and all separate answer pages) to Construction Contracts Administration along with the signed contract and bonds.

Project Isolation - All construction and remodeling activities regardless of size and/or scope must be fenced, barricaded, or otherwise protected to restrict entrance and to ensure the safety of those in the general area. See isolation requirements.

Site Safety Plan - A site safety plan will be required and will address:

- General Information
- Emergency Information
- Key Organization Personnel
- Hazard Evaluation/Facility Impact
- Emergency Procedures
- Work Zones
- Security Measures
- Fire Protection

A model plan is attached. This form can be used if another plan has not already been prepared. Contact OSU Environmental Health & Safety for more information 737-2505.

Isolation Requirements

General: All construction, maintenance, and remodeling activities, regardless of size or scope, must be fenced, barricaded, or otherwise isolated to restrict entrance and to ensure the safety of those in the general area.

Outdoor Activities: Outdoor projects require the following perimeter isolation:

- A six foot chain-link fence, with controlled access points, extending in all directions around the excavation or building site such that no area of the construction is accessible to pedestrians or unauthorized personnel or vehicles.
- Isolation area will include vehicle loading and unloading areas.
- At the University's option, other barricading plans may be accepted. These may apply to projects such as road resurfacing, parking lot striping, exterior building water proofing, deliveries, etc. Contact EH&S regarding other barricading plans.

Overnight: Any excavation across or adjacent to sidewalks or pathways which must be left open overnight, must be identified with working, blinking construction lights in addition to solid barricades

Indoor Activities: Indoor construction or maintenance projects which will create dust, potentially hazardous fumes or vapors, or offensive odors are subject to the following isolation:

- Areas where existing doors can provide isolation will be labeled "Construction Area--Authorized Personnel Only ".

- All other areas will be isolated by a solid barrier. The minimum barrier allowed is 4 mil poly sheeting sealed to prevent migration of dust.
- Mechanical ventilation may be required.
- A solid wall is required if building envelope is opened to the outside.

Contractor Responsibilities

- The contractor will provide all barricading, isolation, and fencing material. OSU will not provide any materials.
- The contractor will also provide all appropriate warning and detour signs when sidewalks, exits, or roads are closed.
- Contractor will provide all other construction area signs.

OSU Construction and Maintenance Safety Form

Send completed safety documents to Construction Contracts Administration with contract and bonds.

Date: _____ Project: _____

Start Date: _____ Completion date: _____

Contractor: _____ Contact: _____

Work # _____ 24 hr #: _____

OSU Project Mgr: _____ Work / 24hr #'s: _____

Dept Contact: _____ OSU EH&S Contact: _____

Preconstruction meeting? **Y** **N** Date/Time/Location: _____

For the following items, prepare answers on a separate sheet for all items marked "Yes". Precede each answer with the appropriate item number. All boxes need to be checked

Y	N		For This Project	If YES, then:
		1	Will any confined spaces be accessed?	Describe location of entry Specify location of permit Notify EH&S prior to entry See SAF 209
		2	Will hot work be performed (welding, cutting, brazing, etc.)?	Provide min. 5# 2A10BC extinguisher within 10 ft If indoors - provide and describe ventilation See SAF 214
		3	Any products brought to campus?	Provide MSDS on site prior to first use; Make available to OSU on request
		4	Will lead paint be impacted?	Describe plan to limit contamination
		5	Will asbestos-containing-material be impacted?	Coordinate with OSU asbestos manager
		6	Will <u>any</u> materials (construction debris, soil, water, etc) be removed from campus?	Describe in detail identity and disposition of material (how, where)
		7	Any open trenches or holes?	Describe isolation procedures (see Page 1)
		8	Will a crane be used?	Describe crane safety plan (include plan to prevent loads above occupied areas)
		9	Is this project building a new facility, a major remodel?	Provide Site Safety plan Describe isolation procedures (see Page 1)
		10	Is this a minor remodeling project?	Provide, or fill out model Site Safety Plan form (see Page 3) Describe isolation procedures (see Page 1)
		11	Will air contamination be produced (e.g. dust, CO, solvent vapors, VOCs, odors)?	Describe project ventilation and isolation Indicate position of building air intake(s)
		12	Will there be noise > 85 dB?	Describe noise minimization plan
		13	Will this project use a scaffold or an external chute?	Describe isolation, dust control, installation
		14	Will this project involve a working surface >6' above a lower level	Describe fall protection
		15	Will any "blind" saw-cuts or penetrations be made in existing foundations, floors, ceilings and/or walls?	Describe plan for detecting and protecting power lines or other building utility lines.

EH&S Review: _____ Date: _____

Model Site Safety Plan

1. General Information

Contractor name_____
Address_____
City, State, Zip_____
Site Safety Officer_____ Project Dates_____
Project Name_____

2. Emergency Information

Emergency Response	911	OSU EH&S and OSU Facilities Services must be notified in the event of an emergency
Hazardous Materials Spill		
MSDS on-site location		
OSU EH&S	(541) 737-2505	
Facilities Services	(541) 737-2969	

3. Contractor Key Personnel

	Name	Phone	Emergency Contact
Company Owner			
Project Manager			
Job Supervisor			
Site Safety Officer			
Other Responsible Individual			
24 Hour Notification			

List of employees on site _____

_____

_____

4. Hazard Evaluation/ Facility Impact	
Physical	**Yes / No**
Heavy Equipment	
Noise	
Heat	
Elevation	
Radiation Materials	
Excavations	
Underground Utilities	
Confined Spaces	
Fire Prevention	
Electrical	

5. Emergencies
Services
Evacuation Route
First Aid Location
Hazardous Materials Spill Procedure

6. Work Zones

Material Storage_____
Parking locations_____
Individuals with OSU keys_____
Access issues_____

7. Security measures_____

_____

_____

8. Fire protection _____

SECTION 01 56 39

TREE AND PLANTING PROTECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Section includes temporary fencing, barricades, and guards to protect trees, plants and groundcovers not indicated to be removed, as necessary and required to prevent damage above and below grade.

1.02 DEFINITIONS

A. Dripline: Outer perimeter of branches of any tree or plant.

B. Groundcover: Includes but not limited to plants and grass.

1.03 PERFORMANCE REQUIREMENTS

A. The Contractor shall exercise utmost care to protect existing trees and plants designated to remain and shall comply with all protection requirements provided by Owner and City of Corvallis as conveyed through the Owner's Authorized Representative.

B. The Contractor shall install tree protection fencing as detailed and shall prevent damage to shrubs, groundcover, trees, root systems, soil, bark, foliage, branches and limbs due to construction activities, including but not limited to:
   1. Soil contamination, erosion, and compaction.
   2. Excessive wetting, and ponding due to storm water, and construction run-off.
   3. Alteration of grade, stockpiling of soil, debris, and materials.
   4. Damage to soil, roots, bark, trunk, limbs, branches, and foliage.
   5. Prevent unauthorized cutting, breaking, skinning and bruising of roots, branches, and bark.

1.04 SUBMITTALS

A. Procedural proposal for tree and plant protection, describe methods of protection, and stabilization, provide drawings and supporting documentation as directed.

B. Contractor's Condition Inspection; include written report and color photographs.

1.05 PROJECT CONDITIONS

A. Install protection during initial mobilization at the Work site, and maintain until substantial completion.

B. If, in the opinion of the Owner's arborist, additional protection is required, the Contractor shall install additional fencing as directed and without cost to the Owner.

C. The location and requirements for additional fencing shall be determined by the

Owner's arborist prior to, and at any time during the course of the Work.

D. Fencing:
   1. Fencing shall be installed at the tree and plant protection areas as detailed on Plans, or as directed by the Owner's Authorized Representative.
   2. Tree and plant protection fences shall remain in place until all Work is completed and shall not be removed or relocated without the approval of the Owner's Authorized Representative.

E. Driving and Parking:
   1. Not permitted off paved surfaces without the approval of the Owner's Authorized Representative.
   2. When approved, the Contractor shall place plywood of sufficient thickness and width to support vehicles and prevent rutting on the area to be driven on.
   3. Care shall also be taken with respect to existing lawn sprinkler systems.

F. Storage of materials and Debris: Not permitted off paved surfaces.

PART 2 PRODUCTS

2.01 MANUFACTURED COMPONENTS

A. Chain Link Fencing: 11 gage galvanized chain link, six feet. tall, and 1.5 inch inside diameter galvanized steel line posts and 2.5 inch inside diameter corner posts, provide lockable gates as necessary.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Inspect trees, plants, and groundcovers, document existing conditions prior to installation of protection.

3.02 EXECUTION

A. Pruning and Cutting of Roots, Branches and Foliage:
   1. Review conditions with Architect or Owner prior to need for work, and proceed as directed.
   2. All pruning to be done by Owner's landscape maintenance personnel or ISA Certified arborist under the direction of Owner's Landscape Management Department.

   3. Perform pruning and cutting with sharp instruments intended for the purpose; do not break or chop.

B. Root Cuttings:
   1. Carefully and cleanly cut roots and branches of trees indicated to be left standing where such roots and branches obstruct new construction.

2. Protect exposed roots with wet burlap until they can be covered with soil.

C. Excavation and Trenching Within Drip Lines:
   1. Permitted where indicated, and at other specifically approved locations.
   2. Tunnel under or around roots by hand digging or boring.
   3. Do not cut main lateral roots and tap roots over one inch diameter; cut smaller roots which interfere with installation of new Work.
   4. Do not allow exposed roots to dry out before permanent backfill is placed; provide temporary earth cover, or pack with peat moss and wrap with burlap.
   5. Water and maintain roots in moist condition and temporarily support and protect from damage until permanently relocated and covered with backfill.

D. Existing Grading: Maintain within drip line of trees and plants unless otherwise indicated on the drawing and approved by the Owner's Authorized Representative.

E. Tree Protection:
   1. Provide temporary fence complying with Section 01 51 00 for protection of trees to remain.
   2. Extend fencing ten feet beyond dripline, except where greater distance is required for protection of Elm trees.
   3. Prevent entry into protected areas except as authorized in writing by the Owner's Authorized Representative.

3.03 REPAIR AND REPLACEMENT OF TREES AND PLANTS

A. Repair trees or shrubs damaged by construction operations as directed by the Owner.

B. Make repairs promptly after damage occurs to prevent progressive deterioration of damaged trees.

C. Damaged Trees, Shrubs and Groundcover:
   1. Replace where Owner's Authorized Representative determines restoration to normal growth pattern is not possible; plant and maintain as directed.
   2. Replacement trees up to 13 inches caliper and shrubs up to 4 feet tall: Same size as damaged tree or shrub, species selected by the Owner's Authorized Representative.
   3. Trees over 13 inch caliper and shrubs greater than 4 feet tall: Compensate Owner as determined by an acceptable consulting arborist registered with the American Society of Consulting Arborists.
   4. Replacement groundcovers: Same size and quality as damaged species selected by Owner's Authorized Representative.

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Summary:
   1. Product options.
   2. Owner-furnished products.
   3. Product delivery, storage and handling.

1.02 PRODUCTS

A. Products:
   1. New material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.
   2. Products may also include existing materials or components specifically identified for reuse.

B. Use interchangeable components of the same manufacture for similar components.

C. Unless otherwise specified, all material and equipment shall be new; free from defects impairing strength, durability, and appearance; of current manufacture.

D. Items specified shall be considered minimum as to quality, function, capacity, and suitability for application intended.

E. Items incorporated into the Work shall conform to applicable specifications and standards designated, and shall be of size, make, type, and quality specified.

F. Design, fabricate, and assemble in accordance with current best engineering, industry, and shop practices.

G. Manufacture like parts of duplicate units to standard size and gauge to make them interchangeable.

H. Two or more items of the same kind shall be identical and made by the same manufacturer.

1.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

C. Products Specified by Naming One [or More] Manufacturer[s]: Products of manufacturer[s] named and meeting specifications, no options or substitutions allowed.

D. Substitution Procedure: Under Section 01 25 00.

1.04 REUSE OF EXISTING PRODUCTS

A. Except as specifically indicated or specified, materials and equipment removed from existing construction shall not be used in the completed Work.

B. For material and equipment specifically indicated or specified to be reused in the Work:
   1. Use care in removal, handling, storage, and reinstallation to assure proper function in the completed Work.
   2. Arrange for transportation, storage, and handling of products which require off-site storage, restoration, or renovation.
   3. Remove and reinstall mechanical units, vents, guys, antennae, and electrical and grounding wires or conduits.

1.05 OWNER FURNISHED PRODUCTS

A. Designate delivery dates of Owner-furnished items in the construction schedule.

B. Receive, unload, store and handle Owner-furnished items at the site; protect from damage.

1.06 DELIVERY, STORAGE AND HANDLING

A. Transport, handle, store and protect products in accordance with manufacturer's instructions.

B. Arrange deliveries in accordance with construction schedules; coordinate to avoid conflict with Work and site conditions.

C. Deliver and store products in undamaged condition in manufacturer's original containers or packaging with identifying labels intact and legible.

D. Inspect shipments to assure compliance with Contract Documents and reviewed submittals, and that products are undamaged.

E. Prevent soiling or damage to products or packaging.

F. Interior Storage: Maintain required temperature and humidity ranges. Verify that Owner furnished storage meets product manufacturer's requirements.

G. Exterior Storage:
   1. Store materials above ground to prevent soiling and/or moisture infiltration.
   2. Cover materials with waterproof breathable sheet coverings; provide adequate ventilation.
   3. All storage locations to be approved in advance by the Owner.

H. Arrange storage to provide access for inspection.

I. Coordinate with Owner’s Authorized Representative all on-site storage

activities.

J. Provide for security of stored products.

END OF SECTION

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements and limitations for cutting and patching of Work.

1.02 RELATED SECTIONS

A. Section 01 25 00, Product Substitution Procedures.

B. Section 01 33 23, Shop Drawings, Product Data, Samples

1.03 SUBMITTALS

A. Submit written request in advance of cutting or alteration which affects:
   1. Structural integrity of any element of the Work.
   2. Efficiency, maintenance, or safety of any operational element.
   3. Visual qualities of sight exposed elements.
   4. Work of Owner or separate contractor.

B. Include in request:
   1. Identification of project.
   2. Location and description of affected work.
   3. Necessity for cutting or alteration.
   4. Description of proposed work, and products to be used.
   5. Alternatives to cutting and patching.
   6. Effect on work of Owner or separate contractor.
   7. Written permission of affected separate contractor.
   8. Date and time work will be executed.

PART 2 PRODUCTS

2.01 MATERIALS

A. Primary Products: Those required for original installation.

B. Product Substitution: For any proposed change in materials, submit request for substitution under provisions of Section 01 25 00.

PART 3 EXECUTION

3.01 EXAMINATION

A. Inspect existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.

B. After uncovering existing work, inspect conditions affecting performance of Work.

C. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Provide temporary supports to ensure structural integrity of the Work.

B. Provide devices and methods to protect other portions of the Work from damage.

C. Provide protection from elements for areas which may be exposed by uncovering work.

3.03 CUTTING AND PATCHING

A. Execute cutting, fitting and patching to complete work.

B. Fit products together, to integrate with other work.

C. Remove and replace defective or non-conforming work.

D. Provide openings in the work for penetration of mechanical and electrical work.

3.04 PERFORMANCE

A. Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.

B. Cut rigid materials using masonry saw or core drill. Pneumatic tools are not allowed without prior approval from Owner's Authorized Representative.

C. Restore work with new products in accordance with requirements of Contract Documents.

D. At penetrations of fire rated walls, partitions, ceiling or floor construction, completely seal voids with approved fire rated material, to full thickness of the penetrated element.

E. Refinishing:
   1. Refinish surfaces to match adjacent finish.
   2. For continuous surfaces, refinish to nearest intersection or natural break.
   3. For an assembly, refinish entire unit.

END OF SECTION

SECTION 01 74 00

CLEANING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Related requirements specified elsewhere, cleaning for specific products or work: Specification section for that work.

B. Maintain premises and public properties free from accumulations of waste, debris, and rubbish, caused by operations.

C. At completion of Work remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave project clean and ready for occupancy.

1.02 QUALITY ASSURANCE

A. Standards: Maintain project in accord with applicable safety and insurance standards.

B. Hazard Control:
   1. Store volatile wastes in covered metal containers.
   2. Provide adequate ventilation during use of volatile or noxious substances.

1.03 MATERIALS

A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.

B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

1.04 DURING CONSTRUCTION:

A. Wet down dry materials and rubbish to lay dust and prevent blowing dust.

B. At reasonable intervals during progress of Work clean site and public properties, and dispose of waste materials, debris and rubbish.

C. Provide on-site containers for collection of waste materials, debris and rubbish.

D. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off Owner's property.

E. Vacuum clean interior building areas when ready to receive finish painting, and continue vacuum cleaning on an as-needed basis until project is ready for Substantial Completion or occupancy.

F. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.

1.05 FINAL CLEANING

A. Employ experienced workers, or professional cleaners, for final cleaning.

B. In preparation for Substantial Completion or occupancy, conduct final inspection of sight-exposed interior and exterior surfaces, and of concealed spaces.

C. Remove grease, dust, dirt, stains, labels, and other foreign materials from exposed interior and exterior finished surfaces.

D. Remove putty, paint, labels, lubricants, etc., from windows, mirrors, and sash, and then polish, taking care not to scratch glass.

E. Vacuum carpeting (shampoo where required), removing debris and excess nap.

F. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.

G. Replace air filters where units were operated during construction.

H. Maintain cleaning until project, or portion thereof, is occupied by Owner.

END OF SECTION

SECTION 01 77 00

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 DESCRIPTION

A. The requirements specified in this section relate to all Contractors individually performing under these Contract Documents:
   1. Project Record Documents.
   2. Final review and payment.

B. Related work specified elsewhere:
   1. OSU General Conditions.
   2. Shop Drawings, Product Data and Samples, Section 01 33 23.

1.02 PROJECT RECORD DOCUMENTS

A. The Project Record Documents shall be organized to include the following information:
   1. Original Signed Warranty(ies) for work
   2. Original Signed Warranty(ies) for materials
   3. Original Signed Warranty(ies) as required in all the Specifications

B. One set of the Project Record Documents shall be submitted for review upon 75% completion of the Work.

C. Project Record Documents shall be submitted electronically to the Owner. Hard copies will not be accepted.

D. The project team list shall include the name, address, and phone number of the Owner, Contractor, Inspector, Subcontractors, and the materials manufacturers.

E. Legibly mark each Specification section to indicate actual as-built condition indicating changes in the Work made by addenda or change order or actual materials used and actual manufacturer(s) used.

F. Maintain current and accurate as-built mark-ups during construction and make available to Owner’s Authorized Representative upon request.

G. Legibly mark the drawings to indicate actual as-built conditions indicating changes in the Work made by addenda or change order or actual conditions which differ from the drawings.

H. Redraw or provide new drawings as required for a complete as-built set of drawings. The Contractor shall maintain current and accurate as-built mark-ups during construction and make available to Owner’s Authorized Representative.

I. Include inspection reports if applicable.

J. Include, in a single section, all copies of the Project’s labor and material warranties clearly marked to identify the Owner's responsibilities under the

terms of each warranty and the section of Work that each warranty covers. One set must be clearly marked as containing original documents.

K. In the case of an elevator installation, the Contractor's and manufacturer's warranty shall provide for the Owner's right to respond to emergency/car failure situations for the purpose of extricating individuals trapped in the elevator.

L. Include maintenance instructions complete with technical information and name, address, and phone number of the Contractor(s) and manufacturer(s) of each material and product.

1.03 FINAL REVIEW AND PAYMENT

A. Prior to completion, the Contractor shall inspect the Work and make a Punch-list noting all items that are incomplete and/or incorrect.

B. The Contractor shall notify all Subcontractors in writing of incomplete and/or incorrect items. Notify far enough in advance of the completion date that the Work can be completed on schedule. Said Work shall be immediately corrected.

C. Should conditions prevail which prohibit some elements of the Work from being accomplished, but the work-in-place will perform the primary function (i.e., painting cannot be completed due to high moisture content of masonry walls.) the Contractor shall record the reason with this Punch-list item requesting temporary delay in completion from the Owner in writing.

D. Notify the Owner in writing that all items are completed and ready for final review or else that the Work product is fully usable, but some listed deficiencies remain to be completed. Submit all record documents at this time.

E. The Owner will review all documents. When the documents include a Contractor's request for delay in completion, the Owner will review all Work which is certified as complete to the best knowledge of the Contractor. The Owner will also review the listed incomplete Work and assign a value to such uncompleted work.

F. The Contractor shall make the required corrections to the Work expeditiously. A letter will be addressed to the Contractor informing the Contractor of the project status.

G. When Contract closeout procedures are completed and all Punch-list deficiencies have been corrected, provide Owner with final corrected Project Record Documents based on Owner’s preliminary review. Correct Project Record Documents shall be in electronic format.

H. Final Completion by the Owner will be documented and the Contractor will receive written notice of acceptance of the Work and notification that final payment may be billed and released.

I. All warranties shall commence and become effective beginning on the date of Substantial Completion.

END OF SECTION

SECTION 01 11 00
SUMMARY OF WORK

1.01 GENERAL

A. PROJECT IDENTIFICATION:

(1) Project Name: Student Legacy Park Resurfacing

(2) Address: 425 SW 26th St.

(3) City/St/Zip: Corvallis, OR 97331

B. CONSULTANTS

(1) Project Architect: D.A. Hogan & Associates, Inc.

1450 114th Ave SE
Bellevue, WA 98004

(2) Civil Engineer: PBS Engineering & Environmental, Inc.

Vancouver, WA

C. ABBREVIATED WRITTEN SUMMARY – BASE BID

(1) General Description of the Work:

a) Temporary Erosion & Sediment Controls and Temporary Security Fencing.

b) Removal & Disposal of Existing Synthetic Turf Surfacing, Remediation of existing aggregate base deficiencies, Installation of new synthetic turf surfaces, at two (2) multipurpose fields.

c) Removal & Salvage of Existing Tennis Nets & Net Posts, Removal & Disposal of Existing Fence Fabric and Windscreens, Cleaning & Jetting of Existing Trench Drains, & Cleaning of six (6) Existing Outdoor Tennis Courts. Cleaning of one (1) Basketball Court. Removal of partition netting, tennis nets and net posts, and cleaning of four (4) indoor tennis courts. Pre-leveling and application of new acrylic tennis court surfacing on ten (10) tennis courts and one (1) Basketball Court. Installation of new chain link fence fabric and wind screens. Installation of new indoor court partition nets.

d) Cleaning and repair of polyurethane-based (rubberized) track surfacing, and application of new pigmented (red), textured, polyurethane structural spray coats. Final cleaning and maintenance training.

e) Removal of existing Indoor, Non-Infilled Synthetic Turf and Resilient Underlayment. Cleaning & Removal of Adhesive Residue form Concrete Floor. Remediation of Deficiencies to existing Wood Threshold. Installation of new Indoor, Non-Infilled Synthetic Turf Surfacing and Markings.

(2) Schedule and Duration of the Work

Site Occupancy / Mobilization will be authorized on or about June 19, 2023. The Contractor shall achieve Substantial Completion within Eighty (80) Calendar Days of the Notice to Proceed. Contract Substantial Completion is required no later than September 15, 2023.
Final Completion is anticipated on or about October 13, 2023.
All Dates are contingent on the timely execution of the Contract Agreement and will be adjusted accordingly.

D. ABBREVIATED WRITTEN SUMMARY – ALTERNATE BID ITEM 1

(1) General description of the work – Alternate Bid Item 1, E-Layer at SLP West and East Recreational Athletic Fields, adds a paved-in-place 25mm paved-in-place elastic layer supplemental pad system on the prepared Field Aggregate Base(s).

(2) No additional time is associated with Award of this Alternate.

E. ABBREVIATED WRITTEN SUMMARY – ALTERNATE BID ITEM 2

(1) General description of the work – Alternate Bid Item 2, Alternative Infill Materials at SLP West and East Recreational Athletic Fields, substitutes granular cork and spec sand for the base bid infill. This Alternate will only be Awarded in conjunction with Award of Alternate Bid Item 1.

(2) No additional time is associated with Award of this Alternate.

F. ABBREVIATED WRITTEN SUMMARY – ALTERNATE BID ITEM 3

(1) General description of the work – Alternate Bid Item 3, Alternative Synthetic Turf Product at SLP West and East Recreational Athletic Fields, allows the bidder to propose an unspecified synthetic turf

product, perhaps proprietary. Bidders must submit a comprehensive Product Description with their Bids. Refer to Section 32 18 24, paragraph 2.11.B.4 for additional information.

(2) No additional time is associated with Award of this Alternate.

G. ABBREVIATED WRITTEN SUMMARY – ALTERNATE BID ITEM 4

(1) General description of the work – Alternate Bid Item 4, SLP Fields Fencing, includes removal of all fence fabric, rails, and hardware, reinstallation of all hardware with “offset” type bands and clamps with existing rails, to the field side of the posts. Replace all “eye top” top rail hardware on 4’ fences with boulevard-type clamps & set screws. Reinstall existing chain link fabric above 10’ ht. Install new chain link fabric (as specified) on the field side of the framing, at SLP West and East Recreational Athletic Fields.

(2) No additional time is associated with Award of this Alternate.

H. ABBREVIATED WRITTEN SUMMARY – ALTERNATE BID ITEM 5

(1) General description of the work – Alternate Bid Item 5, SLP Plaza Improvements, includes additional Temporary Erosion & Sediment Controls, Sod Stripping & Excavation including Hand-Work within Sensitive Tree Root Zones, Irrigation Systems Selective Demolition & Reconfiguration, Installation of Pre-Engineered Tensioned-Fabric Shade Structures including Structural Engineering Design, Installation of Root Barriers and Synthetic Turf Edge Anchors, and Installation of Ballasted Landscape Synthetic Turf.

(2) No additional time is associated with Award of this Alternate.

I. ABBREVIATED WRITTEN SUMMARY – ALTERNATE BID ITEM 6

(1) General description of the work – Alternate Bid Item 6, Sand Volleyball Improvements, includes additional Temporary Erosion & Sediment Controls, Sod Stripping & Excavation, Irrigation Systems Selective Demolition & Reconfiguration, Installation of Pre-Engineered Tensioned-Fabric Shade Structures including Structural Engineering Design, Installation of Aggregate Base and Concrete Flatwork, Installation of Synthetic Turf Edge Anchors, Installation of Non-Infilled Landscape Synthetic Turf, Installation of Site Furnishings, and Installation of 4’ Architectural Fencing.

(2) No additional time is associated with Award of this Alternate.

J. SELF-PERFORMED WORK REQUIREMENT

(1) "Self Performed", for the purposes of this requirement, shall indicate that the labor component only, of work elements totaling the percentage of the total Contract Value required, is performed by payrolled employees of the Bidder/General Contractor to whom the Contract is Awarded.

(2) The General Contractor must Self-Perform a minimum 10% of the Total Contract Value Awarded. Alternates may or may not be included in this calculation depending on the scope of the Awarded work, and at the discretion of the Owner.

K. CONTRACTOR QUALIFICATIONS

(1) The Qualifications of the Contractor or Subcontractor(s) responsible for Field Permeable Aggregate Remediation, Athletic Field Synthetic Turf Installation, Tennis & Basketball Surfacing, Jogging Track Re-Spray, and Alt. 1 E-Layer Installation shall be submitted to the Architect for review within 24 hours of written request by the Owner. Specific qualification requirements that must be demonstrated within the Contractors response are as follows:

a. Contractor shall be and shall have been actively and directly engaged in constructing similar natural or synthetic field projects, operating under the current Business Name and UBC Number for a period of five (5) or more years, and shall provide proof of ten (10) or more similarly sized installations completed in the past three (3) years.

b. For each included facility, include Project Name, Completion Date, a brief description of the size and scope of work of work performed, and up-to-date Contact information for the Owner's Representative and/or Facility Manager at the time of completion. Projects for whom the named Contact cannot be located or contacted in a timely manner may be removed from the list.

1.02 CONTRACTOR USE OF PREMISES

A. BUILDING ACCESS: Contractor shall coordinate all necessary building access with University Staff, and shall be responsible for building lock-up for all off-hours Work. All after-hours Work shall be scheduled with the Owner in advance.

(1) Contractor will be allowed access to the Project site during the following times: Work shall be generally performed during normal working hours of 7:00 AM to 7:00 PM, Monday through Friday, and Saturdays 9am – 5pm, except as otherwise indicated.

(2) Access to the Project site during times outside of the above time must be authorized by the University. If access is authorized, keys will be issued to the Contractor and procedures explained for proper coding in and out of building security systems. Contractor shall be responsible for security of the building.

(3) All keys must be returned to the University prior to Substantial Completion of the Project. Charges for unreturned keys shall be based on the actual costs necessary to re-key all locks affected by the loss.

(4) Contractor shall reimburse the University for all costs associated with inadequate security or locking up procedures and for false alarms due to after-hours Work.

B. SITE ACCESS: The Contractor's access to the Project site shall be limited as shown on the Contract Documents unless otherwise approved by the Owner.

(1) Construction staging area: All construction equipment and supplies shall be stored in this area.

(2) Parking: There is limited parking on the site. The Contractor and its employees shall park only in the areas designated on the Approved Staging Plan, or identify shuttle options.

C. Contractor shall keep driveway and entrances clear at all times. Contractor shall not use these areas for parking or storage of materials. Contractor will schedule deliveries to minimize requirements for storage materials on site.

D. Contractor shall protect all existing properties, equipment, structures, and finishes in the building and on the site from any damage related to construction. Contractor is responsible for replacement should any damage occur.

E. ENCLOSURE FENCE: Contractor shall install an enclosure fence with lockable entrance gates to enclose equipment, materials and the construction area as required to ensure safety of persons using the site after hours. The enclosure fence shall be constructed of portable chain

link fence panels, or fence posts driven into the ground, with chain link fabric attached to the posts.

1.03 OWNER OCCUPANCY

A. PARTIAL OWNER OCCUPANCY: The Owner reserves the right to place and install equipment as necessary in completed areas of the building/site and to occupy such completed areas prior to Substantial Completion.

B. The University campus will be occupied during the University year as defined by the Owner and the University calendar. The Contractor and its Subcontractors shall take this into account in their bids and coordinate their Work as required, taking into consideration the following:

(1) Access and safety for students, University employees, and others involved in the operation;

(2) Access to existing buildings and public safety as required by governing agencies;

(3) Time required for notice to schedule Work in occupied areas (48 hours minimum);

(4) Coordination and cooperation in all phases of the Work with the Architect, and University staff;

(5) Students will have full access to the site outside of the construction areas which will be fenced in by the Contractor. It will be the Contractor's responsibility to provide gate operators and spotters to avoid conflicts between student access and movement of equipment, materials, vehicles, personnel, etc.; and

(6) No overhead Work shall be allowed in any area where students or staff will be circulating or congregating.

(7) In addition to conforming to the noise ordinance of the authority having jurisdiction, the contractor shall limit noise to a decibel level of dBA 35 measured inside occupied classrooms during student testing periods, as defined by the Owner.

1.04 OWNER FURNISHED ITEMS

A. Certain items, designated by the Drawings by the abbreviation, "FOIC" and "NIC"—"furnished by Owner and installed by Contractor," and "not in Contract," respectively—will be furnished by the Owner. Items for installation by the Contractor will be furnished to the Project site for

consignment to the Contractor. Owner shall assume responsibility for delivery in accordance with the construction schedule, obtaining installation drawings and instructions, submitting claims for transportation damages and arranging for guarantees and warranties. Contractor shall designate required delivery dates and shall assume responsibility of newly delivered items upon delivery to the site. Installation for all Owner furnished items shall include delivery to installation location, setting in place, building-in, leveling and attaching to walls, floors and/or ceilings, making mechanical and/or electrical connections and leaving items completely installed in operable condition satisfactory to the Owner and Architect.

Currently, there are no identified Owner Furnished Items.

END OF SECTION 01 11 00

SECTION 02 10 00
SITE PREPARATION

PART 1 - GENERAL

1.1 SUMMARY

A. Prepare existing recreational athletic facilities and surfaces and features to receive new work in compliance with State and Local requirements and as shown and specified.

B. Base Bid Work specified in this section includes, but is not necessarily limited to, the following:

1. Preservation and protection of all surrounding improvements to remain.
2. Temporary Site Security Fencing.
3. Temporary Erosion & Sediment Controls must be installed and maintained as required by Permit & per local code in all outdoor work spaces and adjacent roadways and paved surfaces.
4. Removal and Disposal of Existing Infilled Synthetic Turf.
5. Remediation of Existing Field Aggregate Base(s).
6. Cleaning of Existing Tennis & Basketball Courts.
7. Cleaning of Existing Rubberized Jogging Track.
8. Indoor Dust Control Measures.
9. Removal & Disposal of Indoor Non-Infilled Synthetic Turf & Pad.
10. Cleaning & Removal of Adhesive Residue on Existing Concrete Floor.

C. Alternate Bid Work specified in this section includes, but is not necessarily limited to, the following:

1. Selective demolition of existing utilities including irrigation systems.
2. Stripping, stockpiling, and off-site disposal of sod organics.

D. Prior to physically Mobilizing on site, the Contractor will prepare an Access & Staging Plan, including haul routes in and out of Campus, locations of strategic staging and laydown associated with the discrete elements of the work as Awarded, and secure the approval of the University.

E. Prepare & Submit for Approval a comprehensive digital photographic record of existing improvements in all work areas and immediate surroundings prior to mobilization, including embedded notation describing location and material, and existing damage or excessive wear.

F. Coordinate with the work of all other specifications.

1.2 RELATED WORK SPECIFIED IN OTHER SECTIONS

All Technical Specifications are Related to the Work of this Section.

1.3 EXISTING SITE CONDITIONS

A. Student Legacy Park construction was completed in 2011. While the Indoor Tennis Facility and McAlexander Field House were constructed long prior, the relevant improvements that are addressed by this project were also installed in 2011.

B. Bidders should be aware that the southern boundary of the project, Washington Way, is undergoing significant realignment and improvement, including underground utilities, channelization, signage, and pedestrian improvements. While significant conflict, including road closures and detours are a likely risk, the University will manage that potential proactively.

C. Bidders shall physically observe existing conditions in and around the subject Facilities including surrounding streets and sidewalks, vehicular and pedestrian traffic patterns, access points onto and across the open spaces, and the playing surfaces themselves prior to bidding.

D. McAlexander Field House is scheduled for closure during the scheduled Indoor Synthetic Turf Replacement. University Representatives will characterize the expected environment within the building during the construction window at the Pre-Bid Conference.

E. The Contractor shall contact the appropriate utility agencies for identification of underground utility locations. The contractor shall contact "Call Before You Dig" service at 1-800-424-5555.

F. The Contractor shall document all improvements encountered that are not otherwise represented on the drawings.

1.4 ACCESS, STAGING, & LAYDOWN

A. The Contractor shall work from an Approved Access & Staging Plan, submitted and approved prior to Mobilization.

B. For all Base Bid Work within Student Legacy Park, it is anticipated that the Contractor will propose multiple laydown areas strategically associated with the discrete scopes of work that are directly aligned with the work sequence. Examples include the following;

1. SLP Plaza Parking Lot (A4), located on Washington Way at the south end of the Plaza between the West and East Fields.
2. SLP Plaza Pavilion, a covered, open shelter centrally located within the Plaza between the West and East Fields.
3. SLP Plaza hardscape. In the event that Alternate Bid Work associated with the SLP Plaza Improvements is Awarded, all surfaces including grass, not within the critical root zone of trees, may be available.
4. Basketball Court, located at the north end of the Plaza between the West and East Fields.
5. Indoor Tennis Pavilion, located along Washington Way west of Parking Lot A4.
6. For the McAlexander Field House work, space will be identified in the adjacent parking lot for Contractor laydown.
7. For Alternate Bid Work at Sand Volleyball, the Contractor should assume staging directly on the work, utilizing the access identified and the enclosed area adjacent to Dixon Recreation Center.

C. All Laydown Areas shall be secured with temporary security fencing, unless otherwise approved in writing by the University.

1.5 TEMPORARY EROSION AND SEDIMENT CONTROLS

A. While somewhat limited within the Project Limits of Disturbance, the Contractor shall be aware of all downstream storm drainage inlets and drainage swales that may be affected by work, and whether these are shown in the drawings, provide adequate protections from sediment laden waters leaving the site, including installation of Catch Basin Protection in all CB's within 300' of all Construction Entrances and Staging Areas.

1.6 PROTECTION OF EXISTING IMPROVEMENTS

D. The Project Elements, both Base Bid and Alternates, are located within a fully developed, urbanized environment of established landscapes, pavements, site furnishings, and structures. The Contractor will provide such protections as necessary to prevent damage to any and all improvements.

E. Due to the scale of the project site, it will be the Contractors responsibility to determine access routes to the individual works sites and the best practices and protections required to achieve zero damage(s), and to replace any and all damaged existing improvements to remain in-kind, or the current University Development Standard.

1.7 TRAFFIC REGULATION

A. Conduct operations in such a manner to avoid unnecessary interference to existing traffic. Minimize heavy vehicle traffic to and from site during peak traffic hours. Do not park or queue vehicles in traffic lanes. Provide flaggers as required. Conform to City traffic control requirements.

B. Contractor shall be responsible for all traffic control and emergency call outs resulting from Contractor operations.

C. Maintain fire lanes, roadways and alleys to existing buildings continuously, as required by the fire department having jurisdiction.

D. Existing walkways and roadways leading past the construction shall remain clear and safe at all times. Provide barriers, flashing lights, walkways, guardrails and night lighting as required for safety and control.

E. Coordinate use of the site with the Owner's scheduled uses, including but not limited to work associated with the Washington Way Improvements.

1.8 DIMENSIONS AND LAYOUT

A. The Contractor shall be responsible for furnishing, setting and marking all line, grade, and location stakes, including offsets and general construction staking.

B. The Contractor is responsible for preserving all benchmarks and stakes and replacing any that are displaced or missing as a result of the Contractor's operations.

C. The Contractor is responsible for review of all Owner and city records relative to the existing underground utilities. The Contractor is responsible to avoid damaging these facilities and shall repair all recorded utilities at no additional cost to the Owner.

D. The Contractor shall to notify the Owner's Representative immediately of underground utilities encountered, which are not shown on the Owner's record.

PART 2 – PRODUCTS

2.1 TEMPORARY SECURITY FENCING

A. Temporary Chain Link Fencing: Prefabricated portable galvanized chain link fence panels including fabric, posts, top and bottom rails, and driven

posts with rolled fabric & wire ties for areas of uneven terrain, as approved.

1. Prefabricated portable fence panels must be minimum 6 feet high by maximum 10 feet wide. Post bases must be minimum 16 inches by 8 inches by 8 inches high concrete pier with sleeve for post, or as approved by the Engineer. Prefabricated portable temporary fence panels must be constructed to industry standards for fixed chain link fencing.
2. Posts - minimum 1-1/2" Schedule 40 galvanized steel pipe.
3. Fabric - minimum 11 gauge galvanized two-inch diamond mesh steel wire interwoven. Knuckled or twisted selvage is acceptable.
4. Bracing: Provide additional panels or outriggers as necessary to provide a rigid, stable run of fence.
5. Driven Post Fencing:
6. Posts – minimum 1-1/2" Schedule 40 galvanized steel pipe.
7. Fabric - minimum 11 gauge galvanized two-inch diamond mesh steel wire interwoven. Knuckled or twisted selvage is acceptable.
8. Wire Ties – minimum 9-gauge aluminum wire.

B. Gates must be 20 feet wide (two prefabricated panels) with double padlocks to allow Contractor and Owner vehicle entry. Hinged sides of each operating panel must include double bracketing. The Owner will provide one (1) lock keyed for City personnel at each entry. The Contractor must provide a lock keyed for Contractor and Subcontractor use at each entry.

C. Signage: Provide warning signage every 100' of running fence line. Signage must be a minimum of 18" square, brightly colored with contrasting lettering. Text to read as follows, or as otherwise approved by the Engineer:

WARNING
CONSTRUCTION
KEEP OUT

D. Barbed wire is not allowed.

E. Temporary PVC Fencing (As Approved)

1. 4' wide rolls Orange PVC Web Fencing may be utilized for low security and tree protection applications when approved.
2. Supporting posts must be formed of 6' lengths of #5 steel reinforcing bar (5/8" nominal diameter) or approved equal.
3. Supporting post protruding ends must be fitted with OSHA-approved safety caps for #5 steel reinforcing bar.

2.2 TEMPORARY EROSION & SEDIMENT CONTROLS

A. Filter Fabric Silt Fence

1. Filter fabric material shall meet the following:

   a. AOS (ASTM D4751) = 50-100 sieve size (0.30-0.15 mm)
   b. Water Permittivity (ASTM D4491) = 0.02 sec-1 min.
   c. Grab Strength (ASTM D4632) = 100 lbs min.
   d. UV resistance (ASTM D4355) = 70% min.

2. Washed gravel backfill shall meet the requirements of Top Course Permeable aggregate per Section 33 46 23 or approved equal.

B. Catch Basin Inserts

1. Provide catch basin inserts in accordance with the contract documents and appropriate sized for the structure it is proposed to be installed in per manufactures recommendations. Insert shall be appropriately sized for the structure in which it is installed per manufacturer's recommendation.

2.3 FIELD BASE AGGREGATE

A. For remediation of field top course permeable aggregate, refer to Section 31 46 23 Permeable Base Aggregate

PART 3 - EXECUTION

3.1 FIELD LAYOUT AND ENGINEERING

A. The General Contractor shall be responsible for the layout of all the preparation and demolition work required to construct all work in accordance with the drawings and specifications.

B. Underground Utilities

1. Irrigation work shall be assumed to be as located and shown on the plans. Notify the Engineer immediately of all conflicts or inaccuracies encountered.
2. Irrigation piping is shown diagrammatically. Sprinkler heads are shown literally. The Contractor may adjust head locations as required to achieve the intended coverage with advanced notice and approval. Piping shall be laid out in the most efficient manner

possible approximating the routing described, with proper pipe clearances accounted for.

3.2 TEMPORARY FACILITIES

A. Site Security Fencing

1. Maintain adjacent walkways with adequate, safe clearance.

2. Allow for additional “outrigger” panels oriented perpendicular to straight runs in excess of 8 panels (80’) to maintain stability.

3. Panels shall be secured using two (2) through-bolted panel frame clamps per connection. No wired connections shall be permitted.

4. Vehicle Access Gates shall utilize two 10’ wheeled panels each.

B. Catch Basin Protection

1. Install CB Protection where indicated and wherever stormwater inlets are encountered within the site limit of disturbance and within 300’ of all Construction Entrances, and Staging & Laydown Areas, including public streets, parking lots, hard surfaces, and vegetated areas.

2. Clean and replace CB Protection weekly or as directed. In areas where high accumulations of particulate materials or sediments are observed, inspect daily and maintain as necessary to eliminate restricted flows.

3. Remove CB Protection upon only as directed following establishment of Substantial Completion.

C. Sediment / Silt Fencing

1. Install Silt Fencing as shown or directed.

2. Remove and Replace as necessary to prosecute the work.

3. Remove soils and/or sediment accumulations regularly. Replace fabric when overly sediment loaded.

4. Request to remove Sediment Fencing in writing as the work progresses to the a point where the fencing is an obstruction. Remove only as approved.

3.3 DISPOSAL OF MATERIALS

A. The Contractor in a manner consistent with all government regulations shall dispose of all refuse resulting from selective demolition.

1. Remove and dispose of material daily. Do not stockpile refuse on site.
2. Maintain hauling routes clean and free of debris resulting from work of this section.

END OF SECTION 02 10 00

SECTION 03 30 00
SITEWORK CONCRETE

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Furnish all labor, material and equipment for the concrete work indicated below and shown on the drawings. Work includes but is not limited to:

1. Assist Engineer in acquiring test cylinders for compression testing where required or directed, including;
   a. Foundation concrete for Fence Posts over 6'
   b. Rugby Goal Foundations
2. Coordinate construction of formwork with the Layout & Construction Staking Surveyor
3. Construct concrete curbing, paving, slabs, and embedments as shown in the plans.
4. Install concrete footings for fencing, goals, etc.

1.2 STANDARD SPECIFICATIONS

A. Standard Specifications for Road, Bridge and Municipal Construction, American Public Works Association (APWA)

B. American Concrete Institute (ACI)

C. American Society of Testing and Materials (ASTM)

D. Oregon State University Design & Construction Standards, Section 32 10 00, paragraph 1.C.

1.3 RELATED WORK IN OTHER SECTIONS

31 00 00 Earthwork
31 22 16 Subgrade Establishment

PART 2 - PRODUCTS

2.1 BASE AGGREGATE

A. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at

least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve or use

B. Oregon Standard Specifications for Construction 1-inch-0-inch Base Aggregate.

2.2 FORMWORK

A. Forms: Wood, plywood, metal, other verified material to provide continuous, straight, structurally sound formwork and to produce specified concrete finish. Wood to be defect-free or properly corrected to provide straight lines and smooth, even surfaces.

B. Form-coating compound: Commercial formulation form-coating compound that will not bond with, stain, nor adversely affect concrete surfaces requiring bond or adhesion, nor impede the wetting of surfaces to be cured with water or curing compounds, nor interfere with subsequent applications of finish such as paints or stains.

C. Miscellaneous: Verified-type material and hardware for forming chamfers, recesses, openings, control joints, etc.

D. Design of Formwork

1. Design of formwork is Contractor's responsibility. Conform to shape, lines, and dimensions shown on the drawings. Design for adequate strength to sustain all construction loads without deformation or deflection.
2. Make joints tight to prevent leakage of mortar. Properly brace and tie together to maintain position and shape. Truss for support if adequate foundation for shores cannot be provided. Fabricate accurately to minimize development of irregularities at panel joints. Construct to accommodate control, expansion, or other type joints shown on the drawings or as specified.
3. Coordinate with all other trades to accommodate their work.

2.3 CONCRETE

A. Refer to APWA Standard Specifications Section 5-05, "Cement Concrete Pavement." Generally, 2400psi 5-1/2 sack mix.

B. Expansion Joints: Provide expansion joints at 10' o.c. maximum, equally spaced unless otherwise shown in the drawings.

C. Joint Filler: Use non-staining, non-extruding, compressible and resilient,

closed cell joint filler of neoprene foam conforming to ASTM D1752, Type RE-42. Joint fillers which contain or have been treated with oil, grease or bituminous materials are prohibited. Test joint fillers for compatibility with proposed sealant.

1. Acceptable joint filler: Neoprene Sponge Rubber joint Filler by the Burke Company, or other accepted by Project Representative.
2. Joint Sealant: ASTM C920, Grade NS, Class 25, Type M; multi-component, chemical curing, non-staining, non-bleeding, capable of continuous water immersion, non-sagging type; color to be selected.

D. Preformed Expansion Joint Strips: Vinylex Corporation “VP 1391”, or approved 1/2 inch wide vinyl joint strip with removable cap.

E. Control Joints: Provide control joints midway between expansion joints unless otherwise called for in the plans. Control Joints shall be sawn including a machined eased edge on each side of the joint.

F. Reinforcing: Utilize reinforcing as specified in the details.

G. Cast-in-place Concrete components

1. Aggregate: Clean, hard, durable particles of natural sand conforming to ASTM C33 for fine aggregate. Clean, uniformly hard, durable particles of gravel or crushed stone conforming to ASTM C33 for coarse aggregate.
2. Cement: Conform to requirements of ASTM C150. Use Type I or, at Contractor's option, Type III. Any change in type or admix use shall be at approved locations.
3. Ready-mixed Concrete: Conform to requirements of ASTM C94 Alternative #3.
4. Maximum Size of Coarse Aggregate: Conform to requirements of ACI 301, Paragraph 3.6.
5. Minimum Cement Content: Six sacks per cubic yard (540lb).
6. Admixtures: Conform to requirements of ACI 301 and ASTM C260 for air entrainment. Use of accelerators or water-reducing retarders is prohibited.
7. Maximum Water Content: Six gallons of water per sack of cement. Free of injurious amounts of oil, acids, alkali, salts, vegetable matter, and fit to drink.
8. Minimum Concrete Compressive Strengths: A minimum compressive strength of 3,000 PSI shall be achieved in 28 days using Type I cement and in seven days using Type III cement, unless otherwise shown on drawings.
9. Slump in Inches: Unless otherwise shown on drawings, conform to

ASTM C143 procedures for concrete to be vibrated: Maximum = 4", Minimum = 1".

10. Control Joints: Not less than 3/8" thick x 3/8" minimum depth with tooled edges.

PART 3 - EXECUTION

3.1 SUBGRADE ESTABLISHMENT

A. Establish subgrade at elevations required to achieve the slopes and finish grade elevations designated on the drawings. The Contractor shall schedule the Engineer for a subgrade inspection prior to installation of the concrete.

B. The subgrade shall be compacted to a minimum of 95% maximum dry density. The subgrade shall be moistened to minimize absorption of water from fresh concrete.

3.2 BASE AGGREGATE PLACEMENT

A. Place Concrete Base Aggregate in a single lift, allowing for compaction.

B. Grade to conform to the specified concrete depth, line, and grade.

C. Compact to minimum 95% modified proctor.

3.2 FORMWORK INSTALLATION

A. Conform to the requirements of each area of work including tolerances for horizontal and vertical dimension control, specifically as described for areas requiring conformance to referenced standards.

B. Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Prepare form surfaces by coating the contact surfaces of forms with a form-coating compound before reinforcement is placed.

C. The form-coating compounds shall be thinned only with thinning agent of type, and in amount and under conditions of the form-coating compound manufacturer's directions. Do not allow excess form-coating material to accumulate in the forms or to come into contact with concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.

D. Coat steel forms with a non-staining, rust-preventative form oil or otherwise protect against rusting. Rust-stained steel formwork is not acceptable.

E. Place and secure forms to correct location, dimension and profile. Assemble formwork to permit easy stripping and dismantling without damaging concrete.

F. Place joint fillers vertical in position, in straight lines. Secure to formwork during concrete placement.

3.3 CONCRETE MIXING AND PLACING

A. Conform to the requirements of ACI 301, Chapters 7 and 8, and ACI 304. Clean and free of all foreign matter, and all mixing and transporting equipment and subgrade and forms to receive concrete. Clean reinforcement of deleterious coatings.

B. Notice of intention to place concrete shall be given to the Engineer at least 24 hours before an intended pour.

C. Conform to ACI 305 "Recommended Practice for Hot Weather Concreting". Take steps to reduce concrete temperature and water evaporation by proper attention to ingredients, production methods, handling, placing, protection and curing.

D. Conveying: Conform to ACI 301, Paragraph 8.2. Convey concrete from mixer to place of final deposit by methods preventing separation or loss of materials. Use pump, crane bucket, wheelbarrow, or buggies to deliver concrete to placing location. Chuting permitted only by methods to ensure a practically continuous flow of concrete at delivery end to prevent material separation.

E. For walkways, curbing and slabs provide light broom finish and provide chamfer edges as shown in the details.

F. Curing Materials

1. Absorptive Cover: Burlap cloth made from jute or kenaf weighing approximately 9 oz. per square yard, complying with AASHO M182, Class 3.
2. Moisture-retaining Cover: Either waterproof paper, Polyethylene film, or Polyethylene-coated burlap, complying with ASTM C171.
3. Membrane-forming Curing Compound: ASTM C309, Type I, unless other type acceptable to the Engineer.

3.4 FORMWORK REMOVAL

A. All formwork shall be removed after proper curing of concrete. Protect surfaces of concrete during removal operations.

B. Formwork not supporting weight of concrete may be removed after cumulatively curing at not less than 50 degrees F for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations and provided curing and protection operations are maintained.

3.5 REUSE OF FORMWORK

A. Clean and repair surfaces of forms to be reused in work. Split, frayed, delaminated or otherwise damaged form-facing materials will not be acceptable for reuse. Apply new form-coating material as necessary, as specified for new formwork.

3.6 REPAIR OF SURFACE DEFECTS

A. General: Conform to ACI 301, Chapters 9 and 13. After removal of forms, repair or patch concrete not formed as shown, out of alignment or level beyond required tolerances or that shows surface defects, to condition as verified by Engineer. Immediately after form removal, patch all tie holes and repairable defective areas.

B. Honeycombed areas shall be removed to sound concrete but not less than 1" minimum depth. Dampen area and to 6" width around same; let evaporate only to loss of sheen. Provide a bond of neat cement and water slurry well brushed into area to be patched. Provide patching mixture of 1:2 (cement:sand) or verified proprietary patching mixture or color to match adjacent surfaces; use water quantity only as required for mixing and placing. Leave patched surface slightly high; after one hour, float to level with adjacent surface. Keep patched areas damp for seven days.

3.7 PROTECTION

A. Protect freshly-placed concrete from premature drying and excessive cold or hot temperature, and maintain without drying at a relatively constant temperature for a period of time necessary for hydration of cement and proper hardening. Provide protection from vandalism.

B. Protect all concrete during curing period from all damaging mechanical disturbances, more especially load stresses, heavy shock and excessive

vibration. Protect finish surfaces from all damage.

3.8 TOLERANCES

A. The surface elevation, in the finished condition, shall not deviate more than 1/8" from specified elevations. Trueness measurement to be taken from 10' long straight edge placed in all directions.

3.9 CLEANUP

A. At project completion, leave all work clean, defect-free, with uniform finish and color.

END OF SECTION 32 13 00

SECTION 11 68 24
EQUIPMENT AND FURNISHINGS

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. The work consists of supply, shipping, installation, technical support, and warranty service of various athletic equipment components as further specified and approved.

B. Where specifically stated, it is the responsibility of the Contractor to certify that the products or assemblies supplied meet or exceed the reference standards when installed per the manufacturers printed instructions.

C. The Contractor is responsible for transport of all equipment to the Contract site in a new condition. Products received in a condition that is in any way deficient shall be replaced.

D. The Contractor shall provide technical support to the Owner where necessary and as requested.

E. Equipment includes the following, as further described elsewhere;

1. Rugby Goals (1 set, w/pads) with Foundations including Hinge Bracket Assembly (2 sets)
2. Bench, OSU Std. Accessible (1)
3. Trash/Recycle Receptacle, OSU Std. (1)

1.2 REFERENCE STANDARDS

Oregon State University Design & Construction Standards

1.3 QUALITY ASSURANCE

A. Equipment supplied must be as per the previously approved Product Submittal.

B. Dimensional Accuracy

1. It is the Vendors responsibility to ensure that the dimensions of any product supplied meet those required by the Reference Standard claimed and the Contract layout plan.

C. Products must be received in a like new condition. Any materials that are scratched, dented, misshapen, missing parts or otherwise deficient upon unpacking shall be replaced by the vendor within 72 hours of notice by the Contractor.

PART 2 - PRODUCTS

2.1 RUGBY GOALS *(Review Note: Catalog Cut Sheets follow)*

A. 32’ Height Steel Tube Rugby Goal, powder coated white.

B. Foundation Base to include hinged base plate.

C. Sportsfield Specialties, Inc. model RG32H.

D. Provide two pair Sportsfield Specialties Rugby Goal Post Access Frame for synthetic turf applications per goal, model RGAFITH.

E. Provide four (4) total 6’ x11” Goal Post Pads, 18oz. outdoor vinyl, black with ‘OSU” screen printed vertically in orange. Sportsfield Specialties Inc. model RGPPRDG.

2.2 BENCH

A. Radius Pipe Bending, Inc. custom OSU accessible steel bench, 6-foot.

B. Provide with one open end (no armrest).

C. Powder coat: Cardinal BK78 Black.

2.3 TRASH & RECLEABLES RECEPTICLE

A. Combined 2-chamber receptacle with hood, manufactured by RJH Enterprises, Inc. Corvallis, OR.

B. Sorting configuration to be Bottles & Cans and Trash.

C. Shall hold Rubbermaid 23-gallon lightweight “slim jim,” have locking swinging doors that meet fire code for exterior use, and are constructed as per OSU Std. 32 33 00E.

D. Receptacles to be powder-coated Cardinal BK78 Black.

PART 3 - EXECUTION

3.1 SHIPPING

A. All products must be received in their original manufacturers shipping packaging, in new condition. Products found to be scratched, dented, marred, discolored, or otherwise defective shall be re-shipped within 72 hours of notice.

B. Return shipping of defective items will be paid for by the Contractor.

3.2 LAYOUT & FIELD ENGINEERING

A. Field Layout of embedded equipment is to be performed under the supervision of a licensed Land Surveyor.

B. Layout for all embedded equipment is to be performed in coordination and cooperation with the Contract Documents and the Approved Manufacturers Printed Installation Instructions.

3.3 INSTALLATION & ASSEMBLY

A. All products shall be assembled and installed in accordance with the Contract Documents, Approved Manufacturers Printed Installation Instructions, and the applicable Referenced Standard.

3.4 WARRANTY

A. All products shall be covered by a minimum 1 year warranty covering replacement, shipping, and assembly/installation.

END OF SECTION

SECTION 13 31 23
TENSIONED FABRIC STRUCTURES

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. This work is included in two separate Alternate Bid Items.

B. Complete Supply & Installation of select pre-engineered steel-post-supported tensioned fabric shade structures.

C. Work includes product data submittals, structural engineering design, permit coordination, knock-down & re-assembly training, maintenance training, and warranties.

1.2 ENGINEERING REQUIREMENTS

A. Engineering Data: Foundations and Structures shall be engineered to meet or exceed the requirements of the current International Building Code (IBC), and the following standard specifications:

1. Wind Speed (Frame only): 150 m.p.h.

2. Wind Speed (Frame w/canopy): 90 m.p.h.

3. Live Load: None

4. Snow Load: None

1.3 WARRANTY

A. Warranty: Shade Systems, Inc. warrants that the equipment sold will conform in kind and quality to the specifications listed in the Order Acknowledgment and will be free of defects in workmanship or materials. Shade Systems further warrants:
   1. Limited 20 Year Warranty on all upright posts and support structure frames against failure due to rust-through corrosion. This warranty excludes any cosmetic issues.
   2. Limited 10 Year Warranty on all CoolNet™ fabrics and GORE™ TENARA™ stitching thread against degradation, cracking or material breakdown resulting from ultra-violet exposure, mold, or mildew, as well as on Turn-N-Slide™ fastening device and cables.

This warranty excludes failure of fabric or threads due to chemical erosion.

3. Limited 1 Year Warranty for structural failure of moving parts, powder-coat finish, or any other product or part not covered by one of the above warranties.

The above warranties are not pro-rated. Please refer to the full text of our complete Limited Warranty for additional details and other important warranty information.

B. Insurance: Manufacturer shall show evidence of Commercial Product Liability/Completed Operations insurance coverage on its products in an amount of no less than $2,000,000 aggregate written on the Occurrence Form.

1.4 RELATED WORK IN OTHER SECTIONS

03 30 00	Sitework Concrete
31 00 00	Earthwork
31 46 23	Permeable Base Aggregate
32 18 24	Synthetic Turf Surfacing

PART 2 – PRODUCTS

2.1 TENSIONED FABRIC STRUCTURES

A. Posts, Structural Frame Tubing, And Hardware

1. All tubing used shall be cold-formed and milled per ASTM A-135 and ASTM A-500.

2. Material testing is in accordance with ASTM E-8.

3. Minimum yield is 40,000 psi with a minimum tensile strength of 45,000 psi on all posts.

4. Support pipes shall be schedule 40 black steel with appropriate pre-treatment for powder-coating.

5. All fastening hardware shall be stainless steel.

B. Welding

1. All tubing members are to be factory-welded by Certified Welders to American Welding Society (AWS) specifications and to the highest standards of quality workmanship.

2. Welds are to be finished with a zinc-rich galvanized coating.

3. No field welding shall be permitted.

C. Polyester Powder-Coating Process

1. Where applicable, all powder-coated parts are to be completely cleaned and a hot zinc phosphate pretreatment, with a non-chromic sealer is applied.

2. Powder-coating is to be electrostatically applied and oven-cured at 375 to 425 degrees Fahrenheit.

3. Polyester powders shall meet or exceed ASTM standards for Adhesion, Hardness, Impact, Flexibility, Overbake Resistance, and Salt Spray Resistance.

4. Color to be “Jet Black”.

D. Cover

1. Roofing: Sails are designed by Shade Systems only for use with CoolNet™ polyethylene shade fabric. Fabric is attached to posts using the Fastening Systems below in conjunction with vinyl covered minimum ¼” diameter stainless steel cables. Cable fasteners are zinc-plated copper for maximum corrosion resistance.
2. Fasteners: CoolNet™ Shade Fabric shall be delivered complete with fastening system installed. Fastening System to consist of factory-formed stainless steel tensioning plates pre-attached to fabric canopies at each corner, and cables per the above hemmed into the fabric at the factory and terminating in the bracket. Posts shall be equipped with an adjustable 360-degree swivel and pivot attachment mechanism to which the tensioning plate fastens. Tensioning plate includes a stainless steel adjustment bolt which, when turned, tensions the fabric for a taut fit. Fabrics, cables, and brackets which are not pre-assembled at the factory are not acceptable. Cables which attach to posts with u-bolts or ‘S’ hooks, or are removable, and which

do not use a stainless steel bracketing system with single attachment bolt similar to the above are not acceptable.

3. CoolNet™ Shade Fabric: Knitted of monofilament and tape construction high density polyethylene with Ultra Violet (U.V.) stabilizers and flame retardant. UV-Block Factor varies by standard color offered from 91% to 99%. Meet or exceed the following properties

    a. Nominal Thickness: 0.057 inches

    b. Fabric Mass: Min. 337 g/m2

    c. Light Fastness: 7-8 (Blue Wool Scale)

    d. Weather Fastness: 4-5 (Grey Scale Test)

    e. Tear Resistance: Warp 210N, Weft 276N

    f. Breaking Force: Warp 786N, Weft 1544N

    g. Bursting Pressure: Mean 3125kPa

    h. Bursting Force: Mean 1775N

4. Colors to be as follows, per plan;

Color	Wt. (G/M^2)	Shade %	UVR Block %
Fire Orange	400	82	94

PART 3 - EXECUTION

3.1 QUALITY CONTROL

A. All work is to be performed in conformance with the approved submittals & shop drawings, manufacturers engineering design, permit, and manufacturers printed installation instructions.

B. The work shall be performed under the supervision of a certified factory installer.

3.2 FOUNDATIONS

A. Refer to the manufacturers foundation structural engineering.

B. Refer to Section 03 30 00 for concrete requirements.

3.3 ASSEMBLY

A. All work is to be performed under the supervision of a certified factory installer.

B. Refer to the approved manufacturers printed installation instructions.

3.9 PROTECTION & CLEANUP

A. Protect the work in progress by wrapping and/or boxing installed support posts while other adjacent work continues.

B. At project completion, leave all work clean, defect-free, with uniform finish and color.

END OF SECTION 13 31 23

SECTION 31 00 00
EARTHWORK

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Furnish all labor, material and equipment for the earthwork indicated. Work includes but is not limited to the following:

1. Surface water and erosion control and management;
2. Layout and Engineering;
3. Management of the construction sequencing and scheduling relative to soil moisture content;
4. Stripping and stockpile of selected sod or grass and other organic material from project areas; load, haul, and offsite disposal of excess;
5. Onsite excavation and fills;
6. Trenching and controlled backfills for all utilities as may occur, specifically including irrigation and water systems;
7. Removal of all excess and unsuitable soil materials and legally dispose of offsite;
8. Compaction and establishment of subgrade;
9. Alert the Owner's Representative / Engineer immediately upon encountering unforeseen conditions or conditions detrimental to the intent of the work.

B. Classification of Excavated Materials

1. Excavated materials are generally not classified.
2. Excavation and trenching includes the removal and subsequent handling of all materials excavated or otherwise removed in performance of the work, regardless of the type character, composition or condition thereof.
3. Materials in excess of that required to complete the work become the property of the Contractor.

C. Native On-Site Materials in excess of that required to establish line and grade as shown and described elsewhere and specified herein, if any, and materials found to be unsuitable for that purpose shall be legally disposed of offsite.

D. Related Work in Other Sections:

03 30 00 Sitework Concrete
11 68 24 Equipment & Furnishings

31 22 16 Subgrade Establishment
31 46 23 Permeable Base Aggregate
32 80 00 Irrigation Systems

1.2 STANDARD SPECIFICATIONS

A. All sections of the standard specifications applicable to any and all parts of this project shall govern, except as specifically modified in these contract documents.

1. American Society for Testing and Materials
2. APWA - Standard Specifications for Road, Bridge and Municipal Construction, current edition.
3. AASHTO T176 - Plastic Fines in Graded Aggregates and Soils by use of the Sand Equivalent Test.
4. ASTM D1556-90 - Test Method for Density of Soil in Place by the Sand-Cone Method.
5. ASTM C136 - Standard Method for Sieve Analysis of Fine and Coarse Aggregate.
6. ASTM D1557-91 - Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lb/cu ft).
7. ASTM D6938-08a - Standard Test methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

1.3 EXISTING SITE CONDITIONS

A. Refer to drawings for topographical survey and existing condition information.

B. Owner not responsible for changes in the topography after survey record drawing verification was made or for accuracy of survey information.

C. Carefully maintain benchmarks, monuments and other reference points. If disturbed or destroyed, replace as directed. It is the responsibility of the Contractor to familiarize themselves with all records of existing utilities in area of site work.

D. The Contractor shall contact the appropriate utility agencies for identification of underground utility location. The contractor shall contact "Call Before You Dig" service at 1-800-424-5555.

1.4 SUBMITTALS

A. The Contractor shall submit a written earthwork plan to the Engineer for approval prior to commencing with any mass excavation or filling. The plan must be coordinated with the Contractor's construction schedule and shall

reflect and address the historical weather conditions during the proposed scheduling of the earthwork and grading phases. The plan shall also include:

1. Sequencing of the earthwork and grading activities;
2. Proposed equipment to be utilized;
3. Proposed stockpile location(s);
4. Surface water diversion and control;
5. Proposed protection methods for exposed soils, excavated stockpiled fill materials and trenches;
6. Soil drying procedures;
7. Phasing of the earthwork activities;
8. Any other information pertinent to the manner in which the earthwork and grading will be performed.

B. The Contractor shall submit a sieve analysis of each type of imported soil, sand, or aggregate material from an independent testing agency. Report must be current within reason as determined by the Architect. Review and acceptance of a sieve analysis does not constitute approval of the actual product installed, which may be subject to additional testing at any time.

C. Samples; Within 48 hours of direction by the Architect submit physical soil, sand, or aggregate samples (or provide on-site as agreed). Deliver in clearly labeled, secure, durable containers. Labeling to include product supplier, product code or trade name, geographical source (pit, quarry WSDOT id number and location), and the specification that the material is being submitted as satisfying, i.e., “31 00 00 2.3.B Pipe Bedding”.

1.5 EXISTING UTILITIES

A. It is the responsibility of the Contractor to familiarize themselves with all records of existing utilities in area of site work.

B. The Contractor will expose and verify size and, location and elevation of underground utilities and structures where conflicts might exist. This work shall be done sufficiently in advance to permit changes in the event of conflict without affecting the project schedule.

C. Should uncharted piping or other utilities be encountered, consult the Utility Purveyor and Owner immediately for instructions. Repair all damaged utilities to the satisfaction of the Engineer. The Contractor is responsible for all costs for damage to utilities shown on the drawings or identified by location service.

D. The Contractor shall carefully review the proposed site drawings, the topography and survey drawings, and shall confer with the Consultant

concerning scheduling of removal or alteration of these lines.

E. If weekend work or overtime work is scheduled, it shall be the Contractor's responsibility to contact the Consultant prior to commencing such work. If the Consultant deems it necessary, Contractor, at his/her own expense, shall employ plumbing and electrical personnel on a standby basis to secure and repair any utility lines which might be broken during the scheduled override period.

1.6 DUST CONTROL

A. Contractor shall provide dust control such that it prevents wind transport of dust from the disturbed soil surfaces onto roadways, drainage ways, and surface waters and protects persons and property from damage and discomfort caused by dust. Employ Dust control BMPs per DEQ. Water may be used as necessary to quell dust but to not cause runoff, puddling, soil erosion or pollution of surface waters.

1.7 ROADWAY PROTECTION

A. Provide construction entrances and wheel-cleaning stations to clean wheels and undercarriage of trucks before leaving site, as necessary to prevent dirt from being carried onto public streets. If streets are fouled, they must be cleaned immediately in conformance with Local Code requirements, as applicable. This requirement applies to all vehicle movements for the entire period of construction.

1.8 TRAFFIC REGULATION

A. Conduct operations in such a manner to avoid unnecessary interference to existing traffic. Minimize heavy vehicle traffic to and from site during peak traffic hours. Do not park vehicles in traffic lanes. Provide flagmen as required. Conform to Local Code for traffic control requirements.

B. Contractor shall be responsible for all traffic control and emergency call outs resulting from Contractor operations.

C. Maintain fire lanes, roadways and alleys to existing buildings continuously, as required by the fire department having jurisdiction.

D. Existing walkways and roadways leading past the construction shall remain clear and safe at all times. Provide barriers, flashing lights, walkways, guardrails and night lighting as required for safety and control.

E. The school campus is congested with student, faculty and staff throughout most of the year. Contractor shall perform excavation and hauling so as

to provide the least impact to public safety and daily operations. Haul scheduling shall be coordinated to avoid the beginning and end of the school day while school is in session. All haul routes and scheduling shall be submitted to the Owner's Representative for review and approval prior to commencement of hauling operations.

F. Trucks shall be equipped with proper sidewalls and/or covers to assure total containment of debris in transit to the dump site. Haul routes are subject to review and acceptance by the Permitting Authority.

G. The Contractor shall, when hauling over existing roadways, be responsible for maintenance during use of roadway and for restoration to original condition upon completion. Also, if city streets and/or state highways are used, require Contractor to make all necessary arrangements with city and/or state. Dust and mud control shall be in compliance with City, County, State and Federal requirements.

1.9 QUALITY CONTROL

A. Testing

1. The Contractor is responsible for verifying compliance with the specifications, and shall perform their own quality control measures throughout the progress of the work. The Contractor agrees to proceed with the work at their own risk in the absence of timely independent testing and inspection reports.
2. The Owner's Representative's Testing Agency will perform compaction and density tests to verify compliance with these specifications.
3. The Owner's Representative may require that an independent testing laboratory test imported materials at any time. Where any material is found to be non-compliant with the Contract, the Contractor shall bear the cost of testing, removal of all non-compliant materials from the Project Site, and replacement of the materials with materials meeting the requirements of the Contract. If the materials tested are found to be compliant with the requirements of the Contract, the Owner will reimburse the Contractor for costs incurred by testing plus mark-ups as allowed for elsewhere in the Contract.
4. The Owner's Representative's Testing Agency presence does not include supervision or direction of the actual work by the Contractor, his employees or agents. Neither the presence of the Owner's Representative's Testing Agency, nor any observations and testing performed by him shall excuse the Contractor from defects discovered in his work.

B. It is the responsibility of the Contractor to verify the accuracy of all survey information provided by the Owner prior to commencing excavations or filling operations. Commencement of these operations constitutes acceptance of the survey information as appropriate to meet the intent of the Contract.

PART 2 - MATERIALS

2.1 FILL MATERIAL

A. STRUCTURAL FILL: Structural Fill Shall consist of granular material free of organics, demolition waste and other deleterious materials, with 100 percent passing the 4 inch sieve, and with no more than 5 percent by dry weight passing the US No. 200 Sieve, based on that fraction passing the US No. 4 Sieve. WSDOT 9-03.12(4) Gravel Backfill for Drains or approved equivalent.

B. COMMON FILL: For use in the development of landscape subgrade or as approved in larger, bulk import operations, common native soils generally devoid of rocks larger than 8” in any diameter with a soil fraction passing the #200 screen not exceeding 15%. The Contractor shall have any such materials tested for optimum moisture and maintain responsibility for managing moisture content throughout the work.

C. CRUSHED SURFACING BASE COURSE (CSBC, 1”-0” Crushed Base): Shall be manufactured from ledge rock, talus, or gravel. The materials shall be uniform in quality and substantially free from wood, roots, bark, and other extraneous material and shall meet the following gradation:

Sieve Size	Percent Passing
1-1/4” square	100
5/8” square	50-80
¼” square	30-50
U.S. No. 40	3-18
U.S. No 200	7.5 max.
% Fracture	75 min.
Sand Equivalent	32 min

All percentages are by weight. The fracture requirement shall be at least one fractured face for each particle and will apply to material retained on each specification sieve size U.S. No. 10 and above if that sieve retains more than 5 percent of the total sample. The portion of crushed surfacing retained on a ¼ inch sieve shall not contain more than 0.15 percent wood waste.

D. CRUSHED SURFACING TOP COURSE (CSTCm 5/8" – 0" Leveling Course): Shall be manufactured from ledge rock, talus, or gravel. The materials shall be uniform in quality and substantially free from wood, roots, bark, and other extraneous material and shall meet the following gradation:

Sieve Size	Percent Passing
1 ¼" square	100
¾" square	100
5/8" square	50-80
¼" square	55-75
#40	8-24
#200	10.0 max.
% Fracture	75 min.
Sand Equivalent	32 min.

All percentages are by weight. The fracture requirement shall be at least one fractured face and will apply to material retained on each specification sieve size U.S. No. 10 and above if that sieve retains more than 5 percent of the total sample. The portion of crushed surfacing retained on a ¼ inch sieve shall not contain more than 0.15 percent wood waste.

2.2 SAFETY, MONITORING, AND RESPONSE EQUIPMENT

A. The Contractor shall provide barricades, safety guards, temporary fencing, signage and/or other methods to secure trenches, open excavations, and other unsafe conditions resulting from this construction. Undertake work in full compliance with all applicable regulatory requirements.

2.3 UTILITY PIPE BEDDING

A. Pipe bedding for storm drainage pipe shall be CSTC bedding and backfill to the pipe springline at a minimum for double-walled corrugated polyethylene pipe. Bed and backfill to ½ the pipe diameter above the crown for smooth-exterior walled pvc pipe.

B. Bedding for perforated pipes other than those specified as "Field Subsurface Drainage (refer to Section 33 46 16)", such as PVC wall drains or Infiltration Facilities as required by Permit, shall be Type 4 aggregate, 1-1/2" washed drain rock. Perforated pipe bedding shall consist of well-graded mineral aggregate meeting the particle gradation as follows:

Sieve Size	Percent Passing
1 1/2" square	100
1 ¼" square	90-100
¾" square	0-20

3/8” square 0-2

2.4 UTILITY PIPE BACKFILL

A. Utility Pipe including storm drainage, sanitary sewer, water distribution piping, and electrical conduit shall be backfilled above the bedding with approved native soil meeting the following requirements;

1. Beneath landscape areas, use Common Fill.
2. Beneath all pavements, synthetic turf, and rubberized surfacing use Structural Fill.

PART 3 - EXECUTION

3.1 FIELD LAYOUT AND ENGINEERING

A. The General Contractor shall be responsible for the vertical and horizontal layout of all work and control points required to construct all work in accordance with the drawings and specifications.

B. Horizontal and Vertical Layout and Staking must be performed by a licensed professional land surveyor.

3.2 SEQUENCING AND SCHEDULING

A. Submit proposed sequencing schedule for Engineer's review and verification. Refer to Submittals section.

B. All new cut and fill areas shall be roller-sealed or compacted at the end of each day to minimize moisture penetration.

C. Frozen Conditions:

1. Do not backfill or construct fills or embankments during freezing weather.
2. Do not place backfill or construct fills or embankments on frozen surfaces.
3. Do not place frozen materials, snow or ice in backfill or embankment.

3.3 SHEETING AND SHORING

A. All excavation and trenching operations are to be conducted in accordance with WAC 296-155 Part N. The Contractor shall protect all persons entering and working in excavations and trenches through the

use of sloping, shoring and shield systems.

B. Where the stability of adjoining buildings, wall or other structures is endangered by excavation operations, support systems such as shoring, bracing, or underpinning shall be provided to ensure the stability of such structures in accordance with WAC 296-155, Part N.

C. The general public is to be protected from open excavations and trenches by means of barricades and fences clearly marked or identified by flagging or warning signs.

3.4 UNDERGROUND OBSTRUCTIONS

A. All known underground structures have been shown on the drawings. However the possibility exists that these may prove inaccurate and that obstructions not known to the survey, etc., may be encountered.

B. The Contractor shall call the Local Utilities' locating services 48 hours prior to commencing excavation activities.

C. The Contractor shall immediately notify the Engineer and Owner's Representative in the event any underground obstruction or uncharted utility is encountered.

D. The Contractor will expose and verify size and, location and elevation of underground utilities and structures where conflicts might exist. This work shall be done sufficiently in advance to permit changes in the event of conflict without affecting the project schedule.

E. The Contractor is responsible for all costs for damage to utilities shown on the drawings or identified by location service.

F. Unforeseen encounters with Underground Storage Tanks (UST) of any kind requires immediate notification of the Owner’s Representative or Engineer and an immediate cessation of disturbance in the immediate vicinity until an evaluation has been undertaken and further direction provided.

3.5 EXCAVATED MATERIALS

A. All items of concrete, debris, piping, etc., are to be legally disposed of off-site at Contractor's expense. The Contractor shall make efforts to have the concrete and asphalt concrete paving recycled.

3.6 EXCAVATION AND FILL

A. Place soils in loose, horizontal lifts of 9 inches. Fill soils shall be moisture conditioned to efficiently achieve the required compaction. Each lift should be spread evenly and be thoroughly compacted prior to placement of subsequent lifts.

B. Structural Fill, Crushed Surfacing Base Course and all other fills beneath hardscapes, paved or synthetic turf surfaces shall be compacted to at least 95 percent of maximum dry density (MDD), as determined by test method ASTM D 1557. All fills that will not be overlain by pavement shall be compacted to at least 90 percent of MDD, as determined by test method ASTM D 1557.

C. Machine slope banks as required, and compact as specified. Cut and fill slopes shall not exceed 3H:1V unless specifically designated as such.

D. Suitable bearing stratum shall be verified by the Engineer. If suitable bearing stratum is not encountered at the design elevation shown on the plans, over excavate and replace the unsuitable soil with imported structural fill to the depth determined necessary by the geotechnical engineer.

E. Correct unauthorized excavation as directed, at no cost to Owner.

F. Do not disturb soil within branch spread of existing trees or shrubs that are to remain.

G. If determined necessary by the Engineer to excavate through roots of trees to remain, perform work by hand and cut roots with a sharp ax.

H. Ensure areas to be backfilled are free from debris, snow, ice and water, and that ground surfaces are not in a frozen condition.

I. Do not fill or backfill over existing surfaces that are porous, wet or spongy, or exhibit pumping, rutting, or deflection under maximum construction loading, or have not been relieved of organic overburden.

J. Rework and compact existing sub-grade surfaces if the degree of compaction (percent of maximum dry density) of these materials is not equal to the degree of compaction required for backfill materials described above.

K. Backfill systematically and as early as possible to allow maximum time for natural settlement and compaction.

L. Maintain moisture content of backfill materials so as to attain required compaction density.

3.7 WET WEATHER CONDITIONS

A. The Contractor acknowledges that the Project will require a consistent, coordinated effort in order to achieve the efficiency necessary to accomplish the work within the designated Contract Duration for either Awarded schedule.

B. The Contractor further acknowledges a comprehensive understanding of all information made available regarding the work, the requirements, and the site conditions including the drawings and specifications, Geotechnical Report, Stormwater Pollution Prevention Plan (SWPPP), and local Development Code as it applies to construction activities.

C. The Contractor shall be knowledgeable in local area climatic conditions and Schedule work in all areas for dry weather periods wherever practical. If wet weather is encountered and earthwork is unavoidable, Contractor shall proceed as follows at no additional cost to the Owner.

D. Earthwork shall be accomplished in small sections to minimize exposure to wet weather. Excavation or the removal of unsuitable soil shall be followed promptly by the placement and compaction of a suitable thickness of clean structural fill. The size and type of construction equipment used may have to be limited to prevent soil disturbance.

E. Imported soils used to recover volume resulting from the over-excavation of excessively wet soils shall be Structural Fill as classified herein, or alternative soils approved by the Geotechnical Engineer of record.

F. Protect stockpiled soils by covering with plastic sheeting. The plastic sheeting should be anchored with sandbags or staked in place to protect the materials.

G. The ground surface within the construction area should be sloped and sealed with a smooth drum vibratory roller to promote rapid runoff of precipitation, to prevent surface water from flowing into excavations and to prevent ponding of water.

H. The near-surface soils contain a significant amount of fine-grained particles, and are considered highly moisture sensitive. The use of these soils as structural fill should be limited to extended periods of dry weather. Even during periods of dry weather, some disking for drying and watering may by necessary to achieve the required compaction. The near-surface soils are to be used for fill only if construction takes place during the drier summer months.

I. No soil should be left un-compacted so it can absorb water. All soils which

become too wet for compaction should be removed and replaced with imported structural fill at no additional cost to the owner.

J. Accomplish excavation, placement and compaction of structural fill material in cooperation with the Owner's Testing Laboratory and technical representative to determine that all work is being accomplished in accordance with the Project Specifications.

3.8 COMPACTION

A. Compact all fill and backfill to prevent subsequent settlement.

B. Water settling or jetting will not be permitted as a means of compaction.

C. Furnish heavy rollers or compactors except as follows:

1. Use pneumatic hand tampers for trenches and areas not accessible to heavy equipment.
2. Compact areas within 5’ of footings, foundations, walls, and slopes exceeding 3:1 gradient with hand vibrators.

D. Required compaction: Compact fills and backfills to the following minimum relative compaction (percentage of maximum dry density determined in accordance with ASTM D1557).

Locations	Required Minimum Relative Compaction
Utility Trenches: (under non roadway/non-structural conditions)	90%
Utility Trenches: (under all structural conditions including roadways, walks, pavements, playfields, walls, and foundations)	95%
Subgrade, all Fields & Track areas	95%
Under Slabs on Grade	95%
Under Walks and Paving	95%
Against Walls (face of wall)	92%
Bedding adjacent to Utility Lines	95%
Subgrade in Planting and Landscape areas	85%
Planting soils	85%
Structural fills	95%
Fills on slopes steeper than 3:1	90%
Other	95%

3.9 SUBGRADE PREPARATION

A. This Section specifies the requirements for the preparation of subgrade to receive additional coverage by materials specified elsewhere. Where the following surfaces are scheduled and the subgrade has been exposed, the requirements below are predecessors to Section 31 22 16 Subgrade Establishment, which identifies a higher standard of quality for planarity than this section does for general construction activities.

B. After site stripping and prior to embankment fill placement, compact subgrade to a minimum of 95% of maximum per ASTM D-1557-91 or as directed by the Owner's Representative or Engineer.

C. Soft, pumping, or rutting areas identified during subgrade preparation by the Owner's Representative must be overexcavated a minimum of 12" (one foot) to firm and unyielding material. Resulting voids to be backfilled with Structural Fill as classified herein and compacted per the location compaction schedule above.

D. If existing utilities not shown on the plans are encountered in the area of work, stop work in that area and notify the Engineer.

E. Do not perform cut and fill work in weather that will not allow reuse of site materials using wet weather methods described in Paragraph 3.07 C of this Section. Use no frozen material in fills.

F. Use normal construction methods generally, but if weather will not allow working of site soils, use wet weather methods as noted below at no additional cost to the Owner.

G. Provide temporary ditching as needed so that no areas of the site will have standing water during rainfall. Fill or pump continuously all low areas that cannot otherwise be drained.

H. All fields, pavements, and surfaced areas are to be compacted to 95% of maximum density per ASTM D-1557-91 by mechanical means. The Contractor shall be responsible for maintaining appropriate soil moisture prior to and during compaction activities, the cost of which is to be included in the contract price.

I. Care must be exercised during grading of the subgrade so as to achieve a uniform, true surface relative to finish grade.

J. Finish subgrade for all fields, tracks, field events, and paved areas, shall be established to within the tolerance of +0.00' or - 0.10' of the design subgrade elevation for these areas or as specified in Section 31 22 16

Field Subgrade Establishment, whichever is more restrictive.

K. Upon completion of the subgrade establishment and Contractor confirmation for conformance with the tolerance, the Contractor shall notify the Engineer and schedule an inspection for approval. The Contractor shall have a laser plane system with slope control available to the Engineer for the inspections. The Contractor shall not be authorized to install the subsurface drainage system until the subgrade has been inspected and approved by the Engineer.

L. All other areas shall be compacted to a 85% maximum density. These areas shall be established to within the tolerance of +0.05' or - 0.15' of the design elevations and grades. All perimeter and swale areas shall be sloped in accordance with the grading plan. Swale grades shall include a constant slope between the designated high point and any catch basin rim elevations. Areas of ponding water in the swales will not be accepted.

M. Cement Soil Treatment

1. Where the Engineer, in coordination with the Owner's Geotechnical Engineer, have determined a need, stake or mark the limit of work to be measured and authorized. Proceed with no work until an agreed estimate of the limit of the work has been determined.
2. Perform standard Base Bid dewatering and moisture controls. Achieve optimal moisture as defined by the Geotechnical Report and/or the Engineer by ripping, disking, or scarifying as appropriate.
3. Place approved Portland Cement on the prepared surface at the rate specified. Do not use compressed air to deliver powder cement over long distances without hoses or where environmental conditions may result in fugitive dust.
4. Incorporate cement into the subgrade soils to a depth of 12" such that the percentage Portland Cement is equal to 5% by volume or 6.5-7lbs cubic foot (loose weight).
5. Rough grade the uniformly blended treated soil to lines and grades as required and apply such compactive effort as appropriate given the conditions. Establish full density within 4 hours. Add moisture if necessary.
6. Allow amended soil to set for 24 hours.

END OF SECTION 31 00 00

SECTION 31 46 23
PERMEABLE BASE AGGREGATE

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Include all labor, material, transportation and services to complete the following;

1. Remediation of the existing athletic field permeable aggregate base(s);
2. Installation and repair of Synthetic Turf Edge Anchors
3. Installation of the landscape synthetic turf surfacing base section, including geotextile fabric, base course permeable aggregate, and top (leveling) course permeable aggregate.

1.2 STANDARD SPECIFICATIONS

A. All sections of the standard specifications applicable to any and all parts of this project shall govern, except as specifically modified in these contract documents.

1. Specifications for Municipal Public Works Construction, (APWA), latest edition.
2. American Society for Testing and Materials (ASTM)
3. American Association of State Highway and Transportation Officials, (AASHTO).

1.3 RELATED WORK SPECIFIED IN OTHER SECTIONS

31 00 00 Earthwork
32 18 24 Infilled Synthetic Turf

1.4 SUBMITTALS

A. Submit to the Engineer for approval:

1. Soil-bearing structural fabric product information
2. Base course permeable aggregate sieve analysis
3. Top course permeable aggregate sieve analysis
4. Base course permeable aggregate infiltration rate (for material compacted to a minimum density of not less than 98% of maximum dry density as determined by ASTM D698)

5. Base Course Permeable Aggregate, report on the analysis of the mineral composition of the material, and relative compressive strength.
6. Top course permeable aggregate infiltration rate (for material compacted to a minimum density of not less than 98% of maximum dry density as determined by ASTM D698)
7. Top Course Permeable Aggregate, if sourced from a parent material differing from the approved base Course Permeable Aggregate, report on the analysis of the mineral composition of the material, and relative compressive strength.
8. Equipment and procedures to be utilized for the permeable aggregate installation.

PART 2 - MATERIALS

2.1 SOIL-BEARING STRUCTURAL FABRIC

A. Fabric

1. Material: Fabric to be 100% Polypropylene, non-woven, needle-punched engineering fabric with a minimum weight of 4.0 oz/sy.
2. Physical Properties:

Tensile Strength, lbs., (ASTM D-4632):	100
Elongation (%), (ASTM D4632):	50
Puncture Strength, (lbs), (ASTM D4833):	65
Mullen Burst Strength (PSI), (ASTM D3786):	200
Trapezoidal Tear, (lbs), (ASTM D4533):	45
Abrasion Res. % Str. Ret., (ASTM D4886):	80
Coefficient. of Perm., cm/sec., (ASTM D4491):	0.22
Flow Rate Gal./Min./Sq. Ft.) (ASTM D4491):	140

2.2 BASE COURSE PERMEABLE AGGREGATE

A. The base course permeable aggregate shall be installed below the top course permeable aggregate in areas to receive synthetic turf.

B. Aggregate to be open-graded, fractured, friction course.

1. To ensure free drainage, material to be clean with minimal fines.
2. The compacted base course permeable aggregate shall have a minimum infiltration rate of 40 inches per hour when the material is compacted to a density of not less than 98% of the maximum dry density as determined by ASTM D698 (98% Proctor).
3. Material Strength and Durability

a. The material shall demonstrate a compressive strength sufficient to support the anticipated construction loading without significant breakage of individual particles, or significant alteration of the particle gradation as approved.

b. Where the compressive strength is suspect, the Engineer will remove a sample of the material that has been placed by the Contractor at the specified density and perform a particle gradation, the results of which will be compared to previous production test results (approved baseline values). If the results of this test indicate higher passing values for any given screen exceeding 10% of the baseline, the material may be considered noncompliant.

C. Base course material to be a minimum of 75% fractured with at least one fractured face by mechanical means on each individual particle larger than 1/4". A sand and gravel source may acceptable for this material. Gradation: Aggregate to generally meet the following particle size range:

Sieve Size	Percent Passing by Weight
1-1/4"	100
1"	90 - 100
3/4"	80 - 100
1/2"	50 - 80
3/8"	40 - 60
No. 4	15 - 40
No. 8	10 - 25
No. 30	5 - 15
No. 100	0 – 3.0
No. 200 (wet sieve)	0 - 2.0

2.3 TOP COURSE PERMEABLE AGGREGATE

A. The top course permeable aggregate shall be installed over the base course permeable aggregate in the synthetic turf.

B. Aggregate to be open-graded, fractured, friction course. To ensure free drainage, material to be clean with minimal fines. The compacted top course permeable aggregate shall have a minimum infiltration rate of 20 inches per hour when the material is compacted to a minimum density of not less than 98% of maximum dry density as determined by ASTM D698.

C. Material Strength and Durability

1. The material shall demonstrate a compressive strength sufficient to support the anticipated construction loading without significant

breakage of individual particles, resulting in a significant alteration of the particle gradation as approved.

2. Where the compressive strength is suspect, the Engineer will remove a sample of the material that has been placed by the Contractor at the specified density and perform a particle gradation, the results of which will be compared to previous production test results (approved baseline values). If the results of this test indicate higher passing values for any given screen exceeding 10% of the baseline, the material may be considered noncompliant.

D. Top course material to be 100% fractured crushed rock material. A quarry source is required for this material.

E. Gradation: Aggregate to generally meet the following particle size range:

Sieve Size	Percent Passing by Weight
3/4"	100
1/2"	90 - 100
3/8"	80 - 100
No. 4	55 - 75
No. 8	30 - 50
No. 30	5 - 25
No. 100	2 - 10
No. 200 (Wet Sieve)	0 - 2.0
No. 270 (Wet Sieve)	0 – 1.0

2.4 RECYCLED PLASTIC EDGE ANCHOR

A. The Contractor may choose to Substitute Pressure Treated Lumber (PTL) for the recycled product specified at no additional cost to the Owner. PTL must be intended for soil-contact applications and must submitted and approved for use by the Architect prior to commencing the installation.

B. Includes all materials required to provide a secure recycled plastic edge for establishment of Permeable Aggregate grade and anchoring of synthetic turf.

C. A recycled plastic lumber nailer board shall be installed per the details to secure the turf. Product shall be manufactured from 100% recycled materials, consisting of HDPE Plastic Lumber. Material should be dimensional lumber in lengths no shorter than 6’.

1. Where attachment is scheduled to concrete curbing, provide minimum 2”x4” nominal dimensional lumber.
2. Manufacturer’s reference: Product is available from RESCO Plastics, Inc., Coos Bay, Oregon. (800) 266-5097.

3. Concrete Anchoring: Concrete wedge anchor, zinc plated, 3/8” x5” length, partially threaded, with zinc plated washer and nut.

2.5 TESTING

A. The Owner will be performing testing of materials delivered to the job site for the purpose of verifying compliance with the contract documents. The Owner’s testing is for this purpose only and not for construction quality control by the Contractor.

B. The Contractor shall coordinate directly with the Owner’s testing firm relative to the delivery schedules of the imported materials. Sampling will be scheduled each day deliveries occur.

C. The Contractor shall provide testing and surveillance as required to assure materials and work fully comply with contract requirements.

D. The Contractor at a price equal to the Owner’s contract testing agreement shall pay for owner’s tests that do not meet specifications. The Contractor shall pay directly to the testing organization upon invoice to the owner, which has been approved by the Engineer.

PART 3 - EXECUTION

3.1 SUBGRADE ESTABLISHMENT

A. No work shall be performed in this section until subgrade is 100% completed and accepted by the Engineer as being in compliance with Section 31 00 00 Earthwork.

B. Finished subgrade shall be compacted to a minimum 95% maximum dry density at optimum moisture and +/-2% optimum moisture.

C. Subgrade shall be established to within the tolerance of +0.00' or -0.10' of the design subgrade elevation.

3.2 STRUCTURAL SOIL-BEARING FABRIC INSTALLATION

A. No loose material is allowed on subgrade prior to placement of structural fabric. Loose material is to be removed prior to placement.

B. Fabric to be laid on smooth, compacted, subgrade surface between drainage trenches, or, where flat drains are specified, continuously across the entire subgrade.

C. All fabric seams shall overlap 12” minimum and include a steel pin or staple to secure the seam until it is backfilled.

D. Fabric shall not be folded or turned up along the edges.

E. In no instance shall fabric cover any inlet trench, lie against aggregate or pea gravel backfill, or extend vertically above subgrade except at perimeter curbing.

F. Stabilization: Immediately upon laying, the fabric is to be covered with base aggregate. No loaded trucks are to be permitted to move over fabric-covered surfaces until a minimum of 4" of aggregate has been placed, except if specifically approved by the Engineer. The Contractor must execute strict, direct - 100% - control of all vehicle movement on site.

3.3 EQUIPMENT MOVEMENT

A. No trucks or equipment will be allowed to drive over the top of drain trenches or flat drains except track-equipped machinery utilized in spreading base aggregate materials, or where a 12" depth base aggregate temporary roadway has been established. Backfilled trenches and covered flat drains are to be staked and "flagged" 3' above grade at 20' minimum intervals for identity.

B. In the event non-track traffic is observed or evidenced to cross trenches or flat drains, the Contractor shall, at their own expense, expose the drainpipe in the area directed for observation by the Engineer, repair or replace any damage promptly and reinstall backfill per specifications.

3.4 AGGREGATE PLACEMENT

A. Moisture Content: Aggregate to contain 3.5% to 4.0% moisture content to ensure that fines do not migrate and to facilitate proper compaction. Contractor must ensure that aggregate leaving the source plant meets this requirement and is required to apply water to aggregate on site to attain and maintain this minimum moisture content in stockpile and during all placement operations.

B. Prior to aggregate placement, remove any foreign material or contamination from the surface of the structural fabric and drainage trench pea gravel.

C. Surface must be free of standing water and subgrade stabilized with structural fabric in place prior to placement.

D. Materials to be placed in layers not exceeding 8" compacted in depth. Each layer must be spread uniformly with equipment that will not cause perceptible separation in gradation (segregation), preferably a self-propelled paving machine.

E. Should there occur, during any stage of the spreading or stockpiling, a separation of the material particles, the Contractor must immediately remove and dispose of segregated material and correct or change handling procedures to prevent any further separation.

3.5 AGGREGATE COMPACTION

A. Each layer shall be compacted to a minimum density of not less than 95% of maximum dry density as determined by ASTM D698 and measured using a nuclear method.

B. Use Static Tandem Drum-type roller of not less than five tons weight.

C. The Contractor shall monitor compaction levels to insure the aggregate materials are not over-compacted resulting in infiltration rates that are less than the specified minimum rates.

D. The Contractor shall monitor the condition of all aggregate during compaction to insure that the material has not fractured or broken down, resulting in a changes to the particle gradation that may otherwise effect other specified properties including maximum dry density and infiltrative capacity.

3.6 AGGREGATE TOLERANCES

A. The Contractor shall utilize a laser plane system for grade control.

B. The surface of the base course permeable aggregate in areas to be covered with top course aggregate shall not deviate from designated compacted grade within the range of –0.50" and +0.00".

C. The surface of the top course permeable aggregate shall not deviate from designated compacted grade within the range of –0.00" and +0.25" and shall not deviate more than ¼” as measured by a 10 foot straight edge.

D. Upon completion of the fine grading, compaction, and Contractor confirmation of conformance with the tolerances, the Contractor shall notify the Engineer and schedule an inspection for approval. The Contractor shall have a laser plane system available to the Engineer for the inspections. The Contractor shall not be authorized to pave over the

permeable aggregate until it has been inspected and approved by the Engineer.

END OF SECTION 31 46 23

SECTION 32 18 23
RUBBERIZED TRACK SURFACING

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. The existing surface consists of a permeable base mat / structural spray surfacing which requires minor cutting & patching. Make repairs to match as directed.

B. Provide new Structural Spray Coats.

1. Provide preparatory work including cleaning, taping & masking, plastic sheeting, ground coverings, etc.

2. Patching: Rubberized surfacing shall be a 13mm base matt / structural spray system in standard oxide red. It shall include an 11-12mm paved-in-place SBR rubber base matt bound with polyurethane over existing prepared asphaltic concrete paving, or incidental concrete paving as applicable. The rubber base for all areas of rubberized surfacing shall be as follows;
   a. Jogging Track surfacing to be open-graded and permeable to surface water.
   c. All areas of rubberized surfacing shall include a 1.5-2mm sprayed-on top coating of single component red polyurethane with red EPDM fines / rubber granulate. Minimum total depth of the installed system shall be 13mm.

3. All rubberized surfaces must have homogeneous texture. All areas, such as abutting patch seams that do not have uniform texture must be cut out and resurfaced with acceptable texture and finish appearance.

4. Provide full five-year warranty package on surfacing.

1.02 NOT USED

1.03 PRE-APPROVED PRODUCTS, VENDORS/INSTALLERS

A. Vendor/Installer for the rubberized track & field event surfacing shall be as pre-determined by the Owner;

1. AstroTurf/Rekortan, similar to “Spurtan”

2. Beynon Sports Surfaces, Inc., similar to “BSS-100”
3. Hellas Construction, Inc., similar to “EpiQ Tracks S200”

1.04 SUBMITTALS

A. Staffing Roster

Four weeks prior to anticipated Notice to Proceed on site, submit for the Owner and Architects review a complete staffing roster including names and qualifications for the following functions;

1. Project Manager responsible for day-to-day management of the Project administration and operation.

2. Project Foreman / On-Site Lead

3. Contract Administration Specialist

B. Not Used

C. Manufacturer's Specifications: Upon Notice to Proceed, the Contractor/Vendor shall electronically submit to the Engineer for approval the selected manufacturer's surfacing material specifications and installation instructions.

D. Sample Warranty Package: Within 21 calendar days after Notice to Proceed, electronically submit to the Engineer for review the surfacing warranty package herein specified.

E. Maintenance and Operating Data:

1. Furnish to the Engineer maintenance and operating data prior to final acceptance.
2. Manual shall include Project name, Owner's name, Engineer's name, Rubberized Surfacing, Consultant's name, Prime Contractor's name, Year of project completion
3. Index manual with tab dividers for data as follows:
   a. Materials installed with their characteristics
   b. General maintenance
   c. Small repair procedures
   d. Discussion on precautions to be practiced and general maintenance and procedures to be avoided to prolong surface life and to maintain installation's warranty.
   e. Copy of warranty document

1.05 QUALITY CONTROL

A. Owner Inspections

1. The Contractor shall coordinate with the Owner's Representative in making the work in progress available for inspection at specific milestones throughout the installation process as follows;

   a. Removal of areas to be repaired
   b. Placement of new base mat
   c. Application of Spray Coats
   d. Final Cleaning

2. The Contractor shall remediate all deficiencies identified by the Owner's Representative as they are discovered, and in no case shall they proceed to the next work in the sequence without doing so.

1.06 TESTS

A. The Owner reserves the right to submit the surface system to various tests to verify whether or not surfacing system meets the minimum specifications or manufacturer's submitted specifications. Any section of the system so tested that is found to be out of specification shall be removed and replaced to the proper specification, at the sole expense of the Contractor.

1.07 WARRANTY

A. In addition to the general warranty specified in the General Conditions of the specifications, an additional four-year vendor warranty (5 year total) for the rubberized surfacing system shall be provided to the Owner by the track surfacing vendor, protecting Owner against all manufacturing, material and installation defects associated with materials and workmanship under this section. Warranty to extend from date of final acceptance by Owner.

B. Warranty shall cover in general the usability of the installed surfacing system, accessories use characteristics, suitability of the installation for the period specified, and for the designated uses enumerated as follows:

1. Physical exercises
2. Physical education activities
3. Marching band
4. Cheerleading activities
5. Access to adjacent football/soccer field
6. Pneumatic rubber-tired maintenance and service vehicles
7. Pedestrian traffic and other similar uses

8. Community running and jogging
9. Wheelchair traffic

C. Conditions Warranty: Warranty shall agree to promptly repair or replace work, which deteriorates excessively or otherwise fails to perform as required due to failures of materials and workmanship. Striping and other painted markings are excluded from the warranty. For the purposes of this warranty, excessive deterioration is defined as a loss of fifty (50%) of the wearing surface or granular loss. Failure of material and workmanship is defined to include, but is not limited to, delaminating of the track from its asphaltic concrete base, or from integral layers of surfacing material, and leaching of binders or other surfacing components. All defects are to be promptly repaired. If the warrantor does not initiate repair work within 21 calendar days from receipt of complaint in writing, adverse weather conditions accepted, the Owner shall have the right to order the work performed by others and the warrantor shall be liable for costs accruing to the Owner.

D. The parent company or corporation of the track surface installation firm shall issue the warranty. The warranty shall be signed by an authorized principal of the applicable firm, duly-authorized to make contracts.

E. A separate warranty from the General Contractor, the Track Installer and/or the Striping Subcontractor shall be issued for the marking and striping guaranteeing applied painting for a period of two (2) years from fading in color and intensity plus cracking or separating from the track surface.

PART 2 - PRODUCTS

2.01 RESERVED

2.02 RUBBERIZED SURFACING COMPOSITION

A. The base mat shall be composed of SBR rubber granules and single component polyurethane binder. The base mat layer shall be a minimum of 12 mm thick. The base mat shall be sealed where surrounding existing surfacing is similarly sealed.

B. Top layer for all areas shall be a red pigmented blend of EPDM rubber granules and single component polyurethane. The top layer shall be two structural spray coats totaling a minimum 1.5 mm thickness for all areas.

2.03 RUBBERIZED SURFACING BASE MAT COMPOSITION

A. A primer shall be applied to the all pavement base and adjacent concrete

edging prior to installation of the base mat. The primer shall be polyurethane base as specified by the surfacing system manufacturer.

B. The base mat shall be composed of SBR rubber granules and single component polyurethane binder. The base mat shall be comprised of a maximum of 80% SBR and a minimum of 20% single component polyurethane by weight. The troweled or paved-in-place base layer shall be installed to a minimum depth of 11.0 mm thickness.

C. SBR Rubber Granules:

1. The granules shall be recycled styrene butadiene rubber (SBR). There shall be no traces of fiber or steel with granulate. The material shall be sourced from North American manufacturing.
2. Granulate particles shall meet the following gradation requirements:

Particle Size	Percentage by Weight
0-1.0mm	3.5%
1.0-2.0mm	15-25%
2.0-3.0mm	30-40%
3.0-4.0mm	30-40%
Larger than 4.0mm	0-5%

D. Polyurethane Binder:

1. For the base layer utilize single component polyurethane.
2. No mercury, lead or other heavy metals are to be present. No solvent or fillers are to be added.
3. The polyurethane binder shall be manufactured in North American or Western Europe by a manufacturer.

2.04 RUBBERIZED SURFACING STRUCTURAL SPRAY SYSTEM TOP COAT

A. The top coat shall be comprised of two structural spray coats. The structural spray coats shall be comprised of a blend of pigmented EPDM rubber granules and pigmented single component polyurethane. The two structural spray coats shall be applied at a rate totaling 3.0 lbs/sy and providing a minimum 1.5 mm thickness for all areas.

B. The binder for the structural spray coats shall be a single component pigmented polyurethane. No mercury, lead or other heavy metals are to be present. No solvent or fillers are to be added. The polyurethane shall be manufactured in North American or Western Europe by a manufacturer.

C. The granulate for the structural spray shall be composed of peroxide cured

Ethylene Propylene Dien Polimerisat (EPDM) rubber. For the first structural spray coat half of the granules are to be graded from 0.5 mm to 1.5 mm in size and half of the granules are to be 1.0 mm to 3.0 mm in size. For the second structural spray coat all of the granules are to be graded from 0.5 mm to 1.5 mm in size. The EPDM granules shall meet the following requirements:

1. The granules shall be composed of peroxide cured Ethylene Propylene Dien Polimerisat (EPDM) rubber.
2. Materials to have shore hardness from 55 to 60.
3. Granules shall have a specific density of 1.6 +/- 0.08.
4. Sulphur cured rubber is unacceptable.
5. EPDM Granulate shall be Melos GmbH, Gezolan Ag, or similar approved equal.
6. The structural spray coat EPDM rubber granules and single component polyurethane shall be pigmented (Base Bid) red, or (Alternate Bid) charcoal gray or black.

PART 3 - EXECUTION

3.01 PREPARATION

A. Remove all existing loose rubberized track surfacing, organic materials and other debris on the asphalt base as may be encountered utilizing approved mechanical means including grinding and scraping. Consult with the Engineer as to the adherence properties of the existing rubberized base matt and the effect of complete removal on the quality of the asphalt base.

B. Remove from the site all loose debris generated by the operation including masses, granules, and dust accumulations on the surface and in the surroundings.

C. Contractor must protect all adjacent areas from any contamination or over spray from rubberized surfacing installation procedures. Tape plastic sheeting to concrete edging or adjacent exposed asphalt concrete paving, to protect synthetic turf and adjacent areas.

3.03 RUBBERIZED SURFACING INSTALLATION

A. General:

1. Only experienced, specialized personnel are to be utilized in the installation of surfacing materials and applying the line and marking points. The Superintendent and the supervisory or technical personnel

must be employees of the vendor/installer firm.

2. Install in strict accordance with the specifications, drawings, approved shop drawings and manufacturer's specifications and instructions, when applicable.

B. Environmental Conditions: Materials are not to be placed when:

1. Ambient air temperature is below 50 degrees F.
2. Material temperatures are below 50 degrees F.
3. Surfaces are wet or damp.
4. Precipitation is falling or pending.
5. Conditions exist or are pending that will be unsuitable for the installation of the system.

C. Equipment: The components shall be blended in a clean and dry, specifically designed, mixing machine with automatic proportioning controls to guarantee exact proportions of the polyols and isocyanates and the auxiliary components (rubber) which control the reactions and balance of the varying climatic conditions during the laying process.

D. Base Matt Repairs Installation:

1. The base layer shall be mechanically mixed to obtain a homogeneous mixture of 20% polyurethane and 80% SBR rubber granulate.
2. Base material to be placed utilizing a mechanically operated finisher with an electrically heated, oscillating finishing screed bar or hand trowel as appropriate.
3. The base layer shall be placed with a minimum finished thickness of 12mm or 10mm as applicable.

E. Structural Spray Coat Installation (including ReSpray):

1. Contractor must protect all adjacent areas from any contamination or over spray from rubberized surfacing installation procedures. Tape plastic sheeting to edging or adjacent exposed paving to protect synthetic turf and adjacent areas.
2. Pre-treat all new base mat patch, both permeable and sealed, to produce a finished surface texture matching that of adjacent existing undisturbed surfaces.
3. The structural spray coat top layer shall be mechanically mixed to obtain a pigmented homogeneous mixture of 40% EPDM rubber and 60% urethane.
4. The top layer (respray) shall be applied in two uniform applications of a minimum thickness of 1.50 mm.

F. The finished rubberized track and field event surfacing shall not vary more than +3.0mm and -0.0 mm in 3 meters, measured in any direction as gauged from a straight edge. No reverse slopes or depressions will be allowed. The completed surface of the track and field events shall be of uniform texture and grade, and be free from defects of any kind.

G. Contractor must protect all adjacent areas from any contamination from track installation procedures. Discoloring of any surfaces will be cause for required replacement if cleaning is deemed unacceptable by the Engineer.

3.04 CLEANING

A. Remove all excess materials of all kinds, equipment, and debris from the site immediately after completion of the work.

B. Remove all paint splatters, spots, stains, and other blemishes from all finished surfaces. Rubberized surfaces must have a new, uniform appearance.

C. Leave work in clean condition ready for use by the Owner.

3.05 PROTECTION

A. Adequate protection from damage of materials and work will be the responsibility of the installer during installation and until acceptance of their work. The General Contractor will be responsible for protection after the acceptance of the work until final acceptance of all contract work.

B. All damaged material prior to, during and after installation shall be replaced at no cost to the Owner.

END OF SECTION 32 18 23

SECTION 32 18 24
SYNTHETIC TURF SURFACING

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Scope of work to include all labor, material, equipment, transportation and logistical services for the supply, installation, service, and warranty of synthetic turf surfacing systems, as specified.

B. The Synthetic Turf Surfacing System to be as herein specified including, but not specifically limited to the following:

1. Manufacture and Independent testing of the synthetic turf materials prior to shipment to the project site.
2. Delivery of the synthetic turf materials (not including infill) a minimum of 2 weeks prior to the scheduled installation of the materials, and prior to commencing removal of existing materials.
3. Coordinated inspection and remediation of the aggregate base.
4. Installation of complete vertically draining and indoor synthetic turf surfacing systems as directed.
5. Provide surplus stock turf materials to the Owner for future repair and protective purposes.
6. Provide all appropriate maintenance and repair manuals and warranty documents specific to the system as installed to the Owner.

This applies to the Base Bid and all Alternate Bid Items,

C. Base Bid: The Base Bid includes three (3) tear-outs and installations of two product types as follows;

1. At the Student Legacy Park (“SLP”) West and East Recreational Athletics Fields, provide a 2.5” Monofilament Turf product with Sand/SBR Crumb Rubber Infill.
2. At the McAlexander Field House, install a Non-Infilled, Short Pile, High Density Polyethylene Fiber product, with Supplemental Resilient Underlayment.

D. Alternate Bid Items: There are four (4) Alternate Bid Items affecting the Scope of Work of this Section:

1. Alternate Bid Item 1, E-Layer, adds a paved-in-place 25mm paved-in-place elastic layer supplemental pad system on the prepared Field

Aggregate Base(s) at the Student Legacy Park West and East Recreational Athletics Fields.

2. Alternate Bid Item 2, Alternative Infill Materials, substitutes granular cork and alternate spec sand for the base bid infill at the Student Legacy Park West and East Recreational Athletics Fields.

3. Alternate Bid Item 3, Alternative Synthetic Turf Product, allows the bidder to propose a proprietary, unspecified synthetic turf product at the Student Legacy Park West and East Recreational Athletics Fields.

4. Alternate Bid Item 5, SLP Plaza Improvements, adds installation of Sand-Ballasted Landscape Synthetic Turf.

5. Alternate Bid Item 6, Sand Volleyball Improvements, adds installation of Sand-Ballasted Landscape Synthetic Turf.

1.02 ATHLETICS STANDARDS

A. NCAA Soccer

B. NIRSA Touch/Flag Football

C. NCAA Lacrosse

D. World Rugby

1.03 VENDOR QUALIFICATIONS

A. Base Bid McAlexander Field House Indoor Athletic Field and Alternate Bids 5 and 6 Landscape Turf use Basis-of-Bid Specifications by Synthetic Turf Resources (STR), a SportGroup Company. The Specified Products are of a common type and are expected to be available to all qualified bidders.

B. The following vendors are pre-approved for all specified Base Bid Synthetic Turf Field surfacing work at the SLP West and East Recreational Athletic Fields.

1. AstroTurf Corp.

2. FieldTurfUSA

3. Hellas Construction

C. Vendors choosing to submit Substitution Requests are strongly encouraged to do so as soon as practical; the Division 1 Specified Duration for Owner/Architect Review will likely be insufficient for multiple reviews that may result from requests for additional information or clarification from the Vendor, as well as shipping of samples and the like. Time submission of your Request to allow for a comprehensive review process and Bidder Notification via Addendum. Coordinate your effort with the Bid Schedule.

D. Vendors who are not pre-approved may submit a Substitution Request per Division 1 Requirements. In addition to the Division 1 requirements, this shall include a statement of qualifications including the following information for evaluation by the Owner and Project Architect.

1. Vendor Background and Experience: Describe your firm's history. Include information identifying the firm's annual volume and the firm's stability in the marketplace. Also include the firm's record relating to installation schedules and performance.

2. Provide information regarding local representation, and post-installation support.

3. Provide proof of bondability.

4. Product Manufacturer Background and Experience: Describe the history and experience of the product manufacturer with this specific product including years of experience and a count and listing of North American and worldwide synthetic turf field installations. The list shall include field locations, client, client contact names, address, telephone, material installed, date of installation, and general contractor (if any).

5. Product Installer Background and Experience: Describe the history and experience of the product installer with this specific product including years of experience and a count and listing of field installations. The list shall include field locations, client, client contact names, address, telephone, material installed, date of installation, and general contractor (if any). If the installer is not the manufacturer or vendor of the product, describe the experience the installer has with this specific product.

6. Product Samples: Provide the following samples upon request only:
   a. Two 12"x 12" samples of each specified turf material, without infill material, showing backing as proposed.
   b. Two samples of the proposed in-fill materials.

7. Product Specification: Provide manufacturers specifications for the

proposed synthetic turf products. Note any required deviations or specific exclusions from these specifications.

8. Product Performance: Prior to shipping samples (on request only) provide a written description of the following performance criteria for the proposed synthetic turf surfacing system:
   a. Abrasive characteristics
   b. Weekly, Monthly, and Annual Maintenance Requirements
   c. Playability for collegiate and recreational athletics.
   d. Wet and Dry Traction

9. References: Supply a minimum of ten references, including contact name and telephone number, for other installations of the primary products proposed.

1.04 APPROVED FIBER MANUFACTURERS

A. The fiber shall be manufactured by synthetic turf manufacturer. The following manufacturer is pre-approved for the In-filled Synthetic Turf System:

   1. FieldTurfUSA
   2. AstroTurf Corp.
   3. Hellas Construction
   4. Tencate
   5. Strenex
   6. Bonar

B. The synthetic turf vendor shall provide written documentation in the form of a signed affidavit certifying the source of the fiber used for the field including both green and any white used for the lines and markings.

C. Fiber shall be certified to have less than 50 ppm or less of lead from both the fiber supplier and the turf vendor.

1.05 MINIMUM QUALIFICATIONS FOR SYNTHETIC TURF SYSTEM

A. The manufacturer (including fiber extrusion, tufting, and coating) shall be the same corporate entity that provides the warranty for the synthetic turf system to the Owner.

B. Installer of the synthetic turf system must have installed a either a minimum of ten (10) successful in-filled synthetic turf football or soccer fields of full size within the past two (2) years or a minimum of twenty (20) successful in-filled synthetic turf football or soccer fields of full size within the past five (5) years. The installer shall have installed a minimum of five

(5) successful in-filled synthetic turf football or soccer fields of full size with the product vendor.

C. The synthetic turf surfacing system vendor shall have a designated employed representative available for service based in the States of Oregon, Washington, or Idaho.

1.06 REFERENCE DOCUMENTS

A. The following technical specifications of interest are utilized in the construction of the surrounding and supporting improvements including infrastructure and surface improvements and remediation of existing and construction of new field and landscape bases.

1. Section 33 46 23 Permeable Base Aggregate
2. OSU Design & Construction Standards

1.07 STANDARD SPECIFICATIONS

A. For standards: Applicable American Society for Testing Materials (ASTM), (latest edition).

B. OSU Design & Construction Standards

1.08 POST AWARD SUBMITTALS

A. Shop Drawings: Within 7 calendar days after issuance of Notice to Proceed, submit to the Owner's Representative 1 electronic copy of complete and detailed drawings showing all component parts of the synthetic turf system. The shop drawings shall be drawing to scale (1"=30' minimum) and shall include:

1. Edging details

2. Insert details including backing material

3. Seam details

4. Seam layout

5. Gluing patterns

6. Dimensional shop drawing for all field lines, markings and boundaries

B. Synthetic Turf Samples: Within 10 calendar days after issuance of Notice

of Intent to Award, submit to the Owner and Architect the following:

1. Two 6"x 12" samples each of each turf product, including backing with perforations or integrated pad as may be applicable.

2. Two 6" x 12" samples each of turf showing method of seam makeup with perforations.

3. Two 4” x 12” samples each of the other colors proposed for use on the field for lines and markings, for each product.

4. Two 1-pound samples of each the proposed In-fill materials.

C. Manufacturer's Specifications and Warranty:

1. Within 14 calendar days after issuance of Notice to Proceed submit to the Owner’s Representative each of the selected manufacturer’s material specifications and installation instructions. Include detailed specifications of manufacturer’s provisions for achieving permeability, stating rate in infiltration and permeability in inches per hour of system materials for the vertical draining system.

2. Within 28 calendar days after Notice to Proceed, submit to the Owner’s Representative the warranty package herein specified for review.

D. Testing and Quality Control: Within 14 calendar days after issuance of Notice to Proceed, submit to the Owner’s Representative the following test results for the system specified. An independent testing laboratory experience with testing of synthetic turf or carpeting materials shall certify these tests. The qualifications of the testing laboratory to be utilized for the submittal and the pre-shipment testing shall be submitted to the Engineer for approval. Applicable minimum material ASTM tests:

1. Dynamic Cushion Test - ASTM F355, Procedure A, (system); ASTM F355 procedure A at the 24” drop.

2. Yarn and fabric characteristics.

3. Pill Burn Test – ASTM D2859

E. Maintenance and Operating Data:

1. Prior to acceptance and/or occupancy by the Owner, furnish to the Owner’s Representative maintenance and operating data with imprinted Project, Owner, Owner’s Representative, Contractor and

Turf Subcontractor names, and date of turf system installation.

2. In addition, provide descriptions of any equipment required for maintenance and repair, citing specific vendors for each unit not provided with the installation.

3. Use and Limitations - Provide a separate page stating approved activity usage for the turf and activities not recommended relative to warranty.

4. Index - Index with tab dividers for data as follows: Materials installed with their characteristics:
   a. General maintenance
   b. Small repair procedures
   c. Minor seam repair
   d. Discussion of precautions to be practiced, general maintenance, and uses to avoid to protect turf surface and to maintain installation's warranty
   e. Recommendations for paint application and removal of lines and markings.

5. O&M Manual shall be submitted in Portable Document Format including dividers and comprehensive bookmarks embedded.

1.09 PRE-SHIPMENT SUBMITTALS

A. Prior to shipment of the synthetic turf materials to the job site, synthetic turf material from every sixth roll shall be randomly sampled and the tested by an independent testing laboratory experience with testing synthetic turf materials. The testing laboratory shall be completely independent with no ties to the turf manufacturer. The testing shall include the following:

Item	ASTM	Property
1.	D418	Pile Weight
2.	D418	Total Weight
3.	D418	Pile Height
4.	D1335	Tuft Bind (without infill)
5.	D1682	Grab/Tear Strength.

B. Copies of the test results shall be transmitted to the Owner and Engineer directly from the testing laboratory. The synthetic turf materials shall not be shipped to the site without written authorization from the Engineer after the Owner and Engineer have approved the test results.

C. Samples of the synthetic turf material tested from every sixth roll shall also

be transmitted to the Engineer for approval by the independent testing laboratory prior to shipment of the synthetic turf materials to the job site. Sample size shall be 12” x 12”.

D. All fees and costs associated with the pre-shipment sampling, testing, reporting, and shipping shall be paid by the Contractor.

1.10 CERTIFICATION OF THE BASE

A. The Synthetic Turf Surfacing Contractor shall furnish to the Owner, prior to the synthetic turf installation, a written certification of the acceptability by the turf vendor of the base construction as applicable for installation and warranty validation.

1.11 NOT USED

1.12 WARRANTY OF SYNTHETIC TURF

A. Warranty shall cover, in general, the usability of the turf surface, accessories, use characteristics, and suitability of the installation. All items covered by warranty are to be replaced or repaired with new materials, including installation at the sole expense of the warranting contractor for the period of eight (8) years to the Owner, for the designated uses enumerated as follows:

1. Soccer
2. Physical exercises
3. Physical education activities
4. Pneumatic rubber-tired maintenance and service vehicles
5. Pedestrian traffic and other similar uses
6. Ceremonial and Entertainment Events

B. A principal of the applicable firm, duly-authorized to make contracts, shall sign the turf vendor warranty. If the turf vendor is not the manufacturer, the manufacturing firm shall also sign the warranty. The term "Contractor" contained herein means the firm furnishing warranty. "Owner" is Seattle Sounders FC. Warranty period shall be a minimum of ten (10) years from date of Substantial Completion of the installed system by the Owner.

1.13 FORM OF WARRANTY OF SYNTHETIC TURF SYSTEM

A. Submit individually for each product used.

B. Contractor hereby warrants to Owner, subject to the limitations and conditions set forth below, that its synthetic turf system consisting of synthetic turf described as _____, and

the adhesives used in the installation, is free from defects in material and workmanship and shall, for a period of eight years as applicable from the date of Substantial Completion of the work, remain serviceable for multiple sports activities.

C. Contractor warrants to the Owner that its synthetic turf materials shall not fade, fail, shrink, wrinkle, or reflect excessive wear. Contractor shall, at their sole expense and cost, replace such areas of the synthetic turf system not performing to these standards for the life of the warranty.

D. Definitions:

1. The term "not fade" in the context of this warranty shall mean that the synthetic turf material shall remain a uniform shade of green, or other colors installed, with no significant loss of color.
2. The term "not fail" or "excessive wear" as used in the context of this warranty shall mean that the length and weight of the face yarn or pile material in the synthetic turf surface above the infill materials shall not have been decreased by more than 10% per year according to ASTM D418, nor exceed 50% during the warranty period. In the event that the synthetic turf system does not retain its fiber height or shock absorbency and is consequently no longer serviceable during the warranty period, the Contractor shall, at their sole expense, replace such portion of the system that is no longer serviceable.

E. The term "serviceable" in the context of this warranty shall mean that the synthetic turf system for the soccer field shall have a maximum "G" value according to ASTM F1936-10 and Procedure A, ASTM F355 10a, not to exceed 130G's at any location upon installation and shall not exceed 175G's throughout life of the warranty period. This shall be determined by conducting dynamic cushioning tests at the locations designated in ASTM F1936-98 and at corners of the soccer penalty boxes at opposite sides of the field. Any increase from 130G's to allowable 175G's maximum shall be at a relative uniform rate not to exceed 15 G's in any single yearly period. Where applicable, the fabric seams shall remain attached to the underlying surface over the warranty period and shall not separate or become unglued or unattached, as applicable.

F. Contractor warrants to the Owner that the permeable synthetic system shall drain vertically a minimum of 20 inches precipitation per hour without visible surface ponding.

G. Contractor shall replace with new materials, at their sole expense, any damage to the synthetic turf system that extends more than 3 feet beyond the location of foreign combustibles, which may ignite and fire-damage the

synthetic turf system. The Contractor shall not be held liable for any incidental or consequential damages. These warranties and the Contractor's obligations here-under are expressly conditioned upon;

H. The Owner making all minor repairs to the synthetic turf system upon the discovery of the need for such repairs;

I. The Owner maintaining and properly caring for the synthetic turf system in accordance with the Contractor's maintenance manual and instructions.

J. The Owner complying with the dynamic and static load specifications established by the Contractor.

K. The warranty is not to cover any defect, failure, damage or undue wear in or to the synthetic turf system caused by or connected with abuse, neglect, deliberate acts, act of God, casualty, static or dynamic loads exceeding Contractor's recommendations, footwear having cleats, spikes, or similar projections other than conventional baseball, football, soccer, or rugby shoes having cleats of not more than 1/2" in length, and other conventional running track shoes having spikes of not more than 1/4" in length, or use of improper cleaning methods.

L. Contractor shall be allowed to examine the synthetic turf system regarding any claim that the Owner makes to be present at any time, to analyze the results of all tests conducted by the Owner or others, and to conduct such tests of their own. Contractor shall not be responsible for any costs or expenses incurred by the Owner or others with respect to such tests, except the Contractor shall pay for costs of all tests and analysis conducted or directed by their representative.

M. In the event the Contractor does not respond to the Owner’s written notice within 10 days of receipt of notice or does not submit, schedule and execute corrective work within 30 days for any material replacement and within 5 days for work limited to repairs of existing materials or repair that can be made with attic stock materials, the Owner has the option of having the work performed at the expense of the Contractor.

N. Sample form of warranty herein set forth is a suggested form for use for the work under this section. Manufacturer’s standard form of warranty may be used provided all conditions specified are incorporated. All claims by the Owner under this warranty must be made in writing to Contractor’s address at_____ within 30 days after the Owner learns of the defect giving rise to the claim. This warranty shall constitute a contract made in the State of Oregon and shall be governed by the laws thereof.

1.14 WARRANTY TESTING

A. The Synthetic Turf Vendor shall arrange for and make payment for annual testing under the FIFA Quality PRO standard annually, and provide reporting demonstrating certifiability of the system. When the Owner chooses and agrees to appropriately compensate the vendor, the Synthetic Turf Vendor shall coordinate submittal to FIFA for actual certification.

B. The turf field is to be tested for dynamic cushioning ("G" Test) by an experienced independent testing laboratory acceptable to the Engineer or Owner at the completion of the installation shortly prior to acceptance inspection by the Owner/Engineer, at the anniversary date of the first year, second year, fourth year, sixth year, and 60 days prior to the anniversary date of the warranty expiration. If conditions of the Specifications and/or Warranty are not met, the Contractor has the option of corrective work or replacement. In the event corrective work does not meet the requirements of the Specifications after a second attempt to bring the system within these limits, then the Contractor is to replace non-conforming areas or sections solely at the Owner's discretion and direction.

C. Tests shall be performed in accordance with ASTM F-1936-10 and F355-10a.

D. Test locations as designated in F-1936-10, Paragraph 8. Included in the report shall be the measured depth of the infill material at all test locations.

E. All costs for the stated testing shall be paid by the Synthetic Turf Surfacing Contractor.

F. If the Contractor does not have the tests performed within 10 days of specified times listed, the Owner has the option of ordering the testing work at the expense of the Synthetic Turf Surfacing Contractor.

PART 2 - MATERIALS

2.01 GENERAL

A. Infilled Synthetic Turf: The turf system shall be a vertical-draining permeable synthetic turf system. The turf system shall consist of a synthetic grass like surface pile, which shall be tufted into a synthetic backing.

B. The backing material shall be made permeable without the use of perforations or supplemental holes or penetration that could result in loose or compromised fiber tufts.

C. All backing layers and coatings shall be firmly bonded together. Coating materials must be completely cured and bonded to the other backing layers. Synthetic turf panels or rolls that do not meet this requirement will be rejected.

D. The entire system shall be resistant to weather, insects, rot, mildew, and fungus growth, and be non-allergenic and non-toxic. The entire system shall be constructed to maximize dimensional stability, to resist damage and normal wear and tear from its designated use, and to minimize ultraviolet degradation.

E. All adhesives used in bonding the system together shall be resistant to moisture, bacterial and fungus attacks, and resistant to ultraviolet rays at any location upon installation.

2.02 DYNAMIC CUSHIONING REQUIREMENTS

A. The dynamic cushioning of the system shall not exceed a maximum value of 130 G's per ASTM, F1936-10 ASTM, F355 10a, at any location upon installation.

2.03 PERMEABILITY REQUIREMENTS OF THE SYNTHETIC TURF SYSTEM

A. The system including the underlayment, synthetic turf, infill materials, and the supplemental pad system (if applicable) shall drain vertically a minimum of 20 inches precipitation per hour without visible surface ponding.

2.04 SYNTHETIC TURF PILE SURFACE

A. The pile surface shall provide good traction in all types of weather with the use of conventional "sneaker-type shoes" and composition, molded-sole athletic shoes.

B. The pile surface shall be suitable for both temporary and permanent line markings using rubber-based paint where applicable.

C. Pile surface shall be nominally uniform in length for all portions of the field. Synthetic turf panels or rolls with irregular pile heights or with “J hooked” fibers that extend more than 1/4 inch above the surrounding fibers will be rejected.

2.05 SYNTHETIC TURF FABRIC SURFACE

A. The fabric surface shall be constructed and installed in minimum 15-foot

widths with no longitudinal or transverse seams, except for head or tee seams at field boundaries and inlaid lines within a finished roll assembly. The seams shall be 15'-0" spacing.

B. Rolls that do not lay evenly and with full dimension width will be rejected. No fitted pieces will be allowed to true alignment.

C. The color shall be uniform with no visible deviations in shade permitted. Rolls that do not meet this requirement will be rejected.

D. Pile fibers shall resemble freshly-grown natural grass in appearance, texture and colors.

E. Fabric backing for the in-filled synthetic turf systems shall be loose laid and anchored at the perimeter of the fields and access covers as shown in the details.

F. All turf seams shall be sewn with high strength polyester fiber cord or nylon.

2.06 NOT USED

2.07 NOT USED

2.08 LINES AND MARKINGS

A. Provide Field Markings as follows or per the approved Shop Drawings.

1. Soccer – White
2. Rugby – Gray
3. Flag Football – Black
4. Men’s Lacrosse – Blue
5. Women’s Lacrosse – Orange
6. Softball - Yellow

B. Manufacturer is to guarantee that synthetic turf is adaptable to painted lines in the event painting is utilized in the future.

2.09 MINIMUM SPECIFICATIONS FOR SYNTHETIC TURF SYSTEM MATERIALS

A. The minimum material will be verified and enforced and will be the basis for Owner's testing. Material that fails to meet these minimum specifications will be rejected. The material specifications in this section are minimums. The manufacturer of the synthetic turf fiber and fabric may

elect to exceed these specifications to insure compliance with all requirements and the warranty as specified in this section.

B. Color of synthetic turf to be green as approved by Owner with white for lines and markings as shown on the plans. The fiber used for the lines and markings shall be of the same composition as that used for the green.

2.10 MINIMUM TURF MATERIAL SPECIFICATIONS

A. Pile fiber shall be true monofilament fiber, 100% polyethylene athletic quality yarn designed specifically for outdoor use and stabilized to resist the effects of ultra-violet degradation, heat, wear, water and airborne pollution. Fiber shall be certified to have less than 50 ppm or less of lead from both the fiber supplier and the turf vendor.

Item	ASTM	Property	Minimum Specifications
1.	D1577	Yarn Denier	10000 mono
2.	D1577	Filament thickness	380 Micron / mono
3.	D2256	Yarn Breaking Strength	20 lbs
4.	D2256	Yarn Elongation to Break	70%
5.	D789	Yarn Melting Point	240^{o} F.

B. Fiber Wear Simulation: Fiber shall exhibit no splitting or appreciable degradation after a minimum of 20,000 cycles of simulated Lisport wear testing.

C. Fabric Composition: Shall consist of true monofilament 100% polyethylene yarn tufted into polypropylene backings coated with high-grade polyurethane. Coating and backing materials shall assure suitable tuft bind strength, dimensional stability, and long-term wearing properties.

2.11 MINIMUM SPECIFICATIONS FOR SYNTHETIC TURF SYSTEM

A. Pile Yarn shall be 100% polyethylene athletic quality yarns designed specifically for outdoor use and stabilized to resist the effects of ultra-violet degradation, heat, wear, water and airborne pollution.

B. Fabric Composition: Shall consist of monofilament or a dual-fiber blend of polyethylene yarns tufted into polypropylene backings coated with high-grade polyurethane to assure suitable tuft bind strength, dimensional stability, and long-term wearing properties. The following minimum specifications shall apply (non-infilled test results):

1. Base Bid SLP West and East Recreational Athletic Fields
   2.5” Monofilament System, Option 1, 3/8” Stitch Gauge

	ASTM	Property	Minimum Specification
a.	D418	Pile Weight	46 oz/sq yard +/-5%
b.	D418	Primary Backing	8 oz/sq yard total +/-5%
c.	D418	Secondary Backing	>16 oz/sq yard
d.	D418	Total Weight	70 oz/sq yard
e.	D418	Pile Height	2.50” +/-5%
f.	D1335	Tuft Bind	8 lbs.
g.	D1682	Grab/Tear Strength	200 lbs.
h.	D2859	Pill Burn Test	Pass

2. Base Bid SLP West and East Recreational Athletic Fields 2.5” Monofilament System, Option 2, 3/4” Stitch Gauge

	ASTM	Property	Minimum Specification
a.	D418	Pile Weight	42 oz/sq yard +/-5%
b.	D418	Primary Backing	8 oz/sq yard total +/-5%
c.	D418	Secondary Backing	>16 oz/sq yard
d.	D418	Total Weight	64 oz/sq yard
e.	D418	Pile Height	2.50” +/-5%
f.	D1335	Tuft Bind	8 lbs.
g.	D1682	Grab/Tear Strength	200 lbs.
h.	D2859	Pill Burn Test	Pass

3. Base Bid McAlexander Field House Indoor Athletic Field 0.75” Dual Fiber Poly/Nylon System, Integrated 5mm Pad Basis of Specification: STR PGPN-FG

	Property	Minimum Specification
a.	Primary Fiber Composition	Polyethylene
b.	Secondary Fiber Comp.	Textured Nylon
c.	Total Pile Weight	58 oz/sq yard +/-5%
d.	Primary Backing Comp.	13PP / 18PET
e.	Primary Backing Weight	7 oz/sq yard total +/-5%
f.	Secondary Backing Comp.	5mm Polyurethane
g.	Secondary Backing Weight	58 oz/sq yard
h.	Total Weight	138 oz/sq yard +/-5%
i.	Pile Height	0.75” +/-5%
j.	Tuft Bind	8 lbs.
k.	Grab/Tear Strength	200 lbs.
l.	Pill Burn Test	Pass

4. Alternate Bid 3, Vendor’s Proposed Synthetic Turf Surfacing at SLP West and East Recreational Athletic Fields

   a. The intent of this Alternate Bid Item is allow participating Vendors the opportunity to propose a product that may be

proprietary and therefore impossible to identify in a competitive specification, or a product that they believe to be superior for the application, specifically the high-use environment of the SLP West and East Recreational Athletic Fields.

b. Your Bid must include a completed Product Technical Data Sheet, which follows this Section.

c. Your proposed Alternate Bid Item 3 product must be compatible with the following possible Synthetic Turf Surfacing Bid Award outcomes;

- Base Bid SBR/Sand Infill
- Base Bid SBR/Sand Infill +Alt. 1 E-Layer
- Alt. 1 E-Layer +Alt. 2 Granular Cork/Sand Infill

d. The Owner and Architect will review proposed products for added value in the areas of safety, durability, O&M requirements, and value.

5. Alternate Bid Items 5 and 6, SLP Plaza and Sand Volleyball Improvements Landscape Synthetic Turf
1.75” Dual Fiber Poly/Text. PE System
Basis of Specification: STR MC68

	Property	Minimum Specification
a.	Primary Fiber Composition	Polyethylene
b.	Secondary Fiber Comp.	Textured PE
c.	Total Pile Weight	68 oz/sq yard +/-5%
d.	Primary Backing Comp.	13PIC
e.	Primary Backing Weight	7 oz/sq yard total +/-5%
f.	Secondary Backing Comp.	Polyurethane
g.	Secondary Backing Weight	20 oz/sq yard
h.	Total Weight	95 oz/sq yard +/-5%
i.	Pile Height	1.75” +/-5%
j.	Tuft Bind	8 lbs.
k.	Grab/Tear Strength	200 lbs.
l.	Pill Burn Test	Pass

2.12 SAND INFILL MATERIALS

A. This material shall be used for Base Bid Fields and Alternate Bids 5 and 6 installations.

B. The sand infill material shall be graded silica sand, sub-round to round, compaction resistant, washed and dried. The sand shall meet the

following criteria:

Shape	Round to Sub-round
Sphericity	0.65 – 0.85
Roundness	0.60 – 0.70
Hardness (Moh)	>7

C. The sand gradation shall meet the following wet sieve analysis:

Sieve Size	Percent Retained
#16	0% – 5%
#20	10% – 20%
#30	50% – 70%
#40	15% – 25%
#50	0% – 10%
#100	0% – 5%
Pan	0% – 2%

2.13 BASE BID RUBBER INFILL MATERIALS

A. This material is for use on the Base Bid Field installations only.

B. The synthetic turf shall utilize a proprietary combination of sand and crumb rubber infill materials.

C. The rubber shall be 100% SBR crumb rubber. The rubber infill material gradation shall meet the following size requirements, or as approved:

2.0 – 1.5 mm	0% - 10%
1.5 – 1.0 mm	10% - 30%
1.0 – 0.5 mm	40% - 80%
0.5 – 0.0 mm	0% - 10%

D. Infill material shall be applied in a dried condition when the turf is dry. It shall be applied in uniform layers effectively dragged to distribute the material uniformly to the backing of the turf. The layers shall be installed to provide a profile with 100% sand at the bottom and 100% rubber on the surface.

E. Sand content shall be approximately 40% by dry weight, crumb rubber 60%. Sand shall be installed first. Rubber shall be installed on top of final lift of sand.

2.14 ALTERNATE BID ITEM 1 E-LAYER

A. This material is for use on the Fields installations only.

B. The shock-absorbing pad shall be a paved-in-place (in-situ) porous elastic layer and shall become an integrated part of the field base supporting but not permanently attached to the field synthetic turf system.

C. The elastic layer shall be permeable to >100”/hr and shall resist the effects of adhesives, water, freeze-thaw, heavy loads associated with athletic fields, compression/deflection, rot, mold, mildew, bacteria, and air-borne pollution.

D. Single Layer Installation: The paved-in-place (in-situ) elastic layer shall be installed in one lift to a minimum thickness of 25 mm. The elastic layer shall contain only the following Components, % by Weight:

1.	Granulated SBR rubber (1-5mm)	43-47%
2.	Clean-washed "bird’s-eye" aggregate (3-6mm)	44-48%
3.	Single component high quality polyurethane binder	6-8%

E. Supply of materials shall be as approved prior to commencing the work.

2.15 ALTERNATE BID ITEM 2 INFILL MATERIALS

A. Alternate Bid Item 2 Granular Cork

Granular Cork Infill: The synthetic turf shall utilize a combination of sand and granular cork as follows;

1. Granular Cork product shall be as submitted by the Contractor and approved by the Owner & Engineer prior to shipping.

2. Cork to be of the following properties or characteristics;
   a) Allowable Range of Bulk Density: 80-300 kg/m^3
   b) Moisture Content: <12%
   c) Particle Gradation, Typical

Screen	% Pass (by Weight)
#4	100
#8	98-100
#10	90-100
#14	50-75
#18	25-50
#20	0-25
#30	0-10
#40	0-1

3. Granular Cork materials applied to the synthetic turf system from shipment bags into mechanical spreader equipment needs to be

monitored to eliminate incorporation of super fines, i.e. chaff into the infill application. Segregation of the cork materials during transport occurs and quality control of this the material is required.

4. The Granular Cork infill shall be tested at the point of manufacture and assembly, and at point of delivery on site for compliance with the particle sizes included in the approved submittal. A minimum of one test result for every 15 tons (1 super-sack typically holds 2,000lb) of cork infill shall be required from materials delivered and stored on site. No infill shall be allowed to be installed until confirmation of compliance with specification requirements is documented on site by independent laboratory testing. Testing of infill prior to infill placement shall be coordinated by the vendor to have no impact on installation sequence of schedule for timely completion of the work.

B. Sand for use with Granular Cork Infill

1. The sand gradation shall meet the following wet sieve analysis:

Sieve Size	Percent Retained
#8	0%
#10	0% – 3%
#12	0% – 10%
#16	65% – 85%
#20	10% – 30%
#30	0% – 3%
Pan	0% – 1%

3. The maximum sand content shall be nominally 70-75% by weight. The exact infill material ratio may be altered to provide strength, shock attenuation, and to provide permeability by the vendor/installer as approved by the Engineer / Owner.

PART 3 - EXECUTION

3.01 CERTIFICATION OF FIELD BASE INSTALLATION

A. The Contractor shall perform an inspection of the prepared aggregate base as specified elsewhere and submit written certification of acceptance of the base for the installation of the synthetic turf system.

B. Summary of certification shall include, but not be limited to:

1. Acceptance of the base construction "finish surfaces" as totally

suitable for the application of work specified under this section.

2. Verification and certification of the infiltration and permeability rates of the permeable aggregate as applying to the warranty.

C. All discrepancies between the required materials, application and tolerance requirements noted by the turf installer shall be brought immediately to the attention of the Contractor and the Owner Representative. Failure of the turf installer to immediately inform the Contractor and Owner Representative of any prior work that does not meet the required specifications will result in the turf installer being required to perform any work needed to bring the base to acceptable condition.

3.02 INSPECTION OF MATERIALS

A. Prior to installation, and immediately upon delivery of synthetic turf system materials to the project site, the Synthetic Turf Surfacing Contractor shall inspect material as follows:

1. For damaged or defective items;
2. Measure turf pile height and thickness of each roll;
3. Inspect secondary backing for contact with tufted fiber and spacing of perforations to allow drainage;
4. Reject damaged materials and all materials out of tolerance with this specification.

B. After installation, inspect project area for acceptable seaming, adhesive bonding, uniformity of color of turf, bubble- and wrinkle-free surface smoothness as laid, field lines and markings, insert installations, edge details. Remove and/or repair deficient workmanship prior to requesting the Owner’s Representative's inspection pursuant to completion and acceptance of the work.

3.03 OWNER'S TESTING

A. The Owner may have samples of the turf submitted and tested for verification of conformance to specifications. Turf system acceptance is subject to the results of these tests.

B. Any material so tested and found not conforming to specification will be rejected and replaced with material conforming to the specification at Synthetic Turf Surfacing Contractor's expense. Re-submittal shall be required.

3.04 SYNTHETIC TURF INSTALLATION

A. Obtain the approval of the Owner's Authorized Representative prior to beginning the installation of synthetic turf.

B. Perform all work in strict accordance to the drawings, shop drawings and manufacturer's specifications and instructions.

C. Verification: The Contractor is responsible for inspecting, verifying, and accepting all installed work of this section.

D. Environmental Conditions: Do not apply adhesive materials or infill material when:

1. Ambient air temperature is below 40 degrees F.
2. Material temperatures are below 40 degrees F.
3. Rain is falling or pending
4. Conditions exist, or are pending, that will be unsuitable to the installation of the system.

D. Preparation:

1. Accept base onto which the synthetic turf surfacing system and the anchoring system are to be applied, as specified above.
2. Immediately prior to application of the synthetic turf, the base shall be thoroughly cleaned of all foreign material, soil, or any other substances that may be detrimental to permeability and the installation of the turf system.

E. Equipment and Access:

Equipment utilized during construction including compressors, generators, etc. shall be in complete working order, with exhaust systems oriented vertically and away from the synthetic turf surface. At any location where equipment is parked and/or staged on the turf surface during installation, adequate protection of the finish turf surface will be required including, but not limited to heat resistant panels to ensure 100% viability of the finish turf surface and fibers. Should a portion of the turf be damaged as a result of installation techniques, the entire turf panel may be subject to rejection and replacement at the direction of the Owner Representative.

F. The fabric surface shall be constructed and installed in 15 -foot minimum widths with no longitudinal or transverse seams, except for head or tee seams at field boundaries and inlaid lines within a finished roll assembly.

G. Rolls that do not lay evenly and with full dimension width will be rejected.

No fitted pieces or “relief cuts” will be allowed to true alignment.

H. Bonding of Material Surfaces: The bonding or fastening of all system material components shall provide a permanent, tight, secure and hazard-free, athletic playing surface. System material components include:

1. Bonding all seams and inlaid line and markings
2. Bonding and seaming must maintain their integrity for total length of warranty period.

I. Seams (Joints)

1. Backing layers must lie flat on the field base to provide a uniform pile surface.
2. The width between fiber rows at the seam locations shall not exceed that of the tufting gauge of the turf materials.
3. All seams shall be brushed to provide full coverage of fiber over the thread.

J. Turf Edges: Turf edges to be as shown on the edge fastening detail and secured at the perimeter.

3.05 NOT USED

3.06 FIELD IN-FILL INSTALLATION

A. The in-fill material shall be applied in a dry condition and when the synthetic turf is dry.

B. The synthetic turf installer shall not infringe upon any current or pending patents held by other synthetic turf manufacturers or installers with the installation of the in-fill materials.

C. The infill installation shall not result in fiber material trapped below the surface of the infill material. If fiber is trapped below the surface, a portion or all of the infill material must be removed and reinstalled.

D. The infill material shall be installed at a uniform depth across the entire field area. Infill depths shall not vary by more than 5mm across the field area.

E. The brushing of the in-fill material shall provide fiber fibrillation resulting in a natural surface appearance. If in Owner’s opinion more fibrillation is desired, the Synthetic Turf Contractor shall provide additional brushing of the surface to provide the desired level of fibrillation.

F. The in-fill materials shall be water settled to provide accelerated consolidation of the in-fill material prior to use by the Owner. Upon completion of the initial water settlement, the surface will be inspected the Owner and Engineer for footing stability and in-fill consolidation. The Synthetic Turf Contractor shall provide any additional water settling as required by the Owner and Engineer to achieve the desired level of in-fill stability and consolidation.

G. Finished Infill Depths

1. Recreational Athletic Fields shall be filled uniformly to within 7/8" - 5/8" of the average fiber tip height (Base Bid or Alternates).
2. Landscape Turf shall be filled uniformly to within 1" of the average highest fiber-type tip height.

3.07 CLEANING

A. Remove all excess materials of all types, equipment, debris, etc., from the site immediately after completion of the work. Remove all stains and other blemishes from all finished surfaces. Leave work in clean, new appearing condition, ready for use by Owner.

B. The Contractor shall inspect the entire field area with a hand held metal detector to identify any construction materials or tools left on the field. All such materials shall be removed prior to Owner occupancy of the field.

3.08 PROTECTION

A. Adequate protection of materials and work from damage will be the responsibility of the installer during installation and until acceptance of their work. Synthetic Turf Surfacing Contractor will be responsible for protection after the acceptance of the work until final acceptance of all contract work by the Owner. All material damaged prior to acceptance by the Owner shall be replaced at no cost to the Owner.

3.09 MAINTENANCE EQUIPMENT– SWEEPER UNITS

A. The Contractor shall provide one tow behind sweeper/ provide ground-driven rotary brush for the cleaning and maintenance of the infilled synthetic turf. Unit shall:

1. Provide for metered re-application of infill material with simultaneous dirt removal through 2 sieve trays
2. Provide sieve trays with variable settings from 4-10MM;
3. Adjustable depth row of tines for decompact infill material
4. Working width to be nominally 6 ft.

5. Rear mounted drag brush.
6. Provide connections for tow behind standard tractor or utility vehicle.
7. Manufacturer's Reference: The sweeper unit shall be SMG TurfCare TCA 2000 or approved equal. Contact SMG Equipment LLC, (253) 350-8803 / www.smgequipment.com.

3.10 MAINTENANCE EQUIPMENT – DRAG BRUSH UNITS

A. One tow-behind static grooming brush unit shall be furnished to the Owner with the synthetic turf field surfacing system.

B. The drag brush unit shall include 3-point hitch, rear-mount with tow coupling.

C. Include four specially-arranged brush rows to level surface of turf with infilling granulate.

D. Working width to be nominally 6 ft.

3.11 SURPLUS MATERIALS

A. Deliver to Owner all extra materials herein specified. Receive Owner's written receipt for all materials. Deliver receipt to Owner's Authorized Representative.

B. Infill Materials: Provide four (4) 33 gallon rubber trash containers with lids of each infill material used for each field and two (2) for each of Alternates 5 and 6 Awarded.

C. Turf for Future Repairs
Provide Green Turf in minimum 4'x8' rectangular or square pieces including two (2) pieces each of field body and Alternate Bid landscape turf at 15'x10'. Provide the following total surplus:

1. Field Body (Green) 1,500sf
2. Field Markings (White) 4"w x100lf
3. Field Markings (Black) 4"w x100lf
4. Field Markings (Blue) 4"w x50lf
5. Field Markings (Orange) 4"w x50lf
6. Field Markings (Yellow) 4"w x25lf
7. Landscape Turf (Green) 1,250sf

END OF SECTION 32 18 24

SECTION 32 18 24
PRODUCT TECHNICAL DATA SHEET

This form is to be submitted as follows;

A. Pre-Approved Suppliers need only submit for Alternate Bid Item 3.

B. Suppliers approved through a Substitution Request may use this form for their Base Bid Product Description, or provide this information (at a minimum) via pre-published product data sheets, as well as for Alternate Bid Item 3.

C. Copy as necessary and attach to the Form of the Proposal / Bid Form. Verify if the product is submitted for the Base Bid or Alternate Bid (check one).

☐ Base Bid Product ☐ Alternate Bid Item 3

Vendor Name

_____

Legal Business Name / DBA

-

Product Trade Name

_____

Product Trade Name / Product Code

Pile Yarn Assembly (check all that apply):

☐ 100% PE Slit Film/Tape
☐ 100% PE Monofilament
☐ Dual PE Fiber – Mono/Tape
☐ Six-End Yarn
☐ Textured PE Fiber
☐ Textured Nylon Fiber
☐ Other (describe below)
☐ Eight-End Yarn

(Describe Pile Yarn Assembly if description is not included above)

Property	**Proposed Specification**	**Units**	**ASTM**
Primary Pile Yarn Comp.	_____	(material, mono or tape?)	
Secondary Pile Yarn	_____	(material, if applicable)	
Textured Fiber	_____	(material, if applicable)	

Primary Yarn			
Yarn Denier	_____	gm/9000m	D1577
Yarn Breaking Strength	_____	lbs/force	D2256
Yarn Melting Point	_____	degrees F	D789
Secondary Yarn			
Yarn Denier	_____	gm/9000m	D1577
Yarn Breaking Strength	_____	lbs/force	D2256
Yarn Melting Point	_____	degrees F	D789
Textured Fiber			
Yarn Denier	_____	gm/9000m	D1577
Yarn Breaking Strength	_____	lbs/force	D2256
Yarn Melting Point	_____	degrees F	D789

Assembly			
Minimum Pile Height	_____	inches	D418
Maximum Pile Height	_____	inches	D418
Yarn Ends per Stitch	_____	-	D418
Primary Pile Weight	_____	oz./sq. yd	D418
Secondary Pile Weight	_____	oz./sq. yd	D418
Textured Fiber Weight	_____	oz./sq. yd	D418
Primary Backing Weight	_____	oz./sq. yd	D418
Secondary Backing Wt.	_____	oz./sq. yd	D418
Total Weight	_____	oz./sq. yd	D418
Tuft or Stitch Spacing	_____	per inch	D418
Gauge	_____	per inch	D418
Tuft Bind (without infill)	_____	lbs.	D1335
Grab Tear Strength	_____	lbs.	D1682
Impact Attenuation (max)	_____	Gmax	D355
Pill Burn Test	_____	Pass/Fail	D2859

END OF TECHNICAL DATA SHEET

SECTION 32 18 27
TENNIS COURT SURFACING

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The work includes preparation & resurfacing of six (6) outdoor courts and four (4) indoor courts.

B. Provide all labor, materials, equipment, transportation and services to apply new five-coat acrylic surfacing to all existing tennis court areas.

1.02 RELATED WORK IN OTHER SECTIONS

02 20 00 Site Preparation
11 68 24 Athletic Equipment
32 31 14 Fencing Systems

1.03 SUBMITTALS

A. Product Information: Submit copies of acrylic surfacing product information, sand content and court speed options, color selection options, maintenance, and warranty information.

1.04 COORDINATION

A. Coordinate the work with other work scheduled for on or adjacent to the tennis courts, including
   1. Trench Drain Cleaning
   2. Fence Repair & Replacement

PART 2 MATERIALS

2.01 MANUFACTURER REFERENCE FOR ACRYLIC SURFACING

A. The following manufacturers offer products which conform to the intent and purposes of these specifications:

   Plexipave / California Products

B. Materials manufactured by other manufacturers shall not be considered to meet these specifications.

2.02 COURT COLORS

A. The color scheme for all courts (10 total) shall be as selected by owner, generally medium blue court, and medium green surround with white lines and light blue blended lines and , where applicable, navy blue pickleball lines (2 courts, total 4 pickleball courts).

PART 3 INSTALLATION

3.01 APPROVED SURFACING SYSTEM INSTALLERS

A. The installation and application of the court surfacing materials shall be under the direct supervision of an installer who is certified by the Manufacturer of the tennis court surfacing system.

B. The following installers are pre-approved for the tennis court surfacing system installation.

1. Plexipave / California Products, Beynon Sports Surfaces, (503) 691-2484

3.02 FINAL PAVEMENT SURFACE INSPECTION

A. The asphaltic concrete must be completely cured for a minimum of 14 days of warm, dry weather, or longer period if the weather is cold or damp, prior to application of any court surfacing materials.

B. Prior to application of a court surfacing system and after installation of net post sleeves, center tie down and all fencing, the pavement must be clean and free of all foreign matter. A high-pressure washer, air broom or hand sweeper shall be used for this operation. After using detergents, the surface must be thoroughly flushed with water.

C. The court surface shall be flooded with water and allowed to drain. Any depressions thereon holding water shall be filled with a pure acrylic resurfacing material and 30 mesh sand per manufacturer's specifications.

3.03 ACRYLIC SURFACING SYSTEM INSTALLATION

A. The surface system installation shall comply with the surfacing system manufacturers published instructions including the required application rates and methods as well as the environmental and temperature conditions.

B. Filler Coat: The Contractor shall apply a minimum of two filler coats in opposite

directions over the entire slab. The material must be delivered to the job site in unopened containers and mixed at the job site according to the manufacturer's specifications. The filler coat material shall be acrylic re-surfacer manufactured by the manufacturer of the acrylic surfacing material.

C. Color Coats: The Contractor shall apply a minimum of two color coats over the entire slab. The material must be delivered to the jobsite in unopened containers and mixed at the jobsite according to the manufacturer's specifications. After the first coat has dried, the surface shall be inspected and all ridges removed. The entire surface shall then be blown clean. The second coat shall be applied, the surface shall be inspected and the ridges shall be removed. The entire surface shall then be blown clean. Both coats shall contain sand as required to obtain the desired playing "speed" as approved by the Owner.

D. Finish Coat

1. Immediately prior to applying the finish coat, the total surface shall be cleaned and foreign materials blown off.
2. The Contractor shall apply one finish coat over the entire surface area. The material must be delivered to the jobsite in unopened containers and mixed at the jobsite according to the manufacturer's specifications.

E. Application of All Coats

1. The coating materials shall be mixed according to the directions on the label of each product.
2. Pour a windrow along the length of one edge of the slab. Using a rubber-blade squeegee, insert approximately one-third of the width of the blade into the windrow, angle it so as to "plow" the windrow further onto the pavement, pull the squeegee the length of the pavement. Upon reaching the end, reverse direction and repeat the procedure. This procedure should be repeated until the entire surface is uniformly covered. It is required to keep adding fresh coating material to the windrow. Do not let the windrow run low. When adding fresh coating into the existing material in the windrow, do not stop for extended periods of time to take breaks until the coat being applied is complete.
3. Do not stop to repair mistakes that were made on previous passes. These can best be corrected after the coat being applied is dry.
4. The next coat is applied in the same manner, except that the direction of the windrow should be at a 90 degree angle to the previous coat.
5. Care must be taken to allow each application to dry thoroughly prior to the next coat. After each coat is dry, inspect the entire surface. Scrape and remove any excess material or foreign matter. If necessary, touch up any repairs.

6. Application rate in gallons of material per square yards of surface, as specified by the manufacturer as a minimum, must be strictly adhered to.
7. Finished surface must be uniform in texture and color shade without any blemishes. Additional complete finish coats are required to correct discrepancies.

3.04 PLAYING LINE INSTALLATION

A. Dimensions: The baseline shall be 3" wide and the playing lines shall be 2" wide. All lines shall be accurately located and marked in accordance with rules of the United States Tennis Association.

B. Layout: The lines shall be accurately laid out and taped. The edges of the tape must be over-painted to ensure full-width, true, sharp edges on the surface.

C. Application: All lines shall be double-coated with a textured line paint provided by the manufacturer of the acrylic surfacing system. The texture of the line paint should match the adjacent court surfacing texture. When the line paint has thoroughly dried, the tape shall immediately be removed in a method to provide straight and true lines. The Contractor will be required to provide touchup of any line where error is present or court surface that is over-coated or damaged. No tape residue will be permitted to remain.

D. White Tennis Lines shall be primary/dominant, with light blue blended lines secondary.

Navy blue pickleball lines shall be incomplete and include a 2” space at all intersection with primary and secondary markings.

END OF SECTION 32 18 27

SECTION 32 31 14
FENCING SYSTEMS

PART 1 GENERAL

1.01 SUMMARY

A. Scope Of Work

1. The following work is Alternate Bid Item 4:

   a. Remove all fence fabric.
   b. Replace all brace bands and framing hardware with offset-type to facilitate flush replacement on the field side of the framing.
   c. Replace all Chain Link Fencing 10’ ht. and below with spec. mesh, gauge, and finish.
   d. Replace fabric above 10’ ht. on the field side of the framing.
   e. Remove all “eye-top” top rail hardware on 4’ chain link fencing and replace with boulevard-type clamps & set screws.
   f. Construct new 10’ chain link fence and gate at SLP West.

2. Alternate Bid Item 6: Install new OSU Standard Architectural Fencing.
3. Provide all chain link fences, gates, and accessories as complete units controlled by a single source including necessary erection accessories, fittings, and fastenings completely installed and functioning.
4. All chain link posts, rails, fabric and hardware shall include galvanizing and specified color finishes.
5. Install new Windscreens at all outdoor tennis courts.

B. Related Sections

03 30 00 Cast-in-Place Concrete
31 00 00 Earthwork

1.02 SUBMITTALS

A. Submit under provisions of Division 1.

B. Product Data: Submit the manufacturer's technical data and installation instructions for metal fencing and gates.

C. Shop Drawings: Submit shop drawings showing elevations and details of assembly for all new work.

1.03 MATERIALS STANDARDS

A. OSU Design & Construction Standards

B. Materials standards shall adhere to Standards for Galvanized Steel Chain Link Fence Fabric, Standards for Industrial Steel Specifications for Fence Posts and Accessories, Standards for chain Link Fence Installation; as published by Chain Link Fence Manufacturer's Institute (CLFMI); American National Standard Institute (ANSI).

1. Standards for Galvanized Steel Chainlink Fence Fabric
2. Standards for Industrial Steel Specifications for Fence Posts and Accessories
3. Standards for Chainlink Fence Installation as published by Chainlink Fence Manufacturer's Institute (CLFMI)
4. American National Standard Institute (ANSI).

C. All welding shall be completed by a certified welder.

D. Base Bid Fencing is installed immediately adjacent to infilled synthetic turf. All components are to be steel – absolutely no aluminum parts permitted.

PART 2 MATERIALS

2.01 GENERAL

A. Dimensions shown for pipe are outside dimensions.

2.02 STEEL FENCING

A. No. 9 ga. Core, 6 ga. (0.158") finished size steel wires, 2" mesh, with knuckle both top and bottom. 6 ga. Core where specified.

B. Furnish one-piece fabric widths for fencing up to 10' high.

C. Fabric finish: PVC Bonded (Black)

D. Framework: Galvanized steel with Powder Coating (Black)

E. Hardware and Accessories: Galvanized steel with alkyd enamel finish (Black).

2.03 COLOR-CLADDING FOR FENCE COMPONENTS

A. Fabric:

1. Standard Woven-wire Fabric, No. 9 ga. (0.148") finished size steel wires, 2" mesh, with knuckle both top and bottom.
2. Backstop Fencing below 10’ where specified 6 ga. Core 1-1/2” mesh
3. Tennis Court woven-wire Fabric, No. 9 ga. (0.148") finished size steel wires, 1-3/4" mesh, with knuckle both top and bottom.

B. Furnish one-piece fabric widths for fencing up to 10' high.

C. Fabric finish: Galvanized, ASTM A392, Class I, with not less than 1.2 oz. zinc per sq. ft. (for 2” mesh) of surface with black class 2b PVC fusion bonded coating.

D. Framework: Galvanized steel, ASTM A120 or A123, with not less than 1.8 oz. zinc per sq. ft. of surface with a powder coated black gloss finish.

E. Hardware and Accessories: Galvanized steel, ASTM A120 or A123, with not less than 1.8 oz. zinc per sq. ft. of surface, with a powder coated black gloss finish.

2.04 FRAMING AND ACCESSORIES

A. End, Corner and Pull Posts: All posts shall be standard steel pipe, straight, true and un-spliced. Minimum sizes and weights as follows:

B. 4’ height, 2.875" o.d. steel pipe, 5.79 lbs. per l.f.

C. 10' fabric height, 4.0" o.d. steel pipe, 9.11 lbs. per l.f.

D. Gate Posts: Furnish posts for supporting single gate leaf, or one leaf of a double-gate installation, for nominal gate widths as follows:

Leaf Width	Gate Post	Lbs/L.F.
5', 10’ & 12’ (Clear)	4.000" o.d. pipe	9.11

E. Not Used

F. Line Posts: All posts shall be standard steel pipe, straight, true and up to 20 ft. length to be unspliced. Minimum sizes and weights as follows:

1. Space 10' o.c. maximum, unless otherwise indicated.
2. 6’fabric height, 2.375" o.d. steel pipe, 3.65 lbs. per l.f.
3. 8’ fabric height, 2.875” o.d. steel pipe, 5.79 lbs. per l.f.

4. 9’ and 10' fabric height, 4.0” o.d. steel pipe, 9.11 lbs. per l.f.

G. Top, Bottom and Intermediate Rails: Manufacturer's longest lengths, with expansion type couplings, approximately 6" long, for each joint. Provide means for attaching top rail securely to each gate corner, pull and end post. Rails shall be 1.66 o.d. pipe, 2.27 lbs. per l.f.

H. Post Brace Assembly: Manufacturer's standard adjustable brace at end and gate posts and at both sides of corner and pull posts, with horizontal brace located at mid-height of fabric. Use same material as top rail for brace, and truss to line posts with 0.375" diameter rod and adjustable tightener.

I. Post Tops: Weather-tight closure cap (for tubular posts), one cap for each post. Furnish caps with openings to permit passage of top rail.

J. Replace all eye-top top-rail hardware at 4’ fencing with post-size x1-5/8” boulevard tees secured with black painted tek screws.

K. Stretcher Bars: One-piece lengths equal to full height of fabric, with minimum cross-section of 3/15" x 3/4". Provide one stretcher bar for each gate and end post, and two for each corner and pull post.

L. Stretcher Bar Bands: Space not over 15" o.c., to secure stretcher bars to end, corner, pull, and gate-posts. Provide offset type bar bands at backstop posts so that fabric is aligned with inside edge of posts.

M. Tension Wire: Shall be marcelled (spiraled or crimped) #7 gauge, 0.177 inches in diameter, conforming to ASTM A-824. Finish to be galvanized to match fabric.

N. Wire Ties: Use 11 ga. steel wire with spec coatings. For tying fabric to line posts, use wire ties spaced 18" o.c. For tying fabric to rails and braces, use wire ties spaced maximum 18" o.c.

2.05 GATES

A. Gate Posts: Furnish 4.0" o.d. posts, 9.11 lbs/lf, for supporting a single gate leaf of nominal 4’, 5', 7’, or 10' lengths.

B. Fabricate swing gate perimeter frames of minimum 1-5/8" o.d. pipe. Metal and finish to match framework. Provide horizontal and vertical members to ensure proper gate operation and for attachment of fabric, hardware and accessories.

C. Assemble gate frames by welding or with special fittings and rivets, for rigid connections. Use same fabric as for fence, unless otherwise indicated. Install fabric with stretcher bars at vertical and top and bottom edges. Attach stretchers to gate frames at not more than 15" o. c. Attach hardware to provide security against removal or breakage. Install diagonal cross bracing consisting of 3/8" diameter adjustable length truss rods on gates to ensure frame rigidity without sag or twist, as required.

2.06 GATE HARDWARE

A. Furnish the following hardware and accessories for each gate.

1. Hinges: Size and material to suit gate size, non-lift-off type, offset to permit 180° gate opening.
2. Latch: Forked type or plunger-bar type to permit operation from either side of gate, with padlock eye as integral part of latch. Latches shall be Fulcrum type or approved equal.
3. Gate-stops: Provide gate stops at open and closed gate positions, for double leaf gates and at open position for single leaf gates, except for batting cage gates. Gate stops shall be mushroom type of flush plate with anchors. Set stop in concrete, to engage drop rod or plunger bar.

2.07 WIND SCREEN

A. Douglas Industries “DouraScreen - Open Mesh” Poly/PVC Windscreen #21458

1. 22% High Tenacity Polyester, 78% Flexible Foamed PVC
2. 9 x 8 12 weave
3. 80% Windbreak / Transparency
4. Weight: 10 oz/sy
5. 9’ Roll x Specified Fence Panel Coverage
6. Tensile Strength: 170 x 155
7. Color to be Black
8. 4 Year Limited Warranty

B. Field Measure for Shop Drawings: Wind Screen Panels are to be installed with vertical terminations at all corner, gate, and terminal fence posts measuring 10’ ht.

C. Fabricate screen panels to be installed from the top rail to within 12” of grade, nominally 9’.

D. Provide sewn, 1” vinyl tape perimeter edges and center-welt.

E. Provide 6” x9” fully reinforced (sewn 1” vinyl tape) wind vents at 5.5’ uniformly above grade, spaced nominally 10’ o.c. (provide 12” clear from finished grade to bottom of wind screen). Field verify locations to space between gate, line, corner, and terminal posts.

F. Provide black powder coated or painted brass grommets 24” O.C. and 16g galvanized s-hooks for attachment continuous around perimeter and along center welt.

2.07 ALTERNATE BID ARCHITECTURAL FENCING

A. Generally, powder coated steel sq. tubing, three-rail flat top extended picket, poured-in-place posts, pre-fabricated panels, 46” top rail height.

B. Component Sizing

Post:	4” x4”	16 Ga.	72” length / 24” Embed
Rail:	1-3/4” x 1-3/4”	12 Ga.	90” Width
Picket:	1”	14 Ga.	
Picket Gap:	3-15/16"		
Post Cap:	Pressed Steel Dome		
Color:	Gloss Black		

C. Versai “V3” System Industrial Ornamental Fence by Fortress Building Products, www.FortressBP.com 866-323-4766.

PART 3 INSTALLATION

3.01 CHAIN LINK FENCE INSTALLATION

A. Excavation: Drill holes for posts of diameters shown in firm, undisturbed or compacted soil. Excavate holes to minimum diameter and depth as shown on the drawings. Excavate hole depths approximately 4" lower than post bottom. Refer to drawings for depth.

B. Setting Posts: Center and align posts in holes 4" above bottom of excavation. Place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and top alignment, and hold in position during placement and finishing operations. No concrete or concrete grout is to extend beyond limits of footing hole.

C. Top Rails: Run rail continuously through post caps, bending to radius for curved runs. Provide expansion couplings as recommended by fencing manufacturer.

D. Brace Assemblies: Install braces so posts are plumb when diagonal rod is under proper tension.

E. Fabric: Leave approximately 1" between finish grade and bottom selvage. Fabric to be installed so that the baseballs cannot roll underneath the fabric. Pull fabric taut and tie to posts and rails. Install fabric on the field side of fence, and anchor to framework so that fabric remains in tension after pulling force is released.

F. Stretcher Bars: Thread through or clamp to fabric 4" o.c., and secure to posts with metal bands spaced 14" o.c. maximum. Align off set type stretcher bar bands to allow fabric to align with field side of posts. A maximum of ½" displacement will be allowed.

G. Tension Wire: Shall be stretched from end to end of each stgretch of fence where indicated on drawings and details. The tension wire shall be taut and free of sag.

H. Tie Wires: Use U-shaped wire, conforming to diameter of pipe to which attached, clasping pipe and fabric firmly with ends twisted at least two full turns. Bend wire to minimize hazard to persons or clothing.

I. Fasteners: 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.

3.02 GATE INSTALLATION

A. Install gates plumb, level, and secure for full opening without interference. The clear opening shall be equal to or larger than the size specified on the drawings. Install ground-set items in concrete for anchorage, as recommended by fence and turnstile manufacturer. Adjust hardware for smooth operation and lubricate where necessary.

3.03 WIND SCREEN INSTALLATION

A. Verify wind screen panel fabrication matches field conditions & post spacing:

Wind screens are to be installed tight, without bagging or wrinkling, with vertical terminations at all gate, corner, and terminal posts.

B. Secure grommets at taped welt edges and center welt with "s" hooks 24" on center, securely closing both ends of each hook.

3.04 ALTERNATE BID ARCHITECTURAL FENCE INSTALLATION

A. Install posts in 12” diameter x24” depth foundation excavation, measured from finished grade.

B. Post spacing to match the pre-fabricated panel width, generally 94.5” on center (90.5” clear).

C. Coordinate post installation with concrete fenceline curb.

D. Complete installation from the approved manufacturers printed installation instructions.

3.05 FINAL CLEANING

A. Remove all factory tags, stickers, & markings including adhesive residue.

B. Remove all dirt, concrete, soil, etc. from all fencing components.

C. Perform a complete sweeping of all hard surfaces and hand removal of all planted areas around the work site.

D. Perform a thorough “magnet” policing of the adjacent synthetic turf to remove all traces of metal shavings, clippings, parts, and pieces.

END OF SECTION 32 31 14

SECTION 32 80 00
IRRIGATION SYSTEMS

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. This Section covers work included in Alternate Bid Items 5 and 6 and the SLP Plaza and Sand Volleyball Improvements, respectively, largely decommissioning sprinkler zones displaced or obsoleted by the installation of synthetic landscape turf. Some zones may require reconfiguration.

B. The work retrofits existing irrigation systems including pre-construction testing, selective demolition and salvage of specific parts to the Owner, and installation of sprinkler heads to maintain complete automatic zone coverage.

C. Coordinate all work with existing site irrigation system.

D. Pre-Construction Testing

1. Prior to any disturbance, coordinate a pre-construction test of the existing irrigation systems operation and coverage.
2. Test is to include operation of all zones potentially affected by the work.
3. Document any deficiencies on a redlined copy of the as-built, and note any inaccuracies. A clean, scaled, hard copy print of the system will be provided by the Owner at the Pre-Construction Meeting.

E. Verify with the Owner and the Architect any revisions to the plans that may be required based on operational testing and observations as the work progresses.

1.02 STANDARD SPECIFICATIONS

A. All sections of the standard specifications applicable to any and all parts of this project shall govern, except as specifically modified in these contract documents.

1. OSU Design & Construction Standards
2. American Water Works Association
3. American Society for Testing and Materials
4. National Electrical Code

B. This Section is a comprehensive Specification. Work or equipment

described herein may or may not be required to complete the intent of the Contract.

1.03 FIELD DIMENSION AND LAYOUT

A. The Contractor will be responsible for furnishing, setting, and marking of all line, grade, and location stakes, including offsets and general construction staking. The Engineer will provide reference points.

B. There shall be onsite at all times when work-requiring control is being performed, all necessary equipment, supplies and instruments related thereto. A qualified layout specialist must be assigned to the Contractor's crew for this work. This equipment and specialist must be available at no additional cost to the Engineer for the purpose of approving layout and certifying work progress onsite.

C. The Engineer prior to commencing construction and on a continuing basis must approve all layout work, materials and methods for each phase requiring accuracy control.

1.04 SUBMITTALS

A. Product Information: The Contractor shall submit copies of catalog information of all equipment for approval.

B. As-Built Drawings: Contractor shall furnish accurate as-built drawings of the complete irrigation and washwater systems. The drawing shall be a blueprint to scale. Drawings shall show installed manufacturer's name and catalog number. The as-built drawing shall be turned over to the Engineer for review at or before the professional review (punch list) of the project.

PART 2 - PRODUCTS

2.01 PVC WASHWATER & IRRIGATION PIPING

A. Main line pipe shall be Schedule 40 PVC. Plastic pipe shall be extruded from 100% virgin Polyvinyl chloride (PVC) Pipe to conform to ASTM D2241, F477, D1784 Cell Class 12454-A,B.

B. Lateral line pipe shall be Schedule 40 PVC.

C. Sleeving pipe shall be Schedule 40 PVC.

D. Pipe shall be guaranteed to be free from manufacturing defects in material and workmanship in accordance with the section of specifications covering warranties. The pipe is to be guaranteed to operate within the limits of

pressure and temperatures recommended by the manufacturer and as required in these specifications.

E. Pipe Sizing: Schedule 40 PVC

Size	O.D.(In)	Min. Wall (In)
3"	3.500	0.216
2 ½”	2.875	0.203
2”	2.375	0.154
1 ½”	1.900	0.145
1 ¼”	1.660	0.140

2.02 PLASTIC PIPE FITTINGS AND CONNECTIONS

A. Fittings to be PVC except as noted on riser, valve assemblies, details, etc.

B. Connections shall be solvent weld, except at valves, risers, etc. that require threaded connections.

C. Threaded connections shall be of male adapter type.

D. Couplings and fittings to be taper-molded, Schedule 40, except where indicated in details to be Schedule 80.

E. Threaded nipples must be Schedule 80.

F. Fittings shall conform to ASTM D2466-76a and D1484-75.

2.03 JOINING MATERIALS

A. All joining materials used will be manufactured by I.P.S. or equal, and will be used in accordance to the manufacturer's written specifications and safety recommendations.

B. All threaded connections (PVC) shall be sealed by using Teflon tape or Teflon paste.

C. All galvanized threads shall be sealed with an approved Teflon base pipe compound.

D. PVC solvent compounds shall be IPS “Weld-On” P-70 purple primer and “Weld-On” P-705, P-711 heavy-bodied gray cement, IPS ‘Weld-On” 721 or approved equal.

2.04 RESERVED

2.05 RESERVED

2.06 GATE VALVES

A. Gate Valves (2” O.D. and smaller) shall be flanged, iron body, brass trimmed, resilient double disc wedge, and integral taper seats with non-rising stem and square actuator. All gate valves shall be Class 150 with a minimum 150 psi - 300 WOG.

B. M&H 4067-07 or approved equal.

2.07 QUICK COUPLING VALVES

A. Quick-coupling valves shall be bronze two-piece construction or iron body, bronze mounted, globe pattern. Pressure rating to be 150 psi. Connections shall be iron pipe, threaded. The cover shall designate non-potable water. Valves to be Rainbird 44-LRC, 1”, two-piece or approved equal.

B. Contractor is to furnish to the Owner two couplers with either 1 " x 1" or 1" x 3/4" (per Owner's option). Hose swivels shall be attached with two coupler keys.

C. Valves to be housed in boxes as shown in the details for installation in the synthetic turf area or in the lawn areas.

D. Work to include layout, trenching, pipe installations, backfill, quick coupling valves, valve boxes, riser assemblies, and related items.

2.08 VALVE BOXES AT SYNTHETIC SURFACING

A. The quick coupling valves shall be housed in a pre-manufactured metal box with a removable cover adaptable to synthetic turf surfacing or rubberized track surfacing where installation is specified or scheduled for within a synthetic surface.

B. The box shall include pipe clamps to anchor the quick coupling valve and prevent rotation during use.

C. The box shall include leveling bolts at the base to allow for setting the top flush with the surrounding grades.

D. The cover of the box shall include vinyl coping at the surface to minimize displacement of the synthetic turf infill during removal of the cover.

E. Quick Coupling Valves, Solenoid Valves, and individual Isolation Valves (ball or gate) shall be housed in Sportsfield Specialties (888) 975-3343

TurfCool Quick Connect Valve Boxes, model TC-3700-QCV, or approved equal.

2.09 UNDERGROUND ELECTRICAL WIRE

A. All wiring is to be UL labeled type "UF" for direct bury.

B. All wire shall be No. 14 AWG.

C. Wiring is to be supplied in minimum 1,000' continuous lengths.

D. Underground splices shall be made in a new splice box with vinyl insulated connectors and sealed in Epoxy Resin (Scotchlock No. 3576 Connector Kit or Rain Bird PT-100 Series PVC Socket and Sealing Plug or approved equal).

E. A separate color must be used for common circuit other than that of current transmission to the valve solenoids.

F. Separate spare wires shall be installed to the splice box as designated in the plans. Spare wires shall be marked "spare" and be of a different color, not black or white.

2.10 ELECTRICAL EQUIPMENT

A. All components of control equipment, solenoid valves, etc., shall be UL labeled, certified and conform to current National Electrical Code, and be acceptable to local governing codes.

2.11 RESERVED

2.12 AUTOMATIC VALVES

A. Valves shall include heavy-duty bronze construction. Pressure rating to be 200 PSI. Connections shall be threaded per detail.

B. Valves to be electrically generated, actuated by a solenoid utilizing AC current, 24 volts, and rated at not more than 9.9 VA. The solenoid is to be sealed so it is completely waterproof.

C. Operation to be normally closed.

E. Solenoid to mounted directly on the valve body or bonnet. All parts and tubing downstream of the entrance opening must be of larger size to permit passage of foreign particles.

F. Construction is to be so that all operating parts are accessible and

removable from the top by removing the bonnet without having to disconnect the valve body from the pipeline.

G. Valves to be Rainbird PEB Series or approved equal.

2.13 SPRINKLERS

A. Sprinkler performance must meet or exceed the listed criteria in the legend of the drawing, except gallons per minute flow may not be exceeded by more than 5%.

B. Rotary pop-up sprinklers shall be furnished with gear drive mechanism.

C. Sprinklers shall have a minimum extension in the operating position of 6". The sprinklers shall be spring-loaded for return to the recessed position.

D. Rotating unit shall be stainless steel nozzle turret with independent rotation attached to a non-rotating vertical extension piston for all sprinklers.

E. The drive mechanism must be removable from the top with-out removing the sprinkler housing from the riser. Top removal is to be vandal-resistant, requiring special tool for removal. Two complete sets of any required special maintenance tools are to be furnished.

F. Adjustable heads are not acceptable for use as full-circle (360°) heads.

G. The sprinkler heads for all landscape areas shall be RainBird 1806-SS or approved equal.

H. The Contractor shall furnish to the Owner six spare full circle and six spare part circle sprinkler heads.

2.14 VALVE BOXES

A. Valve boxes for remote-control and master valves shall be CARSON-BROOKS No. 1730-18 (jumbo box) or approved equal, green with 1730-4B bolt down green cover as shown in the details. Valve boxes shall be installed with retaining clip and furnished with stainless steel bolts. Plastic lids shall be identified with letters "RCV" stenciled two inches (2") high on the outside of the lid.

B. Valve boxes for quick coupler valves and manual gate valves located in lawn areas shall be CARSON-BROOKS No. 910-12 with 910-4B bolt down “T” cover or approved equal as shown in the details. Furnish stainless steel bolts. The lid shall be branded with the letters "QCV” or “GV” as applicable two inches (2") high.

2.15 AUTOMATIC CONTROLLER

A. The irrigation system shall be connected to the existing site controller using existing wiring.

2.16 DETECTABLE MARKING TAPE

A. Detectable marking tape shall consists of a minimum 5 mil overall thickness; five ply composition; ultra-high molecular weight; 100% virgin polyethylene; acid, alkaline and corrosion resistant.

B. The tape shall have a 20 gauge solid aluminum foil core, encapsulated within 2.55 mil polyethylene backing. Tape tensile strength shall be in accordance with ASTM D882-80A and be not less than 7,800 psi.

C. Tape legend—Caution Irrigation Line Below.

D. Tape shall be Christy's 3"TA-DT-3-GI or approved equal.

PART 3 - EXECUTION

3.01 TRENCH EXCAVATION

A. Trenches shall be excavated to the line and grade indicated in the plans and specifications. Except for unusual circumstances where approved by the Engineer, the trench site shall be excavated to only such width as is necessary for adequate working space. The top width of the trench will generally not exceed 18" for sizes 2-1/2" and smaller. The trench shall be kept free from water until all connections are completed. No water is to be permitted in the trenches until jointing material has set in the case of solvent and weld joints. Surface water shall be diverted so as not to enter the trench. Boulders, rocks, roots and other obstructions shall be entirely removed or cut out to the width of the trench and to a depth 6" below the bottom of the pipe.

B. Coordinate trench depths to provide a minimum of 8" clearance below the new subsurface drainage system.

C. Trenches, where applicable, shall be excavated to a depth to provide 24" cover minimum below finish grade over piping in synthetic turf field areas, and minimum 18" cover over pipe in baseball field for both laterals and main line piping.

3.02 INSTALLATION OF PLASTIC PIPING

A. Pipe couplings and fittings shall be handled and installed in accordance with the recommendations of the pipe manufacturer. The chemical used in solvent welding are intended to penetrate the surface of both pipe and fitting, which after curing, result in a complete fusion at the joint. Use solvent and cement only as recommended by the pipe manufacturer.

B. How to make up solvent welds:

1. Wipe off all dust, dirt and moisture from the surface to be welded.
2. With a non-synthetic bristle brush in the following sequence, apply an even coating of cement to the outside of the pipe. Then apply solvent to the inside of the fitting, and then reapply a light coating of cement to the outside of the pipe and inside of the fitting, making certain that coated area on the pipe is equal to the depth of the fitting socket.
3. Insert pipe quickly into the fitting. Hold joint for 14 seconds so that pipe does not push out from fitting. Clean off any bead of excess cement that appears at the outer shoulder of the fitting.
4. Allow at least 15 minutes set up (curing) time for each welded joint before moving or handling.
5. Check all fittings for correct position before solvent weld sets.

C. Plastic to Metal Connections: On plastic to metal connections, work the metal connection first. Use Perma-Tex No. 2, Teflon tape, or similar non-hardening material on 3-threaded connections. Liquid Teflon is not acceptable. Light wrench pressure is all that should be used. Connections between metal and plastic are to be threaded adapters, except where indicated in the Details.

D. Curing: Prior to introducing water into the piping, a minimum of two hours curing time for the plastic joint connections shall transpire.

3.03 QUICK COUPLING VALVE (QCV) INSTALLATION

A. All piping shall be thoroughly flushed through extended risers before quick coupling valves (QCV) are attached.

B. Quick coupling valves shall be installed as indicated in the details, perpendicular to the surface. Valve top to be 1" to 1-1/2" below inside surface of box lid.

C. When installing QCV the top nipple of the riser assembly is to be threaded to QCV above ground, carefully checking so as not to cross-thread. Then thread nipple with QCV to intermediate coupling.

3.04 SPRINKLER INSTALLATION

A. All piping shall be thoroughly flushed through extended risers before sprinklers are attached. Liquid Teflon may be used on sprinkler threads.

B. Sprinklers shall be installed as indicated in the details, perpendicular to the surface.

C. When installing sprinklers, the top nipple of the riser assembly is to be threaded to sprinkler above ground, carefully checking so as not to cross-thread. Then thread nipple with sprinkler to intermediate coupling.

D. Sprinkler heads located in the natural turf areas shall be installed flush with finish grade.

3.05 QUICK COUPLING VALVE BOX INSTALLATION

A. Valves to be housed in a plastic valve boxes for the lawn areas and metal hinged boxes in the synthetic turf areas as shown in the details.

3.06 BACKFILL

A. Sand backfill material shall be placed and compacted around and under the piping and risers by hand tools to height of 6" above the top of all piping. Backfill is to be compacted to 95% minimum density by mechanical tamping. Trench must be free of water during backfilling operation.

B. Where irrigation pipe or heads requiring sand backfill occur over permeable aggregates (base course or ballast), a minimum 4” pre-lift of pea gravel bridging will be required.

C. All backfill around quick coupling valves and sprinkler risers shall be mechanically compacted to 95% minimum density with moisture added.

D. Detectable marking tape: 6” cover over mainline and lateral lines.

3.07 CONTROL WIRE

A. One splice of lead wire between valve and relays will be allowed, in a clearly marked valve pit or pits. Use approved waterproof splice boxes located in accessible, flush box.

B. Bundle wires together and tape at 10 foot intervals. Provide an 18” expansion loop at all sleeve ends, direction changes and at every valve box. Allow expansion coils at zone valves long enough so valve bonnet may be removed and placed outside the valve box for maintenance purposes.

C. Provide a separate hot lead for each automatic valve. One common wire for each controller.

D. Provide three spare wires to the farthest valve in each main line branch or a minimum of one spare wire per four valves whichever is greater. (Spares for expansion or replacement of damaged wire.)

E. Identify all wires at both ends with valve number or spare wire number.

3.08 TESTING

A. Before testing, all piping is to be thoroughly flushed.

B. Request Architect and Owner attendance at each test. Provide a minimum of 24 hour prior notice.

C. Prior to acceptance of work, all pressure piping and fittings shall be subjected to a hydrostatic pressure test of 150 psi. This test shall include all mainline and lateral piping for a minimum of one hour. Leaks and/or imperfections developing under said pressure shall be remedied by the Contractor before final acceptance of the work. Pressure shall be maintained while the entire installation is inspected. The Contractor shall provide all work connected with the tests. Including temporary above ground piping to connect a riser from each lateral so that the entire system can be tested simultaneously.

D. Blocking shall be in place at the time of testing. Insofar as practical, tests shall be made with valves and risers exposed for inspection.

E. Allowable leakage in gallons per 1,000 lineal feet of pipe is as follows:

3”	3.0 gallons per hour
2"	2.0 gallons per hour
1-1/2"	1.5 gallons per hour
1-1/2"	1.5 gallons per hour

F. Performance Testing: After system retrofit is 100% complete, perform an operation & coverage test to determine whether water coverage and operation of the system is adequate, without areas of excessive flooding, dry spots, areas of insufficient overlap, or excessive overspray. Test to be performed under automatic operation of the controller via the remote radio system. If the irrigation system is determined by Owner to be inadequate due to Contractor’s poor workmanship or materials, it shall be replaced or repaired at Contractor’s expense and both pressure and coverage tests repeated until accepted.

G. Adjusting: Contractor shall substitute or modify up to 10% of the total nozzles as directed by the Owner. Adjustments to the system will be made without additional cost to the Owner.

3.09 INSTRUCTIONS AND LITERATURE

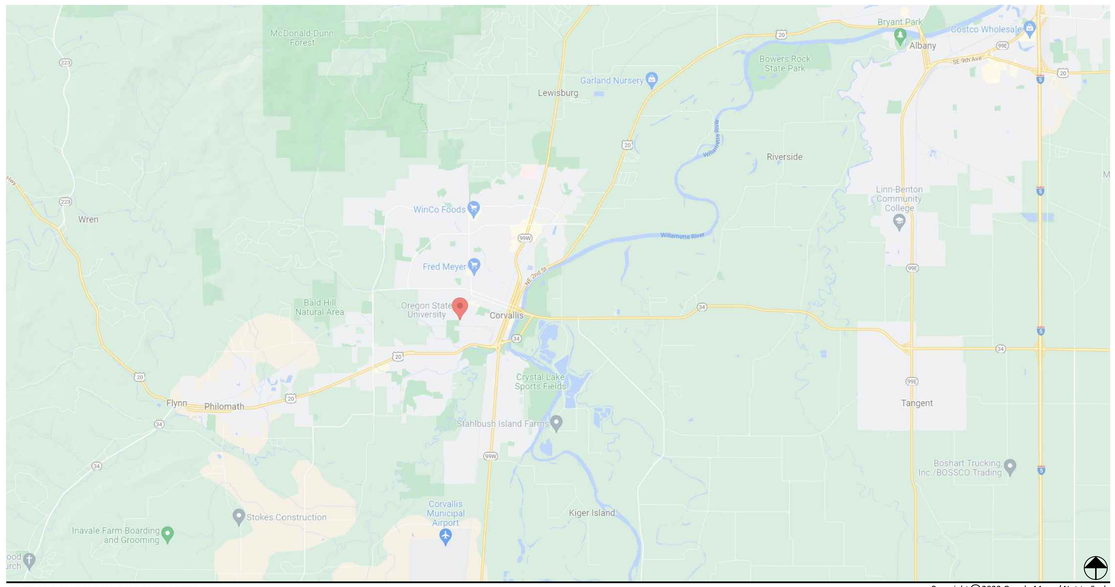
A. Contractor is to conduct training sessions to demonstrate and instruct University personnel on operation and maintenance of all equipment as installed.

B. Contractor is to supply descriptive literature and parts lists for all equipment furnished in the form of the processed, approved pre-installation product submittals.

END OF SECTION 32 80 00

OREGON STATE UNIVERSITY

STUDENT LEGACY PARK RESURFACING



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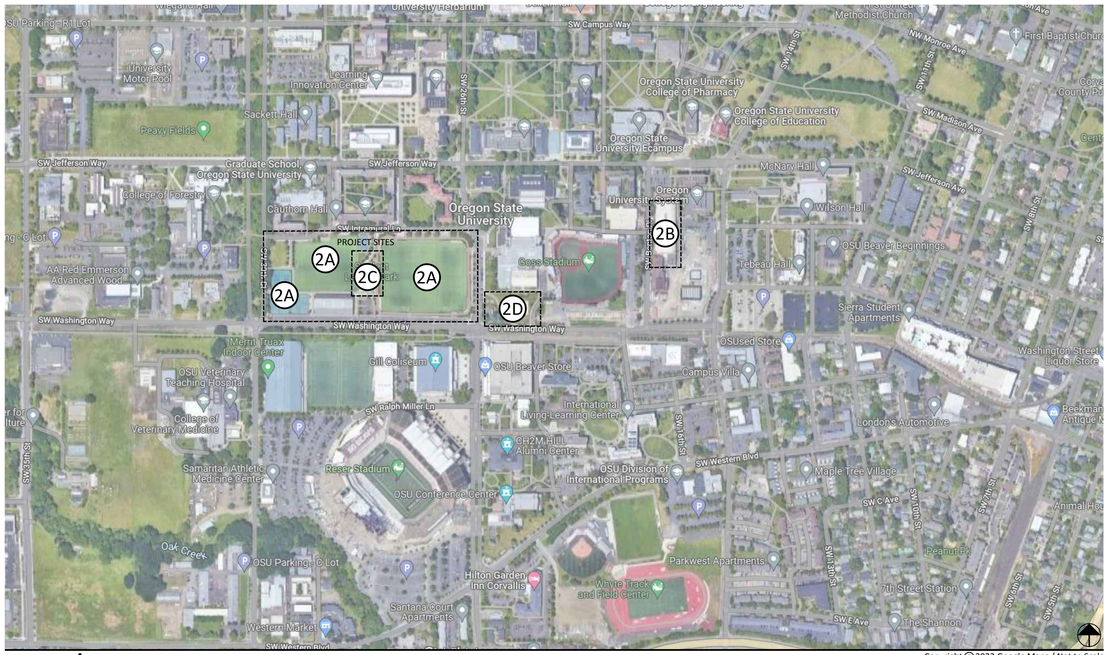

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Oregon State University

Capital Projects
850 SW 35th Street, Corvallis, OR 97333
Contact: Scott Bond, Capital Projects Manager, 541-974-2520

Recreational Sports
425 SW 26th Street, Corvallis, OR 97331
Contact: Bill Calender, Associate Director, 541-737-7525

D.A. Hogan & Associates

Prime Consultant
1450 114th Avenue SE., Suite 225, Bellevue, WA 98004
Contact: Eric Gold, ASLA, Principal, 206-459-5473

PBS Environmental & Engineering, Inc.

Consulting Civil Engineers
1325 SW Tech Center Drive, Suite 140, Vancouver, WA 98683
Contact: Elissa Peters, PE, Project Manager, 360-567-2133

Drawing Index

REVISION	DATE

Oregon State University

STUDENT LEGACY PARK RESURFACING
VOLUMES 2A-D

COVER & SHEET INDEX

DA HOGAN
1450 114th Ave. SE, Suite 225
Bellevue, WA 98004
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www.dahogan.com

PBS
PBS Engineering and Environmental Inc.
1325 SE Tech Center Drive
Suite 140
Vancouver, WA 98683
360.695.3488
pbsusa.com

REGISTERED LANDSCAPE ARCHITECT
ROBERT HARDING
OREGON
05/31/23

PERMIT SET

DATE	01-03-23
SCALE	NTS
DRAWN	CPW
CHECKED	EJG/RSH

PROJECT COVER & SHEET INDEX

SHEET
A001

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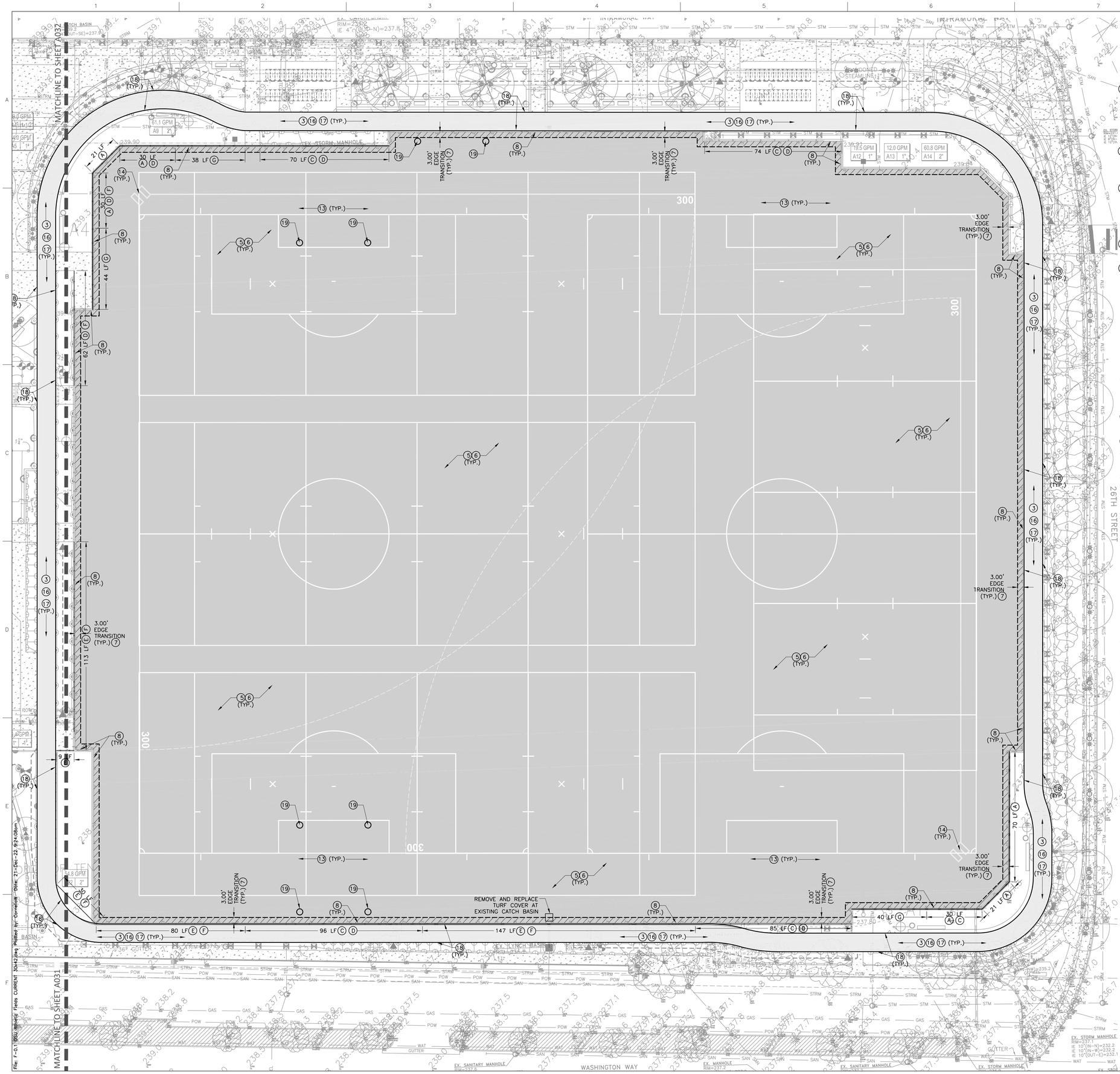

SITE PREPARATION NOTES

1. CALL 8 –1– 1 BEFORE YOU DIG. LOCATE, IDENTIFY AND VERIFY CONDITION OF ALL SITE UTILITIES PRIOR TO COMMENCING THE WORK.
2. CONSTRUCTION ACCESS. CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL GATES AND FENCES AT PERIMETER OF THIS SITE TO ESTABLISH A SECURE WORK AREA. WORK MAY INCLUDE TEMPORARY FENCING. MINIMUM SECURITY FENCE TO BE 6 FEET HEIGHT, CHAINLINK.
3. PROVIDE TEMPORARY PROTECTION OF THE EXISTING RUBBERIZED TRACK SURFACING FOR ALL CONSTRUCTION TRAFFIC. TEMPORARY PROTECTION SHALL INCLUDE A MINIMUM OF THE FOLLOWING:
   a. STRUCTURAL FABRIC OR GEOTEXTILE LAYER
   b. 3/4 INCH PLYWOOD
   c. STEEL PLATES STEEL PLATES
4. PROTECT EXISTING CONCRETE SURFACES FROM DAMAGE DURING CONSTRUCTION.
5. REMOVE ALL EXISTING SYNTHETIC TURF AND DISPOSE OF OFF SITE. THE CONTRACTOR IS ENCOURAGED TO MAKE EVERY EFFORT TO RECYCLE THE VARIOUS COMPONENTS OF THE EXISTING SYNTHETIC TURF SURFACING SYSTEM. EXISTING TURF IS A SAND & RUBBER INFILLED TURF INSTALLED OVER A PERMEABLE AGGREGATE BASE.
6. THE CONTRACTOR SHALL UTILIZE EXTREME CARE DURING TURF REMOVAL TO PROTECT EXISTING PERMEABLE AGGREGATE BASE TO REMAIN. IT IS STRONGLY RECOMMENDED THAT ALL CONSTRUCTION TRAFFIC ASSOCIATED WITH THE TURF REMOVAL OCCUR ON THE EXISTING SYNTHETIC TURF TO PROTECT THE EXISTING PERMEABLE AGGREGATE. DISTURBED OR SEGREGATED PERMEABLE AGGREGATE MATERIALS SHALL BE REMOVED AND REPLACED WITH NEW TOP COURSE AGGREGATE AS DIRECTED BY THE ENGINEER.
7. REMOVE EXISTING PERMEABLE AGGREGATE AS NEEDED TO ACCOMMODATE A FLUSH TRANSITION WITH THE PROPOSED 25MM ELASTIC LAYER PAD OVER A WITH OF 36 INCHES.
8. PROTECT EXISTING EDGE ANCHOR SYSTEM AND PERIMETER FROM DAMAGE AROUND ENTIRE PERIMETER OF EXISTING PLAYFIELD. FOR BIDDING PURPOSES THE CONTRACTOR SHALL ACCOUNT FOR 250 LF OF REPAIR.
9. SAWCUT AND REMOVE EXISTING CONCRETE CURB AND PAVING WITHIN THE LIMITS INDICATED. REMOVE EXISTING EDGE ANCHOR AND DISPOSE OFF OF SITE. PROTECT ADJACENT SURFACES TO REMAIN.
10. SEE FENCE TYPE KEY FOR FENCE WORK ON SITE.
11. PROTECT ALL UTILITIES TO REMAIN
12. BACKFILL ALL EXCAVATIONS WITH STRUCTURAL FILL AND COMPACT TO 95%.
13. FIELD LOCATE AND REMOVE EXISTING SOCCER GOAL ANCHORS.
14. REMOVE EXISTING PLATES AND BASES INCLUDING ANCHORS AND DISPOSE OFF OF SITE.
15. PLAZA IMPROVEMENTS UNDER A SEPARATE CONTRACT. COORDINATE AS NEEDED.
16. FILL ALL RUBBERIZED SEAMS, TEARS, AND GOUGES WITH PIGMENTED TWO COMPONENT POLYURETHANE PRIOR TO APPLICATION OF STRUCTURAL SPRAY COAT.
17. CLEAN AND PRESSURE WASH EXISTING RUBBERIZED TRACK SURFACING.
18. CLEAN EXISTING JOINT AT PERIMETER EDGE OF RUNNING TRACK. PRIOR TO FILLING AND SPRAY COAT APPLICATIONS. RE–ADHERE TO SUBSTRATE IF NEEDED.
19. HAND EXCAVATE EXISTING BASE TO ACCOMMODATE NEW RUGBY GOAL FOOTINGS. CONTRACTOR TO EXCAVATE WITH CARE TO AVOID CONFLICT WITH EXISTING UTILITIES BELOW.
20. SEE SHEET A033 FOR TENNIS AND BASKETBALL COURT PREPARATION NOTES
21. VOLLEYBALL IMPROVEMENTS UNDER A SEPARATE CONTRACT. COORDINATE AS NEEDED.

FENCE TYPE KEY

- (A) PROTECT EXISTING 30' HT. BACKSTOP FENCE POSTS. REMOVE EXISTING FENCE FABRIC AND DISPOSE OFF OF SITE. REPLACE ALL BRACE BANDS WITH OFFSET–TYPE
- (B) SAWCUT AND REMOVE EXISTING 4' HT CHAINLINK FENCE POSTS, FENCE FABRIC AND APPURTENANCES WITHIN THE LIMITS INDICATED. ABANDON FENCE POSTS FOOTINGS IN PLACE WHERE THERE IS NO CONFLICT WITH PROPOSED WORK.
- (C) PROTECT EXISTING 25' HEIGHT OVERALL BALL CONTROL FENCING AND NETTING TO REMAIN
- (D) REMOVE AND REPLACE ALL FENCE FABRIC 10' AND BELOW. PROTECT EXISTING FENCE POSTS TO REMAIN
- (E) 4' HEIGHT CHAIN LINK FENCE; PROTECT EXISTING POSTS TO REMAIN. REMOVE EXISTING FENCE FABRIC AND REPLACE ALL EYE–TOPS WITH BLVD. CLAMPS WHERE ENCOUNTERED
- (F) ADD NEW TENSION WIRE AT 2.5' HT
- (G) PROTECT EXISTING 20' HT CHAIN LINK POSTS. REMOVE AND REPLACE CHAIN LINK FABRIC.

ALL CHAINLINK FENCE FABRIC TO BE REPLACED. PROTECT AND ADJUST FRAMING AND HARDWARE AS NEEDED. CONTRACTOR TO FIELD VERIFY ALL FENCING DIMENSIONS ON SITE

SITE PREPARATION LEGEND

- REMOVE EXISTING SYNTHETIC TURF OVER PERMEABLE AGGREGATE
- EXCAVATE EXISTING AGGREGATE AS NEEDED TO ACCOMMODATE NEW ELASTIC LAYER INSTALLATION/ TRANSITION OVER 36 INCHES. TOP OF ELASTIC LAYER PAD TO BE FLUSH TO TOP OF EDGE ANCHOR
- PRESSURE WASH EXISTING ACRYLIC SURFACING
- REPAIR EXISTING TRACK BASE MAT AND PRESSURE WASH
- LIMIT OF WORK
- SAWCUT LINE
- EXISTING CONCRETE CURBING TO BE REMOVED AND DISPOSED OF OFF SITE
- EXISTING CHAINLINK FENCING TO BE REMOVED AND DISPOSED OF OFF SITE
- (B) FENCE WORK AND LIMIT

Know what's below. Call before you dig.

REVISION	DATE

Oregon State University

STUDENT LEGACY PARK RESURFACING
VOLUME 2A
TURF TRACK & COURTS

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Bellevue, WA 98004
p. 206.285.0400
www.dahogan.com

REGISTERED LANDSCAPE ARCHITECT
ROBERT HARDING
OREGON
05/31/23

NORTH
0 20' 40'
SCALE: 1" = 20'

PERMIT SET

DATE	01-03-23
SCALE	1"=20'
DRAWN	CPW
CHECKED	EJG/RSH

EXISTING CONDITIONS & SITE PREPARATION PLAN EAST FIELD

SHEET
A031

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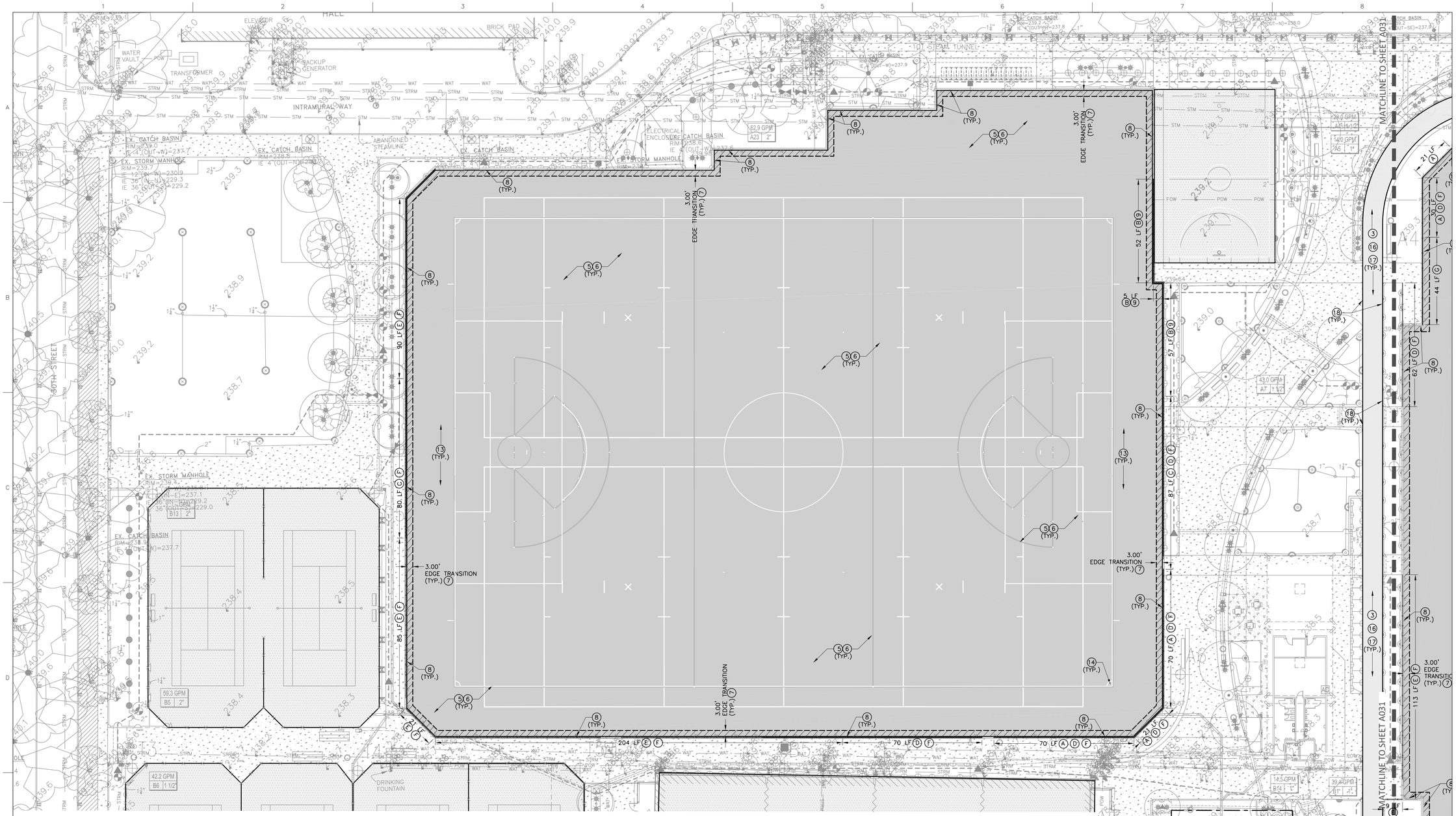

SITE PREPARATION NOTES

1. CALL 8 –1– 1 BEFORE YOU DIG. LOCATE, IDENTIFY AND VERIFY CONDITION OF ALL SITE UTILITIES PRIOR TO COMMENCING THE WORK.
2. CONSTRUCTION ACCESS. CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL GATES AND FENCES AT PERIMETER OF THIS SITE TO ESTABLISH A SECURE WORK AREA. WORK MAY INCLUDE TEMPORARY FENCING. MINIMUM SECURITY FENCE TO BE 6 FEET HEIGHT, CHAINLINK.
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   a. STRUCTURAL FABRIC OR GEOTEXTILE LAYER
   b. 3/4 INCH PLYWOOD
   c. STEEL PLATES STEEL PLATES
4. PROTECT EXISTING CONCRETE SURFACES FROM DAMAGE DURING CONSTRUCTION.
5. REMOVE ALL EXISTING SYNTHETIC TURF AND DISPOSE OF OFF SITE. THE CONTRACTOR IS ENCOURAGED TO MAKE EVERY EFFORT TO RECYCLE THE VARIOUS COMPONENTS OF THE EXISTING SYNTHETIC TURF SURFACING SYSTEM. EXISTING TURF IS A SAND & RUBBER INFILLED TURF INSTALLED OVER A PERMEABLE AGGREGATE BASE.
6. THE CONTRACTOR SHALL UTILIZE EXTREME CARE DURING TURF REMOVAL TO PROTECT EXISTING PERMEABLE AGGREGATE BASE TO REMAIN. IT IS STRONGLY RECOMMENDED THAT ALL CONSTRUCTION TRAFFIC ASSOCIATED WITH THE TURF REMOVAL OCCUR ON THE EXISTING SYNTHETIC TURF TO PROTECT THE EXISTING PERMEABLE AGGREGATE. DISTURBED OR SEGREGATED PERMEABLE AGGREGATE MATERIALS SHALL BE REMOVED AND REPLACED WITH NEW TOP COURSE AGGREGATE AS DIRECTED BY THE ENGINEER.
7. REMOVE EXISTING PERMEABLE AGGREGATE AS NEEDED TO ACCOMMODATE A FLUSH TRANSITION WITH THE PROPOSED 25MM ELASTIC LAYER PAD OVER A WITH OF 36 INCHES.
8. PROTECT EXISTING EDGE ANCHOR SYSTEM AND PERIMETER FROM DAMAGE AROUND ENTIRE PERIMETER OF EXISTING PLAYFIELD. FOR BIDDING PURPOSES THE CONTRACTOR SHALL ACCOUNT FOR 250 LF OF REPAIR.
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10. SEE FENCE TYPE KEY FOR FENCE WORK ON SITE.
11. PROTECT ALL UTILITIES TO REMAIN
12. BACKFILL ALL EXCAVATIONS WITH STRUCTURAL FILL AND COMPACT TO 95%.
13. FIELD LOCATE AND REMOVE EXISTING SOCCER GOAL ANCHORS.
14. REMOVE EXISTING PLATES AND BASES INCLUDING ANCHORS AND DISPOSE OFF OF SITE.
15. PLAZA IMPROVEMENTS UNDER A SEPARATE CONTRACT. COORDINATE AS NEEDED.
16. FILL ALL RUBBERIZED SEAMS, TEARS, AND GOUGES WITH PIGMENTED TWO COMPONENT POLYURETHANE PRIOR TO APPLICATION OF STRUCTURAL SPRAY COAT.
17. CLEAN AND PRESSURE WASH EXISTING RUBBERIZED TRACK SURFACING.
18. CLEAN EXISTING JOINT AT PERIMETER EDGE OF RUNNING TRACK. PRIOR TO FILLING AND SPRAY COAT APPLICATIONS. RE–ADHERE TO SUBSTRATE IF NEEDED.
19. HAND EXCAVATE EXISTING BASE TO ACCOMMODATE NEW RUGBY GOAL FOOTINGS. CONTRACTOR TO EXCAVATE WITH CARE TO AVOID CONFLICT WITH EXISTING UTILITIES BELOW.
20. SEE SHEET A033 FOR TENNIS AND BASKETBALL COURT PREPARATION NOTES
21. VOLLEYBALL IMPROVEMENTS UNDER A SEPARATE CONTRACT. COORDINATE AS NEEDED.

NOTE LEGEND

1. (INDICATES GENERAL CONSTRUCTION NOTE)
3. (INDICATES SPECIFIC CONSTRUCTION KEYNOTE)

FENCE TYPE KEY

- (A) PROTECT EXISTING 30' HT. BACKSTOP FENCE POSTS. REMOVE EXISTING FENCE FABRIC AND DISPOSE OFF OF SITE. REPLACE ALL BRACE BANDS WITH OFFSET–TYPE
- (B) SAWCUT AND REMOVE EXISTING 4' HT CHAINLINK FENCE POSTS, FENCE FABRIC AND APPURTENANCES WITHIN THE LIMITS INDICATED. ABANDON FENCE POSTS FOOTINGS IN PLACE WHERE THERE IS NO CONFLICT WITH PROPOSED WORK.
- (C) PROTECT EXISTING 25' HEIGHT OVERALL BALL CONTROL FENCING AND NETTING TO REMAIN
- (D) REMOVE AND REPLACE ALL FENCE FABRIC 10' AND BELOW. PROTECT EXISTING FENCE POSTS TO REMAIN
- (E) 4' HEIGHT CHAIN LINK FENCE; PROTECT EXISTING POSTS TO REMAIN. REMOVE EXISTING FENCE FABRIC AND REPLACE ALL EYE–TOPS WITH BLVD. CLAMPS WHERE ENCOUNTERED
- (F) ADD NEW TENSION WIRE AT 2.5' HT
- (G) PROTECT EXISTING 20' HT CHAIN LINK POSTS. REMOVE AND REPLACE CHAIN LINK FABRIC.

ALL CHAINLINK FENCE FABRIC TO BE REPLACED. PROTECT AND ADJUST FRAMING AND HARDWARE AS NEEDED. CONTRACTOR TO FIELD VERIFY ALL FENCING DIMENSIONS ON SITE

SITE PREPARATION LEGEND

- REMOVE EXISTING SYNTHETIC TURF OVER PERMEABLE AGGREGATE
- EXCAVATE EXISTING AGGREGATE AS NEEDED TO ACCOMMODATE NEW ELASTIC LAYER INSTALLATION/ TRANSITION OVER 36 INCHES. TOP OF ELASTIC LAYER PAD TO BE FLUSH TO TOP OF EDGE ANCHOR
- PRESSURE WASH EXISTING ACRYLIC SURFACING
- REPAIR EXISTING TRACK BASE MAT AND PRESSURE WASH
- LIMIT OF WORK
- SAWCUT LINE
- EXISTING CONCRETE CURBING TO BE REMOVED AND DISPOSED OF OFF SITE
- EXISTING CHAINLINK FENCING TO BE REMOVED AND DISPOSED OF OFF SITE
- (B) FENCE WORK AND LIMIT

811 Know what's below. Call before you dig.

NORTH
0 20' 40'
SCALE: 1" = 20'

File: F-01 OSU Athletic Fields CURRENT 30x42.dwg Plotted by: CorneliaW Date: 21-Dec-22 9:23:14am

REVISION	DATE

Oregon State University

STUDENT LEGACY PARK RESURFACING
VOLUME 2A
TURF TRACK & COURTS

DA HOGAN
1450 114th Ave. SE, Suite 225
Bellevue, WA 98004
p. 206.285.0400
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REGISTERED 848 ROBERT HARDING OREGON 05/31/23 LANDSCAPE ARCHITECT

PERMIT SET

DATE	01-03-23
SCALE	1"=20'
DRAWN	CPW
CHECKED	EJG/RSH

EXISTING CONDITIONS & SITE PREPARATION PLAN WEST FIELD

SHEET

A032

SITE PREPARATION NOTES

1. CALL 8 −1− 1 BEFORE YOU DIG. LOCATE, IDENTIFY AND VERIFY CONDITION OF ALL SITE UTILITIES PRIOR TO COMMENCING THE WORK.
2. PRESSURE WASH AND CLEAN EXISTING COURT SURFACING/PAVEMENT TO REMAIN.
3. REMOVE AND REPLACE EXISTING CHAIN LINK FABRIC AND WINDSCREEN. SEE FENCE KEY FOR MORE DETAIL
4. PROTECT EXISTING TRENCH DRAIN AND ALL UTILITIES TO REMAIN FROM DAMAGE THROUGHOUT CONSTRUCTION. EXISTING TRENCH DRAIN TO BE FLUSHED CLEAN OF ALL DEBRIS. REMOVE DEBRIS FROM TRENCH DRAIN CATCH BASINS. FLUSH PIPE CLEAN. REMOVE EXISTING PLASTIC GRATE AND DISPOSE OFF OF SITE.
5. SALVAGE EXISTING BENCHES. STORE ON SITE FOR RE−INSTALL.
6. SALVAGE EXISTING BASKETBALL HOOP. STORE ON SITE FOR RE−INSTALL.
7. CONTRACTOR TO PROTECT ALL ADJACENT SURFACES FROM DAMAGE DURING CONSTRUCTION.
8. SEE SHEET A031 & A032 FOR SITE PREPARATION NOTES FOR FIELD AND TRACK IMPROVEMENTS.
9. REMOVE TRENCH DRAIN GATE. CLEAN & JET TRENCH DRAIN AND DISCHARGE PIPE TO RECEIVING CATCH BASIN. REPLACE PLASTIC TRENCH DRAIN GRATE WITH SPEC. ACCESSIBLE IRON GRATE.

NOTE LEGEND

1. (INDICATES GENERAL CONSTRUCTION NOTE)
3. (INDICATES SPECIFIC CONSTRUCTION KEYNOTE)

FENCE TYPE KEY

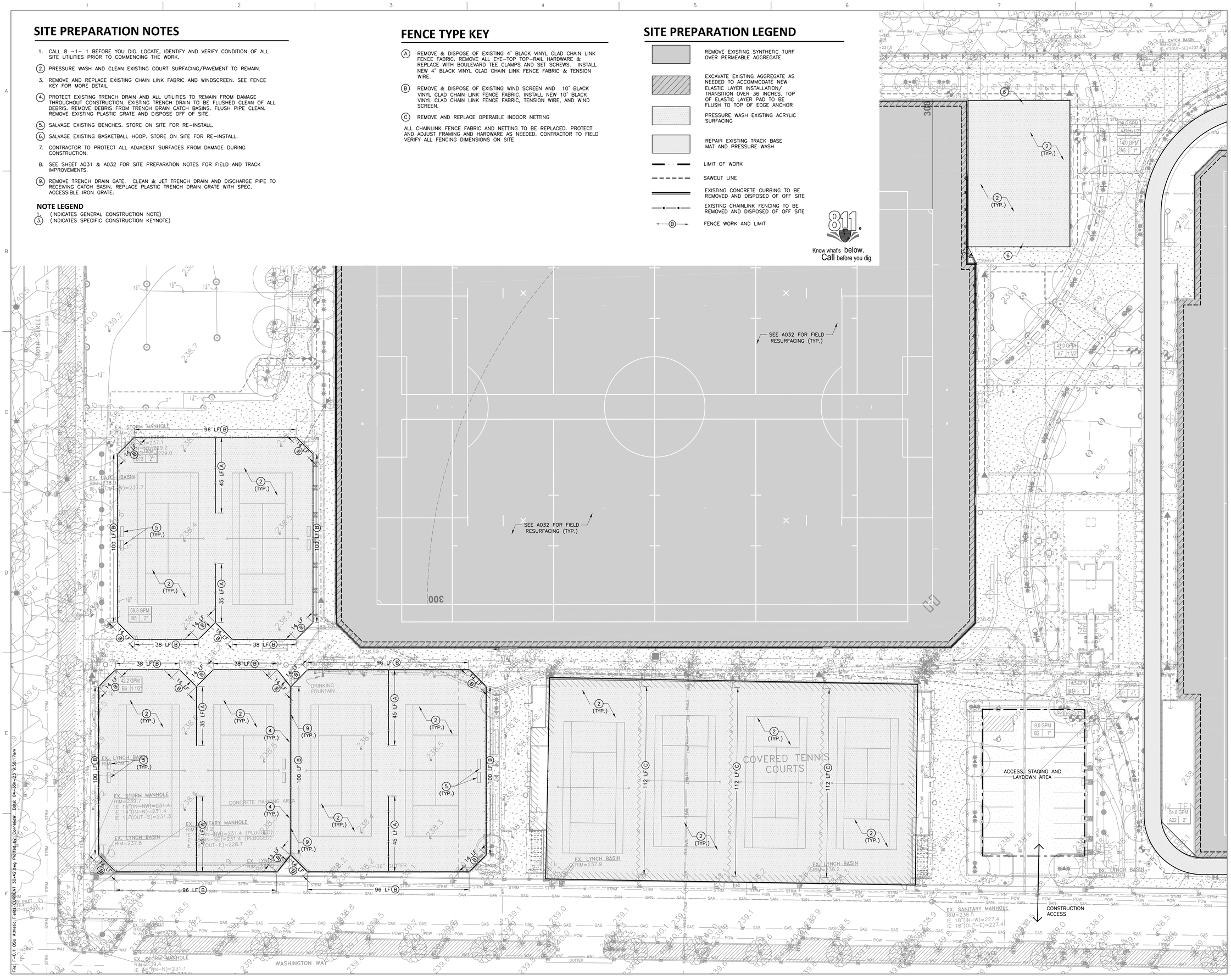
- (A) REMOVE & DISPOSE OF EXISTING 4' BLACK VINYL CLAD CHAIN LINK FENCE FABRIC. REMOVE ALL EYE−TOP TOP−RAIL HARDWARE & REPLACE WITH BOULEVARD TEE CLAMPS AND SET SCREWS. INSTALL NEW 4' BLACK VINYL CLAD CHAIN LINK FENCE FABRIC & TENSION WIRE.
- (B) REMOVE & DISPOSE OF EXISTING WIND SCREEN AND 10' BLACK VINYL CLAD CHAIN LINK FENCE FABRIC. INSTALL NEW 10' BLACK VINYL CLAD CHAIN LINK FENCE FABRIC, TENSION WIRE, AND WIND SCREEN.
- (C) REMOVE AND REPLACE OPERABLE INDOOR NETTING

ALL CHAINLINK FENCE FABRIC AND NETTING TO BE REPLACED. PROTECT AND ADJUST FRAMING AND HARDWARE AS NEEDED. CONTRACTOR TO FIELD VERIFY ALL FENCING DIMENSIONS ON SITE

SITE PREPARATION LEGEND

- REMOVE EXISTING SYNTHETIC TURF OVER PERMEABLE AGGREGATE
- EXCAVATE EXISTING AGGREGATE AS NEEDED TO ACCOMMODATE NEW ELASTIC LAYER INSTALLATION/ TRANSITION OVER 36 INCHES. TOP OF ELASTIC LAYER PAD TO BE FLUSH TO TOP OF EDGE ANCHOR
- PRESSURE WASH EXISTING ACRYLIC SURFACING
- REPAIR EXISTING TRACK BASE MAT AND PRESSURE WASH
- LIMIT OF WORK
- SAWCUT LINE
- EXISTING CONCRETE CURBING TO BE REMOVED AND DISPOSED OF OFF SITE
- EXISTING CHAINLINK FENCING TO BE REMOVED AND DISPOSED OF OFF SITE
- (B) FENCE WORK AND LIMIT

811 Know what's below. Call before you dig.



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REGISTERED LANDSCAPE ARCHITECT
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ROBERT HARDING
OREGON
05/31/23

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0 20' 40'
SCALE: 1" = 20'

PERMIT SET

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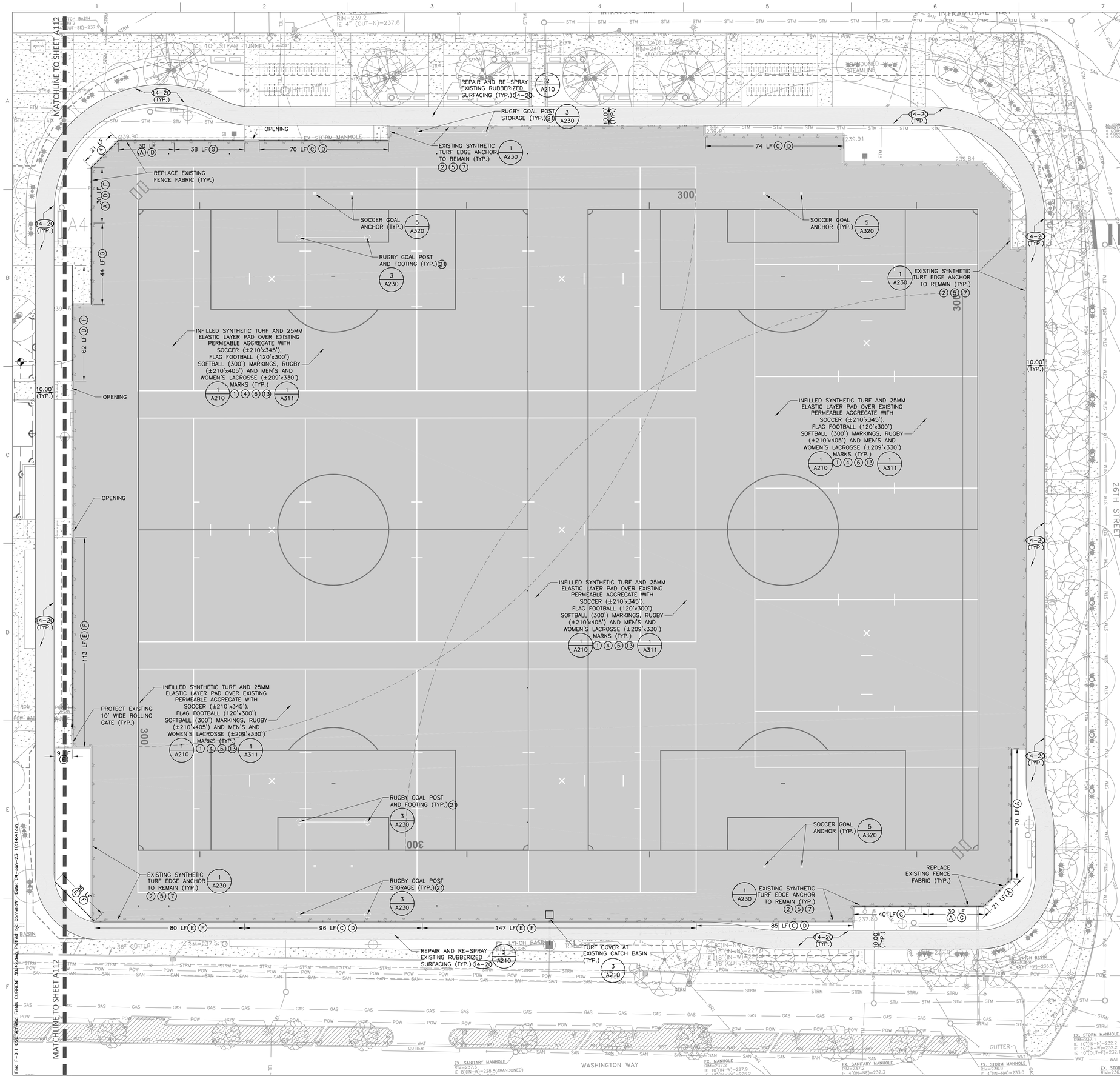
DRAWN	CPW
CHECKED	EJG/RSH

EXISTING CONDITIONS & SITE PREPARATION PLAN COURTS

SHEET

A033

File: F-0.1 OSU Athletic Fields CURRENT 30x42.dwg Plotted by: CorneliaW Date: 04-Jan-23 9:58:17am



LAYOUT NOTES

1. CAREFULLY REMOVE ALL EXISTING SYNTHETIC TURF SURFACING FROM THE FIELD AREA. DO NOT DISTURB EXISTING PERMEABLE AGGREGATE BASE. EXISTING SYNTHETIC TURF IS AN INFILLED SYNTHETIC TURF INSTALLED IN ±2002, NOMINALLY 2-3/4" DUAL FIBER WITH SAND AND RUBBER INFILL. DISPOSE OF ALL SYNTHETIC TURF MATERIALS AND INFILL OFF SITE.
2. PROTECT AND UTILIZE EXISTING EDGE ANCHOR TO SECURE NEW SYNTHETIC TURF SURFACING AROUND THE FIELD PERIMETER. MAKE REPAIRS AS NEEDED.
3. PROTECT ALL EXISTING UTILITIES TO REMAIN THROUGHOUT CONSTRUCTION.
4. CONTRACTOR SHALL FIELD VERIFY SYNTHETIC TURF SURFACING DIMENSIONS TO MATCH EXISTING FIELD. SEE SYNTHETIC TURF COMPOSITE LAYOUT PLAN FOR SYNTHETIC TURF LINES AND MARKINGS.
5. EXCAVATE EXISTING AGGREGATE AS NEEDED TO PROVIDE FLUSH TRANSITION WITH ELASTIC LAYER PAD TO TOP OF EXISTING EDGE ANCHOR OVER A UNIFORM 36" WIDTH.
6. RE-GRADE DISTURBED AGGREGATE BASE TO MEET PLANARITY AND INFILTRATION RATE REQUIREMENTS. THE CONTRACTOR SHALL HAVE PROJECT ENGINEER AND SYNTHETIC TURF INSTALLATION FOREMAN JOINTLY APPROVE BASE BEFORE BEGINNING THE E-LAYER & SYNTHETIC TURF INSTALLATION.
7. SECURE THE SYNTHETIC TURF SURFACING TO THE NEW OR EXISTING EDGE ANCHOR.
8. MEET AND MATCH EXISTING ADJACENT SURFACE.
9. INSTALL NEW TURF ANCHOR AT NEW CONCRETE CURB ALIGNED WITH EXISTING FOR CONSTANT SLOPE AND CONSISTENT EDGE CONDITION AROUND FIELD PERIMETER.
10. SEE FENCE TYPE KEY FOR FENCE WORK ON SITE.
11. PROTECT ALL ADJACENT SURFACES TO REMAIN. CONTRACTOR TO REPAIR ANY DAMAGE THAT OCCURRED DURING CONSTRUCTION.
12. COORDINATE FENCE POST LOCATIONS TO AVOID EXISTING OR PROPOSED UTILITIES.
13. CONTRACTOR TO PROVIDE ONE COMPLETE PAINTING OF EACH SPECIFIED FIELD.
    FIELD MARKING COLORS:
    MEN'S LACROSSE – REFLEX BLUE
    WOMEN'S LACROSSE – MEDIUM ORANGE
    RUGBY – MEDIUM GRAY
14. FILL ALL RUBBERIZED SEAMS, TEARS, AND GOUGES WITH PIGMENTED TWO COMPONENT POLYURETHANE PRIOR TO APPLICATION OF STRUCTURAL SPRAY COAT OR OVERLAY.
15. THE TRACK SURFACING CONTRACTOR SHALL INSPECT THE ENTIRE AREA OF THE EXISTING RUNNING TRACK SURFACING SYSTEM FOR ANY TEARS OR DE-LAMINATION FROM THE UNDERLYING ASPHALTIC CONCRETE PAVEMENT. ALL AREAS THAT ARE NOT SUITABLE FOR OVERSPRAY SHALL BE DOCUMENTED ON A PLAN AND REVIEWED WITH THE OWNER'S REPRESENTATIVE. THESE AREAS SHALL BE CLEANLY CUT, REMOVED, AND PATCHED WITH NEW POLYURETHANE AND SBR RUBBER MATERIAL TO MATCH THE FORCE REDUCTION CHARACTERISTICS OF THE SURROUNDING SURFACING. FOR BIDDING PURPOSES, THE CONTRACTOR SHALL ASSUME APPROXIMATELY 500 SF OF REMOVAL AND PATCHING.
16. PRIOR TO THE OVERSPRAY OF THE EXISTING TRACK SURFACING SYSTEM, THE TRACK SURFACING CONTRACTOR SHALL CHECK THE PLANARITY OF THE ENTIRE AREA OF THE EXISTING RUNNING TRACK SURFACING SYSTEM TO REMAIN. REPAIR AS NECESSARY TO PROVIDE A FULLY RESTORED RUBBERIZED BASE. THIS SHALL BE PERFORMED WITH A STRINGLINE INSPECTION AT EACH LANE LINE LOCATION. ALL AREAS THAT HAVE SURFACE IRREGULARITIES THAT EXCEED 1/8 INCH VERTICAL IN 10 FEET OF HORIZONTAL DISTANCE SHALL BE DOCUMENTED ON A PLAN AND REVIEWED WITH THE OWNER'S REPRESENTATIVE. ANY LOW AREAS SHALL BE FILLED TO CORRECT PLANARITY WITH PIGMENTED TWO COMPONENT POLYURETHANE. ANY HIGH AREAS SHALL BE GROUND TO CORRECT PLANARITY. FOR BIDDING PURPOSES, THE CONTRACTOR SHALL ASSUME APPROXIMATELY 500 SF OF TWO COMPONENT POLYURETHANE FILLING TO A DEPTH OF 5MM AND 500 SF OF GRINDING. ANY DISTURBANCE TO BLACK MAT BASE COURSE SHALL BE RESTORED TO SMOOTH TRUE SURFACE.
17. IMMEDIATELY PRIOR TO APPLICATION, EXISTING RUBBERIZED SURFACING SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DEBRIS OR ANY OTHER SUBSTANCES THAT WILL BE DETRIMENTAL TO THE INSTALLATION. ALL SURFACES TO BE VACUUMED WITH A COMMERCIAL HEAVY DUTY UNIT AND PRESSURE WASHED.
18. APPLY SUCH PRIMING MATERIAL AS MAY BE NECESSARY TO ASSURE COMPLETE BOND OF POLYURETHANE TO THE EXISTING RUBBERIZED SURFACING OR EDGE BASE SURFACING AS APPLICABLE.
19. APPLY TWO SPECIFIED STRUCTURAL SPRAY COAT TO ALL EXISTING RUBBERIZED SURFACING.
20. CONTRACTOR MUST PROTECT ALL ADJACENT AREAS FROM ANY CONTAMINATION OR OVER SPRAY FROM RUBBERIZED SURFACING INSTALLATION PROCEDURES. TAPE PLASTIC SHEETING TO EDGING OR ADJACENT EXPOSED ASPHALT CONCRETE PAVING TO PROTECT FIELD SURFACING, ADJACENT AREAS AND STRUCTURES INCLUDING FENCING.
21. HAND EXCAVATE RUGBY GOAL POST FOOTING. CONTRACTOR TO TAKE EXTREME CARE TO LOCATE, PROTECT AND AVOID EXISTING UTILITIES.

FENCE TYPE KEY

- (A) PROTECT EXISTING 30' HT. BACKSTOP FENCE POSTS. NEW 10'HT. 6G X1.5" MESH CHAIN LINK FENCE FABRIC BELOW 10' 9G ABOVE, FIELD SIDE OF FRAMING. REPLACE ALL BRACE BANDS WITH OFFSET-TYPE.
- (B) NEW 10' HEIGHT CHAIN LINK FENCE; 2" MESH X9 GAUGE, TOP, MIDDLE, BOTTOM RAIL.
- (C) EXISTING 25' HEIGHT OVERALL FENCE POSTS; PRESERVE AND PROTECT THROUGHOUT CONSTRUCTION.
- (D) REPLACE ALL FENCE FABRIC 10' AND BELOW WITH 9 GAUGE X1.5" MESH, INSTALL ON FIELD SIDE OF FRAMING.
- (E) 4' HEIGHT CHAIN LINK FENCE; PROTECT EXISTING POSTS TO REMAIN. INSTALL NEW FABRIC TO MATCH EXISTING ON FIELD SIDE. TOP, BOTTOM RAIL. REPLACE ALL EYE-TOPS WITH BLVD. CLAMPS.
- (F) ADD NEW TENSION WIRE AT 2.5' HT.
- (G) EXISTING 20' HT CHAIN LINK FENCE. REPLACE FABRIC: 6 GAUGE 10' AND BELOW, 9 GAUGE 10' AND ABOVE

ALL CHAINLINK FENCE FABRIC TO BE REPLACED. ALL CHAIN LINK FENCING TO BE BLACK VINYL COATED. INSTALL CHAIN LINK FABRIC ON FIELD SIDE OF FENCE LINE AND ADJUST FRAMING AND HARDWARE ACCORDINGLY. CONTRACTOR TO FIELD VERIFY ALL FENCING DIMENSIONS ON SITE.

LAYOUT LEGEND

- SYNTHETIC TURF AND ELASTIC LAYER PAD OVER EXISTING PERMEABLE BASE (324,567 SF)
- RE-SPAY EXISTING RUBBERIZED SURFACING OVER ASPHALT PAVING (18,885 SF)
- CLEAN AND RE-SURFACE ACRYLIC SURFACING (US OPEN BLUE COLORED SURFACE)
- CLEAN AND RE-SURFACE ACRYLIC SURFACING (MEDIUM GREEN COLORED SURFACE)
- (B) FENCE WORK AND LIMIT
- LIMIT OF SYNTHETIC TURF AND EDGE ANCHOR
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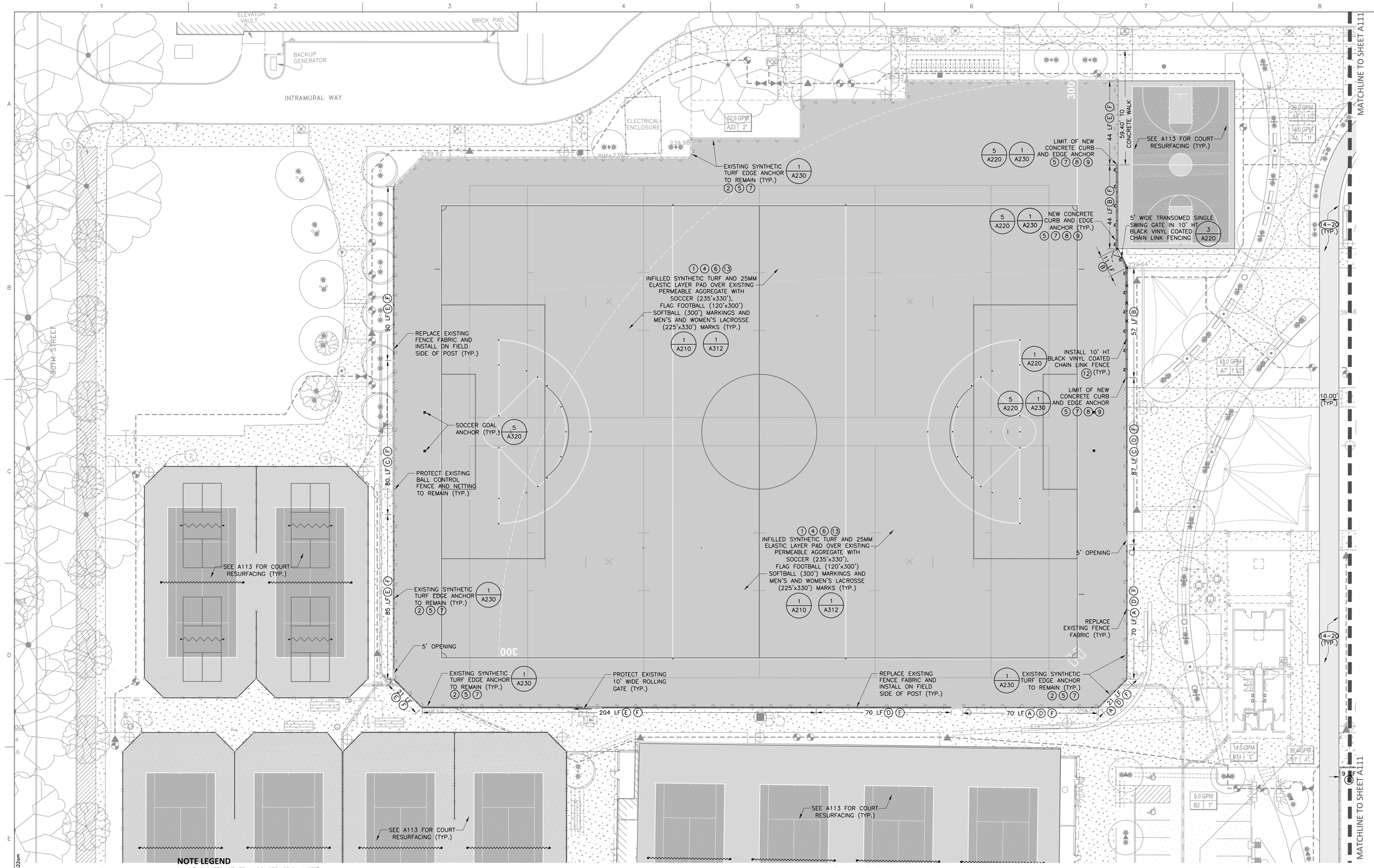
CHECKED	EJG/RSH

LAYOUT PLAN
EAST FIELD

SHEET
A111

File: F-0.1 OSU Athletic Fields CURRENT 30x42.dwg Printed by: CorneliusW Date: 04-Jan-23 10:14:41am



NOTE LEGEND

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FENCE TYPE KEY

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- (B) NEW 10' HEIGHT CHAIN LINK FENCE; 2" MESH X9 GAUGE, TOP, MIDDLE, BOTTOM RAIL.
- (C) EXISTING 25' HEIGHT OVERALL FENCE POSTS; PRESERVE AND PROTECT THROUGHOUT CONSTRUCTION.
- (D) REPLACE ALL FENCE FABRIC 10' AND BELOW WITH 9 GAUGE X1.5" MESH, INSTALL ON FIELD SIDE OF FRAMING.
- (E) 4' HEIGHT CHAIN LINK FENCE; PROTECT EXISTING POSTS TO REMAIN. INSTALL NEW FABRIC TO MATCH EXISTING ON FIELD SIDE. TOP, BOTTOM RAIL. REPLACE ALL EYE-TOPS WITH BLVD. CLAMPS.
- (F) ADD NEW TENSION WIRE AT 2.5' HT.
- (G) EXISTING 20' HT CHAIN LINK FENCE. REPLACE FABRIC: 6 GAUGE 10' AND BELOW, 9 GAUGE 10' AND ABOVE

ALL CHAINLINK FENCE FABRIC TO BE REPLACED. ALL CHAIN LINK FENCING TO BE BLACK VINYL COATED. INSTALL CHAIN LINK FABRIC ON FIELD SIDE OF FENCE LINE AND ADJUST FRAMING AND HARDWARE ACCORDINGLY. CONTRACTOR TO FIELD VERIFY ALL FENCING DIMENSIONS ON SITE.

LAYOUT LEGEND

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- LIMIT OF SYNTHETIC TURF AND EDGE ANCHOR
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LAYOUT PLAN
WEST FIELD

SHEET
A112

File: F-0.1 OSU Athletic Fields CURRENT 30x42.dwg Plotted by: CorneliaW Date: 04-Jan-23 10:27:22am

LAYOUT NOTES

NOTE LEGEND
1. (INDICATES GENERAL CONSTRUCTION NOTE)
(3). (INDICATES SPECIFIC CONSTRUCTION KEYNOTE)

1. MEET AND MATCH EXISTING ADJACENT SURFACE.
(2) CLEAN EXISTING COURT SURFACE BEFORE INSTALLATION OF ACRYLIC SURFACING. REFER TO ACRYLIC SURFACING NOTES
(3) REINSTALL SALVAGED TENNIS COURT NET POSTS. INSTALL NET TIE DOWN AND NEW TENNIS COURT NET.
4. REFER TO FENCE TYPE KEY FOR FENCE WORK. PROTECT ALL FENCE POSTS, GATES, APPURTENANCES, AND CONCRETE CURBS/ WALLS DURING FENCE FABRIC REMOVAL AND REINSTALLATION.
5. PROTECT ALL ADJACENT SURFACES THROUGHOUT CONSTRUCTION
6. RE-INSTALL BENCHES
(7) REINSTALL SALVAGED BASKETBALL HOOPS.
(8) FURNISH AND INSTALL COMPLETE TENNIS COURT AND BASKETBALL COURT MARKINGS TO MATCH THAT OF THE EXISTING. INSTALL PICKLEBALL COURT MARKINGS WHERE INDICATED.
(9) REPLACE PLASTIC TRENCH DRAIN GRATE WITH SPEC. ACCESSIBLE IRON GRATE.

FENCE TYPE KEY

(A) 4' HEIGHT CHAIN LINK FENCE; PROTECT EXISTING POSTS TO REMAIN. INSTALL NEW FABRIC 1.75" MESH

(B) 10' HEIGHT CHAIN LINK FENCE; PROTECT EXISTING POSTS TO REMAIN. INSTALL NEW FABRIC 1.75" MESH AND WINDSCREEN

(C) REMOVE AND REPLACE OPERABLE NETTING AT INDOOR FACILITY

ALL CHAINLINK FENCE FABRIC AND NETTING TO BE REPLACED. ALL CHAIN LINK FENCING TO BE BLACK VINYL COATED. CONTRACTOR TO FIELD VERIFY ALL FENCING DIMENSIONS ON SITE.

ACRYLIC SURFACING NOTES

A. PRIOR TO APPLICATION OF THE ACRYLIC SURFACING SYSTEM, THE TENNIS COURT ASPHALT PAVING SHALL BE FLOOD TESTED AND ANY DEVIATIONS OR AREAS OF STANDING WATER SHALL BE DOCUMENTED FOR CORRECTION.

B. FILLER COAT: THE CONTRACTOR SHALL APPLY A FILLER COAT OVER THE ENTIRE COURT AREA. THE MATERIAL MUST BE DELIVERED TO THE JOB SITE IN UNOPENED CONTAINERS AND MIXED AT THE JOB SITE ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. THE FILLER COAT MATERIAL SHALL BE ACRYLIC RE-SURFACER MANUFACTURED BY THE MANUFACTURER OF THE ACRYLIC SURFACING MATERIAL.

C. COLOR COATS: THE CONTRACTOR SHALL APPLY A MINIMUM OF TWO COLOR COATS OVER THE ENTIRE COURT SURFACE AREA. THE MATERIAL MUST BE DELIVERED TO THE JOBSITE IN UNOPENED CONTAINERS AND MIXED AT THE JOBSITE ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. AFTER THE FIRST COAT HAS DRIED, THE SURFACE SHALL BE INSPECTED AND ALL RIDGES REMOVED. THE ENTIRE SURFACE SHALL THEN BE BLOWN CLEAN. THE SECOND COAT SHALL BE APPLIED, THE SURFACE SHALL BE INSPECTED AND THE RIDGES SHALL BE REMOVED. THE ENTIRE SURFACE SHALL THEN BE BLOWN CLEAN. BOTH COATS SHALL CONTAIN SAND AS REQUIRED TO OBTAIN THE DESIRED PLAYING "SPEED" AS APPROVED BY THE OWNER.

D. FINISH COAT: IMMEDIATELY PRIOR TO APPLYING THE FINISH COAT, THE TOTAL SURFACE SHALL BE CLEANED AND FOREIGN MATERIALS BLOWN OFF. THE CONTRACTOR SHALL APPLY ONE FINISH COAT OVER THE ENTIRE SURFACE AREA. THE MATERIAL MUST BE DELIVERED TO THE JOBSITE IN UNOPENED CONTAINERS AND MIXED AT THE JOBSITE ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

E. THE INSTALLATION AND APPLICATION OF SURFACING MATERIALS SHALL BE UNDER THE DIRECT SUPERVISION OF AN INSTALLER WHO IS CERTIFIED BY THE MANUFACTURER OF THE TENNIS COURT SURFACING SYSTEM.

F. CONTRACTOR MUST PROTECT ALL ADJACENT AREAS FROM ANY CONTAMINATION FROM THE SURFACING SYSTEM INSTALLATION PROCEDURES.

G. FURNISH AND INSTALL COMPLETE TENNIS COURT LINES AND MARKINGS. ALL LINES SHALL BE DOUBLE-COATED WITH A TEXTURED LINE PAINT PROVIDED BY THE MANUFACTURER OF THE ACRYLIC SURFACING SYSTEM. THE TEXTURE OF THE LINE PAINT SHALL MATCH THE ADJACENT COURT SURFACING TEXTURE. WHEN THE LINE PAINT HAS THOROUGHLY DRIED, THE TAPE SHALL IMMEDIATELY BE REMOVED IN A METHOD TO PROVIDE STRAIGHT AND TRUE LINES. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE TOUCH-UP OF ANY LINE WHERE ERROR IS PRESENT OR COURT SURFACE THAT IS OVER-COATED OR DAMAGED. NO TAPE RESIDUE WILL BE PERMITTED TO REMAIN.

LAYOUT LEGEND

- CLEAN AND RE-SURFACE ACRYLIC SURFACING (MEDIUM GREEN COLORED SURFACE)
- CLEAN AND RE-SURFACE ACRYLIC SURFACING (US OPEN BLUE COLORED SURFACE)
- (B) FENCE WORK DESCRIPTION AND LIMIT
- BLACK VINYL COATED CHAINLINK FENCE FABRIC REPLACEMENT
- NETTING REPLACEMENT

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OREGON
05/31/23

NORTH
0 20' 40'
SCALE: 1" = 20'

PERMIT SET

DATE	01-03-23
SCALE	1"=20'
DRAWN	CPW
CHECKED	EJG/RSH

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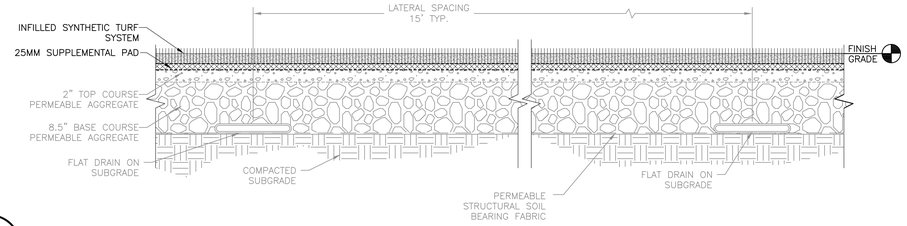
LAYOUT PLAN COURTS

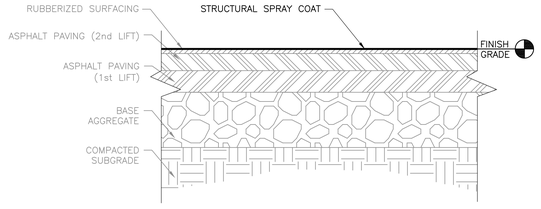
SHEET
A113

File: F-0.1 OSU Athletic Fields CURRENT 30x42.dwg Plotted by: CorneliaW Date: 04-Jan-23 10:12:58am



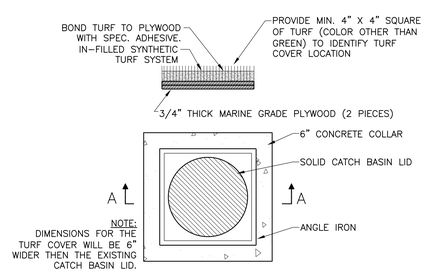
1 A210 MULTIPURPOSE SYNTHETIC TURF FIELD SECTION

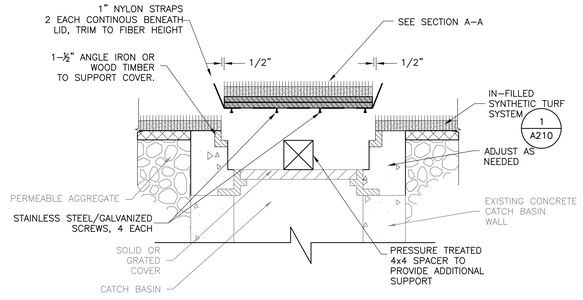
NOT TO SCALE



2 A210 RUBBERIZED SURFACE SECTION

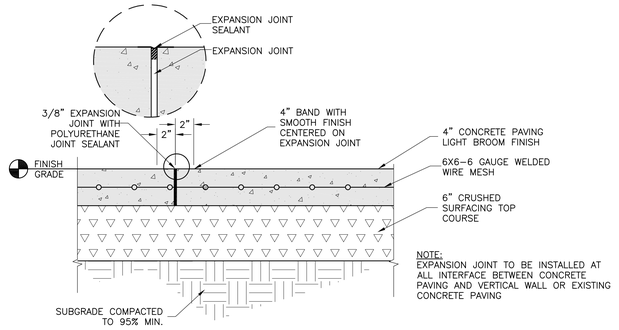
NOT TO SCALE



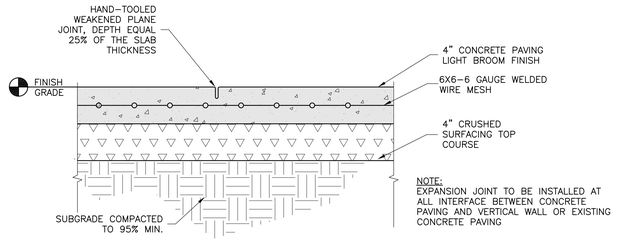


3 A210 TURF COVER AT EXISTING CATCH BASIN

NOT TO SCALE



A: CONCRETE PAVING AT EXPANSION JOINT



B: CONCRETE PAVING WITH WEAKENED PLANE JOINT

4 A210 CONCRETE PAVING

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TYPICAL SECTIONS

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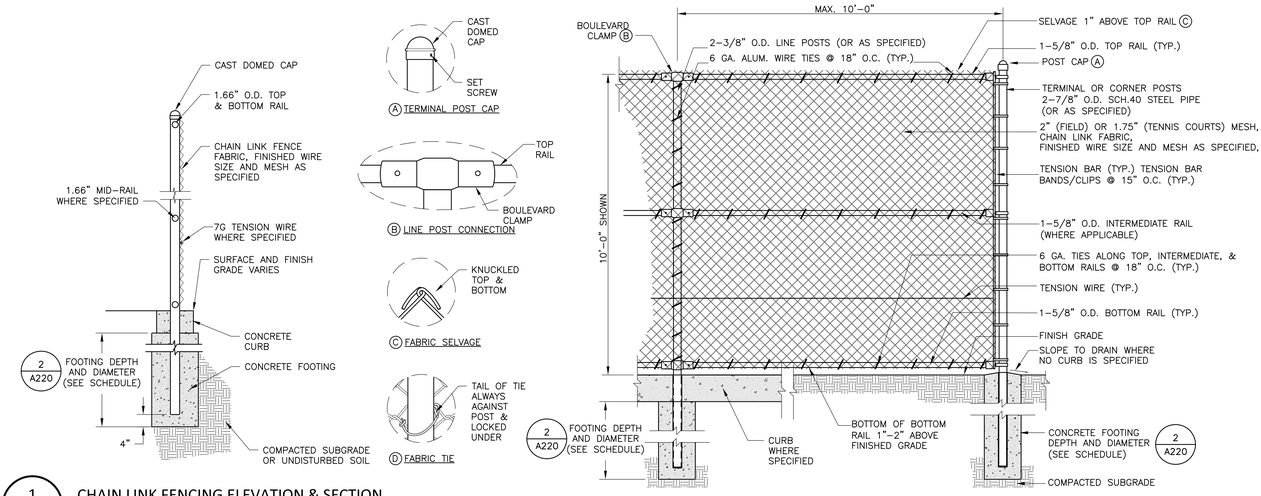
A210



1 A220 CHAIN LINK FENCING ELEVATION & SECTION

NOT TO SCALE

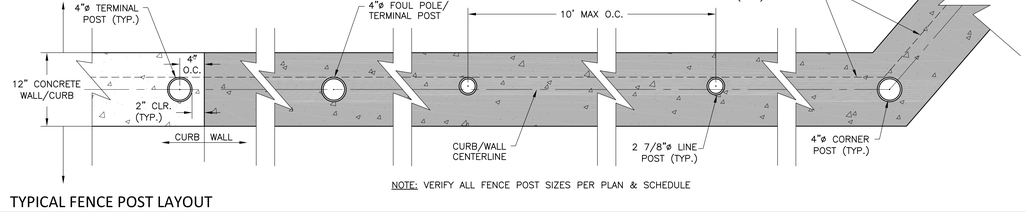
FENCING TYPE	10' HIGH FENCING
CORNER POST	4.000" OD
TERMINAL POST	4.000" OD
LINE POST	2.875" OD
FOOTING DEPTH	60"
FOOTING DIAMETER	12"
TOP RAIL HT.	10'
INTERMEDIATE RAIL HTS.	5'
BOTTOM RAIL HT	1"
TENSION WIRE HTS.	2'

FENCING NOTES:

1. ALL FENCING FABRIC SHALL BE 2" MESH @ FIELD PERIMETER OR 1.75" MESH @ TENNIS COURTS NO. 9 GAUGE FINISHED STEEL WIRES WITH BLACK VINYL COATING EXCEPT FOR ALL POSTS, RAILS, BRACES, POST TOPS, STRETCHER BARS, BANDS, ETC. SHALL BE PAINTED BLACK.
2. TENSION WIRES AND WIRE TIES SHALL INCLUDE A BLACK VINYL COATING.
3. MAXIMUM POST SPACING: 10' ON CENTER.
4. ALIGN POSTS SO THAT FENCE FABRIC IS INSTALLED IN A CONTINUOUS, STRAIGHT LINE, REGARDLESS OF FENCE POST DIAMETER
5. ALL POSTS SHALL BE ASTM A53, GRADE B, SCHEDULE 40 UNLESS NOTED OTHERWISE

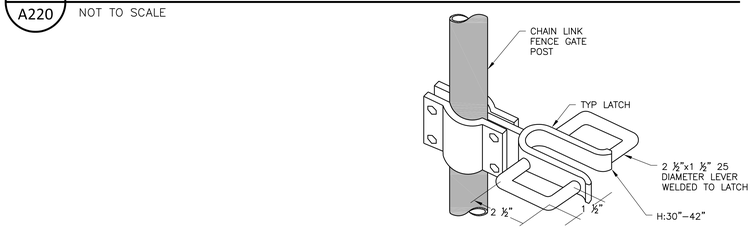
2 A220 CHAIN LINK SCHEDULE

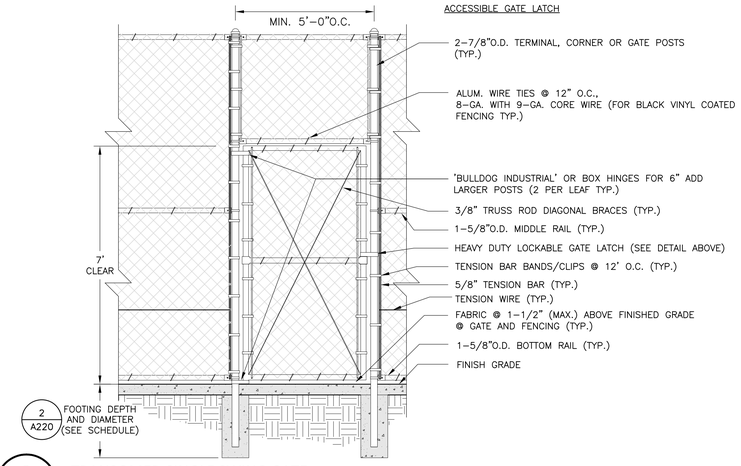
NOT TO SCALE



4 A220 TYPICAL FENCE POST LAYOUT

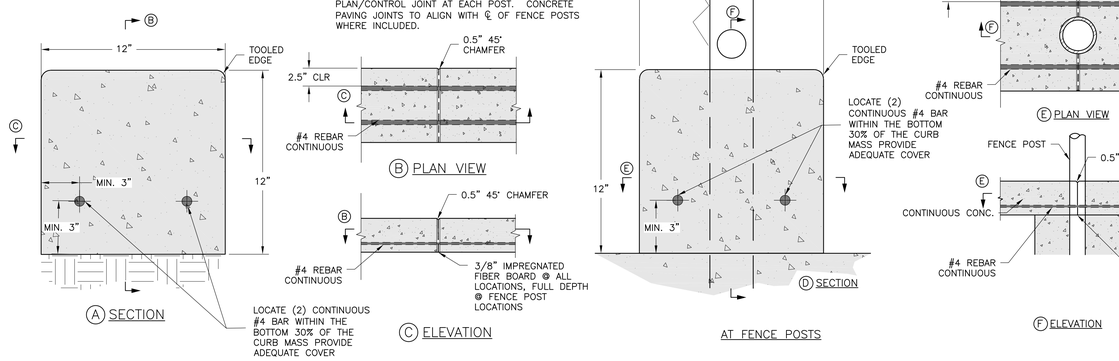
NOT TO SCALE





3 A220 TRANSOMED SINGLE SWING GATE

NOT TO SCALE



5 A220 CONCRETE CURB & EXPANSION JOINT

NOT TO SCALE

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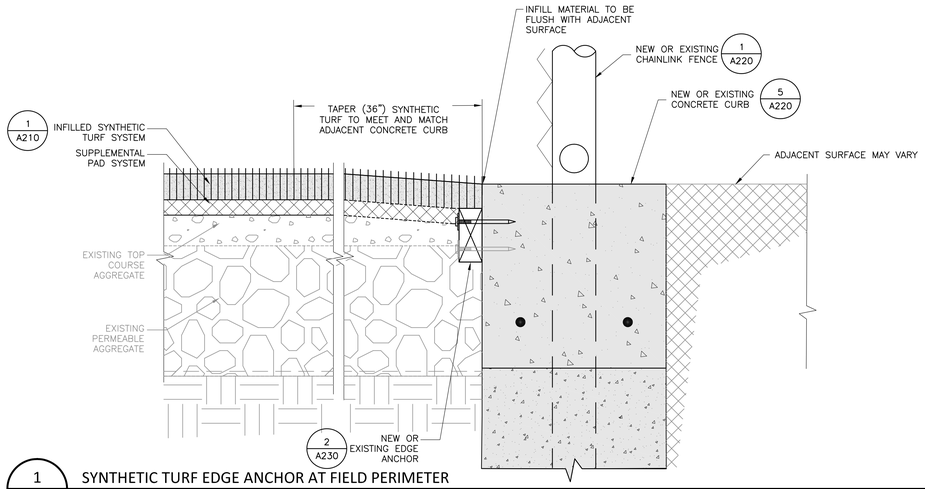
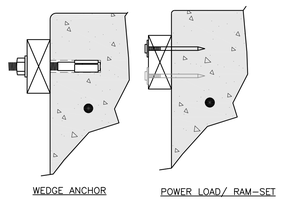


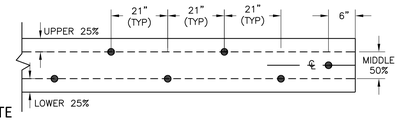
1 A230 SYNTHETIC TURF EDGE ANCHOR AT FIELD PERIMETER

NOT TO SCALE



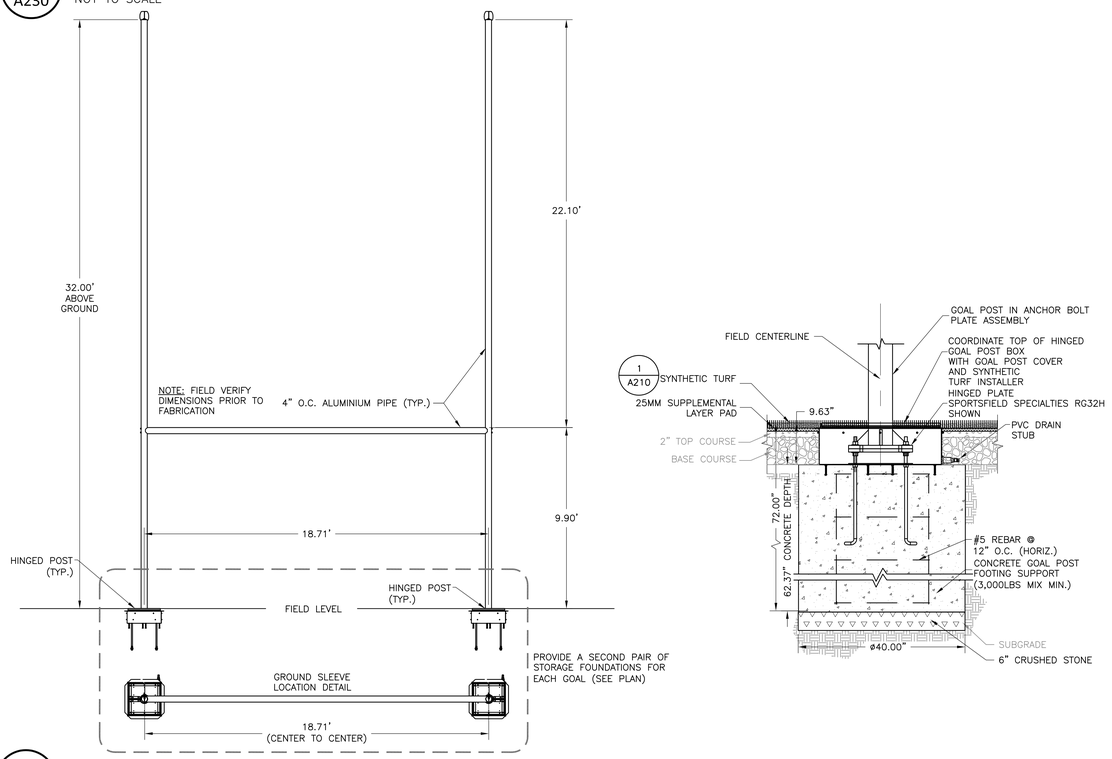
NOTES:

1. THE PLASTIC EDGE ANCHOR MAY BE TEMPORARILY SET WITH POWER-LOADS PLACED AT THE CONTRACTORS OPTION TO ASSIST IN ESTABLISHING THE PROPER LINE AND GRADE. THIS TEMPORARY HARDWARE MAY REMAIN AFTER FINAL INSTALLATION.
2. THE CONTRACTOR MAY CHOOSE TO UTILIZE STEEL POWER-LOAD DRIVEN OR RAM-SET CONCRETE ANCHOR NAILS, MINIMUM SHANK DIAMETER 5/32", MINIMUM HEAD/WASHER DIAMETER 3/8", SUFFICIENT LENGTH TO INSURE A MINIMUM 2" EMBEDMENT. INDIVIDUAL ANCHORS SHALL DEVELOP A MINIMUM 450LB SHEAR, 350LB TENSION IN 4,000PSI CONCRETE AT 2" EMBEDMENT.
3. ONCE INITIAL LINE AND GRADE HAS BEEN ESTABLISHED, INSTALL THE SPECIFIED RAM-SET OR POWER-LOAD DRIVEN CONCRETE ANCHORING NAILS IN MANNER CONSISTENT WITH THE APPROVED MANUFACTURERS PRINTED INSTRUCTION AND THE SPECIFIED SPACING.
4. WEDGE ANCHOR TO BE SET AT MIDDLE 50% OF EACH BOARD. 30" O.C. MAX., 4-6" FROM ENDS.
5. MINIMUM REQUIREMENTS FOR CONCRETE ANCHOR NAIL INSTALLATION DEPTH OF EMBEDMENT: 2" OR AS RECOMMENDED BY THE ANCHOR SUPPLIER, WHICHEVER IS GREATER. HORIZONTAL SPACING: NO GREATER THAN 21" ON CENTER AND 6" FROM END OF ANY LENGTH OF LUMBER. STAGGER THE SPACING OF EACH ANCHOR UP AND DOWN WITHIN THE MIDDLE ONE-HALF THE FACE OF THE RECYCLED EDGE ANCHOR.



2 A230 SYNTHETIC TURF EDGE ANCHOR NOTE

NOT TO SCALE



3 A230 HINGED RUGBY GOAL

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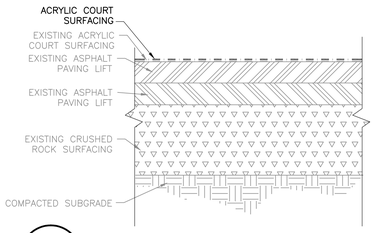
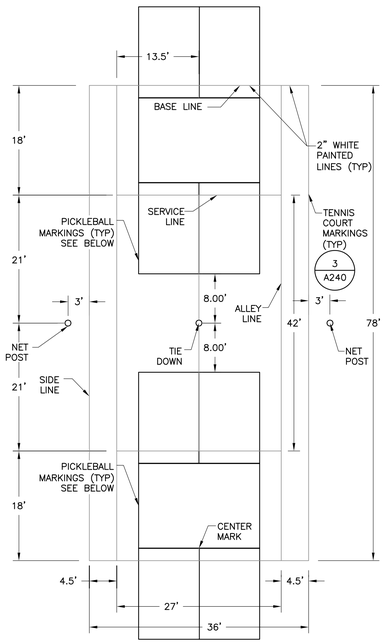
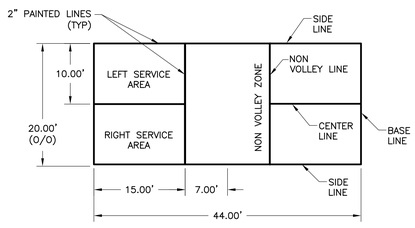


1 A240 ACRYLIC SURFACING SECTION
NOT TO SCALE



NOTE: ALL DIMENSIONS MEASURED FROM THE OUTSIDE OF 2" PAINTED LINES EXCEPT FOR CENTER MARK.

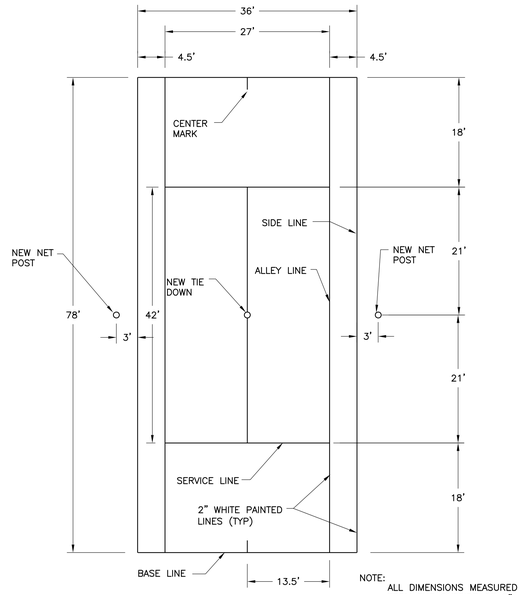
TENNIS COURT MARKINGS



NOTE:
ALL DIMENSIONS MEASURED FROM THE OUTSIDE OF 2" PAINTED LINES. COLOR TO NAVY BLUE

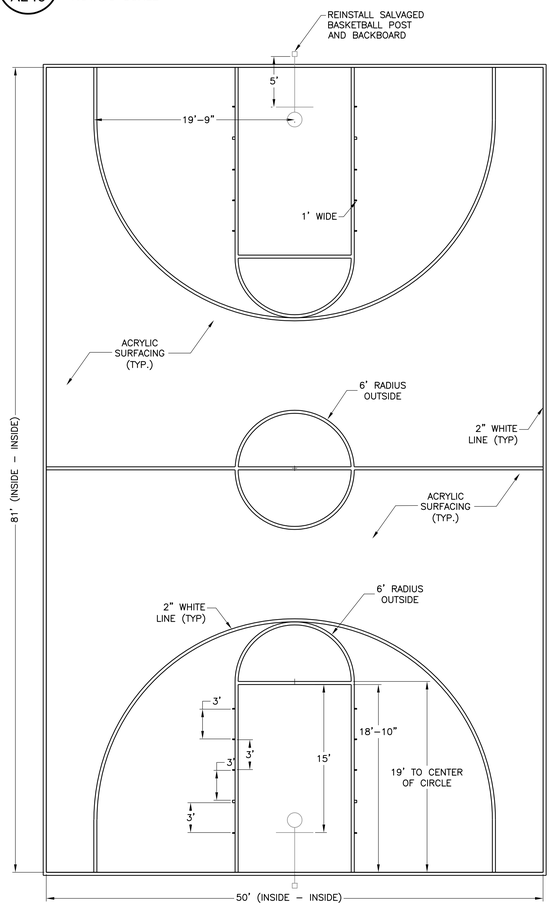
PICKLEBALL MARKINGS

2 A240 PICKELBALL MARKINGS
NOT TO SCALE



NOTE:
ALL DIMENSIONS MEASURED FROM THE OUTSIDE OF 2" PAINTED LINES EXCEPT FOR CENTER MARK.

3 A240 TENNIS COURT MARKINGS
NOT TO SCALE



NOTE:
ALL LINES TO BE PAINTED, WHITE, 2" WIDTH

4 A240 BASKETBALL COURT MARKINGS
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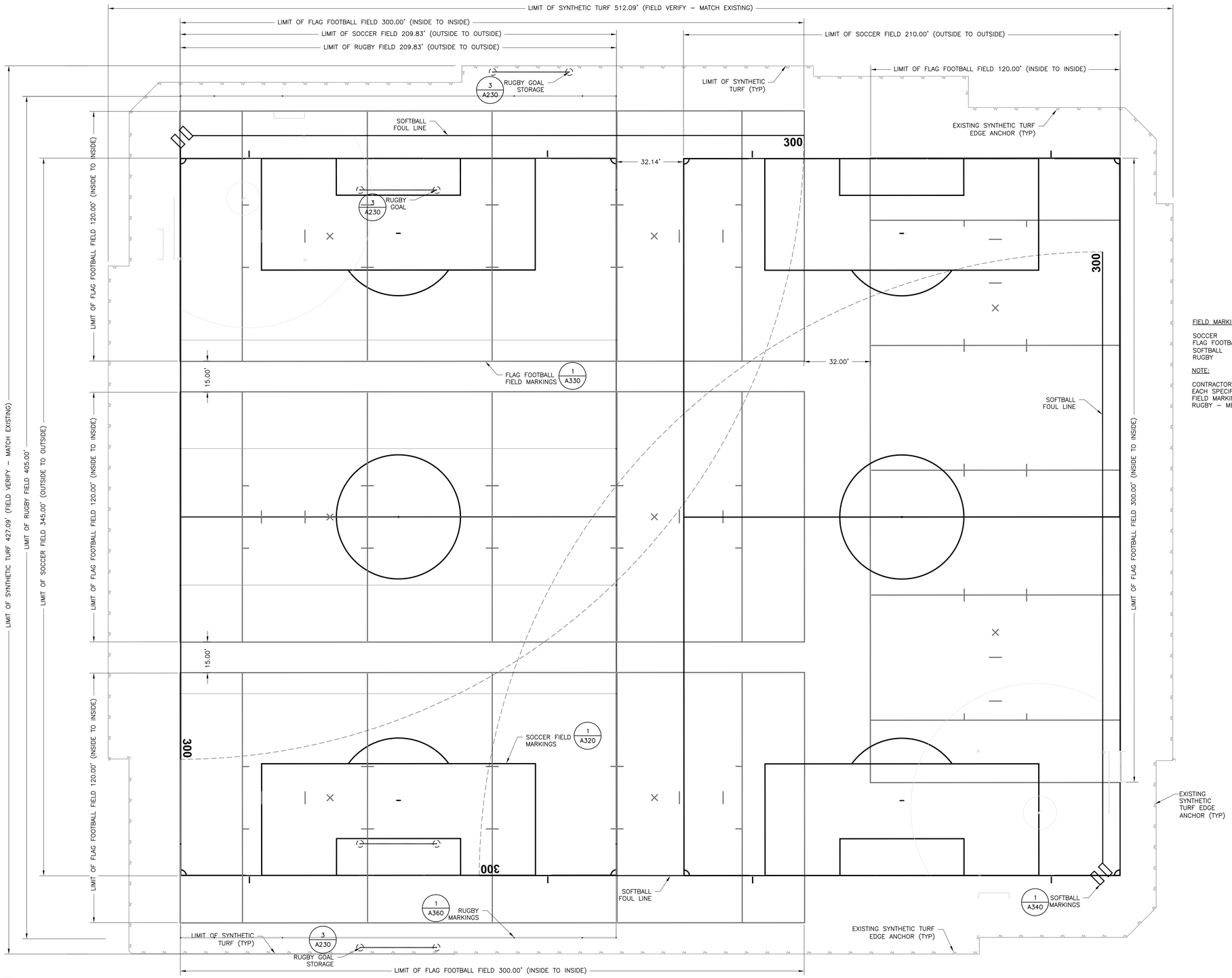

1 A311 EAST FIELD COMPOSITE PLAN
SCALE: 1"=20'

FIELD MARKINGS IN ORDER OF PRIORITY:

SOCCER	INLAID WHITE LINES
FLAG FOOTBALL	INLAID BLACK LINES
SOFTBALL	INLAID LINES (COLOR TBD)
RUGBY	GRAY REFERENCE MARKS

NOTE:

CONTRACTOR TO PROVIDE ONE COMPLETE PAINTING OF EACH SPECIFIED FIELD.
FIELD MARKING COLORS:
RUGBY – MEDIUM GRAY

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COMPOSITE MARKING PLAN EAST FIELD

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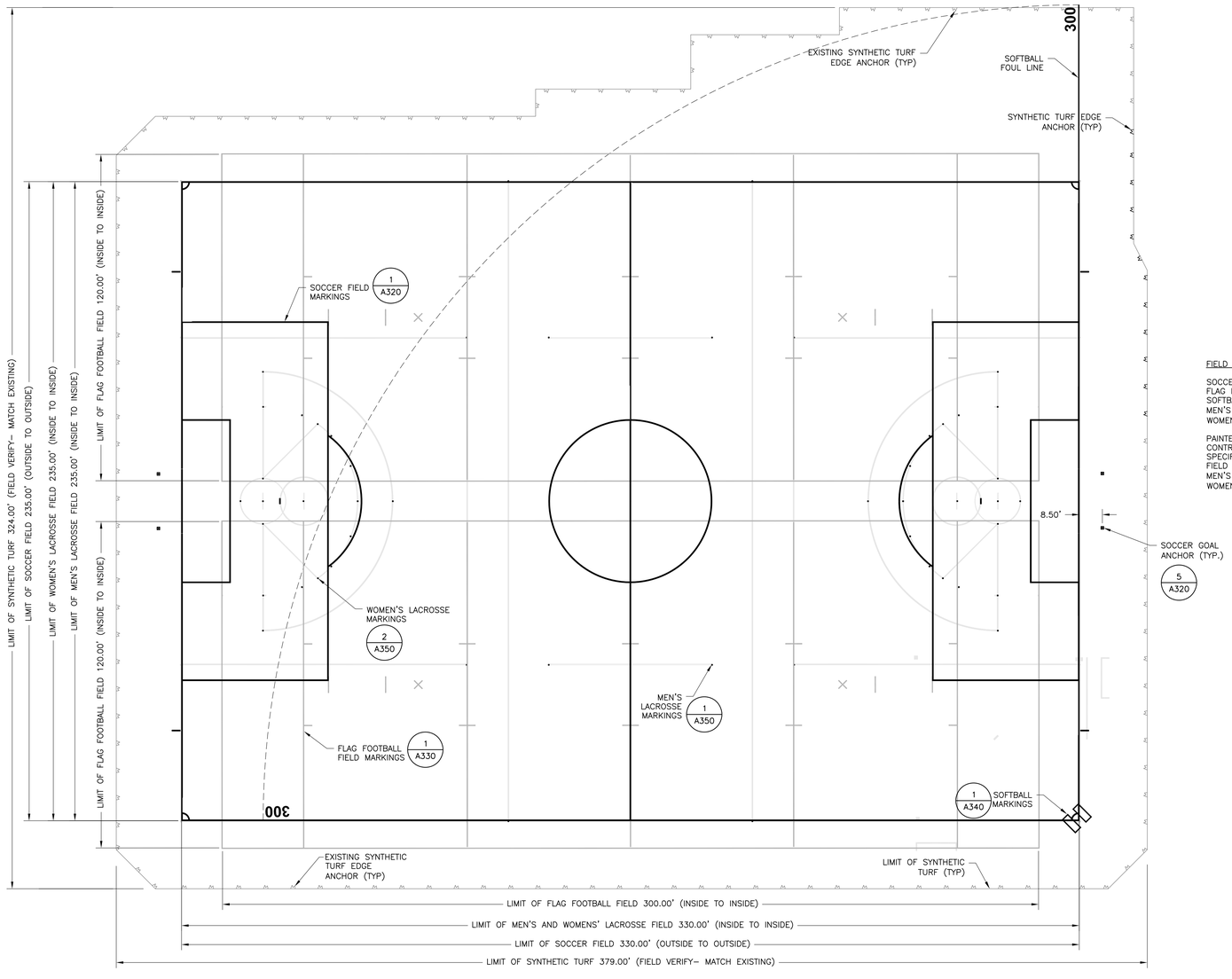

1 A312 WEST FIELD COMPOSITE PLAN
SCALE: 1"=20'

FIELD MARKINGS IN ORDER OF PRIORITY:

SOCCER	INLAID WHITE LINES
FLAG FOOTBALL	INLAID BLACK LINES
SOFTBALL	INLAID YELLOW LINES
MEN'S LACROSSE	BLUE REFERENCE MARKS
WOMEN'S LACROSSE	ORANGE REFERENCE MARKS

PAINTED LINES ARE SHOWN FOR REFERENCE ONLY
CONTRACTOR TO PROVIDE ONE COMPLETE PAINTING OF EACH SPECIFIED FIELD.
FIELD MARKING COLORS:
MEN'S LACROSSE – REFLEX BLUE
WOMEN'S LACROSSE – MEDIUM ORANGE

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COMPOSITE MARKING PLAN
WEST FIELD

SHEET
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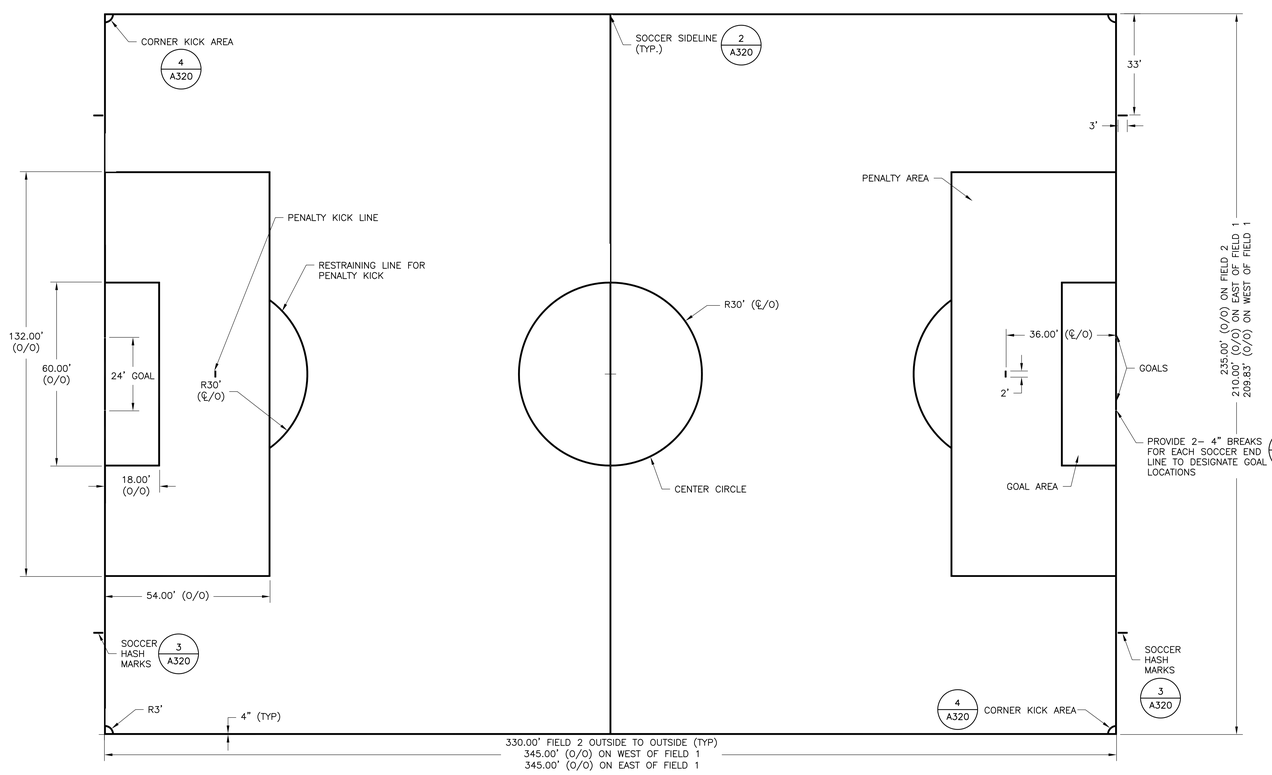
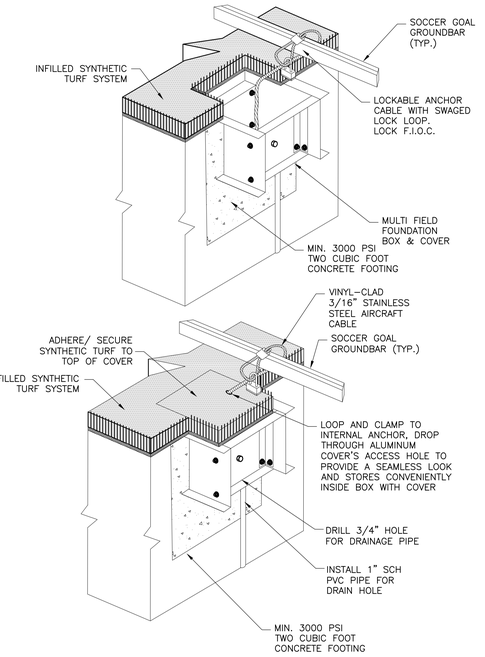
File: A312 Composite Marking Plan West Field.dwg Plotted by: CornetioW Date: 04-Jan-23 10:24:48am



SOCCER LAYOUT NOTES

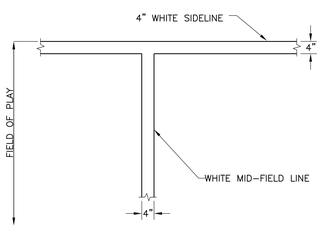
1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ALL LINE WORK IS TO BE LAID OUT WITH A TOLERANCE OF 1/4 INCH.
2. ALL SOCCER LINES ARE 4 INCH WHITE INLAID TURF AS DIMENSIONED ON SOCCER LAYOUT PLAN.
3. THE SOCCER GOAL AREA IS 18 FEET BY 60 FEET. REFER TO PLAN FOR LOCATION.
4. THE SOCCER PENALTY AREA IS 54 FEET BY 132 FEET.
5. THE PENALTY MARK IS A 2 FOOT LINE, 4 INCHES WIDE, 36 FEET FROM THE END LINE AND CENTERED ON THE GOAL. THE RESTRAINING LINE FOR PENALTY KICK AN ARC 30 FEET FROM THIS MARK OUTSIDE OF THE PENALTY AREA. REFER TO PLAN FOR LOCATION.
6. THE HALFWAY LINE FOR THE SOCCER FIELD IS A 4 INCH WHITE INLAID LINE WITH A CIRCLE, 30 FEET IN RADIUS IN THE CENTER OF THE FIELD. THE RADIUS POINT OF THE MIDFIELD CIRCLE WILL BE INLAID WHITE DOT WITH A 9 INCH DIAMETER.
7. THE CORNERS OF THE SOCCER FIELD SHALL HAVE A 3 FOOT RADIUS IN WHITE TURF DESIGNATING THE CORNER KICK AREA. THE HASH MARK IS A 3 FOOT LINE, 4 INCHES WIDE, 33 FEET FROM THE SIDE LINE AND EXTENDS AWAY FROM THE FIELD OF PLAY.

1 / A320 **SOCCER LAYOUT PLAN**
SCALE: 1"=20'

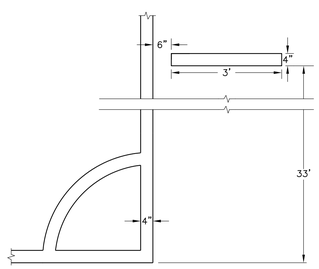


NOTE:
REMOVE HINGE FUNCTION FROM BOX TO PROVIDE REMOVABLE COVER.

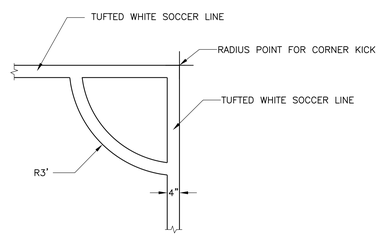
5 / A320 **SOCCER GOAL ANCHOR**
NOT TO SCALE



2 / A320 **SOCCER SIDELINE**
NOT TO SCALE



3 / A320 **SOCCER HASH MARKS**
NOT TO SCALE



4 / A320 **CORNER KICK DETAIL**
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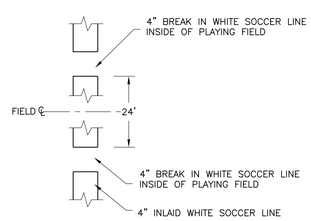

6 / A320 **SOCCER GOAL ALIGNMENT SQUARES**
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LEGACY PARK
RESURFACING
VOLUME 2A
TURF
TRACK
& COURTS

DA HOGAN
1450 114th Ave. SE, Suite 225
Bellevue, WA 98004
p. 206.285.0400
www.dahogan.com

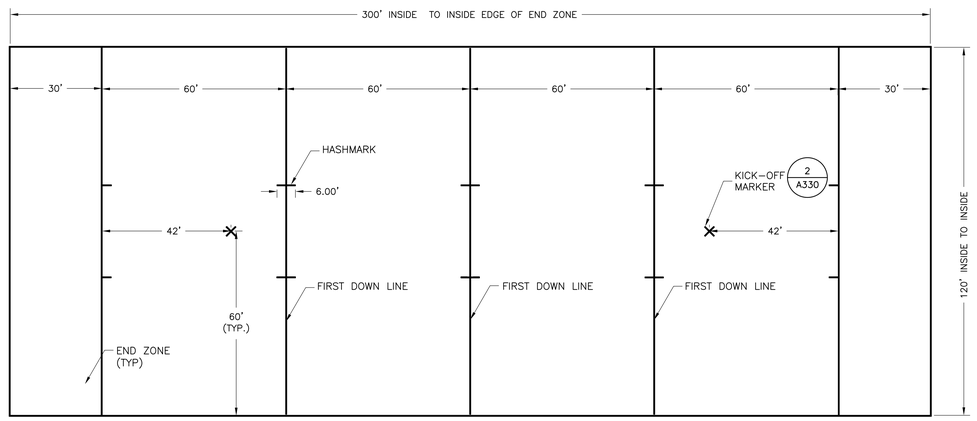
REGISTERED LANDSCAPE ARCHITECT
ROBERT HARDING
OREGON
05/31/23

PERMIT SET

DATE	01-03-23
SCALE	NTS
DRAWN	CPW
CHECKED	EJG/RSH

SOCCER LAYOUT PLAN & DETAILS

SHEET
A320

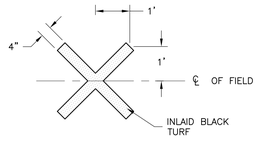


FLAG FOOTBALL LAYOUT NOTES

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. ALL LINE WORK IS TO BE LAID OUT WITH A TOLERANCE OF 1/4 INCH.
3. ALL YARDLINES SHALL BE 4 INCH, BLACK, TUFTED INTO THE TURF PANELS, THE GOAL LINES WILL BE 4" TUFTED INTO THE TURF PANELS.
4. A 4 INCH BLACK LINE, TUFTED INTO THE TURF, WILL SURROUND THE ENTIRE PLAYING FIELD.
5. A X WILL MARK THE SPOT OF THE KICKOFF 14 YARDS OFF THE GOAL LINE ON EACH END OF THE FIELD.
6. HASHMARKS SHALL RUN PARALLEL WITH EACH SIDELINE, LOCATED 15 YARDS "IN" FROM EACH SIDELINE.
7. ALL LINES TO BE 4" BLACK INLAID LINES.

1 / A330 FLAG FOOTBALL LAYOUT

SCALE: 1"=20'



2 / A330 KICK-OFF MARKER

NOT TO SCALE

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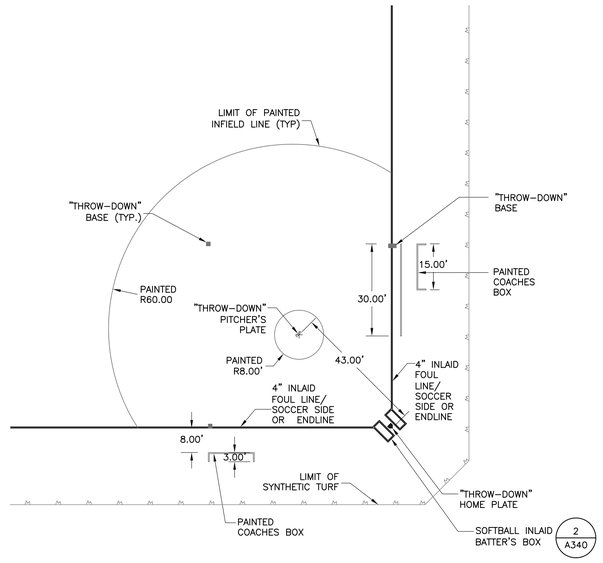
FLAG FOOTBALL LAYOUT PLAN & DETAILS

SHEET

A330

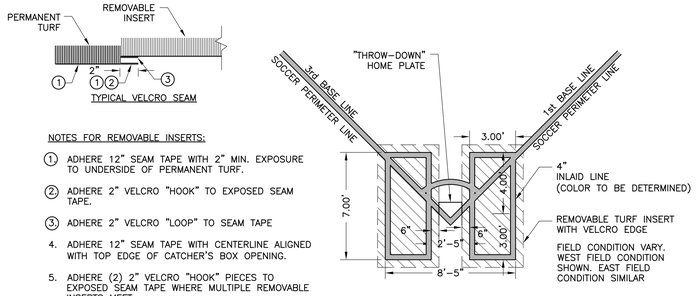
File: A330 Flag Football Layout Plan & Details.dwg Plotted by: CornelioW Date: 21-Dec-22 10:03:09am



1
A340

SOFTBALL LAYOUT PLAN

SCALE: 1"=20'



NOTES FOR REMOVABLE INSERTS:

1. ADHERE 12" SEAM TAPE WITH 2" MIN. EXPOSURE TO UNDERSIDE OF PERMANENT TURF.
2. ADHERE 2" VELCRO "HOOK" TO EXPOSED SEAM TAPE.
3. ADHERE 2" VELCRO "LOOP" TO SEAM TAPE
4. ADHERE 12" SEAM TAPE WITH CENTERLINE ALIGNED WITH TOP EDGE OF CATCHER'S BOX OPENING.
5. ADHERE (2) 2" VELCRO "HOOK" PIECES TO EXPOSED SEAM TAPE WHERE MULTIPLE REMOVABLE INSERTS MEET.
6. FURNISH 4 ADDITIONAL REMOVABLE REPLACEMENT TURF PATCHES EACH LOCATION (5 TOTAL).

2
A340

SOFTBALL BATTERS BOX

NOT TO SCALE

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OREGON
05/31/23

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DATE	01-03-23
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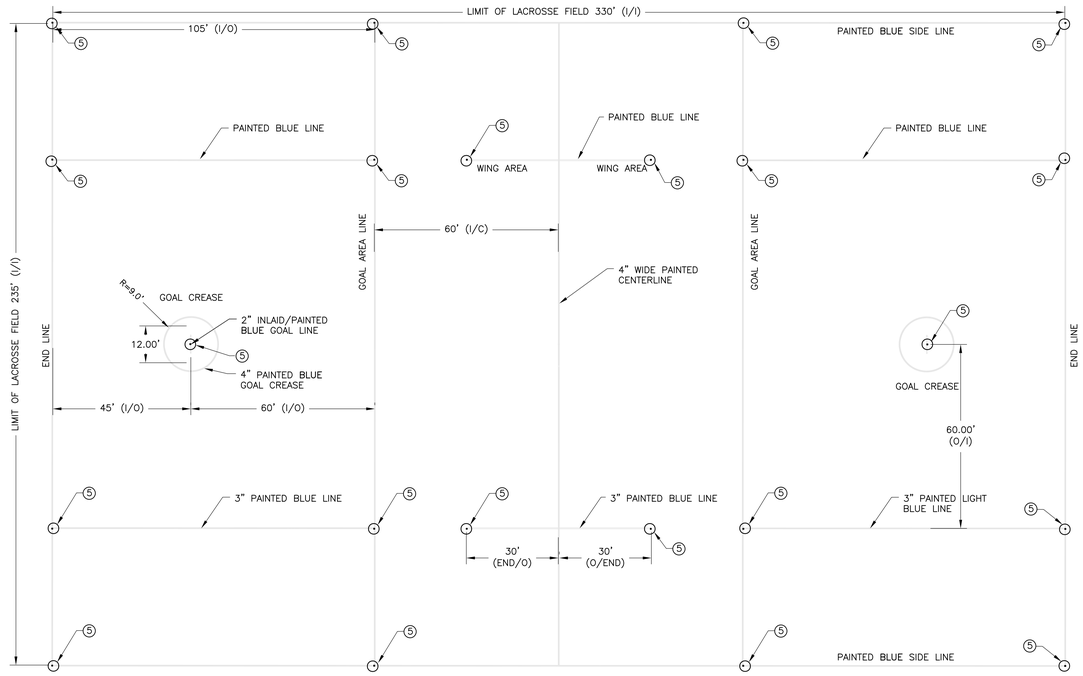
CHECKED	EJG/RSH

SOFTBALL LAYOUT PLAN & DETAILS

SHEET

A340

File: A340 Softball Layout Plan & Details.dwg Plotted by: CorneliusW Date: 21-Dec-22 10:05:45am



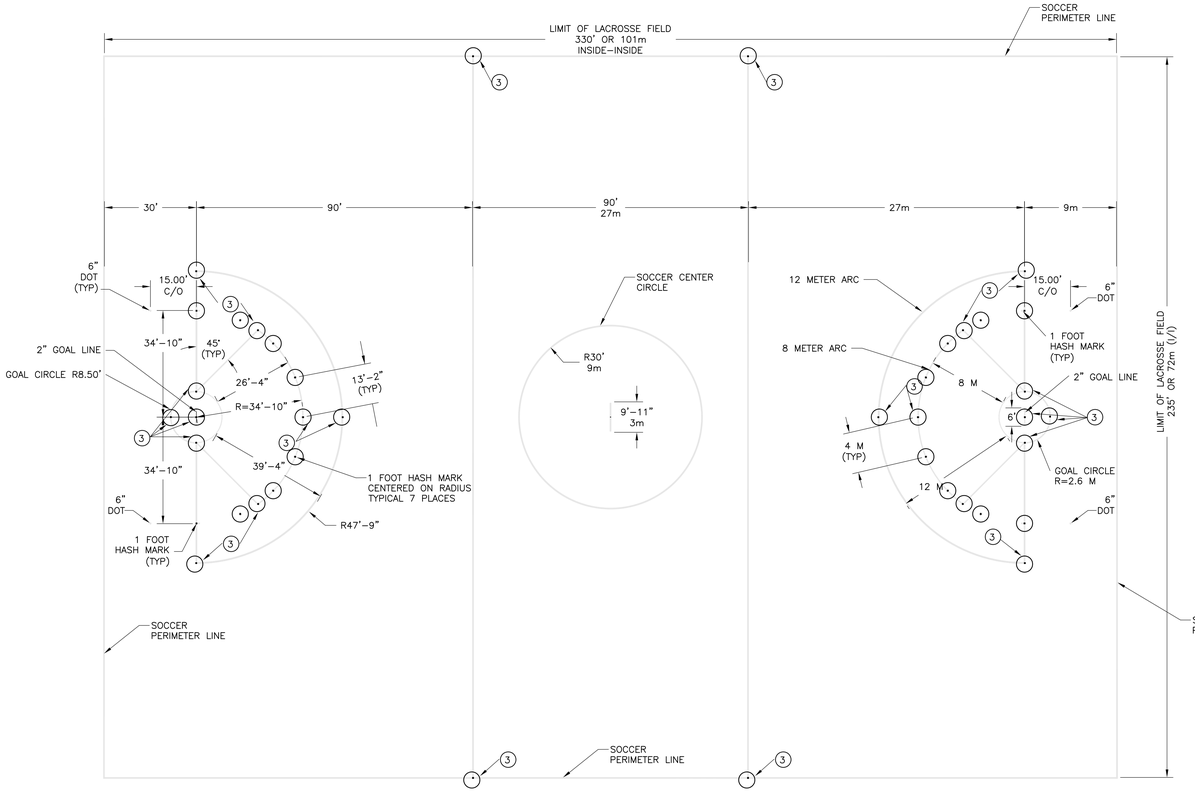
1 A350 MEN'S LACROSSE LAYOUT PLAN

SCALE: 1"=20'

NOTES

1. PROVIDE LACROSSE LINES AND MARKINGS WITH 3" WIDE PAINTED OR INLAID/TUFTED REFLEX BLUE TURF. CENTERLINE WILL BE 4" ONLY.
2. ALL DIMENSIONS SPECIFIED ARE FOR MEN'S LACROSSE ONLY.
3. CENTER LINE ON LACROSSE FIELD IS A PANTED REFLEX BLUE LINE.
4. THE GOAL LINE SHALL BE A 2" REFLEX BLUE PAINTED OR INLAID/TUFTED LINE.

(5) CONTRACTOR TO INSTALL 22-4" REFLEX BLUE SQUARE TURF AT LOCATIONS INDICATED AND INLAID/TUFTED LINES AT PERMANENTLY MARKED FIELD.



2 A350 WOMEN'S LACROSSE LAYOUT PLAN

SCALE: 1"=20'

WOMEN'S LACROSSE NOTES:

1. TWO ARCS SHALL BE MARKED 8 METERS (8.8 YARDS) AND 12 METERS (13 YARDS) FROM THE GOAL CIRCLES. THE ARCS SHALL BE MEASURED FROM THE CENTER OF THE GOAL LINE, 10.6 METERS (34 FEET, 9 INCHES) FOR THE 8-METER MARK AND 14.6 METERS (47 FEET, 9 INCHES) FOR THE 12-METER MARK. THE 8 METER ARC SHALL END ON A LINE ON EACH SIDE THAT RUNS FROM A POINT ON EACH SIDE OF THE GOAL CIRCLE, WHERE IF THE GOAL LINE WERE CONTINUED IT WOULD CROSS THE GOAL LINE. THIS LINE WILL BE AT A 45-DEGREE ANGLE TO THE GOAL LINE EXTENDED. THE 8-METER ARC WILL BE SECTIONED OFF BY HASH MARKS 32 CENTIMETERS, (1 FOOT) IN LENGTH, PERPENDICULAR AND BISECTING THE ARC. THESE WILL BE MEASURED 4, 8 AND 12 METERS, RESPECTIVELY, FROM EITHER SIDE OF THE CENTER HASH MARK, WHICH SHALL BE MEASURED FROM THE CENTER OF AND PERPENDICULAR TO THE CENTER OF THE GOAL LINE, (10.6 METERS/34 FEET, 9 INCHES). TWO ADDITIONAL 32 CENTIMETER (1 FOOT) HASH MARKS WILL BE MADE 8 METERS FROM THE GOAL CIRCLE, PERPENDICULAR TO THE GOAL LINE EXTENDED. THE 12-METER ARC WILL END AT THE GOAL LINE EXTENDED. ALL LINES ARE 4" WIDE EXCEPT FOR THE 2" GOAL LINE.
2. THE GOAL CIRCLE HAS A RADIUS OF 2.6 METERS (8.5 FEET) MEASURED FROM THE CENTER OF THE GOAL LINE TO THE OUTER EDGE OF THE GOAL-CIRCLE LINE. THE GOAL CIRCLE LINE SHALL BE 5 CENTIMETERS (2 INCHES) WIDE.

(3) CONTRACTOR TO INSTALL 40-4" ORANGE SQUARE TURF AT LOCATIONS INDICATED.

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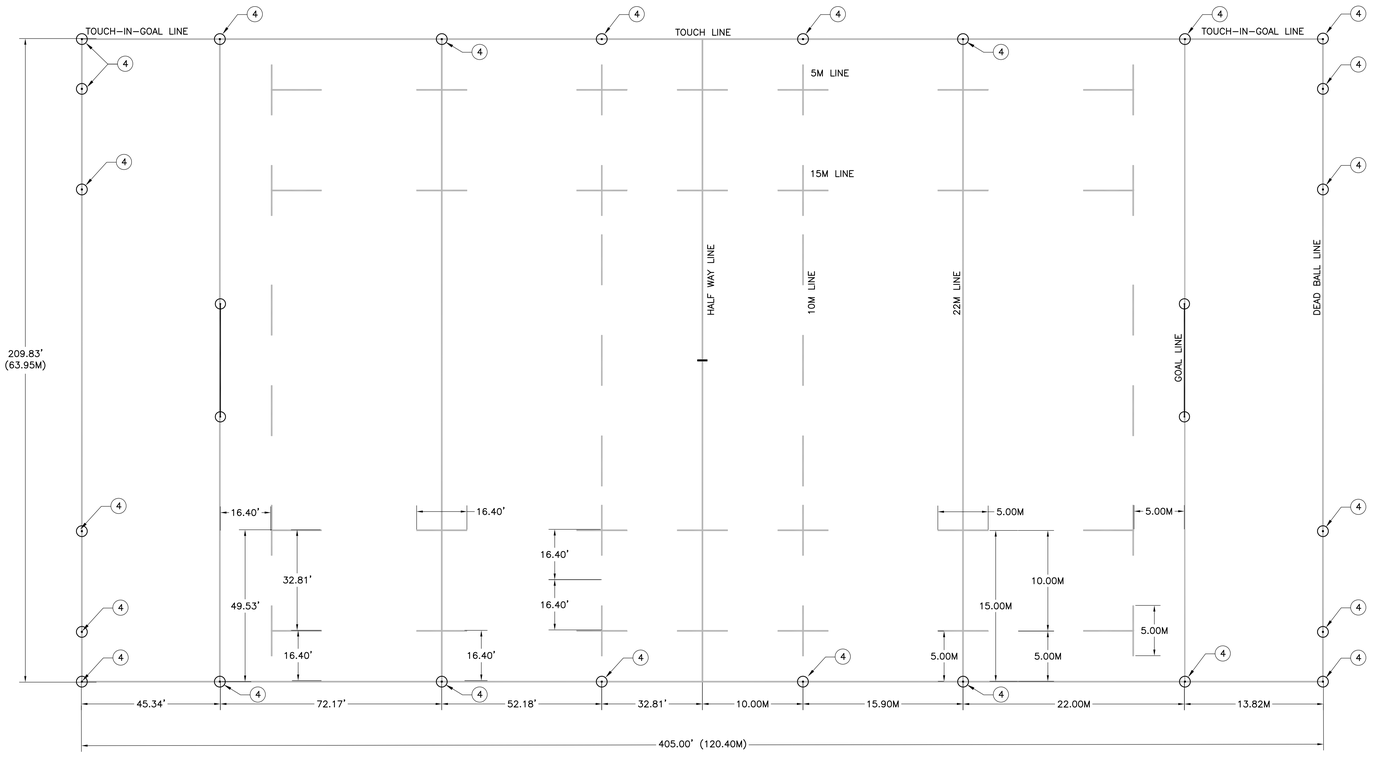
548
ROBERT HARDING
OREGON
05/31/23

PERMIT SET

DATE	01-03-23
SCALE	NTS
DRAWN	CPW
CHECKED	EJG/RSH

LACROSSE LAYOUT PLANS

SHEET
A350



1. PROVIDE COMPLETE RUGBY LINES AND MARKINGS ARE SHOWN FOR REFERENCE ONLY.
2. THE SIDE LINES AND END LINES SHALL BE 4" PAINTED LINES.
3. DASHED 10 YARDS LINE SHALL BE PAINTED 3 FEET IN LENGTH WITH 3 FEET SPACING.

(4) CONTRACTOR TO PROVIDE (24) 4" x4" GRAY RUGBY MARKS AT THE LOCATIONS INDICATED

1 / A360 RUGBY MARKINGS PLAN
SCALE 1"=20'

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ROBERT HARDING
OREGON
05/31/23

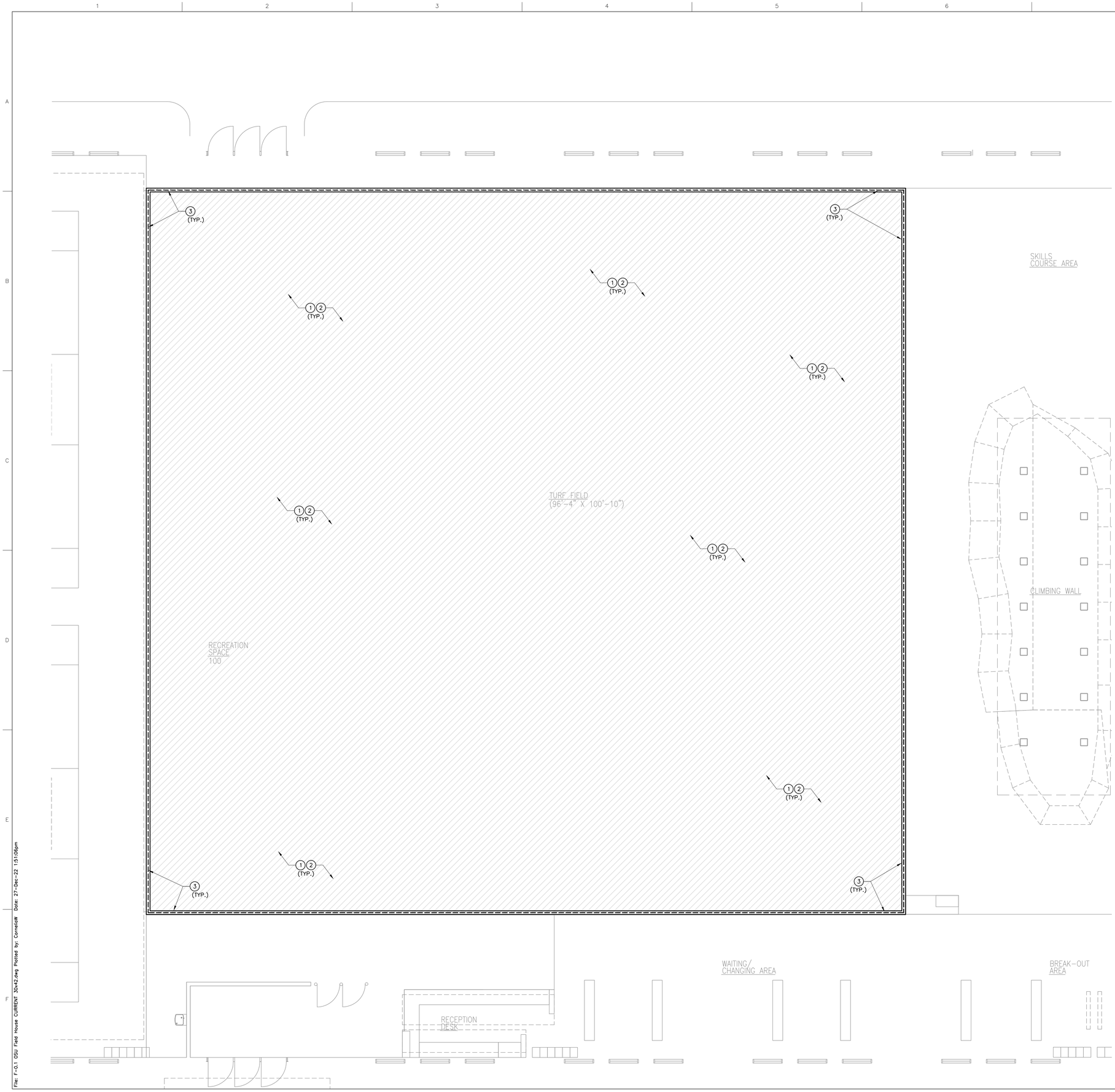
PERMIT SET

DATE	01-03-23
SCALE	1"=20'
DRAWN	CPW
CHECKED	EJG/RSH

RUGBY LAYOUT PLAN

SHEET
A360

File: A360 Rugby Layout Plan.dwg Plotted by: CorneliaW Date: 21-Dec-22 10:06:42am



DEMOLITION NOTES

1. REMOVE ALL EXISTING SYNTHETIC TURF, PAD, AND ADHESIVES
2. SCRAPE AND VACUUM ALL ADHESIVE RESIDUE FROM CONCRETE BASE
3. EXISTING WOOD THRESHOLD – PRESERVE & PROTECT

NOTE LEGEND

1. (INDICATES GENERAL CONSTRUCTION NOTE)
3. (INDICATES SPECIFIC CONSTRUCTION KEYNOTE)

DEMOLITION LEGEND

REMOVE & DISPOSE OF EXISTING SYNTHETIC TURF

EXISTING FABRICATED WOOD WEDGE/THRESHOLD

Know what's **below.**
Call before you dig.

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STUDENT
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MCALEXANDER
FIELD HOUSE
TURF

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REGISTERED LANDSCAPE ARCHITECT
548
ROBERT HARDING
OREGON
05/31/23

NORTH

0 5' 10'

SCALE: 1" = 5'

PERMIT SET

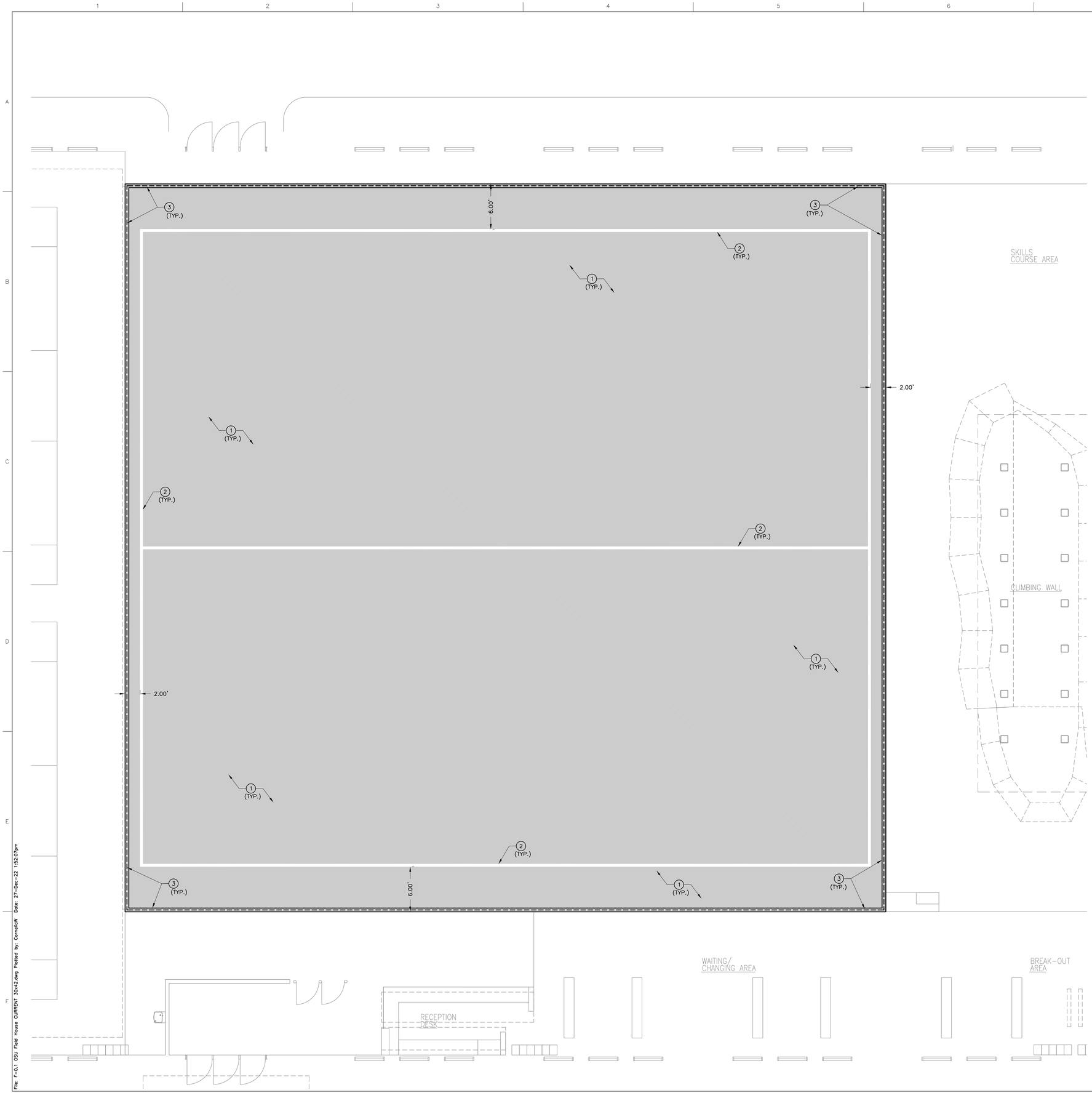
DATE	01-03-23
SCALE	1"=5'
DRAWN	CPW
CHECKED	EJG/RSH

DEMOLITION PLAN

SHEET

B101

File: F-0.1 OSU Field House CURRENT 30x42.dwg Plotted by: CorneliuW Date: 27-Dec-22 1:51:06pm



LAYOUT NOTES

1. NEW GREEN SYNTHETIC TURF SURFACE, UNDERLAYMENT PAD, AND ADHESIVES
2. TUFTED FIELD MARKINGS, 4" WIDTH, WHITE
3. EXISTING WOOD THRESHOLD, PRESERVE & PROTECT

NOTE LEGEND

1 (INDICATES GENERAL CONSTRUCTION NOTE)
3 (INDICATES SPECIFIC CONSTRUCTION KEYNOTE)

LAYOUT LEGEND

NEW SYNTHETIC TURF SURFACING SYSTEM, COMPLETE

EXISTING FABRICATED WOOD WEDGE/THRESHOLD

REVISION	DATE

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STUDENT LEGACY PARK RESURFACING
MCALEXANDER FIELD HOUSE TURF

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REGISTERED LANDSCAPE ARCHITECT
548
ROBERT HARDING
OREGON
05/31/23

NORTH

0 5' 10'

SCALE: 1" = 5'

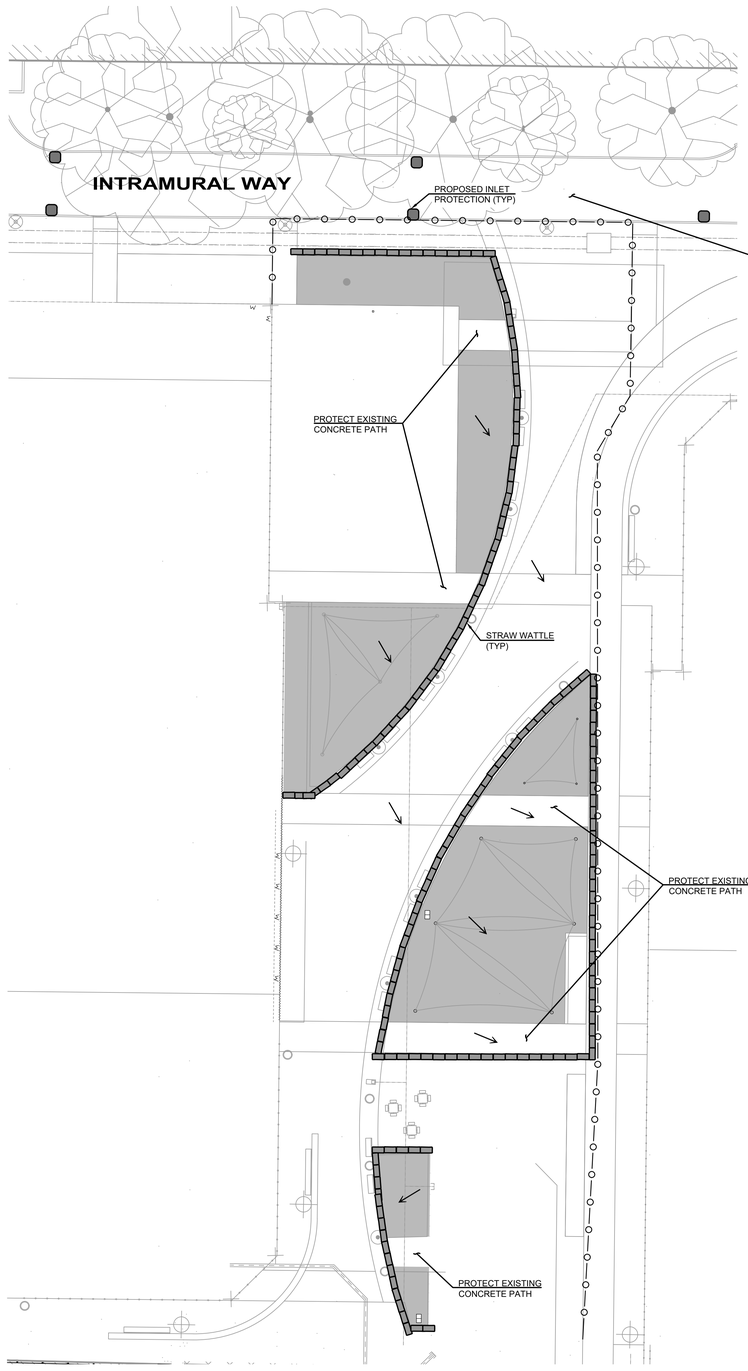
PERMIT SET

DATE	01-03-23
SCALE	1"=5'
DRAWN	CPW
CHECKED	EJG/RSH

LAYOUT PLAN

SHEET
B110

File: F-0.1 OSU Field House CURRENT 30x42.dwg Plotted by: CorneliaW Date: 27-Dec-22 1:52:07pm



EROSION CONTROL LEGEND

- STRAW WATTLES
- PROPOSED FLOW ARROW
- PROPOSED INLET PROTECTION
- PROPOSED SYNTHETIC TURF
- TEMPORARY SITE SECURITY FENCE

Know what's **below.** Call before you dig.

File: 78029-000_ErosionControlPermit.dwg Plotted by: allisonw Date: 03-Jan-23 10:31:25am

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PBS
PBS Engineering and Environmental Inc.
1325 SE Tech Center Drive
Suite 140
Vancouver, WA 98683
360.695.3488
pbsusa.com

REGISTERED PROFESSIONAL ENGINEER
96069PE
OREGON
MAR. 10, 2020
ELISSA A. PETERS
RENEWS: 12/31/24

NORTH

0 20' 40'

SCALE: 1" = 20'

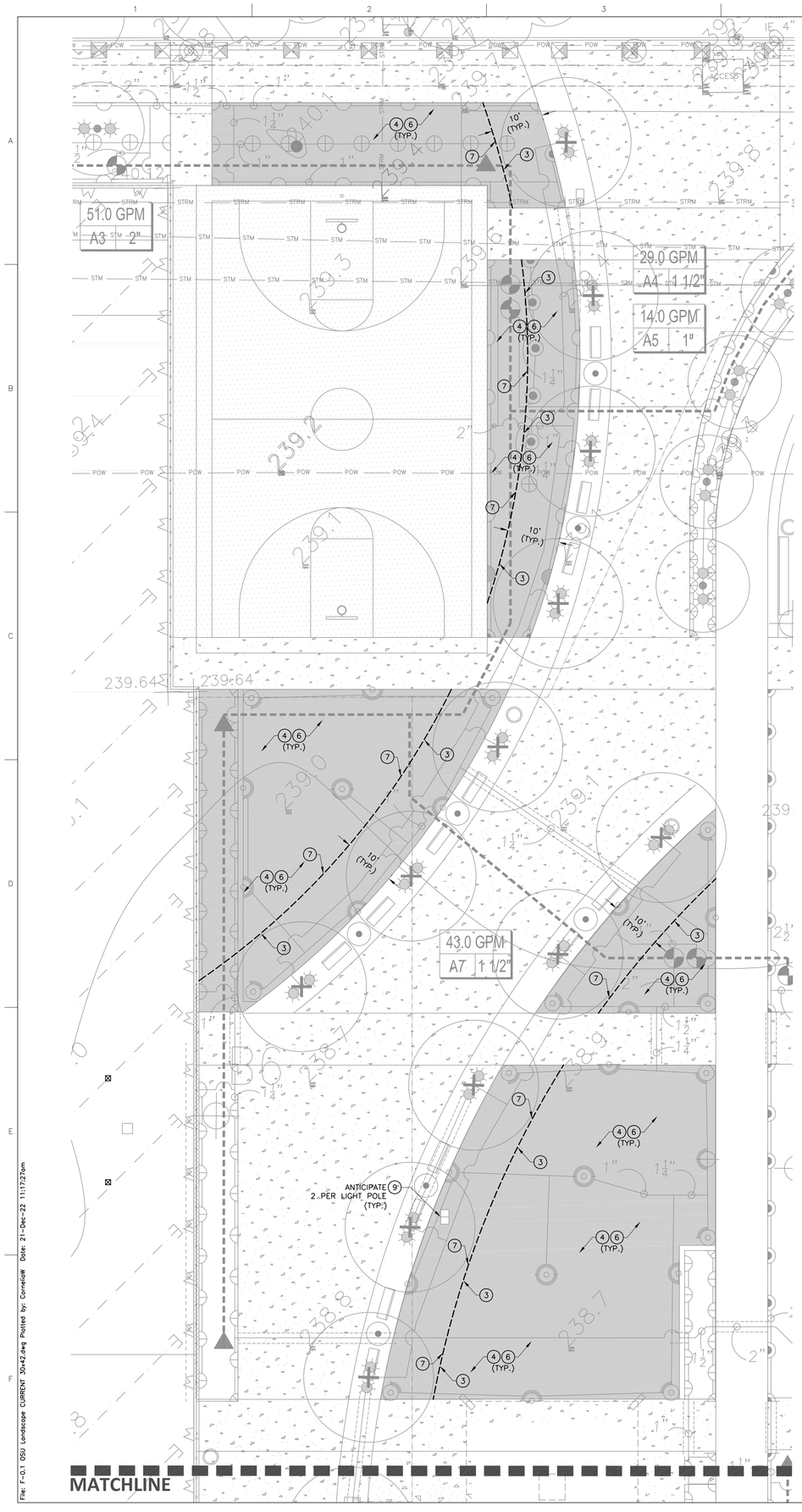
PERMIT SET

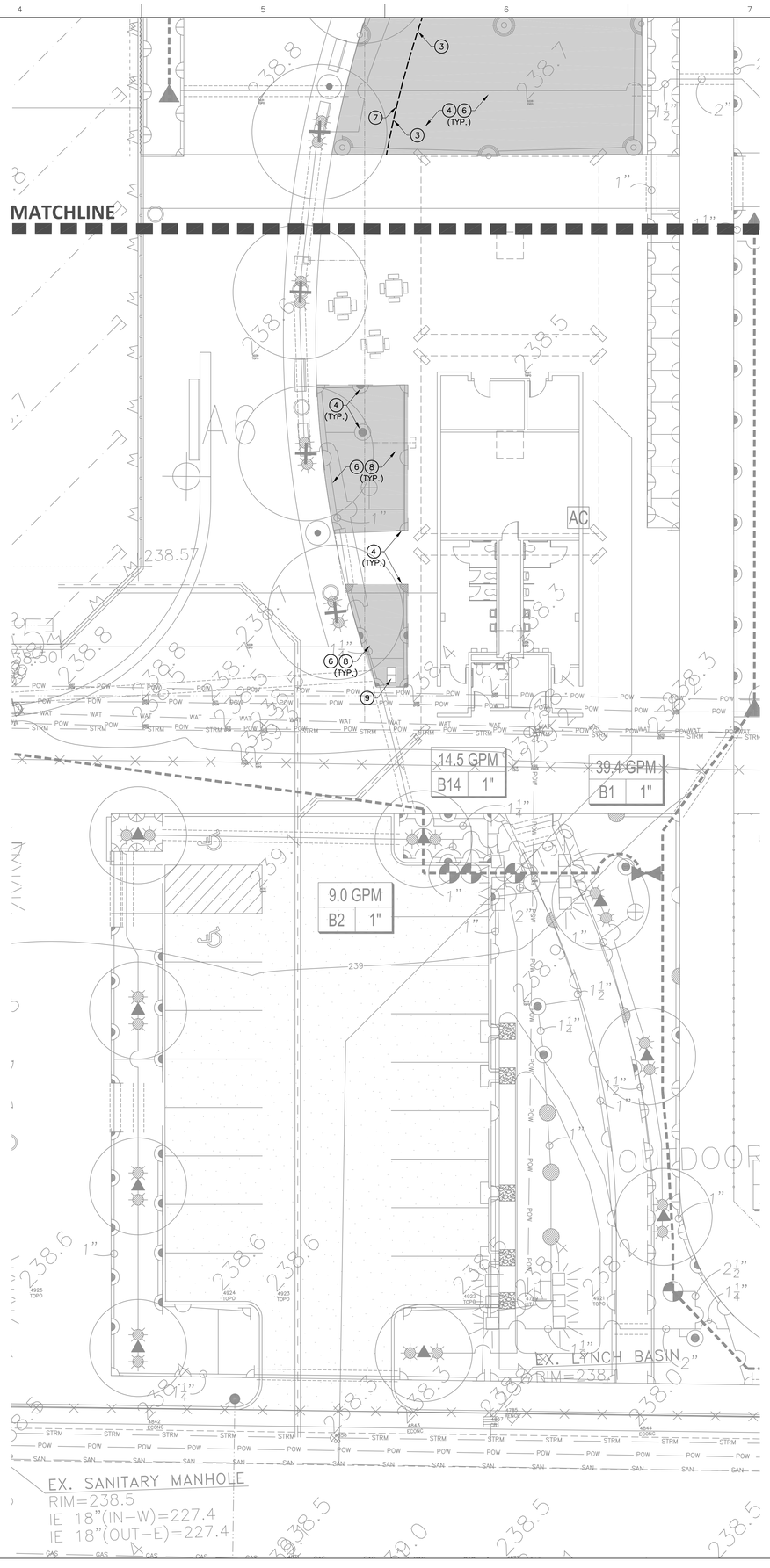
DATE	01-03-23
SCALE	1"=20'
DRAWN	ANW
CHECKED	EAP

TEMPORARY EROSION & SEDIMENT CONTROL

SHEET

C101





SITE PREPARATION NOTES

1. PERFORM A COMPREHENSIVE OPERATIONAL TEST OF THE EXISTING IRRIGATION SYSTEM PRIOR TO ANY SITE DISTURBANCE. COORDINATE WITH OWNER AND ARCHITECT. DOCUMENT ALL DEFICIENCIES.
2. DO NOT PROCEED WITH ANY DISTURBANCE PRIOR TO OWNER APPROVAL OF ALL SITE SECURITY AND T.E.S.C. MEASURES INSTALLATION.
3. IDENTIFY & PAINT TREE PROTECTION LIMIT FOR APPROVAL. HAND EXCAVATION ONLY WITHIN THE TREE PROTECTION LIMITS.
4. PERFORM SELECTIVE DEMOLITION OF THE IRRIGATION SYSTEM AS REQUIRED TO ACCOMMODATE THE NEW WORK. IDENTIFY RE-ROUTING OF MAINLINES, VALVES, AND SPRINKLER HEADS BY FIELD-MARKING WITH PAINT & FLAGGING FOR OWNER APPROVAL PRIOR TO COMMENCING DEMOLITION.
5. CLEAN AND PACKAGE SALVAGED SPRINKLER HEADS, VALVES, AND VALVE BOXES FOR TRANSMITTAL TO OWNER AS DIRECTED. DISPOSE OF UNWANTED PARTS.
6. REMOVE ALL SOD & SOIL TO ACCOMMODATE THE LANDSCAPE SYNTHETIC TURF SECTION.
7. LOCATE ROOT BARRIER ALIGNMENT. HAND EXCAVATE AND ROOT PRUNE AS NECESSARY TO ACCOMMODATE INSTALLATION.
8. NO ROOT BARRIER WORK THIS PANEL.
9. PROVIDE TURF EDGE ANCHOR WRAP AT ALL UTILITY ACCESS BOXES ENCOUNTERED.
10. COORDINATE AND OWNER/ARCHITECT INSPECTION & APPROVAL OF THE PREPARED SUBGRADE & ROOT BARRIER INSTALLATION PRIOR TO CONTINUING THE WORK.

NOTE LEGEND

1. (INDICATES GENERAL CONSTRUCTION NOTE)
3. (INDICATES SPECIFIC CONSTRUCTION KEYNOTE)

SITE PREPARATION LEGEND

CLEARING & GRUBBING, SUBGRADE PREPARATION

TREE PROTECTION ZONE, HAND EXCAVATION, & ROOT BARRIER

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REGISTERED LANDSCAPE ARCHITECT
548
ROBERT HARDING
OREGON
05/31/23

NORTH

0 10' 20'

SCALE: 1" = 10'

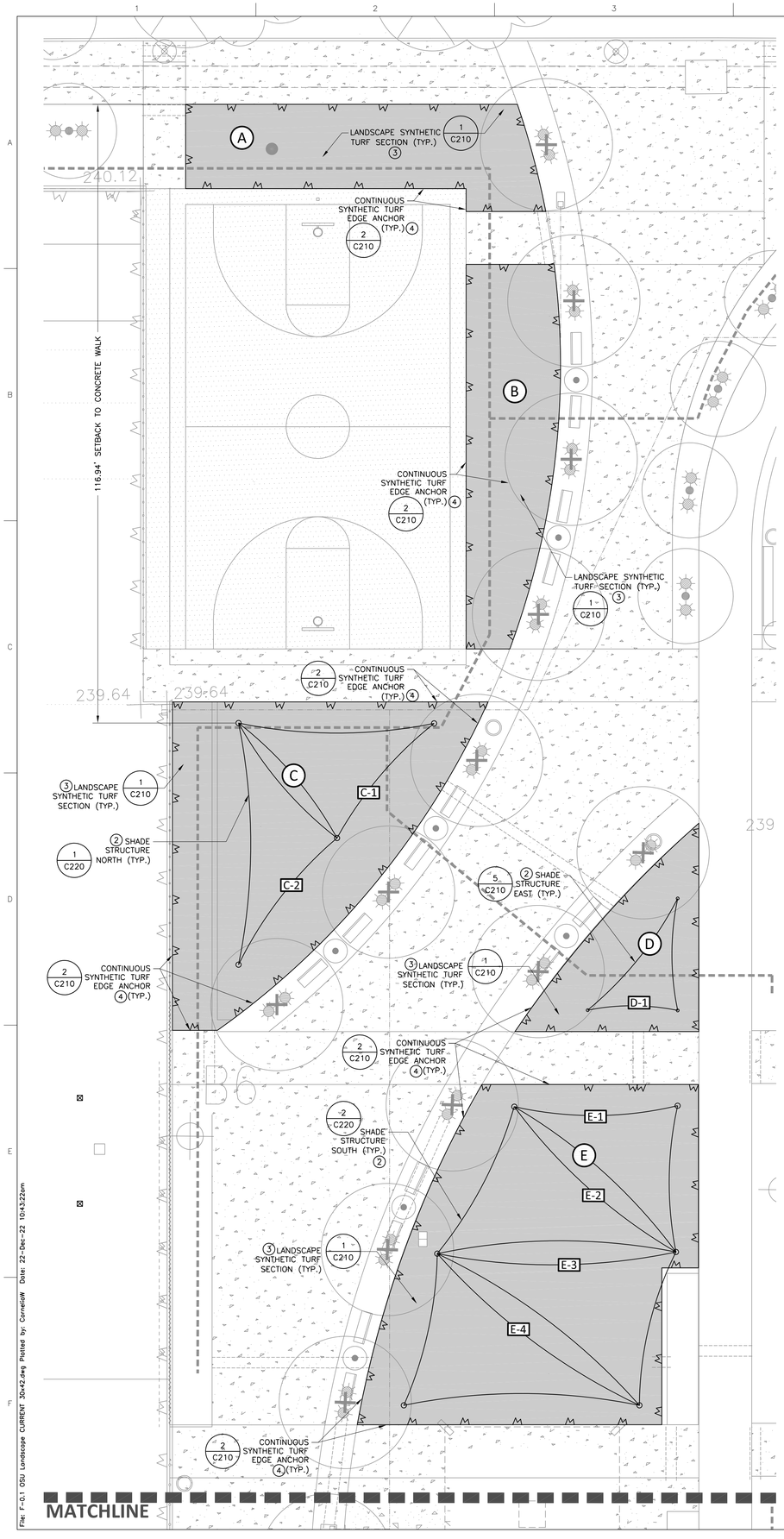
PERMIT SET

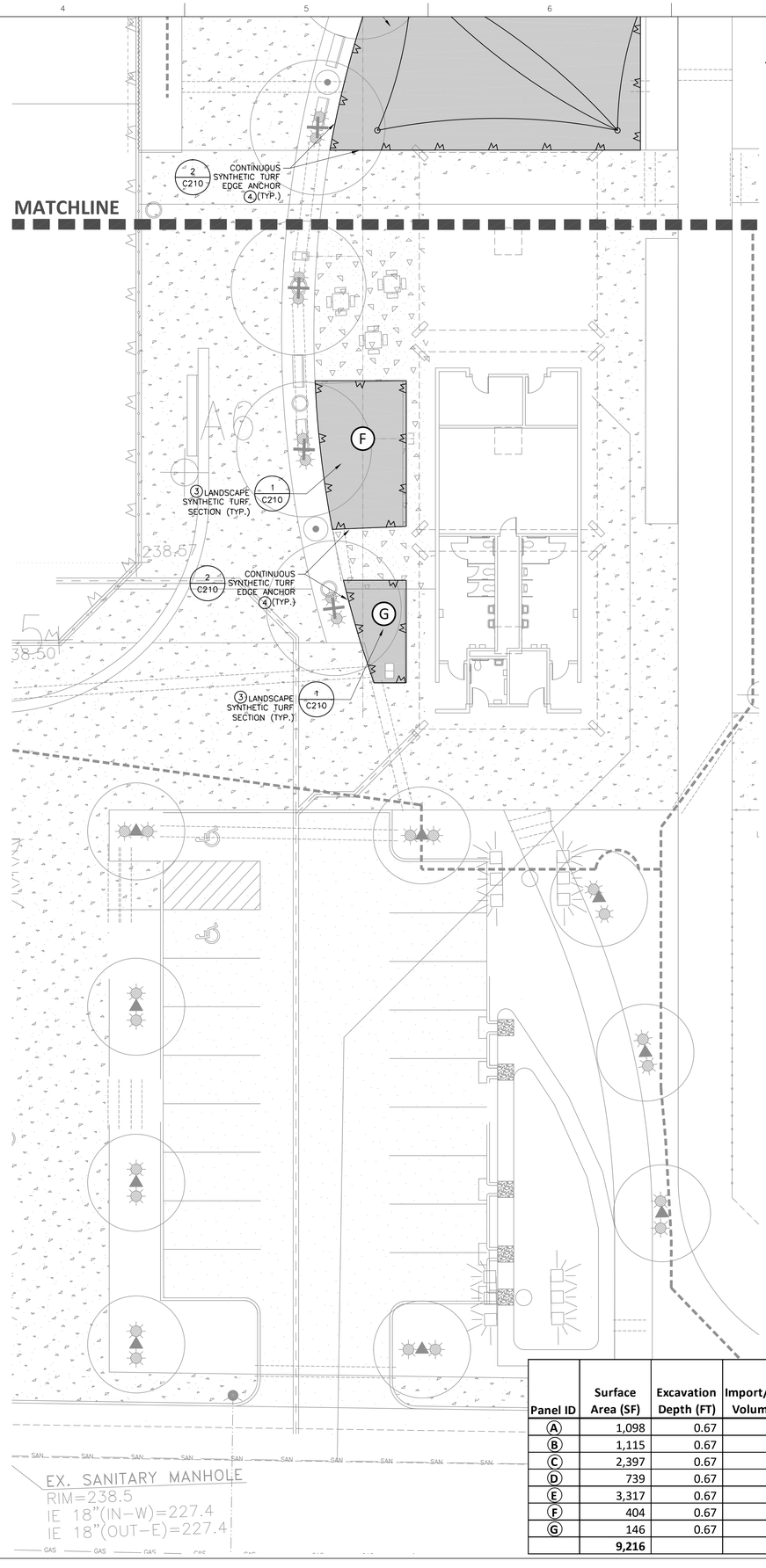
DATE	01-03-23
SCALE	1"=10'
DRAWN	CPW
CHECKED	EJG/RSH

SITE
PREPARATION
PLAN

SHEET

C102





NOTE LEGEND

LAYOUT NOTES

1. (INDICATES GENERAL CONSTRUCTION NOTE)
3. (INDICATES SPECIFIC CONSTRUCTION KEYNOTE)

1. COORDINATE APPROVAL OF ALL SITE PREPARATION REQUIREMENTS PRIOR TO COMMENCING FABRIC, BASE AGGREGATE, EDGE ANCHOR, AND SYNTHETIC TURF.
2. INSTALL SHADE STRUCTURE FOUNDATIONS & POSTS IN CONFORMANCE WITH APPROVED SHOP DRAWINGS. PROVIDE PROTECTION TO INSTALLED POSTS AGAINST DAMAGE FROM ABRASION & ACCIDENTAL COLLISION.
3. INSTALL SEPARATOR FABRIC AND BASE AGGREGATE FOR INSPECTION AND APPROVAL.
4. INSTALL SYNTHETIC TURF EDGE ANCHOR CONTINUOUS AT PERIMETER OF SYNTHETIC TURF INSTALLATION.

LAYOUT LEGEND

LANDSCAPE SYNTHETIC TURF AND PERMEABLE AGGREGATE

LIMIT OF SYNTHETIC TURF AND EDGE ANCHOR

Panel ID	Surface Area (SF)	Excavation Depth (FT)	Import/Export Volume (CY)	Shade Structures Qty.	Max. Shade Structure Height	Shade Structures Area	Total Shaded Area
A	1,098	0.67	27.25	-			
B	1,115	0.67	27.67	-			
C	2,397	0.67	59.48	2	14'	425, 400	825
D	739	0.67	18.34	1	13'	185	185
E	3,317	0.67	82.31	4	14'	430, 640, 660, 640	2,370
F	404	0.67	10.03	-			
G	146	0.67	3.62	-			
	9,216		**228.69**	**7**			**3,380**

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548
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OREGON
05/31/23

NORTH
0 10' 20'
SCALE: 1" = 10'

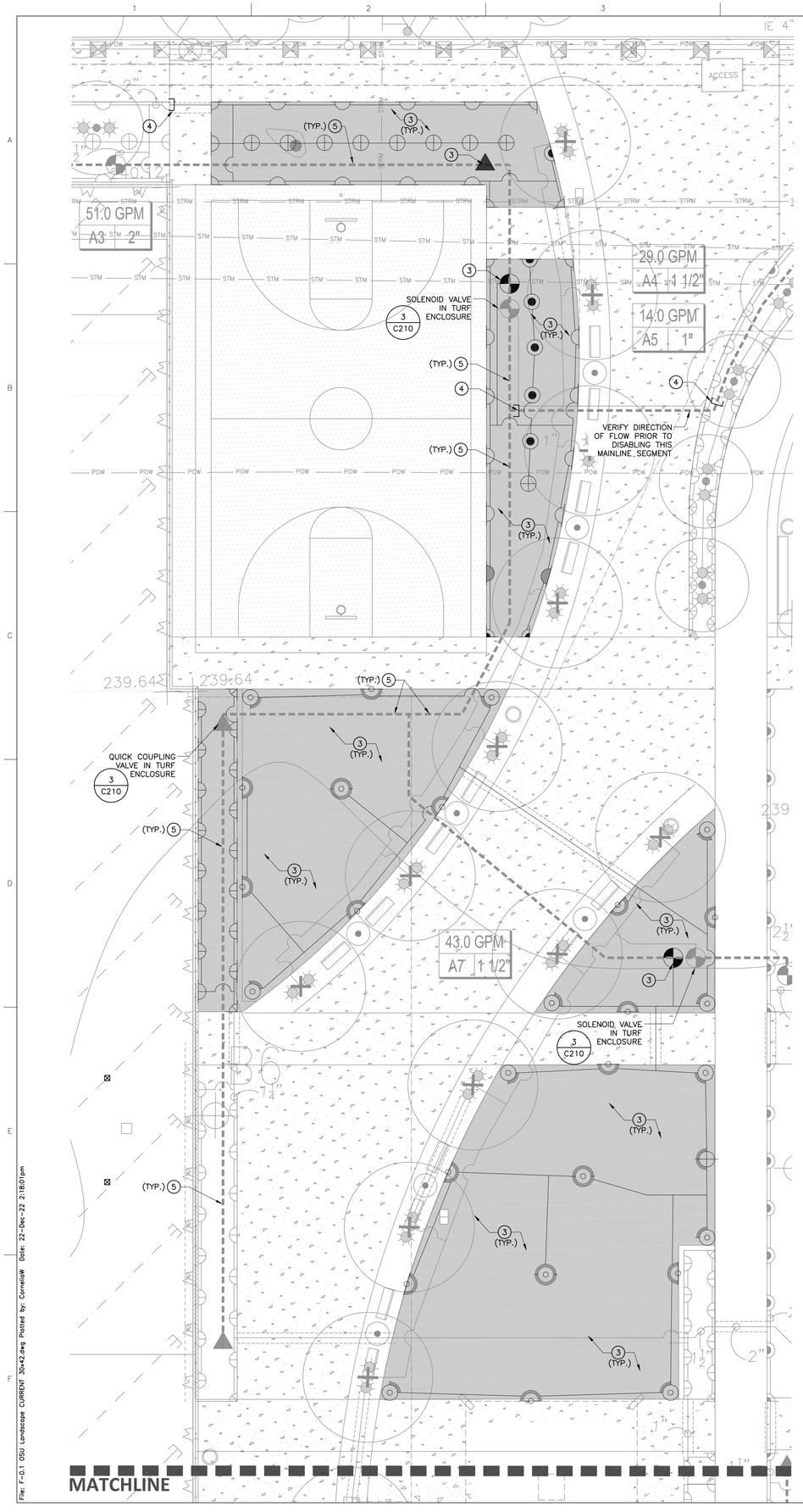
PERMIT SET

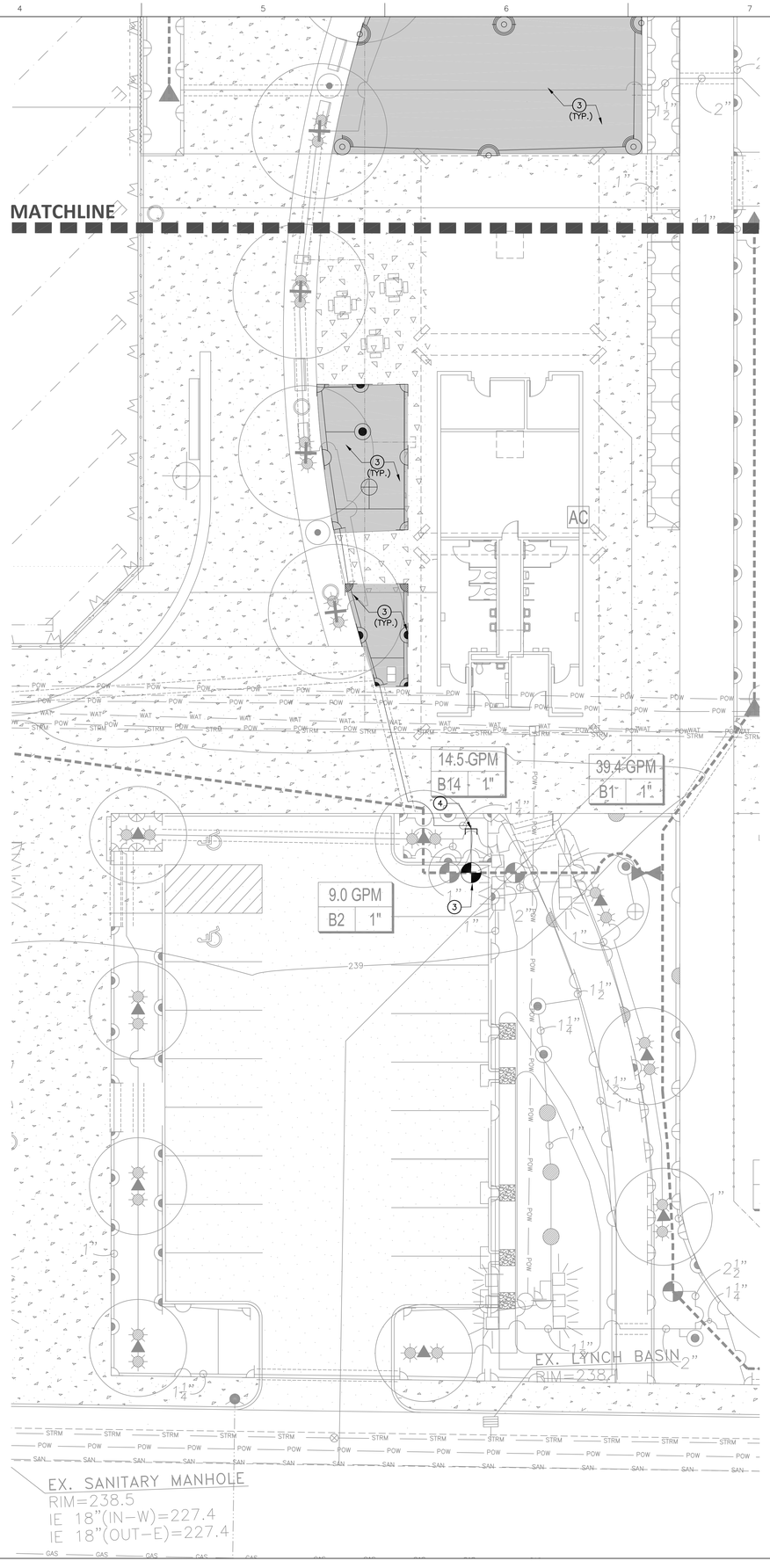
DATE	01-03-23
SCALE	1"=10'
DRAWN	CPW
CHECKED	EJG/RSH

LAYOUT PLAN

SHEET
C110

File: F-0.1 OSU Landscape CURRENT 30x42.dwg Plotted by: CorneliusW Date: 22-Dec-22 10:43:22am





IRRIGATION RETROFIT NOTES

1. DO NOT PROCEED WITH ANY DISTURBANCE PRIOR TO PERFORMANCE & RECORDING OF A PRE-CONSTRUCTION OPERATIONAL TEST.
2. RECONFIGURATION OF THE EXISTING SYSTEM TO RESULT IN FULL AUTOMATIC COVERAGE OF THE SURROUNDING LANDSCAPE, WITHOUT EXCEPTION UNLESS APPROVED IN ADVANCE. WORK INCLUDES SELECTIVE DEMOLITION & SALVAGE, INCLUDING PRE-AUTHORIZATION OF THE RECONFIGURATION PLAN.

(3.) CLEAN, PACKAGE, AND SALVAGE EXISTING VALVES AND SPRINKLER HEADS RENDERED OBSOLETE BY THE WORK.

(4.) CUT & CAP MAINLINE / LATERAL LINE AS APPROVED.

(5.) MAINTAIN MAINLINE AND ASSOCIATED VALVES / ZONES

NOTE LEGEND

1. (INDICATES GENERAL CONSTRUCTION NOTE)
3. (INDICATES SPECIFIC CONSTRUCTION KEYNOTE)

IRRIGATION RETROFIT LEGEND

PROPOSED SYNTHETIC TURF, SELECTIVE DEMOLITION & REMOVAL OF EXISTING LANDSCAPE IRRIGATION ZONES & RECONFIGURATION OF UNDERGROUND PIPING AND VALVES

Know what's below. Call before you dig.

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REGISTERED LANDSCAPE ARCHITECT
548
ROBERT HARDING
OREGON
05/31/23

NORTH
0 10' 20'
SCALE: 1" = 10'

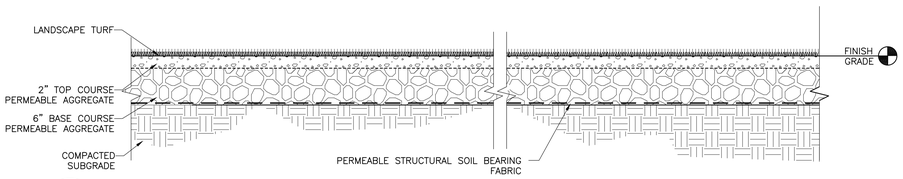
PERMIT SET

DATE	01-03-23
SCALE	1"=10'
DRAWN	CPW
CHECKED	EJG/RSH

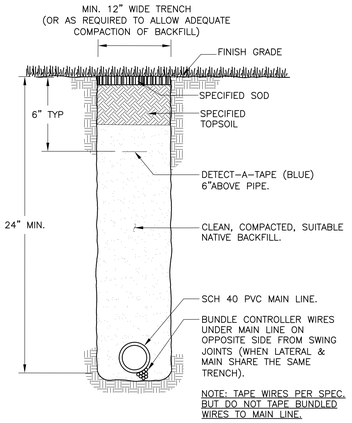
IRRIGATION PLAN

SHEET
C120

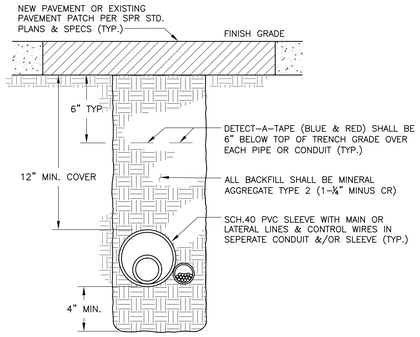
File: F-0.1 OSU Landscape CURRENT 30x42.dwg Plotted by: CorneliuM Date: 22-Dec-22 2:18:01pm



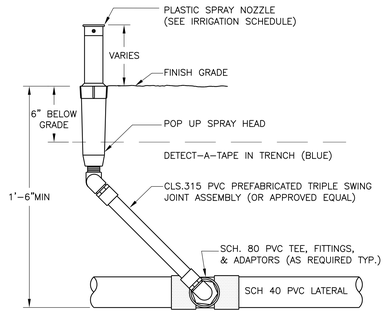
1 C210 SYNTHETIC TURF LANDSCAPE SECTION
NOT TO SCALE



MAIN LINE TRENCH

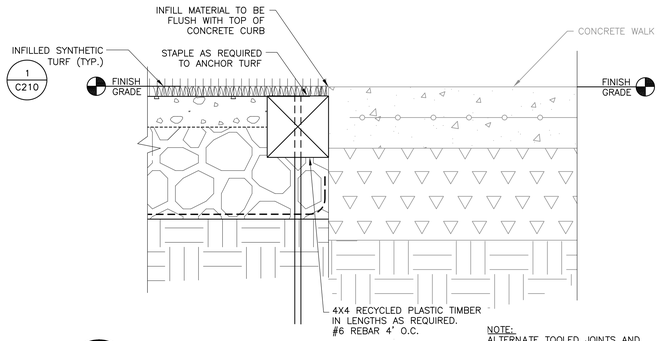


IRRIGATION SLEEVE TRENCHING UNDER PATHWAY OR SIDEWALK



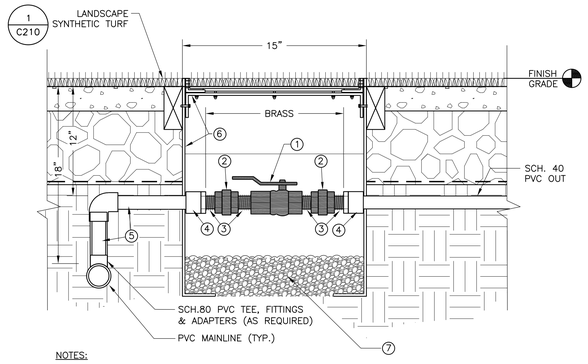
NOTE:
USE TEFLON TAPE ON ALL THREADED FITTINGS

4 C210 LANDSCAPE IRRIGATION RESTORATION (USE AS NEEDED / DIRECTED)
NOT TO SCALE



NOTE:
ALTERNATE TOOLED JOINTS AND EXPANSION JOINTS 10' O.C.

2 C210 LANDSCAPE TURF EDGE ANCHOR
NOT TO SCALE

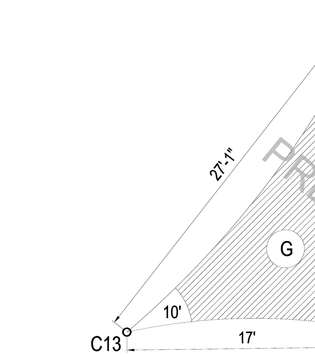


NOTES:

1. BRASS BALL VALVE, THREADED INLET/OUTLET, SIZED PER THE DRAWINGS OR ASSOCIATED INLET-SIDE PIPE
2. BRASS UNION
3. BRASS NIPPLE
4. SCHEDULE 80- PVC BUSHING, SxT
5. MIN. 12" HORIZONTAL & VERTICAL OFFSET FROM MAINLINE
6. SPORTSFIELD SPECIALTIES TURFCOOL OR APPROVED EQUAL VALVE BOX WITH REMOVABLE LID
7. CLEAN PEA GRAVEL 4"-6" DEPTH

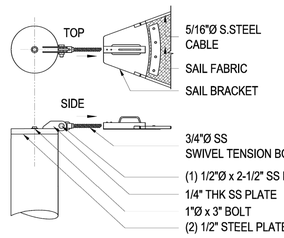
3 C210 SYNTHETIC TURF VALVE BOX
NOT TO SCALE

IMPORTANT: The footings sizes provided are estimated only. Depending on local conditions, actual engineered concrete footings may be substantially larger than estimates provided herein. Shade Systems is not responsible for actual engineered footings sizes differing from the estimates given or for any additional concrete installation costs which may be incurred by you as a result thereof.

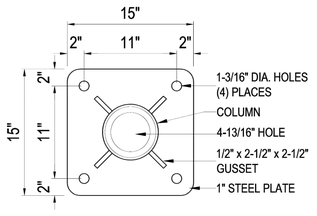


5/16" DIA. STAINLESS STEEL CABLE AROUND PERIMETER OF MATERIAL

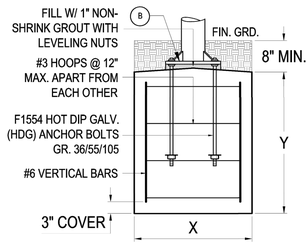
1 PLAN VIEW NOTE: NUMBERS IN CORNERS OF FABRIC INDICATE SAIL ATTACHMENT POINT HEIGHTS



2 SAIL TOP CORNER DETAIL



B BASE PLATE DETAIL



3 FOOTING DETAIL

NOTE: GROUT, HOOPS, REBARS & ANCHOR BOLTS NOT SUPPLIED BY FACTORY

	STEEL COLUMN	FOOTER X	FOOTER Y	ANCHOR BOLT SIZE	ANCHOR BOLT LENGTH	NUMBER OF VERTICAL BARS
C11	6-5/8" DIA. X .280" WALL	30" Ø	72"	1"Ø	36	21
C12	6-5/8" DIA. X .280" WALL	30" Ø	72"	1"Ø	36	21
C13	6-5/8" DIA. X .280" WALL	30" Ø	72"	1"Ø	36	21

5 C210 SHADE STRUCTURE EAST
NOT TO SCALE

GENERAL NOTES

1- THE SHADE SYSTEMS, INC.™ STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2018 IBC CODES ALONG WITH ANY ADOPTED STATE BUILDING CODES AND ASCE 7-16 TO THE FOLLOWING DESIGN CRITERIA:

	STRUCTURE WITH FABRIC CANOPY REMOVED
CATEGORY	I
EXPOSURE	B
BASIC WIND SPEED	105 MPH

2- THE FOUNDATION ASSUMES SOIL CLASS MATERIAL 5, VERTICAL FOUNDATION PRESSURE 1500 PSF, LATERAL BEARING PRESSURE 100 PSF/FT. [PER IBC, TABLE 1806.2]

3- ALL FASTENERS SHALL BE STAINLESS STEEL.

4- ALL BOLTS MUST BE SNUG TIGHT. THE SNUG TIGHTENED CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH THE FULL EFFORT OF A TYPICAL WORKER USING AN ORDINARY SPUD WRENCH TO BRING THE PLIES INTO FIRM CONTACT. SNUG TIGHT IS THE CONDITION THAT EXISTS WHEN ALL THE PLIES IN A CONNECTION HAVE BEEN PULLED INTO FIRM CONTACT BY THE BOLTS IN THE JOINT AND ALL THE BOLTS IN THE JOINT HAVE BEEN TIGHTENED SUFFICIENTLY TO PREVENT THE REMOVAL OF THE NUTS WITHOUT THE USE OF A WRENCH.

5- FABRIC MAY NOT WITHSTAND WINDS IN EXCESS OF 90 MPH AND THEREFORE IT SHALL BE RELEASED.

STEEL:

1- GALV. STEEL TUBES MIN Fy=50KSI. STEEL ROUND PIPE SHALL BE ASTM A53 GRADE B. STEEL HSS ROUND AND HSS RECTANGULAR SHALL BE ASTM A500 GRADE B. STEEL PLATE SHALL CONFORM WITH ASTM A36.

2- ALL PARTS SHALL BE FACTORY-WELDED TO AMERICAN WELDING SOCIETY (AWS) SPECIFICATIONS AND SHALL UTILIZE E70-SW AND HAVE THE HIGHEST STANDARDS OF QUALITY WORKMANSHIP.

3- ALL WELDS SHALL BE FILLET WELDS WITH MAXIMUM PERMISSABLE THROAT THICKNESS OR FULL PENETRATION GROOVE WELDS.

CONCRETE:

1- ALL CONCRETE SHALL BE MIXED AND PLACED IN ACCORDANCE WITH THE LATEST EDITION OF ACI 301 AND 318.

2- CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c) OF 3000 PSI. A CONCRETE MIX HAVING A LISTED STRENGTH OF AT LEAST 3000 PSI OR THAT IS MIXED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS IS ACCEPTABLE FOR USE.

3- REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60 WITH A MINIMUM YIELD STRENGTH (fy) OF 60 KSI.

4- UNLESS OTHERWISE SHOWN, CONCRETE COVER SHALL BE 3" (MIN).

NOTE TO OWNER:
OWNER ACCEPTS FULL RESPONSIBILITY FOR REMOVING THE FABRIC SHADE MATERIAL FROM THE STEEL FRAME WHEN SEVERE WEATHER CONDITIONS ARE PREDICTED. SUCH CONDITIONS INCLUDE PREDICTED WIND SPEEDS IN EXCESS OF 90 MPH. ALSO, AS STRUCTURE IS NOT DESIGNED FOR ANY SNOW LOAD, IT IS RECOMMENDED THAT CANOPY BE REMOVED WHEN SNOWFALL IS EXPECTED.

Shade systems™
4150 S.W. 19 Street
Ocala, FL 34474
Tel.: 1-800-609-6066

NOTE:
PRELIMINARY AND TENTATIVE DRAWING. NOT FOR CONSTRUCTION. ALL INFORMATION SHOWN IS SUBJECT TO CHANGE BY MANUFACTURER PRIOR TO DELIVERY. USE ONLY DRAWINGS AND INSTRUCTIONS PROVIDED WITH YOUR ORDER FOR CONSTRUCTION

Student Legacy Park
East
Corvallis, OR

Approved:

Model Name:
CUSTOM SAIL
SHADE SYSTEMS STRUCTURE
Model No.:
SAIL

Revisions

REP:

REP QTE. NO.
JP102722-A

Approved:	JRB	Job:	QTE
Checked:	MG		
Drawn:	NB		
Date:	11/10/2022	Sheets:	1 OF 1
NOT TO SCALE			

Oregon State University
STUDENT LEGACY PARK RESURFACING
VOLUME 2C

SLP PLAZA IMPROVEMENTS

DA HOGAN
1450 114th Ave. SE, Suite 225
Bellevue, WA 98004
p. 206.285.0400
www.dahogan.com

REVISION	DATE

REGISTERED 548 ROBERT HARDING OREGON 05/31/23 LANDSCAPE ARCHITECT

PERMIT SET

DATE	01-03-23
SCALE	NTS
DRAWN	CPW
CHECKED	EJG/RSH

DETAILS

SHEET
C210

File: C210 Details.dwg Plotted by: CorneliaW Date: 21-Dec-22 11:10:51pm

IMPORTANT: The footings sizes provided are estimated only. Depending on local conditions, actual engineered concrete footings may be substantially larger than estimates provided herein.
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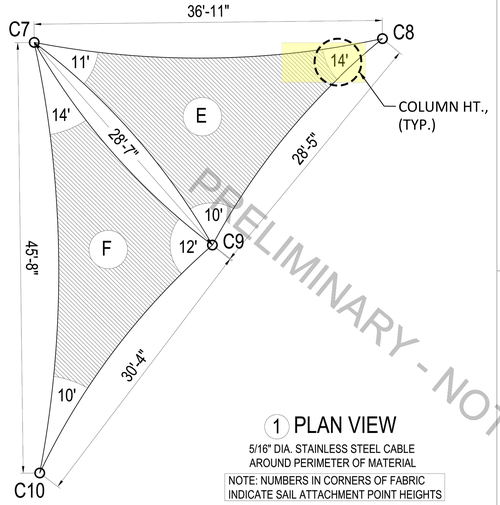
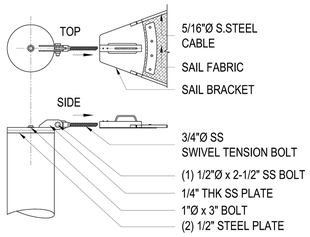


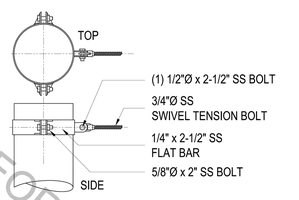
1 PLAN VIEW

5/16" DIA. STAINLESS STEEL CABLE AROUND PERIMETER OF MATERIAL

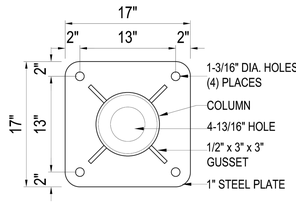
NOTE: NUMBERS IN CORNERS OF FABRIC INDICATE SAIL ATTACHMENT POINT HEIGHTS



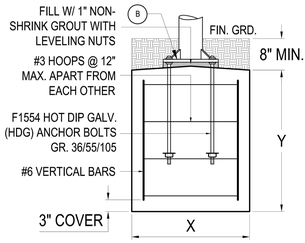
2 SAIL TOP CORNER DETAIL



3 SAIL BRACKET DETAIL



B BASE PLATE DETAIL



4 FOOTING DETAIL

NOTE: GROUT, HOOPS, REBARS & ANCHOR BOLTS NOT SUPPLIED BY FACTORY

	STEEL COLUMN	FOOTER X	FOOTER Y	ANCHOR BOLT SIZE	ANCHOR BOLT LENGTH	NUMBER OF VERTICAL BARS
C7	8-5/8" DIA. X .322" WALL	48" Ø	90"	1"Ø	36	21
C8	8-5/8" DIA. X .322" WALL	48" Ø	66"	1"Ø	36	21
C9	8-5/8" DIA. X .322" WALL	48" Ø	84"	1"Ø	36	21
C10	8-5/8" DIA. X .322" WALL	48" Ø	54"	1"Ø	36	21

NOTE TO OWNER:
OWNER ACCEPTS FULL RESPONSIBILITY FOR REMOVING THE FABRIC SHADE MATERIAL FROM THE STEEL FRAME WHEN SEVERE WEATHER CONDITIONS ARE PREDICTED. SUCH CONDITIONS INCLUDE PREDICTED WIND SPEEDS IN EXCESS OF 90 MPH. ALSO, AS STRUCTURE IS NOT DESIGNED FOR ANY SNOW LOAD, IT IS RECOMMENDED THAT CANOPY BE REMOVED WHEN SNOWFALL IS EXPECTED.

GENERAL NOTES

1- THE SHADE SYSTEMS, INC.™ STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2018 IBC CODES ALONG WITH ANY ADOPTED STATE BUILDING CODES AND ASCE 7-16 TO THE FOLLOWING DESIGN CRITERIA:

	STRUCTURE WITH FABRIC CANOPY REMOVED
CATEGORY	I
EXPOSURE	B
BASIC WIND SPEED	105 MPH

2- THE FOUNDATION ASSUMES SOIL CLASS MATERIAL 5, VERTICAL FOUNDATION PRESSURE 1500 PSF, LATERAL BEARING PRESSURE 100 PSF/FT. [PER IBC, TABLE 1806.2]

3- ALL FASTENERS SHALL BE STAINLESS STEEL.

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2- ALL PARTS SHALL BE FACTORY-WELDED TO AMERICAN WELDING SOCIETY (AWS) SPECIFICATIONS AND SHALL UTILIZE ETS-56 AND HAVE THE HIGHEST STANDARDS OF QUALITY WORKMANSHIP.

3- ALL WELDS SHALL BE FILLET WELDS WITH MAXIMUM PERMISSABLE THROAT THICKNESS OR FULL PENETRATION GROOVE WELDS.

CONCRETE:

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4- UNLESS OTHERWISE SHOWN, CONCRETE COVER SHALL BE 3" (MIN).

Shade systems™
4150 S.W. 19 Street
Ocala, FL 34474
Tel.: 1-800-609-6066

NOTE:
PRELIMINARY AND TENTATIVE DRAWING. NOT FOR CONSTRUCTION.
ALL INFORMATION SHOWN IS SUBJECT TO CHANGE BY MANUFACTURER PRIOR TO DELIVERY. USE ONLY DRAWINGS AND INSTRUCTIONS PROVIDED WITH YOUR ORDER FOR CONSTRUCTION

Student Legacy Park
North
Corvallis, OR

Approved:

Model Name:
CUSTOM SAIL
SHADE SYSTEMS STRUCTURE
Model No.:
SAIL

Revisions

REP:

REP QTE. NO.
JP102722-A

Approved:	JRB	Job:	QTE
Checked:	MG		
Drawn:	NB		
Date:	11/10/2022	Sheets:	1 OF 1
NOT TO SCALE			

1 C220 SHADE STRUCTURE NORTH
NOT TO SCALE

5/16" DIA. STAINLESS STEEL CABLE AROUND PERIMETER OF MATERIAL

1 PLAN VIEW NOTE: NUMBERS IN CORNERS OF FABRIC INDICATE SAIL ATTACHMENT POINT HEIGHTS

2 SAIL TOP CORNER DETAIL

3 SAIL BRACKET DETAIL

GENERAL NOTES

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	STRUCTURE WITH FABRIC CANOPY REMOVED
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EXPOSURE	B
BASIC WIND SPEED	105 MPH

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2- ALL PARTS SHALL BE FACTORY-WELDED TO AMERICAN WELDING SOCIETY (AWS) SPECIFICATIONS AND SHALL UTILIZE ETS-56 AND HAVE THE HIGHEST STANDARDS OF QUALITY WORKMANSHIP.

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3- REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60 WITH A MINIMUM YIELD STRENGTH (fy) OF 60 KSI.

4- UNLESS OTHERWISE SHOWN, CONCRETE COVER SHALL BE 3" (MIN).

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NOTE TO OWNER:
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B BASE PLATE DETAIL
C1/C4

	STEEL COLUMN	FOOTER X	FOOTER Y	ANCHOR BOLT SIZE	ANCHOR BOLT LENGTH	NUMBER OF VERTICAL BARS
C1	8-5/8" DIA. X .322" WALL	48" Ø	60"	1"Ø	36	21
C2	12-3/4" DIA. X .375" WALL	48" Ø	120"	1"Ø	36	21
C3	10-3/4" DIA. X .365" WALL	48" Ø	102"	1"Ø	36	21
C4	8-5/8" DIA. X .322" WALL	48" Ø	60"	1"Ø	36	21
C5	12-3/4" DIA. X .375" WALL	48" Ø	126"	1"Ø	36	21
C6	10-3/4" DIA. X .365" WALL	48" Ø	96"	1"Ø	36	21

B BASE PLATE DETAIL
C2/C5

B BASE PLATE DETAIL
C3/C6

4 FOOTING DETAIL

NOTE: GROUT, HOOPS, REBARS & ANCHOR BOLTS NOT SUPPLIED BY FACTORY

Shade systems™
4150 S.W. 19 Street
Ocala, FL 34474
Tel.: 1-800-609-6066

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Student Legacy Park
South
Corvallis, OR

Approved:

Model Name:
CUSTOM SAIL
SHADE SYSTEMS STRUCTURE
Model No.:
SAIL

Revisions

REP:

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JP102722-A

Approved:	JRB	Job:	QTE
Checked:	MG		
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Date:	11/10/2022	Sheets:	1 OF 1
NOT TO SCALE			

2 C220 SHADE STRUCTURE SOUTH
NOT TO SCALE

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File: C220 Details.dwg Plotted by: CornerlabW Date: 21-Dec-22 1:09:13pm

REVISION	DATE

Oregon State University

STUDENT LEGACY PARK RESURFACING
VOLUME 2C

SLP PLAZA IMPROVEMENTS

DA HOGAN
1450 114th Ave. SE, Suite 225
Bellevue, WA 98004
p. 206.285.0400
www.dahogan.com

REGISTERED LANDSCAPE ARCHITECT
ROBERT HARDING
OREGON
05/31/23

PERMIT SET

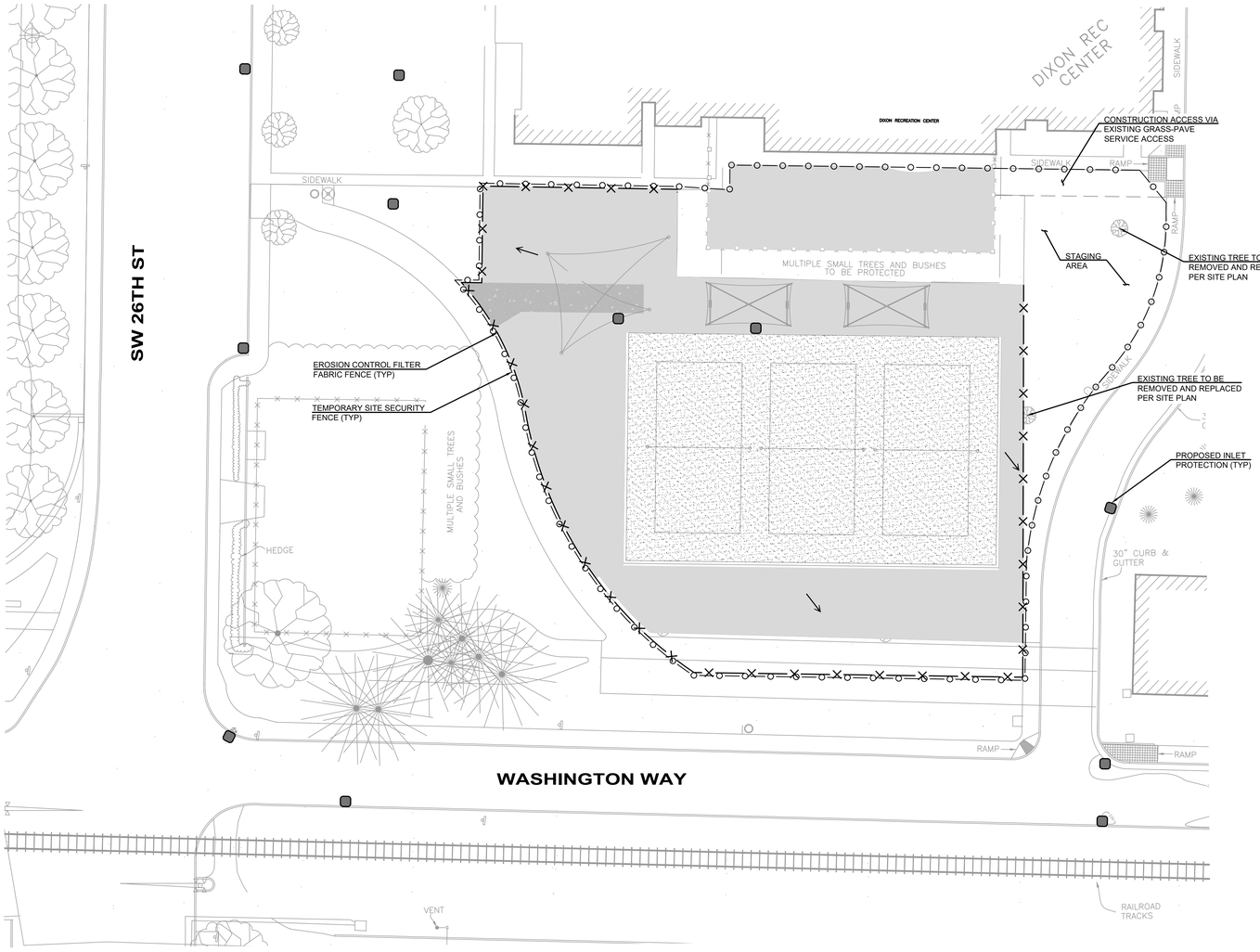
DATE	01-03-23
SCALE	NTS
DRAWN	CPW
CHECKED	EJG/RSH

DETAILS

SHEET
C220

EROSION CONTROL LEGEND

- PROPOSED FLOW ARROW
- PROPOSED INLET PROTECTION
- PROPOSED SYNTHETIC TURF
- TEMPORARY SITE SECURITY FENCE
- EROSION CONTROL FILTER FABRIC FENCE
- PROPOSED CONCRETE
- SAND VOLLEY BALL COURT



Know what's below. Call before you dig.

REVISION	DATE

Oregon State University

STUDENT LEGACY PARK RESURFACING
VOLUME 2D

SAND VOLLEYBALL IMPROVEMENTS

DA HOGAN
1450 114th Ave. SE, Suite 225
Bellevue, WA 98004
p. 206.285.0400
www.dahogan.com

PBS
PBS Engineering and Environmental Inc.
1325 SE Tech Center Drive
Suite 140
Vancouver, WA 98683
360.695.3488
pbsusa.com

REGISTERED PROFESSIONAL ENGINEER
96069PE
OREGON
MAR. 10, 2020
ELISSA A. PETERS
RENEWS: 12/31/24

NORTH
0 20' 40'
SCALE: 1" = 20'

PERMIT SET

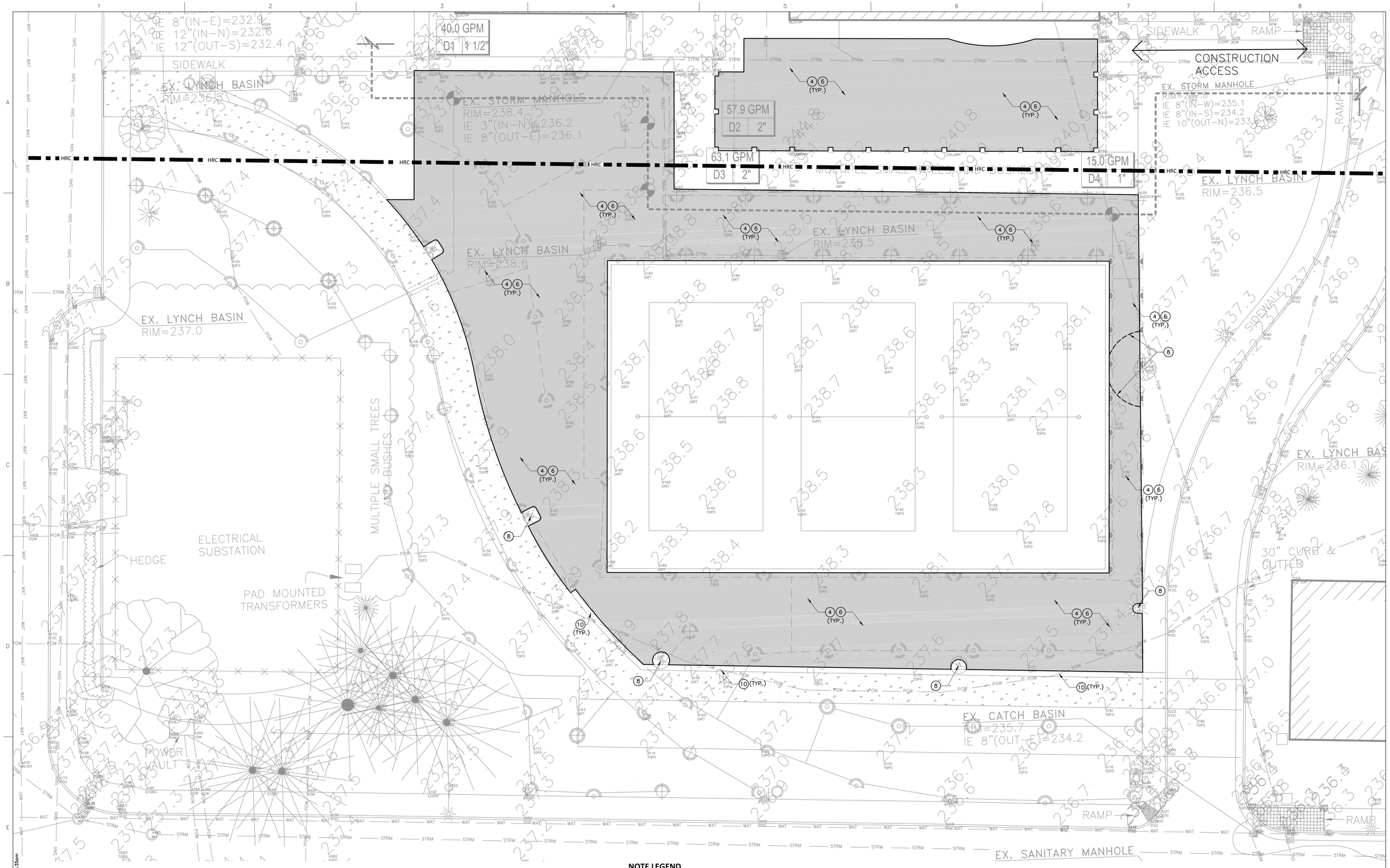
DATE	01-03-23
SCALE	1"=20'
DRAWN	ANW
CHECKED	EAP

TEMPORARY EROSION & SEDIMENT CONTROL

SHEET

D101

File: 78029-000_ErosionControlPermit.dwg Plotted by: allisonw Date: 03-Jan-23 10:35:41am



SITE PREPARATION NOTES

NOTE LEGEND
1. (INDICATES GENERAL CONSTRUCTION NOTE)
(3.) (INDICATES SPECIFIC CONSTRUCTION KEYNOTE)

1. PERFORM A COMPREHENSIVE OPERATIONAL TEST OF THE EXISTING IRRIGATION SYSTEM PRIOR TO ANY SITE DISTURBANCE. COORDINATE WITH OWNER AND ARCHITECT. DOCUMENT ALL DEFICIENCIES.
2. DO NOT PROCEED WITH ANY DISTURBANCE PRIOR TO OWNER APPROVAL OF ALL SITE SECURITY AND T.E.S.C. MEASURES INSTALLATION.
(3.) IDENTIFY & PAINT TREE PROTECTION LIMIT FOR APPROVAL. HAND EXCAVATION ONLY WITHIN THE TREE PROTECTION LIMITS.
(4.) PERFORM SELECTIVE DEMOLITION OF THE IRRIGATION SYSTEM AS REQUIRED TO ACCOMMODATE THE NEW WORK. IDENTIFY RE-ROUTING OF MAINLINES, VALVES, AND SPRINKLER HEADS BY FIELD-MARKING WITH PAINT & FLAGGING FOR OWNER APPROVAL PRIOR TO COMMENCING DEMOLITION.
5. CLEAN AND PACKAGE SALVAGED SPRINKLER HEADS, VALVES, AND VALVE BOXES FOR TRANSMITTAL TO OWNER AS DIRECTED. DISPOSE OF UNWANTED PARTS.
(6.) REMOVE ALL SOD & SOIL TO ACCOMMODATE THE LANDSCAPE SYNTHETIC TURF SECTION AND CONCRETE PAVING.
7. LOCATE ROOT BARRIER ALIGNMENT. HAND EXCAVATE AND ROOT PRUNE AS NECESSARY TO ACCOMMODATE INSTALLATION.
(8.) PROVIDE TURF EDGE ANCHOR WRAP AT ALL UTILITY ACCESS BOXES ENCOUNTERED. PROTECT EXISTING PATH LIGHTS TO REMAIN.
9. COORDINATE AND OWNER/ARCHITECT INSPECTION & APPROVAL OF THE PREPARED SUBGRADE & ROOT BARRIER INSTALLATION PRIOR TO CONTINUING THE WORK.
(10) COORDINATE WORK WITH WASHINGTON STREET IMPROVEMENTS

SITE PREPARATION LEGEND

- PROPOSED SYNTHETIC TURF, SELECTIVE DEMOLITION & REMOVAL OF EXISTING LANDSCAPE IRRIGATION ZONES & RECONFIGURATION OF UNDERGROUND PIPING AND VALVES
- LIMIT OF WORK
- HRC — HISTORIC DISTRICT BOUNDARY
- EXISTING IRRIGATION HEADS

Know what's below. Call before you dig.

REVISION	DATE

Oregon State University

STUDENT LEGACY PARK RESURFACING
VOLUME 2D

SAND VOLLEYBALL IMPROVEMENTS

DA HOGAN
1450 114th Ave. SE, Suite 225
Bellevue, WA 98004
p. 206.285.0400
www.dahogan.com

REGISTERED LANDSCAPE ARCHITECT
548
ROBERT HARDING
OREGON
05/31/23

NORTH
0 10' 20'
SCALE: 1" = 10'

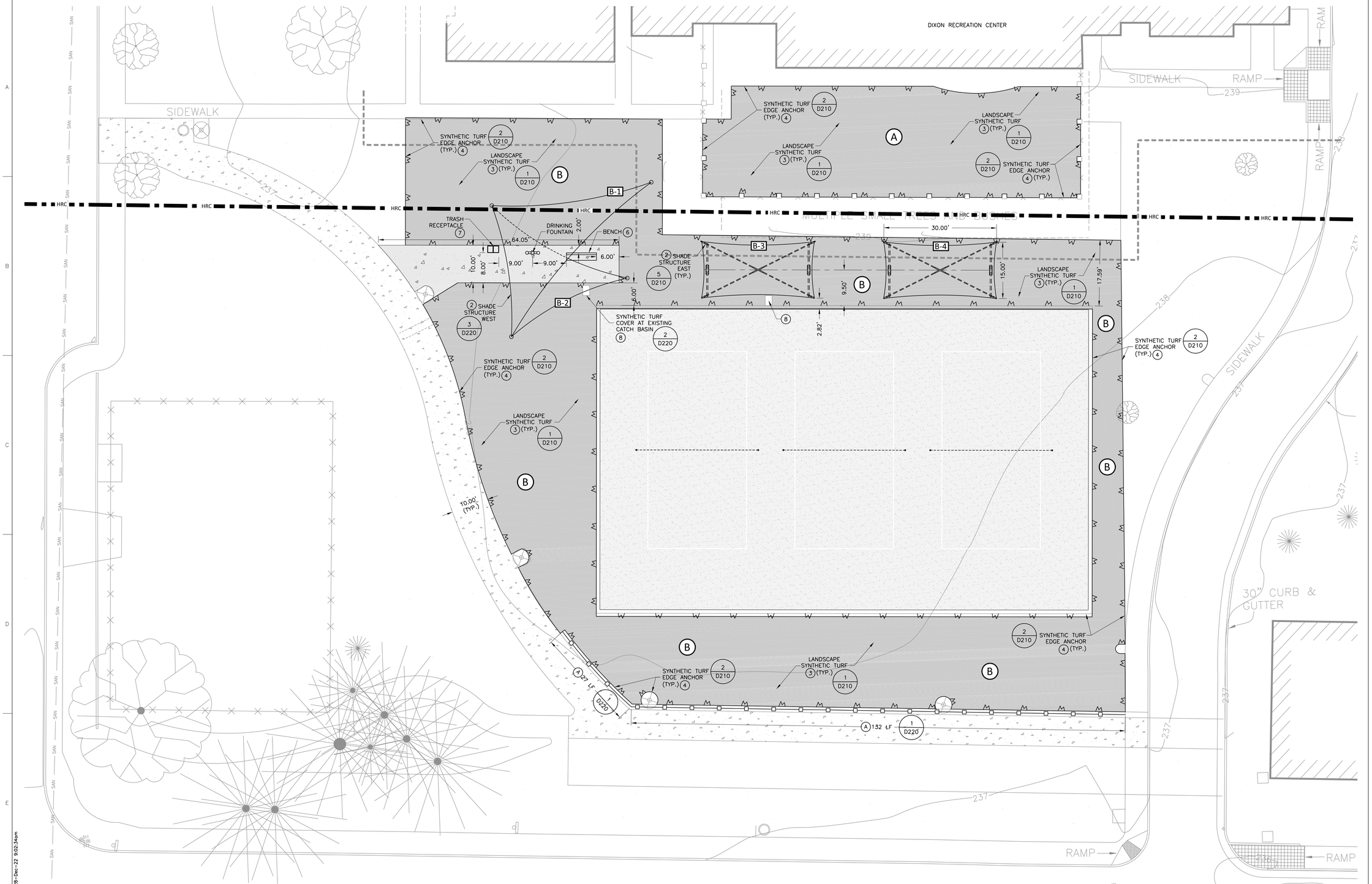
PERMIT SET

DATE	01-03-23
SCALE	1"=10'
DRAWN	CPW
CHECKED	EJG/RSH

SITE PREPARATION PLAN

SHEET
D102

File: F-0.1 OSU Volleyball CURRENT 30x42.dwg Plotted by: CorneliaW Date: 27-Dec-22 10:02:35am



LAYOUT NOTES

NOTE LEGEND
1. (INDICATES GENERAL CONSTRUCTION NOTE)
3. (INDICATES SPECIFIC CONSTRUCTION KEYNOTE)

1. COORDINATE APPROVAL OF ALL SITE PREPARATION REQUIREMENTS PRIOR TO COMMENCING FABRIC, BASE AGGREGATE, EDGE ANCHOR, AND SYNTHETIC TURF.
2. INSTALL SHADE STRUCTURE FOUNDATIONS & POSTS IN CONFORMANCE WITH APPROVED SHOP DRAWINGS. PROVIDE PROTECTION TO INSTALLED POSTS AGAINST DAMAGE FROM ABRASION & ACCIDENTAL COLLISION.
3. INSTALL SEPARATOR FABRIC AND BASE AGGREGATE FOR INSPECTION AND APPROVAL.
4. INSTALL SYNTHETIC TURF EDGE ANCHOR CONTINUOUS AT PERIMETER OF SYNTHETIC TURF INSTALLATION.
5. PROVIDE CONCRETE FLAT WORK SECTION AND JOINTING PER OSU STANDARD.
6. PROVIDE ONE (1) 8'-0 ACCESSIBLE BENCH PER OSU STANDARD.
7. PROVIDE ONE (1) EACH TRASH & RECYCLE RECEPTACLE PER OSU STANDARD.
8. FURNISH AND INSTALL SYNTHETIC TURF COVER AT EXISTING CATCH BASIN (2 TOTAL)

FENCE TYPE KEY

A. 4' HT. BLACK ARCHITECTURAL FENCING PER OSU STANDARD

LAYOUT LEGEND

- LANDSCAPE SYNTHETIC TURF AND PERMEABLE AGGREGATE
- RE-FRESH VOLLEYBALL SAND
- CONCRETE PAVING
- A — FENCE WORK AND LIMIT
- LIMIT OF SYNTHETIC TURF AND EDGE ANCHOR
- ARCHITECTURAL FENCE
- HRC — HISTORIC DISTRICT BOUNDARY

Panel ID	Surface Area (SF)	Excavation Depth (FT)	Import/Export Volume (CY)	Shade Structures Qty.	Max. Shade Structure Height	Shade Structures Area	Total Shaded Area
A	2,862	0.67	71.02	-			
B	11,755	0.67	291.70	4	14'	550,410 (160), 450,450	1,610
	14,617		**362.72**	**4**			**1,610**

REVISION	DATE

Oregon State University

STUDENT
LEGACY PARK
RESURFACING
VOLUME 2D
SAND
VOLLEYBALL
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ROBERT HARDING
OREGON
05/31/23

NORTH
0 10' 20'
SCALE: 1" = 10'

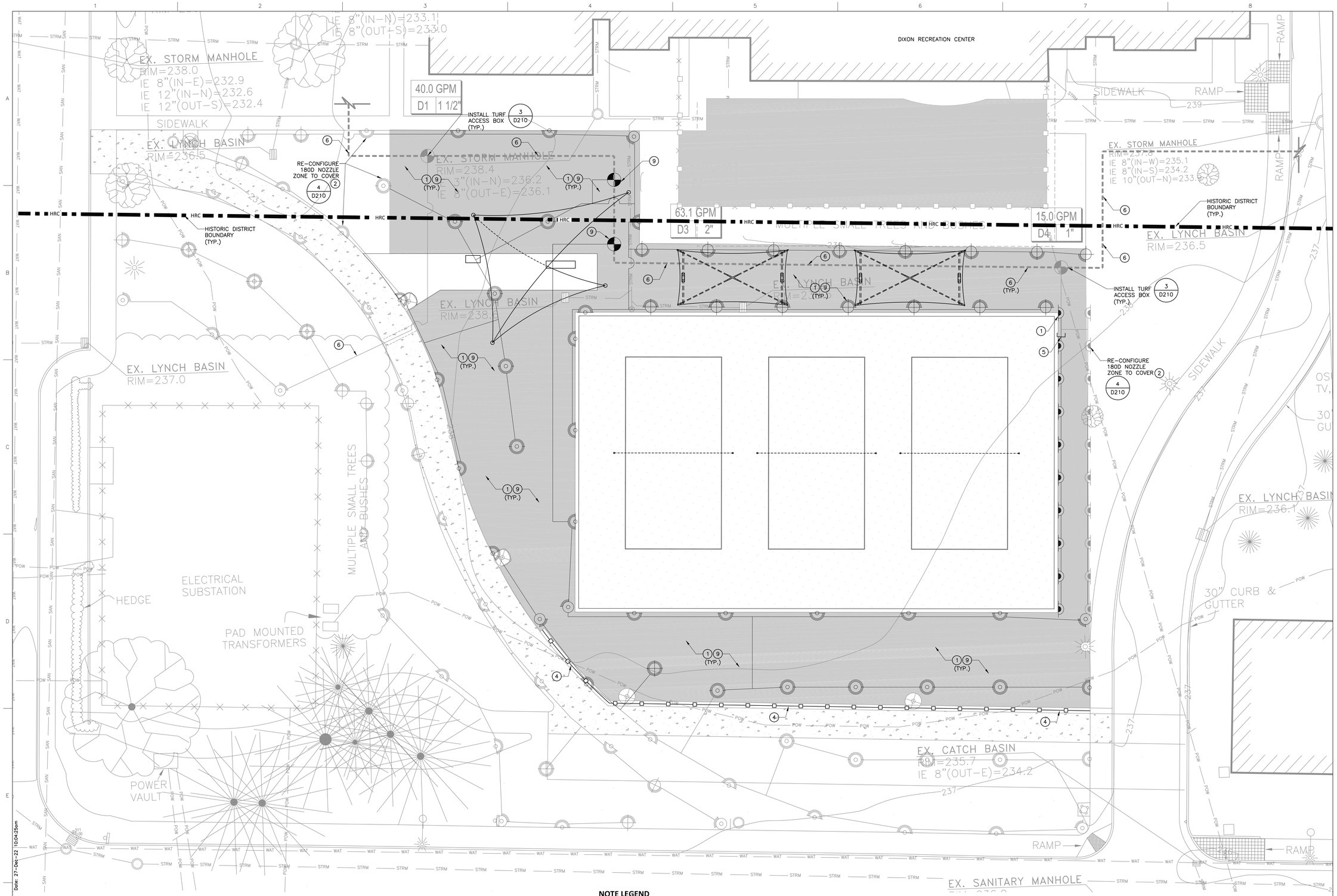
PERMIT SET

DATE	01-03-23
SCALE	1"=10'
DRAWN	CPW
CHECKED	EJG/RSH

LAYOUT PLAN

SHEET
D110

File: F-0.1 OSU Volleyball CURRENT 30x42.dwg Plotted by: CorneliuW Date: 28-Dec-22 9:02:34am



IRRIGATION RETROFIT NOTES

1. CUT & CAP AND REMOVE ZONE LATERALS, SALVAGE SPRINKLER BODIES TO OWNER
2. RECONFIGURE ZONE LATERALS & SPRINKLERS, NOZZLED TO 80% HEAD-TO-HEAD COVERAGE
3. PRESERVE & PROTECT UNAFFECTED ZONES
4. COORDINATE ZONE RECONFIGURATION WITH WASHINGTON WAY IMPROVEMENT PROJECT, TYP.
5. CUT & CAP MAINLINE / LATERAL LINE AS APPROVED.
6. MAINTAIN MAINLINE / LATERALS AND ASSOCIATED VALVES / ZONES
7. DO NOT PROCEED WITH ANY DISTURBANCE PRIOR TO PERFORMANCE & RECORDING OF A PRE-CONSTRUCTION OPERATIONAL TEST.
8. RECONFIGURATION OF THE EXISTING SYSTEM TO RESULT IN FULL AUTOMATIC COVERAGE OF THE SURROUNDING LANDSCAPE, WITHOUT EXCEPTION UNLESS APPROVED IN ADVANCE. WORK INCLUDES SELECTIVE DEMOLITION & SALVAGE, INCLUDING PRE-AUTHORIZATION OF THE RECONFIGURATION PLAN.
9. CLEAN, PACKAGE, AND SALVAGE EXISTING VALVES AND SPRINKLER HEADS RENDERED OBSOLETE BY THE WORK.

NOTE LEGEND

1. (INDICATES GENERAL CONSTRUCTION NOTE)
3. (INDICATES SPECIFIC CONSTRUCTION KEYNOTE)

IRRIGATION RETROFIT LEGEND

- PROPOSED SYNTHETIC TURF, SELECTIVE DEMOLITION & REMOVAL OF EXISTING LANDSCAPE IRRIGATION ZONES & RECONFIGURATION OF UNDERGROUND PIPING AND VALVES
- HRC — HISTORIC DISTRICT BOUNDARY
- EXISTING IRRIGATION HEADS TO REMAIN. RE-CONFIGURE ZONES AS NEEDED TO COVER

811 Know what's below. Call before you dig.

File: F-0.1 OSU Volleyball CURRENT 30x42.dwg Plotted by: CorneliaW Date: 27-Dec-22 10:04:25am

REVISION	DATE

Oregon State University

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PERMIT SET

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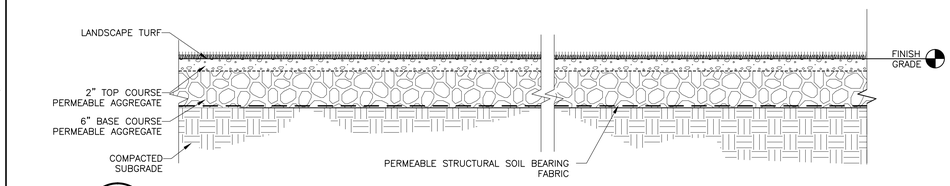
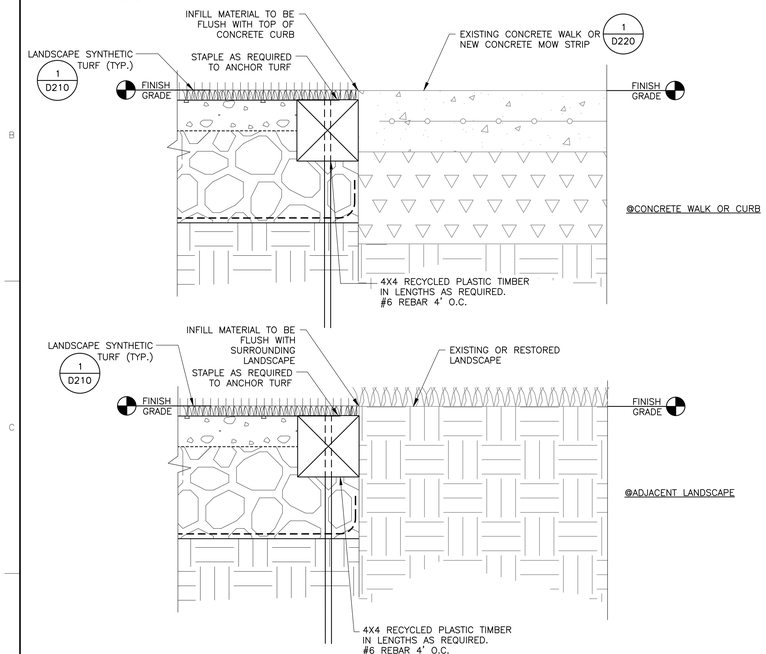
SCALE	1"=10'
DRAWN	CPW
CHECKED	EJG/RSH

IRRIGATION PLAN

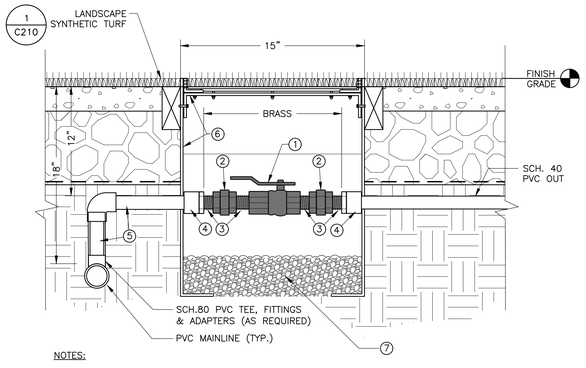
SHEET
D120



1 D210 LANDSCAPE TURF SECTION
NOT TO SCALE



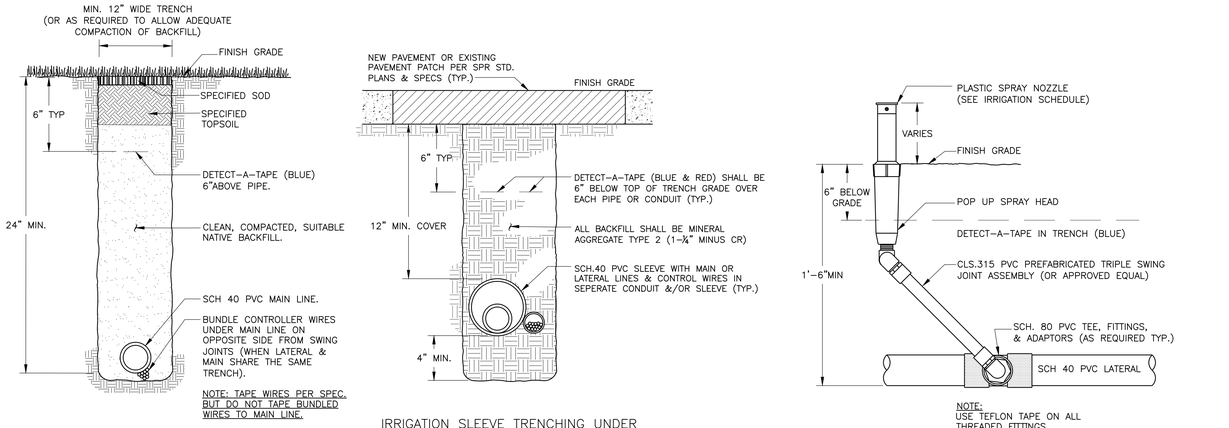
2 D210 LANDSCAPE TURF EDGE ANCHOR
NOT TO SCALE



NOTES:

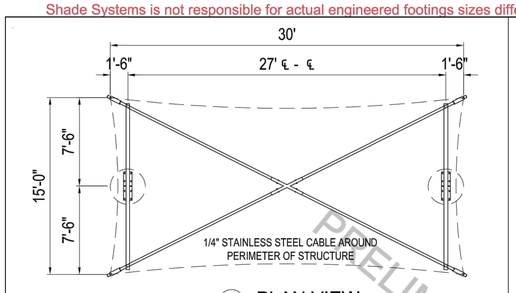
1. BRASS BALL VALVE, THREADED INLET/OUTLET, SIZED PER THE DRAWINGS OR ASSOCIATED INLET-SIDE PIPE SHOWN; SOLENOID VALVE, QUICK COUPLING VALVE SIM
2. BRASS UNION
3. BRASS NIPPLE
4. SCHEDULE 80- PVC BUSHING, SxT
5. MIN. 12" HORIZONTAL & VERTICAL OFFSET FROM MAINLINE
6. SPORTSFIELD SPECIALTIES TURFCOOL OR APPROVED EQUAL VALVE BOX WITH REMOVABLE LID
7. CLEAN PEA GRAVEL 4"-6" DEPTH

3 D210 SYNTHETIC TURF VALVE BOX
NOT TO SCALE

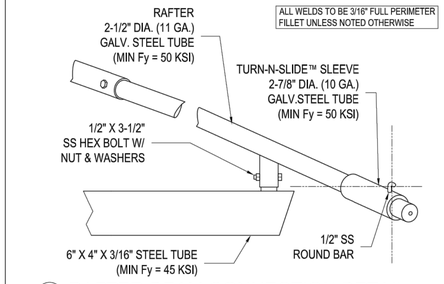


4 D210 LANDSCAPE IRRIGATION RESTORATION (USE AS NEEDED / DIRECTED)
NOT TO SCALE

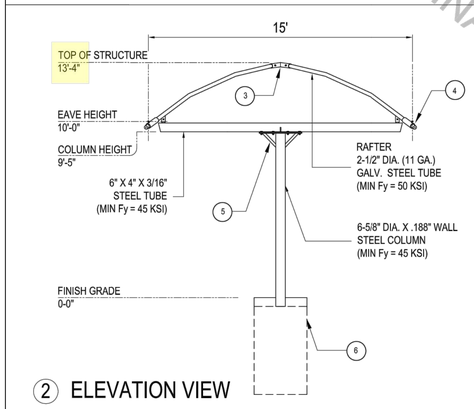
IMPORTANT: The footings sizes provided are estimated only. Depending on local conditions, actual engineered concrete footings may be substantially larger than estimates provided herein. Shade Systems is not responsible for actual engineered footings sizes differing from the estimates given or for any additional concrete installation costs which may be incurred by you as a result thereof.



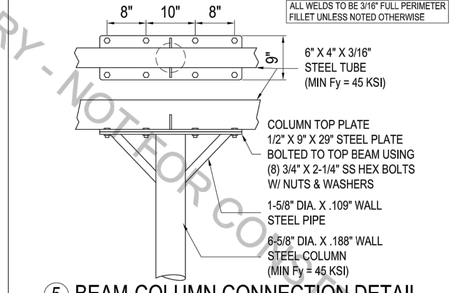
1 PLAN VIEW



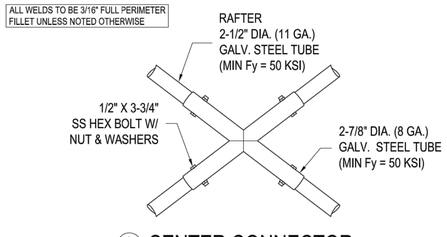
4 RAFTER-BEAM CONNECTION DETAIL



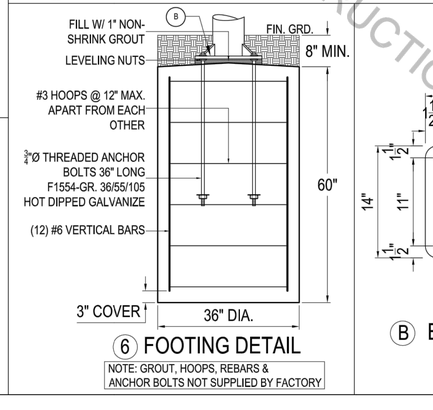
2 ELEVATION VIEW



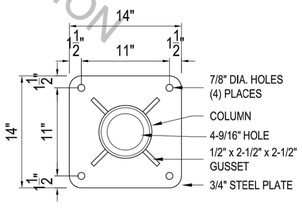
5 BEAM-COLUMN CONNECTION DETAIL



3 CENTER CONNECTOR



6 FOOTING DETAIL
NOTE: GROUT, HOOPS, REBARS & ANCHOR BOLTS NOT SUPPLIED BY FACTORY



B BASE PLATE DETAIL

GENERAL NOTES

1- THE SHADE SYSTEMS, INC.™ STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2018 IBC CODES ALONG WITH ANY ADOPTED STATE BUILDING CODES AND ASCE 7-16 TO THE FOLLOWING DESIGN CRITERIA:

	STRUCTURE WITH FABRIC/CANOPY REMOVED
CATEGORY	II
EXPOSURE	B
BASIC WIND SPEED	105 MPH

2- THE FOUNDATION ASSUMES SOIL CLASS MATERIAL 5, VERTICAL FOUNDATION PRESSURE 1500 PSF, LATERAL BEARING PRESSURE 100 PSF/FT. [PER IBC, TABLE 1806.2]

3- ALL FASTENERS SHALL BE STAINLESS STEEL.

4- ALL BOLTS MUST BE SNUG TIGHT. THE SNUG TIGHTENED CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH THE FULL EFFORT OF A TYPICAL WORKER USING AN ORDINARY SPUD WRENCH TO BRING THE PLIES INTO FIRM CONTACT. SNUG TIGHT IS THE CONDITION THAT EXISTS WHEN ALL THE PLIES IN A CONNECTION HAVE BEEN PULLED INTO FIRM CONTACT BY THE BOLTS IN THE JOINT AND ALL THE BOLTS IN THE JOINT HAVE BEEN TIGHTENED SUFFICIENTLY TO PREVENT THE REMOVAL OF THE NUTS WITHOUT THE USE OF A WRENCH.

5- FABRIC MAY NOT WITHSTAND WINDS IN EXCESS OF 90 MPH AND THEREFORE IT SHALL BE RELEASED.

STEEL:

1- GALV. STEEL TUBES MIN Fy=50KSI. STEEL ROUND PIPE SHALL BE ASTM A53 GRADE B. STEEL HSS ROUND AND HSS RECTANGULAR SHALL BE ASTM A500 GRADE B. STEEL PLATE SHALL CONFORM WITH ASTM A36.

2- ALL PARTS SHALL BE FACTORY-WELDED TO AMERICAN WELDING SOCIETY (AWS) SPECIFICATIONS AND SHALL UTILIZE E70-S6 AND HAVE THE HIGHEST STANDARDS OF QUALITY WORKMANSHIP.

3- ALL WELDS SHALL BE FILLET WELDS WITH MAXIMUM PERMISSABLE THROAT THICKNESS OR FULL PENETRATION GROOVE WELDS.

CONCRETE:

1- ALL CONCRETE SHALL BE MIXED AND PLACED IN ACCORDANCE WITH THE LATEST EDITION OF ACI 301 AND 318.

2- CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c) OF 3000 PSI. A CONCRETE MIX HAVING A LISTED STRENGTH OF AT LEAST 3000 PSI THAT IS MIXED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS IS ACCEPTABLE FOR USE.

3- REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60 WITH A MINIMUM YIELD STRENGTH (fy) OF 60 KSI.

4- UNLESS OTHERWISE SHOWN, CONCRETE COVER SHALL BE 3" (MIN).

NOTE TO OWNER:
OWNER ACCEPTS FULL RESPONSIBILITY FOR REMOVING THE FABRIC SHADE MATERIAL FROM THE STEEL FRAME WHEN SEVERE WEATHER CONDITIONS ARE PREDICTED. SUCH CONDITIONS INCLUDE PREDICTED WIND SPEEDS IN EXCESS OF 90 MPH. ALSO, AS STRUCTURE IS NOT DESIGNED FOR ANY SNOW LOAD, IT IS RECOMMENDED THAT CANOPY BE REMOVED WHEN SNOWFALL IS EXPECTED.

Shade systems
4150 S.W. 19 Street
Ocala, FL 34474
Tel.: 1-800-609-6066

NOTE:
PRELIMINARY AND TENTATIVE DRAWING. NOT FOR CONSTRUCTION.
ALL INFORMATION SHOWN IS SUBJECT TO CHANGE BY MANUFACTURER PRIOR TO DELIVERY. USE ONLY DRAWINGS AND INSTRUCTIONS PROVIDED WITH YOUR ORDER FOR CONSTRUCTION

Student Legacy Park
Corvallis, OR

Approved:

Model Name:
T – CANTILEVER
SHADE SYSTEMS STRUCTURE
Model No.:
TC153010

Revisions
REP:

REP QTE. NO.
JP102722-A

Approved:	JRB	Job:	QTE
Checked:	MG		
Drawn:	NB		
Date:	11/10/2022	Sheets:	1 OF 1
NOT TO SCALE			

Oregon State University

STUDENT LEGACY PARK RESURFACING
VOLUME 2D

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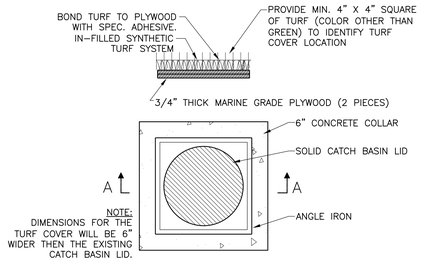
PERMIT SET

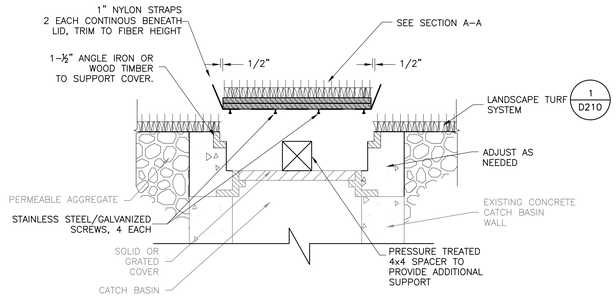
DATE	01-03-23
SCALE	NTS
DRAWN	CPW
CHECKED	EJG/RSH

DETAILS

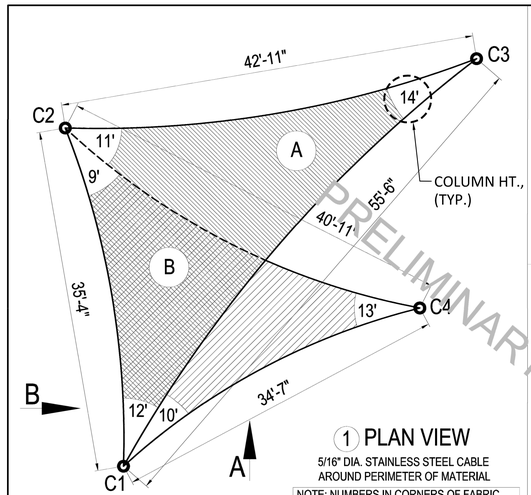
SHEET
D210

File: D210 Details.dwg Plotted by: CornelioW Date: 27-Dec-22 10:05:16am

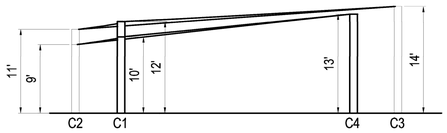




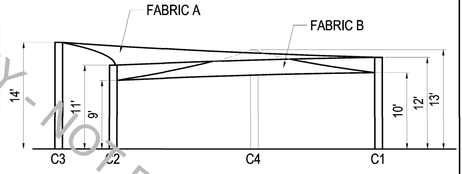
2 D220 TURF COVER
NOT TO SCALE



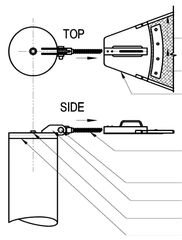
1 PLAN VIEW
5/16" DIA. STAINLESS STEEL CABLE AROUND PERIMETER OF MATERIAL
NOTE: NUMBERS IN CORNERS OF FABRIC INDICATE SAIL ATTACHMENT POINT HEIGHTS



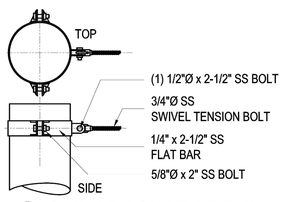
2 ELEVATION A



3 ELEVATION B

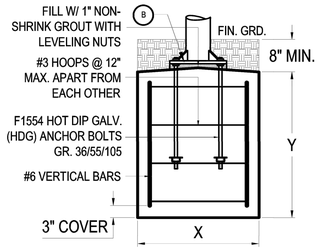


2 SAIL TOP CORNER DETAIL

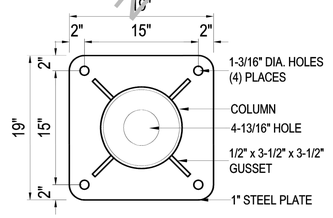


3 SAIL BRACKET DETAIL

	STEEL COLUMN	FOOTER X	FOOTER Y	ANCHOR BOLT SIZE	ANCHOR BOLT LENGTH	NUMBER OF VERTICAL BARS
C1	10-3/4" DIA. X .365" WALL	48" Ø	108"	1"Ø	36	21
C2	10-3/4" DIA. X .365" WALL	48" Ø	108"	1"Ø	36	21
C3	10-3/4" DIA. X .365" WALL	48" Ø	84"	1"Ø	36	21
C4	10-3/4" DIA. X .365" WALL	48" Ø	72"	1"Ø	36	21



4 FOOTING DETAIL
NOTE: GROUT, HOOPS, REBARS & ANCHOR BOLTS NOT SUPPLIED BY FACTORY



B BASE PLATE DETAIL

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	STRUCTURE WITH FABRIC CANOPY REMOVED
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EXPOSURE	B
BASIC WIND SPEED	105 MPH

2- THE FOUNDATION ASSUMES SOIL CLASS MATERIAL 5, VERTICAL FOUNDATION PRESSURE 1500 PSF, LATERAL BEARING PRESSURE 100 PSF/FT. (PER IBC, TABLE 1806.2)

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4- ALL BOLTS MUST BE SNUG TIGHT. THE SNUG TIGHTENED CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH THE FULL EFFORT OF A TYPICAL WORKER USING AN ORDINARY SPUD WRENCH TO BRING THE PLIES INTO FIRM CONTACT. SNUG TIGHT IS THE CONDITION THAT EXISTS WHEN ALL THE PLIES IN A CONNECTION HAVE BEEN PULLED INTO FIRM CONTACT BY THE BOLTS IN THE JOINT AND ALL THE BOLTS IN THE JOINT HAVE BEEN TIGHTENED SUFFICIENTLY TO PREVENT THE REMOVAL OF THE NUTS WITHOUT THE USE OF A WRENCH.

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2- ALL PARTS SHALL BE FACTORY-WELDED TO AMERICAN WELDING SOCIETY (AWS) SPECIFICATIONS AND SHALL UTILIZE E70-56 AND HAVE THE HIGHEST STANDARDS OF QUALITY WORKMANSHIP.

3- ALL WELDS SHALL BE FILLET WELDS WITH MAXIMUM PERMISSABLE THROAT THICKNESS OR FULL PENETRATION GROOVE WELDS.

CONCRETE:

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NOTE TO OWNER:
OWNER ACCEPTS FULL RESPONSIBILITY FOR REMOVING THE FABRIC SHADE MATERIAL FROM THE STEEL FRAME WHEN SEVERE WEATHER CONDITIONS ARE PREDICTED. SUCH CONDITIONS INCLUDE PREDICTED WIND SPEEDS IN EXCESS OF 90 MPH. ALSO, AS STRUCTURE IS NOT DESIGNED FOR ANY SNOW LOAD, IT IS RECOMMENDED THAT CANOPY BE REMOVED WHEN SNOWFALL IS EXPECTED.

Shade systems™
4150 S.W. 19 Street
Ocala, FL 34474
Tel.: 1-800-609-6066

NOTE:
PRELIMINARY AND TENTATIVE DRAWING. NOT FOR CONSTRUCTION.
ALL INFORMATION SHOWN IS SUBJECT TO CHANGE BY MANUFACTURER PRIOR TO DELIVERY. USE ONLY DRAWINGS AND INSTRUCTIONS PROVIDED WITH YOUR ORDER FOR CONSTRUCTION

Student Legacy Park Volleyball Corvallis, OR

Approved:

Model Name:
CUSTOM SAIL
SHADE SYSTEMS STRUCTURE
Model No.:
SAIL

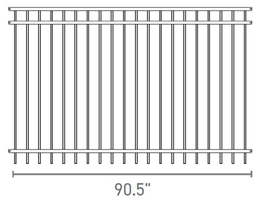
Revisions

REP:

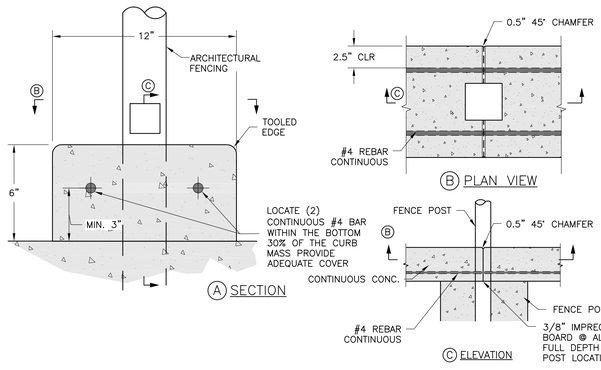
REP QTE. NO.
JP102722-A

Approved: JRB	Job: QTE
Checked: MG	
Drawn: NB	
Date: 11/10/2022 NOT TO SCALE	Sheets: 1 OF 1

Three Rail Panels



ARCHITECTURAL FENCING:
INDUSTRIAL ORNAMENTAL FENCE; FLAT TOP RAIL: 1-3/4" x 1-3/4"; 12 GAUGE
PICKET: 1" PICKET; 14 GAUGE
AIR SPACE 3-15/16"
HEIGHT: 46" HT.



1 D220 ARCHITECTURAL FENCE AND CURB
NOT TO SCALE

3 D220 SHADE LAYOUT WEST
NOT TO SCALE

File: D220 Details.dwg Plotted by: CorredoW Date: 27-Dec-22 10:08:47am

REVISION DATE

Oregon State University

STUDENT
LEGACY PARK
RESURFACING
VOLUME 2D

SAND VOLLEYBALL IMPROVEMENTS

DA HOGAN
1450 114th Ave. SE, Suite 225
Bellevue, WA 98004
p. 206.285.0400
www.dahogan.com

REGISTERED LANDSCAPE ARCHITECT
ROBERT HARDING
OREGON
05/31/23

PERMIT SET

DATE	01-03-23
SCALE	NTS
DRAWN	CPW
CHECKED	EJG/RSH

DETAILS

SHEET
D220