



**PROJECT NO. 23-026.1**  
**RFP FOR DESIGN BUILD OF**  
**TEMPERATURE CONTROLLED WAREHOUSE**

**FEDERAL GRANT INFORMATION:**

THIS PROJECT IS SUBJECT TO THE REQUIREMENTS OF FY 17-18 INFRASTRUCTURE FOR  
REBUILDING AMERICA (INFRA) GRANT,  
PROVIDED BY THE UNITED STATES DEPARTMENT OF TRANSPORTATION.

DOMESTIC PREFERENCE REQUIREMENTS: THIS PROJECT IS SUBJECT TO BUY AMERICA ACT  
23 U.S.C., SECTION 313.

For more information visit:

[http://www.fhwa.dot.gov/construction/contracts/buyam\\_ga.cfm](http://www.fhwa.dot.gov/construction/contracts/buyam_ga.cfm)

PROPOSERS AND IDENTIFIED SUBCONTRACTORS MUST HAVE AN ACTIVE SAM.GOV  
ACCOUNT AT TIME OF BID.

**DATE OF ISSUANCE**  
**JUNE 9, 2023**

## **NOTICE TO PROPOSERS**

The following Project is being released utilizing the Request for Proposal contracting method of procurement by Philadelphia Regional Port Authority (“PhilaPort”/”Authority”), an independent agency of the Commonwealth of Pennsylvania, where PhilaPort will consider technical qualifications, costs, and Diversity Inclusion participation.

**Proposals received by PhilaPort after the Proposal Submission Deadline will be rejected.**

It is the responsibility of the Proposer to ensure that the Proposer’s Proposal is received by the Authority prior to the time scheduled for the receipt of Proposals. PhilaPort will be utilizing Bonfire, an e-Sourcing platform. Proposers must register with Bonfire to submit an electronic proposal with PhilaPort.

Proposals must be submitted through the online Bonfire Portal at:

<https://PHILAPORT.bonfirehub.com>

### **PROJECT INFORMATION**

Project:	PhilaPort Project Number 23-026.1
Project Location:	3 <sup>RD</sup> Street and Pattison Avenue located in Philadelphia, PA
Brief Description:	The general scope of work for the project includes a design-build contract for building a temperature-controlled warehouse for storage of refrigerated and frozen goods to be located in South Philadelphia at 3 <sup>rd</sup> Street and Pattison Avenue. The warehouse is proposed to be approximately 175,000 square feet situated adjacent to a dry warehouse (completed in May 2022). The temperature-controlled warehouse is proposed to consist of freezer rooms and refrigerated rooms with future plans to outfit the warehouse with an automated pallet retrieval and storage racking system to be installed after project completion. The building will have a stepped roof ranging from approximately 30 feet high (loading docks) to approximately 74 feet high (freezer rooms).
Mandatory Pre-Proposal Conference:	<b>WEDNESDAY, JUNE 21, 2023, at 10:00 A.M. at Sheet Metal Worker’s Union Hall located at 1301 S. Columbus Boulevard, Philadelphia, PA 19147.</b>  <b>Attendance at this conference is mandatory for any contractor planning to submit a proposal for this project. The attendance of subcontractors and suppliers is not required but is highly recommended.</b>  <b>All attendees must email <a href="mailto:procurement@philaport.com">procurement@philaport.com</a> to join the attendee list.</b>  With advance notice, services for persons with disabilities and persons with limited English proficiency can be provided.
Request for Proposal Coordinator / Issuing Office:	Kate Bailey Director of Procurement 3460 North Delaware Avenue Philadelphia PA, 19134 (215) 426-2600 ext. 3247 Procurement@PhilaPort.com



Bid Security:	<b>Bid Security in the amount of 10% of the Total Lump Sum base bid amount is required.</b> See Appendix F
Liquidated Damages:	Will apply beginning the first day after the Substantial Completion date listed below
Substantial Completion:	Substantial Completion must occur on or before the Substantial Completion date in the Proposer’s schedule or March 31, 2025, whichever date is earlier
Final Completion:	Final Completion must be achieved by August 31, 2025
Estimated Project Amount:	<b>\$60,000,000 to \$100,000,000</b>

**CALENDAR OF EVENTS**

Activity	Date
Issue RFP	Friday, June 9, 2023
Mandatory Pre-Proposal Conference	Wednesday, June 21, 2023, at 10:00 A. M. EST.
Deadline to Submit Questions (via <a href="mailto:Procurement@philaport.com">Procurement@philaport.com</a> )	Friday, July 7, 2023, at 12:00 P. M.
Deadline to Issue Potential Proposer Answers	Friday, July 21, 2023
Proposal Submission Deadline	Friday, August 4, 2023, by 2:00 P.M. EST

**MANDATORY REGISTRATION INFORMATION FOR PROPOSERS:**

**VENDOR REGISTRATION:** All Proposers must be registered with the Pennsylvania Supplier Portal and must have a current and active Vendor Number. Proposal Documents require Proposers to provide this number. Register at [www.pasupplierportal.state.pa.us](http://www.pasupplierportal.state.pa.us).

**SAM.GOV UNIQUE ENTITY ID:** All Proposers, and all Subcontractors identified in their proposal, must have a current and active SAM.GOV Unique Entity ID. Proposal Documents require Proposers to provide this number. Register at [www.sam.gov](http://www.sam.gov).

**BONFIRE REGISTRATION:** PhilaPort will be utilizing Bonfire as an e-Sourcing platform. Proposers must register with Bonfire to submit an electronic proposal with PhilaPort. Bonfire will be the only acceptable method for submissions. Instructions and video tutorial can be found at: <https://support.gobonfire.com/hc/en-us/articles/203903356-Vendor-Registration-and-Submission->

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### **APPENDICES**

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- B. NON-COLLUSION AFFIDAVIT
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- G. PA PUBLIC WORKS EMPLOYMENT VERIFICATION ACT FORM AND WORKER PROTECTION AND INVESTMENT CERTIFICATION FORM
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## **PART 1**

### **GENERAL INFORMATION FOR PROPOSERS**

#### **1-1 Project Information.**

This request for proposals (RFP) provides to those interested in submitting proposals for the subject procurement (“Proposers”) sufficient information to enable them to prepare and submit proposals for consideration by the Philadelphia Regional Port Authority (“PhilaPort”), an independent agency of the Commonwealth of Pennsylvania, to satisfy a need for the Design Build of a Temperature Controlled Warehouse. This RFP contains instructions governing the requested proposals, including the requirements for the information and material to be included; a description of the service to be provided; requirements which Proposers must meet to be eligible for consideration; general evaluation criteria; and other requirements specific to this RFP. Capitalized terms herein are defined in the Design-Build General Conditions to the Design-Build Contract attached hereto as an Appendix to this RFP.

#### **1-2 Issuing Office.**

This RFP is issued by PhilaPort. The Request for Proposal Coordinator is the sole point of contact for this RFP. Communications about this RFP with other PhilaPort personnel or its consultants may be cause for rejection of the Proposer’s proposal.

#### **1-3 Scope.**

A. **General.** The general scope of work encompassed under this RFP consists of the design and construction Work for the Project identified in this RFP and is further described by the Specifications (provided as Appendix P to this RFP), which shall take precedence over this Section.

##### **B. Specific.**

##### **1. Design-Build Contract Includes Design and Construction.**

The Design-Build Contract will encompass the costs for any and all design and construction services necessary to provide the complete project described in the contract documents. The successful Proposer will become the Design Build Contractor (“DBC”).

The Proposer must provide a Total Lump Sum amount to be paid for all services and supplies necessary to provide the complete Project as contracted for the base bid. Proposer must provide lump sum amounts for any additive alternates (Add Alternates) required to be bid on per the Request for Proposal documents.

Regardless of the entities eventually selected by the DBC to perform the Work, the DBC shall be contractually committed to achieving the DBE participation percentage proposed in their Appendix E submission.

**1-4 Type and Award of Contract.**

If a contract is entered into as a result of the RFP process, it will be a **Lump Sum** Design-Build Contract, including the Contract Terms and Conditions included in this RFP and attached hereto as Appendices.

This Design-Build Contract will encompass the costs for any and all design and construction services necessary to provide the complete Project as contracted. PhilaPort will notify all Responsible Proposers in writing of the Responsible Proposer selected for contract negotiations after PhilaPort has determined, taking into consideration all the evaluation factors, the proposal submission that is the highest ranked. Responsible Proposers whose proposal submissions are not selected will be notified when contract negotiations have successfully been completed.

PhilaPort reserves the right to request additional or clarifying information, to schedule presentations, and to conduct interviews with any or all Proposers. In addition, PhilaPort reserves the right to negotiate with the successful Proposer.

No contract exists until all signatures required are affixed to the contract. The estimated date for the Notice to Proceed is 60 days from the Notice of Award.

PhilaPort reserves the right to issue a Letter of Non-Prejudice to the successful Proposer. See Appendix J – Design Build General Conditions.

**1-5 Owner’s Rights Reserved.**

PhilaPort reserves the right to modify, cancel or withdraw this RFP in whole or in part any time prior to full execution of the contract. PhilaPort reserves the right to reject any and all proposals received as a result of this RFP. PhilaPort may, in its discretion, waive any non-mandatory informality or technical deficiencies in proposals.

**1-6 Incurring Costs.**

PhilaPort is not liable for any costs incurred by Proposers in preparing, delivering or submitting any proposals for the RFP or in anticipation of award of the contract.

**1-7 MANDATORY Vendor Registration.**

All Proposers must have a Current and Active Vendor Number with the Commonwealth of Pennsylvania. Register at [www.pasupplierportal.state.pa.us](http://www.pasupplierportal.state.pa.us). This number is required on the Proposal Signature Page. For more information or assistance regarding your Vendor Number, call Department of General Services at (877) 435-7363. Visit website: [www.pasupplierportal.state.pa.us](http://www.pasupplierportal.state.pa.us).

All Proposers, and all Subcontractors identified in their proposal, must have a current and active Unique Entity ID registered with SAM.gov. Visit SAM.gov to look up your entity or to obtain a Unique Entity ID. This Unique Entity ID is required on the Proposal Signature Page. Visit website: [www.sam.gov](http://www.sam.gov).

## **1-8 MANDATORY Pre-Proposal Conference.**

PhilaPort has scheduled a **Mandatory** Pre-Proposal Conference on **June 21, 2023, at 10:00 A.M.** Attendance will be taken, and a list of attendees will be posted on the PhilaPort website.

The purpose of the Mandatory Pre-Proposal Conference is for PhilaPort to present an overview of the Project and the proposal process. If possible, questions about the RFP and the Project should be forwarded in writing to the Issuing Office prior to the conference to ensure sufficient analysis can be made before an answer is supplied. Questions may be asked at the conference, but any answers furnished during the Conference will not be binding. Answers furnished during the Conference will not be official until verified, in writing, by PhilaPort through an Addendum to this RFP.

## **1-9 Questions & Answers.**

If there are any further technical questions, requests for information, requests for clarification, or requests for data made in writing after the Pre-Proposal Conference, the questions shall be submitted to PhilaPort's Request for Proposal Coordinator prior to the deadline set forth in the Calendar of Events for questions. If the Issuing Office deems it necessary to revise or clarify any part of this RFP or its Appendices, the Request for Proposal Coordinator will issue addenda recording the revision or clarification. These addenda will become part of this RFP. By submitting a Proposal, the Proposer acknowledges the receipt of all addenda issued for this Project and that they have read and understood them.

Questions must be submitted in writing via email to [Procurement@PhilaPort.com](mailto:Procurement@PhilaPort.com). All questions must include the project number and project name in the subject line of the email. The deadline to submit questions is located in the Calendar of Events listed in this RFP document.

**A written addendum issued by PhilaPort is the only binding amendment/revision to this RFP and no other form of amendment/revision, either written or oral, will be considered binding by PhilaPort. Proposers shall not rely on information other than written addenda issued by PhilaPort.**

## **1-10 Addenda to the RFP.**

If the Issuing Office deems it necessary to revise any part of this RFP before the proposal response date, the Issuing Office will post an addendum to [www.philaPort.com/procurement](http://www.philaPort.com/procurement). It is the Proposer's responsibility to frequently check PhilaPort's website for any new information or addenda to the RFP. Answers to the questions asked during the Questions & Answers period also will be posted to PhilaPort's website as addenda to the RFP.

## **1-11 Proposal Submission.**

PhilaPort will be utilizing the e-Sourcing platform Bonfire. Proposers must register with Bonfire to submit an electronic proposal with PhilaPort. Instructions and video tutorial can be found at:

<https://support.gobonfire.com/hc/en-us/articles/360011135513-Vendor-Registration>

and

<https://support.gobonfire.com/hc/en-us/articles/203903356-Vendor-Registration-and->

Submission-

Proposals must be submitted through the online Bonfire Portal at:

<https://PHILAPORT.bonfirehub.com>

Be sure to register well in advance of the proposal submission date and time. Submissions by other methods will not be accepted.

Proposers must use Internet Explorer 11, Microsoft Edge, Google Chrome, or Mozilla Firefox. JavaScript must be enabled. Browser cookies must be enabled. Ensure pop-up blockers are turned off to avoid any issues.

Respondents should contact Bonfire at [Support@GoBonfire.com](mailto:Support@GoBonfire.com) for technical questions related to submissions or visit Bonfire's help forum at <https://bonfirehub.zendesk.com/hc>.

Submission materials should be prepared in the file formats listed under Requested Information for this opportunity in the Bonfire Portal. The maximum upload file size is 1000 MB. Documents should not be embedded within uploaded files, as the embedded files will not be accessible or evaluated.

The entire proposal submission (Part 1-Technical Submission, Part 2-Cost Submission, Part 3-Diversity Inclusion Submission, and Part 4 – Required Documentation) should be uploaded into Bonfire.

**Within one (1) business day of the proposal submission date, Proposer must send eight (8) color hardcopies of their Part 1 – Technical Submission, along with the original Proposal Signature Page (Appendix A) and the Non-Collusion Affidavit (Appendix B) Requested documents will be mailed using an overnight delivery method or hand-delivered to:**

Kate Bailey  
PhilaPort  
3460 North Delaware Avenue  
2<sup>nd</sup> Floor  
Philadelphia, PA 19134

**To be considered for selection by PhilaPort, proposals must be delivered to the Request for Proposal Coordinator by submitting through Bonfire on or before the Proposal Submission Deadline. The Proposer shall be solely responsible for assuring that the proposal is submitted prior to the Proposal Submission Deadline. Proposals submitted after the Proposal Submission Deadline, regardless of the reason for lateness, will automatically be rejected by the Bonfire portal and will not be considered for award.**

**1-12 Proposals.**

To be considered by PhilaPort, a Proposer must meet the Mandatory Requirements of this RFP and should also submit a complete response to this RFP, using the format provided in Part 2. Proposals must be signed by an official authorized to bind the Proposer to its provisions. By submitting a proposal, the Proposer acknowledges that it has carefully reviewed this solicitation and agrees to comply with all applicable conditions and requirements. The contents of the proposal

of the successful Proposer, which do not conflict with this RFP and/or its Appendices, will become contractual obligations if a contract is entered into by PhilaPort. The proposal shall remain valid and binding for at least 90 (ninety) days from the Proposal Submission Deadline, or until a contract has been fully executed.

**1-13 If the Proposer is a Joint Venture.**

If the entity that will be signing the proposal is a joint venture, then there are additional requirements that apply.

- A. The Joint Venture must submit a copy of the Joint Venture Agreement with the Technical Proposal.
- B. Each entity comprising the Joint Venture must submit with the Proposal the corporate resolution or other legal document evidencing the entity’s authorization to participate or form the Joint Venture.
- C. The Joint Venture, if awarded the Contract, will be the “Design-Build Contractor” / “DBC” referenced throughout this RFP.
- D. The Joint Venture should specifically identify and discuss in the Work Plan section of this RFP the responsibilities and scope of work on the Project for each entity in the Joint Venture.
- E. The Joint Venture will be required to obtain its own current and active Vendor Number through the Commonwealth of PA and a current and active SAM.GOV Unique Entity ID.

**1-14 Withdrawal of Proposal.**

Proposals may be withdrawn by written request, which shall be received by the Request for Proposal Coordinator prior to the Proposal Submission Deadline. Proposal withdrawal prior to date and time of Proposal Submission Deadline can be withdrawn via Bonfire Portal. A proposal may only be modified by the withdrawal and submission of a new proposal received via Bonfire prior to the Proposal Submission Deadline.

**1-15 Public Works Employment Verification Act.**

The successful Proposer will be required to comply with the Public Works Employment Verification Act by submitting to PhilaPort a Public Works Employment Verification Act Form (“PWEVA Form”) prior to award of the contract. Proposers shall provide the PWEVA Form to PhilaPort within three (3) days after receipt of notice to provide the PWEVA Form. Failure or refusal to provide the PWEVA Form will be considered a refusal to comply with the proposal, and PhilaPort may record the Proposer’s refusal in the Commonwealth’s Contractor Responsibility Program System.

The Form is attached an Appendix to this RFP; relevant information is located at:

<https://www.dgs.pa.gov/Materials-Services-Procurement/Public-Works-Employment-Verification/Pages/default.aspx>

**1-16 Alternate Proposals.**

The Issuing Office has identified the basic approach to meeting its requirements, allowing Proposers to be creative and propose their best method of meeting these requirements. The Issuing Office will not accept alternate proposals.

**1-17 Discussions for Clarification.**

Proposers may be required to make a written clarification of their proposals to the Issuing Office to ensure thorough and mutual understanding and Proposer responsiveness to the solicitation requirements. The Issuing Office will initiate requests for clarification. Clarifications may occur at any stage of the evaluation and selection process prior to contract execution.

**1-18 Design-Build Contractor Responsibilities.**

The contract will require the selected Proposer to assume responsibility for all work and services offered in its proposal whether it produces them itself or by subcontract. The Issuing Office will consider the selected Proposer to be the sole point of contact with regard to contractual matters.

**1-19 Disclosure of Proposal Contents.**

- A. **Confidential Information.** PhilaPort is not requesting, and does not require, confidential proprietary information or trade secrets to be included as part of Proposers' submissions in order to evaluate proposals submitted in response to this RFP. Accordingly, except as provided herein, Proposers should not label proposal submissions as confidential or proprietary or trade secret protected. Any Proposer who determines that it must divulge such information as part of its proposal must submit the signed written statement described in subsection C below and must additionally provide a redacted version of its proposal, which removes only the confidential proprietary information and trade secrets, for required public disclosure purposes.
  
- B. **PhilaPort Use of Proposal Contents.** All material submitted with the proposal shall be considered the property of PhilaPort and may be returned only at the Issuing Office's option. PhilaPort has the right to use any or all ideas not protected by intellectual property rights that are presented in any proposal regardless of whether the proposal becomes part of the contract. Notwithstanding any Proposer copyright designations contained on proposals, PhilaPort shall have the right to make copies and distribute proposals internally and to comply with public record or other disclosure requirements under the provisions of any Commonwealth or United States statute or regulation, or rule or order of any court of competent jurisdiction.
  
- C. **Public Disclosure.** After the award of a contract pursuant to this RFP, all proposal submissions are subject to disclosure in response to a request for public records made under the Pennsylvania Right-to-Know-Law, 65 P.S. §67.101, et seq. If a proposal submission contains confidential proprietary information or trade secrets, a signed written statement to this effect must be provided with the submission in accordance with 65 P.S. §67.707(b) for the information to be considered exempt under 65 P.S. §67.708(b)(11) from public records requests. Financial capability information submitted with this RFP is exempt from public records disclosure under 65 P.S. § 67.708(b) (26).



**1-20 Best and Final Offers (BAFO).**

- A. While not required, the Issuing Office reserves the right to conduct discussions with Responsible Proposers for the purpose of obtaining “best and final offers”. To obtain best and final offers from Responsible Proposers, the Issuing Office may do one or more of the following, in any combination and order:
  - 1. Schedule oral presentations;
  - 2. Request revised proposals;
  - 3. Enter into Best and Final offer discussions.
- B. The following Proposers will **not** be invited by the Issuing Office to submit a Best and Final Offer:
  - 1. Those Proposers, which the Issuing Office has determined to be not responsive in accordance with the Mandatory Requirements set forth in Part 2, Section 2-2.
  - 2. Those Proposers whose score for their technical submission of the proposal is less than 75% of the total amount of technical points allotted to the technical criterion. Determination will be made based upon the total raw points received as a result of technical evaluations. Calculations will be performed prior to any pro-rata formula listed in Part 3.
- C. The Evaluation Criteria found in **Part 3** of the RFP document shall be used to evaluate the Best and Final offers.
- D. Any reduction to commitments to Diversity Inclusion must be proportional to the reduction in the total price offered through any BAFO process or contract negotiations and in no event will result in less than the minimum percentage established by the Proposer’s Proposal for this project.

**1-21 News Releases.**

Proposers shall not issue news releases, internet postings, advertisements or any other public communications pertaining to this Project without prior written approval of the Issuing Office, and then only in coordination with the Issuing Office. This paragraph does not apply to any advertisement soliciting interested subcontractors made by the Proposer during the preparation of the proposal.

**1-22 Restriction of Contact.**

From the issue date of this RFP until the Issuing Office selects a proposal for award, the Issuing Officer is the sole point of contact concerning this RFP. Any violation of this condition may be cause for the Issuing Office to reject the offending Proposer’s proposal. If the Issuing Office later discovers that the Proposer has engaged in any violations of this condition, the Issuing Office may reject the offending Proposer’s proposal or rescind its contract award. Proposers must agree not to distribute any part of their proposals to PhilaPort beyond the Issuing Office. A Proposer who shares information contained in its proposal with other PhilaPort personnel and/or competing

Proposer personnel may be disqualified.

**1-23 Notification of Selection for Negotiations and Award.**

Upon completion of the Evaluation Committee’s review of all eligible proposals, PhilaPort shall issue written notification of its selection for negotiations to the Proposer whose proposal is determined to be the highest ranked in accordance with the evaluation factors, procedures, and criteria set forth in this RFP. Proposers whose proposal submissions are not selected will be notified when contract negotiations have commenced and when the final negotiated contract is awarded.

**1-24 Debriefing of Unsuccessful Proposers.**

PhilaPort will notify in writing all Proposers not selected for award of their opportunity for a debriefing and the timeframe for this optional debriefing. Any unsuccessful Proposer who wants to be debriefed must email a written request to the RFP Coordinator within two (2) calendar days of the date of the notice they were not selected for negotiations. PhilaPort will hold a debriefing conference for each unsuccessful Proposer who submitted a timely written request for such a debriefing but no later than five (5) calendar days from the date of Notice of Award. The PhilaPort Request for Proposal Coordinator will hold the debriefing conference and will discuss only the proposal of the Proposer being debriefed. The debriefing will not compare the Proposer with other Proposers, other than the position of the Proposer’s proposal in relation to all other Proposer proposals. The Proposer may request to be debriefed by phone. The timeframe for debriefing of unsuccessful Proposers neither extends nor modifies in any way the deadlines for the RFP Protest Procedure set forth herein.

**1-25 Term of Contract.**

The term of contract is the Contract Duration listed in the Notice to Proposers and will commence upon the effective date of the contract, as defined in the Design-Build General Conditions of the Design-Build Contract (attached as an Appendix to this RFP). PhilaPort shall fix the effective date after the contract has been fully executed by the selected Proposer and by PhilaPort and all approvals required by Commonwealth. The selected Proposer shall not start the performance of any work prior to the Effective Date unless authorized to do so in a Letter of Non-Prejudice. PhilaPort shall not be liable to pay the selected Proposer for any service or work performed or expenses incurred before the effective date unless a Letter of Non-Prejudice has been issued and the service, work performed or expenses incurred is in accordance with the terms of the Letter of Non-Prejudice.

**1-26 RFP Protest Procedure.**

In addition to the summary provided herein, the Protest Procedure is available in the Procurement Code (62 Pa.C.S. § 1711.1).

A. **Who may file.** Any Proposer or Prospective Proposer who is aggrieved in connection with the RFP or the award of a contract resulting from the RFP may file a protest.

1. Prospective Proposer – is an entity that has not submitted a proposal in response to the RFP.

2. Proposer – is an entity that has submitted a proposal in response to the RFP.

**B. Time limits.**

1. If a protest is filed by a Prospective Proposer, it must be received, in writing, with the Request for Proposal Coordinator prior to the Proposal Submission Deadline by e-mail or regular mail.

- a. **E-MAIL.** Prospective Proposers may submit a protest along with any supporting documentation via e-mail to the Request for Proposal Coordinator/IssuingOffice at [Procurement@philaport.com](mailto:Procurement@philaport.com).

**MAIL.** Prospective Bidders may file a protest, in writing, with the Director of Procurement, Philadelphia Regional Port Authority, 3460 N. Delaware Avenue, Philadelphia, PA 19134.

2. If a protest is filed by a Proposer, it must be filed, in writing, with the Request for Proposal Coordinator within seven (7) days after the protesting Proposer knew or should have known of the facts giving rise to the protest except in no event may a protest be filed later than seven (7) days after the Notice of Award is sent to Proposers.

- C. PhilaPort may cancel a Request for Proposal or may reject all proposals at anytime prior to the time a contract is executed by all parties when it is in the best interests of the Commonwealth. The Proposer may not submit a protest relating to cancellation of the solicitation or rejection of all bids.

- D. A protest shall state all grounds upon which the protestant asserts that the solicitation or award of the contract was improper. The protestant may submit with the protest any documents or information it deems relevant to the protest.

**1-27 Job Posting.**

The DBC and all subcontractors and suppliers are encouraged to post jobs created by this Project and seek jobs to fill utilizing the PaCareerLink system at [www.cwds.state.pa.us](http://www.cwds.state.pa.us)

The DBC, subcontractors and suppliers, can locate their local PA Career Link office through the same website. Staff at local PA Career Link can assist employers to post positions and explain how to retrieve resumes or applications generated by their systems.

**1-28 Use of Electronic Versions of this RFP.**

This RFP is being made available by electronic means. If a Proposer electronically accepts the RFP, the Proposer acknowledges and accepts full responsibility to ensure that no changes are made to the RFP. In the event of a conflict between a version of the RFP in the Proposer's possession and the Issuing Office's version of the RFP, the Issuing Office's version shall govern.

**END OF PART 1**

## PART 2

### PROPOSAL FORMAT AND REQUIRED INFORMATION

#### 2-1 Proposal Submission.

The RFP is intended to provide interested Proposers with the basic information necessary to evaluate the project scope and requirements. Each Proposer shall develop an independent assessment of the project that shall form a suitable basis for their respective proposal. Each proposal should be a complete response to the RFP, following the format described in this RFP. Proposals shall be straightforward, concise presentations. Proposers shall include information for all items requested in the RFP as completely and accurately as possible. By submitting a proposal, the Proposer agrees to the terms and conditions as stated in this RFP.

A proposal should be submitted in the format discussed below. To be considered by PhilaPort, the proposal shall respond to all requirements in this part of the RFP. Each proposal shall consist of the following **4 separate parts:**

<b>Submission Part No.</b>	<b>Description of Submission</b>	<b>Form for Submission</b>
1	Technical Submission	Format provided in Section 2-4 and 2-5 below
2	Price Submission	Appendix C
3	Diversity and Inclusion Submission	Appendix E (DBE Participation Submission Form)
4	Documentation for Submission	Appendices A, B, D, and F

PhilaPort may reject as non-responsive any submission that is not submitted and properly separated as described in this RFP.

#### 2-2 Mandatory Proposal Requirements.

To be eligible for selection, a proposal must:

- A. Be timely received from a Proposer; and
- B. Be properly signed by the Proposer; and
- C. **Be inclusive of a Technical Submission (See Sections 2-4 and 2-5 below), a Price Submission (Appendix C), a Diversity and Inclusion Submission (Appendix E), and the Documentation for Submission (Appendices, A, B, D, and F).**

#### 2-3 Nonconforming Proposals.

The Mandatory Responsiveness Requirements set forth in Section 2-2 above (A-C) are the only RFP requirements that PhilaPort will consider to be non-waivable. The Issuing Office reserves the right, in its sole discretion, to (1) waive any other immaterial nonconformities in a Proposer's proposal, or (2) consider the nonconformity in the scoring of the Proposer's proposal.

## 2-4 Proposal Format.

The proposal shall consist of separate parts and shall be submitted via Bonfire as **separate packages clearly labeled as 1) Technical Submission, 2) Price Submission, 3) DBE Participation Submission, and 4) Documentation for Submission.**

A cover sheet for each separate package should include the Proposer's name, address, contact person (phone number and email), and identify the RFP for which the proposal is being submitted.

The submittals shall be in the following format:

- The Technical Submission package shall include:
  - The Technical Submission submitted in a PDF format, with the submission clearly labeled with the Proposer's name and "Technical Submission."
- The Cost Submission package shall include:
  - One document of the Price Submission Form in a PDF format provided as an Appendix to this RFP;
- The DBE Participation Submission package shall include:
  - The DBE Participation Submission in a PDF format provided as an Appendix to this RFP.
- Documentation for Submission package will include:
  - One paper document of the Proposal Signature Page provided as an Appendix to this RFP, with original signatures;
  - One notarized original paper document of the Non-Collusion Affidavit provided as an Appendix to this RFP;
  - Detailed list of known Subcontractors at time of proposal submission. List company name, contact information, and type of services and/or supplies Subcontractor is being utilized for as it relates to this project.
  - A Bid Bond submitted on a form from a surety company authorized to do business in the Commonwealth of Pennsylvania; or a certified check for 10% of the Total Lump Sum base bid amount.

## 2-5 Technical Submission Requirements.

The Technical Submission shall fully demonstrate the qualifications and capabilities of the Proposer and its subcontractors to perform the work. The Technical Submission should be inclusive of high-level demonstration of qualifications and capabilities to perform the work for any add alternative pricing (Add Alternate) requested to be bid on.

Proposers **shall not include cost information** for this project in the Technical Submission. Cost information for other projects that the Proposer worked on, including project budget and actual costs, may be included in the Technical Submission. Small Diverse Businesses may be identified as such in the Technical Submission, so long as **no cost information** is revealed.

**If cost information for this Project (including, but not limited to monthly cashflow, design costs, subcontract dollar values, or total proposed values) is revealed in the Technical Submission, the proposal may be rejected as non-responsive.**

The Technical Submission shall include all information required in this Part 2. The Issuing Office strongly recommends Proposers provide concise responses that adhere to suggested number of pages and present the requested information in the order listed below.

**TECHNICAL SECTION 1:**

**PROJECT TEAM’S QUALIFICATIONS, EXPERIENCE AND PAST PERFORMANCE**

**2-5.1 Project Management Team Overview (limited to 6 pages plus 2 pages 11x17 for Organization Charts):**

- A. Provide Project Management Team Organization Chart(s) that graphically depict the hierarchy and reporting structure of the team members, with specific personnel identified. Two (2) 11x17 charts may be provided representing the management structures at different major phases of the Project effort if applicable. For this solicitation “Key Personnel” shall mean those people who are essential to carrying out the Work of the project. Identify Key Personnel that will be assigned to this project and indicated their experience.
  - 1. Key Personnel identified must include, executives, project managers, etc. down through field supervisors;
  - 2. Submit key personnel qualifications for proposed Key Personnel in accordance with Section 2-5.4 below.
- B. Provide a narrative description of your management structure for the overall Project Team and their prior experience, if any, working together. The Proposer shall include, at a minimum, a brief narrative on the following items for each firm on the Project Team as appropriate:
  - 1. Clearly identify the Project Team Members, each Team Members’ personnel, and their roles and responsibilities on the project;
  - 2. Clearly describe Proposer’s understanding of the services and materials to be provided on the project;
  - 3. Describe this Project Team’s experience with design build contract projects;
  - 4. State why the proposed management structure will best serve the interests of the Project and provide a narrative clearly describing your Project Management Plan.

If awarded the DBC contract, the Proposer shall not alter the Project Team identified in the Proposal at any time during design and/or construction without prior written permission by PhilaPort.

**2-5.2 Work Plan (limited to 8 pages total):**

The Proposer shall describe its technical plan for accomplishing the Project. Outline and describe the steps necessary to successfully undertake the project from the Notice of Award/Letter of Non-Prejudice through completion. Specifically:

a.	Addresses design effort and phases of the design. Demonstrates Proposer’s understanding of the design effort.
b.	Demonstrates Proposer’s understanding of the Design/Build concept.
c.	Identifies potential design issues.

d.	Describes how team will minimize PhilaPort’s risk.
e.	Detailed and logical approach to potential early construction packages, long lead items, and phasing of construction.
f.	Detailed and logical explanation and identification of critical material and equipment. Discusses/explains why they are critical, timing/leadtimes for acquisition and how they will be managed.
g.	Detailed and logical identification of construction challenges and proposed solutions.
h.	Outlines construction plan, site operations, and logistics.
i.	Identifies and describes jobsite controls, systems, practices.
j.	Addresses Information Technology solutions for document control, systems to be utilized and types of information to be controlled.
k.	Addresses Project Safety Plan.
l.	Provides outline of QA/QC plan.
m.	Detailed description of closeout process for training of tenant personnel, warranties, manuals, occupancy permits, commissioning, punchlisting, and final closeout.

**2-5.3 Project Master Schedule (limited to 3 sheets plus 3 pages 11x17 for CPM Schedule):**

**Proposer’s RFP Project Master Schedule** – This initial milestone schedule is to be submitted as part of the Proposer’s Technical Submission. For development of the project schedule for the proposal submission, Proposer should assume an anticipated Notice to Proceed of November 15, 2023. Note: This is not a contractual Notice to Proceed date.

a.	Submitted detailed CPM schedule. CPM schedule includes key interim milestones events (i.e., Issue for Revision, Issue for Permit, completion of foundation, completion of building shell, and start and finish of various construction phases, Substantial Completion date and Final Completion date)
b.	Schedule Narrative identifies and describes challenges and proposed solutions, critical path, and achievement of milestones
c.	Logic, credibility of schedule, and completeness of design elements of schedule
d.	Logic, credibility of schedule, and completeness of construction elements of schedule
e.	Schedule Duration in calendar days

**Full Design and Construction Schedule** – Do Not Submit a Full and Complete detailed CPM Schedule in the Technical Submission. Upon a receipt of a Letter of Non-Prejudice/Notice to Proceed from PhilaPort, the successful DBC shall submit a full and complete contract schedule per the requirements of the General Conditions of



the Design-Build Contract and Administrative Procedures for the Design-Build Contract.

**2-5.4 Qualifications (See specific sheet/page limits below):**

**A. Design Build Contractor Qualifications (suggest 4 sheets plus 1 sheet per person and an Organizational Chart)**

Provide clear and concise information that will demonstrate the following qualifications.

1. Entity's Experience on Design Build Projects over \$50 million.
  - a. Include date(s), location, owner, owner contact, project amount, and description. Complete and/or incomplete projects may be submitted. Discuss status of project and if completed as originally scheduled.
2. Entity's Experience on projects similar in scope and nature for up to five (5) completed projects.
  - a. Include date(s), location, owner, owner contact, project amount, and project description. Complete and/or incomplete projects may be submitted. Discuss status of project and if completed as originally scheduled.
3. Management Team Individual Qualifications (6-person limit, 1 page per person).
  - a. Describe project responsibilities, time with firm, experience with design build projects, educational or technical training, and any other information relevant to the evaluation of the individual.
4. Entity's Statement of Readiness and Commitment of Resources.
  - a. Provide a written statement confirming the persons identified in this RFP as Key Personnel are available and will be committed to the project for the time period(s) **referenced in the Proposer's proposed Project Master Schedule**.
5. Entity's default on public or private projects, or suspension, debarment, or proposed suspension or debarment by a state or federal government in the past three (3) years.

**B. Design Subcontractor Qualification Form (limited to 2 sheets including organization chart plus 1 sheet per person)**

Proposer shall provide clear and concise information that will demonstrate the following qualifications.

1. Firm's Experience on Design-Build projects greater than \$50 million
  - a. Include date(s), location, owner, owner contact, project amount, and project description. Complete and/or incomplete projects may be submitted. Discuss status of project and if completed as originally scheduled.
2. Firm's Experience on Temperature Controlled Warehouse projects.

- a. Include date(s), location, owner, owner contact, project amount, and project description. Complete and/or incomplete projects may be submitted. Discuss status of project and if completed as originally scheduled.
3. Individual Qualifications (4 person limit).
  - a. Describe project responsibilities, time with firm, experience with design build projects, educational or technical training, and any other information relevant to the evaluation of the individual.
4. Entity's Statement of Readiness and Commitment of Resources.
  - a. Provide a written statement confirming the persons identified in this RFP as Key Personnel are available and will be committed to the project for the **time period(s) referenced in the Proposer's proposed Project Master Schedule.**
5. Entity's default on public or private projects, or suspension, debarment, or proposed suspension or debarment by a state or federal government in the past three (3) years.

## 2-6 Price Submission Requirements.

The Proposers shall submit one (1) original of its Price Submission Form in Bonfire which must be separate from the Technical, Diversity Inclusion, and Required Documentation Submittals.

The Price Submission shall be submitted using the Price Submission Form, which is provided as an Appendix to this RFP.

- The Price Submission Form shall indicate a Total Lump Sum bid price to complete the scope of contract work required for the base bid in this RFP, as well as any requested Add Alternate pricing.
- Any attempt to submit alternate prices or alternate base bids other than as requested by the Price Submission Form provided as an Appendix to this RFP will result in rejection of the Proposal as non-responsive.
- If Proposer is awarded the Contract, Contractor shall sign and return a Contract Bond on the form provided by PhilaPort (provided as an Appendix to this RFP), in the penal sum equal to the amount of the awarded Contract, for the faithful performance of the Contract, and to cover the prompt payment in full for all materials furnished and labor supplied or performed and equipment actually rented (but not sold). The Contract Bond must be executed by a surety company or companies qualified to do business in Pennsylvania.

## 2-7 DBE Diversity Inclusion Requirements.

**DBE Submissions are based on a Pass/Fail evaluation.** Failure to include the DBE

Participation Submittal, or if proposal submissions fail to demonstrate a good faith effort was made by the DBC to solicit DBE subcontractors and suppliers for this project, will result in rejection of the Proposal as non-responsive.

Proposers will submit the document along with their proposal submission. The Submission must be separate from the remainder of the proposal and must be provided on the DBE Participation and Submission Form.

**END OF PART 2**

## PART 3

### EVALUATION CRITERIA

#### **3-1 Competitive Sealed Proposal Award.**

If PhilaPort awards a contract, the award will only be made to the responsive and responsible Proposer, whose proposal conforms to the requirements of this RFP and receives the highest overall Total Proposal Score by the Evaluation Committee in accordance with the evaluation factors, procedures and criteria set forth in this RFP.

#### **3-2 Proposal Evaluation Process.**

The Issuing Office has selected an Evaluation Committee comprised of multiple qualified personnel to review and evaluate timely submitted technical and cost proposals. Independent of the Evaluation Committee the Director of Procurement, along with PhilaPort's Chief Counsel, or designee, will evaluate the Cost and DBE Participation Submittals.

PhilaPort reserves the right to seek written clarifications from all Proposers and may elect to seek best and final offers from Responsible Proposers.

PhilaPort reserves the right to request and to evaluate additional information from secondary sources (such as a Dunn & Bradstreet report) which, in PhilaPort's opinion, is necessary to assure that the Proposer's competence, number of qualified employees, business organization and financial resources are adequate to perform according to the contract.

PhilaPort may make such investigations as deemed necessary to determine the ability of the Proposer to perform the Contract Work. The Proposer shall furnish to PhilaPort all such information and data for this purpose as requested by PhilaPort. PhilaPort reserves the right to reject any proposal if the evidence submitted by, or investigation of, such Proposer fails to satisfy PhilaPort that such Proposer is properly qualified to carry out the obligations of the Contract and to complete the Contract Work.

The Proposals will be evaluated based on the following:

Technical Submission	500 Points
Cost Submission	500 Points
DBE Submission	Pass/Fail

#### **3-3 Technical Submission Evaluation.**

The Evaluation Committee will evaluate each proposal using the scoring matrix attached as an Appendix to this RFP. The raw technical points for each Technical Submission will be used in the determination of the 75% threshold for determining Proposer's responsibility. The maximum available technical points is 500. Any proposal not receiving 75% or greater of the maximum available points, or at least 375 total points, for the Technical Submission, prior to using the pro-rata formula, will be deemed non-responsible and rejected.

The final technical scores are determined by giving the maximum number of technical points available, or 500 points, to the proposal with the highest raw technical score. The remaining proposals are rated by applying the following formula:

$$\text{Total Technical Score} = 500 * \frac{\text{Current Raw Technical Points Being Scored}}{\text{Highest Raw Technical Points}}$$

Evaluation of Proposer’s ability to perform the work for any Add Alternate requested to be bid will be on a Pass/Fail basis. The Proposer with the shortest schedule duration, in calendar days, will receive the full allotment of points for Appendix H, 2-5.3, f., Schedule Duration.

Note: Proposals which have been deemed nonresponsive to the DBE participation requirements will be rejected and will not be evaluated further. Responsive proposals must be evaluated for technical viability before Cost is considered. Those that are not viable, i.e., do not meet the technical threshold stated in the Offeror Responsibility Section of the RFP, will be eliminated from further consideration. Cost proposals will be calculated for technically qualified proposers immediately after the technical evaluation is completed.

**3-4 Price Submission Scoring.**

The Request for Proposal Coordinator, together with a representative from the Office of Chief Counsel, or designee, will open the Price Submissions of those Proposals (or Best and Final Offerors, if applicable) whose Technical Submissions received a Technical Score of at least 75%.

Pricing will be evaluated based on Total Lump Sum base bid amount.

The proposal with the lowest possible price submission will receive the maximum score of 500 points. The score for the remaining proposals will be calculated using the formula presented below.

$$\text{Total Price Score} = 500 * \frac{\text{Lowest Price Proposal}}{\text{Current Price Proposal Being Scored}}$$

**3-5 DBE Participation Submission Scoring (Pass/Fail Evaluations).**

**A. Diversity Inclusion General Information.**

1. Fixing America’s surface transportation act (FAST Act) (pub. L. 114-94, section 1105 (23 U.S.C. 117)) For the nationally significant freight and highway projects program (FY 2017-2018 infra grants)
2. *The recipient, in accordance with the provisions of Title VI of the civil rights act of 1964 (78 STAT. 252, 42U.S.C. §§ 2000D TO 2000D-4) and the regulations, hereby notifies all bidders that it will affirmatively ensure that for any contract entered into*

*pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.*

3. **THE DIVERSITY AND INCLUSION GOAL FOR THIS PROJECT HAS BEEN SET TO 20% DBE AND IS APPLICABLE TO THE ENTIRE CONTRACT VALUE.**
4. PhilaPort will only accept DBE commitments with DBE entities that have third-party DBE certifications from the following entities:

**Unified Certification Program (UCP):**

<https://paucp.dbesystem.com/>

Every state has its own Unified Certification Program. The above links to the Pennsylvania Unified Certification Program. PhilaPort will accept DBE certifications from any UCP program from any state.

- B. Diversity Inclusion Participation Submission. All Proposers are required to submit the DBE Participation Submission Form contained in Appendix E. The submission must be submitted in its own package, separate from the remainder of the proposal.

**Diversity will be evaluated on a pass/fail basis. Proposal submissions that do not meet the criteria listed in Section 3-5, A (1), (2), and (4) of this RFP will be deemed non-responsive.**

Each DBE Business commitment will become contractual obligations of the selected Proposer.

NOTE: Proposers will be deemed non-responsive for stating that after the contract is awarded they will find a DBE Business.

NOTE: Equal employment opportunity and contract compliance statements referring to company equal employment opportunity policies or past contract compliance practices do not constitute proof of DBE Status or entitle a Proposer to receive credit for DBE Business participation.

- C. Contract Requirements—DBE Participation.

All contracts containing DBE participation must contain the following contract provisions to be maintained through the initial contract term and any subsequent options or renewals:

1. Each DBE commitment which was credited by the Director of Procurement and the total percentage of such DBE commitments made at the time of proposal submission, as applicable, become contractual obligations of the selected Proposer upon execution of its contract with PhilaPort.
2. All DBE subcontractors credited by the Director of Procurement must perform at least 50% of the work subcontracted to them.

3. The individual percentage commitments made to DBE Businesses cannot be altered without written approval from the Director of Procurement and PhilaPort Legal Department.
4. DBE commitments must be maintained in the event the contract is assigned to another prime contractor.
5. The Design Build Contractor and each DBE Business for which a commitment was credited by the Director of Procurement must submit a final, definitive subcontract agreement signed by the selected Proposer and the DBE Business to the Director of Procurement within 30 days of the final execution date of the PhilaPort contract. The subcontract must contain:
  - a. The specific work supplies or services the DBE Business will perform; location for work performed; how the work, supplies or services relate to the project; and the specific timeframe during the initial term and any extensions, options and renewals of the prime contract when the work, supplies or services will be provided or performed.
  - b. The fixed percentage commitment and associated estimated dollar value that each DBE Business will receive based on the final negotiated cost for the initial term of the prime contract.
  - c. Payment terms indicating that the DBE Business will be paid for work satisfactorily completed within 14 days of the selected Proposer's receipt of payment from PhilaPort for such work.
  - d. Commercially reasonable terms for the applicable business/industry that are no less favorable than the terms of the selected Proposer's contract with PhilaPort and that do not place disproportionate risk on the DBE Business relative to the nature and level of the DBE Business' participation in the project.
6. If the Design Build Contractor and a DBE Business credited by the Director of Procurement cannot agree upon a definitive subcontract within 30 days of the final execution date of the PhilaPort contract, the selected Proposer must notify the Director of Procurement and PhilaPort Legal Department.
7. The Design Build Contractor shall complete the Monthly DBE Business Utilization Report and submit it via e-Builder by the end of each month of the contract term and any subsequent options or renewals. Instructions for submission is located in the Administrative Procedures for the Design-Build Contract attached as an appendix to this RFP. This information will be used to track and confirm the actual dollar amount paid to DBE Business subcontractors and suppliers and will serve as a record of fulfillment of the contractual commitment.
8. The Design Build Contractor shall utilize Prism Compliance Management portal, or any other application as directed by PhilaPort.
9. The Design Build Contractor shall notify the Director of Procurement when circumstances arise that may negatively impact the selected Proposer's ability to comply with DBE Business commitments and to provide a corrective action

plan.

10. If the Design Build Contractor fails to satisfy its DBE commitment(s), or if it fails to meet its DBE reporting requirements, it may be subject to a range of sanctions the Director of Procurement, with the concurrence of the Legal Department, deems appropriate. Such sanctions include, but are not limited to, one or more of the following: a determination that the selected Proposer is not responsible under the Contractor Responsibility Program; withholding of payments; suspension or termination of the contract together with consequential damages; and/or suspension or debarment from future contracting opportunities with the Commonwealth.

### **3-6 Proposal Selection.**

- A. The RFP Coordinator, in consultation with the evaluation committee, will verify the amounts, percentages and calculations of the Technical Submission score, the Cost Submission Base Bids and the DBE Submission. The RFP Coordinator will then calculate each Proposal Total Score using the formula:

$$***TOTAL SCORE = (TOTAL TECHNICAL SCORE + TOTAL PRICE SCORE)***$$

In the event of a tie, the scores will be extended out to sufficient decimal places to eliminate the tie.

**END OF PART 3**

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## **PART 4**

### **STATEMENT OF WORK**

#### **4-1 General Description of The Project Scope.**

A. Nature and Scope of the Project.

The general scope of work for the project includes a design-build contract for building a temperature-controlled warehouse for storage of refrigerated and frozen goods to be located in South Philadelphia at 3<sup>rd</sup> Street and Pattison Avenue. The warehouse is proposed to be approximately 175,000 square feet situated adjacent to a dry warehouse (completed in May 2022). The temperature-controlled warehouse is proposed to consist of freezer rooms and refrigerated rooms with future plans to outfit the warehouse with an automated pallet retrieval and storage racking system to be installed after project completion. The building will have a stepped roof ranging from approximately 30 feet high (loading docks) to approximately 74 feet high (freezer rooms).

B. PhilaPort expressly reserves the right to terminate the Contract at any point in accordance with the provisions of the General Conditions of the Contract.

C. The Contract Documents as defined in the Contract will govern the Work on the Project, including but not limited to, the design process, the construction phase, scheduling, extensions of time, change orders and payment to the Contractor.

#### **4-2 Design Submissions.**

A. The Contractor shall submit to PhilaPort within 10 days of Notice to Proceed, a Pre-Construction CPM schedule which identifies the following minimum design submissions to PhilaPort:

1. Preliminary Design Submission (reference section 4-5 below)
2. Interim Design Review Submittals
3. Final Design Documents Submission (reference section 4-10 below)

#### **4-3 Permitting And Certificate of Occupancy.**

A. The Contractor shall be responsible for securing all permits and licenses that may be required by governmental authorities having jurisdiction pertaining to this Project.

B. No work will commence until all permits required to perform work are obtained.

#### **4-4 Schedule And Milestones.**

A. The Contractor shall develop a CPM project schedule within 10 days of Notice to Proceed or the date of the Letter of Non-Prejudice, whichever comes first.

1. All design submissions and approvals.

2. Building permitting submissions and approvals.
3. Start of construction.
4. Substantial completion and completion of punch list.
5. Final completion.
6. The CPM project schedule shall be updated at a minimum on a monthly basis and shall be submitted to PhilaPort Engineering.
7. PhilaPort reserves the right to assess Liquidated Damages if the Contractor fails to complete the schedule for the project within the Contractor's Substantial Completion date or March 31, 2025, whichever is earlier.

#### **4-5 Preliminary Design Submission.**

- A. Applicable Preliminary Design Submission documents are to be delivered to PhilaPort Engineering on or before the date established in the Contract or in the project schedule, unless another date has been approved by PhilaPort.
- B. The Preliminary Design Submission shall be sufficient to capture the overall design intent.
- C. This submission shall also identify any "no cost" project enhancements and or potential cost reductions. All proposed enhancements and reductions must remain consistent with the design intent and do not lower the product quality or life cycle performance. Each proposed enhancement or reduction must be accompanied with a written recommendation from the DBC's Retained Professional indicating all the benefits as well as any potential risk associated with the change.
- D. PhilaPort shall review the documents for acceptability and provide comments.

PhilaPort requires the Contractor, including the Contractor's Retained Professional and representatives, to attend all review meetings with PhilaPort.

The following documents shall be submitted as part of the Preliminary Design Submission (see DBC General Conditions for defined terms):

1. One (1) electronic copy of the transmittal letter with Preliminary Design Submission checklist, duly checked and filled-in as appropriate.
2. One (1) electronic copy of the code review and analysis Construction Drawings.
3. One (1) electronic set of outlined specifications for all prime contracts, with one (1) fully completed specification section.
4. One (1) electronic set of design drawings, including a cover sheet with index.
5. One (1) electronic copy of confirmation letters from each utility company (Electric, Telephone, etc., as applicable) indicating the required service is available. If applicable, provide a written estimate for the utility company's cost to extend service to the building.
6. One (1) electronic copy of the list of regulatory approvals – a status report with

status of all required approvals and copies of all approvals/permits obtained to date.

7. One (1) electronic copy of a Structural Engineers Report on Selection of Structural and Foundation System, including cost comparisons, type, physical size and location of all structural members as applicable.
8. One (1) electronic copy of Report on Hazardous Material Survey results if applicable, with cover letter describing the Contractor's Retained Professional's proposed solutions.
9. One (1) electronic copy of other additional items requested by the PhilaPort Engineer, or otherwise determined by the Contractor's Retained Professional to be required for the project.
10. When PhilaPort has engaged a Construction Manager (CM) and/or a Commissioning Authority (CA), the Contractor's Retained Professional is to provide electronic copies of the Preliminary Design Submission documents as listed above to the CM and/or CA, on the same day delivery is made to PhilaPort.

#### **4-6 Schematic/Riser Diagrams.**

- A. Electrical drawings shall contain schematic and/or riser diagrams showing all major power system components, main telephone cabinets, major components of signal and auxiliary systems. Electrical power riser components shall be identified by size, over-current rating, interrupting capacity, etc. based on estimated loads. Preliminary riser diagrams should be the base drawing for the expanded riser diagrams which will be required for the construction drawings. Statements justifying the selection of the proposed system(s) must be provided.

#### **4-7 Specifications.**

- A. Specifications content is to show the proposed format of the final specifications, and indicate all construction materials and methods to be used.
- B. Information, back-up material and data are to be included in enough detail to describe the materials and equipment proposed. With this submission provide a listing and backup materials of all the specific materials and equipment proposed by the Contractor which require PhilaPort approval.
- C. PhilaPort approval of the proposed specification format will be part of the Preliminary Design Submission Review. For clarity, the Contractor's Retained Professional may wish to include a previous job to illustrate the proposed format.

#### **4-8 PhilaPort Acceptance.**

- A. Preliminary Design Submission acceptance, conditional acceptance or rejection, and instructions for further project development are issued by Owner or Owner's Representative in a letter following the review period.

#### **4-9 Minutes.**

- A. The Contractor's Retained Professional shall furnish minutes of the Preliminary Design Submission Review Conference to PhilaPort and all other attendees within one (1) week following the conference.

#### **4-10 Final Design Documents Submission.**

- A. Applicable Final Design Documents Submission are to be delivered to PhilaPort on or before the date established in the Contract or in the current approved project schedule, unless another date has been approved in writing by PhilaPort.
- B. All PhilaPort and Commonwealth comments that were generated during review of the Preliminary Design Submission must be addressed and incorporated into the final design documents.
- C. PhilaPort's approval of the Final Design Documents Submission shall be conditioned on PhilaPort's receipt of all necessary permits from the Contractor.
- D. The Contractor's Retained Professional shall develop, seal and submit UCC applications for the building permit to the PA Department of Labor & Industry.
- E. PhilaPort shall review the Final Design Documents Submission for acceptability and provide comments. PhilaPort requires the Contractor, including the Contractor's Retained Professional and representatives, to attend a review meeting.

#### **4-11 Final Design Submission Documents.**

- A. Final Design Submission Package. On the scheduled date of the Final Design Documents Submission, the Professional shall deliver the following electronic copies to PhilaPort:
  - 1. The transmittal letter with Final Design Documents Submission checklist, duly checked and filled-in as appropriate
  - 2. The Code Review and Analysis, if changed
  - 3. The Final Design Documents Submission Probable Construction Cost Summary for each Base Bid, with complete cost estimate breakdown for each additional Base Bid
  - 4. Project Specifications
  - 5. All construction drawings, including a cover sheet with index
  - 6. A report summarizing the status of all utilities required for the Project (Electric, Telephone, etc., as applicable). If applicable, provide a written estimate for the utility company's cost to extend service to the building
  - 7. The list of regulatory approvals and permits – Status Report indicating the status of the submission/review/approval process for all required approvals, with copies of all approvals/permits obtained to date
  - 8. Final engineering calculations for civil, structural and electrical computations, as applicable
  - 9. CPM schedule, with recommended number of calendar days of construction and number of days of temporary heat recommended for the Project

10. Proposed RFP for quality assurance inspection and testing services, as required during the construction stage of the project of a written explanation of any revisions requested but not made
11. Other additional items requested by the PhilaPort Engineer, or otherwise determined by the Contractor's Retained Professional to be required for the project
12. When PhilaPort has engaged a Construction Manager (CM) or a Commissioning Authority (CA), the Contractor's Retained Professional is to provide electronic copies of the Final Design Submission documents as listed above to the CM and/or CA, on the same day delivery is made PhilaPort
13. Marked-up electronic copies of the Preliminary Submission documents shall be returned.

All documents as listed above and all other such document submittals shall include the Professional Engineer seal and signature and are to also be provided electronically in .pdf format and/or other electronic format (.dwg, .doc, .xls, etc.) as PhilaPort may reasonably request. Unless otherwise instructed, provide copies on appropriate medium (CD, DVD, Memory Stick, etc.) or, as feasible and reasonable, transmit to PhilaPort electronically – both, as acceptable to PhilaPort.

#### **4-12 Return of Preliminary Design Submission Drawings.**

- A. With the Final Design Documents Submission, the Contractor's Retained Professional shall return to PhilaPort all the marked-up copies of the Preliminary Design Submission drawings, specifications and comments provided following previous review conferences. A written explanation of any revisions requested, but not made, shall accompany this submission.

#### **4-13 PhilaPort Acceptance.**

- A. Final Design Document Submission acceptance, conditional acceptance or rejection, and instructions for further project development are issued by Owner or Owner's Representative in a letter following the review period. Acceptance of the Final Design Document Submission by PhilaPort is contingent on all changes requested or required being incorporated into the Final Design Documents.

#### **4-14 Minutes.**

- A. The Contractor's Retained Professional shall furnish minutes of the Final Design Documents Submission Review Conference to PhilaPort and all other attendees within one (1) week following the conference.

#### **4-15 Uniform Construction Code (UCC).**

- A. This Project shall be subject to the Uniform Construction Code. The Contractor shall be familiar with, and adhere to the UCC, including but not limited to, permit application and site inspection requirements set forth in the Department of Labor & Industry's Inspection Procedures. The most recent information related to the UCC use by L&I can be found on L&I's website:

<http://www.dli.state.pa.gov/ucc/pages/default.aspx>

The Contractor's Retained Professional shall prepare and submit the UCC building permit application identifying all special inspections for the Project. The Contractor and its respective Subcontractors must include these inspections (to the extent that these are applicable to their scope of Work on this Project) in the Integrated Progress Schedule created pursuant to the applicable paragraph(s) in the General Conditions of the Contract and the Instructions to Bidders for the Contract.

The L&I mandated advance notice, defined for each inspection activity, shall be considered and included as lead-time in the development of the Integrated Project Schedule. The Owner assumes the responsibility of the permit applicant, as Project owner, by signing the permit application. The Contractor shall be responsible to contact the Pennsylvania Department of Labor & Industry to schedule the required inspections in accordance with the inspection procedures outlined in the building permit. The Contractor's Retained Professional shall provide independent inspection services for all special inspections listed on the approved permit application. Failure by the Contractor to do so shall not be cause for a delay claim. The original building permit, which indicates a list of the required inspections and the time frames for notifying the Department of Labor & Industry, shall be transmitted from the Contractor's Retained Professional to PhilaPort.

#### **4-16 Construction.**

- A. General Description – The general scope of work for the project includes a design-build contract for building a temperature-controlled warehouse for storage of refrigerated and frozen goods to be located in South Philadelphia at 3<sup>rd</sup> Street and Pattison Avenue. The warehouse is proposed to be approximately 175,000 square feet situated adjacent to a dry warehouse (completed in May 2022). The temperature-controlled warehouse is proposed to consist of freezer rooms and refrigerated rooms with future plans to outfit the warehouse with an automated pallet retrieval and storage racking system to be installed after project completion. The building will have a stepped roof ranging from approximately 30 feet high (loading docks) to approximately 74 feet high (freezer rooms).
- B. Once the Contractor has received written approval from all necessary authorities having jurisdiction over this Project, the Contractor shall commence Work. This approval will be issued in the form of a Notice to Proceed.
- C. The Contractor shall assume responsibility for all site conditions and measurements related to this contract and shall not submit additional invoices to PhilaPort for any costs associated with verifying site conditions and measurements. The Contractor shall provide all necessary items to achieve and satisfy the objectives of this contract. The items shall include, but not be limited to, the following:
  - Architectural and engineering design
  - Development and distribution of specifications
  - CPM Schedule identifying milestones for design, construction and testing
  - Coordination and management of construction
  - Site preparation
  - Procurement of equipment/material
  - Installation of equipment/material

- Labor
- Supervision
- Removal of demolition and construction debris
- Testing of all components and systems as applicable in the performance of this Work
- Registration and submittal of all warranties
- Reports, construction drawings, and catalog data on all equipment being provided
- Provide two bound, complete sets of all test reports, O & M manuals, and approved permits/certificates
- Provide two complete sets of as-built drawings on Mylar. These documents and all other such document submittals are to also be provided electronically in .pdf format and/or other electronic format (.dwg, .doc, .xls, etc.) as PhilaPort may reasonably request. Unless otherwise instructed, provide copies on appropriate medium (CD, DVD, Memory Stick, etc.) or, as feasible and reasonable, transmit to PhilaPort electronically both, as acceptable to PhilaPort.

D. Construction shall be performed in accordance with the provisions of the General Conditions of the Contract and will be inspected by the PhilaPort Engineer, PennDOT, representative or its respective designee.

**4-17 Commissioning and Testing.**

- A. The Contractor is responsible for the commissioning and testing of all components and systems as applicable in the performance of the Work and sequence of operation.
- B. In addition to the Contractor requirements set forth above and as required by specifications, PhilaPort reserves the right to assign an independent quality assurance agent to the Project.

**4-18 Final Inspection.**

- A. The Contractor shall request Final Inspection from PhilaPort pursuant to the terms of the General Conditions of the Contract and the Instructions to Bidders for the Contract.
- B. PhilaPort will conduct the Final Inspection and release payment pursuant to the terms of the Contract Documents.

**END OF PART 4**

**APPENDIX A**

**PROPOSAL SIGNATURE PAGE**



## APPENDIX A

### Proposal Signature – Project 23-026.1

**Proposer's Representations and Authorizations.** Proposer by signing on the signature page and submitting its proposal understands, represents, acknowledges and certifies that:

- a. All information provided by, and representations made by, the Proposer in the proposal are material and important and will be relied upon by the Proposal Evaluation Committee in reviewing the Proposal and by PhilaPort in awarding the contract. Any misrepresentation of a material fact or omission of material fact by the entity submitting the proposal shall be treated as fraudulent concealment from the Commonwealth of the true facts relating to the submission of the proposal. If the misrepresentation and/or omission of material fact is discovered during the review of the proposal, the proposal will be automatically disqualified. Discovery of the misrepresentation and/or omission of material fact after contract award constitutes grounds for defaulting the contractor and may lead to debarment procedures being instituted against the contractor. A misrepresentation shall be punishable under 18 Pa. C.S. § 4904.
- b. Proposer acknowledges that they have received, read and understood all Addenda issued for the Project.
- c. The price and amount of this proposal have been arrived at independently and without consultation, communication or agreement with any other Proposer or potential Proposer.
- d. Proposer agrees to be bound by all federal grant conditions, special conditions, and general conditions of this project.
- e. Neither the price nor the amount of the proposal, and neither the approximate price nor the approximate amount of this proposal, have been disclosed to any other firm or person who is a Proposer or potential Proposer, and they will not be disclosed on or before the proposal submission deadline specified in the Calendar of Events.
- f. No attempt has been made or will be made to induce any firm or person to refrain from submitting a proposal on this contract, or to submit a proposal higher than this proposal, or to submit any intentionally high or noncompetitive proposal or other form of complementary proposal.
- g. The proposal is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive proposal.
- h. To the best knowledge of the person signing the proposal for the Proposer, the Proposer, its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any local, state or federal governmental agency and have not in the last four (4) years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding or proposing on any public contract, except as disclosed by the Proposer in its proposal.
- i. To the best of knowledge of the person signing the proposal for the Proposer and except as otherwise disclosed by the Proposer in its proposal, the Proposer has no outstanding, delinquent obligations to Commonwealth including, but not limited to, any state tax liability not being contested on appeal or other obligation of the Proposer that is owed to Commonwealth.
- j. The Proposer is not currently under suspension or debarment by Commonwealth, or any other local, state, or the federal government. If the Proposer cannot so certify, then it shall

## APPENDIX A

### Proposal Signature – Project 23-026.1

submit along with its proposal a written explanation of why it cannot make such certification.

- k. The Proposer has not, under separate contract with PhilaPort made any recommendations to PhilaPort concerning the need for the services described in the proposal or the specifications for the services described in the proposal.
- l. Each Proposer, by submitting its proposal, authorizes all Commonwealth agencies to release to Commonwealth information related to liabilities to Commonwealth of Pennsylvania including, but not limited to, taxes, unemployment compensation, workers' compensation liabilities and Prevailing Wage Act.
- m. Until the selected Proposer receives a fully executed and approved written contract from the PhilaPort, there is no legal and valid contract in law or in equity, and the Proposer should not begin to perform work. If a Letter of Non-Prejudice has been issued, the Proposer may proceed in accordance with the terms of the Letter.
- n. Proposer is not currently engaged, and will not during the duration of the contract engage, in a boycott of a person or an entity based in or doing business with a jurisdiction which the Commonwealth is not prohibited by Congressional statute from engaging in trade or commerce; and is eligible to contract with the Commonwealth under Section 3604 of the Procurement Code.
- o. Proposer agrees and certifies to abide by, but not be limited to, the Commonwealth of Pennsylvania Acts, Provisions, Clauses, and Statements stated or incorporated by reference in the Contract Documents.
- p. Proposer agrees to the Design Build General Conditions which are provided as an Appendix to this RFP.

#### **Conflict of Interest Certification**

The Proposer, hereby certifies that, to the best of its knowledge and belief, there are no present or currently planned interests (financial, contractual, organizational, or otherwise) relating to the work to be performed under the contract or task order resulting from Request for Proposal No. 23-026.1 that would create any actual or potential conflict of interest (or apparent conflicts of interest) (including conflicts of interest for immediate family members: spouses, parents, children) that would impinge on its ability to render impartial, technically sound, and objective assistance or advice or result in it being given an unfair competitive advantage. In this clause, the term "potential conflict" means reasonably foreseeable conflict of interest. Conflicts may arise in the following situations:

**(i) Unequal access to information.** A potential contractor, subcontractor, employee, or consultant has access to non-public information through its performance on a government contract.

**(ii) Biased ground rules.** A potential contractor, subcontractor, employee, or consultant has worked, in one government contract, or program, on the basic structure or ground rules of another government contract.

**(iii) Impaired objectivity.** A potential contractor, subcontractor, employee, or consultant, or member of their immediate family (spouse, parent, or child) has financial or other interests that would impair, or give the appearance of impairing, impartial judgment in the evaluation of government programs, in offering advice or recommendations to the government, or in providing technical assistance or other services to recipients of Federal funds as part of its

**APPENDIX A**

**Proposal Signature – Project 23-026.1**

contractual responsibility. “Impaired objectivity” includes but is not limited to the following situations that would cause a reasonable person with knowledge of the relevant facts to question a person's objectivity:

- (A) Financial interests or reasonably foreseeable financial interests in or in connection with products, property, or services that may be purchased by an educational agency, a person, organization, or institution in the course of implementing any program administered by the Department;
- (B) Significant connections to teaching methodologies or approaches that might require or encourage the use of specific products, property, or services; or
- (C) Significant identification with pedagogical or philosophical viewpoints that might require or encourage the use of a specific curriculum, specific products, property, or services.

In the event a proposer is unable to so certify, the proposer shall provide a statement with its offer which describes, in a concise manner, all relevant facts concerning any past, present, or currently planned interest (financial, contractual, organizational, or otherwise) or actual or potential organizational conflicts of interest relating to the services to be provided under this solicitation. The proposer shall also provide statements with its offer containing the same information for any consultants and subcontractors identified in its proposal and which will provide services under the solicitation. The proposer may also provide relevant facts that show how its organizational and/or management system or other actions would avoid or mitigate any actual or potential organizational conflicts of interest. Proposers must provide this disclosure on any actual or potential conflict of interest (or apparent conflict of interest) regardless of their opinion that such a conflict or potential conflict (or apparent conflict of interest) would not impair their objectivity.

Based on this information and any other information solicited or obtained by the contracting officer, the contracting officer may determine that an organizational conflict of interest exists which would warrant disqualifying the contractor for award of the contract unless the organizational conflict of interest can be mitigated to the contracting officer's satisfaction by negotiating terms and conditions of the contract to that effect.

**Affiliated Entities**

Provide in the space below a list of all entities made part of your proposed project team that are affiliated with the DBC submitting the proposal:

<b>Affiliate Name</b>	<b>Affiliate Type</b>

**APPENDIX A**  
**Proposal Signature – Project 23-026.1**

I am authorized to sign this proposal on behalf of the Proposer and I agree and state that \_\_\_\_\_ (Name of Firm) understands and acknowledges that the above representations are material and important, and will be relied upon by the Philadelphia Regional Port Authority in awarding the contract(s) for which this proposal is submitted. I understand and my firm understands that any misstatement shall be treated as fraudulent concealment from the Philadelphia Regional Port Authority of the true facts relating to the submission of this proposal, punishable pursuant to 18 Pa. C.S. § 4904.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Company

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

Project Number: 23-026.1

\_\_\_\_\_  
Title

Federal Tax Identification No: \_\_\_\_\_

PA Vendor Data Management Unit No: \_\_\_\_\_

Federal SAM.gov Unique Entity ID: \_\_\_\_\_

Entity Point of Contact:

Name: \_\_\_\_\_

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

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

**APPENDIX B**  
**NON COLLUSION AFFIDAVIT**

## **APPENDIX B**

### **NON-COLLUSION AFFIDAVIT**

#### **INSTRUCTIONS FOR NON-COLLUSION AFFIDAVIT**

1. This Non-collusion Affidavit is material to any contract awarded pursuant to this proposal. According to §4507 of the Commonwealth Procurement Code, 62 Pa.C.S. §4507, governmental agencies may require Non-collusion Affidavits to be submitted with proposals.
2. This Non-collusion Affidavit must be executed by the member, officer, or employee of the Proposer who makes the final decision on prices and the amount quoted in the proposal.
3. Bid rigging and other efforts to restrain competition, and the making of false sworn statements in connection with the submission of proposals are unlawful and may be subject to criminal prosecution. The person who signs the affidavit should examine it carefully before signing and assure himself or herself that each statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the Proposer with responsibilities for the preparation, approval or submission of the proposal.
4. In the case of a proposal submitted by a joint venture, each party to the venture must be identified in the proposal documents and an affidavit must be submitted separately on behalf of each party to the joint venture.
5. The term “complementary proposal” as used in the affidavit has the meaning commonly associated with that term in the proposal process, and includes the knowing submission of proposals higher than the proposal of another firm, any intentionally high or noncompetitive proposal, and any other form of proposal submitted for the purpose of giving a false appearance of competition.
6. Failure to submit a Non-collusion affidavit with the Proposal in compliance with these instructions may result in disqualification of the proposal.

**NON-COLLUSION AFFIDAVIT**

PhilaPort Project Number: 23-026.1

State of \_\_\_\_\_:

County of \_\_\_\_\_: s.s.

I state that I am the \_\_\_\_\_ (Title) of \_\_\_\_\_ (Name of Firm) and that I am authorized to make this affidavit on behalf of my firm, and its owners, directors, and officers. I am the person responsible in my firm for the prices(s) and the amount of this proposal.

I state that:

1. The price(s) and amount of this proposal have been arrived at independently and without consultation, communication or agreement with any other contractor, proposer, or potential proposer.
2. Neither the price(s) nor the amount of this proposal, and neither the approximate price(s) nor approximate amount of this proposal, have been disclosed to any other firm or person who is a proposer or potential proposer, and they will not be disclosed before the proposal submission date.
3. No attempt has been made or will be made to induce any firm or person to refrain from proposing on this contract, or to submit a proposal higher than this proposal, or to submit any intentionally high or noncompetitive proposal or other form of complementary proposal.
4. The proposal of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive proposal.
5. \_\_\_\_\_ (Name of Firm) its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any governmental agency and have not in the last three years been convicted or found liable for any act prohibited by state or federal law in any jurisdiction, involving conspiracy or collusion with respect to proposing and/or bidding on any public contract, except as follows:  
\_\_\_\_\_

I state that \_\_\_\_\_ (Name of Firm) understands and acknowledges that the above representations are material and important, and will be relied upon by the Philadelphia Regional Port Authority in awarding the contract(s) for which this proposal is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from the Philadelphia Regional Port Authority of the true facts relating to the submission of this proposal.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Signatory's Printed Name)

SWORN TO AND SUBSCRIBED  
BEFORE ME THIS \_\_\_\_\_ DAY OF  
\_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_

Notary Public

\_\_\_\_\_  
(Signatory's Title)      My Commission Expires: \_\_\_\_\_



**APPENDIX C**

**PRICE SUBMISSION FORM**

## APPENDIX C

### PRICE SUBMITTAL FORM

*Submit as a separate part of the proposal submission, keep separate from the Technical and DBE Submissions*

**In conformity with the RFP and after examination of the site and all contract documents, which are made a part hereof as if fully set forth herein, the undersigned submits this Price submission.**

#### Instructions and Requirements:

1. The Submittal Form shall indicate a lump sum price to complete the scope of Contract Work for each bid item required for this RFP, as well as any add alternates contained within the Price Submittal Form.
2. All base bids will be considered as separate and distinct bids. If a base bid is left blank, PhilaPort will interpret this to mean the bidder did not submit a bid on that base bid, but will not invalidate any other base bid(s).
3. PhilaPort does not permit bidders to submit alternate pricing. **Any attempt to submit alternate base bids other than as requested by this Price Submittal Form will result in rejection of the proposal as non-responsive.**
4. If Proposer is awarded the Contract, Proposer hereby agrees to execute the Design-Build Construction Contract and furnish the Contract Bond, on the form incorporated in the Contract Documents, in the amount of 100% of the contract price within ten (10) days after receipt of the contract from PhilaPort. The Contract Bond must be executed on the form located in Appendix N. PhilaPort reserves the right to request proof of payment to the surety.

**It is understood that if work is not completed within the time period set forth in this RFP and resulting contract, or any such extension of that time, the Design-Build Contractor shall pay PhilaPort as liquidated damages and not as a penalty for such failure, the amount stipulated in the General Conditions per day for each and every calendar day thereafter until such work is completed and accepted.**

**23-026.1 Design Build Temperature Controlled Warehouse  
Appendix C – Price Submittal Form**

**BASE BID:**

<b>Item No.</b>	<b>Description</b>	<b>Bid Quantity</b>	<b>Price</b>
1	Engineering/ Design	LS	
2	Substructure	LS	
3	Shell	LS	
4	Interiors	LS	
5	Building Systems (Mechanical/ electrical/ programming/ etc.)	LS	
6	Sitework	LS	
7	General Conditions	LS	
	Total Base Bid Price: (sum of pricing for items 1-7)		

**ADD ALTERNATES:**

<b>Item No.</b>	<b>Description</b>	<b>Bid Quantity</b>	<b>Price</b>
Add-1	Full Temperature Swing of all Refrigerated and Freezer Rooms (-5°F to 60°F)	LS	

**APPENDIX D**

**LIST OF KNOWN SUBCONTRACTORS  
(at time of proposal submission)**



**APPENDIX E**

**DIVERSITY INCLUSION**

**DBE PARTICIPATION AND SUBMISSION FORM**

**THE DIVERSITY AND INCLUSION GOAL FOR THIS PROJECT HAS BEEN SET TO 20%  
DBE AND IS APPLICABLE TO THE ENTIRE CONTRACT VALUE.**

**DBE-1**  
**INSTRUCTIONS FOR COMPLETING THE SMALL DIVERSE BUSINESS (DBE) PARTICIPATION**  
**SUBMISSION**

**APPENDIX E**

**DBE PARTICIPATION SUBMISSION**

***READ BEFORE COMPLETING THESE DOCUMENTS***

**THE DIVERSITY AND INCLUSION GOAL FOR THIS PROJECT HAS BEEN SET TO**  
**20% DBE AND IS APPLICABLE TO THE ENTIRE CONTRACT VALUE.**

The following instructions include details for completing the DBE Participation Submittal which Bidders or Proposers must submit in order to be considered responsive.

This form also includes instructions for completing the DBE Listing, which Bidders or Proposers must submit for any portion of the DBE participation goal the Bidder or Proposer commits to meeting.

Bidder/Proposer shall attempt to achieve the DBE participation goal set forth in the **DBE Participation Summary Sheet**. Bidder/Proposer agrees to exercise Good Faith Efforts to carry out the requirements set forth in these Instructions.

**I. DBE Participation Goal:** The DBE participation goal is set forth in the **DBE Participation Summary Sheet**. The Bidder/Proposer is encouraged to use a diverse group of subcontractors and suppliers from the DBE classifications to meet the DBE participation goal.

**II. DBE Eligibility:**

Finding DBE firms: **Unified Certification Program (UCP)**

Visit: <https://paucp.dbesystem.com/>

Every state has its own Unified Certification Program. The above links to the Pennsylvania Unified Certification Program. PhilaPort will accept certifications from any state's Unified Certification Program.

**III. DBE Proposer:**

1. Participation by DBE firms as prime bidders/Proposers or subcontractors. A Bidder/Proposer that qualifies as a DBE and submits a bid or proposal as a prime contractor is not prohibited from being included as a subcontractor in separate proposals submitted by other Bidders/Proposers. A DBE may be included as a subcontractor with as many prime contractors as it chooses in separate bids or proposals.
2. Questions about DBE verification. Questions regarding the DBE program can be directed to:

**DBE-1**  
**INSTRUCTIONS FOR COMPLETING THE SMALL DIVERSE BUSINESS (DBE) PARTICIPATION**  
**SUBMISSION**

Kate Bailey  
PhilaPort  
3460 North Delaware Avenue  
2nd Floor  
Philadelphia, PA 19134  
Phone: (215)426-2600  
Email: [procurement@philaport.com](mailto:procurement@philaport.com)

**IV. Guidelines Regarding DBE Prime Self-Performance.**

1. A DBE firm participating as a prime bidder or Proposer on a procurement may receive credit towards the DBE Participation goal established for the procurement through their own self-performance.

*Example: A solicitation has a 20% DBE participation goal. A DBE prime Proposer self-performing only 10% of the work on the contract (if permitted by the solicitation documents) must still satisfy the remaining 10% DBE participation goal through subcontracting or must request a Good Faith Efforts Waiver for the unmet DBE and VBE participation goals.*

2. For a DBE prime bidder or Proposer to receive credit for self-performance, the DBE prime bidder or Proposer must be a **UCP certified** DBE as of the solicitation due date and time and must list itself in the **DBE Listing**.
3. The DBE prime bidder or Proposer must also include the classification category (DBE) under which it is self-performing and include information regarding the work it will self-perform. For any portion of the DBE participation goal not met through the DBE prime bidder or Proposer's self-performance, the DBE bidder or Proposer must also identify on the **DBE Listing** the portion of the DBE participation goal that will be performed by DBE subcontractors, manufacturers, or suppliers it will use to meet the unmet portion of the goal or must request a Good Faith Efforts waiver.

**V. Calculating DBE participation during compliance.** PhilaPort will credit the selected Proposer for DBE participation as follows:

1. DBE subcontractors. A DBE subcontractor, through its own employees, shall perform at least 50% of the amount of the subcontract. 100% of the total subcontract amount shall be counted towards the DBE participation goal, unless the DBE subcontractor is performing one of the functions listed in paragraphs 3-4 below.
2. DBE manufacturers. A DBE manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles or equipment required under the contract and of the general character described by the specifications. 100% of the total cost of the materials or supplies purchased from the DBE manufacturer shall be counted towards the DBE participation goal.



**DBE-1**  
**INSTRUCTIONS FOR COMPLETING THE SMALL DIVERSE BUSINESS (DBE) PARTICIPATION**  
**SUBMISSION**

3. **DBE stocking suppliers.** A DBE stocking supplier is a firm that owns, operates or maintains a store, warehouse or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock and regularly sold or leased to the public in the usual course of business. 60% of the total cost of the materials or supplies purchased from the DBE stocking supplier shall be counted towards the DBE participation goal.

*Example for illustrative purposes of applying the 60% rule:*

*Overall contract value: \$2,000,000*

*Total value of supplies: \$100,000*

***Apply 60% Rule: \$100,000 x 60% = \$60,000***

***Divide 60% Rule result by contract value: \$60,000/\$2,000,000 = 3%***

*In this example, 3% would be counted towards the DBE participation goal for the DBE supplier.*

4. **DBE nonstocking suppliers.** A DBE nonstocking supplier is credited at only the amount of the fee or commission charged by the DBE nonstocking supplier for assistance in the procurement of the materials and supplies, provided that the fees or commissions are reasonable and not excessive as compared with fees customarily allowed for similar services, and with the understanding that under no circumstances shall the credit for a DBE nonstocking supplier exceed 10 percent of the purchase order cost. A nonstocking supplier does not carry inventory but orders materials from a manufacturer, manufacturer's representative, or a stocking supplier. In order for a nonstocking supplier to receive credit, it must perform a useful business function by engaging in meaningful work (i.e., negotiating price; AND determining quality and quantity; AND ordering materials; AND paying for the materials) and the fee or commission must be provided with the purchase order and the Utilization Report. Industry practices and other relevant factors will be considered.

## **VI. Document Submittal Errors.**

1. **Fatal errors.** The following errors will result in rejection of a bid or proposal as non-responsive:
- a. Failure to submit a completed **DBE Participation Submittal**;
  - b. Failure to submit a DBE **Listing**, unless the bidder or offer is seeking a complete Good Faith Efforts waiver;
  - c. Failure to submit a **Good Faith Efforts waiver request** when not meeting, in full, the DBE participation goal.

**DBE-1**  
**INSTRUCTIONS FOR COMPLETING THE SMALL DIVERSE BUSINESS (DBE) PARTICIPATION**  
**SUBMISSION**

- 2. Potentially curable errors.** PhilaPort will provide Bidders or Proposers 72 hours to provide clarifications or to correct errors not listed as fatal errors above. In the event that the additionally submitted information does not adequately address the error, the bid or proposal is subject to rejection. **Bidders or Proposers are not permitted to make material changes during clarifications and corrections in order to meet the DBE Participation Goal.**

**DBE-2**  
**DBE PARTICIPATION SUBMISSION**

CHECK ONE, AND ONLY ONE, BOX. FAILURE TO SUBMIT A COMPLETED DBE PARTICIPATION SUBMITTAL WILL RESULT IN REJECTION OF YOUR BID/PROPOSAL.

**I agree to meet or exceed the DBE participation goal in full.**

I have completed and am submitting with my bid or proposal a **DBE Listing**, which is required in order to be considered for award.

**I am requesting a partial waiver of the DBE participation goal.**

After making good faith outreach efforts as more fully described in the **Guidance for Documenting Good Faith Efforts to Meet the DBE Participation Goal**, I am unable to achieve the total DBE participation goal for this solicitation and am requesting a partial waiver of the DBE participation goal.

I have completed and am submitting with my bid or proposal both of the following, which are required in order to be considered for award:

1. a **DBE Listing** for that portion of the DBE participation goal for which I intend to meet; AND
2. a **Good Faith Efforts Waiver Request** for any portion of the DBE participation goals that I do not intend to meet.

**I am requesting a full waiver of the DBE participation goal**

After making good faith outreach efforts as more fully described in the **Guidance for Documenting Good Faith Efforts to Meet the DBE Participation Goal**, I am unable to achieve any part of the DBE participation goal for this solicitation and am requesting a full waiver of the DBE participation goal.

I have completed and am submitting with my bid or proposal a **Good Faith Efforts Waiver Request** for the complete DBE participation goal, which is required in order to be considered for award.

NOTE: DBE primes who are submitting as bidders or Proposers must complete a **DBE Listing** identifying any self-performance towards the DBE participation goal.

DBE-3 DBE LISTING

**If the Prime Bidder/Proposer is a UCP certified DBE, submit a copy of Prime Bidder's UCP DBE Certificate with DBE Listing and complete the following:**

SAP Vendor Number (6-digit number): \_\_\_\_\_

UCP DBE Certification Number (DBE certificate): \_\_\_\_\_

Description of Work to be Performed (Statement of Work/Specification reference): \_\_\_\_\_

% of work to be self-performed by DBE bidder/Proposer: % \_\_\_\_\_

Associated dollar value of work to be self-performed by DBE bidder/Proposer: \$ \_\_\_\_\_

**DBE participation goal to be met through the use of DBE subcontractors, suppliers, or manufacturers:** Bidders/Proposers are not required to identify the specific DBE subcontractors, suppliers, or manufacturers within this DBE Listing. However, the selected bidder/Proposer must submit Utilization Reports identifying the DBE subcontractors, suppliers, or manufacturers used to meet the portion of the DBE participation goal listed below. To receive credit toward meeting the DBE participation goal, the DBE subcontractor, manufacturer, or supplier must be a certified DBE through the UCP as of the date the work to be performed by the DBE has commenced.

% of work to be performed by DBE subcontractors, suppliers, or manufacturers: % \_\_\_\_\_

Associated dollar value of work to be performed by DBE subcontractors, suppliers, or manufacturers: \$ \_\_\_\_\_

**DBE-4**  
**GUIDANCE FOR DOCUMENTING GOOD FAITH EFFORTS TO MEET THE SMALL DIVERSE BUSINESS (DBE) PARTICIPATION GOAL**

In order to show that the Bidder/Proposer has made Good Faith Efforts to meet the DBE participation goal on a solicitation, the Proposer must either (1) meet the DBE participation goal and document its commitments for participation of DBE firms, or (2) when it does not meet the DBE participation goal, submit a Good Faith Efforts waiver request as set forth in Section IV below and the Good Faith Efforts Documentation to Support Waiver Request of DBE Participation Goal.

## **I. Definitions**

**DBE participation goal** – “DBE participation goal” refers to the DBE participation goal set for a procurement for DBE utilization.

**Good Faith Efforts** - The “Good Faith Efforts” requirement means that when requesting a waiver, the Proposer must demonstrate that it took all necessary and reasonable steps to achieve the DBE participation goal. Those steps are considered necessary and reasonable when their scope, intensity, and relevance could reasonably be expected to obtain sufficient DBE participation, even if those steps were not fully successful. PhilaPort will determine whether or not the Proposer that requests a Good Faith Efforts waiver made adequate Good Faith Efforts by considering the quality, quantity, and intensity of the Proposer’s efforts. Mere *pro forma* efforts are not Good Faith Efforts to meet the DBE participation requirements. The determination concerning the sufficiency of the Proposer's Good Faith Efforts is subjective; meeting quantitative formulas is not required.

**Identified Items of Work** – all of the items of work the Proposer identified as possible items of work for performance by DBEs and should include all reasonably identifiable work opportunities.

**Identified DBEs**– all of the DBEs the Proposer identified as available to perform the Identified Items of Work and should include all UCP certified DBEs that are reasonably identifiable.

**Proposer** – for purposes of this **Good Faith Efforts Documentation to Support Waiver Request**, the term “Proposer” includes any entity responding to a solicitation, including invitations for bids, requests for proposals, and other types of best value solicitations.

**DBE** – “DBE” refers to Disadvantaged Business Enterprises certified by Unified Certification Program (UCP).

## **II. Types of Actions PhilaPort will Consider**

The following is a list of types of actions PhilaPort will consider as part of the Proposer's Good Faith Efforts when the Proposer fails to meet, in full, the DBE participation goal. This list is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

### **A. Identify Proposal Items as Work for DBEs**

1. Identified Items of Work
  - (a) Proposers should reasonably identify sufficient items of work to be performed by DBEs.

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- (b) Where appropriate, Proposers should break out contract work items into economically feasible units to facilitate DBE participation, rather than perform these work items with their own forces. **The ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the Proposer of the responsibility to make Good Faith Efforts to meet the DBE participation goal.**

**B. Identify DBEs to Solicit**

1. Identified DBEs
  - (a) Proposers should reasonably identify the DBEs that are available to perform the Identified Items of Work.
  - (b) Any DBEs identified as available by the Proposer should be certified to perform the Identified Items of Work.

**C. Solicit DBEs**

1. Solicit all Identified DBEs for all Identified Items of Work by providing written notice. The Proposer should:
  - (a) provide the written solicitation to the Identified DBEs at least 10 days prior to Bid or Proposal due date to allow sufficient time for the Identified DBE to respond;
  - (b) send the written solicitation by first-class mail, facsimile, or e-mail; and
  - (c) provide adequate information about the plans, specifications, anticipated time schedule for portions of the work to be performed by the Identified DBE, and other requirements of the contract to assist Identified DBEs in responding. (This information may be provided by including hard copies in the written solicitation or by electronic means as described in C.3 below.)
2. “All” Identified DBEs includes any DBE Firms the Proposer identifies as potentially available to perform the Identified Items of Work, but it does not include Identified DBEs who are no longer certified to perform the work as of the date the Proposer provides written solicitations.
3. “Electronic Means” includes, for example, information provided *via* a website or file transfer protocol (FTP) site containing the plans, specifications, and other requirements of the contract. If an interested DBE cannot access the information provided by electronic means, the Proposer must make the information available in a manner that is accessible to the interested DBE.
4. Follow up on initial written solicitations by contacting Identified DBEs to determine their interest in bidding. The follow up contact may be made:
  - (a) by telephone; or

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**GUIDANCE FOR DOCUMENTING GOOD FAITH EFFORTS TO MEET THE SMALL DIVERSE BUSINESS (DBE) PARTICIPATION GOAL**

- (b) in writing *via* a method that differs from the method used for the initial written solicitation.
5. In addition to the written solicitation set forth in C.1 and the follow up required in C.4, use all other reasonable and available means to solicit the interest of Identified DBEs certified to perform the work of the contract. Examples of other means include:
- (a) attending any Supplier Forums, or Pre-Proposal or Pre-Bid conferences at which DBEs could be informed of contracting and subcontracting opportunities; and
  - (b) if recommended by the procurement, advertising with or effectively using the services of at least two diversity-focused entities or media, including trade associations, minority/women community organizations, minority/women contractors' groups, and local, state, and federal minority/women business assistance offices.

**D. Negotiate with Interested DBEs**

Proposers must negotiate in good faith with interested DBEs.

1. Evidence of negotiation includes, without limitation, the following:
  - (a) the names, addresses, and telephone numbers of DBEs that were considered;
  - (b) a description of the information provided regarding the plans and specifications for the work selected for subcontracting and the means used to provide that information; and
  - (c) evidence as to why additional agreements could not be reached for DBEs to perform the work.
2. In negotiating with subcontractors, the Proposer should consider a firm's price and capabilities as well as the DBE participation goal.
3. Additional costs incurred in finding and using DBEs are not sufficient justification for the Proposer's failure to meet the DBE participation goal, as long as such costs are reasonable. Factors to take into consideration when determining whether a DBE's quote is excessive or unreasonable include, without limitation, the following:
  - (a) dollar difference between the DBE subcontractor's quote and the average of other subcontractors' quotes received by the Proposer;
  - (b) percentage difference between the DBE subcontractor's quote and the average of other subcontractors' quotes received by the Proposer;
  - (c) percentage that the DBE subcontractor's quote represents of the overall contract amount;
  - (d) whether the work described in the DBE and Non-DBE subcontractor quotes (or portions thereof) submitted for review is the same or comparable; and

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**GUIDANCE FOR DOCUMENTING GOOD FAITH EFFORTS TO MEET THE SMALL DIVERSE BUSINESS (DBE) PARTICIPATION GOAL**

- (e) number of quotes received by the Proposer for that portion of the work.
- 4. The factors in paragraph 3 above are not intended to be mandatory, exclusive, or exhaustive, and other evidence of an excessive or unreasonable price may be relevant.
- 5. The Proposer may not use its price for self-performing work as a basis for rejecting a DBE's quote as excessive or unreasonable.
- 6. The "average of the other subcontractors' quotes received" by the Proposer refers to the average of the quotes received from all subcontractors. Proposer should attempt to receive quotes from at least three subcontractors, including one quote from a DBE and one quote from a non-DBE.
- 7. The Proposer shall not reject a DBE as unqualified without sound justification based on a thorough investigation of the firm's capabilities. For each DBE that is rejected as unqualified or that placed a subcontract quotation or offer that the Proposer concludes is not acceptable, the Proposer must provide a written detailed statement outlining the justification for this conclusion. The Proposer also must document the steps taken to verify the capabilities of the DBE and non-DBE Firms quoting similar work.
  - (a) The factors to take into consideration when assessing the capabilities of a DBE include, but are not limited to the following: financial capability, physical capacity to perform, available personnel and equipment, existing workload, experience performing the type of work, conduct and performance in previous contracts, and ability to meet reasonable contract requirements.
  - (b) The DBE's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of Proposals in the efforts to meet the DBE participation goal.

**E. Assisting Interested DBEs**

When appropriate under the circumstances, PhilaPort will consider whether the Proposer made reasonable efforts to assist interested DBEs in obtaining:

1. The bonding, lines of credit, or insurance required by the procuring agency or the Proposer;  
and
2. Necessary equipment, supplies, materials, or related assistance or services.

**III. Other Considerations**

In making a determination of Good Faith Efforts, PhilaPort may consider engineering estimates, catalogue prices, general market availability and availability of certified DBEs in the area in which the work is to be performed, other Proposals or offers and subcontract Proposals or offers substantiating significant variances between DBE and non-DBE costs of participation, and their impact on the overall cost of the contract to the Commonwealth and any other relevant factors.



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PhilaPort may consider whether the Proposer decided to self-perform subcontract work with its own forces. PhilaPort also may consider the performance of other Proposers in meeting the DBE participation goal. For example, when the apparent successful Proposer fails to meet the DBE participation goal, but others meet it, this raises the question of whether, with additional reasonable efforts, the apparent successful Proposer could have met the DBE participation goal. If the apparent successful Proposer fails to meet the DBE participation goal but meets or exceeds the average DBE participation obtained by other Proposers, this, when viewed in conjunction with other factors, could be evidence of the apparent successful Proposer having made Good Faith Efforts.

#### **IV. Documenting Good Faith Efforts**

At a minimum, the Proposer seeking a Good Faith Efforts waiver of the DBE participation goal or a portion thereof must provide written documentation of its Good Faith Efforts along with its bid or proposal. The written documentation shall include the following:

**A. Items of Work (complete DBE 5, Part 1 – Identified Items of Work Proposer Made Available to DBEs)**

A detailed statement of the efforts made to select portions of the work proposed to be performed by DBEs in order to increase the likelihood of achieving the DBE participation goal.

**B. Outreach/Solicitation/Negotiation**

1. A detailed statement of the efforts made to contact and negotiate with DBEs including:
  - (a) the names, addresses, and telephone numbers of the DBEs who were contacted, with the dates and manner of contacts (letter, fax, e-mail, telephone, etc.) **(complete DBE 5, Part 2 – Identified DBE Firms and Records of Solicitations. Include letters, fax cover sheets, e-mails, etc. documenting solicitations);** and
  - (b) a description of the information provided to DBEs regarding the plans, specifications, and anticipated time schedule for portions of the work to be performed and the means used to provide that information.
2. The record of the Proposer's compliance with the outreach efforts set forth in **DBE 5, Part 3 - Outreach Efforts Compliance Statement.**

**C. Rejected DBEs (complete DBE 5, Part 4 - Additional Information Regarding Rejected DBE Quotes)**

1. For each DBE that the Proposer concludes is not acceptable or qualified, a detailed statement of the reasons for the Proposer's conclusion, including the steps taken to verify the capabilities of the DBE and non-DBE firms quoting similar work.

**D. For each DBE that the Proposer concludes has provided an excessive or unreasonable price, a detailed statement of the reasons for the Proposer's conclusion, including the quotes received from all DBE and non-DBE firms proposing on the same or comparable work. (Include copies of all quotes received.) Unavailable DBEs (complete DBE 5, Part 5 – DBE Subcontractor Unavailability Certificate)**

1. **For each DBE that the Proposer contacted but found to be unavailable, submit a DBE**

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**GUIDANCE FOR DOCUMENTING GOOD FAITH EFFORTS TO MEET THE SMALL DIVERSE BUSINESS (DBE)  
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**Subcontractor Unavailability Certificate** signed by the DBE, an email from the DBE indicating the DBE is unavailable, or a statement from the Proposer that the DBE refused to sign the DBE Subcontractor Unavailability Certificate.

**E. Other Documentation**

1. Submit any other documentation requested by PhilaPort to ascertain the Proposer's Good Faith Efforts.
2. Submit any other documentation the Proposer believes will help PhilaPort ascertain its Good Faith Efforts.

**DBE-5**  
**GOOD FAITH EFFORTS DOCUMENTATION TO SUPPORT WAIVER REQUEST OF DBE PARTICIPATION GOAL**

<b>Project Description:</b>	
<b>Solicitation #:</b>	
<b>Solicitation Due Date and Time:</b>	

<b>Bidder/Proposer Company Name:</b>	
Bidder/Proposer Contact Name:	
Bidder/Proposer Contact Email:	
Bidder/Proposer Contact Phone Number:	

**Part 1 – Identified Items of Work Proposer Made Available to DBEs**

Identify those items of work that the Proposer made available to DBEs. This includes, where appropriate, those items the Proposer identified and subdivided into economically feasible units to facilitate the DBE participation. For each item listed, show the anticipated percentage of the total contract amount. It is the Proposer’s responsibility to demonstrate that enough work to meet the DBE participation goal was made available to DBEs, and the total percentage of the items of work identified for DBE participation met or exceeded the DBE participation goal set for the procurement.

Identified Items of Work	Was this work listed in the solicitation?	Does Offeror normally self-perform this work?	Was this work made available to DBE Firms? If not, explain why.
	Yes    No <input type="checkbox"/> <input type="checkbox"/>	Yes    No <input type="checkbox"/> <input type="checkbox"/>	Yes    No <input type="checkbox"/> <input type="checkbox"/>
	Yes    No <input type="checkbox"/> <input type="checkbox"/>	Yes    No <input type="checkbox"/> <input type="checkbox"/>	Yes    No <input type="checkbox"/> <input type="checkbox"/>
	Yes    No <input type="checkbox"/> <input type="checkbox"/>	Yes    No <input type="checkbox"/> <input type="checkbox"/>	Yes    No <input type="checkbox"/> <input type="checkbox"/>
	Yes    No <input type="checkbox"/> <input type="checkbox"/>	Yes    No <input type="checkbox"/> <input type="checkbox"/>	Yes    No <input type="checkbox"/> <input type="checkbox"/>
	Yes    No <input type="checkbox"/> <input type="checkbox"/>	Yes    No <input type="checkbox"/> <input type="checkbox"/>	Yes    No <input type="checkbox"/> <input type="checkbox"/>

Attach additional sheets if necessary.

GOOD FAITH EFFORTS DOCUMENTATION TO SUPPORT WAIVER REQUEST OF DBE PARTICIPATION GOAL

**Part 2 – Identified DBEs and Record of Solicitations**

Identify the DBEs solicited to provide quotes for the Identified Items of Work made available for DBE participation. Include the name of the DBE solicited, items of work for which quotes were solicited, date and manner of initial and follow-up solicitations, whether the DBE provided a quote, and whether the DBE is being used toward meeting the DBE participation goal.

Note: Copies of all written solicitations and documentation of follow-up calls to DBEs must be attached to this form. For each Identified DBE listed below, Proposer should submit a DBE Subcontractor Unavailability Certificate signed by the DBE or a statement from the Proposer that the DBE refused to sign the DBE Subcontractor Unavailability Certificate.

Name of Identified DBE and Classification	Describe Item of Work Solicited	Initial Solicitation Date & Method	Follow-up Solicitation Date & Method	Details for Follow-up Calls	Quote Received?	Quote Used?	Reason Quote Rejected
DBE Name:		Date: <input type="checkbox"/> mail <input type="checkbox"/> email <input type="checkbox"/> fax	Date: <input type="checkbox"/> mail <input type="checkbox"/> email <input type="checkbox"/> fax	Date and Time of Call:  Spoke with:  Left Message:	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> Used other DBE <input type="checkbox"/> Used non-DBE <input type="checkbox"/> Self performing
DBE Name:		Date: <input type="checkbox"/> mail <input type="checkbox"/> email <input type="checkbox"/> fax	Date: <input type="checkbox"/> mail <input type="checkbox"/> email <input type="checkbox"/> fax	Date and Time of Call:  Spoke with:  Left Message:	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> Used other DBE <input type="checkbox"/> Used non-DBE <input type="checkbox"/> Self performing

Attach additional sheets as necessary.

**Part 3 – DBE Outreach Compliance Statement**

- 1. List the Identified Items of Work (subcontracting opportunities) for the solicitation along with specific work categories:**

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- 2. Attach to this form copies of written solicitations (with Bid or Proposal instructions) used to solicit Identified DBEs for these subcontract opportunities.**

- 3. Proposer made the following attempts to personally contact the Identified DBEs:**

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- 4. Bonding Requirements (Please Check One):**

- This project does not involve bonding requirements.
- Proposer assisted Identified DBEs to fulfill or seek waiver of bonding requirements.  
(DESCRIBE EFFORTS):

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- 5. Pre-Bid/Proposal Conference or Supplier Forum (Please Check One):**

- Proposer did attend the pre-Bid/Proposal conference or Supplier Forum
- No pre-Bid/Proposal conference or Supplier Forum was held
- Proposer did not attend the pre-Bid/Proposal conference or Supplier Forum

GOOD FAITH EFFORTS DOCUMENTATION TO SUPPORT WAIVER REQUEST OF DBE PARTICIPATION GOAL

**Part 4 – Additional Information Regarding Rejected DBE Quotes**

This form must be completed if Part 2 indicates that a DBE quote was rejected because the Proposer is using a non-DBE or is self-performing the Identified Items of Work. List the Identified Items Work, indicate whether the work will be self-performed or performed by a non-DBE, and if applicable, state the name of the non-DBE firm. Also include the names of all DBEs and non-DBE firms that provided a quote and the amount of each quote.

Describe Identified Items of Work not being performed by DBEs (include specific section from bid or proposal)	Self-performing or using non-DBE (provide name of non-DBE if applicable)	Amount of non-DBE quote	Name of other firms that provided quotes and whether they are DBE	Amount quoted	Reason why DBE quote was rejected along with brief explanation
	<input type="checkbox"/> self-performing <input type="checkbox"/> using Non-DBE Name: _____	\$	_____ DBE _____ Non-DBE	\$	<input type="checkbox"/> price <input type="checkbox"/> capabilities <input type="checkbox"/> other
	<input type="checkbox"/> self-performing <input type="checkbox"/> using Non-DBE Name: _____	\$	_____ DBE _____ Non-DBE	\$	<input type="checkbox"/> price <input type="checkbox"/> capabilities <input type="checkbox"/> other
	<input type="checkbox"/> self-performing <input type="checkbox"/> using Non-DBE Name: _____	\$	_____ DBE _____ Non-DBE	\$	<input type="checkbox"/> price <input type="checkbox"/> capabilities <input type="checkbox"/> other
	<input type="checkbox"/> self-performing <input type="checkbox"/> using Non-DBE Name: _____	\$	_____ DBE _____ Non-DBE	\$	<input type="checkbox"/> price <input type="checkbox"/> capabilities <input type="checkbox"/> other
	<input type="checkbox"/> self-performing <input type="checkbox"/> using Non-DBE Name: _____	\$	_____ DBE _____ Non-DBE	\$	<input type="checkbox"/> price <input type="checkbox"/> capabilities <input type="checkbox"/> other

Attach additional sheets as necessary.

**DBE-5  
GOOD FAITH EFFORTS DOCUMENTATION TO SUPPORT WAIVER REQUEST OF DBE PARTICIPATION  
GOAL**

**Part 5 – DBE Subcontractor Unavailability Certificate**

1. It is hereby certified that the firm of \_\_\_\_\_  
(Name of DBE)

located at \_\_\_\_\_  
(Number) (Street)

\_\_\_\_\_  
(City) (State) (Zip)

was offered an opportunity to bid on Solicitation No. \_\_\_\_\_

by \_\_\_\_\_  
(Name of Prime Contractor's Firm)

\*\*\*\*\*

2. \_\_\_\_\_(DBE), is either unavailable for the work/service or  
unable to prepare a Proposal for this project for the following reason(s):

\_\_\_\_\_

\_\_\_\_\_  
(Signature of DBE's Representative) (Title) (Date)

\_\_\_\_\_  
(UPC DBE Certification #) (Telephone #)

\*\*\*\*\*

3. If the DBE does not complete this form, the prime contractor must complete the following:

To the best of my knowledge and belief, the above-listed DBE is either unavailable for the work/service for this project, is unable to prepare a Proposal, or did not respond to a request for a price Proposal and has not completed the above portion of this submittal.

\_\_\_\_\_  
(Signature of Prime Contractor) (Title) (Date)

**APPENDIX F**

**BID SECURITY INFORMATION**



**APPENDIX F**  
**BID SECURITY INFORMATION**

**Bid security in the amount of 10% of the total bid base bid amount is required for this project.**

Per the Pennsylvania Procurement Code, Title 62, 533(a), a bid or proposal security shall be in the form of a certified or bank check or a bond provided by a surety company authorized to do business in this Commonwealth.

## **APPENDIX G**

### **1. COMMONWEALTH OF PA PUBLIC WORKS EMPLOYMENT VERIFICATION FORM**

Relevant information can be obtained from the PA Department of General Services' website at <http://www.dgs.state.pa.us>

### **2. WORKER PROTECTION AND INVESTMENT CERTIFICATION FORM**



**Commonwealth of Pennsylvania**  
**Public Works Employment Verification**  
**Form**

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Public Works Employment Verification Office  
Department of General Services  
Bureau of Procurement 6<sup>th</sup> floor, Forum Place 555 Walnut Street  
Harrisburg, PA 17101-1914  
717-346-8115  
ra-gsgseverify.pa.gov

**Instructions:** Complete and return the form to the contracting Public Body prior to the award of the contract.

Business or Organization Name (Employer) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Check One:

Contractor

Subcontractor

Contracting Public Body \_\_\_\_\_

Contract/Project No. \_\_\_\_\_

Project Description \_\_\_\_\_

Project Location \_\_\_\_\_

Date enrolled in E-Verify \_\_\_\_\_

As a contractor/subcontractor for the above referenced public works contract, I hereby affirm that as of the above date, our company is in compliance with the Public Works Employment Verification Act ('the Act') through utilization of the federal E-Verify Program (EVP) operated by the United States Department of Homeland Security. To the best of my/our knowledge, all employees hired post January 1, 2013 are authorized to work in the United States.

It is also agreed to that all public works contractors/subcontractors will utilize the federal EVP to verify the employment eligibility of each new hire within five (5) business days of the employee start date throughout the duration of the public works contract. Documentation confirming the use of the federal EVP upon each new hire shall be maintained in the event of an investigation or audit.

I, \_\_\_\_\_, authorized representative of the company above, attest that the information contained in this verification form is true and correct and understand that the submission of false or misleading information in connection with the above verification shall be subject to sanctions provided by law.

\_\_\_\_\_

\_\_\_\_\_

Authorized Representative Signature

Date of Signature



## NOTICE

### **WORKER PROTECTION AND INVESTMENT**

On October 21, 2021, Governor Tom Wolf signed Executive Order 2021-06, *Worker Protection and Investment*. The Executive Order affirms that the Commonwealth is responsible for ensuring that every worker in Pennsylvania has a safe and healthy work environment and the protections afforded them through labor laws. To that end and in accordance with the Executive Order, contractors of the Commonwealth must certify that they are in compliance with all applicable Pennsylvania state labor and workforce safety laws including, but not limited to:

- A. Construction Workplace Misclassification Act
- B. Employment of Minors Child Labor Act
- C. Minimum Wage Act
- D. Prevailing Wage Act
- E. Equal Pay Law
- F. Employer to Pay Employment Medical Examination Fee Act
- G. Seasonal Farm Labor Act
- H. Wage Payment and Collection Law
- I. Industrial Homework Law
- J. Construction Industry Employee Verification Act
- K. Act 102: Prohibition on Excessive Overtime in Healthcare
- L. Apprenticeship and Training Act
- M. Inspection of Employment Records Law

To ensure compliance with these statutes, Contractors will be required to submit the Worker Protection and Investment Certification Form in response to all procurement solicitations (invitations for bids, requests for proposals, requests for quotes, emergency procurements and sole source procurements). Contracts will not be awarded to prospective contractors until such certification form is received.

In addition, the Pennsylvania Department of Labor and Industry has created a public list of businesses that are non-compliant with Pennsylvania state labor and workforce safety laws which will be published on its public-facing website. Agencies are required to ensure that prospective contractors are not on the list prior to awarding any contract. The website: [www.dli.pa.gov/Pages/Non-Compliance-List.aspx](http://www.dli.pa.gov/Pages/Non-Compliance-List.aspx).

Implementation of the requirements of the Executive Order will occur in February 2022. Questions should be directed to the contracting agency.



## WORKER PROTECTION AND INVESTMENT CERTIFICATION FORM

A. Pursuant to Executive Order 2021-06, *Worker Protection and Investment* (October 21, 2021), the Commonwealth is responsible for ensuring that every worker in Pennsylvania has a safe and healthy work environment and the protections afforded them through labor laws. To that end, contractors and grantees of the Commonwealth must certify that they are in compliance with Pennsylvania’s Unemployment Compensation Law, Workers’ Compensation Law, and all applicable Pennsylvania state labor and workforce safety laws including, but not limited to:

- Construction Workplace Misclassification Act
- Employment of Minors Child Labor Act
- Minimum Wage Act
- Prevailing Wage Act
- Equal Pay Law
- Employer to Pay Employment Medical Examination Fee Act
- Seasonal Farm Labor Act
- Wage Payment and Collection Law
- Industrial Homework Law
- Construction Industry Employee Verification Act
- Act 102: Prohibition on Excessive Overtime in Healthcare
- Apprenticeship and Training Act
- Inspection of Employment Records Law

B. Pennsylvania law establishes penalties for providing false certifications, including contract termination; and three-year ineligibility to bid on contracts under 62 Pa. C.S. § 531 (Debarment or suspension).

### CERTIFICATION

I, the official named below, certify I am duly authorized to execute this certification on behalf of the contractor/grantee identified below, and certify that the contractor/grantee identified below is compliant with applicable Pennsylvania state labor and workplace safety laws, including, but not limited to, those listed in Paragraph A, above. I understand that I must report any change in the contractor/grantee’s compliance status to the Purchasing Agency immediately. I further confirm and understand that this Certification is subject to the provisions and penalties of 18 Pa. C.S. § 4904 (Unsworn falsification to authorities).

<i>Signature</i>	<i>Date</i>
<i>Name (Printed)</i>	
<i>Title of Certifying Official (Printed)</i>	
<i>Contractor/Grantee Name (Printed)</i>	

**APPENDIX H**  
**EVALUATION COMMITTEE SCORING MATRIX**

## EVALUATION COMMITTEE SCORING MATRIX

2-5.1	<b>Project Management Team Overview</b>	<b>Max Points</b>	<b>60</b>
a.	Organizational Chart. Reporting relationships and experience working together.	20	
b.	Narrative of previous relationships with other firms on the Project Team.	20	
c.	States why proposed management structure best serves the interests of the Project and provides narrative of Project Management Plan.	20	
2-5.2	<b>Work Plan</b>	<b>Max Points</b>	<b>160</b>
a.	Addresses design effort and phases of the design. Demonstrates Proposer's understanding of the design effort.	25	
b.	Demonstrates Proposer's understanding of the Design/Build concept.	25	
c.	Identifies potential design issues.	25	
d.	Describes how team will minimize PhilaPort's risk.	20	
e.	Detailed and logical approach to potential early construction packages, long lead items, and phasing of construction.	10	
f.	Detailed and logical explanation and identification of critical material and equipment. Discusses/explains why they are critical, timing/lead times for acquisition and how they will be managed.	10	
g.	Detailed and logical identification of construction challenges and proposed solutions.	10	
h.	Outlines construction plan, site operations, and logistics.	10	
i.	Identifies and describes jobsite controls, systems, practices.	5	
j.	Addresses Information Technology solutions for document control, systems to be utilized and types of information to be controlled.	5	
k.	Addresses Project Safety Plan.	5	
l.	Detailed description of closeout process for training of tenant personnel, manuals, occupancy permits, commissioning, punch listing, and final closeout.	5	
m.	Provides outline of QA/QC plan.	5	
2-5.3	<b>Project Master Schedule</b>	<b>Max Points</b>	<b>160</b>
a.	Submitted detailed CPM schedule. CPM schedule includes key interim milestones events (i.e., Issue for Revision, Issue for Permit, completion of foundation, completion of building shell, and start and finish of various construction phases, Substantial Completion date and Final Completion date)	25	
b.	Schedule Narrative identifies and describes challenges and proposed solutions, critical path, and achievement of milestones	23	
c.	Logic, credibility of schedule, and completeness of design elements of schedule	12	
d.	Logic, credibility of schedule, and completeness of construction elements of schedule	40	



e.	Schedule Duration in calendar days	60	
<b>2-5.4.1</b>	<b>Design Build Contractor Qualifications</b>	<b>Max Points</b>	<b>60</b>
a.	Identifies and describes experience with projects with a similar cost magnitude of \$50 Million	15	
b.	Identifies and describes experience with five (5) completed projects similar in scope and nature.	15	
c.	Individual Qualifications	10	
d.	Resource Availability	10	
e.	Statement of Readiness and Commitment of Resources	6	
f.	Workman's Compensation Rating for '19, '20, and '21	2	
g.	Notification of Default or Debarment	2	
<b>2-5.4.2</b>	<b>Design Subcontractor Qualifications</b>	<b>Max Points</b>	<b>60</b>
a.	Identifies and describes experience with projects greater than \$50 million	15	
b.	Identifies and describes experience with Design/Construction work similar in scope and nature.	15	
c.	Individual Qualifications	11	
d.	Resource Availability	11	
e.	Statement of Readiness and Commitment of Resources	6	
f.	Notification of Default or Debarment	2	

Proposer's ability to perform work for any Add Alternates requested to be bid will be on a Pass/Fail basis.

**APPENDIX I**  
**DESIGN-BUILD CONTRACT**

**DESIGN BUILD CONTRACT  
BETWEEN  
PHILADELPHIA REGIONAL PORT AUTHORITY  
THE DESIGN BUILD CONTRACTOR**

THIS DESIGN BUILD CONTRACT (“Contract”) is executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ by and between the Philadelphia Regional Port Authority, an independent agency of the Commonwealth of Pennsylvania, hereinafter called “PhilaPort” and

\_\_\_\_\_

\_\_\_\_\_

a \_\_\_\_\_ incorporated under the Laws of the State of \_\_\_\_\_ having its principal place of business located at \_\_\_\_\_ hereinafter called “DBC.”

NOW THEREFORE, the parties, hereto, in consideration of mutual promises herein contained, and intending to be legally bound hereby, covenant and agree as follows:

**ARTICLE 1 – THE CONTRACT DOCUMENTS**

This Contract consist of this Design Build Contract; the Request for Proposal (RFP); the DBC’s entire proposal in response to the RFP; the Contract Bonds; the General, Special and other Conditions of the Contract; all drawings created by or for the DBC’s Retained Professional; the specifications created by or for the DBC or DBC’s Retained Professional; all addenda issued prior to execution of the Contract; all Change Orders; all schedules; and the Administrative Procedures for the Design Build Contract, collectively referred to hereinafter as the “Contract Documents.” The Contract Documents are incorporated by reference as if fully set forth herein. To the extent that any of these documents are amended by statute, the statutory language will control.

**ARTICLE 2 – THE WORK**

The DBC shall perform all the work required by the Contract Documents for the design and timely construction of [TITLE OF PROJECT], hereinafter referred to as the Work.

**ARTICLE 3 – TIME OF COMMENCEMENT AND COMPLETION**

The term of the Contract shall commence upon the date established by the Notice of Award/Letter of Intent and shall end once DBC achieves Final Completion. The DBC acknowledges and agrees that time is of the essence for this Contract. If the DBC fails to complete the by the Substantial Completion date, the DBC will pay PhilaPort Liquidated Damages in accordance with Section 7.15 of the General Conditions until DBC achieves Substantial Completion. PhilaPort may extend, at its discretion or via an accepted Change Order, the date for Substantial Completion under the procedures set forth in the General Conditions

**ARTICLE 4 – CONTRACT SUM**

PhilaPort will pay DBC for the performance of the Work, subject to any adjustment via an approved Change Order , the sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_), hereinafter called the “Contract Sum.” Payment will be made as set forth in the General Conditions. Deductions from or additions to this sum will be made as set forth in the

## **ARTICLE 5 – PROGRESS PAYMENTS**

The DBC shall submit a written application to PhilaPort for payment (“Application for Payment”) substantially in the form provided herein. DBC shall submit on the fifth of every month, until Substantial Completion is achieved, its Application for Payment for work actually performed. PhilaPort will make progress payments from the Contract Sum to the DBC, in accordance with the provisions of the Prompt Payment Schedules found in the Commonwealth Procurement Code, 62 Pa. C.S. §3931-§3939, and the Administrative Procedures, both of which are incorporated herein by reference and made a part hereof as if those provisions were fully and at length herein recited, except that, where those provisions refer to the government agency, it is deemed to refer to PhilaPort. PhilaPort will retain 10% from each progress payment to the DBC to insure the proper performance of the Work by the DBC in each Application for Payment, in accordance with the provisions of Retainage found in the Commonwealth Procurement Code, 62 Pa. C.S. §3921 and the General Conditions of the Design Build Contract, both of which are incorporated herein by reference and made a part hereof as if those provisions were fully and at length herein recited, except that, where those provisions refer to the government agency, it is deemed to refer to PhilaPort.

## **ARTICLE 6 – FINAL PAYMENT**

The Final Payment, constituting the entire unpaid balance of the Contract Sum, will be paid by PhilaPort to the DBC, in accordance with the provisions of the subchapter Substantial/Final Payment found in the Commonwealth Procurement Code, 62 Pa. C.S. §3941-§3942, the Administrative Procedures, and the General Conditions, all of which are incorporated herein by reference and made a part hereof as if those provisions were fully and at length herein recited, except that, where those provisions refer to the government agency, it is deemed to refer to PhilaPort.

## **ARTICLE 7 – SMALL DIVERSE BUSINESS PARTICIPATION**

The DBC will provide a DBE Solicitation and Commitment Statement pursuant to the PhilaPort Diversity Inclusion Plan, which DBC warrants that it has reviewed and is incorporated herein. The DBC commitment percentage shall be no less than the percentage provided on the DBE Solicitation Commitment Statement Submission Form. (“DBE Commitment”).

## **ARTICLE 8 – MISCELLANEOUS PROVISIONS**

TERMS DEFINED. Those terms defined in the General Conditions shall have the same definition if used in the Design Build Contract.

- 8.1 **CORRECTIVE WORK.** In addition to any other guarantees or warranties contained in the General Conditions, the DBC shall, after acceptance of the Work by PhilaPort, , remedy, without any additional cost to PhilaPort, any such defect, provided said defects in the judgment of PhilaPort, or its successors having jurisdiction in the premises, are caused by defective or inferior materials, equipment or workmanship. If the corrective work is not completed within thirty (30) days after notification by PhilaPort to the DBC, PhilaPort may do the corrective work and submit those costs to the DBC or the Surety Company for reimbursement.
- 8.2 **BONDS.** The Contract Bond(s) given by the DBC, conditioned upon the faithful performance of the Contract and for the payment of labor, material, equipment rental and public utility service claims, are attached hereto and are made a part hereof.
- 8.3 **NO THIRD-PARTY BENEFICIARY.** No third party acquires any rights against PhilaPort under this Contract.

- 8.4 PRIVACY OF CONTRACT. There is no privity of contract between any other entity under contract with PhilaPort and the DBC, and the DBC is not an intended third-party beneficiary of any other PhilaPort contract/agreement.
- 8.5 BOND RIGHTS NOTIFICATION. The DBC shall ensure that any subcontract with any entity who has performed labor or furnished material in the prosecution of the Work on behalf of the DBC shall only have a right of action to recover the cost thereof from the DBC and/or the surety on the Bond given to secure the payment as set forth in Section §903(d) of the Commonwealth Procurement Code, 62 Pa. C. S. §903(d). For those who do not have a contract directly with the DBC, this right of action may not be exercised unless the DBC receives written notification of the claim within ninety (90) days after the day on which the claimant performed the last of the labor or furnished the last of the materials for which it claims payment. The DBC shall include in all of its subcontracts AND supply contracts a provision requiring that its subcontractors and suppliers notify, in writing, their subcontractors and suppliers of this requirement. No third-party rights arise against PhilaPort for any reason under this Section and the DBC shall inform all of its subcontractors and suppliers in writing.

### **ARTICLE 9 – CONTRACT COMPLIANCE**

**The DBC is hereby notified that this contract is for a public work and following provisions apply. Wherever the term “Contractor” is used below, it shall mean the “DBC”.**

9.1 **Americans With Disabilities Act:**

- A. Pursuant to federal regulations promulgated under the authority of The Americans with Disabilities Act, 28 C.F.R. § 35.101 et seq., the Contractor understands and agrees that it shall not cause any individual with a disability to be excluded from participation in this Contract or from activities provided for under this Contract on the basis of the disability. As a condition of accepting this contract, the Contractor agrees to comply with the “General Prohibitions Against Discrimination,” 28 C.F.R. § 35.130, and all other regulations promulgated under Title II of The Americans with Disabilities Act which are applicable to all benefits, services, programs, and activities provided by the Commonwealth of Pennsylvania and PhilaPort through contracts with outside contractors.
- B. The Contractor shall be responsible for and agrees to indemnify and hold harmless the Commonwealth of Pennsylvania and PhilaPort from all losses, damages, expenses, claims, demands, suits, and actions brought by any party against the Commonwealth of Pennsylvania or PhilaPort as a result of the Contractor’s failure to comply with the provisions of subparagraph a above.

9.2 **Choice of Law:** This Contract shall be governed by and interpreted and enforced in accordance with the laws of the Commonwealth of Pennsylvania (without regard to any conflict of laws provisions) and the decisions of the Pennsylvania courts. The Contractor consents to the jurisdiction of any state or federal court in the County of Philadelphia, waiving any claim or defense that such forum is not convenient or proper. The Contractor agrees that any such court shall have personal jurisdiction over it, and consents to service of process in any manner authorized by Pennsylvania law.

9.3 **Contractor Integrity Provisions:** It is essential that those who seek to contract with PhilaPort, as well as any of DBC’s subcontractors, observe high standards of honesty and integrity. DBC shall incorporate the provisions of 9.3 in all subcontracts related to the Project. They must conduct themselves in a manner that fosters public confidence in the integrity of PhilaPort and all contracting and procurement laws governing public work projects.

- A. **Definitions:** For purposes of these Contractor Integrity Provisions, the following terms shall have the meanings found in this Section:

- i. “Affiliate” means two or more entities where (a) a parent entity owns more than fifty percent of the voting stock of each of the entities; or (b) a common shareholder or group of shareholders owns more than fifty percent of the voting stock of each of the entities; or (c) the entities have a common proprietor or general partner.
- ii. “Consent” means written permission signed by a duly authorized officer or employee of PhilaPort, provided that where the material facts have been disclosed, in writing, by prequalification, bid, proposal, or contractual terms, PhilaPort shall be deemed to have consented by virtue of the execution of this contract.
- iii. “Contractor” means the individual or entity, that has entered into this contract with PhilaPort.
- iv. “Contractor Related Parties” means any affiliates of the Contractor and the Contractor’s executive officers, Pennsylvania officers and directors, or owners of 5 percent or more interest in the Contractor.
- v. “Financial Interest” means either:
  - 1. Ownership of more than a five percent interest in any business; or
  - 2. Holding a position as an officer, director, trustee, partner, employee, or holding any position of management.
- vi. “Gratuity” means tendering, giving, or providing anything of more than nominal monetary value including, but not limited to, cash, travel, entertainment, gifts, meals, lodging, loans, subscriptions, advances, deposits of money, services, employment, or contracts of any kind. The exceptions set forth in the Governor’s Code of Conduct, Executive Order 1980-18, the 4 Pa. Code §7.153(b), shall apply.
- vii. “Non-bid Basis” means a contract awarded or executed by PhilaPort with Contractor without seeking bids or proposals from any other potential bidder or offeror.

B. In furtherance of this policy, Contractor agrees to the following:

- i. Contractor shall maintain the highest standards of honesty and integrity during the performance of this contract and shall take no action in violation of state or federal laws or regulations or any other applicable laws or regulations, or other requirements applicable to Contractor or that govern contracting or procurement with the Commonwealth of Pennsylvania and PhilaPort.
- ii. Contractor shall establish and implement a written business integrity policy, which includes, at a minimum, the requirements of these provisions as they relate to the Contractor activity with PhilaPort and PhilaPort’s employees and which is made known to all Contractor employees. Posting these Contractor Integrity Provisions conspicuously in easily-accessible and well- lighted places customarily frequented by employees and at or

near where the contract services are performed shall satisfy this requirement.

- iii. Contractor, its affiliates, agents, employees and anyone in privity with Contractor shall not accept, agree to give, offer, confer, or agree to confer or promise to confer, directly or indirectly, any gratuity or pecuniary benefit to any person, or to influence or attempt to influence any person in violation of any federal or state law, regulation, executive order of the Governor of Pennsylvania, statement of policy, management directive or any other published standard of the Commonwealth in connection with performance of work under this contract, except as provided in this contract.
- iv. Contractor shall not have a financial interest in any other contractor, subcontractor, or supplier providing services, labor, or material under this contract, unless the financial interest is disclosed to PhilaPort in writing and PhilaPort consents to Contractor's financial interest prior to PhilaPort's execution of the contract. Contractor shall disclose the financial interest to PhilaPort at the time of bid or proposal submission, or if no bids or proposals are solicited, no later than Contractor's submission of the contract signed by Contractor.
- v. Contractor certifies to the best of its knowledge and belief that within the last five (5) years Contractor or Contractor Related Parties have not:
  1. been indicted or convicted of a crime involving moral turpitude or business honesty or integrity in any jurisdiction;
  2. been suspended, debarred or otherwise disqualified from entering into any contract with any governmental agency;
  3. had any business license or professional license suspended or revoked;
  4. had any sanction or finding of fact imposed as a result of a judicial or administrative proceeding related to fraud, extortion, bribery, bid rigging, embezzlement, misrepresentation or anti-trust; and
  5. been, and is not currently, the subject of a criminal investigation by any federal, state or local prosecuting or investigative agency and/or civil anti-trust investigation by any federal, state or local prosecuting or investigative agency.

If Contractor cannot so certify to the above, then it must submit along with its bid, proposal or contract a written explanation of why such certification cannot be made and PhilaPort will determine whether a contract may be entered into with the Contractor. The Contractor's obligation pursuant to this certification is ongoing from and after the effective date of the contract through the termination date thereof. Accordingly, the Contractor shall have an obligation to immediately notify PhilaPort in writing if at any time during the term of the contract it becomes aware of any event which would cause the Contractor's certification or explanation to change. Contractor acknowledges that PhilaPort may, in its sole discretion, terminate the

contract for cause if it learns that any of the certifications made herein are currently false due to intervening factual circumstances or were false or should have been known to be false when entering into the contract.

- vi. Contractor shall comply with the requirements of the Lobbying Disclosure Act (65 Pa.C.S. §13A01 et seq.) regardless of the method of award. If this contract was awarded on a Non-bid Basis, Contractor must also comply with the requirements of the Section 1641 of the Pennsylvania Election Code (25 P.S. §3260a).
- vii. When Contractor has reason to believe that any breach of ethical standards as set forth in law, the Governor's Code of Conduct, or these Contractor Integrity Provisions has occurred or may occur, including but not limited to contact by a Commonwealth officer or PhilaPort employee which, if acted upon, would violate such ethical standards, Contractor shall immediately notify PhilaPort or the Office of the State Inspector General in writing.
- viii. Contractor, by submission of its bid or proposal and/or execution of this contract and by the submission of any bills, invoices or requests for payment pursuant to the contract, certifies and represents that it has not violated any of these Contractor Integrity Provisions in connection with the submission of the bid or proposal, during any contract negotiations or during the term of the contract, to include any extensions thereof. Contractor shall immediately notify PhilaPort in writing of any actions for occurrences that would result in a violation of these Contractor Integrity Provisions. Contractor agrees to reimburse PhilaPort or the Commonwealth for the reasonable costs of investigation incurred by the Office of the State Inspector General for investigations of the Contractor's compliance with the terms of this or any other agreement between the Contractor and PhilaPort that results in the suspension or debarment of the Contractor. Contractor shall not be responsible for investigative costs for investigations that do not result in the Contractor's suspension or debarment.
- ix. Contractor shall cooperate with PhilaPort and the Office of the State Inspector General in the investigation of any alleged PhilaPort or employee breach of ethical standards and any alleged Contractor non-compliance with these Contractor Integrity Provisions. Contractor agrees to make identified Contractor employees available for interviews at reasonable times and places. Contractor, upon the inquiry or request of PhilaPort or an Inspector General, shall provide, or if appropriate, make promptly available for inspection or copying, any information of any type or form deemed relevant by PhilaPort or the Office of the State Inspector General to Contractor's integrity and compliance with these provisions. Such information may include, but shall not be limited to, Contractor's business or financial records, documents or files of any type or form that refer to or concern this contract. Contractor shall incorporate this paragraph in any agreement, contract or subcontract it enters into in the course of the performance of this contract/agreement solely for the purpose of obtaining subcontractor compliance with this provision. The incorporation of this provision in a subcontract shall not create privity of contract between PhilaPort, the Commonwealth and any such subcontractor, and no third-party beneficiaries shall be created thereby.



- x. For violation of any of these Contractor Integrity Provisions, PhilaPort may terminate this and any other contract with Contractor, claim Liquidated Damages in an amount equal to the value of anything received in breach of these Provisions, claim damages for all additional costs and expenses incurred in obtaining another contractor to complete performance under this contract, and suspend Contractor from doing business with PhilaPort. These rights and remedies are cumulative, and the use or non-use of any one shall not preclude the use of all or any other. These rights and remedies are in addition to those that PhilaPort or the Commonwealth may have under law, statute, regulation, or otherwise.

9.4 **Contractor Responsibility Provisions:** For the purpose of these provisions, the term contractor is defined as any person, including, but not limited to, a bidder, offeror, loan recipient, grantee or lessor, who has furnished or performed or seeks to furnish or perform, goods, supplies, services, leased space, construction or other activity, under a contract, grant, lease, purchase order or reimbursement agreement with the PhilaPort or the Commonwealth . The term contractor includes a permittee, licensee, or any agency, political subdivision, instrumentality, public authority, or other public entity in the Commonwealth.

- A. The Contractor certifies, in writing, for itself and its subcontractors required to be disclosed or approved by PhilaPort , that as of the date of its execution of this Bid/Contract, that neither the Contractor, nor any such subcontractors, are under suspension or debarment by PhilaPort or any governmental entity, instrumentality, or authority and, if the Contractor cannot so certify, then it agrees to submit, along with its Bid/Contract, a written explanation of why such certification cannot be made.
- B. The Contractor also certifies, in writing, that as of the date of its execution of this Bid/Contract it has no tax liabilities or other Commonwealth obligations, or has filed a timely administrative or judicial appeal if such liabilities or obligations exist, or is subject to a duly approved deferred payment plan if such liabilities exist.
- C. The Contractor's obligations pursuant to these provisions are ongoing from and after the effective date of the Contract through the termination date thereof. Accordingly, the Contractor shall have an obligation to inform PhilaPort if, at any time during the term of the Contract, it becomes delinquent in the payment of taxes, or other Commonwealth obligations, or if it or, to the best knowledge of the Contractor, any of its subcontractors are suspended or debarred by PhilaPort, the Commonwealth, the federal government, or any other state or governmental entity. Such notification shall be made within 15 days of the date of suspension or debarment.
- D. The failure of the Contractor to notify PhilaPort of its suspension or debarment by the Commonwealth, any other state, or the federal government shall constitute an event of default of the Contract by Contractor.
- E. The Contractor agrees to reimburse PhilaPort for the reasonable costs of investigation incurred by PhilaPort or the Office of State Inspector General for investigations of the Contractor's compliance with the terms of this or any other agreement between the Contractor and PhilaPort that results in the suspension or debarment of the contractor. Such costs shall include, but shall not be limited to, salaries of investigators, including overtime; travel and lodging expenses; and expert witness and documentary fees. The Contractor shall not be responsible for investigative costs for investigations that do not result in the Contractor's suspension or debarment.
- F. The Contractor may obtain a current list of suspended and debarred Commonwealth contractors by either searching the Internet at <http://www.dgs.state.pa.us/> or contacting:

Department of General Services  
Office of Chief Counsel  
603 North Office Building  
Harrisburg, PA 17125  
Telephone No: (717) 783-6472  
FAX No: (717) 787-9138

- G. That the DBC and its construction Subcontractors (and their labor forces) participate in an approved Apprenticeship Program for each craft or trade of the labor force contemplated to perform the work and such program being currently registered with the Pennsylvania Apprenticeship and Training Council and that it has apprentices and trainees currently participating.
- H. If Contractor is found in non-compliance with the Nondiscrimination and/or Sexual Harassment provisions of this Contract, PhilaPort, after consultation with DGS, may pursue one or more of the sanctions or remedies listed below unless compliance is obtained by agreement.

PhilaPort may pursue one or more of the following sanctions or remedies, as appropriate: (1) Bring appropriate legal action for noncompliance with the Nondiscrimination/Sexual Harassment Clause. (2) Find the contractor or grantee in default and provide a reasonable amount of time to cure the default. (3) Terminate the contract for breach of the Nondiscrimination/Sexual Harassment Clause. (4) Recommend to the appropriate law enforcement official that criminal proceedings be brought for willfully furnishing false information to the Commonwealth. (5) Refrain from entering into further state contracts or extensions, or grant agreements or extensions or other modifications of existing contracts or grant agreements with any non-complying contractor or grantee. (See Management Directive 215.9, Contractor Responsibility Program, for procedures relevant to the following actions.) (a) The agency may proceed with debarment or suspension of the contractor or grantee. (b) The agency may place the contractor or grantee in the Contractor Responsibility File to alert other agencies of its deficiencies. (6) Contractors or grantees can provide additional information that demonstrates that they are in compliance at any point to have sanctions reassessed.

#### 9.5 **Enhanced Minimum Wage Provisions:**

- A. **Enhanced Minimum Wage.** Contractor/Lessor agrees to pay no less than \$15.00 per hour to its employees for all hours worked directly performing the services called for in this Contract/Lease, and for an employee's hours performing ancillary services necessary for the performance of the contracted services or lease when such employee spends at least twenty per cent (20%) of their time performing ancillary services in a given work week.
- B. **Adjustment.** Beginning July 1, 2023, and annually thereafter, the minimum wage rate shall be increased by an annual cost-of-living adjustment using the percentage change in the Consumer Price Index for All Urban Consumers (CPI-U) for Pennsylvania, New Jersey, Delaware, and Maryland. The applicable adjusted amount shall be published in the Pennsylvania Bulletin by March 1 of each year to be effective the following July 1.
- C. **Exceptions.** These Enhanced Minimum Wage Provisions shall not apply to employees:
  - i. exempt from the minimum wage under the Minimum Wage Act of 1968;
  - ii. covered by a collective bargaining agreement;

- iii. required to be paid a higher wage under another state or federal law governing the services, including the Prevailing Wage Act and Davis-Bacon Act; or
- iv. required to be paid a higher wage under any state or local policy or ordinance.

- D. **Notice.** Contractor/Lessor shall post these Enhanced Minimum Wage Provisions for the entire period of the contract conspicuously in easily-accessible and well-lighted places customarily frequented by employees at or near where the contracted services are performed.
- E. **Records.** Contractor/Lessor must maintain and, upon request and within the time periods requested by the Commonwealth, furnish all employment and wage records necessary to document compliance with these Enhanced Minimum Wage Provisions.
- F. **Sanctions.** Failure to comply with these Enhanced Minimum Wage Provisions may result in the imposition of sanctions, which may include, but shall not be limited to, termination of the contract or lease, nonpayment, debarment or referral to the Office of General Counsel for appropriate civil or criminal referral.
- G. **Subcontractors.** Contractor/Lessor shall include the provisions of these Enhanced Minimum Wage Provisions in every subcontract so that these provisions will be binding upon each subcontractor.

9.6 **Offset Provision:** The Contractor agrees that the Commonwealth and PhilaPort may set off the amount of any state tax liability or other obligation of the Contractor or its subsidiaries to the Commonwealth against any payments due to the Contractor under any contract with the Commonwealth.

9.7 **Nondiscrimination/Sexual Harassment Clause:** The Contractor agrees:

- A. In the hiring of any employee(s) for the manufacture of supplies, performance of work, or any other activity required under the contract or any subcontract, the Contractor, each subcontractor, or any person acting on behalf of the Contractor or subcontractor shall not discriminate in violation of the Pennsylvania Human Relations Act (PHRA) and applicable federal laws against any citizen of this Commonwealth who is qualified and available to perform the work to which the employment relates.
- B. Neither the Contractor nor any subcontractor nor any person on their behalf shall in any manner discriminate in violation of the PHRA and applicable federal laws against or intimidate any employee involved in the manufacture of supplies, the performance of work, or any other activity required under the contract.
- C. The Contractor and each subcontractor shall establish and maintain a written nondiscrimination and sexual harassment policy and shall inform their employees of the policy. The policy must contain a provision that sexual harassment will not be tolerated and employees who practice it will be disciplined. Posting this Nondiscrimination/Sexual Harassment Clause conspicuously in easily accessible and well-lighted places customarily frequented by employees and at or near where the contract services are performed shall satisfy this requirement.
- D. The Contractor and each subcontractor shall not discriminate in violation of PHRA and applicable federal laws against any subcontractor or supplier who is qualified to perform the work to which the contract relates.
- E. The Contractor and each subcontractor represents that it is presently in compliance with and will maintain compliance with all applicable federal, state, and local laws and

regulations relating to nondiscrimination and sexual harassment. The Contractor and each subcontractor further represents that it has filed a Standard Form 100 Employer Information Report (“EEO-1”) with the U.S. Equal Employment Opportunity Commission (“EEOC”) and shall file an annual EEO-1 report with the EEOC as required for employers subject to Title VII of the Civil Rights Act of 1964, as amended, that have 100 or more employees and employers that have federal government contracts or first-tier subcontracts and have 50 or more employees. The Contractor and each subcontractor shall, upon request and within the time periods requested by the Commonwealth or PhilaPort, furnish all necessary employment documents and records, including EEO-1 reports, and permit access to their books, records, and accounts by the contracting agency and the Bureau of Small Business Opportunities (BSBO), for purpose of ascertaining compliance with provisions of this Nondiscrimination/Sexual Harassment Clause.

- F. The Contractor shall include the provisions of this Nondiscrimination/Sexual Harassment Clause in every subcontract so that those provisions applicable to subcontractors will be binding upon each subcontractor.
- G. The Contractor’s and each subcontractor’s obligations pursuant to these provisions are ongoing from and after the effective date of the contract through the termination date thereof. Accordingly, the Contractor and each subcontractor shall have an obligation to inform PhilaPort if, at any time during the term of the contract, it becomes aware of any actions or occurrences that would result in violation of these provisions.
- H. PhilaPort may cancel or terminate the contract and all money due or to become due under the contract may be forfeited for a violation of the terms and conditions of this Nondiscrimination/Sexual Harassment Clause. In addition, the agency may proceed with debarment or suspension and may place the Contractor in the Contractor Responsibility File.

9.8 **Prevailing Minimum Wage Predetermination:** This Contract is subject to the provisions, duties, obligations, remedies and penalties of the Pennsylvania Prevailing Wage Act, 43 P.S. §165-1 et seq., as amended, which is incorporated herein by reference as if fully set forth herein. In compliance with said Pennsylvania Prevailing Wage Act, the Prevailing Minimum Wage Predetermination is hereto attached and made part hereof as approved by the Secretary of Labor and Industry. If a job classification is not covered by the Prevailing Wage Predetermination, the Contractor may not pay individuals in that classification less than the lowest rate for laborers, as set out in the predetermination. Reference Part I-B, Section 15 for additional information.

9.9 **Public Works Employment Verification Act:** The Contractor is hereby notified that this contract is for a public work and the Contractor is therefore subject to the provisions, duties, obligations, remedies and penalties of the Public Works Employment Verification Act, 43 P.S. §§167.1-167.11, which is incorporated herein by reference as if fully set forth herein. Contractors subject to said Public Works Employment Verification Act are required to utilize the Federal E-Verify program to verify the employment eligibility of each new employee hired after January 1, 2013 and to submit to PhilaPort a Commonwealth Public Works Employment Verification Form available on PhilaPort’s web site at [www.dgs.pa.gov](http://www.dgs.pa.gov).

9.10 **Right to Know Law:** \_

- A. The Pennsylvania Right-to-Know Law, 65 P.S. §§ 67.101-3104, (“RTKL”) applies to this Contract. For the purpose of these provisions, the term “the Commonwealth” shall refer to PhilaPort.

- B. If the Commonwealth needs the Contractor's assistance in any matter arising out of the RTKL related to this Contract, it shall notify the Contractor using the legal contact information provided in this Contract. The Contractor, at any time, may designate a different contact for such purpose upon reasonable prior written notice to the Commonwealth. The Contractor agrees to cooperate with the Commonwealth to the fullest extent possible with any RTKL request.
- C. Upon written notification from the Commonwealth that it requires the Contractor's assistance in responding to a request under the RTKL for information related to this Contract that may be in the Contractor's possession, constituting, or alleged to constitute, a public record in accordance with the RTKL ("Requested Information"), the Contractor shall:
  - i. Provide the Commonwealth, within ten (10) calendar days after receipt of written notification, access to, and copies of, any document or information in the Contractor's possession arising out of this Contract that the Commonwealth reasonably believes is Requested Information and may be a public record under the RTKL; and
  - ii. Provide such other assistance as the Commonwealth may reasonably request, in order to comply with the RTKL with respect to this Contract.
- D. If the Contractor considers the Requested Information to include a request for a Trade Secret or Confidential Proprietary Information, as those terms are defined by the RTKL, or other information that the Contractor considers exempt from production under the RTKL, the Contractor must notify the Commonwealth and provide, within seven (7) calendar days of receiving the written notification, a written statement signed by a representative of the Contractor explaining why the requested material is exempt from public disclosure under the RTKL.
- E. The Commonwealth will rely upon the written statement from the Contractor in denying a RTKL request for the Requested Information unless the Commonwealth determines that the Requested Information is clearly not protected from disclosure under the RTKL. Should the Commonwealth determine that the Requested Information is clearly not exempt from disclosure, the Contractor shall provide the Requested Information within five (5) business days of receipt of written notification of the Commonwealth's determination.
- F. If the Contractor fails to provide the Requested Information within the time period required by these provisions, the Contractor shall indemnify and hold the Commonwealth harmless for any damages, penalties, costs, detriment or harm that the Commonwealth may incur as a result of the Contractor's failure, including any statutory damages assessed against the Commonwealth.
- G. The Commonwealth will reimburse the Contractor for any costs associated with complying with these provisions only to the extent allowed under the fee schedule established by the Office of Open Records or as otherwise provided by the RTKL if the fee schedule is inapplicable.
- H. The Contractor may file a legal challenge to any Commonwealth decision to release a record to the public with the Office of Open Records, or in the Pennsylvania Courts, however, the Contractor shall indemnify the Commonwealth for any legal expenses incurred by the Commonwealth as a result of such a challenge and shall hold the Commonwealth harmless for any damages, penalties, costs, detriment or harm that the Commonwealth may incur as a result of the Contractor's failure, including any statutory damages assessed against the Commonwealth, regardless of the outcome of such legal challenge. As between the parties, the Contractor agrees to waive all rights or remedies that may be available to it as a result of the Commonwealth's disclosure of Requested Information pursuant to the RTKL.
- I. The Contractor's duties relating to the RTKL are continuing duties that survive the expiration of this Contract and shall continue as long as the Contractor has Requested Information in its possession.

9.11 **Sovereign Immunity and Commonwealth Held Harmless:** Nothing in this Agreement shall be deemed to waive or otherwise affect the sovereign immunity of the Commonwealth and its agencies, officers, and employees, including PhilaPort, or to subject the Commonwealth and its agencies, officers, and employees, including PhilaPort, to any liability not expressly authorized by law. The Contractor shall indemnify and hold harmless PhilaPort and the Commonwealth from and against all claims, damages, losses and expenses, including attorneys' fees or fines arising out of or resulting from the performance of the Work or services, provided that any such claim, damage, loss or expense is:

- A. Attributable to bodily injury, sickness, disease or death or to injury to or destruction of tangible property, including the loss of use resulting therefrom; and
- B. Caused in whole or in part by any negligent act or omission of the Contractor or any subcontractor.

Pursuant to the Commonwealth Attorneys Act 71 P.S. § 732-101, et. seq., the Office of Attorney General (OAG) has the sole authority to represent the Commonwealth in actions brought against the Commonwealth. The OAG may, however, in its sole discretion and under such terms as it deems appropriate, delegate its right of defense. If OAG delegates the defense to the Contractor, PhilaPort will cooperate with all reasonable requests of Contractor made in the defense of such suits.

Notwithstanding the above, the Contractor shall not enter into any settlement without PhilaPort's written consent, which shall not be unreasonably withheld. The Commonwealth may, in its sole discretion, allow the Contractor to control the defense and any related settlement negotiations.

In any and all claims against PhilaPort or the Commonwealth by any employee of the Contractor or any subcontractor, the indemnification obligations under this Section shall not be limited on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any subcontractor under Worker's Compensation Acts, Disability Benefit Acts, or other employee benefit Acts.

9.12 **Buy America Act:** The Contractor is hereby notified that this contract is for a Federal Infrastructure for Rebuilding America (INFRA) Grant provided by the United States Department of Transportation and is subject to Buy America Act 23 U.S.C. Section 313.

#### **ARTICLE 10 – MERGER CLAUSE**

This Contract, when executed, approved and delivered, together with all the Contract Documents, shall constitute the entire agreement between the parties, and there are no other representations or agreements, oral or written, except as expressly set forth in this Contract. This Contract may not be amended or modified by the parties except as provided in the Contract Documents.

[Signature Page Immediately Follows]

IN WITNESS WHEREOF, PhilaPort and the DBC, have caused this contract to be executed on the day and year above written.

\_\_\_\_\_  
Witness

\_\_\_\_\_  
DBC – Individual

\_\_\_\_\_  
Witness

\_\_\_\_\_  
DBC – Partnership

\_\_\_\_\_  
Witness

\_\_\_\_\_  
DBC – Limited Liability Company

\_\_\_\_\_  
Secretary or Treasurer

\_\_\_\_\_  
DBC – Corporation

*(Corporate Seal)*

PHILADELPHIA REGIONAL  
PORT AUTHORITY

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

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

Name:

Name: Jeff Theobald

Title:

Title: CEO/Executive Director

Approved as to Legality and Form:

Approved as to Budgetary Appropriateness &  
Fiscal Responsibility

PHILADELPHIA  
REGIONAL  
PORT AUTHORITY

PHILADELPHIA REGIONAL PORT  
AUTHORITY

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

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

Name: Colette A. Pete

Name: George Hutchinson

Title: Chief Counsel

Title: Director of Finance

OFFICE OF THE ATTORNEY  
GENERAL

OFFICE OF THE BUDGET

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

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

Name:

Name:

Title: Deputy Attorney General

Title: Comptroller

**CONTRACT BOND**

**KNOW ALL PERSONS BY THESE PRESENTS,** That we the undersigned

\_\_\_\_\_  
of  
\_\_\_\_\_  
\_\_\_\_\_

as Principal (the DBC)  
and

\_\_\_\_\_  
\_\_\_\_\_ a Corporation organized and existing under the Laws of the State of \_\_\_\_\_  
and authorized to transact business in Pennsylvania,

as Surety,

jointly and severally hold and firmly bind ourselves, our heirs, executors, administrators, successors and assigns to the Philadelphia Regional Port Authority (“PhilaPort”); as hereinafter set forth, in the full and just several sums of

(1) \_\_\_\_\_  
Dollars (\$ \_\_\_\_\_) for the faithful performance of the Design Build Contract as designated in Paragraph "A" herein; and

(2) \_\_\_\_\_  
Dollars (\$ \_\_\_\_\_) for the payment of labor, material equipment rental and public utility services as designated in Paragraph "B".

Sealed with our respective seals and date this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_.

**WHEREAS,** the above Principal has entered into a Design Build Contract (“Contract”) with PhilaPort, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_, for



---

(Project number and title)

upon certain terms and conditions in said Contract more particularly mentioned; and

**WHEREAS**, the execution of this Contract Bond is one of PhilaPort's conditions of award and contract execution by the Commonwealth.

**NOW, THEREFORE**, the joint and several conditions of this obligation are such:

A. That, if the above Principal, as DBC, shall well and faithfully do and perform the things agreed by it to be done and performed according to the terms of said Contract and General Conditions, including the plans and specifications therein referred to and made part thereof, and such alterations as may be made in said plans and specifications as therein provided and which are hereby made part of this Bond the same as though they were fully set forth herein, and shall indemnify and save harmless PhilaPort and all of its officers, agents and employees from any expense incurred through the failure of said DBC to complete the Work as specified and for any damages growing out of the manner of performance of said Contract by said DBC or its subcontractors, or its (or their) agents or servants, including, but not limited to, patent trademark and copyright infringements, then this part of this obligation shall be void; otherwise, it shall be and remain in full force and effect.

B. That, if the above Principal shall and will promptly pay or cause to be paid all sums of money, which may be due by the Principal or any of its subcontractors to any person, co- partnership, association or corporation, for all material furnished and labor supplied or performed in the prosecution of the Work, whether or not the said material or labor entered into and become component parts of the Work or improvements contemplated, and for rental of equipment used, and services rendered by public utilities in, or in connection with, the prosecution of such Work, then this part of this obligation shall be void; otherwise, it shall be and remain in full force and effect.

C. It is further agreed that any alterations, which may be made in the terms of the Contract or in the Work to be done, or materials to be furnished, or labor to be supplied or performed, or equipment to be rented, or public utility services to be rendered, or the giving by PhilaPort any Extension of Time for the performance of the Contract, or the reduction of the retained percentage as permitted by the Contract, or any other forbearance on the part of either PhilaPort or the Principal to the other, shall not in any way release the Principal and the surety or

sureties or either or any of them, their heirs, executors, administrators, successors or assigns, from their liability hereunder, notice to the surety or sureties of any such alterations, extension or forbearance being hereby waived.

D. The Principal and Surety hereby jointly and severally agree with PhilaPort herein that every person, co-partnership, association or corporation which, whether as subcontractor or as a person otherwise entitled to the benefits of this Bond, has furnished material or supplied or performed labor or rented equipment used in the prosecution of the Work as above provided and any public utility, which has rendered services, in, or in connection with, the prosecution of such Work, and, which has not been paid in full therefore, may sue in assumpsit on this Bond in his, hers, their, or its name and prosecute the same to final judgment for such sum or sums as may be justly due him, them, or its, and have execution thereon; provided, however, that PhilaPort shall not be liable for the payment of any costs or expenses of such suit to a third party under any theory of law or equity.

E. Recovery by any persons, co-partnership, association or corporation hereunder is subject to the provisions of the Act of May 15, 1998, P.L. 358, No. 57, 62 Pa. C.S §§101-4509, as amended, said Act is incorporated herein and made a part hereof, as fully and completely as though its provisions were fully and at length herein recited, except that, where said Act refers to the Commonwealth of Pennsylvania or a Department thereof, it is deemed to refer to PhilaPort.

[Signature Page Immediately Follows]

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

**IN WITNESS WHEREOF**, the said Principal and Surety have duly executed this Bond under seal the day and year above written.

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Principal – Individual

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Principal – Partnership

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Principal – Limited Liability Company

\_\_\_\_\_  
Secretary or Treasurer

\_\_\_\_\_  
Principal – Corporation

*(Corporate Seal)*

\_\_\_\_\_  
Surety

\_\_\_\_\_  
Attorney-in-Fact

THE PHILADELPHIA REGIONAL  
PORT AUTHORITY

By:

---

Name:

Title:

By:

---

Name: Jeff Theobald

Title: CEO/Executive Director

Approved as to Legality and Form:

Approved as to Budgetary Appropriateness &  
Fiscal Responsibility

PHILADELPHIA  
REGIONAL  
PORT AUTHORITY

PHILADELPHIA REGIONAL PORT  
AUTHORITY

By:

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Name: Colette A. Pete

Title: Chief Counsel

By:

---

Name: George Hutchinson

Title: Director of Finance

OFFICE OF THE ATTORNEY  
GENERAL

OFFICE OF THE BUDGET

By:

---

Name:

Title: Deputy Attorney General

By:

---

Name:

Title: Comptroller

**APPENDIX J**

**GENERAL CONDITIONS FOR THE DESIGN-BUILD CONTRACT**

**DESIGN-BUILD GENERAL CONDITIONS  
TO THE DESIGN-BUILD CONTRACT**

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**DESIGN-BUILD GENERAL CONDITIONS  
TO THE DESIGN-BUILD CONTRACT**

**ARTICLE 1: DEFINITIONS**

Whenever in these Design Build General Conditions to the Design Build Contract, or “General conditions” the following words and expressions occur, they have the following meanings, which shall be construed in conjunction with the applicable definitions.

- 1.1 ADMINISTRATIVE PROCEDURES.** The Philadelphia Regional Port Authority’s (PhilaPort) Administrative Procedures, which are incorporated herein, to be followed for various administrative functions, as set forth therein. See Appendices for Administrative Procedures.
- 1.2 APPROVED INVOICE.** The information submitted by the Design-Build Contractor pursuant to the Administrative Procedure for PhilaPort’s review, approval and/or release of payment.
- 1.3 BENEFICIAL OCCUPANCY.** The date upon which the Design-Build Contractor (“DBC” or “Contractor”) certifies, and PhilaPort concurs that the Work is sufficiently complete, in accordance with the Contract Documents, including but not limited to the issuance of Certificate of Occupancy, so that PhilaPort may use, occupy or operate the Project as fit for the use for which it was intended at PhilaPort’s sole discretion.
- 1.4 BI-WEEKLY.** An event occurring every two weeks.
- 1.5 BRIDGING DOCUMENTS.** The documents that are part of the Request for Proposals delineate the design intent, performance requirements, and design requirements of the Department. The Bridging Documents are included as Appendices and any other relevant parts of the Request for Proposal that define the requirements of that the DBC shall comply with.
- 1.6 CHANGE ORDER.** A written order signed by PhilaPort directing the DBC to make changes to DBC’s scope of work. The Change Order may be either with the consent of the DBC or a unilateral order by PhilaPort. The Contract Sum and Contract Time may only be changed by Change Order.
- 1.7 COMMONWEALTH.** The Commonwealth of Pennsylvania.
- 1.8 CONSTRUCTION MANAGER.** If PhilaPort retains a Construction Manager (CM) at any point during the Project, the Construction Manager shall be the consultant retained by PhilaPort to act as PhilaPort’s designee and authorized representative to manage the Project. The DBC acknowledges and agrees that there is no privity of contract between the Construction Manager and the DBC, nor is the DBC an intended third-party beneficiary of the PHILAPORT/CM Agreement. If PhilaPort does not retain a Construction Manager, any reference in the General Conditions to “Construction Manager” shall be interpreted to mean PhilaPort’s representative.
- 1.9 CONSULTANT.** A specialist retained by PhilaPort, the Construction Manager or the DBC’s Retained Professional for the performance of its specialty.
- 1.10 CONTRACT.** The written agreement consisting of the Contract Documents, as defined in the Contract and executed by all parties in accordance with the Commonwealth Attorneys

Act. The Contract represents the entire and integrated agreement between the parties and supersedes all prior negotiations, representations, or agreements, either written or oral. To the extent that any of these documents are amended by statute, the statutory language will control.

- 1.11 CONTRACT BONDS.** The bonds required by the Contract Documents which must be executed by one or more surety companies legally authorized to do business in the Commonwealth of Pennsylvania including, but not limited to, bonds for the faithful performance of the contract and for payment of labor and material, as required by PhilaPort.
- 1.12 CONTRACT COMPLETION DATE.** The date calculated by adding the Contract Duration and any approved Extensions of Time to the Notice to Proceed Date for the completion of the Work or the date specifically stated in the Contract for completion of the Work.
- 1.13 CONTRACT DOCUMENTS.** The documents listed in Article 1 of the Contract. To the extent that any of these documents are amended by statute, the statutory language will control.
- 1.14 CONTRACT DURATION.** The number of calendar days set forth in the Contract Documents for completion of the Work; or, if a Contract Completion Date is specifically stated, the time between the Notice to Proceed Date and Contract Completion Date, also referred to as Contract Time.
- 1.15 CONTRACT LIMITS.** The area designated on the Contract Documents as the limit of construction within which the DBC may perform the Work.
- 1.16 CONTRACT ORGANIZATION.** The organization of the specifications into divisions, sections and articles and the arrangement of drawings shall not control the DBC in dividing the Work among subcontractors or in establishing the extent of Work to be performed by any trade.
- 1.17 CONTRACT START DATE.** For purposes of calculating dates for completion of the Work, this is the date upon which the Notice to Proceed for the Project.
- 1.18 CONTRACT SUM.** The total amount payable by PhilaPort to the DBC for the performance of the Work under the Contract Documents.
- 1.19 DAYS.** Calendar days unless specifically stated otherwise in the Contract.
- 1.20 DEFICIENCY ITEM.** Any work or activity, either performed or unperformed, which PhilaPort will not certify as in compliance with the Contract Documents.
- 1.21 DEPARTMENT.** The Department of General Services of the Commonwealth of Pennsylvania, also known as “the Department” or “DGS”, or any authorized representative or designee, and is referred throughout the Contract Documents as singular in number.
- 1.22 DEPARTMENT OF LABOR AND INDUSTRY PLAN REVISION SUBMISSION.** The revised set of Construction Documents submitted by the DBC’s Retained Professional to the Department of Labor and Industry for approval of design and construction changes made after the UCC Building Permit is issued. This “Plan Revision Submission” is also referred to as the “Department of Labor and Industry Record Drawings” and shall be submitted in accordance with PA L&I and PA UCC requirements. Receipt of the approved



Plan Revision Submission is required before an L&I Occupancy Permit will be issued.

- 1.23 DESIGN BUILD CONTRACTOR (A.K.A. DBC):** The person or organization identified as such in the Contract and is referred throughout the Contract Documents, as singular in number. Unless otherwise indicated, the Design Build Contractor (DBC) is the Contractor.
- 1.24 DESIGN-BUILD CONTRACTOR’S RETAINED PROFESSIONAL (DBC’S RETAINED PROFESSIONAL).** The licensed engineer(s) and/or architect(s) retained by the DBC to provide necessary design services under the DBC Contract, including the sealing of any drawings or submittals. The term DBC’s Retained Professional is referred to throughout the Contract Documents as if singular in number and means a person or firm and/or persons or firms that have contractual responsibility for all or any portion of the Project design.
- 1.25 DIRECTOR OF ENGINEERING.** PhilaPort’s employee who is the administrative head of the engineering department.
- 1.26 DISPUTE DESIGNEE.** shall mean the Chief Counsel of PhilaPort, or any deputy or substitute who may be so designated in writing by the Executive Director.
- 1.27 DIVERSITY INCLUSION PLAN.** The Diversity Inclusion Plan of PhilaPort and attached hereto as an Appendix.
- 1.28 E-BUILDER ENTERPRISE SOFTWARE (e-Builder).** The electronic software utilized on PhilaPort projects during and after award of contract and throughout construction administration. The Department, the DBC’s Retained Professional, and the DBC will utilize the e– Builder for all Work and administrative duties after award of contract and throughout construction administration. After award of contract and throughout construction administration, any and all notifications, requests, submittals, approvals, etc. between PhilaPort, the DBC, the DBC’s Retained Professional, and/or the Construction Manager (if a CM is assigned to the Project) shall be through the e-Builder system.
- 1.29 EFFECTIVE DATE OF CONTRACT.** The date on which the last Commonwealth official who is required to execute the contract executes it.
- 1.30 EXTENSION OF TIME.** An approval by PhilaPort of additional calendar days to the Contract Duration.
- 1.31 FIELD ORDER.** A record of a minor adjustment in the Work that results in no change in cost or duration of the Contract.
- 1.32 FINAL COMPLETION.** “Final Completion” will be achieved when each of the following conditions has been met:
- A. Substantial Completion has occurred;
  - B. Contractor has completed performance of all of the Work, including all Punch List items, except for those items that Company and Contractor agree are to be completed by Company (and Contractor has paid all amounts due in connection therewith);
  - C. Company has received a final list and summary of the work performed by all Subcontractors and verification of the payment thereof;
  - D. Contractor has provided to Company all Lien releases as required under this Agreement;
  - E. all documentation, including data points and as built drawings, as necessary to

accurately reflect the Project as constructed in the As-Built Drawings shall have been delivered to, and accepted by, Company; and

F. all sets of the final Operating Manuals and final Job Books have been delivered to Company as required under this Agreement.

- 1.33 FINAL INSPECTION.** A review of the Work conducted by PhilaPort or its designee to determine whether the Work is substantially complete. If, as a result of this inspection, the Work is determined to be substantially complete, the DBC will prepare a certificate of substantial completion and a Punch List of uncompleted or deficient items and a reasonable time for completion with the cooperation of PhilaPort.
- 1.34 INVOICE.** The information submitted by the DBC pursuant to the Administrative Procedure for PhilaPort’s review and/or release of payment.
- 1.35 LABOR & INDUSTRY.** The Commonwealth of Pennsylvania’s Department of Labor & Industry also referred to as “L&I”.
- 1.36 LETTER OF NON-PREJUDICE.** A letter might be issued by PhilaPort at the time of contract award if, in PhilaPort’s sole discretion, such letter is necessary on the Project. If issued, the DBC may rely upon the letter to initiate the scope of Work described in the letter before there is a fully executed contract with PhilaPort and to incur costs in conducting the described scope of Work.
- 1.37 MANUFACTURER.** A firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications and who receives compensation from the DBC, pursuant to the terms of a purchase order or invoice, to provide any material and/or any equipment to the Project. Nothing contained in the Contract Documents between the DBC and PhilaPort creates any contractual relationship between PhilaPort and any manufacturer. A manufacturer lacks privity of Contract to PhilaPort and every manufacturer agrees that it neither acquires nor intends to acquire any rights against PhilaPort on a third party beneficiary theory or any other theory.
- 1.38 MILESTONE.** An indication on the Project Schedule that designates the start or completion of a significant construction activity.
- 1.39 MODIFICATION.** Amendments to the Contract, which can only be made by an approved Change Order, Field Order, or Extension of Time. Modifications can be made only after execution of the Contract.
- 1.40 NOTICE OF DEFICIENCY.** A document to record non-conforming work, deficient work and/or schedule slippage.
- 1.41 NOTICE TO PROCEED.** A notification letter from PhilaPort to the Design-Build Contractor that states the date on which the contractor is to begin work on an awarded project; it also marks the beginning of the performance period as stated in the contract.
- 1.42 OFF-SITE WORK.** All Work that is not physically carried out within the Contract Limits.
- 1.43 ON-SITE WORK.** All Work that is physically carried out within the Contract Limits.
- 1.44 ORIENTATION MEETING** The Job Conference scheduled, according to the Administrative Procedures.

- 1.45 OWNER.** References to Owner in this Request for Proposal shall refer to PhilaPort. Where the context of the usage does not make it clear which is intended, the Proposer or DBC shall submit an RFI requesting clarification.
- 1.46 PHILAPORT.** The Philadelphia Regional Port Authority as defined in the Philadelphia Regional Port Authority Act, 55 P.S. 697.1-697.24.
- 1.47 PHILAPORT’S DESIGNATED REPRESENTATIVE.** PhilaPort’s employee assigned to the Project to manage construction, or owner’s representative as may be designated.
- 1.48 POSTCONSUMER RECOVERED PAPER.** Any paper, paperboard and fibrous wastes from retail stores, office buildings, homes and so forth, after they have been passed through their end- usage as a consumer item including: used corrugated boxes, old newspapers, old magazines, mixed waste paper, tabulating cards and used cordage, as well as all paper, paperboard and fibrous wastes that enter and are collected from municipal solid waste.
- 1.49 PROJECT.** The total Work to be performed by the DBC.
- 1.50 PROJECT SCHEDULE.** The Critical Path Method (CPM) schedule prepared as a result of the affirmative contractual obligation to coordinate the Work through the cooperative efforts of the DBC on the Project.
- 1.51 RECORD DRAWINGS.** Terminology used by PhilaPort to identify contract prints or drawings, corrected with suitable markings to show all changes or variations from the original contract drawings, including all items uncovered during the Work and showing details of the work as actually built, including but not limited to horizontal and vertical dimensional references of all concealed pipe, conduit and other lines and equipment and similar items.
- “Record Drawings” are not the same as the Department of Labor and Industry “Plan Revision” submission.
- 1.52 RECOVERED MATERIALS.** Waste material and byproducts which have been recovered or diverted from solid waste, but such term does not include those materials and byproducts generated from, and commonly reused within, an original manufacturing process.
- 1.53 REQUEST FOR INFORMATION.** A written question submitted by the DBC to PhilaPort seeking clarification of the Contract Documents.
- 1.54 SAMPLES.** Physical examples furnished by the DBC to illustrate materials, equipment or workmanship, and to establish standards by which the work will be judged.
- 1.55 SMALL DIVERSE BUSINESS.** The firm must be small, according to Small Business Administration’s size standards. The firm must at least 51% owned and controlled by one or more disadvantaged persons. The disadvantaged person or persons must be socially and economically disadvantaged. Disadvantaged Business Enterprises, or DBEs, will be the only acceptable certification under Small Diverse Businesses.
- 1.56 SPECIFICATION.** A description of the physical or functional characteristics or the nature of a construction item, including a description of any requirement for inspecting, testing or preparing a construction item for delivery. The specifications are a part of the Contract

Documents and must be interpreted in conjunction with the other Contract Documents, as specified further in the General Conditions.

- 1.57 SUBCONTRACTOR.** A person or organization that has a contract with the DBC to perform any of the Work. The term subcontractor is referred throughout the Contract Documents as singular in number and means a subcontractor or its authorized representative. The DBC and every subcontractor agree that there is no privity of contract between PhilaPort and any subcontractor and that, to the extent set forth by law, the subcontractor has no direct cause of action against PhilaPort for any claim arising out of the Project.
- 1.58 SUBMITTALS.** Administrative or technical information, including but not limited to drawings, diagrams, illustrations, schedules, performance charts, brochures, catalog data, and other data that are prepared by the DBC or any subcontractor, manufacturer, supplier, or distributor, and which illustrate some portion of the Work or how it fits in relation to other parts of the Work.
- 1.59 SUBSTANTIALLY COMPLETE.** When the Work on the Contract is sufficiently completed in accordance with the Contract Documents and certified by PhilaPort and the DBC's Retained Professional so that the Project or specified part(s) of the Project can be used, occupied or operated for its intended use by PhilaPort. In no event shall a Project be certified as substantially complete until at least 90% of the Work has been completed and accepted by PhilaPort and is capable of Beneficial Occupancy, and a certificate of occupancy is issued by L&I.
- 1.60 SUB-SUBCONTRACTOR.** A person or organization that has a Contract with a subcontractor to perform any of the Work. The term sub-subcontractor is referred throughout the Contract Documents as singular in number and means a sub-subcontractor or its authorized representative. The DBC, every subcontractor, and every sub-subcontractor agree that there is no privity of contract between PhilaPort and any sub-subcontractor and that, to the extent set forth by law, the sub-subcontractor has no direct cause of action against PhilaPort for any claim arising out of the Project.
- 1.61 SUPERINTENDENT.** The DBC's representative at the Project site. The Superintendent is responsible for continuous field supervision, coordination and completion of the Work, and, unless another person is designated in writing by the DBC, for the prevention of accidents. The Superintendent shall have full authority to act on behalf of the DBC in relation to Project activities and associated work.
- 1.62 SUPPLIER.** An individual, firm, partnership, association, corporation or other legal entity who receives compensation from the DBC, pursuant to the terms of a purchase order or invoice, to provide any material and/or any equipment to the Project. Nothing contained in the Contract Documents between the DBC and PhilaPort creates any contractual relationship between PhilaPort and any supplier. A supplier lacks privity of Contract to PhilaPort and every supplier agrees that it neither acquires nor intends to acquire any rights against PhilaPort on a third party beneficiary theory or any other theory.
- 1.63 STOCKING SUPPLIER.** a firm that owns, operates, or maintains a store, warehouse, or other establishment, in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.
- 1.64 NONSTOCKING SUPPLIER.** Nonstocking supplier does not carry inventory but orders

materials from a manufacturer, manufacturer's representative or a stocking supplier. In order for a non-stocking supplier to receive credit, it must perform a useful business function by engaging in meaningful work (i.e., negotiating price; and determining quality and quantity; and ordering materials; and paying for the materials).

- 1.65 UNIFORM CONSTRUCTION CODE (UCC).** Refers to the Pennsylvania's Uniform Construction Code (35 P.S. §7210.101 *et seq.*) The DBC is responsible for compliance as set forth in the UCC, the permit, and these General Conditions.
- 1.66 WORK.** The construction and services required by Contract Documents, whether completed or partially completed, including all labor, materials, equipment and services provided or to be provided by a construction DBC to fulfill its obligations. The Work may constitute the whole or a part of the Project.

**ARTICLE 2: EXECUTION, CORRELATION,  
INTENT, AND INTERPRETATIONS**

- 2.1 **CONTRACT EXECUTION.** PhilaPort and the DBC shall sign the Contract Documents. The DBC's Retained Professional shall seal all drawings. The licensed consultant(s) of the DBC's Retained Professional shall sign and seal for their part of the Work. No oral contract or conversation with any officer, agent, or personnel of PhilaPort, or Client Agency, or with the DBC's Retained Professional, either before or after the execution of this Contract, shall affect or modify any of the terms or obligations of the Contract Documents.
- 2.2 **CONTRACT ADMINISTRATION.** Any and all notifications, requests, submittals, approvals, etc. between PhilaPort, the DBCs, the DBC's Retained Professional, and/or the Construction Manager (if a CM is assigned to the Project) shall be in writing.
- 2.3 **CONTRACT INTERPRETATION.** The Contract Documents are complementary and what is required by any one of the Contract Documents is binding as if required by all. The intention of the Contract Documents is to include all labor, materials, equipment, design services, construction services and other items or conditions necessary for the proper execution and completion of the Work. Work not covered under any heading, section, branch, class or trade of the specifications need not be supplied, unless it is required elsewhere in the Contract Documents or is reasonably inferable as being necessary to produce the intended results.

The omission of words or phrases for brevity of the Contract Documents, the inadvertent omission of words or phrases, or obvious typographical or written errors shall not nullify PhilaPort's or their representative's interpretation so long as that interpretation is reasonably inferable from the Contract Documents as a whole. Except as noted otherwise, references to standard specifications or publications or associations, bureaus, or organizations shall mean the latest edition or revision of the referenced standard specification or publication as of the date of the Invitation for Bids. Words that have well-known technical or trade meanings are used in this Contract in accordance with such recognized meanings.

In the event of conflict in the Contract Documents, the priorities stated below shall govern:

- A. Addenda shall govern over all other Contract Documents, and subsequent addenda shall govern over prior addenda only to the extent modified.
- B. Special Conditions shall govern over all specifications, General Conditions, and drawings.
- C. Specifications and drawings shall govern over the General Conditions.
- D. If there is a conflict regarding quantities or quality of products in the Contract Documents, the higher quantity or quality product shall be delivered.

**If there is a conflict between the contract drawings and the specifications, the specifications shall prevail.**

- 2.4 **CONTRACT ORGANIZATION.** The organization of the specifications into divisions, sections and articles and the arrangement of drawings shall not control the DBC in dividing

the Work among subcontractors or in establishing the extent of Work to be performed by any trade.

- 2.5 **CONTRACT DETAIL.** Where the Work is shown in complete detail on only a portion of a drawing or there is an indication of continuation, the remainder being depicted or described in an outline or schematic form, the Work drawn out in detail applies to other like portions of the structure.
- 2.6 **CONTRACT ERRORS OR CONFLICTS.** If the DBC, in the course of construction, finds any conflict, error or discrepancy on or among the Contract Documents, such conflict, error or discrepancy shall be immediately referred in writing to PhilaPort and the DBC's Retained Professional. The DBC's Retained Professional, with appropriate input from the Department, will review the matter and issue an interpretation to the DBC in writing within seven (7) calendar days after the DBC's Retained Professional receives the DBC's Request for Information.
- 2.7 **OWNERSHIP AND AVAILABILITY OF CONTRACT DOCUMENTS.** Unless otherwise provided in the Contract Documents, the e-Builder Enterprise Software (e-Builder) will be the electronic document repository for the Contract Documents. The drawings and specifications are available in e-Builder for download and printing by the DBC. All Contract Documents and any copies/prints made by the DBC are and shall remain the property of PhilaPort.
- 2.8 **CONTRACT NOTIFICATIONS.** Any and all notifications, requests, submittals, approvals, etc. between PhilaPort, the DBCs, and the Construction Manager (if a CM is assigned to the Project) shall be through the e-Builder.

**ARTICLE 3: THE DBC'S RETAINED PROFESSIONAL'S  
RESPONSIBILITIES AND SERVICES**

- 3.1 RELATIONSHIP BETWEEN PHILAPORT, DBC AND RETAINED PROFESSIONAL.** The DBC's Retained Professional shall be a single entity under contract to the DBC and shall serve as a subcontractor to the DBC, and who shall be a qualified professional appropriate for all design, testing and related services required for the Project. As such the DBC has ultimate responsibility to PhilaPort for the design and/or the DBC's Retained Professional's coordination of the work of multiple professionals utilized for different portions of the Work. The DBC's Retained Professional is responsible to the DBC and only the DBC may give instructions which bind the DBC's Retained Professional. Although PhilaPort will obtain a copy of the fully executed contract between the DBC and the DBC's Retained Professional, PhilaPort will not assume any privity or liability for the performance of the DBC/DBC's Retained Professional contract. The DBC is constructing the Project for PhilaPort in accordance with the Contract Documents. The DBC's Retained Professional may not change scope or direct that items be included in the design that will increase the Contract Amount. All requests for such changes must be submitted to PhilaPort by either the Client Agency or the DBC.
- 3.2 CONSULTANTS.** The DBC's Retained Professional's responsibilities include the coordination for all its subcontractors and/or consultants and in the several branches of the architectural and engineering professions.
- 3.3 REPRESENTATION AS TO QUALIFICATIONS.** The DBC represents that the DBC's Retained Professional and all consultants, agents, servants, employees, officers and subcontractors possess and shall possess the required licenses and certifications, the experience, knowledge, and skills necessary to qualify them individually for the particular duties they perform. The DBC warrants that the DBC's Retained Professional shall perform the design in accordance with all engineering and architectural principles, practices and methods generally accepted as standards of the industry for projects similar in nature, size and complexity to this project. PhilaPort may demand of the DBC, with written justification to the DBC's Retained Professional, the removal from the Project of any person employed by the DBC's Retained Professional who PhilaPort deems to be insufficiently qualified for that portion of the Work or who is incompetent or guilty of misconduct.
- 3.4 DBC'S RETAINED PROFESSIONAL'S LIABILITY INSURANCE.**
- 3.4.1** The DBC's Retained Professional and any subcontractors and/or consultants of the DBC's Retained Professional that are required to provide sealed documents shall secure and maintain Professional Liability Insurance as specified in the RFP.
  - 3.4.2** If the DBC's Retained Professional or any consultant is a Joint Venture, one DBC Retained Professional Liability Insurance policy covering the Joint Venture, or separate policies covering the individual joint venturers may be furnished. If separate policies covering the individual joint venturers are furnished, each policy must provide the minimum coverage for each occurrence as called for in the RFP and must together be equal to at least the aggregate amounts.
  - 3.4.3** Alternately, the DBC's Retained Professional may be covered under the



DBC policies as provided for in the RFP. The DBC is ultimately responsible for the Project design and any errors, omissions or other acts covered by professional liability insurance and shall ensure that the DBC and the DBC's Retained Professional are adequately and appropriately covered by insurance.

- 3.5 **COORDINATION OF SEPARATE SUBCONTRACTS.** The DBC's Retained Professional shall coordinate the plans and Specifications for all of its subcontracts and/or consultants to insure against omissions, conflicts, overlaps or duplications of any items of work or materials on the Project.
- 3.6 **SELECTED CONSTRUCTION MANAGEMENT.** When PhilaPort has determined, at any point in the design or construction phase, that a Construction Manager will be used to provide to PhilaPort selected services, including but not limited to, cost estimating, scheduling, constructability review, value engineering, and construction administration, the DBC's Retained Professional shall generally cooperate with the Construction Manager. The DBC's Retained Professional shall promptly make available to the Construction Manager, in appropriate formats, the drawings, specifications and other information deemed pertinent by PhilaPort to the selected construction management services.
- 3.7 **RESPONSIBILITY.** The DBC's Retained Professional is responsible for the compliance of the Contract Documents related to Design with all applicable permits, laws, regulations and ordinances of all commissions, agencies and governments, federal, state and local, insofar as they are applicable to, and have jurisdiction over, the Project. The DBC's Retained Professional shall make all required submittals to, and shall obtain all required approvals from, the applicable agency in a timely manner so as not to cause delays to the Project.
- 3.8 **COOPERATION WITH LOCAL BODIES.** During the design of the Project, the Retained Professional shall keep the local government informed about the Project and comply with any applicable requirements of local zoning, planning and supervisory bodies. If any of these requirements vary with the RFP and substantially increase the cost of the Project, or should any required approvals be withheld by the local bodies, the Retained Professional shall immediately notify both the DBC and PhilaPort in writing of the issue.
- 3.9 **DBC'S RETAINED PROFESSIONAL'S INTERPRETATION OF DOCUMENTS.** The DBC's Retained Professional is the initial interpreter of the requirements of the Contract Documents related to Design. The DBC's Retained Professional will, within seven (7) days after receipt of a written request, render in writing such interpretation and shall copy PhilaPort on all such correspondence rendering an interpretation of the Contract Documents. All interpretations by the DBC's Retained Professional shall be consistent with the Contract Documents.
- 3.10 **DBC'S RETAINED PROFESSIONAL'S REVIEW OF SUBMITTALS.** The installing contractor or subcontractor must submit items to be incorporated into the Project for review to the DBC's Retained Professional. The DBC's Retained Professional will then review submittals as provided in these General Conditions. The DBC's Retained Professional shall cooperate with PhilaPort to develop a list of approved shop drawings, approved descriptive data, approved catalogue cuts, and approved technical data to be submitted to PhilaPort for review.
- 3.11 **REPLACEMENT OF DBC'S RETAINED PROFESSIONAL.** If the DBC terminates the DBC's Retained Professional, the DBC may hire a new Retained Professional whose

status under the Contract Documents shall be that of the former DBC's Retained Professional. The decision of whether or not to terminate the DBC's Retained Professional rests solely with the DBC. PhilaPort expressly reserves the right to evaluate and either accept or reject the DBC's replacement Retained Professional. PhilaPort's evaluation and input on the replacement Retained Professional shall not create any additional liability against PhilaPort or additional defense to DBC. The DBC will not hire a replacement Retained Professional without the prior written consent of PhilaPort.

- 3.12 COORDINATION WITH EXISTING FACILITIES AND UTILITIES.** The DBC's Retained Professional, its subcontractors and/or consultants shall consult with PhilaPort to obtain all necessary data for coordinating the Project with existing structures and all support utilities. The DBC's Retained Professional shall consult with PhilaPort regarding any correlation of design with future planning. The DBC's Retained Professional shall confirm in writing to PhilaPort, through the DBC, all data furnished to the DBC's Retained Professional in this connection and the data's adequacy. The DBC's Retained Professional shall verify the information provided in the RFP regarding the various public services and utility companies, such as gas, electric, water, steam, waste water treatment/disposal, surface water disposal, telephone and communication, the commitment of their capability to service this Project, and shall submit same to PhilaPort as part of its design submissions. The DBC's Retained Professional shall bring to PhilaPort's immediate attention any reservations to this commitment by the utility companies, such as in-house engineering and construction costs and any inconsistencies regarding the locations and characteristics of such utilities between the actual field conditions and those indicated.
- 3.13 VISITS TO SITE DURING THE DESIGN PHASE OF THE PROJECT.** The DBC's Retained Professional, its subcontractors and/or consultants shall visit the Project Site as required and shall obtain and study available record drawings, investigate existing conditions, visual topographic and site data, and the Client Agency's available future plans for the purpose of obtaining any and all pertinent or necessary information as to local conditions not required to be shown, or shown without complete detail, in the RFP, on the Plat of Survey and Report of Surveyor if furnished by PhilaPort, as may affect the design of the Project and the necessity for special provisions or wording in the specifications. The DBC's Retained Professional shall verify in writing to PhilaPort, through the DBC, no later than with its preliminary submission, that it has requested and obtained pertinent interference documentation from all utility companies and any other entity that may have underground or concealed lines or objects in the area of the proposed construction. The DBC's Retained Professional shall verify existing conditions by visual inspection and measurement and not by sole reliance on record documents or land survey. If corrective or additional work becomes necessary by reason of such failure to obtain all necessary, clarifying and available data for a proper and correct design of the Project, the cost of such corrective work shall be borne by the DBC.
- 3.14 SUBMITTAL SCHEDULE.** The DBC shall submit all necessary submittals to the DBC's Retained Professional in accordance with a submittal schedule established by the DBC and its subcontractors. The submittal schedule shall be established by the DBC and distributed to PhilaPort no later than the first Job Conference held after the Orientation Meeting.
- 3.15 SCHEDULING OF SUBMISSIONS.** During the design phase, the DBC's Retained Professional shall schedule and coordinate its work so the Client Agency has adequate time and opportunity to review and accept both the program and the design concepts prior to the scheduled submissions to PhilaPort. During the final phases of design, the DBC's Retained Professional shall coordinate its work with the Client Agency to keep the agency current with the project development. The DBC's Retained Professional must obtain acceptance in

a timely manner to permit the Work to continue on schedule.

- 3.16 **PRELIMINARY DESIGN PHASE - SCOPE OF PHASE.** Upon receipt of Letter of Non Prejudice from PhilaPort, the DBC shall have the DBC's Retained Professional, based on the RFP, prepare the Sketch Design and Preliminary Design Submission Documents.
- 3.17 **REPORTS DURING DESIGN ON SPECIAL CONDITIONS RELATING TO OPERATIONS AND MAINTENANCE.** The DBC's Retained Professional shall familiarize itself with PhilaPort's normal operating and maintenance programs and shall submit with the Preliminary Design Phase submission, reports on any special operating or maintenance procedures required by the design. If the design does not require departures from PhilaPort's normal procedures, the DBC's Retained Professional shall submit a signed statement to that effect to PhilaPort with the Preliminary Design Submission.
- 3.18 **FINAL DESIGN PHASE - SCOPE OF PHASE.** Upon receipt of PhilaPort's written acceptance of the Preliminary Design Submission, the DBC's Retained Professional shall develop the Design Documents. Any such acceptance is not a release of responsibility or liability on the part of the DBC or DBC's Retained Professional.
- 3.19 **ACCESS TO WORK AND ON-SITE REPRESENTATION.** The DBC's Retained Professional, its subcontractors and/or consultants and authorized representatives shall, at all times have access to the Work, wherever it is in preparation and progress. The DBC shall provide the facilities and means for such access so the DBC's Retained Professional may perform its functions under the Contract Documents.
- 3.20 **VISITS TO THE SITE DURING CONSTRUCTION.** The DBC's Retained Professional, or an authorized and qualified representative, shall visit the site at least bi-weekly, or more often as required by the construction activities and progress during periods of active construction. The DBC's Retained Professional shall review the progress of the Work, including the completeness of the DBC's record prints. The DBC's Retained Professional's subcontractors and/or consultants must visit the site at such intervals as deemed necessary by PhilaPort or the DBC's Retained Professional, to review their respective phases of the Work in order to achieve the requirements of the Contract. In addition, the DBC's Retained Professional is to attend any and all project site conferences that are determined by PhilaPort to be necessary to clarify the Contract Documents related to Design.
- 3.21 **PROGRESS REPORTS AS TO CONSTRUCTION.** The DBC's Retained Professional shall, within seven (7) days of each site visit, submit written reports to PhilaPort, through the DBC, relative to the progress of the Work. The Progress Reports to PhilaPort shall include the findings of the Retained Professional, its subcontractors and/or consultants on each of their visits.
- 3.22 **INTERPRETER.** PhilaPort, or its designee, who created the RFP shall interpret the DBC's Retained Professional's Contract Documents' compliance with the design and performance intent of the RFP documents. The DBC's Retained Professional shall be the interpreter of the Contract Documents related to Design. Interpretation shall comply with Article 2 of these General Conditions.
- 3.23 **STANDARDS OF QUALITY.** If the DBC wishes to utilize material or equipment that is of the same type as specified, but manufactured by others than those named in the specifications of either the RFP, bridging or prototype documents (if any), the DBC shall certify at the time of submittals that the material or the equipment is equal in quality,

performance and appearance to that mentioned in the specifications. No substitutions or “equal” submissions can be made to proprietary items.

- 3.24 REVIEW OF CONTRACTORS' SHOP DRAWINGS AND MATERIALS.** The DBC's Retained Professional shall review and approve shop drawings for compliance with the Contract Documents, and process as provided in these General Conditions and the Administrative Procedures. The DBC's Retained Professional shall review and approve all samples, materials, and other submissions of the DBC for conformity to and harmony with the design concept of the Project and for compliance with the requirements of the Contract Documents. The DBC's Retained Professional shall request from the DBC and may rely on bona fide test data, certifications and other evidence submitted by the DBC as needed to establish conformity with the contract requirements prior to approving material and products submitted.
- 3.25 APPROVAL OF SHOP DRAWINGS.** Time is of the essence on this Project. The DBC's Retained Professional shall return all approved shop drawings, or detailed notation for resubmission if required, promptly and in accordance with the terms of its agreement with the DBC. Failure of the DBC and/or its subcontractor(s) to deliver required submittals to the DBC's Retained Professional and/or the DBC's Retained Professional's failure to deliver required submittals to PhilaPort for review and acceptance in accordance with the accepted schedule and procedures shall not reduce the time allocated for PhilaPort review and acceptance nor constitute grounds for increased project duration. PhilaPort's acceptance of a separate item does not indicate acceptance of an assembly in which the item functions. A detailed log shall be maintained by the DBC's Retained Professional as to time of receipt of the shop drawings and time of return with adequate notes as to their disposition.
- 3.26 NON-CONFORMING WORK.** If corrective work or drawings are required from the DBC's Retained Professional due to defective or non-conforming work by the DBC, the cost for the DBC's Retained Professional's additional services shall be borne by the DBC. PhilaPort shall review for acceptance the corrective work and/or drawings which are prepared by the DBC's Retained Professional in order to determine that the corrective work and/or drawings fall within the original scope of the Contract.
- 3.27 DBC'S RETAINED PROFESSIONAL'S REVIEW OF RECORD DOCUMENTS.** The DBC's Retained Professional shall, prior to substantial completion, receive from the DBC all record field drawings, shop drawings and record data, as needed, in order to prepare Record Drawings. The DBC's Retained Professional shall review said documents for accuracy and compliance with the Contract Documents and, after final approval, submit required documents to PhilaPort.
- 3.28 OPERATIONS AND MAINTENANCE DATA.** Prior to Final Inspection of the Project, the DBC's Retained Professional shall collect from the DBC a final draft of the Operation and Maintenance Instructions Manuals prepared by the DBC and its various subcontractors. The DBC's Retained Professional shall review the draft for completeness including all pertinent shop drawings, diagrams, catalog data, manufacturers operating instructions, manufacturer's or supplier's maintenance instructions, certificates, warranties, guarantees and other pertinent operating and maintenance data. The DBC's Retained Professional shall indicate its approval of the draft with correction if necessary or request a revised draft and resubmission of the manual for the DBC's Retained Professional's review and approval. Upon receipt of the two (2) final bound manuals from the DBC, the DBC's Retained Professional shall review them for accuracy and content, and when they meet with its approval, the DBC's Retained Professional shall forward to PhilaPort the two

(2) copies and two (2) identical, additional copies in electronic format(s) and on media acceptable to PhilaPort prior to Closeout Inspection.

- 3.29** **“RECORD DRAWINGS” FOR DEPARTMENT OF LABOR & INDUSTRY.** The DBC is responsible for submitting to PhilaPort or Labor and Industry a revised set of Design Documents for approval for changes made during construction that are not in accordance with the Design Documents submitted for permitting. This revised set of construction shall be referred to as “L&I Record Drawings” and shall be submitted in accordance with L&I UCC requirements, if applicable.
- 3.30** **FINAL INSPECTION.** When the DBC submits in writing to PhilaPort a request for a Final Inspection and an application for final payment, the Final Inspection will be conducted within 30 days of the receipt of the request. The Final Inspection shall be conducted no later than sixty (60) days prior to the Contract Completion Date (Closeout Inspection). If PhilaPort and the DBC’s Retained Professional concur that the Work is substantially complete, the DBC’s Retained Professional will issue a Certificate of Final Completion and a final certificate for payment. In such case, the DBC's Retained Professional shall produce and deliver to the DBC, at Final Inspection, a list of uncompleted items and a reasonable cost of completion (Punch List). The Punch List shall list in detail each uncompleted item and a reasonable cost of completion for each Punch List item. PhilaPort shall be given the opportunity to review and accept the contents of the Punch List. The DBC's Retained Professional will participate in any subsequent inspection to determine if the items are completed. See Article 14 Project Closeout for additional information.

## ARTICLE 4: PHILAPORT

- 4.1 **EASEMENTS AND RIGHTS OF ACCESS.** If necessary, PhilaPort will secure and pay for easements for permanent structures with a right of access to the structures. If such easements are insufficient for the erection of temporary construction facilities and storage of materials, the DBC shall obtain easements and space as necessary at no cost to PhilaPort.
- 4.2 **ADMINISTRATIVE PROCEDURES.** The Administrative Procedures are included in the Contract Documents and are incorporated by reference and made a part hereof, as if fully set forth herein. In the event there is any redundancy, conflict, contradiction, discrepancy or inconsistency between any portions of or criteria set forth in the Administrative Procedures and the other Contract Documents, the most restrictive or demanding of the criteria shall take precedence over any less restrictive or less demanding criteria as determined by PhilaPort and/or PhilaPort's designee.
- 4.3 **PHILAPORT IS NOT RESPONSIBLE FOR DBC MEANS/METHODS/TECHNIQUES.** PhilaPort is not responsible for the construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work since these are solely the DBC's responsibilities.
- 4.4 **PHILAPORT IS NOT RESPONSIBLE FOR DBC ACTS OR OMISSIONS.** PhilaPort will not be responsible for the acts or omissions of any DBC, or any of its subcontractors, or any of their agents or employees, or any other persons performing any of the Work for the DBC.
- 4.5 **PHILAPORT'S ACCESS TO THE WORK.** PhilaPort will, at all times, be provided full access to any area PhilaPort deems necessary in order to perform its responsibilities. The DBC shall provide the facilities for such access so PhilaPort may perform its functions under the Contract Documents.
- 4.6 **PHILAPORT'S USE AND/OR OCCUPANCY OF THE WORK.** PhilaPort may use or occupy any completed or partially completed portions of the Work, whether or not the time may have expired for completing the entire Work or said portions of Work. Such use or occupancy shall not be deemed an acceptance of the portion of the Work so taken or used. Prior to such use or occupancy, an assessment of the Work to be occupied shall be made by PhilaPort and the DBC's Retained Professional to determine if it is in conformity with the Contract Documents. Any damage subsequent to the inspection due solely to the use and occupancy of the completed portion is not the responsibility of the DBC.

## **ARTICLE 5: THE CONSTRUCTION MANAGER**

**(This Article only applies if a Construction Manager is retained for the Project)**

### **5.1 INFORMATION AND SERVICES REQUIRED OF THE CONSTRUCTION MANAGER.**

- A. The Construction Manager shall carry out the duties specified in the Contract acting as an agent and authorized representative/designee of PhilaPort.
  - 1. The Construction Manager will determine in general that the Work is being performed in accordance with the requirements of the Contract Documents, will keep PhilaPort informed of the progress of the Work, and will endeavor to guard PhilaPort against defects and deficiencies in the Work.
  - 2. The Construction Manager will assist in the coordination of the activities of the DBC. The DBC has an affirmative duty to coordinate Work with its subcontractors and/or consultants. Nothing in this Article relieves the DBC of their coordination responsibilities.
  - 3. The Construction Manager will not have control over or charge of and will not be responsible for construction means, methods, or techniques or for safety procedures and programs in connection with the Work, since these are solely the DBC's responsibility.
  - 4. The Construction Manager will review, certify and recommend to PhilaPort payment for all acceptable Application for Payment from the DBC, including final payment.
  - 5. The Construction Manager will review and advise PhilaPort on Change Orders.
- B. At a point in time no later than the Initial Job Conference, the Construction Manager shall provide the DBC a list of its principal staff assignments, including the Site Representative and other personnel to be in attendance at the site, identify individuals, their duties and responsibilities and list their addresses and telephone numbers.
- C. For purposes of this Contract, the DBC shall consider and assume that any requisite approval shall be deemed to have been given by PhilaPort for any such authority exercised by the Construction Manager.
- D. Except as expressly stated in the Contract, the Construction Manager shall have no authority and no liability to relieve the DBC of any of its obligations under the Contract.
- E. It is not the intention of these Contract Documents to inhibit communications between the DBC's Retained Professional, the Construction Manager and the DBC as it relates to clarification, interpretation and other issues related to progressing of the Work.
- F. If, in the opinion of the Construction Manager, an emergency occurs affecting the Work or adjoining property, the Construction Manager may, without relieving the DBC of any of its duties and responsibilities under the Contract, instruct the DBC to execute all such Work or to do all such things as may, in the opinion of the Construction Manager, be necessary to abate or reduce the risk. The DBC shall

immediately comply, despite the absence of approval of PhilaPort, with any such instruction of the Construction Manager.

- G. The Construction Manager's Site Representative will be responsible for the Construction Management of this Project and shall carry out all required duties and exercise such authority as may be required under the terms of this Contract, including but not limited to reviewing Change Orders, Applications for Payment and Extensions of Time.
- H. The Construction Manager's Site Representative will execute the duties and authorities vested in the Construction Manager. The Construction Manager's Site Representative has been fully vested with a level of authority that is adequate to execute the requirements of the Construction Management for this Project. The DBC is expected to and allowed to rely upon the directions that may be provided from the Construction Manager's Site Representative.
- I. Any communication given by the Construction Manager's Site Representative to the DBC in accordance with such delegation shall have the same effect as though given by the Construction Manager or PhilaPort.
- J. The Construction Manager may appoint any number of persons from its staff to assist in the carrying out of the Construction Manager's duties. Such assistants shall have no authority to issue any instructions to the DBC unless such instruction may be necessary to enable the DBC to carry out their duties and to secure their acceptance of materials, equipment or workmanship as being in accordance with the Contract, and any instructions given by any of them for those purposes shall be deemed to have been given by the Construction Manager.
- K. Any notifications and/or instructions given by the Construction Manager to the DBC shall be in writing.
- L. In all cases of misunderstanding and disputes, verbal instructions that were not subsequently reduced to writing as discussed above in the preceding subparagraph will not be considered binding upon PhilaPort. The DBC must produce evidence in support of its contentions and shall advance no claim in the absence of such evidence, or use, or attempt to use any conversation with any parties against the Construction Manager, or PhilaPort, or in prosecuting any claim against the Construction Manager, the DBC's Retained Professional or PhilaPort.
- M. Wherever, under the Contract, the Construction Manager is required to exercise its discretion by:
  - 1. Giving decision, opinion or consent; or
  - 2. Expressing satisfaction or dissatisfaction; or
  - 3. Determining value; or
  - 4. Otherwise taking action which may affect the rights and obligations of PhilaPort or the DBC, the Construction Manager shall exercise such discretion impartially within the terms and conditions of the Contract and having regard to all the circumstances. To the extent the DBC disagrees with the Construction Manager's determination on an issue, any such decision, opinion, consent, expression of satisfaction, or dissatisfaction, determination of value



or action may be subject to the Disputes Article of these General Conditions of the Contract.

- N. The Construction Manager's failure to insist on strict compliance with any term, condition or provision of this Contract or instruction under it, or to exercise any right, remedy, privilege or power provided under this Contract, or the Construction Manager's waiver of any breach, shall not relieve the DBC of responsibility for compliance with the Contract requirements and shall neither waive nor prevent the Construction Manager or PhilaPort from subsequently requiring strict compliance with that term, condition, provision, instruction, right, remedy, privilege or power.
- 5.2 **CONSTRUCTION MANAGER'S ACCESS TO THE WORK.** The Construction Manager or the authorized representative of the Construction Manager, will at all times be provided full access to any area it deems necessary in order to perform its responsibilities to assist coordination of the Work. The DBC shall provide the facilities for such access so the Construction Manager may perform its functions under the Contract Documents.
- 5.3 **REPLACEMENT OF CONSTRUCTION MANAGER.** In case of the termination of the Agreement for Construction Management Services, PhilaPort may appoint a new Construction Manager whose status under the Contract Documents shall be that of the former Construction Manager. The decision of whether or not to replace and/or appoint a new Construction Manager or to assume construction management responsibilities is solely within PhilaPort's discretion.
- 5.4 **THE CONSTRUCTION MANAGER NOT RESPONSIBLE FOR DBC ACTS OR OMISSIONS.** The Construction Manager is not be responsible for the acts or omissions of any DBC, or any of its subcontractors, or any of their agents or employees, or any other persons performing any of the Work for the DBC.
- 5.5 **DBC NOT AN INTENDED THIRD PARTY BENEFEICIARY OF THE CONSTRUCTION MANAGER'S AGREEMENT.** The DBC is not an intended third party beneficiary of the Agreement for Construction Management Services between PhilaPort and the Construction Manager. Nothing in the Contract Documents between PhilaPort and the DBC should be construed to authorize any person not a party to the Agreement for Construction Management Services to maintain any lawsuit involving that contract, unless otherwise provided by law.

## **ARTICLE 6: THE DESIGN-BUILD CONTRACTOR**

### **6.1 REVIEW OF CONTRACT DOCUMENTS AND SITE CONDITIONS.**

A. **PROCUREMENT STAGE INVESTIGATION AND DOCUMENT REVIEW.** During the procurement stage, the DBC has an affirmative duty to examine the nature and location of the Work, the soil and rock conditions and the character, quality and quantity of the materials that are required for the Work. Any geotechnical information available for review on the Project is provided for informational purposes only; it is not to be relied upon by the DBC. The DBC also has a duty to carefully study and compare the Contract Documents for consistency and to the physical conditions of the job site. If the DBC did not request a clarification during the bid stage with regard to the site conditions or discrepancies within the Contract Documents, the DBC may not submit a claim after award of contract alleging insufficient data, ambiguity in the documents, incorrectly assumed conditions or misunderstanding.

### B. **POST-AWARD INVESTIGATION AND DOCUMENT REVIEW.**

1. **Site Conditions** – If, after award, the DBC finds any material change in the condition of the site since the time of bidding, the DBC must immediately inform the DBC's Retained Professional in writing of the changed site conditions. The DBC's Retained Professional, after consulting with and obtaining PhilaPort's approval, and within seven (7) days after receipt of DBC's notification, will address the alleged material change in the site conditions and notify the DBC of such review.
2. **Contract Documents** – If, after award, the DBC contends that there are discrepancies or errors in the drawings and/or the specifications, the DBC must submit the contention as a Request for Information to the DBC's Retained Professional and PhilaPort within 10 days after discovering the alleged discrepancy.
  - a. If PhilaPort determines that the discrepancy/error constitutes a patent condition that should have been discovered during the procurement stage, no additional time or compensation will be granted to the DBC.
  - b. If PhilaPort determines the discrepancy constitutes a latent condition that would not be reasonably susceptible of being discovered during the procurement stage, PhilaPort will consider granting additional time and/or compensation to the DBC, depending upon the specific nature of the condition.

**6.2 COORDINATION.** The DBC is solely responsible for the coordination of the Work, ensuring the proper function and sequence to avoid delays. The progress of the Work shall not be delayed by any disputes between the DBC and any subcontractors and/or suppliers.

**6.3 COORDINATION OF SUBCONTRACTORS.** The DBC shall be responsible for all acts of its subcontractors and for their compliance with all terms and provisions of the Design Build Contract applicable to their performance. The DBC shall continuously coordinate the Work of all subcontractors to assure proper processing and progress of the Work. The DBC shall require each subcontractor, at a minimum, to comply with the following:

- A. Examine all shop drawings and the Work of other subcontractors and all sections of the specifications to the extent necessary for satisfactory performance of the Work and connection of its Work and the Work of other subcontractors;
- B. Coordinate its Work accordingly;
- C. Cooperate with other subcontractors toward timely and satisfactory completion of the Project.

The DBC's subcontractors shall not be removed from the Project without PhilaPort's review and acceptance. Subcontractors are also subject to review by PhilaPort as set forth in the Administrative Procedures. The DBC will not receive an extension of time or additional compensation for the removal of any unacceptable subcontractors. The failure of any subcontractor to complete its portion of the Work in a satisfactory manner within the proper time will not relieve the DBC of responsibility for the proper and satisfactory execution and completion of the entire Work.

**6.4 MEANS, METHODS AND TECHNIQUES OF CONSTRUCTION.** The DBC is solely responsible for all construction means, methods, techniques, procedures, and safety programs in connection with the work under the Contract unless the contract documents require other and additional responsibilities from the DBC. PhilaPort will not be responsible for construction means, methods, techniques or procedures, or for safety precautions or programs in connection with the Work, since these are solely within the DBC's responsibility.

**6.5 USE OF SITE.** The DBC shall confine its apparatus, the storage of its equipment, tools and materials, and its operations and workers to the limits of contract as permitted by law, ordinances, permits, the Contract Documents and PhilaPort. The DBC shall not unreasonably encumber the site with any materials or equipment.

**6.6 MOBILIZATION.** Mobilization limits shall be consistent with the description set forth in the Administrative Procedures. The following items are included as mobilization, and cannot be included separately on the breakdown:

- DBC's field office
- PhilaPort field office (unless otherwise specified in specifications)
- Heating, lighting and telephone for the field offices
- Installation for the offices Installation of signs
- Site survey
- Construction fence, if required
- Sidewalk bridge, where required and built to all applicable OSHA requirements
- Safety and first aid equipment
- Temporary power setup
- Temporary power
- distribution Temporary water
- Temporary sanitary

- 6.7 **JOB CONFERENCES.** Job Conferences may be held as often as required, but shall be held at least bi-weekly and must be attended by DBC. **Regardless of the status of the Work, the DBC must have a representative authorized to make all decisions and representations affecting the DBC attend each Job Conference.** PhilaPort and the DBC's Retained Professional shall also attend every Job Conference. PhilaPort shall schedule the dates and times of Job Conferences. Failure to attend bi-weekly Job Conferences or any other mandatory meeting (unless excused by PhilaPort) constitutes a breach of this Contract.
- 6.8 **DBC'S STAFF AND PHONE NUMBERS.** Within ten (10) days of receipt of the Contract, the DBC shall submit to the PhilaPort Project Manager the New User Form with a maximum of three (3) proposed principal staff that will be assigned to the Project. This shall include the name, address, email address, and telephone numbers of the DBC's Superintendent and other personnel assigned to the Project.
- 6.9 **DRAWINGS AND SPECIFICATIONS AT THE SITE.**
- A. The DBC shall maintain in good order at the site, for PhilaPort and the DBC's Retained Professional, one (1) paper copy of all drawings and specifications. All addenda, contract modifications, Change Orders and requests for information shall be posted to these documents at the applicable locations. As appropriate, these documents will be updated daily to record accurately as-built conditions, selections and changes. The DBC is also responsible to maintain one full set of all permit documents.
  - B. The DBC shall also maintain at the site one (1) paper copy of approved shop drawings, catalog data, operating and maintenance instructions, certificates, warranties, samples and similar submittals. These shall be available to PhilaPort and DBC's Retained Professional at all times, and they shall be delivered to the DBC's Retained Professional as part of the Operation and Maintenance Instruction Manuals described in these General Conditions.
  - C. The DBC shall also maintain one (1) paper copy of approved coordination drawings, to include as-built conditions, selections and changes to be submitted to the DBC's Retained Professional and included as part of the Operation and Maintenance Instruction Manuals. The DBC shall include the value of the Record Drawings as a line item on its schedule of values, which shall be not less than 10% of the amount included for mobilization. The amount included is subject to the approval of PhilaPort.
- 6.10 **PROVISION OF LABOR AND MATERIALS.** Unless otherwise specifically noted, the DBC shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and all other facilities and services necessary for the proper execution and completion of the Work.
- 6.11 **RESPONSIBILITY FOR THOSE PERFORMING WORK.** The DBC is responsible to PhilaPort for the acts and/or omissions of all of its employees and all subcontractors, their agents and employees, and all other persons performing any of the Work under a contract or purchase order with the DBC.
- 6.12 **EQUIPMENT AND MATERIALS.** The DBC shall furnish and deliver the necessary equipment and materials in ample quantities and as frequently as required to avoid delay

in the progress of the Work. The DBC's materials or equipment shall not interfere with the orderly progress of the Work, nor endanger the lives of any operators or persons within the vicinity of the stored equipment or materials, nor to cause damage to the adjacent property or highways. Any damage resulting from the operations of such equipment to any person or property is the responsibility of the DBC in accordance with the Insurance paragraph of these General Conditions.

**6.13 SUPERVISION.** The DBC shall provide on-site supervision by an employee who shall act as the duly authorized and competent Superintendent. If the DBC fails to comply with the provisions of this paragraph, PhilaPort may: (1) withhold any payments which are or may become due to the DBC; and/or (2) suspend the work at the expense of the DBC, including taking a credit for each day the DBC did not have the approved Superintendent on site.

- A. **ON SITE:** This Superintendent shall be on-site during the progress of the Work, including any time when any Work is being performed by any subcontractor that will impact the Work of the DBC. The Superintendent shall represent the DBC, and all communications given to the Superintendent shall be binding as if given to the DBC. The Superintendent must attend all Monthly Schedule Update Meetings and every bi-weekly job conference. The Monthly Schedule Update Meetings shall be scheduled and chaired by the Superintendent.
- B. **QUALIFICATIONS:** At the Initial Job Conference, the DBC shall submit to PhilaPort the name and qualifications of its Superintendent. The Superintendent must meet the qualifications in the specifications and be acceptable to PhilaPort. The DBC shall not change its Superintendent at any time during the Project without the prior written approval of PhilaPort, and must submit to PhilaPort, in writing, justification for the change, along with the name and qualifications of the individual whom the DBC proposes to be the new Superintendent. PhilaPort reserves the right to require a change in the Superintendent if the Superintendent's performance is deemed by PhilaPort to be inadequate.

**6.14 GOOD ORDER AMONG EMPLOYEES.**

- A. The DBC shall enforce good order and conduct among its employees at all times. Every employee shall be skilled in the performance of work assigned to that employee. All construction personnel shall be respectful of all Commonwealth and/or PhilaPort employees and the general public.
- B. Any incidents of disrespect, verbal abuse, threatening statements, acts indicating a violation of the DBC's Drug and Alcohol policy, unwelcome comments, unwelcome interaction or any form of harassment from any construction personnel toward any Commonwealth or PhilaPort employee, designee employees, or the general public is strictly prohibited. Any such act shall constitute sufficient cause for PhilaPort to demand that the DBC dismiss the person(s) from the job site.
- C. If any DBC's personnel ignores or refuses to take action on any requirements of the Contract Documents, ignores or refuses to take immediate action to correct any endangerment to the health and safety of the public, as solely determined by PhilaPort then this action and/or inaction shall be sufficient cause for PhilaPort to demand that the DBC dismiss the person(s) from the job site.

D. When, in the sole determination of PhilaPort, it would be in the best interest of the Project and the Commonwealth or PhilaPort to have a DBC's personnel removed from the Project for the reasons described above, then PhilaPort may demand that the DBC dismiss from the job site. Any violation is sufficient cause for PhilaPort to direct that the DBC remove such person from employment on the Project, and direct that they shall not be re-employed on that Project without the consent of PhilaPort. Such actions taken by PhilaPort shall not constitute grounds for a delay claim. PhilaPort will not be responsible for any delays caused to the Project due to any individual being removed from the Project.

**6.15 PERMITS AND FEES.** In compliance with the Pennsylvania Construction Code Act (PCCA), 35 P.S. §7210.101 to §7210-1103, as amended (a.k.a. Uniform Construction Code Statute or UCC), only the Department of Labor and Industry has jurisdiction for plan and specification review and inspection authority over all State-owned buildings and facilities. Consequently, the DBC on PhilaPort projects shall not obtain any building permits from local authorities. The DBC, shall, however, continue to obtain and pay all fees for all other necessary permits, licenses and certificates required by law or otherwise for the proper execution and completion of its Work. The DBC shall furnish proof of payment for all such items, or proof that no such items are required. This proof must be furnished prior to the second Invoice. The DBC will be reimbursed for the actual cost of such items by Change Order and the DBC will not be entitled to any mark-up on the items unless otherwise authorized by PhilaPort.

Sewer and Water Tap in Fees shall be reimbursed to the DBC by Change Order without mark-up.

**6.16 PCCA/UCC INSPECTIONS & COMPLIANCE WITH APPLICABLE LAWS, ORDINANCES, REGULATIONS, ETC.**

A. The DBC shall give all notices and comply with all applicable laws, ordinances, regulations, rules and orders of any public authority bearing on the performance of the Work. If the DBC observes any of the Contract Documents conflicting with applicable laws, ordinances, regulations, rules and orders of any public authority in any respect, it shall promptly submit a Request for Information. Any conflicts will be addressed by the DBC's Retained Professional and PhilaPort. If the DBC performs any work knowing it to be contrary to such applicable laws, ordinances, regulations, rules or orders of any public authority, and without such RFI to PhilaPort, it assumes full responsibility for that action and shall bear all costs attributable thereto.

B. This Project shall be subject to the Pennsylvania Construction Code Act (PCCA) and the Uniform Construction Code Statute. The DBC shall become familiar, and is responsible for complying, with all aspects of the PCCA and the UCC, including but not limited to the site inspection procedure set forth in the Department of Labor & Industry's Inspection Procedures. For purposes of inspection, the DBC shall be deemed the "owner" as described in the PCCA/UCC. The most recent list of inspections required by L&I can be found on L&I's website.

C. The DBC must include the PCCA/UCC inspections (to the extent they are applicable to their scope of Work on this Project) in the Project Schedule created pursuant to the applicable paragraph(s) in the General Conditions and Administrative Procedures.

D. The L&I mandated advance notice, defined for each inspection activity, shall be considered and included as lead time in the development of the Project Schedule. The

DBC shall assume the responsibility of the permit applicant/permit holder as applicable. The DBC shall be responsible to contact L&I to schedule the required inspections in accordance with the inspection procedures outlined in the Building Permit. Failure by the DBC to do so shall not be cause for a delay claim against PhilaPort. A copy of the Building Permit, which includes a list of the required inspections and the time frames for notifying the Department of Labor & Industry, is available from PhilaPort.

- E. The DBC shall provide 48 hours prior notice to PhilaPort for all L&I Inspections scheduled for any portion of their work. Results of the L&I Inspection with noted deficiencies and any required re-inspection shall be provided to PhilaPort by commencement of work the following work day.

#### **6.17 SURVEYS, LAYING OUT AND EXECUTION OF THE WORK.**

- A. The Contract Drawings shall be used for all dimensions in laying out the Work for this Contract.
- B. The DBC shall utilize a competent, licensed surveyor, whose name and qualifications shall be submitted to PhilaPort for approval at the time of the Orientation Meeting, to lay out the building lines, walls, floor elevations, and other required elements from the initial points established on the Drawings by the DBC's Retained Professional. The DBC shall not change its surveyor without written approval of PhilaPort, and must submit to PhilaPort in writing, justification for the change, along with the name and qualifications of the individual whom the DBC proposes to be the new surveyor.
- C. The Surveyor shall take as a basis the figures on the plans and shall lay out all intersections and all building lines at corners and centers; test and check all elevations and levels; locate levels and plumb lines of walls, beams and columns; and lay out other parts of the construction as the Work progresses.
- D. All Work of every description shall be laid out by the DBC, who is solely responsible for its correctness. The DBC shall bear expenses in connection with this Work.
- E. The DBC shall submit one copy of its survey notes to PhilaPort for record keeping. Submission of the survey notes does not relieve the DBC of its duty to identify discrepancies on the site or in the Contract Documents.
- F. The DBC shall examine the conditions under which the Work is to be installed and notify PhilaPort in writing of any discrepancies. The DBC is not to proceed until the required corrections are accomplished or written direction is given by PhilaPort. The DBC shall be responsible for correct location, dimensions and elevations of its Work. Commencement of Work implies acceptance of prior Work as it relates to the DBC's Work.
- G. All operations shall be neatly and carefully organized to maximize space utilization and provide the most orderly execution of the Work. The DBC shall carefully plan the layout and review any questionable installations or operations with the DBC's Retained Professional and PhilaPort, if necessary.

#### **6.18 EXISTING UTILITIES AND SERVICES.**

- A. The DBC shall comply with all notification requirements established by applicable law relative to protection of underground utilities and shall also check the location of existing utilities required to remain in place, including those overhead or underground, and take all necessary precautions to prevent injury or damage during the performance of the Work.
- B. When performing excavation, the DBC is responsible for costs associated with locating all existing underground utilities prior to commencing excavation, including utilities that are owned and operated by PhilaPort.
- C. The DBC shall be responsible for the associated cost of any utility interruption and repair due to this excavation if the utility location was not requested, and/or proper location procedures were not performed and/or followed prior to commencing excavation.
- D. If the DBC damages a utility, the DBC shall immediately notify the utility company and PhilaPort (and the CM if one has been retained) and assume the cost of relocating the service of any utility disrupted due to excavation, or any DBC action, whatever the circumstance. PhilaPort reserves the right to immediately restore the service of any utility disrupted due to actions of the DBC and to deduct the cost of such restoration from the DBC's next Invoice.
- E. Utilities and/or other services, which are shown, or not shown but encountered, shall be protected by the DBC from any damage from any Work and operations of the Contract, unless or until they are abandoned. If the utilities or services are not abandoned at time of damage, the DBC shall immediately assume the cost of repairing any damage from its Work or operations and assume the cost of restoring the utilities and services to the condition that existed prior to the damage.
- F. The DBC and subcontractors of any tier shall be responsible for all damage to the Project including the existing building and grounds due to its operation under this Contract. Repair or replacement of damaged items shall be to the satisfaction of PhilaPort.

**6.19 INTERRUPTION OF EXISTING SERVICES.** Whenever it becomes necessary to interrupt existing services in use by PhilaPort, such as sewer, water, gas and steam lines, and electric service, the DBC responsible for working outside of normal working hours shall perform the Work during such hours, as required by PhilaPort or other tenants, so as to complete the work and restore all existing services with minimal interruption or disruption to PhilaPort or other tenant. The DBC responsible for the Work shall continue its work on a twenty-four (24) hour basis until the Work is completed and the service restored, or at such alternate time required by **PhilaPort, its designee, or other tenants.** Before beginning such Work, the DBC shall request and receive approval from PhilaPort to establish a time when interruption of the service will cause a minimum of interference with the activities of PhilaPort. **The DBC's request to interrupt ANY SERVICE must be submitted to PhilaPort at least FIFTEEN (15) CALENDAR DAYS PRIOR to the date of the desired interruption.**

**6.20 DBC PERFORMING EXCAVATION OR DEMOLITION.** If the DBC performs excavation or demolition work, it shall fully comply with the requirements of the Pennsylvania One Call Act (Act 287-74, approved December 10, 1974, as amended) relative to protection of underground utilities, to the extent that this language conflicts with Act 287-74, the statutory language controls. Protection of underground utilities shall



include, but not be limited to:

- A. Ascertaining the approximate location and type of utility lines adjacent to and within the contract limits by inspecting drawings or obtaining a list of utility companies' lines adjacent to and within the contract limits from the County Recorder of Deeds and then contacting the utility company.
- B. Three (3) business days before excavation or demolition, request information from the utility companies regarding the steps DBC should take to avoid damage.
- C. Provide PhilaPort and each equipment operator or blaster with information obtained in (A) and (B) above.
- D. Report to PhilaPort and the utility company any damage to utility line made or discovered in the course of the work.
- E. Alert PhilaPort and any occupants of premises as to emergency created or discovered.
- F. Provisions of (A), (B) and (C) do not apply in an emergency. An emergency is any condition constituting a clear and present danger to life or property caused by escaping gas, exposed wires or other utility line breaks or defects.
- G. The DBC shall be responsible for all dewatering as noted under Environmental Quality Control and per the specifications.

**6.21 OBSERVATION AND/OR INSPECTION OF THE WORK BY OTHERS.**

Observation of the Work by PhilaPort or observation/inspection of the Work by the DBC's Retained Professional shall not relieve the DBC of full responsibility for completing the Work in accordance with the Contract Documents. Work performed without direct observation by PhilaPort or DBC's Retained Professional shall not relieve the DBC of full responsibility for completing the Work in accordance with the Contract Documents. The DBC's responsibilities include, but are not limited to, performance, supervision, scheduling and coordination of the DBC's Work.

**6.22 COORDINATION DRAWINGS FOR SLEEVES AND OPENINGS.** If the DBC or the DBC's subcontractors require sleeves and openings for their work in any deck, concrete slab or wall, they shall furnish to the DBC's Retained Professional a complete set of location sketch drawings showing size and shape of openings. Completion of these drawings must be consistent with the construction sequence. The DBC and the DBC's Retained Professional are responsible for reviewing the drawings in order that there will be no interference and/or conflict in its portion of the Work. When this review is finalized, the DBC shall submit these drawings to PhilaPort and the DBC's Retained Professional in a final workable form.

**6.23 CUTTING AND PATCHING OF NON-ROOF SYSTEM WORK.** The DBC shall do all cutting, fitting or patching of existing materials required for its Work to make its several parts fit together properly, and shall not endanger any work by cutting, excavating or otherwise altering the work, or any part of it. Work shall be completed to the satisfaction of PhilaPort.

**6.24 CUTTING AND PATCHING OF ROOF SYSTEMS.** Unless otherwise specified, the DBC is responsible for cutting and patching of existing roof systems necessitated by its Work. The cutting and patching must be performed by a qualified subcontractor. The

cutting and patching must maintain any current warranty or bond on the roofing, and, whether under warranty or not, must be done in accordance with the manufacturer's written directions.

## **6.25 CLEANING THE PROJECT.**

- A. The DBC shall be responsible for cleaning and removing from the site its identifiable debris, including but not limited to, bulky debris, packaging containers, unused materials and equipment and materials not suitable for disposal by standard commercial procedures, such as masonry, concrete materials, crates and combustible items. Good housekeeping shall be observed at all times, and waste, debris, and garbage shall be removed daily or placed in appropriate waste containers outside of the work place and all materials, tools and equipment shall be stored in a safe and orderly fashion.
- B. Prior to Final Inspection, the following is a list (which is not intended to be an all-inclusive list) of cleaning levels required by the DBC as part of basic contract Work:
  - 1. Remove labels which are not required as permanent labels.
  - 2. Clean transparent materials, including mirrors, windows, and doors to a polished condition.
  - 3. Remove substances which are noticeable as vision-obscuring materials.
  - 4. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of dust, stains, paint spatters, films and similar noticeable distracting substances. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to original reflective condition.
  - 5. Clean concrete floors; in non-occupied spaces, broom clean. Remove all stains, marks, paint, rust, etc. caused by construction activities.
  - 6. Clean plumbing fixtures to a sanitary condition, free of stains, including those resulting from water exposure.
  - 7. Clean mechanical and electrical equipment, ductwork and replace all filters.
- C. Prior to Close Out Inspection, in addition to the cleaning specified above, the site shall be prepared for occupancy by a thorough cleaning, including removal of all trash, rocks, wood and debris as required. Particular care shall be taken within all areas to remove and verify the removal of any tools, blades, fasteners, metal or other debris or any other object that could possibly be used as a weapon or projectile. Roadways and sidewalks shall be washed and swept clean.
- D. The DBC shall maintain a clean and safe passageway for PhilaPort and others utilizing the facility.
  - 1. The DBC shall insure that the Work shall not damage streets connecting to the Project, which shall be protected from mud, sand, and stones/gravel. Streets and adjacent property sites shall be kept free from run-off, litter and/or debris in any form from the Project site. Mud, litter, and/or debris from the Project site that

appears on adjacent property shall be removed immediately. All mud collected on vehicle tires shall be removed by the DBC before leaving the site. If any mud or debris from the Project collects on streets, it shall be removed immediately by the DBC to prevent any hazards to vehicular or pedestrian traffic, as well as from entering the storm sewer system.

2. The DBC is prohibited from discharging any waste products from concrete trucks or from concrete coring work or any other unsuitable materials, fluids or other products on the site or into the storm water system.
- E. If the DBC fails to comply with these requirements, PhilaPort reserves the right, with 24 hours prior notice to the DBC, to clean and/or remove mud, trash, litter, debris or any unauthorized discharge from the Project, adjacent streets or adjacent property. The cost of cleaning/removing and mobilization shall be deducted from the DBC's next application for payment.
- 6.26 FAILURE OF DBC TO CLEAN.** If the DBC fails to clean up, PhilaPort may estimate the value of the work and retain such costs from any applications for payment until such time as the work is performed to PhilaPort's satisfaction.
- 6.27 REPAIR OF DAMAGED WORK.** PhilaPort shall coordinate the repair of all new Work as well as existing Work required remaining but which becomes damaged during the course of the Work. This repair work shall include, but not be limited to, restoration of surfaces to the original condition, grading, landscaping or seeding, pavement markings and refinishing.
- 6.28 CHASES AND OPENINGS.** The DBC will construct, or have built, into new walls, new partitions, and new floors, all such chases and openings as are required. The DBC will be responsible to see that the chases and openings affecting its work are installed in accordance with the drawings submitted to PhilaPort.
- 6.29 CHASES AND OPENINGS AFTER CONSTRUCTION OF WALLS.** If cutting of chases and openings is required after construction of walls, partitions or floors is completed, PhilaPort may require the Work to be performed in such a manner as to result in unmarred Work, even to the extent of requiring the removal and rebuilding of walls and partitions, all of which shall be at the sole cost of the DBC.
- 6.30 TESTS.** If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to be inspected, tested or approved, the DBC shall give PhilaPort timely notice of its readiness and of the date arranged, so PhilaPort may observe such inspection, testing or approval. The DBC shall be responsible for scheduling such inspections, tests and approvals and shall bear all costs of such inspections, tests and approvals, unless otherwise provided.
- A. All expenses incurred in the collection, packing and delivering of samples or materials or equipment to the Project site shall be paid for by the DBC.
  - B. The DBC shall pay the costs of transporting samples from the Project site to the laboratory and for the testing of same, except where otherwise noted in the General Conditions, specifications, or called for in the Contract drawings.
  - C. Approved samples to be incorporated in the building shall be returned to the Project site by the testing laboratory under the supervision of the DBC.

- D. The DBC shall bear all costs of such inspections, tests and approvals, including such assistance, labor, electricity, fuels, storage, apparatus and instruments as are normally required for examining, measuring and testing any materials or Work and shall supply samples of materials, before incorporation in the Work, for testing as may be selected and required by PhilaPort.
  - E. Prior to testing, inspection or verification, PhilaPort may require sign-off by the DBC's representative affirming that the item of Work or installation is complete and ready for such testing, inspection or verification.
  - F. Work requiring testing, inspection or verification of probable compliance of Work shall not proceed to be concealed, covered or closed up until approval is given by PhilaPort. Examples of work to be reviewed before being concealed include but are not limited to: sub-grades prior to backfilling, verification of rebar and formwork prior to placing concrete, and installed Work in concealed spaces before the space is closed.
  - G. The non-productive downtime or delay in an operation required to provide the reasonable opportunity for testing or verification by PhilaPort constitutes a portion of the Contract Work and is included in the DBC's contract price. No claim for additional compensation will be allowed related to establishment and timely observation of testing or verification of Work.
  - H. Testing or verification by PhilaPort shall in no way relieve the DBC of its obligation to meet all the requirements of the Contract Documents.
  - I. The DBC is responsible for all Quality Control testing as specified in the Contract Documents.
- 6.31 SPECIAL TESTING.** If, after the commencement of the Work, PhilaPort determines that any work requires special inspection, testing or approval not included in the Tests Paragraph of these General Conditions, PhilaPort will direct the DBC to order such special inspection, testing or approval, and the DBC shall give notice as in the Tests Paragraph of these General Conditions.
- A. If such special inspection or testing reveals a failure of the Work to comply with the requirements of the Contract Documents, or with respect to the performance of the Work, with laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, the DBC shall bear all costs thereof, including the DBC's Retained Professional's additional services made necessary by such failure.
  - B. If the work is in compliance, PhilaPort shall bear such costs and an appropriate Change Order shall be issued to the DBC.
- 6.32 CERTIFICATES OF INSPECTION.** The DBC is responsible to secure any required certificates of inspection, testing or approval. Such required certificates of inspection, testing and approval include those required by the UCC. The DBC shall deliver such certificates to PhilaPort within seven (7) days after the DBC secures the certificate.
- 6.33 OBSERVATION OF TESTING.** The DBC's Retained Professional, where required by the Uniform Construction Code, Labor and Industry, shall observe the inspections, tests or approvals required by the Tests and Special Testing Paragraphs of these General

Conditions, and it shall be the DBC's responsibility to serve sufficient notice to the DBC's Retained Professional and where required by the UCC, to Labor and Industry, of such inspections, tests or approvals to enable the timely inspection of the Work without impacting the project schedule.

A. UCC REQUIRED TESTING OBSERVATION AND/OR INSPECTION. When the UCC requires any special testing to be observed, inspected and approved by L&I, the DBC shall be responsible to contact L&I sufficiently in advance to allow L&I to schedule such observation, inspection and approval of such testing. The DBC is responsible for determining whether the UCC requires L&I's approval of the testing. The Work shall remain accessible and exposed for inspection by L&I.

**6.34** EEFFECT OF TESTS. Neither the observations of the DBC's Retained Professional nor inspections, tests or approvals by persons other than the DBC relieve the DBC from its obligations to perform the work in accordance with the Contract Documents.

**6.35** ENVIRONMENTAL QUALITY CONTROL. The DBC and its subcontractors shall perform their work in a manner which minimizes the possibility of air, water, land and noise pollution.

A. The DBC shall be responsible for all dewatering to prevent surface water and ground water from entering excavations (including foundations and drilled piers), from ponding on prepared subgrades and from flooding the Project site and surrounding areas.

B. The DBC shall be responsible to protect subgrades from softening, undermining, washout, and damage by rain or water accumulation. The DBC shall reroute surface water runoff away from excavated areas. The DBC shall not allow water to accumulate in excavations. The DBC shall not use excavated trenches as temporary drainage ditches.

C. The DBC shall be responsible for installing a dewatering system to keep subgrades dry and convey ground water away from excavations. The DBC shall maintain the dewatering system until dewatering is no longer required.

**6.36** SOLID WASTE. Storage, collection, transportation and final disposal of solid waste shall be in accordance with the Solid Waste Management Act regulations and standards of the Department of Environmental Protection (DEP). Immediately upon the effective date of the contract, the DBC shall begin to obtain, at its cost, the necessary permit(s) from DEP and conduct waste disposal on site approved under this permit. A copy of this permit must be submitted to PhilaPort before commencing waste disposal. A record of receipt of the waste material that is signed by the waste company certified to receive the waste material acknowledging receipt and proper disposal must be provided to PhilaPort.

**6.37** COMPLIANCE WITH STATUTES & REGULATIONS ADMINISTERED BY DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP). The DBC shall comply with all statutes and regulations of the Commonwealth of Pennsylvania concerning environmental quality control administered by DEP. These statutes and regulations include those listed in the Environmental Statement set forth in the Instructions to Bidders (which is included as part of the Contract Documents ) and, but not limited to, the Clean Streams Law, the Clean Water Act, Pennsylvania Sewage Facilities Act, Air Pollution Control Act, Surface Mining Conservation and Reclamation Act, Bituminous Coal Open Pit Mining

Conservation Act, Dams and Encroachments Act, Water Well Driller’s Act, Water Works Act and Atomic Energy Act, all as amended to date. The DBC is responsible for any violations and shall secure all required permits. Erosion control measures are shown on drawings and specifications and/or specified in the General Requirements. An erosion control permit, if required, will be obtained by the DBC’s Retained Professional.

**6.38 BURNING OF MATERIALS.** Burning of materials from clearing and grubbing is not permitted on PhilaPort property.

**6.39 SUSPENSION FROM METAL ROOF DECKS – NEW AND EXISTING.** Ductwork, conduit, ceiling systems, lighting fixtures or any other miscellaneous equipment shall not be suspended from metal roof decks. These components shall only be suspended from the structural members or a suspension system supported by the structural members. All concentrated loads must be submitted for review by the DBC’s Retained Professional. If the concentrated loads are not approved, the DBC must provide an acceptable means of distributing the equipment load.

**6.40 ASPHALT OR TAR KETTLES.** Asphalt or tar kettles shall not be used inside of or on the roof of any building. Fired kettles shall not be left unattended. There shall be at least one portable fire extinguisher with a minimum 20B:C rating within thirty feet of each fired kettle and one additional portable fire extinguisher with the same rating by the work area.

**6.41 INSULATION.** All insulation incorporated into the project **must** contain the minimum percentage of post-consumer recovered paper or recovered material as shown below for the applicable product:

<b><u>MATERIAL TYPE</u></b>	<b><u>PERCENT BY WEIGHT</u></b>
Cellulose loose – fill and spray on	75% post-consumer recovered paper
Perlite Composite Board	23% post-consumer recovered paper
Plastic rigid foam, polyisocyanurate/polyurethane	
Rigid Foam	9% recovered material
Foam-in-Place	5% recovered material
Glass Rigid Foam	6% recovered material
Phenolic Rigid Foam	5% recovered material
Rock Wool	50% recovered material

**6.42 ENFORCEMENT OF INSULATION REQUIREMENT.** The DBC may be required to provide the Commonwealth with documentary evidence that the insulation provided for the Project was produced with the required minimum percentage of post-consumer recovered paper or recovered material.

**6.43 LANDSCAPING PRODUCTS RECYCLED CONTENT.**

A. **REQUIREMENT:** All landscaping products offered by the DBC or included in the final product **MUST** contain the minimum percentage of post-consumer and recovered material content as shown below for the applicable products:

LANDSCAPING PRODUCTS	RECOVERED MATERIAL CONTENT
Hydraulic Mulch: Paper Wood/Paper	100% (post-consumer) 100% (total)
Compost Made From Yard Trimmings and/or Food Waste	Purchase or use compost made from yard trimmings, leaves, grass clippings and/or food wastes for applications such as landscaping, seeding of grass or other plants, as nutritious mulch under trees and shrubs, and in soil erosion control and soil reclamation. PhilaPort further recommends implementing a composting system for these materials when agencies have an adequate volume and sufficient space.
Garden Hose: Rubber and/or Plastic	60% (post-consumer)
SOAKER HOSE Rubber and/or Plastic	60% (post-consumer)
Lawn and Garden Edging: Rubber and/or Plastic	30% (post-consumer)/30-100% total
LANDSCAPING PRODUCTS	RECOVERED MATERIAL CONTENT
Landscaping Timber and Posts: HDPE Mixed Plastics/Sawdust HDPE/Fiberglass Other Mixed Resins	25% (post-consumer)+50% (recovered) 50% (post-consumer)+50% (recovered) 75% (post-consumer)+20% (recovered) 50% (post-consumer)+45% (recovered)

- B. POST-CONSUMER MATERIAL: Any product generated by a business or consumer that has served its intended end use, and that has been separated or diverted from solid waste for the purposes of collection, recycling and disposition.
- C. RECOVERED MATERIAL: Refers to waste materials and by-products which have been recovered or diverted from solid waste but does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.
- D. DBC'S CERTIFICATION: The DBC certifies that the landscaping product(s) which the DBC is offering contains the required minimum percentage of post-consumer and recovered material content as shown in the above chart for the product.
- E. MANUFACTURER'S CERTIFICATION: In addition to the DBC's Certification, a manufacturer's Certification must be completed and signed by the manufacturer before payment will be made to the DBC for the delivered items. A manufacturer's Certification form identical to the form shown below must be used. The DBC is not required to submit the completed and signed manufacturer's Certification form with their bid or proposal. **PhilaPort shall have no obligation to pay for the item(s) until a properly completed and signed manufacturer's certification is submitted for the delivered item.**
- F. ENFORCEMENT: The DBC may be required, after delivery of the landscaping

product(s), to provide the Commonwealth with documentary evidence that the landscaping product(s) were in fact produced with the required minimum percentage of post- consumer and recovered material content.

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**MANUFACTURER CERTIFICATION FOR LANDSCAPING**

(To be submitted with invoice for each order)

**TO BE COMPLETED BY MANUFACTURER:**

NAME OF MANUFACTURER: \_\_\_\_\_

ADDRESS OF MANUFACTURER: \_\_\_\_\_

FEDERAL EMPLOYER I.D. NO.: \_\_\_\_\_

CONTRACT OR REQUISITION NO. \_\_\_\_\_

NAME OF DBC: \_\_\_\_\_

ADDRESS OF DBC: \_\_\_\_\_

Type of landscaping product(s) which the manufacturer furnished to the DBC: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

CERTIFICATION: I, the undersigned officer of the above-named manufacturer, do hereby certify that I am authorized to provide this certification on behalf of the above-named manufacturer and that the type of construction product(s) listed above which my company furnished to the DBC named above for the referenced contract or purchase requisition, contained not less than \_\_\_% post-consumer materials and \_\_\_% recovered materials as those terms are defined in the invitation for bids. I understand that this document is subject to the provisions of the Unsworn Falsification of Authorities Act (18 Pa C.S. § 4904).

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name of Signatory

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
DATE

**6.44 CONSTRUCTION PRODUCTS RECYCLED CONTENT.**

- A. REQUIREMENT: All construction products offered by the DBC, or included in the final product offered by the DBC and sold to PhilaPort must contain the minimum percentage of postconsumer and recovered material content as shown in the chart below for the applicable products.
- B. POST-CONSUMER MATERIAL: Material or finished product that has served its intended use and has been diverted or recovered from waste destined for disposal, having completed its life as a consumer item. Post-consumer material is part of the broader category of recovered material.
- C. RECOVERED MATERIAL: Refers to waste materials and by-products which have been recovered or diverted from solid waste, but does not include those materials and by- products generated from, and commonly reused within, an original manufacturing process.
- D. DBC’S CERTIFICATION: The DBC certifies that the construction product(s), which the DBC is offering, contains the required minimum percentage of postconsumer and recovered material content as shown above for the product.
- E. MANUFACTURER’S CERTIFICATION: In addition to the DBC’s Certification, a manufacturer’s Certification must be completed and signed by the manufacturer before payment will be made to the DBC for the delivered items. A manufacturer’s Certification form identical to the form shown below must be used. The DBC is not required to submit the completed and signed Manufacturer Certification form with their proposal. **PhilaPort shall have no obligation to pay for the item(s) until a properly completed and signed manufacturer’s certification is submitted for the delivered item.**
- F. ENFORCEMENT: The DBC may be required, after delivery of the construction product(s), to provide PhilaPort with documentary evidence that the construction product(s) were in fact produced with the required minimum percentage of post-consumer and recovered material content.

<b>Construction Products</b>	<b>MATERIAL</b>	<b>% of Post-Consumer Materials</b>	<b>% of Total Recovered Materials</b>
Structural Fiberboard	Recovered Materials	-	80
Laminated Paperboard	Post-consumer Paper	100	-
Rock Wool Insulation	Slag	-	75
Fiberglass Insulation	Glass Cullet	-	20
Cellulose Insulation (loose-fill and spray-on)	Post-consumer Paper	75	-
Perlite Composite Board Insulation	Post-consumer Paper	23	-
Plastic Rigid Foam, Polyisocyanurate/ Polyurethane: Rigid Foam Insulation	Recovered Material	-	9
Foam-in-Place Insulation	Recovered Material	-	5
Glass Fiber Reinforced Insulation	Recovered Material	-	6
Phenolic Rigid Foam Insulation	Recovered Material	-	5
Floor Tiles (heavy duty/commercial use)	Rubber Plastic	90 -	- 90

Patio Blocks	Rubber or Rubber Blends Plastic or Plastic Blends	90 -	- 90
Polyester Carpet Fiber Face	Polyethylene terephthalate (PET) resin	25	-
Latex Paint: --Consolidated <sup>1</sup> --Reprocessed <sup>2</sup> -----White, Off-White, Pastel Colors -----Grey, Brown, Earthtones, and Other Dark Colors	Recovered Material  Recovered Material Recovered Material	100  20 50	-  - -
Shower and Restroom Dividers/Partitions:	Plastic Steel <sup>4</sup>	20 16 67	- 9 33
Carpet Cushion: --Bonded Polyurethane --Jute --Synthetic Fibers --Rubber	Old Carpet Cushion Burlap Carpet Fabrication Scrap Tire Rubber	15 40 - 60	- - 100 -
Railroad Grade Crossing Surfaces --Concrete --Rubber <sup>3</sup> --Steel <sup>4</sup>	Coal Fly Ash Tire Rubber Steel	- - 16 67	15 85 9 33

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<sup>1</sup> Consolidated latex paint used for covering graffiti, where color and consistency of performance are not primary concerns.

<sup>2</sup> Reprocessed latex paint used for interior and exterior architectural applications such as wallboard, ceiling, and trim; gutterboards; and concrete, stucco, masonry, wood, and metal surfaces.

<sup>3</sup>The recommended recovered materials content for rubber railroad grade crossing surfaces are based on the weight of the raw materials, exclusive of any additives such as binders or additives

<sup>4</sup> The recommended recovered materials content levels for steel in this table reflect the fact that the designated items can be made from steel manufactured from either a Basic Oxygen Furnace (BOF) or an Electric Arc Furnace (EAF). Steel from the BOF process contains 25-30% total recovered materials, of which 16% is post-consumer steel. Steel from the EAF process contains a total of 100% recovered steel, of which 67% is post-consumer.

**MANUFACTURER CERTIFICATION FOR RECYCLED CONTENT**

(To be submitted with invoice for each order)

**TO BE COMPLETED BY MANUFACTURER:**

NAME OF MANUFACTURER: \_\_\_\_\_

ADDRESS OF MANUFACTURER: \_\_\_\_\_

FEDERAL EMPLOYER I.D. NO.: \_\_\_\_\_

CONTRACT OR REQUISITION NO. \_\_\_\_\_

NAME OF DBC: \_\_\_\_\_

ADDRESS OF DBC: \_\_\_\_\_

Type of construction product(s) which the manufacturer furnished to the DBC: \_\_\_\_\_

**CERTIFICATION:** I, the undersigned officer of the above-named manufacturer, do hereby certify that I am authorized to provide this certification on behalf of the above-named manufacturer and that the type of construction product(s) listed above which my company furnished to the DBC named above for the referenced contract or purchase requisition, contained not less than \_% post-consumer materials and \_ % recovered materials as those terms are defined in the invitation for bids. I understand that this document is subject to the provisions of the Unsworn Falsification of Authorities Act (18 Pa C.S. § 4904).

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name of Signatory

\_\_\_\_\_  
TITLE    DATE

- 6.45 **STORAGE ENCLOSURE.** The DBC shall provide, at its cost, a suitable, substantial and watertight storage enclosure in which it shall store all materials that might be damaged by the weather. A Mobile trailer type is acceptable. The DBC is responsible for maintaining and removing this enclosure at its cost. All storage enclosures shall be of sufficient size to hold all the DBC's subject materials on the site at one time and shall have floors raised at least six (6) inches above the ground on heavy joists or sleepers. Storage enclosures shall have sufficient natural ventilation to preclude condensation.
- 6.46 **NO STORAGE IN EXISTING BUILDINGS.** The DBC shall not store any materials in any existing building or beyond the contract limits as defined by the drawings without prior authorization from PhilaPort.
- 6.47 **OPERATION AND MAINTENANCE INSTRUCTION MANUALS.** The DBC shall, for its scope of work, carefully compile during the progress of the work indexed operation and maintenance manuals to include methods of care and cleaning of all types of visible surface materials, both interior and exterior, and descriptions of all systems and equipment, methods of operations and all warranties thereof. Descriptions shall give pertinent diagrams, identifying charts, color coding, connections, lubricating instructions, and single line and detailed wiring diagrams, using manufacturers' printed information where possible. Where manufacturers' printed information is not available, the DBC shall obtain written instructions prepared by subcontractors and sub-subcontractors. The DBC shall include names, addresses and phone numbers of all subcontractors and sub-subcontractors, and of service firms of each mechanical item, for PhilaPort's use after expiration of the guarantee period. At the time of Final Inspection, the DBC shall submit a rough draft of the manual through the Submittal Process for approval by the DBC's Retained Professional. After approval and before final payment, DBC shall furnish the corrected and indexed Operation and Maintenance Instruction Manual in PDF electronic format to the DBC's Retained Professional to be turned over to PhilaPort.
- 6.48 **RECORD DRAWINGS.** At the time of Final Inspection, the DBC shall use the Submittal Process to submit to the DBC's Retained Professional a complete set of contract color prints in PDF format, corrected with suitable markings to show all changes or variations from the original contract, including all items uncovered during the work and showing the details of the work as actually built, including but not limited to horizontal and vertical dimensional references of all concealed pipe, conduit and other lines and equipment.
- 6.49 **WARRANTY AND GUARANTEE.** In addition to the Contract Bond, the DBC shall unconditionally warrant and guarantees equipment, materials and workmanship against patent defects arising from faulty equipment, faulty materials, faulty workmanship or negligence for a period of twelve (12) months following the date of Final Inspection of the Work or beneficial occupancy (whichever comes first) unless other warranties found within the Contract Documents specify or indicate longer periods. The DBC shall replace such defective equipment, materials or workmanship without cost to PhilaPort. The DBC shall warrant that such equipment, material or workmanship furnished under this DBC shall be furnished in conformance with the Contract Documents. All work not conforming to these standards may be considered non-conforming.
- A. If items of equipment or material carry a manufacturer's warranty for any period in excess of twelve (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material. The DBC shall replace such defective equipment or materials, without cost to PhilaPort, within the manufacturer's warranty

period. Nothing in this paragraph relieves the DBC or surety of its obligations under the performance bond.

- B. The DBC shall assign and deliver to the DBC's Retained Professional through the Submittal Process all warranties for review as part of the Operations & Maintenance submission. The DBC's Retained Professional will transfer the warranties to PhilaPort. The warranty provided in this Paragraph shall be in addition to, and not in limitation of, any other warranty or remedy provided by Law or by the Contract Documents.
- C. If there is a substitution of material or equipment in accordance with the Substitution Paragraph, the DBC warrants that such installation, construction, material or equipment will perform to the standard of the item originally specified. The DBC explicitly warrants the merchantability, and the fitness for use and quality of all substituted items provided for or by it.
- D. PhilaPort may bring an action for latent defects that were hidden or not readily apparent to PhilaPort at the time of beneficial occupancy or final acceptance, whichever occurred first, in accordance with applicable law and/or the Contract Bond.

This paragraph, "Warranty and Guarantee," in no way limits the applicability of the Contract Bond.

**6.50 TAXES.** The DBC shall take full advantage of the Department of Revenue's "Pennsylvania Exemption Certificate" (REV-1220, as amended) for all "Building Machinery and Equipment" as defined and administered by the Department of Revenue, installed under the Contract. Otherwise, the DBC shall pay all sales, consumer, use and other similar taxes required by law and have an affirmative duty to seek a refund or reimbursement of sales tax from Department of Revenue for costs that were included in the Contract. Once those savings are received by the DBC, they shall be transferred back to PhilaPort through a credit Change Order(s). Additional information is available on the Department of Revenue's web site. Credit changes orders for such tax refunds or reimbursements shall be equal to the actual tax refund or reimbursement amount(s) less ten percent (10%) for administrative costs.

**6.51 DBC EVALUATIONS.** The DBC by entering the Design Build Contract, consents to the evaluation of its performance by PhilaPort and/or PhilaPort's designee and understands that any such evaluation may be used in future procurements to determine the DBC's responsibility. PhilaPort and/or PhilaPort's designee shall provide the DBC with written notice of any unsatisfactory evaluations and the reasons, therefore. The DBC shall be entitled to submit a reply.

**ARTICLE 7: SUBCONTRACTORS/SUPPLIERS**

**7.1 DBC’S INTEREST IN SUBCONTRACTOR/SUPPLIER.** Pursuant to the Contractor Integrity Provisions set forth in the Contract, the DBC may not, except with the consent of the Commonwealth, have a financial interest in any subcontractor, or supplier providing services, labor, or material on this project. The DBC is required to disclose the names of all subcontractors and/or suppliers in which the DBC has a financial interest, and which will be utilized in the Project. This information must be disclosed either with the bid (if known prior to bid opening) or when your subcontractor and/or supplier subcontracts are submitted. If PhilaPort has any objection to the subcontractors and/or suppliers provided, the DBC shall promptly propose another subcontractor and/or supplier to whom PhilaPort does not have an objection. PhilaPort’s acceptance of the subcontractors and/or suppliers will be deemed to be consent for the purposes of the Contractor Integrity Provisions. Failure to disclose the names of such subcontractors and/or suppliers for which the DBC has a financial interest is a violation of the Contractor Integrity Provisions. For violations of any of these Contractor Integrity Provisions, PhilaPort may terminate this and any other contract with DBC, claim damages for all additional costs and expenses incurred in obtaining another DBC to complete performance under this contract, and debar and suspend DBC from doing business with PhilaPort. These rights and remedies are cumulative, and the use or non-use of any one shall not preclude the use of all or any other. These rights and remedies are in addition to those the Commonwealth may have under law, statute, regulation, or otherwise. The DBC shall not replace any subcontractor and/or supplier previously selected and/or approved by PhilaPort, without prior notification to PhilaPort and receipt of PhilaPort’s approval for such substitution.

**7.2 SUBCONTRACTOR/SUPPLIER RESPONSIBILITY.** If the DBC enters into any subcontracts or purchase orders under this Contract with subcontractors or suppliers currently suspended or debarred by the Commonwealth, or who become suspended or debarred by the Commonwealth during the term of this Contract or any extensions or renewals of it, PhilaPort may require the DBC to terminate such Contract.

**7.3 DBC RESPONSIBILITY FOR ACTIONS AND COMPLIANCE.** The DBC shall be responsible for all acts of its subcontractors and suppliers utilized under this Contract, and for their compliance with all terms and provisions of the Contract applicable to their performance. The DBC shall continuously coordinate the Work of all subcontractors to assure proper processing and progress of the Work.

A. The DBC shall require each subcontractor to comply with the following:

1. Examine the shop drawings and the Work of other subcontractors and all sections of the specifications to the extent necessary for satisfactory installation of its Work, and connection between its Work and the Work of other subcontractors; and
2. Coordinate its Work accordingly; and
3. Cooperate with other subcontractors toward timely and satisfactory completion of the Project.

B. The failure of any Sub to complete its portion of the Work in a satisfactory manner within the proper time will not relieve the DBC of responsibility for the proper and satisfactory execution and completion of the entire Work.



7.4 **ACTS AND OMISSIONS OF SUBCONTRACTORS.** The DBC acknowledges its full responsibility to PhilaPort for the actions, inactions, and omissions of its subcontractors, and of the persons and firms either directly or indirectly employed by them, equally to the extent that the DBC is responsible for the actions, inactions, and omissions of persons and firms directly or indirectly employed by it. The DBC acknowledges that it remains fully responsible for the proper performance of its Contract whether work is performed by the DBC's own forces or by subcontractors engaged by the DBC.

7.5 **SUBCONTRACTS AND PURCHASE ORDERS.**

A. **SUBCONTRACTORS:**

1. All Work performed for the DBC by a subcontractor shall be done pursuant to a written subcontract between the DBC and the subcontractor.
2. The form of the written subcontract must be the same for all subcontractors.
3. All subcontracts between the DBC and each subcontractor **must:**
  - a. Be signed by both parties;
  - b. Contain Provisions that:
    - i. Set forth the amount the subcontractor is to be paid; and
    - ii. Describe the scope of Work to be performed by the subcontractor; and
    - iii. Preserve and protect the rights of PhilaPort with respect to the Work to be performed under the Subcontract, so that the subcontracting thereof will not prejudice such rights; and
    - iv. Require that such Work be performed in accordance with the requirements of the Contract Documents; and
    - v. Require submission to the DBC of applications for payment under each Subcontract to which the DBC is party, in reasonable time to enable the DBC to apply for payment in accordance with the provisions of the Prompt Payment Schedule (62 Pa. C. S. §3931-§3939) and the provisions of these General Conditions governing payment by PhilaPort; and
    - vi. Require that all claims for additional costs, extensions of time or otherwise with respect to subcontracted portions of the Work shall be submitted to the DBC in the manner provided in the Contract Documents for like claims by the DBC upon PhilaPort; and
    - vii. Prior to commencing onsite or offsite work, require each subcontractor to comply with the provisions of the Public Works Employment Verification Act (43 P.S. §§ 167.1 – 167.11), which requires subcontractors to utilize the Federal E-Verify program to verify the employment eligibility for every new employee hired after January 1, 2013 and to submit to PhilaPort, a Commonwealth Public Works Verification Form available on the PA Department of General Services web site at [www.dgs.state.pa.gov](http://www.dgs.state.pa.gov).
    - viii. Require each subcontractor to include provisions in each of its subcontracts regarding the applicability of the Public Works

Employment Verification Act (43 P.S. §§ 167.1 – 167.11), information regarding the use of the Federal E-Verify program, and reference to the Department’s web site to obtain a downloadable copy of the Commonwealth Public Works Employment Verification Form required to be submitted to PhilaPort by the DBC.

ix. Require acknowledgement by the subcontractor that the subcontractor is without privity of Contract with PhilaPort and that the subcontractor agrees by signing the Subcontract that it neither acquires or intends to acquire any rights against PhilaPort on a third party beneficiary theory or any other theory; and

x. Require each subcontractor to notify its subcontractors, in writing, that their rights of recovery against the bond of the DBC for failure of payment may not be exercised unless the DBC is notified of the claim within ninety (90) days from the last performance of labor or provision of materials and/or equipment; and

xi. Obligate each subcontractor to specifically consent to all provisions of this Article of the General Conditions of the Contract; and

xii. Contain the following certification language:

1. **Certification.** I, the undersigned officer of the DBC, do certify that, to the best of my knowledge, this subcontract complies with the provisions of the subcontractor Article of the General Conditions of the Contract with PhilaPort. I understand that by signing this document I certify that this document is subject to the provisions of the Unsworn Falsifications to Authorities (18 P.S. §4904). I acknowledge that if my company does not comply with the terms of the subcontractor Article my firm may be subject to suspension for a period up to three (3) months and/or debarment from bidding on any Commonwealth of Pennsylvania Public Works Projects for a period of three (3) years.

xiii. The DBC agrees that failure to incorporate these terms in its Subcontracts is a material breach of the terms of the Contract Documents. The DBC will have five (5) days, as required by the Administrative Procedures, to provide proof in writing that such a deficiency in its subcontract documents has been remedied. Failure to provide proof within five (5) days shall constitute grounds for default of the DBC by PhilaPort.

4. The DBC shall submit in e-Builder a copy of all subcontracts between the DBC and subcontractors, and between subcontractors and lower tier subcontractors, for Work to be performed on the Project to PhilaPort for the Project **prior to the commencement of any Work by the subcontractor**.
5. The DBC shall also submit in e-Builder, a copy of every subcontract with a Disadvantaged Business Enterprise and shall submit monthly DBE Business Utilization Reports which must be uploaded to e-Builder.
6. The DBC shall submit in e-Builder a copy of any subcontract with a lower tier DBE subcontractor if the DBC seeks to obtain credit toward their DBE commitments (see the Administrative Procedure for PhilaPort DBE Participation by DBC).
7. The DBC shall identify the work to be subcontracted on a separate line item on the

Schedule of Values, as described more completely in the Administrative Procedures.

B. MANUFACTURERS AND SUPPLIERS:

1. Manufacturers and suppliers do not have to sign Purchase Orders.
2. For every purchase order with a DBE supplier and DBE manufacturer, the DBC shall submit a copy of the purchase order in e-Builder in order to meet PhilaPort's DBE compliance requirements. The purchase order for a Nonstocking supplier must include the fee or commission paid to the Nonstocking supplier.
3. The DBC shall identify all material and/or equipment that will be supplied by a DBE on a separate line item (per supplier/manufacturer, not per material and/or equipment) on the Schedule of Values.

7.6 **NO CONTRACTUAL RELATIONSHIP BETWEEN PHILAPORT AND SUBCONTRACTOR.** Nothing contained in the Contract Documents creates any contractual relationship between PhilaPort and any subcontractor, sub-subcontractor or any of its authorized representatives. Nothing contained in the Contract Documents creates any contractual relation between the Construction Manager (if there is one on the Project) and any subcontractor, sub-subcontractor or any of its authorized representatives. The DBC is not an intended third party beneficiary of the Construction Manager's Contract. Nothing in the Contract Documents between PhilaPort and the DBC should be construed to authorize any person not a party to the Standard Form of Contract or Construction Manager's Contract to maintain any lawsuit involving that contract, unless otherwise provided by law.

7.7 **NO CONTRACTUAL RELATIONSHIP BETWEEN PHILAPORT AND SUPPLIER OR MANUFACTURER.** Nothing contained in the Contract Documents creates any contractual relationship between PhilaPort and any supplier/manufacturer or its authorized representatives. Nothing contained in the Contract Documents creates any contractual relation between the Construction Manager (if there is one on the Project) and any supplier/manufacturer. The supplier/manufacturer is not an intended third party beneficiary of the Construction Manager's Contract. Nothing in the Contract Documents between PhilaPort and the DBC should be construed to authorize any person not a party to the Standard Form of Contract or Construction Manager's Contract to maintain any lawsuit involving that contract, unless otherwise provided by law.

7.8 **PAYMENT OF SUBCONTRACTOR BY DBC GOVERNED BY PROMPT PAYMENT SCHEDULE.** Payments to the subcontractor are subject to the provisions of the Commonwealth Procurement Code (62 Pa. C. S. §3931 *et seq.*) also known as the "Prompt Payment Schedule". The general description set forth in the General Conditions does not relieve the DBC from strict compliance with the requirements of the Prompt Payment Schedule. Nothing described in these General Conditions is intended to impose a duty greater than that imposed by the Prompt Payment Schedule. In the event of any discrepancy between this language and the language of the Schedule, the Schedule controls.

7.9 **FAILURE OF PHILAPORT TO MAKE PROGRESS PAYMENT.** If PhilaPort fails to pay some or all of an approved Invoice for any cause which is the fault of the DBC and not the fault of a particular subcontractor, the DBC shall pay that subcontractor, upon demand made by the subcontractor at any time after the approved Invoice should otherwise have been issued, for its Work to the extent completed, less the retained percentage.

7.10 **INSURANCE RECEIPTS.** The DBC shall pay each subcontractor a just share of any

insurance moneys received by the DBC under the Insurance Article of these General Conditions of the Contract.

- 7.11 **PERCENTAGE OF COMPLETION.** PhilaPort may, on request, furnish to any subcontractor, if practicable, information regarding percentages of completion certified to the DBC on account of work done by such subcontractor.
- 7.12 **NO OBLIGATION ON PART OF PHILAPORT TO PAY SUBCONTRACTOR, SUPPLIER, OR MANUFACTURER.** Subcontractor, supplier, or manufacturer issues concerning delayed and non-payment should be addressed to the DBC and the DBC's payment bond surety. PhilaPort shall have no obligation to pay or to ensure the payment of any moneys to any subcontractor, supplier, or manufacturer except as may otherwise be required by law. Subcontractors, suppliers, and manufacturer acknowledge they have no direct cause of action (unless otherwise provided by law) against the Construction Manager (if there is one on the Project) or PhilaPort relating to any payment issues.
- 7.13 **SUBCONTRACTOR AND SUPPLIER CLAIMS.** The DBC agrees to require the subcontractor and/or supplier to submit all claims for extras, extensions of time or for damages to the DBC in the manner provided in the Contract Documents for claims by the DBC against PhilaPort in accordance with the Disputes Article of these General Conditions. Since neither subcontractors nor suppliers have privity of contract with PhilaPort, they may not pursue a claim directly against PhilaPort.
- 7.14 **EXTENSIONS OF TIME NOT AN ADMISSION OF LIABILITY FOR DELAY.** The approval of an Extension of Time only constitutes a release by PhilaPort's ability to assess liquidated damages against the DBC for the number of days granted by the Extension of Time. PhilaPort's approval of an Extension of Time **shall not** be construed or interpreted by the DBC as an admission that PhilaPort is liable for delay damages. The DBC agrees that PhilaPort's grant of an Extension of Time will not be used as an admission by PhilaPort of any liability for delay in any subsequent dispute regarding delays. This Paragraph does not preclude either the DBC's rights or PhilaPort's rights to pursue a claim for damages under other provisions of the Contract Documents.
- 7.15 **LIQUIDATED DAMAGES.**
- a. **Delay in completion of the Work.** The Contractor acknowledges and agrees that PhilaPort will incur substantial harm and damages if the Work is not performed in accordance with the requirements of this Agreement and the Work not completed in a timely manner. The parties agree that it would be extremely difficult and impractical under the presently known and anticipated facts and circumstances to ascertain and fix actual damages that PhilaPort would incur under these circumstances, and, accordingly, the parties agree that PhilaPort's remedy shall be to recover from the **Contractor as liquidated damages, and not as a penalty, a daily rate of \$22,505.00 for each and every calendar day beyond Substantial Completion that the Work remains incomplete.** The liquidated damages identified in this Section relate solely to the Contractor's delay in completing the Work in accordance with the requirements of this Agreement and Schedule and not to other breaches, actions or omissions of the Contractor, and Contractor is not relieved of such liability even if liquidated damages are assessed. The liquidated damages identified in this Section shall not limit PhilaPort's remedies for other breaches, actions, or omissions of the Contractor, including termination for failure to complete the Work.
- b. PhilaPort reserves the right, at its sole discretion, to either assess liquidated damages in the final pay application by withholding the release of any retainage to satisfy

any amount owed to PhilaPort for liquidated damages, and, if the amount of liquidated damages exceeds the amount of retainage, PhilaPort may withhold additional funds from the final pay application.

## ARTICLE 8: PROJECT SCHEDULE

**8.1 PHILAPORT RESERVATION OF RIGHTS.** PhilaPort reserves the right to accept the Project Schedule developed, signed and submitted by the DBC, while preserving exceptions to any defects in the means, methods, sequences, durations and/or logic which PhilaPort believes exist in the schedule. The acceptance of the updated Project Schedule by PhilaPort in no way relieves the DBC from its duty to coordinate with itself and shall not make PhilaPort, PhilaPort's designee or the Construction Manager (if one is retained) a guarantor of the Project Schedule.

Upon request, the DBC shall provide to PhilaPort, in hardcopy and electronic format (format to be determined by PhilaPort), all the planning data used to develop the Project Schedule. This planning data shall include, but is not limited to:

1. Job Sequences;
2. Activity Logic;
3. Man loading;
4. Crew sizes;
5. Number of shifts planned per working day;
6. Number of crews per shift; and
7. Equipment loading.

**8.2 TIME OF THE ESSENCE.** All time limits stated in the Contract Documents are of the essence. The DBC shall perform the Work expeditiously with adequate forces using all calendar days to complete the Work no later than the substantial Completion Date.

**8.3 IF LETTER OF NON-PREJUDICE ISSUED.** If PhilaPort elects to issue a Letter of Non-Prejudice pursuant to §906 of the Commonwealth Procurement Code, the Letter will list and describe the Work to commence prior to the Effective Date of Contract.

**8.4 COMMENCEMENT OF OFF-SITE WORK IF LETTER OF NON-PREJUDICE NOT ISSUED.** If PhilaPort does not issue a Letter of Non-Prejudice, the date of commencement of Off-Site Work is the Effective Date of Contract.

**8.5 INITIAL JOB CONFERENCE.** The Initial Job Conference will be held within thirty (30) calendar days from the Effective Date of Contract.

**8.6 COMMENCEMENT OF ON-SITE WORK.** On-site work will commence within ten (10) calendar days after the Initial Job Conference.

**8.7 PROJECT SCHEDULE PREPARATION.**

- A. CPM: Unless directed otherwise by PhilaPort in the specifications, the project management tool commonly called the Critical Path Method (CPM) scheduling system will be used on this Project for planning, scheduling implementation and reporting of all Work to be performed under this Contract, including all activities of subcontractors, equipment vendors and suppliers. Unless directed otherwise by PhilaPort, the precedence diagramming method shall be used in preparing the Project Schedule and

all related network diagrams. Primavera Project Planner P6 version 8.3 (or more current versions) shall be used by the DBCs to maintain the Project Schedule, unless PhilaPort permits or directs an alternate software. The Project Schedule network plan, including all appropriate milestone dates and the computer-produced reports shall be part of the Contract Documents. The following outline is provided to indicate to the DBC the scope of the scheduling work and the responsibility of the DBCs to comply with this method. The CPM Schedule shall be developed, prepared, and submitted in accordance with this paragraph and the requirements of the Scheduling Administrative Procedure. **The DBC shall not assert any claim whatsoever for any delay or additional cost incurred in connection with the development of the CPM Schedule.**

- B. SCOPE: The CPM will be used to establish and control the Project Schedule. This system will be implemented by the DBC using the services of a qualified subcontractor or the DBC's own in-house staff.
- C. DUE DATES: The DBC expressly acknowledges the duty to cooperate fully with the below scheduling requirements.
1. If PhilaPort issued a Letter of Non-Prejudice authorizing the DBC to commence scheduling activities, the DBC shall commence scheduling within the scope as instructed in the Letter.
  2. **PhilaPort will only review and pay (if the application is otherwise acceptable) the DBC's Invoice #1 with an integrated Progress Schedule being submitted and accepted by PhilaPort. If there is no Project Schedule submitted and accepted after Invoice #1, PhilaPort will withhold payments from the DBC until such time as there is an accepted Project Schedule.**
- D. PRELIMINARY PROJECT SCHEDULE: The CPM Project Schedule will be developed by the DBC in the form of a CPM arrow network or CPM precedence diagram.
1. Unless a Letter of Non-Prejudice was issued directing otherwise, within seven (7) calendar days of the Effective Date of Contract, the DBC shall furnish PhilaPort a draft progress schedule. The information provided by the DBC to PhilaPort shall include all proposed sequences of operation, time estimates to complete operations, man loading, data from subcontractors, material supplies, and vendors required for the preparation of the Project Schedule.
  2. The DBC shall prepare and submit to PhilaPort within thirty (30) calendar days of the Effective Date of Contract, the completely integrated Project Schedule in CPM format, showing in detail, to the acceptance of PhilaPort, the proposed coordinated dates for the performance of each part of the Work under the Project. The submission of the Project Schedule, and all subsequent updates, shall be done in PDF format and by hard copy (including all requested sorts and arrangements; utilizing color print). The start date on the schedule shall be the Initial Job Conference and end with the Contract Completion Date.
  3. Seasonal weather conditions shall be considered by the DBC in the planning and scheduling of all Work influenced by high or low ambient temperatures to insure the completion of all Contract Work within the allotted Contract Time and milestone completion dates.
  4. The accepted Project Schedule must meet the specified Project duration as

indicated in the Contract.

5. The accepted Project Schedule shall consider and include all time durations associated with UCC Inspection criteria by the PA Department of Labor and Industry, along with all other testing and inspections required by contract. It must take into account the advance notice needed for L&I Inspectors as defined by the UCC Building Permit criteria.

E. MILESTONES:

1. The Project Schedule shall identify Construction Progress Milestones for the Project. A Milestone is to signify the start and/or completion date of a specific activity that is significant to completing the Project on schedule. The DBC is to fully consider the sequence of operations, time estimates and other scheduling influences when establishing the Milestones. By signing off on the Progress Schedule, the DBC agrees to the Milestones set forth on the schedule. Any and all milestones that are not completed on schedule will require a Recovery Plan from the DBC.
2. Selected Milestones shall be taken from activities that are found within the Critical Path of the Project Schedule and shall be linked to work activities in the Critical Path by the means of either Predecessors or Successors.
3. Milestones are not an activity but, rather, a start or finish of a series of activities. Milestones are not stand alone and shall be linked to other activities in the work path with predecessors or successors. The use of open-ended logic will not be accepted.
4. **Failure to provide full cooperation in the preparation of the CPM Schedule and any Updated Schedules will be sufficient reason for declaring the DBC in default.**

F. SCHEDULING INFORMATION: The following information/data for the Project Schedule will be submitted to PhilaPort. The information shall include, but is not limited to:

1. The DBC's means and methods of construction; and
2. Job sequences; and
3. Activity durations in calendar days (excluding material deliveries and approval of shop drawings);
  - a. one (1) calendar day shall be the minimum duration.
  - b. thirty (30) calendar days shall be the maximum duration.
4. Construction activities for display of all salient features of the Work of the DBC, including but not limited to:
  - a. placing of orders for materials; and
  - b. submission of shop drawings for approval; and
  - c. approval of shop drawings; and
  - d. delivery of material; and
  - e. all work activities to be performed by the DBC; and
  - f. priority submittal schedule.



G. FORMATION OF FINAL PROJECT SCHEDULE: Once the Project Schedule information has been compiled, the DBC will generate a fully integrated Project Schedule for the Project in draft form. If the completion date indicated on the schedule exceeds the Contract Completion Date or if there appears to be a defect in the construction sequences, duration, or logic, the information used to develop the arrow network diagram or precedence diagram will be reviewed by the DBC and PhilaPort. After discussion and revisions of the information and data, the DBC will utilize this revised data to produce a revised fully integrated Project Schedule. The procedure will be repeated as necessary to obtain a final Project Schedule that meets the Contract Completion Date as set forth in the Contract documents. This final Project Schedule is to be submitted to PhilaPort within 30 days of the Effective Date of the contract or sooner if required by a Letter of Non-Prejudice. The hard copy of the completed final Project Schedule will show:

1. Activity identification;
2. Activity description;
3. Activity percentage completed;
4. Calendar dates for early start of each activity;
5. Calendar dates for early finish of each activity;
6. Calendar dates for late start of each activity;
7. Calendar dates for late finish of each activity;
8. Individual activity float;
9. Activities critical to completion (i.e., identify all items on the critical path) of the project on schedule;
10. Milestones; and
11. That the Schedule is within the contract completion duration.

The DBC will approve the Project Schedule and each update to the schedule. The DBC will submit the approved Project Schedule to PhilaPort for review.

**8.8 WORK DURING FORMATION OF PROJECT SCHEDULE**. Until the final Project Schedule is signed by the DBC and accepted by PhilaPort, the DBC must proceed with the Work utilizing all the information available to them, including but not limited to coordination meetings, attendance at Job Conferences, two week look ahead activities, weekly superintendent's meetings, draft CPM schedules used in the development of the final Project Schedule, and any other means necessary to maintain work progress until such time as the Project Schedule is complete and accepted. As such, the DBC shall not assert any claim whatsoever for any delay or additional cost incurred with the development of the Project Schedule. NOTE: No work will commence until all permits required to perform work are obtained.

**8.9 PHILAPORT SHALL OWN THE FLOAT**. No float shall be used by the DBC without a request from the DBC and subsequent directive from PhilaPort. Total float is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, for each and every activity in the Project Schedule. Extensions of time to interim milestone dates or the Contract Completion Date under this Contract will be granted only to the extent that equitable time adjustments to the activity or activities

affected by the Contract Modification or delay exceeds the total float of the affected or subsequent paths and extends any interim milestone date or the Contract Completion Date. Such determination shall be made at the sole discretion of PhilaPort.

**8.10 MAINTAINING THE PROJECT SCHEDULE.**

- A. The DBC shall ensure that such manpower, materials, facilities, and equipment is applied to the Work, and shall work such hours as approved, including night shifts, overtime operations, Sundays, and holidays, as may be necessary, to maintain its progress in accordance with the Project Schedule so that there are no delays and to insure the progress and completion of the Work within the time allowed by the Contract and as permitted by PhilaPort.
- B. If the DBC fails to maintain progress according to the schedule or causes delay, the DBC shall furnish such additional manpower, equipment, additional shifts or other measures that are necessary, to bring its operations up to schedule without any additional cost or expense to PhilaPort.
- C. If the DBC refuses or fails to keep up with the Project Schedule or fails to proceed as directed by PhilaPort, PhilaPort will note this refusal/failure in the Contractor Responsibility Program and will consider suspension of the DBC in accordance with Section 531 of the Commonwealth Procurement Code. PhilaPort may also, in its sole discretion, find the DBC in breach of its Contract and/or declare the DBC in default of its Contract in accordance with the Termination Article of these General Conditions.

**8.11 PROJECT SCHEDULE UPDATING.** The Project Schedule will be updated and issued at least once per month by the DBC.

- A. **MANDATORY MONTHLY SCHEDULE UPDATE MEETING.** The DBC will provide, at least once per month, updates of the Project Schedule. The DBC shall attend a Monthly Schedule Update Meeting. It is mandatory that the DBC provide its updated information to PhilaPort seven (7) calendar days prior to the Monthly Update Meeting. PhilaPort reserves the right to request additional updates, at no cost to PhilaPort, from the DBC. The DBC shall provide documentation in writing confirming the Monthly Update Meetings, stating the date, time, and attendance. At sole discretion of PhilaPort, the DBC shall be required to hold the mandatory monthly schedule update meeting at a suitable location approved by PhilaPort with necessary provisions to accommodate all required attendees of the DBC, PhilaPort, and the DBC's Retained Professional. All necessary computer hardware and software (to include but not limited to laptop, projector and other necessary peripheral devices, and scheduling software etc.) shall be provided by the DBC so that the CPM schedule update can be projected for all meeting attendees to view. The DBC shall have the approved scheduler attend the meeting to produce real time updates to the schedule based upon input from meeting attendees. The schedule file utilized during the meeting shall have all schedule update information provided to PhilaPort already incorporated.
- B. At the conclusion of the Monthly Schedule Update Meeting, all information collected will be checked by the DBC against the current Project Schedule. The Updated Project Schedule will be provided to PhilaPort by the DBC within three (3) calendar days after the Monthly Update Meeting for PhilaPort to view. The submission of Updated Project Schedule to PhilaPort, DBC's Retained Professional, and Construction Manager shall be done by hard copy (including all requested sorts and arrangements; utilizing color print), and in electronic format (computer disk or file) containing all data files in the

Primavera scheduling system used to develop the schedule.

- C. Upon request, the DBC shall provide to PhilaPort, in hardcopy and electronic format (format to be determined by PhilaPort), its planning data used to develop the updates of the Schedule. This planning data includes, but is not limited to:
  - 1. Job Sequences;
  - 2. Activity Logic;
  - 3. Man loading;
  - 4. Crew sizes;
  - 5. Number of shifts planned per working day;
  - 6. Number of crews per shift; and
  - 7. Equipment loading.
- D. As part of the Job Conference, all activities scheduled to begin in the projected work for the next two weeks will be reviewed in a schedule look-ahead.
- E. PhilaPort reserves the right to reject Invoices if the DBC does not comply with this Section.

#### **8.12 RECOVERY PLAN.**

- A. EVENTS THAT TRIGGER THE NEED FOR A RECOVERY PLAN: PhilaPort may issue a Recovery Notice demanding that the DBC, submit a Progress Recovery Plan (narrative) upon the occurrence of any of the following events:
  - 1. The progress of the Work or a single activity falls behind the contract time as shown in a currently updated and approved Project Schedule by more than fifteen (15) calendar days; or
  - 2. A missed milestone; or
  - 3. When an updated Project Schedule provides a completion date past the Contract Completion Date; or
  - 4. When a late start or late finish for any activity does not come within the time allowed by the current Project Schedule.
  - 5. When, in the sole opinion of PhilaPort, it appears likely that the Work will not be completed within the Contract Time.
- B. The DBC will prepare a Recovery Plan indicating that all future activities, Project completion and occupancy dates will be met within the Contract Time. The Recovery Plan shall be developed and received by PhilaPort within three (3) calendar days of receipt of the Recovery Notice. The Recovery Plan shall be implemented immediately unless otherwise directed by PhilaPort.
- C. In order to create and maintain the Recovery Plan, the DBC agree(s) to undertake, but not be limited to, some or all of the following actions at no additional cost to PhilaPort: increase the manpower, the number of working hours per shift, the number of shifts per day, the number of working days per week, the quantity of equipment, or any combination of the foregoing, and reschedule such activities to bring the project back

on schedule.

- D. Failure of the DBC to comply with these requirements shall be considered grounds for a determination by PhilaPort that the DBC is failing to prosecute the Work with sufficient diligence to ensure its completion within the Contract Time and is failing to comply with the Contract Time provisions of the Contract. Such determination may result in default and/or suspension and/or debarment of the DBC.
- E. PhilaPort's acceptance of the Recovery Plan does not relieve the DBC of the responsibility for the accuracy of the schedule and for the DBC's obligations to meet the Contract Completion Date. PhilaPort's acceptance of the Recovery Plan does not constitute approval or warranty of the DBCs' means, methods, and techniques of construction. PhilaPort reserves the right to review any Recovery Plan to determine if it satisfies the Project Schedule. If the Recovery Plan does not satisfy the Project Schedule, PhilaPort may elect to prepare a Recovery Plan, to which the DBC must adhere. The costs incurred by PhilaPort in preparing the Recovery Plan will be assessed against the DBC by credit Change Order.
- F. If an updated monthly Project schedule provides a completion date past the Contract Completion Date, then a Recovery Plan is required, not an Extension of Time. The Recovery Plan will be attached to the Project Schedule Update.

**8.13 REQUESTS FOR EXTENSIONS OF TIME CHANGE ORDER.** All requests for Extensions of Time shall be submitted to PhilaPort in writing through the Change Order process as discussed in the Administrative Procedures. Reasons clearly substantiating the request shall be included or the request may be denied. All such requests must be filed within ten (10) calendar days of the end of the event or issue that caused the alleged delay. Activity time delays shall not automatically merit an extension of the Contract Completion Date of this Contract.

**8.14 EXTENSIONS OF TIME CHANGE ORDER AND IMPACT ON SCHEDULE.**

- A. A Change Order, field order (i.e., a no cost Change Order) or delay may not affect existing critical activities or cause non-critical activities to become critical. Change Orders, field orders or delays may result in PhilaPort giving the DBC part of or the entire available total float that may exist within an activity chain on the Network, thereby not causing any effect on any interim milestone date or the Contract Completion Date of this Contract. The Project Schedule shall not excuse the performance of the DBC from activities not indicated on the Project Schedule.
- B. If PhilaPort, for any period after the commencement of On-Site Work, approves an Extension of Time Change Order to the DBC, the DBC is required to prepare a revised Project Schedule and provide a copy to PhilaPort. If a revised Project Schedule is requested, the DBC must send the revised Project Schedule to PhilaPort within fourteen (14) calendar days of the approval of the Extension of Time Change Order. If the time limits set out in this Paragraph are not met, or the DBC is unable to reach agreement on the Project Schedule, PhilaPort reserves the right to prepare the schedule which will be adhered to by all DBC. All costs incurred by PhilaPort in preparing the schedule will be assessed to the DBC by credit Change Order or at PhilaPort's discretion.
- C. Upon approving an Extension of Time Change Order, the monthly updating of the

Project Schedule may result in changes in the dates on which activities and the Project itself are expected to be completed. The process of updating the Project Schedule does not constitute PhilaPort approval of requests for Extensions of Time and does not replace the process of seeking extensions in accordance with both the applicable provisions of the General Conditions of the Contract and the Administrative Procedures, both of which will be strictly enforced. To substantiate and support any timely filed requests for Extensions of Time Change Order, the DBC must submit CPM Schedules (based upon the current Project Schedule in effect at the time the Extension of Time Change Order is submitted) with and without the asserted delay. The DBC must also establish that the delay is justifiable in accordance with the Requests for Extensions of Time Change Order paragraph of these General Conditions. Data drawn from the Project Schedule will also be used by PhilaPort in assessing responsibility for liquidated damages if the DBC causes an unjustified delay.

- D. The Milestones shall be updated and adjusted within ten (10) calendar days of PhilaPort approving any Extension of Time Change Order. If a Recovery Plan that was accepted by PhilaPort requires modification of any future Milestone, the Project Schedule and Milestones must be revised accordingly. The Milestones shall be updated and adjusted each time the Project Schedule is revised so that the two instruments remain coordinated.
- E. Adjusting the Project Schedule through the use of a Recovery Plan does not constitute approval by PhilaPort of any request for an Extension of Time Change Order and does not replace the process of seeking extensions of time in accordance with the Extension of Time Change Order paragraph in this Article of these General Conditions and the Administrative Procedures, which provisions will be strictly enforced. If the DBC submits a timely filed request for an Extension of Time Change Order, it must also submit a proposed Milestone schedule with and without the asserted delay.

**8.15 DELAYS AND EXTENSIONS OF TIME.** If the DBC is delayed by:

- 1. A Critical Activity on the current Progress Schedule that is beyond the control or responsibility of the DBC; or
- 2. Labor disputes; or
- 3. Fire; or
- 4. Unavoidable casualties; or
- 5. Delay due to suspension of work, as provided in Article 15 of these General Conditions; or
- 6. Any cause that PhilaPort determines may justify the delay;

then the Contract Time may be extended by the approval of PhilaPort, through an Extension of Time Change Order, for such reasonable time as PhilaPort may determine. PhilaPort will respond to the DBC's timely request for extension of time Change Order within thirty (30) calendar days of PhilaPort's receipt of such request.

**8.16 UNFAVORABLE WEATHER.** Unfavorable weather, including but not limited to rain, snow, and cold or freezing weather, is not an excuse for stopping or slowing Work under the Contract.

- A. The DBC shall use such methods of protection as may be necessary to continue the

Work throughout the period of unfavorable weather.

- B. If, after using such methods of protection, the DBC cannot continue, a Request for an Extension of Time Change Order may be submitted for PhilaPort's consideration and if approved it will be excusable and non-compensable.

**ARTICLE 9: SUBMITTALS and COORDINATION DRAWINGS**

**9.1 SUBMITTALS.**

- A. A Submittal Register, which is a listing of the submittals needed for the Project, will be created by the DBC's Retained Professional and maintained for the DBC's use. The DBC will use this Submittal Register when creating their Submittal Schedule. The DBC's Retained Professional's Submittal Register shall serve as the basis of the DBC's Submittal Schedule and is not by any means an all-inclusive list of submittals required for the project. The DBC is responsible for reviewing all Contract Documents to fully develop an all-inclusive list of required submittals for the project and utilizing that list when creating the Submittal Schedule.
- B. The DBC shall review the DBC's Retained Professional's Submittal Register and submit all necessary submittals, whether or not listed on the Submittal Register, through the Submittal Process to the DBC's Retained Professional for review and approval. The DBC's Retained Professional shall then forward all approved submittals to PhilaPort and consultants with the Submittal Schedule.
- C. Submittals shall be in accordance with the Contract Documents and include, but not be limited to, such items as:
  - i. DBC's, subcontractor's, manufacturer's or fabricator's shop drawings.
  - ii. Descriptive literature including, but not limited to:
    - 1. Catalog cuts
    - 2. Diagrams
    - 3. Operation charts or curves
    - 4. Test reports
    - 5. Samples
    - 6. Operations and maintenance manual, including parts lists
    - 7. Certifications
    - 8. Warranties
    - 9. Manufacturer
  - iii. Coordination Drawings as required.
- D. The DBC's Retained Professional's approval of submittals does not relieve the DBC of the responsibility for any deviation from the requirements of the Contract Documents, unless:
  - i. The DBC has informed the DBC's Retained Professional of such deviation in an attachment to their submittal at the time of submission; and
  - ii. The DBC has noted the deviation on the shop drawings; and
  - iii. The DBC's Retained Professional has given approval of the specific deviation. The DBC's Retained Professional's approval also does not relieve the DBC from

responsibility for errors or omissions in the submittals.

**If each of these three steps is not performed, the DBC will not be relieved of the responsibility for executing the Work in complete conformity with the Contract Documents, even though the submittals have been approved.**

**Failure to mention a deviation shall be construed as a non-conformance with the Contract Documents. The DBC shall be responsible for all costs associated with bringing the Work back into conformance with the Contract Documents, including costs incurred by PhilaPort as a result of such non- conformance.**

- E. The DBC shall review, approve and submit all submittals required by the Contract Documents or required subsequently by PhilaPort or the DBC's Retained Professional in accordance with the Submittal Schedule in an orderly sequence so as to cause no delay in its Work. Submittals shall be properly identified as specified in the Administrative Procedures and in such manner as PhilaPort may require.
- F. By approving and submitting submittals, the DBC represents that such submittals are sufficient for review purposes and that it has determined and verified all field measurements, field construction criteria, materials, catalog numbers and similar data and that it has checked and coordinated each submittal with the requirements of the Work and of the Contract Documents. Where field measurements and field construction criteria are not verifiable at the date of the submittal, the DBC shall ensure that dimensions will be held when constructed.
- G. Submittals will be reviewed and approved within fourteen (14) calendar days of the submission dates established by the Submittal Schedule, unless PhilaPort approves a different period of time. The 14 calendar days span the time from delivery of the submittal by the DBC to the date the DBC's Retained Professional transmits the return submittal. The Submittal Schedule shall take transmittal times into account when time periods are reviewed. Review and approval are only for conformance with the design concept of the Project and with the information given in the Contract Documents. Approval of a separate item does not indicate approval of an assembly in which the item functions. Approval of submittals shall be carried out on the Project in accordance with the Administrative Procedures. All submittals must be complete and meet the requirements of the entire specification. The DBC shall be responsible for all costs associated with delays of the Project incurred as a result of submittal incompleteness and/or disapprovals.
- H. The DBC shall make any corrections required and shall resubmit submittals until approved. The resubmission shall be acted upon within ten (10) calendar days of its receipt, unless PhilaPort approves a different period of time. The ten (10) day period begins on the first full day after the DBC uploads the resubmission and ends on the date the DBC's Retained Professional sends the resubmission to the DBC. Submittals uploaded earlier than the date established by the Submittal Schedule are not required to be returned until ten (10) days after the date established for the submittal by the Submittal Schedule.
- I. When resubmitting submittals, the DBC shall direct specific attention to any revisions made, other than the corrections requested by the DBC's Retained Professional on previous submissions, by noting such revisions on the resubmissions.
- J. The DBC's Retained Professional's approval of shop drawings or samples does not relieve the DBC of responsibility for any deviation from the requirements of the Contract Documents. The DBC's Retained Professional's approval does not relieve the DBC from responsibility for errors or omissions in the submittals. Failure to mention a variation shall



be construed as a non-conformance with the Contract Documents. The DBC shall be responsible for all costs associated with bringing the Work back into conformance with the Contract Documents, including costs incurred by PhilaPort as a result of such non-conformance.

- K. No portion of the Work requiring a submittal shall be commenced until the submittal has been approved. Any Work commenced by the DBC prior to final approval of the submittal is performed by the DBC at its own risk.

## **9.2 SUBMITTAL SCHEDULE.**

- A. Each DBC shall, within seven (7) days of the Effective Date of the Contract review the DBC's Retained Professional's Submittal Register and prepare and submit a Submittal Schedule with all necessary submittals, whether or not listed on the Submittal Register, showing all items requiring submission. The Submittal Schedule shall be submitted as prescribed by the Administrative Procedures.
- B. The DBC's initial Submittal Schedule shall include the following, at a minimum:
  - i. Submittal breakdown by Specification Section number and division; and
  - ii. Scheduled date for initial submittal of item; and
  - iii. Days required after return of an approved submittal to order, fabricate and deliver the specific item to the site.
- C. **The Submittal Schedule shall be integrated and tied to the logic of activities in the Project Schedule by the DBC to ensure adequate review time is included in the activity durations for all items on the Submittal Schedule.**
- D. Submittals relating to materials and equipment that require advanced approval shall be scheduled and submitted before the DBC issues a purchase order or otherwise acquires the materials or equipment.
- E. Drawings of component items forming a system or that are interrelated shall be organized and submitted concurrently. Certifications to be submitted with the drawings shall be so scheduled. The Submittal Schedule shall be coordinated with the Schedule of Values to ensure delivery and payment requests are projected accurately.
- F. Neither PhilaPort, its designee, will be responsible for the failure of the DBC to properly schedule the process of material/product design, submittal, review, fabrication, delivery and storage/installation.
- G. PhilaPort may require the DBC to add and/or delete items on the Submittal Schedule at any time.
- H. The approved Submittal Schedule will become a part of the Contract and the DBCs must comply with it. Each such revised edition and/or revision to the Submittal Schedule shall be resubmitted to PhilaPort for approval.

## **9.3 COORDINATION AND SEQUENCING OF SUBMITTALS.**

- A. The DBC shall coordinate preparation and processing of submittals with the performance of

the Work and the Project Schedule so the Work will not be delayed by the submittal process.

- B. The DBC shall coordinate and sequence different categories of submittals for the same Work and for interfacing units of Work, so the Work will not be delayed.
- C. No delay damages or time extensions will be granted for time lost due to late, inadequate or uncoordinated submittals or for the time required to resubmit late, inadequate or uncoordinated submittals.
- D. The DBC shall be responsible to determine items that will require long lead time to procure. Adequate time shall be allowed for long lead items that require submittals to be made early during the course of the Work in the Submittal Schedule and Project Schedule.
- E. No delay damages or time extensions will be granted for lack of consideration being given to long lead items.

#### **9.4 COORDINATION DRAWINGS.**

- A. The DBC shall create and update one complete composite set of Coordination Drawings to pre-plan the installation of General, HVAC, Electrical, Fire Protection, Plumbing and other Work as required.
- B. PhilaPort may consider the completion of Coordination Drawings as a condition of approval for any Application for Payment involving any material or equipment delivered or for any Work by the DBC or its subcontractors.
- C. The purpose of these Coordination Drawings is to identify coordination problems and interferences prior to installation. The DBC shall prepare and submit Coordination Drawings for any Work where close coordination is required for installation of products and materials fabricated off-site by separate subcontractors, and where limited space availability necessitates maximum utilization of space for efficient installation of different components. Coordination Drawings are required for all equipment rooms, floors, spaces and other areas in which the Work of two or more trades is to be installed and in which the potential for conflict or interference exists, or as determined by PhilaPort.
- D. The DBC shall identify a subcontractor, person or entity to facilitate the Coordination Drawing Process between impacted subcontractors and, upon acceptance by PhilaPort, such subcontractor, person or entity shall become the designated Coordination Drawing subcontractor.
- E. The Coordination Drawing subcontractor will prepare background drawings that will be distributed to all of the other impacted subcontractors for them to mark-up and return to the Coordination Drawing subcontractor.
- F. At a minimum, the Coordination Drawings shall:
  - i. Show the Work of all subcontractors impacted; and
  - ii. Be drawn to a scale not smaller than 1/4" = 1'-0" (30" x 42" sheet size); and
  - iii. Show clearly in both plan and elevation that all Work can be installed without interference; and

- iv. Show the interrelationship of equipment and systems to indicate coordination among trades; and
  - v. Indicate required installation sequences; and
  - vi. Be based on submitted shop drawings, data files and Contract Documents, and include equipment foundations, all equipment, piping, conduit, ductwork, panels, control centers and related appurtenances.
- G. The DBC is responsible to resolve any conflicts or disputes with locations of Work items found during the preparation of the Coordination Drawings.
- H. The Coordination Drawing subcontractor will incorporate items indicated on the marked-up drawings onto the background drawings, print and/or distribute the final Coordination Drawings or data files as the DBC may elect. One set of reproducible record prints, electronic data files (in format and media acceptable to PhilaPort) and, if requested, four sets of prints of the Coordination Drawings are to be issued to PhilaPort.
- I. Since the preparation of Coordination Drawings acceptable to PhilaPort is a contract requirement, the cost is to be included in the DBC's cost proposal.

**Any Work installed prior to approval of Coordination Drawings shall be at the DBC's risk.** Subsequent relocation required to avoid interferences shall be made without additional expense or time extensions to PhilaPort.

**9.5 STANDARDS OF QUALITY.** Where trade names, catalog number and manufacturers of material or equipment are specified, they are mentioned for the purpose of establishing a standard of quality, performance, and appearance, and for establishing a standard for competitive bidding. If the DBC wishes to utilize material or equipment that they believe is of the same type, but manufactured by others than those named in the specifications, the DBC shall certify that the material or the equipment is equal in quality, performance and appearance to that mentioned in the specifications. The DBC shall submit to PhilaPort, subsequent to the Award of Contract, a request to install such material or equipment. The DBC's request shall include a comprehensive description of the material or equipment proposed to be utilized as an equal, including engineering, construction, and dimension and performance data. Within thirty (30) days after receipt of the DBC's request, the DBC's Retained Professional will render a determination to the DBC, which is final. If the DBC refuses or fails to proceed in accordance with the DBC's Retained Professional's determination, PhilaPort may issue cure or non-conformance notices and/or declare the DBC in default.

**9.6 SUBSTITUTION OF MATERIALS.** If the DBC desires to furnish materials or equipment other than that which is specified, the DBC shall submit to the DBC's Retained Professional a comprehensive description of the material or equipment proposed for substitution, including engineering, construction, dimension, performance and appearance data, along with a statement of the cost involved. The DBC's Retained Professional, with the approval of PhilaPort, shall render a determination to the DBC. If the substituted material or equipment is approved, the DBC is responsible for any and all costs incurred to implement the substitution and for eliminating any additional time that may be needed as a result of implementing the substitution. If the cost of the substituted item is less than the specified item, PhilaPort is entitled to a credit for the difference between the cost of the substituted item and the item specified.

**ARTICLE 10: PROTECTION OF PERSON & PROPERTY AND INSURANCE AND INDEMNIFICATION**

**10.1 SAFETY PRECAUTIONS AND PROGRAMS.** The DBC shall recognize that it is important to prevent the occurrence of incidents that lead to injuries, property damage, or illnesses. The DBC is responsible for initiating, maintaining and supervising all safety precautions and programs required for the Work.

**10.2 SAFETY OVERVIEW.** The DBC and its subcontractors of all tiers will be responsible for the safety and security of its employees under their control and as to its area of Work.

- A. The DBC and its subcontractor(s) of any tier shall be required to have its company Safety Program in place and implemented throughout the duration of the project.
- B. The DBC will have a Site Safety Program, maintain injury records as required by OSHA. Upon request by PhilaPort, the DBC shall make available the Site Safety Program, information on injury logs, safety meetings and their topics, inspection reports and other items concerning Project safety.
- C. The DBC will inform PhilaPort of any Federal or State inspection, and PhilaPort will receive copies of all Federal and State inspection reports, citations, penalties, abatement dates, etc. DBC must provide copies of the above requested materials no later than 5 business days from date of receipt.
- D. The DBC will give full cooperation to all authorized Inspectors, who may periodically inspect the Project without notice.

**10.3 SAFETY OF PERSONS AND PROPERTY.** The DBC shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to:

- A. All employees involved in the Work and all other persons who may be affected thereby; and
- B. All the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the DBC or any of its subcontractors of any tier; and
- C. Other property within the Contract Limits or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction; and
- D. All areas of the Project site where unauthorized entry or presence would present a potential hazard to the health and safety of trespassers shall be adequately posted to prevent access by unauthorized personnel.

**10.4 COMPLIANCE WITH SAFETY LAWS.** The DBC shall comply at all times with all applicable Federal, Commonwealth, and local laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property and to protect them from damage, injury or loss. The DBC shall erect and maintain, as required

by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities until the acceptance of all on-site physical work, Change Order work, and/or demobilization. All areas of the Project shall be hardhat areas. All persons within the Contract Limits are required to be protected by protective helmets in compliance with Occupational Safety & Health Administration (OSHA) requirements.

**10.5 EMPLOYEE SAFETY ORIENTATION AND SAFETY MEETINGS.**

- A. The DBC and its subcontractor(s) of any tier shall follow OSHA requirements regarding the recognition and avoidance of unsafe conditions and the regulations applicable to the work environment.
- B. The DBC and each subcontractor shall also provide a company-specific basic site and safety orientation to each individual before they begin Work on the Project. This orientation shall cover general safety rules, potential hazards, site work rules, wearing of protective equipment, etc. The DBC and each subcontractor shall keep a record of all attendees and topics discussed.
- C. The DBC and each of its subcontractors shall hold weekly Toolbox Talks Meetings at the Project site.

**10.6 FIRST AID TREATMENT.**

- A. The DBC shall keep on site a first aid kit supplied according to current regulations and shall have a certified person trained in first aid and CPR to cover those periods outside of normal project working hours.

**10.7 PROJECT EQUIPMENT.**

- A. Each DBC and its subcontractor(s) of any tier will supply all necessary equipment and take the required precautions to maintain the equipment according to the current regulations and Contract Documents. The DBC shall accept the responsibility to assure that all of the necessary safety equipment is supplied and used as required.
- B. Each DBC shall clearly mark its name on each and every piece of its equipment on-site. The name shall be marked in a place on the equipment that is clearly visible.
- C. All tools, saws and mechanical equipment utilized by the DBC shall have protective safety devices in operating order when using the equipment.

**10.8 EMPLOYEE AND VISITOR DRESS REQUIREMENTS.**

- A. This Project shall be a hardhat Project and, all supervisors, employees and visitors shall be required to wear a suitable hardhat while on the Project site.
- B. Other appropriate personal protective equipment shall be provided and worn as required for personal safety and protection.

**10.9 EMERGENCY NOTIFICATION.** A procedure will be established by each DBC to

provide emergency communications to all individuals on the site. This procedure will not be used to handle routine calls to individuals.

**10.10 COMPLIANCE WITH SAFETY REGULATIONS.**

- A. The DBC's failure to comply with the safety requirements will be considered as non-compliance with the Contract and may result in remedial action as provided by the Contract.
- B. Even though PhilaPort has no duty regarding the DBC's compliance with safety regulations, if PhilaPort notifies any DBC of any safety issue, the DBC shall make all reasonable efforts to correct the condition or act.

If a DBC or subcontractor refuses to correct the safety issue, condition or act, PhilaPort, in its sole discretion, may take any other action it deems appropriate.

All costs incurred due to correcting the DBC's safety issue, condition, or act shall be borne by the DBC which created the safety issue, condition or act and costs will be back-charged to this DBC.

- C. Each DBC shall be responsible for payment of all fines and/or claims for damages levied for deficiencies relating to conduct of DBC's Work.

**10.11 EXPLOSIVES.** Unless permitted in the specifications, the use of explosives and other hazardous materials or equipment is not permitted for the execution of the Work. If explosives are permitted, the DBC shall observe the utmost care, performing such Work with experienced personnel and in accordance with all Federal, Commonwealth, local, Departmental, and institutional regulations, so as not to endanger life or property. Rock encountered within five (5) feet of pipelines or buildings shall be removed without blasting. All explosives shall be stored in a secure and safe manner, in strict conformity with all Federal, Commonwealth and municipal regulations and all such storage shall be clearly marked "Dangerous-Explosives" and shall be in the care of competent watchmen at all times. The DBC shall provide insurance in accordance with the special insurance provision in these General Conditions relating to "Blasting". The DBC shall be responsible for all damages caused by the use of explosives, hazardous materials and/or equipment, and blasting and shall notify PhilaPort of any claims of damage associated with this Paragraph at the time of claim.

**10.12 REMEDICATION OF DAMAGES.** The DBC shall remedy all damages or loss to any property caused in whole or in part by the DBC, any subcontractor, any sub-subcontractor, or anyone directly or indirectly employed by any of them. If damage or loss is attributable to faulty drawings or specifications or to the acts or omissions of PhilaPort and the damage or loss is not attributable to any fault or negligence of the DBC, then the DBC shall not provide remediation.

**10.13 LOADS.** The DBC shall not load or permit any part of the Work to be loaded so as to endanger the safety of persons or property.

**10.14 DBC'S LIABILITY INSURANCE.** The DBC, during the progress of the Work and until the acceptance of all on-site physical work, Change Order work, and/or demobilization, shall purchase and maintain such insurance as will protect it from claims set forth below which may arise out of or result from the DBC's operations under the Contract, whether

such operations are performed by itself or by any subcontractor:

1. Claims under Worker's Compensation Disability Benefit and other similar employee benefit Acts; and
2. Claims for damages because of bodily injury, occupational sickness or disease, or death of its employees, and claims insured by usual personal injury liability coverage; and
3. Claims for damages because of bodily injury, sickness or disease, or death, of any person other than its employees, and claims insured by usual personal injury liability coverage; and
4. Claims for damages because of injury to or destruction of tangible property including loss of use resulting therefrom.

**10.15 INSURANCE LIMITS.** The insurance required by this Article shall be written for not less than any limits of liability specified in this Article, or required by Law.

**10.16 CERTIFICATES OF INSURANCE.** Certificates of Insurance complying to this Article and acceptable to PhilaPort shall be filed with PhilaPort prior to the commencement of on-site work. These certificates shall contain a provision that coverages afforded under the policies shall not be canceled or changed until at least thirty (30) calendar day notice has been given to PhilaPort. Renewal certificates must be provided to PhilaPort prior to the expiration of the prior policy as stated on the certificate. The insurance certificate shall also name the Commonwealth of Pennsylvania, the Construction Manager, if there is one on the project, as additional insureds.

*PhilaPort, the Commonwealth of Pennsylvania, their officers, employees and agents shall be included as additional insureds on the DBC's General Liability and Automobile Liability Insurance Policies. PhilaPort and the Commonwealth of Pennsylvania shall be named as Loss Payees' on the DBC's Property Insurance Policy. DBC's insurance shall be primary to any other coverage available to PhilaPort and the Commonwealth of Pennsylvania and any insurance maintained by PhilaPort shall be non-contributory.*

**10.17 ADDITIONAL INSUREDS:** PhilaPort, Philadelphia Regional Port Authority, the Commonwealth of Pennsylvania, and the tenants of any facilities affected by the Work, their officers, employees, and agents are to be named as additional insureds on the General Liability, Property, and Umbrella Insurance policy(ies) of the Contractor. In addition, an endorsement to the insurance policy(ies) is required stating that the coverage afforded PhilaPort, Philadelphia Regional Port Authority, the Commonwealth of Pennsylvania, and the tenants of any facilities affected by the Work, and their officers, employees, and agents as additional insureds will be primary and non-contributory to any coverage available to the Contractor.

**10.18 UMBRELLA INSURANCE:** DBC shall carry a Commercial Umbrella Policy in the minimum amount of \$10,000,000. The Umbrella policy will include the Additional Insured language indicated in section 10.17 above.

**10.19 COMMERCIAL GENERAL LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCES.** The DBC's commercial general liability insurance shall be

in an amount not less than \$1,000,000 per occurrence, including accidental death, to any person and subject to the same limit for each occurrence, and in an amount not less than \$2,000,000 in the aggregate. This policy must list general aggregate and completed operations aggregate. This policy shall not have any exclusion for explosion, underground, or collapse (XC&U). The DBC's property damage liability insurance shall be in an amount not less than \$2,000,000 for each occurrence.

A. For subcontractors, the DBC shall either:

1. Require each of its subcontractors to procure and to maintain subcontractors' commercial general liability, automobile liability, and property damage liability insurance of the type and in the same amounts as specified in this subsection for the life of its subcontract and/or until the acceptance of all of its on-site physical work, Change Order work, and/or demobilization;

**OR**

2. Insure the activity of its subcontractors in its own policy.

B. If required by a Special Condition, by law, or the DBC deems necessary, the DBC's and its subcontractors' liability insurance shall include additional riders providing for adequate protection against the indicated special hazards (e.g., blasting, flooding, underpinnings, pollution, etc.).

C. The DBC must submit to PhilaPort, within ten (10) calendar days from the Initial Job Conference, and prior to the beginning of on-site work, the subcontractor's and sub-subcontractor's certificates of insurance which name the Commonwealth of Pennsylvania and Commonwealth Agency as an additional insured.

**10.20 PROPERTY INSURANCE.** The DBC shall, until all physical on-site work is complete, including Change Order work, punch list work, demobilization or seasonal work, maintain insurance on all insurable work included in the Contract against loss or damage by fire and lightning and those perils covered by the extended coverage endorsement. Insurable work includes work both interior and exterior of any building being constructed. The property insurance must include an all-risk Builder's Risk Policy covering the entire anticipated and agreed upon value of the completed premises. The DBC and all subcontractors are required to produce certificates of insurance, naming the Commonwealth of Pennsylvania and Commonwealth Agency as an additional insured.

**10.21 COMMERCIAL AUTOMOBILE LIABILITY INSURANCE.** The DBC's Commercial Automobile Liability Insurance shall be in an amount not less than a \$1,000,000 Combined Single Limit (CSL) or in the alternative, provided that there is not Commercial Automobile Policy, then a separate limit under the General Liability Policy providing for \$1,000,000 Non-Owned and Hired liability.

**10.22 RISK TO CONSTRUCTION WORK.** The risk of damage to the construction work is that of the DBC and surety. No claims for such loss or damage will be recognized by PhilaPort, nor will such loss or damage excuse the complete and satisfactory performance of the Contract by the DBC.

**10.23 PROFESSIONAL LIABILITY INSURANCE.** The DBC's Retained Professional and any consultants of the DBC's Retained Professional or the DBC required to provide sealed



documents shall secure and maintain Professional Liability Insurance to insure its activities in connection with this Contract and shall obtain, keep in force, and maintain it as required. The insurance shall have a retroactive date of placement prior to or coinciding with the date services are first provided that are governed by the terms of this Design Build Contract and shall include, without limitation coverage for professional services as called for in this Contract. However, if the insurance under this Article is written on a claims-made basis, it shall be maintained continuously for a period no less than three (3) years following termination of this Contract or final Closeout Inspection, whichever occurs later. At the final Closeout Inspection, the DBC's Retained Professional(s) shall provide PhilaPort a Certificate of Insurance indicating that the policy has been prepaid for three (3) years or a certificate evidencing professional liability insurance coverage will be maintained on an on-going annual basis during the required time at least in the amount required. The DBC's Retained Professional and any consultants shall secure and maintain Professional Liability Insurance with a minimum coverage of \$1,000,000, or the total of the DBC's Retained Professional's fee under the DBC Contract with PhilaPort as of the date of the DBC's Retained Professional's agreement with the DBC, whichever is greater.

**10.24 UNACCEPTABLE SURETY OR INSURANCE COMPANY.** If the surety on the bonds or the insurance company providing the required coverage becomes unsatisfactory to PhilaPort, the DBC must promptly furnish such additional security or insurance coverage as may be required to protect the interest of PhilaPort. The DBC shall, from time to time, furnish PhilaPort, when requested, satisfactory proof of coverage of each type of Bond and/or insurance required. Failure to comply with this provision shall result in the cessation of the Work, and shall be sufficient grounds to withhold any further payments due the DBC and/or to declare the DBC in default. PhilaPort will not consider any claim for an Extension of Time, costs, or damages because of time lost due to such instance brought by the noncompliant DBC. The noncompliant DBC shall be responsible for damages incurred by the DBC in accordance with these General Conditions.

**10.25 INDEMNIFICATION.**

The Contractor shall hold harmless and indemnify the Commonwealth, PhilaPort, and the Professional and their agents and employees against any and all third party claims, demands and actions based upon or arising out of any activities performed by the Contractor and its employees and agents under this Contract, provided the Commonwealth gives Contractor prompt notice of any such claim.

- A. Pursuant to the Commonwealth Attorneys Act (71 P.S. Section 732-101, et seq.), the Office of Attorney General (OAG) has the sole authority to represent the Commonwealth in actions brought against the Commonwealth. The OAG may, however, in its sole discretion and under such terms as it deems appropriate, delegate its right of defense. If OAG delegates the defense to the Contractor, the Commonwealth will cooperate with all reasonable requests of Contractor made in the defense of such suits.
- B. Notwithstanding the above, neither party shall enter into any settlement without the other party's written consent, which shall not be unreasonably withheld. PhilaPort may, in its sole discretion, allow the Contractor to control the defense and any related settlement negotiations.

**10.26 INDEMNIFICATION NOT LIMITED BY EMPLOYEE BENEFITS ACTS.** In any and all claims against the Commonwealth, PhilaPort, or the Construction Manager (if one is retained for the Project) or any of their agents or employees, by any employee of the

DBC or any subcontractor, the indemnification obligations under this Article shall not be limited on the amount or type of damages, compensation, or benefits payable by or for the DBC or any subcontractor under Worker's Compensation Acts, Disability Benefit Acts, or other.

- 10.27 WORKPLACE DRUG AND ALCOHOL POLICY.** PhilaPort is committed to providing a safe workplace for the workers assigned to the Project, promoting high standards of employee health and fostering productivity. DBC shall establish a drug and alcohol policy for the project with the goal of maintaining a work environment that is free from the effects of the use of illegal drugs and alcohol. Anyone employed at the Project site will comply with the DBC's drug and alcohol policy.

PhilaPort reserves the right to amend this procedure upon notice to the DBC.

- A. **COMPLIANCE PROCEDURE:** PhilaPort reserves the right to audit any drug and alcohol policy program required by this specification to verify compliance results within twenty-four (24) hours of PhilaPort's notification of intent to audit. PhilaPort shall have free right of access to all relevant records of the DBC and their subcontractors for this purpose, provided such record disclosures are within the scope of the Commonwealth of Pennsylvania's Department of Health and Human Services guidelines pertaining to confidentiality of employee records.

The DBC's pre-engagement employees who receive a positive test result shall immediately leave the project site. Transportation of employees receiving a positive test result is the direct responsibility of the employing DBC. Furthermore, pre- engagement employees receiving a positive test result shall not be permitted to return to the project site earlier than ninety (90) days from the date of the positive test. At that time, the employee must be tested again.

**ARTICLE 11: CHANGES IN THE WORK**

**11.1 CHANGES.** PhilaPort, without invalidating the Contract, may direct changes in the Work within the general scope of the Contract, consisting of additions, deletions or other revisions. All such changes in the Work will be authorized by Change Order or Field Order.

**A. The DBC agrees that payment under any method noted within this Article will be the exclusive compensation for such addition, deletion, or other revision to the original Contract, including any and all costs required by the change in order to maintain the Project Schedule.**

**B.** If it is not possible to complete the Work in accordance with the Project Schedule by acceleration, stacking or re-sequencing, the DBC may request an Extension of Time. Adequate information and proper form submission must be provided to validate this request. PhilaPort reserves the right to deny requests not accompanied by adequate information and proper form submissions.

**C.** The language in this Article must be construed in conjunction with the detailed language of the Administrative Procedures.

**D.** PhilaPort reserves the right to require DBE participation on Change Orders for additional work not already subject to DBE commitment.

**11.2 COST OF CHANGE ORDER.** The debit or credit cost to PhilaPort resulting from a change in the Work shall be determined in accordance with the Change Order Administrative Procedure as determined by PhilaPort.

**11.3 DISAGREEMENT AS TO COST OR CREDIT FOR CHANGE ORDER.** If PhilaPort and the DBC cannot agree as to the cost or credit to PhilaPort resulting from a change in the Work, PhilaPort shall determine the cost or credit. The DBC **must** proceed with the Change Order work under this Article if directed to do so by PhilaPort. The DBC may submit any dispute for cost to PhilaPort in accordance with the Dispute Resolution Article of these General Conditions. PhilaPort may, in PhilaPort's sole discretion, monitor any or all disputed cost work on a time and material force account basis. If PhilaPort approves the change as a force account Change Order, the DBC would be required to show proof of incurred cost as stipulated under the provisions of Change Order Administrative Procedure.

**11.4 UNCLASSIFIED EXCAVATION.**

**A.** Excavation, if required for this Project, will be unclassified and will include all types of earth and soil, any pebbles, boulders, and bedrock, municipal trash, rubbish and garbage, and all types of debris of the construction industry such as wood, stone, concrete, plaster, brick, mortar, steel and iron shapes, pipe, wire asphaltic materials, paper and glass. Unclassified excavation does not include unforeseen concrete foundations, walls, or slabs.

**B.** All materials encountered which are identified as described in the previous paragraph as unclassified shall be removed to the required widths and depths to create a finished

product as shown and/or noted on the drawings and as written in the specifications.

No additional compensation or time shall be given to the DBC for this unclassified excavation.

- C. Any unclassified items described 11.4 above that are discovered during any excavation are not concealed conditions or unknown physical conditions below the surface for purposes of the Concealed Conditions paragraph of these General Conditions.

## **11.5 CONCEALED CONDITIONS.**

- A. PhilaPort recognizes two types of concealed conditions which might be encountered during the performance of the Work, namely:
  - 1. Concealed conditions which are unascertainable from the plans, Contract Documents, visits to the site, or reasonable investigation, and which are at variance with the conditions indicated by the Contract Documents; or
  - 2. Unknown physical conditions below the surface of the ground of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract.
- B. The DBC has twenty-four (24) hours after the first observance of the concealed condition to provide notice to PhilaPort.
- C. If PhilaPort decides that either of the two concealed conditions described above in (A) has occurred during construction, then the Contract Sum shall be equitably adjusted by Change Order. No adjustment shall be made to the Contract Sum under this paragraph, however, for concealed conditions encountered during cutting and patching of Work.
- D. In the event that concealed or unknown conditions described above in (A) preclude either the DBC or PhilaPort from establishing either a methodology or a quantity of work to be priced into a Change Order before commencement and performance of Work, PhilaPort reserves the right to do any of the following:
  - 1. If only the quantity of Work is unknown, PhilaPort may issue a Change Order to perform work in a quantity established by PhilaPort. PhilaPort will monitor the actual quantities and, upon completion of the Work, issue a second Change Order to adjust the original quantity.
  - 2. If PhilaPort deems that either the methodology and/or scope of the Change Order are indeterminable, PhilaPort may issue an exploratory Change Order to determine the appropriate methodology and scope before issuing a follow-up Change Order to complete the Work. If PhilaPort determines, after review of the results of the exploratory Change Order, that this Change Order was not successful in establishing the methodology or scope of work, PhilaPort may opt for performing and monitoring the entire Change Order Work on a time and material force account basis. If PhilaPort decides to proceed in this manner, the DBC will be required to show proof of incurred cost as stipulated under the provisions of Change Order Administrative Procedure.

- 11.6 **NO CLAIMS FOR ADDITIONAL COST OR TIME.** No claims for increased costs, charges, expenses, or damages of any kind, except as provided in the General Conditions, shall be made by the DBC against PhilaPort for any delays or hindrances from any cause whatsoever,

including, but not limited to, strikes, walkouts or work stoppages during the progress of any portion of the Work. PhilaPort may, however, address such non-compensable delays by extending the time for completion of the Work, as provided in the Contract, which extensions shall constitute the exclusive remedy between the parties.

- 11.7 **MINOR CHANGES IN THE WORK**. PhilaPort may direct minor changes in the Work (such as minor relocations or field revisions) that PhilaPort and the DBC mutually agree do not involve an adjustment in the Contract Sum or an extension of the Contract time and which are not inconsistent with the intent of the Contract Documents. Such changes may only be enacted by no cost Change Order, or by other order. Such changes are binding on PhilaPort and the DBC. The DBC shall carry out such no cost Change Orders promptly.
- 11.8 **DIRECTIVE TO COMMENCE CHANGE ORDER WORK**. PhilaPort may direct the DBC to commence Change Order Work prior to a fully executed Change Order. Such direction will not be given until PhilaPort generates the scope and confirms that funding is available to complete the Change Order Work. The DBC shall proceed immediately upon PhilaPort's notification of the directive to the DBC.

**ARTICLE 12: NON-CONFORMING WORK  
AND CORRECTIONS**

- 12.1 WORK COVERED CONTRARY TO REQUEST.** If any Work is covered contrary to the request of PhilaPort, the Work must, if required by PhilaPort, be uncovered for observation and replaced, at the DBC's expense with no Extension of Time.
- 12.2 UNCOVERING OF WORK.** If any Work has been covered which PhilaPort, its designee, has not specifically requested to observe prior to being covered, PhilaPort, may request to see such Work and the Work shall be promptly uncovered by the DBC.
- A.** If such Work is found to be in accordance with the Contract Documents, the cost of uncovering and replacement shall be charged to PhilaPort by appropriate Change Order.
- B.** If such Work is found to be not in accordance with the Contract Documents, the DBC shall pay costs to make the Work conform and the cost of replacement
- 12.3 CORRECTION OF WORK REJECTED BY PHILAPORT.** The DBC shall promptly correct all Work rejected by PhilaPort or its designee as defective or as failing to conform to the Contract Documents. The correction must be implemented regardless of when such Work is observed and whether or not the Work was fabricated, installed or completed or whether such Work had been paid for by PhilaPort. The DBC shall bear all costs of correcting such rejected Work, including the cost of the DBC's Retained Professional's additional services and any additional cost incurred by PhilaPort and/or any other agency.
- 12.4 CORRECTION OF WORK AFTER ACCEPTANCE.** If, after the date of Closeout Inspection and acceptance of all Work performed under the Contract and until the expiration of warranty on the Work, any of the Work is found to be defective or nonconforming, the DBC shall correct such Work promptly after receipt of a written notice from PhilaPort, unless PhilaPort has previously given the DBC a written acceptance of this specific condition. PhilaPort should give such notice of rejection promptly after discovery of the condition. Acceptance or payment of an Application for Payment by PhilaPort shall not constitute acceptance.
- 12.5 CORRECTION AT NO COST TO PHILAPORT.** All defective or nonconforming Work shall be promptly removed from the site, and the Work shall be corrected to comply with the Contract Documents without cost to PhilaPort.
- 12.6 COST OF DAMAGE TO OTHER CONTRACTORS' WORK.** The DBC shall bear the cost of replacing all Work of any other contractor that is destroyed or damaged by the removal and/or correction of the DBC's defective or non-conforming Work.
- 12.7 FAILURE TO CORRECT DEFECTIVE OR NON-CONFORMING WORK.** If the DBC does not remove such defective or nonconforming Work within the time set forth by PhilaPort, PhilaPort may have the defective or nonconforming Work removed, implement any corrective work by any means necessary, and issue a credit Change Order to the DBC for all costs associated with the correction. Failure to correct defective or non-conforming work as directed by PhilaPort may be cause for default and/or breach of contract.

- 12.8 **INVESTIGATION BY PHILAPORT.** PhilaPort reserves the right, upon investigation of installation of defective and/or nonconforming Work, to note this situation in the Contractor Responsibility Program and may consider suspension of the DBC in accordance with Section 531 of the Commonwealth Procurement Code. PhilaPort may also, in its sole discretion, find the DBC in breach of its Contract and/or declare the DBC in default of its Contract in accordance with the Termination Article of these General Conditions.
- 12.9 **ACCEPTANCE OF NONCONFORMING WORK.** If PhilaPort knowingly elects to accept nonconforming work, it may do so instead of requiring its removal and correction. If nonconforming work is accepted, a credit Change Order shall be issued to reflect an appropriate reduction in the Contract Sum, or, if the amount is determined after final payment, it shall be paid by the DBC and/or the DBC's surety.
- 12.10 **PHILAPORT'S RIGHT TO CARRY OUT THE WORK.** If the DBC fails to carry out the Work in accordance with the Contract Documents or fails to perform any provision of the Contract, PhilaPort may, after three (3) days written notice to the DBC, and without prejudice to any other remedy PhilaPort may have, correct such failures. In such case, an appropriate Change Order shall be issued deducting from the payments then or thereafter due the DBC the cost of correcting such failures, including the cost of PhilaPort's designee's additional services made necessary by such failure. If the payments then or thereafter due the DBC are not sufficient to cover such amount, the DBC and/or the DBC's Surety shall pay the difference to PhilaPort.
- 12.11 **OBLIGATIONS OF DBC NOT LIMITED BY THIS ARTICLE.** The obligations of the DBC under this Article are in addition to, and not in limitation of, any obligations imposed upon the DBC by the Contract Documents or otherwise prescribed by Law.

## **ARTICLE 13: PAYMENTS AND COMPLETION**

**NOTE: The DBC will be obligated to utilize e-Builder to upload invoicing information.**

### **13.1 SCHEDULE OF VALUES.**

- A. The language in this Article must be construed in conjunction with the detailed language of the applicable Administrative Procedure.
- B. Within thirty (30) days of the Notice to Proceed and prior to the first Invoice, the DBC shall submit for PhilaPort's approval, a detailed Schedule of Values, indicating values for line-items of the Work. The Schedule of Values must provide the aggregate total Contract sum, divided to facilitate payments to subcontractors. The Schedule of Values shall be submitted to PhilaPort and supported by such data required by PhilaPort to substantiate its correctness in accordance with the following:
  - 1. Each item in the Schedule of Values shall include its proper share of overhead and profit.
  - 2. When more than one building or structure is included in the Contract, the DBC shall submit a Schedule of Values, indicating Unit Prices for all items of Work within the separate buildings, separate floor levels, site work and/or structures, or as deemed acceptable by PhilaPort.
- C. This Schedule of Values, when accepted by PhilaPort, will be used as a basis for the DBC's invoices. This breakdown may also be used by PhilaPort to determine the cost or credit to PhilaPort resulting from the changes in the Work.

### **13.2 INVOICE FOR PROGRESS PAYMENTS.**

- A. During the progress of the Work, the DBC shall submit invoices of the value of the Work performed to PhilaPort. All invoices shall be supported by data, as required by PhilaPort, substantiating the DBC's right to payment. PhilaPort will review and accept the invoice for validity.
- B. **STORED MATERIALS:** If upon the determination of PhilaPort as to reasonableness, payments for stored material which is scheduled to be installed more than forty-five (45) days from request for payment are to be made to the DBC on account of materials or equipment which are not yet incorporated in the Work but are delivered and suitably stored in an appropriate facility or at the site. Such payments shall be conditioned upon submission by the DBC of fully completed Stored Materials forms provided by PhilaPort to establish PhilaPort's title to such materials or equipment inclusive of all required documents, photos, attachments, etc. The DBC shall remain responsible for all losses of materials and equipment that remain under its custody and control, regardless of the exclusions in insurance policies. Warranties do not begin until the date of final acceptance.

### **13.3 DBC WARRANTS TITLE TO ALL WORK PASSES FREE OF LIENS.** The DBC warrants and guarantees that title to all work, materials and equipment covered by an Invoice, whether incorporated in the Project or not, will pass to PhilaPort upon final



acceptance by PhilaPort. The title shall be free and clear of all liens, claims, security interests or encumbrances (hereinafter referred to in this Article as "liens"). The DBC further guarantees that no work, materials or equipment covered by an Invoice was acquired by the DBC, its employees, its suppliers or its subcontractors subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the DBC, its employees, its suppliers or its subcontractors.

**13.4 NEITHER PAYMENT NOR OCCUPANCY CONSTITUTES ACCEPTANCE OF WORK NOT IN CONFORMANCE WITH CONTRACT DOCUMENTS.** Under no circumstances will any of the following occurrences constitute an acceptance of any Work not in accordance with the Contract Documents:

- A. An approval of an application for a progress payment; or
- B. Full or partial payment to the DBC of any progress payment; or
- C. Partial or entire use or occupancy of the Project by the Client Agency.

**13.5 PAYMENTS WITHHELD.**

- A. PhilaPort may decline to approve an Invoice in whole or in part if the Work has not progressed to the point indicated, or the quality and quantity of the Work is not in accordance with the Contract Documents. PhilaPort may also decline to approve any Invoice, because of subsequently discovered evidence or subsequent inspections, which may nullify the whole or any part of any Invoice previously issued to such extent as may be necessary in their opinion to protect PhilaPort from loss because of deficiency items, including but not limited to:
  - 1. Defective work not remedied; or
  - 2. Reasonable doubt that the Work can be completed for the unpaid balance of the Contract Sum; or
  - 3. Reasonable indication that the Work will not be completed within the contract time; or
  - 4. Unsatisfactory prosecution of the Work by the DBC; or
  - 5. Failure of the DBC to maintain insurance; or
  - 6. Failure of the DBC to properly submit the required submittals and forms, as required in the Administrative Procedures.
- B. If PhilaPort withholds payment from the DBC for any of the aforementioned reasons, PhilaPort will provide notification to the DBC of the reason for withholding payment within fifteen (15) days of PhilaPort's receipt of the Invoice.

The DBC may withhold payment from a subcontractor, supplier, or manufacturer responsible for the defective/non-conforming item. If payment is withheld from the subcontractor, supplier, or manufacturer for such defective/non-conforming item, the DBC must notify the subcontractor, supplier, or manufacturer and PhilaPort (including the Construction Manager if applicable) of the reason for the withholding within 15 days of the date after the DBC receives the notice of defective/non-conforming item from PhilaPort.

**13.6 PAYMENT MADE WHEN GROUNDS ARE RESOLVED.** When issues for

withholding payments are resolved to PhilaPort's satisfaction, payment shall resume or be made to the DBC for the amounts withheld. The grounds for withholding payment shall be considered resolved upon PhilaPort's issuance of a notice indicating that the issue has been resolved.

**13.7 RETAINAGE.** PhilaPort may retain a portion of the amount due the DBC to ensure the proper performance of the Contract. In computing the amount payable in accordance with this Article on any current Invoice:

- A. **PhilaPort may deduct and retain up to ten percent (10%) of the then total invoices until fifty percent (50%) of the Work has been satisfactorily physically completed as determined by PhilaPort. Satisfactory completion includes compliance with the Contract Documents, and meeting all Contract obligations.**
- B. After fifty percent of the DBC's Work is physically complete, the sum withheld by PhilaPort shall not exceed five percent (5%) of the original Contract Sum. All money retained by PhilaPort may be withheld from the DBC until Substantial Completion of its Work.
- C. In the absence of sufficient reason, within 20 days of the receipt of retainage payment to the DBC, the DBC shall pay all subcontractors with which it has contracted their earned share of the payment the DBC received.

**13.8 PHILAPORT DOES NOT MAKE PAYMENT.** If PhilaPort fails to make payment to the DBC within forty-five (45) days after receipt of an acceptable Invoice, the DBC may file a claim for interest. No interest penalty payment shall be paid, however, if payment is made on or before the fifteenth (15th) calendar day after the payment due date. The DBC is not entitled to stop work in any event, unless PhilaPort exercises its right to suspend the work, as provided in these General Conditions. According to 62 Pa. C.S. §3938, as amended, this failure to pay provision shall not apply if:

- A. The General Assembly failed to enact a budget for the fiscal year of payment; or
- B. The General Assembly failed to enact an operating budget for the fiscal year of payment or a capital budget for the capital project; or
- C. The Federal or State Government failed to pay funds due and payable to the local government unit; or
- D. The Federal, State, or local government failed to pay funds designated or to be designated for the specific project.

**13.9 WORK CANNOT BE COMPLETED THROUGH NO FAULT OF DBC.** If, after Final Inspection, items of Work cannot be completed because of any of the following conditions:

- A. Unseasonable considerations, such as bituminous paving, landscaping, etc.; or
- B. PhilaPort agrees that particular items need not be completed until a subsequent date; or

- C. PhilaPort delays the approval of the Final Invoice for any unreasonable length of time, (reasonableness shall be determined by PhilaPort)

PhilaPort may agree to release partial payment of the remaining Contract balance to the DBC. This payment shall be calculated by deducting one and one-half (1-1/2) times the dollar value of items on the punch list from the remaining Contract balance.

**13.10 FINAL PAYMENT NOT DUE UNTIL CONDITIONS MET.** Neither the final payment nor the remaining retained percentage (if any) becomes due until the DBC submits to PhilaPort:

- A. An affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work for which PhilaPort might in any way be responsible, have been paid or otherwise satisfied by the DBC; and
- B. Statements from the DBC's Surety Company and the DBC's certificate on forms satisfactory to PhilaPort as to DBC's payment of all claims for labor, materials, equipment rentals and public utility services; and
- C. If required by PhilaPort, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as is designated by PhilaPort.

If any subcontractor refuses to furnish a release or waiver, as required by PhilaPort, the DBC may furnish a Bond satisfactory to PhilaPort to indemnify PhilaPort against any such lien. If any such lien remains unsatisfied after all payments are made, the DBC shall refund to PhilaPort all moneys that the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorney's fees.

**13.11 RELEASE OF FUNDS IF DELAY IN FINAL INSPECTION NOT DUE TO THE DBC'S FAULT.** If Final Inspection is materially delayed through no fault of the DBC, PhilaPort shall, upon certification by the DBC's Retained Professional, make payment of the balance due for that portion of the Work fully completed and accepted by PhilaPort. Such payment will not terminate the contract. If the remaining balance of Work not fully completed or corrected is less than the retainage, and, if performance and payment bonds have been furnished as required, the DBC must submit to PhilaPort, prior to certification of the payment, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted by PhilaPort. Such payment shall be made under the terms and conditions governing final payment, except that it does not constitute a waiver of any of PhilaPort's claims against the DBC.

**13.12 FINAL PAYMENT AS WAIVER OF CLAIMS.** The making of final payment constitutes a waiver of all claims by PhilaPort, **except** those arising from:

- A. Liquidated Damages;
- B. Unsettled claims;
- C. Faulty, nonconforming or defective work or material;
- D. Failure of the work or material to comply with the requirements of the Contract Documents; or

E. Terms of any special warranties and/or special guarantees required by the Contract Documents.

**13.13 ACCEPTANCE OF FINAL PAYMENT AS WAIVER OF CLAIMS.** The acceptance of final payment by the DBC constitutes a waiver of all claims by the DBC against PhilaPort.

## **ARTICLE 14: PROJECT CLOSEOUT**

**14.1 CLOSEOUT GENERALLY.** Project closeout consists of a Final Inspection which is deemed to be a significant activity considered to be a Project Milestone. During the Final Inspection, a Punch List of incomplete Work will be generated as discussed below. The DBC must complete all Punch List items within 30 calendar days after Final Inspection. It is the DBC's responsibility to request Final Inspection and PhilaPort's responsibility to determine if the Work is substantially complete for Final Inspection to occur.

### **14.2 FINAL INSPECTION.**

- A. A determination of substantial completion will occur within five (5) days from the request by the DBC to PhilaPort for a Final Inspection and an application for final payment. If the work is determined to be at substantial completion, the Final Inspection shall be conducted within ten (10) days by the DBC's Retained Professional with the observation by PhilaPort. The DBC or its authorized representative must be present throughout the duration of the Final Inspection.
  - 1. PhilaPort has the sole authority, in light of the Project's Scope of Work, to determine whether parts or the whole of the Project are ready for a Final Inspection.
  
- B. At the conclusion of the Final Inspection, the attendees shall review all of the remaining responsibilities of the DBC, the remaining responsibilities of the DBC's Retained Professional, the status of all pending Change Orders, the status of all pending Requests for Extension of Time Change Orders, the status of any pending claims against PhilaPort and any other obligations of any party necessary to fulfill the requirements of the Contract Documents. Upon completion of this review the DBC, the DBC's Retained Professional and the Construction Regional Director or designee shall approve the punch list containing these items to indicate their concurrence with the remaining responsibilities of each party.
  - 1. The Punch List shall indicate, in detail, all items requiring completion or correction and a reasonable cost of completion plus one and one-half times the aggregate value of the items.
  - 2. The DBC shall complete all Punch List items within thirty (30) calendar days of Final Inspection or show just cause to the satisfaction of the DBC's Retained Professional and PhilaPort why they cannot be completed. If satisfactory just cause is not shown, the Department may proceed under Article 12.10 PhilaPort's Right To Carry Out The Work.
  - 3. PhilaPort will make payment in full within 45 days of the submission of the accepted final application except as set out in this Article, less one and one-half times the amount required to complete any then-remaining uncompleted minor items, which amount shall be certified by the DBC's Retained Professional. Payment of any amount withheld for the completion of the Punch List shall be paid upon completion of the items.

**ARTICLE 15: SUSPENSION**

- 15.1 SUSPENSION OF WORK DUE TO UNFAVORABLE CONDITIONS OR WEATHER.** If, in the judgment of PhilaPort, the DBC takes undue risk of damage to any part of a the Project, including, but not limited to, soil compaction, foundation excavation, concrete placement or any exterior building construction by proceeding with the Work during unfavorable weather or other conditions (not relating to the fault of the DBC or the convenience of PhilaPort), PhilaPort may issue a notice of a temporary suspension of the Work for either the whole Contract or any part of the Contract, for such temporary period as PhilaPort deems necessary. If the temporary suspension is due to unfavorable weather, the suspension may span the time period (days, weeks or months) encompassed by the unfavorable weather. In case of such suspension under this paragraph, a proper Extension of Time will be allowed for this excusable, non-compensatory delay, and the DBC may not submit any claim for any expense or damages resulting from the suspension. The failure of PhilaPort to suspend the Work does not relieve the DBC of its responsibility to perform the Work in accordance with the Contract Documents.
- 15.2 SUSPENSION OF WORK DUE TO FAULT OF DBC.** If the DBC fails to comply with the orders of PhilaPort or the Construction Manager relative to any particular parts of the Work, PhilaPort may issue a notice of a temporary suspension of the Work for either the whole Contract or any part of the Contract until the orders respecting the particular parts are complied with by the DBC. In case of this type of suspension, which shall be considered due to the fault of the DBC, no Extension of Time shall be given and the DBC may not submit any claim for any expenses incurred by the DBC during the suspension period. Further, the DBC may be liable for any and all damages incurred by PhilaPort due to the DBC's actions.
- 15.3 SUSPENSION OF WORK FOR THE CONVENIENCE OF PHILAPORT.** PhilaPort, may issue a notice of a temporary suspension of the Work for the convenience of PhilaPort for either the whole Contract or any part of the Contract for such period of time as PhilaPort may determine to be appropriate. This Paragraph does not apply to suspensions due to unfavorable weather or to suspensions due to DBC's fault.
- A. If the performance of all or any part of the Work is suspended by PhilaPort, for an excessive period of time under this paragraph, an adjustment shall be made for any increase in the cost of performance of this Contract (excluding profit) necessarily caused by such excessive suspension. The Contract Sum shall be modified accordingly. PhilaPort will not pay any costs under this paragraph to the extent:
1. Performance would have been concurrently suspended by any other cause, including weather, or the fault or negligence of the DBC; or
  2. An equitable adjustment for the time period encompassed within the suspension has been provided for or excluded under any other provision of this Contract.
- B. Any claim for damages allegedly incurred under this paragraph shall be submitted under the Dispute Resolution Article, in an amount stated, at the next Field Dispute Resolution meeting, after the date of PhilaPort's letter terminating the suspension.

**15.4 RESUMPTION OF WORK.** When PhilaPort directs resumption of the Work under this Article, the DBC shall resume full operations within ten (10) days after the date of PhilaPort's letter terminating the suspension. PhilaPort is not liable for any damages or anticipated profits on account of the Work being suspended, except as described in the Paragraph entitled Suspension of Work for Convenience of PhilaPort. Suspensions of Work as outlined in this Article shall not automatically extend the Contract Completion Date. A request for an Extension of Time may be submitted by the DBC, setting forth its reasons for the extension, which PhilaPort will review in accordance with the Administrative Procedures governing Extensions of Time.

**ARTICLE 16: TERMINATION OF CONTRACT**

**16.1 TERMINATION FOR THE CONVENIENCE OF PHILAPORT.** PhilaPort, may, at any time and for any reason, terminate this Contract. In such case, the DBC shall be paid (and shall accept payment) for that portion of the entire Contract actually performed satisfactorily as of the date of termination. Termination costs shall not include any loss of anticipated profits. Disputes as to the sum payable to the DBC shall be settled in accordance with the provisions of the Dispute Article of these General Conditions of the Contract.

**16.2 EFFECT OF TERMINATION FOR THE CONVENIENCE OF PHILAPORT.** A termination for the convenience of PhilaPort, shall be effective in the manner and at the time specified in such notice and shall be without prejudice to any claims which PhilaPort may have against the DBC. Upon receipt of such notice from PhilaPort, the DBC shall immediately discontinue all Work and the placing of all orders for materials and equipment, facilities and supplies in connection with the performance of this Contract. The DBC shall promptly cancel all existing orders and terminate Work under all subcontracts so far as such orders and Work are chargeable to this Contract. The DBC shall take such measures for the protection of the property of PhilaPort, as may be directed by PhilaPort. Upon termination of this Contract, as provided by this paragraph, full and complete adjustment and payment of all amounts due the DBC arising out of this Contract as determined by an audit conducted by or for PhilaPort, as soon as practicable after such termination shall be made as follows:

- A. PhilaPort shall reimburse the DBC for all costs incurred to date of termination, including reasonable overhead and expense for plant, made in the performance of this Contract, less amounts previously paid.
- B. PhilaPort shall also reimburse the DBC for all costs to which the DBC has been subjected or is legally liable due to the termination of this Contract, including reasonable costs related to cancellation of orders, termination of subcontracts, etc.
- C. PhilaPort shall also reimburse the DBC for the reasonable cost of providing protection of the property of PhilaPort as directed by the termination letter.
- D. The sum total of the payments made under this paragraph shall not exceed the total amount of the Contract, less payment previously made.
- E. Title to all property accruing to PhilaPort, by reason of the termination of this Contract shall immediately vest in PhilaPort and the DBC will execute and deliver all papers necessary to transfer title to PhilaPort.
- F. Coincident with making final payment, the DBC shall furnish PhilaPort, with a final release as provided in the Contract.
- G. PhilaPort shall be afforded full access to all books, correspondence, data and papers of the DBC relating to this Contract in order to determine the amount due.

**16.3 DBC'S DEFAULT.** If the DBC:

- A. Persistently or repeatedly refuses or fails to supply sufficient properly skilled workmen or proper materials; or



- B. Persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction over the Project; or
- C. Fails to proceed as directed by PhilaPort; or
- D. Performs the Work unsuitably; or
- E. Refuses or fails to remove materials or replace rejected or non-conforming Work; or
- F. Discontinues the prosecution of the Work without approval of PhilaPort; or
- G. Otherwise breaches any material provision of this Contract, then PhilaPort, may, without prejudice to any of its other rights or remedies, give the DBC and its Surety notice that the DBC has seven (7) days from the date of PhilaPort's letter to cure the default. If the DBC fails to cure the default within the specified time, PhilaPort may terminate the Contract between PhilaPort and the DBC and may take possession of the site and of all materials and equipment, which has been paid for by PhilaPort as of the date of termination. PhilaPort may finish the Work by whatever method PhilaPort may deem expedient. Upon termination, the DBC is not entitled to receive any further payment until the Work is finished, at which time the DBC shall be paid any excess remaining, in accordance with the Unpaid Contract Balance Paragraph below. The discretion to declare the DBC in default rests solely with PhilaPort. No party, whether bound by Contract to PhilaPort or attempting to raise a third party relationship, which this Contract specifically precludes, may state a cause of action against PhilaPort alleging the failure of PhilaPort to exercise its discretion to terminate the DBC.

**16.4 UNPAID CONTRACT BALANCE.** If after PhilaPort defaults/terminates the DBC, the unpaid balance of the Contract sum exceeds the cost of finishing the Work, including compensation for any Construction Manager's Additional Services and any other damages that PhilaPort has incurred in accordance with the Contract, such excess shall be paid to the Surety. If such costs exceed the unpaid balance, the DBC or the surety or both shall pay the difference to PhilaPort.

**16.5 SURETY REPLACEMENT OF DBC.** If PhilaPort defaults/terminates the DBC, the surety will have thirty (30) days from the date of the termination letter to replace the terminated DBC with a Completion DBC that is acceptable to PhilaPort.

**16.6 SURETY'S FAILURE TO PROVIDE REPLACEMENT DBC.** If the surety fails to provide an acceptable DBC within thirty (30) days from the date of the termination letter, PhilaPort may contract with a DBC to complete the Work in accordance with the Contract Documents.

**16.7 PHILAPORT'S RIGHT OF RECOVERY.** PhilaPort will hold the Surety responsible for any additional cost incurred by PhilaPort as a result of the DBC's termination, including but not limited to, delay cost, acceleration cost, direct cost and consequential and incidental cost incurred by PhilaPort or any other contractor.

## ARTICLE 17: DISPUTES

- 17.1 **DBC MUST CARRY ON WORK DURING THE DISPUTE PROCESS.** The DBC may note that they are performing the Work under protest and may keep records of costs during the dispute resolution process but the DBC shall not refuse to perform as directed by PhilaPort. The DBC must maintain the Project Schedule unless otherwise agreed to by PhilaPort. If the DBC fails or refuses to perform as directed, this action will constitute a breach of contract and PhilaPort may default the DBC and/or proceed to suspend and/or debar the DBC.
- 17.2 **DISPUTE RESOLUTION IS A 3-STEP PROCESS.** The DBC and PhilaPort agree that any and all disputes arising out of this Contract are subject to a 3-step resolution process described in this Article. The DBC and PhilaPort agree that participation in each preceding step is a condition precedent to the DBC's right to pursue any and all unresolved disputes to the next step.
- 17.3 **STEP 1: FIELD DISPUTE REVIEW MEETING.** The Field Dispute Review Meeting is the initial step in identifying and attempting to reach a timely and equitable resolution of the variety of issues that arise on any construction project. The nature and structure of each Field Dispute Review Meeting shall be flexible and consist of an informal, good-faith discussion of the current status of the Project, and identification of potential and actual disputes.
- A. **PROJECT INTERVALS:** A Field Dispute Review Meeting ("FDR Meeting") will be scheduled by PhilaPort to discuss issues arising as of the following intervals of the Project:
1. 50% of the Contract Duration has elapsed; and
  2. 75% of the Contract Duration has elapsed; and
  3. 100% of the Contract Duration has elapsed; or
  4. At any time deemed necessary by PhilaPort.
- B. **LOCATION:** PhilaPort will schedule a mutually convenient date and time for each FDR Meeting. If possible, the FDR Meeting should be convened at the Project site.
- C. **ATTENDEES:** The DBC shall attend each Field Dispute Review Meeting. The DBC's Retained Professional shall attend each Field Dispute Review Meeting. PhilaPort shall also attend the Field Dispute Review Meeting. PhilaPort's Designated Representative will chair the Meeting.
- D. **PROCEDURE:** As the Project progresses and the time for a FDR Meeting approaches, PhilaPort should establish the date for the meeting during the discussion at a bi-weekly Job Conference.
1. The DBC must start the Field Dispute Review Process in writing, utilizing a Field Dispute Review form. This information submitted will be available to PhilaPort. The information should provide sufficient information to allow attendees to research potential disputes, review the Contract Documents, review the Project Schedule and examine site conditions prior to the Meeting. In all cases of

misunderstanding and disputes, allegations that verbal instruction was given will not be considered. The DBC must produce documentation in support of its contentions and shall advance no claim in the absence of such documentation, or use or attempt to use any conversation with any parties against PhilaPort, or in prosecuting any claim against PhilaPort.

2. PhilaPort shall convene the Field Dispute Review Meeting and, if necessary, ensure that attendees are introduced to each other.
  - a. The FDR Meeting shall not be subject to 2 Pa. C.S. (relating to administrative law and procedure).
  - b. Neither audio recording nor videotaping will be allowed during the FDR Meeting.
  - c. No transcripts will be taken but attendees are free to take their own notes.
  - d. The Meeting may be moved out to the field for visual inspection of the condition if necessary to understand and resolve the issue.
  - e. PhilaPort will allow all parties a reasonable time to present and discuss the disputes raised in the DBCs' FDR Meeting Forms.
3. The DBC's representative (an employee in the field familiar with the day-to-day work on this Contract) shall present a description of:
  - a. The Work performed since the last Field Dispute Review Meeting; and
  - b. The Work to be performed in the near future; and
  - c. The status of disputes raised at the previous FDR Meeting; and
  - d. New disputes that have arisen since the previous FDR Meeting. For each new dispute:
    - i. Set forth the schedule impacts, which may only be presented using the current Project Schedule; and
    - ii. Set forth a proposed solution to the dispute, including:
      1. Days needed in any Extension of Time; and/or
      2. Damages attributed to the dispute; and
      3. Identify the party the DBC believes is responsible for creating the dispute.
4. PhilaPort's representative shall present a description of:
  - a. their understanding of the Work performed since the last FDR Meetings; and
  - b. the Work to be performed in the near future; and
  - c. status of disputes raised at the previous FDR Meeting; and
  - d. a response to the new dispute(s) raised by the DBC, including:
    - i. PhilaPort's and/or the DBC's view of the schedule impact, which may only be presented using the current Project Schedule; and
    - ii. PhilaPort's and/or the DBC's response to the original DBC's proposed solution; and
    - iii. the identity of the party PhilaPort and or the DBC believes is

responsible for creating the dispute.

5. Within two weeks of the FDR Meeting, PhilaPort will render a written decision on the issues raised during the FDR Meeting. The decision is not binding upon any party. If no decision is rendered by PhilaPort within this timeframe, the issue is deemed denied.
6. If any party is dissatisfied with the decision reached at the FDR Meeting, they may appeal the decision to the second step in the dispute process.
7. **Any issue or dispute arising on the Project must be presented at the first FDR Meeting after the dispute arose. If the DBC fails to raise an issue at the appropriate FDR Meeting then the DBC is deemed to have waived the issue (e.g., an issue arising during the first 50% of contract duration must be presented at the 50% FDR Meeting and may not be presented at any subsequent FDR Meeting).**
8. **Only claims raised during an FDR Meeting may be appealed to the Claim Settlement Conference stage.**

17.4 **STEP 2: CLAIM SETTLEMENT CONFERENCE**. The second step in the dispute resolution process is a Claim Settlement Conference, which is a more formal step in the process and is described in general in §1712.1 of the Commonwealth Procurement Code.

- A. **TIME TO FILE A CLAIM**: Under this second step of the process, the DBC may appeal the FDR Meeting decision by submitting a written claim to the PhilaPort Dispute Designee..
  1. **Any issue or dispute arising on the Project that is not mutually resolved at the FDR Meeting stage may only be appealed to the Claim Settlement Conference stage. If the DBC fails to pursue any unresolved FDR Meeting issue to a Claim Settlement Conference within the 6-month time frame set forth below, then the DBC is deemed to have waived the issue.**
  2. **A claim accrues upon the date of PhilaPort's written decision in Step 1. If the DBC decides to appeal the decision reached at the FDR Meeting, the DBC must file an appeal of the decision to the PhilaPort Dispute Designee within six months of the date of PhilaPort's written decision. If the DBC fails to file a written request within this time period, the DBC is deemed to have waived its right to assert the claim in any forum. The PhilaPort Dispute Designee will disregard untimely claims.**
- B. **CONTENTS OF THE CLAIM**: The claim filed by the DBC with the PhilaPort Dispute Designee shall state all grounds upon which the DBC asserts a controversy exists. The claim must contain, at a minimum:
  1. The documentation submitted by the DBC to PhilaPort during the FDR Meeting to substantiate the DBC's view of the issue; and
  2. PhilaPort's decision.
- C. **DATE OF THE CLAIM SETTLEMENT CONFERENCE**: The Dispute Designee may schedule a mutually convenient date and time for the Claim Settlement Conference.

- D. ATTENDEES: All parties identified in the Claim Packet or deemed necessary by PhilaPort shall attend the Claim Settlement Conference. At a minimum, the DBC, the DBC's Retained Professional, and a representative from PhilaPort's Bureau of Construction, designated by the Director of Construction, shall attend the Claim Settlement Conference.
- E. PROCEDURE: The PhilaPort Dispute Designee will convene the Claim Settlement Conference.
1. The Claim Settlement Conference shall not be subject to 2 Pa. C.S. (relating to administrative law and procedure).
  2. Neither audio recording nor videotaping will be allowed during the Claim Settlement Conference.
  3. No transcripts will be taken but attendees are free to take their own notes.
  4. The PhilaPort Dispute Designee will allow all parties a reasonable time to present and discuss the issues.
  5. The DBC's representative shall present a description of the issue, including:
    - a. the factual background of the issue;
    - b. the schedule impacts, which may only be presented using the current Project Schedule; and
    - c. the proposed solution to the dispute, including:
      - i. days needed in any Extension of Time; and/or
      - ii. damages attributed to the dispute; and
      - iii. identify the party the DBC believes is responsible for creating the dispute.
  6. PhilaPort's representative (or other DBC/DBC if so identified in 5c(iii) above) shall present a description of:
    - a. a response to the dispute(s) raised by the DBC, including:
      - i. PhilaPort's and/or the DBC's view of the schedule impact, which may only be presented using the current Project Schedule; and
      - ii. PhilaPort's and/or the DBC's response to the DBC's proposed solution; and
      - iii. the identity of the party PhilaPort and/or the DBC believes is responsible for creating the dispute.
  7. The PhilaPort Dispute Designee will render a final determination on the contents of the Claim within 120 days of the receipt of the claim by the PhilaPort Dispute Designee. The parties may, during the 120-day period, mutually agree to extend the 120-day deadline. If extended, PhilaPort will issue written confirmation of the extension. If no decision is rendered within the 120 days, the claim is deemed to be denied on the 120th day. The determination of the PhilaPort Dispute Designee shall be the final order of PhilaPort with regard to the contents of the Claim.

**17.5 STEP 3: FILING A CLAIM AT THE BOARD OF CLAIMS.** The third step in the dispute resolution process is filing a Statement of Claim with the Board of Claims, which

is a more formal step in the process and is described in general in §1712.1 and §1721 *et seq.* of the Commonwealth Procurement Code.

A. TIME TO FILE A STATEMENT OF CLAIM. Within fifteen (15) days of:

1. The mailing date of the PhilaPort Dispute Designee 's final determination denying a claim; or
2. Within 135 days of the date the DBC files a claim with the PhilaPort Dispute Designee if no final determination has been rendered and no extension has been agreed to, whichever occurs first, the DBC may proceed to the third stage of the dispute resolution process by filing a claim with the Board of Claims in Harrisburg.

**Only claims that were raised during a Claim Settlement Conference may proceed to the Board of Claims.**

## **ARTICLE 18: COMMISSIONING**

**18.1 SCOPE OF WORK.** If deemed necessary by PhilaPort during design, commissioning shall consist of the coordination of activities to verify that all building systems (mechanical, electrical, security, fire alarm, etc.) have been installed and are operating in accordance with the requirements specified in the Contract Documents. This scope shall also include approved installation, start-up training, testing and performance of all building equipment and systems.

**18.2 PROCEDURE.**

- A. The specifications contain the commissioning specifications for each Contract.
- B. Within 30 days after the Initial Job Conference, PhilaPort's Commissioning Agent will provide the Commissioning Plan to the DBC. This plan shall clarify in detail the schedule and responsibilities for Work to be completed during commissioning of the Project.
- C. The schedule set forth in the Commissioning Plan shall then be integrated into the Project Schedule by the first monthly update,
- D. Final commissioning will begin upon notice from the DBC to the Commissioning Agent (with a copy sent to PhilaPort) that the system to be commissioned has been completed and is operational.

**18.3 PAYMENT FOR COMMISSIONING.**

- A. The DBC shall have a lump sum of 2% of the awarded contract value (or other percentage set forth by PhilaPort in the specifications or during the bidding stage) retained as a distinct line item on the Schedule of Values for Final Commissioning
- B. Progress payments can be submitted for systems that have been commissioned and approved by the Commissioning Agent. The total of these progress payments shall not exceed ½ of the total percentage retained for Final Commissioning.
- C. Progress payments for commissioning shall be apportioned *pro rata* based on the scheduled values of the systems or equipment to be commissioned. All Applications for Payment that request release of any amount of the total percentage retainage for Final Commissioning must be submitted for review by the Commissioning Agent.
- D. The remaining ½ of the total percentage for the Final Commissioning retainage is payable upon completion of seasonal testing results approved by the Commissioning Agent. Seasonal testing will span two seasons, to assure that commissioning addresses peak heating and cooling operation.

**ARTICLE 19: MISCELLANEOUS CONDITIONS**

**19.1 PROJECT SIGN.** On or before the date of the first regularly scheduled Job Conference (after the Initial Job Conference), the DBC shall erect, at a prominent location (selected by PhilaPort) a six-foot high by eight-foot wide (6'X 8') sign, well braced, and supported by 4"X 4" posts, identifying the Project under construction. The sign board may be constructed from weatherproof plywood, hardboard, or other smooth face material that will weather and remain intact throughout the Project. A three-inch (3") wood border shall frame the sign. The sign shall be placed with the eight-foot (8') dimension horizontal. The base color of the sign shall be white weatherproof flat paint with red border. Lettering shall be in fast blue block letters and shall conform to the following:

PHILAPORT (4" LETTERS MIN.)

PROJECT NO. (3" LETTERS MIN.)

[building name] (4" LETTERS MIN.)

[facility name] (3" LETTERS MIN.)

[name]...DBC'S RETAINED PROFESSIONAL(3" LETTERS MIN.) [name]

.....

DESIGN-BUILD CONTRACTOR (3" LETTERS MIN.)

Upon Completion of the work, or when directed by PhilaPort, the DBC shall remove the sign.

The DBC shall change the names provided on the sign should the individual names change during the course of the project. This shall be done at no additional cost to PhilaPort.

**19.2 FOUNDATIONS FOR MECHANICAL EQUIPMENT.** The DBC shall furnish and install foundations and supports for all equipment installed under their respective Contracts. Foundations and supports shall include isolation mounting for noisy and vibrating equipment. The DBC shall provide sufficient dowels or anchors in bases as required for equipment supplied under its Contract. Such foundations and supports shall not be those concrete slabs or that integral concrete construction noted and dimensioned on the architectural and structural drawings.

**19.3 SANITARY FACILITIES.** The DBC shall, at its cost, provide and maintain in a clean and sanitary condition, adequate and approved sanitary facilities in accordance with O.S.H.A. requirements. All facilities shall be screened against insects. When directed by PhilaPort, the DBC shall dismantle and remove these facilities and disinfect as required. Portable chemical toilets approved by the Pennsylvania Department of Health are acceptable. Under temporary field conditions, provisions shall be made to assure not less than one toilet facility is available.

**19.4 SANITARY FACILITIES AFTER LINES INSTALLED.** As soon as soil lines and water lines have been installed inside the building and tested successfully, the DBC shall, at its cost, install two (2) lavatories and sufficient number of toilets according to the following table:



NUMBER OF WORKERS	MINIMUM NUMBER OF FACILITIES
20 or Less Workers	1
21 or More Workers	1 toilet seat and 1 urinal per 40
200 or More Workers	1 toilet seat and 1 urinal per 50

These shall be kept in working order by the DBC and in a clean and sanitary condition by the DBC. All supplies for these facilities shall be provided and restocked by the DBC.

- 19.5 HOISTING FACILITIES.** The DBC shall erect, maintain and operate at its cost, hoisting facilities. In the event the hoisting facilities provided by the DBC are not available or are unable to accommodate the needs of PhilaPort, the DBC must provide hoisting facilities for its own work. All hoisting facilities must comply with the safety regulations of the Department of Labor and Industry.
- 19.6 TEMPORARY VENTILATION.** The DBC shall provide temporary ventilation to remove from the structure any excessive heat and/or humidity in enclosed portions of the Work, resulting from its construction operations so that the Work may be carried on without interruption and under correct conditions, including required dryness for installation of the various materials. Removing any dangerous or noxious fumes or particles suspended in the air is the responsibility of the DBC whose construction operations caused these conditions to exist. Temporary equipment used for this temporary ventilation shall produce no hazard to the Work or to any person in or near it. The DBC shall furnish all such temporary equipment; pay all costs for it and for its operation, including fuel and power supplies during operation both in and out of normal working hours. The DBC shall remove the equipment when it is no longer required, or when so directed by PhilaPort.
- 19.7 WORK BEYOND LIMIT OF CONTRACT.** For purposes of performing the Work, the site is defined by the Limit of Contract lines shown on the drawings. The DBC is responsible for any work performed beyond the limit of Contract.
- 19.8 ADVERTISING.** No advertising is permitted within the Work area or adjacent area. This does not apply to corporate vehicles or attire.
- 19.9 FEDERAL AND A.S.T.M. AND OTHER SPECIFICATIONS.** Reference to Federal, A.S.T.M. and other standard specifications, references and designations means those in effect at the date of bid. Basic codes and regulations incorporated by reference, standard regulations and codes refer to editions in effect at the date of proposals, including current addenda or errata. The most stringent section of each code applies.
- 19.10 STORAGE AND STOCKPILING ON ROOFS.** No materials of any type may be stored or stockpiled overnight on roofs.
- 19.11 AUDIT OF RECORDS.** PhilaPort may, at reasonable times and places, audit the books and records of the DBC. The DBC shall maintain books and records related to the Contract for a period of three (3) years from the date of final payment. The DBC shall include a requirement in contracts with subcontractors or suppliers that requires the subcontractor or

supplier to maintain its records for the same length of time.

**19.12 TEMPORARY TRAFFIC CONTROL.** The Project site may have active pedestrian, bike or automobile traffic adjacent to site for the entire duration of the Project. If applicable, the DBCs shall incorporate, furnish and implement the following work as part of this Project.

**A. TRAFFIC CONTROL – TEMPORARY TRAFFIC CONTROL GUIDELINES (PENNDOT PUBLICATION 213):** The needs and control of all road users (motorists, bicyclists, and pedestrians within the highway, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130 and Temporary Traffic Control Guidelines (PennDOT Publication 213) through a Temporary Traffic Control (TTC) zone shall be an essential part of highway construction, utility work, maintenance operations, and the management of traffic incidents.

Publication 213 applies to the DBC; utilities; Federal, State, County, township and municipal governments; and others performing applicable construction, maintenance, emergency or utility/permit work on highways or so closely adjacent to a highway that workers, equipment or materials encroach on the highway or interfere with the normal movement of traffic.

**19.13 REDUCTION OF NOISE.** The DBC must take reasonable steps to minimize noise and shall perform work in accordance with local noise ordinances. The DBC shall perform noise-producing work in less sensitive hours of the day or week as directed by PhilaPort. The DBC shall maintain noise-producing work at or below the decibel levels and within the time periods specified and shall perform construction activities involving repetitive, high-level impact noise only between 8:00 a.m. and 6:00 p.m. unless otherwise permitted by PhilaPort and permissible by local ordinance.

**19.14 VISIBLE DUST EMISSIONS.** No person shall perform any construction, demolition, excavation, extraction, or other earthmoving activities unless appropriate measures are sufficiently implemented to limit Visible Dust Emissions (VDE) to 20% opacity and comply with the conditions for a stabilized surface area when applicable. The DBC shall apply sufficient water to building exterior surfaces, and/or unpaved surface areas where equipment will operate to limit VDE to 20% opacity throughout the duration of razing and demolition activities or handling, storage, and transport of bulk materials on-site or off-site. The DBC shall apply sufficient dust suppressants to unpaved surface areas within 100 feet where materials from razing or demolition activities will fall in order to limit VDE to 20% opacity. The DBC shall also apply sufficient dust suppressants to unpaved surface areas where wrecking or hauling equipment will be operated in order to limit VDE to 20% opacity.

## ARTICLE 20: ADDITIONAL LEGAL MATTERS

- 20.1 NO ESTOPPEL OR WAIVER OF LEGAL RIGHTS.** Neither PhilaPort, its designee is precluded or estopped by the measurements or approved Applications for Payment made or given by PhilaPort from showing the true and correct amount and character of the Work performed and materials and equipment furnished by the DBC. PhilaPort may show, at any time, that any such measurements or approved Applications for Payment are untrue or incorrectly made in any particular, or that the Work or materials, equipment or any parts thereof do not conform to the specifications and the Contract. PhilaPort may reject the whole or any part of the aforesaid Work or materials and equipment if the measurements or approved Applications for Payment are found or become known to be inconsistent with the terms of the Contract, or otherwise improperly given. PhilaPort may, notwithstanding any such measurements or approved Applications for Payment, demand and recover from the DBC, its surety, or both, such damages as PhilaPort may sustain by reason of the DBC's failure to comply with the terms of the specifications and the Contract, or on account of any overpayments made on any approved Applications for Payment. Neither the acceptance by PhilaPort nor any certificate approved for payment of money, nor any payments for, nor acceptance of the whole or any part of the Work by PhilaPort nor any Extension of Time, nor any position taken by PhilaPort, operates as a waiver of any portion of the Contract or any power herein reserved by PhilaPort or any right to damages. A waiver of any breach of the Contract will not be held to be a waiver of any other or subsequent breach.
- 20.2 SUCCESSORS AND ASSIGNS.** This Contract shall be binding on the parties hereto, their heirs, executors, administrators, successors and assigns. **No part of this Contract may be assigned by the DBC without the prior consent of PhilaPort.**
- 20.3 CLAIMS FOR DAMAGES: LEGAL RELATIONS AND RESPONSIBILITIES.** Contracts covered by these General Conditions are not to be construed as being made for the benefit of any person or political subdivision not a party to this Contract, nor shall this Contract be construed to authorize any person or political subdivision, not a party to this Contract, to maintain any lawsuit hereunder, nor shall this Contract be construed to constitute the basis for the maintenance of any lawsuit by any person, or political subdivision not a party hereto.
- 20.4 ROYALTIES AND PATENTS.** The DBC shall pay all royalties and license fees. The DBC shall defend all suits or claims for infringement of any patent rights and shall hold PhilaPort harmless from loss on account thereof.
- 20.5 PERSONAL RESPONSIBILITY AND WORK OPPORTUNITY RECONCILIATION ACT.** Pursuant to the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (Act 58 of 1997, as amended), all employers are required to report information on newly-hired employees to a designated state agency. PhilaPort has designated the Department of Labor and Industry as that agency. For information concerning this requirement call 1-888-PAHIRES.
- 20.6 TOBACCO USE ON PROJECT SITE.** Use of tobacco products is prohibited. Personnel found in noncompliance with this directive may be removed from the site upon discovery of this noncompliance.

**20.7 NON-APPROPRIATION CLAUSE.** PhilaPort's obligation to make payments during any Commonwealth fiscal year succeeding the current fiscal year shall be subject to availability and appropriation of funds. When funds (state and/or federal) are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal year period, PhilaPort shall have the right to terminate the Contract or a Purchase Order. The DBC shall be reimbursed for the reasonable value of any nonrecurring costs incurred but not amortized in the price of the supplies or services delivered under the Contract. Such reimbursement shall not include loss of profit, loss of use of money, or administrative or overhead costs. The reimbursement amount may be paid for any appropriations available for that purpose.

**APPENDIX K**  
**APPLICABLE FEDERAL GRANT FLOW-DOWN REQUIREMENTS**

**EXHIBIT C**  
**APPLICABLE FEDERAL LAWS AND REGULATIONS**

By entering into the agreement for an INFRA Grant, the Recipient assures and certifies, with respect to this Grant, that it will comply with all applicable Federal laws, regulations, executive orders, policies, guidelines, and requirements as they relate to the application, acceptance, and use of Federal funds for this Project. Performance under this agreement shall be governed by and in compliance with the following requirements, as applicable, to the type of organization of the Recipient and any applicable sub-recipients. The applicable provisions to the agreement include, but are not limited to, the following:

**General Federal Legislation**

- a. Davis-Bacon Act - 40 U.S.C. §§ 3141, et seq., as applicable under 23 U.S.C. 113
- b. Federal Fair Labor Standards Act - 29 U.S.C. §§ 201, et seq.
- c. Hatch Act - 5 U.S.C. §§ 1501, et seq.
- d. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 - 42 U.S.C. §§ 4601, et seq.
- e. National Historic Preservation Act of 1966 - Section 106 - 54 U.S.C. § 306108
- f. Archeological and Historic Preservation Act of 1974 - 54 U.S.C. §§ 312501, et seq.
- g. Native American Graves Protection and Repatriation Act - 25 U.S.C. §§ 3001, et seq.
- h. Clean Air Act, P.L. 90-148, as amended - 42 U.S.C. §§ 7401, et seq.
- i. Section 404 of the Clean Water Act, as amended - 33 U.S.C. § 1344
- j. Section 7 of the Endangered Species Act, P.L. 93-205, as amended - 16 U.S.C. § 1536
- k. Coastal Zone Management Act, P.L. 92-583, as amended - 16 U.S.C. §§ 1451, et seq.
- l. Flood Disaster Protection Act of 1973 - Section 102(a) - 42 U.S.C. § 4012a
- m. Age Discrimination Act of 1975 - 42 U.S.C. §§ 6101, et seq.
- n. American Indian Religious Freedom Act, P.L. 95-341, as amended
- o. Drug Abuse Office and Treatment Act of 1972, as amended, 21 U.S.C. §§ 1101, et seq.
- p. The Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970, P.L. 91-616, as amended - 42 U.S.C. §§ 4541, et seq.
- q. Sections 523 and 527 of the Public Health Service Act of 1912, as amended, 42 U.S.C. §§ 290dd through 290dd-2
- r. Architectural Barriers Act of 1968 - 42 U.S.C. § 4151, et seq.
- s. Power Plant and Industrial Fuel Use Act of 1978, P.L. 100-42 - Section 403 - 42 U.S.C. § 8373
- t. Contract Work Hours and Safety Standards Act - 40 U.S.C. § 3701, et seq.
- u. Copeland Anti-kickback Act, as amended - 18 U.S.C. § 874 and 40 U.S.C. § 3145
- v. National Environmental Policy Act of 1969 - 42 U.S.C. §§ 4321, et seq.
- w. Wild and Scenic Rivers Act, P.L. 90-542, as amended – 16 U.S.C. §§ 1271, et seq.
- x. Federal Water Pollution Control Act, as amended - 33 U.S.C. §§ 1251-1376
- y. Single Audit Act of 1984 - 31 U.S.C. §§ 7501, et seq.
- z. Americans with Disabilities Act of 1990 - 42 U.S.C. § 12101, et seq.
- aa. Title IX of the Education Amendments of 1972, as amended - 20 U.S.C. § 1681 through § 1683, and § 1685 through § 1687
- bb. Section 504 of the Rehabilitation Act of 1973, as amended - 29 U.S.C. § 794
- cc. Title VI of the Civil Rights Act of 1964 - 42 U.S.C. §§ 2000d *et seq.*
- dd. Title IX of the Federal Property and Administrative Services Act of 1949 - 40 U.S.C. §§

- 1101 -1104, 541, et seq.
- ee. Limitation on Use of Appropriated Funds to Influence Certain Federal Contracting and Financial Transactions – 31 U.S.C. § 1352
  - ff. Freedom of Information Act - 5 U.S.C. § 552, as amended
  - gg. Magnuson-Stevens Fishery Conservation and Management Act – 16 U.S.C. § 1855
  - hh. Farmland Protection Policy Act of 1981 – 7 U.S.C. § 4201, et seq.
  - ii. Noise Control Act of 1972 – 42 U.S.C. § 4901, et seq.
  - jj. Fish and Wildlife Coordination Act of 1956 – 16 U.S.C. § 661, et seq.
  - kk. Section 9 of the Rivers and Harbors Act and the General Bridge Act of 1946 - 33 U.S.C. §§ 401 and 525
  - ll. Section 4(f) of the Department of Transportation Act of 1966, 49 U.S.C. 303 and 23 U.S.C. § 138
  - mm. Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended --42 U.S.C. §§ 9601, et seq.
  - nn. Safe Drinking Water Act -- 42 U.S.C. §§ 300f to 300j-26
  - oo. Wilderness Act -- 16 U.S.C. §§ 1131-1136
  - pp. Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 -- 42 U.S.C. § 6901, et seq.
  - qq. Migratory Bird Treaty Act 16 U.S.C. § 703, et seq.
  - rr. The Federal Funding Transparency and Accountability Act of 2006, as amended (Pub. L. 109–282, as amended by section 6202 of Public Law 110–252)
  - ss. Cargo Preference Act of 1954 – 46 U.S.C. § 55305

### **Executive Orders**

- a. Executive Order 11246 - Equal Employment Opportunity
- b. Executive Order 11990 - Protection of Wetlands
- c. Executive Order 11988 – Floodplain Management
- d. Executive Order 12372 - Intergovernmental Review of Federal Programs
- e. Executive Order 12549 – Debarment and Suspension
- f. Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- g. Executive Order 13166 – Improving Access to Services for Persons With Limited English Proficiency

### **General Federal Regulations**

- a. Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards – 2 C.F.R. Parts 200, 1201
- b. Non-procurement Suspension and Debarment – 2 C.F.R. Parts 180, 1200
- c. Investigative and Enforcement Procedures - 14 C.F.R. Part 13
- d. Procedures for predetermination of wage rates - 29 C.F.R. Part 1
- e. Contractors and subcontractors on public building or public work financed in whole or part by loans or grants from the United States - 29 C.F.R. Part 3
- f. Labor standards provisions applicable to contracts governing federally financed and assisted construction (also labor standards provisions applicable to non-construction contracts subject to the Contract Work Hours and Safety Standards Act) - 29 C.F.R. Part 5

- g. Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor (Federal and federally assisted contracting requirements) - 41 C.F.R. Parts 60, et seq.
- h. Contractor Qualifications - 48 C.F.R. Part 9
- i. New Restrictions on Lobbying – 49 C.F.R. Part 20
- j. Nondiscrimination in Federally Assisted Programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 – 49 C.F.R. Part 21
- k. Uniform relocation assistance and real property acquisition for Federal and Federally assisted programs - 49 C.F.R. Part 24
- l. Nondiscrimination on the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance - 49 C.F.R. Part 25
- m. Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance - 49 C.F.R. Part 27
- n. DOT's oversight of DOJ's ADA regulations for non-transit programs, including the ADA Accessibility Guidelines, required by the DOJ regulations at 28 C.F.R. Part 35
- o. Enforcement of Nondiscrimination on the Basis of Handicap in Programs or Activities Conducted by the Department of Transportation – 49 C.F.R. Part 28
- p. Denial of public works contracts to suppliers of goods and services of countries that deny procurement market access to U.S. contractors - 49 C.F.R. Part 30
- q. Governmentwide Requirements for Drug-Free Workplace (Financial Assistance) – 49 C.F.R. Part 32
- r. DOT's implementing ADA regulations for transit, including the ADA Accessibility Guidelines in Part 37, Appendix A - 49 C.F.R. Parts 37 and 38
- s. Procedures for Transportation Workplace Drug and Alcohol Testing Programs – 49 C.F.R. Part 40
- t. Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs – 49 C.F.R. Part 26

#### **Office of Management and Budget Circulars**

- a. Any applicable OMB Circular based upon the specific FY 2017-2018 INFRA Grant Recipient.

#### **Highway Federal Legislation**

- a. Highways – Title 23, U.S.C.
- b. Brooks Act (for FHWA projects, this incorporates Title IX of the Federal Property and Administrative Services Act of 1949 (formerly 40 U.S.C. § 541, et seq.)) - 40 U.S.C. §§ 1101-1104; 23 U.S.C. § 112(b)(2)
- c. Highway Design and Construction Standards, 23 U.S.C. § 109
- d. Prevailing Rate of Wage, 23 U.S.C. 113
- e. Planning, 23 U.S.C. §§ 134 and 135 (except for projects that are not regionally significant that do not receive funding under Title 23 or Chapter 53 of Title 49)
- f. Tolls, 23 U.S.C. § 301 (to the extent the recipient wishes to toll an existing free facility that has received Title 23 funds in the past); except as authorized by 23 U.S.C. §§ 129 and 166.
- g. Size, Weight, and Length Limitations - 23 U.S.C. § 127, 49 U.S.C. § 31101 et seq.
- h. Buy America Act – 23 U.S.C. § 313  
(see [http://www.fhwa.dot.gov/construction/contracts/buyam\\_qa.cfm](http://www.fhwa.dot.gov/construction/contracts/buyam_qa.cfm))



- i. Nondiscrimination – 23 U.S.C. § 140
- j. Efficient Environmental Reviews - 23 U.S.C. § 139

**Federal Highway Regulations**

- a. Planning 23 C.F.R. Part 450 (except for projects that are not regionally significant that do not receive funding under Title 23 or Chapter 53 of Title 49)
- b. National Highway System Design Standards – 23 C.F.R. Part 625
- c. Manual on Uniform Traffic Control Devices – 23 C.F.R. Part 655
- d. Environmental Impact and Related Procedures – 23 C.F.R. Part 771
- e. Procedures for Abatement of Highway Traffic and Construction Noise -- 23 C.F.R. Part 772
- f. Procedures Implementing Section 4(f) of the Department of Transportation Act – 23 C.F.R. Part 774
- g. Permitting Requirements under the National Pollutant Discharge Elimination System – 40 C.F.R. Part 122
- h. Required Contract Provisions – 23. C.F.R. Part 633 (Form 1273)
- i. External Programs – 23 C.F.R. Part 230.

Specific assurances required to be included in the INFRA Grant agreement by any of the above laws, regulations, or circulars are hereby incorporated by reference into the agreement.

## **EXHIBIT D GRANT ASSURANCES**

## **EXHIBIT D 1**

### **TITLE VI ASSURANCE (Implementing Title VI of the Civil Rights Act of 1964, as amended)**

#### **ASSURANCE CONCERNING NONDISCRIMINATION IN FEDERALLY-ASSISTED PROGRAMS AND ACTIVITIES RECEIVING OR BENEFITING FROM FEDERAL FINANCIAL ASSISTANCE**

(Implementing the Rehabilitation Act of 1973, as amended, and the Americans With Disabilities Act, as amended)

49 C.F.R. Parts 21, 25, 27, 37 and 38

#### **The United States Department of Transportation (USDOT)**

#### **Standard Title VI/Non-Discrimination Assurances**

#### **DOT Order No. 1050.2A**

By signing and submitting the Technical Application and by entering into the agreement under the INFRA Grant program, the Recipient **HEREBY AGREES THAT**, as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation (DOT), it is subject to and will comply with the following:

#### **Statutory/Regulatory Authorities**

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 C.F.R. Part 21 (entitled *Non-discrimination In Federally-Assisted Programs Of The Department Of Transportation—Effectuation Of Title VI Of The Civil Rights Act Of 1964*);
- 28 C.F.R. section 50.3 (U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964);

The preceding statutory and regulatory cites hereinafter are referred to as the “Acts” and “Regulations,” respectively.

#### **General Assurances**

In accordance with the Acts, the Regulations, and other pertinent directives, circulars, policy, memoranda, and/or guidance, the Recipient hereby gives assurance that it will promptly take any measures necessary to ensure that:

*“No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity,” for which the Recipient receives Federal financial assistance from DOT.*

The Civil Rights Restoration Act of 1987 clarified the original intent of Congress, with respect to Title VI and other Non-discrimination requirements (The Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973), by restoring the broad, institutional-wide scope and coverage of these non-discrimination statutes and requirements to include all programs and activities of the Recipient, so long as any portion of the program is Federally assisted.

### **Specific Assurances**

More specifically, and without limiting the above general Assurance, the Recipient agrees with and gives the following Assurances with respect to its Federally assisted INFRA Grant program:

1. The Recipient agrees that each “activity,” “facility,” or “program,” as defined in §§ 21.23 (b) and 21.23 (e) of 49 C.F.R. § 21 will be (with regard to an “activity”) facilitated, or will be (with regard to a “facility”) operated, or will be (with regard to a “program”) conducted in compliance with all requirements imposed by, or pursuant to the Acts and the Regulations.
2. The Recipient will insert the following notification in all solicitations for bids, Requests For Proposals for work, or material subject to the Acts and the Regulations made in connection with the INFRA Grant and, in adapted form, in all proposals for negotiated agreements regardless of funding source:

*“The Recipient, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that for any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.”*

3. The Recipient will insert the clauses of Appendix A and E of this Assurance in every contract or agreement subject to the Acts and the Regulations.
4. The Recipient will insert the clauses of Appendix B of this Assurance, as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a Recipient.

5. That where the Recipient receives Federal financial assistance to construct a facility, or part of a facility, the Assurance will extend to the entire facility and facilities operated in connection therewith.
6. That where the Recipient receives Federal financial assistance in the form, or for the acquisition of real property or an interest in real property, the Assurance will extend to rights to space on, over, or under such property.
7. That the Recipient will include the clauses set forth in Appendix C and Appendix D of this Assurance, as a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the Recipient with other parties:
  - a. for the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and
  - b. for the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.
8. That this Assurance obligates the Recipient for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the Assurance obligates the Recipient, or any transferee for the longer of the following periods:
  - a. the period during which the property is used for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or
  - b. the period during which the Recipient retains ownership or possession of the property.
9. The Recipient will provide for such methods of administration for the program as are found by the Secretary of Transportation or the official to whom he/she delegates specific authority to give reasonable guarantee that it, other recipients, sub-recipients, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the Acts, the Regulations, and this Assurance.
10. The Recipient agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the Acts, the Regulations, and this Assurance.

By signing this ASSURANCE, the Recipient also agrees to comply (and require any sub-recipients, contractors, successors, transferees, and/or assignees to comply) with all applicable provisions governing DOT's access to records, accounts, documents, information, facilities, and staff. You also recognize that you must comply with any program or compliance reviews, and/or complaint investigations conducted by DOT. You must keep records, reports, and submit the material for review upon request to DOT, or its designee in a timely, complete, and accurate

way. Additionally, you must comply with all other reporting, data collection, and evaluation requirements, as prescribed by law or detailed in program guidance.

The Recipient gives this ASSURANCE in consideration of and for obtaining any Federal grants, loans, contracts, agreements, property, and/or discounts, or other Federal-aid and Federal financial assistance extended after the date hereof to the recipients by the Maritime Administration under the INFRA Grant Program. This ASSURANCE is binding on the Recipient, other recipients, sub-recipients, sub-Recipients, contractors, subcontractors and their subcontractors', transferees, successors in interest, and any other participants in the INFRA Grant Program.

## APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 C.F.R. Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor’s obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or DOT to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or DOT, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor’s noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or DOT may determine to be appropriate, including, but not limited to:
  - a. withholding payments to the contractor under the contract until the contractor complies; and/or
  - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant

thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or DOT may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.



## APPENDIX B

### CLAUSES FOR DEEDS TRANSFERRING UNITED STATES PROPERTY

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Specific Assurance 4:

**NOW, THEREFORE**, the U.S. Department of Transportation as authorized by law and upon the condition that the Recipient will accept title to the lands and maintain the project constructed thereon in accordance with Fixing America's Surface Transportation Act (FAST ACT) (Pub. L. 114-94, Section 1105, (23 U.S.C. 117)) the Regulations for the Administration of FY 2017-2018 INFRA Grant Program, and the policies and procedures prescribed by the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the Recipient all the right, title and interest of the U.S. Department of Transportation in and to said lands described in Exhibit A attached hereto and made a part hereof.

#### (HABENDUM CLAUSE)

**TO HAVE AND TO HOLD** said lands and interests therein unto Recipient and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the Recipient, its successors and assigns.

The Recipient, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]\* (2) that the Recipient will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non- discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended[, and (3) that in the event of breach of any of the above-mentioned non-discrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the U.S. Department of Transportation and its assigns as such interest existed prior to this instruction].\*

(\*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

## APPENDIX C

### CLAUSES FOR TRANSFER OF REAL PROPERTY ACQUIRED OR IMPROVED UNDER THE ACTIVITY, FACILITY, OR PROGRAM

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the Recipient pursuant to the provisions of Specific Assurance 7(a):

- A. The (Recipient, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add “as a covenant running with the land”] that:
  - 1. In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (Recipient, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
- B. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Non-discrimination covenants, Recipient will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued.\*
- C. With respect to a deed, in the event of breach of any of the above Non-discrimination covenants, the Recipient will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the Recipient and its assigns.\*

(\*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

## APPENDIX D

### CLAUSES FOR CONSTRUCTION/USE/ACCESS TO REAL PROPERTY ACQUIRED UNDER THE ACTIVITY, FACILITY OR PROGRAM

The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by Recipient pursuant to the provisions of Specific Assurance 7(b):

- A. The (Recipient, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, “as a covenant running with the land”) that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (Recipient, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.
- B. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non-discrimination covenants, Recipient will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.\*
- C. With respect to deeds, in the event of breach of any of the above Non-discrimination covenants, Recipient will there upon revert to and vest in and become the absolute property of Recipient and its assigns.\*

(\*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

## APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

### **Pertinent Non-Discrimination Authorities:**

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 C.F.R. Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 C.F.R. Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 U.S.C. § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 C.F.R. Parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. § 1681 et seq).

## **EXHIBIT D 2**

### **DISCLOSURE OF LOBBYING ACTIVITIES**

#### **Certification for Contracts, Grants, Loans, and Agreements**

The undersigned certifies, to the best of his or her knowledge and belief, that:

No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any grant agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or grant agreement.

If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or grant agreement, the undersigned shall complete and submit Standard Form-LLL (Rev. 7-97), "Disclosure of Lobbying Activities," in accordance with its instructions.

The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans and grant agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352, title. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

### EXHIBIT D 3

#### CERTIFICATION REGARDING DRUG-FREE WORKPLACE REQUIREMENTS IN THE PERFORMANCE OF THE FY 2017-2018 INFRA GRANT PROGRAM

The Recipient certifies that it will, or will continue, to provide a drug-free workplace by:

1. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the Recipient's workplace, and specifying the actions that will be taken against employees for violation of such prohibition.
2. Establishing an ongoing drug-free awareness program to inform employees about:
  - (a) The dangers of drug abuse in the workplace;
  - (b) The Recipient's policy of maintaining a drug-free workplace;
  - (c) Any available drug counseling, rehabilitation, and employee assistance programs; and
  - (d) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;
3. Making it a requirement that each employee to be engaged in the performance of work supported by the grant award be given a copy of the statement required by paragraph 1.
4. Notifying the employee in the statement required by paragraph 1 that, as a condition of employment supported by the grant award, the employee will:
  - (a) Abide by the terms of the statement; and
  - (b) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction.
5. Notifying the agency in writing, within ten calendar days after receiving notice under paragraph (d)(2) from an employee or otherwise receiving actual notice of conviction. Employers of convicted employees must provide notice, including position title, to the Department. Notice shall include the order number of the grant award.
6. Taking one of the following actions, within 30 days of receiving notice under paragraph 4(b), with respect to any employee who is so convicted:
  - (a) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended, or
  - (b) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State or local health, law enforcement, or other appropriate agency.

7. Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).
8. The Recipient *may*, but is not required to, provide the site for the performance of work done in connection with the specific grant. For the provision of services pursuant to the agreement, workplaces include outstations, maintenance sites, headquarters office locations, training sites and any other worksites where work is performed that is supported by the grant award. If the Recipient does so, please insert in article 11 of the agreement the following information from subsection (a) below:
  - (a) Identify the Places of Performance by listing the street address, city, county, state, zip code. Also identify if there are workplaces on file that are not identified in this section of the agreement.



## EXHIBIT D 4

### CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS -- PRIMARY COVERED TRANSACTIONS

#### 2 C.F.R. Parts 180 and 1200

These assurances and certifications are applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring MARAD approval or that is estimated to cost \$25,000 or more – as defined in 2 C.F.R. Parts 180 and 1200.

By signing and submitting the Technical Application and by entering into the agreement under the FY 2017-2018 INFRA Grant program, the Recipient is providing the assurances and certifications for First Tier Participants and Lower Tier Participants in the INFRA Project, as set out below.

#### **1. Instructions for Certification – First Tier Participants:**

- a. The prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.
- d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms “covered transaction,” “civil judgment,” “debarred,” “suspended,” “ineligible,” “participant,” “person,” “principal,” and “voluntarily excluded,” as used in this clause, are defined in 2 C.F.R. Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a Recipient or sub-recipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction

under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a Recipient or sub-recipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers to any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled “Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions,” provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion –  
First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment, including a civil settlement, rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

## **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior MARAD approval or estimated to cost \$25,000 or more - 2 C.F.R. Parts 180 and 1200)

a. The prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms “covered transaction,” “civil settlement,” “debarred,” “suspended,” “ineligible,” “participant,” “person,” “principal,” and “voluntarily excluded,” as used in this clause, are defined in 2 C.F.R. Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a Recipient or sub-recipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered

transaction with a Recipient or sub-recipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled “Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction,” without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion -- Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

## EXHIBIT D5

### REQUIREMENTS REGARDING DELINQUENT TAX LIABILITY OR A FELONY CONVICTION UNDER ANY FEDERAL LAW

The funds provided under this award shall not be used to enter into a contract, memorandum of understanding, or cooperative agreement with, make a grant to, or provide a loan or loan guarantee to, any corporation or Recipient that:

- (1) Has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, where the awarding agency is aware of the unpaid tax liability, unless an agency has considered suspension or debarment of the corporation and made a determination that suspension or debarment is not necessary to protect the interests of the Government; or
- (2) Was convicted of a felony criminal violation under any Federal law within the preceding 24 months, where the awarding agency is aware of the conviction, unless an agency has considered suspension or debarment of the corporation and made a determination that this action is not necessary to protect the interests of the Government.

The Recipient therefore agrees:

1. **Definitions.** For the purposes of this exhibit, the following definitions apply:

“**Covered Transaction**” means a transaction that uses any funds under this award and that is a contract, memorandum of understanding, cooperative agreement, grant, loan, or loan guarantee.

“**Felony Conviction**” means a conviction within the preceding 24 months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the United States Code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 U.S.C. 3559.

“**Participant**” means the Recipient, an entity who submits a proposal for a Covered Transaction, or an entity who enters into a Covered Transaction.

“**Tax Delinquency**” means an unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

2. **Mandatory Check in the System for Award Management.** Before entering a Covered Transaction with another entity, a Participant shall check the System for Award Management (*the “SAM”*) at <http://www.sam.gov/> for an entry describing that entity.

**3. Mandatory Certifications.**

(a) By entering into this grant agreement with the Government, the Recipient shall:

(1) Certify whether the Recipient has a Tax Delinquency; and

(2) Certify whether the Recipient has a Felony Conviction.

(b) Before entering a Covered Transaction with another entity, a Participant shall require that entity to:

(1) Certify whether the entity has a Tax Delinquency; and

(2) Certify whether the entity has a Felony Conviction.

**4. Prohibition. If**

(1) the SAM entry for an entity indicates that the entity has a Tax Delinquency or a Federal Conviction;

(2) an entity provides an affirmative response to either certification in section 3; or

(3) an entity's certification under section 3 was inaccurate when made or became inaccurate after being made then a Participant shall not enter or continue a Covered Transaction with that entity unless the USDOT has determined in writing that suspension or debarment of that entity are not necessary to protect the interests of the Government.

**5. Mandatory Notice to the USDOT.**

(a) If the SAM entry for a Participant indicates that the Participant has a Tax Delinquency or a Felony Conviction, the Recipient shall notify the USDOT in writing of that entry.

(b) If a Participant provides an affirmative response to either certification in section 3, the Recipient shall notify the USDOT in writing of that affirmative response. The Authorizing Official then shall:

- Promptly, upon receipt of notice, request such additional information from the Recipient as the Authorizing Official deems necessary to demonstrate the Participant's present responsibility;
- Notify, in accordance with agency procedures, the agency's Suspending and Debaring Official; and
- Not award to the Participant unless an agency or Secretarial Office Suspending and Debaring Official has considered suspension or debarment, and made a determination that suspension or debarment on this tax delinquency or felony basis is not necessary to protect the interest of the Government.

- (c) If the Recipient knows that a Participant's certification under section 3 was inaccurate when made or became inaccurate after being made, the Recipient shall notify the USDOT in writing of that inaccuracy.
6. **Flow Down.** For all Covered Transactions, including all tiers of subcontracts and subawards, the Recipient shall:
- (1) require the SAM check in section 2;
  - (2) require the certifications in section 3;
  - (3) include the prohibition in section 4; and
  - (4) require all Participants to notify the Recipient in writing of any information that would require the Recipient to notify the USDOT under section 5.



**EXHIBIT E**  
**RESPONSIBILITY AND AUTHORITY OF THE RECIPIENT**

**1. Legal Authority.**

The Recipient affirms that it has the legal authority to apply for the grant, and to finance and carry out the proposed project identified in its Technical Application; that a resolution, motion or similar action has been duly adopted or passed as an official act of the Recipient's governing body authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the Recipient to act in connection with the application and to provide such additional information as may be required.

**2. Funds Availability.**

Recipient affirms that it has sufficient funds available for that portion of the project costs that are not to be paid by the Government. Recipient also affirms that it has sufficient funds available to assure operation and maintenance of items funded under the agreement that it will own or control.

**3. Preserving Rights and Powers.**

Recipient will not take or permit any action that would operate to deprive it of any of the rights and powers necessary to perform any or all of the terms, conditions, and assurances in the agreement without the written approval of the Government, and will act promptly to acquire, extinguish, or modify any outstanding rights or claims of right of others that would interfere with such performance by the Recipient. The Recipient agrees that this will be done in a manner acceptable to the Government.

**4. Accounting System, Audit, and Record Keeping Requirements.**

(a) The Recipient agrees to keep all project accounts and records that fully disclose the amount and disposition by the Recipient of the proceeds of the grant, the total cost of the project in connection with which the grant is given or used, and the amount or nature of that portion of the cost of the project supplied by other sources, and such other financial records pertinent to the project. The accounts and records shall be kept in accordance with an accounting system that meets the requirements of 2 C.F.R. 200.301 – 200.303 and 2 CFR 200 Subpart F and will facilitate an effective audit in accordance with the Single Audit Act of 1984, as amended (31 U.S.C. §§ 7501-7507).

(b) The Recipient agrees to make available to the Government and the Comptroller General of the United States, or any of their duly authorized representatives, for the purpose of audit and examination, any books, documents, papers, and records of the Recipient that are pertinent to the grant. The Government may require that a Recipient conduct an appropriate audit. In any case in which an independent audit is made of the accounts of a Recipient relating to the disposition of the proceeds of a grant or relating to the project in connection with which the grant was given or used, it shall file a certified copy of such audit with the Comptroller General of the United States not later than six (6) months following the close of the fiscal year for which the audit was made.

- 5. Minimum Wage Rates.** It shall include, in all contracts in excess of \$2,000 for work on any projects funded under this agreement that involve labor, provisions establishing minimum rates of wages, to be predetermined by the Secretary of Labor, in accordance with the Davis-Bacon Act, as amended (40 U.S.C. § 3141, et seq.) or 23 U.S.C. 113 as applicable, which contractors shall pay to skilled and unskilled labor, and such minimum rates shall be stated in the invitation for bids and shall be included in proposals or bids for the work.
- 6. Engineering and Design Services.** It will award each contract or sub-contract for program management, construction management, planning studies, feasibility studies, architectural services, preliminary engineering, design, engineering, surveying, mapping, or related services with respect to the project in the same manner as a contract for architectural and engineering services is negotiated under the Brooks Act (40 U.S.C. §§ 1101-1104) as implemented in 23 U.S.C.112(b)(2) or an equivalent qualifications-based requirement prescribed for or by the Recipient as approved by the Secretary.
- 7. Foreign Market Restrictions.** It will not allow funds provided under this grant to be used to fund any project that uses any product or service of a foreign country during the period in which such foreign country is listed by the United States Trade Representative as denying fair and equitable market opportunities for products and suppliers of the United States in procurement and construction.
- 8. Relocation and Real Property Acquisition.** (1) It will be guided in acquiring real property, to the greatest extent practicable under State law, by the land acquisition policies in Subpart B of 49 C.F.R. Part 24 and will pay or reimburse property owners for necessary expenses as specified in Subpart B. (2) It will provide a relocation assistance program offering the services described in Subpart C and fair and reasonable relocation payments and assistance to displaced persons as required in Subpart D and E of 49 C.F.R. Part 24. (3) It will make available within a reasonable period of time prior to displacement, comparable replacement dwellings to displaced persons in accordance with Subpart E of 49 C.F.R. Part 24.

**9. Use and Disposition of Property, Equipment and Supplies:**

Unless otherwise approved by MARAD, the following conditions apply to property, equipment, and supplies funded under this Agreement:

- a. Use of Property, Equipment and Supplies. The Recipient shall use Project real property, as defined by 2 C.F.R. § 200.85, in accordance with the Property Standards of 2 C.F.R. § 200.211.
- b. General Federal Requirements. The Recipient will comply with the property management standards of 2 C.F.R. §§ 200.310 through 200.316, including any amendments thereto, and other applicable guidelines or regulations that are issued. Exceptions to the requirement must be specifically approved by MARAD in writing.
- c. Maintenance. The Recipient agrees to maintain the Project property and equipment in good operating order, and in accordance with any guidelines, directives, or regulations that MARAD may issue.

- d. Records. The Recipient agrees to keep satisfactory records with regard to the use of the property, equipment, and supplies, and submit to MARAD, upon request, such information as may be required to assure compliance with this section of this Agreement.
- e. Transfer of Project Property, Equipment or Supplies. The Recipient agrees that MARAD may require the Recipient to transfer title to, or direct the disposition of, any property, equipment, or supplies financed with MARAD assistance made available by this Agreement, as required by 2 C.F.R. §§ 200.311 – 200.316.
- f. Withdrawn Property, Equipment or Supplies. If any Project property, equipment, or supplies are not used for the Project for the duration of their useful lives, as determined by MARAD, whether by planned withdrawal, misuse or casualty loss, the Recipient agrees to notify MARAD immediately. Disposition of withdrawn property, equipment, or supplies shall be in accordance with 2 C.F.R. §§ 200.311 – 200.316 and Recipient agrees to request disposition instructions from the Government.
- g. Encumbrance of Project Property or Equipment. Unless expressly authorized in writing by MARAD, the Recipient agrees not to:
  - 1) Execute any transfer of title, lease, lien, pledge, mortgage, encumbrance, contract, grant anticipation note, alienation, or other obligation that in any way would dispose of or encumber the Recipient's title or other interest in any Project property or equipment; or
  - 2) Obligate itself in any manner to any third party with respect to Project property or equipment. The Recipient shall refrain from taking any action or acting in a manner that would adversely affect MARAD's interest or impair the Recipient's continuing control over the use of Project property or equipment.

**EXHIBIT F**  
**REIMBURSEMENT OF PROJECT COSTS**

1. The Recipient will be reimbursed in accordance with the terms of a Grant Agreement between the Government (Modal Administration) or other specified form or agreement as determined by the Government that incorporates this agreement by reference.
2. The Recipient shall have entered into obligations for services and goods associated with the Project prior to seeking reimbursement from the Government. Reimbursement will only be made for costs incurred after execution of a grant agreement unless specifically allowed by this Agreement, otherwise permitted by Federal law or regulation, or unless MARAD states in writing to the contrary.
3. The Recipient shall ensure that the funds provided by the Government are not misappropriated or misdirected to any other account, need, project, line-item, or unrelated activity.
4. Any Federal funds not expended in conjunction with the Project will remain the property of the Government.
5. Financial Management System: By signing this agreement, the Recipient verifies that it has, or will implement, a financial management system adequate for monitoring the accumulation of costs and that it complies with the financial management system requirements of 2 C.F.R. Part 200, Subpart D, and Title 23, U.S.C.. The Recipient's failure to comply with these requirements may result in agreement termination.
6. Allowable Costs: Determination of allowable costs will be made in accordance with the applicable Federal cost principles, e.g., 2 C.F.R. Part 200 Subpart E. Disallowed costs are those charges determined to not be allowed in accordance with the applicable Federal cost principles or other conditions contained in this agreement.

**EXHIBIT G**  
**GRANT REQUIREMENTS AND CONTRACT CLAUSES**

1. The Fixing America’s Surface Transportation Act (FAST Act) (Pub. L. 114-94, Section 1105, (23 U.S.C. 117)), regarding the Nationally Significant Freight and Highway Projects Program (FY 2017-2018 INFRA Discretionary Grants) (referred to as “INFRA Grants”) requires that all laborers and mechanics employed by contractors and subcontractors on projects funded directly by or assisted in whole or in part by and through the Federal Government shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of Title 40, United States Code.
2. Pursuant to Reorganization Plan No. 14 and the Copeland Act, 40 U.S.C. § 3145, the Department of Labor has issued regulations at 29 C.F.R. Parts 1, 3, and 5 to implement the Davis-Bacon and related Acts. Regulations in 29 C.F.R. 5.5 instruct agencies concerning application of the standard Davis-Bacon contract clauses set forth in that section. Federal agencies providing grants, cooperative agreements, and loans under the Act shall ensure that the standard Davis-Bacon contract clauses found in 29 C.F.R. 5.5(a) are incorporated in any resultant covered contracts that are in excess of \$2,000 for construction, alteration or repair (including painting and decorating).
3. Federal agencies providing grants, grant agreements, and loans under the Act shall ensure that the standard Davis-Bacon contract clauses found in 29 C.F.R. 5.5(a) are incorporated in any resultant covered contracts that are in excess of \$2,000 for construction, alteration or repair (including painting and decorating).
4. For additional guidance on the wage rate requirements of the Act, contact your awarding agency. Recipients of grants, grant agreements and loans should direct their initial inquiries concerning the application of Davis-Bacon requirements to a particular federally assisted project to the Federal agency funding the project. The Secretary of Labor retains final coverage authority under Reorganization Plan Number 14.

**EXHIBIT G1**  
**TRANSPARENCY ACT AWARD TERM**

I. Reporting Sub-awards and Executive Compensation.

a. *Reporting of first-tier sub-awards.*

1. *Applicability.* Unless you are exempt as provided in paragraph d. of this award term, you must report each action that obligates \$25,000 or more in Federal funds that does not include Recovery funds (as defined in section 1512(a)(2) of the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5) for a sub-award to an entity (see definitions in paragraph e. of this award term).

2. *Where and when to report.*

i. You must report each obligating action described in paragraph a.1. of this award term to <http://www.fsrs.gov>.

ii. For sub-award information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.)

3. *What to report.* You must report the information about each obligating action that the submission instructions posted at <http://www.fsrs.gov> specify.

b. *Reporting Total Compensation of Recipient Executives.*

1. *Applicability and what to report.* You must report total compensation for each of your five most highly compensated executives for the preceding completed fiscal year, if—

i. the total Federal funding authorized to date under this award is \$25,000 or more;

ii. in the preceding fiscal year, you received—

(A) 80 percent or more of your annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and sub-awards); and

(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and sub-awards); and

iii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal

Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

2. *Where and when to report.* You must report executive total compensation described in paragraph b.1. of this award term:

- i. As part of your registration profile at <https://www.sam.gov>.
- ii. By the end of the month following the month in which this award is made, and annually thereafter.

c. *Reporting of Total Compensation of Sub-recipient Executives.*

1. *Applicability and what to report.* Unless you are exempt as provided in paragraph d. of this award term, for each first-tier sub-recipient under this award, you shall report the names and total compensation of each of the sub-recipient's five most highly compensated executives for the sub-recipient's preceding completed fiscal year, if—

- i. in the sub-recipient's preceding fiscal year, the sub-recipient received—
  - (A) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and sub-awards); and
  - (B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and sub-awards); and
- ii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

2. *Where and when to report.* You must report sub-recipient executive total compensation described in paragraph c.1. of this award term:

- i. To the recipient.
- ii. By the end of the month following the month during which you make the sub- award. For example, if a sub-award is obligated on any date during the month of October of a given year (i.e., between October 1 and 31), you must report any required compensation information of the sub-recipient by November 30 of that year.

d. *Exemptions*

If, in the previous tax year, you had gross income, from all sources, under \$300,000, you are exempt from the requirements to report:

i. Sub-awards,

and

ii. The total compensation of the five most highly compensated executives of any sub-recipient.

e. *Definitions*. For purposes of this award term:

1. *Entity* means all of the following, as defined in 2 CFR part 25:

- i. A Governmental organization, which is a State, local government, or Indian tribe;
- ii. A foreign public entity;
- iii. A domestic or foreign nonprofit organization;
- iv. A domestic or foreign for-profit organization;
- v. A Federal agency, but only as a sub-recipient under an award or sub-award to a non-Federal entity.

2. *Executive* means officers, managing partners, or any other employees in management positions.

3. *Sub-award*:

- i. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible sub-recipient.
- ii. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. .210 of the attachment to OMB Circular A-133, “Audits of States, Local Governments, and Non- Profit Organizations”).
- iii. A sub-award may be provided through any legal agreement, including an agreement that you or a sub-recipient considers a contract.

4. *Sub-recipient* means an entity that:



- i. Receives a sub-award from you (the recipient) under this award; and
  - ii. Is accountable to you for the use of the Federal funds provided by the sub-award.
5. *Total compensation* means the cash and noncash dollar value earned by the executive during the recipient's or sub-recipient's preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):
- i. *Salary and bonus.*
  - ii. *Awards of stock, stock options, and stock appreciation rights.* Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.
  - iii. *Earnings for services under non-equity incentive plans.* This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.
  - iv. *Change in pension value.* This is the change in present value of defined benefit and actuarial pension plans.
  - v. *Above-market earnings on deferred compensation which is not tax-qualified.*
  - vi. Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

**EXHIBIT G2**  
**SINGLE AUDIT INFORMATION FOR RECIPIENTS OF INFRA GRANT FUNDS**

1. To maximize the transparency and accountability of funds authorized under the Act as required by Congress and in accordance with 2 C.F.R. Part 200 Subparts C – E Common Rules provisions, recipients agree to maintain records that identify adequately the source and application of INFRA Grant funds.

2. For recipients covered by the Single Audit Act Amendments of 1996 and the audit requirements of 2 C.F.R. Part 200, Subpart F recipients agree to separately identify the expenditures for Federal awards under the Act on the Schedule of Expenditures of Federal Awards (SEFA) and the Data Collection Form (SF–SAC) required by 2 C.F.R. Part 200. This shall be accomplished by identifying expenditures for Federal awards made under the Act separately on the SEFA, and as separate rows under Item 6 of Part III on the SF–SAC by CFDA number, and inclusion of the prefix “FY 2017-2018 INFRA program” in identifying the name of the Federal program on the SEFA and as the first characters in Item 6c of Part III on the SF–SAC.

**EXHIBIT G3**  
**SYSTEM FOR AWARD MANAGEMENT AND UNIVERSAL IDENTIFIER**  
**REQUIREMENTS**

*A. Requirement for System for Award Management*

Unless you are exempted from this requirement under 2 CFR 25.110, you as the recipient must maintain the currency of your information in the SAM until you submit the final financial report required under this award or receive the final payment, whichever is later. This requires that you review and update the information at least annually after the initial registration, and more frequently if required by changes in your information or another award term.

*B. Requirement for unique entity identifier*

If you are authorized to make sub-awards under this award, you:

1. Must notify potential sub-recipients that no entity (see definition in paragraph C of this award term) may receive a sub-award from you unless the entity has provided its unique entity identifier to you.
2. May not make a sub-award to an entity unless the entity has provided its unique entity identifier to you.

*C. Definitions*

For purposes of this award term:

1. *System for Award Management (SAM)* means the Federal repository into which an entity must provide information required for the conduct of business as a recipient. Additional information about registration procedures may be found at the SAM Internet site (currently at <http://www.sam.gov>).
2. *Unique entity identifier* means the identifier required for SAM registration to uniquely identify business entities.
3. *Entity*, as it is used in this award term, means all of the following, as defined at 2 CFR part 25, subpart C:
  - a. A Governmental organization, which is a State, local government, or Indian Tribe;
  - b. A foreign public entity;
  - c. A domestic or foreign nonprofit organization;
  - d. A domestic or foreign for-profit organization; and

e. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.

4. *Sub-award*:

a. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible sub-recipient.

b. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see 2 CFR 200.330).

c. A sub-award may be provided through any legal agreement, including an agreement that you consider a contract.

5. *Sub-recipient* means an entity that:

a. Receives a sub-award from you under this award; and

b. Is accountable to you for the use of the Federal funds provided by the sub-award.

**EXHIBIT G4**  
**AWARD TERM AND CONDITION FOR RECIPIENT INTEGRITY AND**  
**PERFORMANCE MATTERS**

**A. Reporting of Matters Related to Recipient Integrity and Performance**

*1. General Reporting Requirement*

If the total value of your currently active grants, cooperative agreements, and procurement contracts from all Federal awarding agencies exceeds \$10,000,000 for any period of time during the period of performance of this Federal award, then you as the recipient during that period of time must maintain the currency of information reported to the System for Award Management (SAM) that is made available in the designated integrity and performance system (currently the Federal Awardee Performance and Integrity Information System (FAPIIS)) about civil, criminal, or administrative proceedings described in paragraph 2 of this award term and condition. This is a statutory requirement under section 872 of Public Law 110-417, as amended (41 U.S.C. 2313). As required by section 3010 of Public Law 111-212, all information posted in the designated integrity and performance system on or after April 15, 2011, except past performance reviews required for Federal procurement contracts, will be publicly available.

*2. Proceedings About Which You Must Report*

Submit the information required about each proceeding that:

a. Is in connection with the award or performance of a grant, cooperative agreement, or procurement contract from the Federal Government;

b. Reached its final disposition during the most recent five year period; and

c. Is one of the following:

(1) A criminal proceeding that resulted in a conviction, as defined in paragraph 5 of this award term and condition;

(2) A civil proceeding that resulted in a finding of fault and liability and payment of a monetary fine, penalty, reimbursement, restitution, or damages of \$5,000 or more;

(3) An administrative proceeding, as defined in paragraph 5. of this award term and condition, that resulted in a finding of fault and liability and your payment of either a monetary fine or penalty of \$5,000 or more or reimbursement, restitution, or damages in excess of \$100,000; or

(4) Any other criminal, civil, or administrative proceeding if:

(i) It could have led to an outcome described in paragraph 2.c.(1), (2), or (3) of this award term and condition;

(ii) It had a different disposition arrived at by consent or compromise with an

acknowledgment of fault on your part; and

(iii) The requirement in this award term and condition to disclose information about the proceeding does not conflict with applicable laws and regulations.

### *3. Reporting Procedures*

Enter in the SAM Entity Management area the information that SAM requires about each proceeding described in paragraph 2 of this award term and condition. You do not need to submit the information a second time under assistance awards that you received if you already provided the information through SAM because you were required to do so under Federal procurement contracts that you were awarded.

### *4. Reporting Frequency*

During any period of time when you are subject to the requirement in paragraph 1 of this award term and condition, you must report proceedings information through SAM for the most recent five year period, either to report new information about any proceeding(s) that you have not reported previously or affirm that there is no new information to report. Recipients that have Federal contract, grant, and cooperative agreement awards with a cumulative total value greater than \$10,000,000 must disclose semiannually any information about the criminal, civil, and administrative proceedings.

### *5. Definitions*

For purposes of this award term and condition:

a. Administrative proceeding means a non-judicial process that is adjudicatory in nature in order to make a determination of fault or liability (e.g., Securities and Exchange Commission Administrative proceedings, Civilian Board of Contract Appeals proceedings, and Armed Services Board of Contract Appeals proceedings). This includes proceedings at the Federal and State level but only in connection with performance of a Federal contract or grant. It does not include audits, site visits, corrective plans, or inspection of deliverables.

b. Conviction, for purposes of this award term and condition, means a judgment or conviction of a criminal offense by any court of competent jurisdiction, whether entered upon a verdict or a plea, and includes a conviction entered upon a plea of nolo contendere.

c. Total value of currently active grants, cooperative agreements, and procurement contracts includes—

(1) Only the Federal share of the funding under any Federal award with a recipient cost share or match; and

(2) The value of all expected funding increments under a Federal award and options, even if not yet exercised.

B. [Reserved]

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This content is from the eCFR and is authoritative but unofficial.

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## Title 2 - Grants and Agreements

### Subtitle A - Office of Management and Budget Guidance for Grants and Agreements

#### Chapter II - Office of Management and Budget Guidance

#### Part 200 - Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards

Source: [85 FR 49543](#), Aug. 13, 2020, unless otherwise noted.

Source: [85 FR 49539](#), Aug. 13, 2020, unless otherwise noted.

Authority: [31 U.S.C. 503](#)

Source: [78 FR 78608](#), Dec. 26, 2013, unless otherwise noted.

#### Appendix II to Part 200 - Contract Provisions for Non-Federal Entity Contracts Under Federal Awards

In addition to other provisions required by the Federal agency or non-Federal entity, all contracts made by the non-Federal entity under the Federal award must contain provisions covering the following, as applicable.

- (A) Contracts for more than the simplified acquisition threshold, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by [41 U.S.C. 1908](#), must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.
- (B) All contracts in excess of \$10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be effected and the basis for settlement.
- (C) Equal Employment Opportunity. Except as otherwise provided under [41 CFR Part 60](#), all contracts that meet the definition of “federally assisted construction contract” in [41 CFR Part 60-1.3](#) must include the equal opportunity clause provided under [41 CFR 60-1.4\(b\)](#), in accordance with Executive Order 11246, “Equal Employment Opportunity” ([30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339](#)), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at [41 CFR part 60](#), “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.”
- (D) Davis-Bacon Act, as amended ([40 U.S.C. 3141-3148](#)). When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act ([40 U.S.C. 3141-3144, and 3146-3148](#)) as supplemented by Department of Labor regulations ([29 CFR Part 5](#), “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction”). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of

the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland “Anti-Kickback” Act ([40 U.S.C. 3145](#)), as supplemented by Department of Labor regulations ([29 CFR Part 3](#), “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

- (E) **Contract Work Hours and Safety Standards Act ([40 U.S.C. 3701-3708](#))**. Where applicable, all contracts awarded by the non-Federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with [40 U.S.C. 3702](#) and [3704](#), as supplemented by Department of Labor regulations ([29 CFR Part 5](#)). Under [40 U.S.C. 3702](#) of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of [40 U.S.C. 3704](#) are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.
- (F) **Rights to Inventions Made Under a Contract or Agreement**. If the Federal award meets the definition of “funding agreement” under [37 CFR § 401.2 \(a\)](#) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient must comply with the requirements of [37 CFR Part 401](#), “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.
- (G) **Clean Air Act ([42 U.S.C. 7401-7671q](#)) and the Federal Water Pollution Control Act ([33 U.S.C. 1251-1387](#))**, as amended - Contracts and subgrants of amounts in excess of \$150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act ([42 U.S.C. 7401-7671q](#)) and the Federal Water Pollution Control Act as amended ([33 U.S.C. 1251-1387](#)). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).
- (H) **Debarment and Suspension (Executive Orders 12549 and 12689) - A contract award (see [2 CFR 180.220](#))** must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at [2 CFR 180](#) that implement Executive Orders 12549 ([3 CFR part 1986 Comp.](#), p. 189) and 12689 ([3 CFR part 1989 Comp.](#), p. 235), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.
- (I) **Byrd Anti-Lobbying Amendment ([31 U.S.C. 1352](#)) - Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any**



other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

(J) See § 200.323.

(K) See § 200.216.

(L) See § 200.322.

*[78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75888, Dec. 19, 2014; 85 FR 49577, Aug. 13, 2020]*

**APPENDIX L**

**ADMINISTRATIVE PROCEDURES FOR THE DESIGN-BUILD CONTRACT**

**APPENDIX L**

**ADMINISTRATIVE PROCEDURES**

**FOR**

**PHILADELPHIA REGIONAL PORT AUTHORITY DESIGN-BUILD CONTRACTS**

**MAY 2023 EDITION**

## **ADMINISTRATIVE PROCEDURES FOR DESIGN-BUILD CONTRACTS**

### **ADMINISTRATIVE PROCEDURE NO. 1**

Orientation Meeting

### **ADMINISTRATIVE PROCEDURE NO. 2**

Job Conferences

### **ADMINISTRATIVE PROCEDURE NO. 3**

Schedule of Values

### **ADMINISTRATIVE PROCEDURE NO. 4**

Project Schedule  
and Critical Path Method (CPM) Scheduling

### **ADMINISTRATIVE PROCEDURE NO. 5**

Materials Testing (All Items – General Requirements)  
Laboratory Sample or Field Test Identification Materials  
Testing (Selection of Testing Laboratory)  
Concrete Testing (Approval of Mix Computations)  
Concrete Mix Computation  
Invoice Procedure for Payment of Testing Services (Professional)  
Invoice/Billing for Professionals & Testing Labs  
Manufacturers' High Voltage Cable Test (Birth Certificate)  
Field High Voltage Cable Test  
HVAC Systems Balancing

### **ADMINISTRATIVE PROCEDURE NO. 6**

Submittals

### **ADMINISTRATIVE PROCEDURE NO. 7**

DBC's Invoice  
Prevailing Minimum Wage Certificate or Davis-Bacon WH-347  
Invoice of Labor, Materials/Equipment Installed Materials  
Payroll Affidavit, DBC's Certificate and Statement of Surety, Power of Attorney,  
Stored Materials, Partial Release of Claims, Final Release of Claims, GSC 18 Audit Workbook  
Partial and Final Release of Claims Forms

### **ADMINISTRATIVE PROCEDURE NO. 8**

Changes in Contract Work (Field Orders/Change Orders)

### **ADMINISTRATIVE PROCEDURE NO. 9**

Request for Extension of Time Change Order

### **ADMINISTRATIVE PROCEDURE NO. 10**

Dispute Resolution Form

**ADMINISTRATIVE PROCEDURE NO. 11**

Utilization/Occupancy  
Inspection  
Occupancy/Utilization  
Final Inspection  
Conclusion of Final Inspection

**ADMINISTRATIVE PROCEDURE NO. 12**

PhilaPort DBE Participation by DBC  
Diversity Inclusion Plan (Design -Build Construction)  
PRiSM Software Compliance Utilization

**ADMINISTRATIVE PROCEDURE NO. 13**

Bid Security Information

**ADMINISTRATIVE PROCEDURE NO. 14**

Buy America Act  
Buy America/PA Steel Products Procurement Act Compliance Forms  
Supplemental Form – Steel Products Containing Foreign Steel

**ADMINISTRATIVE PROCEDURE NO. 1**  
**ORIENTATION MEETING**

**A. Scheduling of Orientation Meeting**

Within ten (10) days of the Effective Date of the Contract, (or earlier if authorized in a Letter of Non-Prejudice) the Project Manager will contact the Design Build Contractor (DBC) to schedule an Orientation Meeting to familiarize the DBC with PhilaPort procedures and processes.

The DBC is required to attend the scheduled Orientation Meeting. Notification of the meeting date, time and place will be confirmed by email. Personnel from the DBC's office that will be associated with the Project, such as the principal of the firm, project manager and project superintendent must attend the meeting. The DBC's Retained Professional and each subcontractor identified in Qualification Forms submitted in the DBC's Proposal to PhilaPort must also attend the meeting.

**B. Agenda for Orientation Meeting**

1. Introduction of personnel by Project Manager
2. Explanation of Administrative Procedures and PhilaPort processes and forms in E-Builder.
3. Explanation of Administrative Procedures and PhilaPort processes for submitting utilization and proof of payment for DBE subcontractors and suppliers.
4. Question and answer period.

**ADMINISTRATIVE PROCEDURE NO. 2**  
**JOB CONFERENCES**

**A. General Information Concerning Job Conferences**

1. The following representatives **must attend** Initial, Regular and Special Job Conferences\*\*:

- The DBC (i.e., assigned Project Manager and approved Superintendent)
- DBC's Retained Professional Representative
- PhilaPort's Project Manager or designee
- The Construction Manager (if one is retained on the Project)

\*\* **Special Job Conferences are scheduled** as in Paragraph D.

2. The following representatives may attend any Job Conference, but are not required to be present:

- Facility personnel
- Testing Laboratory Technicians
- Construction Project Manager
- Other representatives, as appropriate (determined by PhilaPort)

3. PhilaPort shall appoint a person to take the minutes of the Job Conferences. The minutes shall be distributed prior to the next Job Conference.

4. Failure to attend any Job Conference is a violation of the Contract as indicated in the General Conditions of Contract. If the DBC does not attend the Job Conference, it may be subject to termination, unless absence is excused by PhilaPort. PhilaPort may issue a credit Change Order to the DBC if it does not attend and is not excused from any Job Conference.

**B. Initial Job Conference**

1. The Project Manager will set the time, date and place for the Initial Job Conference, which will be no later than the thirty (30) days following the Effective Date of the Contract.

2. The date of the Initial Job Conference will signify the Contract Start Date for purposes of calculating the Contract Completion Date.

a. If a Letter of Non-Prejudice was issued on the project, the DBC is required to proceed with the off-site scope of Work set forth in the letter. On-site Work may start only when the contract is fully executed.

b. The DBC is required to commence on-site work within ten (10) days after the Initial Job Conference.

4. During the Initial Job Conference, the Construction Project Manager or designee shall conduct the order of business and discuss specific requirements and particulars of project construction.

5. Distribution of the Initial Job Conference Report will be made to attendees.

6. Agenda for the Initial Job Conference

a. Introduction of attendees.

**ADMINISTRATIVE PROCEDURE NO. 2**  
**JOB CONFERENCES**

b. Review of Special Requirements, which may include all, some, or none of these examples:

- (1) Protection of the Environment
- (2) Asbestos
- (3) Parking
- (4) Office for DBC
- (5) Field Office
- (6) Temporary Heat
- (7) Existing Utilities
- (8) Working Hours
- (9) Operation and Maintenance Instructions/Manuals
- (10) Diversity And Inclusion Plan for Design-Build Construction (DBE)
  
- (11) Contractor Integrity Provision
- (12) Debarment, Suspension and Other Responsibilities
- (13) Excavation
- (14) Roof Deck
- (15) Product Discrimination
- (16) Mobilization
- (17) Steel Products Procurement Act
- (18) Insurance Coverage
- (19) Privity of Contract
- (20) Public Works Employment Verification Act
- (21) Other

c. General Remarks

- (1) Safety
- (2) Discrepancies
- (3) Coordination

d. General Information

- (1) Project Sign
- (2) Roof Bond/Warranties
- (3) Concrete
- (4) As-Built Record Drawings
- (5) Project Supervision
- (6) Miscellaneous

e. Permits, Fees, Notices

f. Establishment of date, time and location of the first Regular Job Conference

g. Review of General Conditions

h. General Comments

**C. Regular Job Conference**

1. Job Conferences may be held as often as necessary, however, in no case less than bi-weekly.



**ADMINISTRATIVE PROCEDURE NO. 2**  
**JOB CONFERENCES**

2. The Construction **Assistant Project Manager**, or designee, shall conduct bi-weekly Job Conferences. These bi-weekly Job Conferences shall be attended by those described at the beginning of this Administrative Procedure.
3. The agenda of a Regular Job Conference shall include, at a minimum, the following:
  - a. General Review of Previous Report
    - i. Unsatisfactory conditions and/or workmanship, as noted on previous Job Conference Reports, must be noted when corrected by the DBC in the minutes of the first report following the correction. The manner in which the correction was made should also be noted in the minutes. The unsatisfactory item will be included as an item in each report until the issue is corrected.
  - b. General discussion of Job Conditions
  - c. Review of past due Shop Drawings
  - d. Review of outstanding Change Orders
  - e. Review of Progress Schedule
    - i. Special attention will be given to items that are behind schedule.
  - f. Projected work for the next bi-weekly period
  - g. Delays
    - i. The DBC should pay special attention to ensure that delays are documented on the Job Conference Reports since PhilaPort will review the minutes of the Job Conferences in reviewing the DBC's request for any Extension of Time.
    - ii. General Information will be inserted onto the written Job Conference Reports, such as, percentage of elapsed time for project, percentage of payment for project, percentage of job completion for project (based upon physical inspection), date, time and place of next job conference and name of person who prepared the Report.
4. Job Conference Reports will be distributed to attendees.

**D. Special Job Conferences**

1. The PhilaPort Project Manager or other PhilaPort representative may call a Special Job Conference to consider any emergency or unusual job condition. Only the subject(s) mentioned in the request for the Special Job Conference shall be discussed.

**ADMINISTRATIVE PROCEDURE NO. 3**  
**SCHEDULE OF VALUES**

- A.** The Schedule of Values shall be prepared and submitted by the DBC for PhilaPort's approval **within 30 days of the Effective Date of the Contract and prior to the first Invoice, unless required to be submitted earlier in a Letter of Non-Prejudice issued by PhilaPort.**
- B.** The Assistant Project Manager and the Project Manager will review and provide comments. The DBC is advised that a **minimum of 30 work days** after the receipt of the submission will be required by PhilaPort for review and approval of the Schedule of Values or Supplemental Schedule of Values.
- C.** No Invoice will be approved by the Assistant Project Manager until the Schedule of Values has been approved by PhilaPort.
- D.** The Schedule of Values, when approved by PhilaPort, will be utilized as the basis for the DBC's Invoices. The Schedule of Values may also be used by PhilaPort to determine the debit or credit to PhilaPort resulting from changes in the work.
- E.** General Information
1. Items must be listed according to building or area.
  2. Temporary services and/or equipment furnished at the DBC's cost that are not an integral part of the Project may not be shown on the Schedule of Values. The cost of these items (with the exception of temporary heat) must be prorated throughout the items of Work, material and/or equipment to which it pertains.
  3. Contract Bond shall be shown as an item. The bond may not exceed the DBC's percent/amount of their bond receipt. The receipt for the bond must be submitted with the original Schedule of Values.
  4. The Roof Bond/Guaranty must be a separate item, when applicable.
  5. The DBC may include in its Schedule of Values a single line item for Mobilization. Mobilization costs shall be limited to include only those items listed in the Mobilization Paragraph of the General Conditions of Contract. For contracts equal to or less than \$6,000,000, the DBC may include on the cost breakdown a line item for mobilization costs listed at 1.5 percent of the contract award amount, not to exceed \$90,000. For contracts exceeding \$6,000,000, mobilization costs in excess of \$90,000 will be determined by negotiation prior to submission of the breakdown.
  6. Excavation and backfill must be shown as separate items. If hand excavation is required, it must also be separately listed. All excavation and backfill quantities shall be indicated in cubic yard units. If there is no backfill, an explanation must be provided.
  7. Concrete for structures is to be indicated in cubic yard units. Concrete sidewalk and concrete paving may be indicated as square yard units. All unit prices for concrete work are to include forming. Forming may not be indicated as a separate line item.
  8. Painting must be listed as a separate item in square feet. Lump sum costs will not be accepted.
  9. "Furnish" or "Install" are not to be used as part of the description of a line item. Procurement and installation costs must be included in the line item of work. The only exception shall be in cases where materials or equipment are furnished by the owner or using agency for installation by the DBC.

**ADMINISTRATIVE PROCEDURE NO. 3**  
**SCHEDULE OF VALUES**

10. “Demolition” is to be followed in parenthesis indicating the item to be demolished.
11. Scaffolding is not to be shown as a separate line item, but is to be included in the item with which it is associated.
12. Site surveying, as a line item, is permitted for the DBC.
13. Engineering of plans is not permitted as a line item.
14. The DBC may show sheet metal work as two items, i.e., (a) Sheet metal shop drawings; and, (b) Sheet metal fabrication and installation. Shop drawings must be shown at actual cost and as one lump sum/line-item. Shop drawings must be approved prior to being invoiced on an Invoice. When the DBC requests payment for shop drawings, a copy of the subcontractor’s invoice, if a subcontractor is used for that item, must be attached to the Invoice.
15. When balancing of heating and ventilating systems is required by the specifications, it shall be shown as a separate item.
16. Costs retained for Commissioning, as described in the General Conditions, must appear as a separate line item in the amount described in the Contract Documents.
17. Lump Sum items cannot be paid until the item is completely finished, inspected, and accepted by PhilaPort, except on unit price projects, where lump sum items can be paid based upon the percentage completed.
18. Operation and Maintenance Manuals shall be indicated as one line item. The value shall be not less than ten percent (10%) of the amount included for mobilization. The amount included is subject to the approval of the Project Manager.
19. Record Drawings shall be indicated as one line item. The value shall be not less than ten percent (10%) of the amount included for mobilization. The amount included is subject to the approval of the Project Manager.
20. A supplemental Schedule of Values for those items listed as Lump Sum on the original approved Schedule of Values may be submitted at a later date, indicating quantity, unit price and extensions for all items to be furnished and installed under each Lump Sum item. Lump Sum items should be kept to a minimum. Supplemental breakdowns cannot be submitted on items where partial payment has been made.
  - a. **Items to be subcontracted must be designated by the word “subcontractor.”**
  - b. Descriptions shall be clear and concise for each item of work, material or equipment, using the same designation as the specifications. All items (examples: concrete masonry units, conduit, pipe fittings, wire, cable, etc.) must be listed by type and size to be installed.
  - c. Temporary heat, if required by the Contract Documents, must be shown on the breakdown as a separate line item. This item will be shown as the last item on the Schedule of Values and must include the number of days specified in the Special Requirements, the Unit Price per twenty-four hour day, and the extension of the figures. **Any adjustment to the number of days of temporary heat, used or not, will be based on the Unit Price shown on the breakdown.**
  - d. Items listed in the index of the specifications must be included, in chronological order, on the

**ADMINISTRATIVE PROCEDURE NO. 3**  
**SCHEDULE OF VALUES**

breakdown. Additional items may be listed at the DBC's discretion. Do not utilize alpha-numeric numbering except in cases where supplemental breakdowns are submitted.

- e. Unit price proposals are an exception to the above procedures. Unit price proposals must be reflected on the breakdown sheet in the same amount and in the same order as in the Contract.

## ADMINISTRATIVE PROCEDURE NO. 4

### PROJECT SCHEDULE and CRITICAL PATH METHOD (CPM) SCHEDULING

#### A. General Information on Project Scheduling

The Project Schedule shall be a Critical Path Method (CPM) Schedule developed, prepared and submitted to the Project Manager in accordance with the same requirements and time frames as required by the General Conditions of the Construction Contract and the requirements of this Administrative Procedure. DBC is responsible for uploading Project Schedules into e-Builder.

1. The CPM Scheduling system is to be implemented by the DBC, utilizing the services of a qualified subcontractor or its own in-house staff. The subcontractor or DBC, if utilizing in-house staff, must provide evidence to PhilaPort's satisfaction, that the subcontractor or DBC has computer hardware and software which is standard in the industry for CPM scheduling. The subcontractor or the DBC must also provide evidence of at least five years scheduling experience with projects of the same size and nature.
2. In no event shall any activity indicated on the Schedule exceed a 20-day duration unless authorized by PhilaPort.
3. **No later than thirty (30) days after the Effective Date of the Contract**, the DBC shall (in accordance with the scheduling provisions of the General Conditions) submit the Integrated Progress Schedule.
4. **Within seven (7) days of receipt of the Schedule from the DBC**, the Project Manager or designated representative will submit the Schedule to the Commonwealth for review and approval. The Commonwealth has ten (10) days for acceptance or denial once submitted by PhilaPort.
5. The construction sequences, activity duration and logic utilized in the development and preparation of the Schedule shall result in an as-planned schedule that must meet the Contract Completion Date set forth in the Contract Documents.
6. The DBC shall be responsible for providing a daily report of all work performed each day on the project until project close-out. This report shall include, but is not limited to: the DBC's numerated work force and related work activities performed, the DBC's numerated sub-contractors' workforce on site (of all tiers) and related work activities performed, equipment on site, testing performed, weather conditions (high and low temperatures, precipitation, etc.), material deliveries and L&I inspection activities. Each daily report shall be submitted within 24 hours of each work day. If no work is performed, a daily report shall be submitted stating no work was performed. Submission of this daily report shall not preclude or waive the need to address issues and activities that shall be addressed within the contract documents via required processes and/or forms. **Failure of the DBC to submit timely, consistent and accurate daily reports shall be considered a non-conformance of the contract and shall be handled in a manner defined by the Contract Documents.**
7. All Work is to be completed in accordance with the accepted Project Schedule. The Project Schedule will reflect the decisions of the DBC as to sequence, duration, construction logic and all means and methods of construction.
8. **PhilaPort will only review and pay (if the application is otherwise acceptable) the DBC's first Invoice without a Project Schedule being submitted and accepted by PhilaPort. No further Applications for Payment will be accepted from the DBC until PhilaPort has accepted the Project Schedule. Since it is the DBCs' affirmative duty to coordinate the Work and prepare the Project Schedule, any delay to the Project due to not having an acceptable Project Schedule will be attributable to the DBC.**

9. Activity time delays shall not automatically mean that an extension of time is warranted or owed to the DBC. A contract modification or delay may result in only absorbing a part of the available total float that may exist within an activity or chain of activities, therefore, the modification or delay may not affect existing critical activities, interim milestone dates or cause non-critical activities to become critical.
10. PhilaPort owns the float. No float shall be used by the DBC without a written request and subsequent directive from PhilaPort or its designee. Total float is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, for each and every activity in the Project Schedule. Extensions of time to interim milestone dates or the Contract Completion Date under the various contracts will be considered only to the extent that equitable time adjustments to the activity or activities affected by the contract modification or delay exceeds the total float of the affected or subsequent paths and extends any interim milestone date or the Contract Completion Date.

#### 11. General Information

- a. List items of construction as they will be installed. When more than one building, level or floor is included, each building, level or floor shall be listed separately. The Project Schedule **must also include** critical submittals, submissions of shop drawings for approval, approval of shop drawings, placing of orders for materials and delivery of materials.
- b. The DBC is responsible for assuring that any and all subcontract work as well as its own work is included in the schedule.
- c. The Project Schedule shall reflect Early Start/Early Finish Dates, Late Start/Late Finish Dates and available Float or Slack time for each and every activity.
- d. The DBC shall identify and incorporate construction progress milestones for the Project into the Project Schedule, in accordance with the General Conditions of Contract. Unless the Contract Documents state otherwise, the milestones are to signify the start date of a specific activity that is critical to the completion of the project on schedule. **The DBC must show at least one milestone in each month of the scheduled construction period.**

**ADMINISTRATIVE PROCEDURE NO. 5**

**MATERIALS TESTING (ALL ITEMS-GENERAL REQUIREMENTS)  
LABORATORY SAMPLE OR FIELD TEST IDENTIFICATION**

**MATERIALS TESTING (SELECTION OF TESTING  
LABORATORY)CONCRETE TESTING (APPROVAL OF MIX  
COMPUTATIONS) CONCRETE MIX COMPUTATION**

**INVOICE AND BILLING FOR PROFESSIONALS AND TESTING  
LABORATORIES**

**MANUFACTURERS' HIGH VOLTAGE CABLE TEST (BIRTH  
CERTIFICATE)FIELD HIGH VOLTAGE CABLE TEST  
HVAC SYSTEMS BALANCING**

**A. Materials and Concrete Testing Performed by the DBC (General Requirements)**

**The DBC shall:**

1. Give PhilaPort and the DBC's Retained Professional timely notice of its readiness and of the date arranged, so the DBC's Retained Professional may observe such inspection or testing.
2. Bear all costs of such inspections and tests, unless otherwise provided. All expenses incurred in the collecting, packing and delivering of samples of materials or equipment to or from the site or laboratory will be paid by the DBC, unless otherwise noted in the General Conditions, Specifications or Contract Drawings.
3. All testing information shall be provided to PhilaPort.
4. For all concrete testing, the test reports and the following information and/or data must be provided to PhilaPort:
  - a. Placement Date;
  - b. Design Strength;
  - c. Ambient temperature;
  - d. Slump;
  - e. Air Content percentage;
  - f. Temperature of Concrete;
  - g. Who took the test/sample;
  - h. Where are cylinders being cured;
  - i. Name of Approved testing laboratory;
  - j. 3 Day Break Strength;
  - k. 7 Day Break Strength;
  - l. 28 Day Break Strength; and
  - m. 56 Day Break Strength,

5. A Laboratory Sample or Field Test Identification shall accompany each sample to be tested.
6. When testing concrete cylinders, each cylinder shall be numbered consecutively and prefaced for design mix tests, precast concrete and pre-stressed concrete. The type of cylinder shall be noted on the form as follows:

DM - Design Mix

PC - Precast Concrete

PS – Pre-stressed Concrete

7. Cylinders for concrete other than the above will not be prefaced. Approved samples to be incorporated into the work shall be returned to the site by the Testing Laboratory.

**The DBC's Retained Professional shall:**

1. Secure, review, and approve/reject all submitted testing information and data and provide PhilaPort with copies of such approval or rejection.

**B. Materials Testing (Selection of Testing Laboratory)**

1. The DBC and its Retained Professional shall advise PhilaPort of its selected testing agencies and laboratories at the Orientation Meeting.

**C. Concrete Testing (Approval of Mix Computations)**

1. The DBC shall submit to PhilaPort all mix computation information.

**D. Manufacturer's High Voltage Cable Test Report (Birth Certificate)**

1. The DBC will ensure the Cable Test Report (Birth Certificate) is in compliance with the Contract Documents. The DBC shall submit all testing information to PhilaPort. This shall include attaching all test reports.
2. The DBC's Retained Professional will review and approve/reject the report for compliance with the Contract Documents and provide PhilaPort with copies of such approval or rejection.
3. High Voltage Cable may not be installed until the manufacturer's Cable Test Reports are approved by the DBC's Retained Professional and PhilaPort.
4. If the report is rejected by the DBC's Retained Professional or PhilaPort, the report will be returned to the DBC with an explanation.

**E. High Voltage Cable Field Test Report**

1. The DBC shall submit all testing information to PhilaPort. This shall include all test reports.
2. The DBC's Retained Professional shall review the report for compliance and approve/reject the report and provide PhilaPort with copies of such approval or rejection.
3. Payment for High Voltage Cable will be made only after the manufacturer's Test Report is approved, cable is installed, and the Field Test Report is approved by the DBC's Retained Professional and reviewed by



PhilaPort.

4. If the report is rejected by PhilaPort, it will be return it to the DBC with an explanation.

**F. HVAC Systems Balancing Report**

1. The DBC shall submit all testing and balancing information to PhilaPort. This shall include attaching the final balancing report.
2. The DBC's Retained Professional shall, upon receipt of the Balancing Report from the DBC, review it for compliance with balancing procedures and the Contract Documents. The DBC's Retained Professional will review the report for compliance and approve/reject and provide PhilaPort with copies of such approval orrejection.
3. If the report is rejected by PhilaPort, it will be returned to the DBC with an explanation.
4. Payment for test and balancing will not be made until the report(s) are approved by PhilaPort.

**ADMINISTRATIVE PROCEDURE NO. 6**  
**SUBMITTALS**

- A.** The DBC shall prepare and submit a **Draft Submittal Schedule** showing all items requiring submission to PhilaPort. The **Submittal Schedule** shall be prepared in accordance with the General Conditions. All critical and long lead submittal items from the **Submittal Schedule** shall then be integrated by the DBC and tied to the logic of activities in the Project Schedule.
- B.** The DBC's draft Submittal Schedule must include the following as a minimum:
1. Submittal breakdown by Specification Section number and division;
  2. Scheduled date for initial submittal of item; and
  3. Days required after return of an approved submittal to order, fabricate and deliver the specific item to the site.
- C.** If the development of the Submittal Schedule affects the construction sequencing, durations, logic or any other aspect of the Project Schedule, including established milestones, the DBC shall make any necessary revisions to the Project Schedule. The contract completion date will not be adjusted as a result of these revisions. Review and acceptance of this revised integrated progress schedule, by PhilaPort, shall follow the procedures established in Project Schedule of these Administrative Procedure. The DBC shall also provide an explanation detailing the reasons for the revision and the activities affected in the letter of transmittal.
- D.** PhilaPort will review and approve/reject all submittals.
- E.** The DBC shall make any corrections required and shall resubmit shop drawings or new samples until approved. The resubmission shall be acted upon by PhilaPort **within ten (10) days of its receipt**, unless a different period of time is approved by PhilaPort. The resubmission of submittals by the DBC shall be in accordance with the General Conditions of Contract.
- F.** **Any work commenced by the DBC prior to final approval of the submittals by PhilaPort is performed by the DBC at its own risk.**

## ADMINISTRATIVE PROCEDURE NO. 7

### DBC'S INVOICE

#### PREVAILING MINIMUM WAGE CERTIFICATE, (DAVIS-BACON ACT), INVOICE OF LABOR, MATERIALS/EQUIPMENT, PAYROLL AFFIDAVIT, DBC'S CERTIFICATE AND STATEMENT OF SURETY, POWER OF ATTORNEY, STORED MATERIALS, PARTIAL RELEASE OF CLAIMS, FINAL RELEASE OF CLAIMS, GSC 18 AUDIT WORKBOOK

##### A. General Information

1. The DBC will be obligated to utilize e-Builder to upload invoicing information. Training will be provided to the successful DBC.
2. The DBC's Invoices shall be created and submitted and processed in accordance with the Payment Article of the General Conditions and this Administrative Procedure.
3. No Invoice will be processed until the Schedule of Values, has been approved.
4. An Invoice will not be processed unless the Monthly DBE Business Utilization Report has been submitted within 30 days prior to the Invoice. See the Diversity Inclusion procedures in these APs).
5. When an Invoice is received, the Project Manager shall process the invoice. The Project Manager **has five calendar days, from this date, to review and take action.**
6. In accordance with the Prompt Payment Schedule (62 Pa. C.S. §3931-§3939) the PhilaPort shall make payment **within forty-five (45) calendars days of the date the Invoice is received in a complete and acceptable format.** The time does not start until the invoice is accepted by PhilaPort. For purposes of calculating the forty-five calendar days, the start date will be the day on which Project Manager accepts the Invoice.

##### B. Prevailing Minimum Wage Certificate

1. The Prevailing Minimum Wage Certificate must be completed, by the DBC, and attached to each Invoice to certify compliance with the payment of Prevailing Minimum Wages as required by the Contract Documents.
2. The DBC is required to submit the Form LLC-25 (or Form WH-347 if Davis-Bacon Wage Act applies to the contract) for themselves and all subcontractors of every tier on a weekly basis. The DBC shall provide ONLY the information required on the form and shall not include any employee personal information (i.e., social security numbers, home addresses, phone numbers, etc.). If the DBC intends to provide forms with employee personal information, the DBC shall redact it prior to submitting the forms and attachments.

##### C. Invoice for Work Completed

1. The DBC must provide a true and correct list of the work performed for each pay period.
2. An approved Change Order may be paid on a percentage basis as the work is completed.

3. See example forms attached. Due to federal requirements, each invoice will also require a cover page on company letterhead.

**D. Installed Materials**

1. Per grant requirements, PhilaPort will pay for stored materials. See Stored Materials Form attached to this Administrative Procedure No. 7.
2. PhilaPort will reimburse for installed materials.

**STORED MATERIALS**

Project No: \_\_\_\_\_

Contract No: \_\_\_\_\_

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

Location: \_\_\_\_\_

Contractor: \_\_\_\_\_

Materials or equipment that have not yet been incorporated into the work may be delivered and suitably stored, at the site. The materials or equipment listed below have been estimated at 100% of the cost and will be stored on site. PhilaPort will reimburse the contractor based upon the prices included on the Schedule of Values Form less the cost of installation. The Contractor must complete sufficient copies of the “Stored Materials Form”, to accompany the Invoice Approval - Pay Application (INVPA). The Contractor shall secure the signature of its bonding company on all forms and shall also provide a Power of Attorney from the bonding company.

**SCHEDULE**

Quantity	Material/Equipment	Item in Schedule of Values		Unit Wholesale Price	Extended Wholesale Price
		Item No.	Unit Price		
					\$0.00
					\$0.00
					\$0.00
				Total	\$ \$0.00

Surety \_\_\_\_\_  
**POWER of ATTORNEY MUST BE ATTACHED**

By: \_\_\_\_\_  
 Attorney-in-Fact

Date: \_\_\_\_\_

**BILL OF SALE**

The Contractor, \_\_\_\_\_, (will store/has stored) certain materials and /or equipment, herein called materials, (at the site of this project/at an approved warehouse/at bonded warehouse) and will be paid in accordance with the provisions of PhilaPort General Conditions.

In consideration of the sum of \$ \_\_\_\_\_ paid to the Contractor by PhilaPort and, in compliance with the provisions of the Contract, and, with the intention to be legally bound, the Contractor does hereby grant, bargain, sell and deliver unto PhilaPort, its successors and assigns, all and singular, the materials described in the schedule above. The Contractor agrees that:

Stored Materials –

1. Contractor has good title to the materials, free and clear of all liens and encumbrances, and title is granted to PhilaPort;
2. The materials will be used only in the construction of the above referenced project, under the provisions of the Contract, and will not be diverted elsewhere without the prior written consent of PhilaPort;
3. The materials have been delivered to and are at the onsite location approved for storage, and they are clearly marked and identified as the property of PhilaPort and are stored in a safe and secure manner to protect from damage or loss;
4. The Contractor will pay all expenses in connection with the sale, delivery, storage, protection and insurance of materials granted to PhilaPort and will remain responsible for the materials, which will remain under its custody and control for all losses, regardless of exclusions in insurance policies required under this document. The Contractor has insured the materials against loss or damage by fire (with extended coverage), theft and burglary, with loss payable to PhilaPort;
5. The Contractor agrees that the quantities of materials set forth in the Schedule of Values, represents the maximum quantities for which it may be entitled to payment under the provisions of the Contract;
6. The following information is included with this form: (1) Pay Application (INVPA); (2) An invoice or photostatic copy of an invoice for materials stored; (3) Evidence of payment; (4) Photographs showing the stored materials and its location; (5) a fire and theft insurance policy rider for the stored materials.

Witness

: \_\_\_\_\_

By: \_\_\_\_\_ (SEAL)  
Principal-Individual

Witness:

\_\_\_\_\_  
Principal-Partnership

\_\_\_\_\_  
(SEAL)

\_\_\_\_\_  
(SEAL)

\_\_\_\_\_  
(SEAL)

\_\_\_\_\_  
(SEAL)

Attest:

\_\_\_\_\_  
Principal-Corporation

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

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
President

**VERIFICATION**

This document has been reviewed and the following is verified:

1. The description of the line items on the vendor’s invoice is identical to the description on this form and the Schedule of Values. If the item(s) description on the vendor’s invoice is not identical, the Contractor has clearly described, either on the vendor’s invoice or an attachment, the invoiced item(s), as related to the item(s) on this Schedule of Values Form. For an item to be payable as stored materials, the entire line item must be completely broken down into a schedule of values, not just for the stored material(s).
2. The vendor’s invoice shows the “Unit Wholesale Price” and the “Extended Wholesale Price”. It is permissible for the Contractor to add information to the vendor’s invoice for the purpose of clarity. If Items that are being claimed for Stored Materials are intermingled with other items on a vendor’s invoice, the claimed items have been highlighted or underlined.
3. If the vendor’s invoice includes two or more separate items that are component parts of a single line item previously submitted on a Schedule of Value Form has been submitted and approved prior to requesting this payment for Stored Materials. Line items with differing unit prices have been shown as separate items on the Supplemental Schedule of Values. Each component part has been shown as an individual line item.
4. The Contractor has identified each package, bundle, box, container or item of the materials. Identification is legible and securely attached and protected so it will not become erased. The Contractor is responsible for proper storage of the materials at the project site. The materials are stored off the ground and properly protected from the elements.
5. This form is being submitted with a Pay Application (INVPA) No. \_\_\_\_\_. In addition, the following documents are included with the with this form:
  - a. Vendor’s Invoice
  - b. Photographs of material
  - c. Fire and theft insurance policy rider for materials
  - d. Evidence of payment (as provided in item 6 of the previous section)

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Contractor

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PhilaPort Representative

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Title

Date

Date



## ADMINISTRATIVE PROCEDURE NO. 8

### CHANGES IN CONTRACT WORK (FIELD ORDERS/CHANGE ORDERS)

- A. Any change to Project Contract must be documented by issuance of a Change Order.** All Change Orders are to be started and processed in writing prior to any work subject of the proposed Change Order is performed.
- B.** A Change Order may be commenced by the DBC's Retained Professional, PhilaPort Personnel, and under limited circumstances, the DBC.
- C.** PhilaPort reserves the right to require DBE participation on change orders for additional work not already subject to an DBE commitment.
- D.** The DBC's Retained Professional is required to provide an opinion as to the reason that the Change Order is required. The DBC's Retained Professional must identify the cause for the Change Order.
- E.** The DBC's Retained Professional's cause choice is the opinion of the DBC's Retained Professional and may or may not represent the views of PhilaPort. PhilaPort will review the Change Order and make a final determination on cause based upon on all applicable factors including input provided by the DBC's Retained Professional.
- F. Professional's Cost Guesstimate**
1. The DBC's Retained Professional must provide their best estimate of the cost to perform the subject Change order work. PhilaPort secures Project Funds based on the DBC's Retained Professional's estimate amount, so the DBC's Retained Professional should use whatever means are necessary to provide the most accurate estimate possible.
  2. In the event the DBC's Retained Professional disagrees with the need or legitimacy of the subject Change Order, they are still required to provide an estimate cost to perform that work. That estimate shall be based solely on the cost value of the work. The legitimacy of the Change Order request shall have no bearing on this estimate cost figure. PhilaPort reserves the right to secure funds at the DBC's cost breakdown figure in lieu of the DBC's Retained Professional's Guesstimate cost figure for any DBC originated Change Order request disputed by the DBC's Retained Professional.
- G.** A detailed cost breakdown shall be attached to the Change Order the DBC for any changes to the DBC's scope of Work utilizing the format established by the sample Change Order included in this Administrative Procedure.
1. **Material Costs** - The Cost Breakdown shall list, as a minimum for each material item used, the material description, the unit, (U) used to detail quantity, the quantity, (Q) showing the total amount of that unit, the unit cost, (MU) and the individual cost total, (Q x MU). The Cost Breakdown shall then include the total of all the individual cost totals which is defined as the pre-mark-up cost total. The DBC may optionally provide (but is not required to provide) the applicable labor hours per material unit (HU) and the respective labor extension for that unit (Q x HU). If the DBC chooses to provide unit labor information in the material section, the total hours of labor shown must match the total labor hours shown under the LABOR section of the cost breakdown. The total material cost will be the sum of the pre-mark-up material cost total plus the sales tax mark-up plus the overhead, general support and profit mark-up.
    - a. PhilaPort will not acknowledge or honor any separate line items in the Cost Breakdown for such freight charges.

- b. The DBC is entitled to and may claim the following mark-up for material listed on the Cost Breakdown:
  - i. state and local sales tax equal to the applicable sales tax rate times the pre-mark-up material cost total listed;
  - ii. mark-up material cost total plus the sales tax mark-up, overhead, general support and profit equal to 10% times the sum of the pre- mark-up material cost
2. **Labor Costs** - The Cost Breakdown shall include for each labor classification listed, the number of workers, duration of work for each worker, the total labor hours (H), the classification description, the hourly base wage rate paid (BR), the total hourly wage rate paid (WR), the base rate individual cost (H x BR) and the wage rate individual cost (H x WR). The Cost Breakdown shall then include the total of all the individual base rate costs (TBR) and the total of all the individual wage rate costs. (TWR) The hourly base wage rate (BR) is defined as the rate of wages paid by the employer directly to the employee. The total hourly wage rate (WR) is defined as the total rate of wages paid by the employer including wages paid directly to the employee (BR) plus any employer participation or contribution to employee benefits paid on behalf of the employee. PhilaPort acknowledges that for certain DBCs the base rate (BR) and the wage rate (WR) are equivalent. The total labor cost will be the sum of the total wage rate cost (TWR) plus the total mandated burden mark-up (TMB) plus the overhead, general support and profit mark-up.
  - a. PhilaPort will not accept or reimburse line items for travel, lodging and per-diem. Exceptions may be made on a case-by-case basis for instances including use of a specialty out-of-state, or non-local Sub-Contractor for Change Order Work, or in the event that the Change Order Work is being issued after Project Final Completion and the DBC claims travel and lodging costs in lieu of remobilization costs.
  - b. The DBC is entitled to and may claim the following mark-up for labor listed on the cost breakdown:
    - i. mark-up for mandatory labor burden costs including (and limited to) social security, federal and state unemployment taxes, workmen’s compensation insurance and public liability insurance. The allowable mark-up for each is equal to the applicable social security, unemployment compensation tax, workmen’s comp. insurance, or public liability insurance rate times the total base rate cost (TBR) not the total wage rate (TWR). PhilaPort will disallow any excessive burden mark-up calculated as a percentage of the TWR (excepting those instances where the TBR and TWR are identical.). PhilaPort will also not honor any mark-up for types of labor burden additional to those listed;
    - ii. mark-up for overhead, general support and profit equal to 15% times the sum of the total wage rate cost (TWR) plus the total mandated burden mark-up (TMB). The total mandated burden mark-up is defined as the total of all the allowable individual burden costs for social security, unemployment compensation tax, workmen’s compensation insurance and public liability insurance.
3. **Equipment Costs** The Cost Breakdown shall include for each piece of equipment used to perform the subject work, the description of the piece of equipment used, the quantity of that particular piece used, the duration the piece of equipment was used, the rental rate for the duration used and the total rental cost. PhilaPort expects the DBC to procure/provide the most economical rental rate available over the duration of the work performed. For example, if the piece of equipment was used over a four week period, PhilaPort will expect a monthly rate in lieu of a daily or weekly rate, if the monthly rate is more economical than the other two rates.
  - a. PhilaPort will not pay equipment costs for any piece of equipment not specifically identified, or for any tools such as hand tools used in the everyday performance of contract work.
  - b. The DBC may claim sales tax paid for any piece of equipment rented from an outside (non-DBC owned) rental agency provided that a receipt showing the sales tax paid amount accompanies the cost

breakdown. PhilaPort will disallow sales tax for any rental item without such proper verification.

- c. The DBC may claim mark-up for overhead, general support and profit equal to 10% times the sum of the total rental costs plus the total applicable sales tax. The total rental costs are the sum of all the individual rental costs. The total applicable sales tax is the sum of all the individual verified sales taxes.
4. **Subcontractors** – A detailed cost breakdown or acceptable alternate quote from the subcontractor is required for any detailed cost breakdown from the DBC showing that any or all of the Change Order work is being performed by the Sub. An acceptable alternate quote is defined as a lump sum cost quotation provided by the Sub-Contractor on Sub-Contractor letterhead paper which details the exact scope of work to be done by the DBC including detailed information of quantities and description of material items installed. PhilaPort will consider the lump sum cost to be inclusive of all material, labor and equipment costs including all applicable markups for overhead, profit, general support, total mandated burden, taxes and bond adjustment to which the Sub-Contractor is entitled as defined within this manual section. For breakdowns containing work performed by one or more Sub-Contractors and the DBC, the Prime is responsible for clarifying somewhere in the breakdown, the exact scope of work being performed by the Prime and each Sub-Contractor. In the absence of such clear definition of work scopes, PhilaPort reserves the right to disallow any Prime DBC labor hours charged for Change Orders where it appears that all of the work is being performed by the Sub-Contractor.
    - a. The DBC may claim mark-up for overhead, general support and profit equal to 10% times the sum of the total costs realized by the Prime's Sub- in performance of the work. Any Sub- receiving work from the Prime (or another Sub-) who in turn subs that work to another Sub-Contractor may claim mark-up for overhead, general support and profit equal to 10% times the sum of the total costs realized by the Sub's Sub- in performance of the work.
  5. **Verifications** - In order for PhilaPort to verify the individual wage rates, mandated burden rates and bond rates claimed by the DBC, the DBC will provide the following to be attached to the detailed cost breakdown accompanying the **first Change Order** for each Contract: The verification documentation listed above comprises what PhilaPort considers to be the standard for verification of a given rate. PhilaPort will consider for submittal, alternatives to those standards provided that those alternatives furnish the same conclusive, independent substantiation provided by the replaced standard. Acceptance of alternative verification documentation will be made exclusively by Senior Director of Operations and will be reviewed on a case-by-case basis.
    - a. **Base Rate** - The DBC shall provide a copy of a Certified Payroll which shows total wages, hours worked and resulting wage rate being paid directly to the DBC's employee for each DBC's labor classification being used in the performance of the Change Order work. PhilaPort considers the Certified Payroll to be the LIPW-128 Form or equivalent. The DBC has the option to submit BASE RATE VERIFICATION for all DBC labor classifications at the time the first Change Order is submitted or individual BASE RATE VERIFICATIONS may be submitted with subsequent Change Orders as labor classifications unique to those used in performance of the first Change Order are required for performance of those subsequent Change Orders. In lieu of proper verification, PhilaPort will apply as DBC's Base Rate, the Prevailing Wage Hourly Rate as determined in the Specifications.
    - b. **Wage Rate** - The DBC shall provide to PhilaPort, written documentation showing the dollar per hour rate of employer contributions made on behalf of the employee towards the employee's benefits. PhilaPort will accept as such documentation, either a written excerpt from a labor contract/agreement identifying mandatory benefits, or a certified statement from the DBC's independent Auditor which outlines actual costs for benefits. This Employee Benefit Rate (EBR) contribution must represent moneys that are not paid directly to the employee but are paid to a separate source maintaining the benefits. This documentation should itemize all individual benefits contributed to by the employer. The documentation should list the employer dollar per hour contribution to each individual benefit and the

total dollar per hour contribution for all the benefits combined. The total dollar per hour contribution is the employee Benefit Rate (EBR). Upon receipt of such acceptable documentation, PhilaPort will consider the DBC's Wage Rate (WR) to be equal to the DBC's verified Base Rate (BR) plus Employee Benefit Rate (EBR). This can be represented mathematically as:  $WR = BR + EBR$ . In lieu of proper verification, PhilaPort will apply as DBC's Wage Rate, the Prevailing Wage Total Rate as determined in the Specifications.

- c. **Unemployment Tax Rate** -To substantiate the State Unemployment Tax (SUTA) employer contribution rate, the DBC shall submit a copy of the effective Contribution Rate Notice issued from the Department of Labor & Industry. Any claimed Federal Unemployment Tax (FUTA) employer contribution will be consistent with the rate as determined in the current I.R.S. Circular 'E', Employer's Tax Rate Guide. Since the FUTA employer contribution is applicable only for the first few thousand dollars of annual employee wages (currently the first \$7,000), PhilaPort reserves the right to ask for verification of the employee's annual wage records if FUTA is claimed by the DBC.
- d. **Workmen's Comp Rate** - The DBC shall submit a copy of the Workmen's Compensation Insurance Policy that shall verify the basic rate, all individual discounts (such as premium and payment), modifier(s) and resulting final adjusted rate.
- e. **Public Liability Insurance** - The DBC shall submit a copy of the paid insurance premium which shows the total premium paid, the total payroll on which the premium was paid and the resulting rate.
- f. **Bond Rate** - The DBC shall submit an invoice from the Surety Company showing the total bond paid, the total contract amount on which the bond was paid and the resulting bond rate.
- g. **Subcontractor's Rates** - Generally, PhilaPort will not require the DBC or Sub-Contractor to submit verification of rates claimed (in Sub-Contractor's Cost Breakdown) by any of the Prime's Sub-Contractor's performing work for a given Change Order. However, in the event that a certain Sub-Contractor is being used continually by the Prime to perform Change Order work and/or if that Sub-Contractor's rates appear excessive to PhilaPort, PhilaPort reserves the right to ask the Prime Contractor to procure and submit to PhilaPort, verification of rates used by the Sub-Contractor in question. This information shall be submitted to PhilaPort only upon PhilaPort request.

EXAMPLE COMPLETED COST BREAKDOWN

ABC Design Build Contractor

		<u>MATERIAL</u>			<u>LABOR HOURS (OPTIONAL)</u>	
<u>QTY</u> <u>(Q)</u>	<u>UNI</u> <u>T</u> <u>(U)</u>	<u>DESCRIPTION</u>	<u>UNIT</u> <u>COST</u> <u>(MU)</u>	<u>COST</u> <u>TOTAL(Q</u> <u>x MU)</u>	<u>HOURS/UNI</u> <u>T(HU)</u>	<u>TOTAL</u> <u>HOURS(Q</u> <u>x HU)</u>
8000	S.F.	1/2" GYPSUM WALL BOARD	\$0.15	\$1,200.00	.008	64
15	EACH	DOUBLE HUNG WINDOWS	\$120.00	\$1,800.00	.800	12
PRE-MARK-UP MAT'L. COST TOTAL				\$3,000.00	TOTAL LABOR HRS.	76
6% SALES SUBTOTAL				\$180.00		
10% OVERHEAD, GEN. SUPT. & PROFIT(ON				\$318.00		
<b>TOTAL MATERIAL COST</b>				<b>\$3,498.00</b>		

		<u>LABOR</u>					
<u>NUMBER</u> <u>OF</u> <u>WORKER</u> <u>S</u>	<u>DURATIO</u> <u>N</u>	<u>HOUR</u> <u>S(H)</u>	<u>CLASSIFICATIO</u> <u>N</u>	<u>HOURLY</u> <u>BASE</u> <u>RATE</u> <u>(BR)</u>	<u>TOTAL</u> <u>HOURLY</u> <u>WAGE RATE</u> <u>(WR)</u>	<u>BASE</u> <u>RATE</u> <u>COSTS</u> <u>(H x BR)</u>	<u>WAGE</u> <u>RATECOST</u> <u>(H x WR)</u>
		76	CARPENTER	\$20.27	\$30.59	\$1,540.52	\$2,324.84
TOTAL LABOR HOURS		76	TOTAL BASE RATE COST (TBR)			\$1,540.52	
				TOTAL WAGE RATE COST (TWR)			\$2,324.84

<u>RATE</u>	<u>MANDATED</u> <u>BURDEN</u>	
7.65%	SOCIAL SECURITY (ON TOTAL TBR)	\$117.85
12.39%	UNEMPLOYMENT TAXES (ON TOTAL TBR)	\$190.87
8.90%	WORKMEN'S COMP. INS. (ON TOTAL TBR)	\$137.11
2.46%	PUBLIC LIABILITY INS. (ON TOTAL TBR)	\$37.90
TOTAL MANDATED BURDEN (TMB)		\$483.73
SUBTOTAL LABOR COSTS (TWR + TMB)		\$2,808.57
15% OVERHEAD, GEN. SUPT. & PROFIT(ON SUBTOTAL)		\$421.29
<b>TOTAL LABOR COST</b>		<b>\$3,229.86</b>

		<u>EQUIPMENT</u>		
<u>DURATIO</u> <u>N</u>	<u>QTY.</u>	<u>EQUIPMEN</u> <u>T</u>	<u>RENTAL RATE FOR DURATION</u>	<u>RENTAL</u> <u>COST</u>
N/A	1	N/A	N/A	N/A
		% SALES TAX (IF RENTED)		
		SUBTOTAL EQUIPMENT COST		
		10% OVERHEAD, GEN. SUPT. & PROFIT(ON SUBTOTAL)		
		<b>TOTAL EQUIPMENT COST</b>		<b>\$0</b>

<u>COMPANY</u>	<u>SUBCONTRACTORS</u> (IF APPLICABLE)	<u>*TOTAL</u> <u>COST</u>
XYZ Paving	*Total Cost From Attached Sub-Contractor's Detailed Breakdown	\$31,973.26
SUBTOTAL		\$31,973.26
10% OVERHEAD, GEN. SUPT. & PROFIT(ON SUBTOTAL)		\$3,197.33
<b>TOTAL SUBCONTRACTS</b>		<b>\$35,170.59</b>

**SUMMARY**

TOTAL MATERIAL	\$3,498.00
TOTAL LABOR	\$3,229.86
TOTAL EQUIPMENT	N/A
TOTAL SUBCONTRACTS	\$35,170.59
LESS DEDUCTS (Explain Separately)	<u>N/A</u>
	SUBTOTAL \$41,898.45
<u>2.0%</u> BOND COST ADJUSTMENT(ON SUBTOTAL)	<u>\$837.97</u>
<b>TOTAL PROPOSAL</b>	<b><u>\$42,736.42</u></b>

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DBC's Signature

XYZ PAVING (SUB-CONTRACTOR)

		<u>MATERIAL</u>			<u>LABOR HOURS (OPTIONAL)</u>	
<u>QTY</u>	<u>UNI</u>	<u>DESCRIPTION</u>	<u>UNIT</u>	<u>COST</u>	<u>HOURS/UNI</u>	<u>TOTAL</u>
<u>_(Q)</u>	<u>T</u>		<u>COST</u>	<u>TOTAL(Q</u>	<u>T(HU)</u>	<u>HOURS(Q</u>
	<u>(U)</u>		<u>(MU)</u>	<u>x MU)</u>		<u>x HU)</u>
4900	S.Y.	3" BITUM. ASPHALT PAVING	\$4.50	\$22,050.00	.0196	96
PRE-MARK-UP MAT'L. COST				\$22,050.00	TOTAL LABOR	96
TOTAL					HRS.	
6% SALES TAX				\$1,323.00		
SUBTOTAL				\$23,373.00		
10% OVERHEAD, GEN. SUPT. & PROFIT(ON				\$2,337.30		
SUBTOTAL)						
<b>TOTAL MATERIAL COST</b>				<b>\$25,710.30</b>		

				<u>LABOR</u>			
<u>NUMBER</u>		<u>HOURLY</u>		<u>TOTAL</u>	<u>BASE</u>	<u>WAGE</u>	
<u>OF</u>	<u>DURATIO</u>	<u>BASE</u>	<u>CLASSIFICATIO</u>	<u>HOURLY</u>	<u>RATE</u>	<u>RATE</u>	<u>RATECOST</u>
<u>WORKER</u>	<u>N</u>	<u>(BR)</u>	<u>N</u>	<u>WAGE RATE</u>	<u>(H x BR)</u>	<u>COSTS</u>	<u>(H x WR)</u>
<u>S</u>				<u>(WR)</u>			
1	8	8	LAB. FOREMAN	\$16.91	\$24.80	\$135.28	\$198.40
7	8	56	LABORER	\$16.16	\$24.05	\$904.96	\$1,346.80
4	8	32	OPERATOR	\$21.03	\$31.69	\$672.96	\$1,014.08
TOTAL LABOR HOURS		96		TOTAL BASE RATE COST (TBR)		\$1,713.20	
				TOTAL WAGE RATE COST (TWR)		\$2,559.28	

<u>RATE</u>	<u>MANDATED BURDEN</u>	
7.65%	SOCIAL SECURITY (ON TOTAL TBR)	\$131.06
11.91%	UNEMPLOYMENT TAXES (ON TOTAL TBR)	\$204.04
10.23%	WORKMEN'S COMP. INS. (ON TOTAL TBR)	\$175.26
3.17%	PUBLIC LIABILITY INS. (ON TOTAL TBR)	\$54.31
	TOTAL MANDATED BURDEN (TMB)	\$564.67
	SUBTOTAL LABOR COSTS (TWR + TMB)	\$3,123.95
	15% OVERHEAD, GEN. SUPT. & PROFIT(ON SUBTOTAL)	\$468.59
	<b>TOTAL LABOR COST</b>	<b>\$3,592.54</b>

				<u>EQUIPMENT</u>	
<u>DURATIO</u>	<u>QTY</u>	<u>EQUIPMENT</u>	<u>RENTAL RATE FOR DURATION</u>	<u>RENTAL COST</u>	
<u>N</u>	<u>±</u>				
1 DAY	1	ASPHALT PAVER 130 H.P.	\$1200.00/DAY	\$1,200.00	
1 DAY	2	STEEL WHEEL ROLLERS	\$230.00/DAY (EACH)	\$460.00	
1 DAY	1	PNEUMATIC WHEEL ROLLER	\$225.00/DAY	\$225.00	
6% SALES TAX (IF RENTED)				\$113.10	
SUBTOTAL EQUIPMENT COST				\$1,998.10	
10% OVERHEAD, GEN. SUPT. & PROFIT(ON SUBTOTAL)				\$199.81	
<b>TOTAL EQUIPMENT COST</b>				<b>\$2,197.91</b>	

<u>SUMMARY</u>	
TOTAL MATERIAL	\$25,710.30
TOTAL LABOR	\$3,592.54
TOTAL EQUIPMENT	\$2,197.91
LESS DEDUCTS (Explain Separately)	N/A
<b>SUBTOTAL</b>	<b>\$31,500.75</b>

<u>1.5% BOND COST ADJUSTMENT(ON SUBTOTAL)</u>	<u>\$472.51</u>
<b>TOTAL PROPOSAL</b>	<u><b>\$31,973.26</b></u>



**G. Force Account Change Orders** - Force Account Records are required to substantiate time and material costs for all Force Account Change Orders which are initiated because quantities, exact scope and unit costs for work cannot be established prior to the performance of the work. The DBC and all Sub-Contractor's working under the Force Account Change Order must keep written, signed daily records of labor, material and equipment. Those records will be monitored and signed daily by PhilaPort Personnel, or their designated representative. The DBC completing the Force Account work shall identify as a minimum, the date of work performed, the contract number of PhilaPort Project, the description (including location) of exact work performed under Today's Work. If known, the DBC may provide as an option, the date the work was authorized and the person authorizing the work PhilaPort requires as verification of material unit prices and equipment use or rental unit prices that the DBC include receipts, invoices, truck slips, etc., along with the Force Account Daily Work Record Sheet for each material and equipment item listed on the sheet. In absence of such individual verification, PhilaPort reserves the right to make its own sole determination of proper unit rate. PhilaPort will make such a determination based on the most economical rate that can be applied to the total material quantities or total equipment rental/usage duration accumulated over the duration of the Change Order work. At the end of each day the DBC or Sub-Contractor shall submit to the Assistant Project Manager, the applicable FORCE ACCOUNT DAILY WORK RECORD Sheet(s). This sheet shall contain all completed information pertaining to duration of labor and equipment usage/rental and quantities of material. The submitted sheet should be signed by the DBC.

## ADMINISTRATIVE PROCEDURE NO. 9

### REQUEST FOR EXTENSION OF TIME CHANGE ORDER (EOT)

- A. All Requests for Extensions of Time shall be prepared and submitted through the Construction Change Order process by the DBC.
- B. The DBC must **verbally inform PhilaPort at the first Job Conference after any alleged delay it has encountered.** No forms or correspondence are required at this time, however, the DBC should verify that the verbal notification of the alleged delay has been noted in the Job Conference Report. **Within ten (10) days** after the end of the alleged delay, the DBC must submit the EOT in writing to the Project Manager.
- C. **Failure to submit the form within ten days may constitute a waiver of the request and result in the denial of the request.**
- D. The DBC must enter all required information including but not limited to, beginning date of delay, the ending date of delay, number of days delayed, cause of delay, effect on construction progress, the item of work affected, and list work items that could have been done during the delay. The DBC must utilize the Project Schedule (updated and approved as of the date of the submission of the EOT request) to establish the critical activities delayed by the facts submitted with the EOT as discussed in depth in the Scheduling Article of the General Conditions. Omission of data or failure to answer any of the questions **will result in the EOT Change Order being returned** to the DBC for completion.
- E. Only one delay shall be submitted per Change Order.
- F. If explanation of the delay is lengthy, the DBC may attach additional documentation to the Change Order. It is mandatory, however, that as much of a factual synopsis as possible be included with the submission.
- G. Claims for weather related delays must be substantiated by Weather Data, which may be secured from local weather records and/or the National Oceanic & Atmospheric Administration, National Climatic Center, Asheville, North Carolina 28801.
- H. The DBC's Retained Professional will review an extension of time change order request. The DBC's Retained Professional will attach any additional pertinent information and documentation required to justify and support the recommendation.

**ADMINISTRATIVE PROCEDURE NO. 10**  
**FIELD DISPUTE FORM**

**A. General Information on Dispute Process**

1. The Dispute Process is set forth in detail in the Disputes Article of the General Conditions.
2. The DBC shall use the Field Dispute Resolution Process.

## ADMINISTRATIVE PROCEDURE NO. 11

### UTILIZATION/OCCUPANCY INSPECTION FINAL INSPECTION CONCLUSION OF FINAL INSPECTION

#### A. Utilization/Occupancy Inspection

1. PhilaPort may use or occupy any completed or partially completed portion(s) of the Work in accordance with the General Conditions and this Administrative Procedure.
2. If PhilaPort desires to use or occupy any completed or partially completed portion(s) of the Work, the Project Manager will establish the date and time for an Occupancy/Utilization Inspection and will notify the following:
  - a. DBC(s)
  - b. DBC's Retained Professional
  - c. Others as identified by the Project Manager
3. **The Occupancy/Utilization Inspection will be conducted to evaluate the area(s) to be occupied or equipment to be utilized for conformity to the Contract Documents. The use and/or occupancy of the work does not constitute acceptance of any portion so taken or used. The Occupancy/Utilization Inspection must be attended by PhilaPort, the DBC's Retained Professional and the DBC(s).**
4. The DBC's Retained Professional shall conduct the inspection, unless another party is designated by the PhilaPort.

#### B. Occupancy/Utilization

1. At the conclusion of the Occupancy/Utilization Inspection, the attendees shall review the responsibilities of the DBC for maintenance, heat and utilities, the remaining items to be completed or corrected.
2. A Punch List, prepared by the DBC's Retained Professional or designee, as determined by PhilaPort, shall be generated and submitted to the DBC and the DBC's Retained Professional. The Punch List shall indicate, in detail, all items requiring completion or correction. The failure to include an item on the Punch List will not relieve the DBC(s) of its responsibility to complete all Work in accordance with the Contract Documents.
3. **The date of Occupancy/Utilization shall be the start date of any warranties or guarantees associated with the occupied area(s) or utilized equipment.**
4. Any damage subsequent to the inspection due solely to the use and/or occupancy of the completed or partially completed portion of the Work shall not be the responsibility of the DBC.

### C. Final Inspection

1. The Final Inspection for the contract shall be requested and conducted in accordance with the General Conditions and this Administrative Procedure. The DBC's request for a Final Inspection **must be made to the Project Manager in writing.**
2. **Within twenty (20) days of receipt of the request,** PhilaPort will determine if the Project is at substantial completion. If determined to be at substantial completion, the Final Inspection will be conducted within twenty (20) days by the DBC's Retained Professional and PhilaPort and the following will be notified:
  - a. DBC(s)
  - b. DBC Retained Professional
  - c. Others as identified by the Project Manager
3. The Final Inspection must be attended by PhilaPort, the DBC's Retained Professional and the DBC(s). These inspections may also be attended by other Commonwealth representatives.
4. The DBC shall submit, at the Final Inspection, a Final Invoice for Payment to the Assistant Project Manager. The final Invoice should be completed and submitted in its entirety and in accordance with the Invoice process.
5. The DBC's Retained Professional, in conjunction with the PhilaPort shall conduct the Final Inspection. The inspection shall include all aspects of the Contract(s), including any areas or equipment previously occupied or utilized. If the work is at "substantially completion", in accordance with the definition set forth in the General Conditions, a final inspection shall be conducted at which time a punch list shall be generated.

If, through the course of the inspection, it is determined by the DBC's Retained Professional that the work is not "substantially complete" in accordance with the definition in the General Conditions of Contract, the DBC's Retained Professional shall notify PhilaPort and the DBC in writing substantiating the reasons for the denial.

6. At PhilaPort's discretion, the DBC's Retained Professional shall visit the site for the purpose of verifying and accepting Punch List work. PhilaPort will be responsible for managing the punch list completion process and requesting the DBC's Retained Professional's presence.

#### **Conclusion of Final Inspection**

1. At the conclusion of the Final Inspection, the attendees shall review all of the remaining responsibilities of the DBC, the remaining responsibilities of the DBC's Retained Professional, the status of all pending Change Orders, the status of all pending Requests for Extension of Time Change Orders, the status of any pending claims against PhilaPort or any other DBC and any other obligations of any party necessary to fulfill the requirements of the Contract Documents. Upon completion of this review the DBC, Professional and Project Manager or designee shall approve the punch list containing these items to indicate their concurrence with the remaining responsibilities of each party.

2. The Punch List shall indicate, in detail, all items requiring completion or correction and a reasonable cost of completion plus one and one-half times the aggregate value of the items.

## **ADMINISTRATIVE PROCEDURE NO. 12**

### **PHILAPORT DBE PARTICIPATION BY DBC, DIVERSITY INCLUSION PLAN (DESIGN - BUILD CONSTRUCTION) PRISM SOFTWARE COMPLIANCE UTILIZATION (or other diversity compliance platform)**

**A. General Information:** The DBC must meet or exceed the participation percentages provided in the Diversity Inclusion Plan for Construction and the Diversity Inclusion Plan for Services (professional or otherwise) both are incorporated herein. The DBC shall file all reports required by the Diversity Inclusion plans. The DBC acknowledges that the total percentages committed to Diversity Inclusion are contractual obligations.

**B. DBC's Duty.**

1. The DBC must meet or exceed the participation percentages provided by the Final Inspection of the Contract as applied to the contract award value. This will be tracked by through the DBE Monthly Utilization Report forms.
2. The DBC shall submit a Small Diverse Business / Small Business Utilization Report within 30 days prior to submitting an Invoice. (See section C below).

**C. Monthly DBE Business Utilization Report**

1. This report must be submitted within 30 days prior to submission of each Invoice.
2. Failure to submit a DBE Business Utilization Report within thirty (30) days prior to submittal of an Invoice will result in the Invoice not being able to be submitted.
3. See Section E., below for more information regarding DBE reporting obligations for the Design-Build Contractor.

**D. Remedies**

1. If the Monthly DBE Business Utilization Report is not submitted within thirty (30) days prior to the submittal of an Invoice, the Invoice will not be able to be submitted.
2. If after the first three months following Contract execution, the DBC fails to progress in achieving the minimum participation percentages (based upon the data supplied in the Monthly DBE Business Utilization Report), the PhilaPort may withhold payments until the DBC and PhilaPort discuss the reasons for lack of progress and achieve a resolution. The DBC is not entitled to interest on any funds withheld due to their failure to submit a properly completed Monthly DBE Business Utilization Report their failure to progress in achieving the participation percentages.
3. The DBC's compliance with requirements of the Diversity Inclusion Plans, including the fulfillment of any Diversity Inclusion commitments in all subcontracts and purchase orders is material to the contract between the DBC and the PhilaPort. Any failure to comply with these requirements constitutes a substantial breach of the Contract. It is further understood and agreed that in the

event the PhilaPort determines that the DBC has failed to comply with these requirements, the PhilaPort may, in addition to any other rights and remedies the PhilaPort may have under the contract, any bond filed in connection therewith, or at law or in equity, impose remedies as applicable on the DBC. Remedies for breach of this component may include liquidated damages, termination, suspension, default, penalties, and/or debarment from future contracting opportunities with the Commonwealth of Pennsylvania. The remedies enumerated herein are for the sole benefit of PhilaPort and PhilaPort's enforcement of any provision or PhilaPort's indulgence of any non-compliance with any provision hereunder shall not operate as a waiver of any of PhilaPort's rights in connection with the Contract, nor shall it give rise to actions by any third parties, including any Small Diverse Business or Small Business enterprises.

**E. Reporting DBE Utilization through © PRiSM Compliance Management or Other Designated Compliance Platform.**

1. The successful Design Build Contractor will be provided instructions for tracking DBE compliance for the duration of this project. PRiSM is a supplier diversity and compliance management system which monitors and reports Prime and Subcontractor payment and invoicing for projects. The successful DBC will receive training on utilizing PRiSM.
2. PhilaPort may direct Design Build Contractor to utilize other platform(s) other than PRiSM for DBE compliance.



## ADMINISTRATIVE PROCEDURE NO. 13

### BID SECURITY INFORMATION

**A.** All bids shall be accompanied by a certified bank treasurer's or cashier's check drawn in favor of the "Philadelphia Regional Port Authority" or "PhilaPort" in an amount equal to **ten percent (10%) of the gross amount of the Base Bid, excluding Alternates and including Unit Price Work for which estimated quantities have been provided** unless a different specific amount has been established by PhilaPort and set forth in the Bidding Documents. A bid bond from a surety company authorized to business in the Commonwealth is also acceptable.

**B.** For purposes of estimating the amount of the security, the amount of labor and the quantities of materials or supplies to be furnished, must be consistent and in accordance with the estimated quantities required to perform the Work of the Base Bid in the Contract Documents. PhilaPort shall not be bound by such estimates of the quantities of labor, materials or supplies required to be furnished under the Contract.

**C.** When bids are opened and the lowest responsible and responsive Bidder has been determined, PhilaPort within thirty (30) calendar days shall return the security provided by the Bidders except for the security submitted by the two apparent lowest responsive and responsible Bidders. The security of these two Bidders, except where forfeiture of security is required, will be returned upon the execution of all Contract Documents by the lowest responsible Bidder. In the event the contract is not awarded by PhilaPort, the bid guaranty of these two Bidders will be returned on or about the sixty (60) days after the date of bid opening, unless the time for awarding the Bid has been extended by the Bidders or by operation of law.

**ADMINISTRATIVE PROCEDURE NO. 14**

**BUY AMERICA ACT**

DOMESTIC PREFERENCE REQUIREMENTS: THIS PROJECT IS SUBJECT TO BUY AMERICA ACT  
23 U.S.C., SECTION 313.

For more information visit:

[http://www.fhwa.dot.gov/construction/contracts/buyam\\_qa.cfm](http://www.fhwa.dot.gov/construction/contracts/buyam_qa.cfm)



# BUY AMERICA/PA SPPA COMPLIANCE

1. I / WE hereby certify that the material listed on line 4 was:

- Manufactured
- Fabricated
- Coated
- Precasted
- Produced

If a single company performs more than one operation (e.g., a company manufactures and coats guiderail), more than one box may be checked.

By \_\_\_\_\_ (Name of Manufacturer, Fabricator, Coater, Precaster or Producer) \_\_\_\_\_ (Supplier Code, if applicable)

2. and the party listed above certifies that the material(s) on line 4 meet(s) the requirements of the Buy America Act and/or PA Steel Products Procurement Act (SPPA), or other designation \_\_\_\_\_.

3. The material listed below is being shipped to: \_\_\_\_\_ (Company Name)

LOT NO.	QUANTITY	APPROVED MATERIAL
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

5.  CHECK HERE IF YOUR PRODUCT CONTAINS IRON OR STEEL

**CHECK ONE OF THE TWO BOXES:**

- Product is 100% US steel.
- Product contains minimal foreign steel in accordance with Buy America and/or SPPA. **Attach Supplemental Form, receipts or invoices for the product identified.**

**CHECK THE BOX THAT APPLIES TO YOUR PRODUCT:**

- 'Identifiable Steel' - Steel products that contain permanent markings that identify that the material was melted and manufactured in the United States. **Attach bills of lading and mill test reports that also identify that the steel was melted and manufactured in the United States.**
- 'Unidentified Steel' – Steel products that do not meet the definition of "Identifiable Steel", but are 100% US steel products, **attach supporting documentation including bills of lading and mill test reports that positively identify that the steel was melted and manufactured in the United States. For products containing minimal foreign steel in accordance with Buy America and/or PA SPPA, attach the completed Supplemental Form, invoices, and bills of lading or shipping documents.**

6. **VENDOR CLASSIFICATION (CHECK ONE BLOCK ONLY) -**

- #1 Manufacturer, Fabricator, Coater, Precaster
- #2 Distributor, Supplier or Private Label Company

*I certify that the above statements are true and to the best of my knowledge, fairly and accurately describe the product(s) listed.*

*I certify that the material being supplied is one and the same as provided to us by the manufacturer listed on this document and quantities listed above are accurate.*

7. By signing and notarizing this document, you are certifying that information pertaining to this product on line 4 meets the Buy America Act requirements and Steel Products Procurement Act.

8. NAME (print) : \_\_\_\_\_ TITLE: \_\_\_\_\_

COMPANY NAME : \_\_\_\_\_

SIGNATURE : \_\_\_\_\_ DATE: \_\_\_\_\_  
By Responsible Company Official

9. List company that sold you the material(s) documented above: \_\_\_\_\_ (Company Name)  
(Complete if you checked Block # 2 on line # 6, otherwise leave blank.)

10. **NOTES:**

Coordinate with Contractor or PhilaPort Project Manager to ensure FHWA Buy America compliance before shipping to the project.

Mill certifications must show the product was made in the United States.

Incomplete forms, or a lack of backup documentation will be deemed insufficient.

**BUY AMERICA and SPPA RESOURCES:**

[Buy America - Construction Program Guide - Contract Administration - Construction - Federal Highway Administration \(dot.gov\)](#)

[eCFR :: 23 CFR 635.410 -- Buy America requirements.](#)

[Steel Products Procurement Act | Department of General Services | Commonwealth of Pennsylvania](#)

# BUY AMERICA/PA SPPA COMPLIANCE

## INSTRUCTIONS

The BUY AMERICA/SPPA COMPLIANCE form is to be completed by the party that is shipping approved material to the next destination. The form, bill of lading, and mill test report must be uploaded to the PhilaPort Sharefile Project Folder.

1. **NAME OF MANUFACTURER, FABRICATOR, COATER, PRECASTER OR PRODUCER**
  - Check appropriate box: manufactured, fabricated, coated, precasted or produced as appropriate. If a single company performs more than one operation (e.g., a company manufactures and coats guiderail), more than one box may be checked.
2. **MEETS SPECIFICATION REQUIREMENTS**

List specification under which the product is approved.
3. **SHIPPED TO**

List the name of the company to which the material is being shipped.
4. **LOT NUMBER, QUANTITY, DESCRIPTION OF MATERIAL**

List the unique Lot Number for the product, the quantity being shipped to the project or next destination, and a description of the approved material.
5. **CHECK THIS BLOCK IF YOUR PRODUCT CONTAINS IRON OR STEEL**
  - Check box if your product contains iron or steel and complete the additional check boxes. If your product does not contain iron or steel, skip to Item# 6.
  - Check one of the two boxes to indicate whether the product is composed of 100% US steel or whether it contains the minimum allowed foreign steel.
  - Check one of the two boxes to indicate whether your product is identifiable steel or unidentified steel.
  - Be sure to provide the required supporting documentation.
6. **VENDOR CLASSIFICATION (CHECK ONE BLOCK ONLY)**

If you are a Manufacturer, Fabricator, Coater or Precaster, or a Producer, check block # 1.

If you are a Distributor, Supplier or Private Label Company, check block # 2.
7. **CERTIFICATION REQUIREMENTS, Name, Title, Company Name, Signature, and Date**

Enter the required information and sign the Certificate of Compliance form. Ink signatures or electronic signatures are acceptable.
8. **COMPLETE LINE # 9 ONLY IF YOU CHECKED BLOCK # 2 ON LINE # 6, OTHERWISE LEAVE BLANK**

List company that sold the material to you. (Company Name)

### IN ADDITION:

2. & 5. Private Label Companies who complete the form must identify the true manufacturer (Line 1) and the approved material (Line 4) under that manufacturer.

After completing the Buy America/SPPA Compliance form, maintain the original at your company's location. A copy of the Compliance form must accompany your material shipment. These files must be available for inspection and verification by PhilaPort for a period of not less than THREE years from the date of the last shipment.



## SUPPLEMENTAL FORM STEEL PRODUCTS CONTAINING FOREIGN STEEL

This Form is to be completed by the manufacturer, fabricator, precaster, or producer of the product containing foreign steel. **Attach this completed form to the BUY AMERICA/SPPA COMPLIANCE form to accompany the shipment to the project.** The manufacturer, fabricator, precaster, or producer is required to maintain files of supporting receipts and mill certifications at their facility, for a period of not less than 3 years from the date of the project shipment.

**Compliance with Buy America and/or PA Steel Products Procurement Act (Applies to All Projects)**

Product Quantity	Product Description	Foreign Steel Description	Domestic Steel Cost (D)	Foreign Steel Cost (F)	25% of Total Steel Cost $0.25x(D+F)$	SPPA Compliance* (Is $F \leq 0.25x(D+F)$ ?)	Federal BAA Compliance*
					\$ 0.00	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
					\$ 0.00	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
					\$ 0.00	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

\*If 'Yes', Acceptable. If 'No', Not acceptable and determine if the product appears on the PA Department of General Services Exemption List.

\*\*Coordinate with Contractor or PhilaPort Project Manager to ensure SPPA and/or Buy America compliance before shipping to the project.

Receipts/Invoices for the cost of domestic and foreign steel as listed on this document must be provided.

**\*\*This Section for PhilaPort Use Only – To be Completed by the Project Manager\*\***

Total Contract Amount (\$): \_\_\_\_\_ Contractor Name \_\_\_\_\_

Federal Project No. \_\_\_\_\_ or 100% State Project

**Compliance with Federal Buy America Act (Applies to all projects with Federal funding)**

Total Contract Amount (\$)	Cost of Foreign Steel used on this project to date (excluding this invoice)	Cost of Foreign Steel used on this project to date (including this invoice)	0.10% of Total Contract Amount	\$2,500.00	Threshold = Greater Value of Columns 4 & 5	Buy America Compliance* (Is Total Cost of Foreign Steel (including this invoice) $\leq$ Threshold?)
\$ 0.00			\$ 0.00	\$2,500.00	\$ 2,500.00	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

\*If 'Yes', Accept. If 'No', Do not accept without a waiver from MARAD.

**APPENDIX M**  
**STANDARD CONSTRUCTION ACT PROVISIONS**

## **STANDARD CONSTRUCTION ACT PROVISIONS**

### **AMERICANS WITH DISABILITIES ACT**

During the term of the contract, Contractor agrees as follows:

1. Pursuant to federal regulations promulgated under the authority of The Americans with Disabilities Act, 28 C.F.R. § 35.101 et seq., the Contractor understands and agrees that no individual with a disability shall, on the basis of the disability, be excluded from participation in this contract or from activities provided for under this contract. As a condition of accepting and executing this contract, the contractor agrees to comply with the "General Prohibitions Against Discrimination," 28 C.F.R. § 35.130, and all other regulations promulgated under Title II of The Americans with Disabilities Act which are applicable to all benefits, services, programs, and activities provided by the Commonwealth through contracts with outside contractors.

2. The Contractor shall be responsible for and agrees to indemnify and hold harmless the Commonwealth from all losses, damages, expenses, claims, demands, suits, and actions brought by any party against the Commonwealth as a result of the Contractor's failure to comply with the provisions of paragraph 1 above.

### **CHOICE OF LAW**

This Contract shall be governed by and interpreted and enforced in accordance with the laws of the Commonwealth of Pennsylvania (without regard to any conflict of laws provisions) and the decisions of the Pennsylvania courts. The Contractor consents to the jurisdiction of any court of the Commonwealth of Pennsylvania and any federal courts in Pennsylvania, waiving any claim or defense that such forum is not convenient or proper. The Contractor agrees that any such court shall have in personal jurisdiction over it, and consents to service of process in any manner authorized by Pennsylvania law.

### **CONTRACTOR INTEGRITY PROVISIONS**

It is essential that those who seek to contract with the Commonwealth of Pennsylvania ("Commonwealth") observe high standards of honesty and integrity. They must conduct themselves in a manner that fosters public confidence in the integrity of the Commonwealth contracting and procurement process.

1. Definitions: For purposes of these Contractor Integrity Provisions, the following terms shall have the meanings found in this Section:
  - a. "Affiliate" means two or more entities where (a) a parent entity owns more than fifty percent of the voting stock of each of the entities; or (b) a common shareholder or group of shareholders owns more than fifty percent of the voting stock of each of the entities; or (c) the entities have a common proprietor or general partner.

- b. "Consent" means written permission signed by a duly authorized officer or employee of the Commonwealth, provided that where the material facts have been disclosed, in writing, by prequalification, bid, proposal, or contractual terms, the Commonwealth shall be deemed to have consented by virtue of the execution of this contract.
  - c. "Contractor" means the individual or entity, that has entered into this contract with the Commonwealth.
  - d. "Contractor Related Parties" means any affiliates of the Contractor and the Contractor's executive officers, Pennsylvania officers and directors, or owners of 5 percent or more interest in the Contractor.
  - e. "Financial Interest" means either:
    - 1. Ownership of more than a five percent interest in any business; or
    - 2. Holding a position as an officer, director, trustee, partner, employee, or holding any position of management.
  - f. "Gratuity" means tendering, giving, or providing anything of more than nominal monetary value including, but not limited to, cash, travel, entertainment, gifts, meals, lodging, loans, subscriptions, advances, deposits of money, services, employment, or contracts of any kind. The exceptions set forth in the Governor's Code of Conduct, Executive Order 1980-18, the 4 Pa. Code §7.153(b), shall apply.
  - g. "Non-bid Basis" means a contract awarded or executed by the Commonwealth with Contractor without seeking bids or proposals from any other potential bidder or offeror.
2. In furtherance of this policy, Contractor agrees to the following:
- a. Contractor shall maintain the highest standards of honesty and integrity during the performance of this contract and shall take no action in violation of state or federal laws or regulations or any other applicable laws or regulations, or other requirements applicable to Contractor or that govern contracting or procurement with the Commonwealth.
  - b. Contractor shall establish and implement a written business integrity policy, which includes, at a minimum, the requirements of these provisions as they relate to the Contractor activity with the Commonwealth and Commonwealth employees and which is made known to all Contractor employees. Posting these Contractor Integrity Provisions conspicuously in easily-accessible and well-lighted places customarily frequented by employees and at or near where the contract services are performed shall satisfy this requirement.
  - c. Contractor, its affiliates, agents, employees and anyone in privity with Contractor shall not accept, agree to give, offer, confer, or agree to confer or promise to confer, directly or indirectly, any gratuity or pecuniary benefit to any person, or to influence or attempt to influence any person in violation of any federal or state law, regulation, executive order of the Governor of Pennsylvania, statement of policy, management directive or any other published standard of the Commonwealth in connection with performance of work under this contract, except as provided in this contract.



- d. Contractor shall not have a financial interest in any other contractor, subcontractor, or supplier providing services, labor, or material under this contract, unless the financial interest is disclosed to the Commonwealth in writing and the Commonwealth consents to Contractor's financial interest prior to Commonwealth execution of the contract. Contractor shall disclose the financial interest to the Commonwealth at the time of bid or proposal submission, or if no bids or proposals are solicited, no later than Contractor's submission of the contract signed by Contractor.
- e. Contractor certifies to the best of its knowledge and belief that within the last five (5) years Contractor or Contractor Related Parties have not:
  - 1. been indicted or convicted of a crime involving moral turpitude or business honesty or integrity in any jurisdiction;
  - 2. been suspended, debarred or otherwise disqualified from entering into any contract with any governmental agency;
  - 3. had any business license or professional license suspended or revoked;
  - 4. had any sanction or finding of fact imposed as a result of a judicial or administrative proceeding related to fraud, extortion, bribery, bid rigging, embezzlement, misrepresentation or anti-trust; and
  - 5. been, and is not currently, the subject of a criminal investigation by any federal, state or local prosecuting or investigative agency and/or civil anti-trust investigation by any federal, state or local prosecuting or investigative agency.

If Contractor cannot so certify to the above, then it must submit along with its bid, proposal or contract a written explanation of why such certification cannot be made and the Commonwealth will determine whether a contract may be entered into with the Contractor. The Contractor's obligation pursuant to this certification is ongoing from and after the effective date of the contract through the termination date thereof. Accordingly, the Contractor shall have an obligation to immediately notify the Commonwealth in writing if at any time during the term of the contract it becomes aware of any event which would cause the Contractor's certification or explanation to change. Contractor acknowledges that the Commonwealth may, in its sole discretion, terminate the contract for cause if it learns that any of the certifications made herein are currently false due to intervening factual circumstances or were false or should have been known to be false when entering into the contract.

- f. Contractor shall comply with the requirements of the Lobbying Disclosure Act (65 Pa.C.S. §13A01 et seq.) regardless of the method of award. If this contract was awarded on a Non-bid Basis, Contractor must also comply with the requirements of the Section 1641 of the Pennsylvania Election Code (25 P.S. §3260a).
- g. When Contractor has reason to believe that any breach of ethical standards as set forth in law, the Governor's Code of Conduct, or these Contractor Integrity Provisions has occurred or may occur, including but not limited to contact by a Commonwealth officer or employee which, if acted upon, would violate such ethical standards, Contractor shall immediately notify the Commonwealth contracting officer or the Office of the State Inspector General

in writing.

- h. Contractor, by submission of its bid or proposal and/or execution of this contract and by the submission of any bills, invoices or requests for payment pursuant to the contract, certifies and represents that it has not violated any of these Contractor Integrity Provisions in connection with the submission of the bid or proposal, during any contract negotiations or during the term of the contract, to include any extensions thereof. Contractor shall immediately notify the Commonwealth in writing of any actions for occurrences that would result in a violation of these Contractor Integrity Provisions. Contractor agrees to reimburse the Commonwealth for the reasonable costs of investigation incurred by the Office of the State Inspector General for investigations of the Contractor's compliance with the terms of this or any other agreement between the Contractor and the Commonwealth that results in the suspension or debarment of the Contractor. Contractor shall not be responsible for investigative costs for investigations that do not result in the Contractor's suspension or debarment.
- i. Contractor shall cooperate with the Office of the State Inspector General in its investigation of any alleged Commonwealth agency or employee breach of ethical standards and any alleged Contractor non-compliance with these Contractor Integrity Provisions. Contractor agrees to make identified Contractor employees available for interviews at reasonable times and places. Contractor, upon the inquiry or request of an Inspector General, shall provide, or if appropriate, make promptly available for inspection or copying, any information of any type or form deemed relevant by the Office of the State Inspector General to Contractor's integrity and compliance with these provisions. Such information may include, but shall not be limited to, Contractor's business or financial records, documents or files of any type or form that refer to or concern this contract. Contractor shall incorporate this paragraph in any agreement, contract or subcontract it enters into in the course of the performance of this contract/agreement solely for the purpose of obtaining subcontractor compliance with this provision. The incorporation of this provision in a subcontract shall not create privity of contract between the Commonwealth and any such subcontractor, and no third party beneficiaries shall be created thereby.
- j. For violation of any of these Contractor Integrity Provisions, the Commonwealth may terminate this and any other contract with Contractor, claim liquidated damages in an amount equal to the value of anything received in breach of these Provisions, claim damages for all additional costs and expenses incurred in obtaining another contractor to complete performance under this contract, and debar and suspend Contractor from doing business with the Commonwealth. These rights and remedies are cumulative, and the use or non-use of any one shall not preclude the use of all or any other. These rights and remedies are in addition to those the Commonwealth may have under law, statute, regulation, or otherwise.

### **CONTRACTOR RESPONSIBILITY PROVISIONS**

For the purpose of these provisions, the term contractor is defined as any person, including, but not limited to, a bidder, offeror, loan recipient, grantee or lessor, who has furnished or performed or seeks to furnish or perform, goods, supplies, services, leased space, construction or other activity, under a contract, grant, lease, purchase order or reimbursement agreement with the Commonwealth of Pennsylvania (Commonwealth). The term contractor includes a permittee, licensee, or any agency, political subdivision, instrumentality, public authority, or other public entity in the Commonwealth.

1. The Contractor certifies, in writing, for itself and its subcontractors required to be disclosed or approved by the Commonwealth, that as of the date of its execution of this Bid/Contract, that neither the Contractor, nor any such subcontractors, are under suspension or debarment by the Commonwealth or any governmental entity, instrumentality, or authority and, if the Contractor cannot so certify, then it agrees to submit, along with its Bid/Contract, a written explanation of why such certification cannot be made.
2. The Contractor also certifies, in writing, that as of the date of its execution of this Bid/Contract it has no tax liabilities or other Commonwealth obligations, or has filed a timely administrative or judicial appeal if such liabilities or obligations exist, or is subject to a duly approved deferred payment plan if such liabilities exist.
3. The Contractor's obligations pursuant to these provisions are ongoing from and after the effective date of the Contract through the termination date thereof. Accordingly, the Contractor shall have an obligation to inform the Commonwealth if, at any time during the term of the Contract, it becomes delinquent in the payment of taxes, or other Commonwealth obligations, or if it or, to the best knowledge of the Contractor, any of its subcontractors are suspended or debarred by the Commonwealth, the federal government, or any other state or governmental entity. Such notification shall be made within 15 days of the date of suspension or debarment.
4. The failure of the Contractor to notify the Commonwealth of its suspension or debarment by the Commonwealth, any other state, or the federal government shall constitute an event of default of the Contract with the Commonwealth.
5. The Contractor agrees to reimburse the Commonwealth for the reasonable costs of investigation incurred by the Office of State Inspector General for investigations of the Contractor's compliance with the terms of this or any other agreement between the Contractor and the Commonwealth that results in the suspension or debarment of the contractor. Such costs shall include, but shall not be limited to, salaries of investigators, including overtime; travel and lodging expenses; and expert witness and documentary fees. The Contractor shall not be responsible for investigative costs for investigations that do not result in the Contractor's suspension or debarment.
6. The Contractor may obtain a current list of suspended and debarred Commonwealth contractors by either searching the Internet at <http://www.dgs.state.pa.us/> or contacting the:

Department of General  
Services Office of Chief  
Counsel  
603 North Office  
Building Harrisburg,  
PA 17125  
Telephone No: (717) 783-6472  
FAX No: (717) 787-9138

#### **ENHANCED MINIMUM WAGE PROVISIONS**

1. Enhanced Minimum Wage: Contractor agrees to pay no less than \$10.15 per hour to its employees for all hours worked directly performing the services called for in this Contract, and for an employee's

hours performing ancillary services necessary for the performance of the contracted services when such employee spends at least twenty per cent (20%) of their time performing ancillary services in a given work week.

2. Adjustment: Beginning January 1, 2017, and annually thereafter, Contractor shall pay its employees described in Paragraph 1. above an amount that is no less than the amount previously in effect; increased from such amount by the annual percentage increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers (United States city average, all items, not seasonally adjusted), or its successor publication as determined by the United States Bureau of Labor Statistics; and rounded to the nearest multiple of \$0.05. The applicable adjusted amount shall be published in the Pennsylvania Bulletin by March 1 of each year to be effective the following July 1.
3. Exceptions: These Enhanced Minimum Wage Provisions shall not apply to employees:
  - a. Exempt from the minimum wage under the Minimum Wage Act of 1968;
  - b. Covered by a collective bargaining agreement;
  - c. Required to be paid a higher wage under another state or federal law governing the services, including the Prevailing Wage Act and Davis-Bacon Act; or
  - d. Required to be paid a higher wage under any state or local policy or ordinance.
4. Notice: Contractor shall post these Enhanced Minimum Wage Provisions for the entire period of the contract conspicuously in easily-accessible and well-lighted places customarily frequented by employees at or near where the contracted services are performed.
5. Records: Contractor must maintain and, upon request and within the time periods requested by the Commonwealth, furnish all employment and wage records necessary to document compliance with these Enhanced Minimum Wage Provisions.
6. Sanctions: Failure to comply with these Enhanced Minimum Wage Provisions may result in the imposition of sanctions, which may include, but shall not be limited to, termination of the contract, nonpayment, debarment, or referral to the Office of General Counsel for appropriate civil or criminal referral.
7. Subcontractors: Contractor shall include the provisions of these Enhanced Minimum Wage Provisions in every subcontract so that these provisions will be binding upon each subcontractor.

## **ENVIRONMENTAL STATEMENT**

According to the Commonwealth Procurement Code, Act of May 15, 1998, P.L. 358, No. 57, 62 Pa. C.S. §§ 101-4509, all Requests for Proposals for construction projects issued by any government agency shall set forth any provision of Federal and State statutes, rules and regulations dealing with the prevention of environmental pollution and the preservation of public natural resources that affect the projects.

The Proposer is hereby notified that this Project is subject to those statutes, rules and regulations shown on the following list, and the Work must be carried out in compliance with these statutes, rules and regulations.

## STATE LAW

### **I. Purdon's Statutes - Title 3 (Agriculture)**

Fertilizer Act, Act of Dec. 13, 2001, 3 Pa. C.S.A. § 6701, et seq.

Soil and Plant Amendment Act, Act of Dec. 13, 2001, 3 Pa. C.S.A. § 6901, et seq.

PA Pesticide Control Act of 1973, Act of March 1, 1974 as amended, 3 P.S. § 111.21, et seq.

Agricultural Liming Materials Act, Act of March 17, 1978, as amended, 3 P.S. § 132-1, et seq.

The PA Plant Pest Act of 1992, Act of December 16, 1992 as amended, 3 P.S. § 258.1, et seq.

Noxious Weed Control Law, Act of April 7, 1982 as amended, 3 P.S. § 255.1, et seq.

Conservation District Law, Act of May 15, 1945 as amended, 3 P.S. § 849, et seq. (Relating to weather modification), Act of January 19, 1968, as amended, 3 P.S. § 1101, et seq.

### **II. Purdon's Statutes - Title 16 (Counties)**

(Relating to land use), Act of January 13, 1966 as amended, 16 P.S. § 11941, et seq.

### **III. Purdon's Statutes - Title 18 (Crimes and Offenses)**

The Crimes Code, Act of December 6, 1972, as amended, 18 Pa. C.S.A. § 101, et seq.

### **IV. Purdon's Statutes - Title 24 (Education)**

Public School Code of 1949, Act of March 10, 1949, as amended, 24 P.S. § 7-731, et seq.

### **V. Purdon's Statutes - Title 30 (Fish)**

The Fish and Boat Code, Act of October 16, 1980, as amended, 30 Pa. C.S.A. § 101, et seq.

### **VI. Purdon's Statutes - Title 32 (Forests, Waters and State Parks)**

(Relating to water power and water supply permits), Act of June 14, 1923, as amended, 32 P.S. § 591, et seq.

Water Well Drillers License Act, Act of May 29, 1956, as amended, 32 P.S. § 645.1, et sec.

(Relating to Flood Control Districts), Act of August 7, 1936, as amended, 32 P.S. § 653, et seq.

Flood Plain Management Act, Act of October 4, 1978, as amended, 32 P.S. § 679.101, et seq.

Storm Water Management Act, Act of October 4, 1978, as amended, 32 P.S. § 680.1, et seq.

Dam Safety and Encroachments Act, Act of November 26, 1978, as amended, 32 P.S. § 693.1, et seq.

(Relating to Stream Clearance), Act of June 5, 1947, as amended, 32 P.S. § 701, et seq.

(Relating to Potomac River Pollution), Act of May 29, 1945 (P.L. 1134, § 1), as amended, 32 P.S. 741 et seq. *Repealed in Part.* Section 4 of Act 1981, May 1, P.L. 22 No. 9, repeals this section to “the extent it required one of the members of the Interstate Commission on the Potomac River Basin to be a member of the Pennsylvania Commission on Interstate Cooperation.”

(Relating to Schuylkill River pollution), Act of June 4, 1945, as amend., 32 P.S. § 751.1, et seq.

(Relating to Delaware River pollution) Act of April 19, 1945 as amend. 32 P.S. § 815.31, et seq.

Delaware River Basin Compact, Act of July 7, 1961, as amended, 32 P.S. § 815.101, et seq.

Ohio River Valley Water Sanitation Compact, Act of April 2, 1945, as amended, 32 P.S. § 816.1, et seq.

Great Lakes Basin Compact, Act of March 22, 1956, as amended, 32 P.S. § 817.1, et seq.

Brandywine River Valley Compact, Act of September 9, 1959, as amend. 32 P.S. § 818, et seq.

Wheeling Creek Watershed Protection and Flood Prevention District Compact, Act of August 2, 1967, as amended, 32 P.S. § 819.1, et seq.

Susquehanna River Basin Compact, Act of July 17, 1968, as amended, 32 P.S. § 820.1, et seq.

Chesapeake Bay Commission Agreement, Act of June 25, 1985, as amended, 32 P.S. § 820.11, et seq.

(Relating to Preservation and Acquisition of Land for Open Space Uses), Act of January 19, 1968, as amended, 32 P.S. § 5001, et seq.

Land and Water Conservation and Reclamation Act, Act of January 19, 1968, § 2), as amended, 32 P.S. §5101, et seq.

Bluff Recession and Setback Act, Act of May 13, 1980, as amended, 32 P.S. § 5201, et seq.

Wild Resource Conservation Act, Act of June 23, 1982, as amended, 32 P.S. § 5301, et seq.

### **VII. Purdon's Statutes - Title 34 (Game)**

The Game and Wildlife Code, Act of July 8, 1986, as amended, 34 Pa. C.S.A. § 101, et seq.

### **VIII. Purdon's Statutes - Title 35 (Health and Safety)**

(Related to public eating and drinking places), Act of May 23, 1945, as amended, 35 P.S. 655.1 et seq. *Repealed in Part.* Section 6(b) of Act 1994, repealed this section in so far as it is inconsistent with said act (3 Pa. C.S.A. § 6501, et seq.). §§ 655.1 to 655.11. §§ 655.12a to 655.13a repealed by 2010, Nov. 23,

P.L. 1039, No.106, § 8(2)(ii), effective in 60 days [Jan.24, 2011]

The Public Bathing Law, Act of June 23, 1931, as amended, 35 P.S. § 672, et seq.

The Clean Streams Law (Related to the protection of public water supply), Act of June 22, 1937, as amended, 35 P.S. § 691.1, et seq.

PA Safe Drinking Water Act, Act of May 1, 1984, as amended, 35 P.S. § 721.1, et seq.

PA Sewage Facilities Act, Act of January 24, 1966 as amended, 35 P.S. § 750.1, et seq. Repealed in Part. Section 15 of Act 1990, July 1, repealed this section insofar as it relates to fee payments.

PA Solid Waste-Resource Recovery Development Act, Act of July 20, 1974, as amended, 35 P.S. §755.1, et seq.

(Related to pollution from abandoned coal mines), Act of December 15, 1965 as amended, 35 P.S. §760.1, et seq.

Low-Level Radioactive Waste Disposal Act, Act of February 9, 1988, as amended, 35 P.S. § 7130.101, et seq.

(Related to Camp Regulation), Act of November 10, 1959 as amended 35 P.S. § 3001, et seq.

Air Pollution Control Act, Act of January 8, 1960, as amended 35 P.S. § 4001, et seq.

Solid Waste Management Act, Act of July 7, 1980 as amended, 35 P.S. § 6018.101, et seq. *Repealed in Part.* Section 905(b) of Act 1988, Feb. 9, the Low-Level Radioactive Waste Disposal Act (35 P.S. § 7130.101, et seq.), repealed this section insofar as it is inconsistent with said act.

Radiation Protection Act, Act of July 10, 1984, as amended, 35 P.S. 7110.101, et seq. *Repealed in Part.* Section 17(b) of Act 1992, Dec. 18, provides that this section is repealed insofar as it is inconsistent with said act. Section 6(3) of 2007, July 13, P.L. 95, No. 31, imd. Effective, provides that “[a]ll other acts and parts of acts are repealed insofar as they are inconsistent with this act.

Worker and Community Right-to-Know Act, Act of October 5, 1984 as amended, 35 P.S. § 7301, et seq.

#### **IX. Purdon's Statutes - Title 36 (Highways and Bridges)**

State Highway Law, Act of June 1, 1945, as amended, 36 P.S. § 670-101, et seq. *Repealed in Part.* Section 4 of Act 1985, July 3, repealed this act insofar as it's inconsistent with said act.

Junkyards and Automotive Recycler Screen Law, Act of July 28, 1966, as amended, 36 P.S. § 2719.1, et seq.

Highway Vegetation Control Act of December 20, 1983 as amended, 36 P.S. § 2720.1, et seq.

#### **X. Purdon's Statutes – Title 37 APPENDIX (Historical & Museums)**

History Code, Act of May 26, 1988, as amd, 37 Pa.C.S.A. § 101, et seq.

#### **XI. Purdon's Statutes - Title 43 (Labor)**

General Safety Law

(Related to General Safety), Act of May 18, 1937, as amended, 43 P.S. § 25-1, et seq.

Seasonal Farm Labor Act, Act of June 23, 1978, as amended, 43 P.S. § 1301.101, et seq.

#### **XII. Purdon's Statutes - Title 52 (Mines and Mining)**



Coal Refuse Disposal Control Act of September 24, 1968, as amended, 52 P.S. § 30.51, et seq.

Surface Mine Land Acquisition & Reclamation Law

(Related to Coal Land Improvement), Act of July 19, 1965, as amended, 52 P.S. § 30.101, et seq.

Mine Fire and Subsidence Remedial Project Indemnification Law

(Related to Mine Fires & Subsidence), Act of April 3, 1968, as amd. 52 P.S. § 30.201, et seq.

PA Anthracite Coal Mine Act, Act of November 10, 1965 as amended, 52 P.S. § 70-101, et seq.

(Related to discharge of coal into streams), Act of June 27, 1913 as amended, 52 P.S. § 631, et seq.

(Caving-in, Collapse, Subsidence), Act of May 27, 1921, as amended, 52 P.S. § 661, et seq.

Anthracite Coal Mining Regulation Law

(Related to Subsidence), Act of September 20, 1961 as amended, 52 P.S. § 672.1, et seq.

Anthracite Strip Mining and Conservation Act, Act of June 27, 1947 as amended, 52 P.S. § 681.1, et seq. Repealed in Part. Section 16 of Act 1971, Nov. 30, provided that this section repealed insofar as it is inconsistent with Act No. 147.

Anthracite Mine Drainage Law

(Related to control and drainage of water from coal formations), Act of July 7, 1955 as amended, 52 P.S. § 682, et seq.

Bituminous Coal Mine Safety Act, Act of July 7, 2008, 52 P.S. § 690-101, et seq.

(Related to Abandoned Mines – abandoned mines; sealing entries and air shafts), Act of May 7, 1935, as amended, 52 P.S. § 809, et seq.

(Related to maps and plans of mines), Act of June 15, 1911, as amended, 52 P.S. § 823.

Surface Mining Conservation and Reclamation Act, Act of May 31, 1945 as amended, 52 P.S. § 1396.1 et seq. Repealed in Part. Section 27 of Act 1984, Dec. 19, provides that, except as provided in

§ 3304 of this title, this section “is repealed to the extent that it applies to the surface mining of minerals other than bituminous and anthracite coal.”

The Bituminous Mine Subsidence and Land Conservation Act, Act of April 27, 1966, as amended, 52

P.S. § 1406.1, et seq. Bituminous Mine Subsidences in Counties of the Second Class. (Related to cave-in or subsidence of surface above mines), Act of July 2, 1937, as amended, 52 P.S. § 1407, et seq.

(Related to Coal Stripping – Coal stripping Operation Defined), Act of June 18, 1941 as amended, 52 P.S.

§ 1471, et seq.

(Related to Coal under State Lands – Easements and Rights of Way), Act of June 1, 1933 as amended, 52

P.S. § 1501, et seq.

(Related to Mining Safety Zones – Establishment of Safety Zones), Act of Dec. 22, 1959 as amended, 52

P.S. § 3101, et seq. *Repealed in Part* – Act 1959, Dec. 22, P.L. 1994, No. 729 [52 P.S. §§3101 TO 3109], is repealed to the extent applicable to bituminous coal mines by 2008, July 7, P.L. 654, No. 55,

§3101(b)(3), effective in 180 days [Jan. 5, 2009]

(Coal and Clay Mine Coal Subsidence Insurance Fund Law), Act of August 23, 1961 as amended, 52 P.S.

§ 3201, et seq.

Interstate Mining Compact, Act of May 5, 1966 as amended, 52 P.S. § 3251, et seq.

Noncoal Surface Mining Conservation and Reclamation Act, Act of December 19, 1984, as amended, 52

P.S. § 3301, et seq.

### **XIII. Purdon's Statutes - Title 58 (Oil and Gas)**

Oil and Gas Conservation Law, Act of July 25, 1961 as amended, 58 P.S. § 401, et seq.

PA Used Oil Recycling Act, Act of April 9, 1982, as amended, 58 P.S. § 471, et seq.

Coal & Gas Resource Coord. Act, Act of Dec. 18, 1984, as amended, 58 P.S. § 501, et seq.

(Relates to oil and gas), Act of February 14, 2012, 58 Pa. C.S.A. § 3201, et seq.

#### **XIV. Purdon's Statutes Title 63 (Professions and Occupations)**

Water and Wastewater Systems Operators' Certification Act, Act of November 18, 1968 as amended, 63

P.S. § 1001, et seq.

#### **XV. Purdon's Statutes - Title 64 (Public Lands)**

PA Appalachian Trail Act, Act of April 28, 1978, as amended, 64 P.S. § 801, et seq.

#### **XVI. Purdon's Statutes - Title 71 (State Government)**

The Administrative Code of 1929, Act of April 9, 1929 as amended, 71 P.S. § 51, et seq.

#### **XVII. Purdon's Statutes - Title 72 (Taxation and Fiscal Affairs)**

Project 70 Land Acquisition and Borrowing Act, Act of June 22, 1964 as amended, 72 P.S. § 3946.1, et seq.

(Related to pollution control services), Act of March 4, 1971 as amended, 72 P.S. § 7602.1, et seq. Deleted Section 7602.5 by the Act 2000, May 24. Repealed in Part. Section 7602.3 of the Act 2007, Dec. 18, was repealed to effectuate the enactment of 35 P.S. § 6021.4.

#### **XVIII. Purdon's Statutes - Title 73 (Trade and Commerce)**

Infrastructure Development Act, Act of July 11, 1996, as amended, 73 P.S. § 393.21, et seq.

(Related to Explosives), Act of July 1, 1937 as amended, 73 P.S. § 151, et seq.; *Suspended in Part.* This section is suspended insofar as it is in conflict with the provisions of Reorganization Plan No. 8 of 1981. See 71 P.S. § 751-35.

(Related to Explosives), Act of July 10, 1957 as amended, 73 P.S. § 164, et seq. *Suspended in Part.* Section 164 is suspended insofar as it is in conflict with the provisions of Reorganization Plan No. 8 of 1981. See 71 P.S. § 751-35.

Purchase of Black Powder in Contiguous States

(Related to Black Powder), Act of May 31, 1974, 73 P.S. § 169 et seq.

(Related to excavation and demolition), Act of Dec.10, 1974 as amended, 73 P.S. § 176, et seq.

#### **XIX. Purdon's Statutes - Title 75 (Vehicles)**

Vehicle Code, Act of June 17, 1976, as amended., 75 Pa. C.S.A. § 101, et seq.

Snowmobile and All-Terrain Vehicle Law, Act of June 17, 1976, as amended, 75 Pa. C.S.A. § 7701, etseq.

(Related to hazardous materials transportation), Act of June 30, 1984, 75 Pa. C.S.A. § 8301, et seq.

#### **XX. Purdon's Statutes - Title 77 (Workmen's Compensation)**

Workers' Compensation Act, Act of June 2, 1915 as amended, 77 P.S. § 1, et seq.

PA Occupational Disease Act, Act of June 21, 1939, as amended, 77 P.S. § 1201, et seq.

#### **XXI. Other Statutes**

Infectious and Chemotherapeutic Waste Disposal

(Relating to Medical Waste-Manifesting and Transporter Licensing), Act of July 13, 1988, 35 P.S. §6019.1, et seq.

Municipal Waste Planning, Recycling and Waste Reduction Act, Act of July 28, 1988, 53 P.S. §4000.1501.

Hazardous Sites Cleanup Act, Act of October 18, 1988, 35 P.S. § 6020.101. Repealed insofar as inconsistent with the Hazardous Sites Cleanup Fund Funding Act, 35 P.S. § 6021.1 ET SEQ., PURSUANT TO 2007, Dec. 18, P.L. 486, No. 77, § 18(b) imd. effective

#### **XXII. Pennsylvania Constitution - Article I, Section 27 (Adopted May**

##### **18, 1971)FEDERAL LAW**

Acid Precipitation Act of 1980 (42 U.S.C. § 8901-8912).

Act to Prevent Pollution from Ships (33 U.S.C. § 1901-1915).

Americans with Disabilities Act of 1990, (42 U.S.C. § 12101-12213 and 47 U.S.C. § 225 and 611). Asbestos Hazard Emergency Response Act of 1986 [see Toxic Substances Control Act secs. 201-214 (15U.S.C. § 2641-2656)].

Atomic Energy Act of 1954 (42 U.S.C. § 2014, 2021, 2021a, 2022, 2111, 2113, 2114).

Aviation Safety and Noise Abatement Act of 1979 (49 U.S.C. § 47501-47510).

Clean Air Act (42 U.S.C. § 7401-7642).

Clean Water Act [see Federal Water Pollution Control Act]. Coastal Zone Management Act of 1972 (16 U.S.C. § 1451-1466).

Comp. Env. Response, Compensation, and Liability Act of 1980 (42 U.S.C. § 9601-9675). Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C. § 11001-11050). Energy Supply and Environmental Coordination Act of 1974 (15 U.S.C. § 791-798).

Environmental Quality Improvement Act of 1970 (42 U.S.C. § 4371-4375). Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. § 136-136y). Federal Land Policy and Management Act of 1976 (43 U.S.C. § 1701-1784). Federal Water Pollution Control Act (33 U.S.C. § 1251-1387).

Geothermal Energy R& Development, Demonstration Act of 1974 (30 U.S.C. § 1101-1164). Global Climate Protection Act of 1987 (15 U.S.C. § 2901 note).

Hazardous Substance Response Revenue Act 1980 (see 26 U.S.C. § 4611, 4612, 4661, 4662). Low-Level Radioactive Waste Policy Act (42 U.S.C. § 2021b-2021d).

Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. § 1401-1445). National Climate Program Act (15 U.S.C. § 2901-2908).

National Environmental Policy Act of 1969 (42 U.S.C. § 4321-4370h). Noise Control Act of 1972 (42 U.S.C. § 4901-4918).

Nuclear Waste Policy Act of 1982 (42 U.S.C. § 10101-10270).

Outer Continental Shelf Land Act Amendments of 1978 (43 U.S.C. § 1801-1866). Public Health Service Act (42 U.S.C. § 300f-300j-11).

Safe Drinking Water Act [ Public Health Service Act 1401-1451 (42 U.S.C. § 300f-300j-26)]. Soil and Water Resources Conservation Act of 1977 (16 U.S.C. § 2001-2009).

Solid Waste Disposal Act (42 U.S.C. § 6901-6991i).

Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. § 1201-1328). Toxic Substances Control Act (15 U.S.C. § 2601-2695d).

Uranium Mill Tailings Radiation Control Act of 1978 (42 U.S.C. § 7901-7942). Water Resources Research Act of 1984 (42 U.S.C. § 10301-10309).

## **EQUAL EMPLOYMENT OPPORTUNITIES:**

In accordance with Pa. Stat. Ann. tit. 55, § 697.16, the nondiscrimination and contract compliance plans used by the Authority are required to be the same as those used by the Commonwealth's Department of General Services.

1. During the term of the Contract, the Contractor agrees to comply with the following "nondiscrimination clause":
  - a. The Contractor shall not discriminate against any employee, applicant for employment, independent contractor, or any other person because of race, color, religious creed, ancestry, national origin, age, or sex. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees or agents are treated during employment, without regard to their race, color, religious creed, ancestry, national origin, age, or sex. Such affirmative action shall include, but is not limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training. The Contractor shall post in conspicuous places, available to employees, agents, applicants for employment and other persons, a notice setting forth the provisions of this non discrimination clause.
  - b. The Contractor shall in advertisements or requests for employment placed by it or on its behalf state that all qualified applicants will receive consideration for employment without regard to race, color, religious creed, ancestry, national origin, age, or sex.
  - c. The Contractor shall send each labor union or workers' representative with which it has a collective bargaining agreement or other contract or understanding, a notice advising said labor union or workers' representative of its commitment to this nondiscrimination clause. Similar notice shall be sent to every other source of recruitment regularly utilized by the Contractor.
  - d. It shall be no defense to a finding of noncompliance with the Contract Compliance Regulations (the "Contract Compliance Regulations", I 6 Pa. Code Chapter 49) issued by the Pennsylvania Human Relations Commission (the "Commission") or with the terms and provisions of this nondiscrimination clause that the Contractor had delegated some of its employment practices to any union, training program, or other source of recruitment which prevents it from meeting its obligations. However, if the evidence indicates that the Contractor was not on notice of the third-party discrimination or made a good faith effort to correct such discrimination, such factor shall be considered in mitigation in determining appropriate sanctions.
  - e. Where the practices of a union or any training program or other source of recruitment will result in the exclusion of minority group persons, so that the Contractor will be unable to meet its obligations under the Contract Compliance Regulations or pursuant to the terms and provisions of this nondiscrimination clause, the Contractor shall then employ and fill vacancies through other nondiscriminatory employment procedures.
  - f. The Contractor shall comply with the Contract Compliance Regulations, which are incorporated herein by reference as if fully set forth herein, and with all laws prohibiting discrimination in hiring or employment opportunities. In the event of the Contractor's noncompliance with the terms and provisions of this nondiscrimination clause

or with any such laws, the Contractor may, after hearing and adjudication, be terminated or suspended, in whole or in part, and the Contractor may be declared temporarily ineligible for other contracts with agencies of the Commonwealth, and such other sanctions may be imposed and remedies invoked as provided by the Contract Compliance Regulations.

- g. The Contractor shall furnish to the Authority and the Commission, all necessary employment documents and records and shall permit access by the Authority and the Commission to the Contractor's books, records, and accounts, for purposes of investigation to ascertain compliance with the provisions of the Contract Compliance Regulations. If the Contractor does not possess documents or records reflecting the necessary information requested, it shall furnish such information on reporting forms supplied by the Authority or the Commission.
  - h. The Contractor shall actively recruit minority Subcontractors and Subcontractors with substantial minority representation among their employees. The Contractor shall comply with its obligations under the Diversity Inclusion Plan, including specifically the periodic submittal of forms and reports;
  - i. The Contractor shall include the provisions of this nondiscrimination clause in every subcontract, so that such provisions will be binding upon each Subcontractor.
  - j. The terms used in this nondiscrimination clause shall have the same meanings as used in the Contract Compliance Regulations.
  - k. The Contractor's obligations under this nondiscrimination clause are limited to the Contractor's facilities within the Commonwealth, or, where the Contract is for the purchase of goods manufactured outside of the Commonwealth, the facilities at which such goods are actually produced.
2. It is hereby agreed that any failure to comply with the foregoing nondiscrimination clause shall constitute a substantial breach of the Contract. It is further agreed that in the event the Authority, or the Commission if the Commission assumes sole responsibility for the determination of the compliance status of the Contractor, determines after a hearing and adjudication that the Contractor or any Subcontractor or any person acting on behalf of the Contractor or of any Subcontractor hereunder, has failed to comply with any of the provisions of the foregoing nondiscrimination clause, the Authority or the Commission may provide for the fixed-period suspension of the remaining obligations under the Contract pending compliance by the Contractor with the Contract Compliance Regulations; provided that the failure of the Contractor to comply with the adjudication within the fixed-period stated in the order, but not fewer than thirty (30) Days, shall be considered a material breach and shall give the Commonwealth the right to bring an action against the Contractor and the surety on the Contractor's bond to recover expenses incurred in reletting the contract, delay in performance, or other verifiable damages.

#### **NONDISCRIMINATION / SEXUAL HARASSMENT CLAUSE**

##### **The Contractor agrees:**

1. In the hiring of any employee(s) for the manufacture of supplies, performance of work, or any other activity required under the contract or any subcontract, the Contractor, each subcontractor, or any person acting on behalf of the Contractor or subcontractor shall not discriminate by reason of race,

gender, creed, color, sexual orientation, gender identity or expression, or in violation of the *Pennsylvania Human Relations Act* (PHRA) and applicable federal laws, against any citizen of this commonwealth who is qualified and available to perform the work to which the employment relates.

2. Neither the Contractor nor any subcontractor nor any person on their behalf shall in any manner discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the PHRA and applicable federal laws, against or intimidate any employee involved in the manufacture of supplies, the performance of work, or any other activity required under the contract.
3. Neither the Contractor nor any subcontractor nor any person on their behalf shall in any manner discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the PHRA and applicable federal laws, in the provision of services under the contract.
4. Neither the Contractor nor any subcontractor nor any person on their behalf shall in any manner discriminate against employees by reason of participation in or decision to refrain from participating in labor activities protected under the *Public Employee Relations Act*, *Pennsylvania Labor Relations Act* or *National Labor Relations Act*, as applicable and to the extent determined by entities charged with such Acts' enforcement, and shall comply with any provision of law establishing organizations as employees' exclusive representatives.
5. The Contractor and each subcontractor shall establish and maintain a written nondiscrimination and sexual harassment policy and shall inform their employees in writing of the policy. The policy must contain a provision that sexual harassment will not be tolerated and employees who practice it will be disciplined. Posting this Nondiscrimination/Sexual Harassment Clause conspicuously in easily-accessible and well lighted places customarily frequented by employees and at or near where the contracted services are performed shall satisfy this requirement for employees with an established work site.
6. The Contractor and each subcontractor shall not discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of PHRA and applicable federal laws, against any subcontractor or supplier who is qualified to perform the work to which the contract relates.
7. The Contractor and each subcontractor represents that it is presently in compliance with and will maintain compliance with all applicable federal, state, and local laws, regulations and policies relating to nondiscrimination and sexual harassment. The Contractor and each subcontractor further represents that it has filed a Standard Form 100 Employer Information Report ("EEO-1") with the U.S. Equal Employment Opportunity Commission ("EEOC") and shall file an annual EEO-1 report with the EEOC as required for employers' subject to Title VII of the Civil Rights Act of 1964, as amended, that have 100 or more employees and employers that have federal government contracts or first-tier subcontracts and have 50 or more employees. The Contractor and each subcontractor shall, upon request and within the time periods requested by the commonwealth, furnish all necessary employment documents and records, including EEO-1 reports, and permit access to their



books, records, and accounts by the contracting agency and the Bureau of Diversity, Inclusion and Small Business Opportunities for purpose of ascertaining compliance with provisions of this Nondiscrimination/Sexual Harassment Clause.

8. The Contractor shall include the provisions of this Nondiscrimination/Sexual Harassment Clause in every subcontract so that those provisions applicable to subcontractors will be binding upon each subcontractor.
  - a. The Contractor's and each subcontractor's obligations pursuant to these provisions are ongoing from and after the effective date of the contract through the termination date thereof. Accordingly, the Contractor and each subcontractor shall have an obligation to inform the commonwealth if, at any time during the term of the contract, it becomes aware of any actions or occurrences that would result in violation of these provisions.
9. The commonwealth may cancel or terminate the contract and all money due or to become due under the contract may be forfeited for a violation of the terms and conditions of this Nondiscrimination/Sexual Harassment Clause. In addition, the agency may proceed with debarment or suspension and may place the Contractor in the Contractor Responsibility File.

#### **PUBLIC WORKS EMPLOYMENT VERIFICATION ACT**

The Contractor is hereby notified that this contract is for a public work and the Contractor is therefore subject to the provisions, duties, obligations, remedies and penalties of the Public Works Employment Verification Act, 43 P.S. §§167.1-167.11, which is incorporated herein by reference as if fully set forth herein. Contractors subject to said Public Works Employment Verification Act are required to utilize the Federal E-Verify program to verify the employment eligibility of each new employee hired after January 1, 2013 and to submit to the Public Works Employment Verification Form available on the Department's web site at [www.dgs.pa.gov](http://www.dgs.pa.gov).

#### **RECIPROCAL LIMITATIONS ACT**

The Work on this Project must be performed in accordance with the Reciprocal Limitations Act. This Act requires PhilaPort:

1. In the award of contracts, exceeding \$10,000 for the erection, construction, alteration, improvement or repair of any building or other public work, or the purchase or lease of any goods, supplies, equipment, printing or materials, to give resident bidders a preference against a nonresident bidder from any state that gives or requires a preference to bidder from that state. The amount of the preference shall be equal to the amount of the preference applied by the state of the nonresident bidder. A resident bidder is a person, partnership or corporation or other business entity authorized to transact business in Pennsylvania and having a bona fide establishment for transacting business within Pennsylvania at which it was transacting business on the date when bids for the public contract were first solicited.
2. In the erection, construction, alteration, improvement or repair of any public building or other

public work, and in all purchases of goods, supplies, equipment, printing or materials, not to specify, use or purchase any goods, supplies, equipment, printing or materials which are produced, manufactured, mined, grown or performed in any state that prohibits the specification for, use, or purchase of such items in or on its public building or other works, when such items are not produced, manufactured, mined, grown or performed in such state.

3. List of Discriminating States

States which apply preference favoring in-state bidders for supplies and the amount of such preference, (that may affect this contract), as found by PhilaPort:

STATE	PREFERENCE
Alaska	7% (timber, lumber and manufactured lumber products originating in the state)
Arizona	5% (construction materials produced or manufactured in the state only)
Hawaii	10%
Illinois	10% (coal only)
Iowa	5% (coal only)
Louisiana	10% (steel rolled in Louisiana) 7% (all other products)
Montana	3% (for non-residents offering in-state goods, supplies, equipment and materials)
New Mexico	5%
Oklahoma	5%
Virginia	4% (coal only)
Washington	5% (fuels mined or produced in the state only)
Wyoming	5%

d. States which apply preference favoring in-state bidders and the amount of such preference, (that may affect this contract), as found by PhilaPort:

STATE	PREFERENCE
Alaska	7% (supplies only)

Arizona	5% (construction materials from Arizona resident dealers only)
California	5% (for supply contracts only in excess of \$100,000.00)
Connecticut	10% (supplies only)
Montana	3%
New Mexico	5% (supplies only)
South Carolina	2% (under \$2,500,000.00) 1% (over \$2,500,000.00)
	this preference does not apply to construction contracts nor where the price of a single unit exceeds \$10,000.00
West Virginia	2.5% for construction, repair of improvements of any buildings
Wyoming	5%

e. States that prohibit the use of out-of-state goods, supplies, equipment, materials or printing and the prohibition that may affect this contract as found by PhilaPort:

STATE	PROHIBITION
Georgia	Forest products only
Indiana	Coal
New Jersey	For bidders for the following items: major household appliances, chain link fence, portable sanitation units, glass, glazier supplies, storage batteries, carpet and cushion, shades, room air conditioning, electrical supplies, plumbing supplies, hardware supplies, fasteners, lumber, building supplies, audio-visual/video equipment, fire extinguishers, fire hose, motor oils, fuel oil, photographic supplies, Venetian blinds, drapes, paper towel dispensers, water hose
New Mexico	Construction

f. Calculation of Preferences – In calculating the preference, the amount of a bid submitted by a Pennsylvania bidder shall be reduced by the percentage preference that would be given to a nonresident bidder by its state of residence. Similarly, the amount of a bid offering Pennsylvania goods, supplies, equipment, materials and printing shall be reduced by the percentage preference which would be given to another bidder by the state where the goods, supplies, equipment, materials or printing are produced, manufactured, mined, grown or performed.

**RIGHT TO KNOW LAW**

1. The Pennsylvania Right-to-Know Law, 65 P.S. §§ 67.101-3104, (“RTKL”) applies to this Contract. For the purpose of these provisions, the term “the Commonwealth” shall refer to

the contracting Commonwealth agency.

2. If the Commonwealth needs the Contractor's assistance in any matter arising out of the RTKL related to this Contract, it shall notify the Contractor using the legal contact information provided in this Contract. The Contractor, at any time, may designate a different contact for such purpose upon reasonable prior written notice to the Commonwealth.
3. Upon written notification from the Commonwealth that it requires the Contractor's assistance in responding to a request under the RTKL for information related to this Contract that may be in the Contractor's possession, constituting, or alleged to constitute, a public record in accordance with the RTKL ("Requested Information"), the Contractor shall:
  - a. Provide the Commonwealth, within ten (10) calendar days after receipt of written notification, access to, and copies of, any document or information in the Contractor's possession arising out of this Contract that the Commonwealth reasonably believes is Requested Information and may be a public record under the RTKL; and
  - b. Provide such other assistance as the Commonwealth may reasonably request, in order to comply with the RTKL with respect to this Contract.
4. If the Contractor considers the Requested Information to include a request for a Trade Secret or Confidential Proprietary Information, as those terms are defined by the RTKL, or other information that the Contractor considers exempt from production under the RTKL, the Contractor must notify the Commonwealth and provide, within seven (7) calendar days of receiving the written notification, a written statement signed by a representative of the Contractor explaining why the requested material is exempt from public disclosure under the RTKL.
5. The Commonwealth will rely upon the written statement from the Contractor in denying a RTKL request for the Requested Information unless the Commonwealth determines that the Requested Information is clearly not protected from disclosure under the RTKL. Should the Commonwealth determine that the Requested Information is clearly not exempt from disclosure, the Contractor shall provide the Requested Information within five (5) business days of receipt of written notification of the Commonwealth's determination.
6. If the Contractor fails to provide the Requested Information within the time period required by these provisions, the Contractor shall indemnify and hold the Commonwealth harmless for any damages, penalties, costs, detriment or harm that the Commonwealth may incur as a result of the Contractor's failure, including any statutory damages assessed against the Commonwealth.
7. The Commonwealth will reimburse the Contractor for any costs associated with complying with these provisions only to the extent allowed under the fee schedule established by the Office of Open Records or as otherwise provided by the RTKL if the fee schedule is inapplicable.
8. The Contractor may file a legal challenge to any Commonwealth decision to release a record to the public with the Office of Open Records, or in the Pennsylvania Courts, however, the Contractor shall indemnify the Commonwealth for any legal expenses incurred by the Commonwealth as a result of such a challenge and shall hold the Commonwealth harmless for

any damages, penalties, costs, detriment or harm that the Commonwealth may incur as a result of the Contractor's failure, including any statutory damages assessed against the Commonwealth, regardless of the outcome of such legal challenge. As between the parties, the Contractor agrees to waive all rights or remedies that may be available to it as a result of the Commonwealth's disclosure of Requested Information pursuant to the RTKL.

9. The Contractor's duties relating to the RTKL are continuing duties that survive the expiration of this Contract and shall continue as long as the Contractor has Requested Information in its possession.

### **SOVEREIGN IMMUNITY AND COMMONWEALTH HELD HARMLESS**

Nothing in this RFP or Agreement between the Commonwealth and the Contractor shall be deemed to waive or otherwise affect the sovereign immunity of the Commonwealth and its agencies, officers, and employees, or to subject the Commonwealth party to any liability not expressly authorized by law. The Contractor shall indemnify and hold harmless the Commonwealth from and against all claims, damages, losses and expenses, including attorneys' fees arising out of or resulting from the performance of the Work or services, provided that any such claim, damage, loss or expense is:

1. Attributable to bodily injury, sickness, disease or death or to injury to or destruction of tangible property, including the loss of use resulting therefrom; and
2. Caused in whole or in part by any negligent act or omission of the Contractor or any subcontractor.

Pursuant to the Commonwealth Attorneys Act 71 P.S. § 732-101, et. seq., the Office of Attorney General (OAG) has the sole authority to represent the Commonwealth in actions brought against the Commonwealth. The OAG may, however, in its sole discretion and under such terms as it deems appropriate, delegate its right of defense. If OAG delegates the defense to the Contractor, the Commonwealth will cooperate with all reasonable requests of Contractor made in the defense of such suits.

Notwithstanding the above, the Contractor shall not enter into any settlement without the Commonwealth's written consent, which shall not be unreasonably withheld. The Commonwealth may, in its sole discretion, allow the Contractor to control the defense and any related settlement negotiations.

In any and all claims against the Commonwealth by any employee of the Contractor or any subcontractor, the indemnification obligations under this Section shall not be limited on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any subcontractor under Worker's Compensation Acts, Disability Benefit Acts, or other employee benefit Acts.

### **TAX OFFSET PROVISION**

The Contractor, by execution of the DBC Contract:

1. Certifies that the Contractor has no outstanding tax liability to the Commonwealth of Pennsylvania;
2. Authorizes the Department of Revenue to release information related to its tax

liability to the Department of General Services; and

3. Authorizes the Commonwealth to set off any state and local tax liabilities of the Contractor or any of its subsidiaries, as well as any other amount due to the Commonwealth from the Contractor, not being contested on appeal by the Contractor, against any payment due to the Contractor under a contract with the Commonwealth.
4. The certification of no outstanding tax liability is a material representation of fact upon which reliance is placed by the Department in entering into the contract. If it is later determined that the Contractor knowingly rendered an erroneous certification, the Department may find the Contractor in default and terminate the contract. Such erroneous certification may also be grounds for the initiation of civil or criminal proceedings.

### **TRADE PRACTICES ACT**

The Work on this Project must be performed in accordance with the Trade Practices Act. The Contractor shall not use, or permit to be used in the Work, any aluminum or steel products made in a foreign country that discriminates against aluminum or steel products manufactured in Pennsylvania. The countries of Brazil, South Korea, Spain, Mexico and Argentina have been found to discriminate against certain products manufactured in Pennsylvania. Therefore, the purchase or use of those countries' products, as listed below, is not permitted on this Project.

1. Brazil: welded carbon steel pipes and tubes; carbon steel wire rod; tool steel; certain stainless steel products, including hot-rolled stainless steel bar; stainless steel wire rod and cold-formed stainless steel bar; pre-stressed concrete steel wire strand; hot-rolled carbon steel plate in coil; hot-rolled carbon steel sheet and cold-rolled carbon steel sheet.
2. Spain: certain stainless steel products, including stainless steel wire rod, hot-rolled stainless steel bars and cold-formed stainless steel bars; pre-stressed concrete steel wire strand; certain steel products including hot-rolled steel plate, cold-rolled carbon steel plate, carbon steel structural shapes, galvanized carbon steel sheet; hot-rolled carbon steel bars and cold-formed carbon steel bars.
3. South Korea: welded carbon steel pipes and tubes; hot-rolled carbon steel plate and hot-rolled carbon steel sheet and galvanized steel sheet.
4. Mexico: certain iron-metal construction castings, including manhole covers, rings and frames, catch basin frames and grates, cleanout covers, grates, meter boxes, valve boxes; galvanized carbon steel sheet; cold-rolled carbon steel sheet; carbon steel plate in coil; carbon steel plate cut to length; and small diameter carbon steel plate welded pipe.
5. Argentina: carbon steel wire rod and cold-rolled carbon steel sheet.

Penalties for violation of this paragraph may be found in the Trade Practices Act. Penalties include becoming ineligible for Public Works projects for a period of three years.

## **BOND PROVISIONS**

Prior to the award of any contract, the contractor to be awarded must furnish the following bonds which shall become binding upon the award of the contract to the contractor.

1. A performance bond at 100 percent of the contract amount, conditioned upon the faithful performance of the contract in accordance with the plans, specifications and conditions of the contract. Such bond shall be solely for the protection of PhilaPort.
2. A payment bond at 100 percent of the contract amount. Such bond shall be solely for the protection of claimants supplying labor or materials to the prime contractor to whom the contract was awarded, or to any of its subcontractors, in the prompt payment of all such material furnished or labor supplied or performed in the prosecution of the work. "Labor or materials" include public utility services and reasonable rentals of equipment, but only for the periods when the equipment rented is actually used at the site.

## **PA PREVAILING WAGE PROVISION**

It shall be the duty of every public body that proposes the making of a contract for any project of public work to determine from the secretary the prevailing minimum wage rates which shall be paid by the contractor to the workmen upon such project. Reference to such prevailing minimum rates shall be published in the notice issued for the purpose of securing bids for such project of public work. Whenever any contract for a project of public work is entered into, the prevailing minimum wages as determined by the secretary shall be incorporated into and made a part of such contract and shall not be altered during the period such contract is in force.

Not less than the prevailing minimum wages as determined hereunder shall be paid to all workmen employed on public work.

Every contractor and subcontractor shall keep an accurate record showing the name, craft and the actual hourly rate of wage paid to each workman employed by him in connection with public work, and such record shall be preserved for two years from the date of payment. The record shall be open at all reasonable hours to the inspection of the public body awarding the contract and to the secretary.

## **PAYMENTS THROUGH AUTOMATED CLEARING HOUSE**

The Department will make all payments to the PhilaPort and its Contractors through an Automated Clearing House (ACH). PhilaPort and its Contractors, within ten (10) days of receiving the Contract, must include their ACH information in their user profile in the Commonwealth's PA Supplier Portal. PhilaPort and its Contractors will also be able to enroll to receive remittance information via electronic addenda and email

(e-Remittance). ACH and eRemittance information is available at [https:// www.budget.pa.gov/Services/For Vendors/Pages/ Direct-Deposit-and-e-Remittance.aspx](https://www.budget.pa.gov/Services/For Vendors/Pages/Direct-Deposit-and-e-Remittance.aspx).

PhilaPort and its Contractors must submit a unique invoice number with each invoice submitted. The unique invoice number will be listed on the Commonwealth of Pennsylvania's ACH remittance advice to enable the Contractor to properly apply the Project's payment to the invoice submitted.

It is PhilaPort and its Contractor's responsibility to ensure that the ACH information contained in SRM is accurate and complete. Failure to maintain accurate and complete information may result in delays in payment.



**APPENDIX N**

**FORM FOR SUBMISSION OF CONTRACT BOND**

**CONTRACT BOND**

KNOW ALL PERSONS BY THESE PRESENTS, That we the undersigned

COMPANY NAME: \_\_\_\_\_

COMPANY ADDRESS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

as Principal (the Construction Contractor)

and

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ a

Corporation organized and existing under the Laws of the State of \_\_\_\_\_ and authorized to transact business in Pennsylvania,

as Surety

jointly and severally hold and firmly bind ourselves, our heirs, executors, administrators, successors and assigns to Philadelphia Regional Port Authority ("PhilaPort"); as hereinafter set forth, in the full and just several sums of

(A) (Contract Amount:) \$\_\_\_\_\_ for faithful performance of the Construction Contract as designated in Paragraph "A" herein; and

(B) (Contract Amount:) \$\_\_\_\_\_ for payment of labor, material, equipment rental and public utility services as designated in Paragraph "B".

Sealed with our respective seals and dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

**WHEREAS**, the above Principal has entered into a Contract with PhilaPort dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, for (PhilaPort Project Number) \_\_\_\_\_, for the (Project Name) \_\_\_\_\_, at (Project Location) \_\_\_\_\_, Philadelphia, Pennsylvania.

upon certain terms and conditions in said Contract more particularly mentioned; and

**WHEREAS** the execution of this Contract Bond is one of PhilaPort's conditions of award and contract execution by the Commonwealth.

**NOW, THEREFORE**, the joint and several conditions of this obligation are such:

A. That, if the above Principal, as Contractor, shall well and faithfully do and perform the things agreed by it to be done and performed according to the terms of said Contract and General Conditions, including the plans and specifications therein referred to and made part thereof, and such alterations as may be made in said plans and specifications as therein provided and which are hereby made part of this Bond the same as though they were fully set forth herein, and shall indemnify and save harmless PhilaPort and all of its officers, agents and employees from any expense incurred through the failure of said Contractor to complete the Work as specified and for any damages growing out of the manner of performance of said Contract by said Contractor or its subcontractors, or its (or their) agents or servants, including, but not limited to, patent trademark and copyright infringements, then this part of this obligation shall be void; otherwise, it shall be and remain in full force and effect.

B. That, if the above Principal shall and will promptly pay or cause to be paid all sums of money, which may be due by the Principal or any of its Subcontractors to any person, co-partnership, association or corporation, for all material furnished and labor supplied or performed in the prosecution of the Work, whether or not the said material or labor entered into and become component parts of the Work or improvements contemplated, and for rental of equipment used, and services rendered by public utilities in, or in connection with, the prosecution of such Work, then this part of this obligation shall be void; otherwise, it shall be and remain in full force and effect.

C. It is further agreed that any alterations, which may be made in the terms of the Contract or in the Work to be done, or materials to be furnished, or labor to be supplied or performed, or equipment to be rented, or public utility services to be rendered, or the giving by PhilaPort of any Extension of Time for the performance of the Contract, or the reduction of the retained percentage as permitted by the Contract, or any other forbearance on the part of either PhilaPort or the Principal to the other, shall not in any way release the Principal and the surety or sureties

or either or any of them, their heirs, executors, administrators, successors or assigns, from their liability hereunder, notice to the surety or sureties of any such alterations, extension or forbearance being hereby waived. The Principal and Surety hereby jointly and severally agree with PhilaPort herein that every person, co-partnership, association or corporation which, whether as subcontractor or as a person otherwise entitled to the benefits of this Bond, has furnished material or supplied or performed labor or rented equipment used in the prosecution of the Work as above provided and any public utility, which has rendered services, in, or in connection with, the prosecution of such Work, and, which has not been paid in full therefore, may sue in assumpsit on this Bond in his, hers, their, or its name and prosecute the same to final judgment for such sum or sums as may be justly due him, them, or its, and have execution thereon; provided, however, that PhilaPort shall not be liable for the payment of any costs or expenses of such suit to a third party under any theory of law or equity.

D. Recovery by any persons, co-partnership, association or corporation hereunder is subject to the provisions of the Act of May 15, 1998, P.L. 358, No. 57, 62 Pa. C.S §§101-4509, as amended, said Act is incorporated herein and made a part hereof, as fully and completely as though its provisions were fully and at length herein recited, except that, where said Act refers to the Commonwealth of Pennsylvania or a Department thereof, it is deemed to refer to PhilaPort.

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**IN WITNESS WHEREOF**, the said Principal and Surety have duly executed this Bond under seal the day and year above written.

**Contractor:**

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Principal – Individual

\_\_\_\_\_  
Contractor’s Signature

\_\_\_\_\_  
Surety

\_\_\_\_\_  
Attorney-in-Fact

**APPENDIX O**

**WAGE RATES**

**THIS PROJECT IS SUBJECT TO BOTH PA PREVAILING WAGE RATES AND FEDERAL  
DAVIS-BACON WAGE RATES.**

**THE HIGHER OF THE TWO RATES SHALL PREVAIL.**

**APPENDIX O**

**PA PREVAILING WAGE AND DAVIS BACON WAGE DETERMINATION**

PHILAPORT IS PROVIDING BOTH PA PREVAILING WAGE AND DAVIS BACON WAGE RATES  
AS PART OF THIS APPENDIX

NOTE: THE HIGHER OF THE TWO RATES WILL APPLY TO THIS PROJECT

## **PA PREVAILING WAGES**



**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

Project Name:	Design-Build - PhilaPort Temperature Controlled Warehouse
Awarding Agency:	PhilaPort
Contract Award Date:	9/30/2023
Serial Number:	23-05218
Project Classification:	Building
Determination Date:	6/6/2023
Assigned Field Office:	Philadelphia
Field Office Phone Number:	(215)560-1858
Toll Free Phone Number:	
Project County:	Philadelphia County

**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

<b>Project: 23-05218 - Building</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Asbestos & Insulation Workers	5/1/2021		\$54.35	\$39.95	\$94.30
Asbestos & Insulation Workers	6/1/2023		\$57.84	\$43.36	\$101.20
Boilermaker (Commercial, Institutional, and Minor Repair Work)	1/1/2019		\$29.26	\$18.48	\$47.74
Boilermakers	1/1/2023		\$51.27	\$35.30	\$86.57
Bricklayer	5/1/2023		\$47.50	\$31.61	\$79.11
Carpenter - Chief of Party (Surveying & Layout)	5/1/2023		\$60.54	\$29.27	\$89.81
Carpenter - Chief of Party (Surveying & Layout)	5/1/2024		\$62.83	\$29.27	\$92.10
Carpenter - Chief of Party (Surveying & Layout)	5/1/2025		\$65.14	\$29.27	\$94.41
Carpenter - Instrument Person (Surveying & Layout)	5/1/2023		\$52.64	\$29.27	\$81.91
Carpenter - Instrument Person (Surveying & Layout)	5/1/2024		\$54.64	\$29.27	\$83.91
Carpenter - Instrument Person (Surveying & Layout)	5/1/2025		\$56.64	\$29.27	\$85.91
Carpenter - Rodman (Surveying & Layout)	5/1/2023		\$26.32	\$20.87	\$47.19
Carpenter - Rodman (Surveying & Layout)	5/1/2024		\$27.32	\$20.87	\$48.19
Carpenter - Rodman (Surveying & Layout)	5/1/2025		\$28.32	\$20.87	\$49.19
Carpenters	5/1/2023		\$52.64	\$29.27	\$81.91
Carpenters	5/1/2024		\$54.64	\$29.27	\$83.91
Carpenters	5/1/2025		\$56.64	\$29.27	\$85.91
Cement Finishers & Plasterers	5/1/2022		\$41.97	\$32.40	\$74.37
Cement Masons	5/1/2023		\$44.20	\$32.96	\$77.16
Dockbuilder, Pile Drivers	5/1/2023		\$50.48	\$37.99	\$88.47
Dockbuilder, Pile Drivers	5/1/2024		\$52.98	\$37.99	\$90.97
Dockbuilder, Pile Drivers	5/1/2025		\$55.23	\$37.99	\$93.22
Dockbuilder, Pile Drivers	5/1/2026		\$56.98	\$37.99	\$94.97
Dockbuilder/Pile Driver Diver	5/1/2023		\$58.41	\$41.74	\$100.15
Dockbuilder/Pile Driver Diver	5/1/2024		\$61.54	\$41.74	\$103.28
Dockbuilder/Pile Driver Diver	5/1/2025		\$64.35	\$41.74	\$106.09
Dockbuilder/Pile Driver Diver	5/1/2026		\$66.54	\$41.74	\$108.28
Dockbuilder/pile driver tender	5/1/2023		\$50.48	\$37.99	\$88.47
Dockbuilder/pile driver tender	5/1/2024		\$52.98	\$37.99	\$90.97
Dockbuilder/pile driver tender	5/1/2025		\$55.23	\$37.99	\$93.22
Dockbuilder/pile driver tender	5/1/2026		\$56.98	\$37.99	\$94.97
Drywall Finisher	5/1/2023		\$41.80	\$31.76	\$73.56
Electricians	5/1/2023		\$68.18	\$42.97	\$111.15
Elevator Constructor	1/1/2023		\$66.21	\$43.64	\$109.85
Floor Coverer	5/1/2023		\$54.74	\$29.46	\$84.20
Floor Coverer	5/1/2024		\$56.94	\$29.46	\$86.40
Glazier	5/1/2023		\$46.68	\$36.62	\$83.30
Interior Finish	5/1/2019		\$31.65	\$26.62	\$58.27
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	1/1/2023		\$50.70	\$39.51	\$90.21
Iron Workers (Riggers)	7/1/2017		\$41.78	\$27.92	\$69.70
Ironworker (Rodman)	7/1/2020		\$47.41	\$31.60	\$79.01
Laborer (Mason Tenders, Brick)	5/1/2017		\$29.77	\$26.00	\$55.77
Laborers (Class 01 - See notes)	5/1/2022		\$35.20	\$26.82	\$62.02

**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

<b>Project: 23-05218 - Building</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Laborers (Class 02 - See notes)	5/1/2022		\$36.70	\$27.00	\$63.70
Laborers (Class 03 - See notes)	5/1/2022		\$35.62	\$27.05	\$62.67
Laborers (Class 04 - See notes)	5/1/2022		\$35.62	\$27.05	\$62.67
Laborers (Class 05 - See notes)	5/1/2022		\$35.20	\$26.82	\$62.02
Landscape Laborer	5/1/2020		\$26.55	\$23.13	\$49.68
Marble Finisher	5/1/2023		\$39.52	\$29.30	\$68.82
Marble Mason	5/1/2023		\$47.20	\$31.95	\$79.15
Mason Tender, Cement	5/1/2019		\$32.07	\$26.85	\$58.92
Millwright	5/1/2023		\$51.60	\$35.81	\$87.41
Millwright	5/1/2024		\$54.67	\$35.81	\$90.48
Millwright	5/1/2025		\$57.39	\$35.81	\$93.20
Millwright	5/1/2026		\$60.20	\$35.81	\$96.01
Operators (Building, Class 01 - See Notes)	5/1/2023		\$52.20	\$32.81	\$85.01
Operators (Building, Class 01A - See Notes)	5/1/2023		\$55.20	\$33.70	\$88.90
Operators (Building, Class 02 - See Notes)	5/1/2023		\$51.95	\$32.74	\$84.69
Operators (Building, Class 02A - See Notes)	5/1/2023		\$54.97	\$33.61	\$88.58
Operators (Building, Class 03 - See Notes)	5/1/2023		\$47.87	\$31.53	\$79.40
Operators (Building, Class 04 - See Notes)	5/1/2023		\$47.57	\$31.44	\$79.01
Operators (Building, Class 05 - See Notes)	5/1/2023		\$45.85	\$30.93	\$76.78
Operators (Building, Class 06 - See Notes)	5/1/2023		\$44.85	\$30.65	\$75.50
Operators (Building, Class 07A- See Notes)	5/1/2023		\$63.33	\$37.68	\$101.01
Operators (Building, Class 07B- See Notes)	5/1/2023		\$63.04	\$37.59	\$100.63
Painters Class 1 (see notes)	5/1/2023		\$42.32	\$32.91	\$75.23
Painters Class 4 (see notes)	5/1/2023		\$44.41	\$32.91	\$77.32
Plasterers	5/1/2021		\$41.52	\$31.85	\$73.37
Plasterers	5/1/2023		\$42.97	\$32.65	\$75.62
Plumbers	5/1/2023		\$64.73	\$37.61	\$102.34
Pointers, Caulkers, Cleaners	5/1/2023		\$48.80	\$30.70	\$79.50
Roofers (Composition)	5/1/2023		\$42.63	\$34.62	\$77.25
Roofers (Shingle)	5/1/2021		\$30.50	\$21.55	\$52.05
Roofers (Slate & Tile)	5/1/2021		\$33.50	\$21.55	\$55.05
Sheet Metal Workers	5/1/2022		\$55.75	\$47.28	\$103.03
Sheet Metal Workers	5/1/2023		\$57.31	\$48.97	\$106.28
Sign Makers and Hangars	7/15/2022		\$30.54	\$24.35	\$54.89
Sprinklerfitters	1/1/2023		\$62.23	\$31.99	\$94.22
Steamfitters	5/1/2023		\$67.37	\$41.99	\$109.36
Stone Masons	5/1/2023		\$47.20	\$31.95	\$79.15
Terrazzo Finisher	5/1/2023		\$43.75	\$27.86	\$71.61
Terrazzo Grinder	5/1/2023		\$44.02	\$27.86	\$71.88
Terrazzo Mechanics	5/1/2023		\$50.26	\$29.56	\$79.82
Tile Finisher	5/1/2023		\$39.52	\$29.30	\$68.82
Tile Setter	5/1/2023		\$50.26	\$29.56	\$79.82
Truckdriver class 1(see notes)	5/1/2022		\$35.60	\$20.74	\$56.34
Truckdriver class 2 (see notes)	5/1/2022		\$35.70	\$20.74	\$56.44

**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

<b>Project: 23-05218 - Building</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Truckdriver class 3 (see notes)	5/1/2022		\$35.95	\$20.74	\$56.69
Window Film / Tint Installer	6/1/2019		\$24.52	\$12.08	\$36.60

**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

<b>Project: 23-05218 - Heavy/Highway</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Carpenter - Chief of Party (Surveying & Layout)	5/1/2023		\$63.24	\$29.06	\$92.30
Carpenter - Chief of Party (Surveying & Layout)	5/1/2024		\$65.19	\$29.06	\$94.25
Carpenter - Chief of Party (Surveying & Layout)	5/1/2025		\$67.15	\$29.06	\$96.21
Carpenter - Chief of Party (Surveying & Layout)	5/1/2026		\$69.10	\$29.06	\$98.16
Carpenter - Instrument Person (Surveying & Layout)	5/1/2023		\$54.99	\$29.06	\$84.05
Carpenter - Instrument Person (Surveying & Layout)	5/1/2024		\$56.69	\$29.06	\$85.75
Carpenter - Instrument Person (Surveying & Layout)	5/1/2025		\$58.39	\$29.06	\$87.45
Carpenter - Instrument Person (Surveying & Layout)	5/1/2026		\$60.09	\$29.06	\$89.15
Carpenter - Rodman (Surveying & Layout)	5/1/2023		\$43.99	\$22.41	\$66.40
Carpenter - Rodman (Surveying & Layout)	5/1/2024		\$45.35	\$22.41	\$67.76
Carpenter - Rodman (Surveying & Layout)	5/1/2025		\$46.71	\$22.41	\$69.12
Carpenter - Rodman (Surveying & Layout)	5/1/2026		\$48.07	\$22.41	\$70.48
Carpenter	5/1/2023		\$54.99	\$29.06	\$84.05
Carpenter	5/1/2024		\$56.69	\$29.06	\$85.75
Carpenter	5/1/2025		\$58.49	\$29.06	\$87.55
Carpenter	5/1/2026		\$60.19	\$29.06	\$89.25
Cement Masons	5/1/2023		\$43.20	\$32.91	\$76.11
Dockbuilder, Pile Drivers	5/1/2023		\$50.48	\$37.99	\$88.47
Dockbuilder, Pile Drivers	5/1/2024		\$52.98	\$37.99	\$90.97
Dockbuilder, Pile Drivers	5/1/2025		\$55.23	\$37.99	\$93.22
Dockbuilder, Pile Drivers	5/1/2026		\$56.98	\$37.99	\$94.97
Dockbuilder/Pile Driver Diver	5/1/2023		\$58.41	\$41.74	\$100.15
Dockbuilder/Pile Driver Diver	5/1/2024		\$61.54	\$41.74	\$103.28
Dockbuilder/Pile Driver Diver	5/1/2025		\$64.35	\$41.74	\$106.09
Dockbuilder/Pile Driver Diver	5/1/2026		\$66.54	\$41.74	\$108.28
Dockbuilder/pile driver tender	5/1/2023		\$50.48	\$37.99	\$88.47
Dockbuilder/pile driver tender	5/1/2024		\$52.98	\$37.99	\$90.97
Dockbuilder/pile driver tender	5/1/2025		\$55.23	\$37.99	\$93.22
Dockbuilder/pile driver tender	5/1/2026		\$56.98	\$37.99	\$94.97
Electric Lineman	5/30/2022		\$59.17	\$31.48	\$90.65
Electric Lineman	5/29/2023		\$60.48	\$32.77	\$93.25
Electric Lineman	6/3/2024		\$62.07	\$33.96	\$96.03
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	1/1/2023		\$50.70	\$39.51	\$90.21
Ironworker (Rodman)	7/1/2020		\$47.41	\$31.60	\$79.01
Laborers (Class 01 - See notes)	5/1/2022		\$36.30	\$27.20	\$63.50
Laborers (Class 02 - See notes)	5/1/2022		\$36.50	\$27.20	\$63.70
Laborers (Class 03 - See notes)	5/1/2022		\$36.50	\$27.20	\$63.70
Laborers (Class 04 - See notes)	5/1/2022		\$31.10	\$27.20	\$58.30
Laborers (Class 05 - See notes)	5/1/2022		\$37.15	\$27.20	\$64.35
Laborers (Class 06 - See notes)	5/1/2022		\$37.20	\$27.20	\$64.40
Laborers (Class 07 - See notes)	5/1/2022		\$37.05	\$27.20	\$64.25
Laborers (Class 08 - See notes)	5/1/2022		\$36.80	\$27.20	\$64.00
Laborers (Class 09 - See notes)	5/1/2022		\$36.65	\$27.20	\$63.85
Laborers (Class 10- See notes)	5/1/2022		\$36.80	\$27.20	\$64.00

**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

<b>Project: 23-05218 - Heavy/Highway</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Laborers (Class 11 -See Notes)	5/1/2022		\$36.70	\$27.20	\$63.90
Laborers (Class 12 -See Notes)	5/1/2022		\$38.40	\$27.20	\$65.60
Laborers (Class 13 -See Notes)	5/1/2022		\$40.43	\$27.20	\$67.63
Laborers (Class 14 -See Notes)	5/1/2022		\$36.55	\$27.20	\$63.75
Laborers Utility (PGW ONLY) (Flagperson)	5/1/2022		\$30.17	\$19.18	\$49.35
Laborers Utility (PGW ONLY)	5/1/2022		\$37.20	\$19.18	\$56.38
Landscape Laborer	5/1/2022		\$27.73	\$23.65	\$51.38
Millwright	5/1/2023		\$51.60	\$35.81	\$87.41
Millwright	5/1/2024		\$54.67	\$35.81	\$90.48
Millwright	5/1/2025		\$57.39	\$35.81	\$93.20
Millwright	5/1/2026		\$60.20	\$35.81	\$96.01
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2023		\$52.20	\$32.81	\$85.01
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2024		\$53.36	\$33.65	\$87.01
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2025		\$54.52	\$34.49	\$89.01
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2026		\$55.67	\$35.34	\$91.01
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2023		\$55.20	\$33.70	\$88.90
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2024		\$56.37	\$34.53	\$90.90
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2025		\$57.52	\$35.38	\$92.90
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2026		\$58.68	\$36.22	\$94.90
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2023		\$51.95	\$32.74	\$84.69
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2024		\$53.11	\$33.58	\$86.69
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2025		\$54.27	\$34.42	\$88.69
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2026		\$55.43	\$35.26	\$90.69
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2023		\$54.97	\$33.61	\$88.58
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2024		\$56.13	\$34.45	\$90.58
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2025		\$57.29	\$35.29	\$92.58
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2026		\$58.44	\$36.14	\$94.58
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2023		\$47.87	\$31.53	\$79.40
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2024		\$49.03	\$32.37	\$81.40
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2025		\$50.18	\$33.22	\$83.40
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2026		\$51.34	\$34.06	\$85.40

**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

<b>Project: 23-05218 - Heavy/Highway</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2023		\$47.57	\$31.44	\$79.01
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2024		\$48.73	\$32.28	\$81.01
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2025		\$49.88	\$33.13	\$83.01
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2026		\$51.04	\$33.97	\$85.01
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2023		\$45.85	\$30.93	\$76.78
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2024		\$47.00	\$31.78	\$78.78
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2025		\$48.16	\$32.62	\$80.78
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2026		\$49.32	\$33.46	\$82.78
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2023		\$44.85	\$30.65	\$75.50
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2024		\$46.02	\$31.48	\$77.50
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2025		\$47.17	\$32.33	\$79.50
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2026		\$48.34	\$33.16	\$81.50
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2023		\$63.33	\$37.68	\$101.01
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2024		\$64.80	\$38.61	\$103.41
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2025		\$66.26	\$39.55	\$105.81
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2026		\$67.73	\$40.48	\$108.21
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2023		\$63.04	\$37.59	\$100.63
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2024		\$64.50	\$38.53	\$103.03
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2025		\$65.97	\$39.46	\$105.43
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2026		\$67.44	\$40.39	\$107.83
Painters Class 2 (see notes)	2/1/2023		\$48.82	\$32.09	\$80.91
Painters Class 3 (see notes)	2/1/2023		\$59.78	\$32.13	\$91.91
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2022		\$64.57	\$40.28	\$104.85
Truckdriver class 1(see notes)	5/1/2022		\$35.45	\$20.74	\$56.19
Truckdriver class 2 (see notes)	5/1/2022		\$35.55	\$20.74	\$56.29
Truckdriver class 3 (see notes)	5/1/2022		\$35.80	\$20.74	\$56.54

**DAVIS BACON WAGES**

**Building**



"General Decision Number: PA20230003 06/02/2023

Superseded General Decision Number: PA20220003

State: Pennsylvania

Construction Type: Building

County: Philadelphia County in Pennsylvania.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<ul style="list-style-type: none"><li>. Executive Order 14026 generally applies to the contract.</li><li>. The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.</li></ul>
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	<ul style="list-style-type: none"><li>. Executive Order 13658 generally applies to the contract.</li><li>. The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.</li></ul>

The applicable Executive Order minimum wage rate will be

adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
1	01/13/2023
2	05/05/2023
3	06/02/2023

ASBE0014-001 05/01/2022

	Rates	Fringes
Asbestos Workers/Insulator Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems.....	\$ 56.65	40.65

BOIL0013-001 01/01/2023

	Rates	Fringes
BOILERMAKER.....	\$ 51.27	34.96

BRPA0001-006 05/01/2021

	Rates	Fringes
BRICKLAYER.....	\$ 45.45	30.16

BRPA0001-008 05/01/2022

	Rates	Fringes
TILE SETTER.....	\$ 48.81	29.32

BRPA0001-011 05/01/2022

Rates	Fringes
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MASON - STONE.....	\$ 45.90	31.20
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BRPA0001-015 05/01/2022		
	Rates	Fringes
Pointer, caulker and cleaner.....	\$ 47.75	29.70
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CARP0158-001 05/01/2022		
	Rates	Fringes
Carpenter/Lather.....	\$ 50.75	28.96
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CARP0219-005 05/01/2022		
	Rates	Fringes
MILLWRIGHT.....	\$ 49.83	33.96
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CARP0251-001 05/01/2022		
	Rates	Fringes
FLOOR LAYER: Carpet.....	\$ 52.49	29.46
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CARP0474-004 11/01/2022		
	Rates	Fringes
PILEDRIVERMAN.....	\$ 45.73	39.44
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ELEC0098-003 05/02/2022		
	Rates	Fringes
ELECTRICIAN.....	\$ 65.76	61%+1.98
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ELEC0098-014 05/02/2022		
	Rates	Fringes
ELECTRICIAN (Sound and Communication Technician) (Installation of Voice Data, IT Network, Wifi).....	\$ 63.97	30.40
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ELEV0005-001 01/01/2023		

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 66.21	37.335+a+b

FOOTNOTES FOR ELEVATOR MECHANICS:

A. PAID VACATION: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% for 6 months to 5 years of service.

B. Eight Paid Holidays (provided employee has worked 5 consecutive days before and the working day after the holiday): New Year's Day; Memorial Day; Independence Day; Labor Day; Veteran's Day; Thanksgiving Day and the Friday after Thanksgiving Day, and Christmas Day.

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 \* ENGI0542-002 05/01/2023

	Rates	Fringes
Power equipment operators:		
GROUP 1.....	\$ 52.20	32.81
GROUP 1a.....	\$ 55.20	33.70
GROUP 2.....	\$ 51.95	32.74
GROUP 2a.....	\$ 54.97	33.61
GROUP 3.....	\$ 47.87	31.53
GROUP 4.....	\$ 47.57	31.44
GROUP 5.....	\$ 45.85	30.93
GROUP 6.....	\$ 44.85	30.65

FOOTNOTE: A. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day and Christmas Day

\*\*\*TOXIC/HARARDOUS WASTE REMOVAL\*\*\*

Add 20 per cent to basic hourly rate for all classifications

BOOM LENGTH PAY:

On all machines with booms, jibs, masts and leads, including tower cranes, 100 ft. from ground up, fifty cents (\$.50) per hour additional will be paid for each increment of 25 ft. over 100 ft. On cranes with booms (including jibs, masts and leads) 200 ft. and over, two (2) operators will be required. When two (2) operators are employed, no Oiler will be required. Booms to be measured from the ground up. Tower cranes calculated from ground up and out for purpose

of boom pay.

#### POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Handling steel and stone in connection with erection, cranes doing hook work, any machine handling machinery, helicopters, concrete pumps building machines similar to the above, including remote, robotic or laser control equipment.

GROUP 1a: Machines handling steel, or the functional equivalent, and stone in connection with erection 15 ton and over factory rating; Cranes doing hook work 15 ton and over factory rating; Any machines handling machinery; High Rail/Burro Crane 15 ton and over factory rating; Rail Loader (Winch Boom Type) 15 ton and over factory rating; Concrete Pumps (Building) 120 feet of Boom length or less (200 yard pour or less); Machines similar to above, including remote, robotic or laser control equipment; Equipment in this Wage Group that does not require an oiler.

GROUP 2: All types of cranes, All types of backhoes, Cableways, Draglines, Keystones, all types of shovels, Derricks, Pavers 21E and over, Trenching machines, Trench shovel, Gradalls, Front-End loaders, Boat Captain, Pippin type backhoes, Tandems scrapers, Towers type crane operation erecting, Dismantling, Jumping or Jacking, Drills (self-contained), (drillmaster type) forklift (20 ft. and over), Motor patrols (fine grade), Batch plant with mixer, Carryalls, Scraper, Tronapulls, Roller (High Grade Finishing), Spreaders (asphalt), Bulldozers and Tractors, Mechanic welder, Conveyor loaders (euclid-type wheel), Concrete pump, Milling Machines, Hoist with two towers, Building hoist double drum (unless used as a single drum), Mucking machines in tunnel, All auto grade and concrete finishing machines, Bundle pullers/extractors (tublar), bobcat, side broom, directional boring machines, Vermeer saw type machines (other than than hand held tractor mounted hydro axe, chipper with boom, all) machine similar to the above including remote, robotic or laser control equipment.

GROUP 2a: Crawler backhoes and Crawler gradalls over one cubic yard factory rating; Hydraulic backhoes over one cubic yard factory rating; All types of cranes 15 ton and over factory rating; Cherry picker type machinery and equipment 15 ton and over factory rating; Concrete Pumps (Heavy/Highway); Machines similar to above, including remote, robotic or laser control equipment; Equipment in this Wage Group that does not require an oiler.

GROUP 3: Asphalt plant engineers, Well drillers, Ditch witch

(small trencher), Motor patrols, Fine grade machines, Ten-ton roller (grade fill stone base), Concrete breaking machines, Guilloline only, Stump grinder, Conveyors (except building conveyors), Fork lift trucks of all types, High pressure boliers Elevator Operator (New Construction) Machine similar to the above,including remote, robotic or laser control equipment

GROUP 4: Seaman, Pulverzer form line grader, Farm tractors, road finishing, Concrete spreader, Power broom (self-contained), Seed spreader, Grease truck, toxic/hazardous wate removal rate 20 per cent added to all classifications and machiines similar to the above including remote, robotic or laser control equipment.

GROUP 5: Compressors pumps, Well point pumps, Welding machines Tireman, Power equipment, Maintenance engineer (power boats),Elevator Operators (Renovations) and machine similar to the above including remote, robotic or laser control equipment.

GROUP 6: Fireman, Oilers and deck hands (personnel boats), grease truck. Machines similar to the above including remote, robotic or laser control equipment.

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 IRON0401-002 01/01/2023

	Rates	Fringes
IRONWORKER, STRUCTURAL AND ORNAMENTAL.....	\$ 50.70	39.10

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 IRON0405-002 07/01/2022

	Rates	Fringes
IRONWORKER, REINFORCING.....	\$ 47.41	33.00

The following holidays shall be observed and when work is performed thereon it shall be paid for at twice the base rate: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. Employees shall be off Christmas Eve Day and receive four hours pay. Employees who have to work on Christmas Eve Day shall work four hours and be paid for eight hours pay for the holiday. Any time worked beyond fours hours shall be paid at the double time rate plus the four hours holiday pay. To receive holiday pay, the employee must work the day before Christmas Eve and the first working day after Christmas Day.

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IRON0405-004 07/01/2022

	Rates	Fringes
IRONWORKER (Rigger and Machinery Mover).....	\$ 43.72	32.75

The following holidays shall be observed and when work is performed thereon it shall be paid for at twice the base rate: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. Employees shall be off Christmas Eve Day and receive four hours pay. Employees who have to work on Christmas Eve Day shall work four hours and be paid for eight hours pay for the holiday. Any time worked beyond four hours shall be paid at the double time rate plus the four hours holiday pay. To receive holiday pay, the employee must work the day before Christmas Eve and the first working day after Christmas Day.

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LAB00332-001 05/01/2022

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 35.20	26.19
GROUP 2.....	\$ 35.30	26.19
GROUP 3.....	\$ 35.35	26.19
GROUP 4.....	\$ 35.50	26.19
GROUP 5.....	\$ 35.60	26.19
GROUP 6.....	\$ 35.34	26.19
GROUP 7.....	\$ 36.45	26.19
GROUP 8.....	\$ 36.60	26.19
GROUP 9.....	\$ 36.75	26.19
GROUP 10.....	\$ 37.00	26.19
GROUP 11.....	\$ 35.57	26.19

LABORERS CLASSIFICATIONS

GROUP 1: Building site work; Stripping and dismantling concrete form work; loading, unloading, carrying and handling of all reinforced steel and steel mesh; handling lumber and other building materials; operating jackhammers, paving breakers and all other pneumatic tools; building scaffolds; raking, shoveling and tamping of asphalt; spading and concrete pit work; grading; form pinning; shoring; demolition except burners; laying conduits and ducts; sheathing; lagging; laying non-metallic pipe and

caulking; all other types of laborers; pouring concrete; operating vibrator; free air tunnels: miners.

GROUP 2: Power buggies; burners on demolition

GROUP 3: Wagon drill operator (single)

GROUP 4: Powdermen; wagon drill operator (multiple); circular caisson excavation; underpinning excavation

GROUP 5: Caisson bottom man

GROUP 6: Yard workers

GROUP 7: Trackmen; brakemen; groutmen; bottom shaft men; all other men in free air tunnels

GROUP 8: Form setters

GROUP 9: Miners bore driver; blasters; drillers; pneumatic shield operators

GROUP 10: Welders and burners

GROUP 11: Mason Tender

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LAB00332-002 05/01/2022

	Rates	Fringes
LABORER (Asbestos Abatement, Toxic and Hazardous Waste Removal, Lead Based Paint Removal).....	\$ 36.70	26.44

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LAB00413-004 05/01/2021

	Rates	Fringes
Landscape Laborer Farm Tractor Driver, Hydroseeder Nozzleman and Mulcher Nozzleman.....	\$ 27.15	23.30+A

FOOTNOTE:

A. PAID HOLIDAYS: Independence Day, Labor Day, and Thanksgiving Day.

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MARB0001-003 05/01/2021

	Rates	Fringes
MARBLE FINISHER.....	\$ 25.10	20.75
TERRAZZO FINISHER.....	\$ 27.03	20.58
TILE FINISHER.....	\$ 25.10	20.75

MARB0003-002 05/01/2021

	Rates	Fringes
MARBLE SETTER.....	\$ 44.90	30.75
TERRAZZO WORKER/SETTER.....	\$ 48.01	28.67

PAIN0021-001 05/01/2021

	Rates	Fringes
Painters:		
Brush, Roller.....	\$ 41.24	28.10
Spray, Steel and Swing.....	\$ 42.49	28.10

PAIN0021-012 05/01/2022

	Rates	Fringes
DRYWALL FINISHER/TAPER.....	\$ 41.56	30.20

PAIN0252-001 06/01/2021

	Rates	Fringes
Window Tinter.....	\$ 25.02	13.06

PAIN0252-006 05/01/2022

	Rates	Fringes
GLAZIER.....	\$ 46.09	34.83

PLAS0008-001 05/01/2022

	Rates	Fringes
PLASTERER.....	\$ 41.97	32.20

PLAS0592-011 05/01/2023

	Rates	Fringes
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CEMENT MASON/CONCRETE FINISHER...\$ 44.20 32.76

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PLUM0420-008 05/01/2021

Rates Fringes

Steamfitter.....\$ 62.32 38.73

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PLUM0690-002 05/01/2023

Rates Fringes

PLUMBER.....\$ 64.73 37.21

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ROOF0030-001 05/01/2022

Rates Fringes

Roofers:

Composition.....\$ 41.48 33.37+A

Shingles.....\$ 31.25 21.75+A

Slate and Tile.....\$ 34.25 21.75+A

FOOTNOTE (Composition Roofer only):

A. PAID HOLIDAY: Election Day

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\* SFPA0692-001 05/01/2023

Rates Fringes

SPRINKLER FITTER.....\$ 64.73 32.59

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SHEE0019-008 05/01/2022

Rates Fringes

SHEET METAL WORKER.....\$ 55.75 45.78

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SHEE0019-023 07/15/2022

Rates Fringes

SHEET METAL WORKER (Sign  
Makers & Hangers).....\$ 30.54 24.35

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TEAM0107-001 05/01/2020

Rates Fringes

TRUCK DRIVER (BUILDING CONSTRUCTION)

GROUP 1.....	\$ 33.22	19.675+a+b
GROUP 2.....	\$ 33.32	19.675+a+b
GROUP 3.....	\$ 33.57	19.675+a+b

TRUCK DRIVER (SITE PREPARATION, PAVING AND UTILITIES ON BUILDING CONSTRUCTION)

GROUP 1.....	\$ 33.07	19.675+a+b
GROUP 2.....	\$ 33.17	19.675+a+b
GROUP 3.....	\$ 33.42	19.675+a+b

TRUCK DRIVERS CLASSIFICATIONS (BUILDING CONSTRUCTION)

GROUP 1 - Stake body truck (single axle), 11/2 ton and under vehicles

GROUP 2 - Truck driver over 11/2 tons, dump trucks, tandem and batch trucks, semi-trailers, agitator mixer trucks and dumcrete type vehicle, asphalt distributors, farm tractors when used for transportation, stake body truck (tandem)

GROUP 3 - Euclid type, off-highway equipment - back or belly dump trucks and double-hitched equipment, straddle (ross) carrier, lowbed trailers

TRUCK DRIVERS CLASSIFICATIONS (SITE PREPARATION, PAVING AND UTILITIES ON BUILDING CONSTRUCTION)

GROUP 1 - Stake body truck (single axle), dumpster

GROUP 2 - Dump trucks, tandem and batch trucks, semi-trailers, agitator mixer trucks, and dumcrete type vehicles, asphalt distributors, farm tractor when used for transportation, stake body truck (tandem)

GROUP 3 - Euclid type, off-highway equipment or bell dump trucks and double hitched equipment, staddle (ross) carrier, low-bed trailers

FOOTNOTE:

A. PAID HOLIDAYS: Memorial Day, Independence Day, Labor Day, Thanksgiving Day and five personal holidays provided employee works at least one day in the three work days before and at least one day in the three work days after the said holiday. Employee earns a personal holiday every two months, provided employee has worked twenty-six day in

each consecutive two month period, up to a maximum of five per calendar year. After 130 work days the employee is entitled to all five personal holidays.

B. PAID VACATION: Employee will earn one vacation day for every two months, provided employee has worked twenty-six day in each consecutive two month period, up to a maximum of five vacation days per calendar year. After 130 workdays the employee is entitled to all five days of vacation. Employees with 5 years of seniority, earn an additional week of vacation, accrued in the same way.

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage

determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those

classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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#### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"

**DAVIS BACON WAGES**

**Heavy and Highway**



"General Decision Number: PA20230004 06/02/2023

Superseded General Decision Number: PA20220004

State: Pennsylvania

Construction Types: Heavy and Highway

Counties: Bucks, Chester, Delaware, Montgomery and Philadelphia Counties in Pennsylvania.

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<ul style="list-style-type: none"><li>. Executive Order 14026 generally applies to the contract.</li><li>. The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.</li></ul>
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	<ul style="list-style-type: none"><li>. Executive Order 13658 generally applies to the contract.</li><li>. The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.</li></ul>

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
1	01/13/2023
2	01/20/2023
3	02/24/2023
4	03/31/2023
5	05/05/2023
6	06/02/2023

BOIL0013-003 01/01/2023

	Rates	Fringes
BOILERMAKER.....	\$ 51.27	34.96

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 CARP0219-005 05/01/2022

	Rates	Fringes
MILLWRIGHT.....	\$ 49.83	33.96

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 CARP0255-006 05/01/2022

	Rates	Fringes
CARPENTER.....	\$ 52.79	29.06

FOOTNOTE:

A. PAID HOLIDAY: LABOR DAY

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 CARP0474-004 11/01/2022

	Rates	Fringes
PILEDRIVERMAN.....	\$ 45.73	39.44

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 ELEC0098-001 04/29/2018

BUCKS COUNTY: Starting at the Delaware River and following the west limits of the Borough of Bristol, along the continuation of U.S. Highway 13 and under the Pennsylvania Railroad Bridge to Route 09113, north 09113 to Route 152, north along Route 152 to the Humeville Road, east on Humeville Road to Route 333, north on Route 344 to the junction of Spurs 281 and 252, continue north on Spur 252 to Route 09028, west on 09028 to Route 152, north on 152 to TR 232, north on TR 532 to Tr 113, north on TR 113 to TR 232 at Anchor Inn, northeast on TR 232 and continue northeast along Rounte 659 to Route 09060, west on 09060 to Route 402, north on 402 to the Borough line at the southwest corner of the Borough of New Hope. The Bouough of New Hpoie is excluded. Starting at the Delaware at the Delaware River and proceeding southwest along the Plumstead-Solebury and the Plumstead-Buckingham Township lines to Route 09064, northwest on 09064 to U.S. Highway 611 south on 611 to the spur of Route 270, northwest along the spur to Route 397, Southwest on 397 to Route 350, southeast on 350 to Route 395, southwest on 395 to Route 09060, southeast on 09069 to Route 09041 southwest on 09041 to the Montgomery County line.

DELAWARE COUNTY: That portion east of a line following State Highway 320 from Montgomery County to Maple, then along the Springfield Road to Saxer Ave, along Saxer Avenue to Powell Road, along Powell Road to State Highway 420 and continuing in a straight line to the Delaware River. MONTGOMERY COUNTY:

That portion southeast of a line following Lower State Road from Bucks County southwest to the Bethlehem Pike (U.S Highway 309), south on the Bethlehem Pike to the Penllyn Pike, southwest on the Penllyn and Blue Bell Pikes to the Wissahickon Creek, southeast on the Wissahickon Creek to the Butler Pike to North Lane near Conshohocken Borough, southwest on North Lane to Schuylkill River and continuing southeast in a line to the Spring Mill Road and southwest on the Spring Mill Road to Delaware County. PHILADELPHIA COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 58.33	59%+1.75

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 \* ELEC0102-003 05/29/2023

BUCKS COUNTY (Plumstead, Bedminister, Tinicum, Nockamixon, Bridgeton and Durham Townships in their entirety, and that portion of Haycock and Springfield Townships east of a line following State Highway 412, from Northampton County south to Route 09071 to State Highway 212, along Highway 212 to Route 09068, and along 09068 to State Highway 313. Also included is that portion of Dublin Borough east of State Highway 313

	Rates	Fringes
ELECTRICIAN.....	\$ 61.87	62.50%

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 ELEC0126-002 05/31/2021

CHESTER, DELAWARE, MONTGOMERY, PHILADELPHIA, AND REMAINDER OF  
 BUCKS COUNTY

	Rates	Fringes
Line Construction:		
Cable Splicer.....	\$ 57.93	32.25%+11.00
Groundman.....	\$ 34.76	32.25%+11.00
Lineman.....	\$ 57.93	32.25%+11.00
Truck Driver.....	\$ 37.65	32.25%+11.00
Winch Truck Operator.....	\$ 40.55	32.25%+11.00

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 ELEC0269-001 01/02/2023

BUCKS COUNTY (Area East of a line starting at the Delaware River and following the west limits of the Borough of Bristol, along the continuation of U.S. Highway 13 and under the Pennsylvania Railroad Bridge to Route 09113, north along 09113 to route 152, north along route 152 to the Hulmeville Rd., east on the Hulmeville to Route 344, north on route 344 to the junction of Spurs 281 and 252 continue north on spur 252 and route 09028, west on 09028 to Route 152, north on 152 to TR 532, north on TR 532 to TR 113, north on TR 113 to TR 232 as Anchor Inn, northeast on TR 232 and continue northeast along 659 to Route 09060, West on 09060 to Route 402, north on 402 to the Borough Line at the southwest corner of the Borough of New Hope; including the Boroughs of New Hope and Bristol)

	Rates	Fringes
ELECTRICIAN.....	\$ 54.27	65.20%

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 ELEC0269-002 01/02/2023

BUCKS COUNTY - That portion east of a line starting at the Delaware River and following the west limits of the Borough of Bristol, along the continuation of U.S. Highway 13 and under the Pennsylvania Railroad Bridge to Route 09113, north along 09113 to route 152, north along route 152 to the Hulmeville Rd., east on the Hulmeville to Route 344, north on route 344 to

the junction of Spurs 281 and 252 continue north on spur 252 and route 09028, west on 09028 to Route 152, north on 152 to TR 532, north on TR 532 to TR 113, north on TR 113 to TR 232 as Anchor Inn, northeast on TR 232 and continue northeast along 659 to Route 09060, West on 09060 to Route 402, north on 402 to the Borough Line at the southwest corner of the Borough of New Hope. The Boroughs of New Hope and Bristol are included.

	Rates	Fringes
Line Construction:		
Cable Splicer.....	\$ 59.70	64.75%
Groundman, Truck Driver.....	\$ 43.42	64.75%
Linemen and Heavy Equipment Operator.....	\$ 54.27	64.75%

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 ELEC0313-003 06/01/2011

DELAWARE COUNTY :(That portion south of U.S. Highway No. 1 and west of U.S. Highway No. 202) Chester County (That portion South and east of U. S. Highway 1)

	Rates	Fringes
ELECTRICIAN.....	\$ 35.00	23.70

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 ELEC0375-001 06/01/2021

BUCKS COUNTY (East Rock Hill, West Rock Hill, Milford and Richland Townships in their entirety and that portion of Haycock and Springfield Townships west of a line following State Highway 212 from Northampton County South to Route 09071 along 09071 to state Highway 212, along Highway 212 to Route 09068 and along 09068 to State Highway 313) MONTGOMERY COUNTY(Upper Hanover Twp.in its entirety)

	Rates	Fringes
ELECTRICIAN.....	\$ 42.65	22.69

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 ELEC0380-001 09/29/2014

BUCKS COUNTY (Hilltown and New Britain Townships in their entirety; that portion of Telford Borough Northeast of County Line Road (Main Street) and bounded by West Rock Hill and Hilltown Township that portion of Dublin Borough West of State Highway 313, and that portion of Doylestown and Warrington

Townships and Doylestown Borough Northwest of a line following U.S. Highway 611 South from Route 09064 to the spur of Route 270, and proceeding Northwest along the spur to Route 397, Southwest on 397 to Route 350, Southeast on 350 to Route 395, Southwest on 395 to Route 09069, Southeast on 09069 to Route 09041, Southwest on 09041 to the Montgomery County Line)  
 DELAWARE COUNTY (The portion of Radnor Township North of U.S Highway 30 and West of State Highway 320) MONTGOMERY COUNTY (The portion Northwest of a line following Lower State Road from Bucks County Southwest to Bethlehem Pike (U.S. Highway 309), South on Bethlehem Pike to Penllyn Pike, Southwest on the Penllyn and Blue Bell Pikes to Wissahickon Creek to the Butler Pike, Southwest Wissahickon Creek to Butler Pike, Southwest on Butler Pike, to North Lane near Conshohocken Borough, Southeast on North Lane to the Schuylkill River and continuing Southeast in a line to Spring Mill Road, Southwest on Spring Mill Road to Delaware County; but excluding Upper Hanover, Douglas, Upper Pottsgrove, West Pottsgrove Townships and also excluding that portion of the Borough of Pottstown North and West of a line drawn Northeast on Kein Street from the Schuylkill River to Reading Railroad Northwest on the railroad to Madison Street, to High Street, East on High Street to Green Street, North on Green Street and Northeast on Mintzer Street to Lower Pottsgrove Township Line, along this township line and the borough line Northwest to Adams Street and Beehive Road, Northeast on Beehive Road to the Township Line at Mervine Street)

CHESTER COUNTY (East Coventry, East Vincent, West Vincent, East Pikeland, West Pikeland, Uwchlan, Upper Uwchlan, East Brandywine, Schuylkill and Charleston Townships in their entirety, and that portion of Clan, East Clan, East Whiteland & West Whiteland, Tredyffrin, Willistown, Easttown Townships and Borough of Downingtown north of U. S.Highway 30 )

	Rates	Fringes
ELECTRICIAN.....	\$ 41.05	29.99

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 \* ELEC0654-001 05/29/2023

DELAWARE COUNTY (The portion south of U.S. Highway 30 and north of that part U.S. Highway 1 between U.S. Highway 202 and the Chester County Line, and east of that part of U.S. Highway 202 between U.S. Highway 1 and the Delaware Line, and west of a line extending from Montgomery County along State Route 320 to Maple, then along the Springfield Road to Saxer Avenue, along Saxer Avenue to Powell Road; along Powell Road to State Highway 420; along 420 and continuing in a straight line to the

Delaware River in the State of Pennsylvania) CHESTER COUNTY  
 (That portion south of U. S. Highway 30 and north of that part  
 of U.S. Highway 1)

	Rates	Fringes
ELECTRICIAN.....	\$ 47.72	27.60%+24.29

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 ELEC0743-001 09/01/2022

CHESTER (Coatesville, Honey Brook, South Coventy, Valley,  
 Wallace, Warwick, West Brandywine, West Clan, and West Nantmeal  
 Twps); AND MONTGOMERY (Douglas, Pottstown, Upper Pottsgrove,  
 and West Pottsgrove, Twps) COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 40.52	25.27

New Year's Day, Good Friday, Memorial Day, Fourth of July,  
 Labor Day, Veterans' Day, Thanksgiving Day, and Christmas  
 Day.

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 ELEC0743-007 09/01/2022

CHESTER COUNTY (The portion of Sadsbury and West Sadsbury  
 Township north of U.S. Highway 30)

	Rates	Fringes
ELECTRICIAN.....	\$ 40.52	25.27

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 \* ENGI0542-005 05/01/2022

	Rates	Fringes
Power equipment operators: (HEAVY, HIGHWAY, AND WATER LINE CONSTRUCTION (Off Plant Site))		
GROUP 1.....	\$ 51.04	31.97
GROUP 1a.....	\$ 54.05	32.85
GROUP 2.....	\$ 50.79	31.90
GROUP 2a.....	\$ 53.81	32.77
GROUP 3.....	\$ 46.71	30.69
GROUP 4.....	\$ 46.41	30.60

GROUP 5.....	\$ 44.69	30.09
GROUP 6.....	\$ 43.70	29.80

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Handling steel and stone in connection with erection, cranes doing hook work, any machine handling machinery, helicopters, concrete pumps building machines similar to the above, including remote control equipment.

GROUP 1a: Machines handling steel, or the functional equivalent, and stone in connection with erection 15 ton and over factory rating; Cranes doing hook work 15 ton and over factory rating; Any machines handling machinery; High Rail/Burro Crane 15 ton and over factory rating; Rail Loader (Winch Boom Type) 15 ton and over factory rating; Concrete Pumps (Building) 120 feet of Boom length or less (200 yard pour or less); Machines similar to above, including remote control equipment; Equipment in this Wage Group that does not require an oiler.

GROUP 2: All types of cranes, All types of backhoes, Cableways, Draglines, Keystones, all types of shovels, Derricks, Pavers 21E and over, Trenching machines, Trench shovel, Graddalls, Front-End loaders, Boat Captain, Pippin type backhoes, Tandems scrapers, Towers type crane operation erecting, Dismantling, Jumping or Jacking, Drills (self-contained), (drillmaster type) forklift (20 ft. and over), Motor patrols (fine grade), Batch plant with mixer, Carryalls, Scraper, Trounappulls, Roller (High Grade Finishing), Spreaders (asphalt), Bulldozers and Tractors, Mechanic welder, Conveyor loaders (euclid-type wheel), Concrete pump, Milling Machines, Hoist with two towers, Building hoist double drum (unless used as a single drum), Mucking machines in tunnel, All auto grade and concrete finishing machines, Bundle pullers/extractors (tublar), toxic/hazardous waste removal rate 20 per cent added to all classification, bobcat, side broom, directional boring machines, vermeet saw type machines ( other than hand held) tractor mounted hydro axe, chipper with boom, all machine similar to the above including remote control equipment.

3: Asphalt plant engineers, Well drillers, Ditch witch (small trencher), Motor patrols, Fine grade machines, Ten-ton roller (grade fill stone base), Concrete breaking machines, Guilloline only, Stump grinder, Conveyors (except building conveyors), Fork lift trucks of all types, High pressure boilers, Machine similar to the above, including remote control equipment.

GROUP 2a: Crawler backhoes and Crawler gradalls over one



cubic yard factory rating; Hydraulic backhoes over one cubic yard factory rating; All types of cranes 15 ton and over factory rating; Single person operation truck cranes 15 ton and over factory rating; Cherry picker type machinery and equipment 15 ton and over factory rating; Concrete Pumps (Heavy/Highway); Machines similar to above, including remote control equipment; Equipment in this Wage Group that does not require an oiler.

GROUP 3: Asphalt plant engineers, Well drillers, Ditch witch (small trencher), Motor patrols, Fine grade machines, Ten-ton roller (grade fill stone base), Concrete breaking machines, Guilloline only, Stump grinder, Conveyors (except building conveyors), Fork lift trucks of all types, High pressure boilers, Machine similar to the above, including remote control equipment.

GROUP 4: Seaman, Pulverizer form line grader, Farm tractors, road finishing, Concrete spreader, Power broom (self-contained), Seed spreader, Grease truck.

GROUP 5: Compressors pumps, Well point pumps, Welding machines Tireman, Power equipment, Maintenance engineer (power boats), and machines similar to the above.

GROUP 6: Fireman, Oilers and deck hands (personnel Boats), grease truck.

FOOTNOTE: A. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day and Christmas Day

**\*\*TOXIC/HAZARDOUS WASTE REMOVAL\*\*\***

Add 20 per cent to basic hourly rate for all classifications

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IRON0401-001 01/01/2023

BUCKS (Includes the towns of Bensalem, Breadysville, Bristol Churchville, Cornwells Heights, Davisville, Eddington, Feasterville, Hartsville, Johnsville, Line Lexington, Neshaminy, Southampton, Tradesville, Trevoise, Unionville, Warminster, and Warrington): DELAWARE (North of a line running along State Rt 352 to right on State Rt 291 to State Line); CHESTER (Includes the towns of Aldham, Anselma, Bacton, Berwyn, Cedar Hollow, Charlestown, Chester Springs, Cromby, Devon, Devault, Daylesford, Diamond Rock, Dutton Mill, Frazer, Goshenville, Howellville, Kimberton, Ludwigs Corner, Paoli, Matthews, Perkiomen Junction, Phoenixville, Rapps Corner, Rocky

Hill, Strattford, Sugartown, Tanguy, Valley Forge, Valley Store, White Horse, Williams Corner, and Wilsons Corner); MONTGOMERY (Remainder); and PHILADELPHIA COUNTIES

	Rates	Fringes
IRONWORKER, STRUCTURAL AND ORNAMENTAL.....	\$ 50.70	39.10

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 IRON0404-023 07/01/2022

MONTGOMERY COUNTY (Anise, Berguy, Congo, Douglas, East Greenfield, East Limerick, East Slaford, East Zieglerville, Engleville, Fagleysville, Ford, Gilbertsville, Green Lane, Hanover, New Perksionenville, Niato, Palm, Obelish, Pennsburg, Perkiomen, Pottstown, Royerfored, Roytown, Sammamansville, Tylerport, Upper Hanover, Upper Pottsgrove, Upper Wodall, West Limerick, West Salford, and West Zieglerville Townships)

	Rates	Fringes
Ironworkers:.....	\$ 35.26	31.13

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 IRON0405-001 07/01/2022

BUCKS (Includes the towns of Bensalem, Breadysville, Bristol, Churchville, Cornwell Heights, Davisville, Eddington, Festerville, Hartsville, Johnsville, Line Lexington, Neshaminy, Southhampton, Transville, Trevoise, Unionville, Warminister, and Warrington), DELAWARE (North of a line running along State Route 352 to right on State Route 291 to State Line); CHESTER (Includes the towns of Aldham, Anselma, Bacton, Berwyn, Cedar Hollow, Charlestown Chester Springs, Cromby, Devon, Devault, Daylesford, Diammond Rock, Dutton Mill, Frazer, Goshenville, Howellville, Kimberton, Ludwigs Corner, Paoli, Mathews, Perkiomen Junction, Phoenixville, Rapps Corner, Rocky Hill, Strafford, Sugartown, Tanguy, Valley Forge, Valley Store, White Horse, Williams Corner, and Wilsons Corner); MONTGOMERY (Remainder); AND PHILDELPHIA COUNTIES

	Rates	Fringes
IRONWORKER, REINFORCING Bucks, Chester, Delaware and Montgomery Counties.....	\$ 44.82	33.00
Philadelphia County.....	\$ 47.41	33.00
Reinforcing Steel Mesh, Rebar Work		

The following holidays shall be observed and when work is performed thereon it shall be paid for at twice the base rate: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. Employees shall be off Christmas Eve Day and receive four hours pay. Employees who have to work on Christmas Eve Day shall work four hours and be paid for eight hours pay for the holiday. Any time worked beyond four hours shall be paid at the double time rate plus the four hours holiday pay. To receive holiday pay, the employee must work the day before Christmas Eve and the first working day after Christmas Day.

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 IRON0405-003 07/01/2021

BUCKS COUNTY (Includes the towns of Bensalem, Breadysville, Bristol, Churchville, Cornwells Heights, Davisville, Eddington, Feasterville, Hartsville, Johnsville, Line Lexington, Neshaminy, Southampton, Tradesville, Trevoise, Unionville, Warminster, and Warrington), DELAWARE (North of a line running along State Route 352 to right on Stae Route 291 to State Line); CHESTER (Includes the towns of Alsham, Anselma, Bacton, Berwyn, Cedar Hollow, Charlestown, Chester Springs, Cromby, Devon, Devault, Daylesford, Diamond Rock, Dutton Mill, Frazer, Goshenville, Howellville, Kimberton, Ludwig Corner, Paoli, Mattews, Perkiomen Junction, Phoenixville, Rapps Corner, Rocky Hill, Strafford, Sugartown, Tanguy, Valley Forge, Valley Store, White Horse, Williams Corner); MONTGOMERY (Remainder); and PHILADELPHIA COUNTIES

	Rates	Fringes
IRONWORKER (Rigger and Machinery Mover).....	\$ 43.72	32.25

The following holidays shall be observed and when work is performed thereon it shall be paid for at twice the base rate: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. Employees shall be off Christmas Eve Day and receive four hours pay. Employees who have to work on Christmas Eve Day shall work four hours and be paid for eight hours pay for the holiday. Any time worked beyond four hours shall be paid at the double time rate plus the four hours holiday pay. To receive holiday pay, the employee must work the day before Christmas Eve and the first working day after Christmas Day.

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IRON0451-004 07/01/2022

CHESTER (Remainder of County), AND DELAWARE (Remainder of County) COUNTIES

	Rates	Fringes
Ironworkers: (Structural, Ornamental, and Reinforcing).....	\$ 38.60	34.35

The following holidays shall be observed, and when work is performed thereon it shall be paid for at twice the base wage rate: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

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LAB0057-001 05/01/2022

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 36.30	26.54
GROUP 2.....	\$ 36.50	26.54
GROUP 3.....	\$ 36.50	26.54
GROUP 4.....	\$ 31.10	26.54
GROUP 5.....	\$ 37.15	26.54
GROUP 6.....	\$ 37.20	26.54
GROUP 7.....	\$ 37.05	26.54
GROUP 8.....	\$ 36.80	26.54
GROUP 9.....	\$ 36.65	26.54
GROUP 10.....	\$ 36.80	26.54
GROUP 11.....	\$ 36.70	26.54
GROUP 12.....	\$ 40.43	26.54
GROUP 13.....	\$ 36.55	26.54

LABORERS CLASSIFICATIONS

GROUP 1: Yardwork Laborers; Scale Mixermen; Burnermen, Feeders; Dustmen

GROUP 2: General Laborer; Asphalt Shovelers; Sheeting, Shoring & Lagging Laborers; Stone, Granite & Artificial Stone Setting Laborer; Hod Carriers; Scaffold Builders; Relief Joints & Approach Slabs; Assembling & Placing Gabions; Pneumatic Tool Laborers; Concrete Forms & Stripping Laborers; Concrete & Lumber Material Laborers; Steel & Steel Mesh (Carrying & Handling); Form Pinners; Mortar Mixers; Pouring & Placing Concrete; Grade Men

GROUP 3: Vibrator Laborer; Finish Surface Asphalt Rackers; Jackhammer Operators; Paving Breaker Operator; Pipelayer & Caulker (all joints up to within 5 feet of the Building Foundation Line); Conduit & Duct Layers

GROUP 4: Flagperson

GROUP 5: Miners

GROUP 6: Burners

GROUP 7: Miner Bore Driver; Blasters; Drillers; Pneumatic Shield Operator

GROUP 8: Form Setters

GROUP 9: Trackmen; Brackmen; Groutmen; Bottom Shaft Men; All Other Laborers in Free Air Tunnels; Underpinning (When an underpinning excavation is dug eight feet or more below the natural grade or where an excavation for a pier hole of five feet square or less and eight feet or more deep is dug, the rate shall apply only after a depth of eight feet is reached, to the men working in the bottom)

GROUP 10: Circular Caissons (Where an excavation for circular caissons are dug eight feet or more below the natural grade level adjacent to the starting point of the caisson hole, at ground level, for the men working in the bottom); Welders, Burners & Air Tuggers

GROUP 11: Powderman; Multiple Wagon Drill Operator

GROUP 12: Toxic/Hazardous Waste Handler

GROUP 13: Wagon Drill/Hydraulic Track Drill Operator

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LAB00413-005 05/01/2021

	Rates	Fringes
Landscaping		
Farm Tractor Driver,		
Hydroseeder Nozzleman,		
Mulcher Nozzleman.....	\$ 26.73	23.12+A

FOOTNOTE:

A. PAID HOLIDAYS: Independence Day, Labor Day, and Thanksgiving Day

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PAIN0021-003 02/01/2023

	Rates	Fringes
Painters:		
Bridge.....	\$ 59.78	30.51
All Other Work.....	\$ 48.82	30.47

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PLAS0592-008 05/01/2022

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 41.15	33.41

-----  
PLUM0420-001 05/01/2021

	Rates	Fringes
Steamfitter		
Bucks, Chester, Delaware, Montgomery and Philadelphia Counties.....	\$ 62.32	38.73

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PLUM0690-008 05/01/2023

	Rates	Fringes
PLUMBER.....	\$ 64.73	37.21

-----  
TEAM0107-002 05/01/2020

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 33.07	19.675+a+b
GROUP 2.....	\$ 33.17	19.675+a+b
GROUP 3.....	\$ 33.42	19.675+a+b

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1 - Stake body truck (single axle, dumpster)

GROUP 2 - Dump trucks, tandem and batch trucks, semi-trailers, agitator mixer trucks, and dumpcrete type vehicles, asphalt distributors, farm tractor when used for transportation, stake body truck (tandem)

GROUP 3 - Euclid type, off-highway equipment or belly dump

trucks and double hitched equipment, staddle (ross) carrier, low-bed trailers

FOOTNOTE:

A. PAID HOLIDAYS: Memorial Day, Independence Day, Labor Day, Thanksgiving Day and five personal holidays provided employee works at least one day in the three work days before and at least one day in the three work days after the said holiday. Employee earns a personal holiday every two months, provided employee has worked twenty-six day in each consecutive two month period, up to a maximum of five per calendar year. After 130 work days the employee is entitled to all five personal holidays.

B. PAID VACATION: Employee will earn one vacation day for every two months, provided employee has worked twenty-six day in each consecutive two month period, up to a maximum of five vacation days per calendar year. After 130 workdays the employee is entitled to all five days of vacation. Employees with 5 years of seniority, earn an additional week of vacation, accrued in the same way.

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====  
Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within

the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

-----

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007



in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

---

#### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISIO"

**APPENDIX P**

**BRIDGING DOCUMENTS, SPECIFICATIONS AND DRAWINGS**

**APPENDIX P**

**BRIDGING DOCUMENTS, SPECIFICATIONS AND DRAWINGS**

## **BRIDGING DOCUMENTS, SPECIFICATIONS, AND DRAWINGS**

Basis of Design

30% Design Drawings

Field Office Performance Specifications

Reference Drawings

Post-Construction Stormwater Management Report

## BASIS OF DESIGN



# PhilaPort Temperature Controlled Warehouse – 30% Design

**Project Design Basis – Issued for Design**

Philadelphia Regional Port Authority

May 04, 2023

**→The Power of Commitment**



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**GHD**









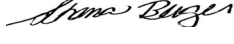





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S4	0	Multiple	S. Beiger		D. D'Amico		3/2/23
S4	0	As noted	S. Beiger		D. D'Amico		4/4/23
S5	0	As Noted	S. Beiger		D. D'Amico		4/24/23
S5	0	As Noted	S. Beiger		D. D'Amico		5/4/23

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# 1. Introduction

## 1.1 PhilaPort Temperature Controlled Warehouse (TCW) Description

The Philadelphia Regional Port Authority (PhilaPort), has a need to expand their refrigerated/frozen goods warehouse storage capacity. Philadelphia has distinguished itself as the “go-to” port of choice for the distribution of fresh fruit and frozen goods, due to its location near major interstate highways, modern packing and handling facilities, and its location in the highly densely populated Mid-Atlantic Eastern United States.

The proposed warehouse will be strategically located adjacent to the recently constructed dry storage warehouse in South Philadelphia at 3350 South 3rd Street. The proposed location is shown in Figure 1 below. The new warehouse will be physically attached to the dry storage warehouse through an access controllable passageway between the two structures.

The proposed warehouse will feature automated pallet retrieval and storage racking system, capable of stacking 100 inch high pallets, six units high in two freezer rooms, and four cooler rooms capable of stacking three-high with a non-automated system (please refer to drawing package for elevation details). The proposed site is currently vacant, with the pre-existing structure having been demolished recently. Site improvements that have already been provided include the provision of adequate power supply (to be verified by Design/Build (DB) contractor selected), as well as the construction of two stormwater retention basins. Contractor shall meet all safety requirements including those outlined in the latest OSHA manual. Design-Build contractor will complete detailed design and installation to provide most efficient and low maintenance systems and eliminate any potential conflict between foundations rebar and racking system installation. DB contractor shall coordinate design activities with the racking system supplier.

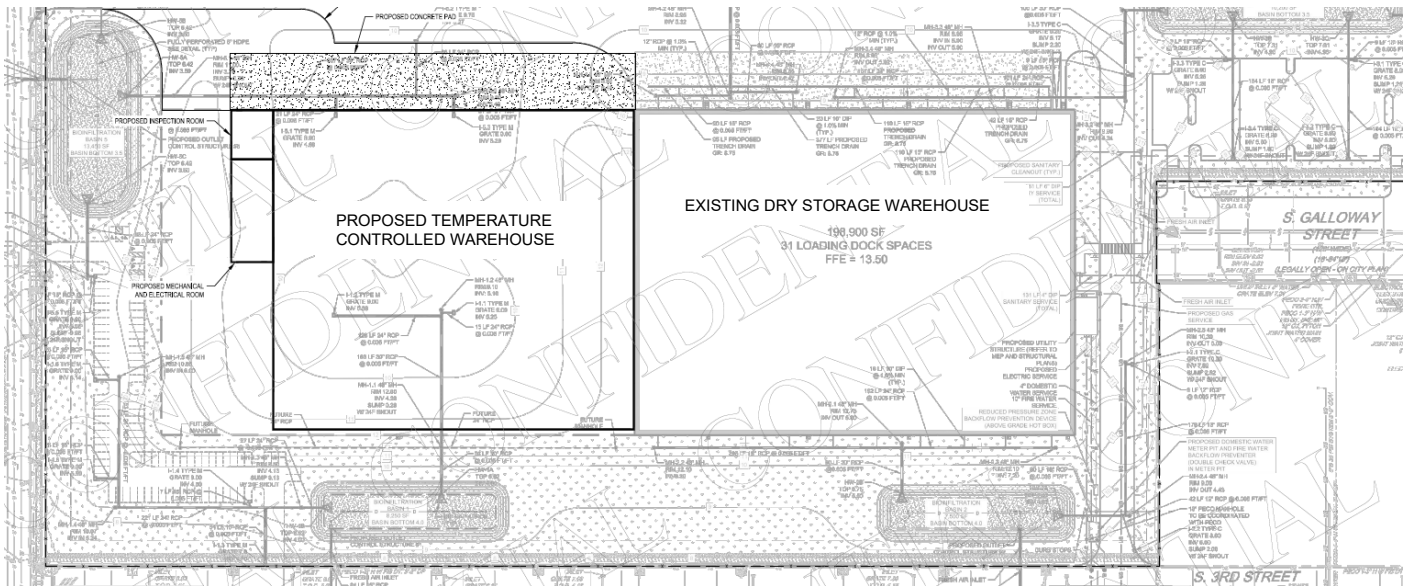


Figure 1 PhilaPort Temperature Controlled Warehouse – Proposed Location

## **2. Project Design Basis**

### **2.1 Assumptions and Clarifications**

#### **2.1.1 Mechanical**

The refrigeration equipment will be housed in a steel framed, insulated rooftop (i.e., penthouse) structure south of the proposed CSW to minimize footprint and maximize usable building volume.

#### **2.1.2 Electrical**

It is assumed that the substation at the dry storage warehouse has adequate capacity to accommodate the increased electrical loads from the proposed refrigerated warehouse. The one-line diagram on the 30% drawings depicts the baseline electrical design, without alternates and based on 30% design load information from other disciplines. The capacity of the dry storage warehouse substation shall be field verified as the design moves forward. Likewise, the electric distribution design shall be modified as the load information from other disciplines changes as the design moves forward towards 100% design. DB contractor is responsible for external/internal lighting and shall meet all current code/OSHA requirements and designed for 24-hr operation.

#### **2.1.3 Structural**

##### **2.1.3.1 Superstructure**

The new warehouse will be approximately 165,500 square feet with a dock-adjacent 2,400 SF inspection room, and attached, approximately 2,900 SF each, Mechanical and Electrical room to the south. The warehouse structure will be single story with a mezzanine area designated for office space. As indicated on the drawings, the proposed TCW building will have a top of steel high point of 74'-4" in the freezer area, 45'-0" in the cooler area, and 31'-0" over the loading dock, office area and the electrical and refrigeration rooms. Where the new building abuts the existing dry storage building the roof height of the new building will match the existing dry storage building height to minimize snow drift loads onto the existing dry storage building roof. Refer to structural drawings for plans and elevations.

The superstructure will consist of steel braced frames clad with insulated metal wall panels. Metal wall panels will be secured to steel girts on the exterior walls. The roof structure will be supported by structural steel joists and joist girders with a light gage metal deck capable of supporting solar panels with an assumed 10 psf load. Structural steel beams will support roof top penthouses that house mechanical equipment. The penthouses will be framed with structural steel columns beams, joists and the floor will consist of a poured concrete slab with openings as required. Steel framing will be provided for installation of three future knock out panels on the west side of the building.

Structural framing will be provided around each loading dock door opening. Depressed slabs should be incorporated at each loading dock to accommodate dock levellers. Trailer restraints with appropriate safety features shall be included. The concrete slab will support a six-tiered automated rack system. Design of the slab will consider specific rack loads to be provided by the owner as well as differential slab settlement tolerances for forklift operation and the monorail hoist crane system required for facility operations and maintenance. In the freezer areas of the building, there will be both a lower structural slab and an upper floating slab separated by an insulation layer.

The new warehouse will be constructed to be attached the existing dry storage warehouse at its south wall., an expansion joint will be provided to ensure the new building acts independently of the existing building. Existing dry storage building wall and slab details will need to be assessed to determine proper transition at the interface between the new and existing buildings. A 14' wide by 12' high door shall be installed between the dry warehouse and refrigerated warehouse loading docks.

Note that site fencing will require replacement or upgrades. Contractor shall meet all safety requirements including those outlined in the latest OSHA manual.

### **2.1.3.2 Foundations**

Based upon the project geotechnical report by Pennoni Associates (Pennoni) dated May 13, 2019, the new warehouse will be supported on a deep foundation system (concrete filled steel pipe piles or auger cast piles). Due to the differential settlement tolerances associated with fork truck operation and automated six-tier tall racks, the ground floor slab should be designed to specific differential settlement tolerances. The ground floor slab will be designed as a structural slab supported by piles and grade beams, and the utilities should be suspended from the underside of the structural slab. This foundation design is based on the rack loading information from PhilaPort of 42 kips or 1000 psf, whichever is greater. The concrete topping slab should be a flat slab with flatness and levelness numbers of  $F_F=35$  and  $F_L=25$ , respectively. These slabs shall be designed for the drilling of the appropriate racking system anchor bolts such that anchor bolts will not conflict with the slab reinforcing.

As indicated in Section 2.1.3.1, the new warehouse will be constructed to abut the existing dry storage warehouse. Utilizing a deep foundation system, with perimeter grade beams, will facilitate constructability of the new building such that new foundations do not impart any additional loads to the existing dry storage building foundations. In addition, the TCW building roof elevation will match the existing Dry warehouse elevation to minimize snow load effect on the existing foundations as indicated on the drawings.

- No utilities, panels, switches, etc. should be hung on columns which could interfere with racks, conveyors, etc.
- All utilities and lighting shall be installed in coordination with the racking system design to avoid conflict

## **2.2 Civil-Structural Design**

### **2.2.1 Civil Stormwater**

At PhilaPort's request, GHD reviewed the site design and post-construction stormwater management report and post-construction management plans prepared by Pennoni and stamped by Brian Michael Diehl, PE, in February 2021. The Pennoni plans encompassed the entire site design, located at 3350 South 3rd Street in Philadelphia, and included plans for both the dry storage warehouse and the proposed cold storage warehouse.

The Pennoni stormwater design adequately assumed the size of the proposed cold storage building and appears to have met all the local and state stormwater management permitting requirements. Mr. Diehl and the Pennoni team clearly identified the dry storage building construction and the cold storage building construction as two phases of a single project, and designed the stormwater management system based on both buildings being constructed.

During construction of the cold storage warehouse, the stormwater biofiltration basins will need to be protected from disruption by construction vehicles. Sediment laden water, that results from earth moving during construction, will need to be treated with erosion and sedimentation control structures to minimize the sediment that accumulates in the biofiltration basins. Any basin that is compromised will need to be reconstructed in accordance with the approved Pennoni design at no additional cost to PhilaPort.

Downspouts and stormwater drains from the new cold storage warehouse will need to be routed in a way that maintains the design intent of the approved Pennoni plans.

#### **2.2.1.1 Soil Reports and Geotechnical Evaluations**

The BOD is based on the May 13, 2019 Geotechnical Report, prepared by Pennoni, for the adjacent dry storage building. This report was prepared for compliance with the 2015 IBC. Prior to design-build, contractor will complete the necessary geotechnical investigations and comply with the current 2018 IBC.

The stormwater design and associated permitting documents, in our opinion, meet the state requirements for stormwater management. In doing so, they were able to adequately design a stormwater system that meets the stormwater management.

## 2.2.2 Structural Design Criteria

The following design criteria will be applied for the design of the new structure. The applicable codes and standards that will be used are:

- Pennsylvania Department of Labor and Industry
- Pennsylvania Uniform Construction Code, 2022 Edition
- International Building Code 2018 (IBC 2018)
- American Society of Civil Engineers (ASCE) 7-16: Minimum Design Loads for Buildings and Other Structures
- American Concrete Institute (ACI) 318-14: Building Code Requirements for Structural Concrete
- ACI SPEC-301-20: Specifications for Concrete Construction
- American Institute of Steel Construction (AISC) Steel Construction Manual, 15th Edition
- AISC 341-16: Seismic Provisions for Structural Steel Buildings
- AISC 360-16: Specification for Structural Steel Buildings
- TMS 402-16: The Masonry Society (TMS): Building Code for Masonry Structures
- AWS D1.4/D1.4M-2011 - American Welding Society (AWS): Structural Welding Code – Reinforcing Steel Including Metal Inserts and Connections in Reinforced Concrete Construction
- ANSI/AWC NDS-2018 - American Wood Council (AWC): National Design Specification (NDS) for Wood Construction – with 2018 NDS Supplement
- ANSI/AWC SDPWS-2015 - American Wood Council (AWC): Special Design Provisions for Wind and Seismic
- WRI/CRSI-81 - Wire Reinforcement Institute, Inc. (WRI): Design of Slab-on-ground Foundations – with 1996 Update
- SJI 100-15 - 44th Edition Standard Specification Load Tables and Weight Tables for Steel Joists and Joist Girders K-Series, LH-Series, DHL-Series, Joist Girders

### 2.2.2.1 Soil Reports and Geotechnical Evaluations

The BOD is based on the May 13, 2019 Geotechnical Report prepared by Pennoni, for the adjacent dry storage building with anticipated loadings of a 45-foot high structure and 4-tier rack storage system. The report should be updated to address the anticipated loadings of the new cold storage building, which is a higher structure (approximately 75 ft) and will contain a six-tier rack storage system. Additionally, the Geotechnical report should reference the current 2018 IBC. As described in section 2.1.3.2 Foundations, based on the 2019 Geotechnical information, and considering the higher rack storage system loads on the new TCW building, the new TCW building and slab will be supported on a deep foundation system.

Further geotechnical exploration and subsurface characterization was not completed as part of this phase of the project and will be provided by the DB contractor.

## 2.2.3 Materials of Construction

### 2.2.3.1 Concrete

Concrete will be used for the foundations and slab of the new warehouse building. The concrete design compressive strength ( $f_c$ ) will be 4,000 pounds per square inch (psi) for this application of structural concrete. Specific consideration will be given to the concrete mix design and subsequent quality control during construction.

Variables in the design of the concrete mix include:

- Type I/II cement
- 1-inch maximum coarse aggregate sized allowed to minimize shrinkage cracking
- No air entrainment for slabs supporting rack structures
- 5.5% to 7.5% air entrainment at point of delivery for 1-inch maximum aggregate size for foundations only
- Superplasticizer and/or water-reducing admixtures may be used in all concrete applications for ease of pumping and placement
- The use of pozzolans, such as fly ash and ground blast furnace slag will be specified as optional. These pozzolans will be considered to be cementitious material for the purpose of determining cement content and water-cement ratios

### **2.2.3.2 Reinforcing Steel**

Reinforcing steel for use in cast-in-place reinforced concrete shall conform to American Society of Testing Materials (ASTM) A615, Grade 60, deformed bars.

Welded wire reinforcement for use in concrete slab construction shall conform to American Society of Testing Materials (ASTM) A884, Grade 75.

### **2.2.3.3 Structural Steel**

The following structural steel will be used for the framing of the warehouse.

- Wide flanges to be ASTM A992
- Hollow tubes to be ASTM A500 Grade B
- Miscellaneous rolled shapes to be ASTM A36

## **2.2.4 Design Loading**

Design loads used for the structure will be in accordance with applicable codes listed in the Structural Design Criteria section. See below for a preliminary summary of loading requirements.

Note that load information will be taken from the existing Geotechnical Report. Further geotechnical exploration and subsurface characterization was not completed as part of this phase of the project and will be provided by the DB contractor.

### **2.2.4.1 Dead Loads**

Dead loads consist of the weight of all permanent or semi-permanent items such as the structure, electrical wiring and lighting, and HVAC equipment. Roof structure will be designed to support rooftop mechanical units. Values to be used as dead loads will be sourced from the following:

- ASCE 7-16: Minimum Design Loads for Buildings and Other Structures
- AISC Steel Construction Manual, 15th Edition
- Equipment Product Data Sheets
- Partitions per code requirements
- Ceiling and floor finishes

### **2.2.4.2 Live Loads**

Live loads will consist of uniform live loads applied as pounds per square foot (psf). Uniform live loads are presumed to provide sufficient stability for moveable loads such as people, storage, and other temporary loads. Live loads are not applied in conjunction with equipment loads to areas where permanent equipment is present. Areas with permanent equipment will be designed for the greater of the two loads. The following are general live loads from Table 1607.1 of the 2018 International Building Code that may be used during analysis:

- Roofs = 20 psf
- Solar Panels = 10 psf
- Storage (Heavy) = 250 psf
- Office space (Mezzanine) = 50 psf

In addition to the loads above, the structural slab will be designed for high Density Storage Racks, six-tiers in height using a post load of 42 kips and a uniform load of 1000 psf, whichever requires the more robust slab design.

### **2.2.4.3 Ground Snow Load**

The ground snow load is 25 lbs per square foot per ASCE 7-16: Minimum Design Loads for Buildings and Other Structures. Since the new warehouse will be constructed adjacent to an existing lower building, the drift effects on the existing structure should be considered and evaluated. Ponding instability on the new warehouse will also be checked per 2018 International Building Code Section 1608.3.

- Ground Snow Load,  $p_g = 25$  psf (ASCE 7-16, F. 7.2-1)
- Risk Category II (ASCE 7-16, T. 1.5-1)
- Thermal Factor,  $C_t = 1.3$  (ASCE 7-16, T. 7.3-2)

### **2.2.4.4 Lateral Earth Pressure**

For the purposes of this phase of the project, lateral earth pressures and design parameters were taken from the existing Pennoni Geotechnical Report. DB contractor will establish appropriate parameters based on completion of the detailed geotechnical investigation completed prior to detailed design.

### **2.2.4.5 Wind Loads**

Design wind loads will conform to ASCE 7-16: Minimum Design Loads for Buildings and Other Structures. The following parameters will be used during wind load analysis:

- Basic Wind Speed – 115mph (ASCE 7-16, F. 26.5-1B)
- Risk Category II (ASCE 7-16, T. 1.5-1)
- Wind Exposure C (ASCE 7-16, 26.7.3)
- Additional wind factors (ASCE 7-16, Chapters 26-30)

The warehouse will be classified as enclosed per ASCE 7-16: Minimum Design Loads for Buildings and Other Structures Section 26.12 and will be designed using the Main Wind Force Resisting System (Directional Procedure) in conjunction with wind loads for components and cladding, as detailed in ASCE 7-16: Minimum Design Loads for Buildings and Other Structures.



### **2.2.4.6 Seismic Loads**

Seismic loading and design methodology for building structures will comply with ASCE 7-16: Minimum Design Loads for Buildings and Other Structures. Seismic design assumes Site Class E per the May 13, 2019 Geotechnical Report prepared by Pennoni. The Geotechnical Report should reflect the current 2018 IBC to confirm the following parameters that will be used during seismic analysis:

- Short period (0.2 second) spectral acceleration,  $S_s = 0.178$
- Second spectral acceleration,  $S_1 = 0.047$
- Site Class E
- Seismic Design Category B
- Spectral response acceleration parameter at 0.2 second period site coefficient,  $F_a = 2.4$
- Spectral response acceleration parameter at 1-second period site coefficient,  $F_v = 4.2$
- Maximum considered earthquake spectral response accelerations for 0.2 second period,  $S_{MS} = 0.427$
- Maximum considered earthquake spectral response accelerations for 1-second period,  $S_{M1} = 0.197$
- Five percent damped design spectral response acceleration at 0.2 second period,  $S_{DS} = 0.285$
- Five percent damped design spectral response acceleration at 1- second period,  $S_{D1} = 0.131$
- Risk Category II

The response modification factor R for “Steel Systems not specifically detailed for seismic resistance, excluding cantilevered column systems” shall be used for the structure so that special structural steel inspections for seismic force resisting systems will not be required.

### **2.2.4.7 Load Combinations**

The above loads will be analyzed using Load and Resistance Factor Design (LRFD) and Allowable Stress Design (ASD) for the foundation design, for the steel framed superstructure and load combinations outlined in Chapter 2 of ASCE 7-16: Minimum Design Loads for Buildings and Other Structures.

## **2.3 Architectural Design**

### **2.3.1 General Information**

#### **2.3.1.1 Code and Standards**

The architectural design will follow the guidelines provided in the following codes:

- Pennsylvania Uniform Construction Code (PUEC), 2022 Edition
- International Building Code (IBC), 2018 Edition, as adopted and amended by the PUEC
- International Fire Code (IFC) 2018 Edition, as adopted and amended by the PUEC
- Pennsylvania Energy Conservation Code (based on 2018 International Energy Conservation Code)
- 2010 ADA Standards for Accessible Design
- ICC A117.1 ANSI Standard

## 2.3.1.2 International Building Code Data

### General

The building will be adjacent to and considered as part of the existing dry storage warehouse under the provisions of Section 507.4 of the IBC for an unlimited area building. The existing building was permitted as an unlimited area two-story building with S-1 and B occupancies.

### Occupancy Classification (IBC: 311.2)

- New Construction - Storage Group S-1, Moderate Hazard
- Existing Dry Storage Building – Storage Group S-1, Moderate Hazard and Business Group B

### Type of Construction (IBC: Table 601)

- New Construction - IIB, Non-rated, Non-combustible
- Existing Dry Storage Building - IIB, Non-rated, Non-combustible

### Sprinkler Protection

The new facility will be provided with automatic sprinkler protection in accordance with NFPA 13, “Standard for the Installation of Sprinkler Systems,” 2016 Edition in accordance with the International Fire Code Table 3206.2 and the provisions of the IBC Section 507.4 for an unlimited area building. The sprinkler protection scheme will utilize Control Mode Density Area (CMDA) ceiling sprinklers and in-rack sprinklers under the provisions of Section 16.3.1, “Control Mode Density/Area Sprinkler Protection Criteria for Rack Storage of Class I Through Class IV Commodities Stored Over 25 ft in Height” of NFPA 13 for the freezer areas and Early Suppression Fast Response (ESFR) sprinklers under the provisions of Section 16.3.3. “Early Suppression Fast-Response (ESFR) Sprinklers for Rack Storage of Class I Through Class IV Commodities Stored Over 25 ft in Height,” for the cooler areas.

### Height and Area Calculations (IBC: Table 504.3, Table 504.4, 506.2.1, Table 506.2)

#### New Construction

Allowable Height, S-1 Occupancy:	75 feet, 3 stories
Actual Height, S-1 Occupancy:	75 feet, 1 story
Actual Building Area (approximate):	169,650 ft <sup>2</sup>

#### Existing Dry Storage Building

Actual Height – As Permitted:	46 feet, 2 stories
Actual Building Area – As Permitted:	201,621 ft <sup>2</sup> first floor 2,707 ft <sup>2</sup> second floor

#### Total New and Existing

Actual Height:	75 feet, 2 stories
Actual Building Area (approximate):	371,271 ft <sup>2</sup> first floor 2,707 ft <sup>2</sup> second floor

### Unlimited Area Building (IBC 507.4)

The building will be adjacent to and considered as part of the existing dry storage warehouse under the provisions of Section 507.4 of the IBC for an unlimited area building. The existing building was permitted as an unlimited area two-story building with S-1 and B occupancies.

The area of a two-story Group B, S-1 building shall not be limited when the building is provided with automatic sprinkler protection in accordance with Section 903.3.1.1 of the IBC and is surrounded and adjoined by public ways or yards not less than 60 feet in width.

**Rating of Structural Components (IBC: Table 601, Type IIB Construction)**

Building Element	Required Fire Resistance Rating
Primary Structural Frame	0 Hr.
Bearing Walls Exterior	0 Hr.
Bearing Walls Interior	0 Hr.
Non-bearing Walls and Partitions-Exterior	0 Hr.
Non-bearing Walls and Partitions –Interior	0 Hr.
Floor Construction and Secondary Members	0 Hr.
Roof Construction and Secondary Members	0 Hr.

**Exterior Wall Fire-Resistance Rating (IBC: Table 602)**

The new facility and existing construction will maintain a minimum of 60 feet separation from public ways as required for the unlimited area provision (X = 30 feet); therefore, no ratings are required for the exterior walls.

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H <sup>a</sup>	OCCUPANCY GROUP F-1, M, S-1 <sup>f</sup>	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U
X < 5 <sup>b</sup>	All	3	2	1
5 ≤ X < 10	IA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB	2	1	1 <sup>c</sup>
	IIB, VB	1	0	0
	Others	1	1	1 <sup>c</sup>
X ≥ 30	All	0	0	0

**2.3.2 Exterior Envelope**

**2.3.2.1 Construction Materials**

The building envelope will be constructed as a steel braced frame building clad with 6 inch pre-manufactured insulated metal panels with an R-value of not less than R-36. The building will have a flat membrane roof to maximize the clear height within the building and provide support for refrigeration units.

**2.3.2.2 Openings**

Insulated metal doors will be used for all exterior openings, including both man doors and overhead doors. Overhead doors will be 10’ wide by 10’ tall and placed at 15’ centers. A door between the existing Dry Warehouse and TCW shall be installed as indicated on the drawings. The number of overhead doors in the dock area will be maximized, as per PhilaPort’s request. Windows will only be provided in the administrative area to minimize the number of penetrations into the envelope.

## 2.3.3 Interior Layout and Design

### 2.3.3.1 Space Requirements

- Building size to be approximately 169,650 square feet.
- Building height under roof steel to be approximately 68 feet (see drawings for building elevations).
- Six storage rooms: two freezer areas, and four small cooler areas. A small perishables inspection area including a small bathroom.
- An administrative area including offices, conference room, bathroom facilities, storage, on the mezzanine meeting ADA access requirements.
- Electrical room including a small bathroom (not shown on the drawings) and refrigeration room on exterior of building to service warehouse.

### 2.3.3.2 Interior Finishes

The structure will be comprised of insulated metal panels within the storage spaces. Panels are to be one-piece, double sided and rooms to be designed to eliminate frost and condensation. In the office spaces, the partitions are to be painted drywall, the ceiling to be lay-in acoustical tile, and the floor to be a resilient tile. Flush wood doors will be provided.

## 2.4 Mechanical Design

### 2.4.1 Code and Standards

The applicable codes and standards that will be used as it relates to mechanical and refrigeration systems are:

- 2018 International Mechanical Code (IMC)
- 2018 International Energy Conservation Code
- 2018 International Plumbing Code

Ambient temperature for calculation of system capacity will use current published ASHRAE weather data for Philadelphia (Cooling = 93.4°F DB ; 75.0° F WB) (Heating = 13.8° F DB).

IMC 2018 Table 403.3.1.1, Refrigerated Warehouse/Freezer requirements may be applicable.

### 2.4.2 Refrigeration System

Rooftop (penthouse-style) evaporator units are required. The systems will be ammonia based, which are typically used for industrial large-scale refrigeration systems. Two storage rooms will be designed for freezing applications (-5° to 31°F). Four storage rooms will be designed for cooler applications (32° to 60°F). The inspection room and loading dock is required to be refrigerated to 50° F and dehumidified. A dedicated room to house the ammonia compressors and refrigerant receivers should be incorporated. Space will need to be allocated for the evaporative condensers on the exterior roof above the refrigeration machinery room.

The refrigeration system shall be a pump re-circulation type with a pump receiver. There shall be a central computer control system. The evaporators and condensers shall be constructed of stainless steel. Each evaporator shall utilize a float drainer type of hot gas defrost so that the evaporator can be utilized for heating of the space.

A summary of the refrigeration load calculations is as follows:

<b>Refrigeration Load Summary</b>			
	General Area (ft <sup>2</sup> )	Temperature	Tons
Freezer 1	61,100	-5° - 31°	180
Freezer 2	14,000	-5° - 31°	40
Cooler 1	32,100	32° - 60°	56
Cooler 2	8,100	32° - 60°	14
Cooler 3	10,100	32° - 60°	18
Cooler 4	8,000	32° - 60°	14
Loading Dock	28,000	50°	92
Inspection Room	2,700	50°	8
<b>Total</b>	<b>164,100</b>		<b>422</b>

Based on the calculations, the equipment configuration shall be as follows:

- Two, 220-ton capacity ammonia compressors to serve the freezer spaces. The compressors shall be screw type with 500 HP motors. Two, 202-ton capacity ammonia compressors to serve the cooler, loading dock, and inspection room spaces. The compressors shall be screw type with 300 HP motors. Two, 7,326 MBH heat rejection capacity condensers. The compressors and condensers are sized for 100% redundancy in a duty/standby configuration. Each condenser shall have three 10 HP fan motors and one 7.5 HP pump motor. The condensers shall be forced draft evaporative type.
- The evaporator units shall be penthouse style for the storage spaces. The evaporator units shall be equipped with supply air ductwork that shall extend down through the roof and distributes the air horizontally across the refrigerated area. The return air will be unducted and will extend up through a grated opening in the penthouse. Ammonia piping shall be routed outdoors on the roof. Provide welded steel piping system for the ammonia piping.
- Provide leak detection systems for ammonia. The refrigeration machinery room shall be equipped with emergency exhaust fans sized for 30 air changes per hour that shall activate upon detection of elevated ammonia levels. Provide electric unit heaters for the refrigeration machinery room and the electrical room with shutoff sequence connected to the leak detection system in case of emergency.
- Provide dehumidification units for the loading dock and inspection rooms. The dehumidifiers shall be packaged rooftop desiccant wheel type dehumidifiers with electric heat reactivation. The spaces shall be maintained at 50°F dry bulb temperature. Initial dehumidifier sizing is based on maintaining the spaces at a dewpoint temperature sufficiently below dry bulb to minimize condensation on interior surfaces:
  - Provide dehumidifiers capable of 474 lbs/hr of moisture removal for the loading dock. Initial selection indicates that (2) units at 237 lbs/hr each will be required.
  - Provide dehumidifier capable of 50 lbs/hr of moisture removal for the inspection room.
- The loading dock and inspection room shall be equipped with evaporator units to provide the cooling capacity for 50°F dry bulb temperature.
- Refrigeration room shall be equipped with leak alarms connected to shutdowns
- All piping must be pitched back to mechanical room:
  - Refrigeration condensers should be located on mechanical room roof.
- Ammonia system:
  - Only welded pipe and coils are allowed – valve stations and potential leak points must be on roof.
- Floor warming manifolds should be located in the mechanical room.
- One loading dock door should be designed to accommodate a trash compactor.
- Design-Build contractor will complete detailed design and installation to provide most efficient and low maintenance system.

- DB contractor may utilize Shared header across all suction regulators and vessels and compressors for a more efficient system
- DB contractor may utilize the spare compressor/motor for other use while not in service.
- DB contractor may Remove dehumidifiers on the dock and use the evaporators in penthouse design for temperature control and dehumidification to achieve design requirements.
- All refrigeration equipment motor starters should be in the electrical room.

### **2.4.3 HVAC System**

Provide factory-packaged, rooftop single-zone HVAC unit for office/administrative spaces. This unit shall provide the code required ventilation air for occupied spaces. The unit shall utilize electric heating. Duct detectors are required in return air systems over 2,000 cfm that are capable of spreading smoke beyond the space served. DB contractor shall provide appropriate cooling system in the IT room. Mechanical (3,000 SF) and Electrical (3,000 SF) Rooms shall be equipped with appropriately sized unit heaters and ventilation systems.

### **2.4.4 Freezer Slab Warming System**

Provide floor warming system to prevent slab heaving in freezer areas. The floor warming system shall consist of polyethylene or PEX tubing that is installed below the insulation layer of the slab. The system shall use glycol that is heated by the waste heat from the ammonia refrigeration system. Ammonia hot gas discharge from the freezer compressor shall be piped to a heat exchanger. The heat exchanger shall be a plate and frame type and shall be 250 MBH capacity. Provide (2) 100 gpm, 10 HP glycol pumps and associated accessories for closed loop glycol system. The heat exchanger shall heat the glycol. The glycol shall then be pumped through the underground tubing. The piping headers shall be located outside of each freezer space.

## **2.5 Electrical Design**

### **2.5.1 Codes and Standards**

- NFPA 70, 2017- National Electric Code
- NFPA 70E, 2018
- Illuminating Engineering Society
- Pennsylvania Department of Labor and Industry
- IECC 2018 – International Energy Conservation Code

### **2.5.2 Area and Room Classification**

The cold storage warehouse will have a total area of at least 165,000 square feet, and a building height of approximately 75 feet. The building will be divided into at least six separate cold storage areas whose temperatures will range from -5° F to 60° F. The assumption is that the storage areas will have the potential to be humid or wet. Electrical materials of constructions will be designed to withstand wet/corrosive environments and the specified temperature range.

A separate, conditioned electric room will be included to house major electrical power distribution equipment.

### 2.5.3 Power Distribution

The existing Dry Storage Warehouse has a medium voltage substation which receives 13.2 kV power from a single Pennsylvania Electric Company (PECO) feeder. This switchgear has a spare 13.2kV fused switch that is designated to provide power to the new Cold Storage Building. A 15kV rated underground duck bank with service conductors is proposed to feed power from the existing Dry Storage Building substation to a service entrance fused switch and new stepdown transformer to power the new Cold Storage Warehouse. The transformer secondary will provide 480/277-volt wye power to feed a new 480/277 switchgear in the Cold Storage Building electric room. From here, circuit breakers will provide power to individual 480 volt loads and distribution panelboards throughout the facility. Individual stepdown transformers will be provided for 208/120-volt panelboards.

Major electrical loads will include:

- Cooling equipment
- Lighting
- Automatic racking system (by others)
- Reefer plugs at each docking area doors to power refrigeration truck cooling during loading/unloading

The Electric Room will be located adjacent to the Mechanical Room where large compressor loads will be housed so to minimize long runs of large conduit and conductors. Power feeders for roof mounted equipment (i.e. Condenser Fan Units) shall be run along the roof. Multiple power panelboards will be provided along the interior of the loading dock to power overhead doors and Reefer Plugs. Likewise, multiple panelboards shall be located across the facility to power lighting circuits. Separate feeder circuit breakers will be provided to the Automatic Racking System’s (ARS) OEM control panel and load centers from which the loads of the ARS will be fed.

### 2.5.4 Emergency Power

The baseline electrical design includes a feeder from the existing dry storage building substation, as well as an automatic transfer switch (ATS) and a redundant electrical feeder. The ATS would continuously monitor each service entrance. Should the ‘active’ service entrance fail, the ATS would automatically switch to the secondary service entrance to maintain power to the facility. The availability and cost of extending a second PECO medium voltage service must be verified during future design phases of this project by the DB contractor.

### 2.5.5 Conduit Schedule

Conduit will be surface mounted in all storage areas and concealed above drop ceilings in finished areas. The conduit types used depend on the area of installation but will generally be as follows:

Area	Conduit Types
Interior corrosive	PVC Schedule 40 and 80
Interior wet	PVC-coated rigid galvanized steel
Hazardous	PVC-coated rigid galvanized steel or aluminum
Exterior above grade	PVC-coated rigid galvanized steel or aluminum
Exterior below grade in ductbank (power)	PVC Schedule 40

### 2.5.6 Conductors

Wiring will be stranded copper with the exception of some lighting and receptacle circuits of #10 AWG and smaller, which will be solid copper. Conductor insulation will be Type THWN/THHN. Major feeder conductors will be Type RHW/USE and shielded instrumentation conductor with PVC insulation and nylon jacketing.

Medium Voltage cable shall be single conductor, 133 percent insulation level, Type MV-90, stranded copper with extruded shield, insulation voltage rating 15,000 volts.

## 2.5.7 Enclosure Schedule

Area	Enclosure Rating
Interior non-classified	NEMA 12
Interior corrosive	NEMA 4X
Interior wet	NEMA 4X
Hazardous	NEMA 7
Exterior above grade	NEMA 4X

## 2.5.8 Motors

Motor sizes are selected based on the individual process equipment requirements. All motors will be required to be premium efficiency meeting the standards set forth in the applicable requirements of the U.S. Energy Policy Act.

Minimum motor power factor is specified at 85 percent. Motors 7-1/2 HP and larger not meeting this minimum are required to have their power factor corrected to 90 percent. Where applicable, adjustable speed drives, typically variable frequency drives, are provided to vary the speed of motors as the driven load characteristics vary.

## 2.5.9 Lighting

Lighting for warehouse areas of the facility will be high bay LED type fixtures. Supplemental LED lighting fixtures shall be provided and wall mounted along the perimeter of the interior of the building to aid egress. Office areas shall be LED fixtures suitable for mounting in a ceiling grid. Directional 'Exit' shall be provided per building code requirements. Exterior lighting shall be provided on the exterior walls of the structure above man doors and loading doors. Per Pennsylvania Energy Code, lighting energy shall be limited to 0.8 Watts per square foot in warehouse areas, and 1.0 Watts per square foot in office areas. The lighting design shall provide emergency lighting per IMC Section 1008. The DB contractor is responsible for external/internal lighting and shall meet all current code/OSHA requirements and designed for 24-hr operation. Exterior building mounted lights should be added where pole mounted lights do not exist.

## 2.6 Fire Protection

### 2.6.1 Applicable Codes and Standards

The following codes and standards are applicable to this project scope

- Pennsylvania Uniform Construction Code (PUCC), 2022 Edition
- International Building Code (IBC), 2018 Edition, as adopted and amended by the PUCC
- International Fire Code (IFC), 2018 Edition, as adopted and amended by the PUCC
- NFPA 13, "Standard for the Installation of Sprinkler Systems," 2016 Edition
- NFPA 72, "National Fire Alarm Code," 2016 Edition

### 2.6.2 Automatic Sprinkler Systems

#### 2.6.2.1 General Design Considerations

New automatic sprinkler systems will be provided for the building. Dry-pipe systems will be provided for areas of the building maintained below 40° F (freezer areas (below 32° F) and cooler areas, (below 40° F)) in accordance with NFPA 13, Sections 7.8 and 8.16.4.1.1. Other areas of the building maintained above 40° F (loading dock, offices, mechanical/electrical spaces) will be provide with wet-pipe systems. The systems will be connected to the existing 10-inch supply in the existing building. A free-standing or wall-mounted fire department connection (FDC) will be provided for fire department use; final location will be coordinated with and approved by the local fire department. The FDC will



be a 4-inch x two 2½-inch inlets fire department connection in accordance with NFPA 13, 8.17.2. A check valve, automatic ball drip, and signage will be provided for the FDC.

All valves controlling the water supply for the hose stations, valves controlling the sprinkler systems and the water flow switches will all be electrically supervised. Actuation of any of the automatic sprinkler systems will also actuate the building fire alarm system via the system waterflow switches. All sprinkler system circuits will be connected to the building fire alarm control panel. See Fire Alarm and Detection section below for additional information.

### **2.6.2.2 Commodity Classification and Storage Configuration**

The stored commodities are currently programmed to include fruit and frozen dog food products stored on wooden pallets within corrugated cartons with shrink wrapping on the sides (unencapsulated). To account for possible plastic wrapping of individual products (less than 5 percent plastic by weight and volume) the commodity classification has been initially determined to be Class III under the provisions of NFPA 13 and Class II under the provisions of the IFC. These commodity classifications will be verified as the design progresses. Current programming has the commodities stored within multiple row racks with an automated storage and retrieval system (ASRS). Sprinkler piping shall be routed to avoid conflict with the ASRS.

### **2.6.2.3 Storage Areas Dry-Pipe System Design Considerations**

Each dry-pipe sprinkler system will consist of an indicating control valve with supervisory switch, dry-pipe valve and associated trim, pressure type water flow switch, and a combination inspector's test, main drain, and relief valve. Each system will be provided with a supervisory nitrogen system and an automatic air vent will be provided at or near the high point of each system. The systems will utilize black schedule 40 steel piping for all system piping. The ceiling level systems will be supported by and hung from the building structural steel system. The in-rack sprinklers will be supported by and connected to the racking system and will be designed to avoid interferences from and accidental breakage by the automated storage and retrieval system. DB contractor shall complete detailed design of all required sprinkler systems, including in-rack system including integration considerations, and the installation of the building's sprinkler system as required by the Authorities Having Jurisdiction (AHJ). In-rack sprinkler system shall be installed under a separate project.

### **2.6.2.4 Freezer Areas System Design**

Due to the programmed ceiling height of 75 feet freezer areas will be protected by ceiling level CMDA sprinklers and in-rack sprinklers in accordance with the provisions of NFPA 13 Section 16.3.1, "Control Mode Density/Area Sprinkler Protection Criteria for Rack Storage of Class I Through Class IV Commodities Stored Over 25 ft in Height." In accordance with Table 16.3.1.2 the sprinkler protection shall include the following design parameters.

- Ceiling Sprinkler Operating Area: 2,600 square feet (increased from 2,000 ft<sup>2</sup> as required by NFPA for dry-pipe system)
- Ceiling Sprinkler Design Density: 0.30 gpm/square foot
- Ceiling Sprinkler Operating Temperature: 165° F
- Maximum Clearance to Ceiling: 10 feet
- Maximum Ceiling Height: None
- Maximum Storage Height: None
- In-Rack Sprinklers Maximum Vertical Spacing: 15 feet
- In-Rack Sprinklers Maximum Horizontal Spacing in Flue A: 10 feet
- In-Rack Sprinklers Maximum Horizontal Spacing Across Flue: 10 feet
- In-Rack Sprinkler Stagger: Between Adjacent Flues
- In-Rack Sprinkler Figure: 16.3.1.3.1.3(A)(b)
- Maximum Spacing from Top of Storage to Highest In-Rack Sprinklers: 10 feet

In accordance with NFPA 13, Section 16.3.1.3.3 the in-rack sprinkler demand shall include 10 sprinklers (five on each two top levels).

In accordance with NFPA 13, Section 16.3.1.3.3.1 the in-rack sprinkler discharge shall not be less than 30 gpm from each sprinkler.

In accordance with NFPA 13, Figure 16.3.1.3.1.3(A)(b) horizontal barriers are not required within the racking system.

### 2.6.2.5 Cooler Areas System Design

With a programmed ceiling height of 45 feet the cooler areas will be protected by ceiling level CMSA sprinklers in accordance with the provisions of NFPA 13, 2022 Edition, Chapter 24, “Alternate Sprinkler System Designs for Chapters 20 Through 25.” In accordance with Table 24.3.3, the sprinkler protection shall include the following design parameters:

- Maximum Storage Height: 40 feet
- Maximum Ceiling/Roof Height: 45 feet
- Nominal K-Factor: 25.2
- Number of Operating Sprinklers: 12
- Minimum Operating Pressure: 50 psi
- In-Rack Sprinklers Required: No
- Maximum Water Delivery Time: 20 seconds

### 2.6.2.6 Other Building Areas System Design

All other areas of the building will be provided with wet-pipe sprinkler systems. Each wet-pipe sprinkler system will consist of an indicating control valve with supervisory switch, check valve, paddle type water flow switch, and a combination inspector’s test, main drain, and relief valve. The wet-pipe systems will utilize black schedule 40 steel piping for 2-inch and smaller branch line piping and black schedule 10 steel piping for 2½-inch and larger main piping. Quick response standard-temperature and intermediate-temperature upright, pendent, and horizontal sidewall sprinklers will be provided as applicable based on building construction. All areas with acoustical tile or gypsum board ceilings will include recessed pendant sprinklers. All sprinklers in acoustical tile ceilings will be centered in the tiles in both directions in 2x2 tiles and either centered or at the quarter points in 2x4 tiles. All exposed areas will include upright sprinklers. Sidewall sprinklers will be utilized based on ceiling configuration, as needed.

Any rack storage areas within the loading dock area will be protected as required by NFPA 13.

Zoning - NFPA 13 Section 8.2.1 limits the maximum area per sprinkler zone to 52,000 square feet for Light and Ordinary Hazard occupancies. In accordance with NFPA 13, an automatic air vent will be provided at or near the high point of each sprinkler system.

Based on the requirements in the applicable criteria and current proposed building uses, the proposed hazard classification for the sprinkler system in the other building are presented herein. The building includes offices, conference rooms, corridors, restrooms, mechanical, electrical, and janitor closets. Therefore, using NFPA 13 requirements, the building other building areas are classified as follows:

Occupancy Classification	Use	Design Density (gpm/ft <sup>2</sup> )	Hose Stream (gpm)
Light Hazard (LH)	Offices, Conference Rooms, Corridors, Restrooms	0.10	100
Ordinary Hazard, Group 1 (OH1)	Mechanical, Electrical, IT, Janitor Closets, Loading Dock	0.15	250

Note: the NFPA 13 design area is 1500 sq. ft for LH and OH1 including area reductions for the use of quick response sprinklers.

## 2.6.3 Water Supply

The water supply for the building will be provided by the existing building supply and fire pump assembly. The existing dry warehouse water supply includes a 10-inch capped line routed to the southeast corner of the building that was designed as the supply for the future cold storage building. The new TCW will connect to this line which will serve as the dedicated building sprinkler system supply serving the wet-pipe and dry-pipe sprinkler risers.

The existing dry warehouse fire pump is diesel engine driven and is rated for 2,500 gpm at 100 psi.

Based on the current programmed sprinkler system and TCW designs, and the known data on the existing facility fire pump, preliminary hydraulic analysis shows that the available water supply is adequate to supply the estimated sprinkler system demand. This will be verified as the design progresses by the DB contractor.

## 2.6.4 Hose Stations

A standpipe system is not required for the building under the IBC Section 903.3. Hose stations will be provided in accordance with NFPA 13, Section 13.2 if required by the Authority Having Jurisdiction. This will be confirmed as the design progresses.

## 2.6.5 Fire Alarm and Detection System

A new digital, addressable (horn/strobe non-voice communication) fire alarm system will be provided for all portions of the building. The system will include manual pull stations, smoke detectors, heat detectors, duct detectors, monitoring of the sprinkler systems valve supervisory switches and flow switches, and notification devices, including horns, strobes, and combination horn/strobes. The system may function as an extension of the dry warehouse fire alarm system.

A new remote fire alarm panel (FAP) will be located in the TCW, and power supply extender panels will be provided as needed within the facility. Power will be provided from emergency power backed electrical circuits. All fire alarm circuits for building will be class B. Because this building will not employ partial evacuation or relocation during a fire alarm event, pathway survivability 1 will be provided. All fire alarm circuits will be provided within a minimum 3/4-inch electrical metallic tubing (EMT).

### 2.6.5.1 Manual Fire Alarm System

A manual fire alarm system consisting of manual pull stations is not required per IBC Section 907.2. However, they will be provided in the TCW as an additional safety measure as provided in the Dry Warehouse in accordance with NFPA 72. Manual pull stations will be located such that they are provided within five feet of the entrance to each exit in accordance with the IBC 907.4.2.1. All pull stations will be mounted between 42 and 48 inches above finished floor in accordance with the IBC 907.4.2.2, NFPA 72 requirements.

### 2.6.5.2 Automatic Detection System

Automatic smoke detection will be provided the following areas:

- In the return of air handling units with capacities greater than 2,000 cfm (International Mechanical Code 606.2.1). Addressable relay modules will also be provided within 3 feet of the motor starter to shutdown unit via the fire alarm control panel upon duct smoke sensor activation.
- Above all fire alarm control panels, notification appliance circuit power extenders, and supervising station transmitting equipment to provide notification of a fire at that location (NFPA 72 10.4.4).

Activation of a system smoke or heat detector will activate a general building notification alarm. All horn/strobes throughout the building would initiate and transmit an alarm signal to the facility monitoring service. Activation of a system duct detector will activate a supervisory signal. Horn/strobes throughout the building would not initiate and the system would transmit a supervisory signal to the facility monitoring service.

Heat detectors will be used in lieu of smoke detectors sensors where ambient conditions are not suitable for smoke detectors.

### **2.6.5.3 Notification**

The notification portion of the fire alarm system will be provided in accordance with IBC, Section 907.5 and NFPA 72 and will consist of both visible and audible notification appliances, including horns, strobes, and combination horn-strobe devices. The strobe notification appliances will be ADA compliant, synchronized, and addressable. The strobe notification appliances will be provided in all common areas. The strobe intensity (candela rating) will be based on the dimensions of the specific room/area. Horn appliances will be provided to meet audibility requirements of NFPA 72, including a sound pressure level of 15 decibels (dBA) above the average ambient sound level in every occupied space. The locations of notification devices will include wall and ceiling mounted devices, based on room/space configurations and in accordance with NFPA 72 requirements.

An electronic bell will be provided on the exterior wall of the building and programmed to activate only upon sprinkler water flow.

### **2.6.5.4 Fire Protection System Supervision**

The fire alarm system will be connected to the fire protection systems in order to monitor valve positions and waterflow alarms as required by IBC 903.4. These devices will be connected to the fire alarm system via addressable interface devices.

### **2.6.5.5 Zoning**

IBC 907.6.4 requires that each floor be zoned separately and that a zone may not exceed 22,500 square feet. Furthermore, the length of each zone may not exceed 300 feet in any direction, with the exception of sprinkler zones which may coincide with the allowable area of sprinkler systems. Based on the programmed floor areas of the building a single zone will not be capable of covering each floor and zones will coincide with the sprinkler zones protecting each floor as permitted by the IBC exception.

### **2.6.5.6 Monitoring**

IBC 907.6.6 requires that the fire alarm system be monitored by an approved supervising station. The existing connection to the monitoring service for the facility will be maintained.

### **2.6.5.7 Security Interface**

An addressable relay module, connected to the fire alarm control panel, will be provided at the security panel, if provided, to disconnect lock power to the applicable exit doors during a fire alarm. This will be coordinated as the design progresses.

## **2.6.6 High Piled Combustible Storage**

The following is a summary of the requirements for the addition contained in Table 3206.2 of the IFC for general fire protection and life safety requirements for high-piled combustible storage.

- Automatic Fire Extinguishing System – Required
- Fire Detection System – Not Required
- Fire Department Access Doors – Required
- Smoke and Heat Removal – Required for cooler areas (CMSA sprinklers do not meet RTI requirements of Table note h. Not required for freezers areas due to commodity classification of Class II (Table note i) (see commodity classification discussion above).

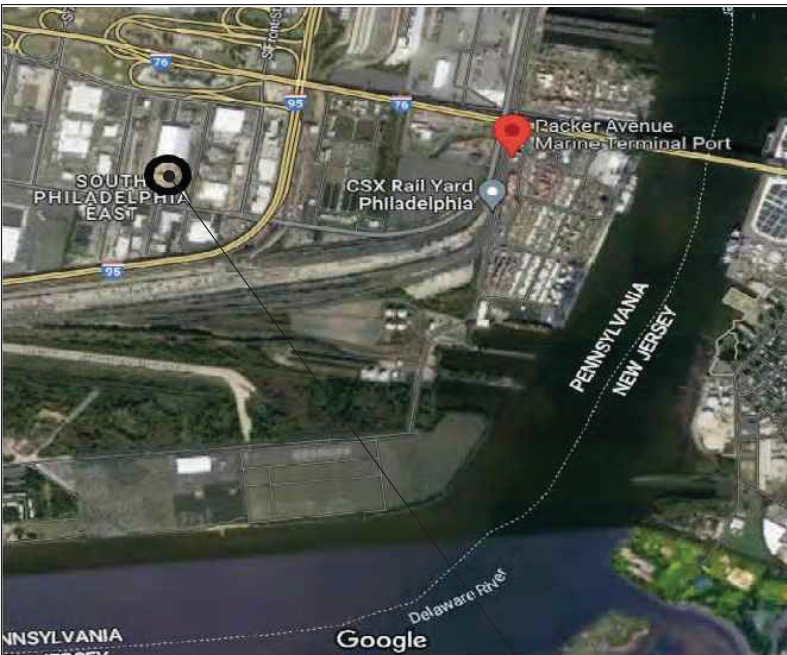
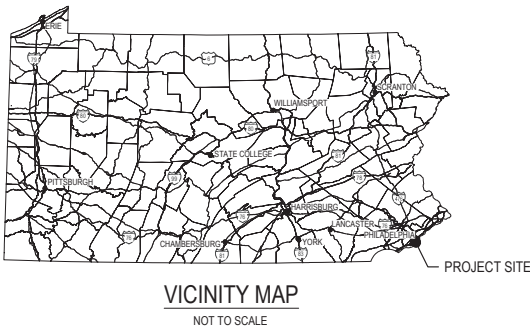


30% DESIGN DRAWINGS

# PHILADELPHIA REGIONAL PORT AUTHORITY TEMPERATURE CONTROLLED WAREHOUSE



PHILADELPHIA, PA 19148  
30% DESIGN APPROVAL  
APRIL 2023  
PROJECT NUMBER: 12589362



**CALL BEFORE YOU DIG**  
PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL  
PENNSYLVANIA ONE CALL SYSTEM, INC.  
1-800-242-1776 OR 811  
POCS SERIAL NUMBER:



SHEET INDEX		
SHEET NUMBER	DRAWING NUMBER	SHEET TITLE
1	G-001	COVER SHEET
2	C-001	GENERAL SITE LAYOUT
3	S-001	FOUNDATION PLAN
4	S-002	FOUNDATION PLAN
5	S-003	ROOF FRAMING PLAN
6	S-004	ROOF FRAMING PLAN
7	S-005	BUILDING SECTION
8	S-006	SECTIONS
9	S-007	COLUMN SCHEDULE
10	M-101	MECHANICAL PLAN
11	A-001	OVERALL FLOOR PLAN AND CODE DATA
12	A-101	PARTIAL FLOOR PLAN
13	A-102	PARTIAL FLOOR PLAN
14	A-103	ROOF PLAN AND MEZZANINE PLAN
15	A-201	BUILDING ELEVATIONS
16	A-301	BUILDING SECTION
17	E-001	LEGEND, SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES
18	E-101	ELECTRICAL SITE PLAN
19	E-102	ELECTRICAL AND MECHANICAL ROOMS PLAN
20	E-103	ELECTRICAL ONE-LINE DIAGRAM

**UNDERGROUND UTILITIES ACT:**  
THE CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF THE PENNSYLVANIA GENERAL ASSEMBLY UNDERGROUND UTILITY LINE PROTECTION ACT, PA ACT 287 OF 1974, AS AMENDED BY ACT 50 OF 2017, 73 P.S. § 176 ET SEQ., FOR NOTIFICATION OF UTILITIES BEFORE EXCAVATION IN THE CONTRACT AREA. THE ONE UNDERGROUND UTILITIES CALL NUMBER IS 800-242-1776 OR 811.

INDIVIDUAL LOCAL UTILITIES ARE AS FOLLOWS:

COMPANY: AT&T ATLANTA ADDRESS: 360 GEESE MILL BUSINESS PKWY NE CONYERS, GA. 30013 CONTACT: NANCY SPENCE NS2821@ATT.COM	COMPANY: VERIZON PENNSYLVANIA LLC ADDRESS: 15 E MONTGOMERY AVE PITTSBURGH, PA. 15212 CONTACT: OFFICE PERSONNEL	COMPANY: UGI UTILITIES INC ADDRESS: 1301 A I P DR MIDDLETOWN, PA. 17057 CONTACT: JOANNE ARCHFIELD jarchfield@ugi.com
COMPANY: COMCAST CABLEVISION ADDRESS: 1131 S DUKE ST LANCASTER, PA. 17602 CONTACT: MARK DEATRICK mark_deatrick@cable.comcast.com	COMPANY: XO COMMUNICATIONS INC ADDRESS: 1220 BROADCASTING RD WYOMISSING, PA. 19610 CONTACT: SCOTT DREILING scott.j.dreiling@xo.com	COMPANY: PPL ELECTRIC UTILITIES ADDRESS: 503 NEW MARKET ST WILKES BARRE, PA. 18702 CONTACT: MARK SANTAYANA mcsantayana@pplweb.com
COMPANY: ELIZABETHTOWN BOROUGH ADDRESS: 600 SOUTH HANOVER ST ELIZABETHTOWN, PA. 17022 CONTACT: WAYNE DEVAN wdevan@elzonline.com	COMPANY: CENTURYLINK ADDRESS: 122 BALTIMORE ST PO BOX 896 HANOVER, PA. 17331 CONTACT: LEO HILBERT leo.c.hilbert@centurylink.com	
COMPANY: ELIZABETHTOWN AREA WATER AUTHORITY ADDRESS: 211 W HUMMELSTOWN STREET ELIZABETHTOWN, PA. 17022 CONTACT: DEL BECKER		

PRELIMINARY

E	REISSUED FOR DESIGN	KY	SB	04-24-23	
D	REISSUED FOR DESIGN	KY	SB	04-04-23	
C	ISSUED FOR DESIGN	KY	SB	03-02-23	
B	ISSUED FOR 30% DESIGN APPROVAL	KY	SB	01-23-23	
A	ISSUED FOR 30% DESIGN REVIEW	KY	SB	11-15-22	
No.	Issue	Checked	Approved	Date	
Author	A. KRAJNA	Drafting Check	A. KRAJNA	Project Manager	S. BEIGER
Designer	A. KRAJNA	Design Check	K. YOUSEF	Project Director	D. D'AMICO

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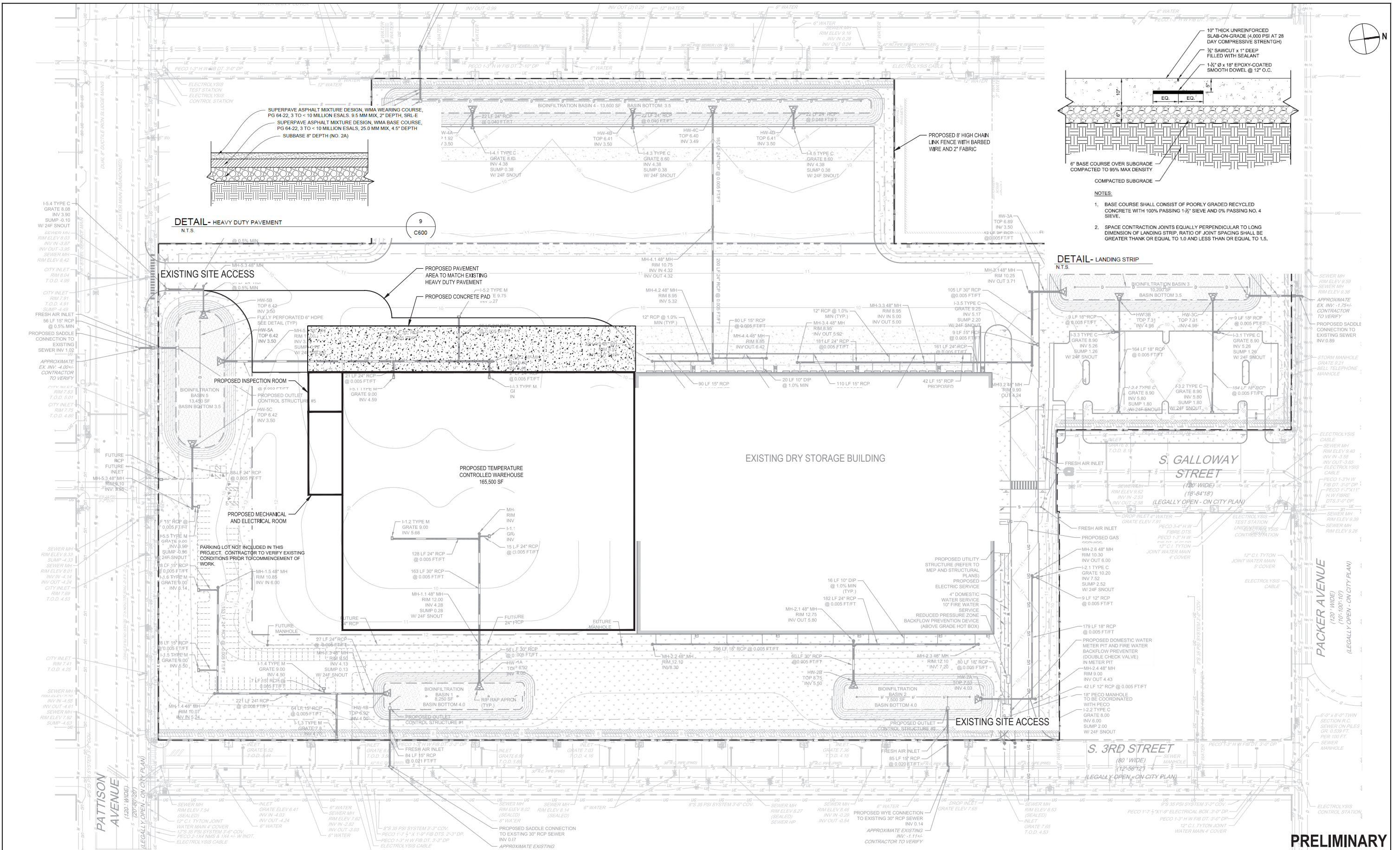
Client: PHILADELPHIA REGIONAL PORT AUTHORITY  
Project: TEMPERATURE CONTROLLED WAREHOUSE

Title: COVER SHEET

Project No. 12589362 Date: APRIL 2023 Scale: AS NOTED

Sheet No. G-001





**PRELIMINARY**

No.	Issue	Checked	Approved	Date	
A	ISSUED FOR DESIGN	KY	SB	03-22-23	
Author	A. KRAJNA	Drafting Check	A. KRAJNA	Project Manager	S. BEGER
Designer	A. KRAJNA	Design Check	K. YOUSEF	Project Director	D. D'AMICO

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Client **PHILADELPHIA REGIONAL PORT AUTHORITY**

Project **TEMPERATURE CONTROLLED WAREHOUSE**

Project No. **12589362**

Date **MARCH 2023**

Scale **NONE**

Title **GENERAL SITE LAYOUT**

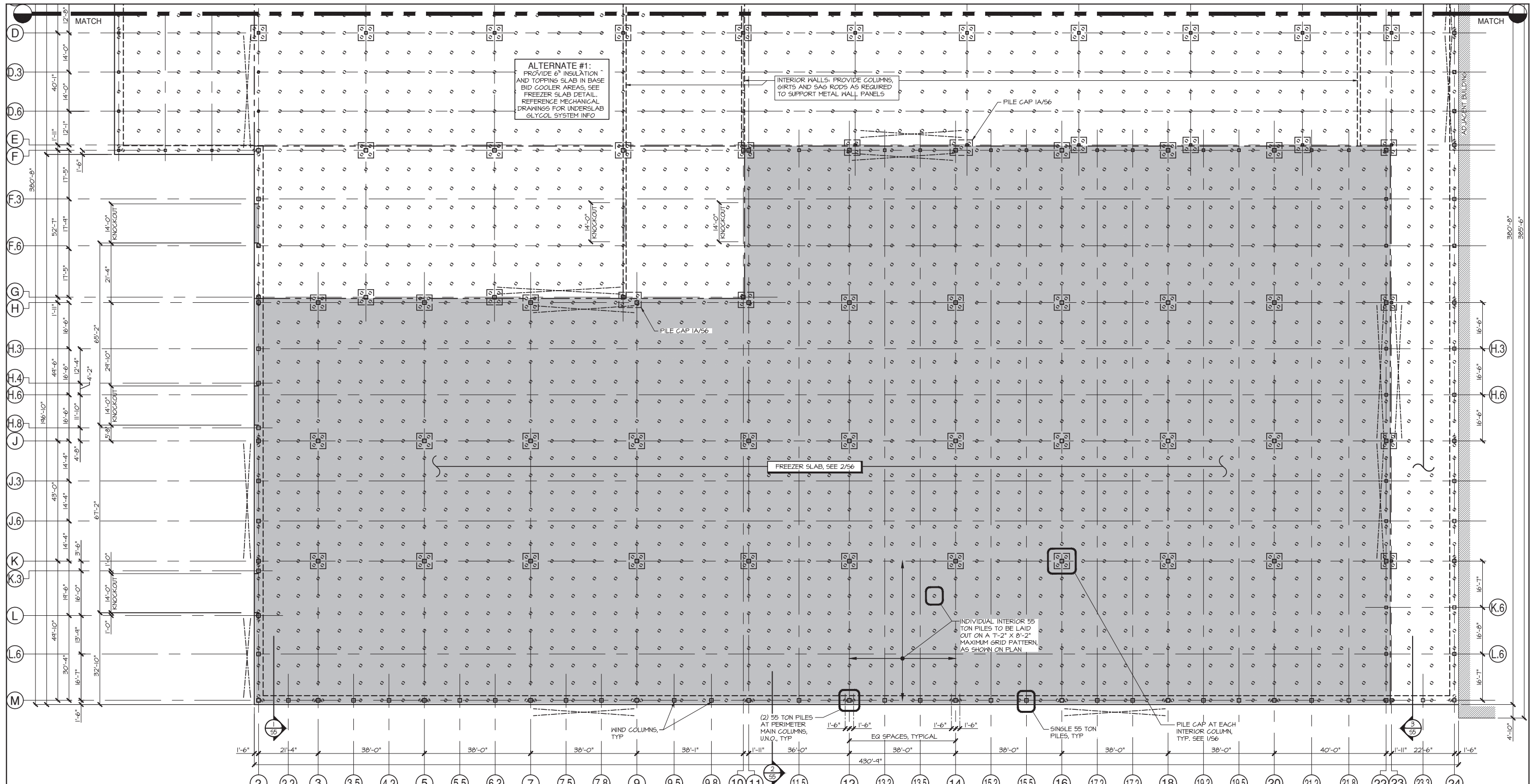
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Date **MARCH 2023**

Project No. **12589362**

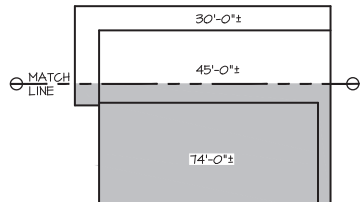




**FOUNDATION PLAN**

SCALE: 1/8"=1'-0"

- SEE TYPICAL DETAILS SHEET S6
- SEE SHEET S1 FOR COLUMN SCHEDULE
- SEE S1 FOR TYPICAL PILE NOTES ON PLAN
- --- DENOTES BRACED BAY, SEE I/S1
- ALL PILES TO HAVE 55 TON MINIMUM CAPACITY EACH
- SEE TYPICAL DETAILS SHEET S6
- SEE SHEET S1 FOR COLUMN SCHEDULE
- RACKING IS ASSUMED TO BE SUPPORTED BY A CONTINUOUS 4000 PSI CONCRETE SLAB WITHOUT JOINTS SHALL BE TIED TO PREVENT SEPARATION AND MINIMIZE MOVEMENT
- EXPANSION JOINTS ARE NOT PERMISSIBLE
- ANY AND ALL REINFORCEMENT IN THE SLAB WILL NEED TO BE ARRANGED TO AVOID RACK ANCHORS
- ALL FLOOR AREAS SHALL BE FINISHED TO THE FOLLOWING FLATNESS AND LEVELNESS CRITERIA: Ff = 35; Fl = 25
- RACK SYSTEM MANUFACTURER WILL DEVELOP A BASE PLATE & ANCHOR LAYOUT DURING DETAILED DESIGN. THE REBAR MUST BE POSITIONED ON SITE AT THE PROPER SPACING AND/OR DEPTH TO PREVENT INTERFERENCE WITH ANCHOR LOCATIONS.



**KEY AND ROOF ELEVATION REFERENCE PLAN**  
SCALE: NONE

C	REISSUED FOR DESIGN	RC	RC	4/4/23	
C	ISSUED FOR 30% DESIGN	RC	RC	3/2/23	
B	ISSUED FOR 30% DESIGN APPROVAL	RC	RC	1/23/23	
A	ISSUED FOR 30% DESIGN REVIEW	RC	RC	11-15-22	
No.	Issue	Checked	Approved	Date	
Author	R. CARR	Drafting Check	S. YUNDT	Project Manager	R. CARR
Designer	A. Van Dien	Design Check	R. CARR	Project Director	R. CARR

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Project **TEMPERATURE CONTROLLED WAREHOUSE**

Project No. **12589362**

Date **JANUARY 2023**

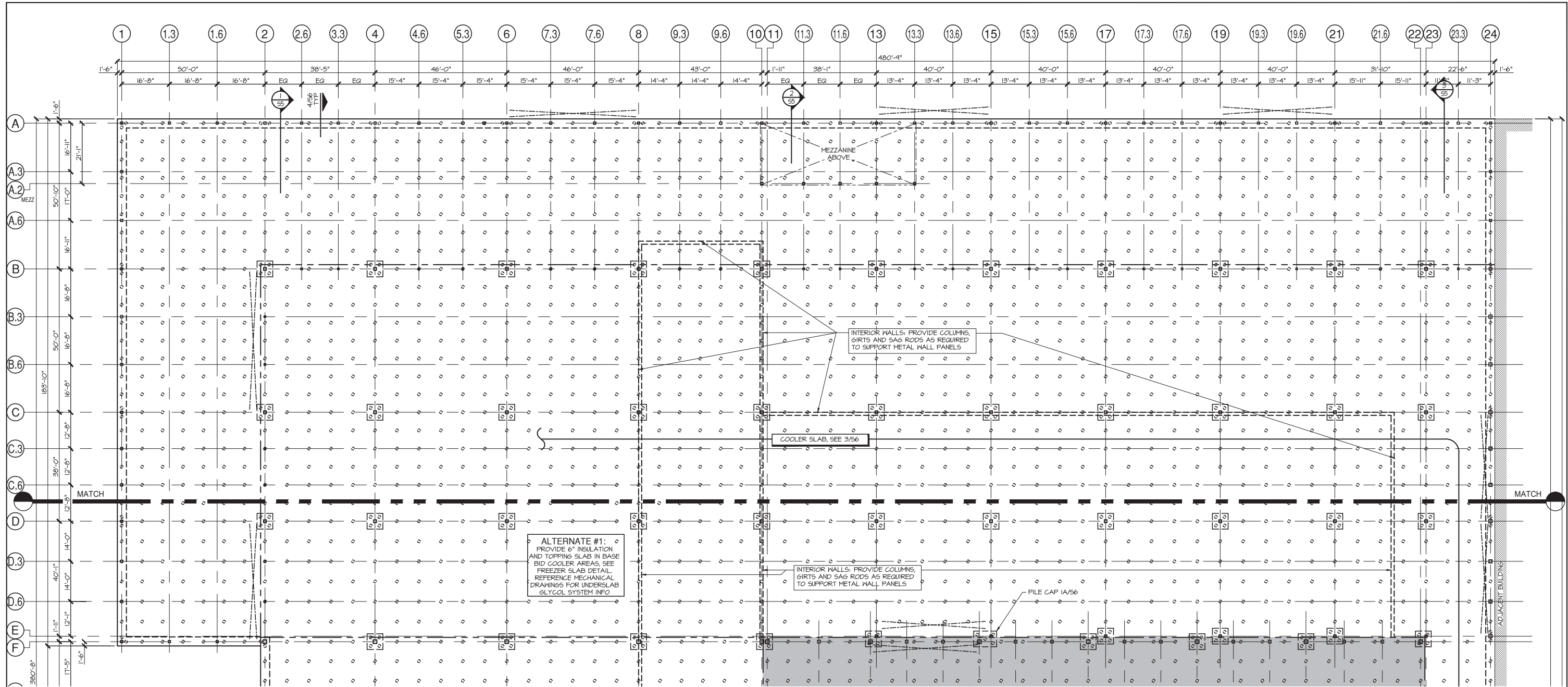
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Title **FOUNDATION PLAN**

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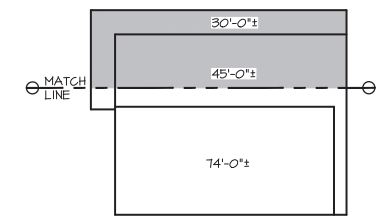
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**FOUNDATION PLAN**

SCALE: 1/8"=1'-0"

- SEE TYPICAL DETAILS SHEET 56
- SEE SHEET 51 FOR COLUMN SCHEDULE
- SEE S1 FOR TYPICAL PILE NOTES ON PLAN
- --- DENOTES BRACED BAY, SEE I/51
- ALL PILES TO HAVE 55 TON MINIMUM CAPACITY EACH
- SEE TYPICAL DETAILS SHEET 56
- SEE SHEET 51 FOR COLUMN SCHEDULE
- RACKING IS ASSUMED TO BE SUPPORTED BY A CONTINUOUS 4000 PSI CONCRETE SLAB WITHOUT JOINTS SHALL BE TIED TO PREVENT SEPARATION AND MINIMIZE MOVEMENT
- EXPANSION JOINTS ARE NOT PERMISSIBLE
- ANY AND ALL REINFORCEMENT IN THE SLAB WILL NEED TO BE ARRANGED TO AVOID RACK ANCHORS
- ALL FLOOR AREAS SHALL BE FINISHED TO THE FOLLOWING FLATNESS AND LEVELNESS CRITERIA: FF = 35; F1 = 25
- RACK SYSTEM MANUFACTURER WILL DEVELOP A BASE PLATE & ANCHOR LAYOUT DURING DETAILED DESIGN. THE REBAR MUST BE POSITIONED ON SITE AT THE PROPER SPACING AND/OR DEPTH TO PREVENT INTERFERENCE WITH ANCHOR LOCATIONS.

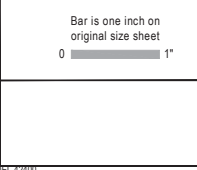


**KEY AND ROOF ELEVATION REFERENCE PLAN**  
SCALE: NONE

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A	ISSUED FOR 30% DESIGN REVIEW	RC	RC	11-15-22
No.	Issue	Checked	Approved	Date
Author	R. CARR	Drafting Check	S. YUNDT	Project Manager
Designer	A. Van Dien	Design Check	R. CARR	Project Director
			R. CARR	

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Project **TEMPERATURE CONTROLLED WAREHOUSE**

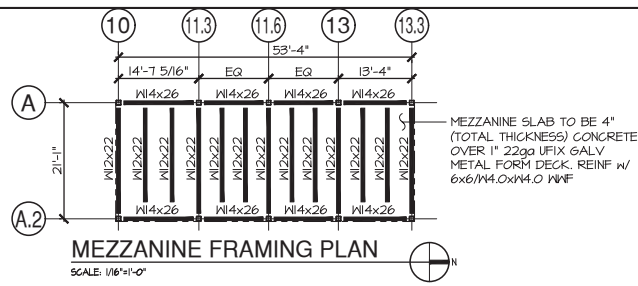
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Project No. **12589362** Date **JANUARY 2023** Scale **AS SHOWN**

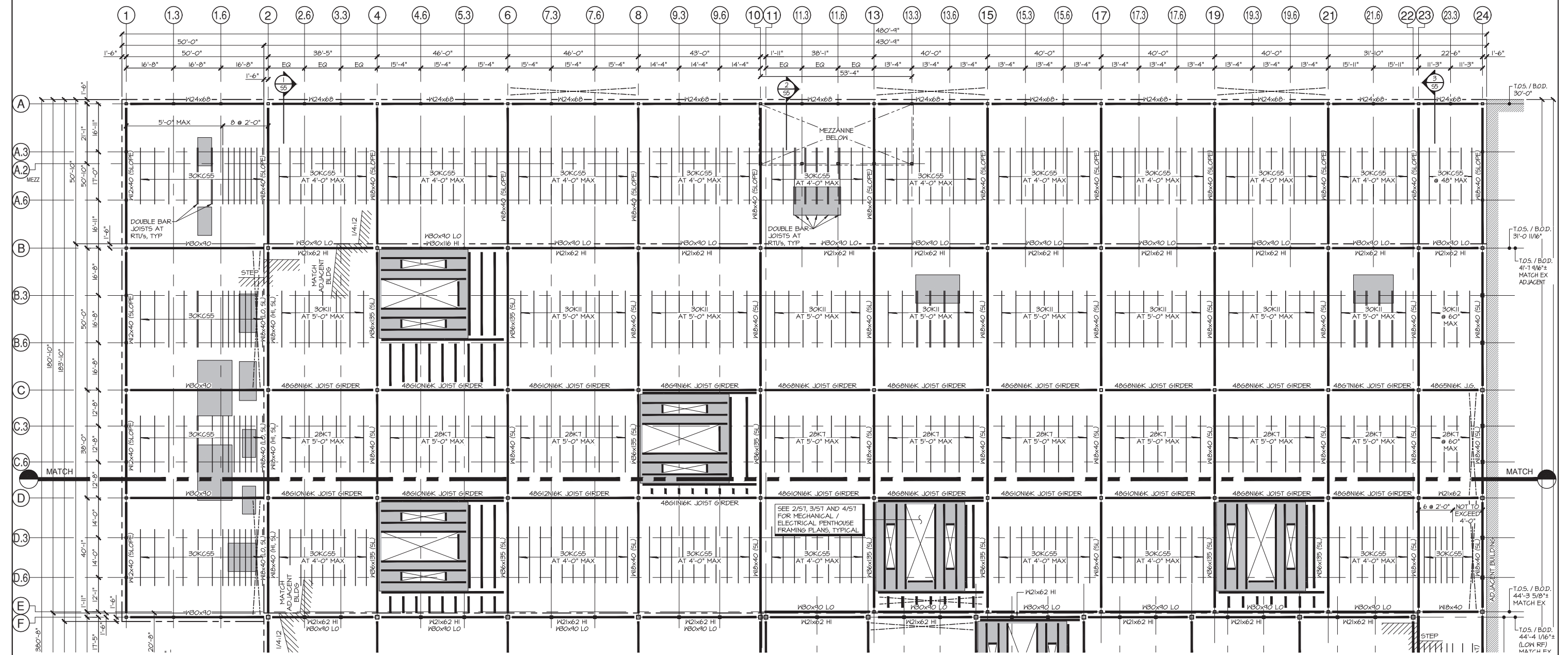
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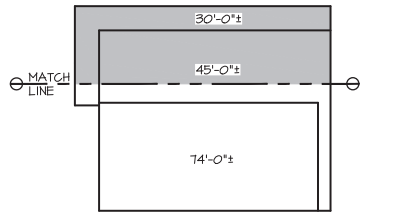


**MEZZANINE FRAMING PLAN**  
SCALE: 1/8"=1'-0"



**FRAMING PLAN**  
SCALE: 1/8"=1'-0"

- SEE TYPICAL DETAILS SHEET S6
- SEE SHEET S7 FOR COLUMN SCHEDULE AND PENTHOUSE FRAMING
- --- DENOTES BRACED BAY, SEE 1/51
- ALL WALL GIRTS TO BE MC6x18, TYP U.N.O., SEE 5/56, 6/56 AND 1/51
- ROOF DECK TO BE 1/2", 20ga TYPE 'B' GALVANIZED METAL ROOF DECK



**KEY AND ROOF ELEVATION REFERENCE PLAN**  
SCALE: NONE

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A	ISSUED FOR 30% DESIGN REVIEW	RC	RC	11-15-22
No.	Issue	Checked	Approved	Date
Author	R. CARR	Drafting Check	S. YUNDT	Project Manager
Designer	A. Van Dien	Design Check	R. CARR	Project Director
			R. CARR	

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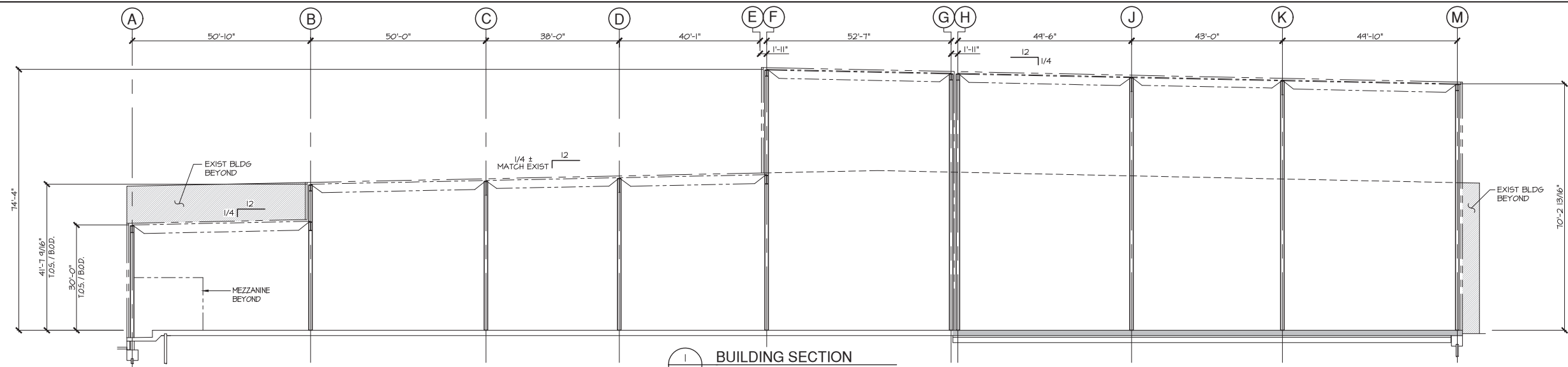
Client **PHILADELPHIA REGIONAL PORT AUTHORITY**  
Project **TEMPERATURE CONTROLLED WAREHOUSE**

Project No. **12589362** Date **JANUARY 2023** Scale **AS SHOWN**

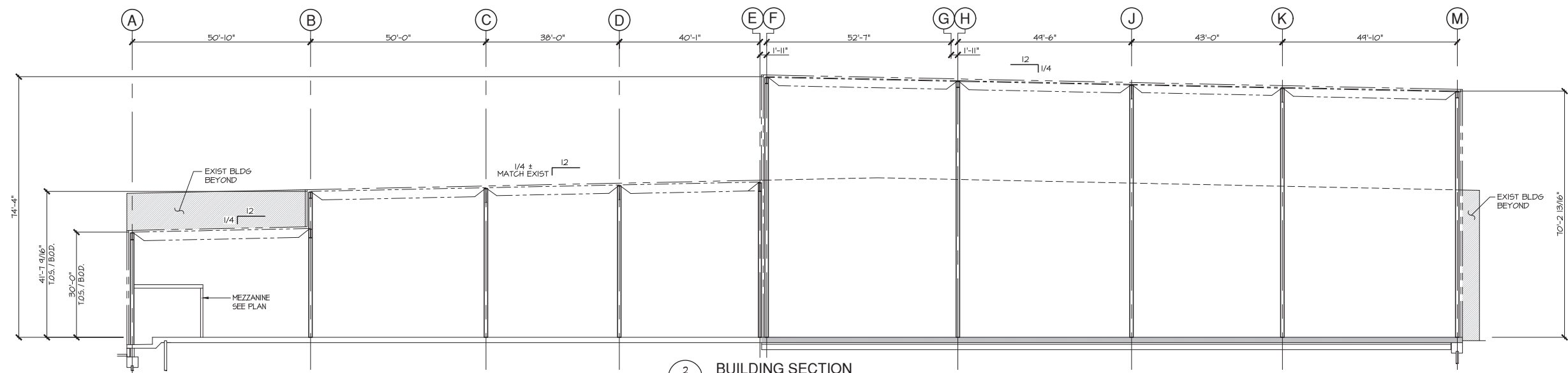
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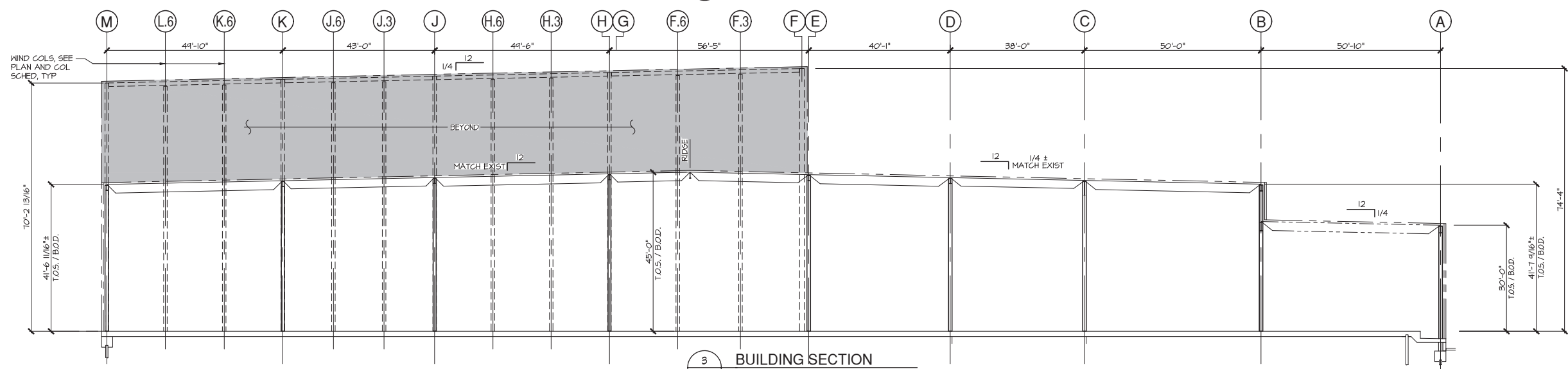
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2 BUILDING SECTION  
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3 BUILDING SECTION  
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B	ISSUED FOR 30% DESIGN APPROVAL	RC	RC	1/23/23
A	ISSUED FOR 30% DESIGN REVIEW	RC	RC	11-15-22
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Author	R. CARR	Drafting Check	S. YUNDT	Project Manager
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			R. CARR	

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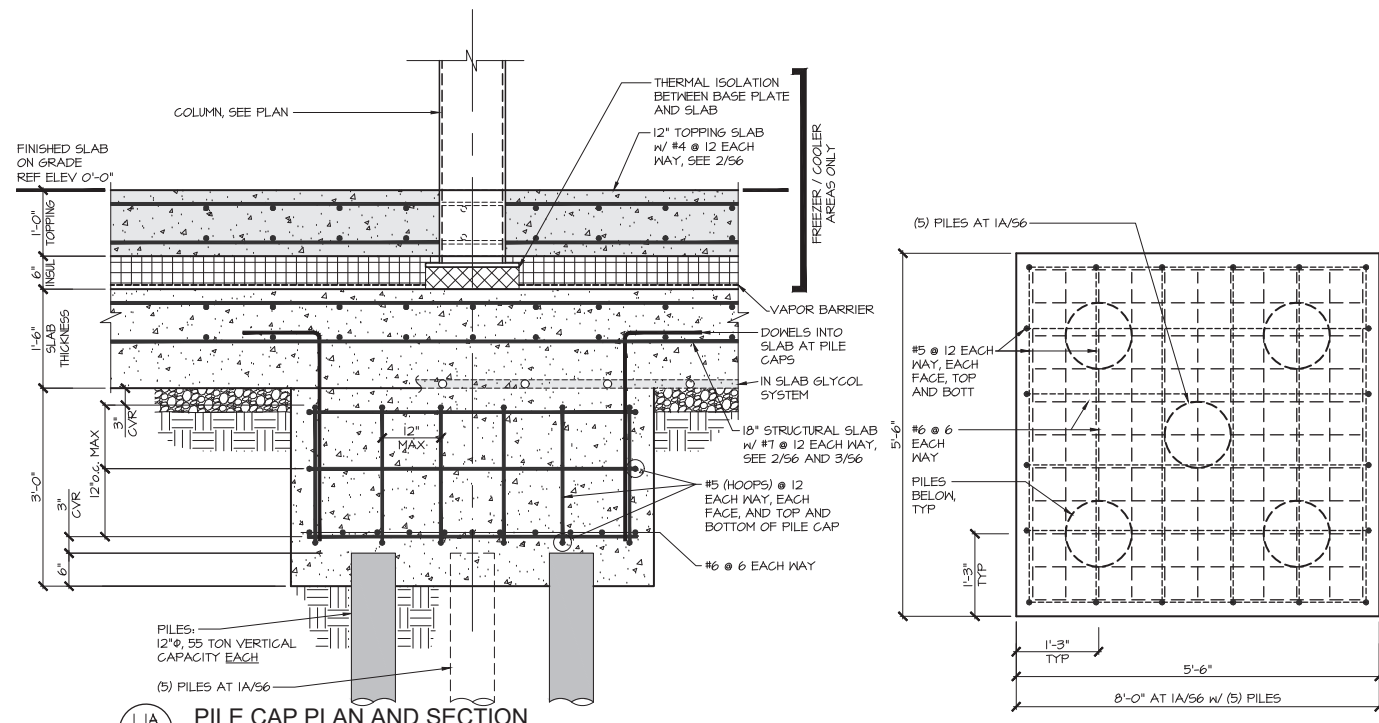


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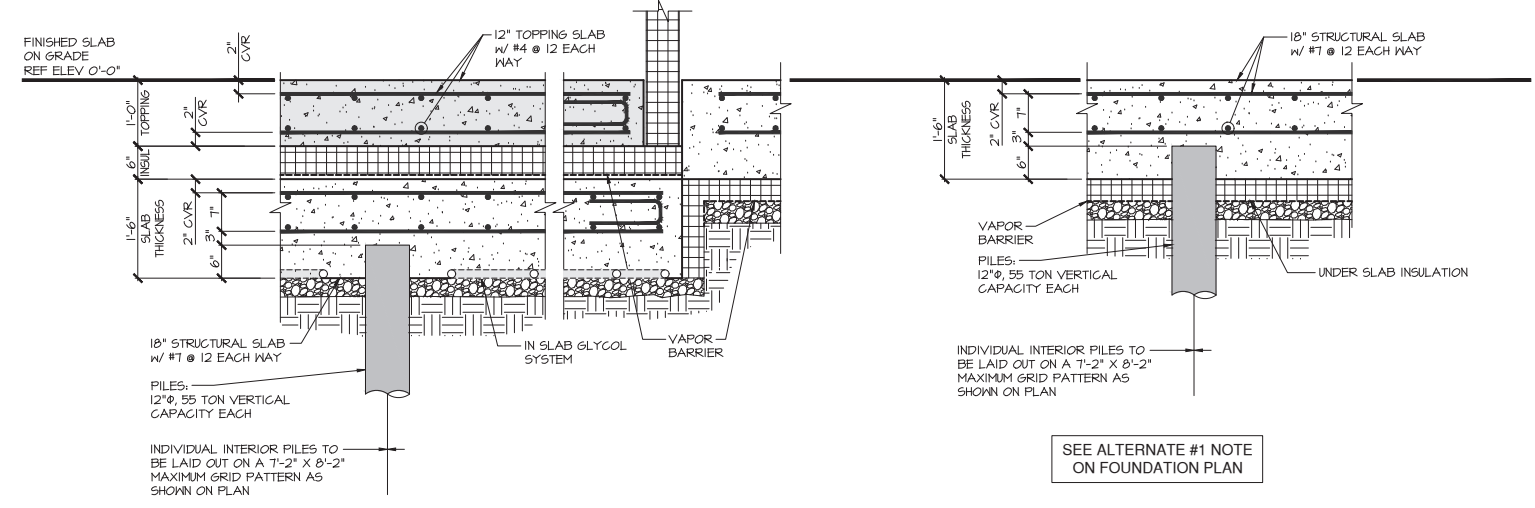
Client **PHILADELPHIA REGIONAL PORT AUTHORITY**  
Project **TEMPERATURE CONTROLLED WAREHOUSE**  
Project No. **12589362** Date **JANUARY 2023** Scale **AS SHOWN**

Title **BUILDING SECTIONS**

Size **ARCH D**  
Sheet No. **S-005**  
of

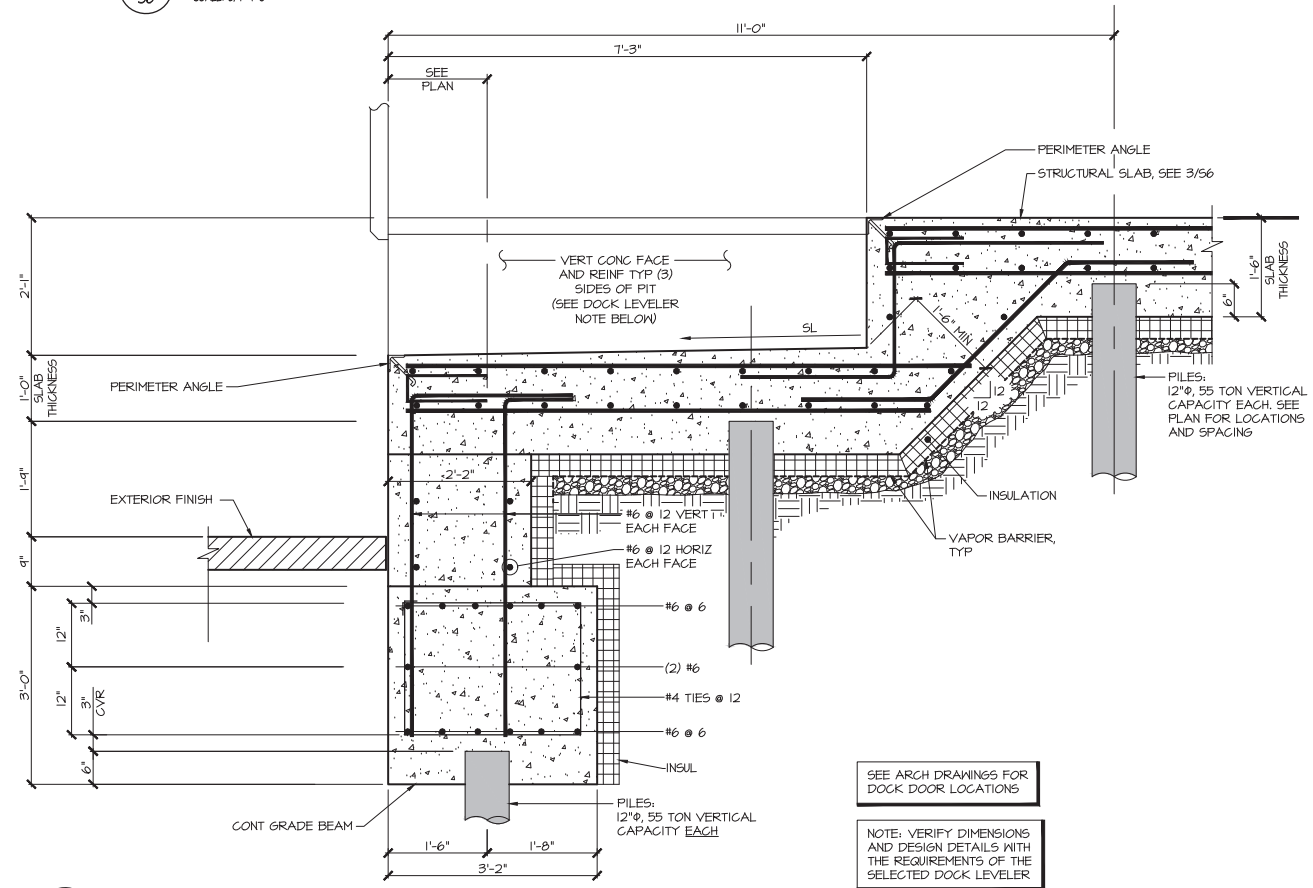


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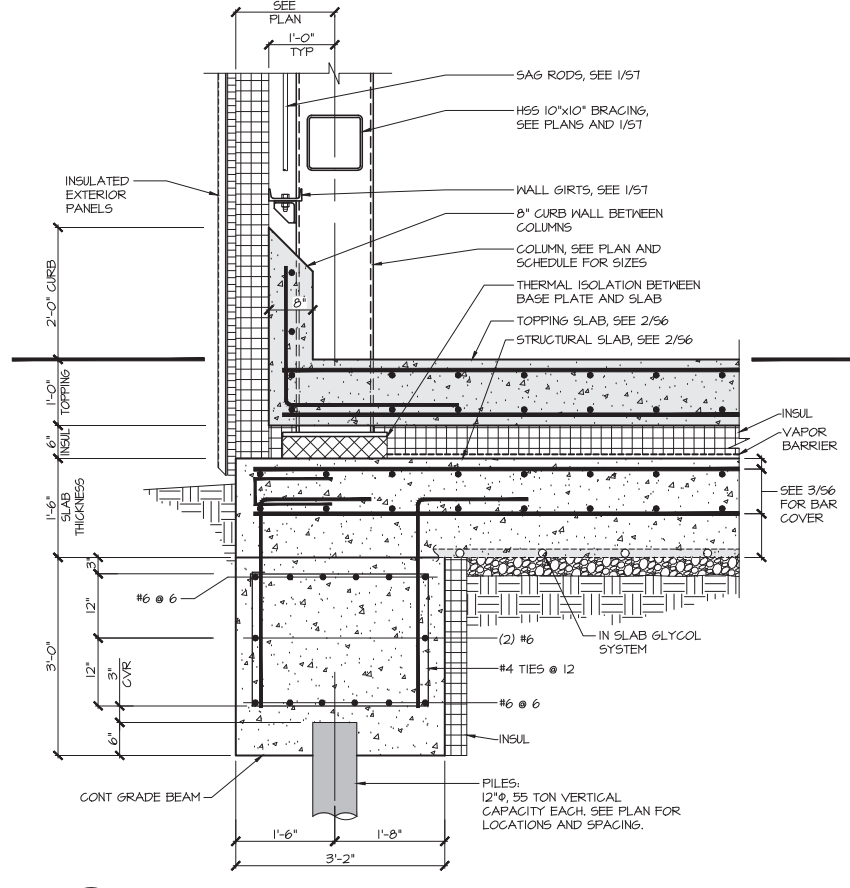


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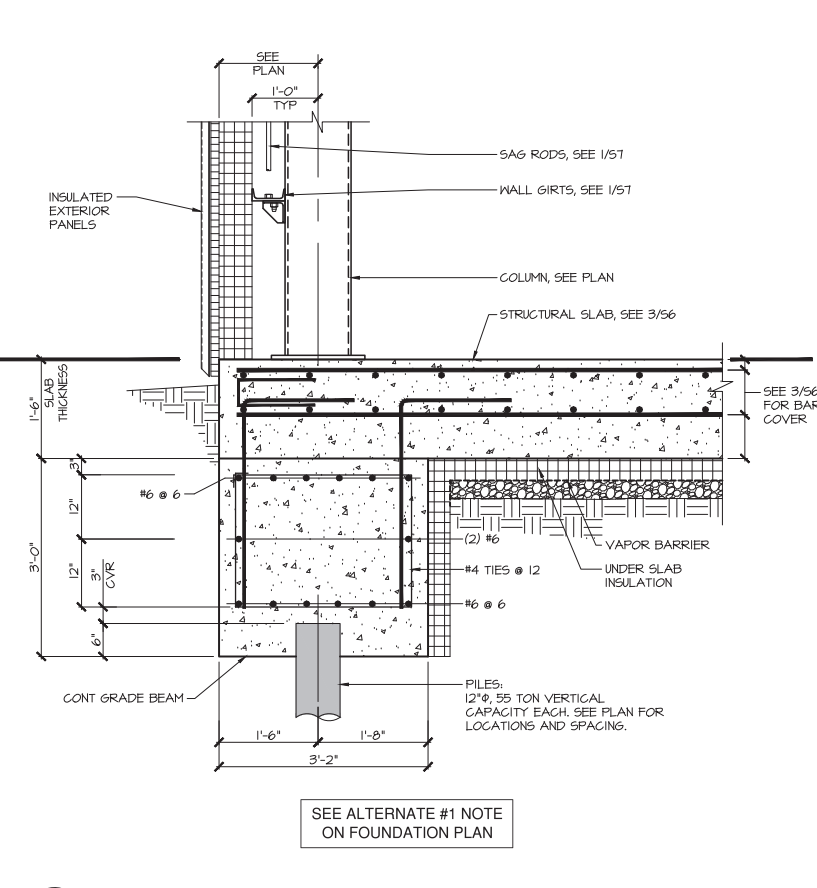
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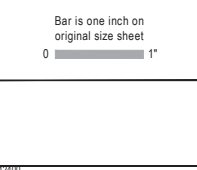
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C	ISSUED FOR 30% DESIGN	RC	RC	3/2/23
B	ISSUED FOR 30% DESIGN APPROVAL	RC	RC	1/23/23
A	ISSUED FOR 30% DESIGN REVIEW	RC	RC	11-15-22
No.	Issue	Checked	Approved	Date
Author	R. CARR	Drafting Check	S. YUNDT	Project Manager
Designer	A. Van Dien	Design Check	R. CARR	Project Director
			R. CARR	

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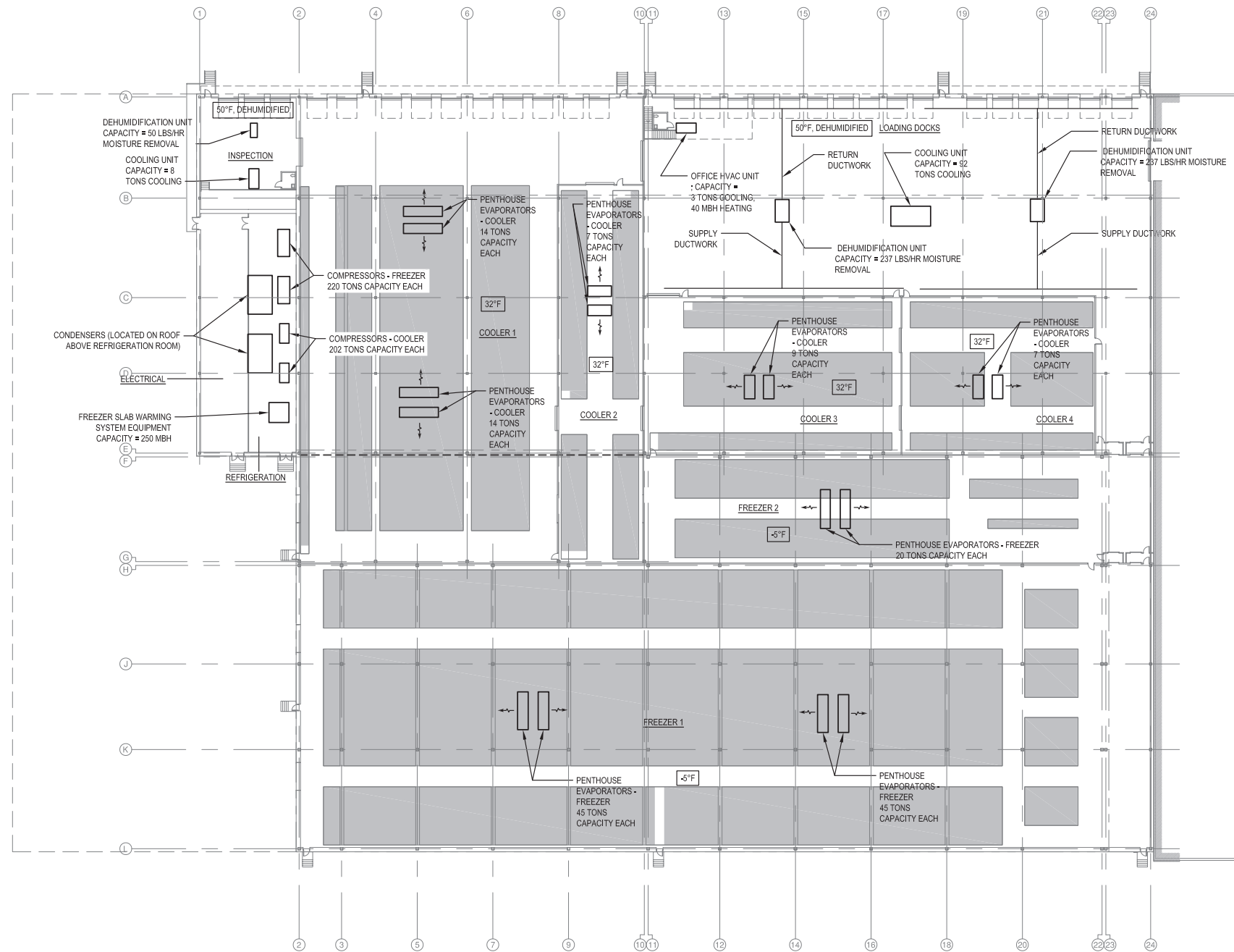
Client: PHILADELPHIA REGIONAL PORT AUTHORITY  
Project: TEMPERATURE CONTROLLED WAREHOUSE  
Project No.: 12589362  
Date: JANUARY 2023  
Scale: AS SHOWN

Title: SECTIONS  
Sheet No.: S-006  
of

Size: ARCH D  
Status Code







**1 MECHANICAL PLAN**  
SCALE 1/32" = 1'-0"

**PRELIMINARY**

E	REISSUED FOR DESIGN	KY	SB	04-24-23	
D	REISSUED FOR DESIGN	KY	SB	04-04-23	
C	ISSUED FOR DESIGN	KY	SB	03-02-23	
B	ISSUED FOR 30% DESIGN APPROVAL	KY	SB	01-23-23	
A	ISSUED FOR 30% DESIGN REVIEW	KY	SB	11-15-22	
No.	Issue	Checked	Approved	Date	
Author	S. PATRICK	Drafting Check	A. KRAJNA	Project Manager	S. BEGER
Designer	S. PATRICK	Design Check	K. YOUSEF	Project Director	D. D'AMICO

Bar is one inch on original size sheet  
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Client **PHILADELPHIA REGIONAL PORT AUTHORITY TEMPERATURE CONTROLLED WAREHOUSE**

Project No. **12589362**

Date **APRIL 2023**

Scale **AS SHOWN**

Title **MECHANICAL PLAN**

Size **ARCH D**

Sheet No. **M-101**



**REFRIGERATED WAREHOUSE**  
PENNSYLVANIA UNIFORM CONSTRUCTION CODE

Building Use Group (Section 302)  
S-1 Storage - Moderate Hazard Warehouse

Building Area and Height (Table 504 & 506)

Permitted S-1 Unlimited	Provided S-1 169,650 SF
4	1
75 FT	75 FT

Area and Height Modifications (Section 504 & 506)

The building will be adjacent to and considered as part of the existing dry-storage warehouse under the provisions of Section 507.4 of the IBC for an unlimited area building. The existing building was permitted as an unlimited area 2 story building with S-1 and B occupancies.

Maximum exit access travel distance (Section 1017, with increase from Section 1017.2.2): 400 ft

Automatic Sprinkler System (Section 903): Provided

Fire Alarm System (Section 907): Provided

Occupant Load (Section 1004)

Area	Calculation/Table 1004.1.2	Occupant Load
Warehouse	169,650/500	340
Total Occupants		340
Actual Occupancy		14

Means of Egress Illumination (Section 1008.1): Provided

Exit Signs (Section 1013.1): Provided

Plumbing Fixtures: See IPC 2018 Section 2902

**2018 INTERNATIONAL ENERGY CONSERVATION CODE**

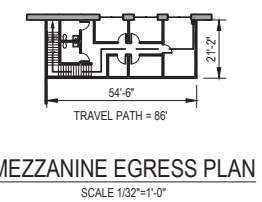
ZONE 5A	REQUIRED	PROVIDED
UNHEATED SLAB	R-10	R-10
HEATED SLAB	R-15	R-28
ROOF	R-30	R-30
ABOVE GRADE WALLS	R-11.4	R-36
OPAQUE DOORS		
SWINGING	U-0.37	U-0.10
OVERHEAD	U-0.37	U-0.15

**NOTES**

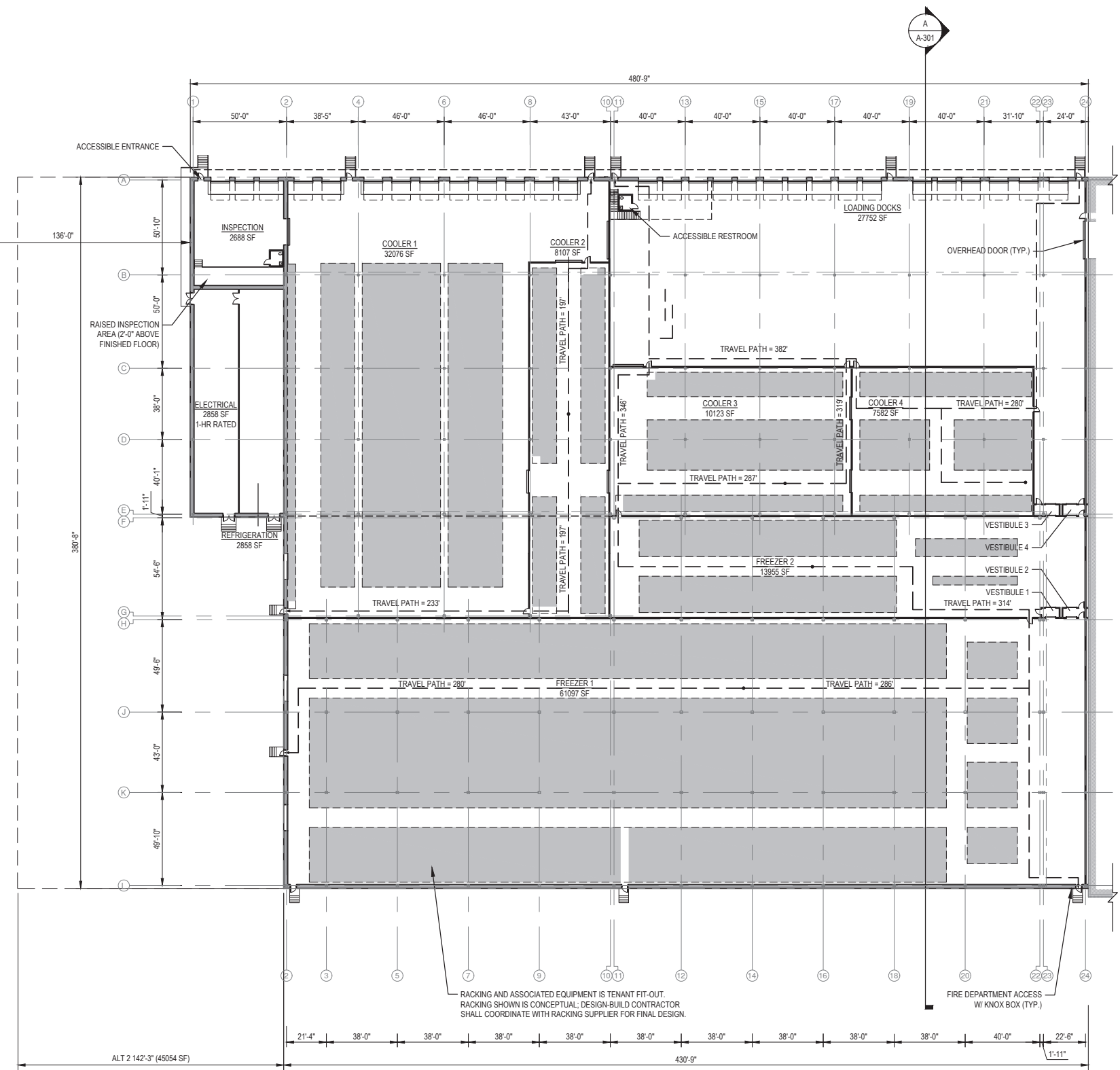
- PLAN IS CONCEPTUAL; DESIGN IS TO BE FINALIZED DURING DESIGN-BUILD PHASE.
- 2 YEAR WARRANTY SHALL BE PROVIDED ON DOCK LEVELERS. 20 YEAR WARRANTY SHALL BE PROVIDED ON INSULATED METAL WALL PANELS. ADEQUATE WARRANTIES SHALL BE PROVIDED ON ALL OTHER BUILDING COMPONENTS INCLUDING BUT NOT LIMITED TO MECHANICAL AND ELECTRICAL EQUIPMENT. DETAILS OF WARRANTIES ARE TO BE FINALIZED DURING DESIGN BUILD PHASE AND APPROVED BY OWNER.
- AISSLES MUST HAVE MINIMUM CLEAR WIDTH OF 44 INCHES AND NO DEAD END CORRIDORS GREATER THAN 50 FEET TO ALLOW FOR FIRE DEPARTMENT ACCESS.
- PROVIDE EGRESS THAT ALLOWS 100' MINIMUM COMMONS PATH AND 400' TOTAL EGRESS PATH.
- LOADING DOCK DOOR SIZING, CONFIGURATION AND CONCRETE LANDING GEAR PAD TO MATCH EXISTING DRY WAREHOUSE. PROVIDE PROTECTION BOLLARDS AT EQUAL SPACING.
- PROVIDE FIRE EXTINGUISHERS AS REQUIRED PER IBC SECTION 906.

**ALTERNATES**

ALTERNATE 1 - ALLOWS FOR FULL TEMPERATURE SWING -5° TO 60° F IN EACH OF THE BASELINE FREEZER AND COOLER AREAS BEYOND THAT CALLED OUT IN THE BASIS OF DESIGN. COORDINATE WITH THE HVAC/MECHANICAL DISCIPLINE TO ASCERTAIN THE IMPACT THAT THEIR LARGER ELECTRICAL LOADS WILL HAVE ON THE ELECTRICAL DISTRIBUTION SYSTEM AND MODIFY ACCORDINGLY.



**MEZZANINE EGRESS PLAN**  
SCALE 1/32"=1'-0"



**OVERALL LIFE SAFETY PLAN**  
SCALE 1/32"=1'-0"



No.	Issue	Checked	Approved	Date
E	REISSUED FOR DESIGN	KY	SB	04-24-23
D	REISSUED FOR DESIGN	KY	SB	04-04-23
C	ISSUED FOR DESIGN	KY	SB	03-02-23
B	ISSUED FOR 30% DESIGN APPROVAL	KY	SB	01-23-23
A	ISSUED FOR 30% DESIGN REVIEW	KY	SB	11-15-22

Author	K. HANLIN	Drafting Check	A. KRAJNA	Project Manager	S. BEIGER
Designer	E. RUSTEN	Design Check	K. YOUSEF	Project Director	D. D'AMICO

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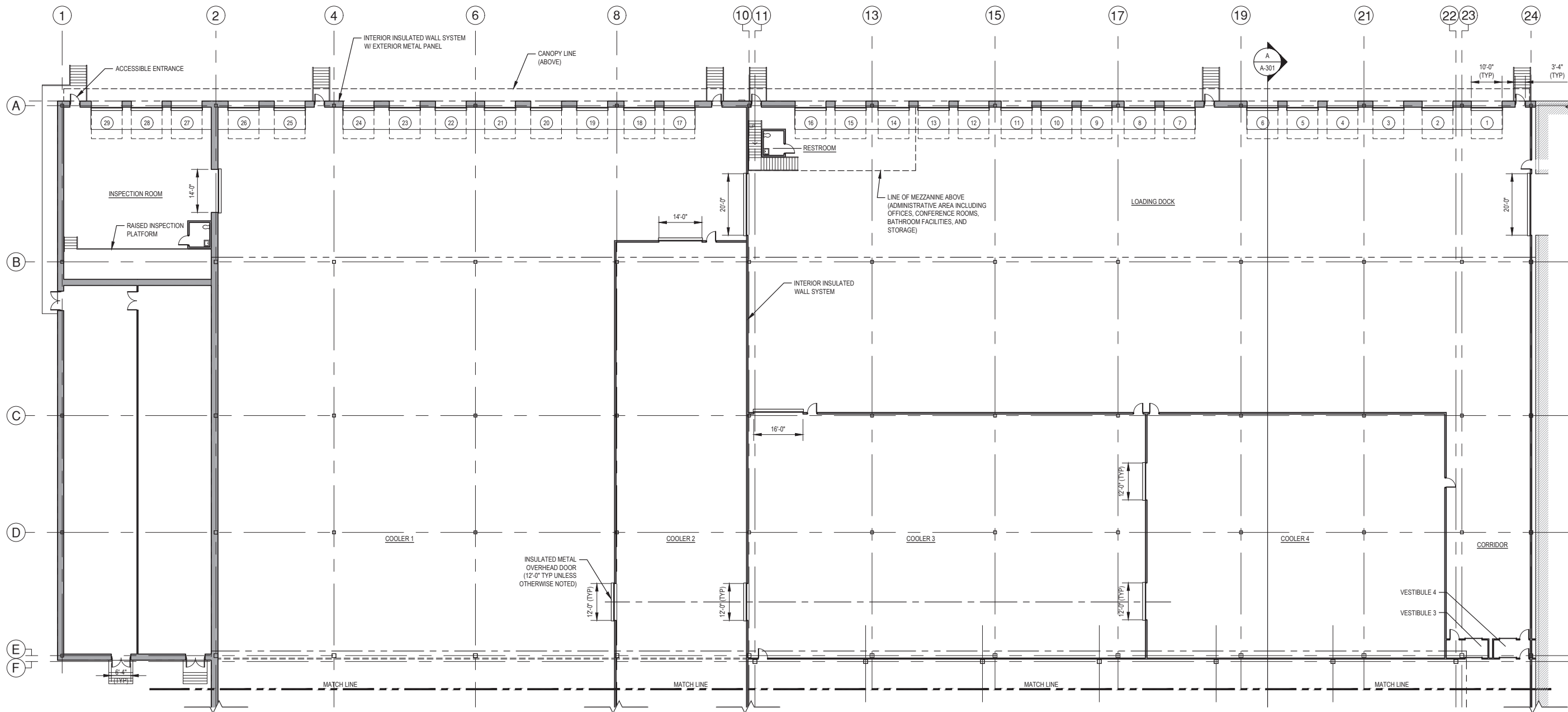
Client **PHILADELPHIA REGIONAL PORT AUTHORITY**  
Project **TEMPERATURE CONTROLLED WAREHOUSE**

Project No. **12589362** Date **APRIL 2023** Scale **AS SHOWN**

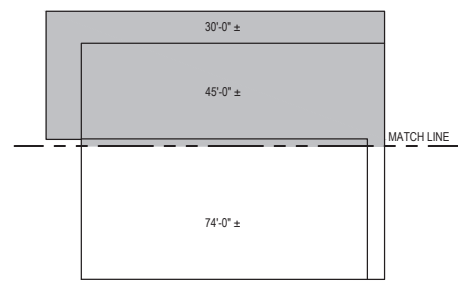
Title **OVERALL FLOOR PLAN AND CODE DATA**

Sheet No. **A-001**

**PRELIMINARY**



PARTIAL FLOOR PLAN - WEST  
SCALE 1/16"=1'-0"



KEY PLAN  
SCALE: NTS

**PRELIMINARY**

E	REISSUED FOR DESIGN	KY	SB	04-24-23	
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A	ISSUED FOR 30% DESIGN REVIEW	KY	SB	11-15-22	
No.	Issue	Checked	Approved	Date	
Author	K. HANLIN	Drafting Check	A. KRAJNA	Project Manager	S. BEIGER
Designer	K. HANLIN	Design Check	E. RUSTEN	Project Director	D. D'AMICO

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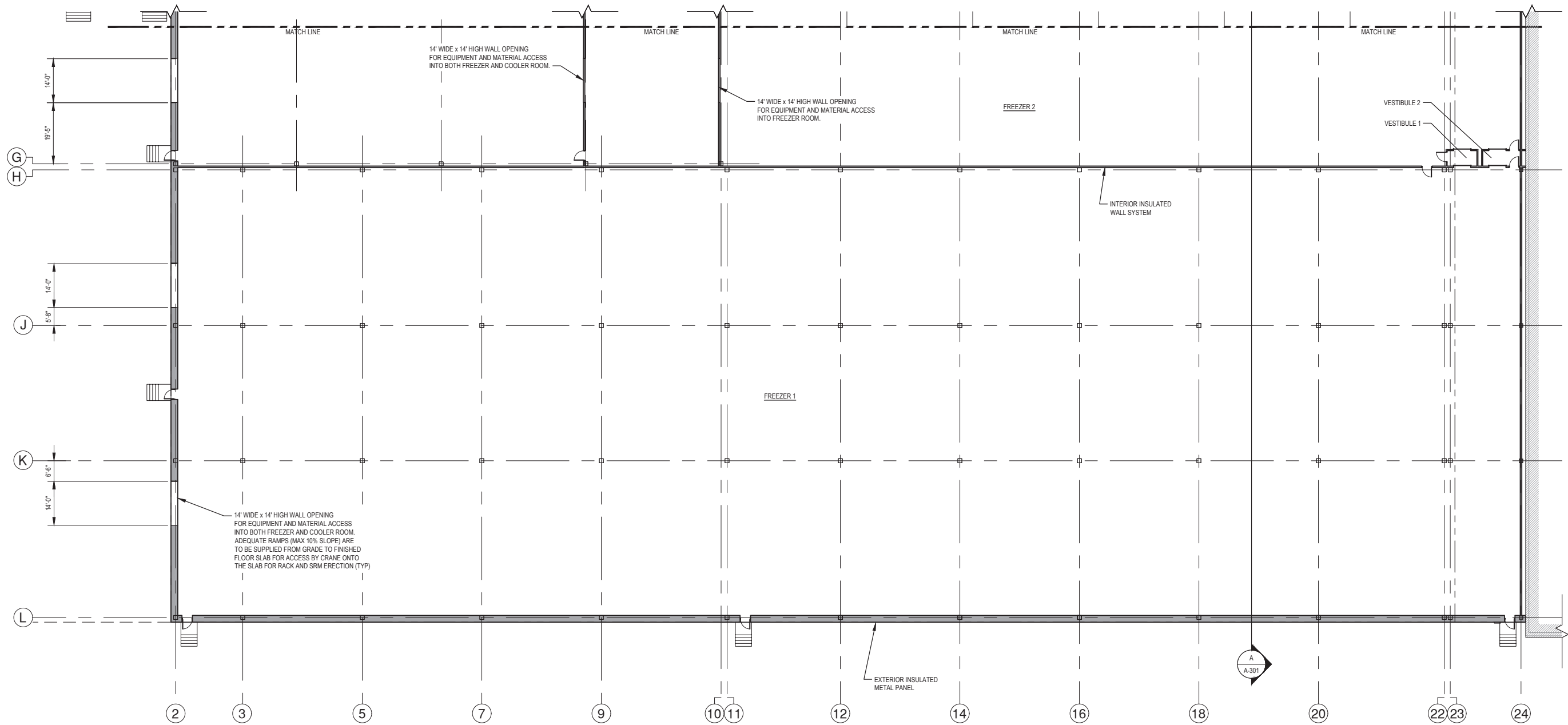


Client **PHILADELPHIA REGIONAL PORT AUTHORITY TEMPERATURE CONTROLLED WAREHOUSE**

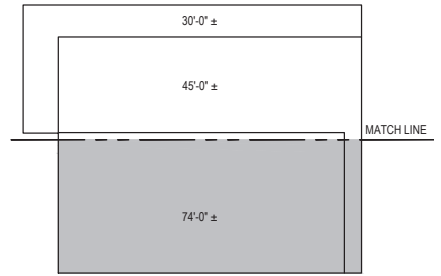
Title **PARTIAL FLOOR PLAN**

Project No. **12589362** Date **APRIL 2023** Scale **AS SHOWN**

Sheet No. **A-101**



PARTIAL FLOOR PLAN - EAST  
SCALE 1/16"=1'-0"



KEY PLAN  
SCALE: NTS

PRELIMINARY

E	REISSUED FOR DESIGN	KY	SB	04-24-23
D	REISSUED FOR DESIGN	KY	SB	04-04-23
C	ISSUED FOR DESIGN	KY	SB	03-02-23
B	ISSUED FOR 30% DESIGN APPROVAL	KY	SB	01-23-23
A	ISSUED FOR 30% DESIGN REVIEW	KY	SB	11-15-22
No.	Issue	Checked	Approved	Date
	Author <b>K. HANLIN</b>	Drafting Check <b>A. KRAJNA</b>	Project Manager <b>S. BEIGER</b>	
	Designer <b>K. HANLIN</b>	Design Check <b>E. RUSTEN</b>	Project Director <b>D. D'AMICO</b>	

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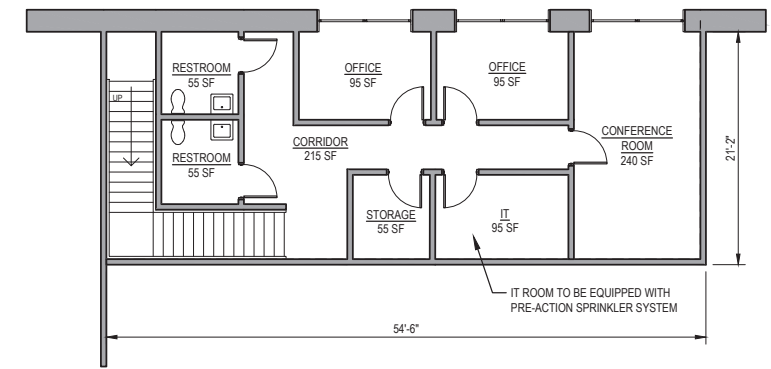
Project No. **12589362** Date **APRIL 2023** Scale **AS SHOWN**

Title **PARTIAL FLOOR PLAN**

Size **ARCH D**  
Sheet No. **A-102**



**ROOF PLAN**  
SCALE 1/32"=1'-0"



**MEZZANINE PLAN**  
SCALE 1/8"=1'-0"

**PRELIMINARY**

E	REISSUED FOR DESIGN	KY	SB	04-24-23	
D	REISSUED FOR DESIGN	KY	SB	04-04-23	
C	ISSUED FOR DESIGN	KY	SB	03-02-23	
B	ISSUED FOR 30% DESIGN APPROVAL	KY	SB	01-23-23	
A	ISSUED FOR 30% DESIGN REVIEW	KY	SB	11-15-22	
No.	Issue	Checked	Approved	Date	
Author	K. HANLIN	Drafting Check	A. KRAJNA	Project Manager	S. BEIGER
Designer	K. HANLIN	Design Check	E. RUSTEN	Project Director	D. D'AMICO

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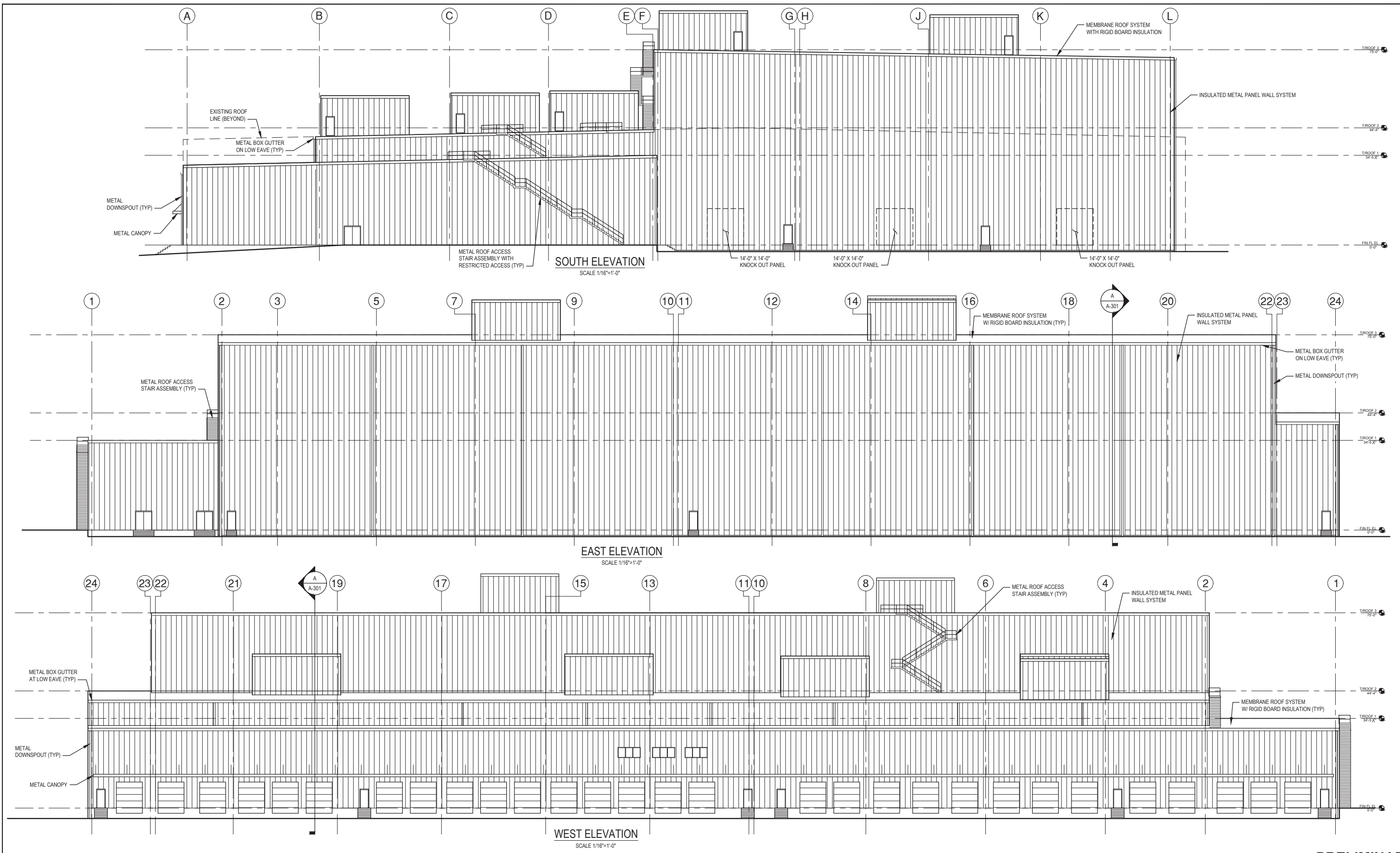
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Project No. **12589362** Date **APRIL 2023** Scale **AS SHOWN**

Title **ROOF PLAN AND MEZZANINE PLAN**

Size **ARCH D**  
Sheet No. **A-103**



**PRELIMINARY**

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D	REISSUED FOR DESIGN	KY	SB	04-04-23	
C	ISSUED FOR DESIGN	KY	SB	03-02-23	
B	ISSUED FOR 30% DESIGN APPROVAL	KY	SB	01-23-23	
A	ISSUED FOR 30% DESIGN REVIEW	KY	SB	11-15-22	
No.	Issue	Checked	Approved	Date	
Author	K. HANLIN	Drafting Check	A. KRAJINA	Project Manager	S. BEIGER
Designer	K. HANLIN	Design Check	E. RUSTEN	Project Director	D. D'AMICO

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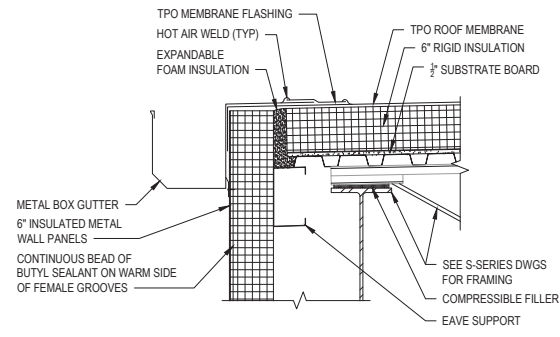


Client **PHILADELPHIA REGIONAL PORT AUTHORITY**  
Project **TEMPERATURE CONTROLLED WAREHOUSE**

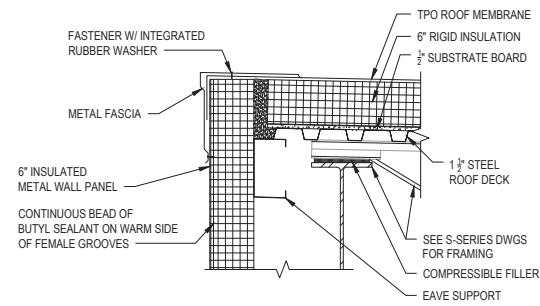
Project No. **12589362** Date **APRIL 2023** Scale **AS SHOWN**

Title **BUILDING ELEVATIONS** Size **ARCH D**

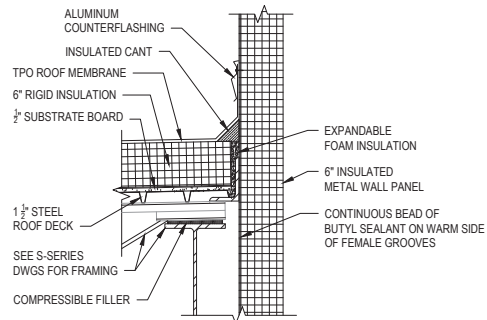
Sheet No. **A-201**



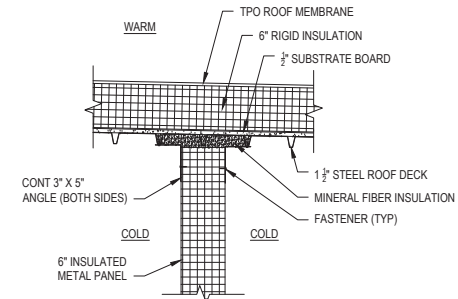
**1 LOW EAVE DETAIL**  
SCALE: 1"=1'-0"



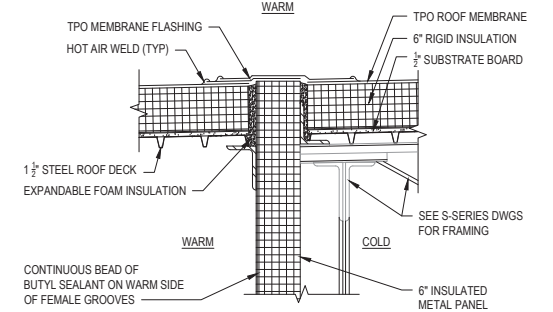
**2 HIGH EAVE DETAIL**  
SCALE: 1"=1'-0"



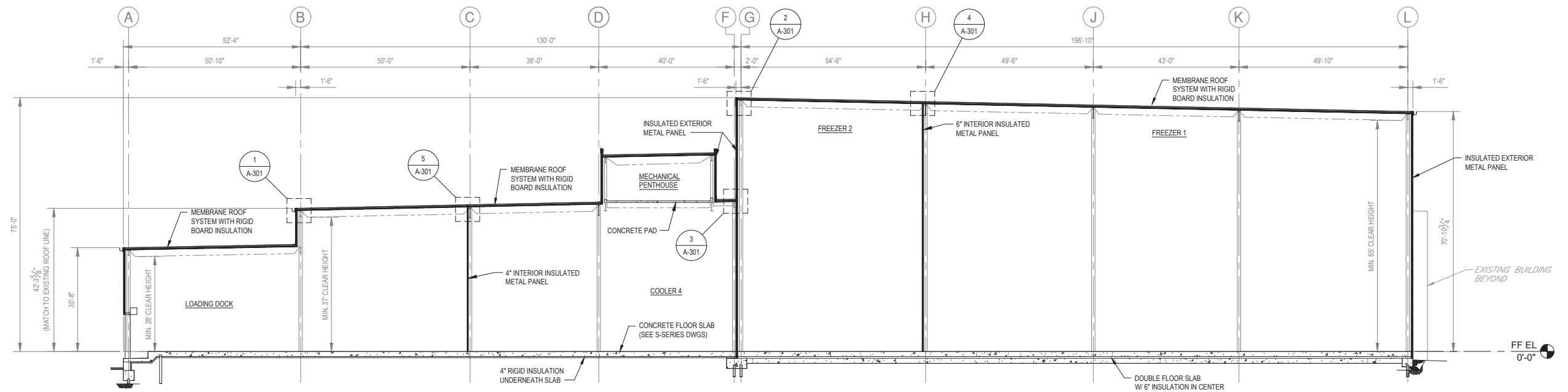
**3 WALL TRANSITION DETAIL**  
SCALE: 1"=1'-0"



**4 PARTITION DETAIL - COLD/COLD**  
SCALE: 1"=1'-0"



**5 PARTITION DETAIL - COLD/WARM**  
SCALE: 1"=1'-0"



**EAST-WEST BUILDING SECTION**  
SCALE: 1/16"=1'-0"

**PRELIMINARY**

E	REISSUED FOR DESIGN	KY	SB	04-24-23	
D	REISSUED FOR DESIGN	KY	SB	04-04-23	
C	ISSUED FOR DESIGN	KY	SB	03-02-23	
B	ISSUED FOR 30% DESIGN APPROVAL	KY	SB	01-23-23	
A	ISSUED FOR 30% DESIGN REVIEW	KY	SB	11-15-22	
No.	Issue	Checked	Approved	Date	
Author	H. GOWDA	Drafting Check	A. KRAJNA	Project Manager	S. BEIGER
Designer	K. HANLIN	Design Check	E. RUSTEN	Project Director	D. D'AMICO

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Client **PHILADELPHIA REGIONAL PORT AUTHORITY TEMPERATURE CONTROLLED WAREHOUSE**

Title **BUILDING SECTION**

Project No. **12589362**

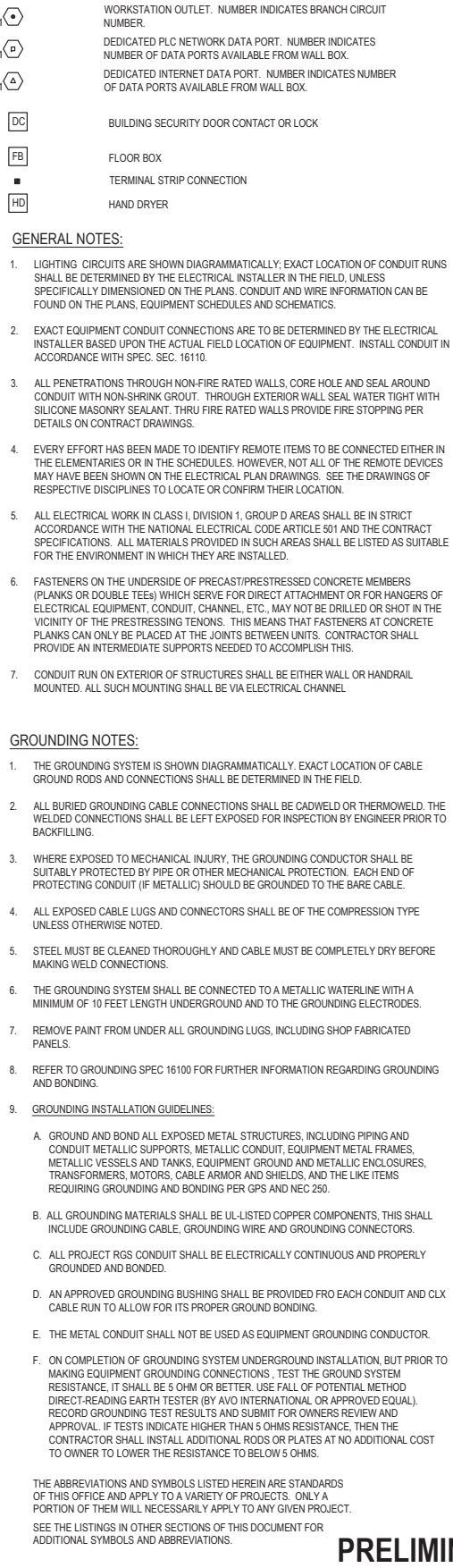
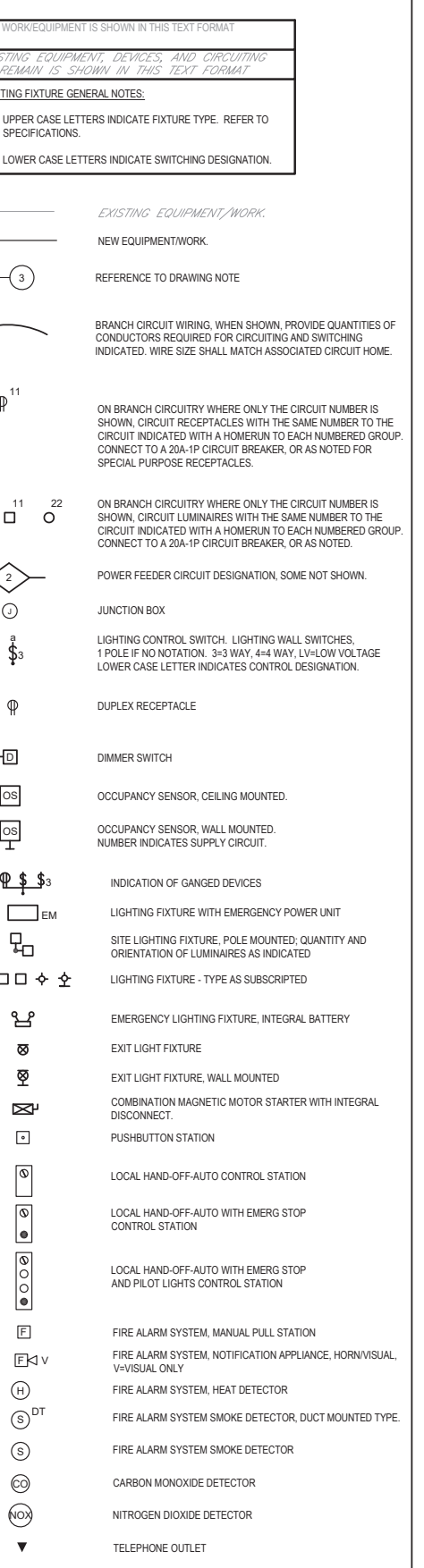
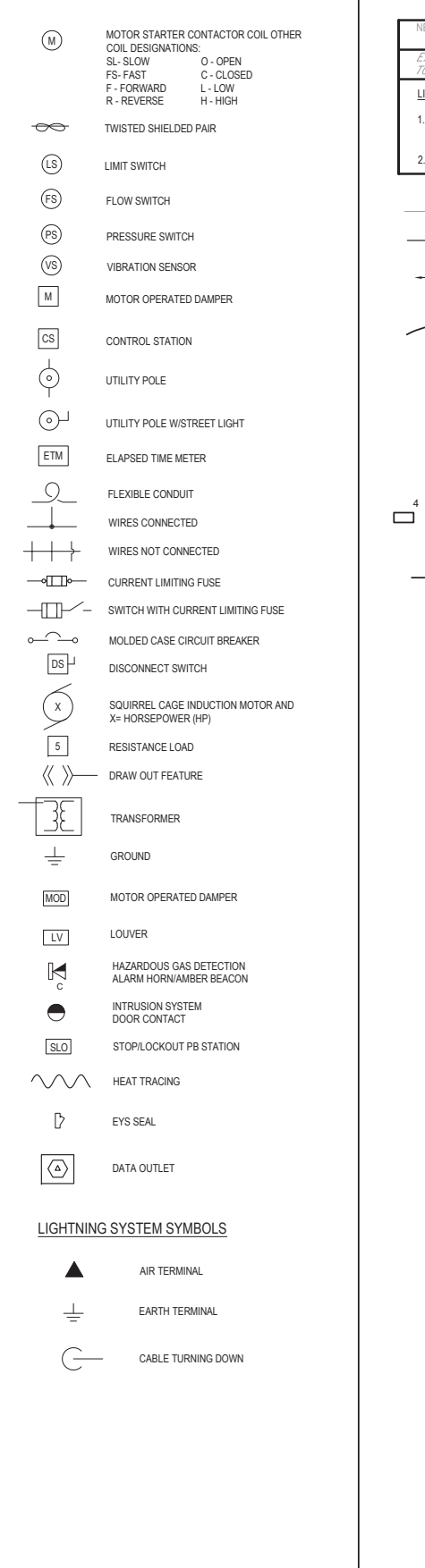
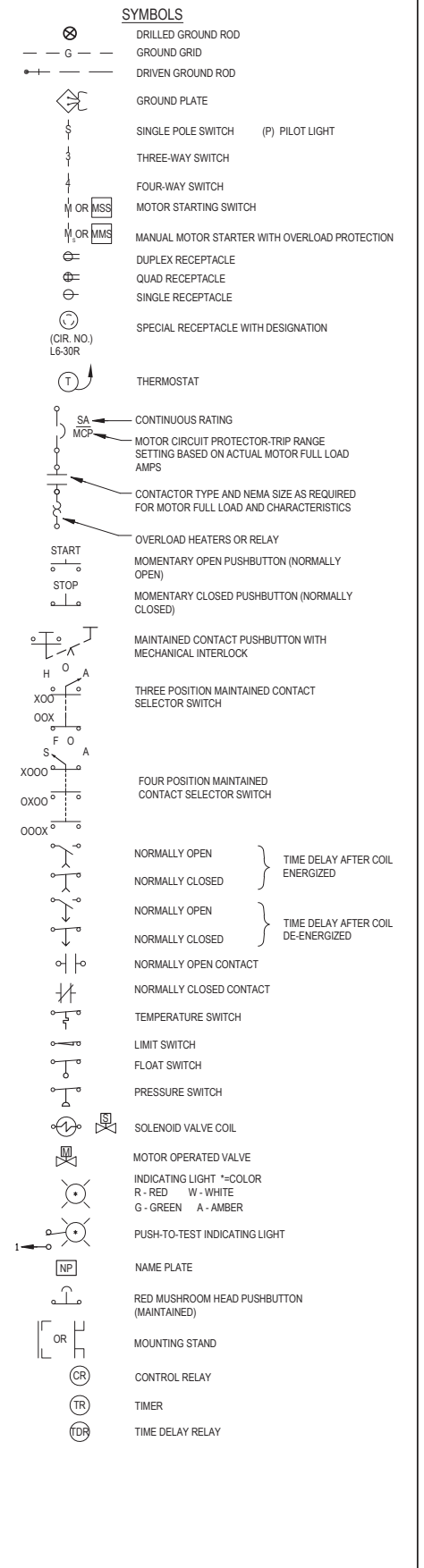
Date **APRIL 2023**

Scale **AS SHOWN**

Sheet No. **A-301**



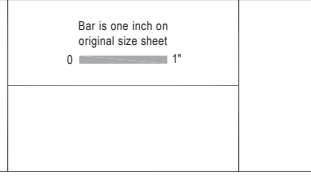
ABBREVIATIONS		SYMBOLS	
A or AMP	AMPERE, AMPS	MSS	MOTOR STARTING SWITCH
AC	ALTERNATING CURRENT	MTR	MOTOR TIMING RELAY
AE	ANALYZER SENSOR	MWTP	MOTOR WINDING THERMAL PROTECTION
Mk	AMPERE FRAME SIZE		MOTOR CONTACTOR/AUXILIARY CONTACT
AFF	ABOVE FINISHED FLOOR	NC	NORMALLY CLOSED
AFG	ABOVE FINISHED GRADE	NEC	NATIONAL ELECTRIC CODE
AIC	AMPS INTERRUPTING CURRENT	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
AIT	ANALYZER INDICATING TRANSMITTER	NIC	NETWORK INTERFACE CABINET
ALT	ALTERNATOR	NO	NORMALLY OPEN
AM	AMMETER	NP	NAMEPLATE
AN	ANNUNCIATOR	NTS	NOT TO SCALE
AS	AMMETER SWITCH	OHIE	OVERHEAD ELECTRIC
AT	AMPERE TRIP RATING	OHIL	OVERHEAD TELEPHONE
ATS	AUTOMATIC TRANSFER SWITCH	OIU	OPERATOR INTERFACE UNIT
AUX	AUXILIARY	OL	OVERLOAD RELAY
AWG	AMERICAN WIRE GAUGE	Ø	PHASE
BKR	BREAKER	P	POLE
BTS	BEARING TEMPERATURE SENSOR	PB	PUSHBUTTON
C or COND	CONDUIT	PBx	PULL BOX
CA	CABLE	PDSL	PRESSURE DIFFERENTIAL SWITCH LOW
CB	CIRCUIT BREAKER	PDSH	PRESSURE DIFFERENTIAL SWITCH HIGH
CBDH	CIRCUIT BREAKER DISCONNECT HANDLE	PE	PRESSURE SENSOR
CGD	COMBUSTIBLE GAS DETECTOR	PF	PULLING FITTING
CGM	COMBUSTIBLE GAS MONITOR	PFC	POWER FACTOR CORRECTION
CIRC or CKT	CIRCUIT	PIT	PRESSURE INDICATING TRANSMITTER
CLF	CURRENT LIMITING FUSE	PLC	PROGRAMMABLE LOGIC CONTROLLER
COMP	COMPARTMENT	PNL	PANEL
COR	CORROSION RESISTANT	POT	POTENTIOMETER
CP	CONTROL PANEL	PR	PAIR
CS	CONTROL STATION	PS	PRESSURE SWITCH
CPT	CONTROL POWER TRANSFORMER	PT	POTENTIAL TRANSFORMER
CR	CONTROL RELAY	R&R	REMOVE & REPLACE
CT	CURRENT TRANSFORMER	RECEP	RECEPTACLE
DC	DIRECT CURRENT	RGS	RIGID GALVANIZED STEEL CONDUIT
DM	DAMPEN MOTOR	ROS	REMOTE OPERATING STATION
DS	DISCONNECT SWITCH	RV-AT	REDUCED VOLTAGE AUTO TRANSFORMER
EJ	EACH	SA	SURGE ARRESTOR
EMH	ELECTRICAL MANHOLE	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
EMT	ELECTRICAL METALLIC TUBING	SCR	SILICON CONTROLLED RECTIFIER
EMTP	EMBEDDED MOTOR THERMAL PROTECTOR	SEC	SECOND
EP	EQUIPMENT PANEL	SEL or SEL SW	SELECTOR SWITCH
ES	EMERGENCY SWITCH	SHLD	SHIELDED
ESTOP	EMERGENCY STOP	SIL	STOP/LOCKOUT SWITCH
ETM	ELAPSED TIME METER	SN	SOLID NEUTRAL
EWIC	ELECTRIC WATER COOLER	SSS	STAINLESS STEEL
F & I	FURNISHED AND INSTALLED	SSRVS	SOLID STATE REDUCED VOLTAGE STARTER
FA	FIRE ALARM	SSW	SAFETY SWITCH
FACP	FIRE ALARM CONTROL PANEL	SIS	STOP/START PUSH BUTTON
FE	FLOW ELEMENT	STR	STRANDED
FIT	FLOW INDICATING TRANSMITTER	SV	SOLENOID VALVE
FLEX	FLEXIBLE	SW	SWITCH
FOS	FAST-OFF-SLOW	SWD	SWITCHING DUTY
FS	FLOW SWITCH	SWSV	SEAL WATER SOLENOID VALVE
FSW	FUSED SWITCH	TC	TERMINAL CABINET OR TIMED CLOSED
FVNR	FULL VOLTAGE NON REVERSING	TDR	TIME DELAY RELAY
FVR	FULL VOLTAGE REVERSING	TEL	TELEPHONE
FVTS	FULL VOLTAGE TWO SPEED	TERM	TERMINAL
GC	GENERAL CONTRACTOR	TI	TEMPERATURE SENSOR
GEN	GENERATOR	TIT	TEMPERATURE INDICATING TRANSMITTER
GENSET	EMERGENCY POWER GENERATOR	TR	TIMER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TR.SW.	TRANSFER SWITCH
GFI	GROUND FAULT INTERRUPTER	TR24	24-HOUR TIMER
GND or G	GROUND	TRANS	TRANSFORMER
HMI	HUMAN MACHINE INTERFACE	TS	TORQUE SWITCH
HOA	HAND-OFF-AUTO SELECTOR SWITCH	TSP	TWISTED SHIELDED PAIR
HOR	HAND-OFF-REMOTE SELECTOR SWITCH	TST	TWISTED SHIELDED TRIAD
HP	HORSE POWER	Typ	TYPICAL
HZ	HAZARDOUS AREA CLASSIFIED	UG/E	UNDERGROUND ELECTRIC
IB/OB	INBOARD/OUTBOARD	UG/T	UNDERGROUND TELEPHONE
IL	INDICATING LIGHT	UNK	UNKNOWN
IMH	INSTRUMENTATION MANHOLE	UNINT	UNINTERRUPTIBLE POWER SUPPLY
IPC	INDUSTRIAL PANEL COMPUTER	VA	VOLT-AMPERES
IO	INPUT/OUTPUT	VFD	VARIABLE FREQUENCY DRIVE
ISR	INTRINSICALLY SAFE RELAY	VM	VOLTMETER
JB	JUNCTION BOX	VS	VOLTMETER SWITCH
JIC	JOINT INDUSTRIAL COUNCIL	VSC	VARIABLE SPEED CONTROL
KCMIL	THOUSAND CIRCULAR MILS	W	WITH
KSU	KEY SERVICE UNIT	WE	WEIGHT SENSOR
KVA	KILOVOLT AMPERES	WIT	WEIGHT INDICATING TRANSMITTER
KW	KILOWATT	WP	WEATHER PROOF, WATER PROOF
LA	LIGHTNING ARRESTOR	XP	EXPLOSION PROOF
LC	LIGHTING CIRCUIT	2S1W	2 SPEED, 1 WINDING
LE	LEVEL TRANSDUCER	2SP2W	2 SPEED, 2 WINDING
LIC	LEVEL INDICATING CONTROLLER	XFMR	TRANSFORMER
LIT	LEVEL INDICATING TRANSMITTER		
LP	LIGHTING PANEL		
LO	LOCKOUT		
LS	LIMIT SWITCH		
mA	MILLIAMPS		
MAX	MAXIMUM		
MCC	MOTOR CONTROL CENTER		
MCP	MOTOR CIRCUIT PROTECTOR		
MCS/	MOLDED CASE SWITCH		
	T-THERMAL ONLY		
	M-MAGNETIC ONLY		
	AUTO-AUTOMATIC ONLY		
MDP	MAIN DISTRIBUTION PANEL		
MDS	MAIN DISTRIBUTION SWITCHBOARD		
MFR	MANUFACTURER		
MIN	MINIMUM		
MLO	MAIN LUGS ONLY		
MMS	MANUAL MOTOR STARTER		
MOD	MOTOR OPERATED DAMPER		



**PRELIMINARY**

No.	Issue	Checked	Approved	Date
E	REISSUED FOR DESIGN	KY	SB	04-24-23
D	REISSUED FOR DESIGN	KY	SB	04-04-23
C	ISSUED FOR DESIGN	KY	SB	03-02-23
B	ISSUED FOR 30% DESIGN APPROVAL	KY	SB	01-23-23
A	ISSUED FOR 30% DESIGN REVIEW	KY	SB	11-15-22

Author	Drafting Check	Project Manager
E. PARTRIDGE	T. DEVINE	S. BEIGER
Designer	Design Check	Project Director
E. PARTRIDGE	T. DEVINE	D. D'AMICO



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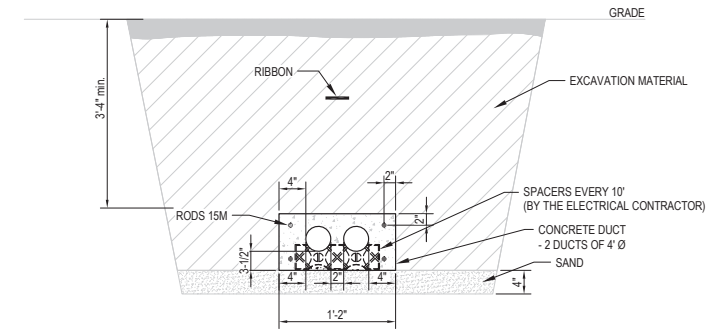
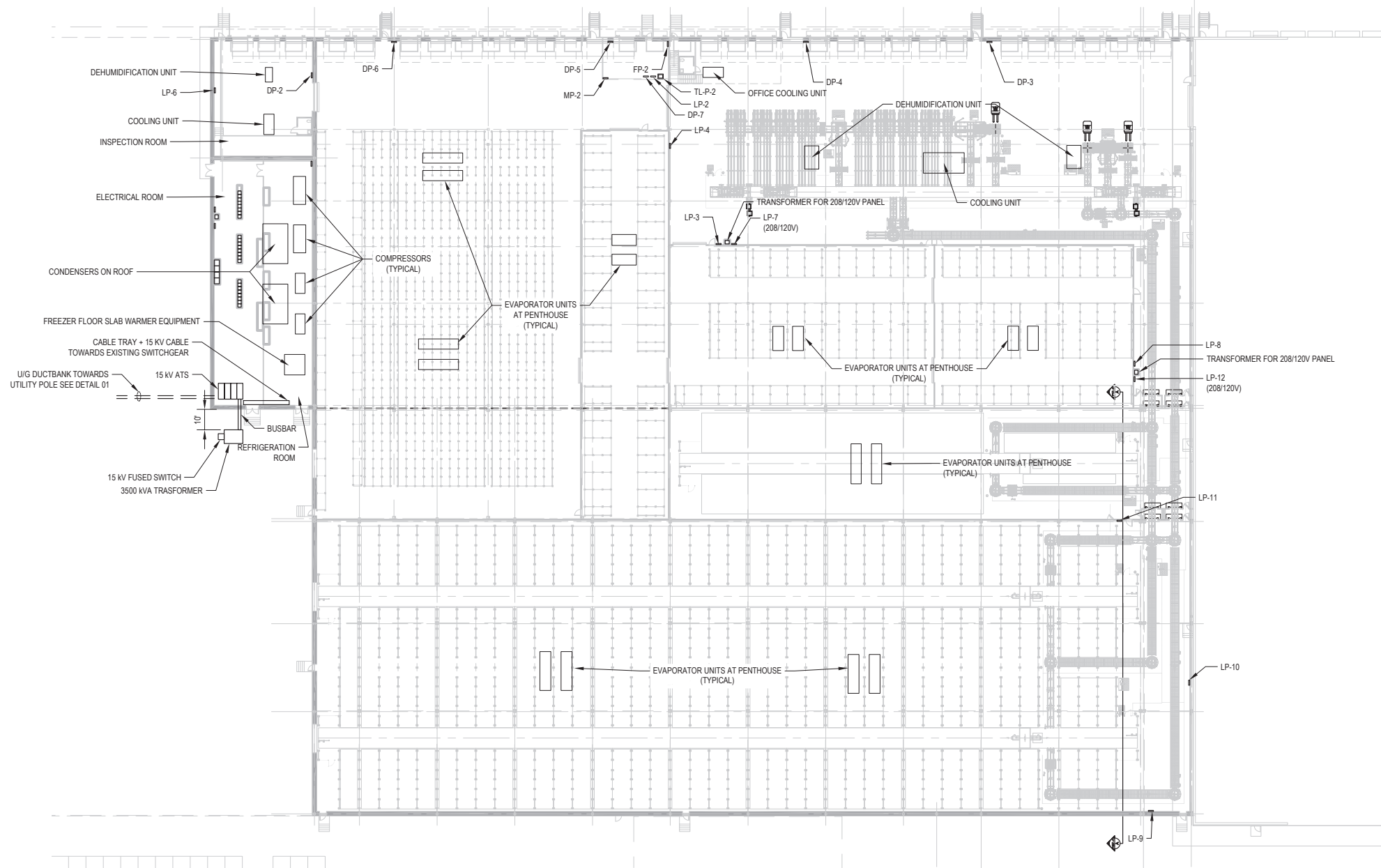
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Client	Project	Date
PHILADELPHIA REGIONAL PORT AUTHORITY	TEMPERATURE CONTROLLED WAREHOUSE	APRIL 2023

Title	Scale
ELECTRICAL LEGEND, SYMBOLS, ABBREVIATIONS AND GENERAL NOTES	NONE

Sheet No. **E-001**



01 **DETAIL DUCT BANK**  
SCALE: NTS

1 **ELECTRICAL SITE PLAN**  
SCALE: 1" = 30'-0"  
0 30' 60'

- GENERAL NOTES:
1. NO UTILITIES, PANELS, SWITCHES, AND THE LIKE SHALL BE HUNG ON COLUMNS WHICH COULD INTERFERE WITH RACKS, CONVEYORS, ETC.
  2. ALL UTILITIES, AND LIGHTING SHALL BE RUN TO AVOID CONFLICT WITH RACKS, CONVEYORS, ETC.
  3. PROVIDE POWER DROPS AND ETHERNET TO RACKING SYSTEM AND CONVEYORS PER VENDOR SHOP DRAWING SUBMITTALS.
  4. PROVIDE GROUNDING AND RACK AND SRM RAIL PER VENDOR SHOP DRAWING SUBMITTALS.
  5. COORDINATE ACTUAL PANELBOARD LOCATIONS AS REQUIRED FOR FINAL LIGHTING DESIGN AND AS PER VENDOR SHOP DRAWING SUBMITTALS.
  6. PANEL LOCATIONS ARE SHOWN FOR CONCEPTUAL REFERENCE ONLY. CONTRACTOR SHALL COMPLETE DETAILED DESIGN AND LAYOUTS.

**PRELIMINARY**

E	REISSUED FOR DESIGN	KY	SB	04-24-23
D	REISSUED FOR DESIGN	KY	SB	04-04-23
C	ISSUED FOR DESIGN	KY	SB	03-02-23
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Author	E. PARTRIDGE	Drafting Check	T. DEVINE	Project Manager
Designer	E. PARTRIDGE	Design Check	T. DEVINE	Project Director
				S. BEIGER
				D. D'AMICO

Bar is one inch on original size sheet  
0 1"



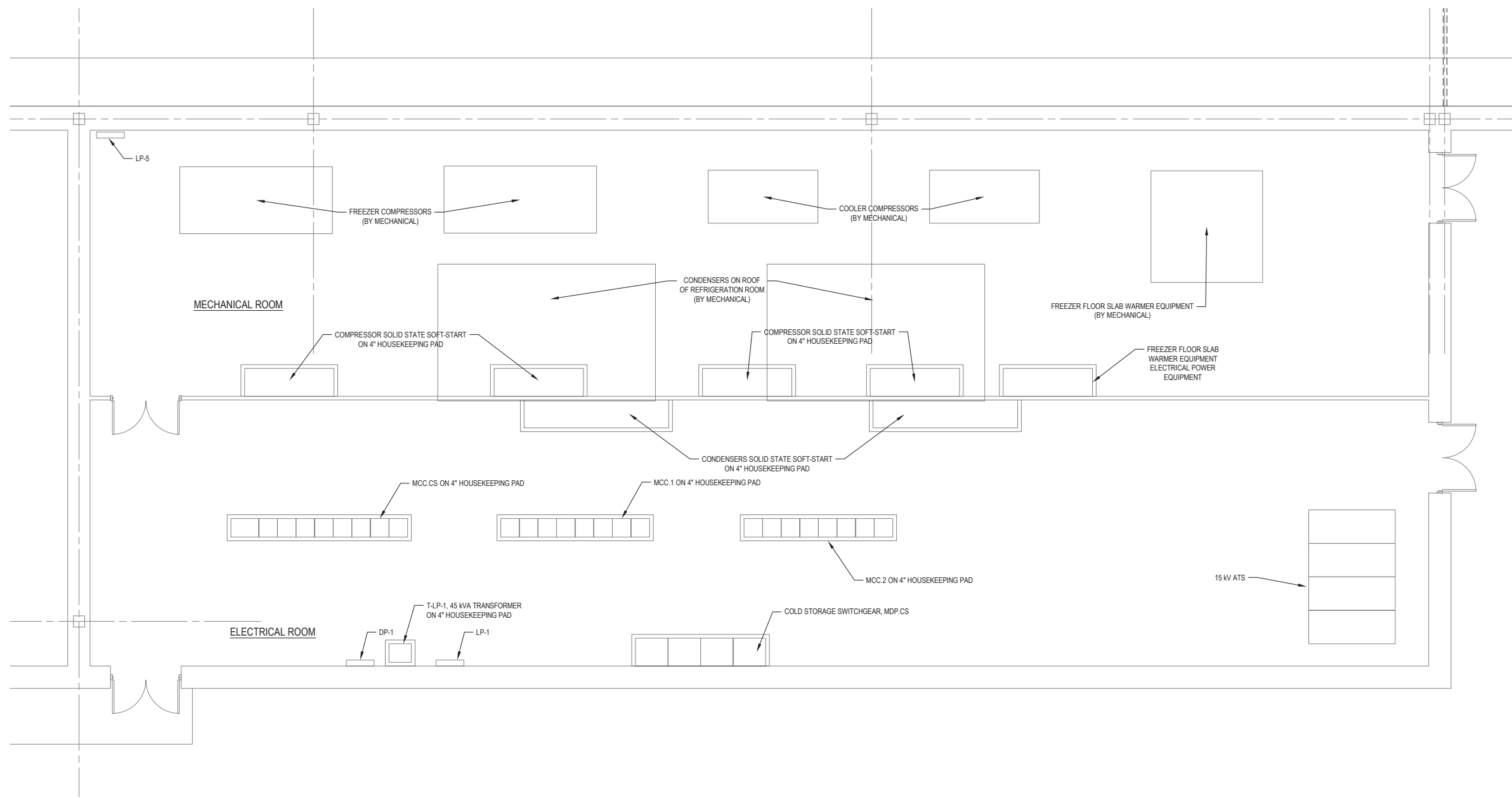
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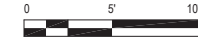
Client **PHILADELPHIA REGIONAL PORT AUTHORITY TEMPERATURE CONTROLLED WAREHOUSE**  
Project No. **12589362**  
Date **APRIL 2023**  
Scale **AS SHOWN**

Title **ELECTRICAL SITE PLAN**  
Sheet No. **E-101**





**1 ELECTRICAL AND REFRIGERATION ROOM PLAN**  
 SCALE : 1" = 5'-0"



- GENERAL NOTES:
1. NO UTILITIES, PANELS, SWITCHES, AND THE LIKE SHALL BE HUNG ON COLUMNS WHICH COULD INTERFERE WITH RACKS, CONVEYORS, ETC.
  2. ALL UTILITIES, AND LIGHTING SHALL BE RUN TO AVOID CONFLICT WITH RACKS, CONVEYORS, ETC.
  3. PROVIDE POWER DROPS AND ETHERNET TO RACKING SYSTEM AND CONVEYORS PER VENDOR SHOP DRAWING SUBMITTALS.
  4. PROVIDE GROUNDING AND RACK AND SRM RAIL PER VENDOR SHOP DRAWING SUBMITTALS.
  5. COORDINATE ACTUAL PANELBOARD LOCATIONS AS REQUIRED FOR FINAL LIGHTING DESIGN AND AS PER VENDOR SHOP DRAWING SUBMITTALS.
  6. PANEL LOCATIONS ARE SHOWN FOR CONCEPTUAL REFERENCE ONLY. CONTRACTOR SHALL COMPLETE DETAILED DESIGN AND LAYOUTS.

**PRELIMINARY**

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No.	Issue	Checked	Approved	Date
Author	E. PARTRIDGE	Drafting Check	T. DEVINE	Project Manager
Designer	E. PARTRIDGE	Design Check	T. DEVINE	Project Director
				S. BEIGER
				D. D'AMICO

Bar is one inch on original size sheet  
 0 1"

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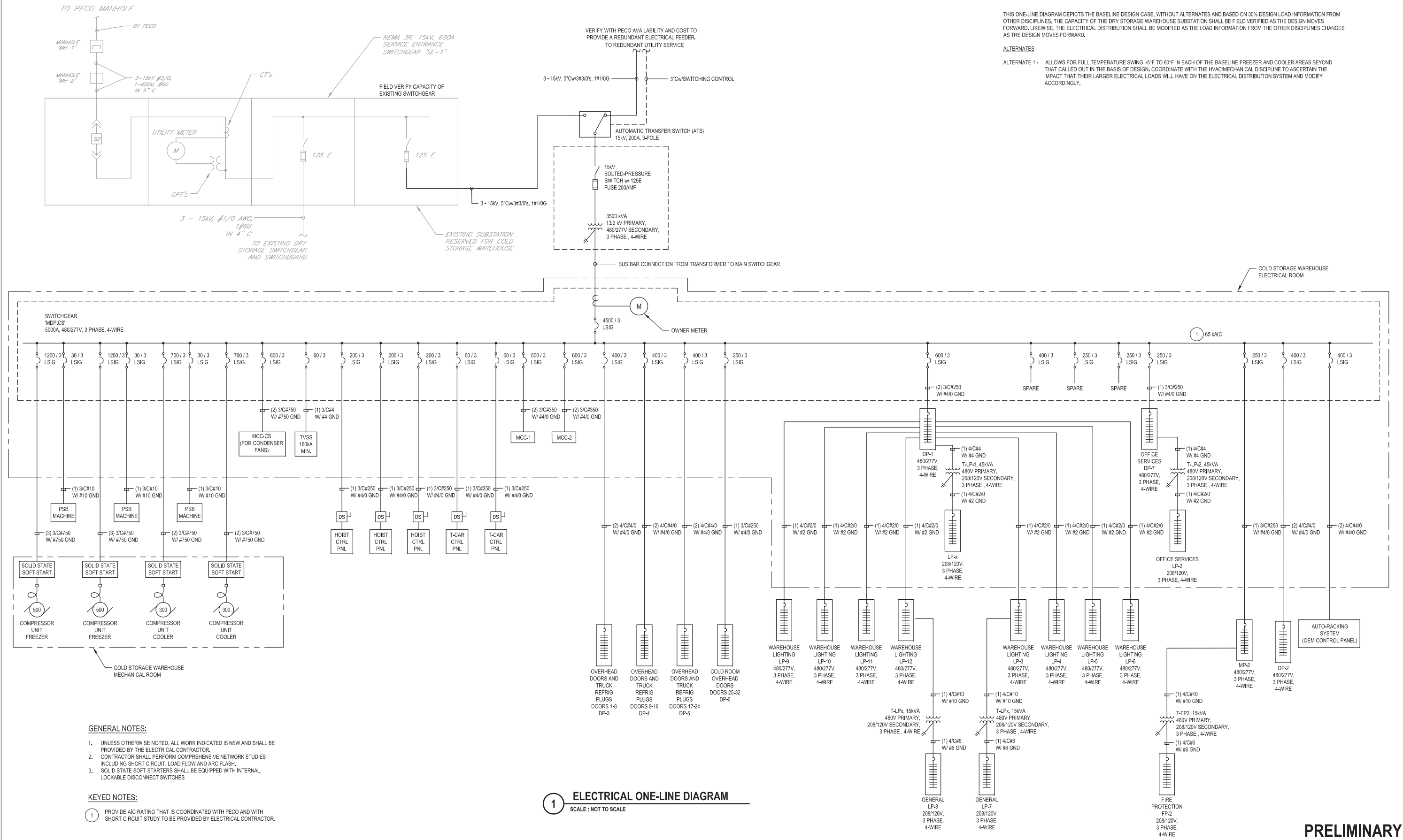


Client **PHILADELPHIA REGIONAL PORT AUTHORITY TEMPERATURE CONTROLLED WAREHOUSE**  
 Project No. **12589362**  
 Date **APRIL 2023**

Title **ELECTRICAL AND REFRIGERATION ROOMS PLAN**

Scale **AS SHOWN**

Sheet No. **E-102**



THIS ONE-LINE DIAGRAM DEPICTS THE BASELINE DESIGN CASE, WITHOUT ALTERNATES AND BASED ON 30% DESIGN LOAD INFORMATION FROM OTHER DISCIPLINES. THE CAPACITY OF THE DRY STORAGE WAREHOUSE SUBSTATION SHALL BE FIELD VERIFIED AS THE DESIGN MOVES FORWARD. LIKEWISE, THE ELECTRICAL DISTRIBUTION SHALL BE MODIFIED AS THE LOAD INFORMATION FROM THE OTHER DISCIPLINES CHANGES AS THE DESIGN MOVES FORWARD.

**ALTERNATES**  
 ALTERNATE 1 - ALLOWS FOR FULL TEMPERATURE SWING -5°F TO 60°F IN EACH OF THE BASELINE FREEZER AND COOLER AREAS BEYOND THAT CALLED OUT IN THE BASIS OF DESIGN. COORDINATE WITH THE HVACMECHANICAL DISCIPLINE TO ASCERTAIN THE IMPACT THAT THEIR LARGER ELECTRICAL LOADS WILL HAVE ON THE ELECTRICAL DISTRIBUTION SYSTEM AND MODIFY ACCORDINGLY.

- GENERAL NOTES:**
- UNLESS OTHERWISE NOTED, ALL WORK INDICATED IS NEW AND SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
  - CONTRACTOR SHALL PERFORM COMPREHENSIVE NETWORK STUDIES INCLUDING SHORT CIRCUIT, LOAD FLOW AND ARC FLASH.
  - SOLID STATE SOFT STARTERS SHALL BE EQUIPPED WITH INTERNAL, LOCKABLE DISCONNECT SWITCHES.

- KEYED NOTES:**
- PROVIDE AIC RATING THAT IS COORDINATED WITH PECO AND WITH SHORT CIRCUIT STUDY TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

**1 ELECTRICAL ONE-LINE DIAGRAM**  
 SCALE: NOT TO SCALE

E	REISSUED FOR DESIGN	KY	SB	04-24-23	
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Author	E. PARTRIDGE	Drafting Check	T. DEVINE	Project Manager	S. BEIGER
Designer	T. DEVINE	Design Check	N. RYLATT	Project Director	D. D'AMICO

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 0 1"

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Client: **PHILADELPHIA REGIONAL PORT AUTHORITY TEMPERATURE CONTROLLED WAREHOUSE**

Project No.: **12589362**

Date: **APRIL 2023**

Scale: **AS SHOWN**

Title: **ELECTRICAL ONE-LINE DIAGRAM**

Sheet No.: **E-103**

Size: **ARCH D**

## FIELD OFFICE PERFORMANCE SPECIFICATIONS



## FIELD OFFICE PERFORMANCE SPECIFICATION

### CONSTRUCTION FACILITIES

#### 1.1 CONSTRUCTION FACILITIES

##### A. PhilaPort's Field Office:

1. Following issuance of the Notice to Proceed, contractor shall furnish and maintain structurally sound, completely weathertight and insulated office double-wide trailer acceptable to PhilaPort, which is specifically designed for this type of use and conforms to the requirements as specified below:

- Minimum floor area 500 square feet, minimum 10 feet wide, complete with minimum 50 percent opening windows with minimum total area of 10 percent floor area per room with operable sash and screen.
- The field office shall accommodate three private offices with lockable doors, central conference room sufficient for 15 people, a small kitchenette, and a unisex bathroom facility.
- Provide 4 feet minimum width clean gravel or boardwalk landings and sidewalks for complete access to field office.
- Interior lighting of 50-foot candles at desktop height and exterior light at entrances.
- Electrical wall outlets that are accessible from 6 feet along any point, one lockable door with new lock and two keys and screens.
- Heating and cooling equipment to maintain ambient temperature of 68 to 72 degrees F.
- New interior finish, resilient floor covering in first class condition, and exterior finish, all acceptable to PhilaPort.
- Meet all code requirements.

B. Field office to be located at the project site.

C. Minimum Furnishings: five-drawer desk, shelf, three-drawer lockable filing cabinet, one coat rack, desk and a swivel armchair per office, three side chairs, a conference room table suitable for seating enough people for project progress meetings and chairs, one waste basket, one tack board, two-door storage cabinet, one bookcase with shelving, minimum 48 inches by 48 inches, drafting table with built-in drawer, drafting stool and light, and minimum one 20-pound ABC type dry chemical fire extinguishers, one five-person first aid kit.

D. Provide and maintain suitable bottled chilled drinking water service.

E. Provide and maintain a photocopier, DB to provide paper.

F. Provide and maintain utilities including potable water, wastewater, power, ethernet, and telephone

G. Maintain the office, services and utilities continuously. Clean not less than once per week. Provide soap, paper towels, cleansers, and janitorial service and implements.

H. Repair immediately any damage, leaks, or defective service.



- I. Exchange walk-off mats weekly at all entrances.

## REFERENCE DRAWINGS







ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR  
 DISCREPANCIES BEFORE PROCEEDING WITH WORK

**PHILAPORT DISTRIBUTION CENTER NEW DRY WAREHOUSE**  
 3308 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
 PHILADELPHIA, PA 19148

**SITE PLAN**  
 PHILADELPHIA REGIONAL PORT AUTHORITY  
 340 NORTH DELAWARE AVENUE  
 PHILADELPHIA, PA 19104

NO.	DATE	REVISIONS
1	12/2/2021	CIVIL REVISIONS
2	02/16/2022	PRO FIELD CHANGE SUBMISSION
3	20/20/2026	REVISED FOR PERMITTED

PROJECT	NO.
PHILAPORT DISTRIBUTION CENTER NEW DRY WAREHOUSE	20-028.1

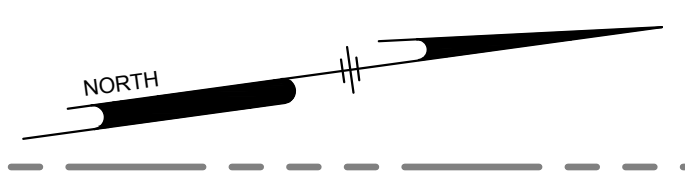
DATE	SCALE
2019-12-16	1" = 60'

DRAWN BY	CHD
APPROVED BY	BD

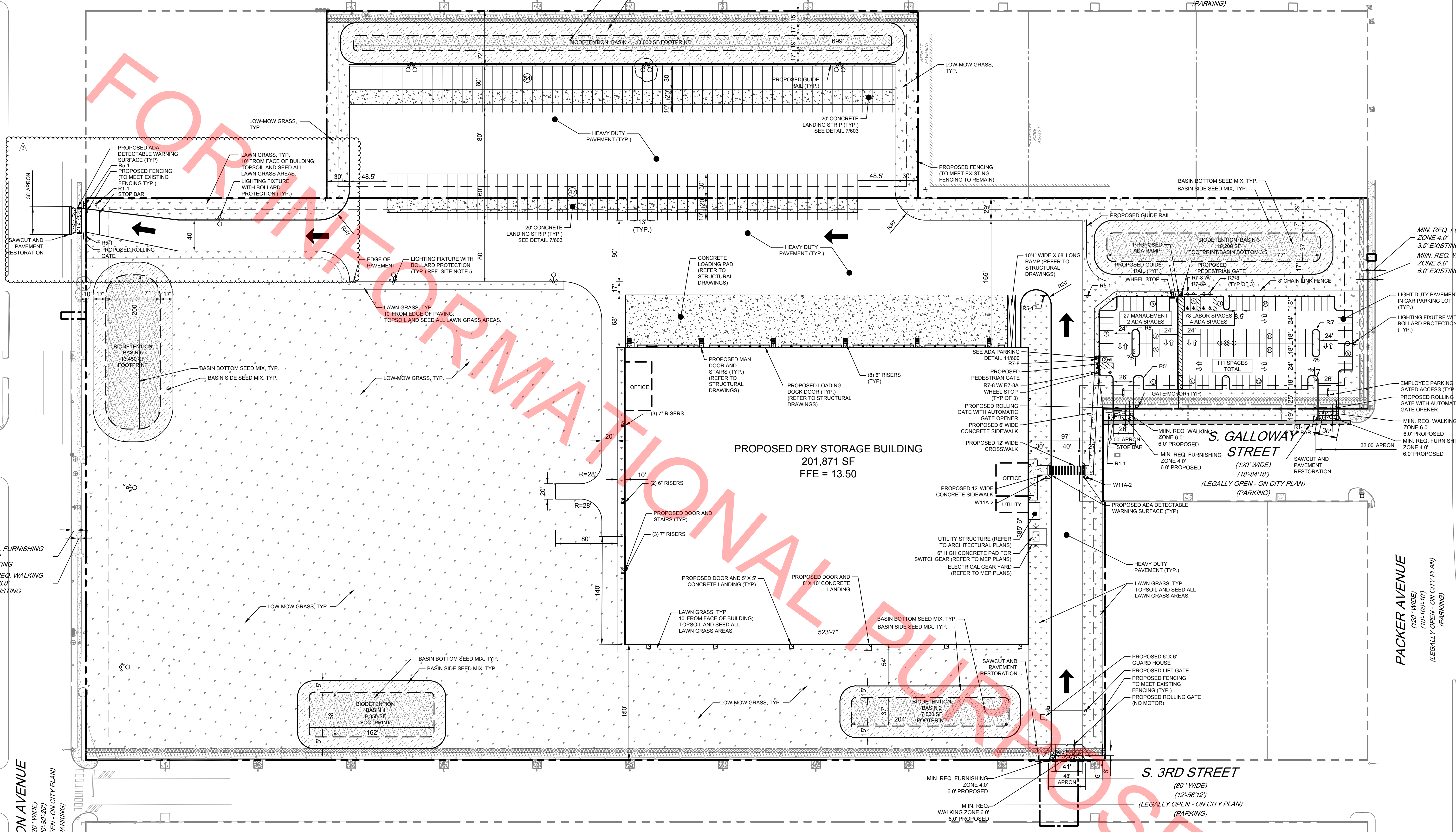
**C100**  
 SHEET 2 OF 17



**S. LAWRENCE STREET**  
 (88' WIDE)  
 (13'-62'13")  
 (LEGALLY OPEN - ON CITY PLAN)  
 (PARKING)

**S. GALLOWAY STREET**  
 (120' WIDE)  
 (18'-84'18")  
 (LEGALLY OPEN - ON CITY PLAN)  
 (PARKING)

**S. 3RD STREET**  
 (80' WIDE)  
 (12'-56'12")  
 (LEGALLY OPEN - ON CITY PLAN)  
 (PARKING)



- LEGEND**
- PROPOSED PROPERTY LINE
  - ADJACENT PROPERTY LINE
  - RIGHT OF WAY LINE
  - HISTORIC BUILDING
  - BUILDING SETBACK LINE
  - EXISTING FENCE
  - EXISTING TELEPHONE EASEMENT
  - EXISTING GAS EASEMENT
  - EXISTING EASEMENT
  - EXISTING BUILDING
  - EXISTING CURB
  - EXISTING CONCRETE
  - EXISTING MANHOLE
  - EXISTING VALVES
  - EXISTING INLET
  - EXISTING SEWER VENT
  - EXISTING LIGHT POLE
  - EXISTING ELECTRIC UTILITIES
  - EXISTING OVERHEAD ELECTRIC
  - EXISTING GAS METER
  - EXISTING HYDRANT
  - EXISTING TRAFFIC SIGNAL
  - EXISTING BOLLARD
  - EXISTING POST
  - EXISTING SIGN
  - EXISTING TREE

- LANDSCAPE LEGEND**
- LAWN SEED MIX
  - LOW-MOW GRASS SEED MIX
  - BASIN BOTTOM SEED MIX
  - BASIN SIDE SEED MIX

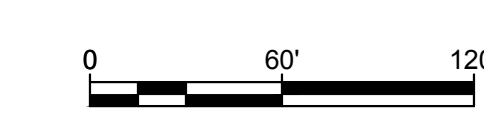
- NOTES:**
- SITE INFORMATION:**  
 CURRENT SITE ADDRESS:  
 3308 SOUTH GALLOWAY AVENUE & 3401 SOUTH LAWRENCE STREET  
 39TH WARD, CITY & COUNTY OF PHILADELPHIA  
 COMMONWEALTH OF PENNSYLVANIA 19146  
 OPA #S 885900077 & 885902875
- OWNER/CLIENT:**  
 PHILADELPHIA REGIONAL PORT AUTHORITY  
 340 NORTH DELAWARE AVENUE  
 PHILADELPHIA, PA 19134
- DESIGNER:**  
 PENNONI  
 1900 MARKET STREET, SUITE 300  
 PHILADELPHIA, PA 19103
- SITE NOTES:**
- LOCATIONS OF ON AND OFF SITE UTILITIES AS SHOWN ARE APPROXIMATE AND MAY OR MAY NOT BE COMPLETE. THE NATURE AND EXACT LOCATION OF EXISTING UTILITIES SHOULD BE VERIFIED PRIOR TO INITIATING ANY ACTIVITY THAT MAY AFFECT THEIR USE OR LOCATION.
  - THE LOCATION OF THE EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM EXISTING UTILITY RECORDS AVAILABLE AT THE TIME THESE PLANS WERE PREPARED AND FROM SURFACE OBSERVATION OF THE SITE.
  - COMPLETENESS OR ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES AND STRUCTURES IS NOT GUARANTEED.
  - IN ACCORDANCE WITH PA ACT 387 OF 1974 AS AMENDED BY PA ACT 121 OF 2008 ENTITLED "UNDERGROUND UTILITY LINE PROTECTION LAW" THE CONTRACTOR SHALL NOTIFY ALL UTILITIES WITHIN THE WORK AREA VIA THE PENNSYLVANIA ONE CALL SYSTEM, INC. (800-242-1779) A MINIMUM OF 3 WORKING DAYS BEFORE THE START OF EXCAVATION.
  - THE CONTRACTOR SHALL VERIFY LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.
  - IF CONFLICTS ARE FOUND THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND DESIGN ENGINEER FOR INSTRUCTION BEFORE PROCEEDING WITH WORK.

- FLOOD ZONE INFORMATION:**
- BY GRAPHIC PLOTTING ONLY, BASED UPON THE FLOOD INSURANCE RATE MAP, PANEL NOS. 191-194 OF 230, COMMUNITY MAP NO. 40270791-4H WHICH BEARS AN EFFECTIVE DATE OF NOVEMBER 18TH 2015. THE SITE IS LOCATED IN THE FOLLOWING AREA:
- ZONE X  
 AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN
- NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE AND AN ELEVATION CERTIFICATE MAY BE NEEDED TO VERIFY THIS DETERMINATION OR APPLY FOR A VARIANCE FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
- REFERENCE PLANS:**
- EXISTING CONDITIONS SURVEY PERFORMED IN APRIL 2017 BY PENNONI ASSOCIATES INC. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS TAKEN FROM THE PLANS ENTITLED "LATANGSIS LAND TITLE SURVEY", SHEETS V001, V-002, AND V-003, DATED 05-23-2017.

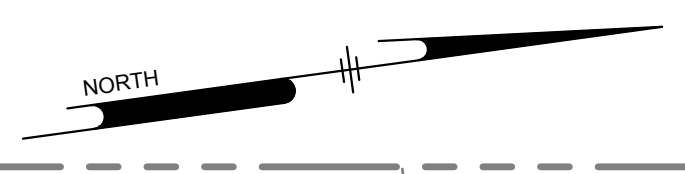
- LAWN & BASIN SEEDING NOTES:**
- APPLY LAWN SEED TO ALL AREAS INDICATED ON PLAN AND ALL AREAS DISTURBED BY CONSTRUCTION.
  - ALL NEW LAWN AND WILDLIFE AREAS TO BE SEED TO RECEIVE 4" MINIMUM DEPTH OF TOPSOIL (DEPTH AFTER SETTLEMENT AND WATERING).
  - EXISTING TOPSOIL ON SITE MAY BE UNSUITABLE FOR REUSE. CONTRACTOR MUST PROVIDE IMPORTED TOPSOIL OR AMEND EXISTING TOPSOIL TO MEET REQUIREMENTS OUTLINED IN THE SPECIFICATIONS. CONTRACTOR MUST SUBMIT SOIL TEST ANALYSIS REPORT, INCLUDING AMENDMENT RECOMMENDATIONS, FOR EITHER IMPORTED TOPSOIL OR AMENDED EXISTING TOPSOIL. TOPSOIL MUST BE AMENDED AND RETESTED PRIOR TO PLANTING OPERATIONS.
  - PREPARE AND INSTALL WILDLIFE SEED AREAS PER SUPPLIER'S WRITTEN INSTRUCTIONS.
  - MULCH ALL SEEDED AREAS WITH CLEAN STRAW.
  - WATER AND MAINTAIN ALL SEEDED AREAS PER SPECIFICATIONS.
  - RESEED BARE OR THIN AREAS AS DIRECTED BY THE LANDSCAPE ARCHITECT.
  - LAWN SEED MIX (ATHLETIC FIELD MIX): SEED MIX SPECIFICALLY FORMULATED FOR ATHLETIC FIELDS AND HIGH USE LAWN AREAS WITH A COMPLETE MICROBIAL SEED TREATMENT PACKAGE (MTCO) AND SEED COATING SYSTEM FOR GERMINATION. PENNONI SMART SEED PRO ATHLETIC FIELD MIX, OR APPROVED EQUAL.
  - LOW-MOW SEED MIX: NO MOW LAWN SEED MIX WITH RYE, ITEM #50092, AS MANUFACTURED BY PRAIRIE NURSERY OR APPROVED EQUAL, APPLIED AT 220 LBS/ACRE. PREPARE SITE AND SEED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
  - BASIN BOTTOM SEED MIX: DETENTION BASIN BIOSWALE SEED MIX, ITEM #50092, AS MANUFACTURED BY PRAIRIE NURSERY OR APPROVED EQUAL, APPLIED AT 10 LBS/ACRE. PREPARE SITE AND SEED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
  - BASIN SIDE SEED MIX: EROSION CONTROL SEED MIX FOR DRY SOILS, ITEM #50094, AS MANUFACTURED BY PRAIRIE NURSERY OR APPROVED EQUAL, APPLIED AT 10 LBS/ACRE. PREPARE SITE AND SEED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
  - SEE SPECIFICATIONS FOR MORE INFORMATION.

- GENERAL NOTES:**
- DAMAGED AND/OR MISSING/REMOVED PERIMETER FENCING TO BE REPLACED AND TO MATCH EXISTING. 400 LF OF NEW FENCE AND ACCESSORIES IN GROUND IN CONTRACT.
  - CONTRACTOR TO PROVIDE POWER TO ALL AUTOMATIC AND LIFT GATES PER MANUFACTURER DETAIL.

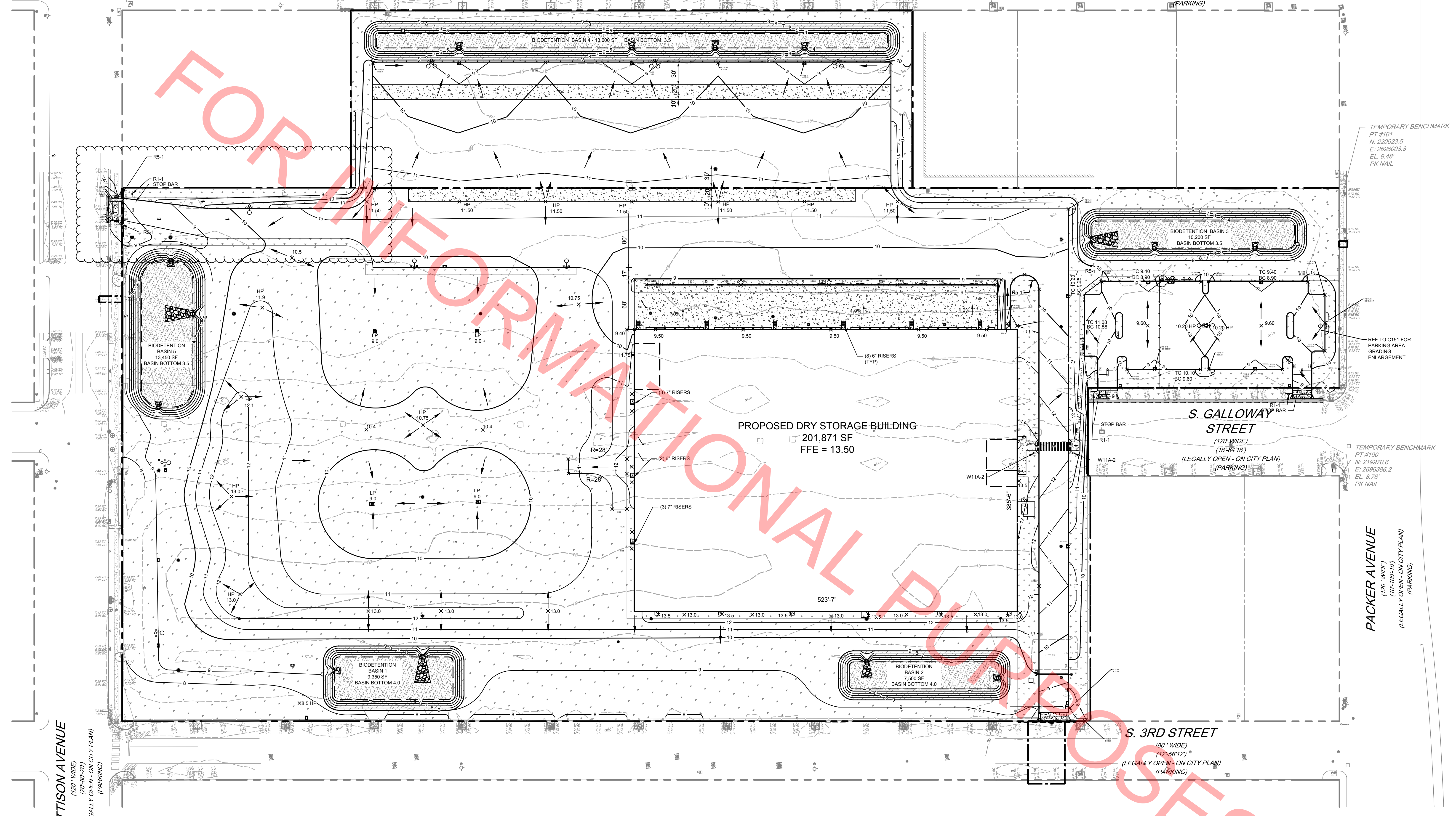
Received  
 12/10/2021  
 A&E Construction Co.







S. LAWRENCE STREET  
 (88' WIDE)  
 (13'-62'13")  
 (LEGALLY OPEN - ON CITY PLAN)  
 (PARKING)



FOR INFORMATIONAL PURPOSES ONLY

TEMPORARY BENCHMARK  
 PT #101  
 N: 220023.5  
 E: 2696008.8  
 EL: 9.48'  
 PK NAIL

TEMPORARY BENCHMARK  
 PT #100  
 N: 219970.6  
 E: 2696386.2  
 EL: 9.76'  
 PK NAIL

TEMPORARY BENCHMARK  
 PT #102  
 N: 219970.6  
 E: 2696386.2  
 EL: 9.76'  
 PK NAIL

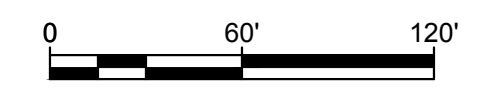
**LEGEND**

- |  |                                     |
|--|-------------------------------------|
|  | PROPOSED CURB                       |
|  | PROPOSED EDGE OF PAVEMENT           |
|  | PROPOSED BUILDING                   |
|  | PROPOSED FUTURE BUILDING            |
|  | PROPOSED STORM SEWER                |
|  | PROPOSED SANITARY SEWER             |
|  | PROPOSED FIRE SERVICE               |
|  | PROPOSED WATER SERVICE              |
|  | PROPOSED ELECTRIC SERVICE           |
|  | PROPOSED GAS SERVICE                |
|  | PROPOSED SURFACE UTILITIES          |
|  | PROPOSED STOP BAR                   |
|  | PROPOSED SIGN                       |
|  | PROPOSED MAJOR CONTOUR              |
|  | PROPOSED MINOR CONTOUR              |
|  | PROPOSED FLOW ARROW                 |
|  | PROPOSED SPOT ELEVATION             |
|  | PROPOSED HEADWALL AND RIP RAP APRON |
|  |                                     |
|  |                                     |
|  |                                     |
|  |                                     |
|  |                                     |
|  |                                     |
|  |                                     |
|  |                                     |

**GRADING NOTES:**

- A GEOTECHNICAL ENGINEER IS REQUIRED TO INSPECT, TEST AND CERTIFY TO THE COMPACTION OF ALL LOAD BEARING FILLS.
- MINIMUM PAVEMENT GRADE SHALL BE 1.5% UNLESS NOTED OTHERWISE.
- BEDDING REQUIREMENTS SPECIFIED HEREIN ARE TO BE CONSIDERED AS MINIMUMS FOR RELATIVELY DRY, STABLE EARTH CONDITIONS. ADDITIONAL BEDDING SHALL BE REQUIRED FOR ROCK TRENCHES AND WET AREAS. CONTRACTOR SHALL HAVE THE RESPONSIBILITY TO PROVIDE SUCH ADDITIONAL BEDDING AS MAY BE REQUIRED TO PROPERLY CONSTRUCT THE WORK.
- COMPACTION OF THE BACKFILL OF ALL TRENCHES SHALL BE COMPACTED TO THE DENSITY OF 95% OF THEORETICAL MAXIMUM DRY DENSITY (ASTM D998). BACKFILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, OR OTHER FOREIGN DEBRIS AND SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES IN COMPACTED FILL THICKNESS. CORRECTION OF ANY TRENCH SETTLEMENT WITHIN A YEAR FROM THE DATE OF APPROVAL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL ENSURE THAT POSITIVE AND ADEQUATE DRAINAGE IS MAINTAINED AT ALL TIMES WITHIN THE PROJECT LIMITS. THIS MAY INCLUDE, BUT NOT BE LIMITED TO, REPLACEMENT OR RECONSTRUCTION OF EXISTING DRAINAGE STRUCTURES THAT HAVE BEEN DAMAGED OR REMOVED OR REGRADING AS REQUIRED BY THE ENGINEER, EXCEPT FOR THOSE DRAINAGE ITEMS SHOWN AT SPECIFIC LOCATIONS AND HAVING SPECIFIC PAY ITEMS IN THE DETAILED ESTIMATE. NO SEPARATE PAYMENT WILL BE MADE FOR ANY COSTS INCURRED TO COMPLY WITH THIS REQUIREMENT.
- THE CONTRACTOR SHALL PROVIDE ANY AND ALL EXCAVATION AND MATERIAL SAMPLES NECESSARY TO CONDUCT REQUIRED SOIL TESTS. ALL ARRANGEMENTS AND SCHEDULING FOR THE TESTING SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- SOILS TESTING AND ON-SITE INSPECTION SHALL BE PERFORMED BY AN INDEPENDENT GEOTECHNICAL ENGINEER. THE SOILS ENGINEER SHALL PROVIDE COPIES OF TEST REPORTS TO THE CONTRACTOR, THE OWNER AND THE OWNER'S REPRESENTATIVE AND SHALL PROMPTLY NOTIFY THE OWNER, HIS REPRESENTATIVE AND THE CONTRACTOR, SHOULD WORK PERFORMED BY THE CONTRACTOR FAIL TO MEET THESE SPECIFICATIONS.
- CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES AROUND THE WORK AREA AND SHALL PROVIDE PROTECTION AGAINST WATER DAMAGE AND SOIL EROSION.
- MAXIMUM SIDEWALK CROSS SLOPE IS 2% AND MINIMUM SIDEWALK CROSS SLOPE IS 1.5% WITHIN THE RIGHT OF WAY.
- ELEVATIONS ARE BASED ON CITY OF PHILADELPHIA VERTICAL DATUM.
- CONTRACTOR SHALL RESET EXISTING MANHOLE RIMS TO FINISHED GRADE. CONTRACTOR SHALL COORDINATE DETAIL WITH RESPECTIVE UTILITY COMPANIES.
- THE VERTICAL DATUM FOR THIS PROJECT REFERENCES THE VERTICAL DATUM OF THE CITY OF PHILADELPHIA (CITY).

Received  
 12/10/2021  
 A&E Construction Co.



ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR  
 DISCREPANCIES BEFORE PROCEEDING WITH WORK

PHILAPORT DISTRIBUTION CENTER NEW DRY WAREHOUSE  
 3308 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
 PHILADELPHIA, PA 19148

NO.	DATE	REVISIONS
1	12/20/2021	CIVIL REVISIONS
2	12/21/2021	REV. TRENCH DRAIN AND LOADING GRADING
3	12/21/2021	PWD ALET REVISIONS
4	12/21/2021	PWD FIELD CHANGE SUBMISSION
5	12/21/2021	REVISED FOR PERMIT

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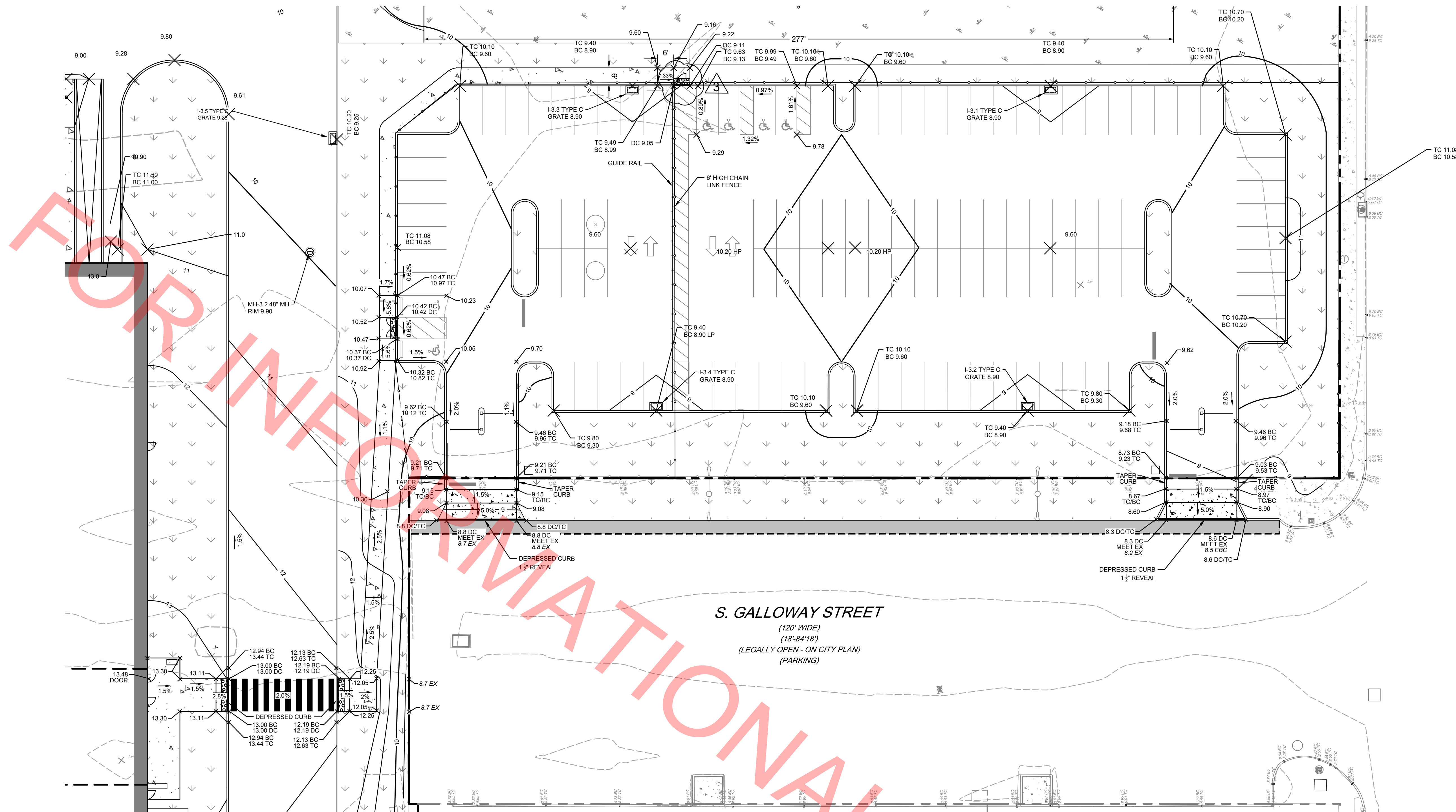
PROJECT: 20-028.1  
 DATE: 2019-12-16  
 DRAWING SCALE: 1" = 60'  
 DRAWN BY: CHD  
 APPROVED BY: BD

**C150**  
 SHEET 3 OF 17

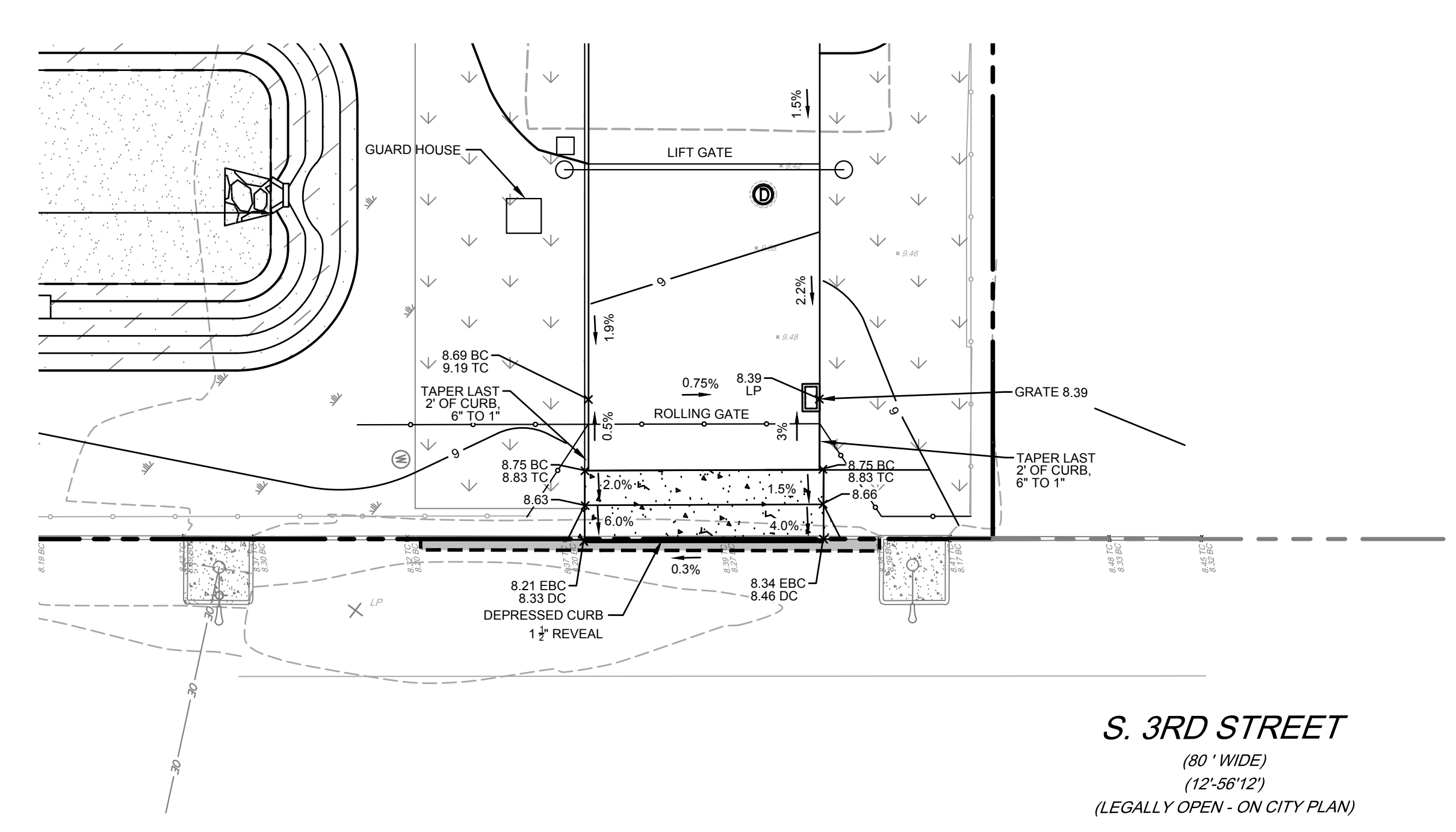
**Pennoni**  
 PENNONI ASSOCIATES INC.  
 1900 Market Street, Suite 300  
 Philadelphia, PA 19103  
 T: 215.222.3000 F: 215.222.3588

PHILADELPHIA REGIONAL PORT AUTHORITY  
 340 NORTH DELAWARE AVENUE  
 PHILADELPHIA, PA 19104

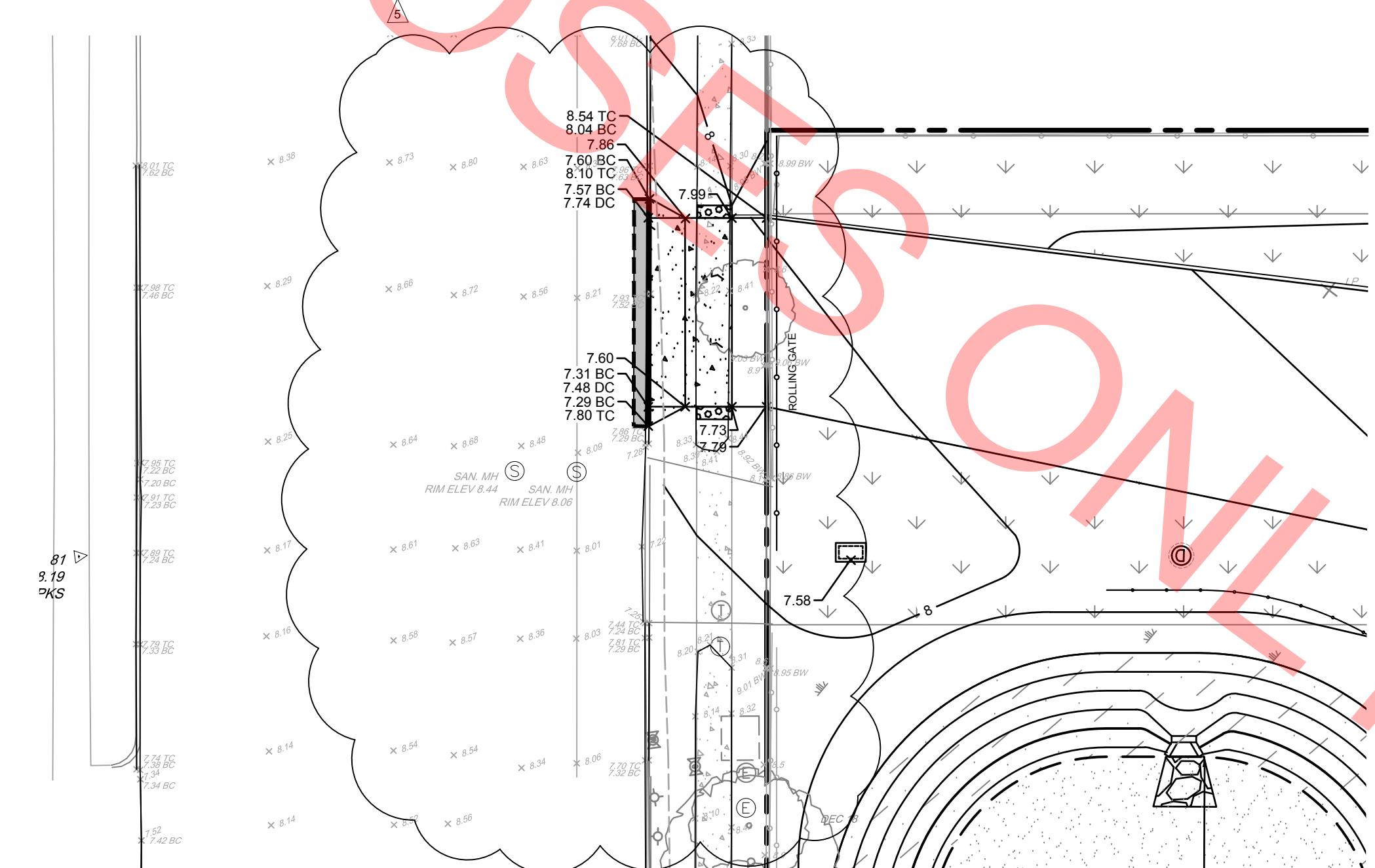




PARKING AREA GRADING ENLARGEMENT  
1" = 20'

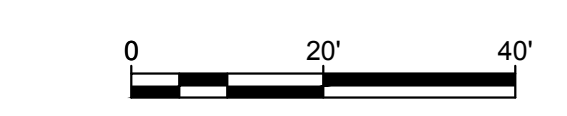


NORTHEAST ENTRANCE GRADING ENLARGEMENT  
1" = 20'



SOUTHWEST ENTRANCE GRADING ENLARGEMENT  
1" = 20'

Received  
12/10/2021  
A&E Construction Co.



ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR  
DISCREPANCIES BEFORE PROCEEDING WITH WORK

PHILAPORT DISTRIBUTION CENTER NEW DRY WAREHOUSE  
3309 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
PHILADELPHIA, PA 19148

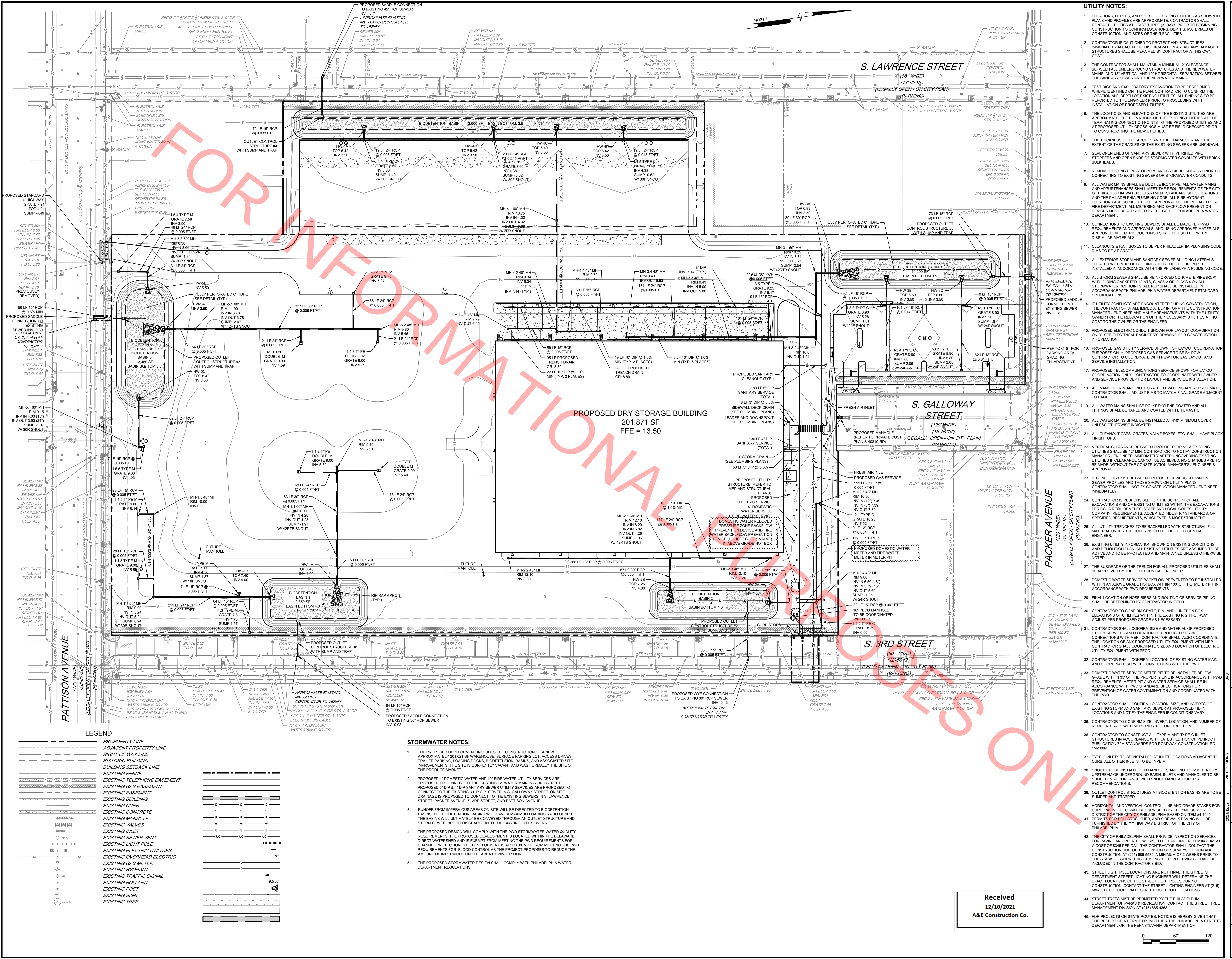
GRADING DETAIL PLAN  
PHILADELPHIA REGIONAL PORT AUTHORITY  
3400 NORTH DELAWARE AVENUE  
PHILADELPHIA, PA 19124

NO.	DATE	REVISIONS	BY
1	12/22/2021	CIVIL REVISIONS	JAS
2	12/22/2021	GRADING REVISIONS	JAS
3	2021-10-05	PWD INLET REVISIONS	JRB
4	2021-09-08	PWD FIELD CHANGE SUBMISSION	CLV
5	2020/09/08	REVISED FOR PERMITTED	TKU
6		REVISED	BD

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PROJECT 20-028.1  
DATE 2019-12-16  
DRAWING SCALE 1" = 20'  
DRAWN BY CHD  
APPROVED BY BD





**Pennoni**  
 PENNONI ASSOCIATES, INC.  
 1900 Market Street, Suite 300  
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**UTILITY PLAN**  
 PHILADELPHIA REGIONAL PORT AUTHORITY  
 380 NORTH DELAWARE AVENUE  
 PHILADELPHIA, PA 19104

**PHILAPORT DISTRIBUTION CENTER NEW DRY WAREHOUSE**  
 3309 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
 PHILADELPHIA, PA 19148

**UTILITY NOTES:**

- LOCATIONS, DEPTHS, AND SIZES OF EXISTING UTILITIES AS SHOWN IN PLANS AND PROFILES ARE APPROXIMATE. CONTRACTOR SHALL CONTACT UTILITIES AT LEAST THREE (3) DAYS PRIOR TO BEGINNING CONSTRUCTION TO CONFIRM LOCATIONS, DEPTHS, MATERIALS OF CONSTRUCTION, AND SIZES OF THEIR FACILITIES.
- CONTRACTOR IS CAUTIONED TO PROTECT ANY STRUCTURES IMMEDIATELY ADJACENT TO HIS EXCAVATION AREAS ANY DAMAGE TO STRUCTURES SHALL BE REPAIRED BY CONTRACTOR AT HIS OWN COST.
- THE CONTRACTOR SHALL MAINTAIN A MINIMUM 12" CLEARANCE BETWEEN ALL UNDERGROUND STRUCTURES AND THE NEW WATER MAINS, AND 18" VERTICAL AND 12" HORIZONTAL SEPARATION BETWEEN THE SANITARY SEWER AND THE NEW WATER MAINS.
- TEST DIGS AND EXPLORATORY EXCAVATION TO BE PERFORMED WHERE IDENTIFIED ON THE PLAN. CONTRACTOR TO CONFIRM THE LOCATION AND DEPTH OF EXISTING UTILITIES. ALL FINDINGS TO BE REPORTED TO THE ENGINEER PRIOR TO PROCEEDING WITH INSTALLATION OF PROPOSED UTILITIES.
- THE LOCATIONS AND ELEVATIONS OF THE EXISTING UTILITIES ARE APPROXIMATE. THE ELEVATIONS OF THE EXISTING UTILITIES AT THE TERMINATING CONNECTION POINTS TO THE PROPOSED UTILITIES AND AT PROPOSED UTILITY CROSSINGS MUST BE FIELD CHECKED PRIOR TO CONSTRUCTING THE NEW UTILITIES.
- THE THICKNESS OF THE ARCHES AND THE CHARACTER AND THE EXTENT OF THE CRADLES OF THE EXISTING SEWERS ARE UNKNOWN.
- SEAL OPEN ENDS OF SANITARY SEWER WITH VITRIFIED PIPE STOPPERS AND OPEN ENDS OF STORMWATER CONDUITS WITH BRICK BULKHEADS.
- REMOVE EXISTING PIPE STOPPERS AND BRICK BULKHEADS PRIOR TO CONNECTING TO EXISTING SEWERS OR STORMWATER CONDUITS.
- ALL WATER MAINS SHALL BE DUCTILE IRON PIPE. ALL WATER MAINS AND APPURTENANCES SHALL MEET THE REQUIREMENTS OF THE CITY OF PHILADELPHIA WATER DEPARTMENT STANDARD SPECIFICATIONS AND THE PHILADELPHIA PLUMBING CODE. ALL FIRE HYDRANT LOCATIONS ARE SUBJECT TO THE APPROVAL OF THE PHILADELPHIA FIRE DEPARTMENT. ALL METERING AND BACKFLOW PREVENTION DEVICES MUST BE APPROVED BY THE CITY OF PHILADELPHIA WATER DEPARTMENT.
- CONNECTIONS TO EXISTING SEWERS SHALL BE MADE PER PWD REQUIREMENTS AND APPROVALS, AND USING APPROVED MATERIALS. APPROVED DIELECTRIC COUPLINGS SHALL BE USED BETWEEN DISSIMILAR MATERIALS.
- CLEANOUTS & F.A.I. BOXES TO BE PER PHILADELPHIA PLUMBING CODE RIMS TO BE AT GRADE.
- ALL EXTERIOR STORM AND SANITARY SEWER BUILDING LATERALS LOCATED WITHIN 10' OF BUILDINGS TO BE DUCTILE IRON PIPE. INSTALLED IN ACCORDANCE WITH THE PHILADELPHIA PLUMBING CODE.
- ALL STORM SEWERS SHALL BE REINFORCED CONCRETE PIPE (RCP) WITH ORBING GASKED JOINTS. CLASS 3 OR CLASS 4 ON ALL STORMWATER RCP JOINTS. ALL RCP SHALL BE INSTALLED IN ACCORDANCE WITH PHILADELPHIA WATER DEPARTMENT STANDARD SPECIFICATIONS.
- IF UTILITY CONFLICTS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT MANAGER, ENGINEER, AND ALL INVOLVED AGENCIES OF THE UTILITY OWNER FOR THE RELOCATION OF THE NECESSARY UTILITIES AT NO COST TO THE OWNER OR THE ENGINEER.
- PROPOSED ELECTRIC CONDUIT SHOWN FOR LAYOUT COORDINATION ONLY. SEE ELECTRICAL ENGINEER'S DRAWING FOR CONSTRUCTION INFORMATION.
- PROPOSED GAS UTILITY SERVICE SHOWN FOR LAYOUT COORDINATION PURPOSES ONLY. CONTRACTOR TO COORDINATE WITH OWNER AND CONTRACTOR TO COORDINATE WITH PGM FOR GAS LAYOUT AND SERVICE INSTALLATION.
- PROPOSED TELECOMMUNICATIONS SERVICE SHOWN FOR LAYOUT COORDINATION ONLY. CONTRACTOR TO COORDINATE WITH OWNER AND SERVICE PROVIDER FOR LAYOUT AND SERVICE INSTALLATION.
- ALL MANHOLE RIM AND INLET GRADE ELEVATIONS ARE APPROXIMATE. CONTRACTOR SHALL ADJUST RIMS TO MATCH FINAL GRADE ADJACENT TO SANS.
- ALL WATER MAINS SHALL BE POLYETHYLENE COATED AND ALL FITTINGS SHALL BE TAPED AND COATED WITH BUTASTIC.
- ALL WATER MAINS SHALL BE INSTALLED AT 4" MINIMUM COVER UNLESS OTHERWISE INDICATED.
- ALL CLEANOUT CAPS, GRATES, VALVE BOXES, ETC. SHALL HAVE BLACK FINISH TOPS.
- VERTICAL CLEARANCE BETWEEN PROPOSED PIPING & EXISTING UTILITIES SHALL BE 12" MINIMUM. CONTRACTOR TO NOTIFY CONSTRUCTION MANAGER, ENGINEER IMMEDIATELY AFTER UNCOVERING EXISTING UTILITIES IF CLEARANCE CANNOT BE ACHIEVED. NO CHANGES ARE TO BE MADE, UNLESS WITH THE CONSTRUCTION MANAGER'S / ENGINEER'S APPROVAL.
- IF CONFLICTS EXIST BETWEEN PROPOSED SEWERS SHOWN ON SEWER PROFILES AND THOSE SHOWN ON UTILITY PLANS, CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER / ENGINEER IMMEDIATELY.
- CONTRACTOR IS RESPONSIBLE FOR THE SUPPORT OF ALL EXCAVATIONS AND OF EXISTING UTILITIES WITHIN THE EXCAVATIONS PER OSHA REQUIREMENTS, STATE AND LOCAL CODES. UTILITY COMPANY REQUIREMENTS, ACCEPTED INDUSTRY STANDARDS, OR SPECIFIED REQUIREMENTS, WHICHEVER IS MOST STRINGENT.
- ALL UTILITY TRENCHES TO BE BACKFILLED WITH STRUCTURAL FILL MATERIAL UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER.
- EXISTING UTILITY INFORMATION SHOWN ON EXISTING CONDITIONS AND DEMOLITION PLAN. ALL EXISTING UTILITIES ARE ASSUMED TO BE ACTIVE AND TO BE PROTECTED AND MAINTAINED UNLESS OTHERWISE NOTED.
- THE SUBGRADE OF THE TRENCH FOR ALL PROPOSED UTILITIES SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.
- DOMESTIC WATER SERVICE BACKFLOW PREVENTER TO BE INSTALLED WITHIN AN ABOVE GRADE BOX WITHIN 100' OF THE METER PIT IN ACCORDANCE WITH PWD REQUIREMENTS.
- FINAL LOCATION OF HOSE BIBBS AND ROUTING OF SERVICE PIPING SHALL BE DETERMINED BY CONTRACTOR IN FIELD.
- CONTRACTOR TO CONFIRM GRATE, RIM, AND JUNCTION BOX ELEVATIONS OF UTILITIES WITHIN THE EXISTING RIGHT-OF-WAY. ADJUST PER PROPOSED GRADE AS NECESSARY.
- CONTRACTOR SHALL CONFIRM SIZE AND MATERIAL OF PROPOSED UTILITY SERVICES AND LOCATION OF PROPOSED SERVICE CONNECTIONS WITH MEP. CONTRACTOR SHALL ALSO COORDINATE THE LOCATION OF ANY PROPOSED UTILITY EQUIPMENT WITH MEP. CONTRACTOR SHALL COORDINATE SIZE AND LOCATION OF ELECTRIC UTILITY EQUIPMENT WITH PECO.
- CONTRACTOR SHALL CONFIRM LOCATION OF EXISTING WATER MAIN AND COORDINATE SERVICE CONNECTIONS WITH THE PWD.
- DOMESTIC WATER SERVICE METER PIT TO BE INSTALLED BELOW GRADE WITHIN 30' OF THE PROPERTY LINE IN ACCORDANCE WITH PWD REQUIREMENTS. METER PIT AND WATER SERVICE SHALL BE INSTALLED IN ACCORDANCE WITH PWD STANDARD SPECIFICATIONS FOR PREVENTION OF WATER CONTAMINATION AND COORDINATED WITH THE PWD.
- CONTRACTOR SHALL CONFIRM LOCATION, SIZE, AND INVERTS OF EXISTING STORM AND SANITARY SEWER AT PROPOSED TIE-IN LOCATIONS AND NOTIFY THE ENGINEER IF CONDITIONS VARY.
- CONTRACTOR TO CONFIRM SIZE, INVERT, LOCATION, AND NUMBER OF ROOF LATERALS WITH MEP PRIOR TO CONSTRUCTION.
- CONTRACTOR TO CONSTRUCT ALL TYPE-M AND TYPE-C IN-LET STRUCTURES IN ACCORDANCE WITH LATEST EDITION OF PENNDOT PUBLICATION 72M STANDARDS FOR ROADWAY CONSTRUCTION, RC 14-100M.
- TYPE-C INLETS TO BE INSTALLED AT INLET LOCATIONS ADJACENT TO CURB. ALL OTHER INLETS TO BE TYPE-M.
- SNOUTS TO BE INSTALLED ON MANHOLES AND INLETS IMMEDIATELY UPSTREAM OF UNDERGROUND BASIN, INLETS AND MANHOLES TO BE SURFICED IN ACCORDANCE WITH SNOT MANUFACTURER'S RECOMMENDATIONS.
- OUTLET CONTROL STRUCTURES AT BIODETENTION BASINS ARE TO BE SUMPED AND TRAPPED.
- HORIZONTAL AND VERTICAL CONTROL LINE AND GRADE STAKES FOR CURB, PAVING, ETC. WILL BE FURNISHED BY THE 2ND SURVEY DISTRICT OF THE CITY OF PHILADELPHIA BASED ON RC 84-1040.
- PERMITS FOR BOLLARDS, CURBS, AND SIDEWALK PAVING WILL BE FURNISHED BY THE HIGHWAY DISTRICT OF THE CITY OF PHILADELPHIA.
- THE CITY OF PHILADELPHIA SHALL PROVIDE INSPECTION SERVICES FOR PAVING AND RELATED WORK. TO BE PAID UNDER ITEM #6-1041 AT A COST OF \$400 PER DAY. THE CONTRACTOR SHALL CONTACT THE CONSTRUCTION UNIT OF THE DIVISION OF SURVEYS, DESIGN AND CONSTRUCTION AT (215) 686-5538. A MINIMUM OF 2 WEEKS PRIOR TO THE START OF WORK, THIS ITEM, INSPECTION SERVICES, SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
- STREET LIGHT POLE LOCATIONS ARE NOT FINAL. THE STREETS DEPARTMENT STREET LIGHTING ENGINEER WILL DETERMINE THE EXACT LOCATIONS OF THE STREET LIGHT POLES DURING CONSTRUCTION. CONTACT THE STREET LIGHTING ENGINEER AT (215) 686-5577 TO COORDINATE STREET LIGHT POLE LOCATIONS.
- STREET TREES MUST BE PERMITTED BY THE PHILADELPHIA DEPARTMENT OF PARKS & RECREATION. CONTACT THE STREET TREE MANAGEMENT DIVISION AT (215) 685-4363.
- FOR PROJECTS ON STATE ROUTES, NOTICE IS HEREBY GIVEN THAT THE RECEIPT OF A PERMIT FROM EITHER THE PHILADELPHIA STREETS DEPARTMENT, OR THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PENNDOT) DOES NOT IMPLY OTHER ALL PERMITS MUST OBTAINED PRIOR TO CONSTRUCTION.

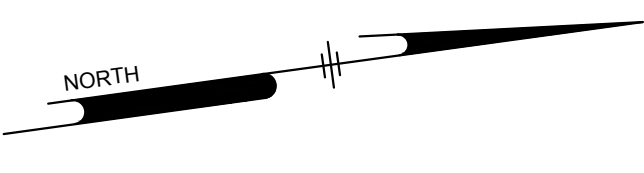
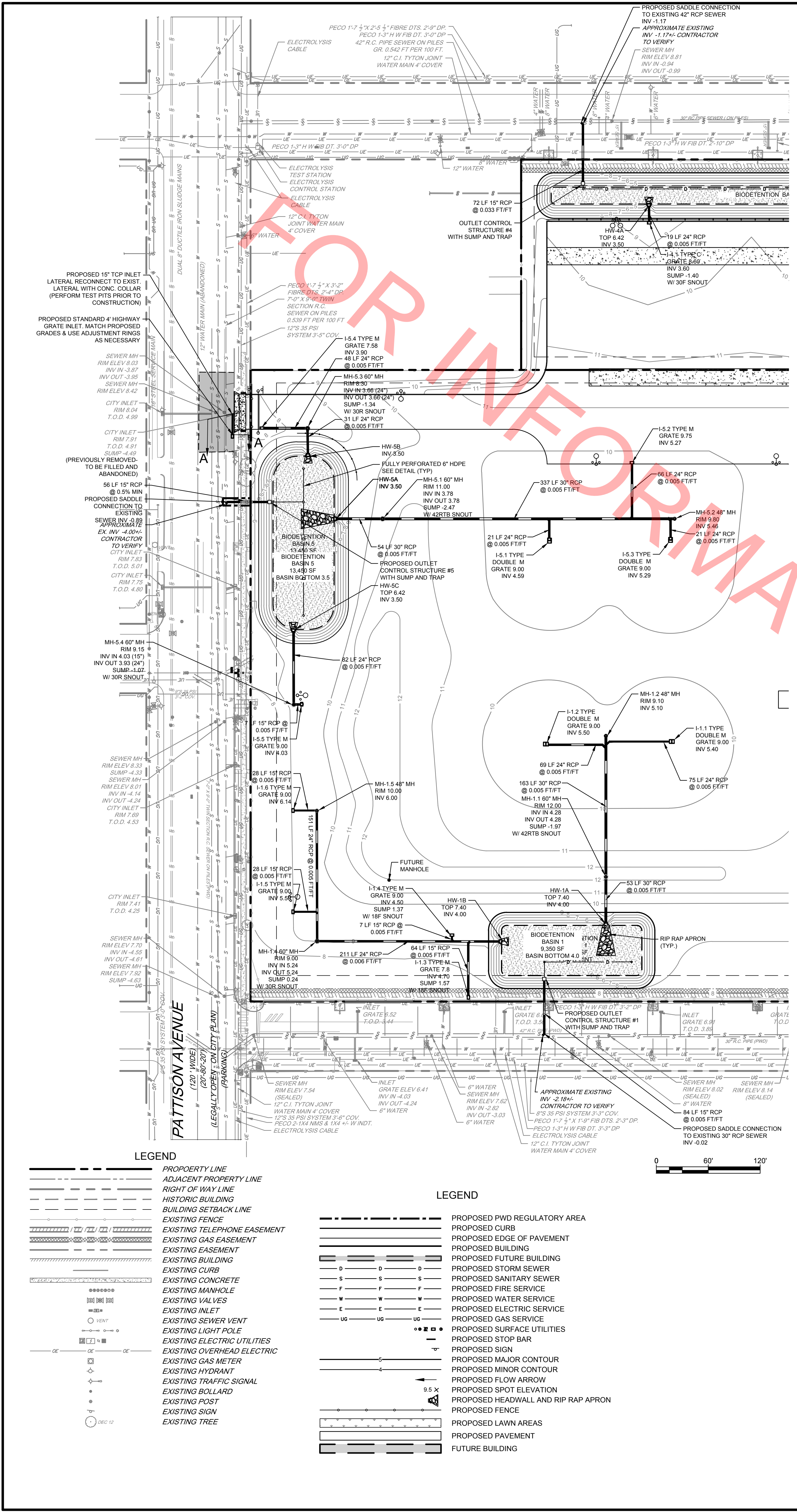
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50	REVISED FOR PERMITS	2021/08/09	BD

Received  
 12/10/2021  
 A&E Construction Co.

20-028.1  
 DATE 2019-12-16  
 DRAWING SCALE 1" = 60'  
 DRAWN BY CHD  
 APPROVED BY BD

**C170**  
 SHEET 5 OF 17





**LEGEND**

---	PROPERTY LINE
---	ADJACENT PROPERTY LINE
---	RIGHT OF WAY LINE
---	HISTORIC BUILDING
---	BUILDING SETBACK LINE
---	EXISTING FENCE
---	EXISTING TELEPHONE EASEMENT
---	EXISTING GAS EASEMENT
---	EXISTING EASEMENT
---	EXISTING BUILDING
---	EXISTING CURB
---	EXISTING CONCRETE
---	EXISTING MANHOLE
---	EXISTING VALVES
---	EXISTING INLET
---	EXISTING SEWER VENT
---	EXISTING LIGHT POLE
---	EXISTING ELECTRIC UTILITIES
---	EXISTING OVERHEAD ELECTRIC
---	EXISTING GAS METER
---	EXISTING VALVE/DRY
---	EXISTING TRAFFIC SIGNAL
---	EXISTING BOLLARD
---	EXISTING POST
---	EXISTING SIGN
---	EXISTING TREE

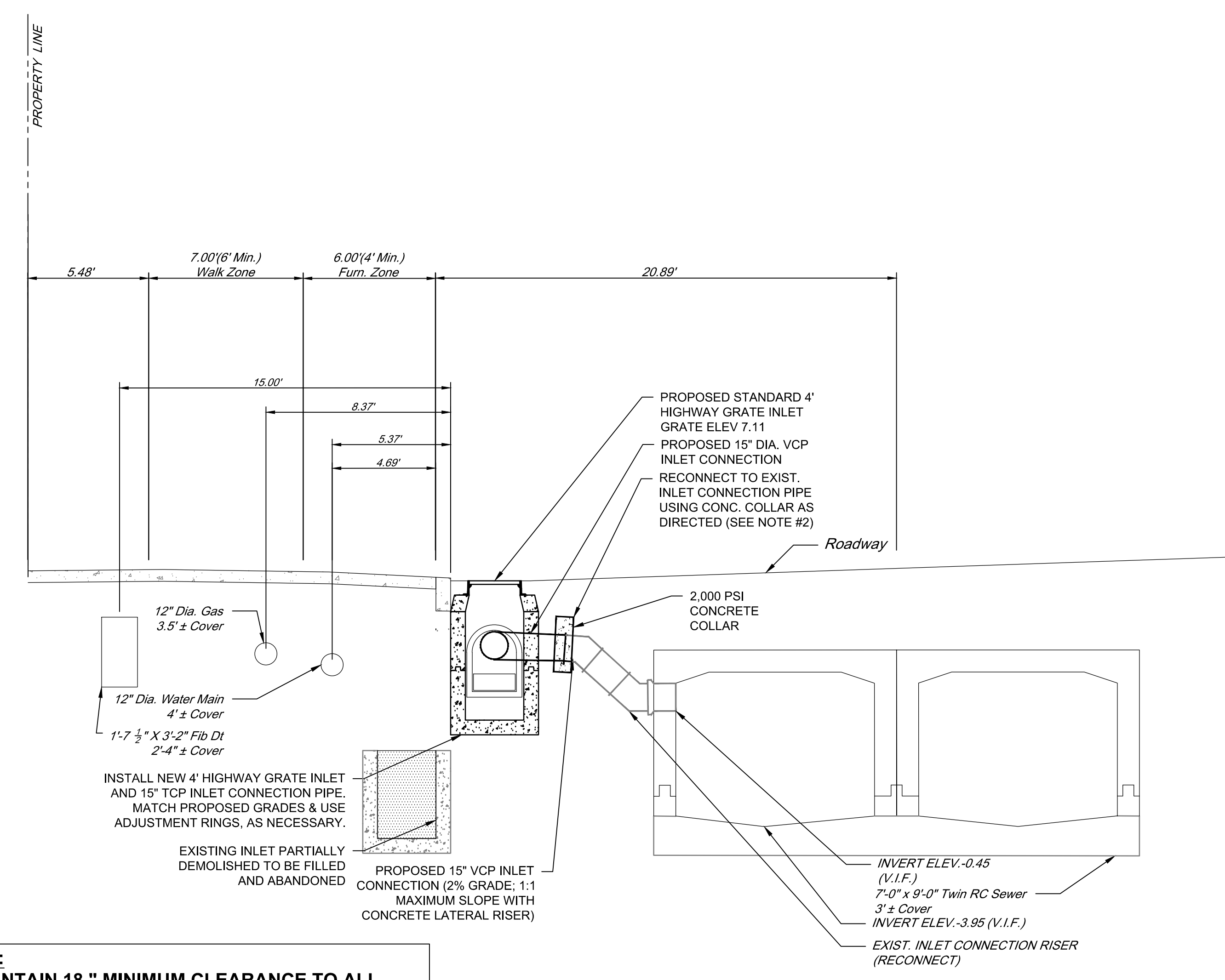
**LEGEND**

---	PROPOSED PWD REGULATORY AREA
---	PROPOSED CURB
---	PROPOSED EDGE OF PAVEMENT
---	PROPOSED BUILDING
---	PROPOSED FUTURE BUILDING
---	PROPOSED STORM SEWER
---	PROPOSED SANITARY SEWER
---	PROPOSED FIRE SERVICE
---	PROPOSED WATER SERVICE
---	PROPOSED ELECTRIC SERVICE
---	PROPOSED GAS SERVICE
---	PROPOSED SURFACE UTILITIES
---	PROPOSED STOP BAR
---	PROPOSED SIGN
---	PROPOSED MAJOR CONTOUR
---	PROPOSED MINOR CONTOUR
---	PROPOSED FLOW ARROW
---	PROPOSED SPOT ELEVATION
---	PROPOSED HEADWALL AND RIP RAP APRON
---	PROPOSED FENCE
---	PROPOSED LAWN AREAS
---	PROPOSED PAVEMENT
---	FUTURE BUILDING

**NOTE:**

1. MAINTAIN 18" MINIMUM CLEARANCE TO ALL UTILITIES.
2. CONTRACTOR TO CONFIRM CONDITION AND CONFIGURATION OF EXISTING INLET CONNECTION PIPE AND REPORT FINDINGS TO THE PWD CONSTRUCTION ENGINEER. WHEN APPROVED, CONNECT NEW 15" TCP INLET CONNECTION TO SOUND PORTION OF EXISTING 15" INLET CONNECTION AS INDICATED AND APPROVED BY THE PWD CONSTRUCTION ENGINEER.
3. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES WITHIN THE PROXIMITY OF THE PROPOSED INLET.

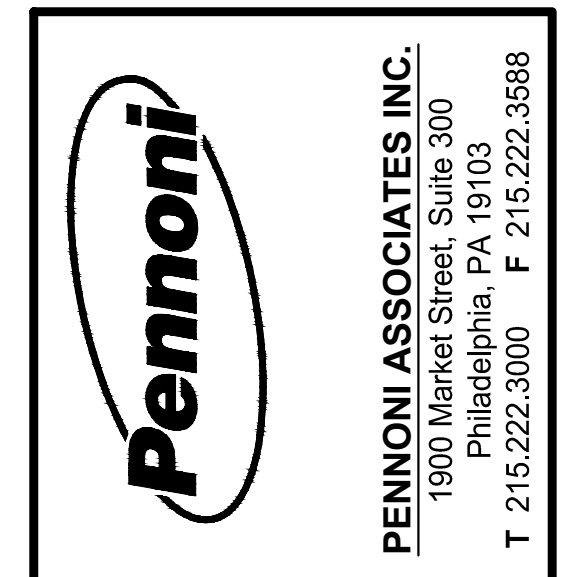
**SECTION A-A**  
SCALE: 1/4" = 1'-0"



- SEWER NOTES:**
1. ALL WORK TO BE DONE IN ACCORDANCE WITH THE CITY OF PHILADELPHIA WATER DEPARTMENT STANDARD DETAILS & STANDARD SPECIFICATIONS FOR SEWERS.
  2. THE CONTRACTOR PERFORMING THE WATER & SEWER INSTALLATION MUST BE PREQUALIFIED BY THE PHILADELPHIA WATER DEPARTMENT (PWD), CONTACT MS. TRISHA GRACE OF THE PROJECTS MANAGEMENT UNIT AT (215)685-6339.
  3. THE APPROVED WORK SHALL BE DONE IN THE PRESENCE OF A PWD INSPECTOR.
  4. THE CONTRACTOR PERFORMING THIS WORK IS TO NOTIFY THE PWD CONSTRUCTION DIVISION, 1101 MARKET STREET, 2ND FLOOR, PHONE (215)685-6345, AT LEAST 7 DAYS IN ADVANCE FOR ASSIGNMENT OF AN INSPECTOR TO THE JOB.
  5. APPROVAL OF THESE PLANS BY THE WATER DEPARTMENT IS STRICTLY LIMITED TO THE DESIGN OF SEWERS 15-INCHES IN DIAMETER AND LARGER SHOWN WITHIN THE LIMITS OF THE CITY OF PHILADELPHIA PUBLIC RIGHT OF WAY. ADDITIONAL APPROVALS AND PERMITS ARE REQUIRED FOR ALL DRAINAGE CONNECTIONS TO THE EXISTING PWD FACILITIES.
  6. CONTACT MR. ERIK SMITH, PWD-WATER TRANSPORT RECORDS, 1101 MARKET STREET, 2ND FLOOR, PHONE (215)685-6270, FOR ADDITIONAL APPROVALS AND PERMITS REQUIRED FOR ALL SEWER CONNECTIONS TO THE EXISTING AND/OR PROPOSED PWD FACILITIES.
  7. THE ELEVATION OF THE EXISTING SEWER AT THE CONNECTION POINT MUST BE FIELD-CHECKED BY THE CONTRACTOR IN THE PRESENCE OF A PWD INSPECTOR PRIOR TO CONSTRUCTING THE NEW SEWER.
  8. FIELD-FABRICATED PIPE BRANCHES AND BENDS ARE NOT PERMITTED.
  9. A LIST OF ALL MATERIALS AND SUPPLIERS MUST BE SUBMITTED TO THE PWD CONSTRUCTION BRANCH FOR APPROVAL.
  10. THE CONTRACTOR OR ENGINEER IS RESPONSIBLE FOR OBTAINING ALL ADDITIONAL PERMITS AND APPROVALS FROM ALL AFFECTED CITY AGENCIES AND UTILITIES.
  11. PRIOR TO OBTAINING A BUILDING PERMIT, THE CONTRACTOR IS REQUIRED TO OBTAIN PWD STORMWATER MANAGEMENT APPROVAL, AND SEWAGE FACILITIES PLANNING (ACT 537) APPROVAL.

FIELD CHANGE SUPPLEMENTAL INFORMATION ASSOCIATED WITH APPROVED WORK NO. 90228.

Received  
9/1/2021  
A&E Construction Co.



ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR DISCREPANCIES BEFORE PROCEEDING WITH WORK

**PENNONI ASSOCIATES INC.**  
1900 Market Street, Suite 300  
Philadelphia, PA 19103  
T 215.222.3000 F 215.222.3588

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3308 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
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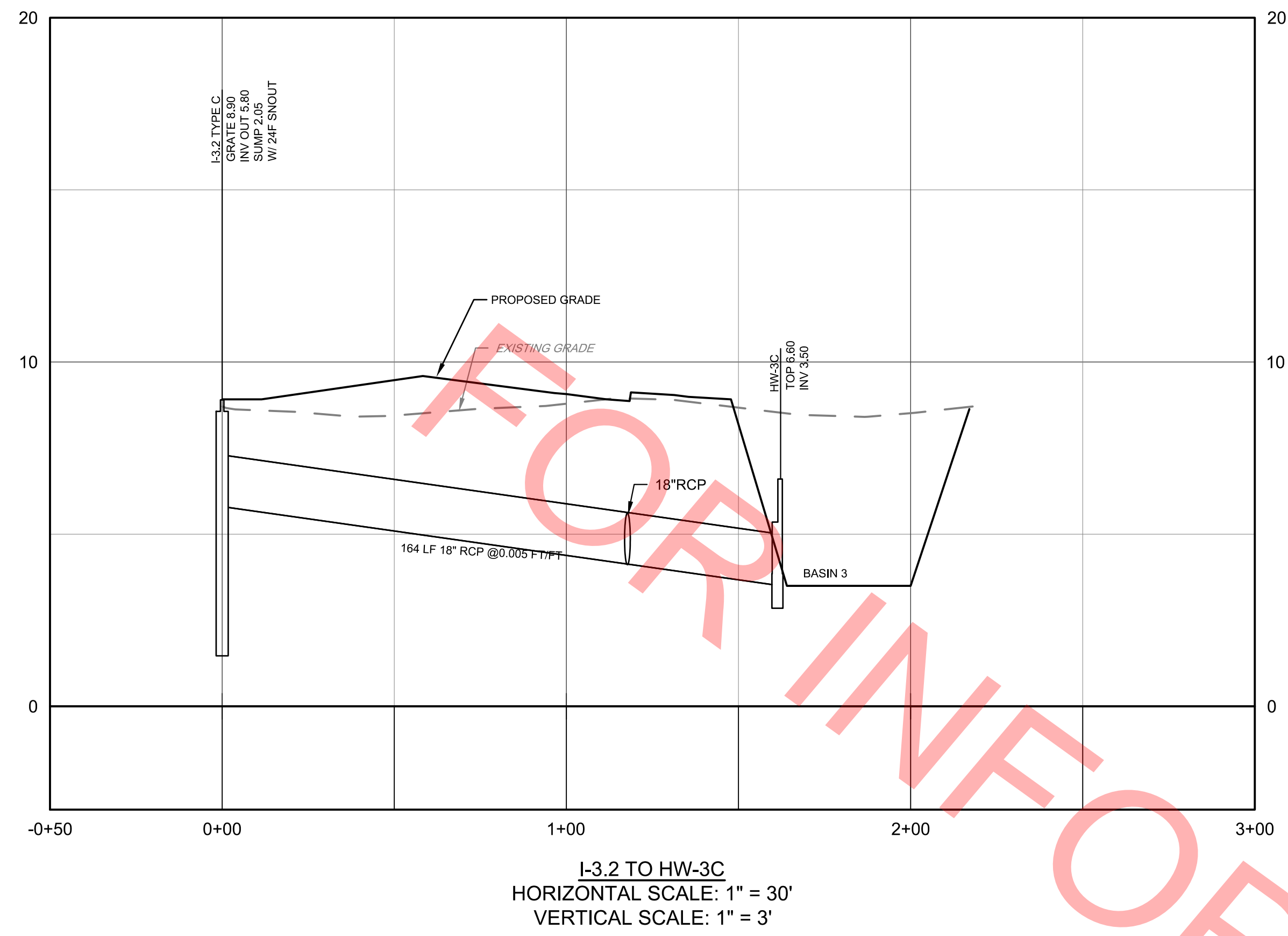
**UTILITY PLAN**  
PHILADELPHIA REGIONAL PORT AUTHORITY  
340 NORTH DELAWARE AVENUE  
PHILADELPHIA, PA 19104

NO.	DATE	REVISIONS
1	2021/08/08	PWD FIELD CHANGE SUBMISSION
2	2021/08/08	REVISION FOR PERMITS
3	2021/08/08	REVISION FOR PERMITS
4	2021/08/08	REVISION FOR PERMITS
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20	2021/08/08	REVISION FOR PERMITS

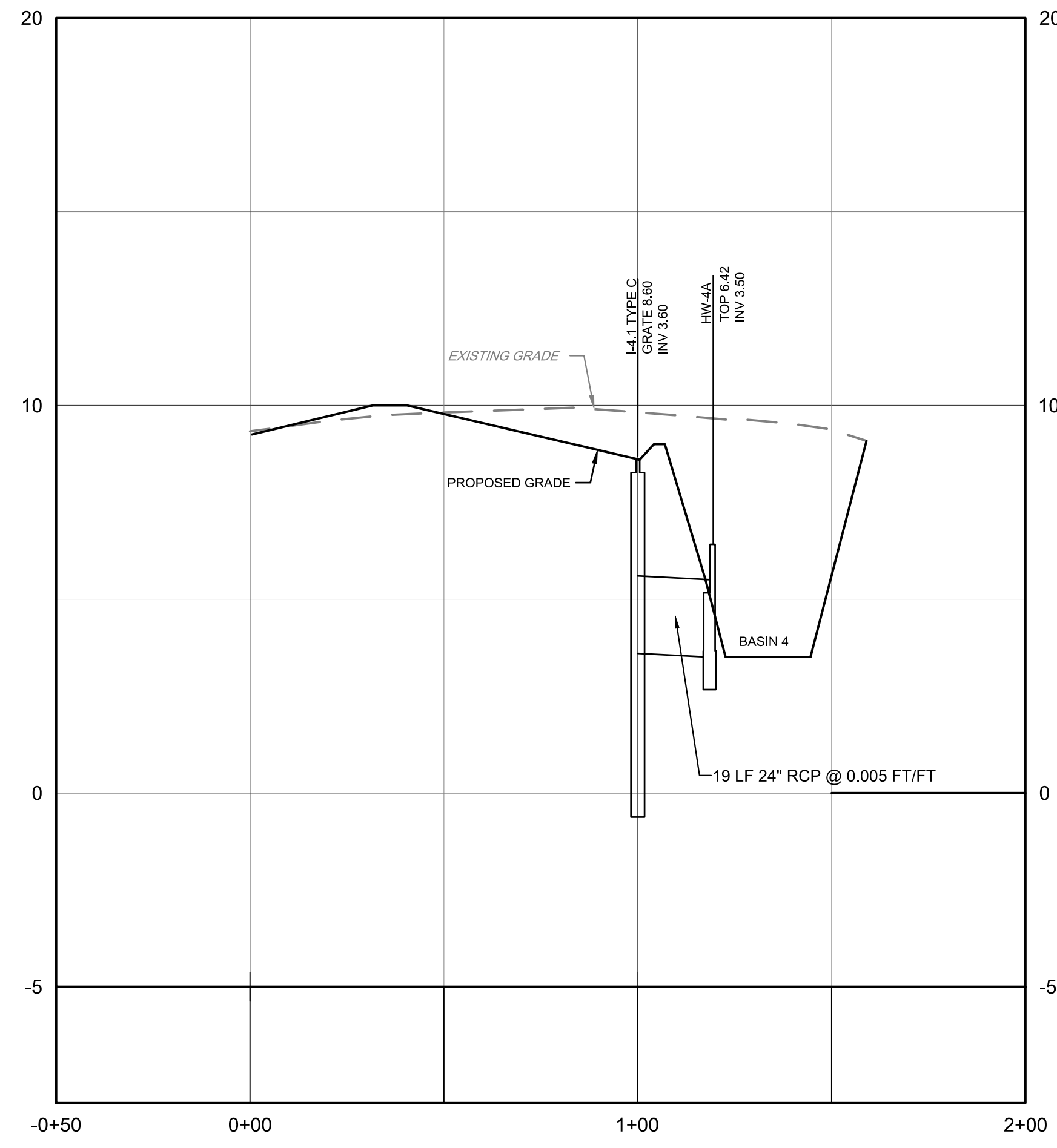
NO.	DATE	REVISIONS
1	2021/08/08	REVISION FOR PERMITS
2	2021/08/08	REVISION FOR PERMITS
3	2021/08/08	REVISION FOR PERMITS
4	2021/08/08	REVISION FOR PERMITS
5	2021/08/08	REVISION FOR PERMITS
6	2021/08/08	REVISION FOR PERMITS
7	2021/08/08	REVISION FOR PERMITS
8	2021/08/08	REVISION FOR PERMITS
9	2021/08/08	REVISION FOR PERMITS
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14	2021/08/08	REVISION FOR PERMITS
15	2021/08/08	REVISION FOR PERMITS
16	2021/08/08	REVISION FOR PERMITS
17	2021/08/08	REVISION FOR PERMITS
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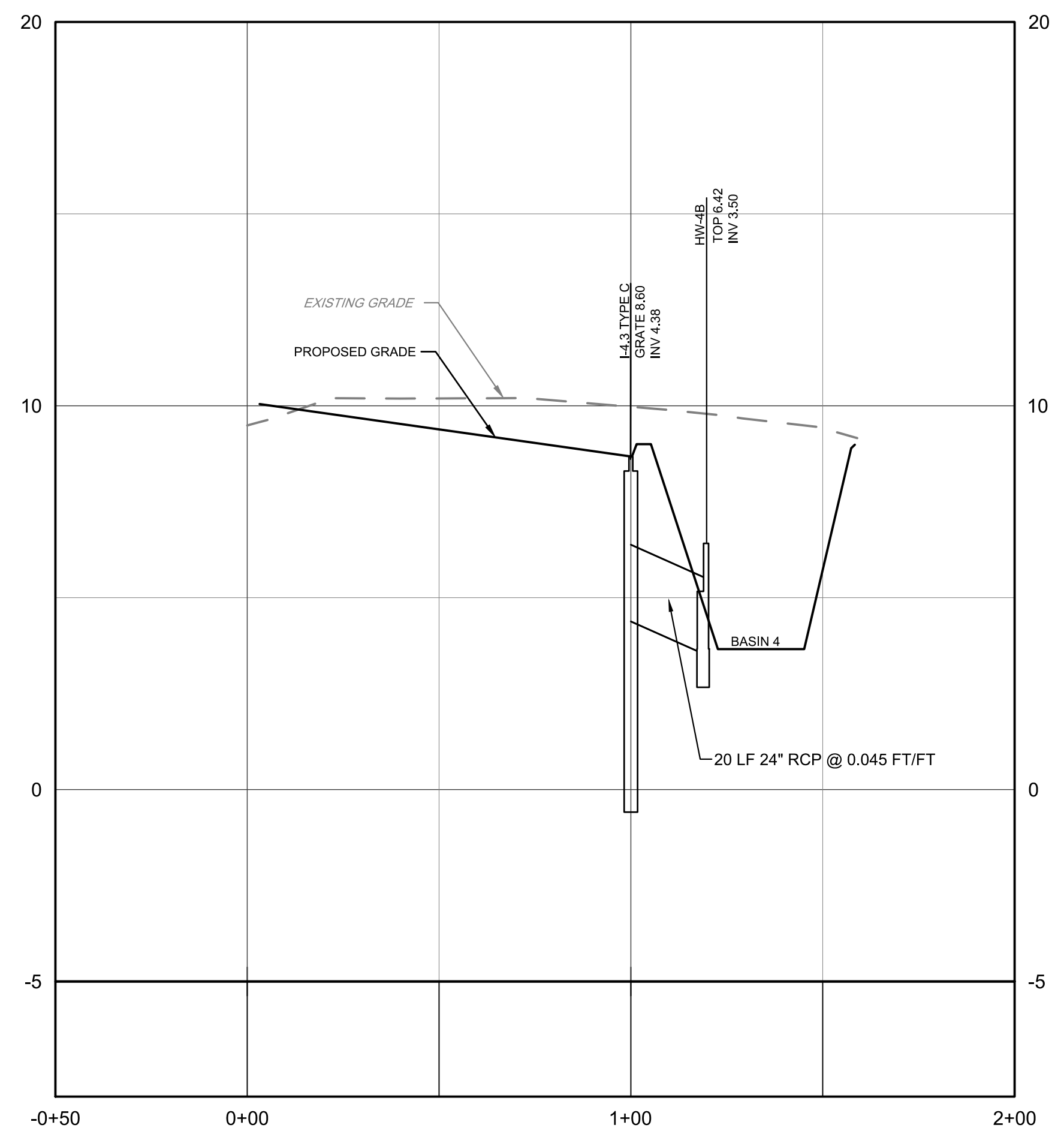




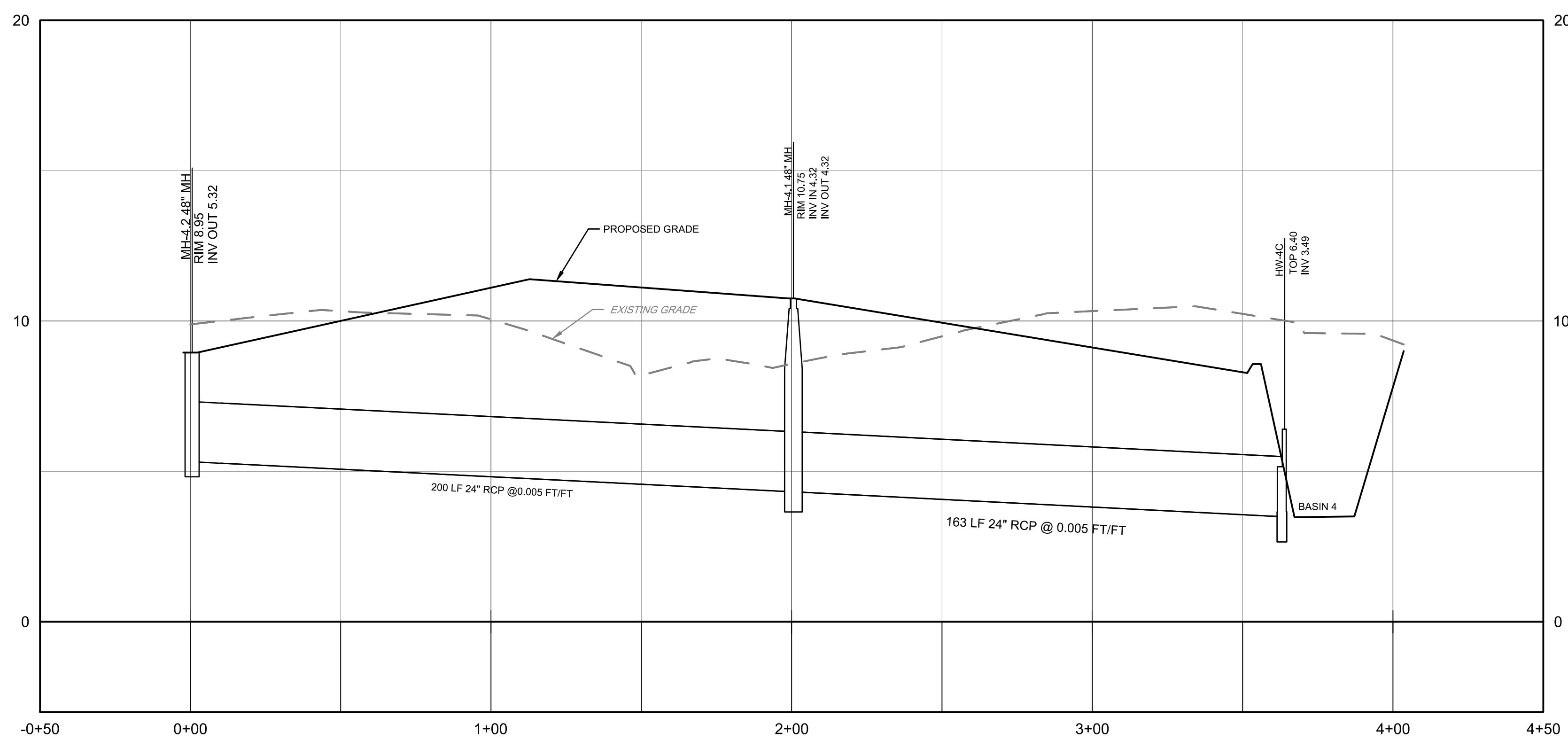
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 VERTICAL SCALE: 1" = 3'



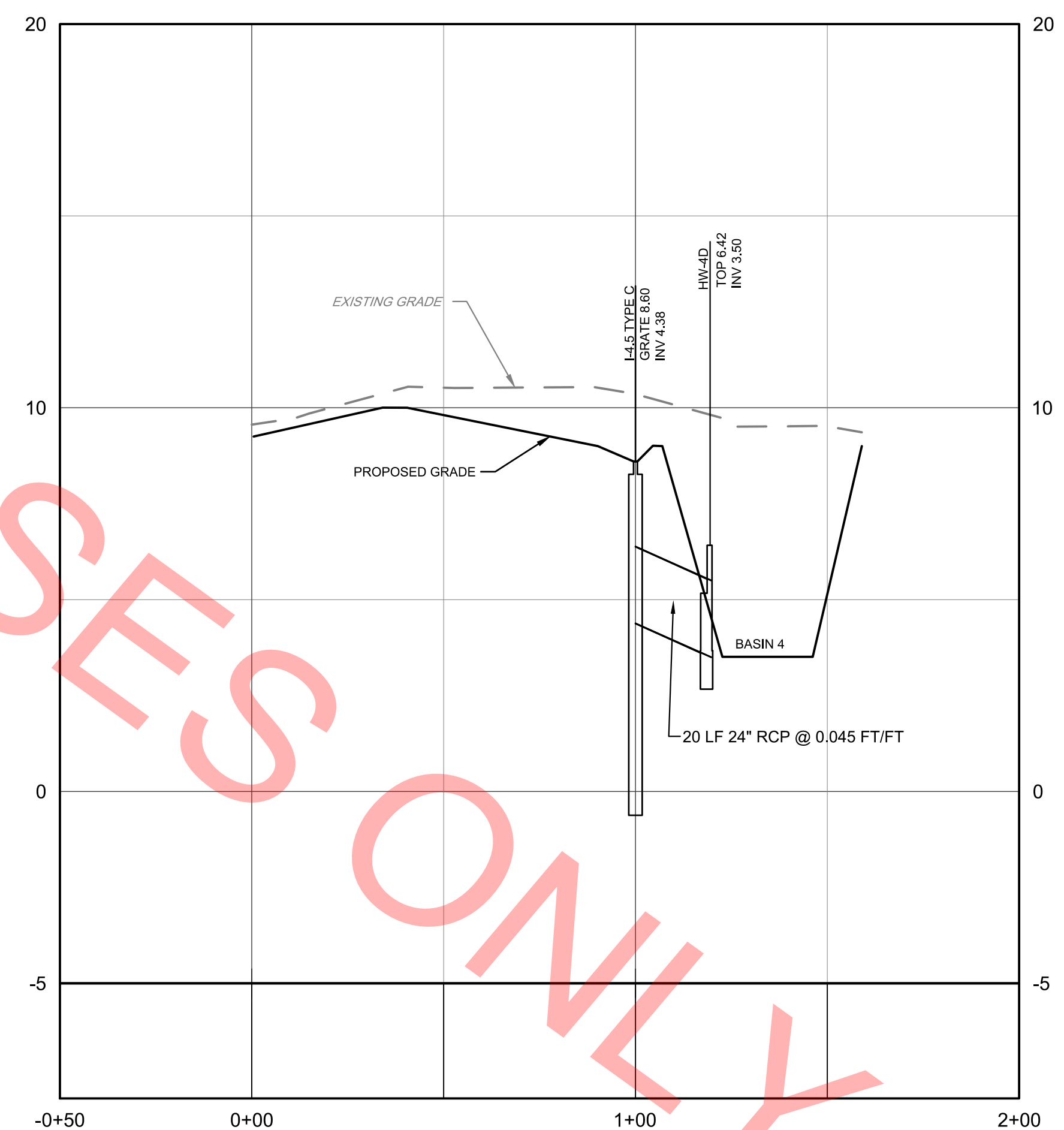
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 VERTICAL SCALE: 1" = 3'



I-4.3 TO HW-4B  
 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 3'



MH-4.2 TO HW-4C  
 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 3'



I-4.5 TO HW-4D  
 HORIZONTAL SCALE: 1" = 30'  
 VERTICAL SCALE: 1" = 3'

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 PLOTTED: 30/03/2020 10:41 AM BY: M. J. Johnson  
 PROJECT: PHILAPORT NSL-4B  
 PROJECT STATUS: ---

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR  
 DISCREPANCIES BEFORE PROCEEDING WITH WORK

**PHILAPORT DISTRIBUTION CENTER NEW DRY WAREHOUSE**  
 3309 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
 PHILADELPHIA, PA 19148

**UTILITY PROFILES**  
 PHILADELPHIA REGIONAL PORT AUTHORITY  
 3400 MARKET SQUARE AVENUE  
 PHILADELPHIA, PA 19104

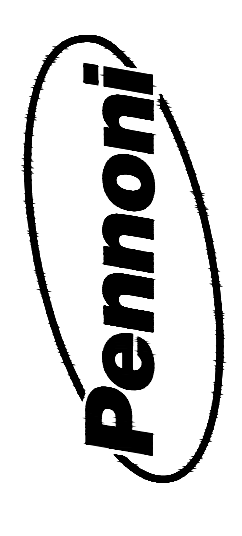
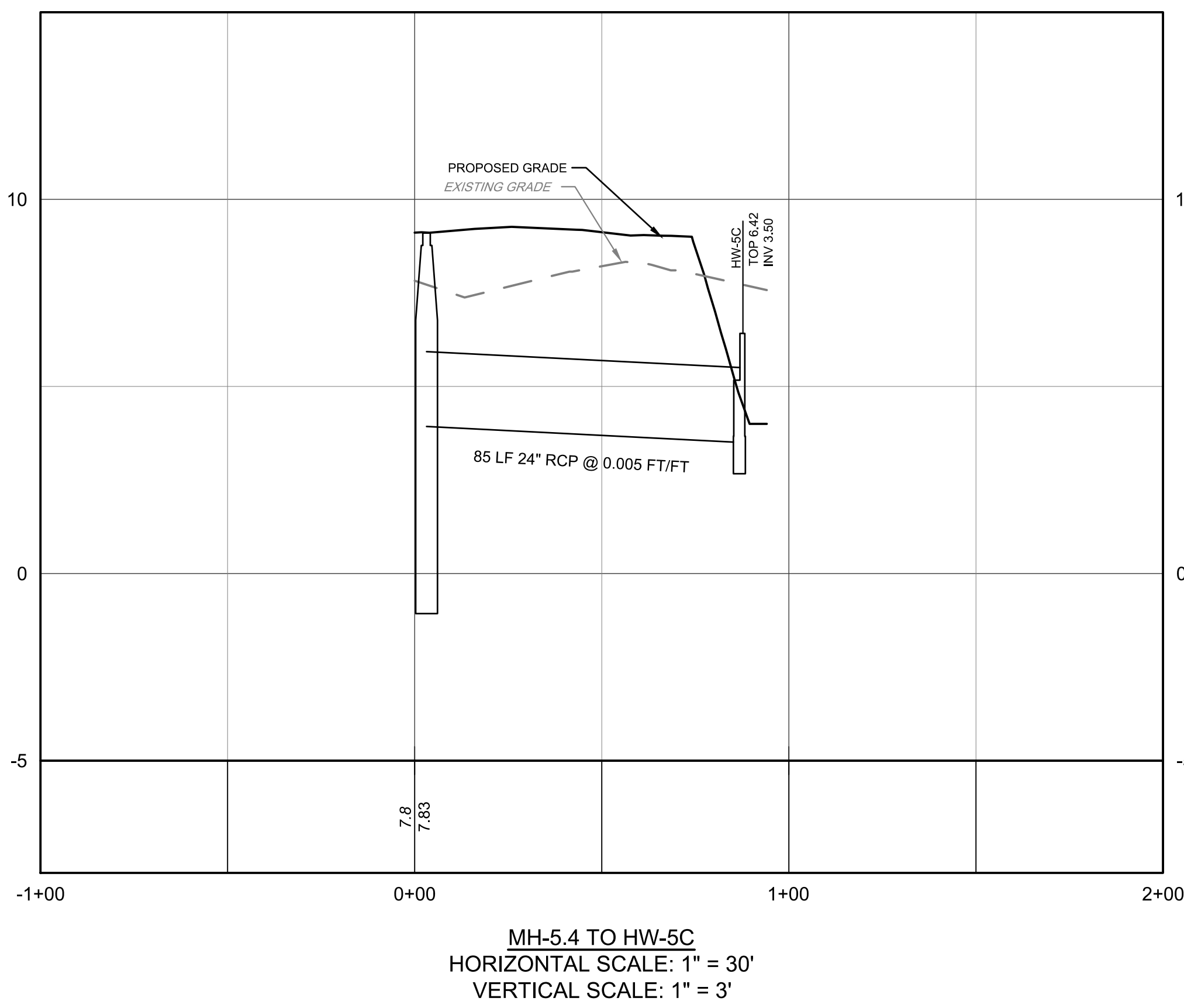
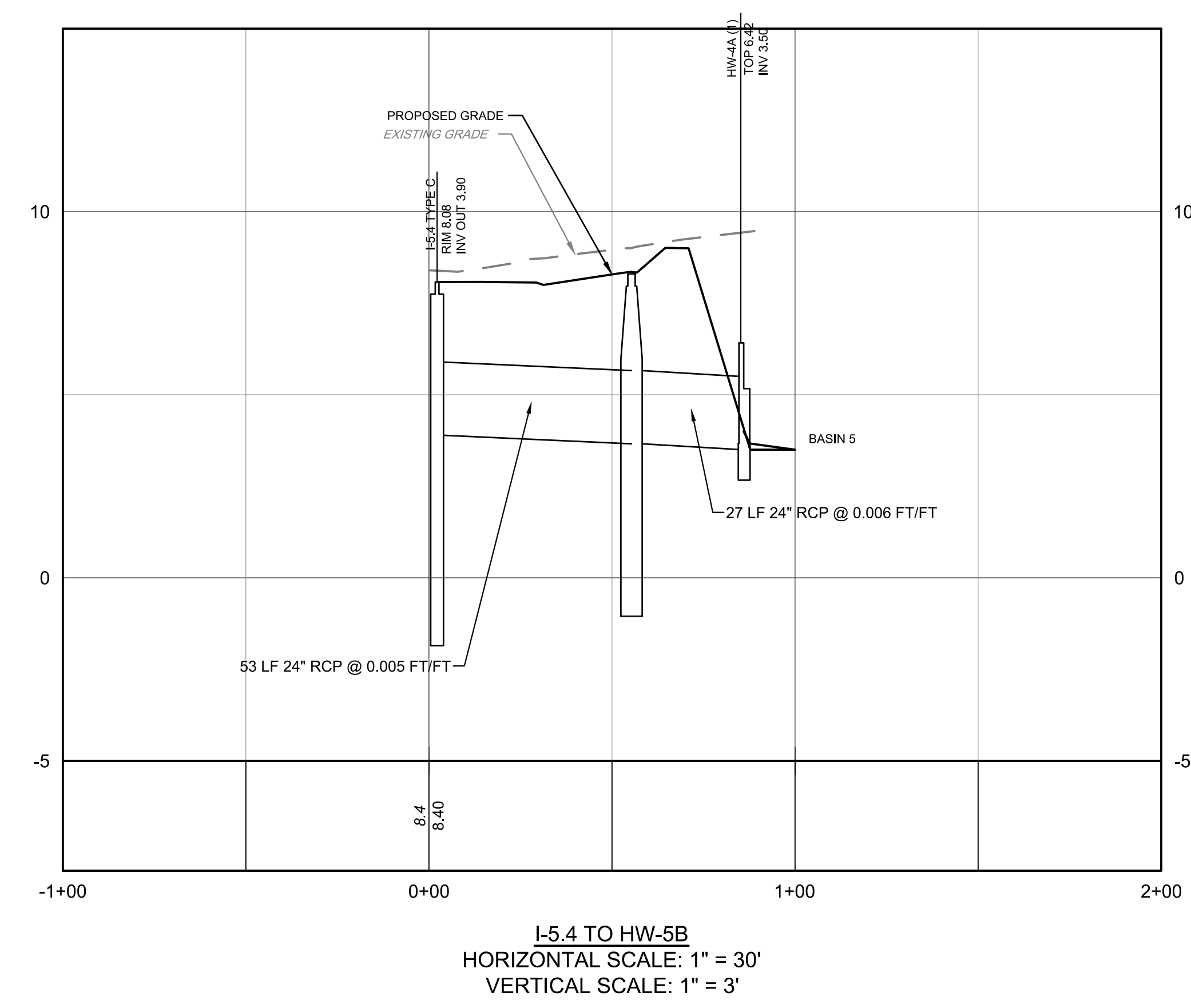
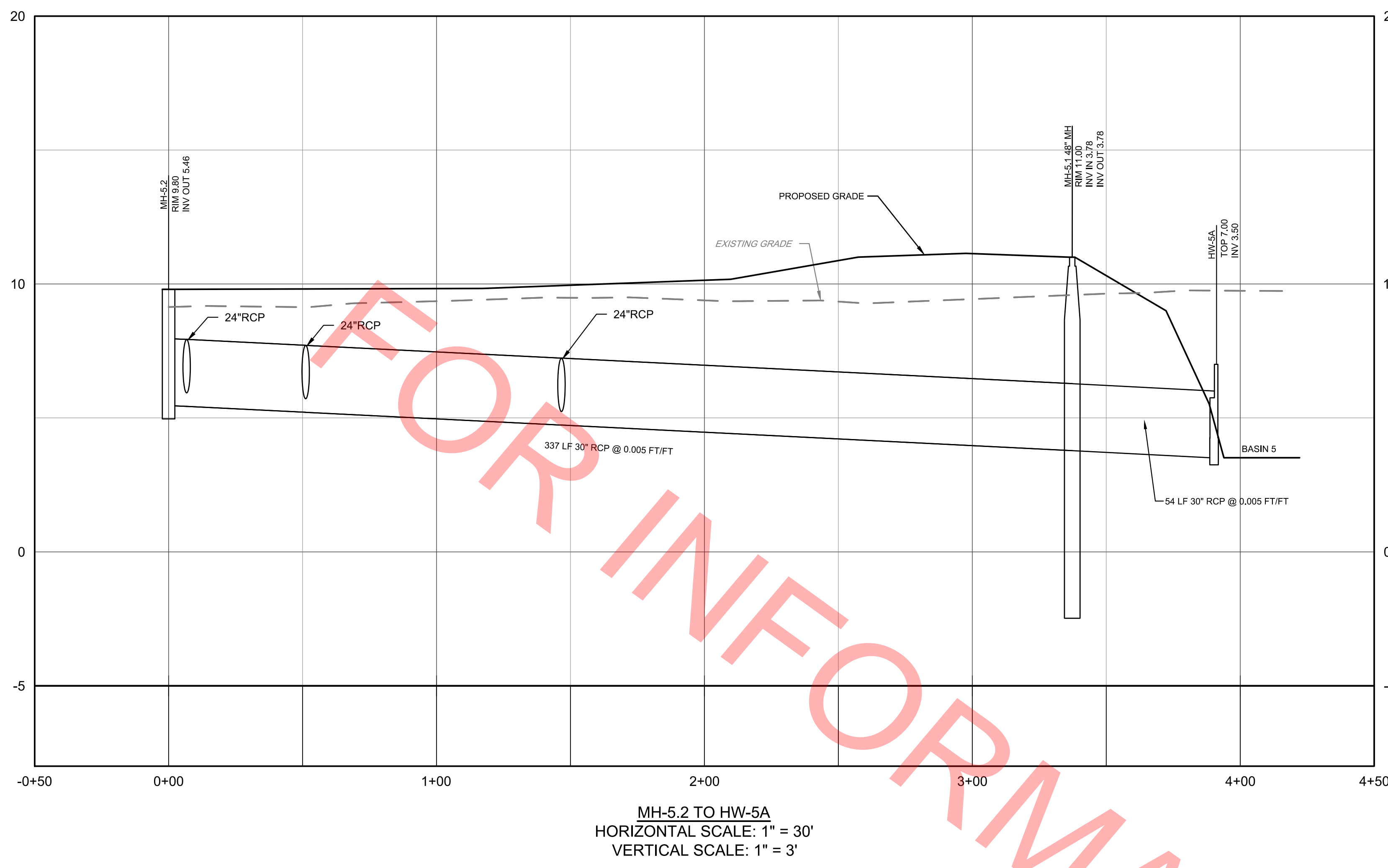
NO.	DATE	REVISIONS	BY
1	2020/03/06	REVISED FOR PERMIT	TKU

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PROJECT: 20-028.1  
 DATE: 2019-12-16  
 DRAWING SCALE: AS NOTED  
 DRAWN BY: CHD  
 APPROVED BY: BD

**C411**  
 SHEET 7 OF 17





**PENNONI ASSOCIATES, INC.**  
1900 Market Street, Suite 300  
Philadelphia, PA 19103  
T: 215.222.5000 F: 215.222.3588

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR  
DISCREPANCIES BEFORE PROCEEDING WITH WORK



PHILAPORT DISTRIBUTION CENTER NEW DRY WAREHOUSE  
3309 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
PHILADELPHIA, PA 19148

UTILITY PROFILES

PHILADELPHIA REGIONAL PORT AUTHORITY  
3460 ASTOR DELAWARE AVENUE  
PHILADELPHIA, PA 19134

DATE	NO.	REVISIONS	BY
2020/03/06	1	REVISED FOR PERMIT	TKU

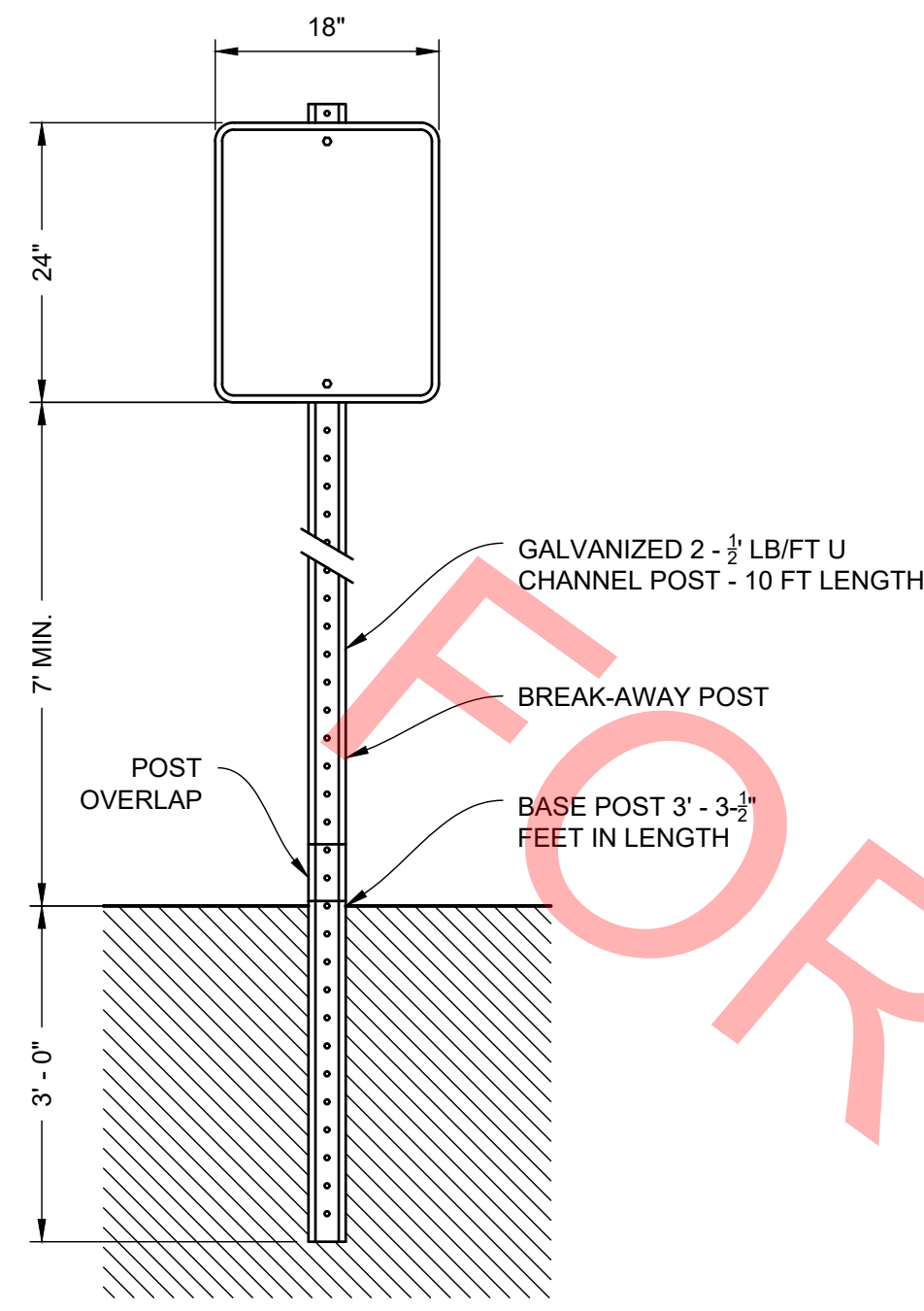
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE EXTENDED FOR REUSE BY OWNER OR CONTRACTOR OR ANY OTHER PARTY ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY ON LEGAL EXPOSURE TO PENNONI ASSOCIATES, AND OWNER SHALL HOLD PENNONI ASSOCIATES HARMLESS FROM ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	20-028.1
DATE	2019-12-16
DRAWING SCALE	AS NOTED
DRAWN BY	CHD
APPROVED BY	BD

FOR INFORMATIONAL PURPOSES ONLY

U:\s000001\2020\03\06\17\19\PHILAPORT\DWG\20-028.1\DWG\UTILITY\PHILAPORT\DC\NEW DRY WAREHOUSE\UTILITY\PROFILES\I-5.4 TO HW-5B.dwg PLOTTED: 3/6/2020 10:41 AM BY: MELODORIS PROJECT EXCIS -

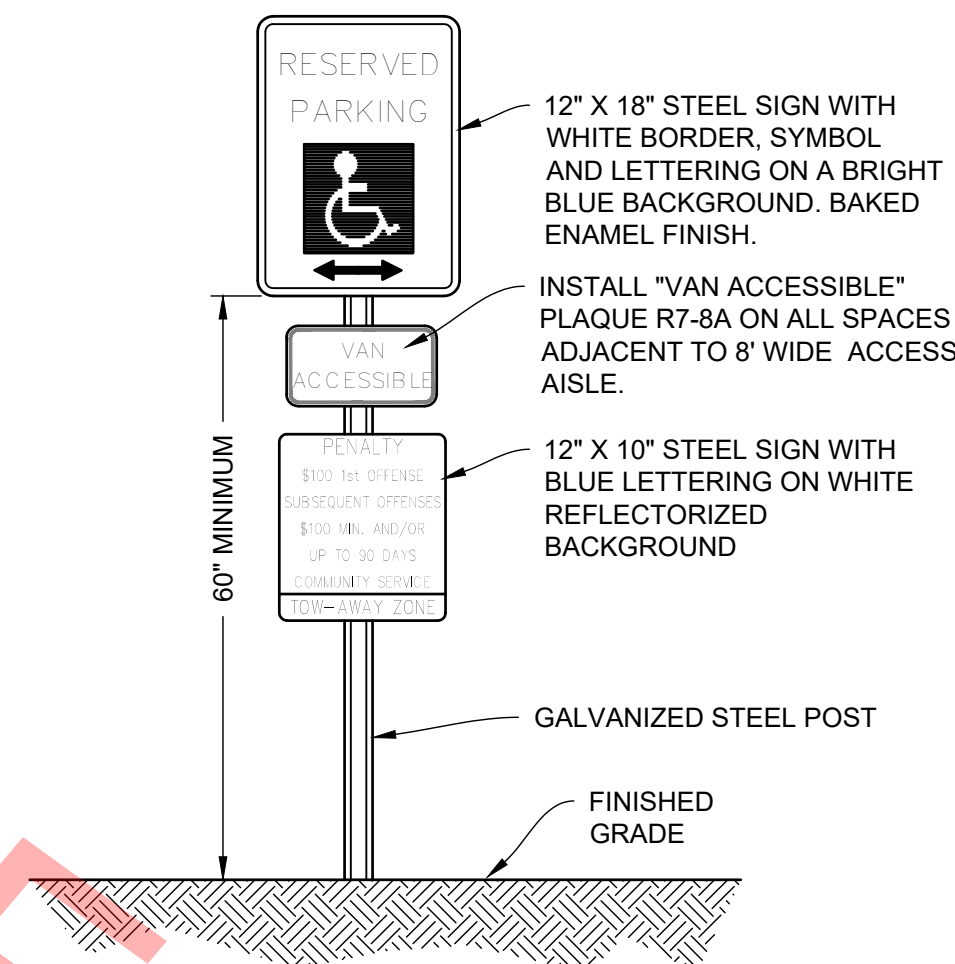




- NOTES:**
1. MINIMUM HEIGHT FOR ALL TRAFFIC CONTROL SIGNS PER REQUIREMENTS OF THE CITY OF PHILADELPHIA AND PENNDOT.
  2. ALL TRAFFIC CONTROL SIGNS SHALL BE MOUNTED TO BREAK-AWAY POSTS.
  3. ALL TRAFFIC CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE MANUAL OR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

**DETAIL- SIGN MOUNTING**  
N.T.S.

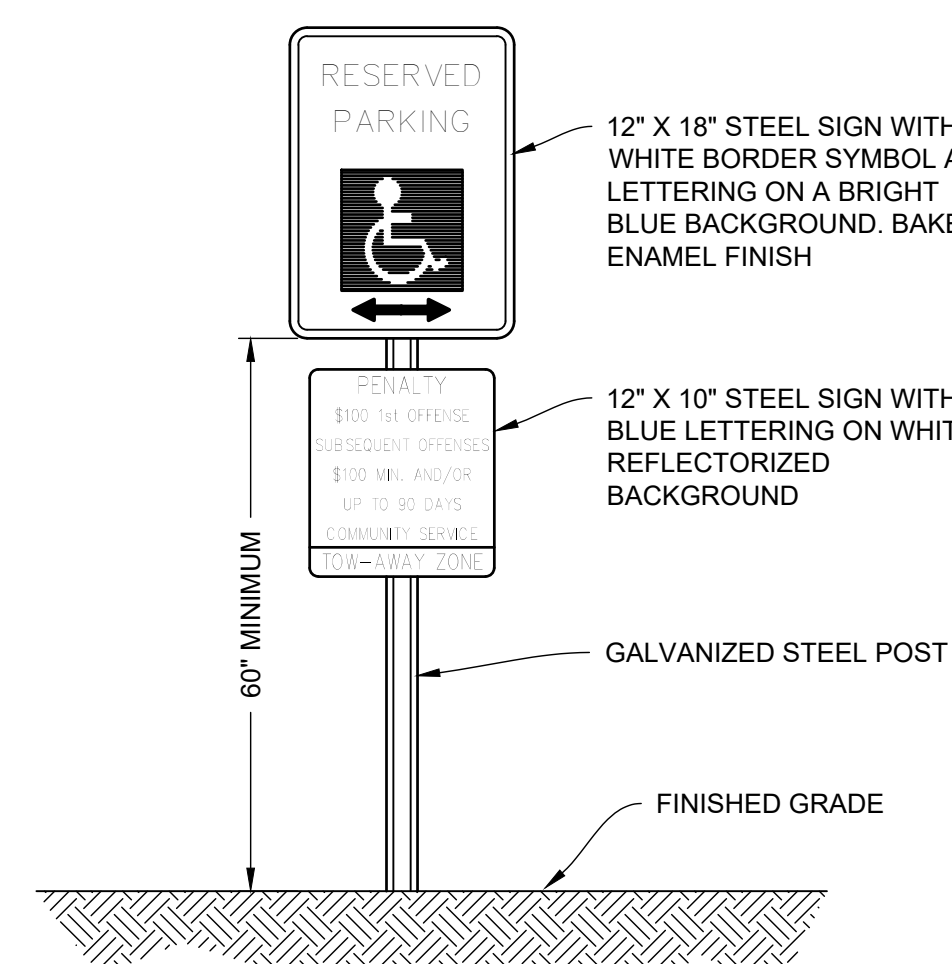
1  
C600



- NOTE:**
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS PRIOR TO INSTALLATION.

**DETAIL- HANDICAPPED PARKING SIGN (R7-8) WITH VAN ACCESSIBLE SIGN (R7-8A)**  
N.T.S.

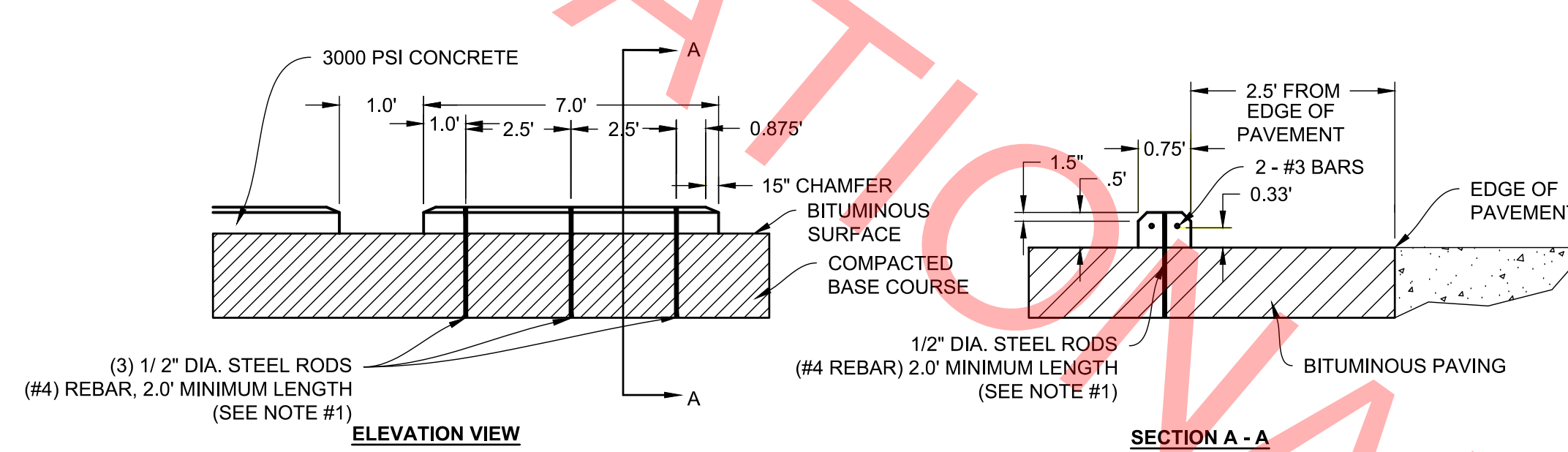
2  
C600



- NOTE:**
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS PRIOR TO INSTALLATION.

**DETAIL- HANDICAPPED PARKING SIGN (R7-8)**  
N.T.S.

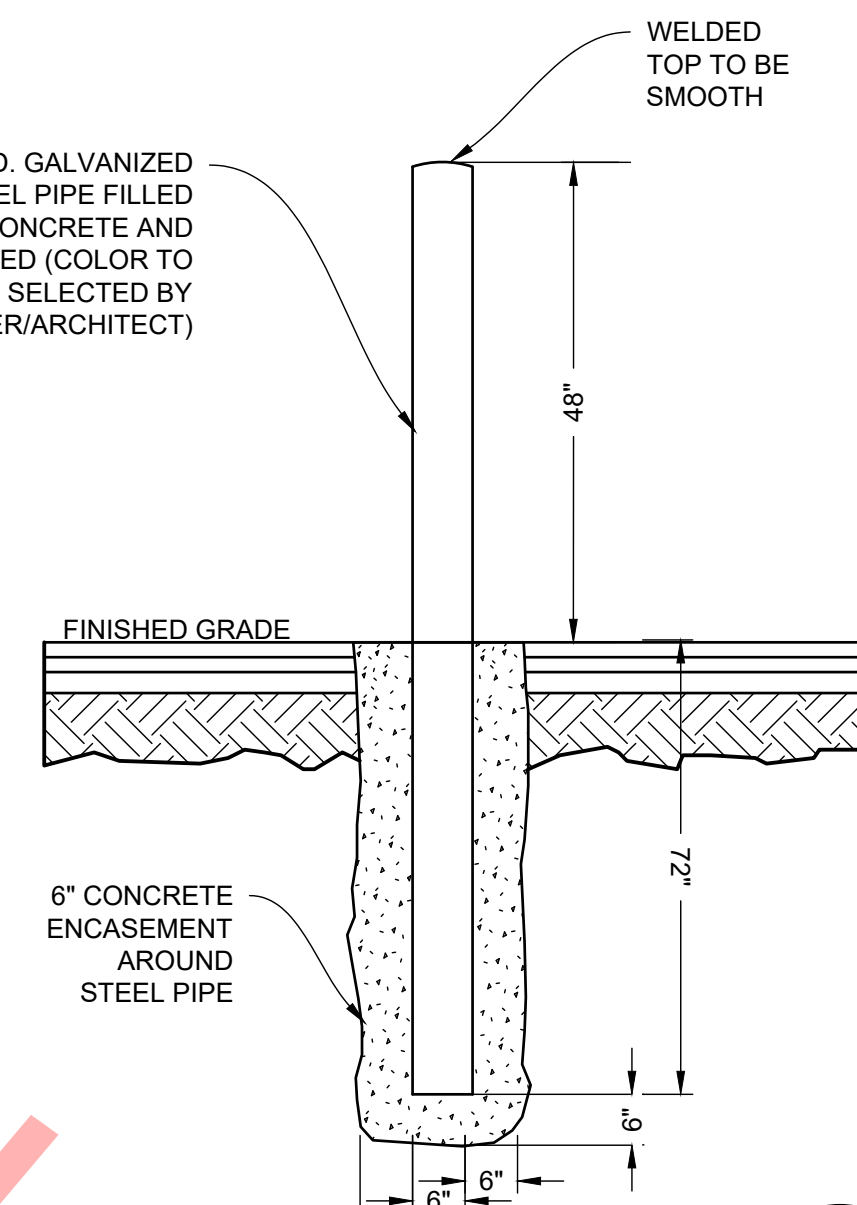
3  
C600



- NOTE:**
1. ANCHOR RODS TO BE SLEEVED OR GREASED THROUGH CONCRETE WHEEL STOP TO PERMIT RELOCATION OF WHEEL STOP

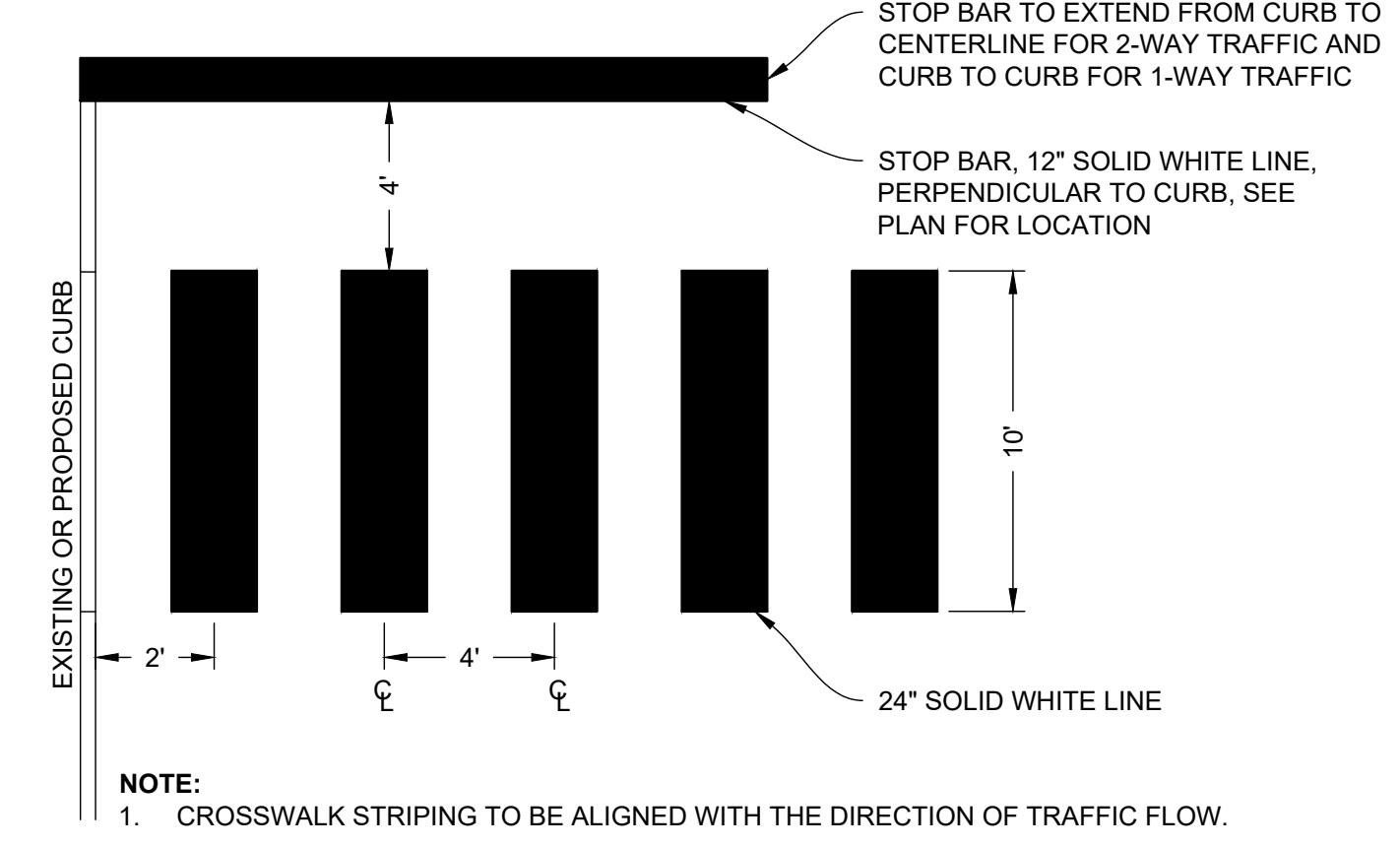
**DETAIL- WHEEL STOP**  
N.T.S.

6  
C600



**DETAIL- BOLLARD**  
N.T.S.

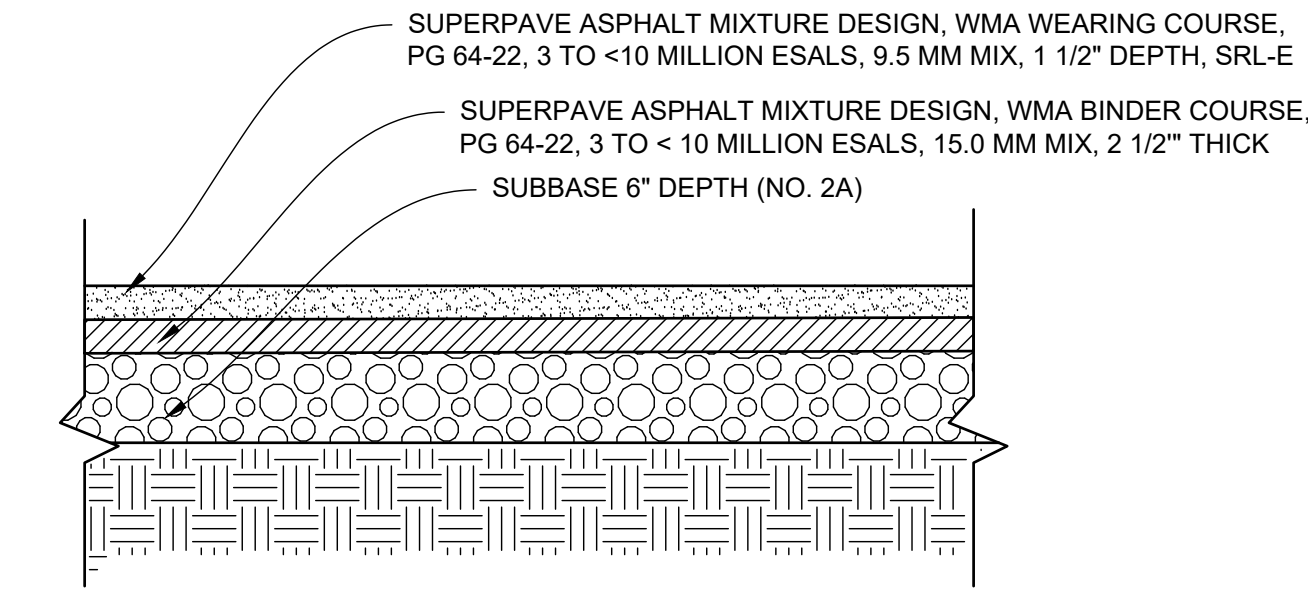
7  
C600



- NOTE:**
1. CROSSWALK STRIPING TO BE ALIGNED WITH THE DIRECTION OF TRAFFIC FLOW.

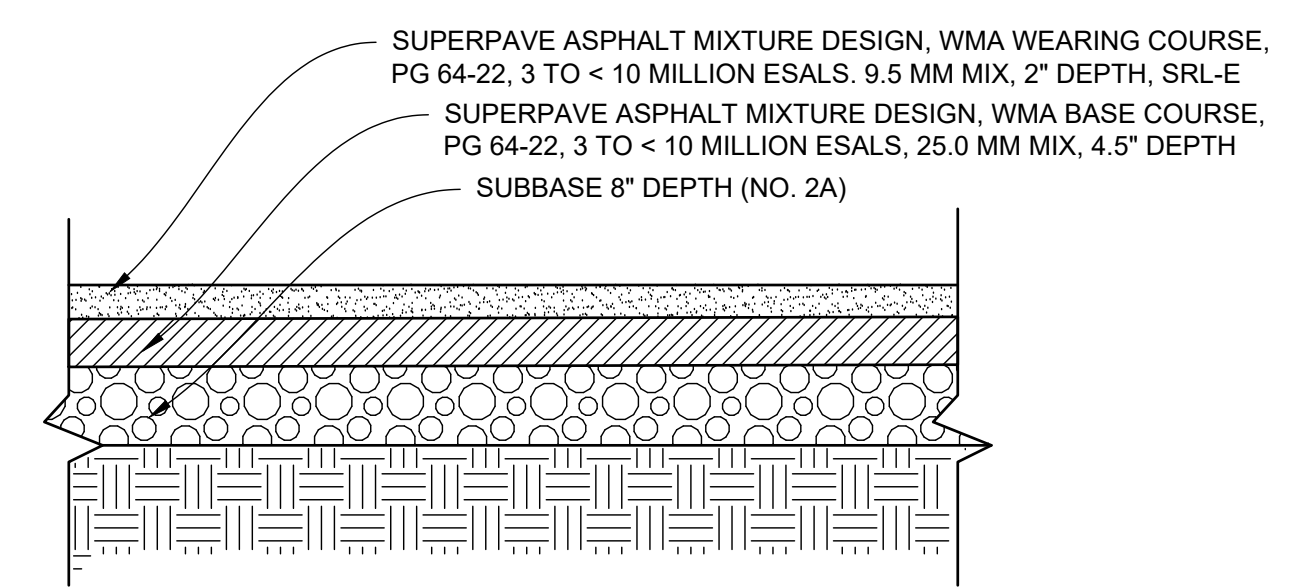
**DETAIL- CROSSWALK MARKINGS**  
N.T.S.

4  
C600



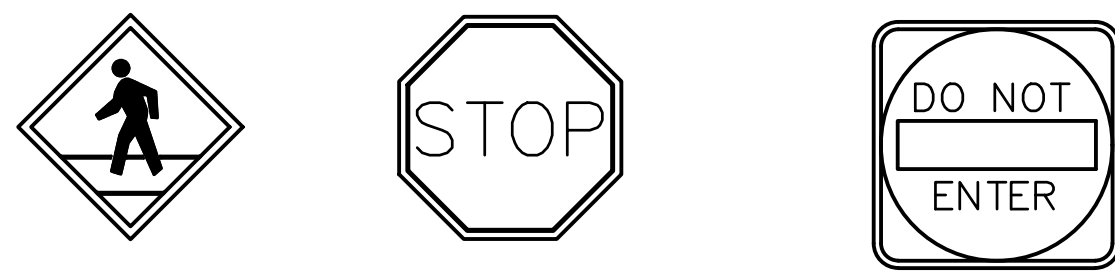
**DETAIL- LIGHT DUTY PAVEMENT**  
N.T.S.

8  
C600



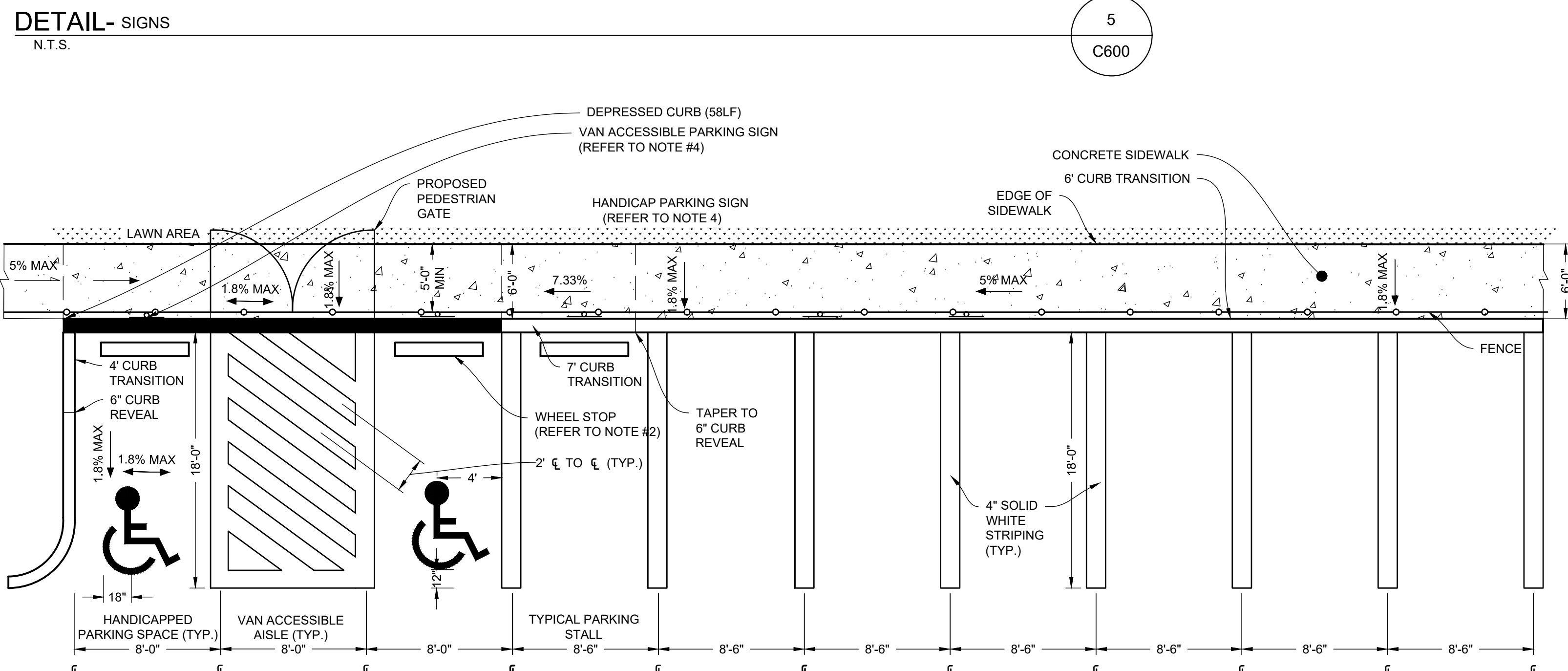
**DETAIL- HEAVY DUTY PAVEMENT**  
N.T.S.

9  
C600



**CROSSWALK SIGN** W11A-2 (30\"/>

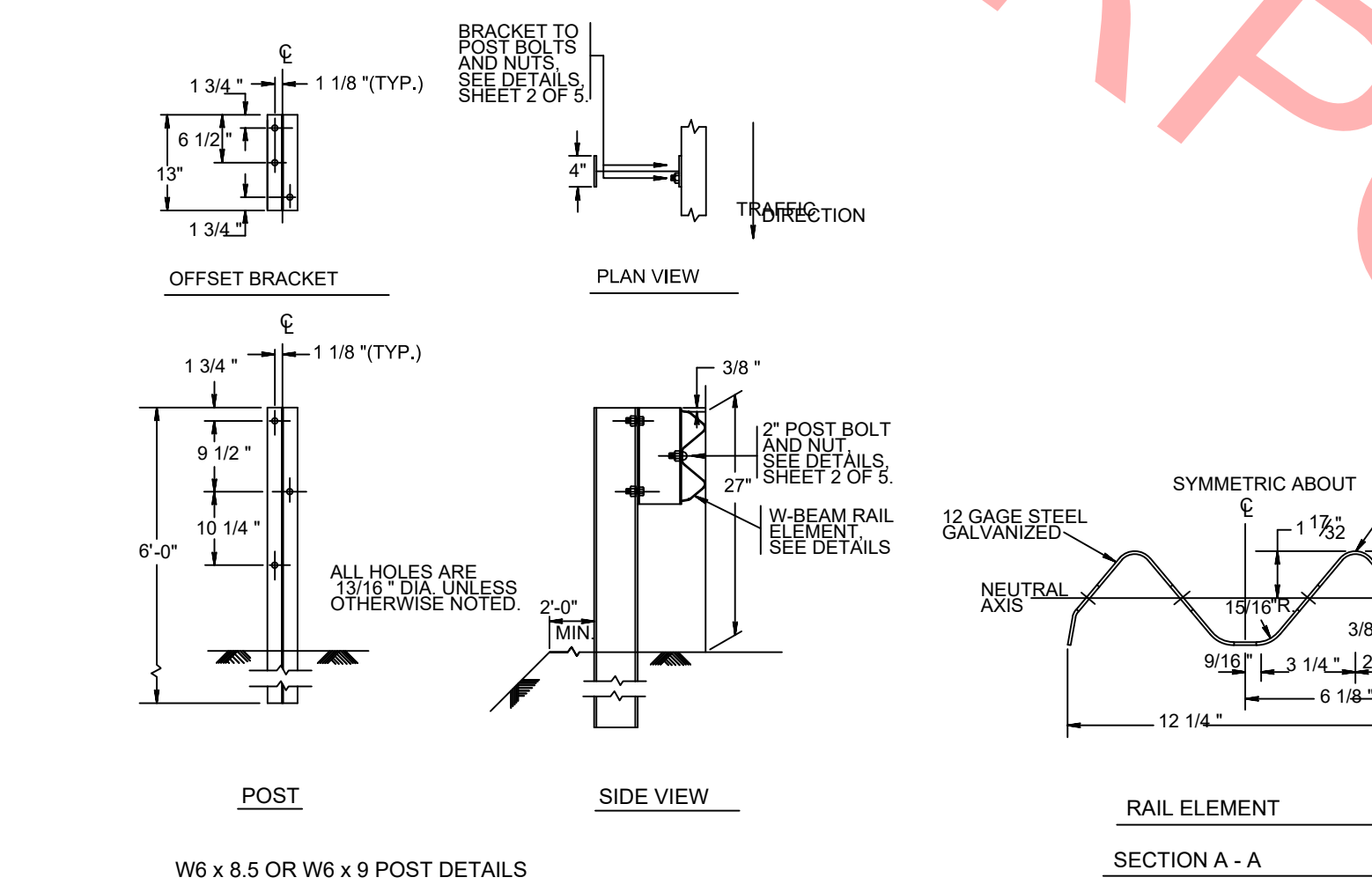
- NOTES:**
1. SIGNS TO BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION.



- NOTES:**
1. REFER TO SITE PLAN FOR PARKING LAYOUT.
  2. CURB STOPS 2.5' OFF OF FACE OF CURB (TYP.)
  3. REFER TO SITE PLAN FOR NUMBER AND LOCATION OF VAN ACCESSIBLE PARKING SPACES.
  4. REFER TO DETAILS 2/C600 AND 3/C600 FOR HANDICAPPED PARKING SIGN AND VAN ACCESSIBLE PARKING SIGN.

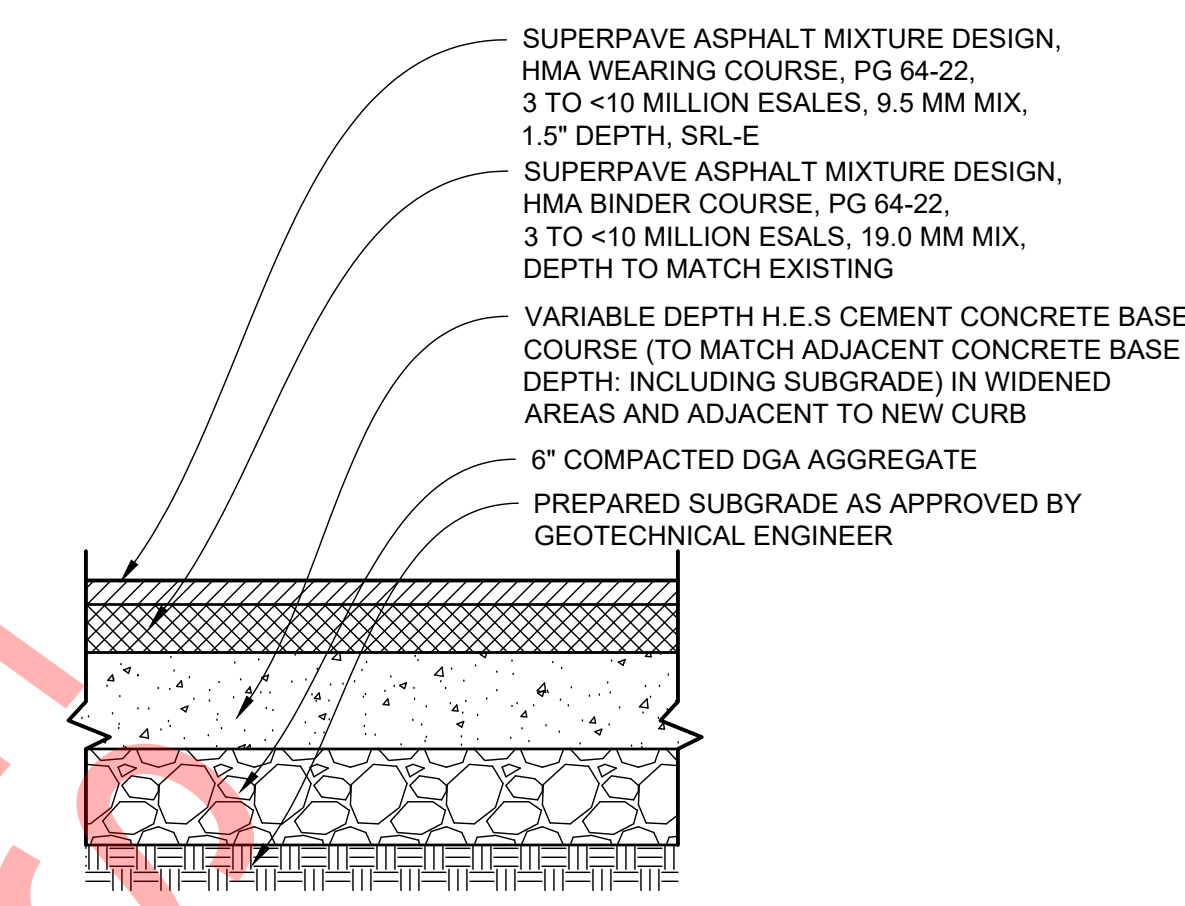
**DETAIL- ADA AND TYPICAL PARKING DETAIL**  
N.T.S.

11  
C600



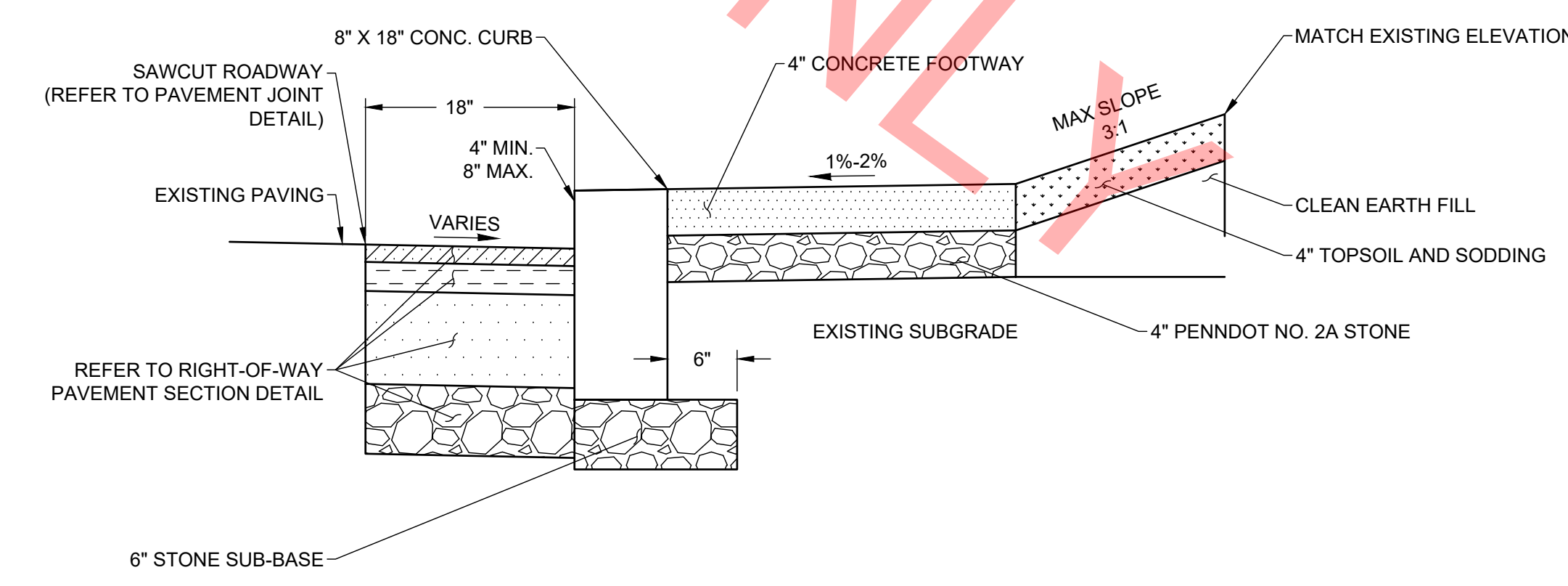
**DETAIL- GUIDE RAIL**  
N.T.S.

12  
C600



**DETAIL- RIGHT-OF-WAY PAVEMENT SECTION**  
N.T.S.

10  
C600



**DETAIL- CURB RECONSTRUCTION**  
N.T.S.

13  
C600

NO.	DATE	REVISED FOR PERMITTED	REVISIONS	TKU	BY
1	2020/03/06	1	REVISED FOR PERMITTED		

PROJECT	20-028.1
DATE	2019-12-16
DRAWING SCALE	N.T.S.
DRAWN BY	CHD
APPROVED BY	BD

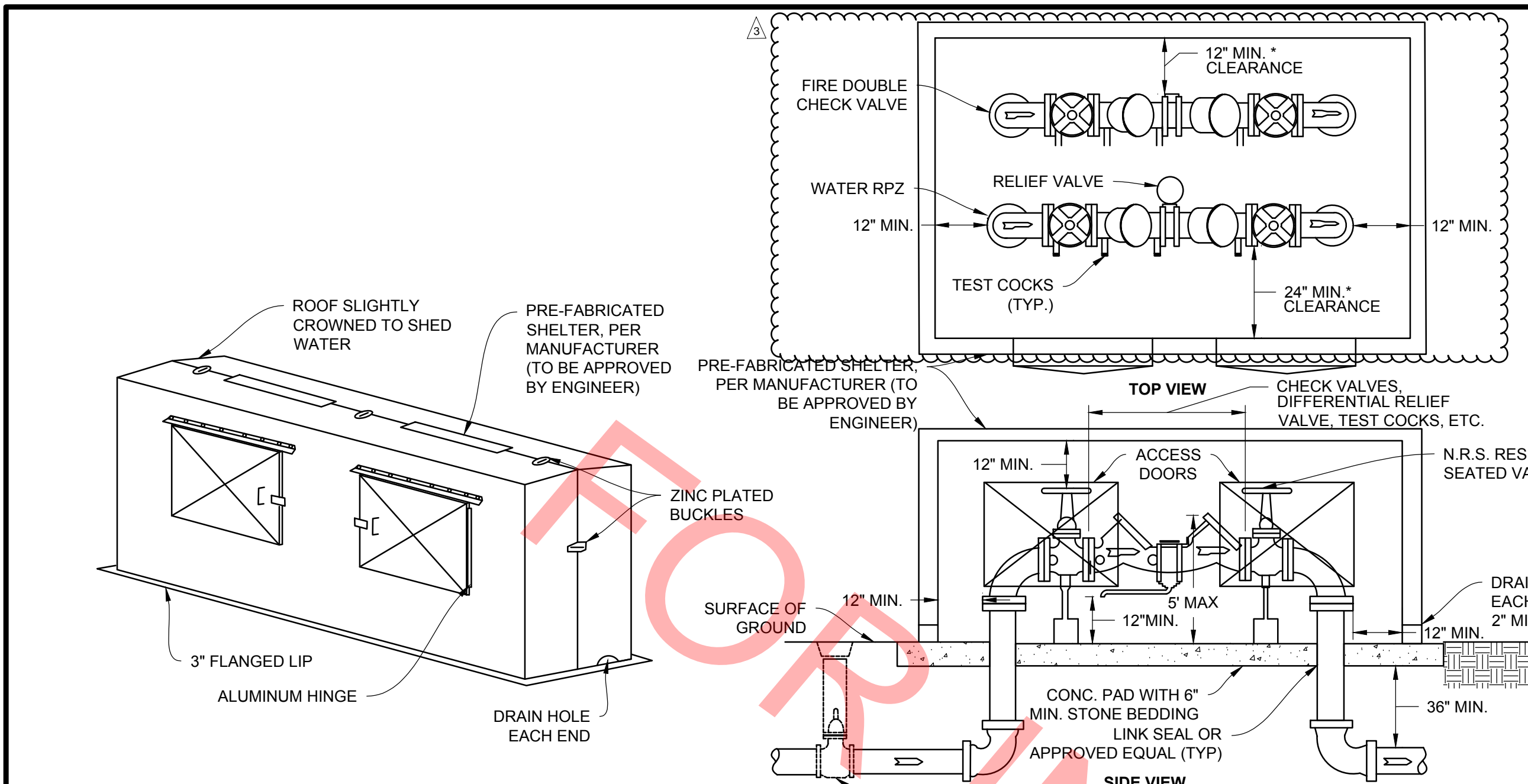












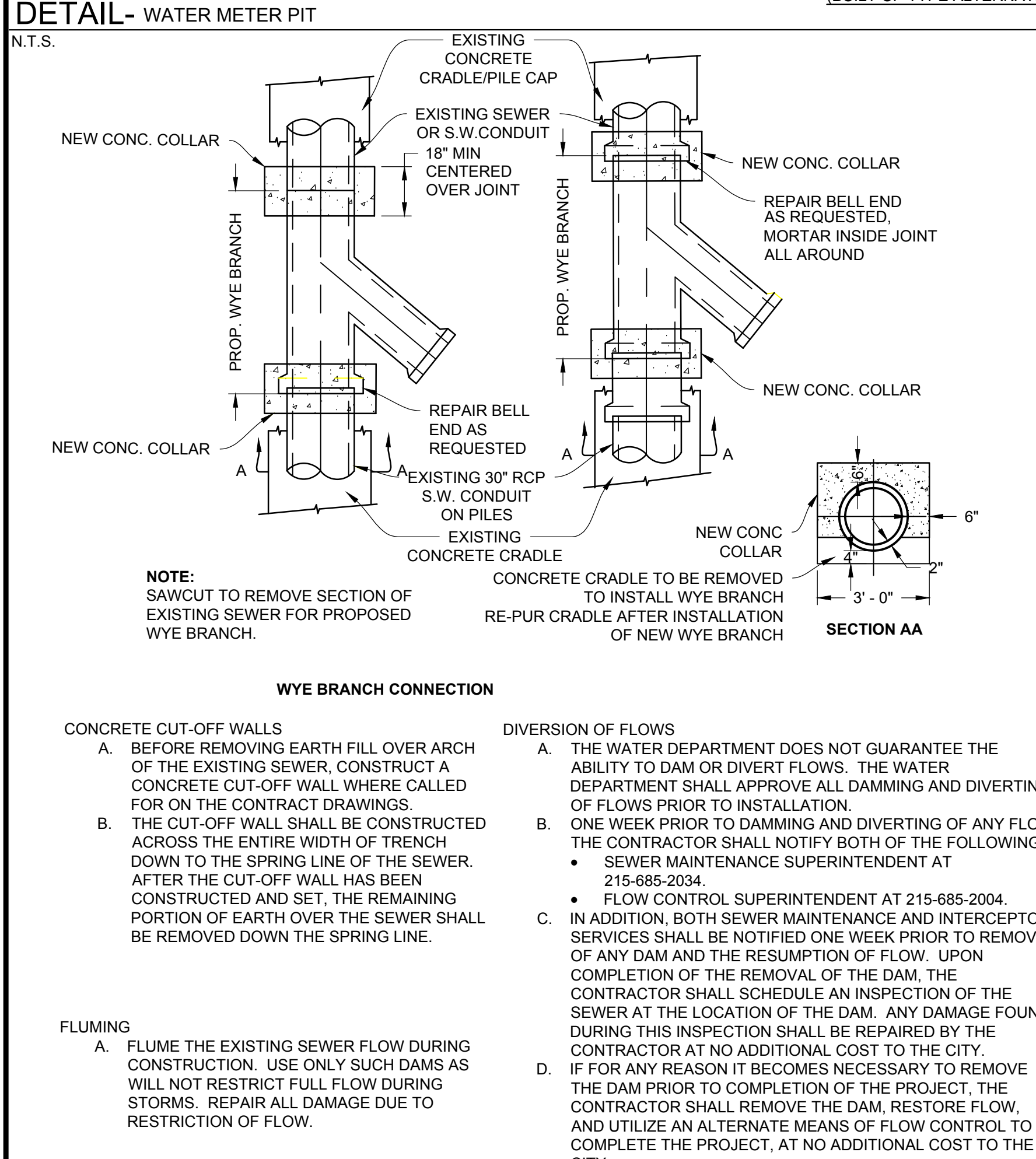
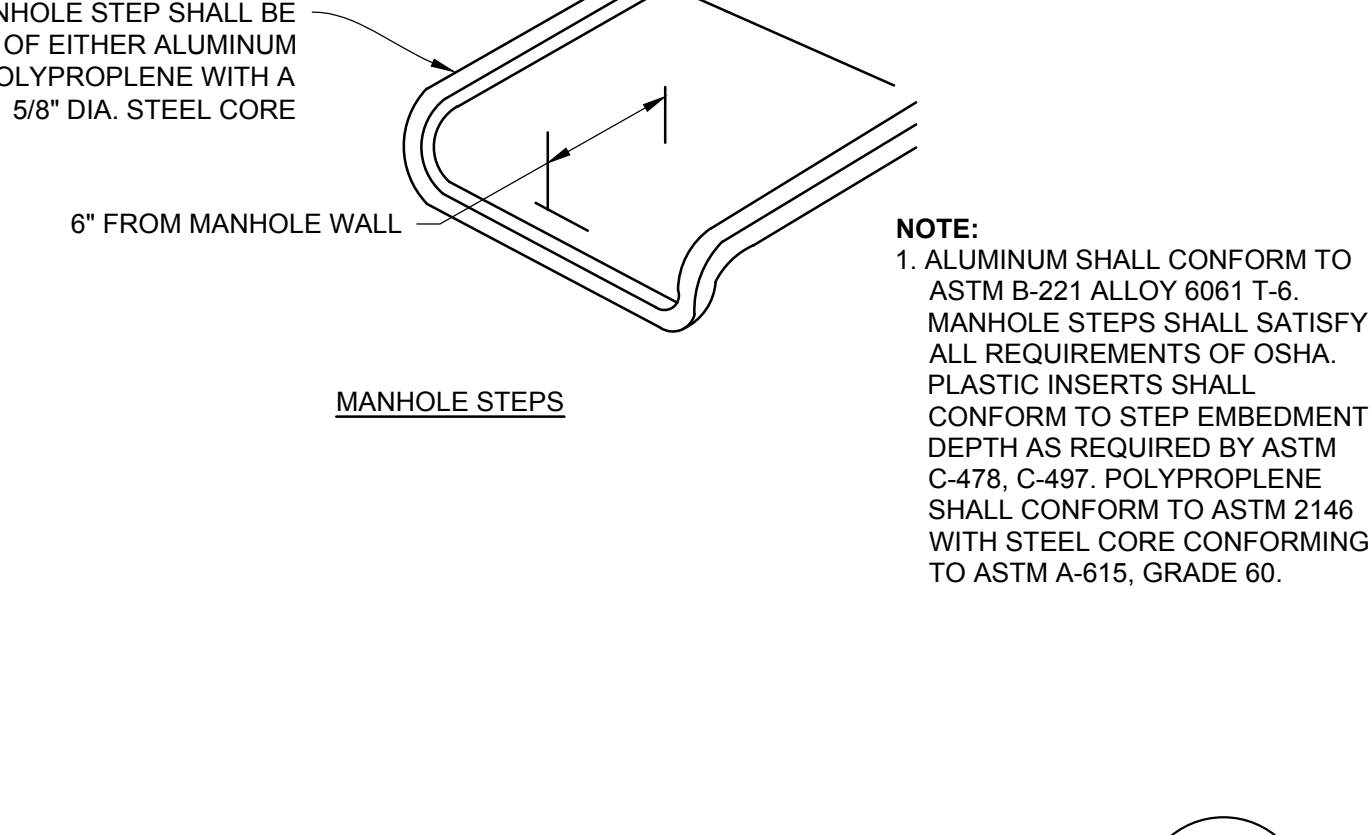
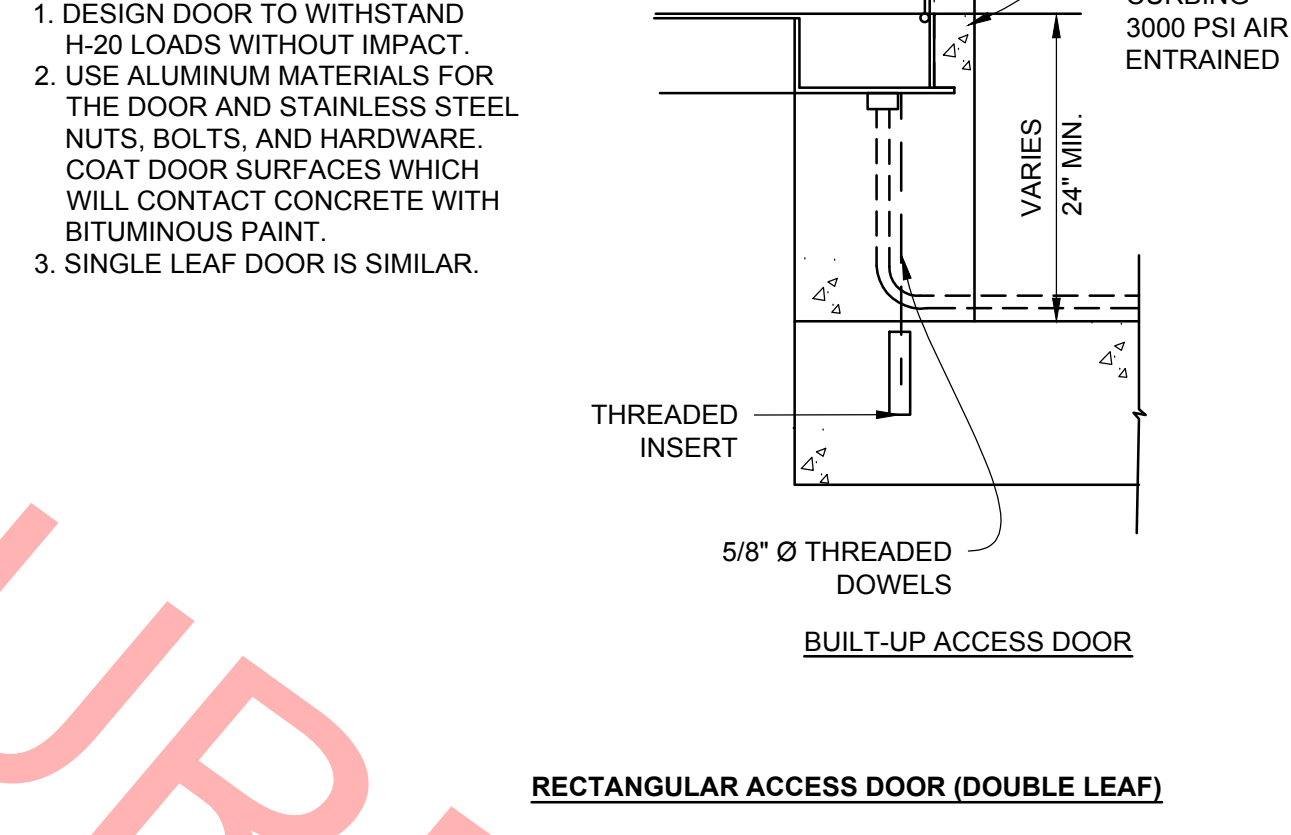
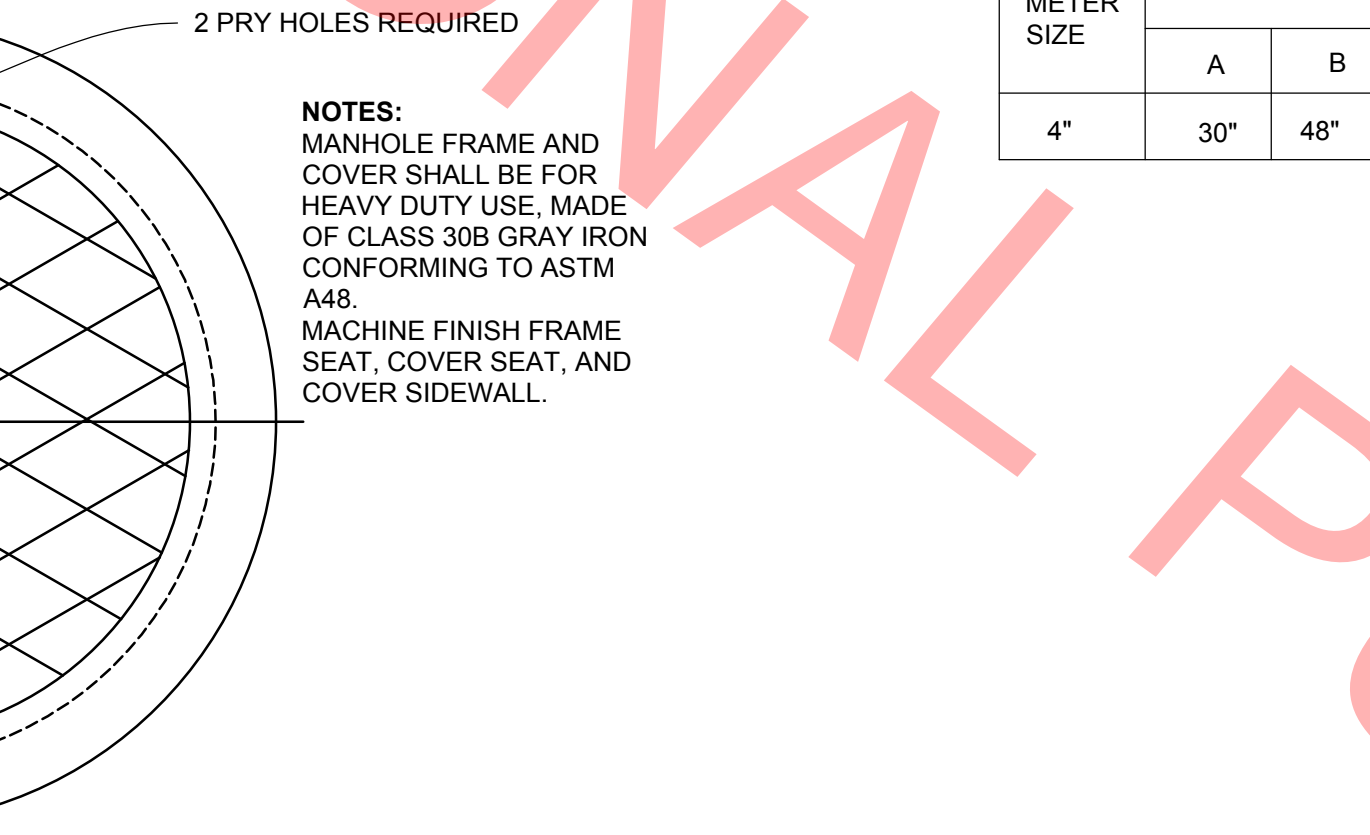
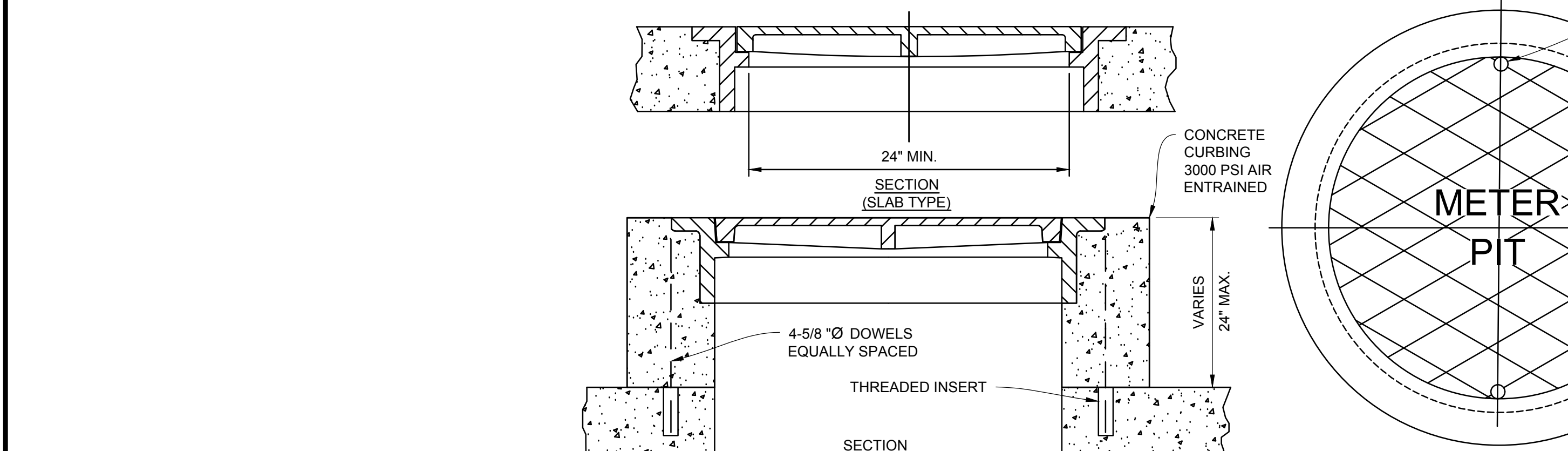
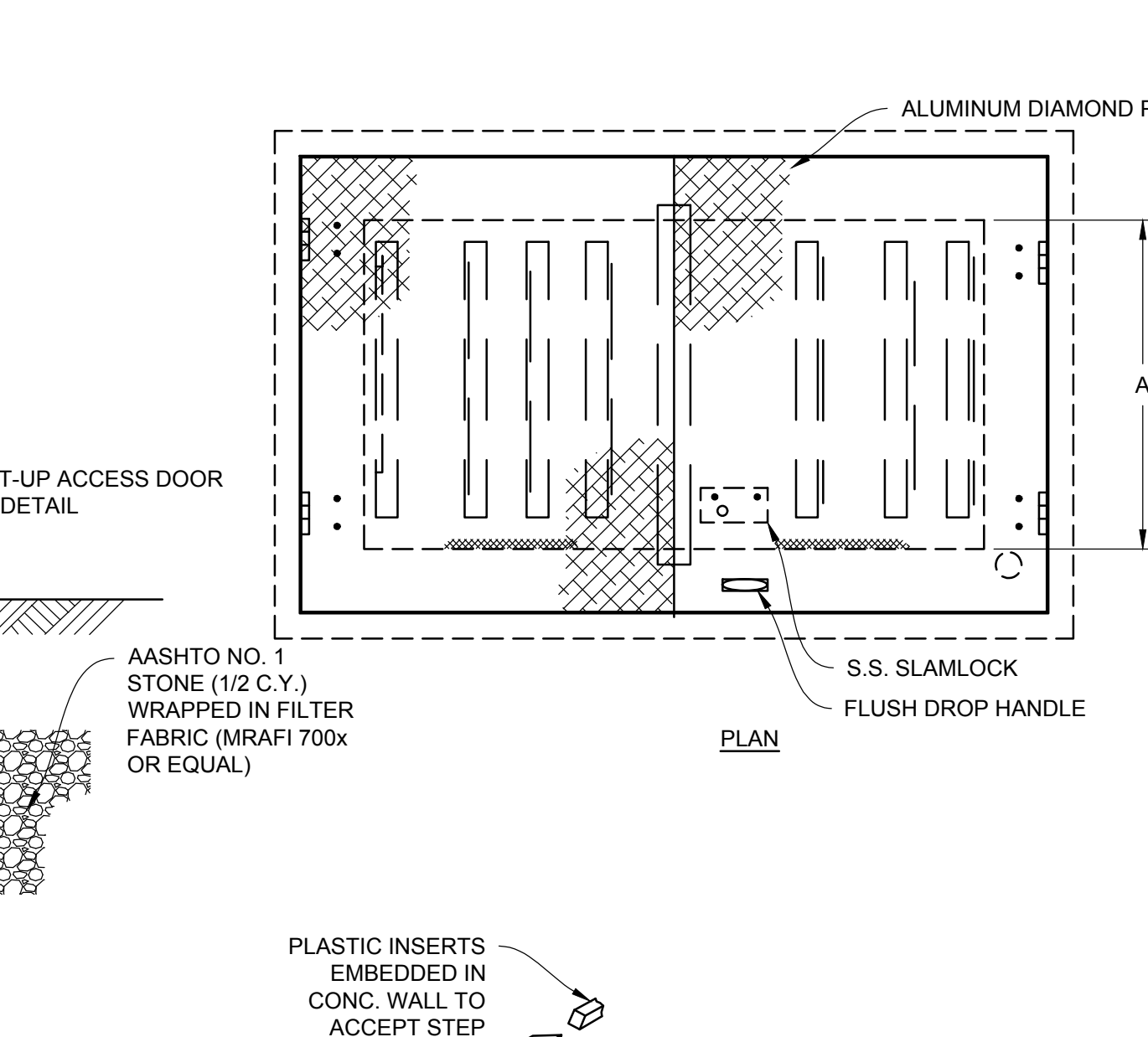
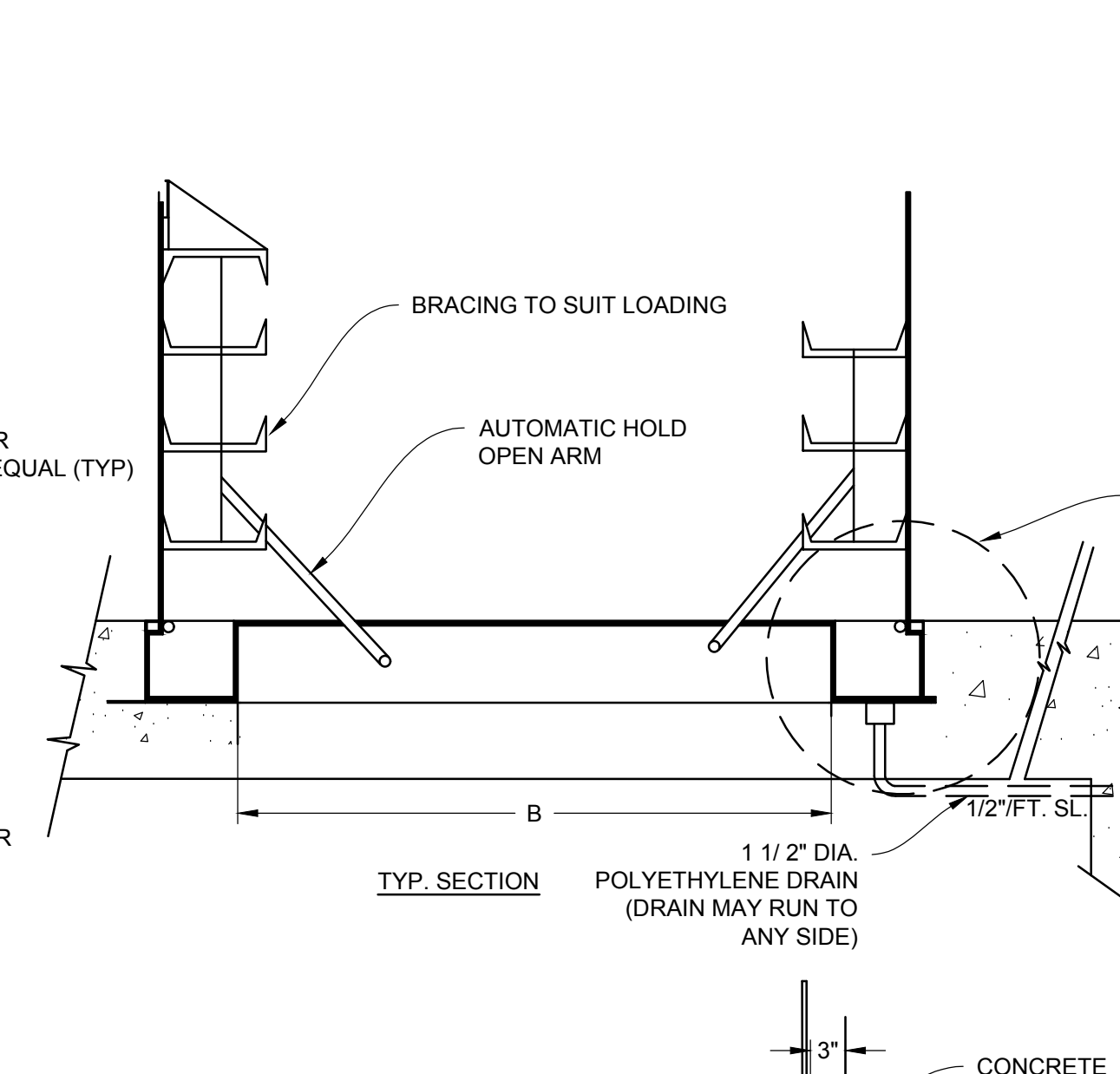
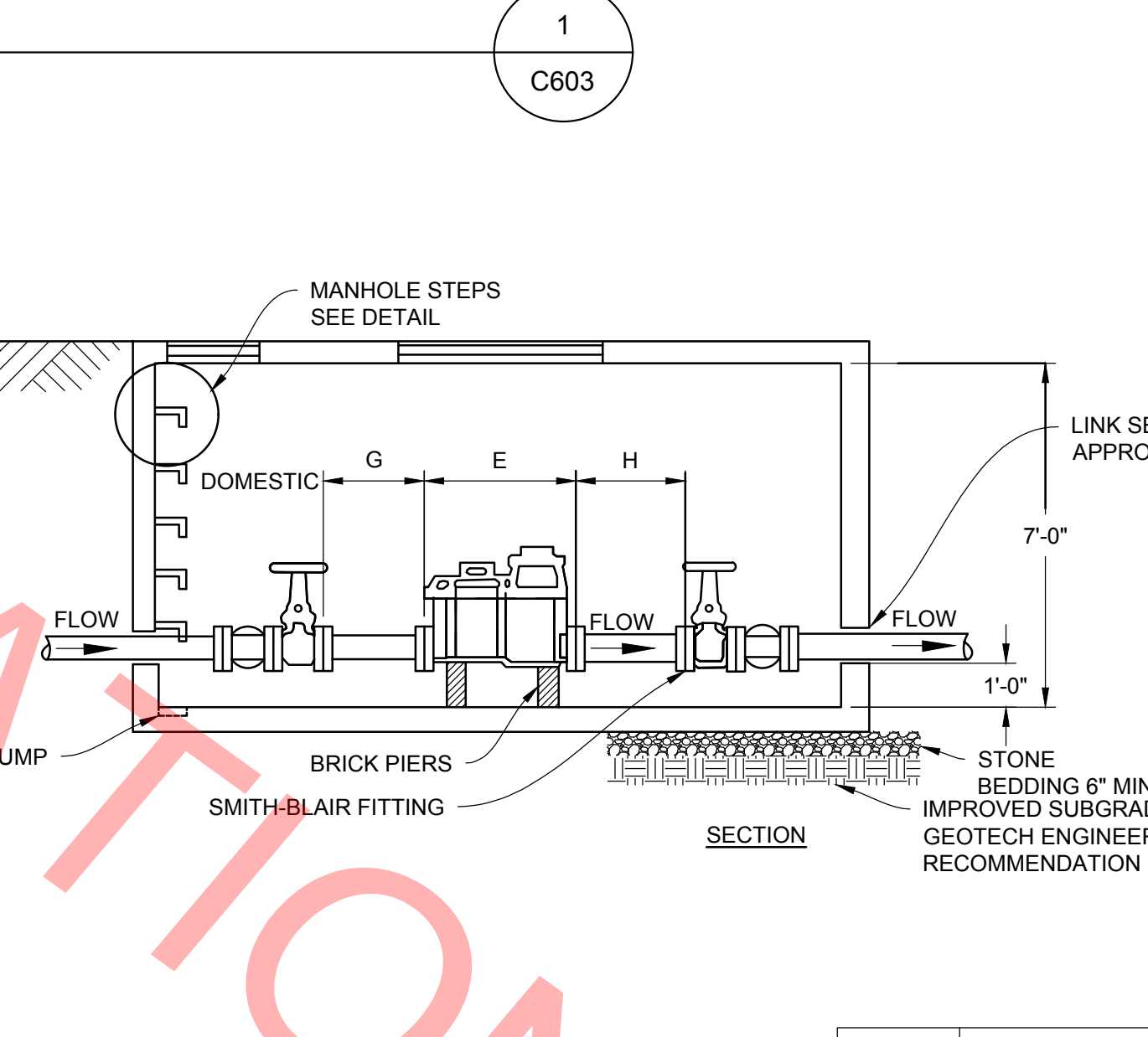
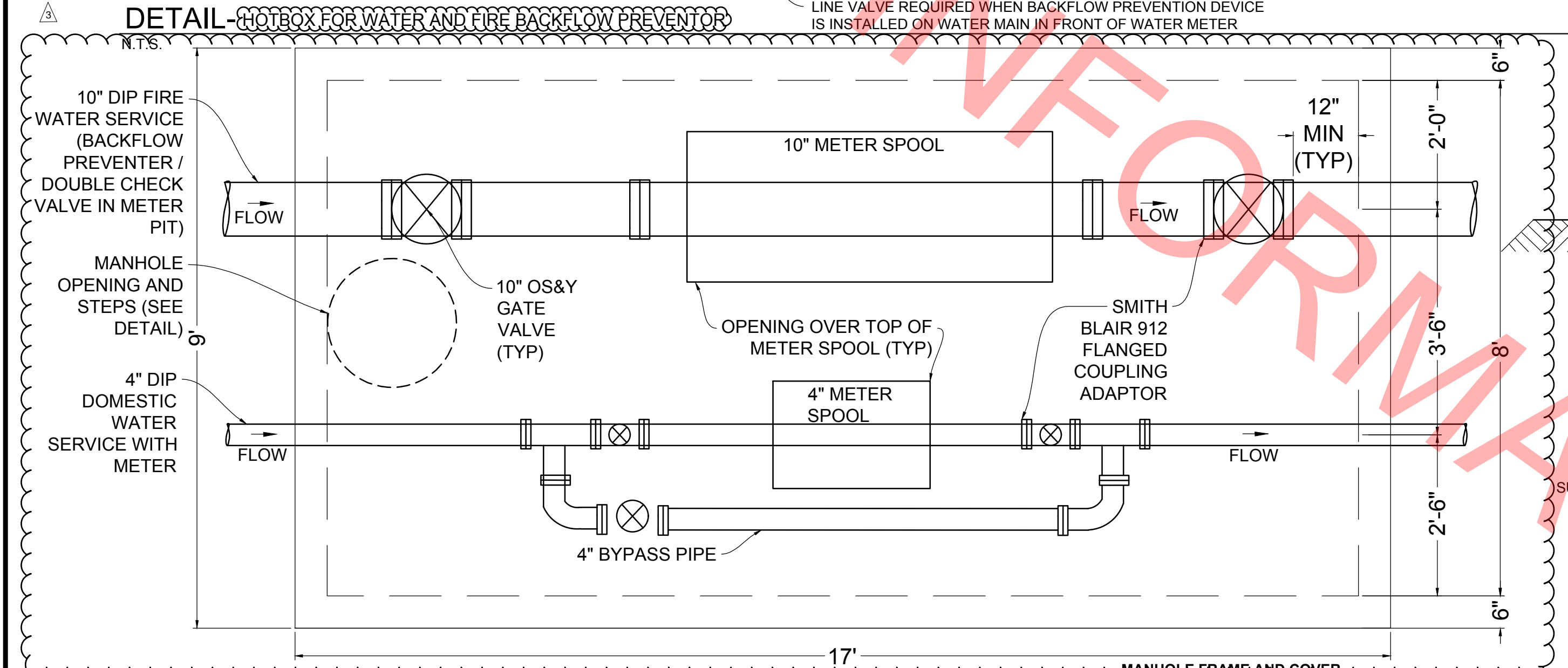
- RPZ NOTES:**
- ENTIRE INSTALLATION SHALL MEET THE REQUIREMENTS OF THE PHILA. WATER DEPARTMENT. (REFER TO THE WATER DEPARTMENT'S CROSS CONNECTION MANUAL, LATEST EDITION FOR INSTALLATION REQUIREMENTS AND LISTINGS OF APPROVED BACKFLOW PREVENTION DEVICES.)
  - INSTALL BACKFLOW PREVENTION DEVICES IN HORIZONTAL POSITION.
  - PROVIDE ACCESS FOR ROUTINE TESTING AND MAINTENANCE AS WELL AS PROTECTION AGAINST FREEZING, FLOODING AND VANDALISM.
  - FLUSH THE SYSTEM THOROUGHLY AFTER THE INSTALLATION TO ASSURE THE REMOVAL OF CONTAMINANTS IN THE ASSEMBLY.
  - ALL EXPOSED PIPING, VALVES AND ACCESSORIES WITHIN THE SHELTER SHALL BE HEAT TRACED AND INSULATED. INSULATION SHALL BE JOHN MANVILLE OR EQUAL. 2" THICK FIBERGLASS MICROLOK. JACKET AND COVER SHALL BE ZESTON 300 PVC OR APPROVED EQUAL. PROVIDE RAYCHEM XL TRACE OR EQUAL HEAT TYPE FOR ENTIRE LENGTH AT 5 WATTS PER FOOT. PROVIDE THERMOSTAT CONTROL RAYCHEM, AMC-FS OR EQUAL. EXTEND TEST COCKS BEYOND INSULATION TO FACILITATE TESTING OF BACKFLOW PREVENTORS.
  - ACCESS DOORS SHALL FACE PAVED AND OR SIDEWALK AREAS.
  - MINIMUM CLEARANCE REQUIRED. SHELTER TO BE DESIGNED FOR PERSONNEL ENTRY. SHELTER SHALL HAVE ACCESS DOORS FOR ROUTINE TESTING AND A READILY REMOVABLE SHELTER COVER AS SHOWN ABOVE.
  - CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

**GENERAL:**  
 IN GENERAL, METER PITS ARE TO BE IN AN OFF-STREET LOCATION WITHIN 30 FEET OF THE PROPERTY LINE AND WHERE ONLY OCCASIONAL H-20 LOADING IS ENCOUNTERED. METERING PLANS FOR ALL METER INSTALLATIONS 1"12" AND ABOVE REGARDLESS OF LOCATION MUST BE SUBMITTED TO THE METER SHOP FOR APPROVAL BEFORE WORK BEGINS. SEND PLANS TO:  
 PHILADELPHIA WATER DEPARTMENT  
 METER DIVISION  
 28TH & CAMBRIA STREETS  
 PHILADELPHIA, PA 19132

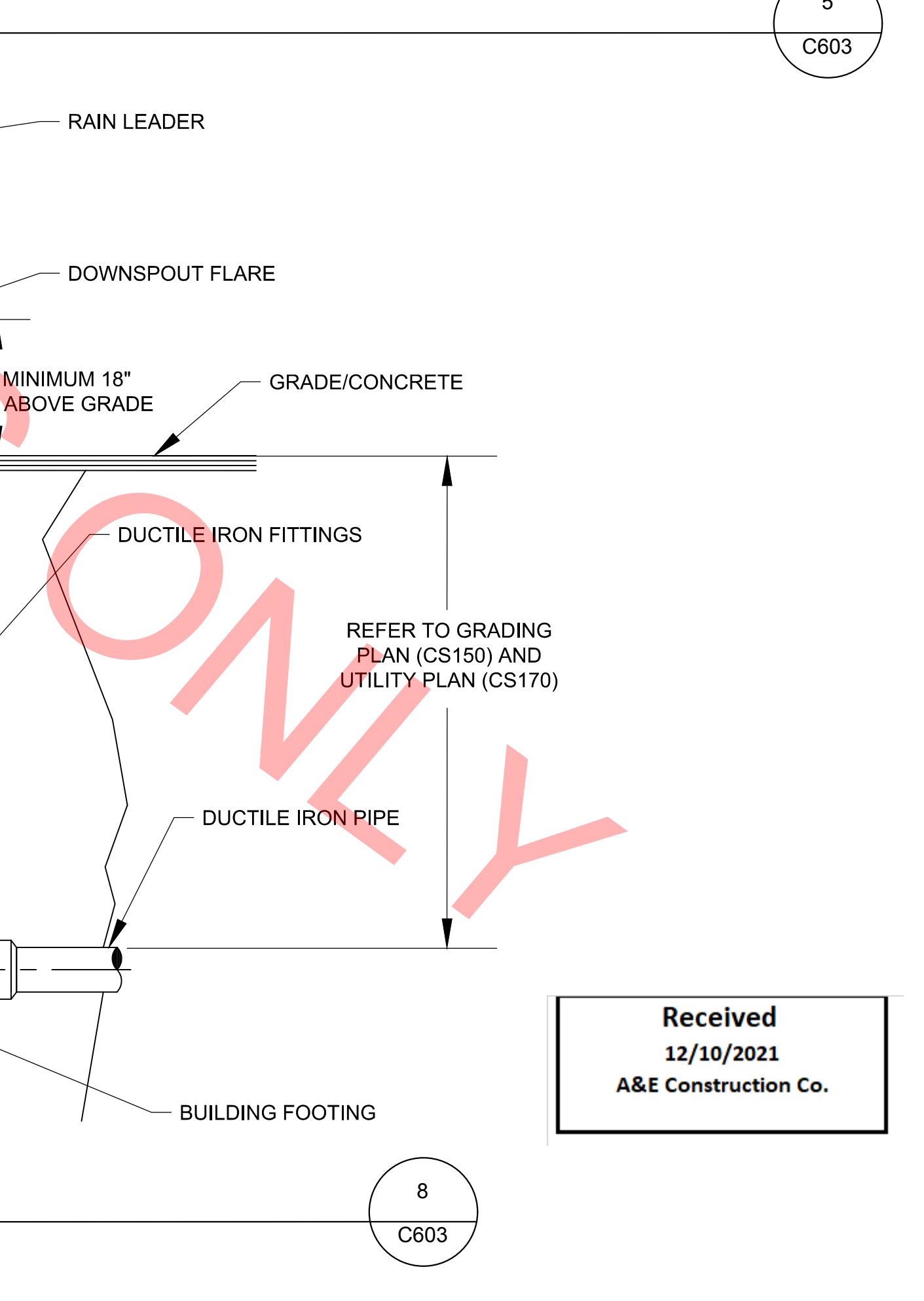
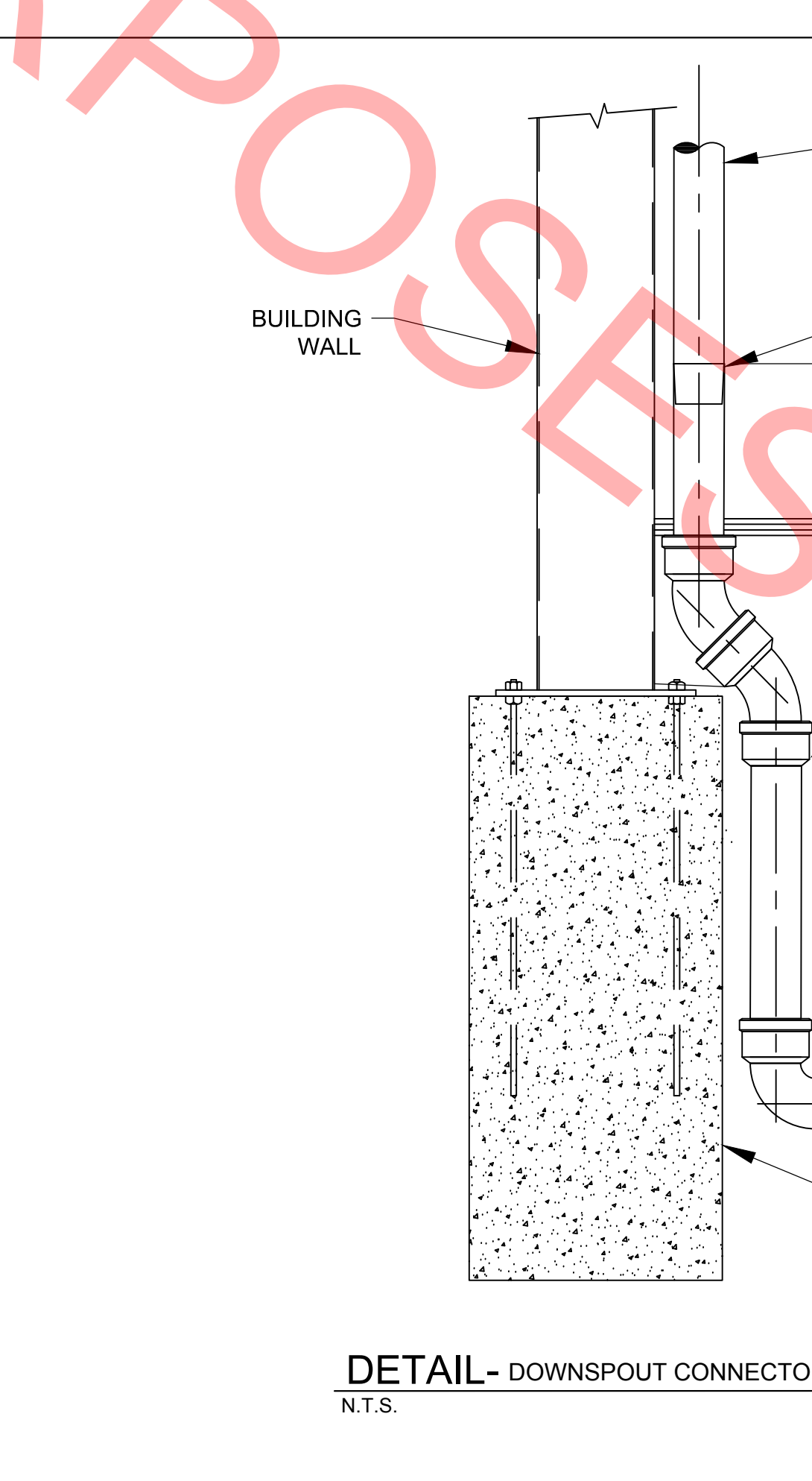
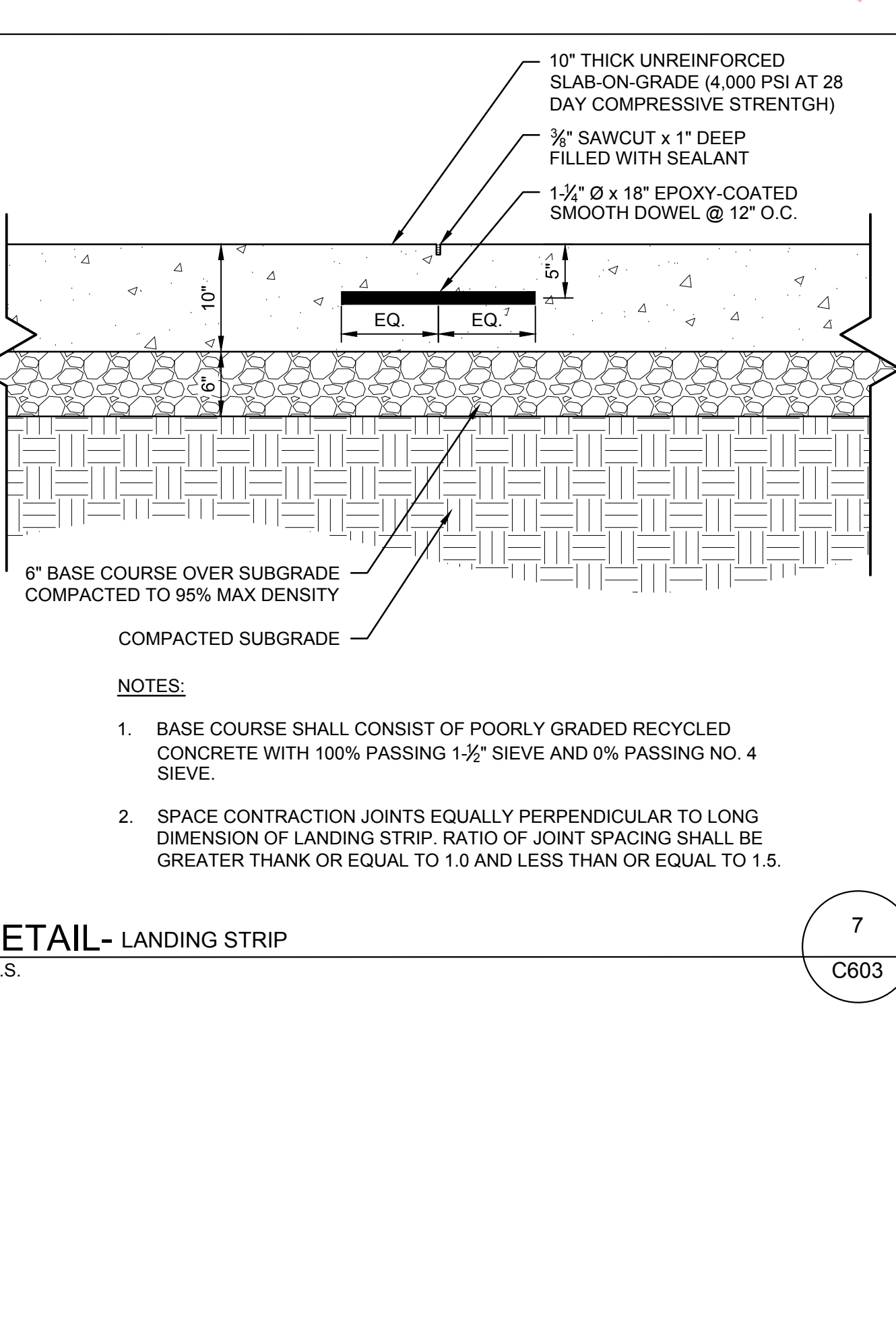
**MECHANICAL:**  
 BACKFLOW PREVENTERS, AS REQUIRED BY P.W.D. CROSS CONNECTION MANUAL, SHALL BE LOCATED DOWNSTREAM OF THE METER ASSEMBLY WITHIN THE BUILDING. WHERE EXISTING CONDITIONS PREHIBIT SUCH, THE WATER DEPT. WILL CONSIDER UPON REQUEST, ALLOWING THE BACKFLOW PREVENTER TO BE INSTALLED IN AN ABOVE GROUND SHELTER THAT IS DESIGNED TO ACCOMMODATE IT. REQUESTS FOR PERMISSION AND A CROSS CONNECTION MANUAL MAY BE DIRECTED TO:  
 PHILADELPHIA WATER DEPARTMENT  
 BUREAU OF LABORATORY SERVICES  
 1500 E. HUNTING PARK AVENUE  
 PHILADELPHIA, PA 19124-4941  
 ATTN: PROJECTS SECTION, MICHAEL FADEL, 215-685-1419/1420

WATER METERS ARE FURNISHED AND INSTALLED BY THE WATER DEPT. THE COST IS COVERED IN THE FEE CHARGED FOR A WATER PERMIT.  
 WATER METERS SHALL BE CONNECTED TO THE SERVICE PIPE WITH:  
 COPPER SETTERS (FOR METERS 3/8"-1"), FLANGES (OVAL) (FOR METERS 1"-1/2"-2"), FLANGES (FOR METERS 3"-10")  
 SERVICE PIPE  
 3/4"-2" DIAMETER SERVICE PIPE SHALL BE COPPER, TYPE K, MEETING ASTM B 88. 3"-10" DIAMETER SERVICE PIPE SHALL BE DUCTILE IRON FLANGED PIPE IN ACCORDANCE WITH ANSIAWWA C115A/2.15.  
 FLANGES (OVAL) SHALL BE USED AS COMPANION FLANGES FOR 1"-1/2"-2" METERS. FLANGES SHALL BE PRODUCED OF BRONZE AND SHALL BE FACED, DRILLED AND TAPPED IN CONFORMANCE WITH ANSI B 2.1. FLANGE DIMENSIONS SHALL CONFORM TO ANSIAWWA C700.  
 FLANGED FITTINGS SHALL BE PRODUCED OF DUCTILE IRON AND CONFORM TO THE APPLICABLE REQUIREMENTS FOR DUCTILE IRON FITTINGS SPECIFIED IN ANSIAWWA C110A/2.10.

FLANGES OF BOTH DUCTILE IRON FLANGED PIPE AND FITTINGS SHALL BE ADEQUATE FOR WATER SERVICE OF 250 PSI WORKING PRESSURE. THE BOLT CIRCLE AND BOLT HOLES OF THE FLANGES SHALL MATCH THOSE OF THE CLASS 125 FLANGES SHOWN IN ANSI B 16.1.  
 NUTS AND BOLTS SHALL BE IN ACCORDANCE WITH ASTM STANDARD A 193-B7 AND A 194, GRADE 4.  
 GASKETS SHALL BE 1/8" THICK AND MADE OF EITHER SBR OR NEOPRENE RUBBER MEETING THE MATERIAL REQUIREMENTS OF ANSIAWWA C111A/2.11 MECHANICAL JOINT GASKETS.  
 GATE VALVES SHALL BE SUITABLE FOR WATER SERVICE OF 150 PSI WORKING PRESSURE AND SHALL BE IN ACCORDANCE WITH ANSIAWWA C500.  
**STRUCTURAL:**  
 METER PITS AND ACCESSORIES SHALL BE TESTED AND REGISTERED WITH THE QUALITY CERTIFICATION STAFF IN ACCORDANCE WITH THE QUALITY CERTIFICATION STANDARD QC-1 FOR PRECAST CONCRETE PRODUCTS. THE METER PITS SHALL BE DESIGNED FOR H-20 LOADING. ALL PRECAST SEGMENTS SHALL BE KEYED AND THEIR JOINTS WATER TIGHT.  
 PRECAST MANUFACTURERS SHALL BE CERTIFIED IN ACCORDANCE WITH QC-1 BY THE DEPARTMENT'S QUALITY CERTIFICATION STAFF. DIRECT REQUESTS FOR Q.C. CERTIFICATION TO:  
 PHILADELPHIA WATER DEPARTMENT  
 BUREAU OF LABORATORY SERVICES  
 1500 E. HUNTING PARK AVENUE  
 PHILADELPHIA, PA 19124-4941  
 ATTN: Q.C. CERTIFICATION STAFF  
 CONCRETE SHALL CONSIST OF PORTLAND CEMENT WHICH CONFORMS TO ASTM C150 AND AGGREGATES WHICH CONFORM TO ASTM C33. THE MINIMUM COMPRESSIVE STRENGTH SHALL BE 4000 P.S.I.  
 REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 FOR BARS OR ASTM A185 FOR WELDED WIRE FABRIC.  
 FOR ADDITIONAL INFORMATION, CONTACT THE METER SHOP AT 215-685-8642/9782.  
 THE WATER DEPT. WILL CONSIDER DEVIATIONS FROM THE METER PIT STANDARDS UPON REQUEST. DIRECT REQUESTS TO:  
 PHILADELPHIA WATER DEPARTMENT  
 1101 MARKET STREET  
 6TH FLOOR, SUITE 200, DESIGN BRANCH  
 PHILADELPHIA, PA 19107  
 215-685-6280



- WYE BRANCH INSTALLATION PROCEDURE:**
- CONTRACTOR IS RESPONSIBLE FOR CONTROLLING THE FLOW DURING THE CONNECTION.
  - THE CONTRACTOR IS TO OBTAIN INFORMATION ABOUT THE FLOW RATE PRIOR TO COMMENCING THE CONNECTION. THIS MAY BE OBTAINED BY OPENING A MANHOLE AND MEASURING THE FLOW (FLOW CAN VARY).
  - FOR HIGH FLOW RATE THE CONTRACTOR SHALL SUBMIT A BY-PASS METHOD FOR APPROVAL.
  - FOR LOW FLOW RATE THE CONTRACTOR MAY BE ABLE TO DIRECT THE FLOW THROUGH THE OPENED SECTION.
  - THE CONTRACTOR MUST SELECT THE PROPER SIZE WYE AND ALIGN THE INVERTS.
  - EXCAVATE SAFELY TO EXPOSE THE EXISTING SEWER PIPE WITHOUT DAMAGING IT.
  - EXCAVATE A DITCH WIDE ENOUGH TO ACCOMMODATE THE WYE AND THE CUT-OFF WALLS.
  - CONTRACTORS SHOULD PERFORM THE CONNECTION IN A SAFE MANNER AND PER OSHA REGULATIONS.
  - SHORING SHALL BE INSTALLED IN DITCHES AND TRENCHES AS PER OSHA REGULATIONS OR AS REGULATED BY P.W.D. VIOLATION OF THIS PROVISION WILL RESULT IN A STOP WORK ORDER AND/OR PENALTIES PRESCRIBED BY LAW. (REFER TO PHILADELPHIA PLUMBING CODE 2004 SECTION P. 1503.2 SHORING).
  - FOR CONNECTIONS TO BRICK SEWER, CONSTRUCT A 2-FOOT WIDE BY 8-INCH HIGH, CONCRETE CUTOFF WALL TO THE SPRING LINE. ON BOTH SIDES OF THE WYE, 12-INCH FROM THE LOCATION TO CUT THE SEWER PIPE.
  - USE A MINIMUM OF 3000 PSI CONCRETE FOR THE CONCRETE CUT-OFF WALL.
  - ALLOW AT LEAST 24 HOURS FOR THE CONCRETE TO HARDEN BEFORE CUTTING THE SEWER PIPE.
  - CUT THE SEWER PIPE SO THAT THE WYE SECTION WILL FIT IN TIGHTLY.
  - PREVENT ANY DEBRIS FROM FLOWING INTO THE SEWER.
  - CLEAN THE BOTTOM OF THE OPENED AREA FROM LOOSE AND SOFT SOIL IF NO CRADLE, AND PLACE STONE IN THE MIDDLE LEAVING 12 INCH BELOW THE JOINTS FOR CONCRETE COLLAR.
  - INSERT THE WYE SECTION IN PLACE IMMEDIATELY. SEAL THE JOINTS AND CONSTRUCT A 24-INCH CONCRETE COLLAR AROUND BOTH JOINTS.
  - USE A MINIMUM OF 3000 PSI CONCRETE COLLAR, 12 INCH DEEP AND EXTENDING 24 INCH WIDE AROUND THE JOINT.
  - ALLOW AT LEAST 24 HOURS FOR THE CONCRETE TO HARDEN BEFORE BACKFILLING.
  - ANY OTHER PIPELINE EXPOSED AND UNDERMINED DURING THIS OPERATION MUST BE SUPPORTED IMMEDIATELY AND BACKFILLED WITH CONTROLLED FLOW STRENGTH MATERIAL (CLSM) AFTER THE COMPLETION OF THE CONNECTION.



DETAIL - WYE CONNECTION

DETAIL - LANDING STRIP

DETAIL - DOWNSPOUT CONNECTOR

**Pennoni**  
 PENNONI ASSOCIATES INC.  
 1900 Market Street, Suite 300  
 Philadelphia, PA 19103  
 T 215.222.3000 F 215.222.3588

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR DISCREPANCIES BEFORE PROCEEDING WITH WORK

PHILADELPHIA REGIONAL PORT AUTHORITY  
 340 NORTH DELAWARE AVENUE  
 PHILADELPHIA, PA 19104

PHILADELPHIA DISTRIBUTION CENTER NEW DRY WAREHOUSE  
 3308 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
 PHILADELPHIA, PA 19148

**SITE DETAILS**

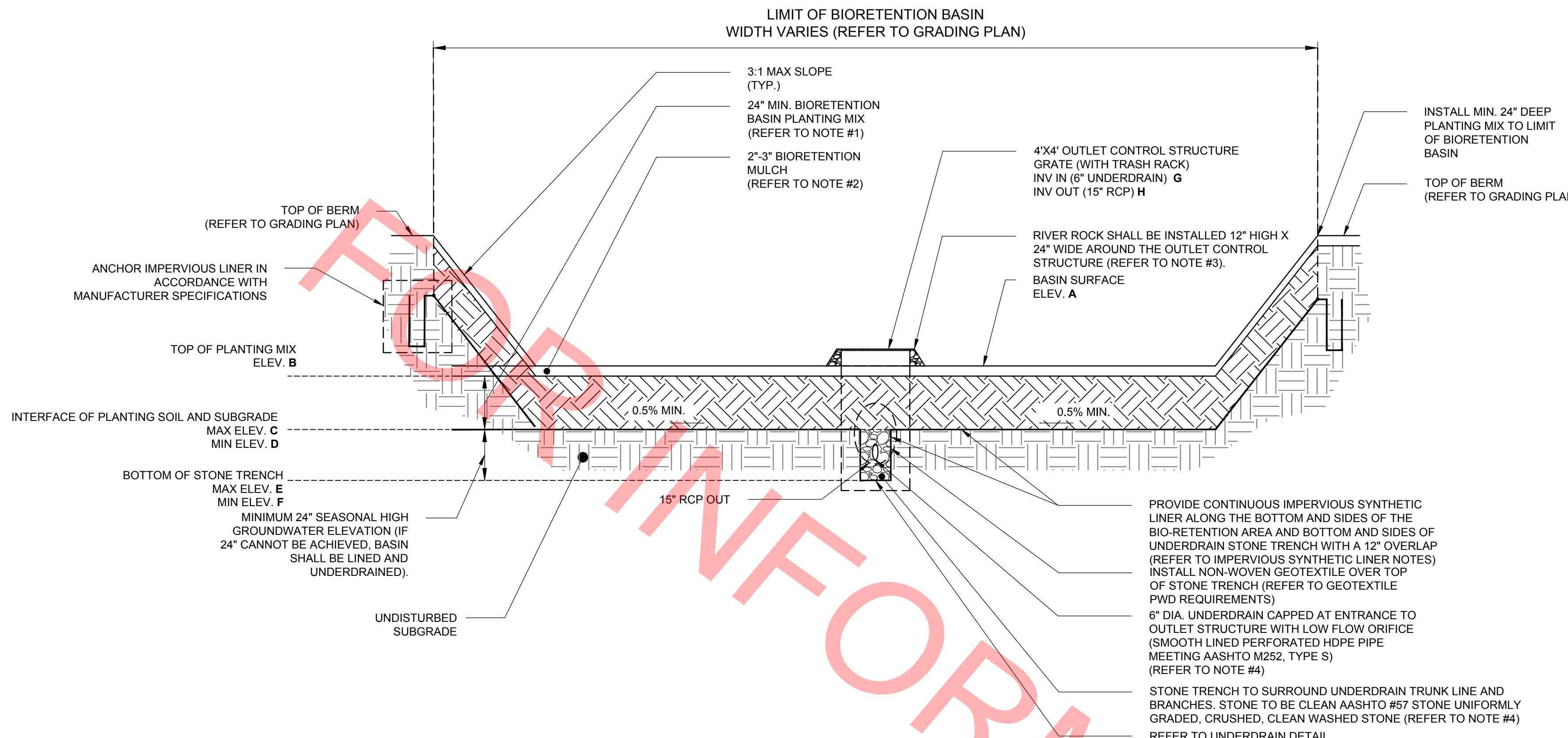
NO.	DATE	REVISIONS
1	12/20/2021	CIVIL REVISIONS
2	02/01/2022	PRO FIELD CHANGE SUBMISSION
3	02/01/2022	REVISED FOR PERMIT

Received 12/10/2021  
 A&E Construction Co.

PROJECT: 20-028.1  
 DATE: 2019-12-16  
 DRAWING SCALE: N.T.S.  
 DRAWN BY: CHD  
 APPROVED BY: BD

**C603**  
 SHEET 12 OF 17

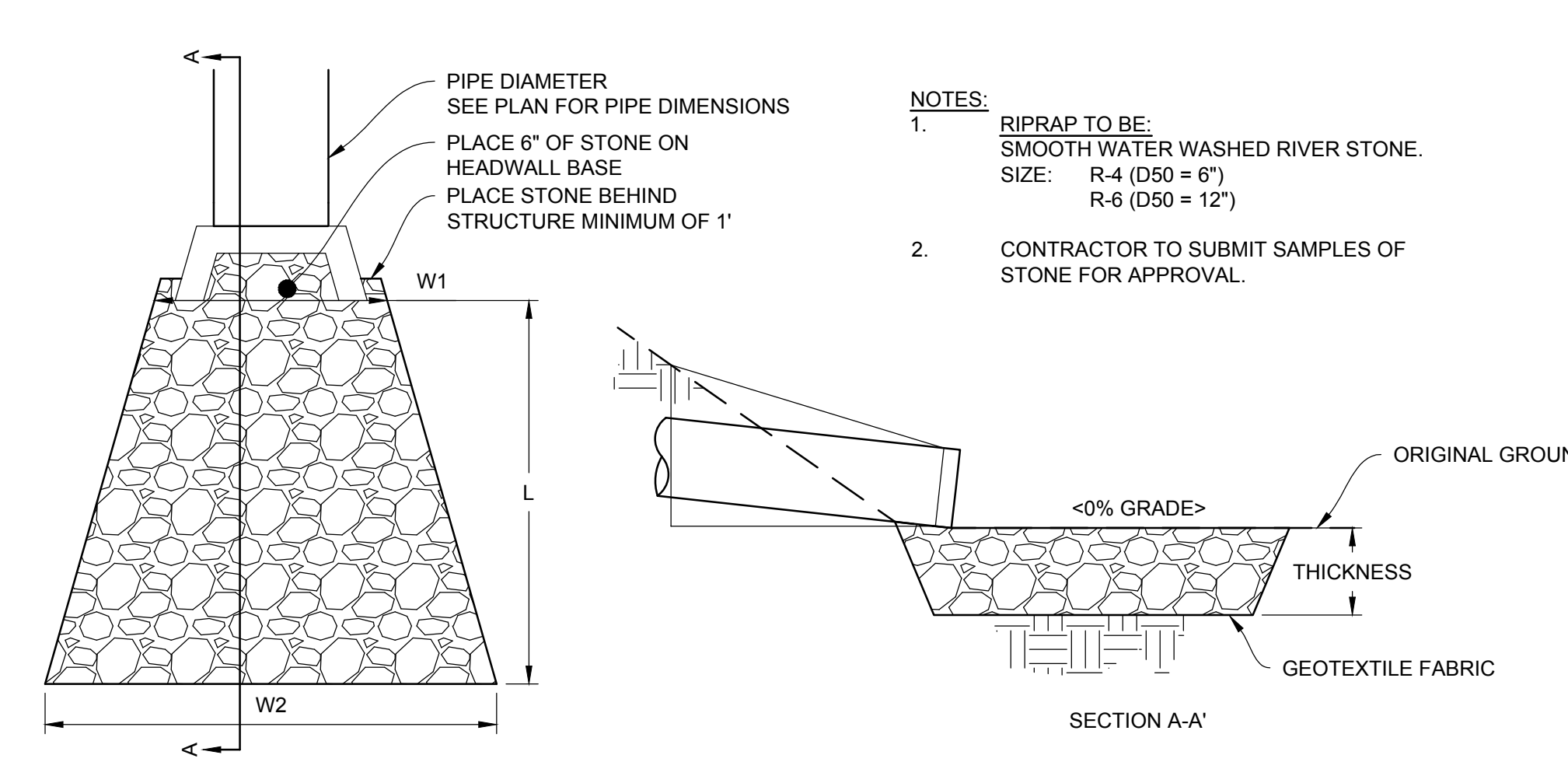




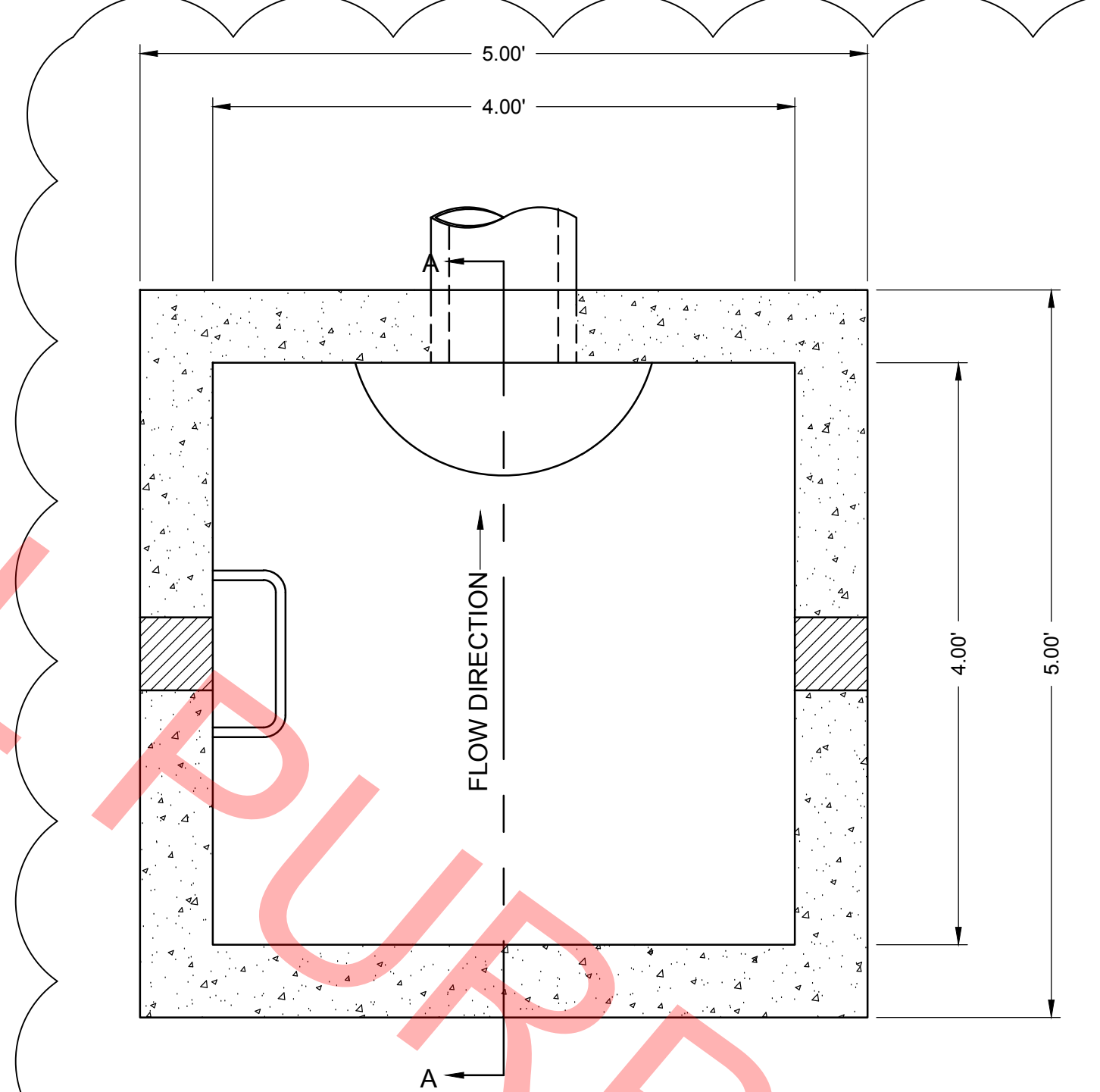
BIORETENTION BASIN DIMENSION (FT)	BASIN #				
	1	2	3	4	5
A	4.00	4.00	3.50	3.50	3.50
B	3.83	3.83	3.33	3.33	3.33
C	1.83	1.83	1.33	1.33	1.33
D	1.25	1.10	0.16	0.55	0.49
E	0.33	0.33	-0.17	0.08	-0.17
F	-0.25	-0.40	-1.34	-0.70	-1.01
G	0.50	0.10	-0.84	-0.20	-0.51
H	0.40	0.00	-0.94	-0.20	-0.61

- NOTES:**
- BIORETENTION BASIN PLANTING MIX:** 50-60% CONSTRUCTION SAND, 20-30% TOPSOIL WITH LESS THAN 5% CLAY CONTENT, 20-30% ORGANIC LEAF COMPOST. BIORETENTION BASIN PLANTING MIX MUST HAVE A PERMEABILITY OF AT LEAST 1.0 FEET/DAY, BE FREE OF STONES, STUMPS, ROOTS OR OTHER WOODY MATERIAL OVER 1 INCH IN DIAMETER, AND BE FREE OF BRUSH OR SEEDS FROM NOXIOUS WEEDS.
  - BIORETENTION MULCH:**
    - AGED, DOUBLE-SHREDDED HARDWOOD BARK MULCH OR COMPOSTED LEAF MULCH.
    - FREE OF WEEDS.
    - PLACED ON BIORETENTION SURFACE TO A DEPTH OF 2-3 INCHES.
  - RIVER ROCK:** INSTALL 12" HIGH X 24" WIDE BAND OF RIVER ROCK AROUND INLET. RIVER ROCK TO BE 1" TO 3" IN SIZE.
  - UNDERDRAIN:**
    - SEE SHEET CS-151 (UTILITY PLAN) FOR UNDERDRAIN LAYOUT AND CLEANOUT LOCATIONS.
    - INSTALL UNDERDRAINS AT 0.005 FT/FT SLOPE.
    - UNDERDRAIN PIPING SHALL HAVE A MINIMUM SLOT PERFORATION INLET AREA OF 1.0 IN<sup>2</sup>/FT.
    - STONE TRENCH TO SURROUND UNDERDRAIN TRUNK LINE AND BRANCHES.
    - STONE TRENCH TO BE AASHTO #57 CLEAN WASHED STONE. "CLEAN WASHED" IS DEFINED AS HAVING LESS THAN ONE HALF PERCENT (0.5%) WASH LOSS, BY MASS, WHEN TESTED PER THE AASHTO T-11 WASH LOSS TEST.
  - IMPERVIOUS SYNTHETIC LINER:**
    - LINER TO BE HDPE OR PVC WITH A MINIMUM THICKNESS OF 30 MIL. LINER TO BE COORDINATED WITH THE GEOTECHNICAL ENGINEER.
    - PROVIDE NON-WOVEN GEOTEXTILE UNDERLAYMENT AND OVERLAYMENT IN ACCORDANCE WITH LINER MANUFACTURER RECOMMENDATIONS.
  - GEOTEXTILE PWD REQUIREMENTS:** THE GEOTEXTILE SHALL CONSIST OF NEEDLED NON-WOVEN POLYPROPYLENE FIBERS AND MEET THE FOLLOWING PROPERTIES:
    - GRAB TENSILE STRENGTH (ASTM-D4832) ≥ 120 LBS
    - MULLEN BURST STRENGTH (ASTM-D3786) ≥ 225 PSI
    - FLOW RATE (ASTM-D4491) ≥ 95 GAL/MIN/FT<sup>2</sup>
    - UV RESISTANCE AFTER 500 HRS (ASTM-D4355) ≥ 70%
    - HEAT SET OR HEAT-CALENDARED FABRICS ARE NOT PERMITTED

**DETAIL- BIORETENTION BASIN**  
N.T.S.



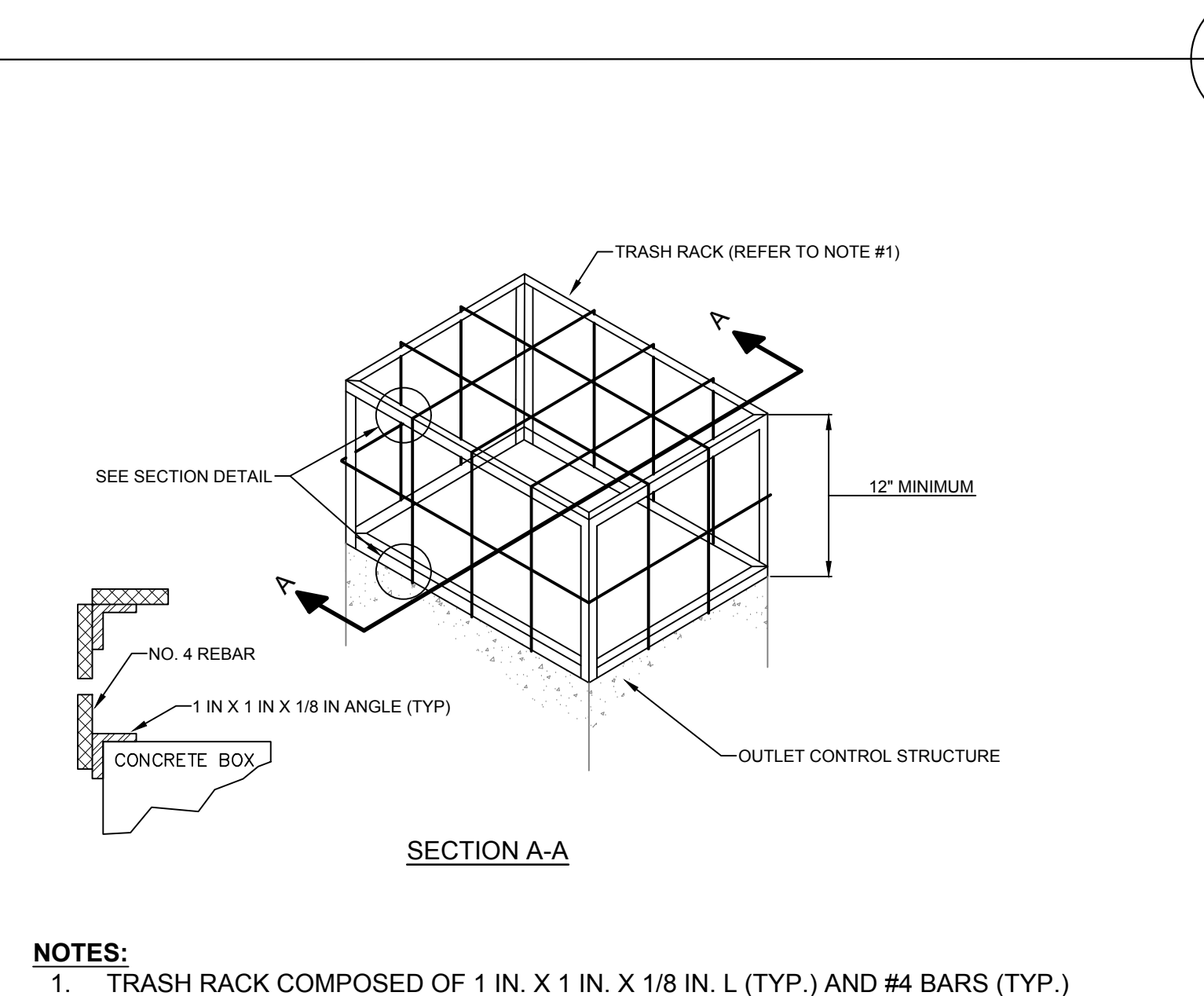
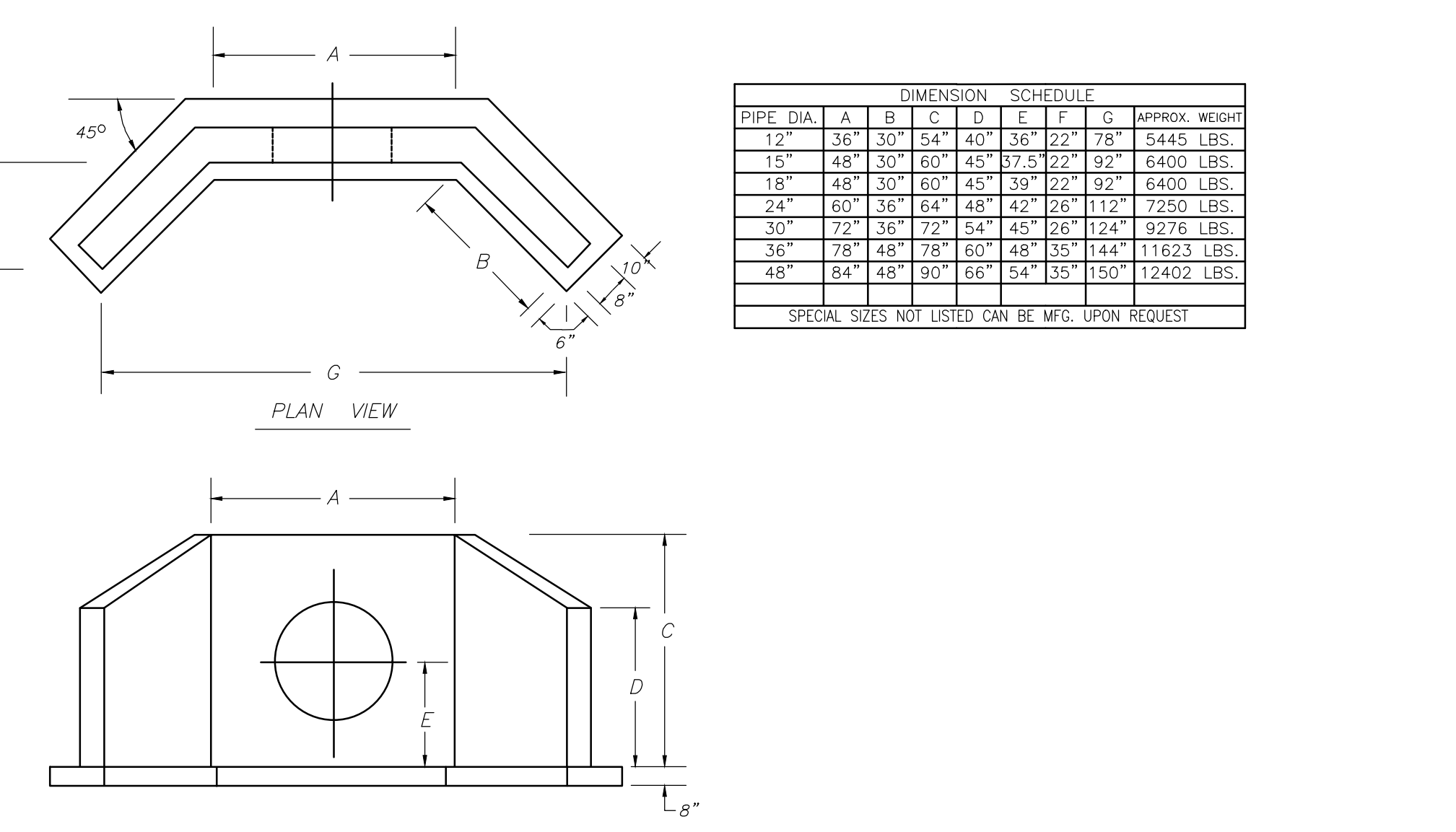
OUTLET STRUCTURE	PIPE DIA. PD	TAILWATER CONDITION	10-YR FLOW Q	RIP-RAP		APRON		
				SIZE DIA.	THICKNESS	LENGTH L	INITIAL WIDTH W1	TERMINAL WIDTH W2
HEADWALL 1A	30"	TW@0.5 DIA.	20.6 CFS	R-4	18"	35'	8'	22'
HEADWALL 1B	24"	TW@0.5 DIA.	4.5 CFS	R-4	18"	8'	6'	10'
HEADWALL 2A	18"	TW@0.5 DIA.	2.5 CFS	R-4	18"	8'	6'	10'
HEADWALL 2B	30"	TW@0.5 DIA.	15.3 CFS	R-4	18"	22'	6'	15'
HEADWALL 3A	30"	TW@0.5 DIA.	19.7 CFS	R-4	18"	35'	8'	22'
HEADWALL 3B	18"	TW@0.5 DIA.	2.9 CFS	R-4	18"	8'	6'	8'
HEADWALL 3C	18"	TW@0.5 DIA.	2.7 CFS	R-4	18"	8'	6'	8'
HEADWALL 4A	24"	TW@0.5 DIA.	7.3 CFS	R-4	18"	8'	6'	10'
HEADWALL 4B	24"	TW@0.5 DIA.	7.2 CFS	R-4	18"	8'	6'	10'
HEADWALL 4C	24"	TW@0.5 DIA.	12.8 CFS	R-4	18"	10'	6'	10'
HEADWALL 4D	24"	TW@0.5 DIA.	7.3 CFS	R-4	18"	8'	6'	10'
HEADWALL 5A	30"	TW@0.5 DIA.	19.5 CFS	R-4	18"	38'	8'	23'
HEADWALL 5B	24"	TW@0.5 DIA.	3.9 CFS	R-4	18"	8'	6'	10'
HEADWALL 5C	24"	TW@0.5 DIA.	1.6 CFS	R-4	18"	8'	6'	10'



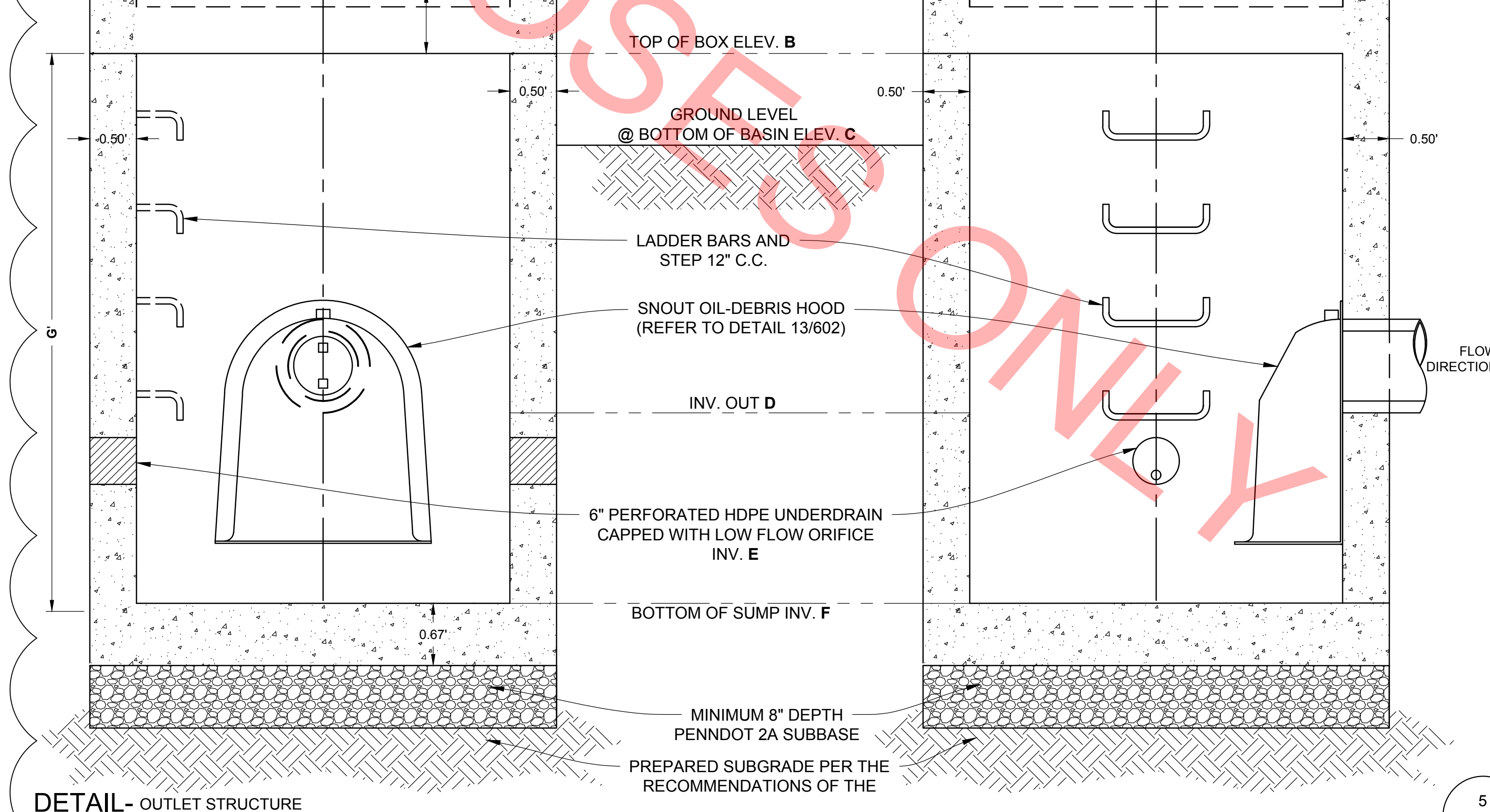
OUTLET STRUCTURE DIMENSION (FT)	BASIN #				
	1	2	3	4	5
A	6.00	6.00	5.50	5.50	5.50
B	5.33	5.33	4.83	4.83	4.83
C	4.00	4.00	3.50	3.50	3.50
D	0.40	0.00	-0.94	-0.20	-0.61
E	0.50	0.10	-0.84	-0.20	-0.51
F	-2.73	-3.13	-4.07	-3.33	-3.74
LOW FLOW ORIFICE SIZE	1.7"	1.7"	2.0"	2.5"	2.5"

**2**  
C604

**DETAIL- RIPRAP APRON AT PIPE OUTLET WITH ENDWALL**  
N.T.S.



**TOP VIEW**



**4**  
C604

**DETAIL- HEADWALL**  
N.T.S.



**3**  
C604

**5**  
C604

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR DISCREPANCIES BEFORE PROCEEDING WITH WORK

PHILAPORT DISTRIBUTION CENTER NEW DRY WAREHOUSE  
3308 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
PHILADELPHIA, PA 19148  
SITE DETAILS  
PHILADELPHIA REGIONAL PORT AUTHORITY  
340 NORTHEAST DELAWARE AVENUE  
PHILADELPHIA, PA 19104

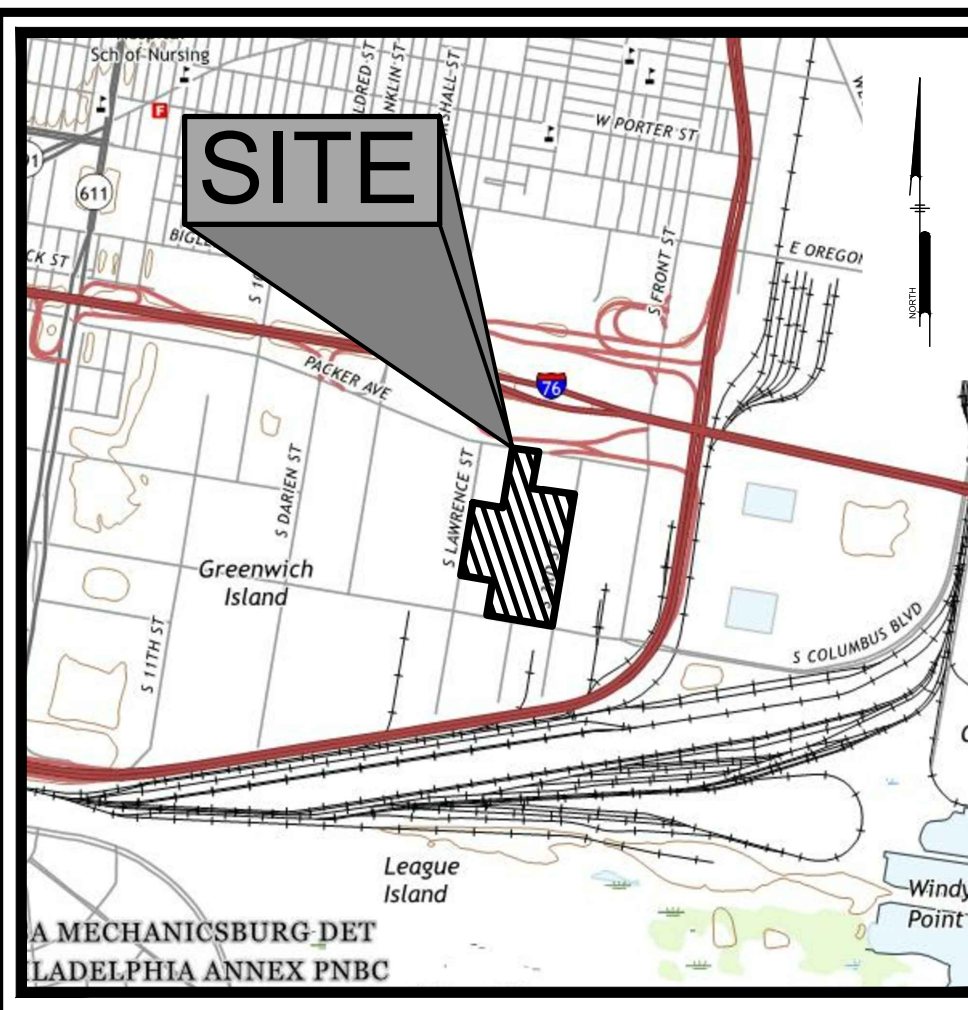
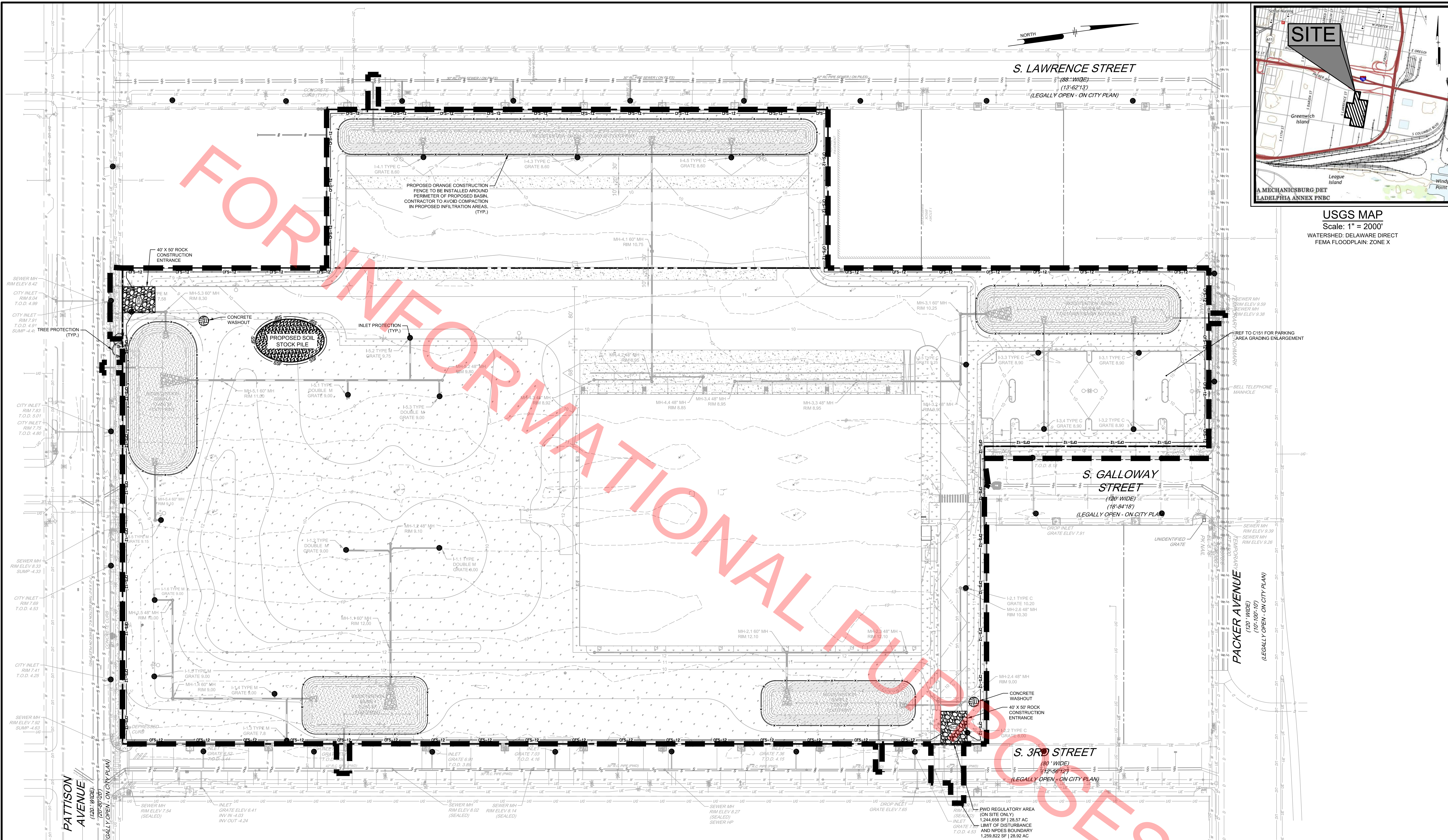
NO.	DATE	DESCRIPTION	BY
1	2021/04/15	REVISION FOR RFI	CHD
2	2021/05/08	PWD FIELD CHANGE SUBMISSION	TKU
3	2021/05/08	REVISION FOR PERMITTED	BD

PROJECT	20-028.1
DATE	2019-12-16
DRAWING SCALE	1"=60'
DRAWN BY	CHD
APPROVED BY	BD
<b>C604</b>	
SHEET	13 OF 17









**USGS MAP**  
Scale: 1" = 2000'  
WATERSHED: DELAWARE DIRECT  
FEMA FLOODPLAIN: ZONE X

FOR INFORMATIONAL PURPOSES ONLY

**LEGEND**

<p>--- PROPERTY LINE</p> <p>--- ADJACENT PROPERTY LINE</p> <p>--- RIGHT OF WAY LINE</p> <p>--- HISTORIC BUILDING</p> <p>--- BUILDING SETBACK LINE</p> <p>--- EXISTING FENCE</p> <p>--- EXISTING TELEPHONE EASEMENT</p> <p>--- EXISTING GAS EASEMENT</p> <p>--- EXISTING EASEMENT</p> <p>--- EXISTING BUILDING</p> <p>--- EXISTING CURB</p> <p>--- EXISTING CONCRETE</p> <p>--- EXISTING MANHOLE</p> <p>--- EXISTING VALVES</p> <p>--- EXISTING INLET</p> <p>--- EXISTING SEWER VENT</p> <p>--- EXISTING LIGHT POLE</p> <p>--- EXISTING ELECTRIC UTILITIES</p> <p>--- EXISTING OVERHEAD ELECTRIC</p> <p>--- EXISTING GAS METER</p> <p>--- EXISTING HYDRANT</p> <p>--- EXISTING TRAFFIC SIGNAL</p> <p>--- EXISTING BOLLARD</p> <p>--- EXISTING POST</p> <p>--- EXISTING SIGN</p> <p>--- EXISTING TREE</p>	<p>--- PROPOSED CURB</p> <p>--- PROPOSED EDGE OF PAVEMENT</p> <p>--- PROPOSED BUILDING</p> <p>--- PROPOSED FUTURE BUILDING</p> <p>--- PROPOSED STORM SEWER</p> <p>--- PROPOSED SANITARY SEWER</p> <p>--- PROPOSED FIRE SERVICE</p> <p>--- PROPOSED WATER SERVICE</p> <p>--- PROPOSED ELECTRIC SERVICE</p> <p>--- PROPOSED GAS SERVICE</p> <p>--- PROPOSED SURFACE UTILITIES</p> <p>--- PROPOSED STOP BAR</p> <p>--- PROPOSED SIGN</p> <p>--- PROPOSED MAJOR CONTOUR</p> <p>--- PROPOSED MINOR CONTOUR</p> <p>--- PROPOSED 12" COMPOST FILTER SOCK</p> <p>--- PROPOSED ORANGE CONSTRUCTION FENCE</p> <p>--- PROPOSED ROCK CONSTRUCTION ENTRANCE</p> <p>--- PROPOSED SOIL STOCK PILE</p> <p>--- PROPOSED SUPER SILT FENCE</p> <p>--- PROPOSED TREE PROTECTION</p> <p>--- PROPOSED INLET PROTECTION</p> <p>--- PROPOSED CONCRETE WASHOUT</p> <p>--- PROPOSED LIMIT OF DISTURBANCE/NPDES BOUNDARY</p> <p>--- PROPOSED PWD REGULATORY AREA</p>
---	---

**NOTES:**

- SITE INFORMATION:**  
CURRENT SITE ADDRESS:  
3308 SOUTH GALLOWAY AVENUE & 3401 SOUTH LAWRENCE STREET  
30TH WARD, CITY & COUNTY OF PHILADELPHIA  
COMMONWEALTH OF PENNSYLVANIA 19148  
OPA #'S 88500067 & 88502875
- OWNER/CLIENT:**  
PHILADELPHIA REGIONAL PORT AUTHORITY  
3400 NORTH DELAWARE AVENUE  
PHILADELPHIA, PA 19134
- DESIGNER:**  
PENNONI  
1900 MARKET STREET, SUITE 300  
PHILADELPHIA, PA 19103
- SITE NOTES:**
- A FIELD SURVEY OF THE SITE WAS PERFORMED BY PENNONI ASSOCIATES IN APRIL 2017.
  - LOCATIONS OF ON AND OFF SITE UTILITIES AS SHOWN ARE APPROXIMATE AND MAY OR MAY NOT BE COMPLETE. THE NATURE AND EXACT LOCATION OF EXISTING UTILITIES SHOULD BE VERIFIED PRIOR TO INITIATING ANY ACTIVITY THAT MAY AFFECT THEIR USE OR LOCATION.
  - THE LOCATION OF THE EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM EXISTING UTILITY RECORDS AVAILABLE AT THE TIME THESE PLANS WERE PREPARED AND FROM SURFACE OBSERVATION OF THE SITE. COMPLETENESS OR ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES AND STRUCTURES IS NOT GUARANTEED.
  - IN ACCORDANCE WITH PA ACT 287 OF 1974 AS AMENDED BY PA ACT 121 OF 2008 ENTITLED "UNDERGROUND UTILITY LINE PROTECTION LAW", THE CONTRACTOR SHALL NOTIFY ALL UTILITIES WITHIN THE WORK AREA VIA THE PENNSYLVANIA ONE CALL SYSTEM, INC. (800-343-1776) A MINIMUM OF 3 WORKING DAYS BEFORE THE START OF EXCAVATION.
  - THE CONTRACTOR SHALL VERIFY LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.
  - IF CONFLICTS ARE FOUND THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND DESIGN ENGINEER FOR INSTRUCTION BEFORE PROCEEDING WITH WORK.
  - ALL BOUNDARY DIMENSIONS SHOWN ARE IN CITY OF PHILADELPHIA DISTRICT STANDARD MEASURE (DS) UNLESS DESIGNATED (US) TO DENOTE U.S. SURVEY FOOT.
  - THE HORIZONTAL DATUM FOR THIS PROJECT REFERENCES THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NORTH AMERICAN DATUM OF 1983.
  - THE VERTICAL DATUM FOR THIS PROJECT REFERENCES THE VERTICAL DATUM OF THE CITY OF PHILADELPHIA (CITY). THERE IS A CONVERSION OF +4.84' FROM THE VERTICAL DATUM OF THE CITY OF PHILADELPHIA TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD1988).

**FLOOD ZONE INFORMATION:**

BY GRAPHIC PLOTTING ONLY, BASED UPON THE FLOOD INSURANCE RATE MAP, PANEL NO. 194 OF 230, COMMUNITY MAP NO. 4207570194H WHICH BEARS AN EFFECTIVE DATE OF NOVEMBER 18TH 2015. THE SITE IS LOCATED IN THE FOLLOWING AREA:

ZONE X AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN

NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE AND AN ELEVATION CERTIFICATE MAY BE NEEDED TO VERIFY THIS DETERMINATION OR APPLY FOR A VARIANCE FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

**MUNICIPAL ZONING INFORMATION:**

THE SITE IS LOCATED IN THE FOLLOWING ZONE IN THE CITY OF PHILADELPHIA:

I-2 (MEDIUM INDUSTRIAL)

FOR COMPLETE ZONING INFORMATION PLEASE REFER TO THE ZONING CODE OF THE CITY OF PHILADELPHIA AS CURRENTLY AMENDED

**REFERENCE PLANS:**

EXISTING CONDITIONS SURVEY PERFORMED IN APRIL 2017 BY PENNONI ASSOCIATES INC. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS TAKEN FROM THE PLANS ENTITLED "ALTAIRNSPS LAND SURVEY - SHEETS V0301, V-0302, AND V-0303, DATED 05-23-2017.

**EROSION AND SEDIMENT CONTROL:**

- CONCRETE BLOCKS SHALL BE INSTALLED 10' ON CENTER IMMEDIATELY DOWNSLOPE OF COMPOST FILTER SOCKS IN PAVED AREA. SEE DETAIL 30250.

**Pennoni**

**PENNONI ASSOCIATES INC.**  
1900 Market Street, Suite 300  
Philadelphia, PA 19103  
T: 215.222.3000 F: 215.222.3588

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR  
DISCREPANCIES BEFORE PROCEEDING WITH WORK

**PHILADELPHIA REGIONAL PORT AUTHORITY**  
3400 NORTH DELAWARE AVENUE  
PHILADELPHIA, PA 19134

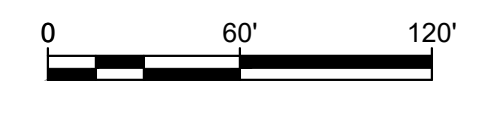
**PHILAPORT DISTRIBUTION CENTER NEW DRY WAREHOUSE**  
3308 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
PHILADELPHIA, PA 19148

**EROSION & SEDIMENT CONTROL PLAN**

PROJECT NO. 20-028.1  
DATE 2019-12-16  
DRAWING SCALE N.T.S.  
DRAWN BY CHD  
APPROVED BY BD

**C800**  
SHEET 15 OF 17

NO.	DATE	REVISIONS	BY	TKU
1	2020/03/06	REVISED FOR PERMIT		













## **Civil Plans & Revisions**

### **C021 Existing Conditions**

- No revisions



### **C100 Site Plan**

- 2/8/2021 PWD Field Change Submission
- 12/2/2021 Pattison Driveway Revisions

### **C150 Grading Plan**

- 2/8/2021 PWD Field Change Submission
- 8/5/2021 PWD Inlet Revisions
- 8/12/2021 Loading Dock Area – grading revisions and trench drain revisions
- 12/2/2021 Pattison Driveway Revisions

### **C151 Grading Detail Plan**

- 2/8/2021 PWD Field Change Submission
- 6/28/2021 Grading and layout clarifications/ revisions
  - Southwest Entrance grading enlargement revisions, northeast entrance grading enlargement, and crosswalk grading revisions
- 8/5/2021 PWD Inlet Revisions
- 12/2/2021 Pattison Driveway Revisions

### **C170 Utility Plan**

- 2/8/2021 PWD Field Change Submission
- 3/29/2021 Revised for RFI
  - Length of pipe change on outlet control structure-2 from Bioretention Basin-2.
- 4/9/2021 Revised for RFI
- 4/29/2021 Revised for RFI
  - MH 5.3 Revised
- 6/23/2021 Grading and stormwater sewer revisions
  - Rim elevation changes on structures, stormwater pipe changes
- 6/28/2021 Grading and layout clarifications / revisions
  - Seepage pit revisions, PECO manhole revisions
- 7/15/2021 PWD Field Change Submission
- 8/12/2021 Loading Dock Area – trench drain revisions
- 9/8/2021 PWD Field Change – replaced the roof drains with one downspout and one rainwater conductor below grade before being pipes to Bioretention Basin-2.
- 12/2/2021 Meter pit and hotbox revisions per PWD comments

### **C410 Utility Profiles**

- 2/8/2021 Added profile for MH-2.6 to HW-2A
- 8/30/2021 Sanitary laterals 1 and 2 added to profile

- 9/8/2021 PWD Field Change – replaced the roof drains with one downspout and one rainwater conductor below grade before being pipes to Bioretention Basin-2.

#### **C411 Utility Profiles**

#### **C412 Utility Profiles**

- 4/29/2021 Revised for RFI
  - MH 5.3 Revised

#### **C600 Site Details**

- No revisions

#### **C601 Site Details**

- 3/29/2021 Revised for RFI
  - Trench drain detail removed

#### **C602 Site Details**

- 2/8/2021 PWD Field Change Submission
- 3/29/2021 Revised for RFI
  - FAI detail added

#### **C603 Site Details**

- 2/8/2021 PWD Field Change Submission
- 12/2/2021 Meter pit and hotbox revisions per PWD comments

#### **C604 Site Details**

- No revisions

#### **C605 Site Details**

- No revisions

#### **C800 Erosion & Sediment Control Plan**

- No revisions

#### **C850 Erosion & Sediment Control Details**

- No revisions

#### **C851 Erosion & Sediment Control Notes**

- No revisions



# POST-CONSTRUCTION STORMWATER MANAGEMENT REPORT

# POST-CONSTRUCTION STORMWATER MANAGEMENT REPORT

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*Philaport Distribution Center  
3309 South Galloway Avenue & 3401 South Lawrence Street  
City of Philadelphia, Pennsylvania 19134*

PWD TRACKING NO: FY19-PHIL-5529-01

## **Applicant:**

---

Philadelphia Regional Port Authority  
3460 North Delaware Avenue  
Philadelphia, PA 19134

Project No. PRPAX17013

May 30, 2019

Revised: February 8, 2021



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FOR INFORMATIONAL PURPOSES ONLY

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PWD CONCEPTUAL APPROVAL

ONLINE TECHNICAL WORKSHEET

APPENDIX C – STORMWATER MANAGEMENT DESIGN

WATER QUALITY AND PEAK RUNOFF CALCULATIONS

STORM SEWER CALCULATIONS

TIME OF CONCENTRATION CALCULATIONS

INFILTRATION WAIVER REQUEST

INFILTRATION REPORT

APPENDIX D – NPDES WORKSHEETS

APPENDIX E – OPERATION AND MAINTENANCE SCHEDULES

OPERATION AND MAINTENANCE AGREEMENT INFORMATION

APPENDIX F – DRAINAGE AREA PLANS

FOR INFORMATIONAL PURPOSES ONLY

## PROJECT DESCRIPTION

Philadelphia Port Authority is proposing to develop a new facility on the 28.57 acre premises located at 3309 South Galloway Street & 3401 South Lawrence Street in Philadelphia, PA. The project will have a total limit of disturbance (LOD) of 28.92 acres. The existing site is primarily impervious surfaces consisting of asphalt paving areas used for car storage. Based on review of historical site plans and aerial photographs three buildings previously existed on the site. The site has frontage on Packer Ave., S. Galloway St., S. Lawrence St., Pattison Ave., and S. 3<sup>rd</sup> St. Road. The surrounding properties in the vicinity of the proposed site are commercial, industrial, or under development.

The site is located within the Delaware Direct Watershed, Management District A, Combined Sewer Service Areas. Conceptual review for this project was previously approved under PWD Tracking # FY19-PHL-5529-01.

It is the intent of this Stormwater Management Report to summarize existing and proposed drainage patterns and site soil characteristics for this project and to document how the proposed improvements will be designed in accordance with the City of Philadelphia Stormwater Management Requirements as they relate to *stormwater quantity management* and *stormwater quality management*. This report includes a USGS Map, a Soils Map, PCSM Inlet Drainage Area Plan, and supporting stormwater management calculations.

## STORMWATER DESIGN CRITERIA

### Water Quality

The City of Philadelphia's *water quality* regulations require that the runoff from the total directly-connected impervious area (DCIA) for the site be managed through infiltration or a combination of volume-reducing measures and a controlled peak release rate for a combined sewer. This volume is calculated as part of the Philadelphia Water Department's worksheets and is associated with 1.5 inches of runoff over the DCIA.

### Channel Protection

The City of Philadelphia's *channel protection* regulations require the slow release of the runoff associated with the DCIA for the 1-year frequency design storm at a rate of 0.24-cfs per acre of DCIA in no more than 72 hours.

### Flood Control

The project is located in Flood Management Districts A of the Delaware Direct Watershed (South). The City of Philadelphia's *flood control* regulations for Flood Management Districts A require that post-development peak rates of discharge for the 2-year frequency storm event must match the 1-year pre-development peak runoff rate. Additionally, the 5-year, 10-year, 25-year, and 100-year frequency storm events shall not exceed the pre-development peak rates of discharge for the similar storm.

### Stormwater Runoff Volume Control

The Pennsylvania Department of Environmental Protection's (PA DEP) stormwater runoff volume regulations require the management of the runoff volume associated with the 2-year frequency storm event. Specifically, the applicant must manage the increase in runoff volume from pre- to post-development.

## TECHNIQUES OF ANALYSIS

### Water Quality

Due to existing environmental conditions of the site, the site is not suitable for infiltration. An infiltration waiver request has been included in Appendix C. To meet the water quality requirement, the runoff from the total directly-connected impervious area (DCIA) for the site will be managed through a lined underdrained bioretention basin that filters runoff through a vegetated soil medium. The basin is designed to provide enough static storage to accommodate the water quality storm without consideration of exfiltration through the underdrain. In addition, the basin is discharging directly into a combined sewer, so the water quality release rate requirement needs to be met. The bioretention basin is designed to have a DCIA to SMP footprint

loading ratio that does not exceed 16:1, a drain down time that does not exceed 72 hours, and safely convey a 100-year storm event. To reduce DCIA within the drainage areas, landscaped areas and disconnected impervious cover are utilized.

### Channel Protection

Since the site lies within the Delaware River watershed, the project is exempt from the channel protection requirement.

### Flood Control

The City of Philadelphia allows an exemption from the flood control protection regulations for projects that propose a DCIA decrease of 20% from pre-development to post-development conditions. This applies to this project. The Project’s impervious area reduction is 31.8% therefore the site is exempt from the flood control requirements.

## SITE LOCATION

The site has frontage on Packer Avenue to the north, Pattison Ave to the south, 3<sup>rd</sup> St to the east, and S. Lawrence St to the west; The site is zoned I-2 “Medium Industrial”.

The property is located on the:

1. Philadelphia, Pennsylvania 7.5 Minute Series United States Geographical Survey (USGS) Topographic Quadrangle Map.
2. City of Philadelphia, Philadelphia County Federal Emergency Management Agency (FEMA) Flood Map, Panels 4207570191H, 4207570192H, 4207570193H, and 4207570194H with effective dates of November 18, 2015.
3. City of Philadelphia Flood Management Districts A.
4. City of Philadelphia Combined Collection Systems.
5. Soil Survey of Philadelphia County, Pennsylvania.

The soil present within the project area is Urban Land (Ub). The soils map and other information from the Soil Survey of Philadelphia County, Pennsylvania can be found below.

## SITE SOILS

The following table has been provided to summarize the site soils. A soil map can be found in Appendix A.

SITE SOILS		
Soil Abbreviation	Soil Name	Hydrologic Soil Group
Ub	Urban Land	Ub

## RAINFALL INPUT DATA

The following table has been provided in order to summarize the associated rainfall depths for the applicable recurrence storm events in the City of Philadelphia:

DESIGN STORM DATA – City of Philadelphia, Philadelphia County, PA	
Recurrence Storm Event	Rainfall Depth (in.)
One (1)-Year	2.83
Two (2)-Year	3.40
Five (5)-Year	4.22
Ten (10)-Year	4.95
Twenty-five (25)-Year	6.10



Fifty (50)-Year	7.16
One Hundred (100)-Year	8.43

## EXISTING CONDITIONS

The existing site is entirely covered by impervious groundcover. Based on records, there were three buildings that had previously been removed. Currently asphalt covers the site including where the previous building locations. The site has frontage on Packer Avenue to the north, Pattison Ave to the south, 3<sup>rd</sup> St to the east, and S. Lawrence St to the west.

As explained in the techniques of analysis and shown on the "Pre-Construction Drainage Plan", Sheet C-900, the stormwater runoff for the site has been analyzed as one (1) POA. The stormwater runoff currently drains to existing inlets within the site that are connected to the combined sewer system.

The existing site consists of a total of 28.57 acres of impervious area (100% of the total site) however, for the purpose of modeling pre-development hydrology, 20% of the existing impervious area has been considered to be in a "meadow" condition, per the PA DEP's Volume Control Guideline 1. The following table has been provided below to summarize the results for each POA and the total site. In addition, detailed computations can be found in Appendix C of this report.

EXISTING DRAINAGE AREA SUMMARY		
Surface	CN	Area (ac.)
"PRE IMP" (80% of true area)	98	22.86
"PRE MEADOW" (includes 20% of true impervious area)	58	5.71
<b>Total "PRE" Area</b>		<b>28.57</b>

## PROPOSED CONDITIONS

The applicant proposes the construction of a proposed dry storage building, surface parking lot, and associated site improvements. A future cold storage building, loading area, and surface parking lot are proposed as a future phase. Stormwater has been designed for the future condition. Runoff from the building and ground level impervious surfaces will be routed by conveyance piping to 5 separate surface bioretention basins that discharges into the combined sewer system. The stormwater management calculations are currently designed to account for the proposed impervious surfaces in post development conditions to allow for flexibility as the project progresses through final design in coordination with the developer and design team. Inlets and manholes that are proposed immediately upstream of the basin are proposed with a sump and snout. The basins are designed to drain down the water quality volume (1.5" of rainfall over the proposed DCIA) within 72 hours as well as to safely convey a 100-year storm event.

Curve numbers for impervious, grass, and porous pavement have been used for the proposed conditions. The following table has been provided below to summarize the results. In addition, detailed computations can be found in Appendix C of this report.

PROPOSED DRAINAGE AREA SUMMARY		
Surface	CN	Area (ac.)
"IMPERVIOUS"	98	19.42
"GRASS"	61	9.15
<b>Total Area</b>		<b>28.57</b>

## WATER QUALITY MANAGEMENT

### Narrative

The City of Philadelphia’s *water quality* regulations require that the runoff from the total directly-connected impervious area (DCIA) for the site be managed through infiltration or a combination of volume-reducing measures and a controlled peak release rate if in a combined sewer. To meet the water quality requirement, the runoff from the total directly-connected impervious area (DCIA) for the site will be managed through a lined underdrained bioretention basin that filters runoff through a vegetated soil medium. Due to existing conditions of the site, the site is not suitable for infiltration, therefore there is no water quality volume static storage requirement that needs to be met. However, the basin is discharging directly into a combined sewer, so water quality release rate requirements need to be met.

The total drainage areas to the basins totals 846,196 SF of DCIA. Impervious cover draining to the basin includes the building roof, asphalt parking lot cover, concrete sidewalks, and future impervious areas. Per PWD requirements a maximum loading ratio of 16:1 is required for DCIA surface area to basin area. The footprint of the basins are shown in the chart below. Per PWD Regulations for bioretention SMPs located in the combined sewer area must be equipped with a low flow orifice to maintain the allowable peak discharge of 0.05 cfs per acre of DCIA (modeled at 1.7 for the WQ storm). This resulted in a maximum allowable water quality release rate of 0.967. In addition, the basins are all to drain within a 72 hour period. Orifices were assigned to each basin and routed through a HydroCAD model to both meet the total allowable release rate and the required drain down time.

Please refer to the drainage area plan, CS-9002, in Appendix F of this report for further clarification.

### Summary

The project is in compliance with the City of Philadelphia Stormwater Management Requirements as it relates to stormwater *water quality* management.

PROPOSED BMP SUMMARY								
BMP	DCIA to SMP (SF)	Basin Footprint (SF)	DCIA to SMP Loading Ratio	Bottom of Basin (Elev.)	Top Of Basin (Elev.)	Riser (Elev.)	100 Year Event (Elev.)	100 Year Storm Drain Down Time (Hr)
Basin 1	134,439	89,350	14.4:1	4.00	9.00	6.00	7.73	70
Basin 2	120,070	7,500	16.0:1	4.00	9.00	6.00	7.64	70
Basin 3	161,801	10,200	15.9:1	3.50	9.00	5.50	7.47	70
Basin 4	217,227	13,600	16.0:1	3.50	9.00	5.50	7.07	70
Basin 5	212,029	13,450	15.8:1	3.50	9.00	5.50	7.73	70

PROPOSED WQ RATE SUMMARY			
DCIA	REQUIRED RELEASE RATE	REQUIRED RATE	PROVIDED RATE
846,196 SF (19.43AC)	0.05cfs/acre	0.945cfs	0.945cfs

## FLOOD CONTROL MANAGEMENT

### Narrative

The City of Philadelphia allows an exemption from the flood control protection regulations for projects that propose a DCIA decrease of 20% from pre-development to post-development conditions. This applies to this project. The Project's impervious area reduction is 31.8% therefore the site is exempt from the flood control requirements.

### Summary

The project is in compliance with the City of Philadelphia Stormwater Management Requirements as it relates to stormwater *flood control* management.

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## STORMWATER RUNOFF VOLUME CONTROL

### Narrative

The Pennsylvania Department of Environmental Protection's (PA DEP) stormwater runoff volume regulations require the management of the runoff volume associated with the 2-year frequency storm event. Specifically, the applicant must manage the increase in runoff volume from pre- to post-development. Section 102.8(g)(2) of the PA Code for runoff volume control states:

*"Analysis demonstrating that the PCSM BMPs will meet the volume reduction and water quality requirements specified in an applicable Department approved and current Act 167 stormwater management watershed plan; or manage the net change for storms up to and including the 2-year/24-hour storm event when compared to preconstruction runoff volume and water quality."*

Due to environmental limitations, the site is not suitable for infiltration, therefore the project satisfies section 102.8(g)(2)(iii) which states:

*"When the existing site contains impervious area and the existing site conditions have public health, safety or environmental limitations, the applicant may demonstrate to the Department that it is not practicable to satisfy the requirement in subparagraph (ii), but the stormwater volume reduction and water quality treatment will be maximized to the extent practicable to maintain and protect existing water quality and existing and designated uses."*

All impervious stormwater runoff from the site will be managed through a lined underdrained bioretention basin that filters runoff through a vegetated soil medium for water quality treatment. The basin will have a controlled release through an underdrain and outlet structure directly into a combined sewer.

Please refer to the NPDES permit application worksheets in Appendix D of this report for further information.

### Summary

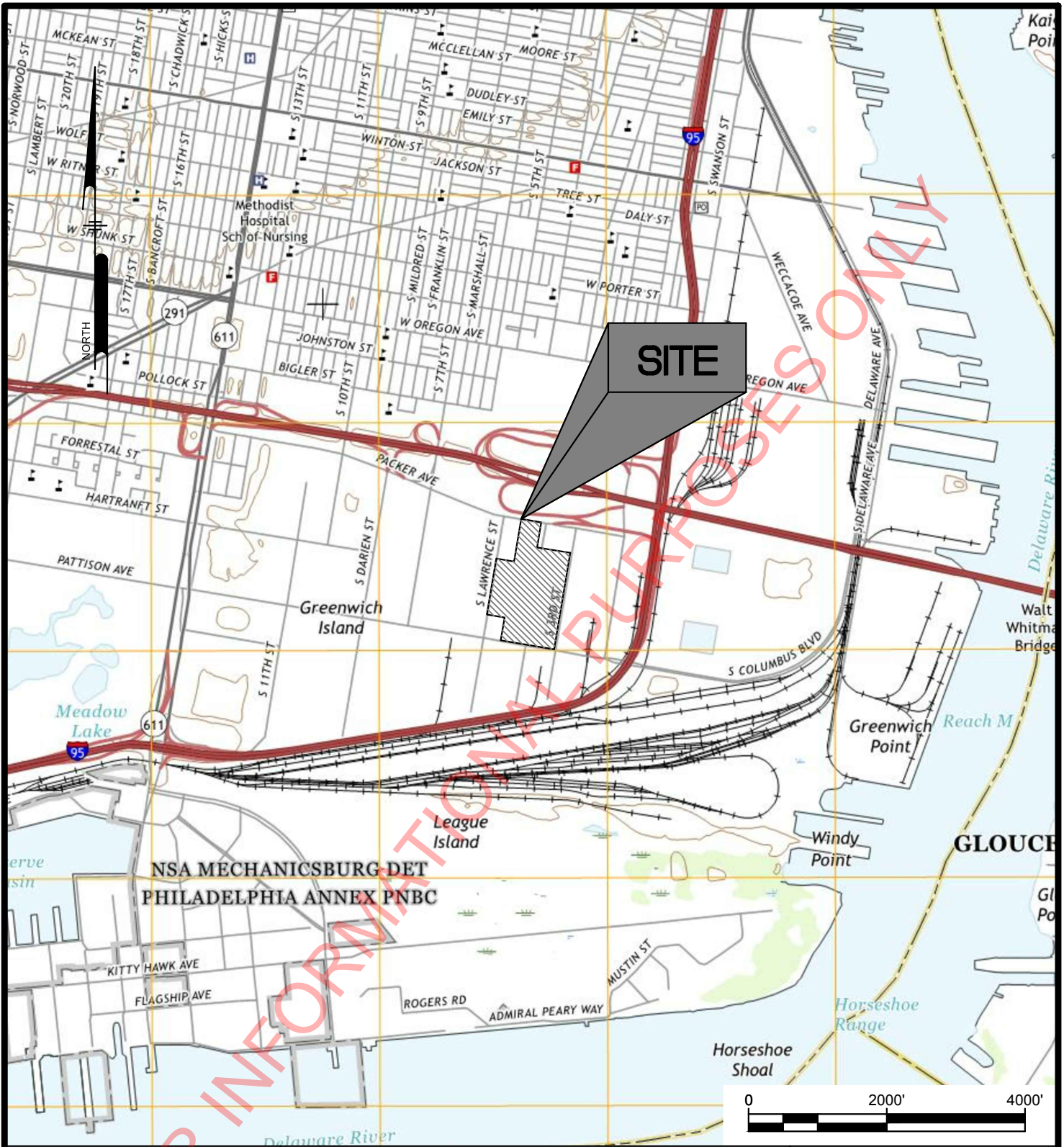
The project is in compliance with the Pennsylvania Department of Environmental Protection Stormwater Management Requirements as it relates to stormwater *runoff volume control*.

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APPENDIX A – MAPS

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NSA MECHANICSBURG DET  
PHILADELPHIA ANNEX PNBC



**PENNONI ASSOCIATES INC.**  
1900 Market Street, Suite 300  
Philadelphia, PA 19103  
T 215.222.3000 F 215.222.3588

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PHILAPORT DISTRIBUTION CENTER  
3309 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
PHILADELPHIA, PA 19148

**LOCN MAP**

PHILADELPHIA REGIONAL PORT AUTHORITY  
3460 NORTH DELAWARE AVENUE  
PHILADELPHIA, PA 19134

PROJECT	PRPAX17013
DATE	05/21/2019
DRAWING SCALE	1" = 2000'
DRAWN BY	RWD
APPROVED BY	CHD

**LOCN MAP**

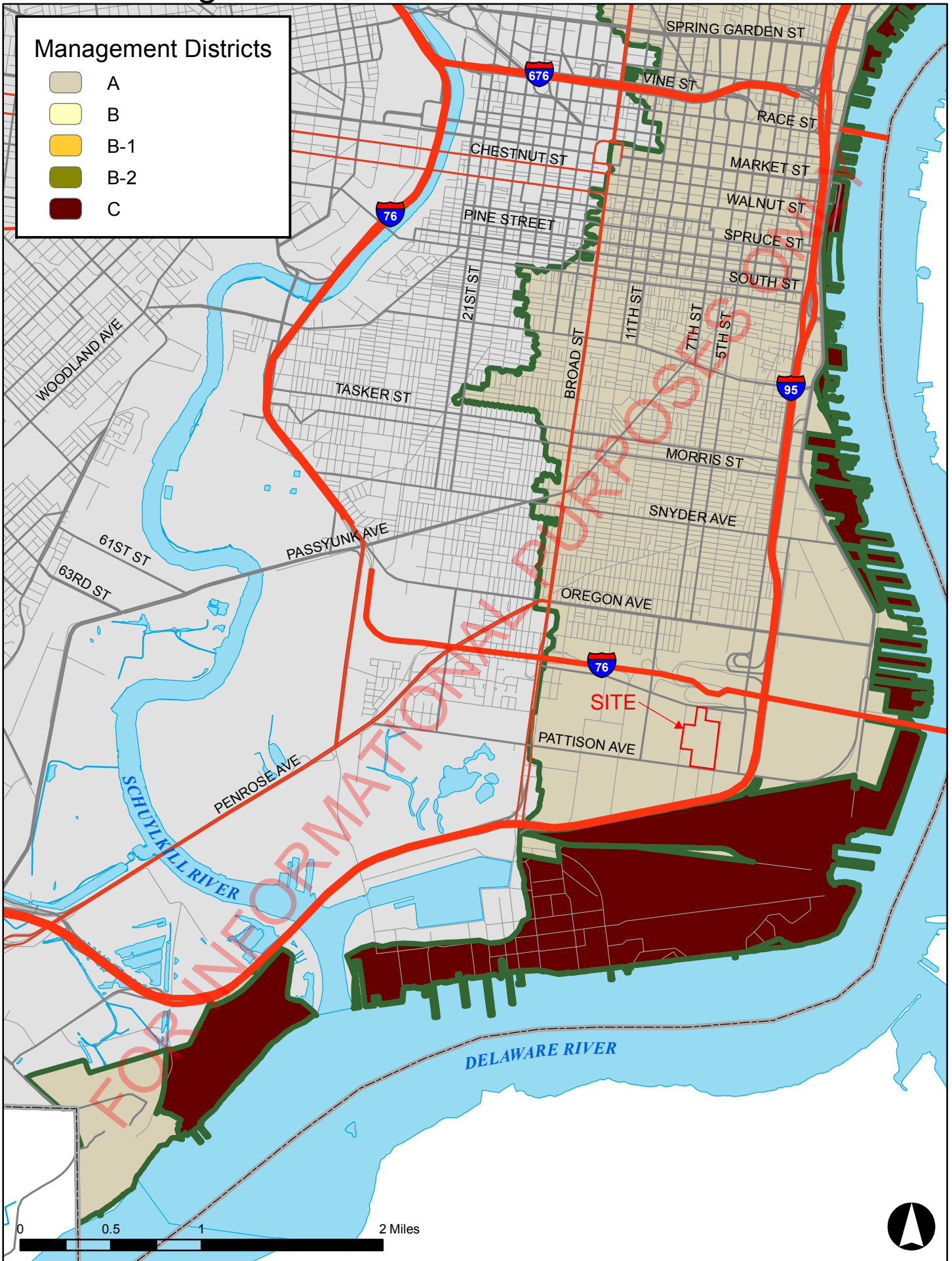


# Flood Management Districts

 Delaware Direct Watershed (South) B

## Management Districts

-  A
-  B
-  B-1
-  B-2
-  C



# Collection System

 Delaware Direct Watershed (South) B





# National Flood Hazard Layer FIRMette



39°54'34.00"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- |                                    |  |
|------------------------------------|--|
| <b>SPECIAL FLOOD HAZARD AREAS</b>  | Without Base Flood Elevation (BFE)<br><i>Zone A, V, A99</i>  |
|                                    | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>   |
|                                    | Regulatory Floodway  |
| <b>OTHER AREAS OF FLOOD HAZARD</b> | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
|                                    | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>  |
|                                    | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>  |
|                                    | Area with Flood Risk due to Levee <i>Zone D</i>  |
| <b>OTHER AREAS</b>                 | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>   |
|                                    | Effective LOMRs  |
|                                    | Area of Undetermined Flood Hazard <i>Zone D</i>  |
| <b>GENERAL STRUCTURES</b>          | Channel, Culvert, or Storm Sewer   |
|                                    | Levee, Dike, or Floodwall  |
| <b>OTHER FEATURES</b>              | Cross Sections with 1% Annual Chance Water Surface Elevation   |
|                                    | Coastal Transect   |
|                                    | Base Flood Elevation Line (BFE)  |
|                                    | Limit of Study   |
|                                    | Jurisdiction Boundary  |
|                                    | Coastal Transect Baseline  |
|                                    | Profile Baseline   |
|                                    | Hydrographic Feature   |
| <b>MAP PANELS</b>                  | Digital Data Available   |
|                                    | No Digital Data Available  |
|                                    | Unmapped   |
|                                    | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.                                     |

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **2/19/2019 at 5:10:07 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

0 250 500 1,000 1,500 2,000 Feet 1:6,000 39°54'6.40"N

75°9'40.37"W

75°9'2.91"W

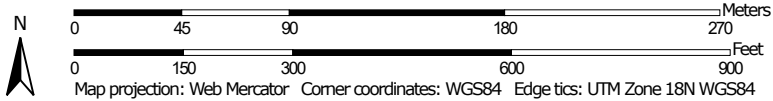


Soil Map—Philadelphia County, Pennsylvania



Soil Map may not be valid at this scale.

Map Scale: 1:3,160 if printed on A portrait (8.5" x 11") sheet.



### MAP LEGEND

**Area of Interest (AOI)**

 Area of Interest (AOI)

**Soils**

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

**Special Point Features**



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

**Water Features**



Streams and Canals

**Transportation**



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

**Background**



Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Philadelphia County, Pennsylvania  
 Survey Area Data: Version 14, Sep 19, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 7, 2014—Jun 24, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ub	Urban land	28.9	100.0%
<b>Totals for Area of Interest</b>		<b>28.9</b>	<b>100.0%</b>

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APPENDIX B – PWD WORKSHEETS

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April 25, 2019

## Conceptual Approval

David P. McGuire  
Philadelphia Regional Port Authority  
3460 N. Delaware Ave.  
Philadelphia, Pennsylvania 19134

RE: **PhilaPort Distribution Center (FY19-PHIL-5529-01)**

Project Address:	<b>3309 S. Galloway St. &amp; 3401 S. Lawrence St.</b>	Earth Disturbance:	<b>1,259,822 SF</b>
Development Type:	<b>Redevelopment</b>	Flood Management District:	<b>A</b>
Watershed:	<b>Delaware Direct</b>	Sewer Type:	<b>Combined</b>

Dear David P. McGuire,

The Philadelphia Water Department (PWD) has completed its review of the Conceptual Review Submission Package for this project. PWD has determined that the project meets the requirements for Conceptual Approval. The attached plan has been stamped, and mailed to the primary designer.

Conceptual Approval is a preliminary approval only and does not constitute final PWD approval of the project, nor does it relieve the applicant from meeting the requirements of other City agencies. The applicant may use this letter and PWD-stamped Conceptual Stormwater Management Plan when filing for a Zoning Permit; however, PWD does not stamp Zoning Permit applications. The applicant is responsible to obtain any required federal, state, and local permits outside of this review.

**Below and on Page 2 of this letter are the PWD reviews applicable to this project which must be completed prior to construction activity proceeding.** Please see [Section 2.5](#) of the Manual for more information about these reviews:

1. Prior to obtaining a Building Permit, submit a Utility Plan (PDF format) to [PWDur@phila.gov](mailto:PWDur@phila.gov). Refer to [www.pwdplanreview.org](http://www.pwdplanreview.org) for a complete checklist of all items that must be included on the Utility Plan. The Utility plan must show proposed abandoning of the existing utilities on site.
2. If water service or sewer connections/disconnections are proposed, then approvals must be obtained through PWD Water Transport Records.
3. If the project includes installation of facilities that will generate sewage, then submit to PWD Projects Control for Act 537 review.
4. Backflow prevention and cross connection control measures are required as a condition of water service, with some exceptions. Information on these requirements can be obtained from PWD Industrial Waste & Backflow Compliance Unit at <http://www.phila.gov/water/cc.html>.

**5. Post-Construction Stormwater Management Plan (PCSMP) Review**

Development Compliance Review Path
<p>The project is subject to the Post-Construction Stormwater Management Requirements identified below. Please refer to the Development Compliance Review Path in <a href="#">Section 2.3.1</a> of the Manual for more information.</p> <p><u>Post-Construction Stormwater Management Requirements</u>  <input checked="" type="checkbox"/> Water Quality   <input type="checkbox"/> Channel Protection   <input checked="" type="checkbox"/> Flood Control   <input type="checkbox"/> PHS Release Rate ____ cfs/acre  <input type="checkbox"/> Wissahickon Watershed Overlay</p> <p><u>Expedited PCSMP Review Eligibility</u>  <input type="checkbox"/> Disconnection Green Review   <input checked="" type="checkbox"/> Surface Green Review   <input type="checkbox"/> Not eligible for Expedited Review</p> <p><u>PADEP NPDES Permit</u>            Since more than one acre of earth disturbance is proposed, PWD’s PCSMP Approval is contingent on the issuance of a PADEP NPDES Permit. Please refer to <a href="#">Section 2.7</a> of the Manual for more information.</p>

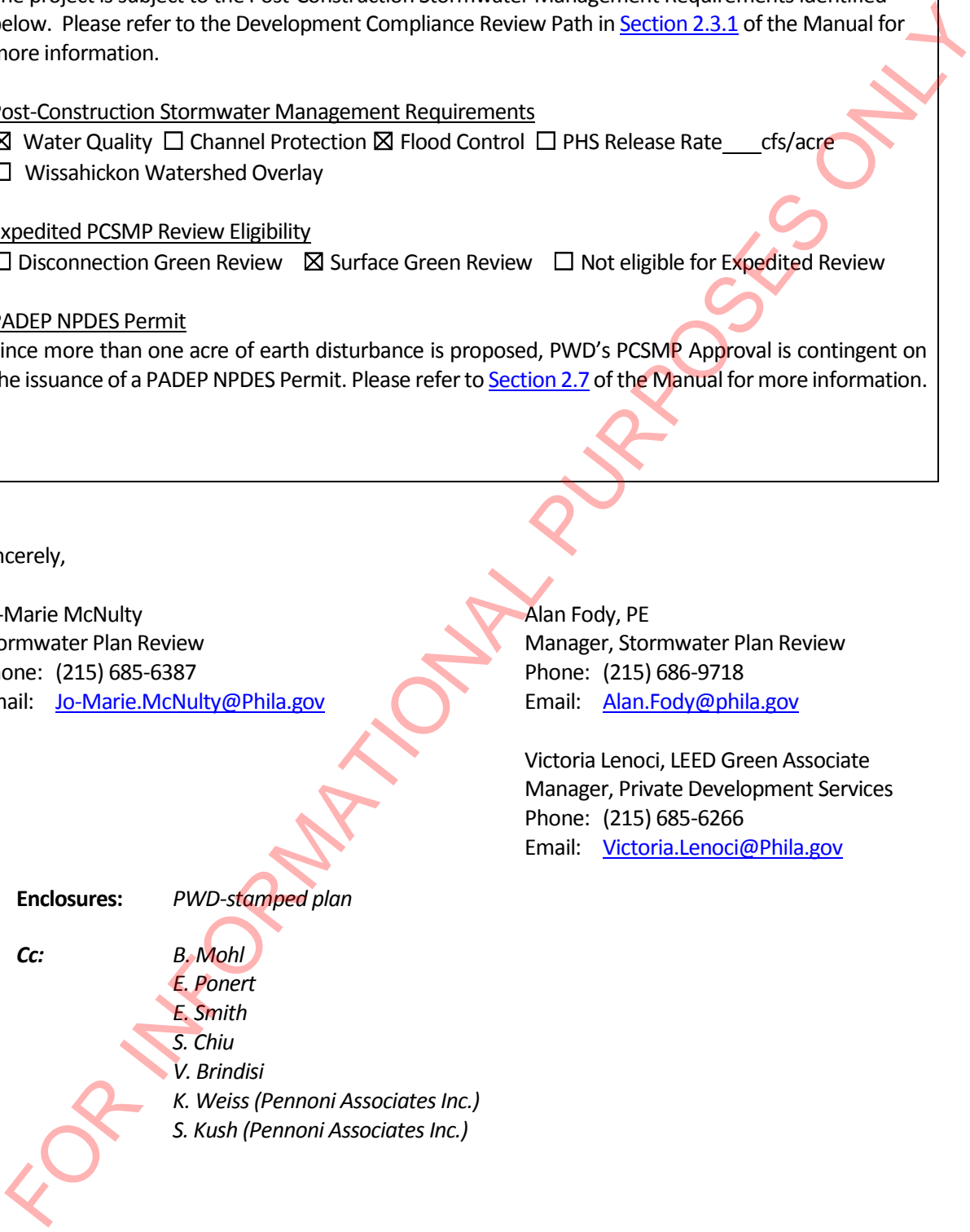
Sincerely,

Jo-Marie McNulty  
 Stormwater Plan Review  
 Phone: (215) 685-6387  
 Email: [Jo-Marie.McNulty@Phila.gov](mailto:Jo-Marie.McNulty@Phila.gov)

Alan Fody, PE  
 Manager, Stormwater Plan Review  
 Phone: (215) 686-9718  
 Email: [Alan.Fody@phila.gov](mailto:Alan.Fody@phila.gov)

Victoria Lenoci, LEED Green Associate  
 Manager, Private Development Services  
 Phone: (215) 685-6266  
 Email: [Victoria.Lenoci@Phila.gov](mailto:Victoria.Lenoci@Phila.gov)

- Enclosures:**    *PWD-stamped plan*
- Cc:**            *B. Mohl*  
                      *E. Ponert*  
                      *E. Smith*  
                      *S. Chiu*  
                      *V. Brindisi*  
                      *K. Weiss (Pennoni Associates Inc.)*  
                      *S. Kush (Pennoni Associates Inc.)*



VALID ONE YEAR FROM DATE OF ISSUANCE

# Online Technical Worksheet

**FY19-PHIL-5529-01**

Updated: 07/12/2019

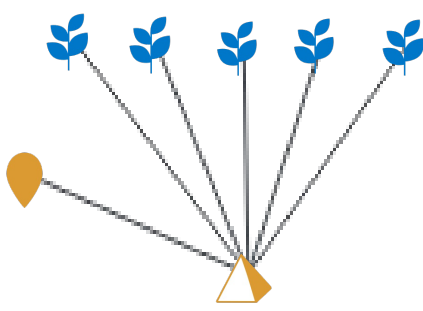
PhilaPort Distribution Center - Pennoni Associates

3309 S. Galloway St. & 3401 S. Lawrence St.

Generated By: Christopher Dougherty on 07/12/2019

Philadelphia PA 19148

## Site Summary

<p><b>Development Type:</b> Redevelopment</p> <p><b>Total LOD:</b> 1,259,822 SF</p> <p><b>On Site LOD:</b> 1,244,660 SF</p> <p><b>Expedited Review?</b> No</p> <p><b>Stormwater Management Trading?</b> No</p> <p><b>Project's Impervious Area Reduction (%):</b> 32.32 %</p>	
---	--

**Notes:** 198,900 SF Storage Building with loading docks, trailer parking, general parking, and associated site features and a future 217,000 SF cold storage building with additional parking. The impervious areas on site will be directed to bioinfiltration basins then conveyed through outlet control structures and into PWD combined sewer.

# Stormwater Requirements



**Watershed:**  
Delaware Direct

**Sewer Type:**  
Combined

**Flood Management District:**  
A

**Water Quality Requirement:** Compliant

**Maximum Allowable Peak Release Rate:** 0.967 cfs

**Routed Peak Release Rate:** 0.964 cfs

**Pollutant Reduction:** 100% of the water quality volume is routed through Bio Retention. Since infiltration is not feasible. The basins are lined with an impervious liner. Above the liner there is a minimum of 2 feet of soil media. The collected water must be pass through the media to exit the system via a perforated under-drain located below the media.

**Channel Protection Requirement:** Exempt - Located in Schuylkill River or Delaware River Watershed

**Flood Control Requirement:** Exempt - Direct Discharge to Delaware River or Schuylkill River Main Channel

**Public Health and Safety (PHS) Requirement:** Exempt - Not located in a PHS rate area

**Notes:**

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Existing Tree Credits	-	-	-	-	-	-	0 SF
Total Tree Credits	-	-	-	-	-	-	0 SF
Total Ground-Level DIC	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF
Total DIC	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF
Pervious Area							
Pervious Area	56,510 SF	45,436 SF	50,737 SF	42,463 SF	35,739 SF	171,434 SF	402,319 SF
Offsite Areas							
Run-On Impervious	-	-	-	-	-	-	0 SF
Run-On Pervious	-	-	-	-	-	-	0 SF
Total Drainage Area	187,967 SF	163,790 SF	212,190 SF	259,738 SF	249,541 SF	171,434 SF	1,244,660 SF

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# SMP Data

 <b>BIO BASIN 1</b> Bio	→	<b>SITE</b> 	<b>Drainage Area</b>	Total: 187,967 SF	DCIA: 131,457 SF
<b>System Type:</b> Retention System				<b>Footprint:</b> 8,250 SF	
<b>Loading Ratio:</b> 15.9:1				<b>Orifice Diameter:</b> 1.70 in	
<b>Drain Down Time:</b> 70 hrs				<b>Top of Storage:</b> 9.00 ft	
<b>Peak Water Surface Elevation:</b> 7.85 ft					
Notes: This Basin collects existing area via inlets roof drains conveyance piping and overland flow. Due to poor infiltration conditions the system will be lined with an impervious liner as a Bio Retention system. It will use soil media filtration to provide water quality and will be equipped with a slow release orifice to meet the required release rates.					
 <b>BIO BASIN 2</b> Bio	→	<b>SITE</b> 	<b>Drainage Area</b>	Total: 163,790 SF	DCIA: 118,354 SF
<b>System Type:</b> Retention System				<b>Footprint:</b> 7,500 SF	
<b>Loading Ratio:</b> 15.8:1				<b>Orifice Diameter:</b> 1.70 in	
<b>Drain Down Time:</b> 70 hrs				<b>Top of Storage:</b> 9.00 ft	
<b>Peak Water Surface Elevation:</b> 7.64 ft					
Notes: This Basin collects existing area via inlets roof drains conveyance piping and overland flow. Due to poor infiltration conditions the system will be lined with an impervious liner as a Bio Retention system. It will use soil media filtration to provide water quality and will be equipped with a slow release orifice to meet the required release rates.					
 <b>BIO BASIN 3</b> Bio	→	<b>SITE</b> 	<b>Drainage Area</b>	Total: 212,190 SF	DCIA: 161,453 SF
<b>System Type:</b> Retention System				<b>Footprint:</b> 10,200 SF	
<b>Loading Ratio:</b> 15.8:1				<b>Orifice Diameter:</b> 2.00 in	
<b>Drain Down Time:</b> 70 hrs				<b>Top of Storage:</b> 9.00 ft	
<b>Peak Water Surface Elevation:</b> 7.47 ft					
Notes: This Basin collects existing area via inlets roof drains conveyance piping and overland flow. Due to poor infiltration conditions the system will be lined with an impervious liner as a Bio Retention system. It will use soil media filtration to provide water quality and will be equipped with a slow release orifice to meet the required release rates.					





## BIO BASIN 4

Bio



SITE



### Drainage Area

Total: 259,738 SF

DCIA: 217,275 SF

**System Type:** Retention System  
**Loading Ratio:** 16.0:1  
**Drain Down Time:** 70 hrs  
**Peak Water Surface Elevation:** 7.07 ft

**Footprint:** 13,600 SF  
**Orifice Diameter:** 2.50 in  
**Top of Storage:** 9.00 ft

Notes: This Basin collects existing area via inlets roof drains conveyance piping and overland flow. Due to poor infiltration conditions the system will be lined with an impervious liner as a Bio Retention system. It will use soil media filtration to provide water quality and will be equipped with a slow release orifice to meet the required release rates.



## BIO BASIN 5

Bio



SITE



### Drainage Area

Total: 249,541 SF

DCIA: 213,802 SF

**System Type:** Retention System  
**Loading Ratio:** 15.9:1  
**Drain Down Time:** 70 hrs  
**Peak Water Surface Elevation:** 7.73 ft

**Footprint:** 13,450 SF  
**Orifice Diameter:** 2.50 in  
**Top of Storage:** 9.00 ft

Notes: This Basin collects existing area via inlets roof drains conveyance piping and overland flow. Due to poor infiltration conditions the system will be lined with an impervious liner as a Bio Retention system. It will use soil media filtration to provide water quality and will be equipped with a slow release orifice to meet the required release rates.

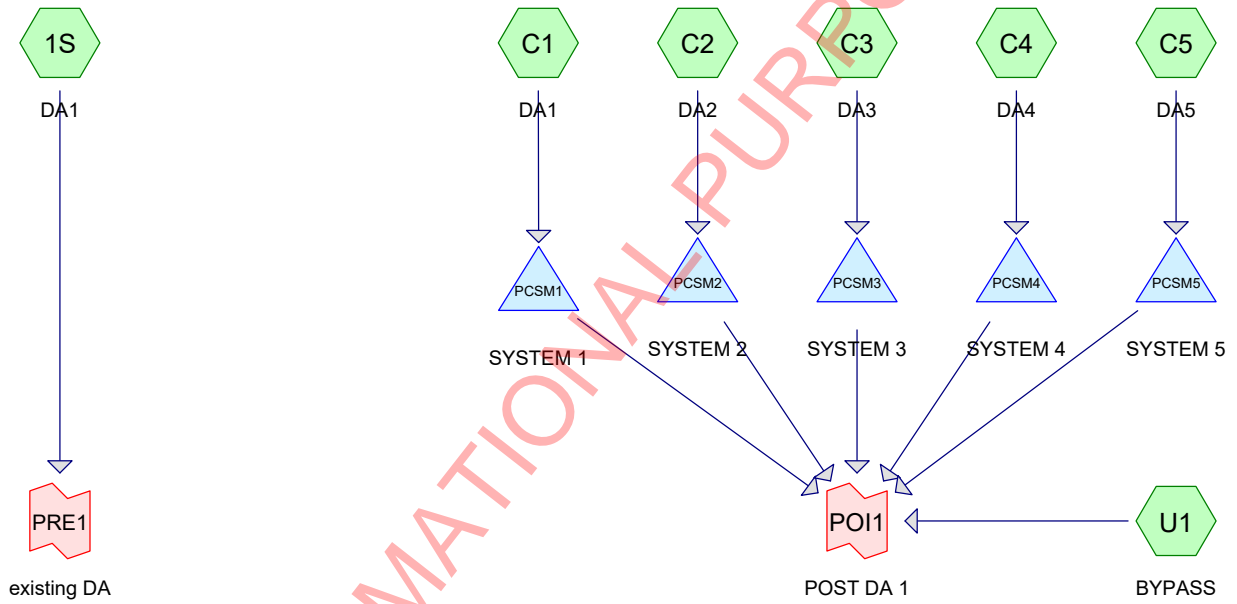
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APPENDIX C – STORMWATER MANAGEMENT DESIGN

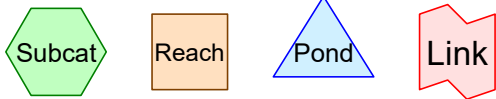
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PHILAPORT PCSM  
PRPAX17013



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# Philaport - Full System

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## Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.715	61	20%IMPERVIOUS AS LAWN (1S)
9.147	61	>75% Grass cover, Good, HSG B (C1, C2, C3, C4, C5, U1)
32.674	98	Paved parking, HSG B (1S, C1, C2, C3, C4, C5)
9.611	98	ROOF (C1, C2, C3, C4, C5)
<b>57.147</b>	<b>88</b>	<b>TOTAL AREA</b>

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment1S: DA1</b>	Runoff Area=1,244,658 sf 80.00% Impervious Runoff Depth=2.14" Tc=6.0 min CN=61/98 Runoff=90.115 cfs 5.095 af
<b>SubcatchmentC1: DA1</b>	Runoff Area=181,031 sf 74.26% Impervious Runoff Depth=2.01" Tc=6.0 min CN=61/98 Runoff=12.245 cfs 0.695 af
<b>SubcatchmentC2: DA2</b>	Runoff Area=161,650 sf 74.28% Impervious Runoff Depth=2.01" Tc=6.0 min CN=61/98 Runoff=10.936 cfs 0.621 af
<b>SubcatchmentC3: DA3</b>	Runoff Area=220,390 sf 73.42% Impervious Runoff Depth=1.99" Tc=6.0 min CN=61/98 Runoff=14.752 cfs 0.838 af
<b>SubcatchmentC4: DA4</b>	Runoff Area=259,545 sf 83.70% Impervious Runoff Depth=2.22" Tc=6.0 min CN=61/98 Runoff=19.588 cfs 1.105 af
<b>SubcatchmentC5: DA5</b>	Runoff Area=250,029 sf 85.05% Impervious Runoff Depth=2.26" Tc=6.0 min CN=61/98 Runoff=19.152 cfs 1.079 af
<b>SubcatchmentU1: BYPASS</b>	Runoff Area=172,015 sf 0.00% Impervious Runoff Depth=0.30" Tc=6.0 min CN=61/0 Runoff=1.393 cfs 0.100 af
<b>Pond PCSM1: SYSTEM 1</b>	Peak Elev=5.79' Storage=22,530 cf Inflow=12.245 cfs 0.695 af Outflow=0.146 cfs 0.662 af
<b>Pond PCSM2: SYSTEM 2</b>	Peak Elev=5.86' Storage=19,458 cf Inflow=10.936 cfs 0.621 af Outflow=0.148 cfs 0.618 af
<b>Pond PCSM3: SYSTEM 3</b>	Peak Elev=5.35' Storage=26,133 cf Inflow=14.752 cfs 0.838 af Outflow=0.204 cfs 0.835 af
<b>Pond PCSM4: SYSTEM 4</b>	Peak Elev=5.13' Storage=33,277 cf Inflow=19.588 cfs 1.105 af Outflow=0.308 cfs 1.103 af
<b>Pond PCSM5: SYSTEM 5</b>	Peak Elev=5.31' Storage=32,215 cf Inflow=19.152 cfs 1.079 af Outflow=0.316 cfs 1.078 af
<b>Link POI1: POST DA 1</b>	Inflow=2.407 cfs 4.396 af Primary=2.407 cfs 4.396 af
<b>Link PRE1: existing DA</b>	Inflow=90.115 cfs 5.095 af Primary=90.115 cfs 5.095 af

**Total Runoff Area = 57.147 ac Runoff Volume = 9.533 af Average Runoff Depth = 2.00"**  
**26.01% Pervious = 14.862 ac 73.99% Impervious = 42.285 ac**

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Type II 24-hr 1-Year Rainfall=2.83"

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**Summary for Subcatchment 1S: DA1**

Runoff = 90.115 cfs @ 11.96 hrs, Volume= 5.095 af, Depth= 2.14"

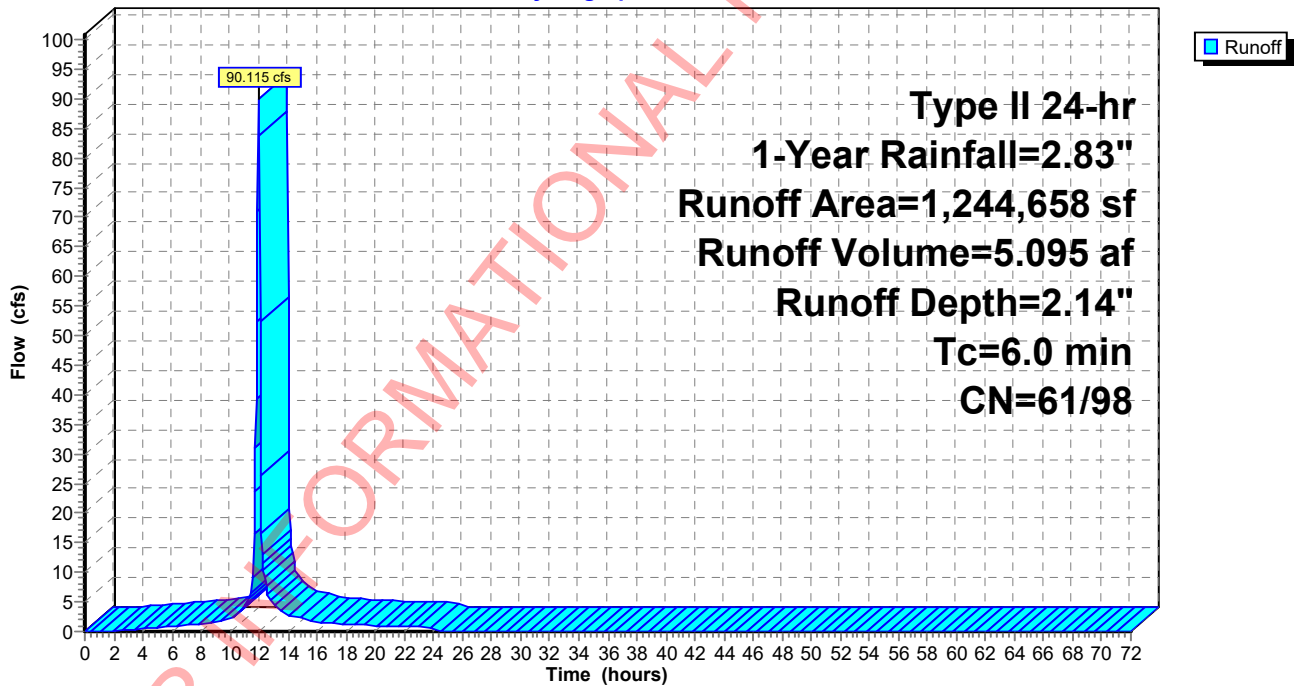
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1-Year Rainfall=2.83"

Area (sf)	CN	Description
995,726	98	Paved parking, HSG B
* 248,932	61	20%IMPERVIOUS AS LAWN
1,244,658	91	Weighted Average
248,932	61	20.00% Pervious Area
995,726	98	80.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment 1S: DA1**

Hydrograph



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**Summary for Subcatchment C1: DA1**

Runoff = 12.245 cfs @ 11.96 hrs, Volume= 0.695 af, Depth= 2.01"

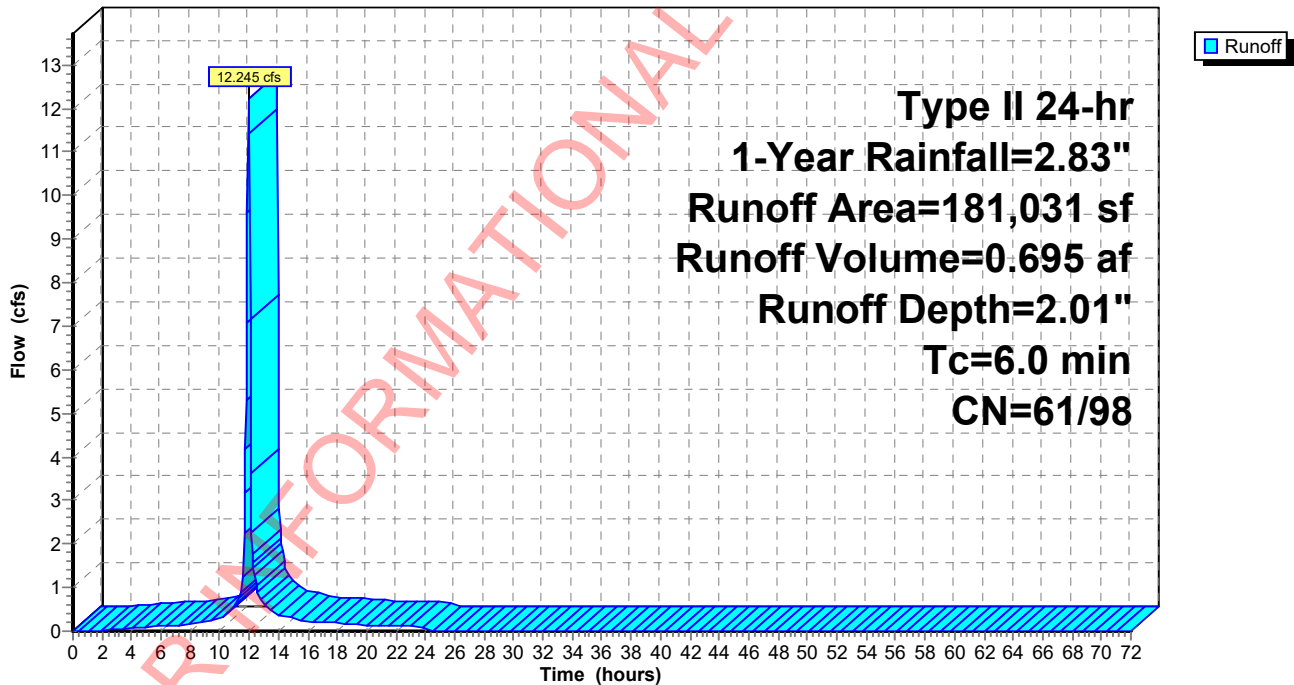
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1-Year Rainfall=2.83"

	Area (sf)	CN	Description
*	108,520	98	ROOF
	25,919	98	Paved parking, HSG B
	46,592	61	>75% Grass cover, Good, HSG B
	181,031	88	Weighted Average
	46,592	61	25.74% Pervious Area
	134,439	98	74.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C1: DA1**

Hydrograph





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Type II 24-hr 1-Year Rainfall=2.83"

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**Summary for Subcatchment C2: DA2**

Runoff = 10.936 cfs @ 11.96 hrs, Volume= 0.621 af, Depth= 2.01"

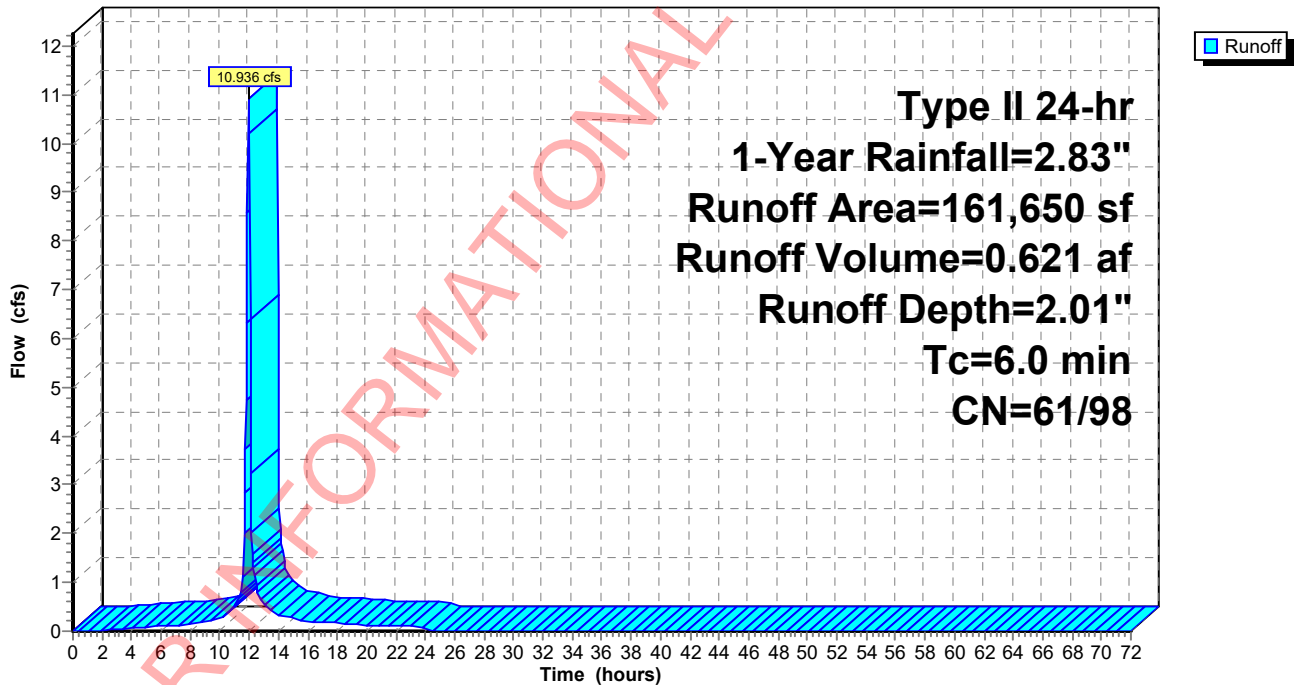
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1-Year Rainfall=2.83"

	Area (sf)	CN	Description
*	103,425	98	ROOF
	16,645	98	Paved parking, HSG B
	41,580	61	>75% Grass cover, Good, HSG B
	161,650	88	Weighted Average
	41,580	61	25.72% Pervious Area
	120,070	98	74.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C2: DA2**

Hydrograph



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**Summary for Subcatchment C3: DA3**

Runoff = 14.752 cfs @ 11.96 hrs, Volume= 0.838 af, Depth= 1.99"

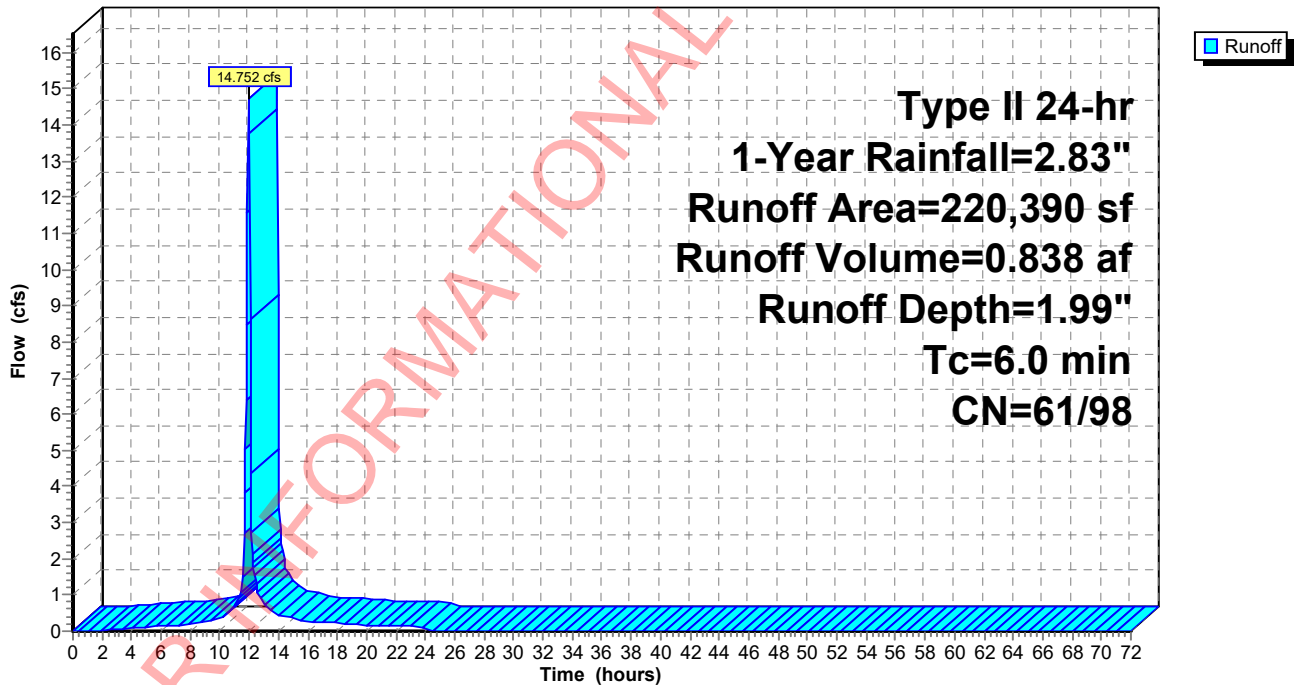
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1-Year Rainfall=2.83"

	Area (sf)	CN	Description
*	57,887	98	ROOF
	103,914	98	Paved parking, HSG B
	58,589	61	>75% Grass cover, Good, HSG B
	220,390	88	Weighted Average
	58,589	61	26.58% Pervious Area
	161,801	98	73.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C3: DA3**

Hydrograph



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**Summary for Subcatchment C4: DA4**

Runoff = 19.588 cfs @ 11.96 hrs, Volume= 1.105 af, Depth= 2.22"

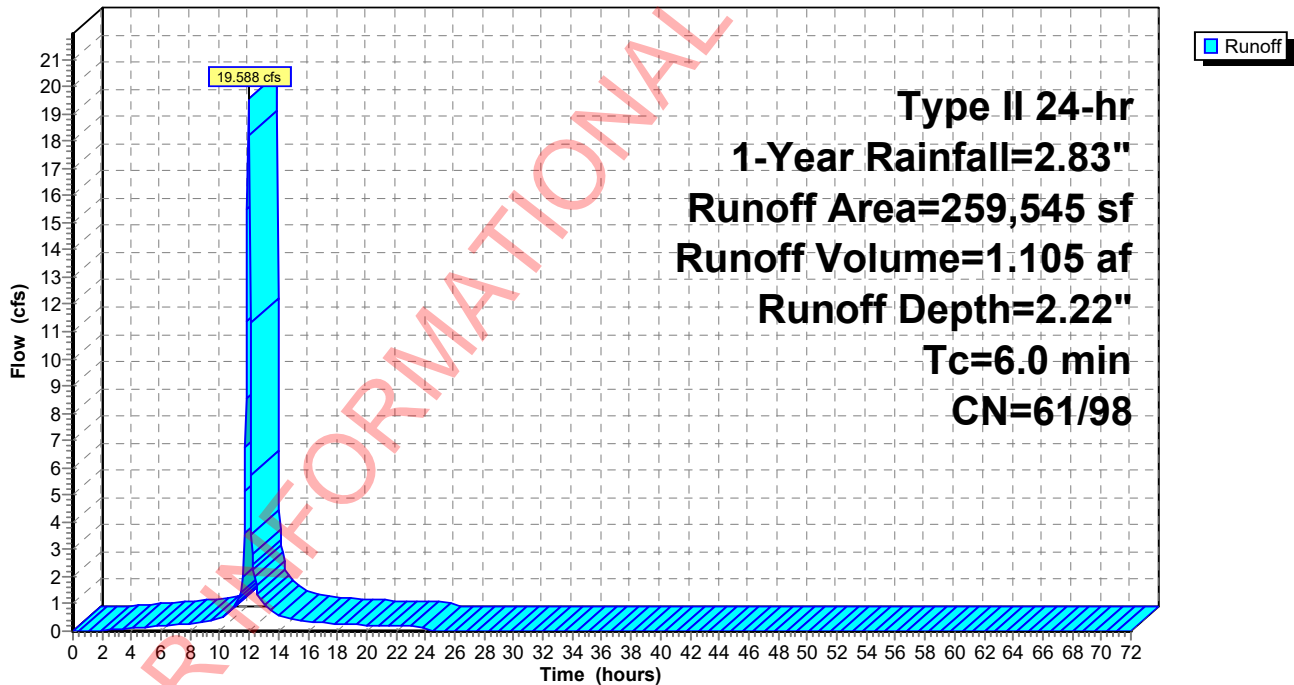
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1-Year Rainfall=2.83"

	Area (sf)	CN	Description
*	40,298	98	ROOF
	176,929	98	Paved parking, HSG B
	42,318	61	>75% Grass cover, Good, HSG B
	259,545	92	Weighted Average
	42,318	61	16.30% Pervious Area
	217,227	98	83.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C4: DA4**

Hydrograph



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Type II 24-hr 1-Year Rainfall=2.83"

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**Summary for Subcatchment C5: DA5**

Runoff = 19.152 cfs @ 11.96 hrs, Volume= 1.079 af, Depth= 2.26"

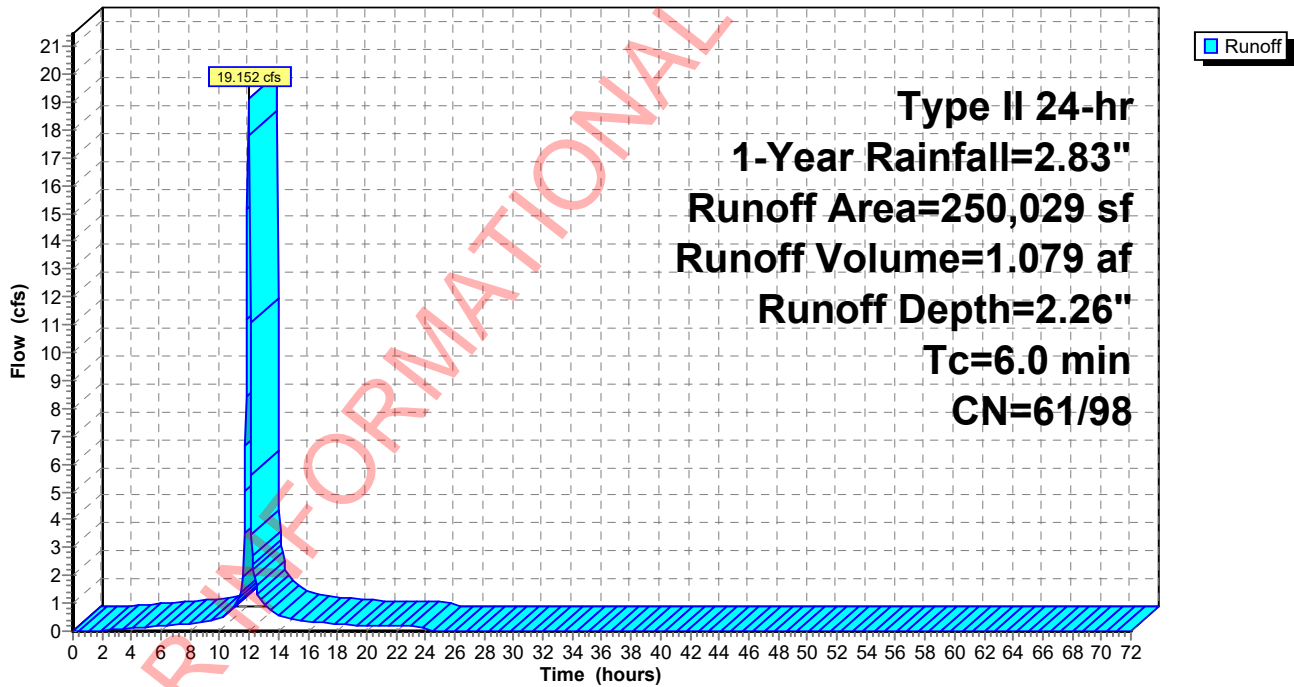
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1-Year Rainfall=2.83"

	Area (sf)	CN	Description
*	108,522	98	ROOF
	104,137	98	Paved parking, HSG B
	37,370	61	>75% Grass cover, Good, HSG B
	250,029	92	Weighted Average
	37,370	61	14.95% Pervious Area
	212,659	98	85.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C5: DA5**

Hydrograph



**Summary for Subcatchment U1: BYPASS**

Runoff = 1.393 cfs @ 12.01 hrs, Volume= 0.100 af, Depth= 0.30"

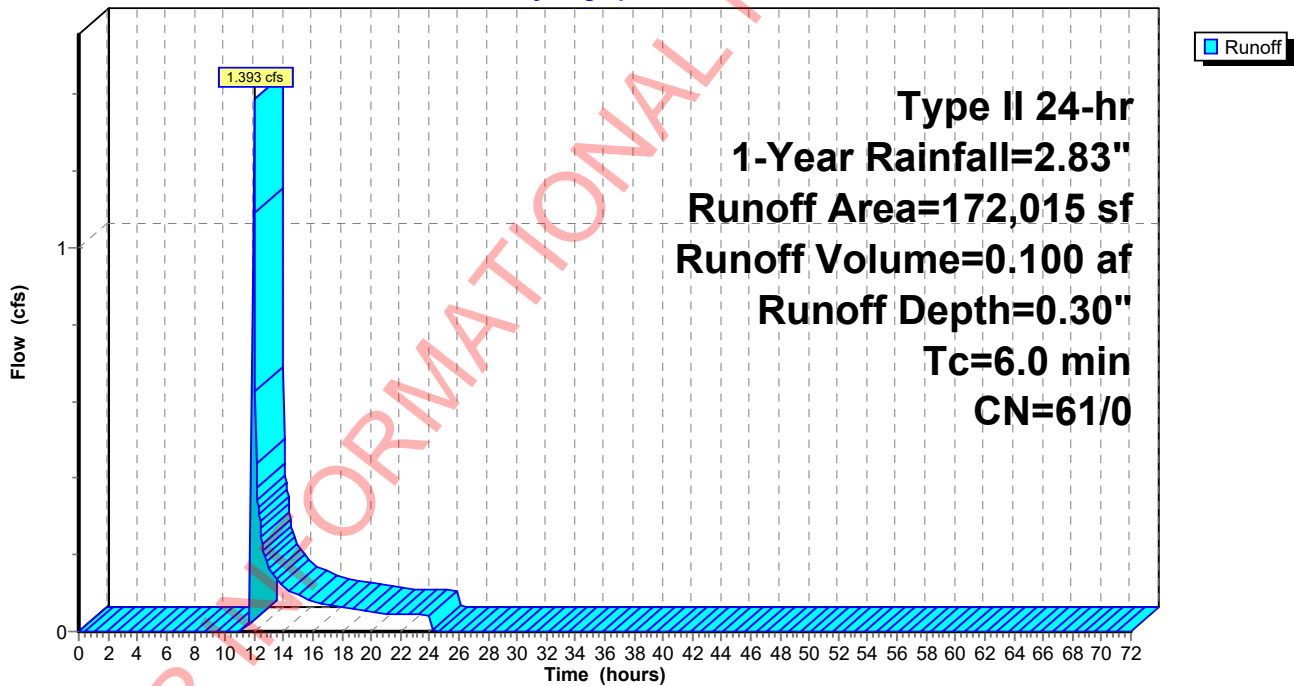
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 1-Year Rainfall=2.83"

Area (sf)	CN	Description
*	0	98 ROOF
	0	98 Paved parking, HSG B
172,015	61	>75% Grass cover, Good, HSG B
172,015	61	Weighted Average
172,015	61	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment U1: BYPASS**

Hydrograph



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Type II 24-hr 1-Year Rainfall=2.83"

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**Summary for Pond PCSM1: SYSTEM 1**

Inflow Area = 4.156 ac, 74.26% Impervious, Inflow Depth = 2.01" for 1-Year event  
 Inflow = 12.245 cfs @ 11.96 hrs, Volume= 0.695 af  
 Outflow = 0.146 cfs @ 19.29 hrs, Volume= 0.662 af, Atten= 99%, Lag= 439.3 min  
 Primary = 0.146 cfs @ 19.29 hrs, Volume= 0.662 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 5.79' @ 19.29 hrs Surf.Area= 21,012 sf Storage= 22,530 cf

Plug-Flow detention time= 1,512.7 min calculated for 0.662 af (95% of inflow)  
 Center-of-Mass det. time= 1,483.8 min ( 2,245.9 - 762.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,740 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 18,700 cf Overall x 20.0% Voids
#2	4.00'	63,602 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,342 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	9,350	0	0	9,350
3.00	9,350	9,350	9,350	9,693
4.00	9,350	9,350	18,700	10,036

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	9,350	0	0	9,350
5.00	10,612	9,974	9,974	10,661
6.00	11,946	11,272	21,247	12,047
7.00	13,348	12,641	33,887	13,504
8.00	14,835	14,085	47,972	15,050
9.00	16,439	15,630	63,602	16,714

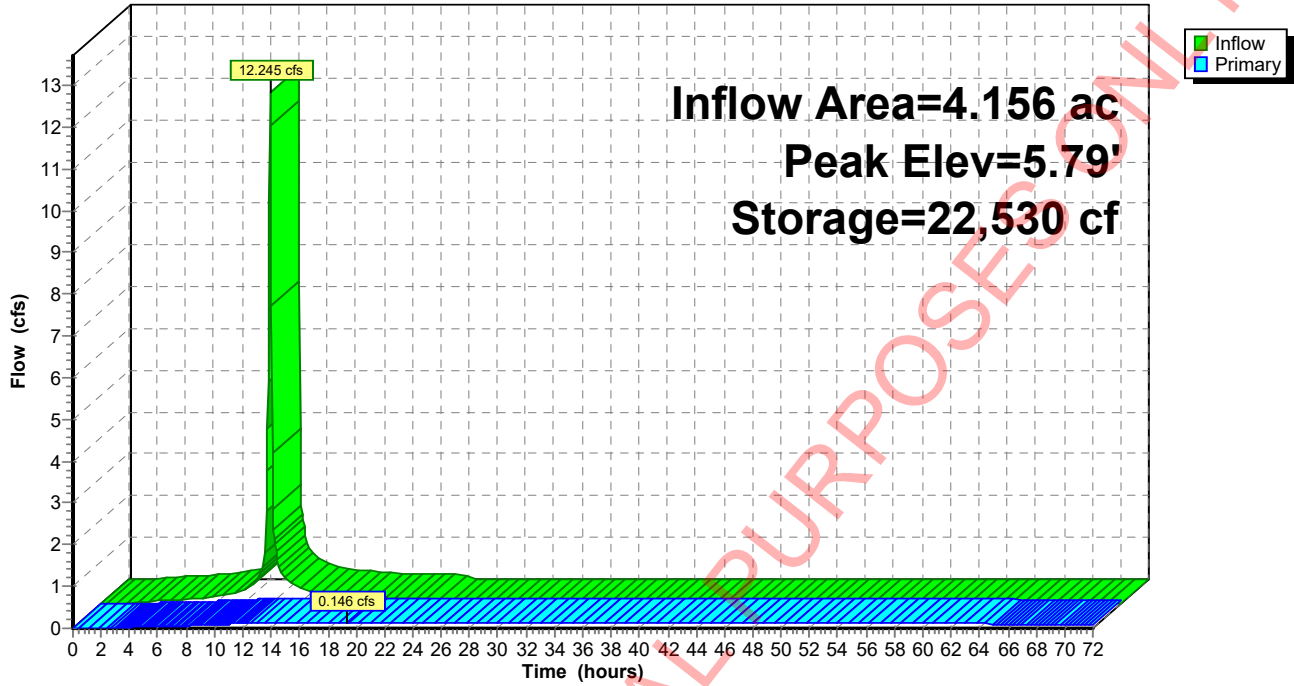
Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.07' S= 0.0206 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.146 cfs @ 19.29 hrs HW=5.79' (Free Discharge)

- 1=Culvert (Passes 0.146 cfs of 10.842 cfs potential flow)
- 2=Outlet Structure#1 ( Controls 0.000 cfs)
- 3=Slow Release Orifice (Orifice Controls 0.146 cfs @ 9.29 fps)

Pond PCSM1: SYSTEM 1

Hydrograph



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**Summary for Pond PCSM2: SYSTEM 2**

Inflow Area = 3.711 ac, 74.28% Impervious, Inflow Depth = 2.01" for 1-Year event  
 Inflow = 10.936 cfs @ 11.96 hrs, Volume= 0.621 af  
 Outflow = 0.148 cfs @ 18.50 hrs, Volume= 0.618 af, Atten= 99%, Lag= 391.9 min  
 Primary = 0.148 cfs @ 18.50 hrs, Volume= 0.618 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 5.86' @ 18.50 hrs Surf.Area= 17,757 sf Storage= 19,458 cf

Plug-Flow detention time= 1,360.3 min calculated for 0.618 af (99% of inflow)  
 Center-of-Mass det. time= 1,356.6 min ( 2,118.7 - 762.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,000 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 15,000 cf Overall x 20.0% Voids
#2	4.00'	64,620 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,620 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	7,500	0	0	7,500
3.00	7,500	7,500	7,500	7,807
4.00	7,500	7,500	15,000	8,114

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	7,500	0	0	7,500
5.00	8,980	8,229	8,229	9,015
6.00	10,480	9,720	17,949	10,555
7.00	12,040	11,251	29,200	12,159
8.00	13,658	12,841	42,041	13,826
9.00	15,330	14,486	56,527	15,552
9.50	17,060	8,094	64,620	17,297

Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 85.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.14' S= 0.0195 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Oultet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

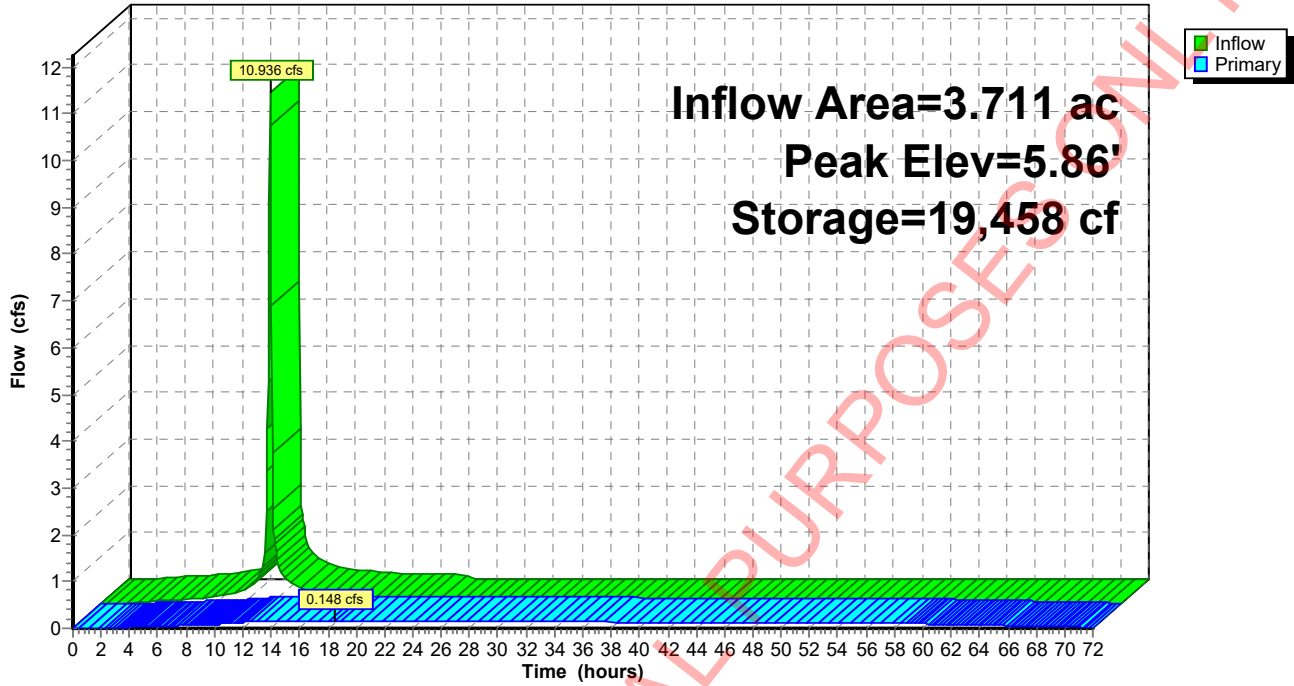
**Primary OutFlow** Max=0.148 cfs @ 18.50 hrs HW=5.86' (Free Discharge)

- 1=Culvert (Passes 0.148 cfs of 10.945 cfs potential flow)
- 2=Oultet Structure#1 ( Controls 0.000 cfs)
- 3=Slow Release Orifice (Orifice Controls 0.148 cfs @ 9.37 fps)



Pond PCSM2: SYSTEM 2

Hydrograph



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**Summary for Pond PCSM3: SYSTEM 3**

Inflow Area = 5.059 ac, 73.42% Impervious, Inflow Depth = 1.99" for 1-Year event  
 Inflow = 14.752 cfs @ 11.96 hrs, Volume= 0.838 af  
 Outflow = 0.204 cfs @ 18.36 hrs, Volume= 0.835 af, Atten= 99%, Lag= 383.8 min  
 Primary = 0.204 cfs @ 18.36 hrs, Volume= 0.835 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 5.35' @ 18.36 hrs Surf.Area= 23,904 sf Storage= 26,133 cf

Plug-Flow detention time= 1,328.5 min calculated for 0.834 af (99% of inflow)  
 Center-of-Mass det. time= 1,326.6 min ( 2,089.0 - 762.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	4,080 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 20,400 cf Overall x 20.0% Voids
#2	3.50'	85,567 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		89,647 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	10,200	0	0	10,200
2.50	10,200	10,200	10,200	10,558
3.50	10,200	10,200	20,400	10,916

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	10,200	0	0	10,200
4.00	11,150	5,336	5,336	11,167
5.00	13,040	12,083	17,418	13,097
6.00	15,000	14,009	31,427	15,102
7.00	17,000	15,990	47,417	17,151
8.00	19,070	18,025	65,442	19,275
9.00	21,200	20,126	85,567	21,464

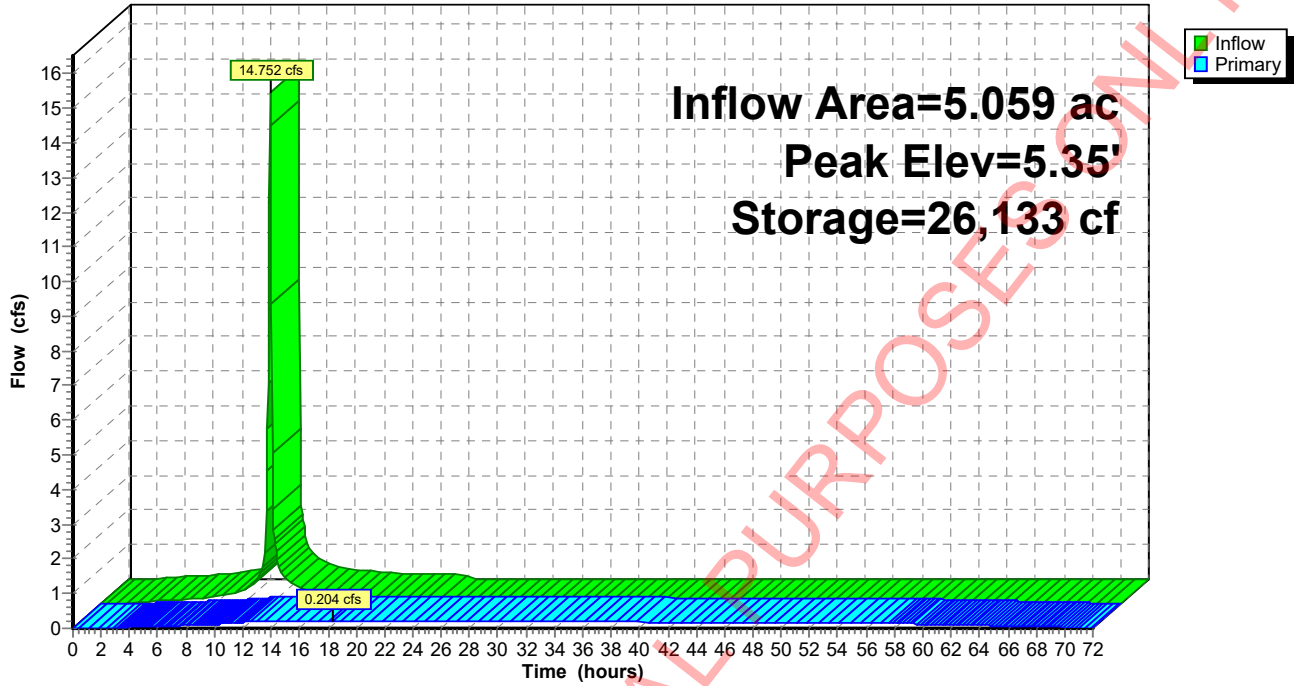
Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 82.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 0.89' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.0" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.204 cfs @ 18.36 hrs HW=5.35' (Free Discharge)

- 1=Culvert (Passes 0.204 cfs of 9.547 cfs potential flow)
- 2=Outlet Structure#1 ( Controls 0.000 cfs)
- 3=Slow Release Orifice (Orifice Controls 0.204 cfs @ 9.34 fps)

Pond PCSM3: SYSTEM 3

Hydrograph



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**Summary for Pond PCSM4: SYSTEM 4**

Inflow Area = 5.958 ac, 83.70% Impervious, Inflow Depth = 2.22" for 1-Year event  
 Inflow = 19.588 cfs @ 11.96 hrs, Volume= 1.105 af  
 Outflow = 0.308 cfs @ 17.07 hrs, Volume= 1.103 af, Atten= 98%, Lag= 306.6 min  
 Primary = 0.308 cfs @ 17.07 hrs, Volume= 1.103 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 5.13' @ 17.07 hrs Surf.Area= 34,257 sf Storage= 33,277 cf

Plug-Flow detention time= 1,123.1 min calculated for 1.103 af (100% of inflow)  
 Center-of-Mass det. time= 1,122.4 min ( 1,881.6 - 759.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,440 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 27,200 cf Overall x 20.0% Voids
#2	3.50'	141,213 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		146,653 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,600	0	0	13,600
2.50	13,600	13,600	13,600	14,013
3.50	13,600	13,600	27,200	14,427

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,600	0	0	13,600
4.00	15,770	7,336	7,336	15,781
5.00	20,120	17,901	25,237	20,156
6.00	24,520	22,284	47,520	24,588
7.00	28,980	26,719	74,239	29,085
8.00	33,500	31,213	105,452	33,649
9.00	38,070	35,761	141,213	38,268

Device	Routing	Invert	Outlet Devices
#1	Primary	1.50'	<b>15.0" Round RCP_Round 15"</b> L= 72.0' Ke= 0.500 Inlet / Outlet Invert= 1.50' / -0.85' S= 0.0326 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.308 cfs @ 17.07 hrs HW=5.13' (Free Discharge)

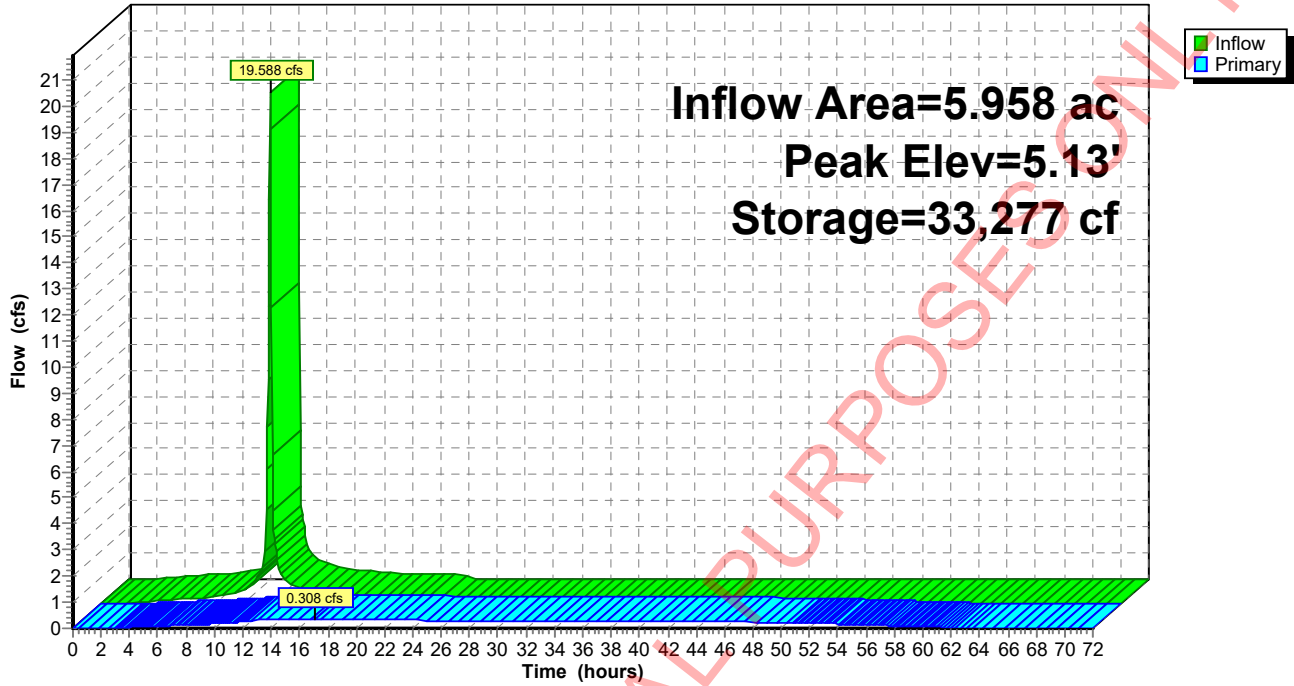
1=RCP\_Round 15" (Passes 0.308 cfs of 10.239 cfs potential flow)

2=Outlet Structure#1 ( Controls 0.000 cfs)

3=Slow Release Orifice (Orifice Controls 0.308 cfs @ 9.04 fps)

Pond PCSM4: SYSTEM 4

Hydrograph



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Type II 24-hr 1-Year Rainfall=2.83"

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**Summary for Pond PCSM5: SYSTEM 5**

Inflow Area = 5.740 ac, 85.05% Impervious, Inflow Depth = 2.26" for 1-Year event  
 Inflow = 19.152 cfs @ 11.96 hrs, Volume= 1.079 af  
 Outflow = 0.316 cfs @ 16.63 hrs, Volume= 1.078 af, Atten= 98%, Lag= 279.7 min  
 Primary = 0.316 cfs @ 16.63 hrs, Volume= 1.078 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 5.31' @ 16.63 hrs Surf.Area= 29,667 sf Storage= 32,215 cf

Plug-Flow detention time= 1,072.6 min calculated for 1.077 af (100% of inflow)  
 Center-of-Mass det. time= 1,073.3 min ( 1,832.1 - 758.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,380 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 26,900 cf Overall x 20.0% Voids
#2	3.50'	97,893 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		103,273 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,450	0	0	13,450
2.50	13,450	13,450	13,450	13,861
3.50	13,450	13,450	26,900	14,272

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,450	0	0	13,450
4.00	14,190	6,909	6,909	14,219
5.00	15,730	14,953	21,863	15,819
6.00	17,320	16,519	38,381	17,473
7.00	18,970	18,139	56,520	19,190
8.00	20,680	19,819	76,339	20,972
9.00	22,440	21,554	97,893	22,807

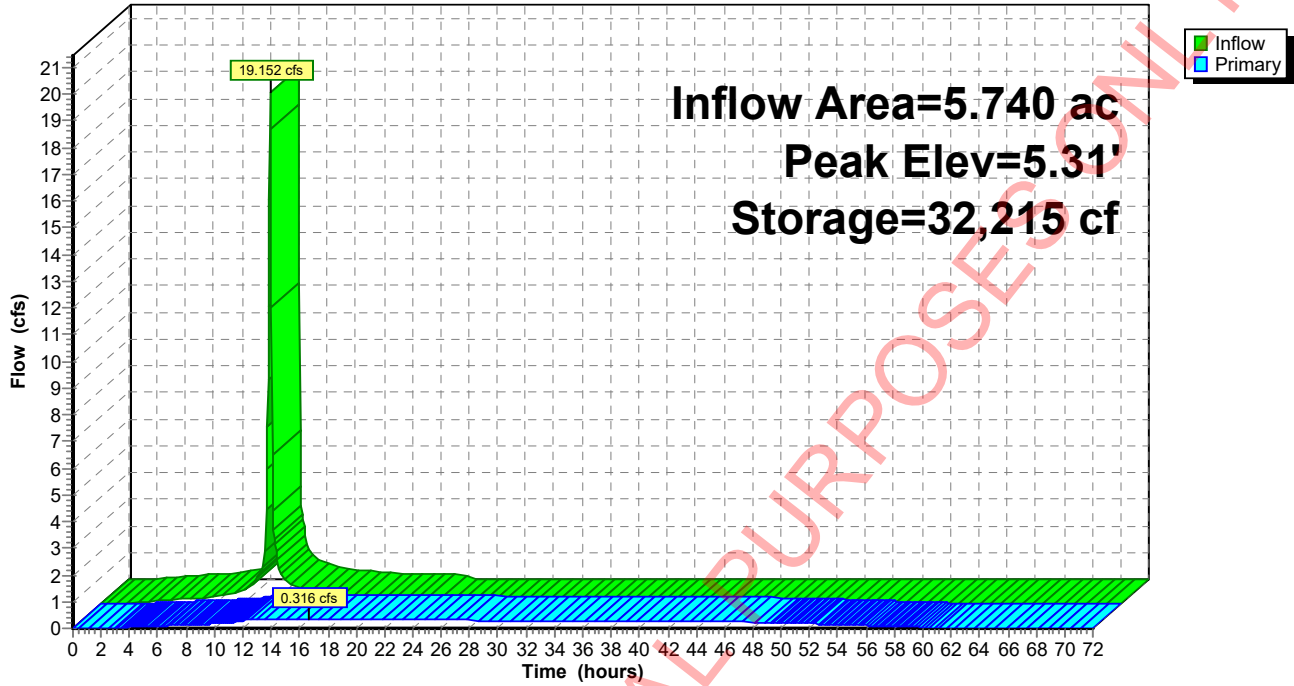
Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 1.02' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Oultet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.316 cfs @ 16.63 hrs HW=5.31' (Free Discharge)

- 1=Culvert (Passes 0.316 cfs of 10.253 cfs potential flow)
- 2=Oultet Structure#1 ( Controls 0.000 cfs)
- 3=Slow Release Orifice (Orifice Controls 0.316 cfs @ 9.27 fps)

Pond PCSM5: SYSTEM 5

Hydrograph



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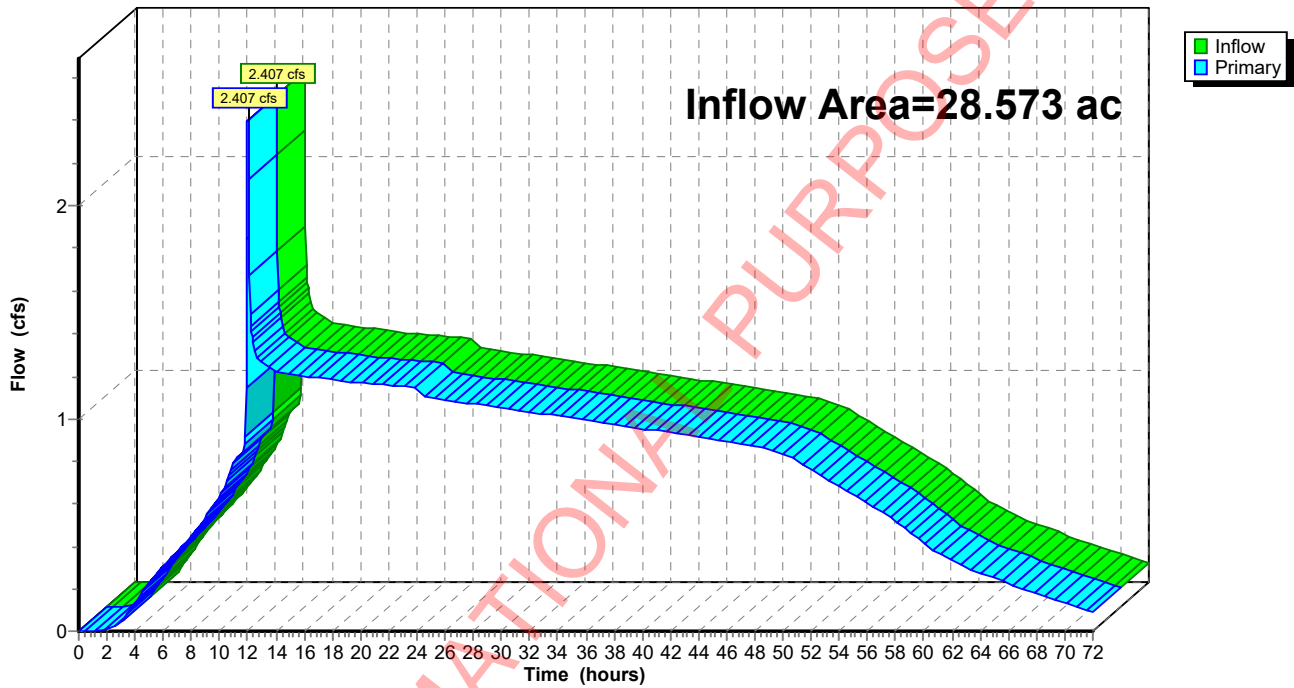
Summary for Link POI1: POST DA 1

Inflow Area = 28.573 ac, 67.99% Impervious, Inflow Depth > 1.85" for 1-Year event  
Inflow = 2.407 cfs @ 12.01 hrs, Volume= 4.396 af  
Primary = 2.407 cfs @ 12.01 hrs, Volume= 4.396 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link POI1: POST DA 1

Hydrograph





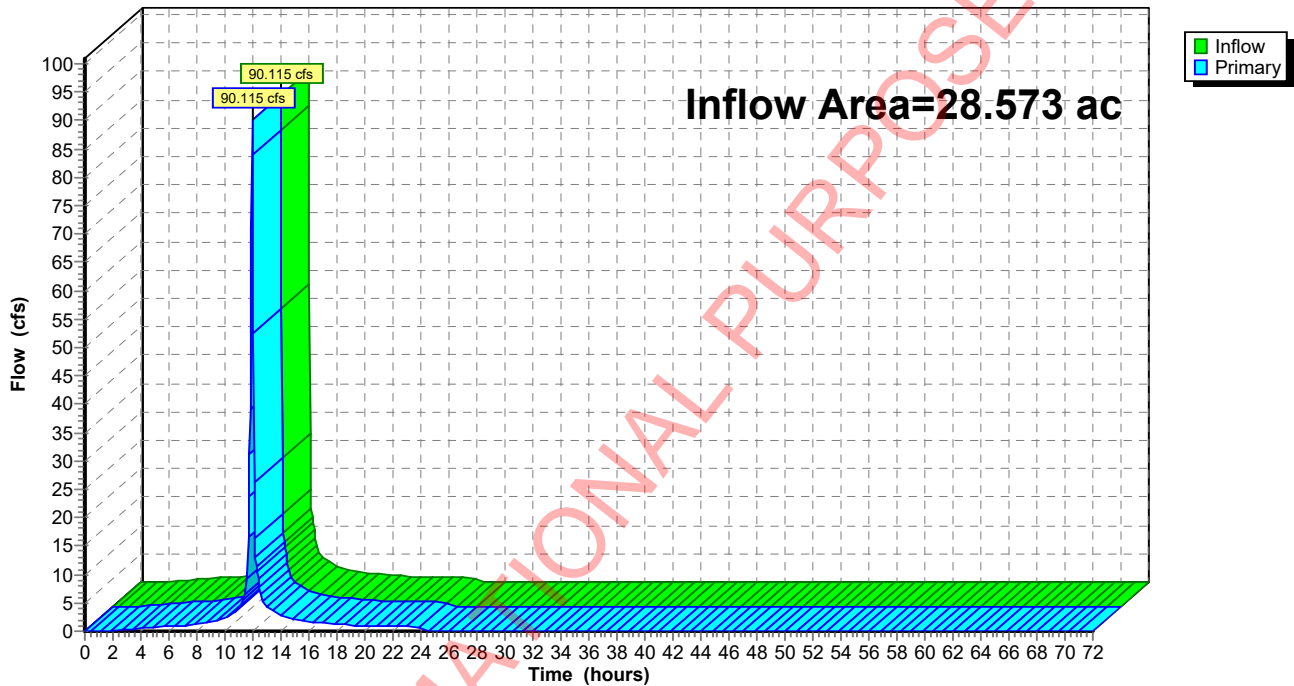
Summary for Link PRE1: existing DA

Inflow Area = 28.573 ac, 80.00% Impervious, Inflow Depth = 2.14" for 1-Year event  
Inflow = 90.115 cfs @ 11.96 hrs, Volume= 5.095 af  
Primary = 90.115 cfs @ 11.96 hrs, Volume= 5.095 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link PRE1: existing DA

Hydrograph



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Type II 24-hr 2-Year Rainfall=3.40"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment1S: DA1</b>	Runoff Area=1,244,658 sf 80.00% Impervious Runoff Depth=2.64" Tc=6.0 min CN=61/98 Runoff=110.833 cfs 6.284 af
<b>SubcatchmentC1: DA1</b>	Runoff Area=181,031 sf 74.26% Impervious Runoff Depth=2.49" Tc=6.0 min CN=61/98 Runoff=15.167 cfs 0.862 af
<b>SubcatchmentC2: DA2</b>	Runoff Area=161,650 sf 74.28% Impervious Runoff Depth=2.49" Tc=6.0 min CN=61/98 Runoff=13.546 cfs 0.769 af
<b>SubcatchmentC3: DA3</b>	Runoff Area=220,390 sf 73.42% Impervious Runoff Depth=2.47" Tc=6.0 min CN=61/98 Runoff=18.294 cfs 1.039 af
<b>SubcatchmentC4: DA4</b>	Runoff Area=259,545 sf 83.70% Impervious Runoff Depth=2.74" Tc=6.0 min CN=61/98 Runoff=23.992 cfs 1.359 af
<b>SubcatchmentC5: DA5</b>	Runoff Area=250,029 sf 85.05% Impervious Runoff Depth=2.77" Tc=6.0 min CN=61/98 Runoff=23.425 cfs 1.326 af
<b>SubcatchmentU1: BYPASS</b>	Runoff Area=172,015 sf 0.00% Impervious Runoff Depth=0.53" Tc=6.0 min CN=61/0 Runoff=3.050 cfs 0.174 af
<b>Pond PCSM1: SYSTEM 1</b>	Peak Elev=6.03' Storage=25,349 cf Inflow=15.167 cfs 0.862 af Outflow=0.539 cfs 0.794 af
<b>Pond PCSM2: SYSTEM 2</b>	Peak Elev=6.04' Storage=21,380 cf Inflow=13.546 cfs 0.769 af Outflow=0.631 cfs 0.759 af
<b>Pond PCSM3: SYSTEM 3</b>	Peak Elev=5.55' Storage=28,967 cf Inflow=18.294 cfs 1.039 af Outflow=0.805 cfs 1.029 af
<b>Pond PCSM4: SYSTEM 4</b>	Peak Elev=5.51' Storage=41,522 cf Inflow=23.992 cfs 1.359 af Outflow=0.457 cfs 1.354 af
<b>Pond PCSM5: SYSTEM 5</b>	Peak Elev=5.56' Storage=36,267 cf Inflow=23.425 cfs 1.326 af Outflow=1.101 cfs 1.325 af
<b>Link POI1: POST DA 1</b>	Inflow=4.109 cfs 5.435 af Primary=4.109 cfs 5.435 af
<b>Link PRE1: existing DA</b>	Inflow=110.833 cfs 6.284 af Primary=110.833 cfs 6.284 af

**Total Runoff Area = 57.147 ac Runoff Volume = 11.813 af Average Runoff Depth = 2.48"**  
**26.01% Pervious = 14.862 ac 73.99% Impervious = 42.285 ac**

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Type II 24-hr 2-Year Rainfall=3.40"

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**Summary for Subcatchment 1S: DA1**

Runoff = 110.833 cfs @ 11.96 hrs, Volume= 6.284 af, Depth= 2.64"

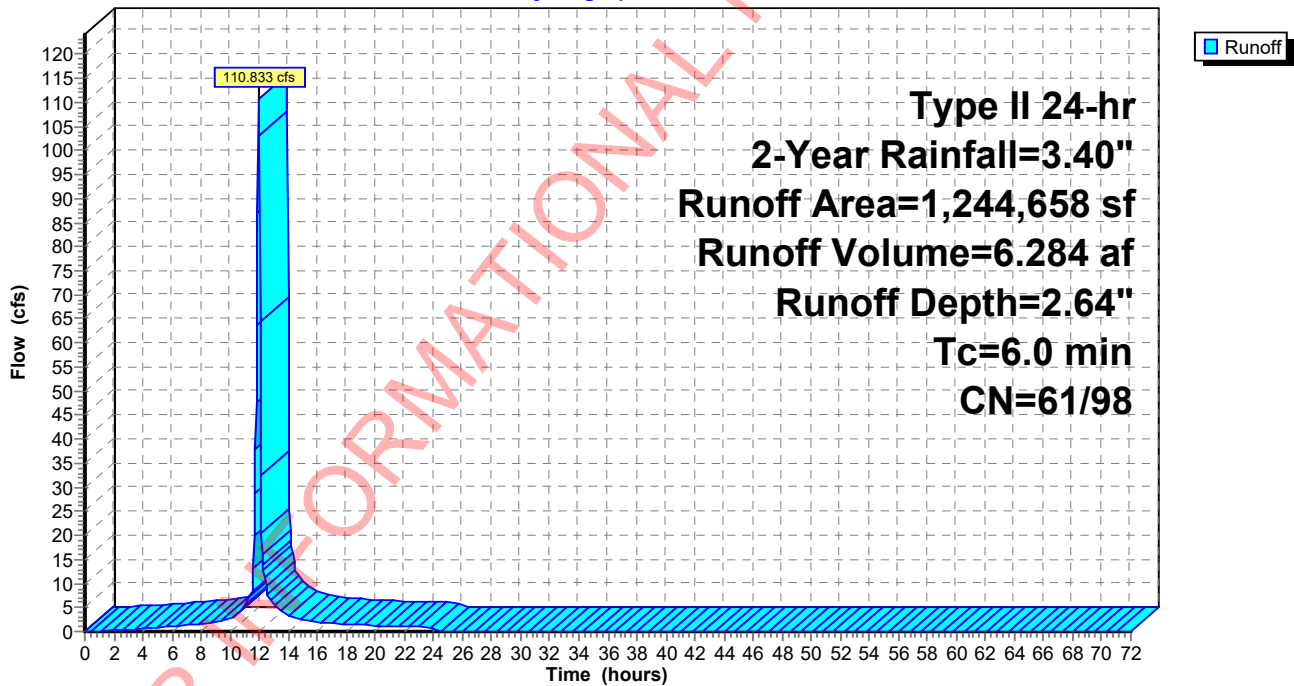
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 2-Year Rainfall=3.40"

Area (sf)	CN	Description
995,726	98	Paved parking, HSG B
* 248,932	61	20%IMPERVIOUS AS LAWN
1,244,658	91	Weighted Average
248,932	61	20.00% Pervious Area
995,726	98	80.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment 1S: DA1**

Hydrograph



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Type II 24-hr 2-Year Rainfall=3.40"

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**Summary for Subcatchment C1: DA1**

Runoff = 15.167 cfs @ 11.96 hrs, Volume= 0.862 af, Depth= 2.49"

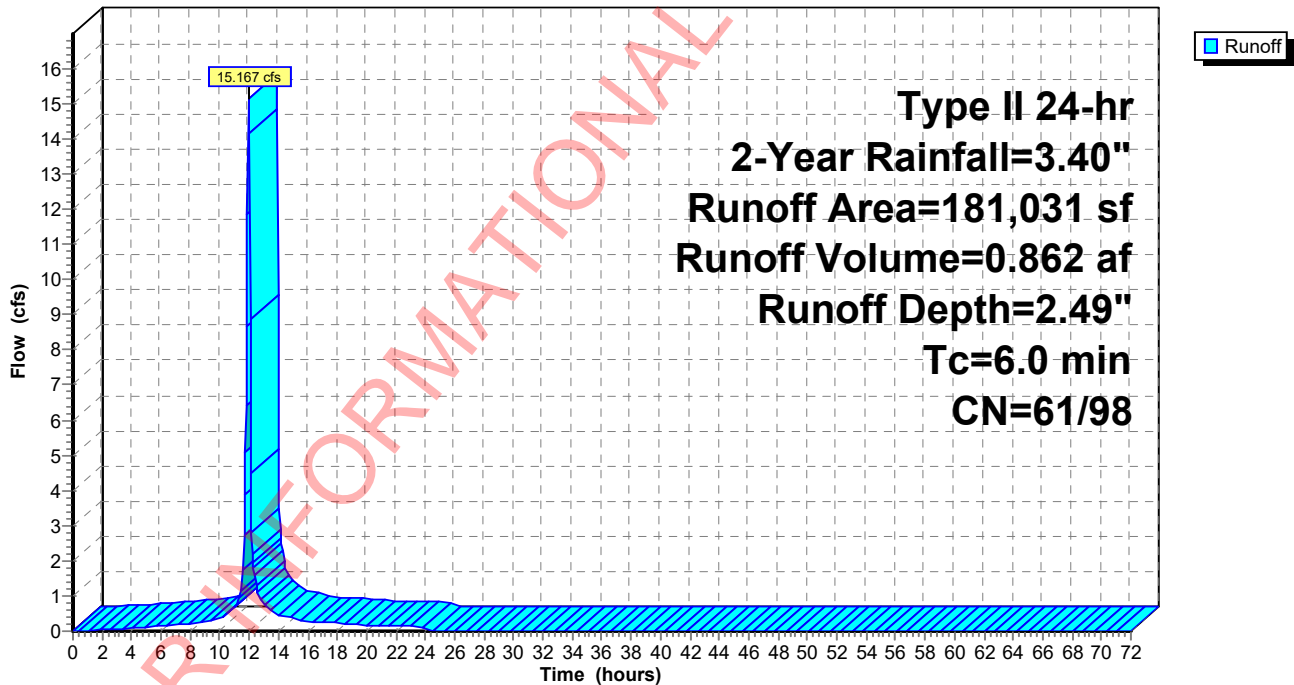
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description
*	108,520	98	ROOF
	25,919	98	Paved parking, HSG B
	46,592	61	>75% Grass cover, Good, HSG B
	181,031	88	Weighted Average
	46,592	61	25.74% Pervious Area
	134,439	98	74.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C1: DA1**

Hydrograph



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Type II 24-hr 2-Year Rainfall=3.40"

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**Summary for Subcatchment C2: DA2**

Runoff = 13.546 cfs @ 11.96 hrs, Volume= 0.769 af, Depth= 2.49"

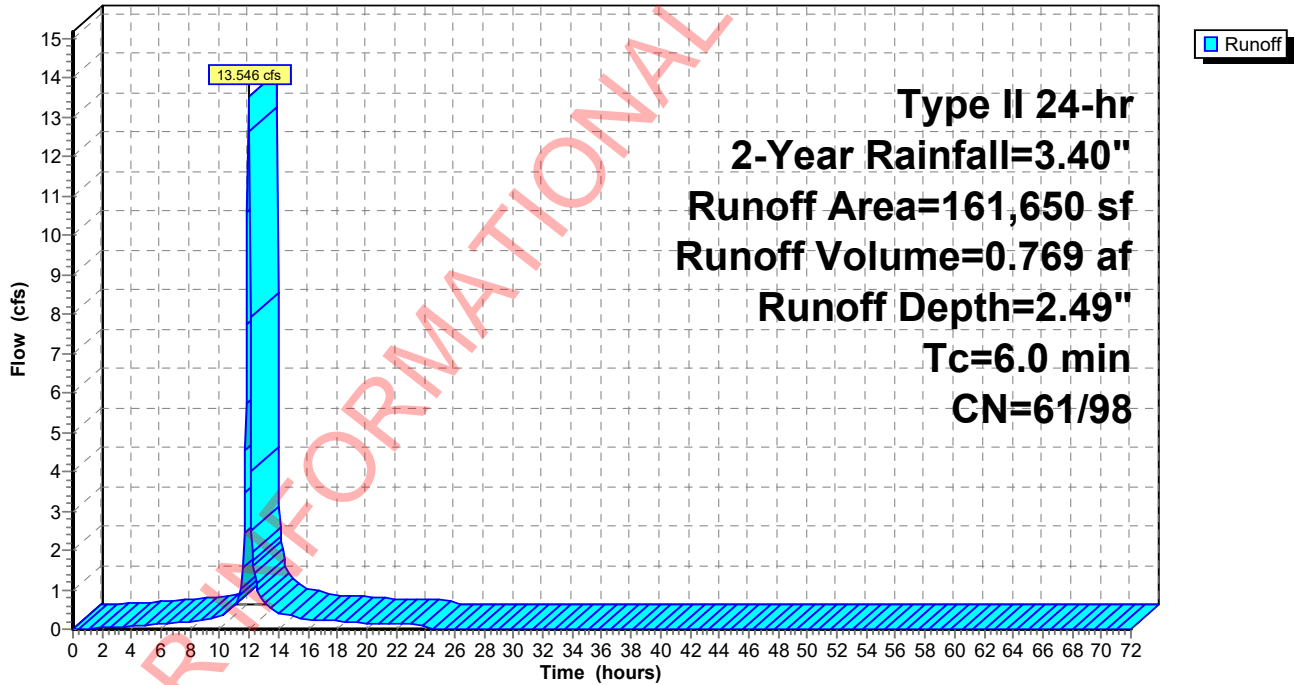
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description
*	103,425	98	ROOF
	16,645	98	Paved parking, HSG B
	41,580	61	>75% Grass cover, Good, HSG B
	161,650	88	Weighted Average
	41,580	61	25.72% Pervious Area
	120,070	98	74.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C2: DA2**

Hydrograph



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Type II 24-hr 2-Year Rainfall=3.40"

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**Summary for Subcatchment C3: DA3**

Runoff = 18.294 cfs @ 11.96 hrs, Volume= 1.039 af, Depth= 2.47"

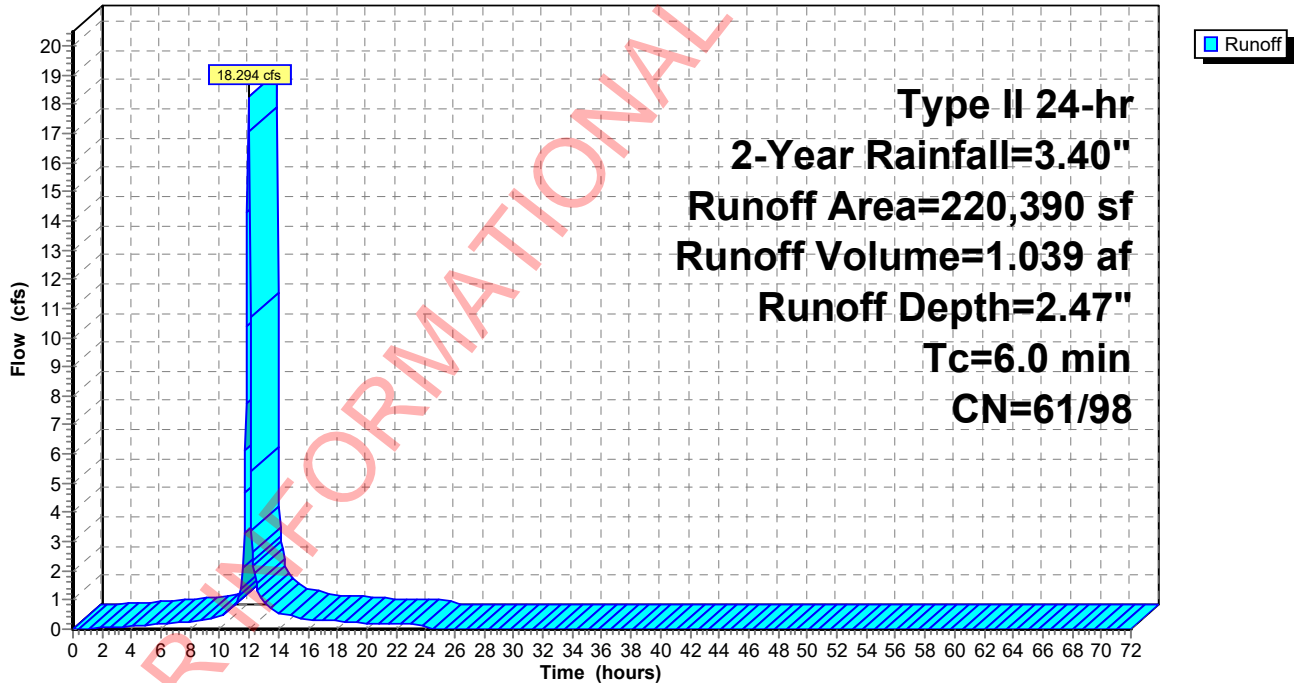
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description
*	57,887	98	ROOF
	103,914	98	Paved parking, HSG B
	58,589	61	>75% Grass cover, Good, HSG B
	220,390	88	Weighted Average
	58,589	61	26.58% Pervious Area
	161,801	98	73.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C3: DA3**

Hydrograph



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Type II 24-hr 2-Year Rainfall=3.40"

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**Summary for Subcatchment C4: DA4**

Runoff = 23.992 cfs @ 11.96 hrs, Volume= 1.359 af, Depth= 2.74"

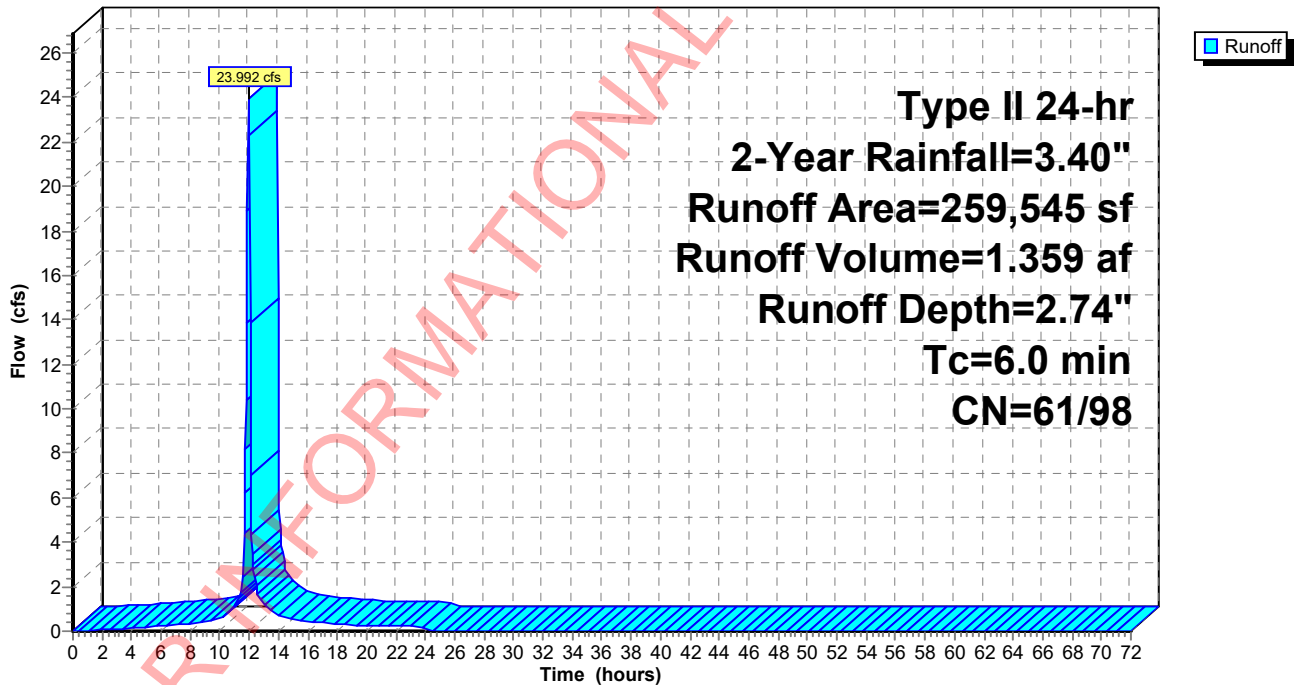
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description
*	40,298	98	ROOF
	176,929	98	Paved parking, HSG B
	42,318	61	>75% Grass cover, Good, HSG B
	259,545	92	Weighted Average
	42,318	61	16.30% Pervious Area
	217,227	98	83.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C4: DA4**

Hydrograph



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Type II 24-hr 2-Year Rainfall=3.40"

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**Summary for Subcatchment C5: DA5**

Runoff = 23.425 cfs @ 11.96 hrs, Volume= 1.326 af, Depth= 2.77"

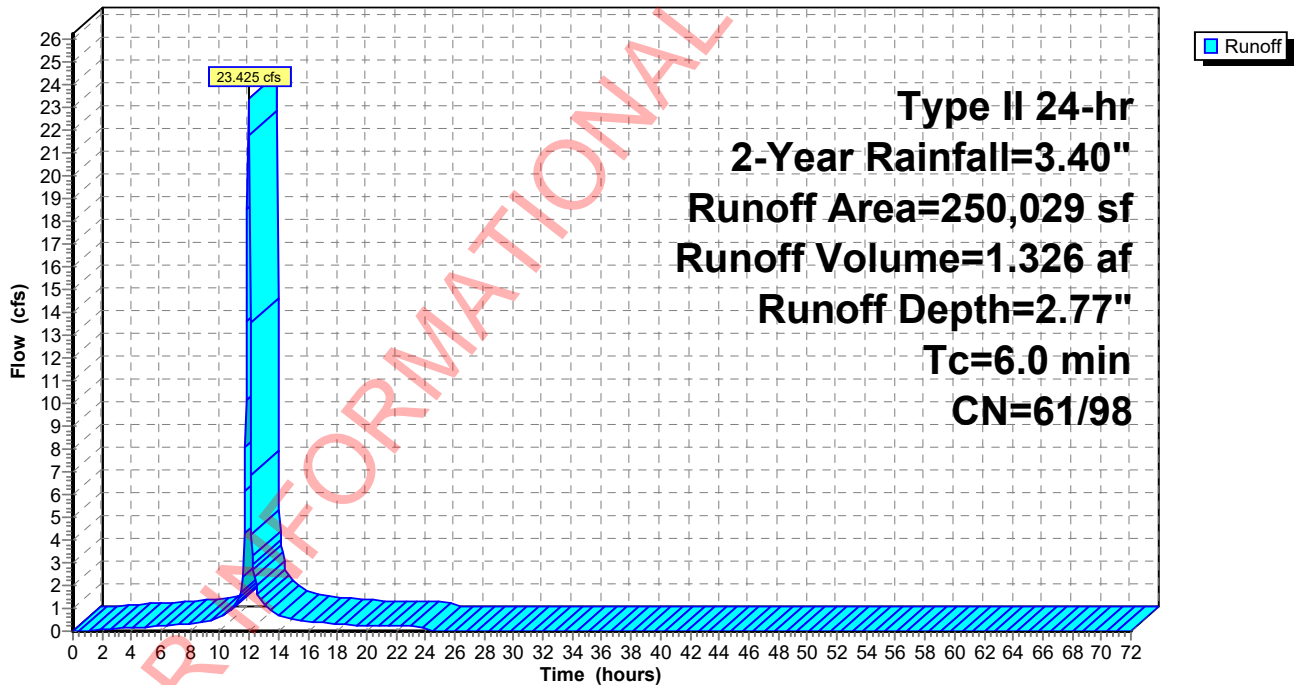
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description
*	108,522	98	ROOF
	104,137	98	Paved parking, HSG B
	37,370	61	>75% Grass cover, Good, HSG B
	250,029	92	Weighted Average
	37,370	61	14.95% Pervious Area
	212,659	98	85.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C5: DA5**

Hydrograph





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Type II 24-hr 2-Year Rainfall=3.40"

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**Summary for Subcatchment U1: BYPASS**

Runoff = 3.050 cfs @ 12.00 hrs, Volume= 0.174 af, Depth= 0.53"

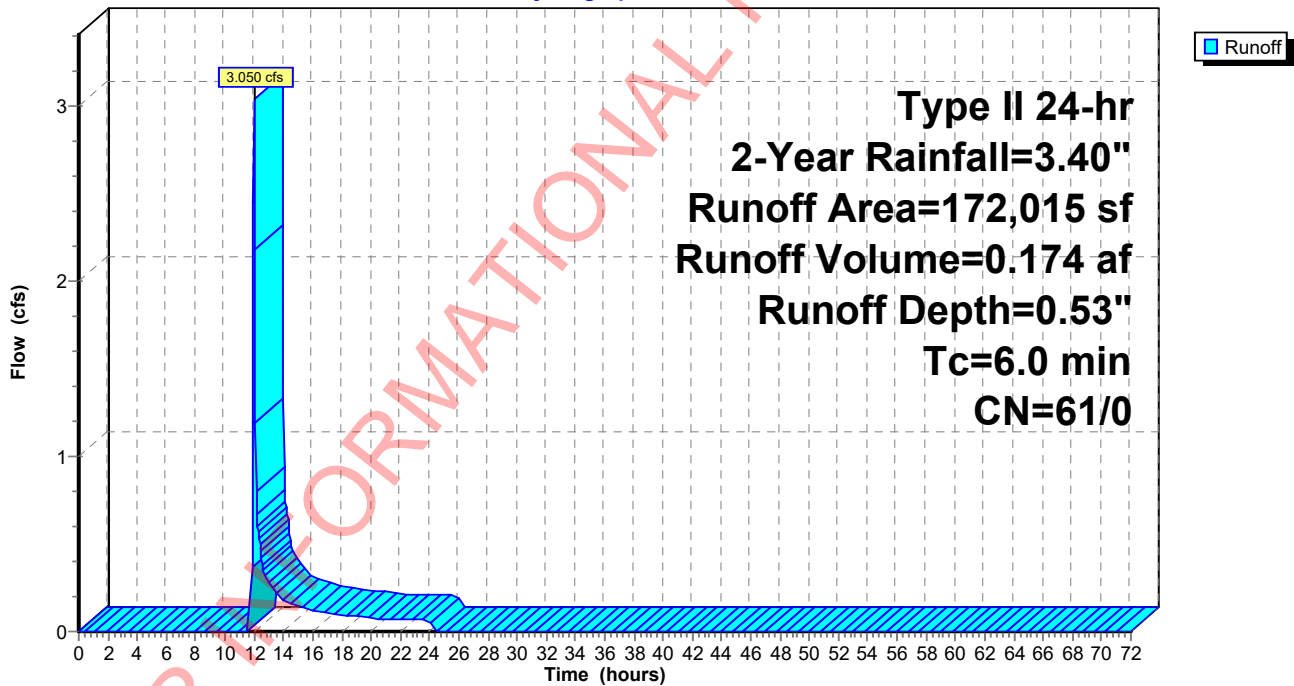
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 2-Year Rainfall=3.40"

Area (sf)	CN	Description
*	0	98 ROOF
	0	98 Paved parking, HSG B
172,015	61	>75% Grass cover, Good, HSG B
172,015	61	Weighted Average
172,015	61	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment U1: BYPASS**

Hydrograph



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Type II 24-hr 2-Year Rainfall=3.40"

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**Summary for Pond PCSM1: SYSTEM 1**

Inflow Area = 4.156 ac, 74.26% Impervious, Inflow Depth = 2.49" for 2-Year event  
 Inflow = 15.167 cfs @ 11.96 hrs, Volume= 0.862 af  
 Outflow = 0.539 cfs @ 13.66 hrs, Volume= 0.794 af, Atten= 96%, Lag= 101.5 min  
 Primary = 0.539 cfs @ 13.66 hrs, Volume= 0.794 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.03' @ 13.66 hrs Surf.Area= 21,337 sf Storage= 25,349 cf

Plug-Flow detention time= 1,396.5 min calculated for 0.794 af (92% of inflow)  
 Center-of-Mass det. time= 1,354.0 min ( 2,113.7 - 759.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,740 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 18,700 cf Overall x 20.0% Voids
#2	4.00'	63,602 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,342 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	9,350	0	0	9,350
3.00	9,350	9,350	9,350	9,693
4.00	9,350	9,350	18,700	10,036

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	9,350	0	0	9,350
5.00	10,612	9,974	9,974	10,661
6.00	11,946	11,272	21,247	12,047
7.00	13,348	12,641	33,887	13,504
8.00	14,835	14,085	47,972	15,050
9.00	16,439	15,630	63,602	16,714

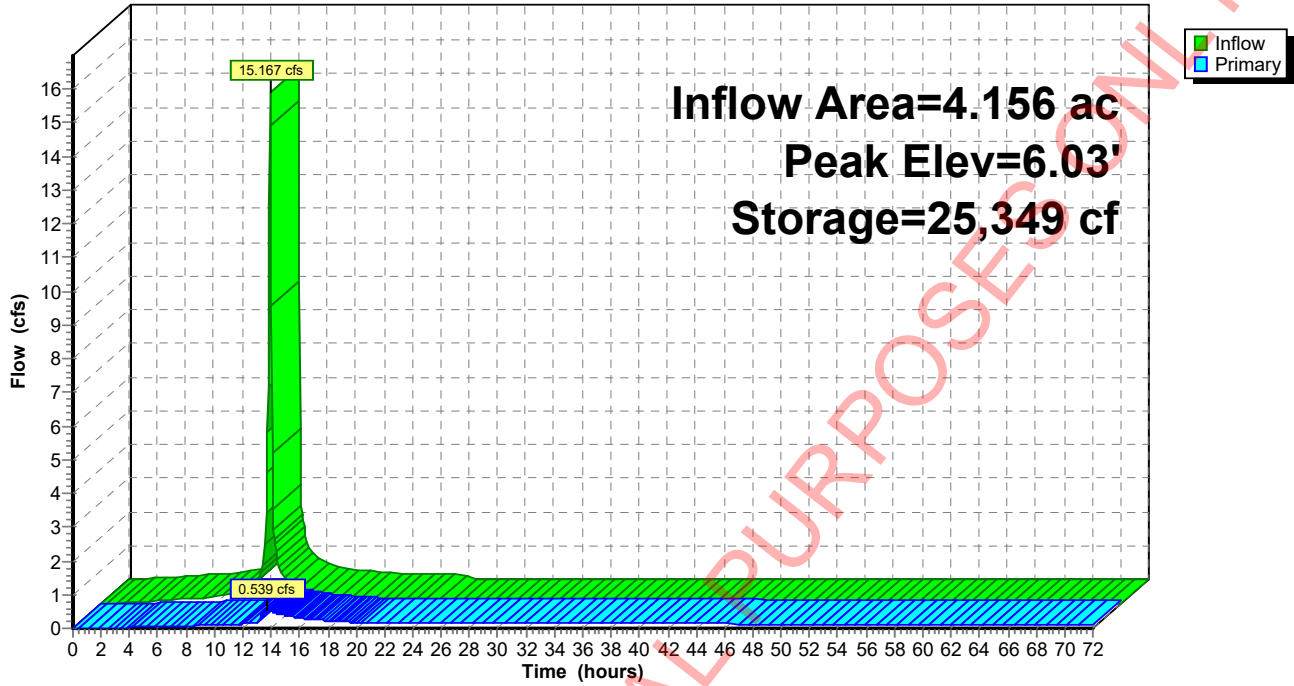
Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.07' S= 0.0206 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.426 cfs @ 13.66 hrs HW=6.03' (Free Discharge)

- 1=Culvert (Passes 0.426 cfs of 11.219 cfs potential flow)
- 2=Outlet Structure#1 (Weir Controls 0.275 cfs @ 0.57 fps)
- 3=Slow Release Orifice (Orifice Controls 0.151 cfs @ 9.58 fps)

Pond PCSM1: SYSTEM 1

Hydrograph



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Type II 24-hr 2-Year Rainfall=3.40"

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**Summary for Pond PCSM2: SYSTEM 2**

Inflow Area = 3.711 ac, 74.28% Impervious, Inflow Depth = 2.49" for 2-Year event  
 Inflow = 13.546 cfs @ 11.96 hrs, Volume= 0.769 af  
 Outflow = 0.631 cfs @ 13.12 hrs, Volume= 0.759 af, Atten= 95%, Lag= 69.5 min  
 Primary = 0.631 cfs @ 13.12 hrs, Volume= 0.759 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.04' @ 13.12 hrs Surf.Area= 18,042 sf Storage= 21,380 cf

Plug-Flow detention time= 1,257.3 min calculated for 0.758 af (99% of inflow)  
 Center-of-Mass det. time= 1,249.3 min ( 2,008.9 - 759.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,000 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 15,000 cf Overall x 20.0% Voids
#2	4.00'	64,620 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,620 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	7,500	0	0	7,500
3.00	7,500	7,500	7,500	7,807
4.00	7,500	7,500	15,000	8,114

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	7,500	0	0	7,500
5.00	8,980	8,229	8,229	9,015
6.00	10,480	9,720	17,949	10,555
7.00	12,040	11,251	29,200	12,159
8.00	13,658	12,841	42,041	13,826
9.00	15,330	14,486	56,527	15,552
9.50	17,060	8,094	64,620	17,297

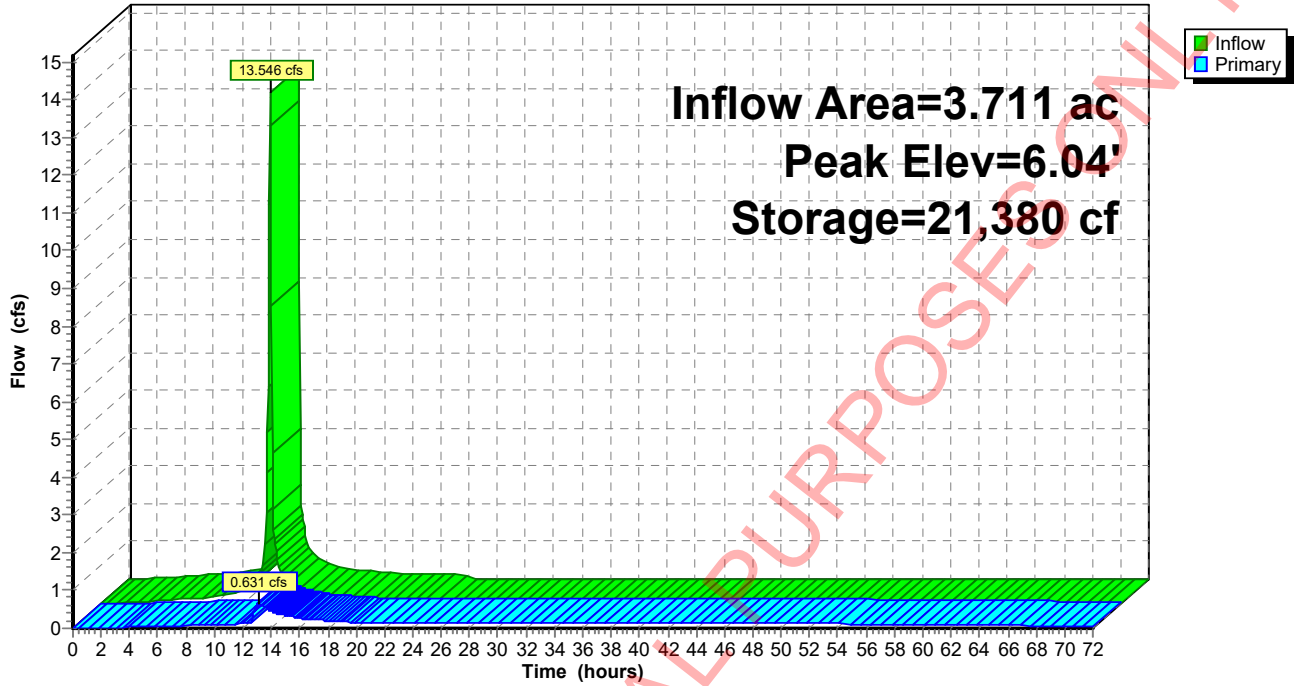
Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 85.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.14' S= 0.0195 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.585 cfs @ 13.12 hrs HW=6.04' (Free Discharge)

- 1=Culvert (Passes 0.585 cfs of 11.236 cfs potential flow)
- 2=Outlet Structure#1 (Weir Controls 0.434 cfs @ 0.66 fps)
- 3=Slow Release Orifice (Orifice Controls 0.151 cfs @ 9.59 fps)

Pond PCSM2: SYSTEM 2

Hydrograph



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**Summary for Pond PCSM3: SYSTEM 3**

Inflow Area = 5.059 ac, 73.42% Impervious, Inflow Depth = 2.47" for 2-Year event  
 Inflow = 18.294 cfs @ 11.96 hrs, Volume= 1.039 af  
 Outflow = 0.805 cfs @ 13.24 hrs, Volume= 1.029 af, Atten= 96%, Lag= 76.8 min  
 Primary = 0.805 cfs @ 13.24 hrs, Volume= 1.029 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 5.55' @ 13.24 hrs Surf.Area= 24,302 sf Storage= 28,967 cf

Plug-Flow detention time= 1,241.5 min calculated for 1.028 af (99% of inflow)  
 Center-of-Mass det. time= 1,235.9 min ( 1,995.9 - 760.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	4,080 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 20,400 cf Overall x 20.0% Voids
#2	3.50'	85,567 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		89,647 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	10,200	0	0	10,200
2.50	10,200	10,200	10,200	10,558
3.50	10,200	10,200	20,400	10,916

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	10,200	0	0	10,200
4.00	11,150	5,336	5,336	11,167
5.00	13,040	12,083	17,418	13,097
6.00	15,000	14,009	31,427	15,102
7.00	17,000	15,990	47,417	17,151
8.00	19,070	18,025	65,442	19,275
9.00	21,200	20,126	85,567	21,464

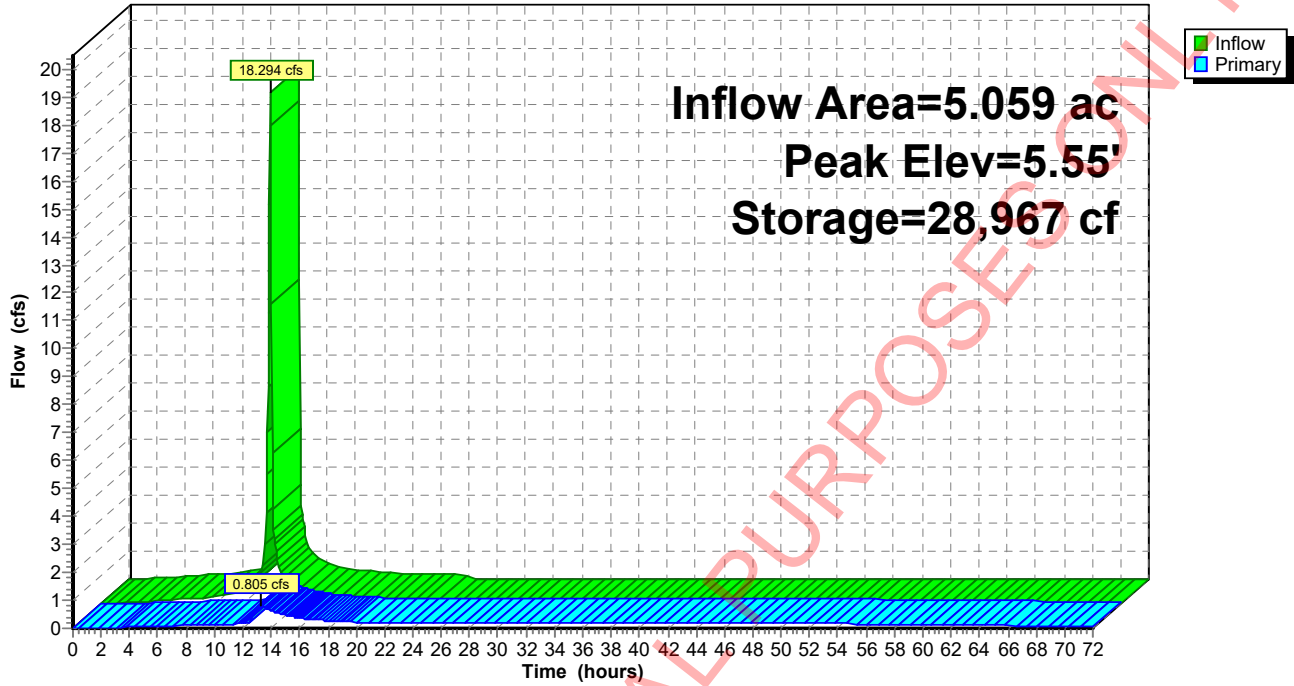
Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 82.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 0.89' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Oultet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.0" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.802 cfs @ 13.24 hrs HW=5.55' (Free Discharge)

- 1=Culvert (Passes 0.802 cfs of 9.846 cfs potential flow)
- 2=Oultet Structure#1 (Weir Controls 0.593 cfs @ 0.73 fps)
- 3=Slow Release Orifice (Orifice Controls 0.209 cfs @ 9.59 fps)

Pond PCSM3: SYSTEM 3

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**Summary for Pond PCSM4: SYSTEM 4**

Inflow Area = 5.958 ac, 83.70% Impervious, Inflow Depth = 2.74" for 2-Year event  
 Inflow = 23.992 cfs @ 11.96 hrs, Volume= 1.359 af  
 Outflow = 0.457 cfs @ 15.80 hrs, Volume= 1.354 af, Atten= 98%, Lag= 230.4 min  
 Primary = 0.457 cfs @ 15.80 hrs, Volume= 1.354 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 5.51' @ 15.80 hrs Surf.Area= 35,916 sf Storage= 41,522 cf

Plug-Flow detention time= 1,291.1 min calculated for 1.354 af (100% of inflow)  
 Center-of-Mass det. time= 1,288.8 min ( 2,044.9 - 756.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,440 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 27,200 cf Overall x 20.0% Voids
#2	3.50'	141,213 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		146,653 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,600	0	0	13,600
2.50	13,600	13,600	13,600	14,013
3.50	13,600	13,600	27,200	14,427

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,600	0	0	13,600
4.00	15,770	7,336	7,336	15,781
5.00	20,120	17,901	25,237	20,156
6.00	24,520	22,284	47,520	24,588
7.00	28,980	26,719	74,239	29,085
8.00	33,500	31,213	105,452	33,649
9.00	38,070	35,761	141,213	38,268

Device	Routing	Invert	Outlet Devices
#1	Primary	1.50'	<b>15.0" Round RCP_Round 15"</b> L= 72.0' Ke= 0.500 Inlet / Outlet Invert= 1.50' / -0.85' S= 0.0326 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.388 cfs @ 15.80 hrs HW=5.51' (Free Discharge)

1=RCP\_Round 15" (Passes 0.388 cfs of 10.874 cfs potential flow)

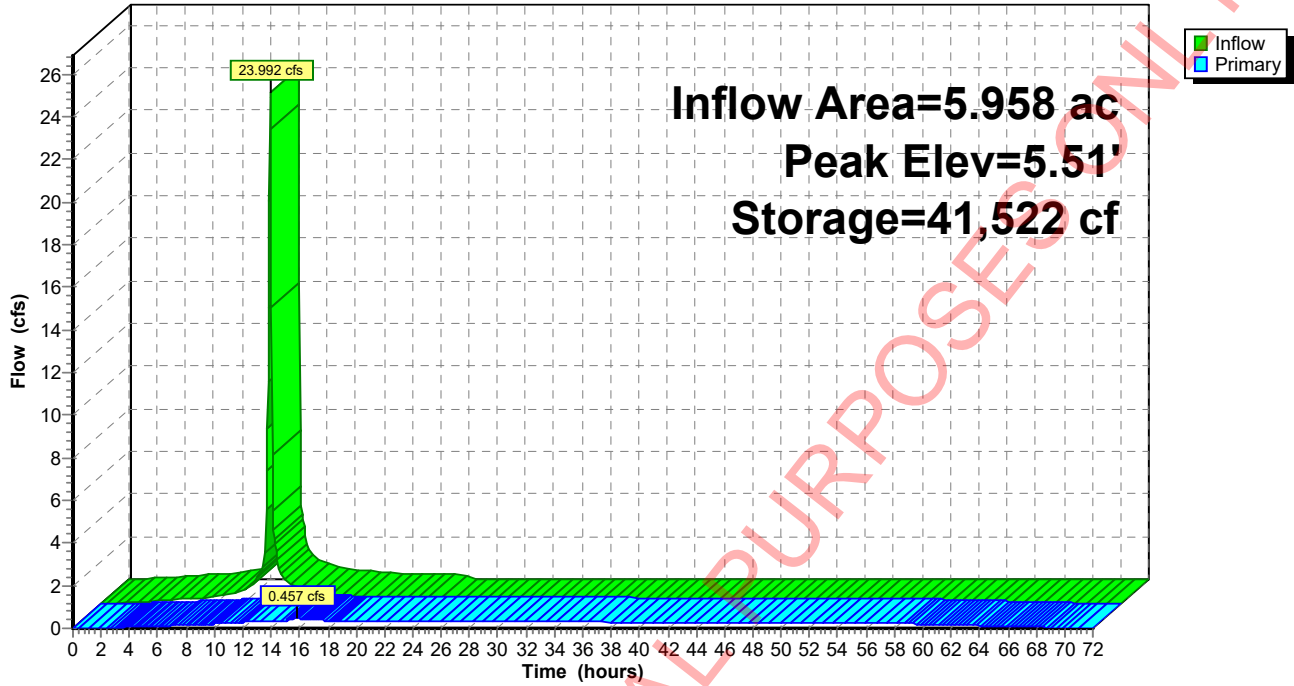
2=Outlet Structure#1 (Weir Controls 0.063 cfs @ 0.35 fps)

3=Slow Release Orifice (Orifice Controls 0.324 cfs @ 9.52 fps)



Pond PCSM4: SYSTEM 4

Hydrograph



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**Summary for Pond PCSM5: SYSTEM 5**

Inflow Area = 5.740 ac, 85.05% Impervious, Inflow Depth = 2.77" for 2-Year event  
 Inflow = 23.425 cfs @ 11.96 hrs, Volume= 1.326 af  
 Outflow = 1.101 cfs @ 13.07 hrs, Volume= 1.325 af, Atten= 95%, Lag= 66.3 min  
 Primary = 1.101 cfs @ 13.07 hrs, Volume= 1.325 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 5.56' @ 13.07 hrs Surf.Area= 30,058 sf Storage= 36,267 cf

Plug-Flow detention time= 1,043.1 min calculated for 1.324 af (100% of inflow)  
 Center-of-Mass det. time= 1,043.6 min ( 1,799.2 - 755.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,380 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 26,900 cf Overall x 20.0% Voids
#2	3.50'	97,893 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		103,273 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,450	0	0	13,450
2.50	13,450	13,450	13,450	13,861
3.50	13,450	13,450	26,900	14,272

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,450	0	0	13,450
4.00	14,190	6,909	6,909	14,219
5.00	15,730	14,953	21,863	15,819
6.00	17,320	16,519	38,381	17,473
7.00	18,970	18,139	56,520	19,190
8.00	20,680	19,819	76,339	20,972
9.00	22,440	21,554	97,893	22,807

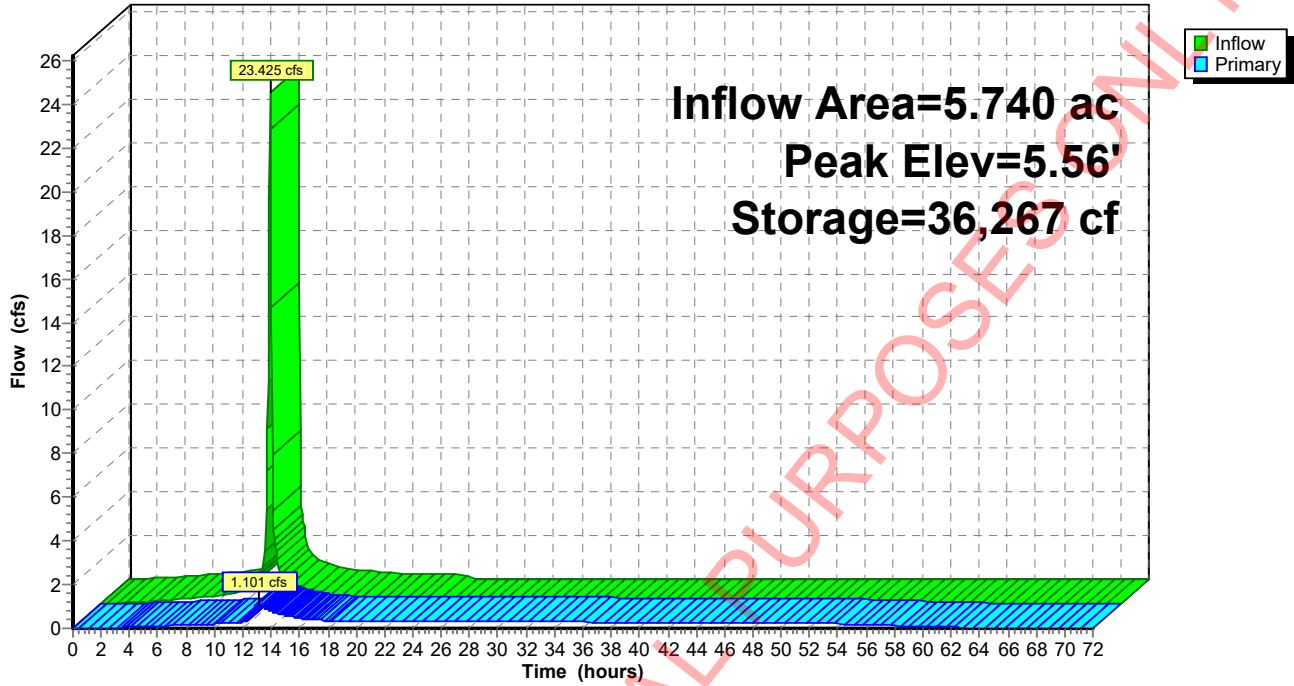
Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 1.02' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=1.060 cfs @ 13.07 hrs HW=5.56' (Free Discharge)

- 1=Culvert (Passes 1.060 cfs of 10.661 cfs potential flow)
- 2=Outlet Structure#1 (Weir Controls 0.734 cfs @ 0.79 fps)
- 3=Slow Release Orifice (Orifice Controls 0.326 cfs @ 9.57 fps)

Pond PCSM5: SYSTEM 5

Hydrograph



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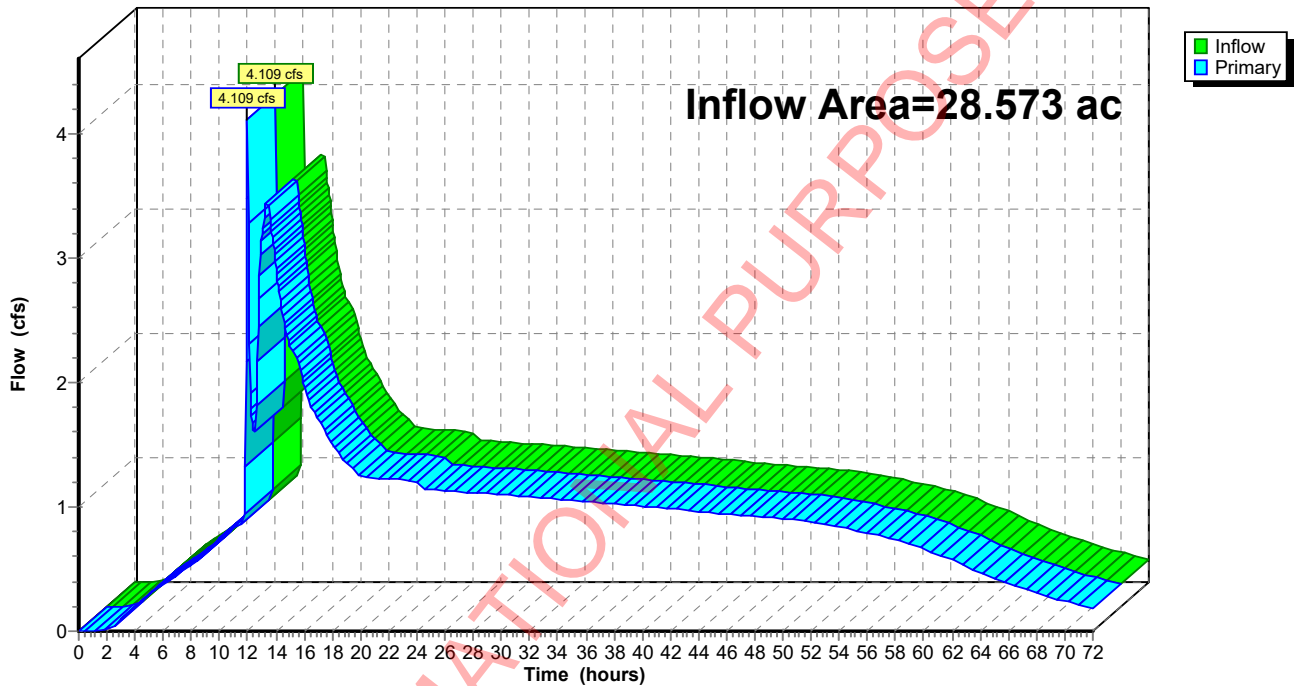
Summary for Link POI1: POST DA 1

Inflow Area = 28.573 ac, 67.99% Impervious, Inflow Depth > 2.28" for 2-Year event  
Inflow = 4.109 cfs @ 12.00 hrs, Volume= 5.435 af  
Primary = 4.109 cfs @ 12.00 hrs, Volume= 5.435 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link POI1: POST DA 1

Hydrograph



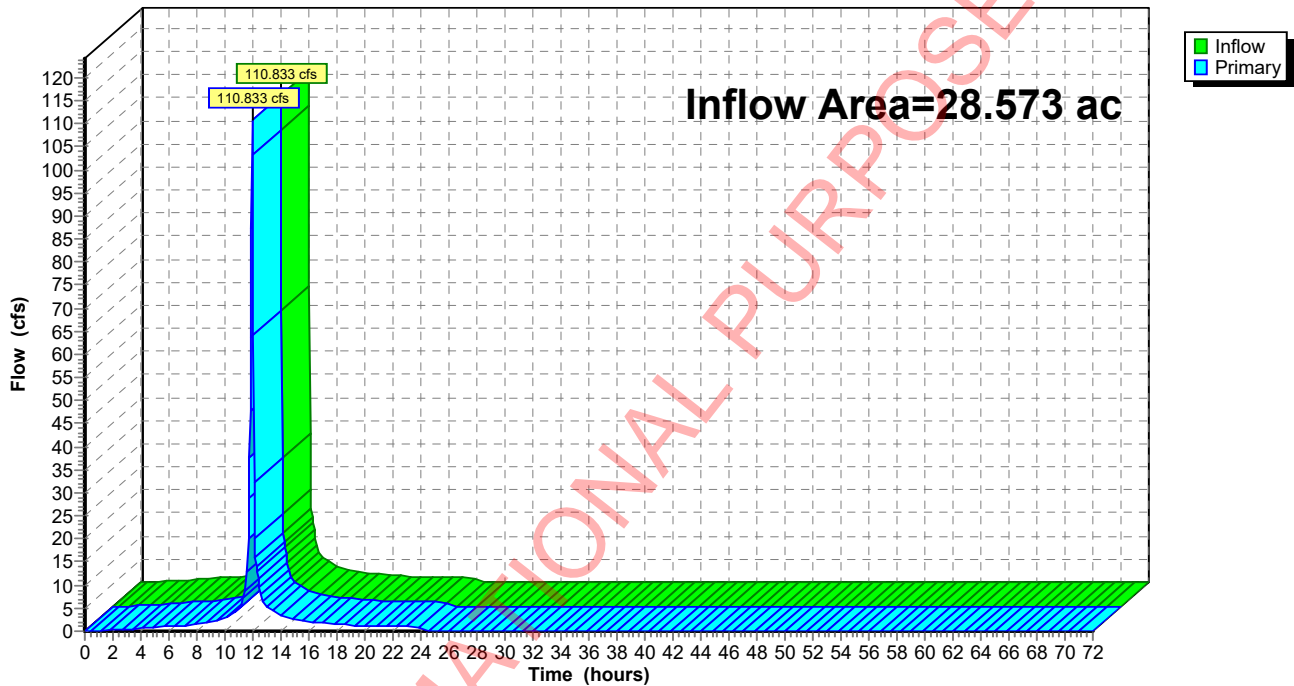
Summary for Link PRE1: existing DA

Inflow Area = 28.573 ac, 80.00% Impervious, Inflow Depth = 2.64" for 2-Year event  
Inflow = 110.833 cfs @ 11.96 hrs, Volume= 6.284 af  
Primary = 110.833 cfs @ 11.96 hrs, Volume= 6.284 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link PRE1: existing DA

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment1S: DA1</b>	Runoff Area=1,244,658 sf 80.00% Impervious Runoff Depth=3.37" Tc=6.0 min CN=61/98 Runoff=141.326 cfs 8.032 af
<b>SubcatchmentC1: DA1</b>	Runoff Area=181,031 sf 74.26% Impervious Runoff Depth=3.20" Tc=6.0 min CN=61/98 Runoff=19.504 cfs 1.107 af
<b>SubcatchmentC2: DA2</b>	Runoff Area=161,650 sf 74.28% Impervious Runoff Depth=3.20" Tc=6.0 min CN=61/98 Runoff=17.418 cfs 0.989 af
<b>SubcatchmentC3: DA3</b>	Runoff Area=220,390 sf 73.42% Impervious Runoff Depth=3.17" Tc=6.0 min CN=61/98 Runoff=23.556 cfs 1.337 af
<b>SubcatchmentC4: DA4</b>	Runoff Area=259,545 sf 83.70% Impervious Runoff Depth=3.49" Tc=6.0 min CN=61/98 Runoff=30.442 cfs 1.731 af
<b>SubcatchmentC5: DA5</b>	Runoff Area=250,029 sf 85.05% Impervious Runoff Depth=3.53" Tc=6.0 min CN=61/98 Runoff=29.670 cfs 1.687 af
<b>SubcatchmentU1: BYPASS</b>	Runoff Area=172,015 sf 0.00% Impervious Runoff Depth=0.93" Tc=6.0 min CN=61/0 Runoff=5.966 cfs 0.305 af
<b>Pond PCSM1: SYSTEM 1</b>	Peak Elev=6.16' Storage=26,887 cf Inflow=19.504 cfs 1.107 af Outflow=3.486 cfs 1.039 af
<b>Pond PCSM2: SYSTEM 2</b>	Peak Elev=6.19' Storage=23,003 cf Inflow=17.418 cfs 0.989 af Outflow=4.606 cfs 0.977 af
<b>Pond PCSM3: SYSTEM 3</b>	Peak Elev=5.71' Storage=31,202 cf Inflow=23.556 cfs 1.337 af Outflow=5.167 cfs 1.325 af
<b>Pond PCSM4: SYSTEM 4</b>	Peak Elev=5.63' Storage=44,096 cf Inflow=30.442 cfs 1.731 af Outflow=2.654 cfs 1.725 af
<b>Pond PCSM5: SYSTEM 5</b>	Peak Elev=5.74' Storage=39,306 cf Inflow=29.670 cfs 1.687 af Outflow=6.526 cfs 1.686 af
<b>Link POI1: POST DA 1</b>	Inflow=21.781 cfs 7.056 af Primary=21.781 cfs 7.056 af
<b>Link PRE1: existing DA</b>	Inflow=141.326 cfs 8.032 af Primary=141.326 cfs 8.032 af

**Total Runoff Area = 57.147 ac Runoff Volume = 15.188 af Average Runoff Depth = 3.19"**  
**26.01% Pervious = 14.862 ac 73.99% Impervious = 42.285 ac**

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Type II 24-hr 5-Year Rainfall=4.22"

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**Summary for Subcatchment 1S: DA1**

Runoff = 141.326 cfs @ 11.96 hrs, Volume= 8.032 af, Depth= 3.37"

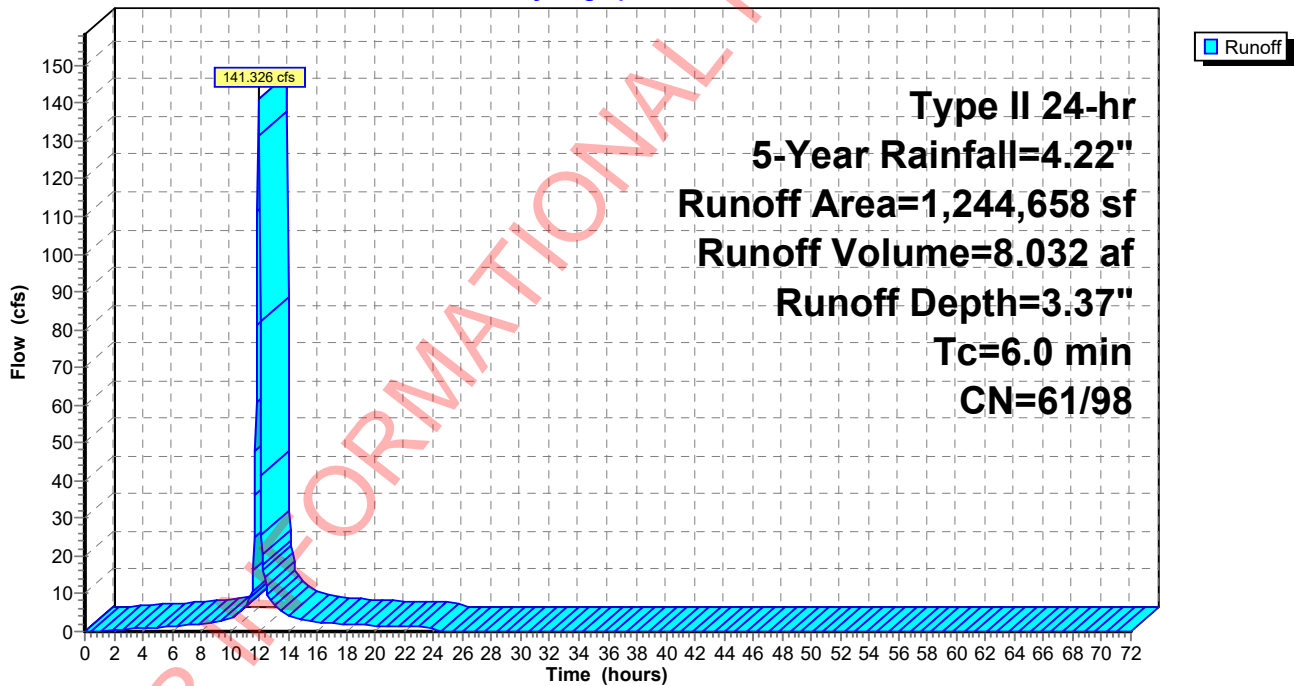
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 5-Year Rainfall=4.22"

Area (sf)	CN	Description
995,726	98	Paved parking, HSG B
* 248,932	61	20%IMPERVIOUS AS LAWN
1,244,658	91	Weighted Average
248,932	61	20.00% Pervious Area
995,726	98	80.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment 1S: DA1**

Hydrograph



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**Summary for Subcatchment C1: DA1**

Runoff = 19.504 cfs @ 11.96 hrs, Volume= 1.107 af, Depth= 3.20"

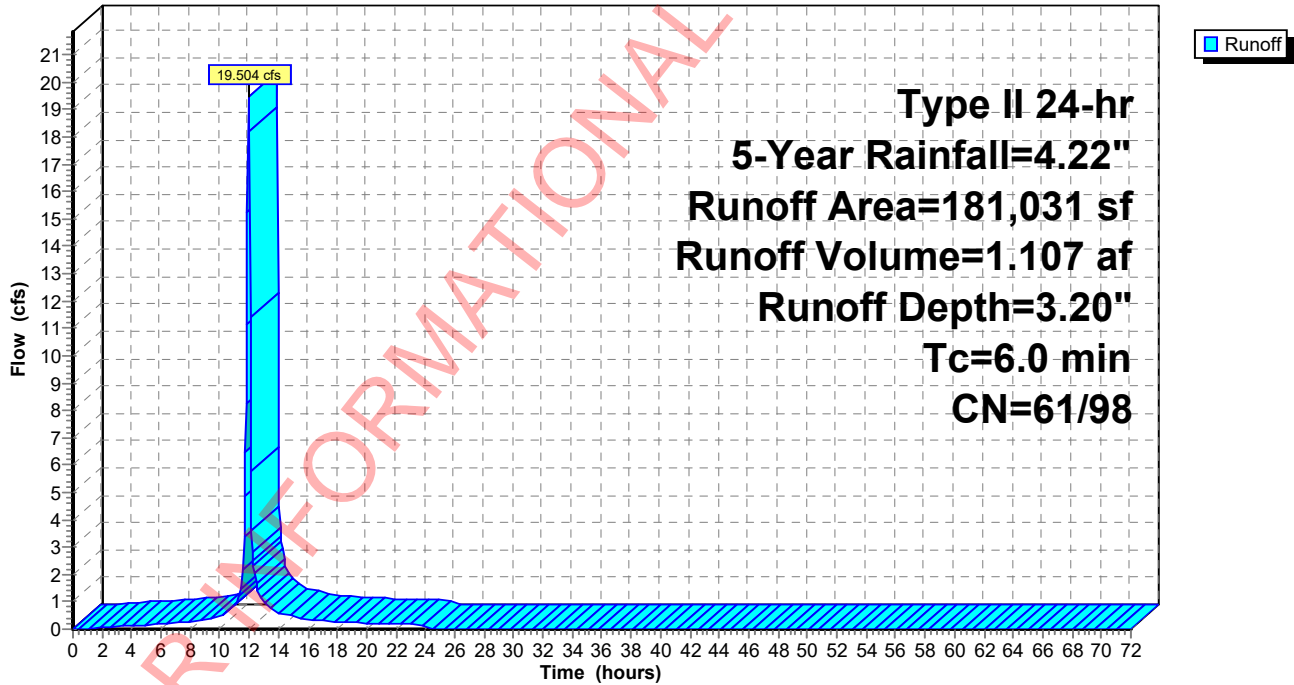
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 5-Year Rainfall=4.22"

	Area (sf)	CN	Description
*	108,520	98	ROOF
	25,919	98	Paved parking, HSG B
	46,592	61	>75% Grass cover, Good, HSG B
	181,031	88	Weighted Average
	46,592	61	25.74% Pervious Area
	134,439	98	74.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C1: DA1**

Hydrograph





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**Summary for Subcatchment C2: DA2**

Runoff = 17.418 cfs @ 11.96 hrs, Volume= 0.989 af, Depth= 3.20"

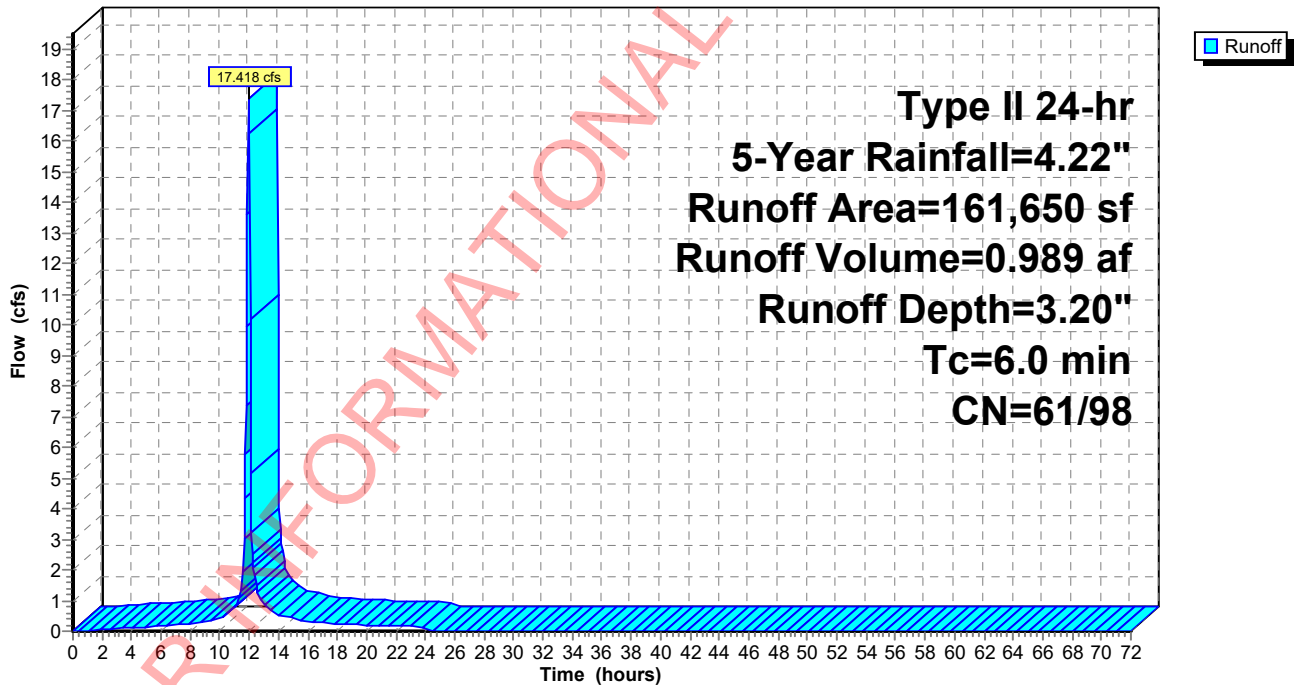
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 5-Year Rainfall=4.22"

	Area (sf)	CN	Description
*	103,425	98	ROOF
	16,645	98	Paved parking, HSG B
	41,580	61	>75% Grass cover, Good, HSG B
	161,650	88	Weighted Average
	41,580	61	25.72% Pervious Area
	120,070	98	74.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C2: DA2**

Hydrograph



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**Summary for Subcatchment C3: DA3**

Runoff = 23.556 cfs @ 11.96 hrs, Volume= 1.337 af, Depth= 3.17"

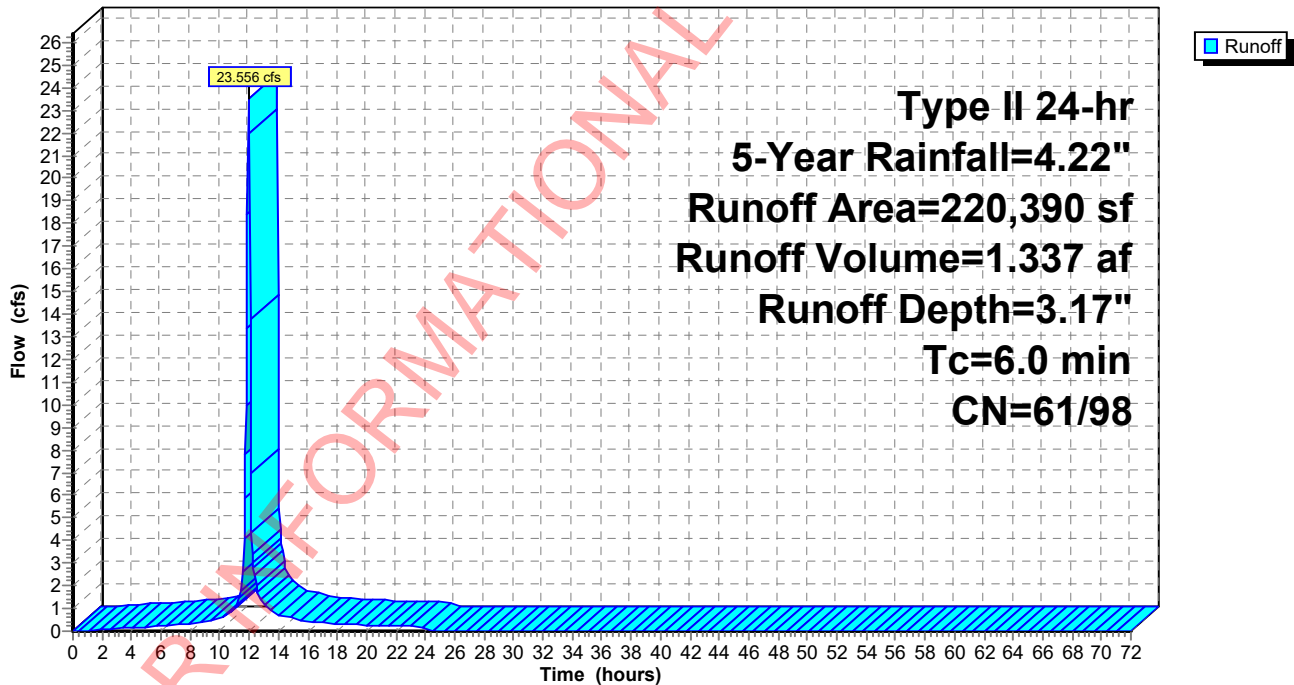
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 5-Year Rainfall=4.22"

	Area (sf)	CN	Description
*	57,887	98	ROOF
	103,914	98	Paved parking, HSG B
	58,589	61	>75% Grass cover, Good, HSG B
	220,390	88	Weighted Average
	58,589	61	26.58% Pervious Area
	161,801	98	73.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C3: DA3**

Hydrograph



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Type II 24-hr 5-Year Rainfall=4.22"

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**Summary for Subcatchment C4: DA4**

Runoff = 30.442 cfs @ 11.96 hrs, Volume= 1.731 af, Depth= 3.49"

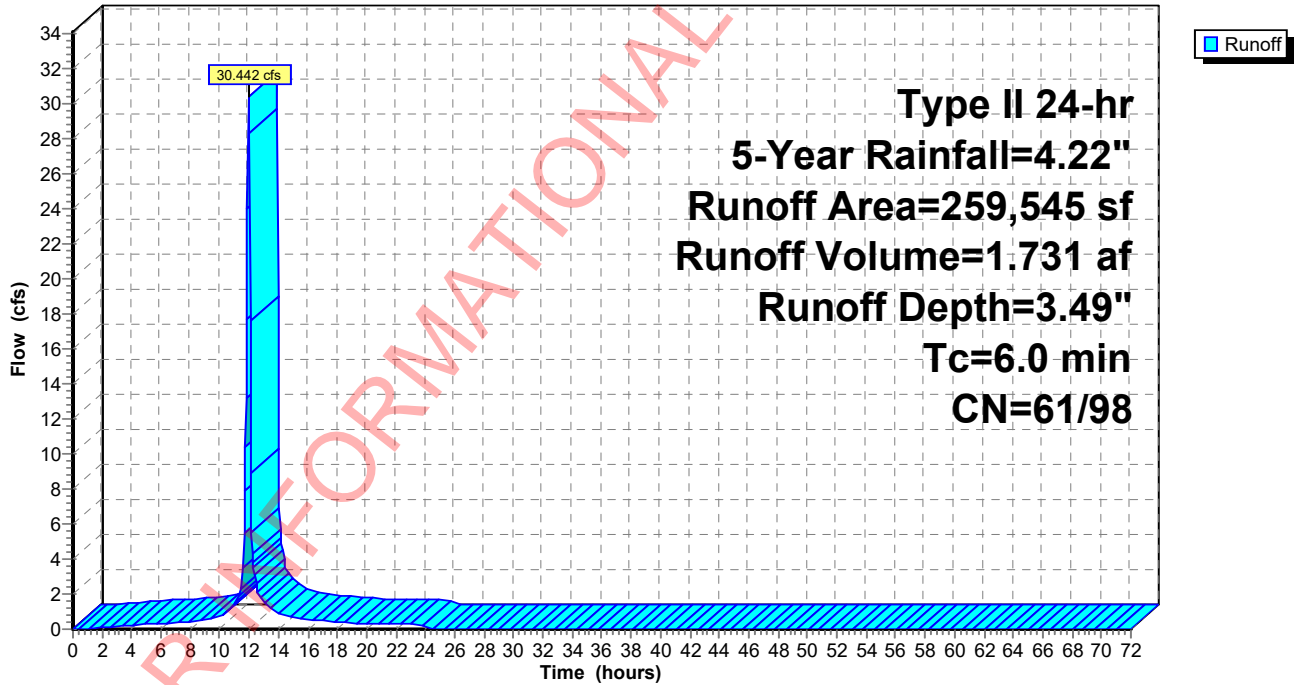
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 5-Year Rainfall=4.22"

	Area (sf)	CN	Description
*	40,298	98	ROOF
	176,929	98	Paved parking, HSG B
	42,318	61	>75% Grass cover, Good, HSG B
	259,545	92	Weighted Average
	42,318	61	16.30% Pervious Area
	217,227	98	83.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C4: DA4**

Hydrograph



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Type II 24-hr 5-Year Rainfall=4.22"

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**Summary for Subcatchment C5: DA5**

Runoff = 29.670 cfs @ 11.96 hrs, Volume= 1.687 af, Depth= 3.53"

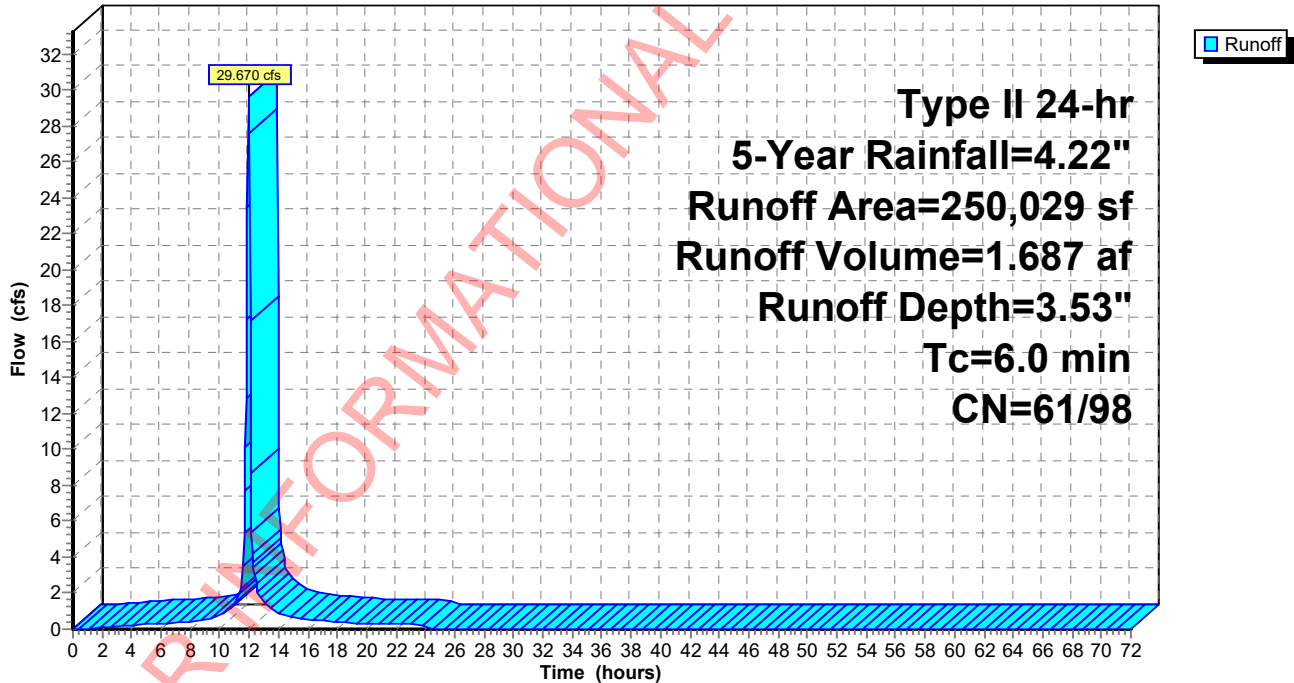
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 5-Year Rainfall=4.22"

	Area (sf)	CN	Description
*	108,522	98	ROOF
	104,137	98	Paved parking, HSG B
	37,370	61	>75% Grass cover, Good, HSG B
	250,029	92	Weighted Average
	37,370	61	14.95% Pervious Area
	212,659	98	85.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C5: DA5**

Hydrograph



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Type II 24-hr 5-Year Rainfall=4.22"

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**Summary for Subcatchment U1: BYPASS**

Runoff = 5.966 cfs @ 11.99 hrs, Volume= 0.305 af, Depth= 0.93"

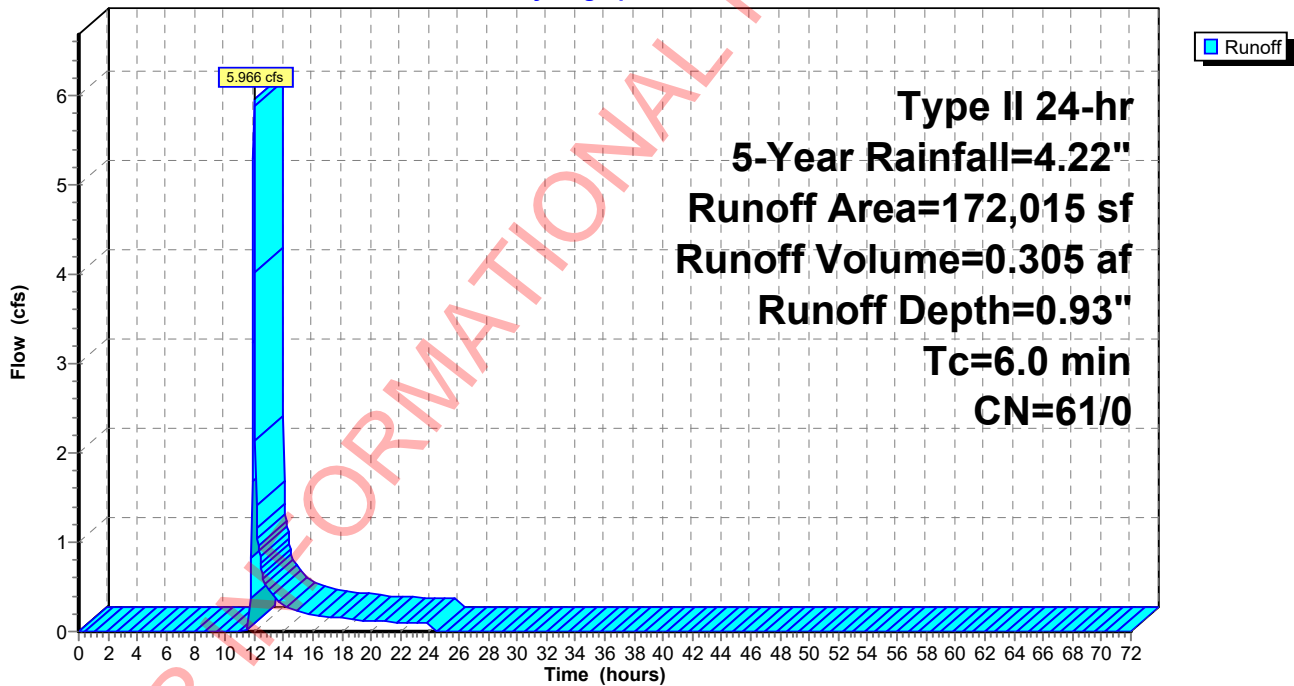
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 5-Year Rainfall=4.22"

Area (sf)	CN	Description
*	0	98 ROOF
	0	98 Paved parking, HSG B
172,015	61	>75% Grass cover, Good, HSG B
172,015	61	Weighted Average
172,015	61	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment U1: BYPASS**

Hydrograph



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Type II 24-hr 5-Year Rainfall=4.22"

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**Summary for Pond PCSM1: SYSTEM 1**

Inflow Area = 4.156 ac, 74.26% Impervious, Inflow Depth = 3.20" for 5-Year event  
 Inflow = 19.504 cfs @ 11.96 hrs, Volume= 1.107 af  
 Outflow = 3.486 cfs @ 12.17 hrs, Volume= 1.039 af, Atten= 82%, Lag= 12.4 min  
 Primary = 3.486 cfs @ 12.17 hrs, Volume= 1.039 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.16' @ 12.17 hrs Surf.Area= 21,512 sf Storage= 26,887 cf

Plug-Flow detention time= 1,088.4 min calculated for 1.039 af (94% of inflow)  
 Center-of-Mass det. time= 1,051.9 min ( 1,809.0 - 757.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,740 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 18,700 cf Overall x 20.0% Voids
#2	4.00'	63,602 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,342 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	9,350	0	0	9,350
3.00	9,350	9,350	9,350	9,693
4.00	9,350	9,350	18,700	10,036

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	9,350	0	0	9,350
5.00	10,612	9,974	9,974	10,661
6.00	11,946	11,272	21,247	12,047
7.00	13,348	12,641	33,887	13,504
8.00	14,835	14,085	47,972	15,050
9.00	16,439	15,630	63,602	16,714

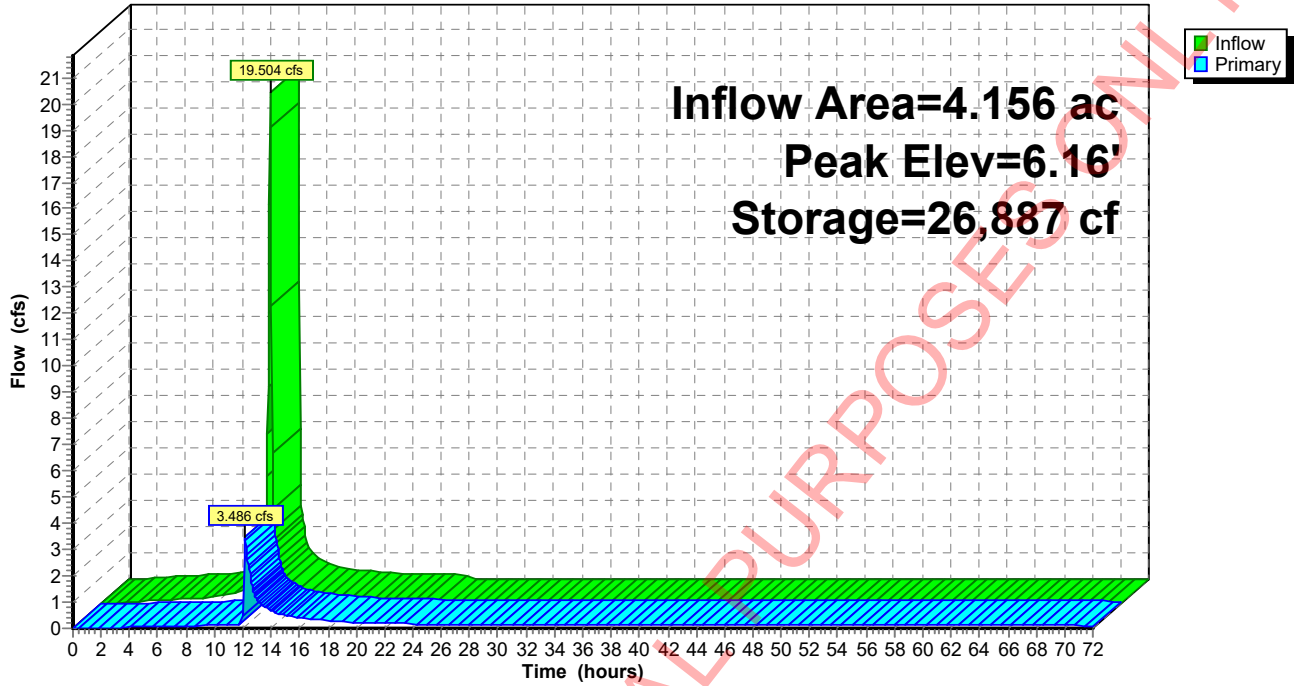
Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.07' S= 0.0206 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=3.330 cfs @ 12.17 hrs HW=6.15' (Free Discharge)

- 1=Culvert (Passes 3.330 cfs of 11.411 cfs potential flow)
- 2=Outlet Structure#1 (Weir Controls 3.176 cfs @ 1.29 fps)
- 3=Slow Release Orifice (Orifice Controls 0.153 cfs @ 9.73 fps)

Pond PCSM1: SYSTEM 1

Hydrograph



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Type II 24-hr 5-Year Rainfall=4.22"

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**Summary for Pond PCSM2: SYSTEM 2**

Inflow Area = 3.711 ac, 74.28% Impervious, Inflow Depth = 3.20" for 5-Year event  
 Inflow = 17.418 cfs @ 11.96 hrs, Volume= 0.989 af  
 Outflow = 4.606 cfs @ 12.12 hrs, Volume= 0.977 af, Atten= 74%, Lag= 9.5 min  
 Primary = 4.606 cfs @ 12.12 hrs, Volume= 0.977 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.19' @ 12.12 hrs Surf.Area= 18,273 sf Storage= 23,003 cf

Plug-Flow detention time= 1,002.2 min calculated for 0.977 af (99% of inflow)  
 Center-of-Mass det. time= 993.8 min ( 1,750.9 - 757.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,000 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 15,000 cf Overall x 20.0% Voids
#2	4.00'	64,620 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,620 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	7,500	0	0	7,500
3.00	7,500	7,500	7,500	7,807
4.00	7,500	7,500	15,000	8,114

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	7,500	0	0	7,500
5.00	8,980	8,229	8,229	9,015
6.00	10,480	9,720	17,949	10,555
7.00	12,040	11,251	29,200	12,159
8.00	13,658	12,841	42,041	13,826
9.00	15,330	14,486	56,527	15,552
9.50	17,060	8,094	64,620	17,297

Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 85.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.14' S= 0.0195' /' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

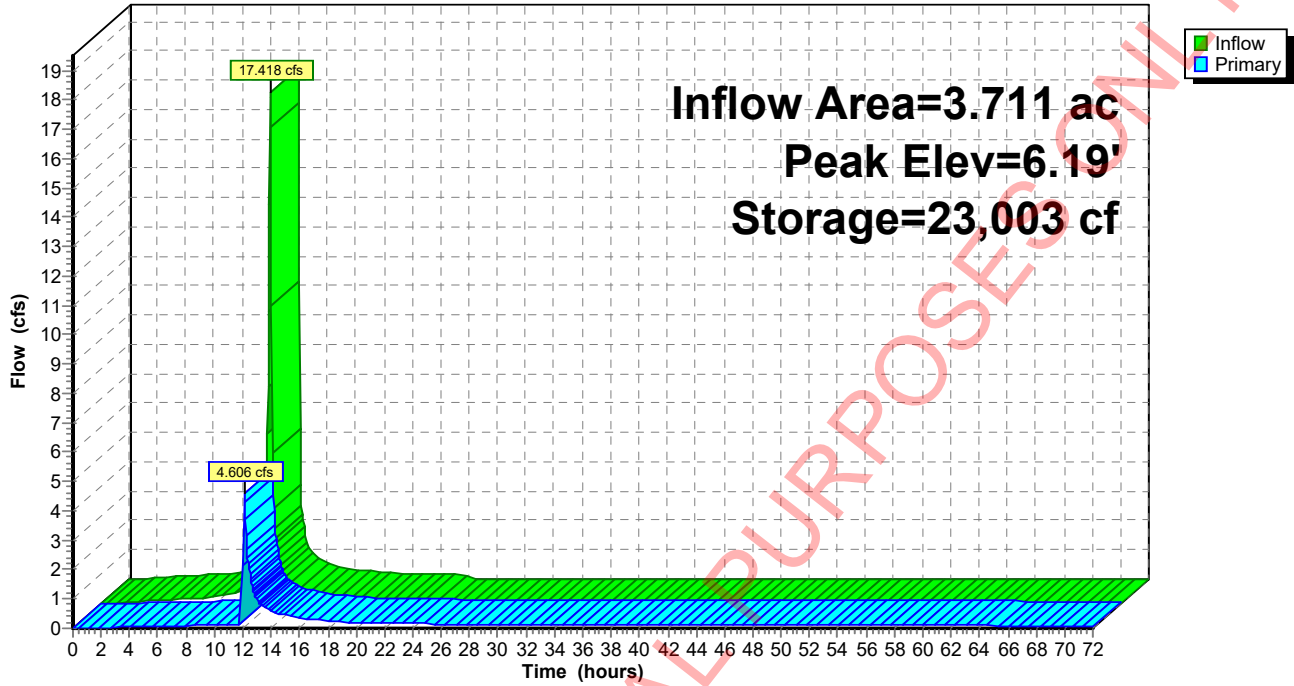
**Primary OutFlow** Max=4.275 cfs @ 12.12 hrs HW=6.18' (Free Discharge)

- 1=Culvert (Passes 4.275 cfs of 11.456 cfs potential flow)
- 2=Outlet Structure#1 (Weir Controls 4.121 cfs @ 1.40 fps)
- 3=Slow Release Orifice (Orifice Controls 0.154 cfs @ 9.76 fps)



Pond PCSM2: SYSTEM 2

Hydrograph



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**Summary for Pond PCSM3: SYSTEM 3**

Inflow Area = 5.059 ac, 73.42% Impervious, Inflow Depth = 3.17" for 5-Year event  
 Inflow = 23.556 cfs @ 11.96 hrs, Volume= 1.337 af  
 Outflow = 5.167 cfs @ 12.14 hrs, Volume= 1.325 af, Atten= 78%, Lag= 10.8 min  
 Primary = 5.167 cfs @ 12.14 hrs, Volume= 1.325 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 5.71' @ 12.14 hrs Surf.Area= 24,612 sf Storage= 31,202 cf

Plug-Flow detention time= 992.7 min calculated for 1.325 af (99% of inflow)  
 Center-of-Mass det. time= 986.3 min ( 1,743.8 - 757.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	4,080 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 20,400 cf Overall x 20.0% Voids
#2	3.50'	85,567 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		89,647 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	10,200	0	0	10,200
2.50	10,200	10,200	10,200	10,558
3.50	10,200	10,200	20,400	10,916

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	10,200	0	0	10,200
4.00	11,150	5,336	5,336	11,167
5.00	13,040	12,083	17,418	13,097
6.00	15,000	14,009	31,427	15,102
7.00	17,000	15,990	47,417	17,151
8.00	19,070	18,025	65,442	19,275
9.00	21,200	20,126	85,567	21,464

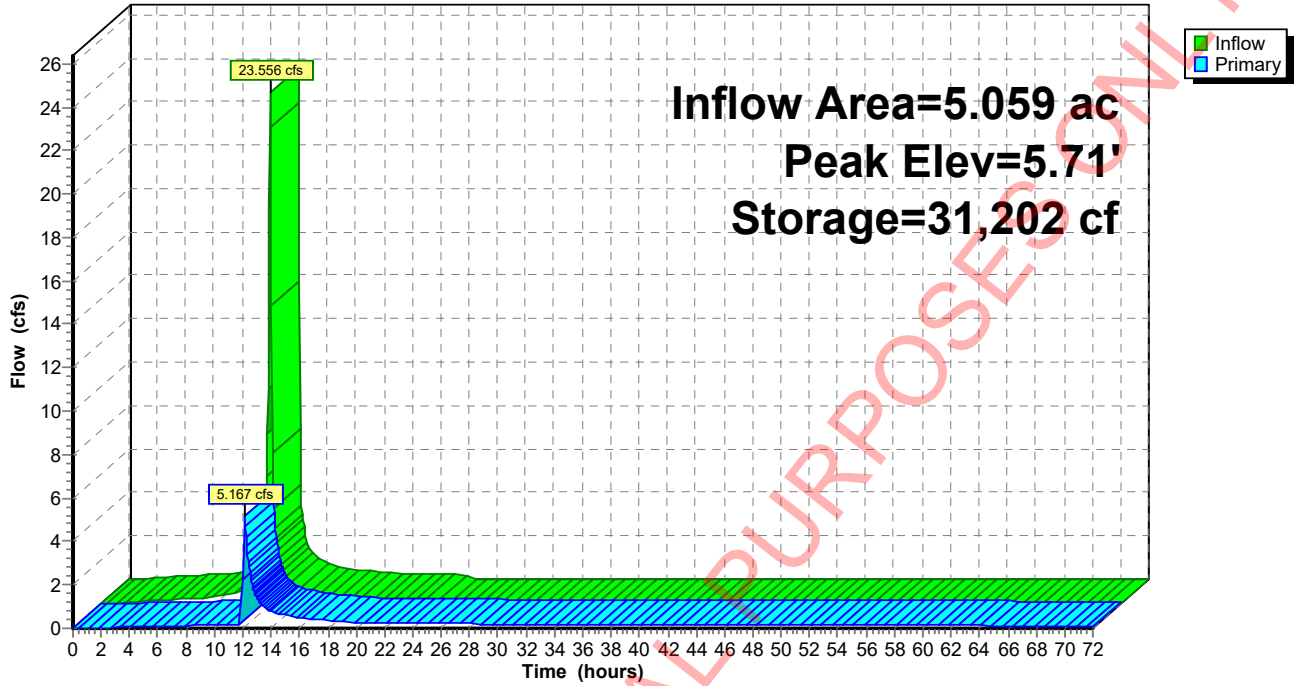
Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 82.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 0.89' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Oultet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.0" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=5.110 cfs @ 12.14 hrs HW=5.71' (Free Discharge)

- 1=Culvert (Passes 5.110 cfs of 10.068 cfs potential flow)
- 2=Oultet Structure#1 (Weir Controls 4.897 cfs @ 1.48 fps)
- 3=Slow Release Orifice (Orifice Controls 0.213 cfs @ 9.78 fps)

Pond PCSM3: SYSTEM 3

Hydrograph



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**Summary for Pond PCSM4: SYSTEM 4**

Inflow Area = 5.958 ac, 83.70% Impervious, Inflow Depth = 3.49" for 5-Year event  
 Inflow = 30.442 cfs @ 11.96 hrs, Volume= 1.731 af  
 Outflow = 2.654 cfs @ 12.46 hrs, Volume= 1.725 af, Atten= 91%, Lag= 30.0 min  
 Primary = 2.654 cfs @ 12.46 hrs, Volume= 1.725 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 5.63' @ 12.46 hrs Surf.Area= 36,421 sf Storage= 44,096 cf

Plug-Flow detention time= 1,064.7 min calculated for 1.725 af (100% of inflow)  
 Center-of-Mass det. time= 1,062.5 min ( 1,815.3 - 752.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,440 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 27,200 cf Overall x 20.0% Voids
#2	3.50'	141,213 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		146,653 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,600	0	0	13,600
2.50	13,600	13,600	13,600	14,013
3.50	13,600	13,600	27,200	14,427

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,600	0	0	13,600
4.00	15,770	7,336	7,336	15,781
5.00	20,120	17,901	25,237	20,156
6.00	24,520	22,284	47,520	24,588
7.00	28,980	26,719	74,239	29,085
8.00	33,500	31,213	105,452	33,649
9.00	38,070	35,761	141,213	38,268

Device	Routing	Invert	Outlet Devices
#1	Primary	1.50'	<b>15.0" Round RCP_Round 15"</b> L= 72.0' Ke= 0.500 Inlet / Outlet Invert= 1.50' / -0.85' S= 0.0326 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=2.647 cfs @ 12.46 hrs HW=5.63' (Free Discharge)

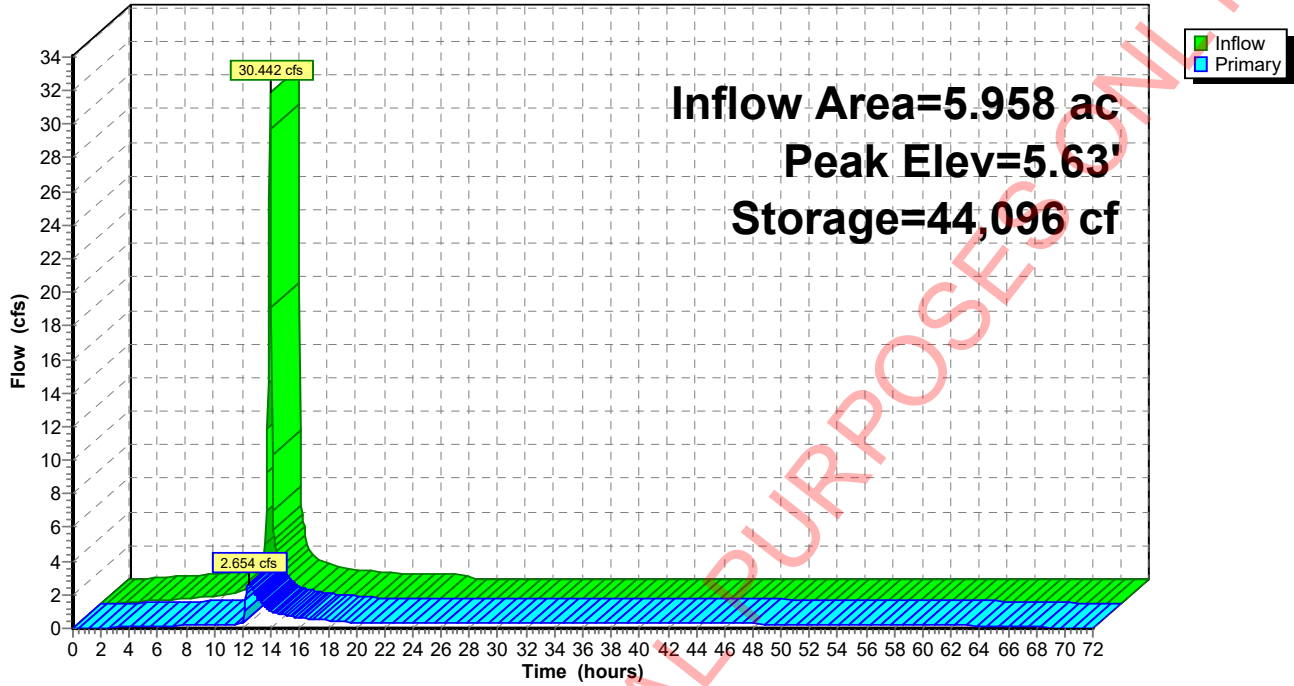
1=RCP\_Round 15" (Passes 2.647 cfs of 11.055 cfs potential flow)

2=Outlet Structure#1 (Weir Controls 2.318 cfs @ 1.16 fps)

3=Slow Release Orifice (Orifice Controls 0.329 cfs @ 9.66 fps)

Pond PCSM4: SYSTEM 4

Hydrograph



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**Summary for Pond PCSM5: SYSTEM 5**

Inflow Area = 5.740 ac, 85.05% Impervious, Inflow Depth = 3.53" for 5-Year event  
 Inflow = 29.670 cfs @ 11.96 hrs, Volume= 1.687 af  
 Outflow = 6.526 cfs @ 12.14 hrs, Volume= 1.686 af, Atten= 78%, Lag= 10.6 min  
 Primary = 6.526 cfs @ 12.14 hrs, Volume= 1.686 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 5.74' @ 12.14 hrs Surf.Area= 30,349 sf Storage= 39,306 cf

Plug-Flow detention time= 860.4 min calculated for 1.684 af (100% of inflow)  
 Center-of-Mass det. time= 861.1 min ( 1,613.3 - 752.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,380 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 26,900 cf Overall x 20.0% Voids
#2	3.50'	97,893 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		103,273 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,450	0	0	13,450
2.50	13,450	13,450	13,450	13,861
3.50	13,450	13,450	26,900	14,272

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,450	0	0	13,450
4.00	14,190	6,909	6,909	14,219
5.00	15,730	14,953	21,863	15,819
6.00	17,320	16,519	38,381	17,473
7.00	18,970	18,139	56,520	19,190
8.00	20,680	19,819	76,339	20,972
9.00	22,440	21,554	97,893	22,807

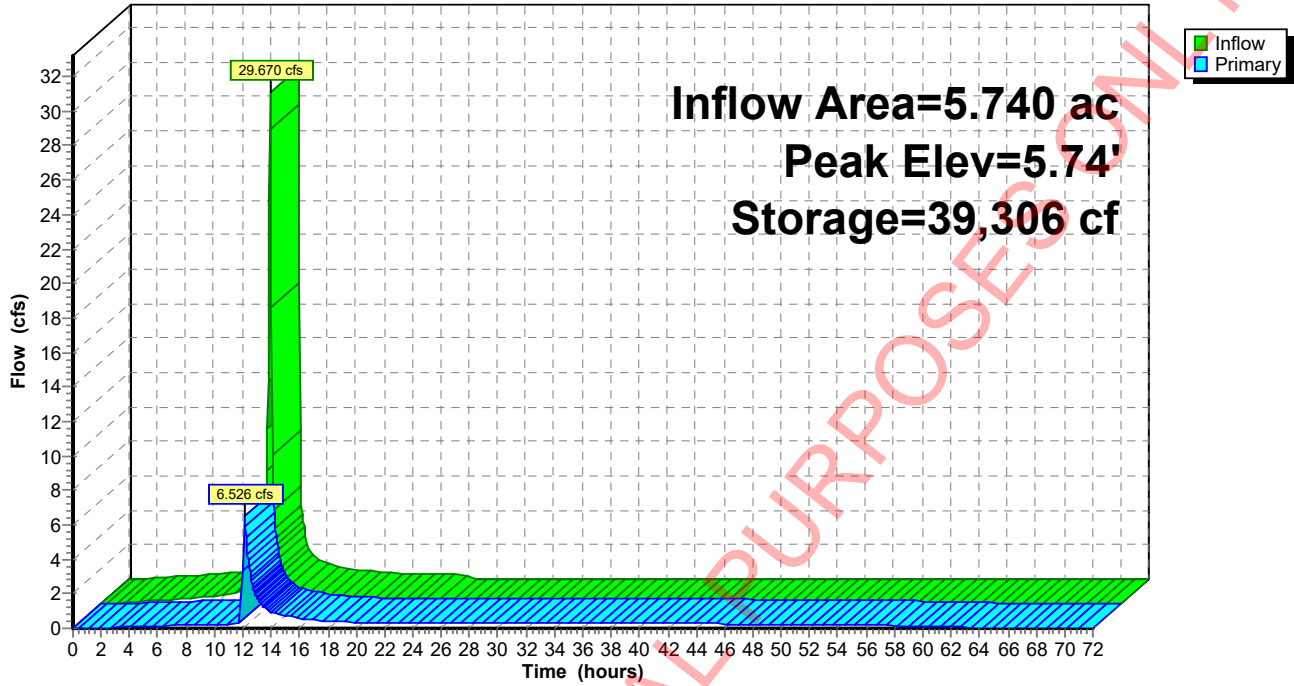
Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 1.02' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Oultet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=6.403 cfs @ 12.14 hrs HW=5.74' (Free Discharge)

- 1=Culvert (Passes 6.403 cfs of 10.948 cfs potential flow)
- 2=Oultet Structure#1 (Weir Controls 6.069 cfs @ 1.59 fps)
- 3=Slow Release Orifice (Orifice Controls 0.334 cfs @ 9.79 fps)

Pond PCSM5: SYSTEM 5

Hydrograph



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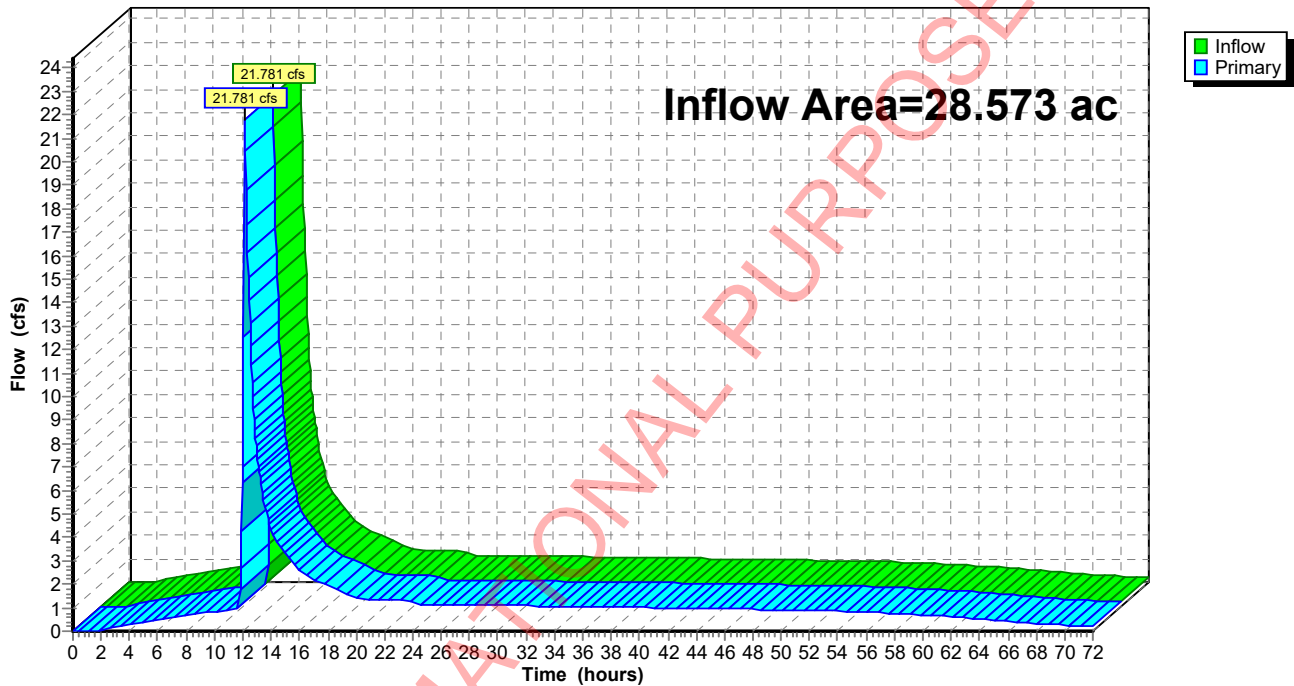
Summary for Link POI1: POST DA 1

Inflow Area = 28.573 ac, 67.99% Impervious, Inflow Depth > 2.96" for 5-Year event  
Inflow = 21.781 cfs @ 12.15 hrs, Volume= 7.056 af  
Primary = 21.781 cfs @ 12.15 hrs, Volume= 7.056 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link POI1: POST DA 1

Hydrograph





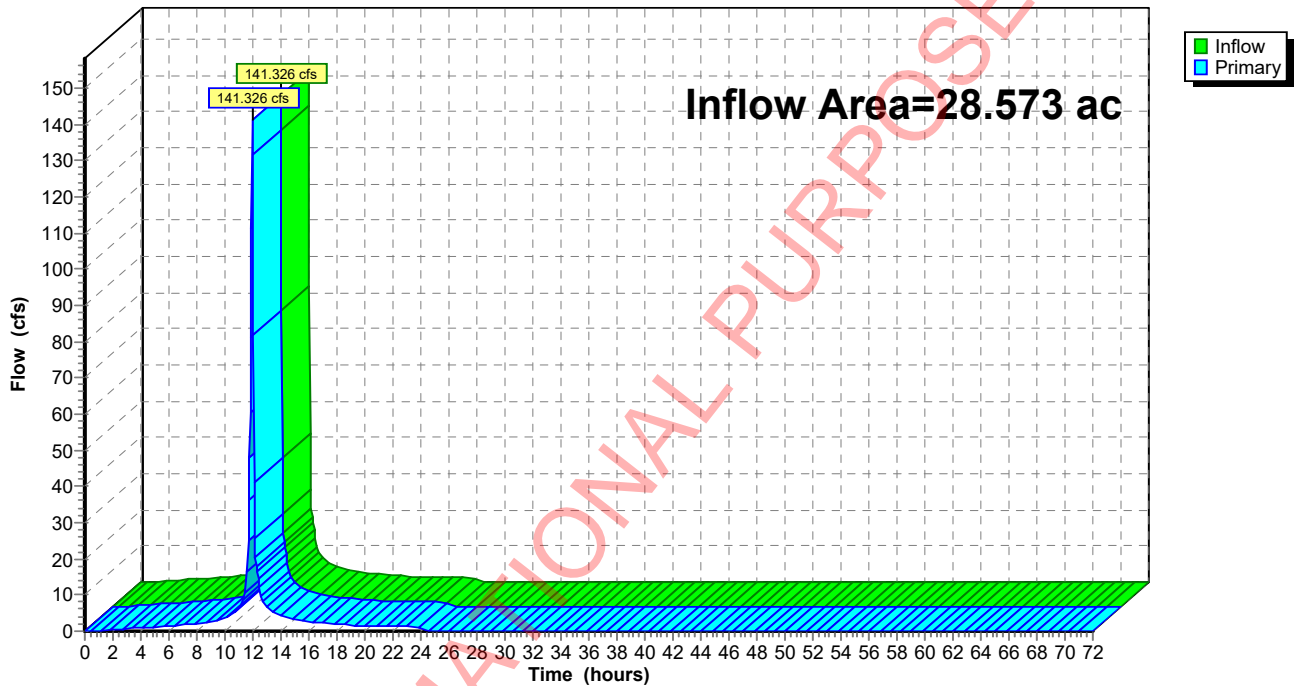
Summary for Link PRE1: existing DA

Inflow Area = 28.573 ac, 80.00% Impervious, Inflow Depth = 3.37" for 5-Year event  
Inflow = 141.326 cfs @ 11.96 hrs, Volume= 8.032 af  
Primary = 141.326 cfs @ 11.96 hrs, Volume= 8.032 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link PRE1: existing DA

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment1S: DA1</b>	Runoff Area=1,244,658 sf 80.00% Impervious Runoff Depth=4.04" Tc=6.0 min CN=61/98 Runoff=168.968 cfs 9.616 af
<b>SubcatchmentC1: DA1</b>	Runoff Area=181,031 sf 74.26% Impervious Runoff Depth=3.84" Tc=6.0 min CN=61/98 Runoff=23.460 cfs 1.332 af
<b>SubcatchmentC2: DA2</b>	Runoff Area=161,650 sf 74.28% Impervious Runoff Depth=3.85" Tc=6.0 min CN=61/98 Runoff=20.951 cfs 1.189 af
<b>SubcatchmentC3: DA3</b>	Runoff Area=220,390 sf 73.42% Impervious Runoff Depth=3.82" Tc=6.0 min CN=61/98 Runoff=28.360 cfs 1.609 af
<b>SubcatchmentC4: DA4</b>	Runoff Area=259,545 sf 83.70% Impervious Runoff Depth=4.16" Tc=6.0 min CN=61/98 Runoff=36.266 cfs 2.067 af
<b>SubcatchmentC5: DA5</b>	Runoff Area=250,029 sf 85.05% Impervious Runoff Depth=4.21" Tc=6.0 min CN=61/98 Runoff=35.302 cfs 2.013 af
<b>SubcatchmentU1: BYPASS</b>	Runoff Area=172,015 sf 0.00% Impervious Runoff Depth=1.34" Tc=6.0 min CN=61/0 Runoff=8.943 cfs 0.441 af
<b>Pond PCSM1: SYSTEM 1</b>	Peak Elev=6.36' Storage=29,329 cf Inflow=23.460 cfs 1.332 af Outflow=11.165 cfs 1.263 af
<b>Pond PCSM2: SYSTEM 2</b>	Peak Elev=6.37' Storage=24,978 cf Inflow=20.951 cfs 1.189 af Outflow=11.519 cfs 1.177 af
<b>Pond PCSM3: SYSTEM 3</b>	Peak Elev=5.95' Storage=34,734 cf Inflow=28.360 cfs 1.609 af Outflow=10.404 cfs 1.596 af
<b>Pond PCSM4: SYSTEM 4</b>	Peak Elev=5.80' Storage=48,208 cf Inflow=36.266 cfs 2.067 af Outflow=9.059 cfs 2.061 af
<b>Pond PCSM5: SYSTEM 5</b>	Peak Elev=6.02' Storage=44,071 cf Inflow=35.302 cfs 2.013 af Outflow=11.382 cfs 2.011 af
<b>Link POI1: POST DA 1</b>	Inflow=57.311 cfs 8.548 af Primary=57.311 cfs 8.548 af
<b>Link PRE1: existing DA</b>	Inflow=168.968 cfs 9.616 af Primary=168.968 cfs 9.616 af

**Total Runoff Area = 57.147 ac Runoff Volume = 18.267 af Average Runoff Depth = 3.84"**  
**26.01% Pervious = 14.862 ac 73.99% Impervious = 42.285 ac**

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**Summary for Subcatchment 1S: DA1**

Runoff = 168.968 cfs @ 11.96 hrs, Volume= 9.616 af, Depth= 4.04"

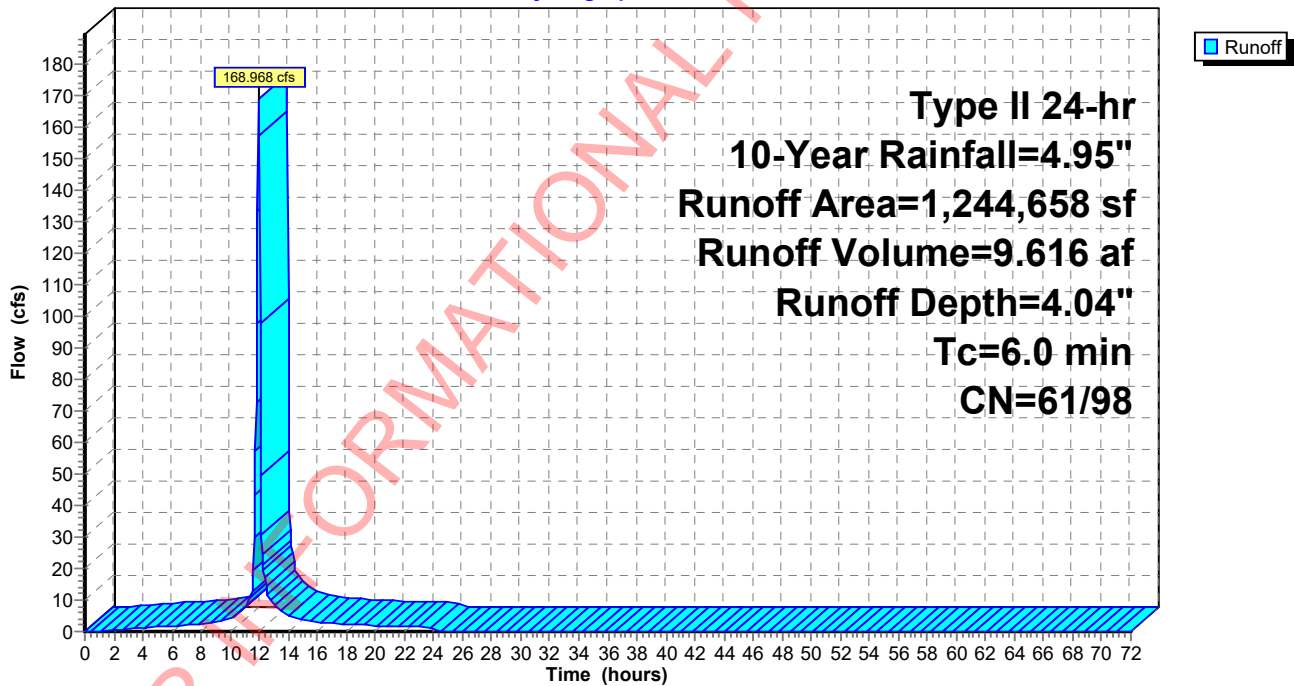
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 10-Year Rainfall=4.95"

Area (sf)	CN	Description
995,726	98	Paved parking, HSG B
* 248,932	61	20%IMPERVIOUS AS LAWN
1,244,658	91	Weighted Average
248,932	61	20.00% Pervious Area
995,726	98	80.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment 1S: DA1**

Hydrograph



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Type II 24-hr 10-Year Rainfall=4.95"

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**Summary for Subcatchment C1: DA1**

Runoff = 23.460 cfs @ 11.96 hrs, Volume= 1.332 af, Depth= 3.84"

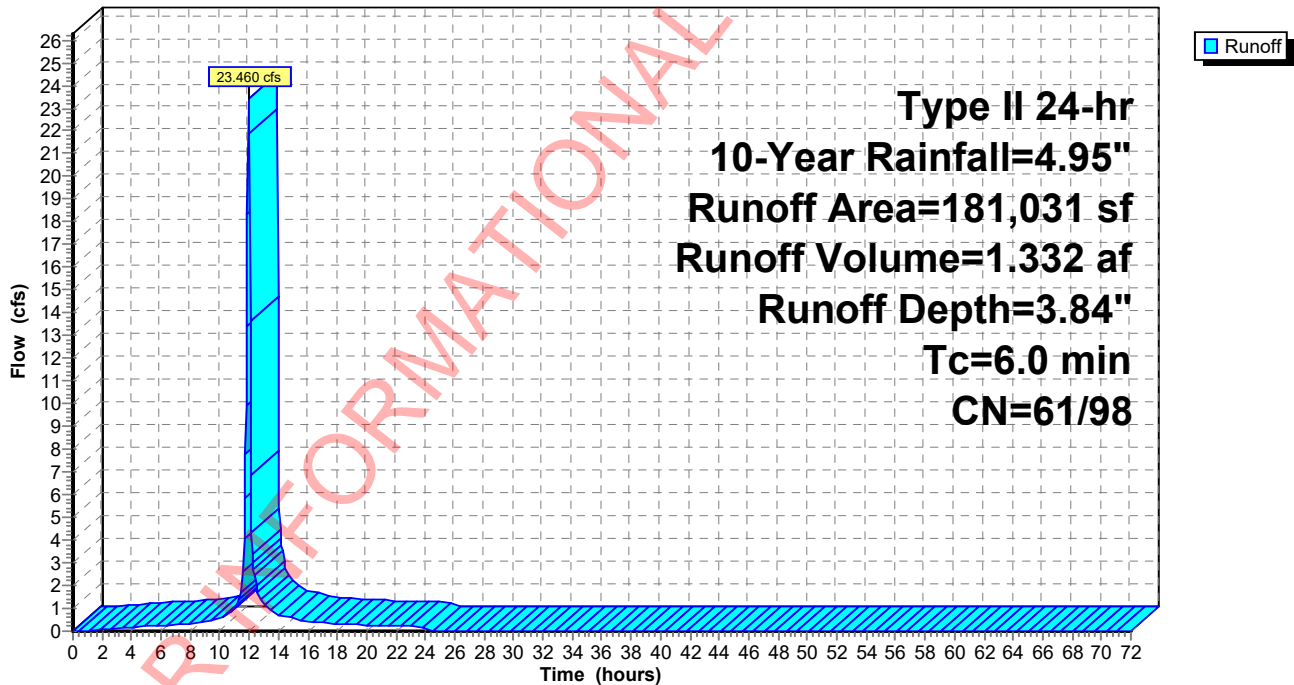
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 10-Year Rainfall=4.95"

	Area (sf)	CN	Description
*	108,520	98	ROOF
	25,919	98	Paved parking, HSG B
	46,592	61	>75% Grass cover, Good, HSG B
	181,031	88	Weighted Average
	46,592	61	25.74% Pervious Area
	134,439	98	74.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C1: DA1**

Hydrograph



**Philaport - Full System**

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Type II 24-hr 10-Year Rainfall=4.95"

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**Summary for Subcatchment C2: DA2**

Runoff = 20.951 cfs @ 11.96 hrs, Volume= 1.189 af, Depth= 3.85"

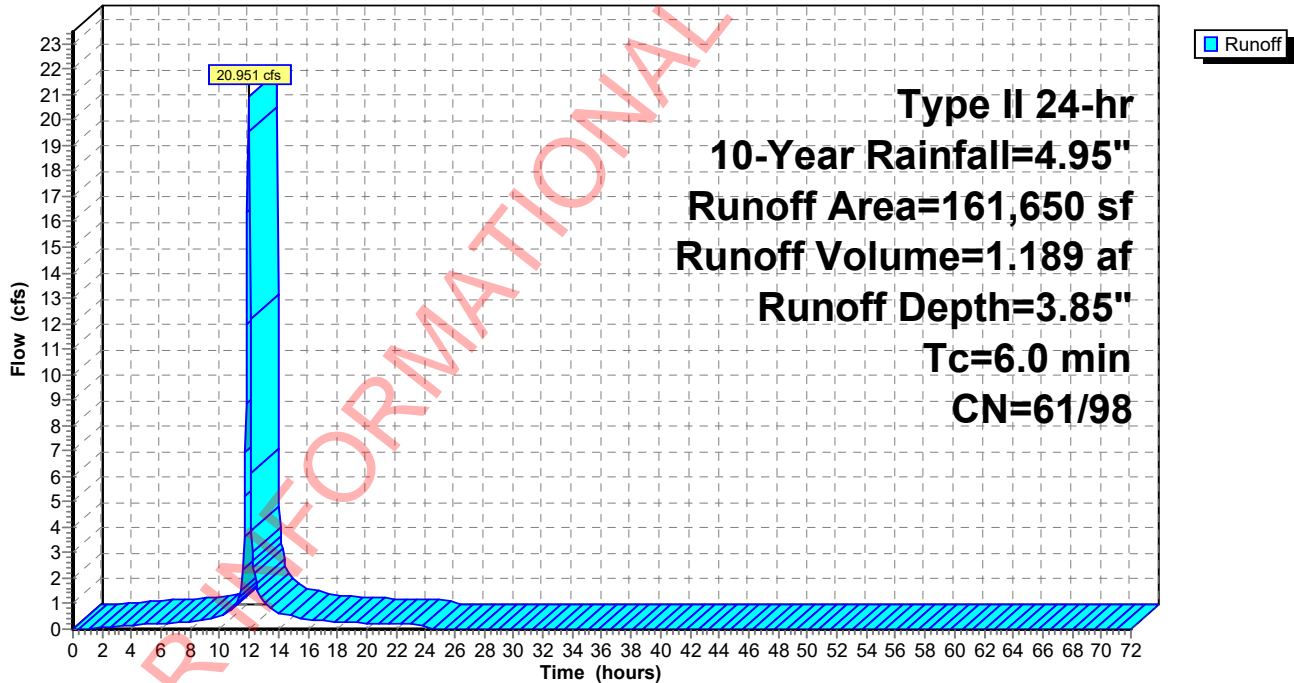
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 10-Year Rainfall=4.95"

	Area (sf)	CN	Description
*	103,425	98	ROOF
	16,645	98	Paved parking, HSG B
	41,580	61	>75% Grass cover, Good, HSG B
	161,650	88	Weighted Average
	41,580	61	25.72% Pervious Area
	120,070	98	74.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C2: DA2**

Hydrograph



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Type II 24-hr 10-Year Rainfall=4.95"

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**Summary for Subcatchment C3: DA3**

Runoff = 28.360 cfs @ 11.96 hrs, Volume= 1.609 af, Depth= 3.82"

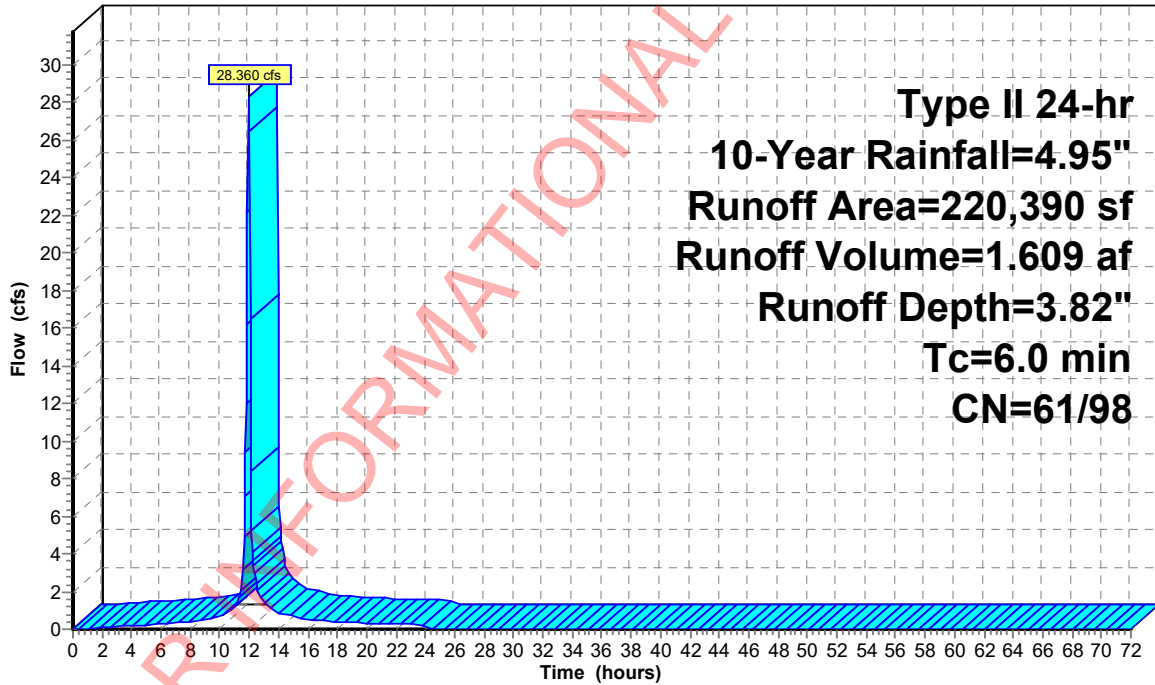
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 10-Year Rainfall=4.95"

	Area (sf)	CN	Description
*	57,887	98	ROOF
	103,914	98	Paved parking, HSG B
	58,589	61	>75% Grass cover, Good, HSG B
	220,390	88	Weighted Average
	58,589	61	26.58% Pervious Area
	161,801	98	73.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C3: DA3**

Hydrograph



Runoff

**Type II 24-hr  
10-Year Rainfall=4.95"  
Runoff Area=220,390 sf  
Runoff Volume=1.609 af  
Runoff Depth=3.82"  
Tc=6.0 min  
CN=61/98**

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Type II 24-hr 10-Year Rainfall=4.95"

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**Summary for Subcatchment C4: DA4**

Runoff = 36.266 cfs @ 11.96 hrs, Volume= 2.067 af, Depth= 4.16"

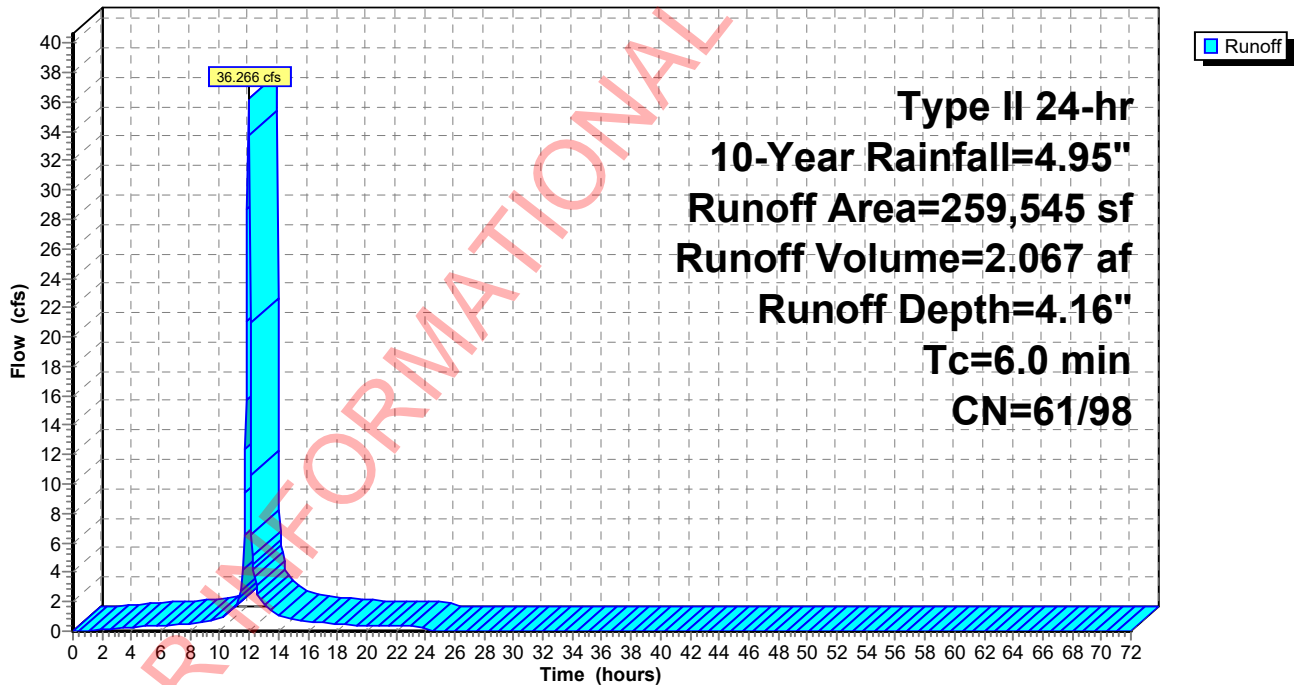
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 10-Year Rainfall=4.95"

	Area (sf)	CN	Description
*	40,298	98	ROOF
	176,929	98	Paved parking, HSG B
	42,318	61	>75% Grass cover, Good, HSG B
	259,545	92	Weighted Average
	42,318	61	16.30% Pervious Area
	217,227	98	83.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C4: DA4**

Hydrograph



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Type II 24-hr 10-Year Rainfall=4.95"

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**Summary for Subcatchment C5: DA5**

Runoff = 35.302 cfs @ 11.96 hrs, Volume= 2.013 af, Depth= 4.21"

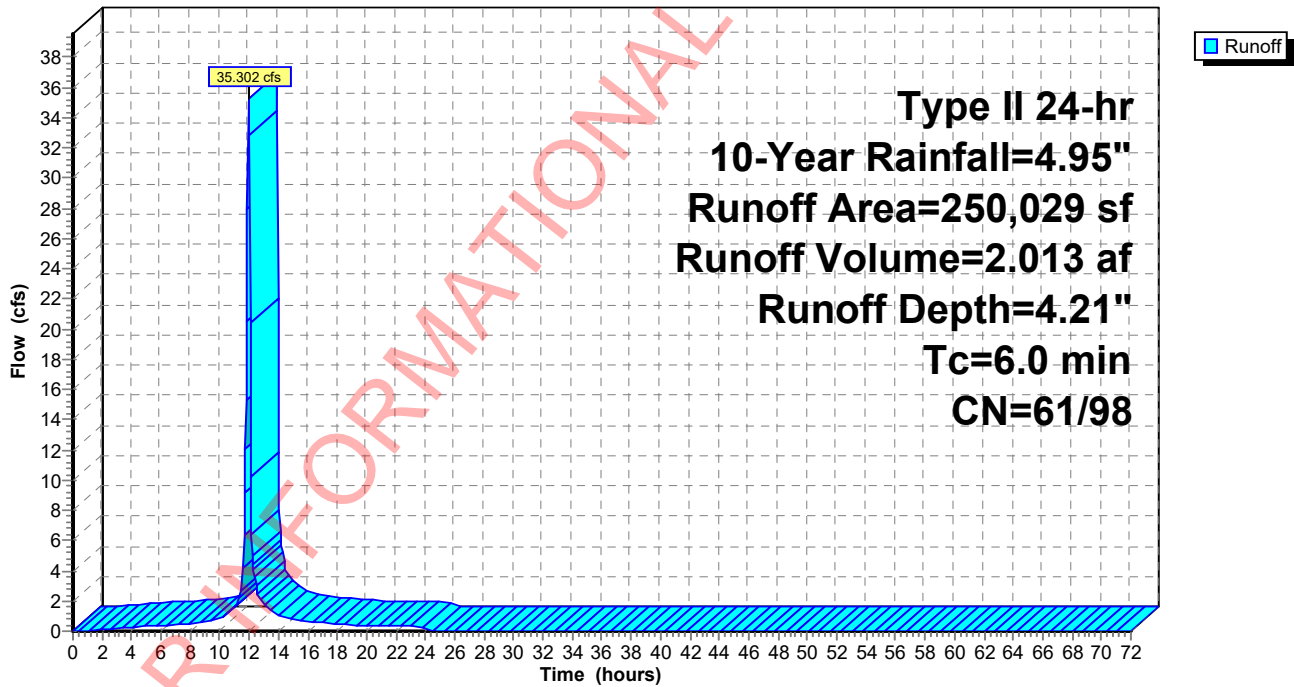
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 10-Year Rainfall=4.95"

	Area (sf)	CN	Description
*	108,522	98	ROOF
	104,137	98	Paved parking, HSG B
	37,370	61	>75% Grass cover, Good, HSG B
	250,029	92	Weighted Average
	37,370	61	14.95% Pervious Area
	212,659	98	85.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C5: DA5**

Hydrograph





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Type II 24-hr 10-Year Rainfall=4.95"

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**Summary for Subcatchment U1: BYPASS**

Runoff = 8.943 cfs @ 11.98 hrs, Volume= 0.441 af, Depth= 1.34"

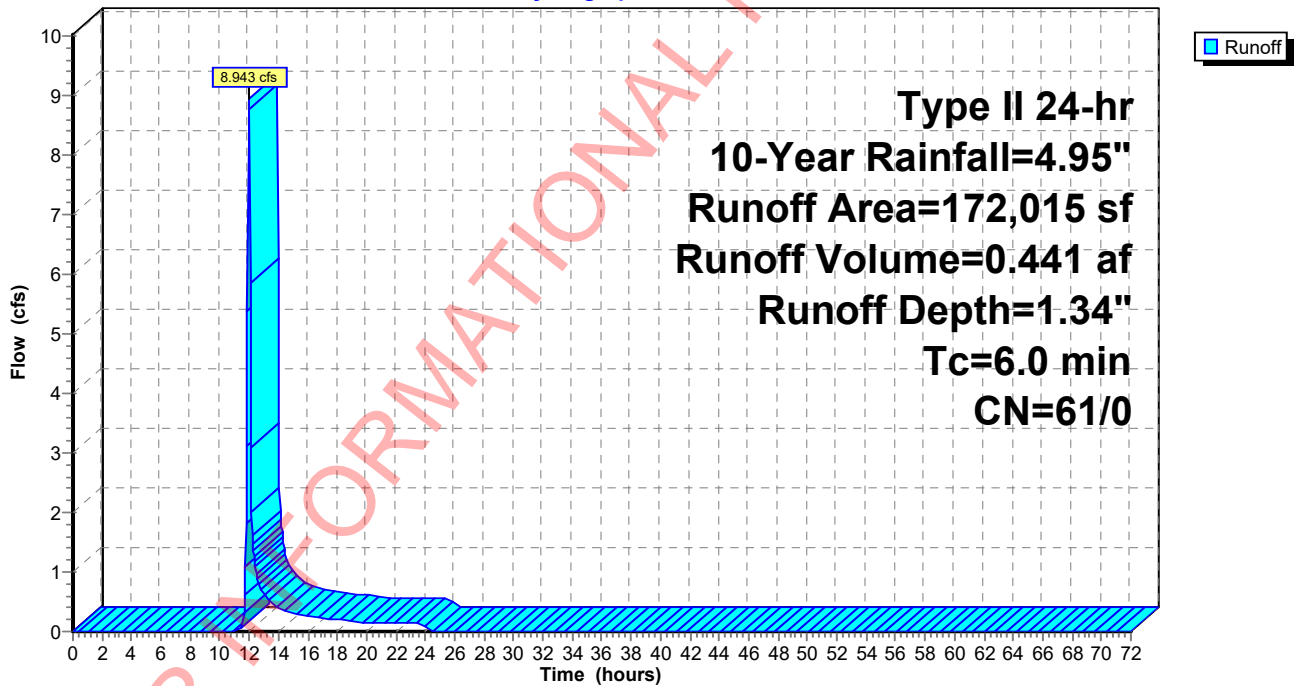
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 10-Year Rainfall=4.95"

Area (sf)	CN	Description
*	0	98 ROOF
	0	98 Paved parking, HSG B
172,015	61	>75% Grass cover, Good, HSG B
172,015	61	Weighted Average
172,015	61	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment U1: BYPASS**

Hydrograph



**Philaport - Full System**

Type II 24-hr 10-Year Rainfall=4.95"

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**Summary for Pond PCSM1: SYSTEM 1**

Inflow Area = 4.156 ac, 74.26% Impervious, Inflow Depth = 3.84" for 10-Year event  
 Inflow = 23.460 cfs @ 11.96 hrs, Volume= 1.332 af  
 Outflow = 11.165 cfs @ 12.07 hrs, Volume= 1.263 af, Atten= 52%, Lag= 6.6 min  
 Primary = 11.165 cfs @ 12.07 hrs, Volume= 1.263 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.36' @ 12.07 hrs Surf.Area= 21,786 sf Storage= 29,329 cf

Plug-Flow detention time= 904.8 min calculated for 1.262 af (95% of inflow)  
 Center-of-Mass det. time= 875.0 min ( 1,630.3 - 755.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,740 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 18,700 cf Overall x 20.0% Voids
#2	4.00'	63,602 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,342 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	9,350	0	0	9,350
3.00	9,350	9,350	9,350	9,693
4.00	9,350	9,350	18,700	10,036

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	9,350	0	0	9,350
5.00	10,612	9,974	9,974	10,661
6.00	11,946	11,272	21,247	12,047
7.00	13,348	12,641	33,887	13,504
8.00	14,835	14,085	47,972	15,050
9.00	16,439	15,630	63,602	16,714

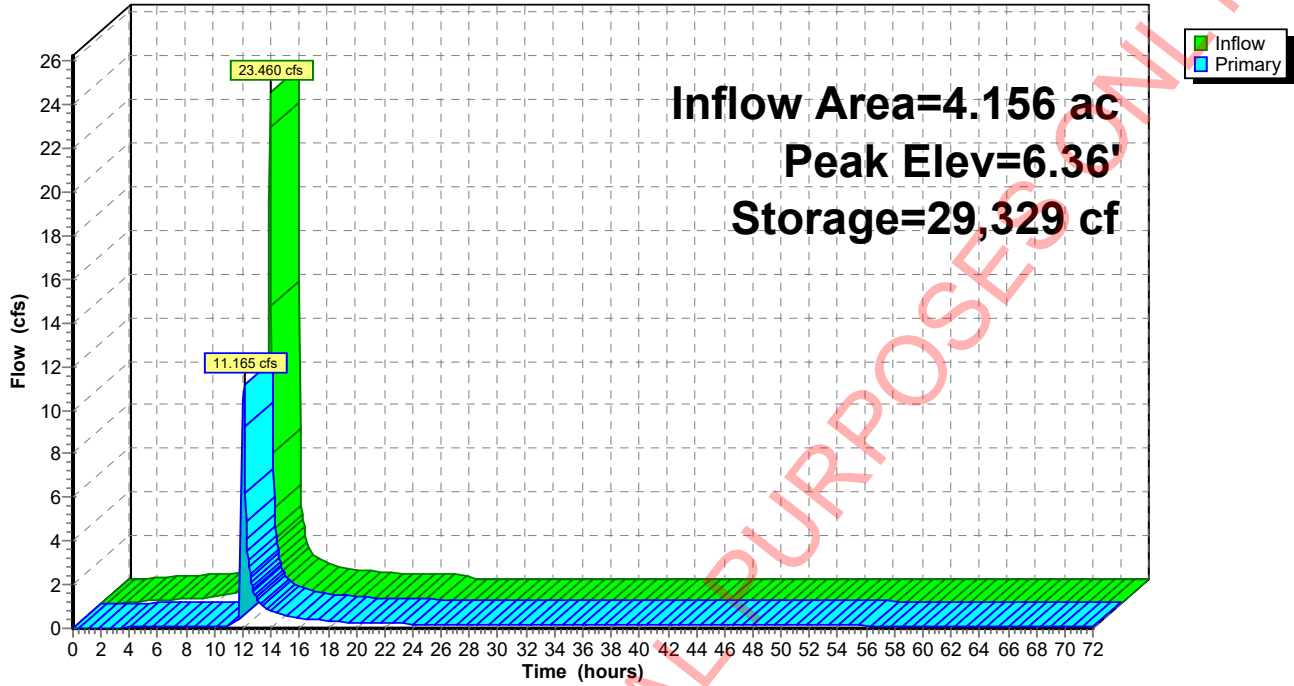
Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.07' S= 0.0206 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=10.395 cfs @ 12.07 hrs HW=6.34' (Free Discharge)

- 1=Culvert (Passes 10.395 cfs of 11.687 cfs potential flow)
- 2=Outlet Structure#1 (Weir Controls 10.238 cfs @ 1.90 fps)
- 3=Slow Release Orifice (Orifice Controls 0.157 cfs @ 9.95 fps)

Pond PCSM1: SYSTEM 1

Hydrograph



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**Summary for Pond PCSM2: SYSTEM 2**

Inflow Area = 3.711 ac, 74.28% Impervious, Inflow Depth = 3.85" for 10-Year event  
 Inflow = 20.951 cfs @ 11.96 hrs, Volume= 1.189 af  
 Outflow = 11.519 cfs @ 12.07 hrs, Volume= 1.177 af, Atten= 45%, Lag= 6.3 min  
 Primary = 11.519 cfs @ 12.07 hrs, Volume= 1.177 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.37' @ 12.07 hrs Surf.Area= 18,551 sf Storage= 24,978 cf

Plug-Flow detention time= 841.3 min calculated for 1.177 af (99% of inflow)  
 Center-of-Mass det. time= 834.2 min ( 1,589.5 - 755.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,000 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 15,000 cf Overall x 20.0% Voids
#2	4.00'	64,620 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,620 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	7,500	0	0	7,500
3.00	7,500	7,500	7,500	7,807
4.00	7,500	7,500	15,000	8,114

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	7,500	0	0	7,500
5.00	8,980	8,229	8,229	9,015
6.00	10,480	9,720	17,949	10,555
7.00	12,040	11,251	29,200	12,159
8.00	13,658	12,841	42,041	13,826
9.00	15,330	14,486	56,527	15,552
9.50	17,060	8,094	64,620	17,297

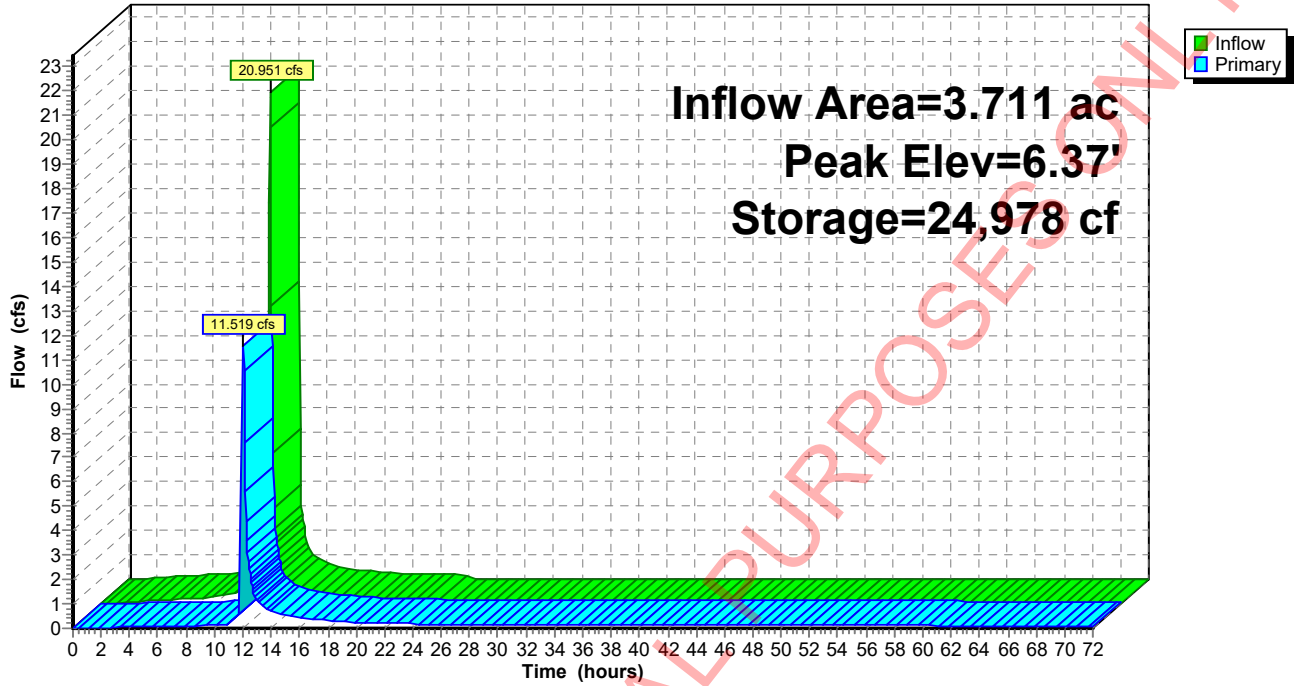
Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 85.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.14' S= 0.0195' /' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=11.352 cfs @ 12.07 hrs HW=6.36' (Free Discharge)

- 1=Culvert (Passes 11.352 cfs of 11.718 cfs potential flow)
- 2=Outlet Structure#1 (Weir Controls 11.195 cfs @ 1.96 fps)
- 3=Slow Release Orifice (Orifice Controls 0.157 cfs @ 9.97 fps)

Pond PCSM2: SYSTEM 2

Hydrograph



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**Summary for Pond PCSM3: SYSTEM 3**

Inflow Area = 5.059 ac, 73.42% Impervious, Inflow Depth = 3.82" for 10-Year event  
 Inflow = 28.360 cfs @ 11.96 hrs, Volume= 1.609 af  
 Outflow = 10.404 cfs @ 12.09 hrs, Volume= 1.596 af, Atten= 63%, Lag= 7.7 min  
 Primary = 10.404 cfs @ 12.09 hrs, Volume= 1.596 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 5.95' @ 12.09 hrs Surf.Area= 25,095 sf Storage= 34,734 cf

Plug-Flow detention time= 834.0 min calculated for 1.596 af (99% of inflow)  
 Center-of-Mass det. time= 828.6 min ( 1,584.4 - 755.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	4,080 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 20,400 cf Overall x 20.0% Voids
#2	3.50'	85,567 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		89,647 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	10,200	0	0	10,200
2.50	10,200	10,200	10,200	10,558
3.50	10,200	10,200	20,400	10,916

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	10,200	0	0	10,200
4.00	11,150	5,336	5,336	11,167
5.00	13,040	12,083	17,418	13,097
6.00	15,000	14,009	31,427	15,102
7.00	17,000	15,990	47,417	17,151
8.00	19,070	18,025	65,442	19,275
9.00	21,200	20,126	85,567	21,464

Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 82.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 0.89' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Oultet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.0" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=10.398 cfs @ 12.09 hrs HW=5.94' (Free Discharge)

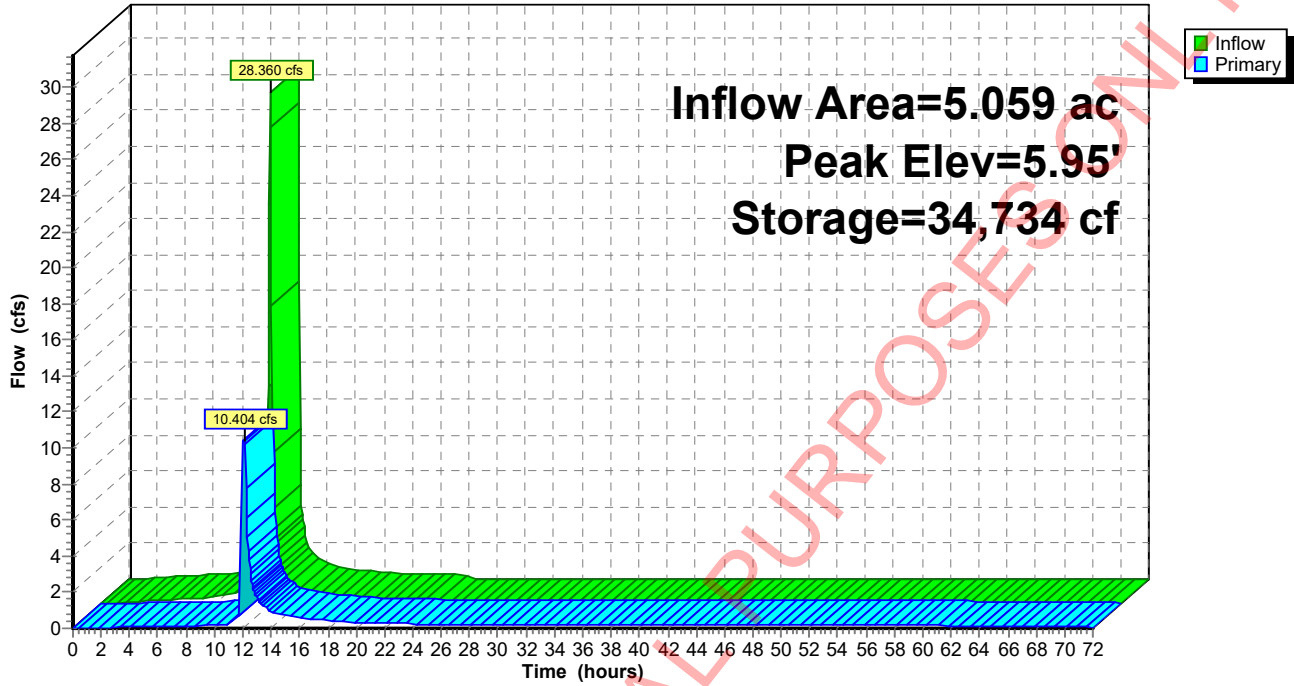
1=Culvert (Barrel Controls 10.398 cfs @ 8.47 fps)

2=Oultet Structure#1 (Passes < 15.491 cfs potential flow)

3=Slow Release Orifice (Passes < 0.219 cfs potential flow)

Pond PCSM3: SYSTEM 3

Hydrograph



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**Summary for Pond PCSM4: SYSTEM 4**

Inflow Area = 5.958 ac, 83.70% Impervious, Inflow Depth = 4.16" for 10-Year event  
 Inflow = 36.266 cfs @ 11.96 hrs, Volume= 2.067 af  
 Outflow = 9.059 cfs @ 12.12 hrs, Volume= 2.061 af, Atten= 75%, Lag= 9.6 min  
 Primary = 9.059 cfs @ 12.12 hrs, Volume= 2.061 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 5.80' @ 12.12 hrs Surf.Area= 37,217 sf Storage= 48,208 cf

Plug-Flow detention time= 914.4 min calculated for 2.061 af (100% of inflow)  
 Center-of-Mass det. time= 912.3 min ( 1,663.0 - 750.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,440 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 27,200 cf Overall x 20.0% Voids
#2	3.50'	141,213 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		146,653 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,600	0	0	13,600
2.50	13,600	13,600	13,600	14,013
3.50	13,600	13,600	27,200	14,427

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,600	0	0	13,600
4.00	15,770	7,336	7,336	15,781
5.00	20,120	17,901	25,237	20,156
6.00	24,520	22,284	47,520	24,588
7.00	28,980	26,719	74,239	29,085
8.00	33,500	31,213	105,452	33,649
9.00	38,070	35,761	141,213	38,268

Device	Routing	Invert	Outlet Devices
#1	Primary	1.50'	<b>15.0" Round RCP_Round 15"</b> L= 72.0' Ke= 0.500 Inlet / Outlet Invert= 1.50' / -0.85' S= 0.0326 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=8.696 cfs @ 12.12 hrs HW=5.79' (Free Discharge)

1=RCP\_Round 15" (Passes 8.696 cfs of 11.319 cfs potential flow)

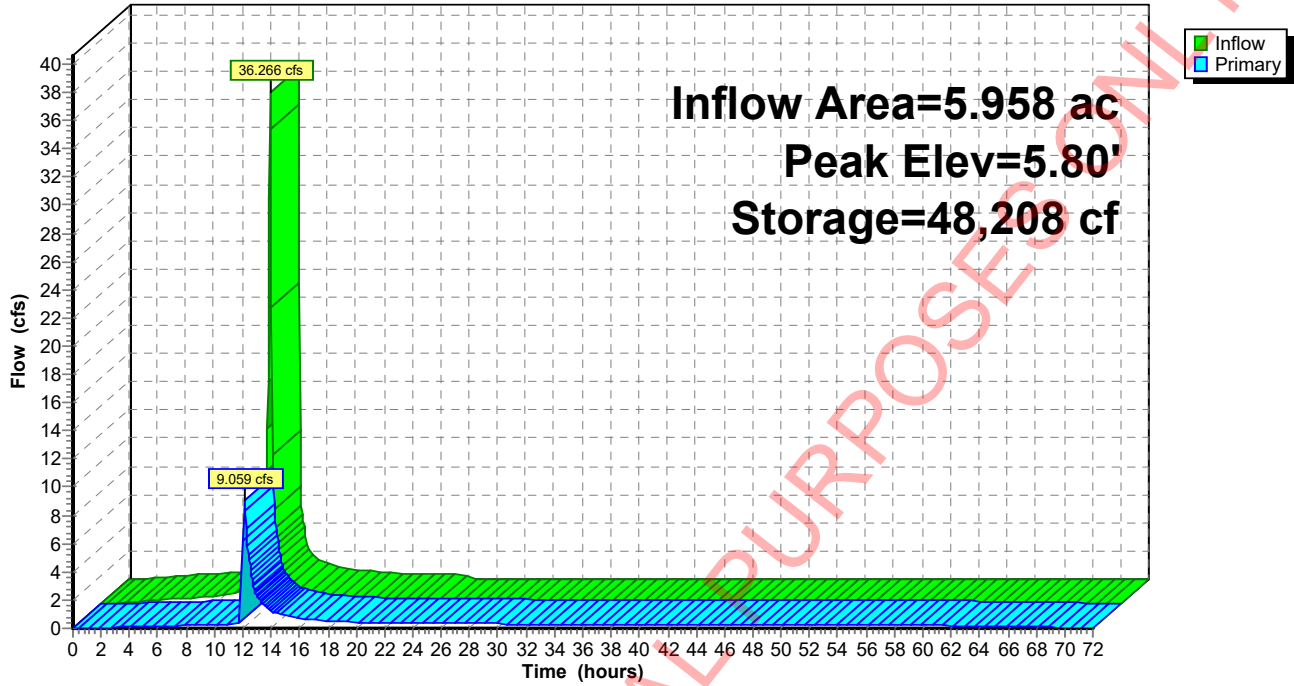
2=Outlet Structure#1 (Weir Controls 8.360 cfs @ 1.77 fps)

3=Slow Release Orifice (Orifice Controls 0.336 cfs @ 9.86 fps)



Pond PCSM4: SYSTEM 4

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**Summary for Pond PCSM5: SYSTEM 5**

Inflow Area = 5.740 ac, 85.05% Impervious, Inflow Depth = 4.21" for 10-Year event  
 Inflow = 35.302 cfs @ 11.96 hrs, Volume= 2.013 af  
 Outflow = 11.382 cfs @ 12.10 hrs, Volume= 2.011 af, Atten= 68%, Lag= 8.4 min  
 Primary = 11.382 cfs @ 12.10 hrs, Volume= 2.011 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.02' @ 12.10 hrs Surf.Area= 30,799 sf Storage= 44,071 cf

Plug-Flow detention time= 743.8 min calculated for 2.010 af (100% of inflow)  
 Center-of-Mass det. time= 744.6 min ( 1,494.6 - 750.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,380 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 26,900 cf Overall x 20.0% Voids
#2	3.50'	97,893 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		103,273 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,450	0	0	13,450
2.50	13,450	13,450	13,450	13,861
3.50	13,450	13,450	26,900	14,272

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,450	0	0	13,450
4.00	14,190	6,909	6,909	14,219
5.00	15,730	14,953	21,863	15,819
6.00	17,320	16,519	38,381	17,473
7.00	18,970	18,139	56,520	19,190
8.00	20,680	19,819	76,339	20,972
9.00	22,440	21,554	97,893	22,807

Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 1.02' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=11.378 cfs @ 12.10 hrs HW=6.02' (Free Discharge)

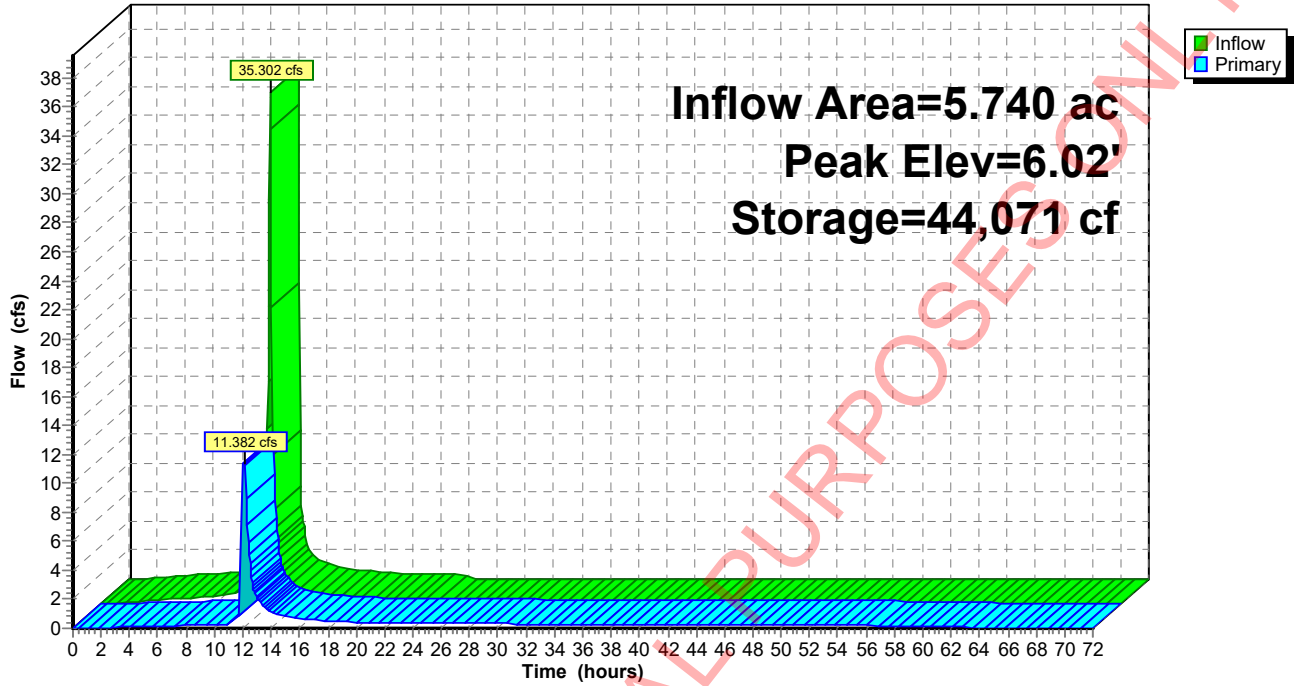
1=Culvert (Barrel Controls 11.378 cfs @ 9.27 fps)

2=Outlet Structure#1 (Passes < 19.369 cfs potential flow)

3=Slow Release Orifice (Passes < 0.345 cfs potential flow)

Pond PCSM5: SYSTEM 5

Hydrograph



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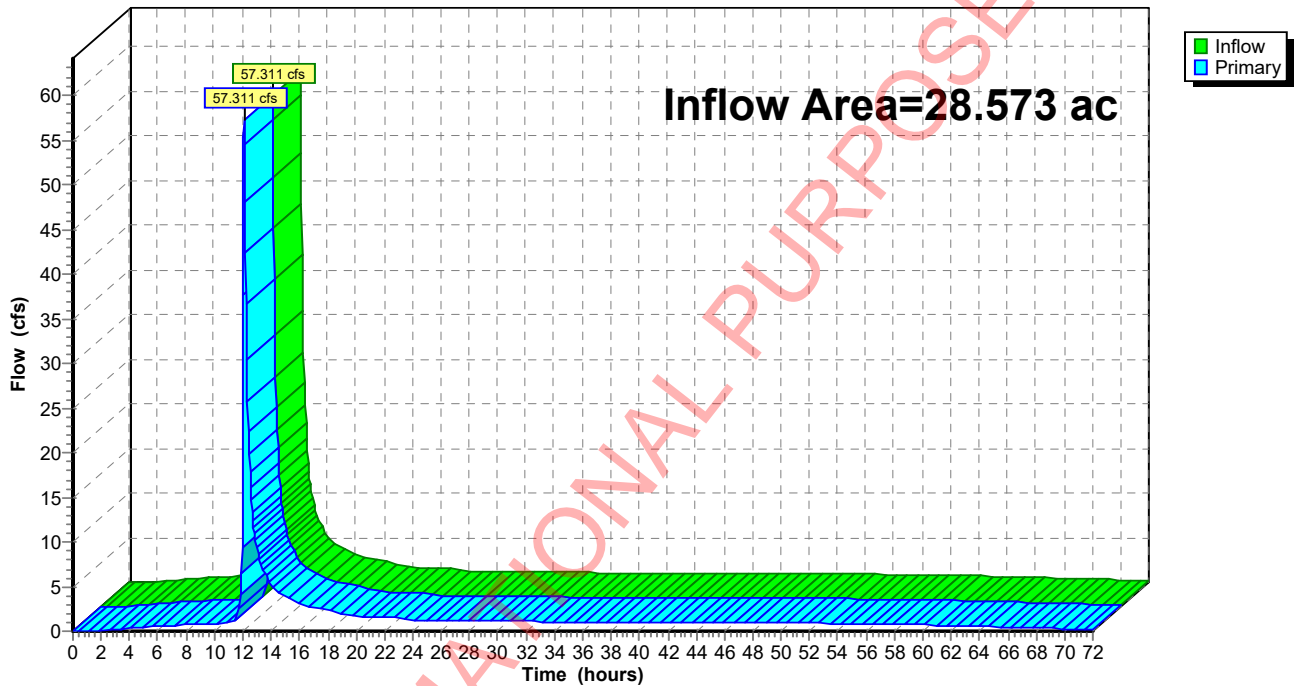
Summary for Link POI1: POST DA 1

Inflow Area = 28.573 ac, 67.99% Impervious, Inflow Depth > 3.59" for 10-Year event  
Inflow = 57.311 cfs @ 12.07 hrs, Volume= 8.548 af  
Primary = 57.311 cfs @ 12.07 hrs, Volume= 8.548 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link POI1: POST DA 1

Hydrograph



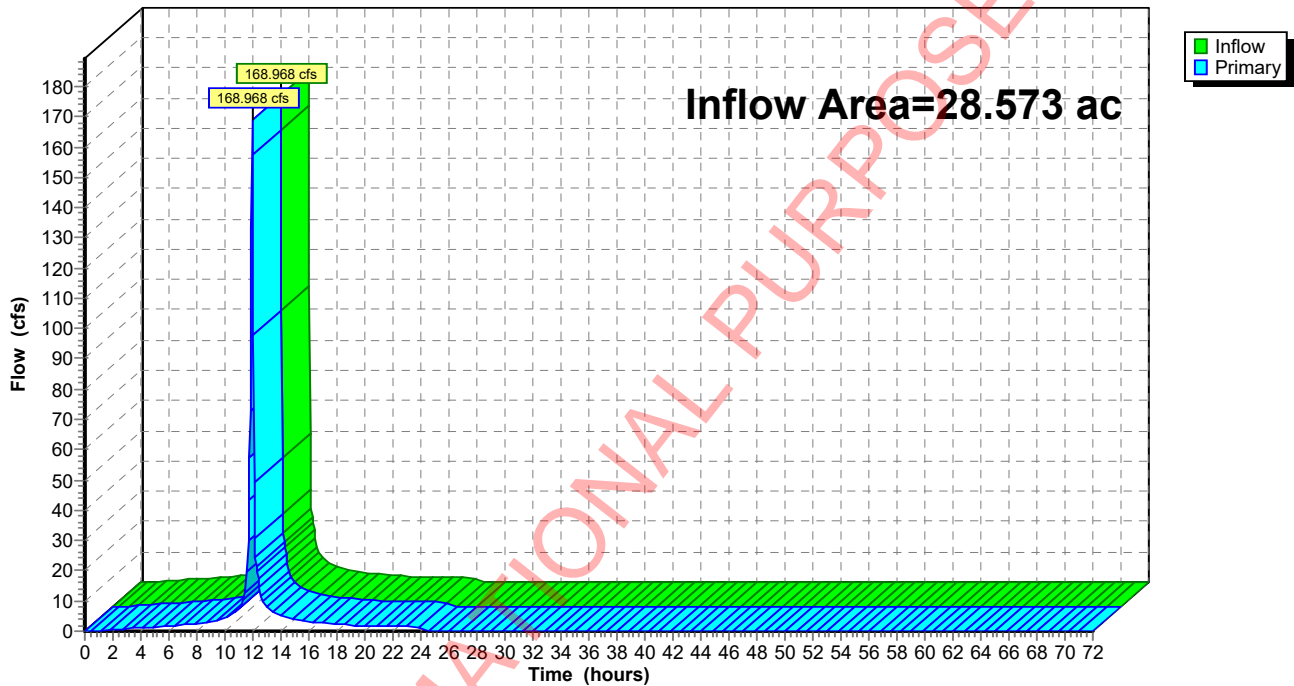
Summary for Link PRE1: existing DA

Inflow Area = 28.573 ac, 80.00% Impervious, Inflow Depth = 4.04" for 10-Year event  
Inflow = 168.968 cfs @ 11.96 hrs, Volume= 9.616 af  
Primary = 168.968 cfs @ 11.96 hrs, Volume= 9.616 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link PRE1: existing DA

Hydrograph



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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment1S: DA1</b>	Runoff Area=1,244,658 sf 80.00% Impervious Runoff Depth=5.10" Tc=6.0 min CN=61/98 Runoff=213.218 cfs 12.153 af
<b>SubcatchmentC1: DA1</b>	Runoff Area=181,031 sf 74.26% Impervious Runoff Depth=4.89" Tc=6.0 min CN=61/98 Runoff=29.826 cfs 1.692 af
<b>SubcatchmentC2: DA2</b>	Runoff Area=161,650 sf 74.28% Impervious Runoff Depth=4.89" Tc=6.0 min CN=61/98 Runoff=26.636 cfs 1.511 af
<b>SubcatchmentC3: DA3</b>	Runoff Area=220,390 sf 73.42% Impervious Runoff Depth=4.85" Tc=6.0 min CN=61/98 Runoff=36.098 cfs 2.047 af
<b>SubcatchmentC4: DA4</b>	Runoff Area=259,545 sf 83.70% Impervious Runoff Depth=5.24" Tc=6.0 min CN=61/98 Runoff=45.557 cfs 2.604 af
<b>SubcatchmentC5: DA5</b>	Runoff Area=250,029 sf 85.05% Impervious Runoff Depth=5.30" Tc=6.0 min CN=61/98 Runoff=44.275 cfs 2.533 af
<b>SubcatchmentU1: BYPASS</b>	Runoff Area=172,015 sf 0.00% Impervious Runoff Depth=2.07" Tc=6.0 min CN=61/0 Runoff=14.157 cfs 0.682 af
<b>Pond PCSM1: SYSTEM 1</b>	Peak Elev=6.77' Storage=34,582 cf Inflow=29.826 cfs 1.692 af Outflow=12.315 cfs 1.623 af
<b>Pond PCSM2: SYSTEM 2</b>	Peak Elev=6.76' Storage=29,412 cf Inflow=26.636 cfs 1.511 af Outflow=12.235 cfs 1.499 af
<b>Pond PCSM3: SYSTEM 3</b>	Peak Elev=6.48' Storage=42,956 cf Inflow=36.098 cfs 2.047 af Outflow=11.108 cfs 2.034 af
<b>Pond PCSM4: SYSTEM 4</b>	Peak Elev=6.20' Storage=58,013 cf Inflow=45.557 cfs 2.604 af Outflow=11.932 cfs 2.597 af
<b>Pond PCSM5: SYSTEM 5</b>	Peak Elev=6.60' Storage=54,433 cf Inflow=44.275 cfs 2.533 af Outflow=12.233 cfs 2.531 af
<b>Link POI1: POST DA 1</b>	Inflow=72.386 cfs 10.965 af Primary=72.386 cfs 10.965 af
<b>Link PRE1: existing DA</b>	Inflow=213.218 cfs 12.153 af Primary=213.218 cfs 12.153 af

**Total Runoff Area = 57.147 ac Runoff Volume = 23.222 af Average Runoff Depth = 4.88"**  
**26.01% Pervious = 14.862 ac 73.99% Impervious = 42.285 ac**

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**Summary for Subcatchment 1S: DA1**

Runoff = 213.218 cfs @ 11.96 hrs, Volume= 12.153 af, Depth= 5.10"

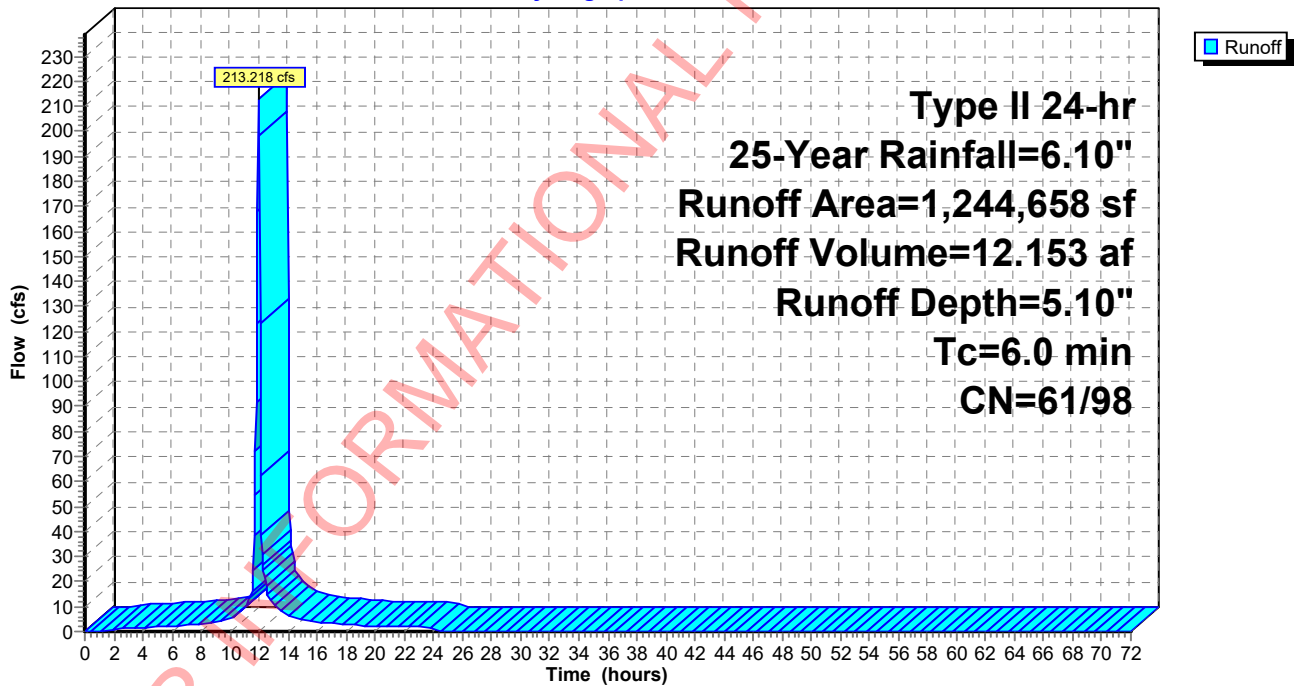
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 25-Year Rainfall=6.10"

Area (sf)	CN	Description
995,726	98	Paved parking, HSG B
* 248,932	61	20%IMPERVIOUS AS LAWN
1,244,658	91	Weighted Average
248,932	61	20.00% Pervious Area
995,726	98	80.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment 1S: DA1**

Hydrograph



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Type II 24-hr 25-Year Rainfall=6.10"

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**Summary for Subcatchment C1: DA1**

Runoff = 29.826 cfs @ 11.96 hrs, Volume= 1.692 af, Depth= 4.89"

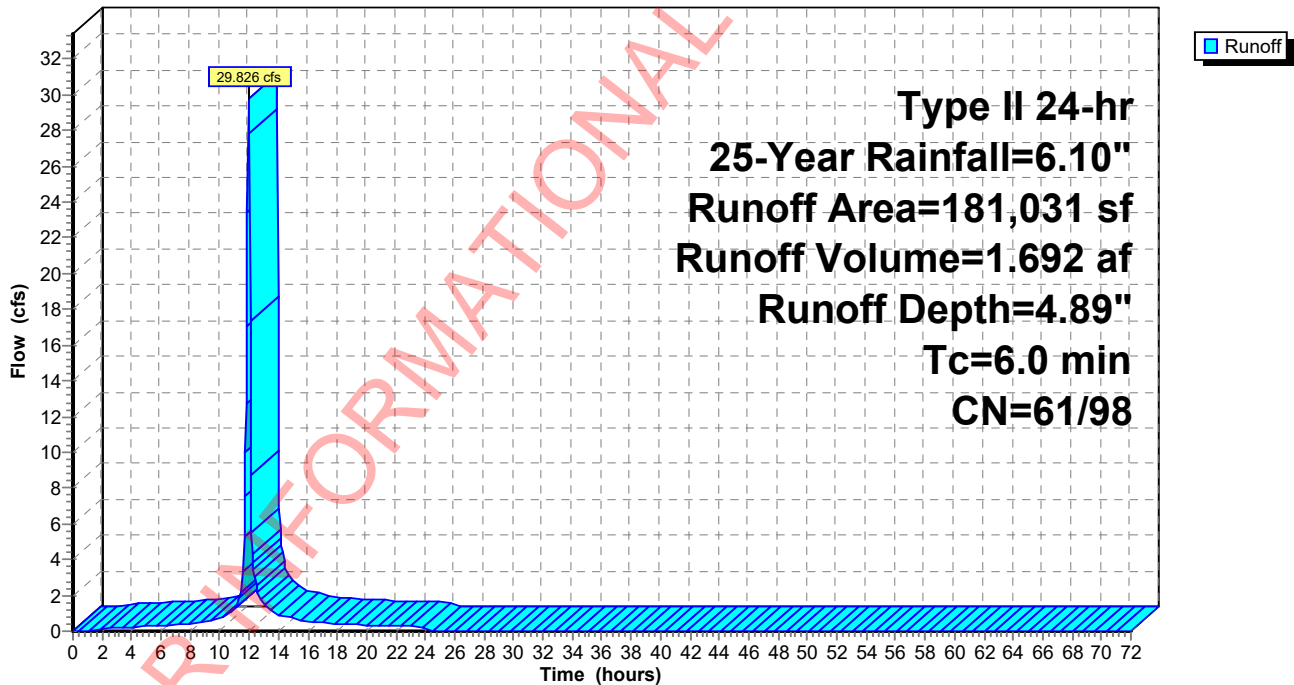
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 25-Year Rainfall=6.10"

	Area (sf)	CN	Description
*	108,520	98	ROOF
	25,919	98	Paved parking, HSG B
	46,592	61	>75% Grass cover, Good, HSG B
	181,031	88	Weighted Average
	46,592	61	25.74% Pervious Area
	134,439	98	74.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C1: DA1**

Hydrograph





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**Summary for Subcatchment C2: DA2**

Runoff = 26.636 cfs @ 11.96 hrs, Volume= 1.511 af, Depth= 4.89"

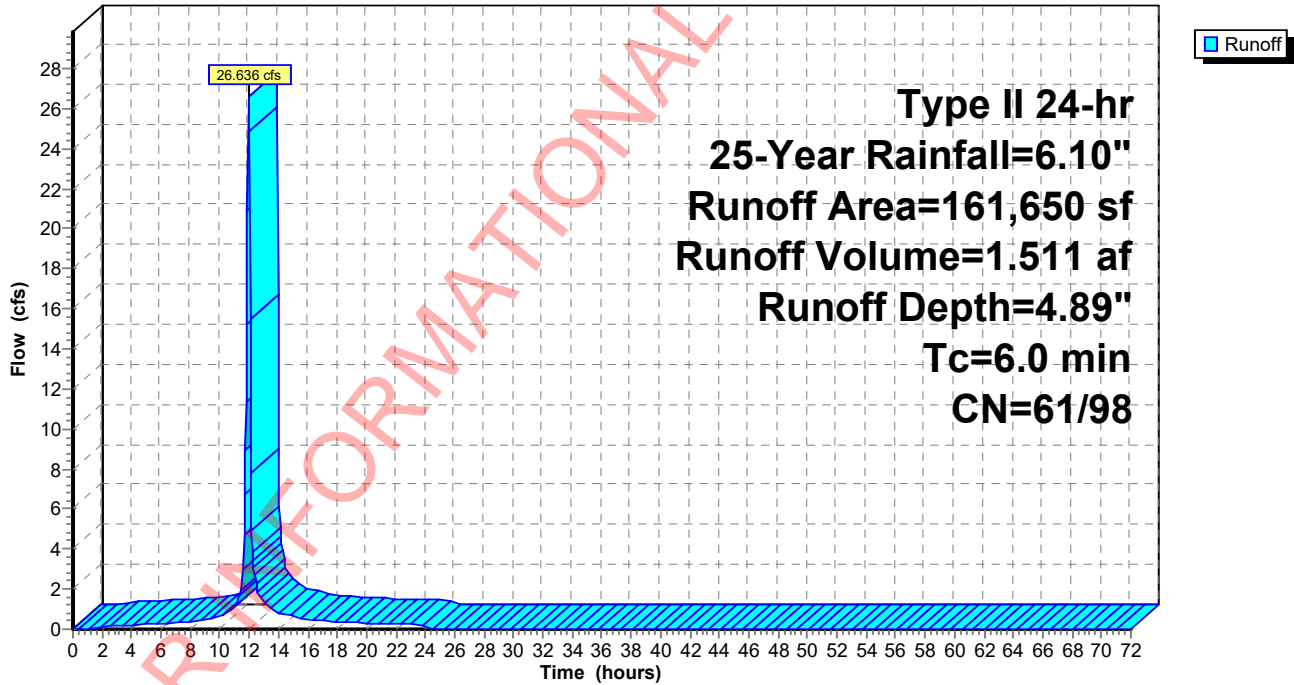
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 25-Year Rainfall=6.10"

	Area (sf)	CN	Description
*	103,425	98	ROOF
	16,645	98	Paved parking, HSG B
	41,580	61	>75% Grass cover, Good, HSG B
	161,650	88	Weighted Average
	41,580	61	25.72% Pervious Area
	120,070	98	74.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C2: DA2**

Hydrograph



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**Summary for Subcatchment C3: DA3**

Runoff = 36.098 cfs @ 11.96 hrs, Volume= 2.047 af, Depth= 4.85"

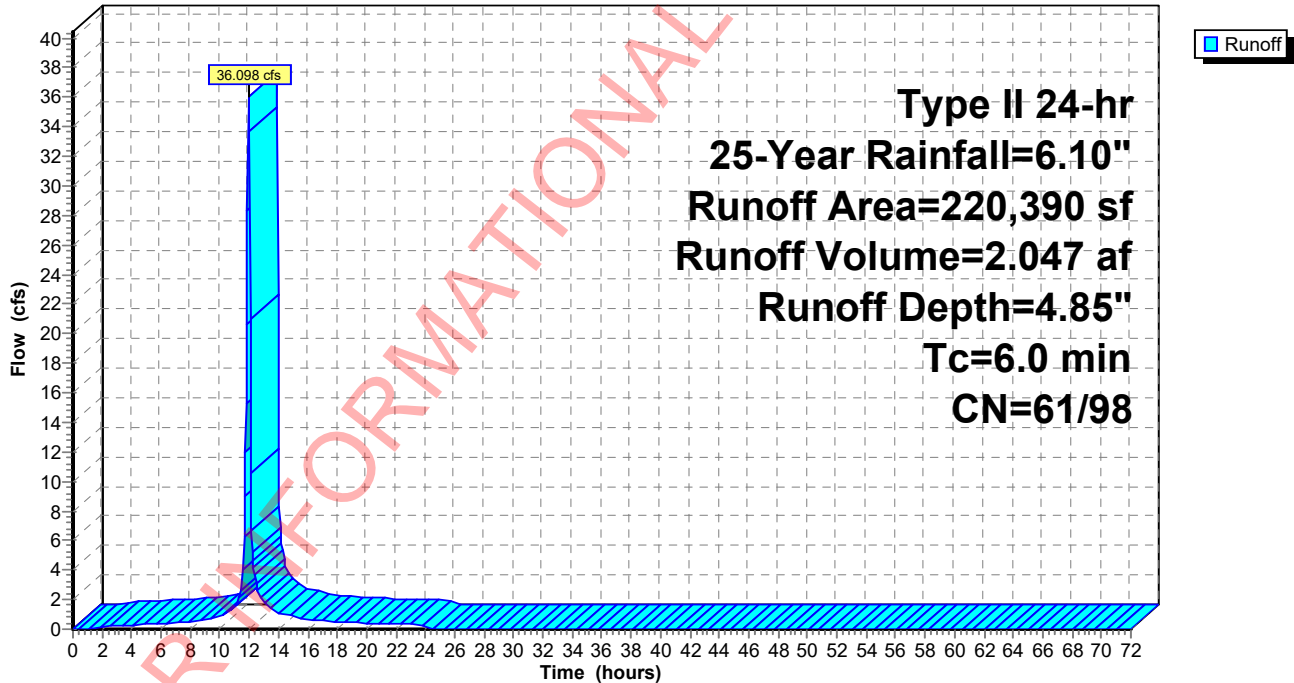
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 25-Year Rainfall=6.10"

	Area (sf)	CN	Description
*	57,887	98	ROOF
	103,914	98	Paved parking, HSG B
	58,589	61	>75% Grass cover, Good, HSG B
	220,390	88	Weighted Average
	58,589	61	26.58% Pervious Area
	161,801	98	73.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C3: DA3**

Hydrograph



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**Summary for Subcatchment C4: DA4**

Runoff = 45.557 cfs @ 11.96 hrs, Volume= 2.604 af, Depth= 5.24"

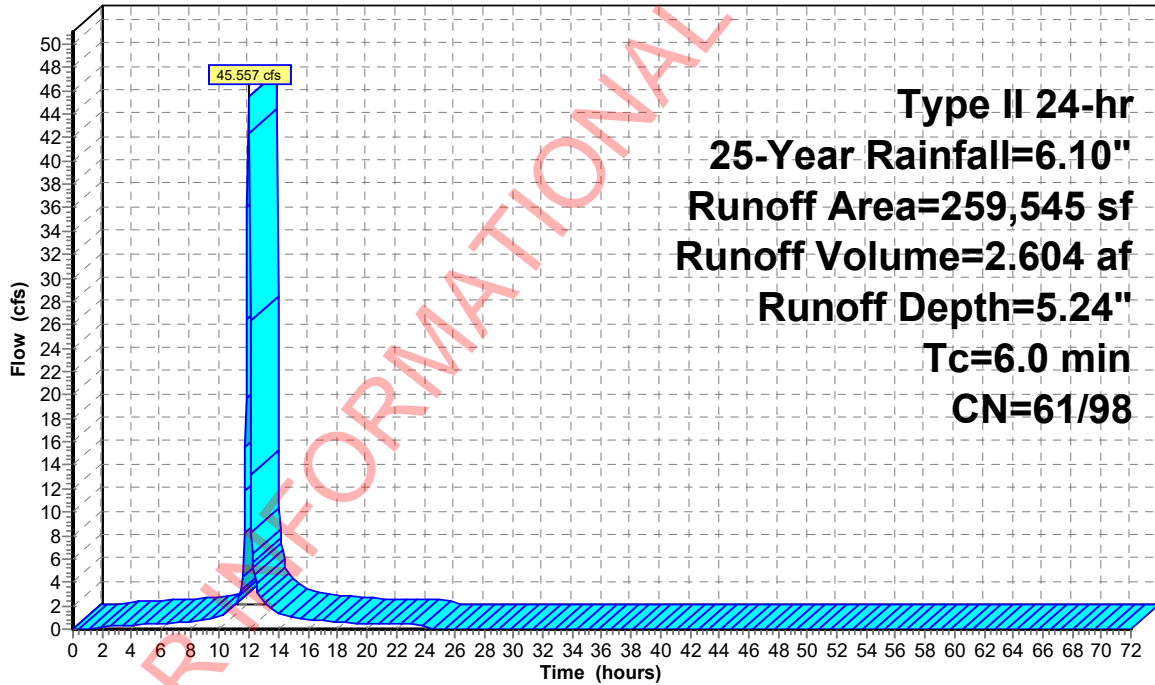
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 25-Year Rainfall=6.10"

	Area (sf)	CN	Description
*	40,298	98	ROOF
	176,929	98	Paved parking, HSG B
	42,318	61	>75% Grass cover, Good, HSG B
	259,545	92	Weighted Average
	42,318	61	16.30% Pervious Area
	217,227	98	83.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C4: DA4**

Hydrograph



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Type II 24-hr 25-Year Rainfall=6.10"

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**Summary for Subcatchment C5: DA5**

Runoff = 44.275 cfs @ 11.96 hrs, Volume= 2.533 af, Depth= 5.30"

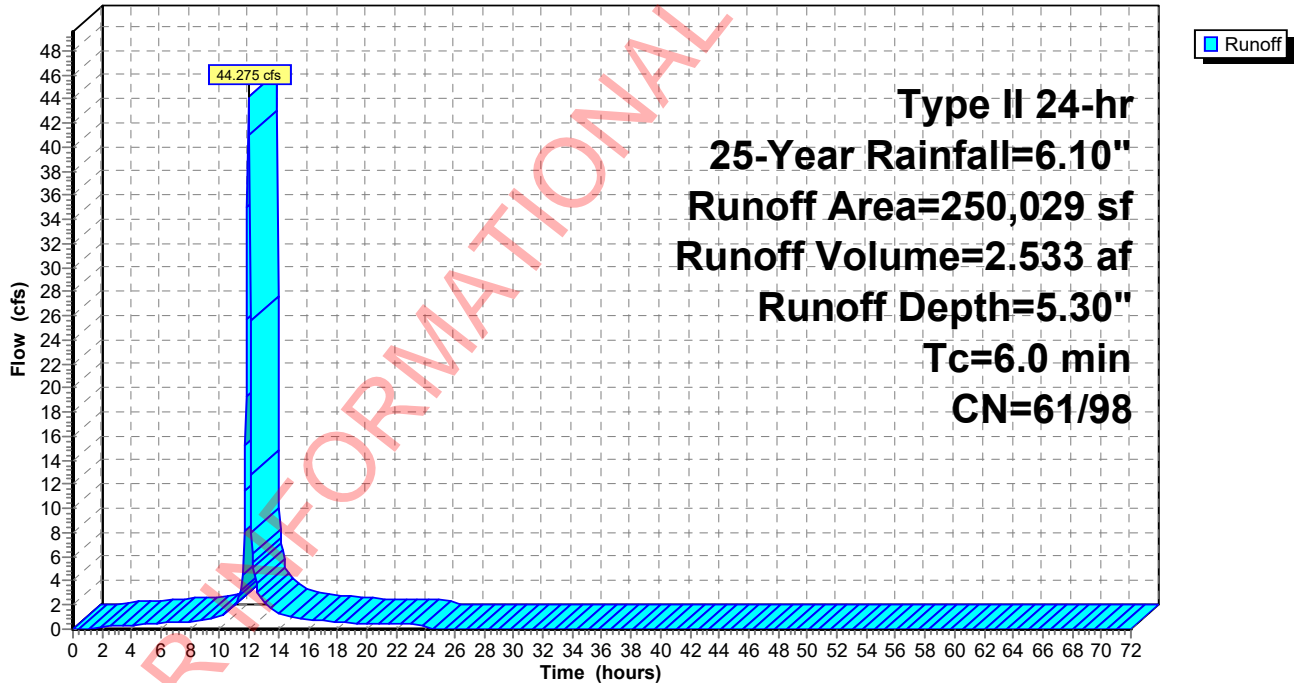
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 25-Year Rainfall=6.10"

	Area (sf)	CN	Description
*	108,522	98	ROOF
	104,137	98	Paved parking, HSG B
	37,370	61	>75% Grass cover, Good, HSG B
	250,029	92	Weighted Average
	37,370	61	14.95% Pervious Area
	212,659	98	85.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C5: DA5**

Hydrograph



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**Summary for Subcatchment U1: BYPASS**

Runoff = 14.157 cfs @ 11.98 hrs, Volume= 0.682 af, Depth= 2.07"

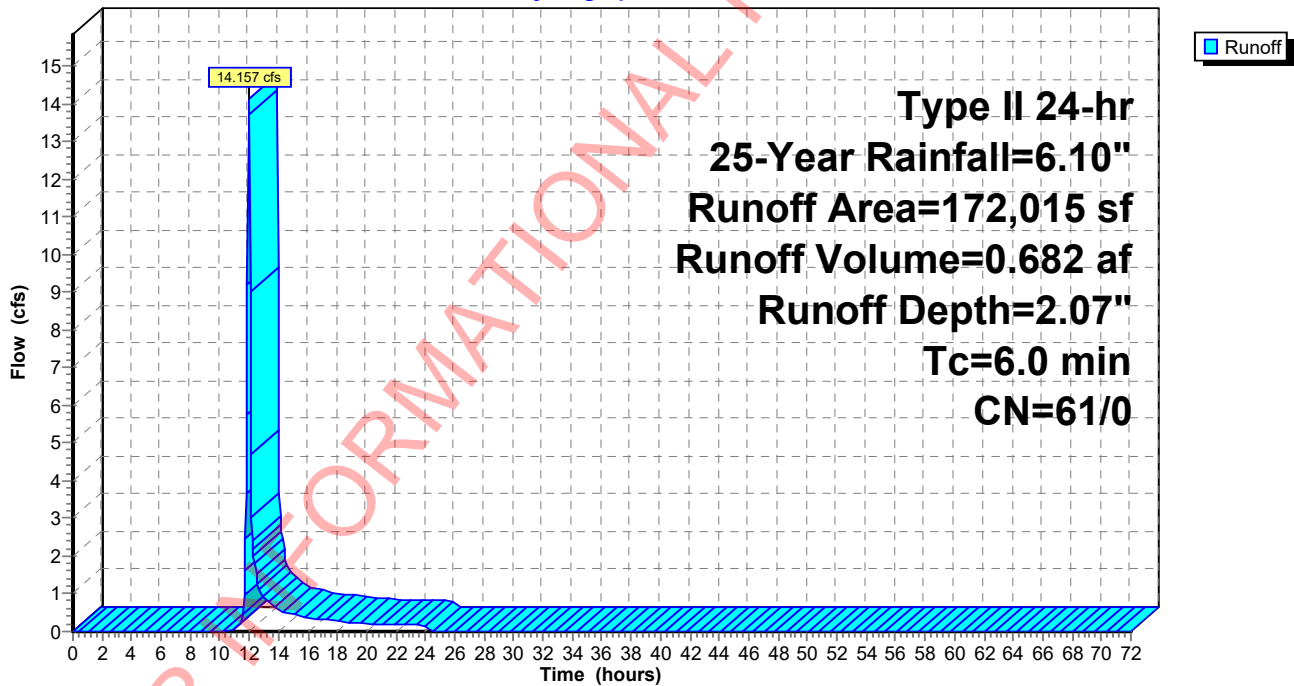
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 25-Year Rainfall=6.10"

Area (sf)	CN	Description
*	0	98 ROOF
	0	98 Paved parking, HSG B
172,015	61	>75% Grass cover, Good, HSG B
172,015	61	Weighted Average
172,015	61	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment U1: BYPASS**

Hydrograph



**Philaport - Full System**

Type II 24-hr 25-Year Rainfall=6.10"

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**Summary for Pond PCSM1: SYSTEM 1**

Inflow Area = 4.156 ac, 74.26% Impervious, Inflow Depth = 4.89" for 25-Year event  
 Inflow = 29.826 cfs @ 11.96 hrs, Volume= 1.692 af  
 Outflow = 12.315 cfs @ 12.08 hrs, Volume= 1.623 af, Atten= 59%, Lag= 7.0 min  
 Primary = 12.315 cfs @ 12.08 hrs, Volume= 1.623 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.77' @ 12.08 hrs Surf.Area= 22,367 sf Storage= 34,582 cf

Plug-Flow detention time= 717.4 min calculated for 1.622 af (96% of inflow)  
 Center-of-Mass det. time= 693.4 min ( 1,446.7 - 753.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,740 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 18,700 cf Overall x 20.0% Voids
#2	4.00'	63,602 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,342 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	9,350	0	0	9,350
3.00	9,350	9,350	9,350	9,693
4.00	9,350	9,350	18,700	10,036

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	9,350	0	0	9,350
5.00	10,612	9,974	9,974	10,661
6.00	11,946	11,272	21,247	12,047
7.00	13,348	12,641	33,887	13,504
8.00	14,835	14,085	47,972	15,050
9.00	16,439	15,630	63,602	16,714

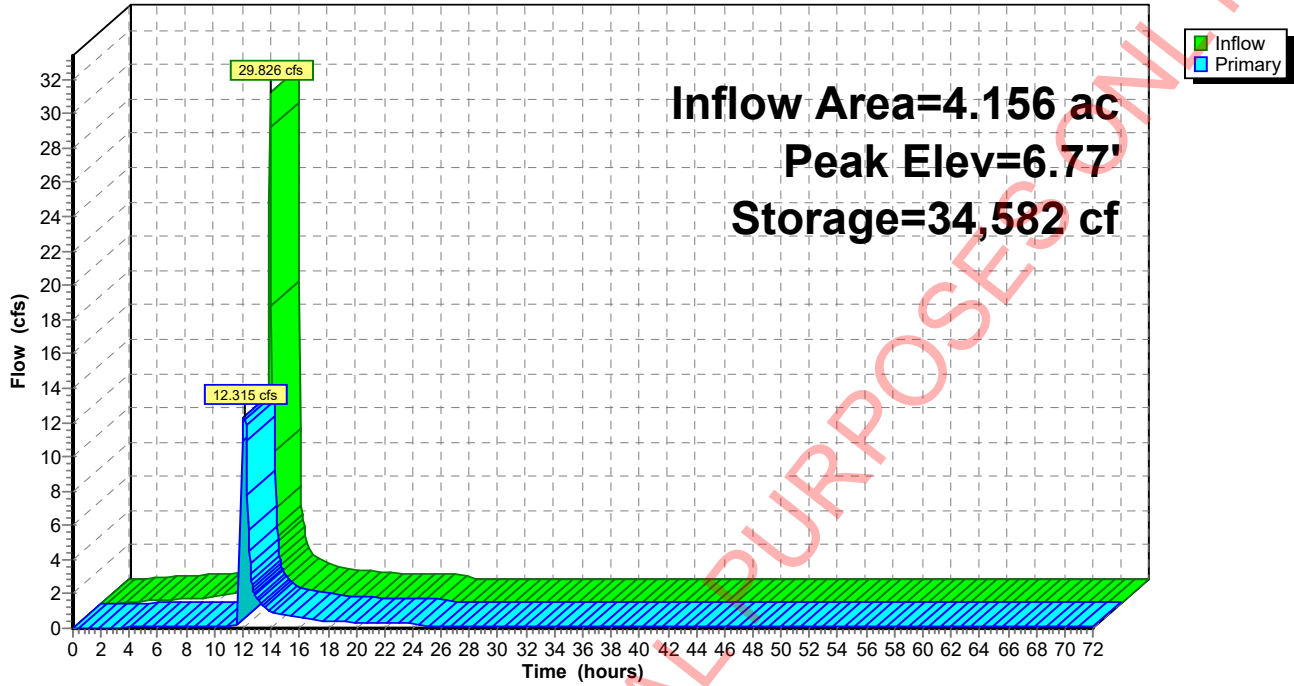
Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.07' S= 0.0206 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=12.302 cfs @ 12.08 hrs HW=6.76' (Free Discharge)

- 1=Culvert (Inlet Controls 12.302 cfs @ 10.02 fps)
- 2=Outlet Structure#1 (Passes < 34.625 cfs potential flow)
- 3=Slow Release Orifice (Passes < 0.164 cfs potential flow)

Pond PCSM1: SYSTEM 1

Hydrograph



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**Summary for Pond PCSM2: SYSTEM 2**

Inflow Area = 3.711 ac, 74.28% Impervious, Inflow Depth = 4.89" for 25-Year event  
 Inflow = 26.636 cfs @ 11.96 hrs, Volume= 1.511 af  
 Outflow = 12.235 cfs @ 12.07 hrs, Volume= 1.499 af, Atten= 54%, Lag= 6.5 min  
 Primary = 12.235 cfs @ 12.07 hrs, Volume= 1.499 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.76' @ 12.07 hrs Surf.Area= 19,163 sf Storage= 29,412 cf

Plug-Flow detention time= 673.0 min calculated for 1.499 af (99% of inflow)  
 Center-of-Mass det. time= 667.2 min ( 1,420.5 - 753.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,000 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 15,000 cf Overall x 20.0% Voids
#2	4.00'	64,620 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,620 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	7,500	0	0	7,500
3.00	7,500	7,500	7,500	7,807
4.00	7,500	7,500	15,000	8,114

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	7,500	0	0	7,500
5.00	8,980	8,229	8,229	9,015
6.00	10,480	9,720	17,949	10,555
7.00	12,040	11,251	29,200	12,159
8.00	13,658	12,841	42,041	13,826
9.00	15,330	14,486	56,527	15,552
9.50	17,060	8,094	64,620	17,297

Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 85.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.14' S= 0.0195' /' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=12.216 cfs @ 12.07 hrs HW=6.75' (Free Discharge)

1=Culvert (Barrel Controls 12.216 cfs @ 9.95 fps)

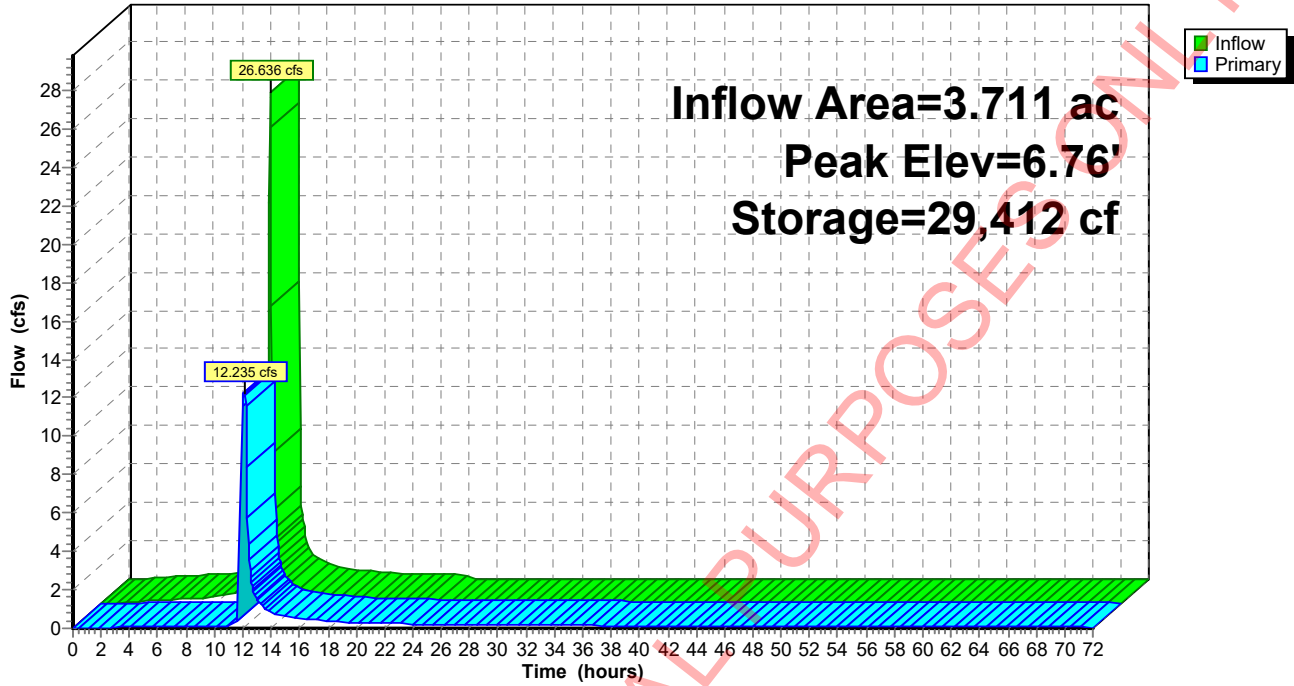
2=Outlet Structure#1 (Passes < 33.868 cfs potential flow)

3=Slow Release Orifice (Passes < 0.164 cfs potential flow)



Pond PCSM2: SYSTEM 2

Hydrograph



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**Summary for Pond PCSM3: SYSTEM 3**

Inflow Area = 5.059 ac, 73.42% Impervious, Inflow Depth = 4.85" for 25-Year event  
 Inflow = 36.098 cfs @ 11.96 hrs, Volume= 2.047 af  
 Outflow = 11.108 cfs @ 12.11 hrs, Volume= 2.034 af, Atten= 69%, Lag= 8.6 min  
 Primary = 11.108 cfs @ 12.11 hrs, Volume= 2.034 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.48' @ 12.11 hrs Surf.Area= 26,147 sf Storage= 42,956 cf

Plug-Flow detention time= 667.5 min calculated for 2.032 af (99% of inflow)  
 Center-of-Mass det. time= 664.7 min ( 1,418.5 - 753.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	4,080 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 20,400 cf Overall x 20.0% Voids
#2	3.50'	85,567 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		89,647 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	10,200	0	0	10,200
2.50	10,200	10,200	10,200	10,558
3.50	10,200	10,200	20,400	10,916

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	10,200	0	0	10,200
4.00	11,150	5,336	5,336	11,167
5.00	13,040	12,083	17,418	13,097
6.00	15,000	14,009	31,427	15,102
7.00	17,000	15,990	47,417	17,151
8.00	19,070	18,025	65,442	19,275
9.00	21,200	20,126	85,567	21,464

Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 82.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 0.89' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.0" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=11.102 cfs @ 12.11 hrs HW=6.48' (Free Discharge)

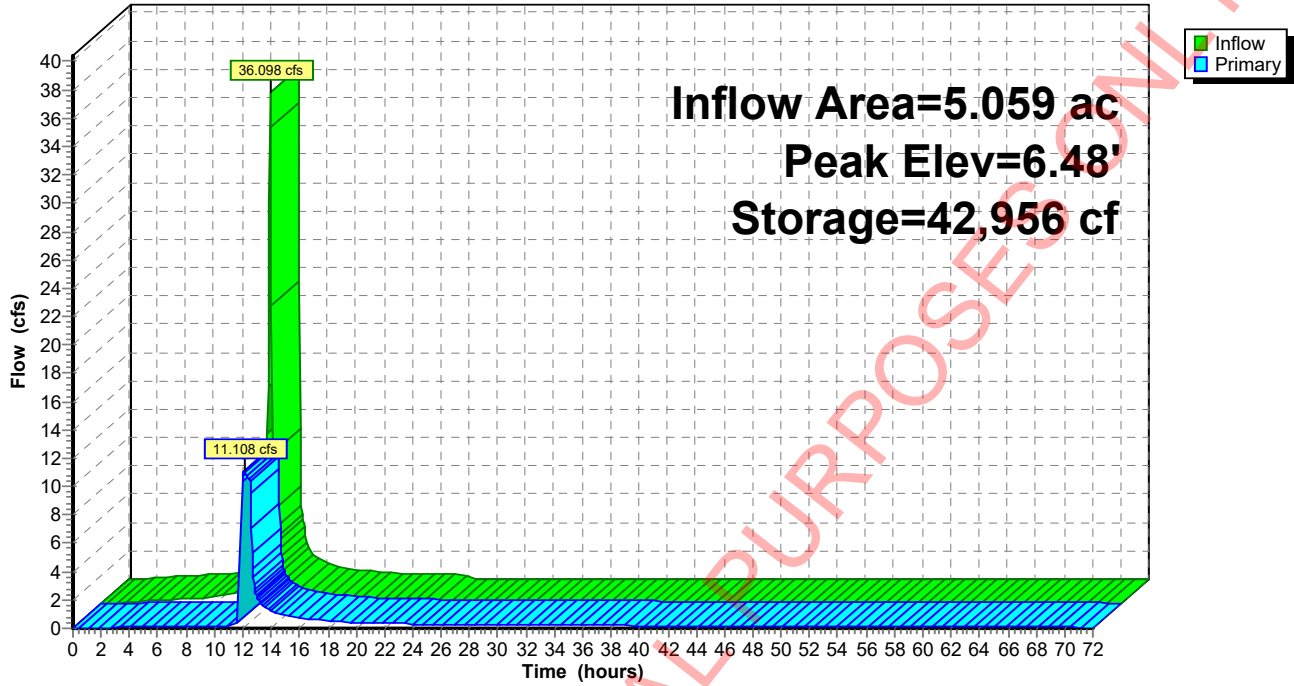
1=Culvert (Barrel Controls 11.102 cfs @ 9.05 fps)

2=Outlet Structure#1 (Passes < 50.451 cfs potential flow)

3=Slow Release Orifice (Passes < 0.232 cfs potential flow)

Pond PCSM3: SYSTEM 3

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**Summary for Pond PCSM4: SYSTEM 4**

Inflow Area = 5.958 ac, 83.70% Impervious, Inflow Depth = 5.24" for 25-Year event  
 Inflow = 45.557 cfs @ 11.96 hrs, Volume= 2.604 af  
 Outflow = 11.932 cfs @ 12.12 hrs, Volume= 2.597 af, Atten= 74%, Lag= 9.3 min  
 Primary = 11.932 cfs @ 12.12 hrs, Volume= 2.597 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.20' @ 12.12 hrs Surf.Area= 38,993 sf Storage= 58,013 cf

Plug-Flow detention time= 742.0 min calculated for 2.597 af (100% of inflow)  
 Center-of-Mass det. time= 740.3 min ( 1,488.5 - 748.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,440 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 27,200 cf Overall x 20.0% Voids
#2	3.50'	141,213 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		146,653 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,600	0	0	13,600
2.50	13,600	13,600	13,600	14,013
3.50	13,600	13,600	27,200	14,427

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,600	0	0	13,600
4.00	15,770	7,336	7,336	15,781
5.00	20,120	17,901	25,237	20,156
6.00	24,520	22,284	47,520	24,588
7.00	28,980	26,719	74,239	29,085
8.00	33,500	31,213	105,452	33,649
9.00	38,070	35,761	141,213	38,268

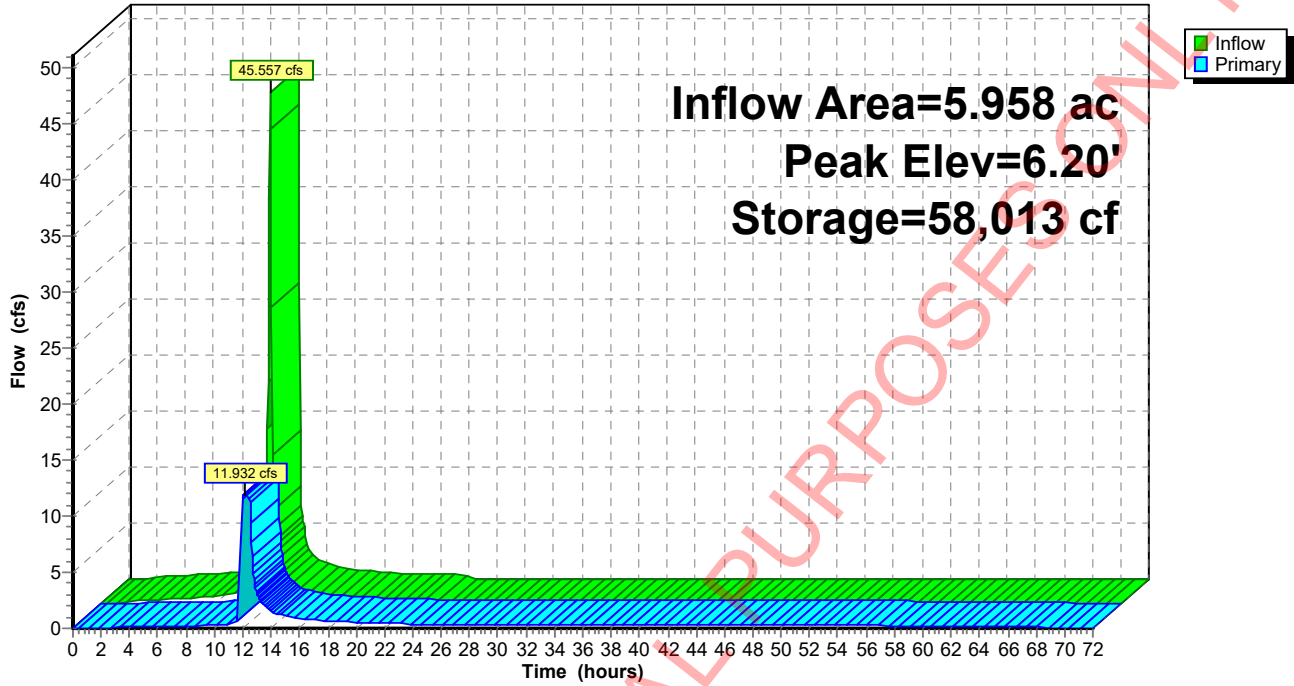
Device	Routing	Invert	Outlet Devices
#1	Primary	1.50'	<b>15.0" Round RCP_Round 15"</b> L= 72.0' Ke= 0.500 Inlet / Outlet Invert= 1.50' / -0.85' S= 0.0326 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=11.921 cfs @ 12.12 hrs HW=6.19' (Free Discharge)

- 1=RCP\_Round 15" (Inlet Controls 11.921 cfs @ 9.71 fps)
- 2=Outlet Structure#1 (Passes < 30.311 cfs potential flow)
- 3=Slow Release Orifice (Passes < 0.352 cfs potential flow)

Pond PCSM4: SYSTEM 4

Hydrograph



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Type II 24-hr 25-Year Rainfall=6.10"

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**Summary for Pond PCSM5: SYSTEM 5**

Inflow Area = 5.740 ac, 85.05% Impervious, Inflow Depth = 5.30" for 25-Year event  
 Inflow = 44.275 cfs @ 11.96 hrs, Volume= 2.533 af  
 Outflow = 12.233 cfs @ 12.11 hrs, Volume= 2.531 af, Atten= 72%, Lag= 9.1 min  
 Primary = 12.233 cfs @ 12.11 hrs, Volume= 2.531 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.60' @ 12.11 hrs Surf.Area= 31,750 sf Storage= 54,433 cf

Plug-Flow detention time= 607.6 min calculated for 2.529 af (100% of inflow)  
 Center-of-Mass det. time= 608.6 min ( 1,356.0 - 747.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,380 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 26,900 cf Overall x 20.0% Voids
#2	3.50'	97,893 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		103,273 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,450	0	0	13,450
2.50	13,450	13,450	13,450	13,861
3.50	13,450	13,450	26,900	14,272

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,450	0	0	13,450
4.00	14,190	6,909	6,909	14,219
5.00	15,730	14,953	21,863	15,819
6.00	17,320	16,519	38,381	17,473
7.00	18,970	18,139	56,520	19,190
8.00	20,680	19,819	76,339	20,972
9.00	22,440	21,554	97,893	22,807

Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 1.02' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Oultet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=12.220 cfs @ 12.11 hrs HW=6.59' (Free Discharge)

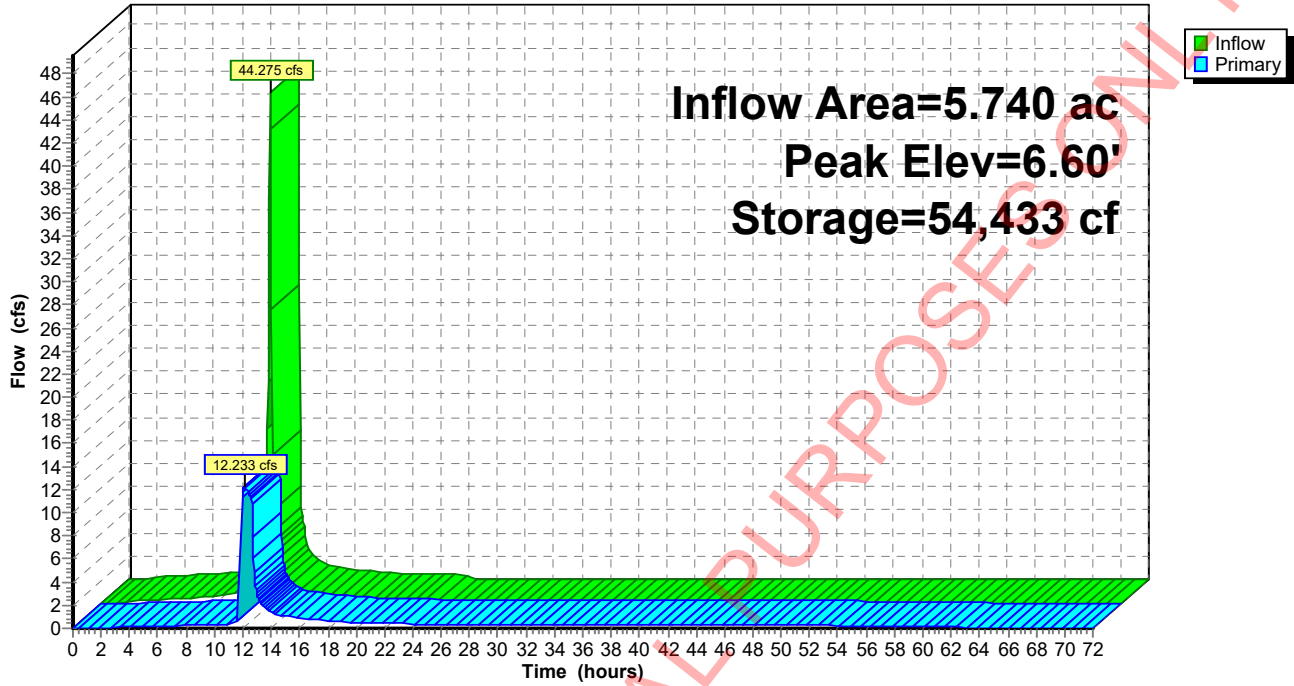
1=Culvert (Barrel Controls 12.220 cfs @ 9.96 fps)

2=Oultet Structure#1 (Passes < 59.556 cfs potential flow)

3=Slow Release Orifice (Passes < 0.367 cfs potential flow)

Pond PCSM5: SYSTEM 5

Hydrograph



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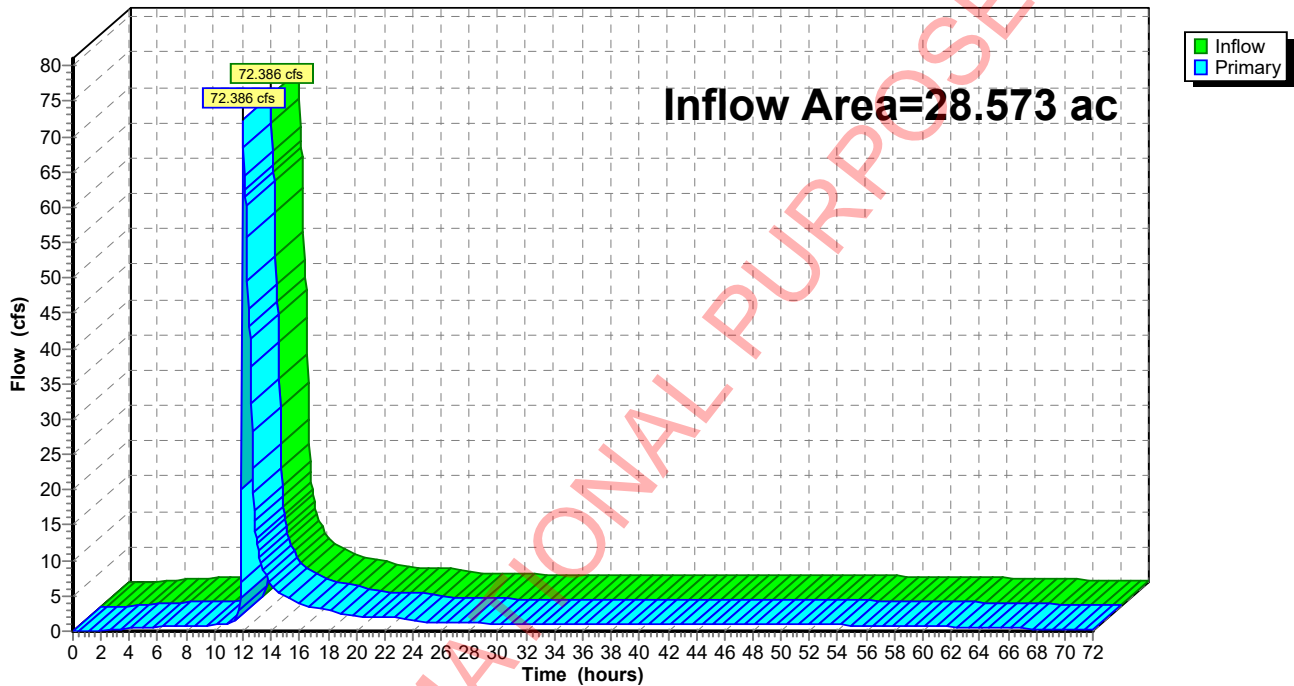
Summary for Link POI1: POST DA 1

Inflow Area = 28.573 ac, 67.99% Impervious, Inflow Depth > 4.61" for 25-Year event  
Inflow = 72.386 cfs @ 12.01 hrs, Volume= 10.965 af  
Primary = 72.386 cfs @ 12.01 hrs, Volume= 10.965 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link POI1: POST DA 1

Hydrograph





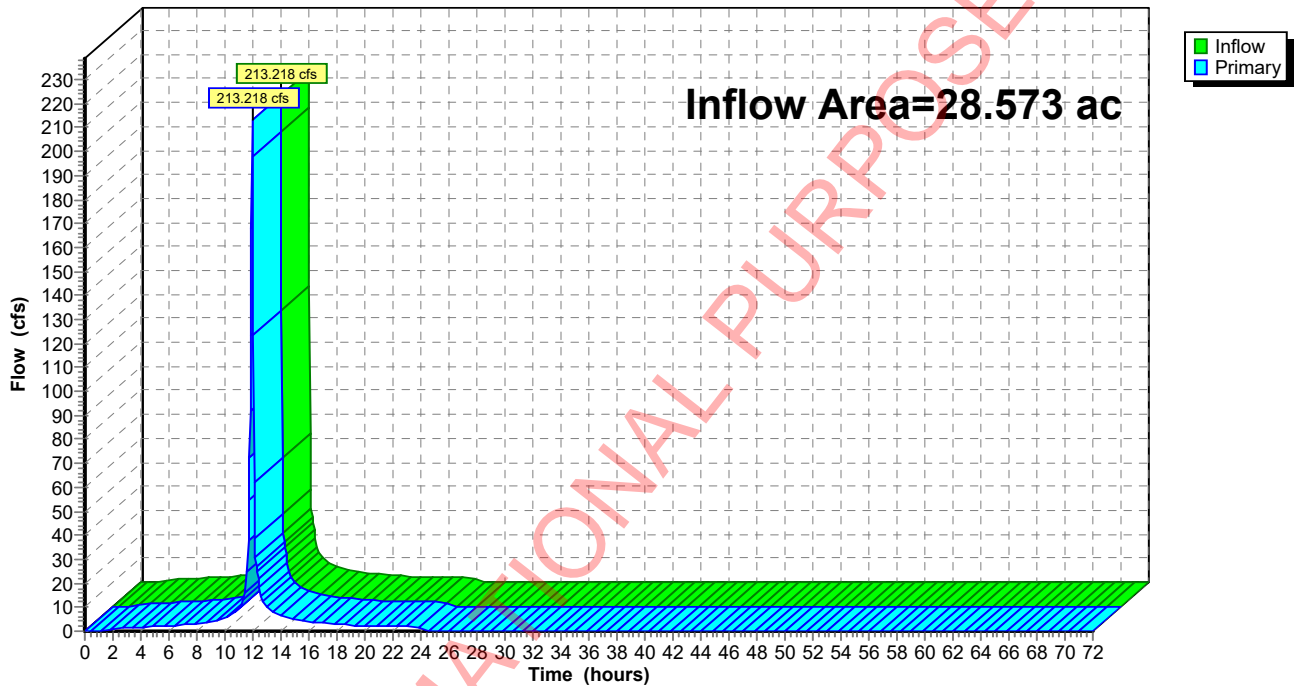
Summary for Link PRE1: existing DA

Inflow Area = 28.573 ac, 80.00% Impervious, Inflow Depth = 5.10" for 25-Year event  
Inflow = 213.218 cfs @ 11.96 hrs, Volume= 12.153 af  
Primary = 213.218 cfs @ 11.96 hrs, Volume= 12.153 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link PRE1: existing DA

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment1S: DA1</b>	Runoff Area=1,244,658 sf 80.00% Impervious Runoff Depth=6.10" Tc=6.0 min CN=61/98 Runoff=254.562 cfs 14.525 af
<b>SubcatchmentC1: DA1</b>	Runoff Area=181,031 sf 74.26% Impervious Runoff Depth=5.86" Tc=6.0 min CN=61/98 Runoff=35.801 cfs 2.031 af
<b>SubcatchmentC2: DA2</b>	Runoff Area=161,650 sf 74.28% Impervious Runoff Depth=5.87" Tc=6.0 min CN=61/98 Runoff=31.971 cfs 1.814 af
<b>SubcatchmentC3: DA3</b>	Runoff Area=220,390 sf 73.42% Impervious Runoff Depth=5.83" Tc=6.0 min CN=61/98 Runoff=43.365 cfs 2.458 af
<b>SubcatchmentC4: DA4</b>	Runoff Area=259,545 sf 83.70% Impervious Runoff Depth=6.25" Tc=6.0 min CN=61/98 Runoff=54.215 cfs 3.104 af
<b>SubcatchmentC5: DA5</b>	Runoff Area=250,029 sf 85.05% Impervious Runoff Depth=6.31" Tc=6.0 min CN=61/98 Runoff=52.628 cfs 3.017 af
<b>SubcatchmentU1: BYPASS</b>	Runoff Area=172,015 sf 0.00% Impervious Runoff Depth=2.82" Tc=6.0 min CN=61/0 Runoff=19.369 cfs 0.927 af
<b>Pond PCSM1: SYSTEM 1</b>	Peak Elev=7.21' Storage=40,513 cf Inflow=35.801 cfs 2.031 af Outflow=12.855 cfs 1.961 af
<b>Pond PCSM2: SYSTEM 2</b>	Peak Elev=7.17' Storage=34,281 cf Inflow=31.971 cfs 1.814 af Outflow=12.689 cfs 1.801 af
<b>Pond PCSM3: SYSTEM 3</b>	Peak Elev=6.98' Storage=51,097 cf Inflow=43.365 cfs 2.458 af Outflow=11.725 cfs 2.445 af
<b>Pond PCSM4: SYSTEM 4</b>	Peak Elev=6.61' Storage=68,667 cf Inflow=54.215 cfs 3.104 af Outflow=12.511 cfs 3.098 af
<b>Pond PCSM5: SYSTEM 5</b>	Peak Elev=7.13' Storage=64,410 cf Inflow=52.628 cfs 3.017 af Outflow=12.963 cfs 3.015 af
<b>Link PO1: POST DA 1</b>	Inflow=79.785 cfs 13.247 af Primary=79.785 cfs 13.247 af
<b>Link PRE1: existing DA</b>	Inflow=254.562 cfs 14.525 af Primary=254.562 cfs 14.525 af

**Total Runoff Area = 57.147 ac Runoff Volume = 27.877 af Average Runoff Depth = 5.85"**  
**26.01% Pervious = 14.862 ac 73.99% Impervious = 42.285 ac**

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Type II 24-hr 50-Year Rainfall=7.16"

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**Summary for Subcatchment 1S: DA1**

Runoff = 254.562 cfs @ 11.96 hrs, Volume= 14.525 af, Depth= 6.10"

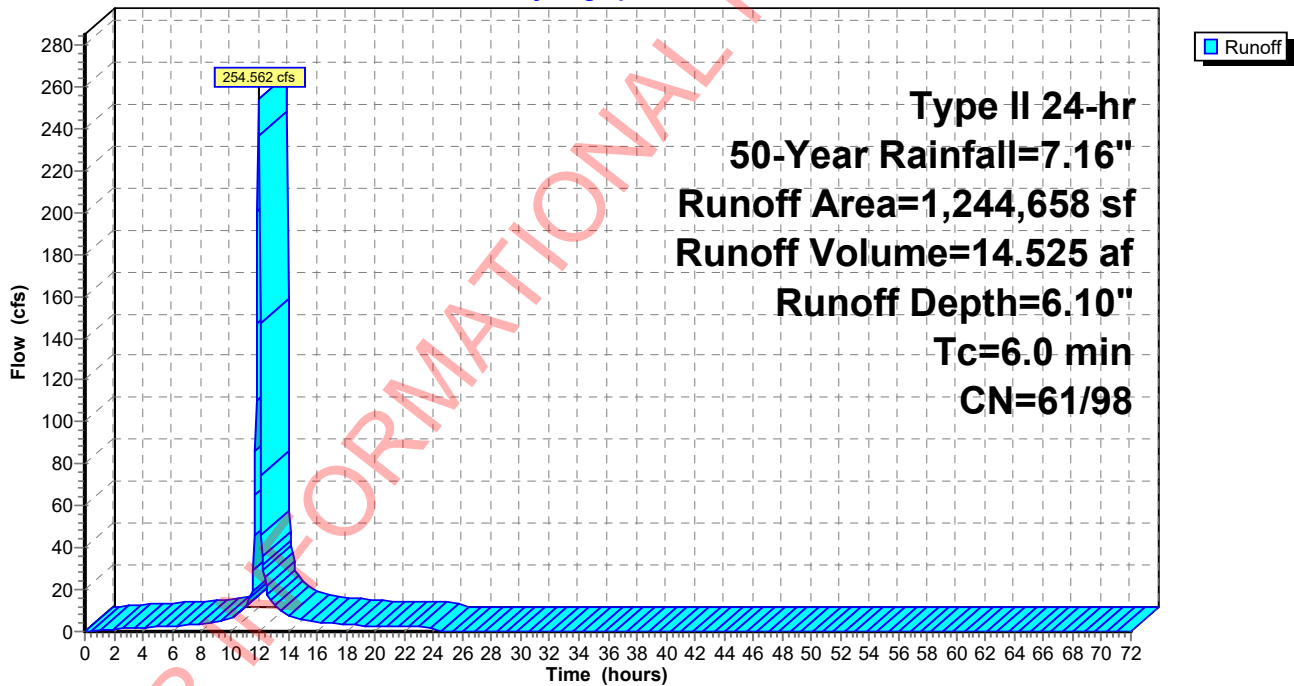
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 50-Year Rainfall=7.16"

Area (sf)	CN	Description
995,726	98	Paved parking, HSG B
* 248,932	61	20%IMPERVIOUS AS LAWN
1,244,658	91	Weighted Average
248,932	61	20.00% Pervious Area
995,726	98	80.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment 1S: DA1**

Hydrograph



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**Summary for Subcatchment C1: DA1**

Runoff = 35.801 cfs @ 11.96 hrs, Volume= 2.031 af, Depth= 5.86"

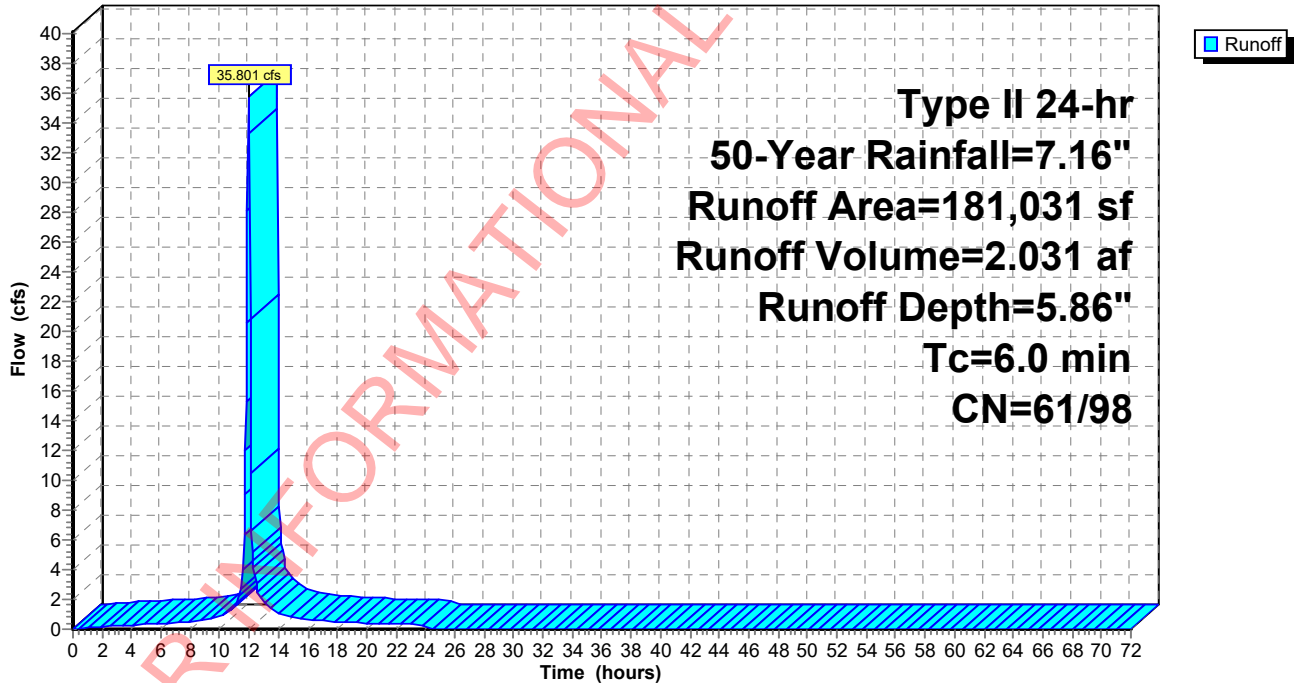
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 50-Year Rainfall=7.16"

	Area (sf)	CN	Description
*	108,520	98	ROOF
	25,919	98	Paved parking, HSG B
	46,592	61	>75% Grass cover, Good, HSG B
	181,031	88	Weighted Average
	46,592	61	25.74% Pervious Area
	134,439	98	74.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C1: DA1**

Hydrograph



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Type II 24-hr 50-Year Rainfall=7.16"

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**Summary for Subcatchment C2: DA2**

Runoff = 31.971 cfs @ 11.96 hrs, Volume= 1.814 af, Depth= 5.87"

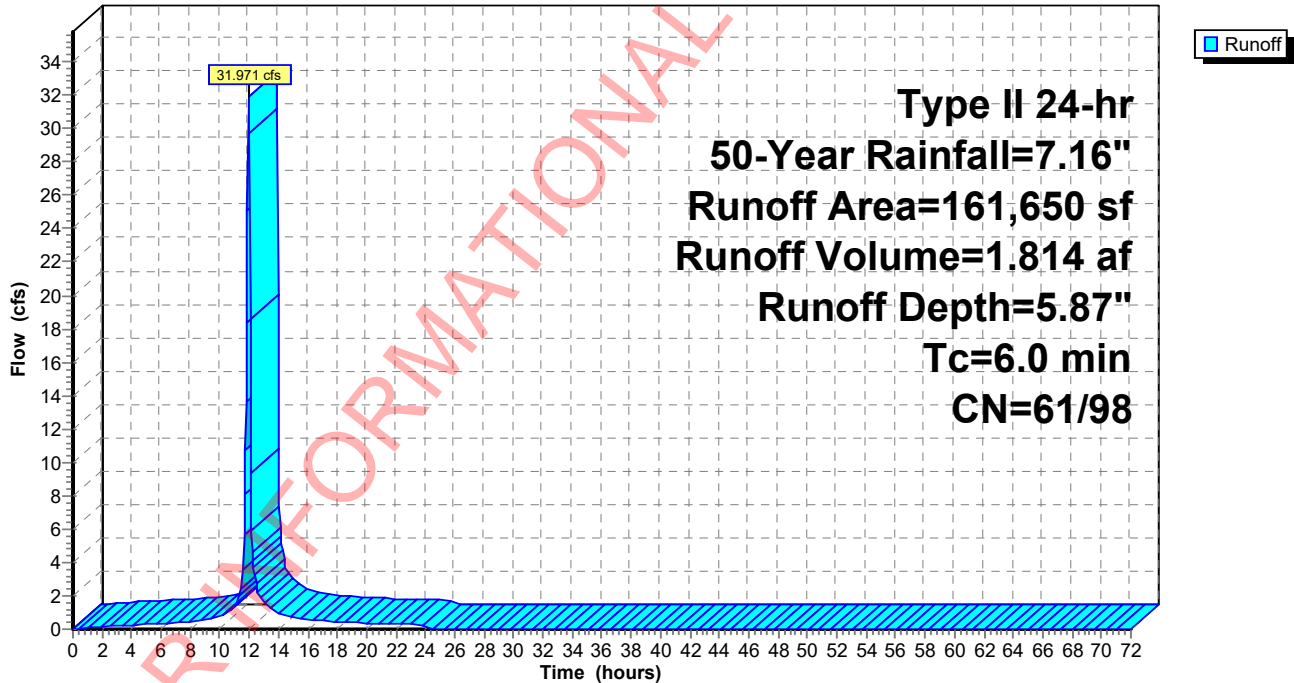
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 50-Year Rainfall=7.16"

	Area (sf)	CN	Description
*	103,425	98	ROOF
	16,645	98	Paved parking, HSG B
	41,580	61	>75% Grass cover, Good, HSG B
	161,650	88	Weighted Average
	41,580	61	25.72% Pervious Area
	120,070	98	74.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C2: DA2**

Hydrograph



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Type II 24-hr 50-Year Rainfall=7.16"

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**Summary for Subcatchment C3: DA3**

Runoff = 43.365 cfs @ 11.96 hrs, Volume= 2.458 af, Depth= 5.83"

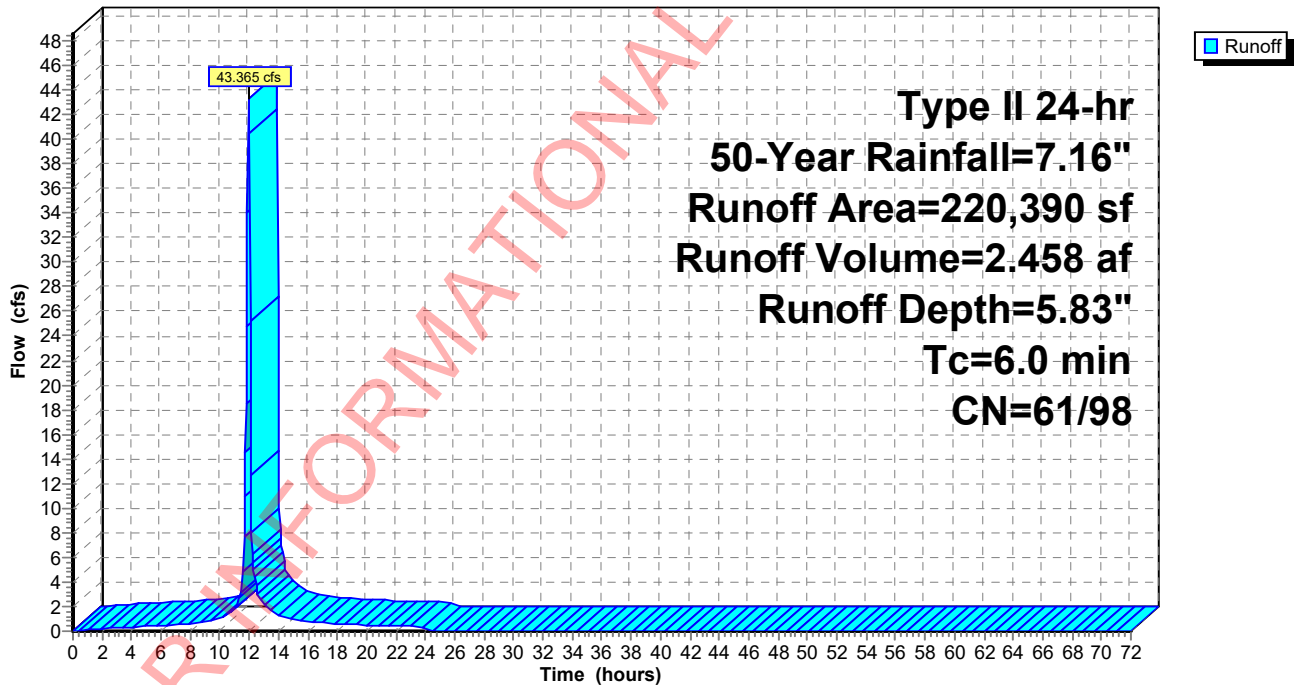
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 50-Year Rainfall=7.16"

	Area (sf)	CN	Description
*	57,887	98	ROOF
	103,914	98	Paved parking, HSG B
	58,589	61	>75% Grass cover, Good, HSG B
	220,390	88	Weighted Average
	58,589	61	26.58% Pervious Area
	161,801	98	73.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C3: DA3**

Hydrograph



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Type II 24-hr 50-Year Rainfall=7.16"

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**Summary for Subcatchment C4: DA4**

Runoff = 54.215 cfs @ 11.96 hrs, Volume= 3.104 af, Depth= 6.25"

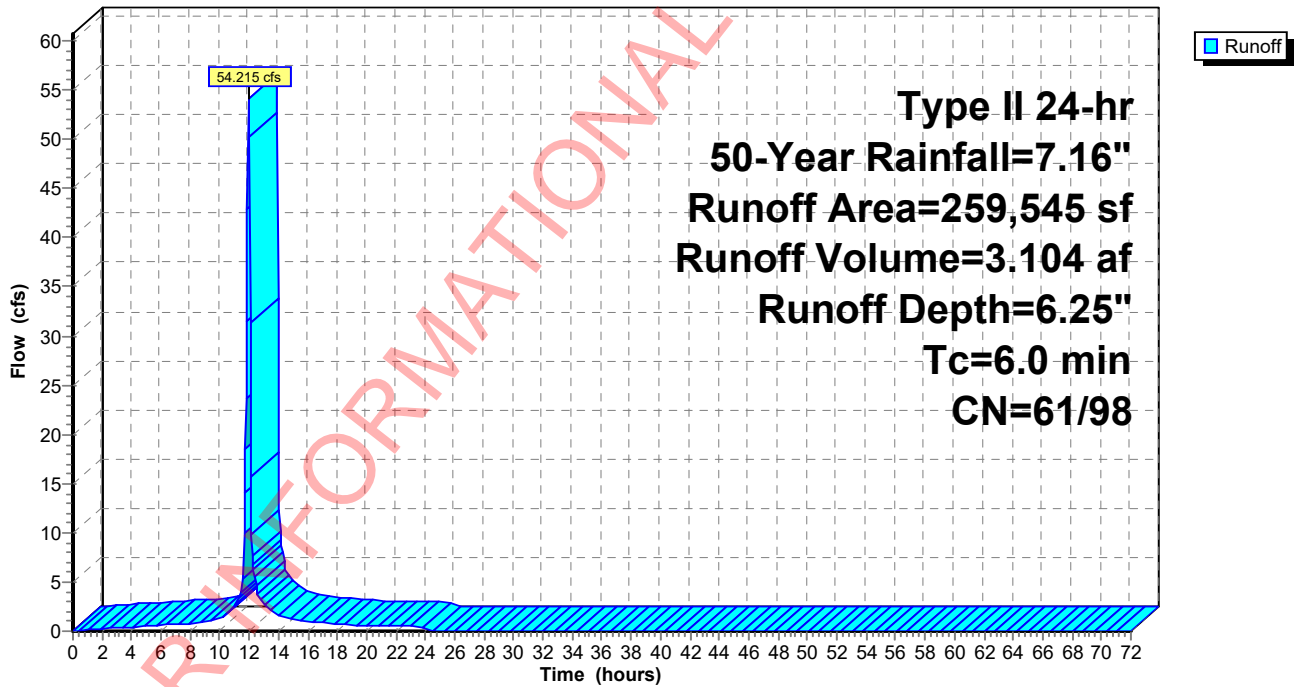
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 50-Year Rainfall=7.16"

	Area (sf)	CN	Description
*	40,298	98	ROOF
	176,929	98	Paved parking, HSG B
	42,318	61	>75% Grass cover, Good, HSG B
	259,545	92	Weighted Average
	42,318	61	16.30% Pervious Area
	217,227	98	83.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C4: DA4**

Hydrograph



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Type II 24-hr 50-Year Rainfall=7.16"

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**Summary for Subcatchment C5: DA5**

Runoff = 52.628 cfs @ 11.96 hrs, Volume= 3.017 af, Depth= 6.31"

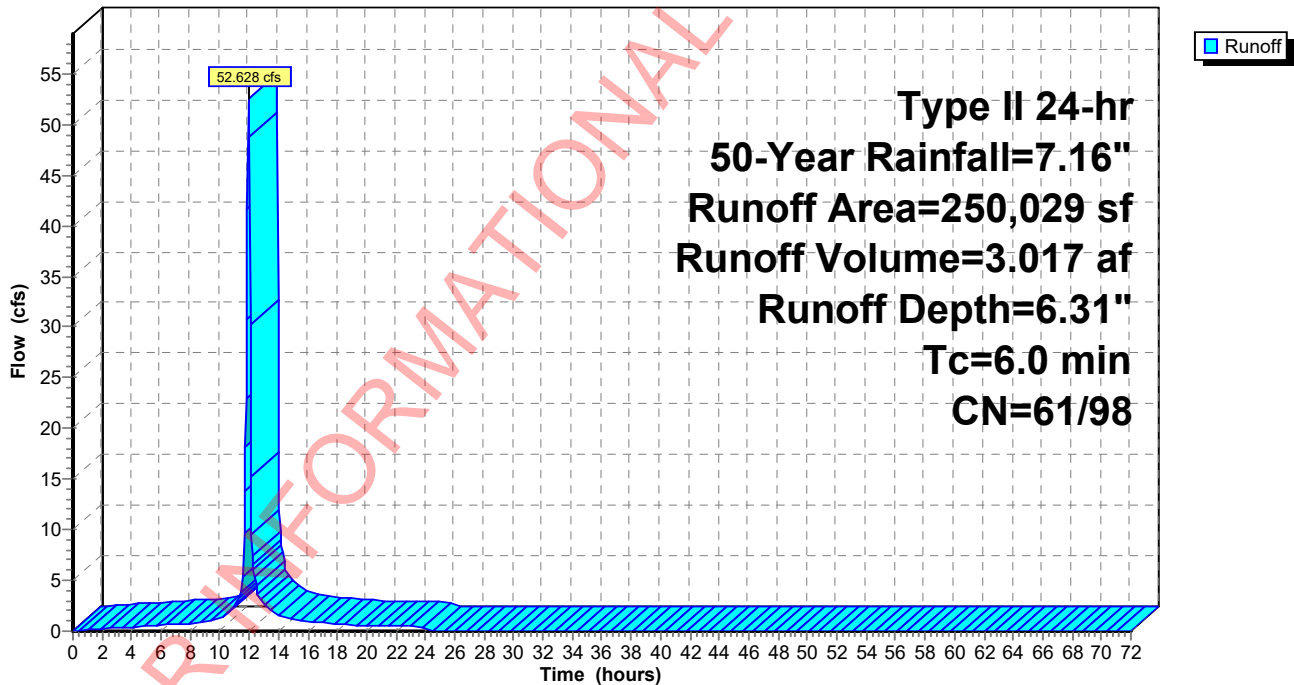
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Type II 24-hr 50-Year Rainfall=7.16"

	Area (sf)	CN	Description
*	108,522	98	ROOF
	104,137	98	Paved parking, HSG B
	37,370	61	>75% Grass cover, Good, HSG B
	250,029	92	Weighted Average
	37,370	61	14.95% Pervious Area
	212,659	98	85.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C5: DA5**

Hydrograph





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Type II 24-hr 50-Year Rainfall=7.16"

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**Summary for Subcatchment U1: BYPASS**

Runoff = 19.369 cfs @ 11.98 hrs, Volume= 0.927 af, Depth= 2.82"

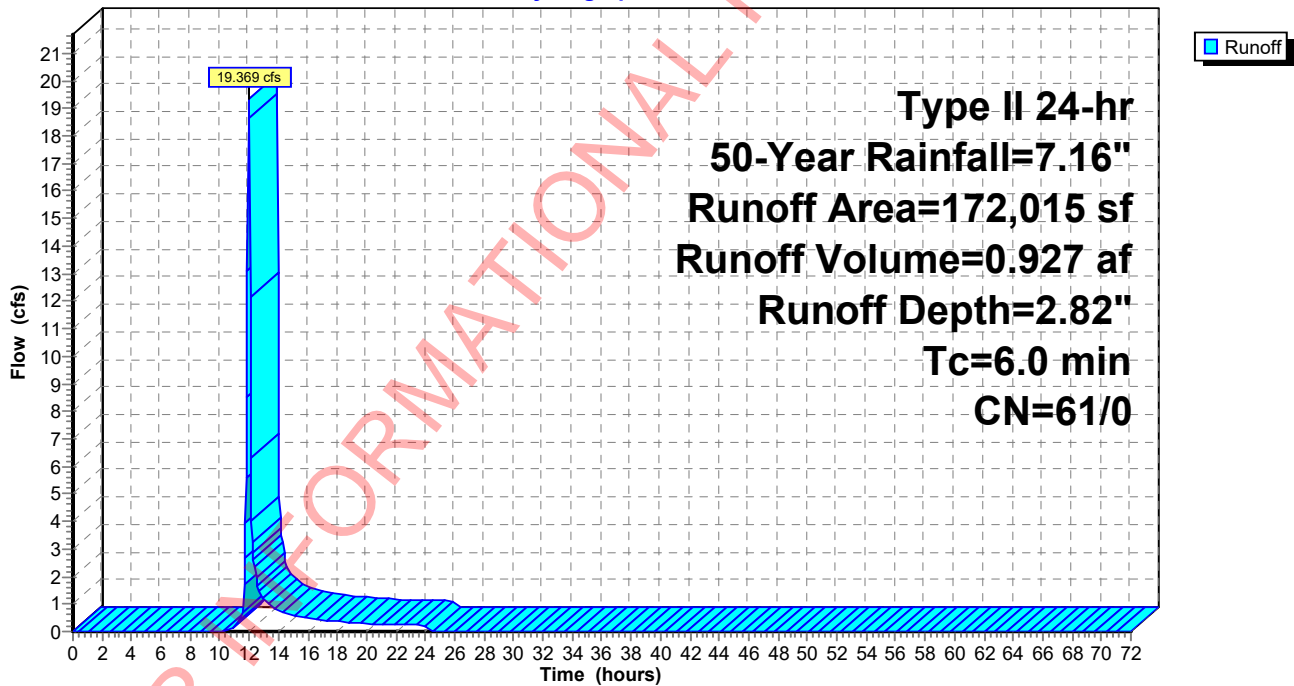
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 50-Year Rainfall=7.16"

Area (sf)	CN	Description
*	0	98 ROOF
	0	98 Paved parking, HSG B
172,015	61	>75% Grass cover, Good, HSG B
172,015	61	Weighted Average
172,015	61	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment U1: BYPASS**

Hydrograph



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Type II 24-hr 50-Year Rainfall=7.16"

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**Summary for Pond PCSM1: SYSTEM 1**

Inflow Area = 4.156 ac, 74.26% Impervious, Inflow Depth = 5.86" for 50-Year event  
 Inflow = 35.801 cfs @ 11.96 hrs, Volume= 2.031 af  
 Outflow = 12.855 cfs @ 12.09 hrs, Volume= 1.961 af, Atten= 64%, Lag= 7.8 min  
 Primary = 12.855 cfs @ 12.09 hrs, Volume= 1.961 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 7.21' @ 12.09 hrs Surf.Area= 23,009 sf Storage= 40,513 cf

Plug-Flow detention time= 604.9 min calculated for 1.960 af (96% of inflow)  
 Center-of-Mass det. time= 584.7 min ( 1,336.5 - 751.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,740 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 18,700 cf Overall x 20.0% Voids
#2	4.00'	63,602 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,342 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	9,350	0	0	9,350
3.00	9,350	9,350	9,350	9,693
4.00	9,350	9,350	18,700	10,036

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	9,350	0	0	9,350
5.00	10,612	9,974	9,974	10,661
6.00	11,946	11,272	21,247	12,047
7.00	13,348	12,641	33,887	13,504
8.00	14,835	14,085	47,972	15,050
9.00	16,439	15,630	63,602	16,714

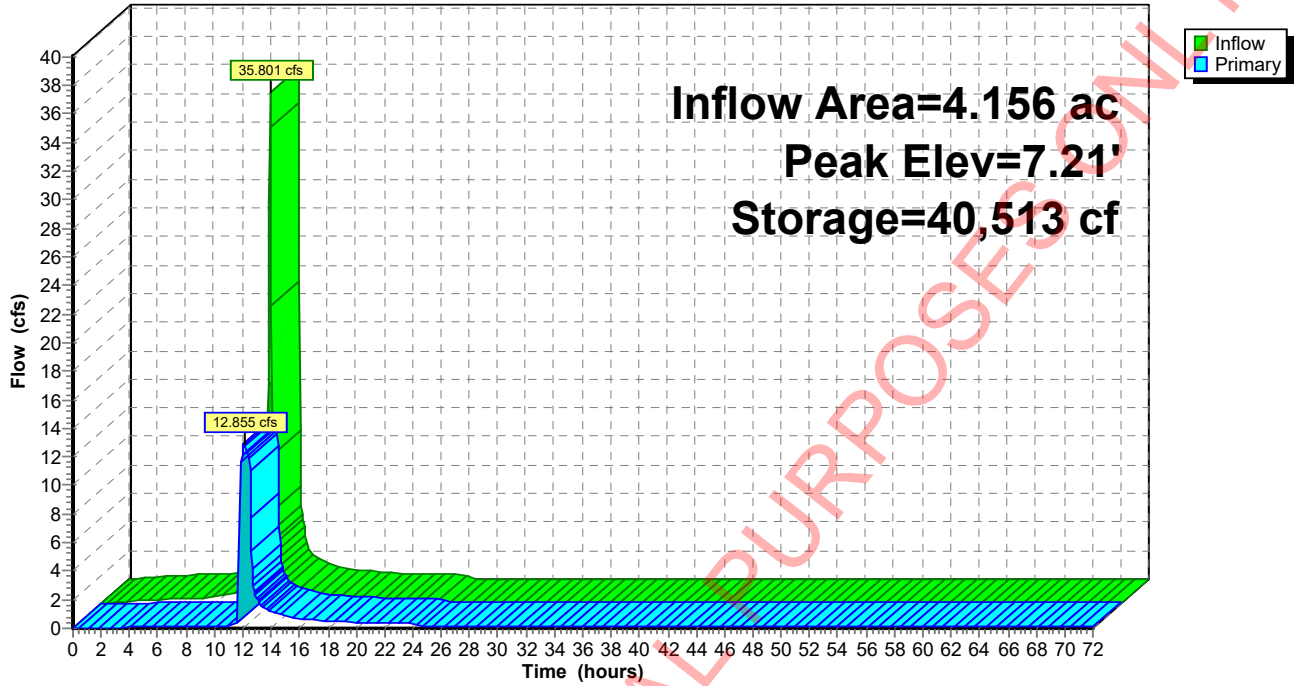
Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.07' S= 0.0206 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=12.850 cfs @ 12.09 hrs HW=7.21' (Free Discharge)

- 1=Culvert (Barrel Controls 12.850 cfs @ 10.47 fps)
- 2=Outlet Structure#1 (Passes < 69.569 cfs potential flow)
- 3=Slow Release Orifice (Passes < 0.172 cfs potential flow)

Pond PCSM1: SYSTEM 1

Hydrograph



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**Summary for Pond PCSM2: SYSTEM 2**

Inflow Area = 3.711 ac, 74.28% Impervious, Inflow Depth = 5.87" for 50-Year event  
 Inflow = 31.971 cfs @ 11.96 hrs, Volume= 1.814 af  
 Outflow = 12.689 cfs @ 12.09 hrs, Volume= 1.801 af, Atten= 60%, Lag= 7.3 min  
 Primary = 12.689 cfs @ 12.09 hrs, Volume= 1.801 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 7.17' @ 12.09 hrs Surf.Area= 19,809 sf Storage= 34,281 cf

Plug-Flow detention time= 568.9 min calculated for 1.800 af (99% of inflow)  
 Center-of-Mass det. time= 565.6 min ( 1,317.4 - 751.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,000 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 15,000 cf Overall x 20.0% Voids
#2	4.00'	64,620 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,620 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	7,500	0	0	7,500
3.00	7,500	7,500	7,500	7,807
4.00	7,500	7,500	15,000	8,114

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	7,500	0	0	7,500
5.00	8,980	8,229	8,229	9,015
6.00	10,480	9,720	17,949	10,555
7.00	12,040	11,251	29,200	12,159
8.00	13,658	12,841	42,041	13,826
9.00	15,330	14,486	56,527	15,552
9.50	17,060	8,094	64,620	17,297

Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 85.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.14' S= 0.0195 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=12.678 cfs @ 12.09 hrs HW=7.16' (Free Discharge)

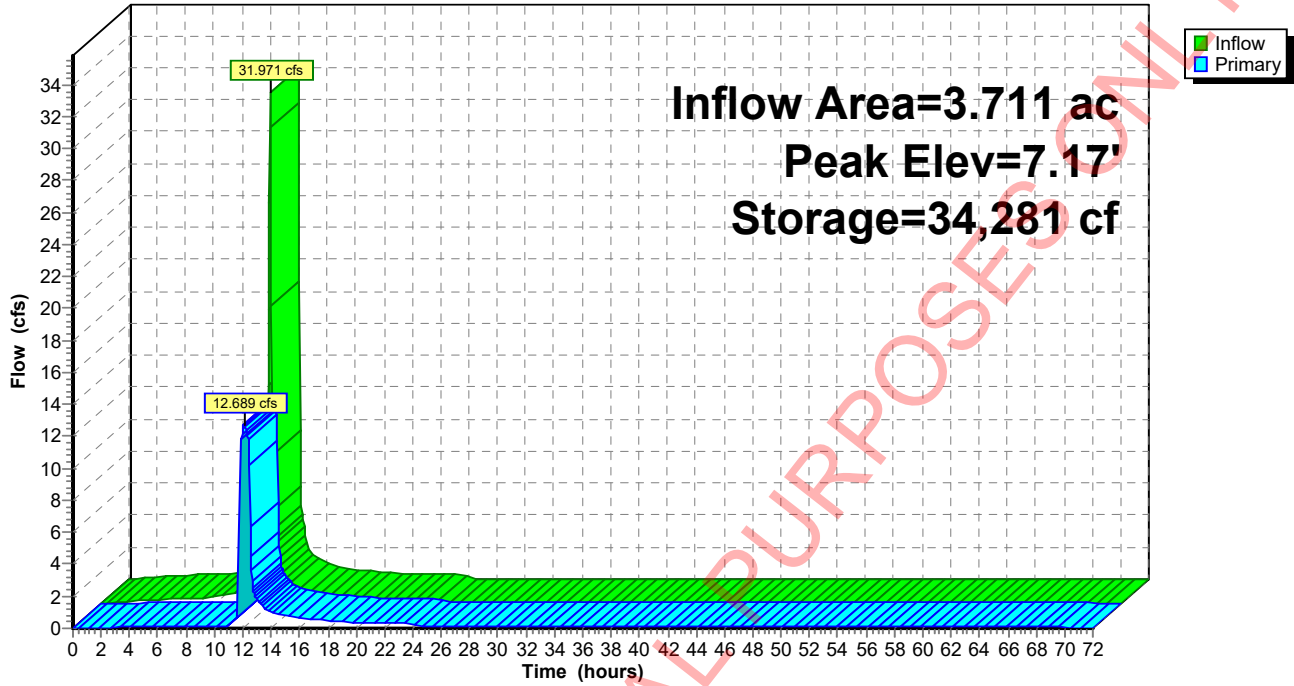
1=Culvert (Barrel Controls 12.678 cfs @ 10.33 fps)

2=Outlet Structure#1 (Passes < 65.470 cfs potential flow)

3=Slow Release Orifice (Passes < 0.171 cfs potential flow)

Pond PCSM2: SYSTEM 2

Hydrograph



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**Summary for Pond PCSM3: SYSTEM 3**

Inflow Area = 5.059 ac, 73.42% Impervious, Inflow Depth = 5.83" for 50-Year event  
 Inflow = 43.365 cfs @ 11.96 hrs, Volume= 2.458 af  
 Outflow = 11.725 cfs @ 12.12 hrs, Volume= 2.445 af, Atten= 73%, Lag= 9.2 min  
 Primary = 11.725 cfs @ 12.12 hrs, Volume= 2.445 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.98' @ 12.12 hrs Surf.Area= 27,151 sf Storage= 51,097 cf

Plug-Flow detention time= 567.9 min calculated for 2.443 af (99% of inflow)  
 Center-of-Mass det. time= 565.7 min ( 1,318.1 - 752.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	4,080 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 20,400 cf Overall x 20.0% Voids
#2	3.50'	85,567 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		89,647 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	10,200	0	0	10,200
2.50	10,200	10,200	10,200	10,558
3.50	10,200	10,200	20,400	10,916

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	10,200	0	0	10,200
4.00	11,150	5,336	5,336	11,167
5.00	13,040	12,083	17,418	13,097
6.00	15,000	14,009	31,427	15,102
7.00	17,000	15,990	47,417	17,151
8.00	19,070	18,025	65,442	19,275
9.00	21,200	20,126	85,567	21,464

Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 82.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 0.89' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.0" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=11.712 cfs @ 12.12 hrs HW=6.97' (Free Discharge)

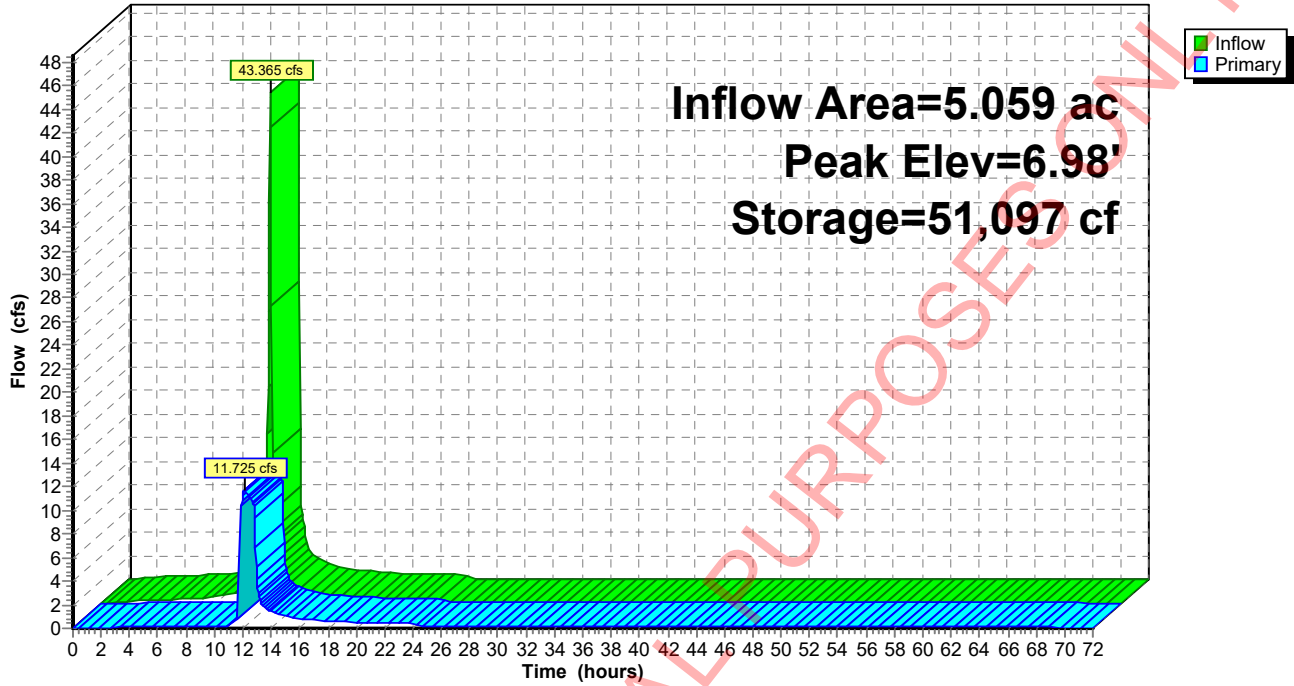
1=Culvert (Barrel Controls 11.712 cfs @ 9.54 fps)

2=Outlet Structure#1 (Passes < 92.875 cfs potential flow)

3=Slow Release Orifice (Passes < 0.244 cfs potential flow)

Pond PCSM3: SYSTEM 3

Hydrograph



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**Summary for Pond PCSM4: SYSTEM 4**

Inflow Area = 5.958 ac, 83.70% Impervious, Inflow Depth = 6.25" for 50-Year event  
 Inflow = 54.215 cfs @ 11.96 hrs, Volume= 3.104 af  
 Outflow = 12.511 cfs @ 12.13 hrs, Volume= 3.098 af, Atten= 77%, Lag= 9.9 min  
 Primary = 12.511 cfs @ 12.13 hrs, Volume= 3.098 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 6.61' @ 12.13 hrs Surf.Area= 40,786 sf Storage= 68,667 cf

Plug-Flow detention time= 636.9 min calculated for 3.098 af (100% of inflow)  
 Center-of-Mass det. time= 635.5 min ( 1,381.9 - 746.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,440 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 27,200 cf Overall x 20.0% Voids
#2	3.50'	141,213 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		146,653 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,600	0	0	13,600
2.50	13,600	13,600	13,600	14,013
3.50	13,600	13,600	27,200	14,427

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,600	0	0	13,600
4.00	15,770	7,336	7,336	15,781
5.00	20,120	17,901	25,237	20,156
6.00	24,520	22,284	47,520	24,588
7.00	28,980	26,719	74,239	29,085
8.00	33,500	31,213	105,452	33,649
9.00	38,070	35,761	141,213	38,268

Device	Routing	Invert	Outlet Devices
#1	Primary	1.50'	<b>15.0" Round RCP_Round 15"</b> L= 72.0' Ke= 0.500 Inlet / Outlet Invert= 1.50' / -0.85' S= 0.0326 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

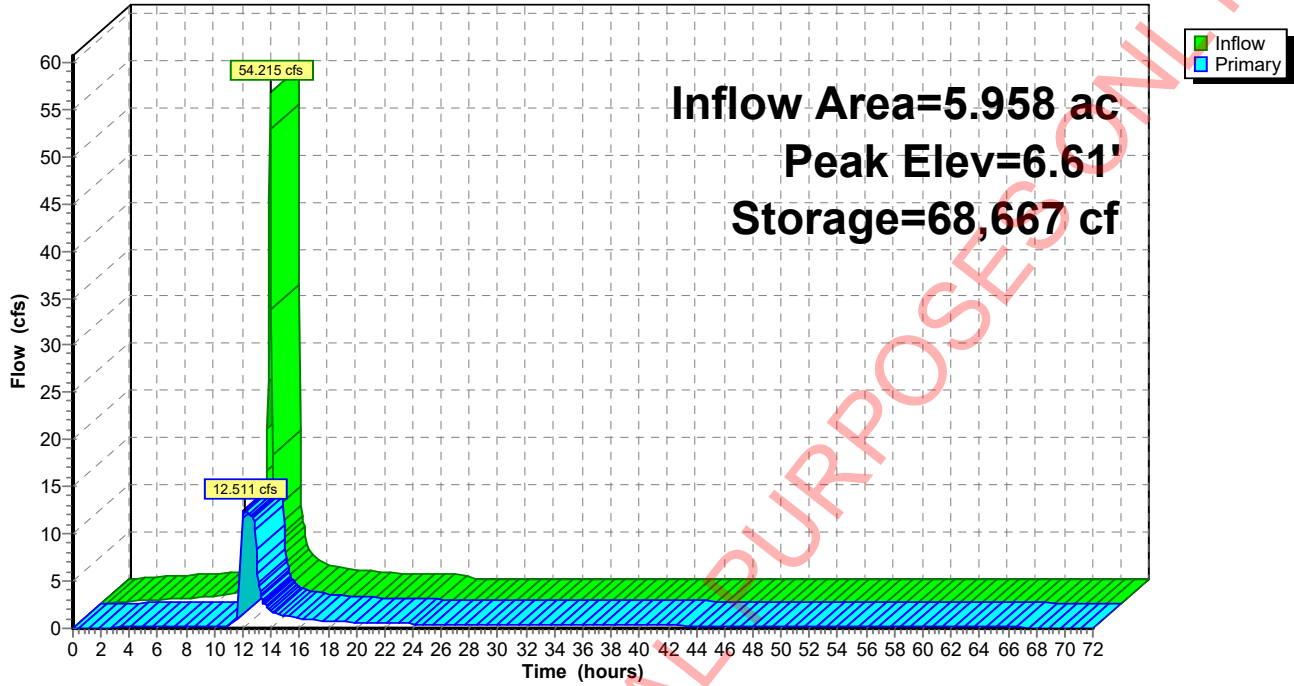
**Primary OutFlow** Max=12.506 cfs @ 12.13 hrs HW=6.60' (Free Discharge)

- 1=RCP\_Round 15" (Inlet Controls 12.506 cfs @ 10.19 fps)
- 2=Outlet Structure#1 (Passes < 60.733 cfs potential flow)
- 3=Slow Release Orifice (Passes < 0.367 cfs potential flow)



Pond PCSM4: SYSTEM 4

Hydrograph



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**Summary for Pond PCSM5: SYSTEM 5**

Inflow Area = 5.740 ac, 85.05% Impervious, Inflow Depth = 6.31" for 50-Year event  
 Inflow = 52.628 cfs @ 11.96 hrs, Volume= 3.017 af  
 Outflow = 12.963 cfs @ 12.12 hrs, Volume= 3.015 af, Atten= 75%, Lag= 9.6 min  
 Primary = 12.963 cfs @ 12.12 hrs, Volume= 3.015 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 7.13' @ 12.12 hrs Surf.Area= 32,641 sf Storage= 64,410 cf

Plug-Flow detention time= 523.8 min calculated for 3.013 af (100% of inflow)  
 Center-of-Mass det. time= 524.9 min ( 1,270.5 - 745.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,380 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 26,900 cf Overall x 20.0% Voids
#2	3.50'	97,893 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		103,273 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,450	0	0	13,450
2.50	13,450	13,450	13,450	13,861
3.50	13,450	13,450	26,900	14,272

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,450	0	0	13,450
4.00	14,190	6,909	6,909	14,219
5.00	15,730	14,953	21,863	15,819
6.00	17,320	16,519	38,381	17,473
7.00	18,970	18,139	56,520	19,190
8.00	20,680	19,819	76,339	20,972
9.00	22,440	21,554	97,893	22,807

Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 1.02' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=12.947 cfs @ 12.12 hrs HW=7.12' (Free Discharge)

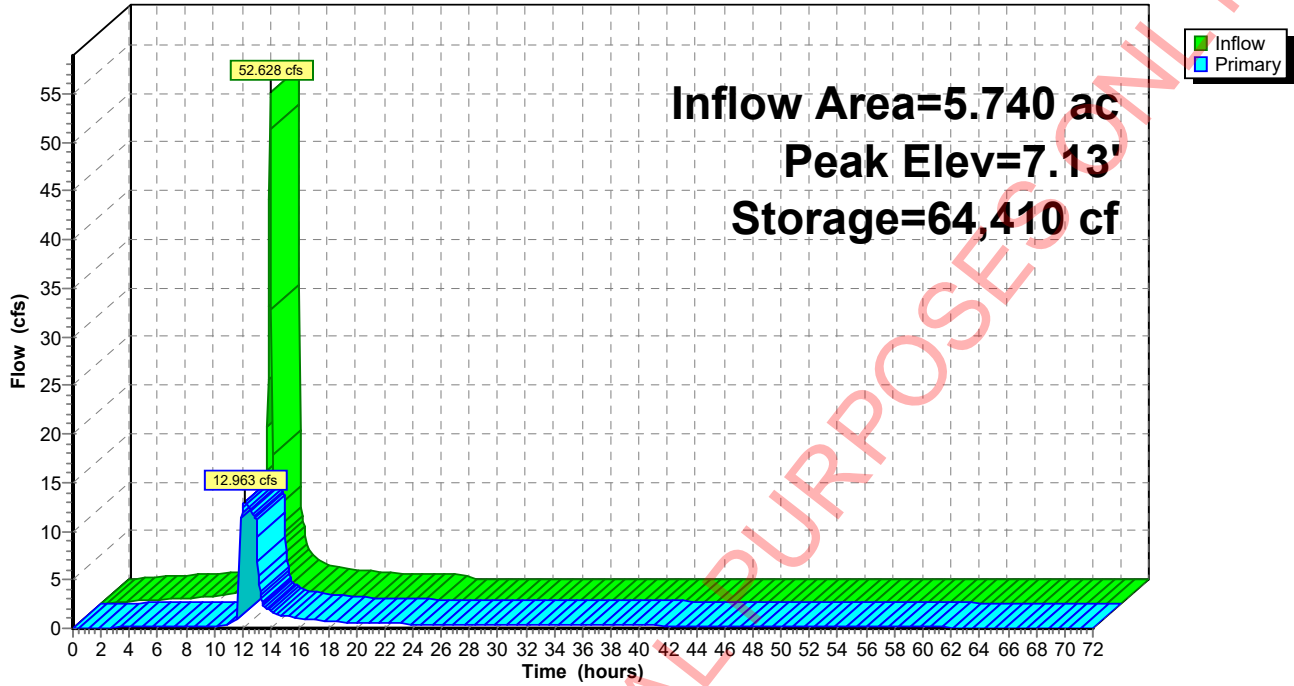
1=Culvert (Barrel Controls 12.947 cfs @ 10.55 fps)

2=Outlet Structure#1 (Passes < 98.036 cfs potential flow)

3=Slow Release Orifice (Passes < 0.385 cfs potential flow)

Pond PCSM5: SYSTEM 5

Hydrograph



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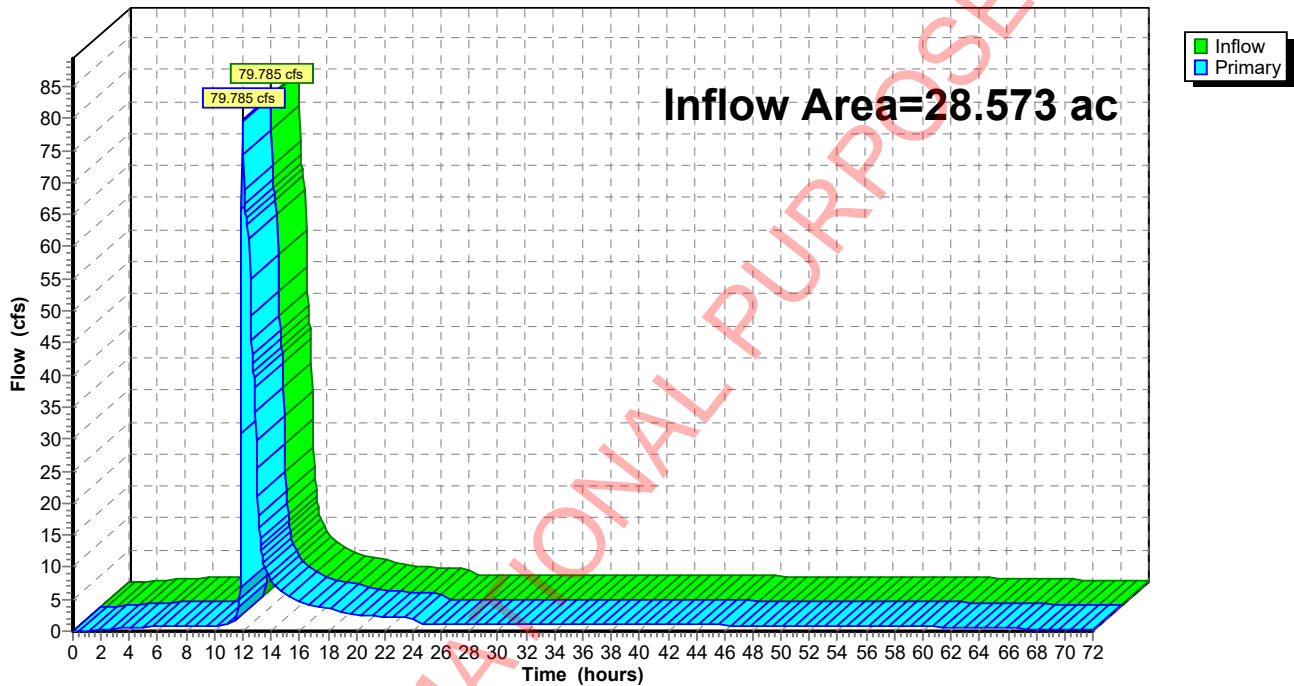
Summary for Link POI1: POST DA 1

Inflow Area = 28.573 ac, 67.99% Impervious, Inflow Depth > 5.56" for 50-Year event  
Inflow = 79.785 cfs @ 11.99 hrs, Volume= 13.247 af  
Primary = 79.785 cfs @ 11.99 hrs, Volume= 13.247 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link POI1: POST DA 1

Hydrograph



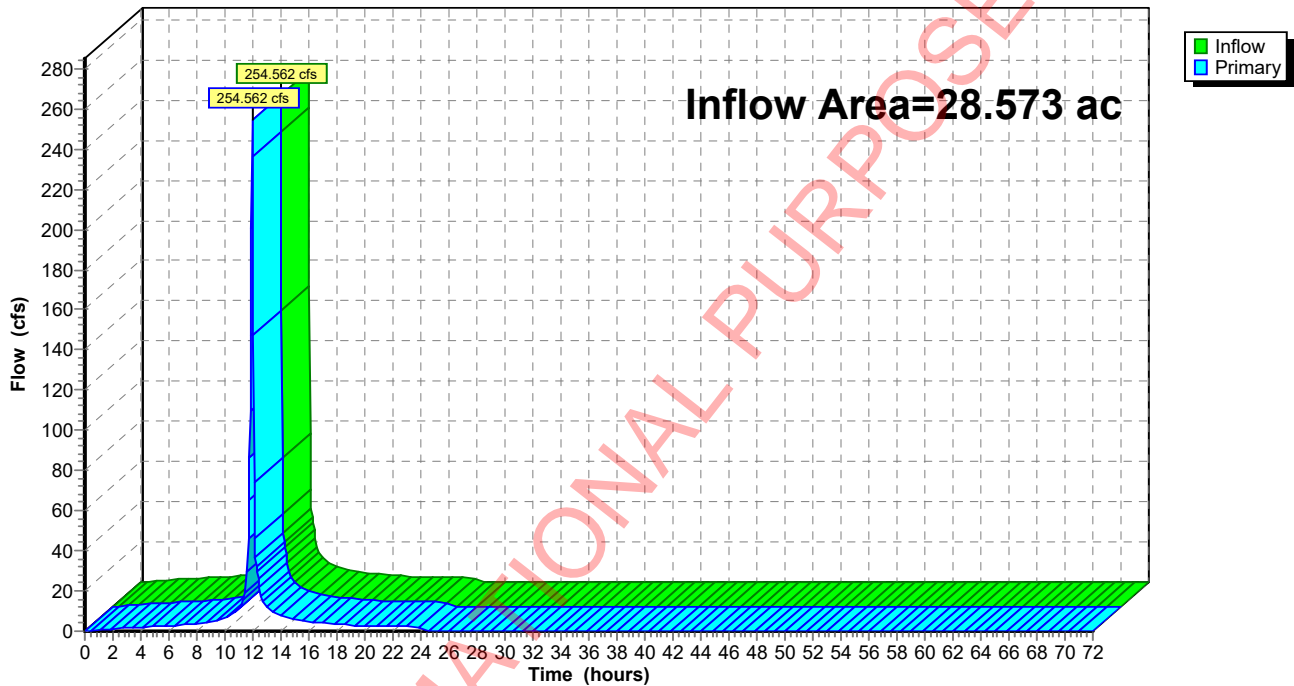
Summary for Link PRE1: existing DA

Inflow Area = 28.573 ac, 80.00% Impervious, Inflow Depth = 6.10" for 50-Year event  
Inflow = 254.562 cfs @ 11.96 hrs, Volume= 14.525 af  
Primary = 254.562 cfs @ 11.96 hrs, Volume= 14.525 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link PRE1: existing DA

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment1S: DA1</b>	Runoff Area=1,244,658 sf 80.00% Impervious Runoff Depth=7.31" Tc=6.0 min CN=61/98 Runoff=304.587 cfs 17.399 af
<b>SubcatchmentC1: DA1</b>	Runoff Area=181,031 sf 74.26% Impervious Runoff Depth=7.05" Tc=6.0 min CN=61/98 Runoff=43.052 cfs 2.443 af
<b>SubcatchmentC2: DA2</b>	Runoff Area=161,650 sf 74.28% Impervious Runoff Depth=7.05" Tc=6.0 min CN=61/98 Runoff=38.446 cfs 2.182 af
<b>SubcatchmentC3: DA3</b>	Runoff Area=220,390 sf 73.42% Impervious Runoff Depth=7.02" Tc=6.0 min CN=61/98 Runoff=52.188 cfs 2.958 af
<b>SubcatchmentC4: DA4</b>	Runoff Area=259,545 sf 83.70% Impervious Runoff Depth=7.47" Tc=6.0 min CN=61/98 Runoff=64.669 cfs 3.709 af
<b>SubcatchmentC5: DA5</b>	Runoff Area=250,029 sf 85.05% Impervious Runoff Depth=7.53" Tc=6.0 min CN=61/98 Runoff=62.707 cfs 3.602 af
<b>SubcatchmentU1: BYPASS</b>	Runoff Area=172,015 sf 0.00% Impervious Runoff Depth=3.78" Tc=6.0 min CN=61/0 Runoff=25.720 cfs 1.243 af
<b>Pond PCSM1: SYSTEM 1</b>	Peak Elev=7.73' Storage=47,828 cf Inflow=43.052 cfs 2.443 af Outflow=13.411 cfs 2.373 af
<b>Pond PCSM2: SYSTEM 2</b>	Peak Elev=7.64' Storage=40,213 cf Inflow=38.446 cfs 2.182 af Outflow=13.192 cfs 2.168 af
<b>Pond PCSM3: SYSTEM 3</b>	Peak Elev=7.52' Storage=60,619 cf Inflow=52.188 cfs 2.958 af Outflow=12.366 cfs 2.945 af
<b>Pond PCSM4: SYSTEM 4</b>	Peak Elev=7.07' Storage=81,679 cf Inflow=64.669 cfs 3.709 af Outflow=13.138 cfs 3.703 af
<b>Pond PCSM5: SYSTEM 5</b>	Peak Elev=7.72' Storage=75,993 cf Inflow=62.707 cfs 3.602 af Outflow=13.725 cfs 3.600 af
<b>Link PO1: POST DA 1</b>	Inflow=88.904 cfs 16.031 af Primary=88.904 cfs 16.031 af
<b>Link PRE1: existing DA</b>	Inflow=304.587 cfs 17.399 af Primary=304.587 cfs 17.399 af

**Total Runoff Area = 57.147 ac Runoff Volume = 33.535 af Average Runoff Depth = 7.04"**  
**26.01% Pervious = 14.862 ac 73.99% Impervious = 42.285 ac**

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**Summary for Subcatchment 1S: DA1**

Runoff = 304.587 cfs @ 11.96 hrs, Volume= 17.399 af, Depth= 7.31"

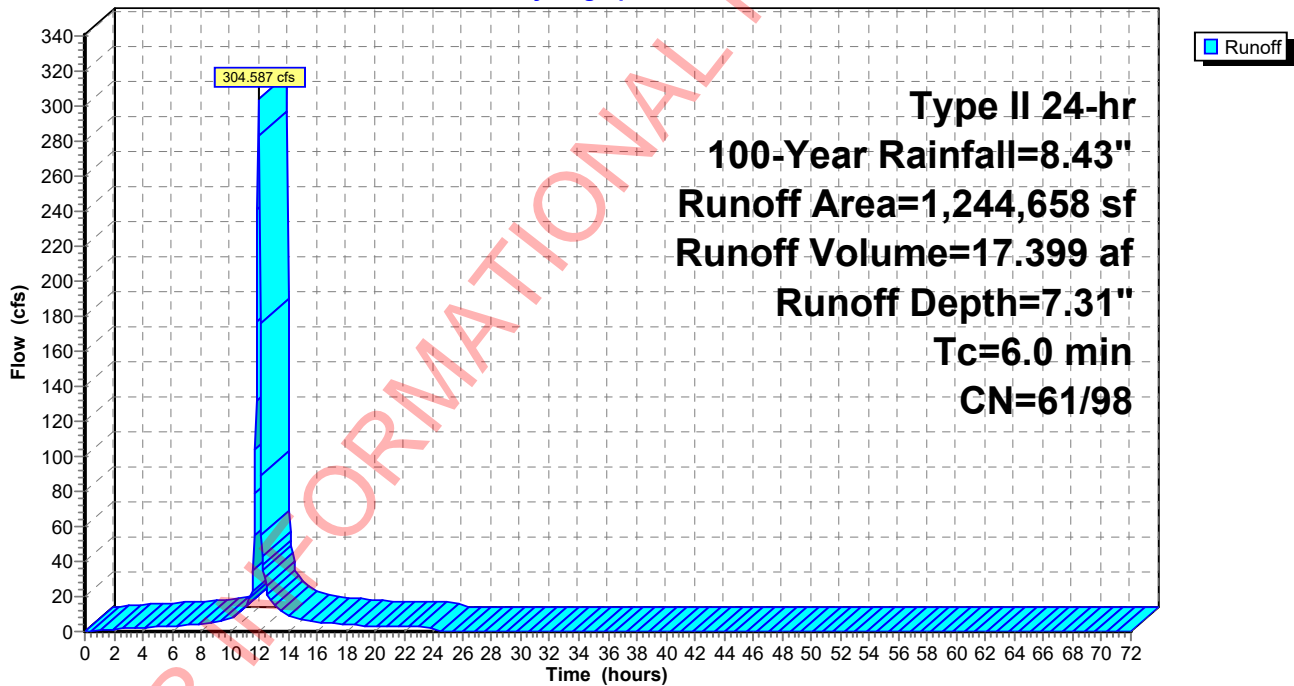
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 100-Year Rainfall=8.43"

Area (sf)	CN	Description
995,726	98	Paved parking, HSG B
* 248,932	61	20%IMPERVIOUS AS LAWN
1,244,658	91	Weighted Average
248,932	61	20.00% Pervious Area
995,726	98	80.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment 1S: DA1**

Hydrograph



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**Summary for Subcatchment C1: DA1**

Runoff = 43.052 cfs @ 11.96 hrs, Volume= 2.443 af, Depth= 7.05"

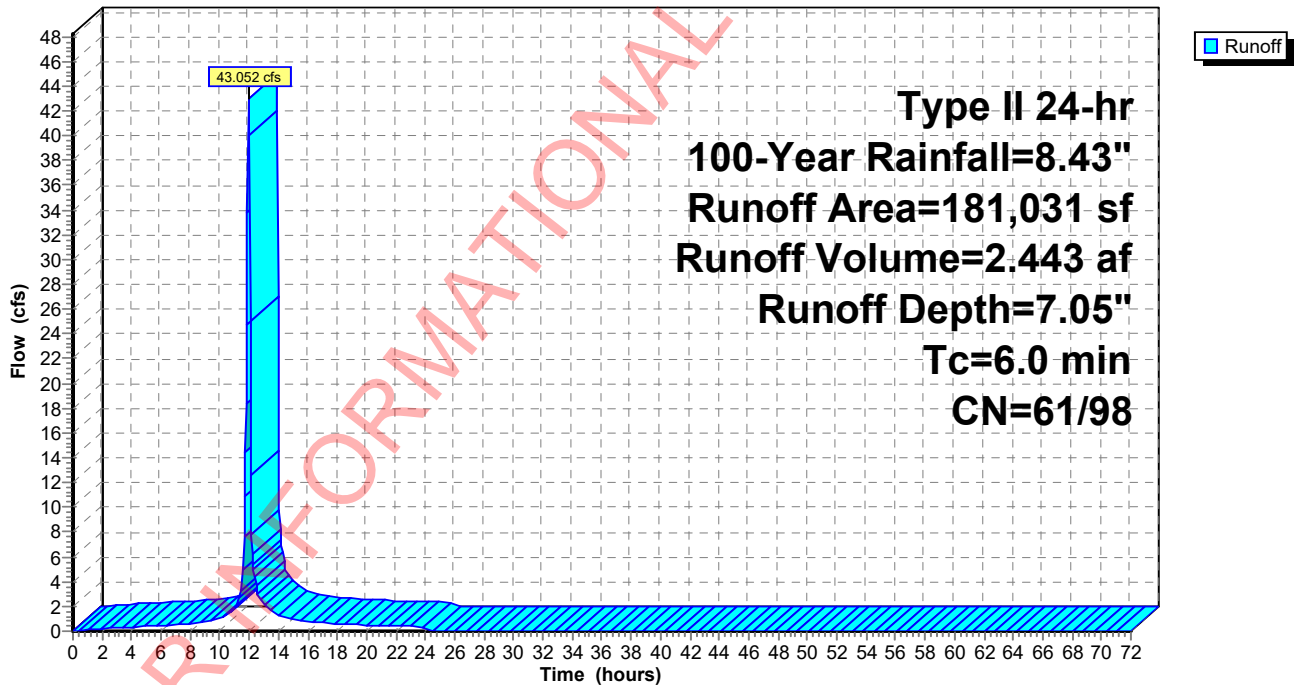
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 100-Year Rainfall=8.43"

	Area (sf)	CN	Description
*	108,520	98	ROOF
	25,919	98	Paved parking, HSG B
	46,592	61	>75% Grass cover, Good, HSG B
	181,031	88	Weighted Average
	46,592	61	25.74% Pervious Area
	134,439	98	74.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C1: DA1**

Hydrograph





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**Summary for Subcatchment C2: DA2**

Runoff = 38.446 cfs @ 11.96 hrs, Volume= 2.182 af, Depth= 7.05"

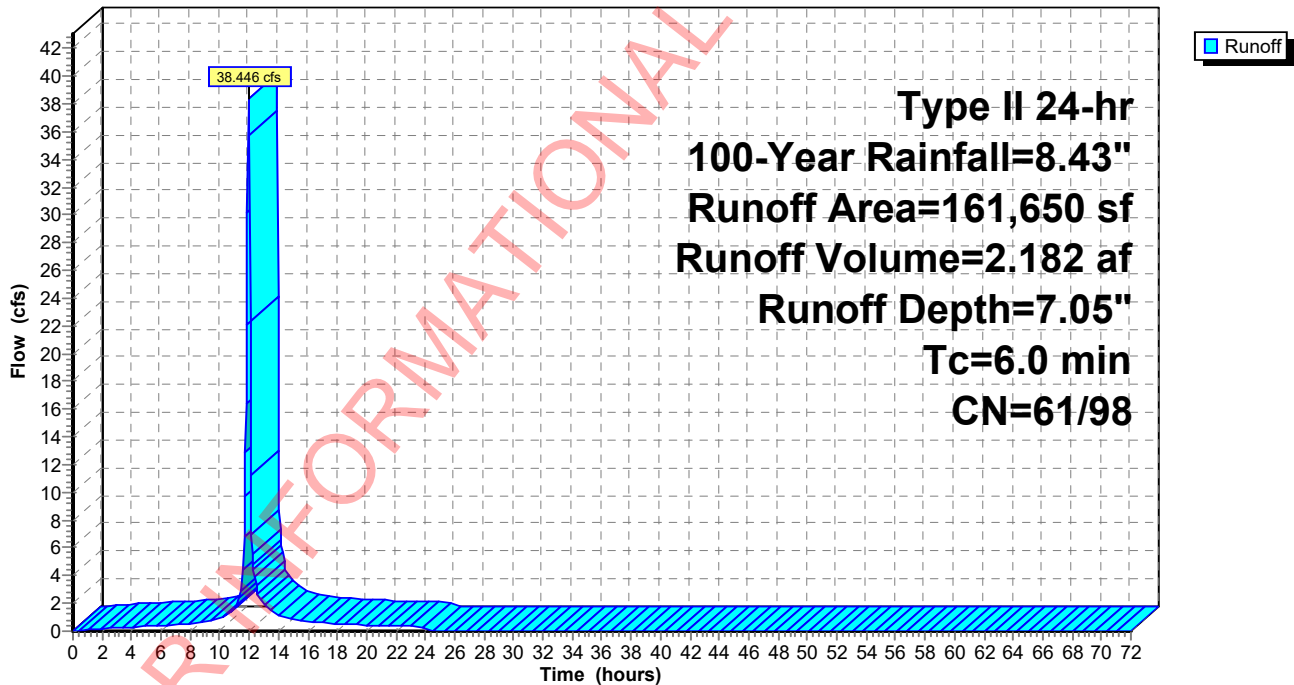
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 100-Year Rainfall=8.43"

	Area (sf)	CN	Description
*	103,425	98	ROOF
	16,645	98	Paved parking, HSG B
	41,580	61	>75% Grass cover, Good, HSG B
	161,650	88	Weighted Average
	41,580	61	25.72% Pervious Area
	120,070	98	74.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C2: DA2**

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**Summary for Subcatchment C3: DA3**

Runoff = 52.188 cfs @ 11.96 hrs, Volume= 2.958 af, Depth= 7.02"

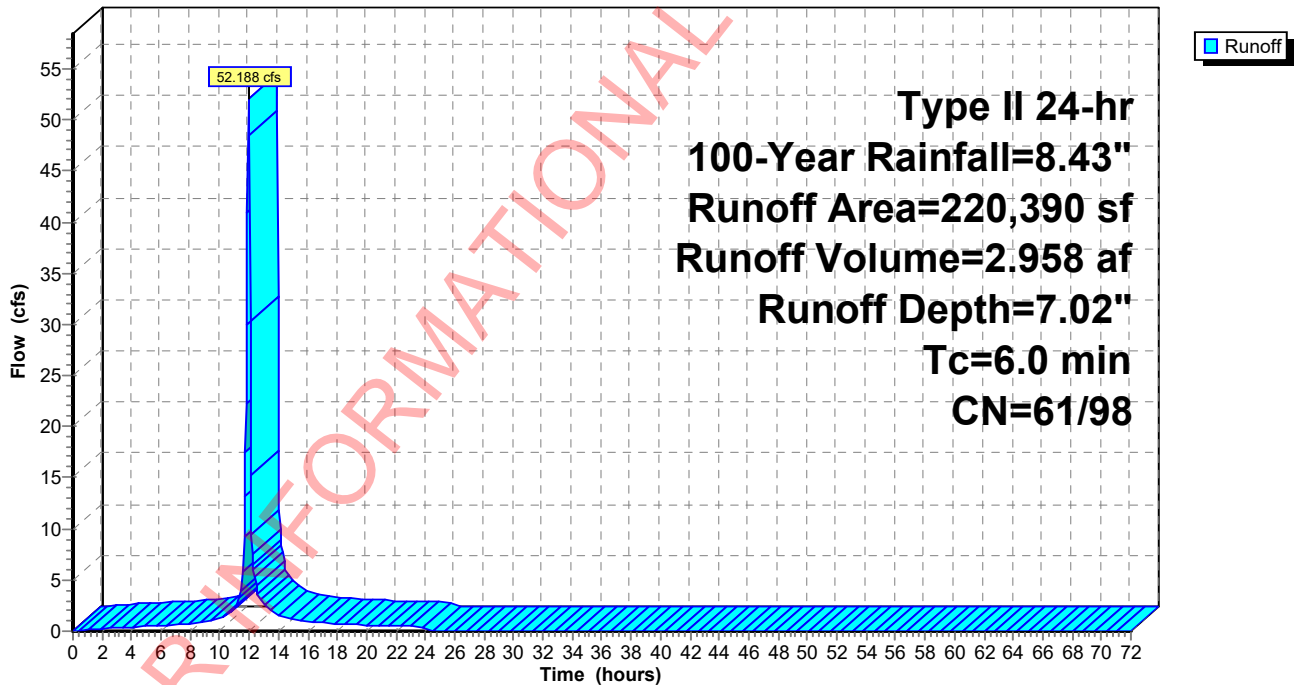
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 100-Year Rainfall=8.43"

	Area (sf)	CN	Description
*	57,887	98	ROOF
	103,914	98	Paved parking, HSG B
	58,589	61	>75% Grass cover, Good, HSG B
	220,390	88	Weighted Average
	58,589	61	26.58% Pervious Area
	161,801	98	73.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C3: DA3**

Hydrograph



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Type II 24-hr 100-Year Rainfall=8.43"

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**Summary for Subcatchment C4: DA4**

Runoff = 64.669 cfs @ 11.96 hrs, Volume= 3.709 af, Depth= 7.47"

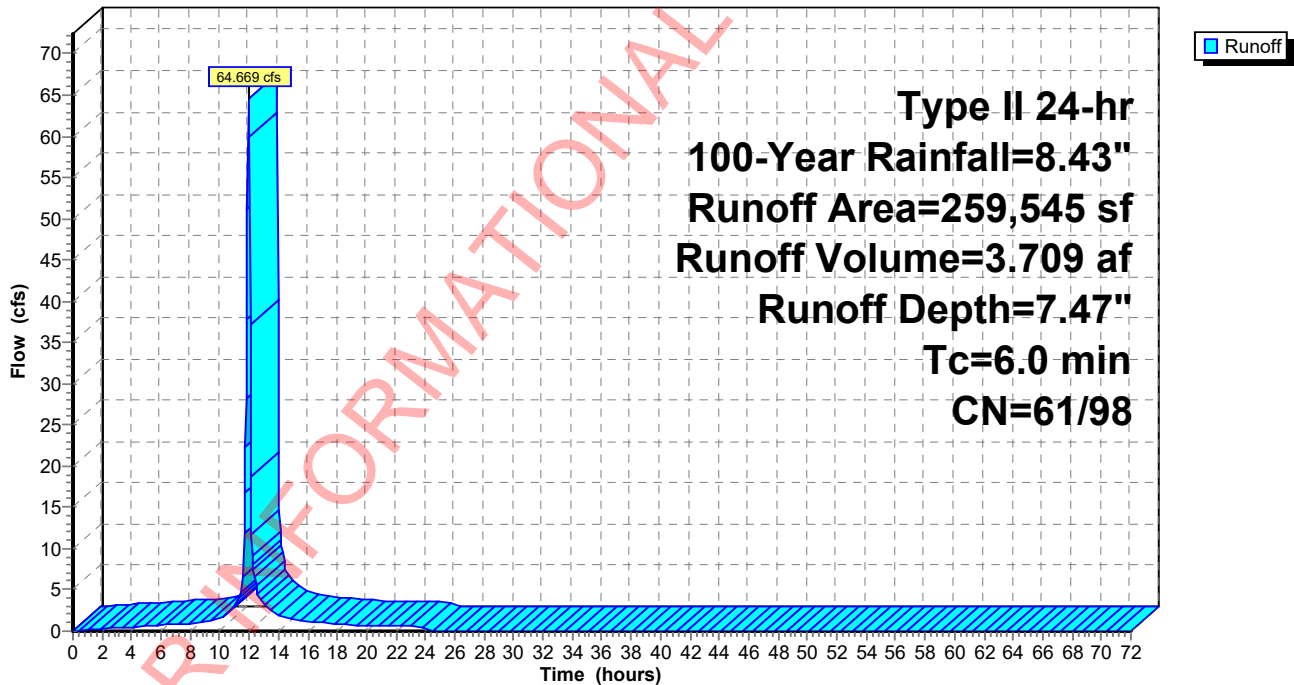
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 100-Year Rainfall=8.43"

	Area (sf)	CN	Description
*	40,298	98	ROOF
	176,929	98	Paved parking, HSG B
	42,318	61	>75% Grass cover, Good, HSG B
	259,545	92	Weighted Average
	42,318	61	16.30% Pervious Area
	217,227	98	83.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C4: DA4**

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Type II 24-hr 100-Year Rainfall=8.43"

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**Summary for Subcatchment C5: DA5**

Runoff = 62.707 cfs @ 11.96 hrs, Volume= 3.602 af, Depth= 7.53"

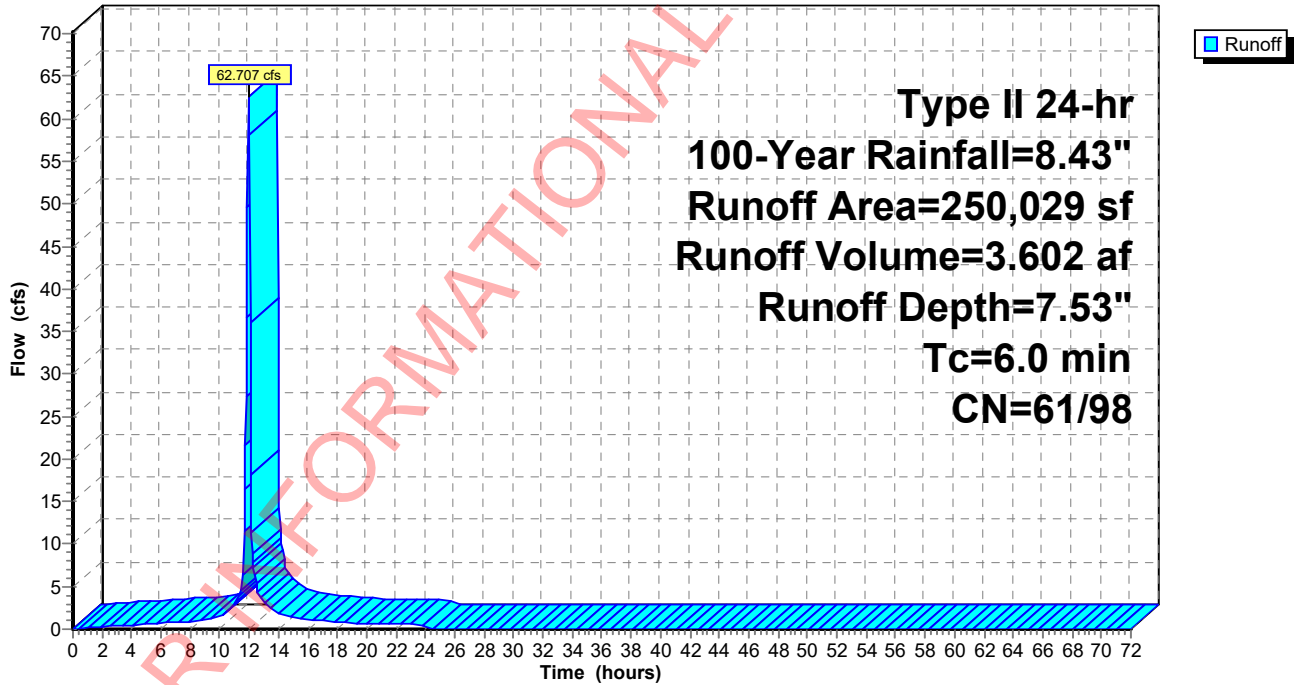
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 100-Year Rainfall=8.43"

	Area (sf)	CN	Description
*	108,522	98	ROOF
	104,137	98	Paved parking, HSG B
	37,370	61	>75% Grass cover, Good, HSG B
	250,029	92	Weighted Average
	37,370	61	14.95% Pervious Area
	212,659	98	85.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment C5: DA5**

Hydrograph



**Philaport - Full System**

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Type II 24-hr 100-Year Rainfall=8.43"

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**Summary for Subcatchment U1: BYPASS**

Runoff = 25.720 cfs @ 11.97 hrs, Volume= 1.243 af, Depth= 3.78"

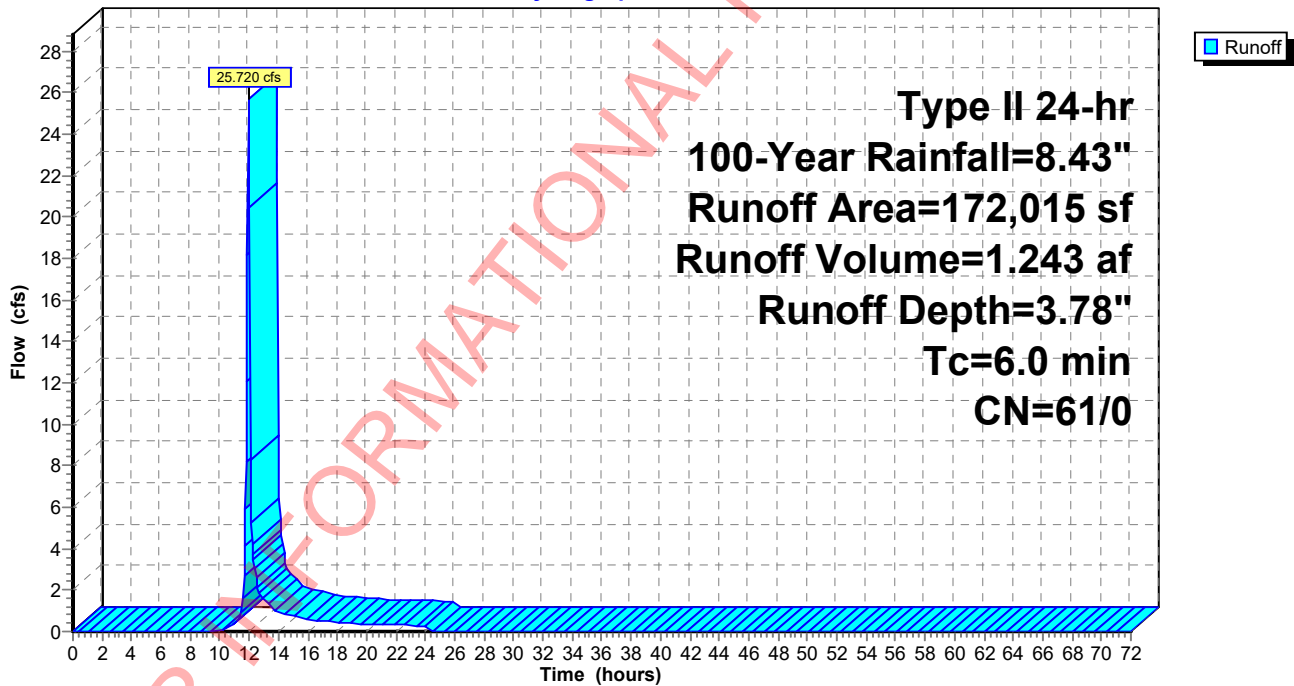
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
Type II 24-hr 100-Year Rainfall=8.43"

Area (sf)	CN	Description
*	0	98 ROOF
	0	98 Paved parking, HSG B
172,015	61	>75% Grass cover, Good, HSG B
172,015	61	Weighted Average
172,015	61	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

**Subcatchment U1: BYPASS**

Hydrograph



**Philaport - Full System**

Type II 24-hr 100-Year Rainfall=8.43"

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**Summary for Pond PCSM1: SYSTEM 1**

Inflow Area = 4.156 ac, 74.26% Impervious, Inflow Depth = 7.05" for 100-Year event  
 Inflow = 43.052 cfs @ 11.96 hrs, Volume= 2.443 af  
 Outflow = 13.411 cfs @ 12.11 hrs, Volume= 2.373 af, Atten= 69%, Lag= 8.6 min  
 Primary = 13.411 cfs @ 12.11 hrs, Volume= 2.373 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 7.73' @ 12.11 hrs Surf.Area= 23,783 sf Storage= 47,828 cf

Plug-Flow detention time= 512.2 min calculated for 2.371 af (97% of inflow)  
 Center-of-Mass det. time= 495.4 min ( 1,245.7 - 750.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,740 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 18,700 cf Overall x 20.0% Voids
#2	4.00'	63,602 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,342 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	9,350	0	0	9,350
3.00	9,350	9,350	9,350	9,693
4.00	9,350	9,350	18,700	10,036

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	9,350	0	0	9,350
5.00	10,612	9,974	9,974	10,661
6.00	11,946	11,272	21,247	12,047
7.00	13,348	12,641	33,887	13,504
8.00	14,835	14,085	47,972	15,050
9.00	16,439	15,630	63,602	16,714

Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 84.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.07' S= 0.0206 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=13.405 cfs @ 12.11 hrs HW=7.73' (Free Discharge)

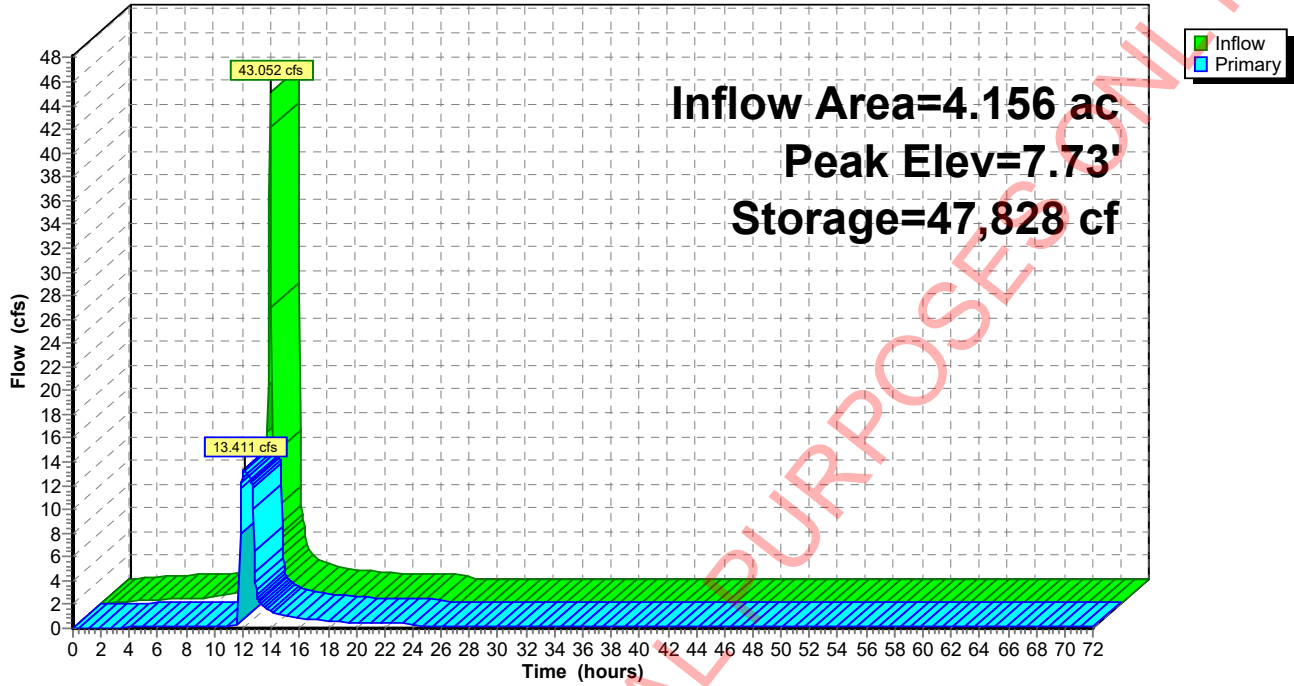
1=Culvert (Barrel Controls 13.405 cfs @ 10.92 fps)

2=Outlet Structure#1 (Passes < 101.287 cfs potential flow)

3=Slow Release Orifice (Passes < 0.181 cfs potential flow)

Pond PCSM1: SYSTEM 1

Hydrograph



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**Philaport - Full System**

Type II 24-hr 100-Year Rainfall=8.43"

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**Summary for Pond PCSM2: SYSTEM 2**

Inflow Area = 3.711 ac, 74.28% Impervious, Inflow Depth = 7.05" for 100-Year event  
 Inflow = 38.446 cfs @ 11.96 hrs, Volume= 2.182 af  
 Outflow = 13.192 cfs @ 12.10 hrs, Volume= 2.168 af, Atten= 66%, Lag= 8.1 min  
 Primary = 13.192 cfs @ 12.10 hrs, Volume= 2.168 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 7.64' @ 12.10 hrs Surf.Area= 20,561 sf Storage= 40,213 cf

Plug-Flow detention time= 483.4 min calculated for 2.167 af (99% of inflow)  
 Center-of-Mass det. time= 481.0 min ( 1,231.3 - 750.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	2.00'	3,000 cf	<b>2' Media (20%) voids (Section A) (Conic)</b> listed below (Recalc) 15,000 cf Overall x 20.0% Voids
#2	4.00'	64,620 cf	<b>Surface Storage (Section A) (Conic)</b> listed below (Recalc)
		67,620 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
2.00	7,500	0	0	7,500
3.00	7,500	7,500	7,500	7,807
4.00	7,500	7,500	15,000	8,114

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
4.00	7,500	0	0	7,500
5.00	8,980	8,229	8,229	9,015
6.00	10,480	9,720	17,949	10,555
7.00	12,040	11,251	29,200	12,159
8.00	13,658	12,841	42,041	13,826
9.00	15,330	14,486	56,527	15,552
9.50	17,060	8,094	64,620	17,297

Device	Routing	Invert	Outlet Devices
#1	Primary	1.80'	<b>15.0" Round Culvert</b> L= 85.0' Ke= 0.500 Inlet / Outlet Invert= 1.80' / 0.14' S= 0.0195 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	6.00'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	2.00'	<b>1.7" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=13.191 cfs @ 12.10 hrs HW=7.64' (Free Discharge)

1=Culvert (Barrel Controls 13.191 cfs @ 10.75 fps)

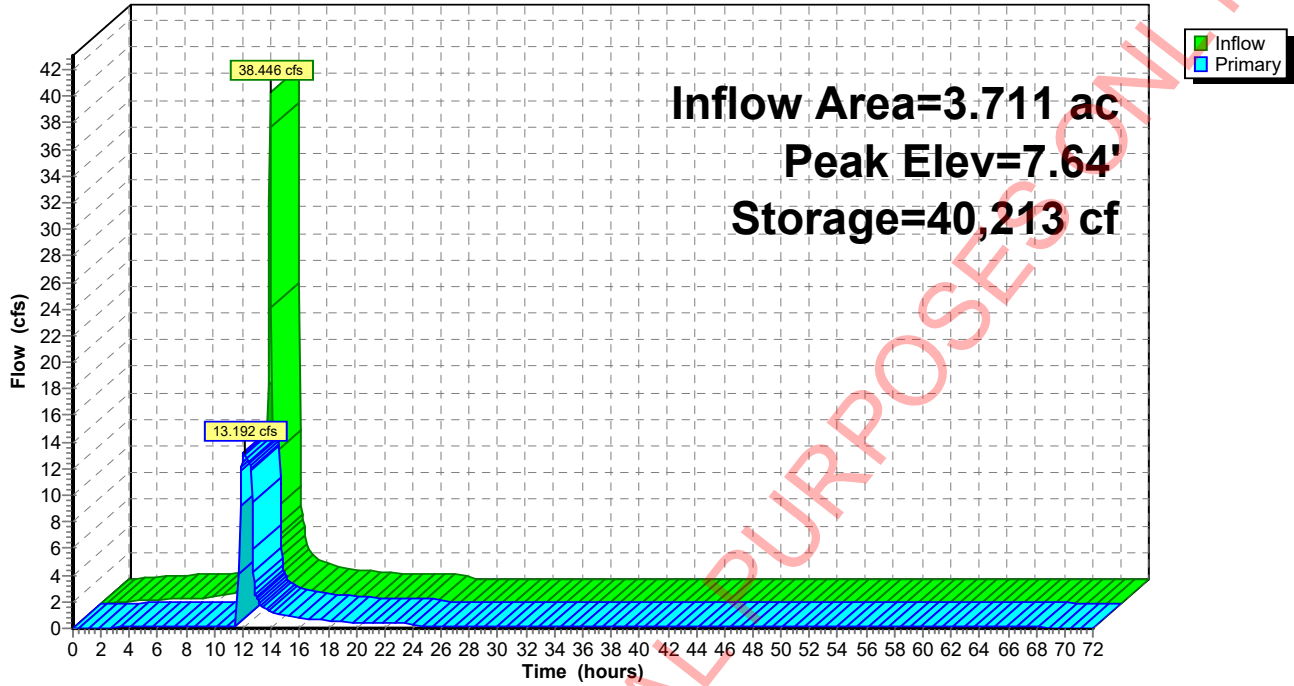
2=Outlet Structure#1 (Passes < 98.571 cfs potential flow)

3=Slow Release Orifice (Passes < 0.179 cfs potential flow)



Pond PCSM2: SYSTEM 2

Hydrograph



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**Philaport - Full System**

Type II 24-hr 100-Year Rainfall=8.43"

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**Summary for Pond PCSM3: SYSTEM 3**

Inflow Area = 5.059 ac, 73.42% Impervious, Inflow Depth = 7.02" for 100-Year event  
 Inflow = 52.188 cfs @ 11.96 hrs, Volume= 2.958 af  
 Outflow = 12.366 cfs @ 12.13 hrs, Volume= 2.945 af, Atten= 76%, Lag= 9.7 min  
 Primary = 12.366 cfs @ 12.13 hrs, Volume= 2.945 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 7.52' @ 12.13 hrs Surf.Area= 28,263 sf Storage= 60,619 cf

Plug-Flow detention time= 485.5 min calculated for 2.943 af (99% of inflow)  
 Center-of-Mass det. time= 484.0 min ( 1,234.8 - 750.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	4,080 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 20,400 cf Overall x 20.0% Voids
#2	3.50'	85,567 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		89,647 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	10,200	0	0	10,200
2.50	10,200	10,200	10,200	10,558
3.50	10,200	10,200	20,400	10,916

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	10,200	0	0	10,200
4.00	11,150	5,336	5,336	11,167
5.00	13,040	12,083	17,418	13,097
6.00	15,000	14,009	31,427	15,102
7.00	17,000	15,990	47,417	17,151
8.00	19,070	18,025	65,442	19,275
9.00	21,200	20,126	85,567	21,464

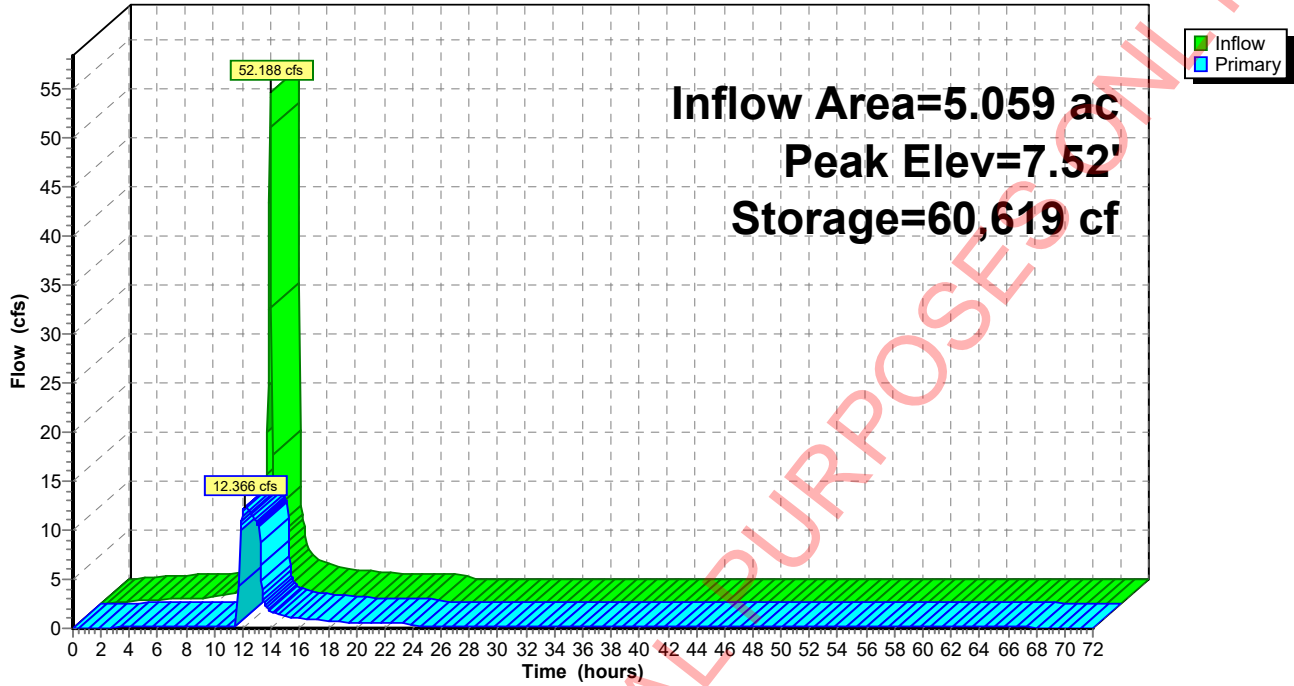
Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 82.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 0.89' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Oultet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.0" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=12.361 cfs @ 12.13 hrs HW=7.52' (Free Discharge)

- 1=Culvert (Barrel Controls 12.361 cfs @ 10.07 fps)
- 2=Oultet Structure#1 (Passes < 109.375 cfs potential flow)
- 3=Slow Release Orifice (Passes < 0.256 cfs potential flow)

Pond PCSM3: SYSTEM 3

Hydrograph



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**Philaport - Full System**

Type II 24-hr 100-Year Rainfall=8.43"

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**Summary for Pond PCSM4: SYSTEM 4**

Inflow Area = 5.958 ac, 83.70% Impervious, Inflow Depth = 7.47" for 100-Year event  
 Inflow = 64.669 cfs @ 11.96 hrs, Volume= 3.709 af  
 Outflow = 13.138 cfs @ 12.15 hrs, Volume= 3.703 af, Atten= 80%, Lag= 11.0 min  
 Primary = 13.138 cfs @ 12.15 hrs, Volume= 3.703 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 7.07' @ 12.15 hrs Surf.Area= 42,880 sf Storage= 81,679 cf

Plug-Flow detention time= 548.1 min calculated for 3.700 af (100% of inflow)  
 Center-of-Mass det. time= 548.5 min ( 1,293.2 - 744.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,440 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 27,200 cf Overall x 20.0% Voids
#2	3.50'	141,213 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		146,653 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,600	0	0	13,600
2.50	13,600	13,600	13,600	14,013
3.50	13,600	13,600	27,200	14,427

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,600	0	0	13,600
4.00	15,770	7,336	7,336	15,781
5.00	20,120	17,901	25,237	20,156
6.00	24,520	22,284	47,520	24,588
7.00	28,980	26,719	74,239	29,085
8.00	33,500	31,213	105,452	33,649
9.00	38,070	35,761	141,213	38,268

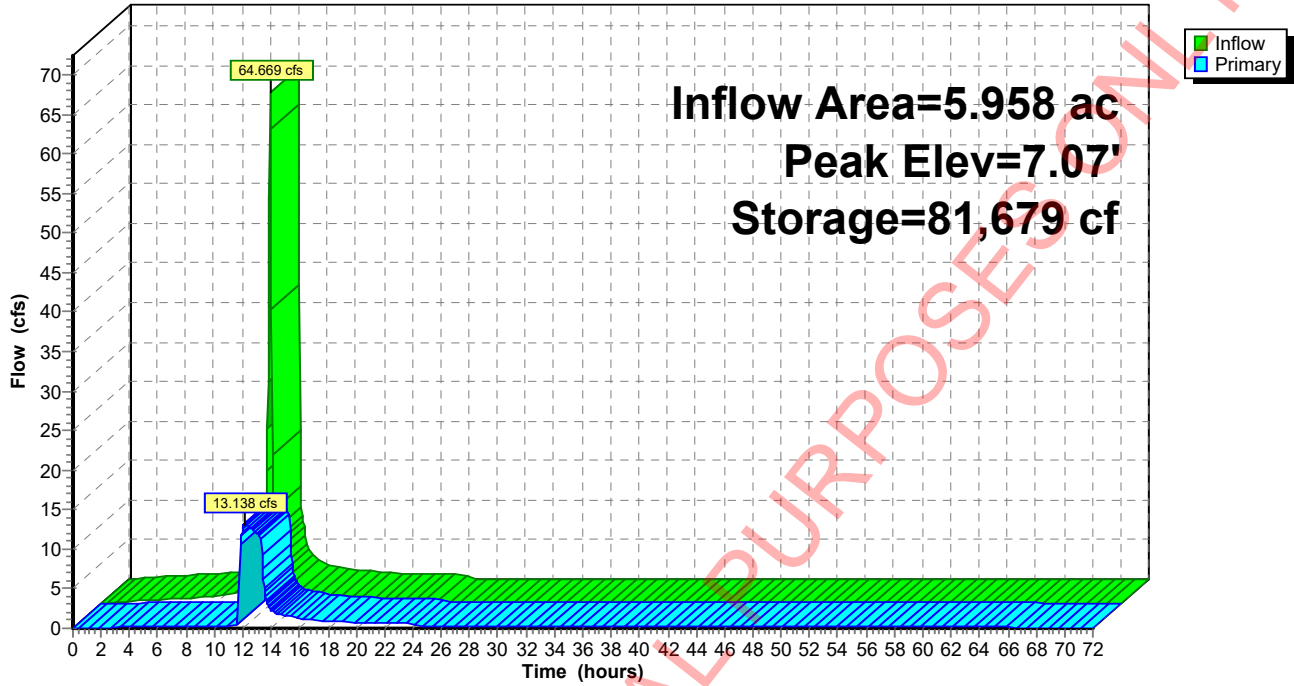
Device	Routing	Invert	Outlet Devices
#1	Primary	1.50'	<b>15.0" Round RCP_Round 15"</b> L= 72.0' Ke= 0.500 Inlet / Outlet Invert= 1.50' / -0.85' S= 0.0326 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=13.137 cfs @ 12.15 hrs HW=7.07' (Free Discharge)

- 1=RCP\_Round 15" (Inlet Controls 13.137 cfs @ 10.70 fps)
- 2=Outlet Structure#1 (Passes < 96.460 cfs potential flow)
- 3=Slow Release Orifice (Passes < 0.384 cfs potential flow)

Pond PCSM4: SYSTEM 4

Hydrograph



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**Philaport - Full System**

Type II 24-hr 100-Year Rainfall=8.43"

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**Summary for Pond PCSM5: SYSTEM 5**

Inflow Area = 5.740 ac, 85.05% Impervious, Inflow Depth = 7.53" for 100-Year event  
 Inflow = 62.707 cfs @ 11.96 hrs, Volume= 3.602 af  
 Outflow = 13.725 cfs @ 12.14 hrs, Volume= 3.600 af, Atten= 78%, Lag= 10.4 min  
 Primary = 13.725 cfs @ 12.14 hrs, Volume= 3.600 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs  
 Peak Elev= 7.72' @ 12.14 hrs Surf.Area= 33,643 sf Storage= 75,993 cf

Plug-Flow detention time= 455.6 min calculated for 3.600 af (100% of inflow)  
 Center-of-Mass det. time= 455.2 min ( 1,199.1 - 743.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	1.50'	5,380 cf	<b>2' Media (20%) voids (Conic)</b> Listed below (Recalc) 26,900 cf Overall x 20.0% Voids
#2	3.50'	97,893 cf	<b>Surface Storage (Conic)</b> Listed below (Recalc)
		103,273 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1.50	13,450	0	0	13,450
2.50	13,450	13,450	13,450	13,861
3.50	13,450	13,450	26,900	14,272

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
3.50	13,450	0	0	13,450
4.00	14,190	6,909	6,909	14,219
5.00	15,730	14,953	21,863	15,819
6.00	17,320	16,519	38,381	17,473
7.00	18,970	18,139	56,520	19,190
8.00	20,680	19,819	76,339	20,972
9.00	22,440	21,554	97,893	22,807

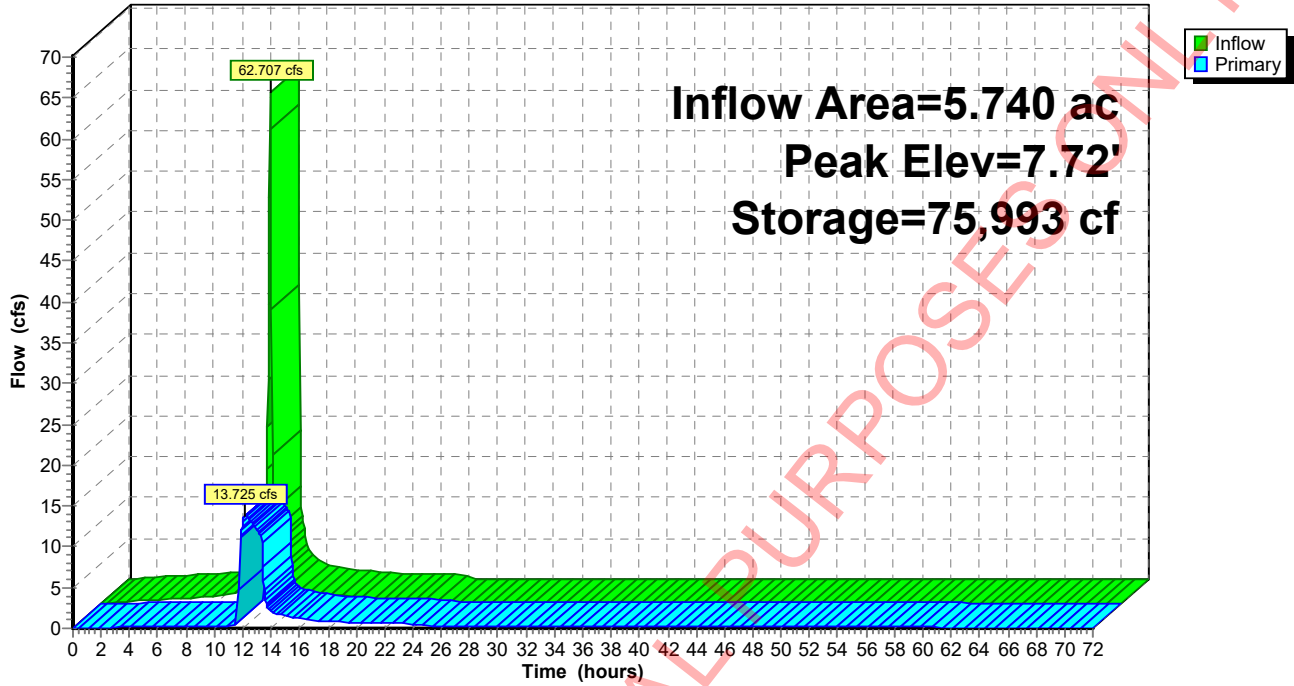
Device	Routing	Invert	Outlet Devices
#1	Primary	1.30'	<b>15.0" Round Culvert</b> L= 56.0' Ke= 0.500 Inlet / Outlet Invert= 1.30' / 1.02' S= 0.0050 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	5.50'	<b>48.0" x 48.0" Horiz. Outlet Structure#1</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	1.50'	<b>2.5" Vert. Slow Release Orifice</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=13.720 cfs @ 12.14 hrs HW=7.72' (Free Discharge)

- 1=Culvert (Barrel Controls 13.720 cfs @ 11.18 fps)
- 2=Outlet Structure#1 (Passes < 114.674 cfs potential flow)
- 3=Slow Release Orifice (Passes < 0.406 cfs potential flow)

Pond PCSM5: SYSTEM 5

Hydrograph



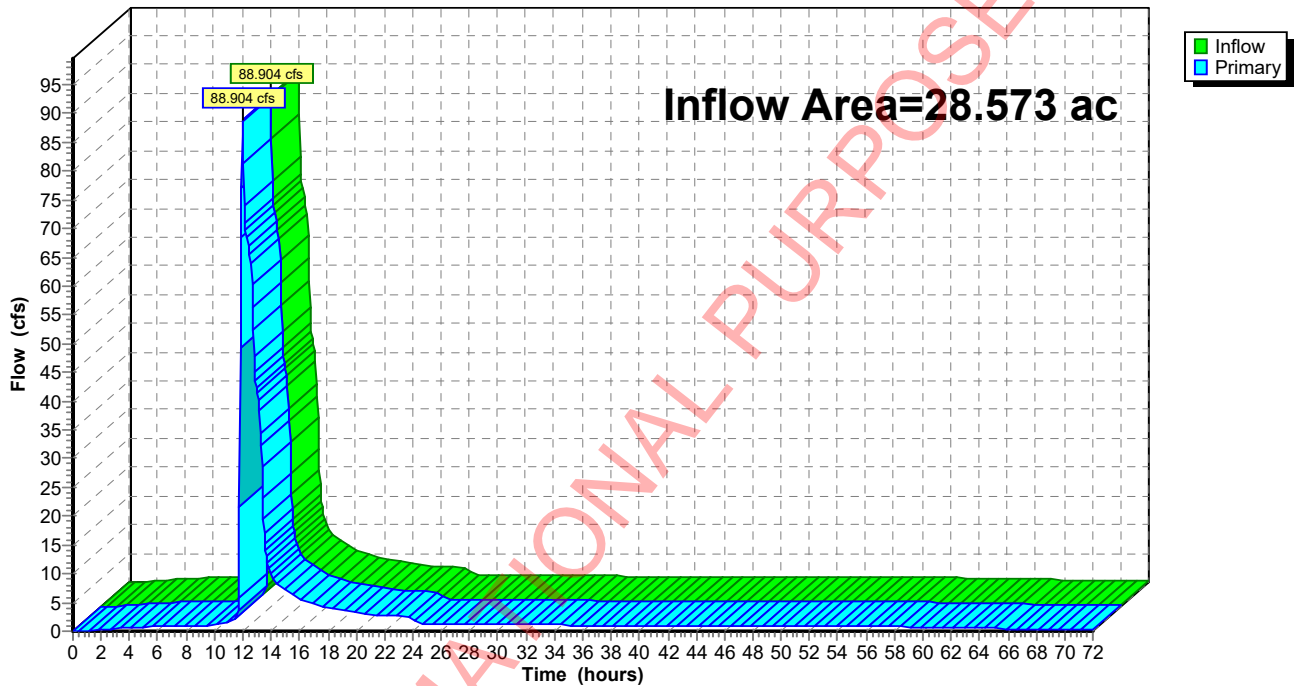
Summary for Link POI1: POST DA 1

Inflow Area = 28.573 ac, 67.99% Impervious, Inflow Depth > 6.73" for 100-Year event  
Inflow = 88.904 cfs @ 11.99 hrs, Volume= 16.031 af  
Primary = 88.904 cfs @ 11.99 hrs, Volume= 16.031 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link POI1: POST DA 1

Hydrograph





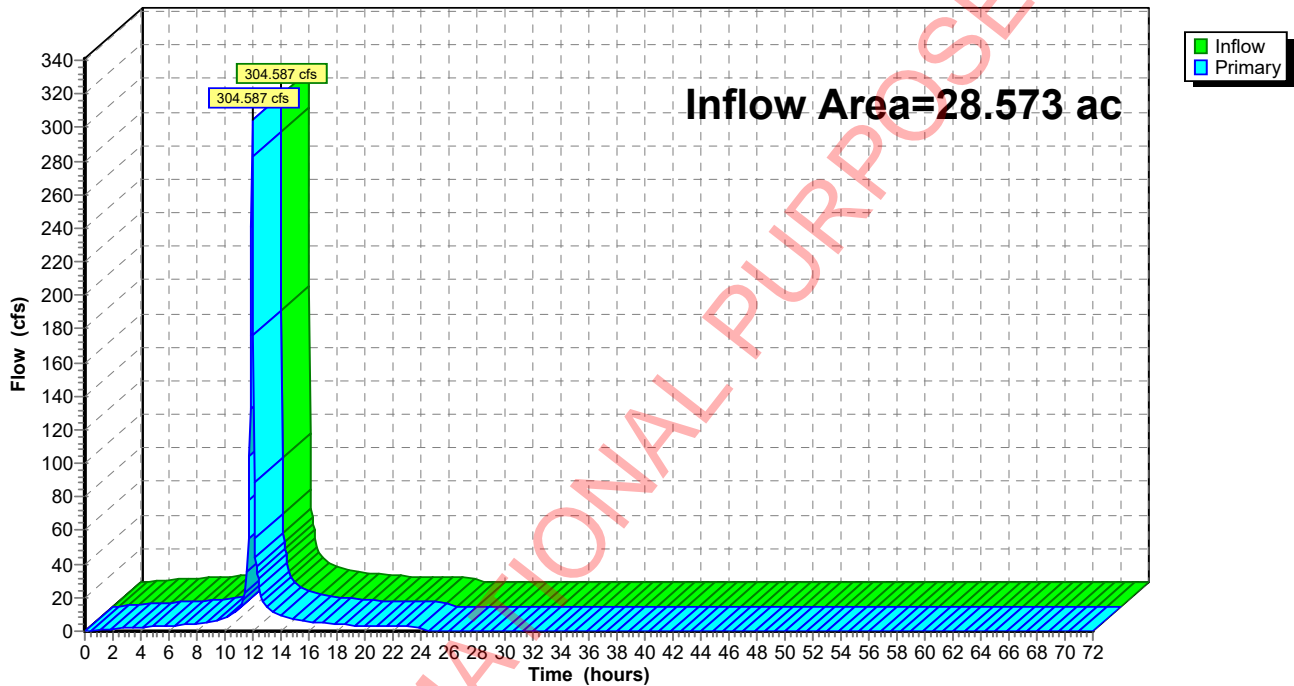
Summary for Link PRE1: existing DA

Inflow Area = 28.573 ac, 80.00% Impervious, Inflow Depth = 7.31" for 100-Year event  
Inflow = 304.587 cfs @ 11.96 hrs, Volume= 17.399 af  
Primary = 304.587 cfs @ 11.96 hrs, Volume= 17.399 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link PRE1: existing DA

Hydrograph



STORM SEWER CALCULATIONS

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## Calculations

The storm sewer design calculations were conducted using the Rational Method to analyze the capacity of the stormwater sewer network for the proposed site. The analysis is in accordance with the Philadelphia Water Department Stormwater Management Guidance Manual. The time of concentration for each drainage area, and other constants used in the calculation, are provided on spreadsheets included in this section of the narrative.

### *Stormwater Sewer Collection Design Approach*

The stormwater conveyance system for the subject site was designed in accordance with requirements listed in the Philadelphia Water Department Stormwater Management Guidance Manual. The proposed inlets and storm sewer information correlate to the calculation spreadsheets provided on plan sheets CS4.00, CS7.00, and CS-9002.

Drainage area, time of concentration, and runoff coefficients were used to calculate flows to each trench drain and inlet. The development has been analyzed assuming a 5-minute time of concentration for each trench drain and inlet watershed. Below is a summary of the storm sewer and inlet design parameters.

### *Storm Sewer Design Parameters:*

- A. Rational Method:  $Q = CIA$
- $c = 0.95$  for impervious  
 $c = 0.35$  for pervious  
 $T_c = 5$  min  
 $i_{10} = 6.95$  in/hr (City of Philadelphia)
- B. Manning's  $n$ -value = 0.013 (for RCP)

### *Inlet Design Parameters*

- A. Inlet locations are designed to capture runoff at:
- A point where three (3) to five (5) cubic feet per second is accumulated.
  - At the bottom of all vertical grades.
  - Immediately upgrade of significant intersections.
  - For impervious areas no greater than 1.0 acre.

PENNONI ASSOCIATES, INC.  
STORM SEWER COMPUTATION SHEET

Municipality:		PHILADELPHIA														
Subdivision or Locality:		PHILAPORT DISTRIBUTION CENTER														
Computed By:		CLV	Date:	2/5/2021	"n" Factor:	RCP	0.013	"n" Factor:	DIP	0.013	Region:	5	Time of Concentration:	5 min	Frequency:	10 YEAR STORM
Location/ Comments	From	To	Inc. Area Ac	C	Equiv. Area Ac	Total Equiv. Area Ac	TC min.	I in/hr	Q CFS	Slope ft/ft	Dia. in	Pipe Material	Pipe V FPS	Length ft	Pipe Time min.	Flow Cap. CFS
BASIN 1	I-1.1	SW-MAIN-1A	1.642	0.95	1.560	1.560	5.00	6.95	10.84	0.005	24	RCP	5.09	15	0.05	16.00
	I-1.2	SW-MAIN-1A	1.475	0.95	1.401	1.401	5.00	6.95	9.74	0.005	24	RCP	5.09	128	0.42	16.00
		SW-MAIN-1A	HW-1A			2.962	5.00	6.95	20.58	0.005	30	RCP	5.91	219	0.62	29.00
	I-1.3	SW-MAIN-1B	0.112	0.80	0.090	0.090	5.00	6.95	0.62	0.005	15	RCP	3.72	64	0.29	4.57
	I-1.4	SW-MAIN-1B	0.269	0.80	0.216	0.216	5.00	6.95	1.50	0.005	15	RCP	3.72	7	0.03	4.57
	I-1.5	SW-MAIN-1B	0.201	0.80	0.161	0.161	5.00	6.95	1.12	0.005	15	RCP	3.72	28	0.13	4.57
	I-1.6	SW-MAIN-1B	0.217	0.80	0.173	0.173	5.00	6.95	1.20	0.005	15	RCP	3.72	28	0.13	4.57
		SW-MAIN-1B	HW-1B			0.639	5.00	6.95	4.44	0.005	24	RCP	5.09	401	1.31	16.00
BASIN 2	MH-2.2	SW-MAIN-2B	0.926	0.95	0.880	0.880	5.00	6.95	6.12	0.005	18	RCP	4.20	296	1.17	7.43
	MH-2.3	SW-MAIN-2B	1.386	0.95	1.317	1.317	5.00	6.95	9.15	0.005	24	RCP	5.09	182	0.60	16.00
		SW-MAIN-2B	HW-2B			2.197	5.00	6.95	15.27	0.005	30	RCP	5.91	60	0.17	29.00
	I-2.1	SW-MAIN-2A	0.310	0.66	0.205	0.205	5.00	6.95	1.42	0.005	12	RCP	3.21	9	0.05	2.52
	I-2.2	SW-MAIN-2A	0.237	0.70	0.165	0.165	5.00	6.95	1.15	0.005	12	RCP	3.21	42	0.22	2.52
		SW-MAIN-2A	HW-2A			0.370	5.00	6.95	2.57	0.005	18	RCP	4.20	401	1.59	7.43
BASIN 3	I-3.2	SW-MAIN-3C	0.234	0.92	0.216	0.216	5.00	6.95	1.50	0.005	18	RCP	4.20	0		7.43
	I-3.1	SW-MAIN-3C	0.220	0.92	0.203	0.203	5.00	6.95	1.41	0.005	18	RCP	4.20	9	0.04	7.43
		SW-MAIN-3C	HW-3C			0.420	5.00	6.95	2.92	0.005	18	RCP	4.20	164	0.65	7.43
	I-3.4	SW-MAIN-3B	0.241	0.87	0.210	0.210	5.00	6.95	1.46	0.005	18	RCP	4.20	0		7.43
	I-3.3	SW-MAIN-3B	0.335	0.60	0.201	0.201	5.00	6.95	1.39	0.005	18	RCP	4.20	9	0.04	7.43
		SW-MAIN-3B	HW-3B			0.411	5.00	6.95	2.85	0.005	18	RCP	4.20	164	0.65	7.43
	MH-3.4	SW-MAIN-3A	1.360	0.95	1.292	1.292	5.00	6.95	8.98	0.005	24	RCP	5.09	347	1.14	16.00
	TD-3	SW-MAIN-3A	1.283	0.91	1.170	1.170	5.00	6.95	2.71	0.005	15	RCP	3.72	262	1.17	4.57
	I-3.5	SW-MAIN-3A	0.449	0.90	0.404	0.404	5.00	6.95	2.81	0.005	15	RCP	3.72	9	0.04	4.57
		SW-MAIN-3A	HW-3A			2.866	5.00	6.95	19.92	0.005	30	RCP	5.91	152	0.43	29.00

PENNONI ASSOCIATES, INC.  
STORM SEWER COMPUTATION SHEET

Municipality:		PHILADELPHIA														
Subdivision or Locality:		PHILAPORT DISTRIBUTION CENTER														
Computed By:		CLV	Date:	2/5/2021	"n" Factor:	RCP	0.013	"n" Factor:	DIP	0.013	Region:	5	Time of Concentration:	5 min	Frequency:	10 YEAR STORM
Location/ Comments	From	To	Inc. Area Ac	C	Equiv. Area Ac	Total Equiv. Area Ac	TC min.	I in/hr	Q CFS	Slope ft/ft	Dia. in	Pipe Material	Pipe V FPS	Length ft	Pipe Time min.	Flow Cap. CFS
BASIN 4	I-4.1	SW-MAIN-4A	1.097	0.95	1.043	1.043	5.00	6.95	7.25	0.005	24	RCP	5.09	5	0.02	16.00
		SW-MAIN-4A	HW-4A			1.043	5.00	6.95	7.25	0.005	24	RCP	5.09	122	0.40	16.00
	I-4.3	SW-MAIN-4B	1.086	0.95	1.032	1.032	5.00	6.95	7.17	0.005	24	RCP	5.09	5	0.02	16.00
		SW-MAIN-1B	HW-4B			1.032	5.00	6.95	7.17	0.005	24	RCP	5.09	122	0.40	16.00
	MH-4.3	SW-MAIN-4C	0.470	0.95	0.446	0.446	5.00	6.95	3.10	0.005	15	RCP	3.72	90	0.40	4.57
	TD-4	SW-MAIN-4C	1.157	0.95	1.099	1.099	5.00	6.95	3.82	0.005	15	RCP	3.72	174	0.78	4.57
	MH-4.4	SW-MAIN-4C	0.470	0.95	0.446	0.446	5.00	6.95	3.10	0.005	15	RCP	3.72	80	0.36	4.57
		SW-MAIN-1C	HW-4C			1.991	5.00	6.95	13.84	0.005	24	RCP	5.09	367	1.20	16.00
	I-4.5	SW-MAIN-4D	1.098	0.95	1.043	1.043	5.00	6.95	7.25	0.005	24	RCP	5.09	5	0.02	16.00
		SW-MAIN-1D	HW-4D			1.043	5.00	6.95	7.25	0.005	24	RCP	5.09	122	0.40	16.00
BASIN 5	I-5.3	SW-MAIN-5A	1.435	0.95	1.364	1.364	5.00	6.95	9.48	0.005	24	RCP	5.09	58	0.19	16.00
	I-5.2	SW-MAIN-5A	0.156	0.95	0.148	0.148	5.00	6.95	1.03	0.005	24	RCP	5.09	66	0.22	16.00
	I-5.1	SW-MAIN-5A	1.367	0.95	1.298	1.298	5.00	6.95	9.02	0.005	24	RCP	5.09	56	0.18	16.00
		SW-MAIN-5A	HW-5A			2.810	5.00	6.95	19.53	0.005	30	RCP	5.91	393	1.11	29.00
	I-5.4	SW-MAIN-5B	0.593	0.95	0.564	0.564	5.00	6.95	3.92	0.005	24	RCP	5.09	0		16.00
		SW-MAIN-5B	HW-5B			0.564	5.00	6.95	3.92	0.005	24	RCP	5.09	82	0.27	16.00
	I-5.5	SW-MAIN-5C	0.127	0.80	0.102	0.102	5.00	6.95	0.71	0.005	15	RCP	3.72	7	0.03	4.57
	I-F	SW-MAIN-5C	0.171	0.80	0.137	0.137	5.00	6.95	0.95	0.005	15	RCP	3.72	44	0.20	4.57
		SW-MAIN-5C	HW-5C			0.239	5.00	6.95	1.66	0.005	24	RCP	5.09	88	0.29	16.00

PENNONI ASSOCIATES, INC.  
STORM SEWER COMPUTATION SHEET

Municipality:		PHILADELPHIA														
Subdivision or Locality:		PHILAPORT DISTRIBUTION CENTER														
Computed By:		CLV	Date:	2/8/2021	"n" Factor:	RCP	0.013	"n" Factor:	DIP	0.013	Region:	5	Time of Concentration:	5 min	Frequency:	10 YEAR STORM
Location/ Comments	From	To	Inc. Area Ac	C	Equiv. Area Ac	Total Equiv. Area Ac	TC min.	I in/hr	Q CFS	Slope ft/ft	Dia. in	Pipe Material	Pipe V FPS	Length ft	Pipe Time min.	Flow Cap. CFS
TD-4	TD-4.1	SW-MAIN-4C	0.578	0.95	0.549	0.549	5.00	6.95	3.82	0.010	12	RCP	4.54	10	0.04	3.56
	TD-4.2	SW-MAIN-4C	0.230	0.95	0.219	0.219	5.00	6.95	1.52	0.010	12	RCP	4.54	10	0.04	3.56
	TD-4.3	SW-MAIN-4C	0.175	0.95	0.166	0.166	5.00	6.95	1.16	0.010	12	RCP	4.54	6	0.02	3.56
	TD-4.4	SW-MAIN-4C	0.173	0.95	0.164	0.164	5.00	6.95	1.14	0.010	12	RCP	4.54	6	0.02	3.56
TD-3	TD-3.1	SW-MAIN-3A	0.211	0.95	0.201	0.201	5.00	6.95	1.40	0.010	12	RCP	4.54	12	0.04	3.56
	TD-3.2	SW-MAIN-3A	0.219	0.95	0.208	0.208	5.00	6.95	1.44	0.010	12	RCP	4.54	12	0.04	3.56
	TD-3.3	SW-MAIN-3A	0.202	0.95	0.191	0.191	5.00	6.95	1.33	0.010	12	RCP	4.54	12	0.04	3.56
	TD-3.4	SW-MAIN-3A	0.254	0.95	0.241	0.241	5.00	6.95	1.68	0.010	12	RCP	4.54	12	0.04	3.56
	TD-3.5	SW-MAIN-3A	0.397	0.82	0.326	0.326	5.00	6.95	2.26	0.010	12	RCP	4.54	12	0.04	3.56

<b>Pennoni Associates Inc.</b>			JOB NO.: PRPAX17013	
Consulting Engineers			SHEET 1 OF 1	DATE
PROJECT:	Philaport		BY: CLV	02/02/21
SUBJECT:	Inlet Area Rational Method 'c' Value Calculations			

"c" Value  
Impervious 0.95  
Pervious 0.35

Drainage Area	Total DA (Ac)	Impervious (Ac)	Pervious (Ac)	c*A		Sum (c*A)	c-value
				Impervious	Pervious		
I-1.1	1.64	1.64	0.00	1.560	0.000	1.560	0.95
I-1.2	1.48	1.48	0.00	1.401	0.000	1.401	0.95
I-1.3	0.11	0.08	0.03	0.080	0.010	0.090	0.80
I-1.4	0.27	0.20	0.07	0.192	0.024	0.216	0.80
I-1.5	0.20	0.15	0.05	0.143	0.018	0.161	0.80
I-1.6	0.22	0.16	0.05	0.154	0.019	0.173	0.80
I-2.1	0.31	0.16	0.15	0.153	0.052	0.205	0.66
I-2.2	0.24	0.14	0.10	0.131	0.035	0.165	0.70
MH-2.2	0.93	0.93	0.00	0.880	0.000	0.880	0.95
MH-2.3	1.39	1.39	0.00	1.317	0.000	1.317	0.95
TD-3	1.28	1.20	0.08	1.141	0.029	1.170	0.91
I-3.1	0.22	0.21	0.01	0.200	0.004	0.203	0.92
I-3.2	0.23	0.22	0.01	0.213	0.004	0.216	0.92
I-3.3	0.24	0.21	0.03	0.200	0.011	0.210	0.87
I-3.4	0.33	0.20	0.03	0.190	0.011	0.201	0.60
I-3.5	0.45	0.41	0.04	0.391	0.013	0.404	0.90
MH-3.4	1.36	1.36	0.00	1.292	0.000	1.292	0.95
TD-4	1.16	1.16	0.00	1.099	0.000	1.099	0.95
I-4.1	1.10	1.10	0.00	1.043	0.000	1.043	0.95
I-4.3	1.09	1.09	0.00	1.032	0.000	1.032	0.95
I-4.5	1.10	1.10	0.00	1.043	0.000	1.043	0.95
MH-4.3	0.47	0.47	0.00	0.446	0.000	0.446	0.95
MH-4.4	0.46	0.46	0.00	0.440	0.000	0.440	0.95
I-5.1	1.37	1.37	0.00	1.298	0.000	1.298	0.95
I-5.2	0.16	0.16	0.00	0.148	0.000	0.148	0.95
I-5.3	1.44	1.44	0.00	1.364	0.000	1.364	0.95
I-5.4	0.59	0.59	0.00	0.564	0.000	0.564	0.95
I-5.5	0.13	0.10	0.03	0.091	0.011	0.102	0.80
I-F	0.17	0.13	0.04	0.122	0.015	0.137	0.80
R1-R20	0.23	0.23	0.00	0.218	0.000	0.218	0.94



<b>Pennoni Associates Inc.</b>			JOB NO.: PRPAX17013	
Consulting Engineers			SHEET 1 OF 1	DATE
PROJECT:	Philaport		BY: CLV	02/05/21
SUBJECT:	Inlet Area Rational Method 'c' Value Calculations			

"c" Value  
 Impervious 0.95  
 Pervious 0.35

Drainage Area	Total DA (Ac)	Impervious (Ac)	Pervious (Ac)	c*A		Sum (c*A)	c-value
				Impervious	Pervious		
TD-4.1	0.58	0.58	0.00	0.549	0.000	0.549	<b>0.95</b>
TD-4.2	0.23	0.23	0.00	0.219	0.000	0.219	<b>0.95</b>
TD-4.3	0.18	0.18	0.00	0.166	0.000	0.166	<b>0.95</b>
TD-4.4	0.17	0.17	0.00	0.164	0.000	0.164	<b>0.95</b>
<b>TD-4</b>	<b>1.16</b>	<b>1.16</b>	<b>0.00</b>	<b>1.098</b>	<b>0.000</b>	<b>1.098</b>	<b>0.95</b>
TD-3.1	0.21	0.21	0.00	0.201	0.000	0.201	<b>0.95</b>
TD-3.2	0.22	0.22	0.00	0.208	0.000	0.208	<b>0.95</b>
TD-3.3	0.20	0.20	0.00	0.191	0.000	0.191	<b>0.95</b>
TD-3.4	0.25	0.25	0.00	0.241	0.000	0.241	<b>0.95</b>
TD-3.5	0.40	0.31	0.08	0.299	0.029	0.328	<b>0.83</b>
<b>TD-3</b>	<b>1.28</b>	<b>1.28</b>	<b>0.00</b>	<b>1.219</b>	<b>0.000</b>	<b>1.219</b>	<b>0.95</b>

**PHILAPORT ROOFLEADER SIZING**

ROOF AREAS R1-R20: 10,080 SF each

Leaders provided: 10" @ 1.0%MIN

BUILDING CONSTRUCTION AND OCCUPANCY

PLUMBING CODE

**TABLE P-1006.1 — MAXIMUM HORIZONTAL PROJECTED ROOF AREA IN SQUARE FEET FOR BUILDING STORM DRAINS AT VARIOUS SLOPES**

Diameter (Inches)	Fall Per Foot			Vertical Leaders
	1% / 1/8"	2% / 1/4"	4% / 1/2"	
3		930	1,300	1,750
4	1,585	2,100	3,300	3,650
5	2,875	3,800	5,300	6,000
6	4,300	6,000	9,000	10,800
8	9,200	13,000	18,000	23,000
10	MIN 16,500	25,000	35,000	40,000
12	26,600	40,000	60,000	65,000
15	47,500	75,000	100,000	115,000
16	57,250	92,500	131,000	
18	67,000	110,000	162,000	
20	85,500	135,000	196,000	
24	155,000	225,000		
30	295,000	416,000		

Note: Seeded areas shall be calculated as 55% of the actual measured area.

**P-1006.1.1 Equivalent area.** Where there is a continuous or semi-continuous discharge into the house storm drain, as from a bilge pump, ejector, air conditioning equipment, or similar device, each gallon per minute of such discharge shall be assumed to be equivalent to 14 square feet of roof area.

**P-1006.2 Storm drains.** The minimum size of the house storm drain or any of its branches that drain a roof or area drain shall be determined according to Table P-1006.1. The main drain shall be graded at a fall of not less than 1/8 inch per foot, except by approval of the Department.

**P-1006.3 Canopies and marquees.** Canopies, marquees, and similar extended roof surfaces shall be drained by minimum two-inch leaders where construction does not permit the installation of larger pipe with approval of the Department. A three-inch trap and underground drain shall be provided.

FOR INFORMATIONAL PURPOSES

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APPENDIX F – DRAINAGE AREA PLANS

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**PENNONI ASSOCIATES INC.**  
**CONSULTING ENGINEERS**

PROJECT:		Philaport Distribution Center	
SUBJECT:		Time of Concentration (Tc) Calculations	
SHEET:	OF	DATE:	
BY:			
CHK'D:			

Time of Concentration calculations with the application of the SCS TR-55 methodology.

Watershed or Subarea Designation: Proposed  
BASIN 1

**SHEET FLOW**

Segment ID						
Surface Description (Table 3-1)	Pavement					
Manning's Coefficient (Table 3-1)	0.011					
Flow Length, ft (total <= 150)	150					
Two Year Rainfall (in)	3.4					
Land Slope (ft/ft)	0.015					
Computed Tt, hrs.	0.03					0.03

**SHALLOW CONCENTRATED FLOW**

Segment ID						
Surface Description (paved/unpaved)	paved					
Flow Length, ft	68.0					
Watercourse slope (ft/ft)	0.015					
Average Velocity (Figure 3-1)	3.0					
Computed Tt, hrs.	0.006296296					0.01

**CHANNEL FLOW**

Segment ID					
Pipe diameter (in)	Pipe				
Cross sectional Area (sf)	30				
Wetted Perimeter, (ft)	4.91				
Hydraulic Radius, (ft)	7.9				
Channel Slope (ft/ft)	0.6				
Manning's Roughness Coefficient, n	0.005				
Computed Velocity, (fps)	0.013				
Flow Length, (ft)	5.9				
Computed Tt, hrs.	342.00				
	0.02				

Watershed or Subarea Tc

0.05 hrs.  
 3.17 min.

						0.02



**PENNONI ASSOCIATES INC.**  
**CONSULTING ENGINEERS**

PROJECT:	Philaport Distribution Center		
SUBJECT:	Time of Concentration (Tc) Calculations		
SHEET:	OF	DATE:	
BY:			
CHK'D:			

Time of Concentration calculations with the application of the SCS TR-55 methodology.

Watershed or Subarea Designation: Proposed  
BASIN 2

**SHEET FLOW**

Segment ID						
Surface Description (Table 3-1)	Pavement					
Manning's Coefficient (Table 3-1)	0.011					
Flow Length, ft (total <= 150)	150					
Two Year Rainfall (in)	3.4					
Land Slope (ft/ft)	0.015					
Computed Tt, hrs.	0.03					0.03

**SHALLOW CONCENTRATED FLOW**

Segment ID						
Surface Description (paved/unpaved)	paved					
Flow Length, ft	30.0					
Watercourse slope (ft/ft)	0.015					
Average Velocity (Figure 3-1)	3.0					
Computed Tt, hrs.	0.002777778					0.00

**CHANNEL FLOW**

Segment ID						
Pipe diameter (in)	Pipe					
Cross sectional Area (sf)	30					
Wetted Perimeter, (ft)	4.91					
Hydraulic Radius, (ft)	7.9					
Channel Slope (ft/ft)	0.6					
Manning's Roughness Coefficient, n	0.005					
Computed Velocity, (fps)	0.013					
Flow Length, (ft)	5.9					
Computed Tt, hrs.	263.00					
	0.01					

Watershed or Subarea Tc

0.05 hrs.  
 2.73 min.

						0.01



**PENNONI ASSOCIATES INC.**  
**CONSULTING ENGINEERS**

PROJECT: Philaport Distribution Center	
SUBJECT: Time of Concentration (T <sub>c</sub> ) Calculations	
SHEET: _____ OF _____	DATE: _____
BY: _____	_____
CHK'D: _____	_____

Time of Concentration calculations with the application of the SCS TR-55 methodology.

Watershed or Subarea Designation: Proposed  
BASIN 3

**SHEET FLOW**

Segment ID							
Surface Description (Table 3-1)	Pavement						
Manning's Coefficient (Table 3-1)	0.011						
Flow Length, ft (total <= 150)	130						
Two Year Rainfall (in)	3.4						
Land Slope (ft/ft)	0.015						
Computed T <sub>t</sub> , hrs.	0.03						0.03

**SHALLOW CONCENTRATED FLOW**

Segment ID							
Surface Description (paved/unpaved)							
Flow Length, ft							
Watercourse slope (ft/ft)							
Average Velocity (Figure 3-1)							
Computed T <sub>t</sub> , hrs.							0.00

**CHANNEL FLOW**

Segment ID				
Pipe diameter (in)	Pipe			
Cross sectional Area (sf)	30			
Wetted Perimeter, (ft)	4.91			
Hydraulic Radius, (ft)	7.9			
Channel Slope (ft/ft)	0.6			
Manning's Roughness Coefficient, n	0.005			
Computed Velocity, (fps)	0.013			
Flow Length, (ft)	5.9			
Computed T <sub>t</sub> , hrs.	522.00			
	0.02			

Watershed or Subarea T<sub>c</sub>

0.05 hrs.  
 3.10 min.

				0.02





**PENNONI ASSOCIATES INC.**  
**CONSULTING ENGINEERS**

PROJECT: Philaport Distribution Center	
SUBJECT: Time of Concentration (Tc) Calculations	
SHEET: _____ OF _____	DATE: _____
BY: _____	_____
CHK'D: _____	_____

Time of Concentration calculations with the application of the SCS TR-55 methodology.

Watershed or Subarea Designation: Proposed  
BASIN 4

**SHEET FLOW**

Segment ID						
Surface Description (Table 3-1)	Pavement					
Manning's Coefficient (Table 3-1)	0.011					
Flow Length, ft (total <= 150)	143					
Two Year Rainfall (in)	3.4					
Land Slope (ft/ft)	0.015					
Computed Tt, hrs.	0.03					0.03

**SHALLOW CONCENTRATED FLOW**

Segment ID						
Surface Description (paved/unpaved)						
Flow Length, ft						
Watercourse slope (ft/ft)						
Average Velocity (Figure 3-1)						
Computed Tt, hrs.						0.00

**CHANNEL FLOW**

Segment ID			
Pipe diameter (in)	Pipe		
Cross sectional Area (sf)	30		
Wetted Perimeter, (ft)	4.91		
Hydraulic Radius, (ft)	7.9		
Channel Slope (ft/ft)	0.6		
Manning's Roughness Coefficient, n	0.005		
Computed Velocity, (fps)	0.013		
Flow Length, (ft)	5.9		
Computed Tt, hrs.	468.00		
	0.02		

Watershed or Subarea Tc

0.05 hrs.  
 3.08 min.

				0.02



**PENNONI ASSOCIATES INC.**  
**CONSULTING ENGINEERS**

PROJECT:		Philaport Distribution Center	
SUBJECT:		Time of Concentration (T <sub>c</sub> ) Calculations	
SHEET:	OF	DATE:	
BY:			
CHK'D:			

Time of Concentration calculations with the application of the SCS TR-55 methodology.

Watershed or Subarea Designation: Proposed  
BASIN 5

**SHEET FLOW**

Segment ID						
Surface Description (Table 3-1)	Pavement					
Manning's Coefficient (Table 3-1)	0.011					
Flow Length, ft (total <= 150)	150					
Two Year Rainfall (in)	3.4					
Land Slope (ft/ft)	0.015					
Computed T <sub>t</sub> , hrs.	0.03					0.03

**SHALLOW CONCENTRATED FLOW**

Segment ID						
Surface Description (paved/unpaved)	paved					
Flow Length, ft	177.0					
Watercourse slope (ft/ft)	0.015					
Average Velocity (Figure 3-1)	3.0					
Computed T <sub>t</sub> , hrs.	0.016388889					0.02

**CHANNEL FLOW**

Segment ID						
Pipe diameter (in)	Pipe					
Cross sectional Area (sf)	30					
Wetted Perimeter, (ft)	4.91					
Hydraulic Radius, (ft)	7.9					
Channel Slope (ft/ft)	0.6					
Manning's Roughness Coefficient, n	0.005					
Computed Velocity, (fps)	0.013					
Flow Length, (ft)	5.9					
Computed T <sub>t</sub> , hrs.	412.00					
	0.02					

Watershed or Subarea T<sub>c</sub>

0.07 hrs.  
 3.97 min.

						0.02

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INFILTRATION WAIVER REQUEST

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An infiltration waiver request form is required for projects where infiltration is not feasible for the management of stormwater. In addition to this Worksheet, supporting documentation included a signed and sealed Geotechnical Report must be submitted. Refer to Section 3.3.6 of the Manual for more information on Infiltration Waivers.

- 1 Is the project area a stormwater hotspot? NO
- 2 Indicate the type(s) of infiltration test(s) performed. Double ring infiltrometer
- 3 Were infiltration tests performed within 25 feet of the proposed stormwater management practice(s)? If no, additional infiltration testing may be required. YES
- 4 Were infiltration tests performed within one foot of the proposed bed bottom elevation? If no, additional infiltration testing may be required. YES
- 5 List tested infiltration rates below (before applying a factor of safety).

*(Submit infiltration testing logs, calculations, methodology and testing location plan. Please note an SMP must have a geometric mean tested infiltration rate of at least 0.4 inches per hour in order for infiltration to be considered feasible. Soil amendments are required for SMPs with geometric mean tested infiltration rates in excess of 10 inches per hour.)*

Test Location (ID, label etc)	Measured Infiltration Rate (inches/hour)
TP-1	0.0
TP-2	4.4
TP-3	0.1
TP-4	2.4
TP-5	7.7
TP-6	0.7
TP-7	0.0
TP-8	0.1
TP-9	0.0
TP-10	0.0

6 Please explain why subsurface conditions under the stormwater management area not suitable for infiltration:

The site is not suitable for infiltration because:

- it is currently a developed site covered 100% by asphalt.
- the majority of the soils on the site are compacted fill not suitable for infiltration.
- the ground water elevation is close to the elevation of the proposed storm water management facilities.

For more information. Please see the infiltration report dated May 13, 2019 prepared by Pennoni.

FOR INFORMATIONAL PURPOSES ONLY

May 13, 2019

PRPAX 17013.04

Mr. Dave P. McGuire, PE  
Project Engineer  
3460 N. Delaware Avenue  
Philadelphia, PA 19134

**Re: Geotechnical Engineering Services  
PhilaPort Distribution Warehouse  
Philadelphia, Pennsylvania**

Ms. Magee:

Pennoni is pleased to submit this report summarizing the double-ring infiltration testing performed for the four proposed bioretention areas PhilaPort Site. The infiltration test locations are indicated on the attached site location sketch, SL-1. The purpose of our services was to conduct infiltration testing in the field and provide estimated infiltration rates at the proposed invert elevations for the new SWM facility. Our services were performed in general accordance with our proposal dated December 6, 2017.

To assist with the infiltration testing, we referenced the following documents:

- A drawing titled, "Phila Port Distribution Center – Grading Plan," prepared by Pennoni, dated April 1, 2019;

Currently the project site consists of a bituminous paved parking lot with associated curbing and light pole structures. The groundcover in the areas of the razed buildings consisted of compacted processed aggregate. The topography along the bituminous asphalt paved center of the site is generally flat with an approximate elevation of Elev. 8 to Elev. 9. Overhead electrical utilities were observed traversing in the northerly/southerly direction the center of the site. Stormwater inlets and associated underground utilizes were observed running bilaterally along the center of the site from the northern limit to the southern limit of the site.

The proposed construction will include a Stormwater Management (SWM) facilities on the north, east, south and west sides of the proposed building. Six bio infiltration basins are proposed, Table 1 on the next page presents size, location, and elevation of each basin.



**TABLE 1 – Basin Descriptions**

<b>Bio Infiltration Basin No.</b>	<b>Location on Site</b>	<b>Approx. Sf</b>	<b>Approx. Invert Elevation (ft)</b>
1A	South	15,450	4
1B	South	6,440	4
1C	South	6,300	4
2	East	13,000	5
3	North	10,000	5
4	West	8,000	5

**FIELD WORK**

On April 18 and 19, 2019, Pennoni performed ten (10) in-situ double-ring infiltration tests at the approximate locations indicated on the attached Infiltration Testing Location Sketch. Testing was completed within test pits that were excavated to depths of approximately 5 ft below the existing ground surface.

Test pits were excavated by Ambient Group using a rubber-tire backhoe. Soil horizons and overall conditions were observed and described in the attached Test Pit Logs. An infiltration test pit was then excavated adjacent to the original test pit. The infiltration tests were performed approximately 5.0 ft below the existing ground surface. Test pit excavations were directed by our D. Marano, PE, and observed by our N. Di Sessa.

A one (1) hour pre-soak procedure consisted of maintaining approximately 4 to 6 inches of water in the double rings during two thirty (30) minute intervals. Based on the rate of water drop observed in the two intervals, the rate of testing (either 30 minutes or ten 10 minutes) was determined. After the pre-soaking was complete, the rings were examined, and it was determined that less than two inches of water had infiltrated within the double rings for the tests. This resulted in a 30-minute time interval used for taking readings. The double rings were refilled and the drop in the center ring was measured at the designated time interval until a stabilized differential reading of a 1/4 inch or less was obtained between the highest and lowest readings of four consecutive readings. The field infiltration rate estimated was based on the lowest reading.

Site conditions on April 18 and 19, 2019, at the time of the testing, were between 70°F and 80°F, partially cloudy and no rainfall greater than 0.5 inches was recorded in the 24 hours prior to testing.

**GEOLOGY**

The interactive Geologic Map of Pennsylvania created by the Pennsylvania Department of Conservation and Natural Resources indicates the proposed project site is located within the Lowland and Intermediate Upland Section of the Atlantic Coastal Plain Province. The dominant topographic features of this section include very low local relief and a flat upper terrace surface cut by narrow, steep-sided to open valleys, shallow valleys; includes the Delaware River floodplain. The underlying subsurface material types consist of unconsolidated to poorly consolidated sand and gravel deposits, underlain by very complex, faulted and folded schist, gneiss, and other metamorphic rocks.

According to the geologic map of Pennsylvania, the project site is located specifically within the Trenton Gravel Formation. The Trenton Gravel Formation is part of the Quaternary geologic period with a primary

rock type of gravelly sand. The Trenton Gravel consists of gray to pale-reddish-brown, very gravelly sand and interbedded cross bedded sand and clay-silt layers.

Underlying the Trenton Gravel Formation is the Wissahickon Formation. The Wissahickon Formation consists of a coarsely crystalline, excessively micaceous schist. Fracturing results in a well developed, platy pattern. This formation is fissile to thinly bedded, moderately resistant to weathering, and often highly weathered to a moderate depth.

According to the USDA Web Soil Survey, the proposed project site consists of Urban land (Ub). Urban land is generally described as an area consisting of pavement, buildings and other artificially covered areas. The depth to a restrictive feature is anticipated at approximately 10 in to densic material. The project site consists of a very high runoff class and no hydric soil rating.

**SOIL STRATIGRAPHY**

Subsurface stratigraphy encountered by the test pits generally consisted of a surficial layer of asphalt underlain by processed aggregate and a fill layer consisting of generally fine to medium to coarse sand with varying amounts of fine to coarse gravel, brick fragments and silt. For descriptive purposes the soil layers can be classified as follows:

**TABLE 2 – Soil Strata and Descriptions**

<b>Stratum</b>	<b>Description</b>
P	ASPHALT
P	Processed Aggregate similar to 3A
F	FILL: F/M/C SAND, some C/F Gravel, Silt, and Brick Fragments

Groundwater and evidence of seasonal high-water table were observed in Test Pits TP-1, TP-2, TP-4, TP-5, TP-6, TP-9, and TP-10 at the time of exploration, ranging from 9 to 10.5 ft below current grades. These observations are for the times indicated and may not be indicative of seasonal or daily variations in the ground water levels. Seasonal variations on the order of several feet should be anticipated.

**ANALYSIS AND CONCLUSIONS**

**Infiltration Test Results**

Table 3 represents a summary of the field results for the ten double-ring infiltration tests conducted within the proposed locations of the proposed stormwater management facilities. Infiltration tests consisted of a 10-inch diameter outer ring and 5-inch diameter inner ring that were installed at approximately 5 ft below existing grades in the Fill layer. Infiltration rates were observed ranging from 0.0 to 7.7 inches per hour within the Fill layer.

**TABLE 3 – Summary of Findings**

Infiltration Test No.	Corresponding Test Pit	Approx. Testing Elevation (ft)	Depth to Limiting Zone (ft)	Infiltration Rate (in/hr)
I-1	TP-1	3.5	8	0.0
I-2	TP-2	3.5	9	4.4
I-3	TP-3	3.0	NE	0.1
I-4	TP-4	3.0	9	2.4
I-5	TP-5	5.0	9	7.7
I-6	TP-6	7.0	10.5	0.7
I-7	TP-7	5.0	NE	0.0
I-8	TP-8	5.0	NE	0.1
I-9	TP-9	4.0	9	0.0
I-10	TP-10	4.0	9	0.0

**Conclusions**

Following the completion of the field exploration, limiting zones (i.e. groundwater table, redoximorphic features indicating seasonal high-water table (SHWT), etc.) were observed in some of the test pits at the depths presented in table 3 above, at time of exploration. The testing was performed at the prescribed depths of 5.0 ft below the ground surface; however, testing was conducted in a variable fill layer. The on-site fills have higher percentages of fine-grained soils in some areas compared to others. This was observed in 70% of the infiltration tests resulting in an infiltration rate of 0.0 in/hr (less than the minimum infiltration rate required according to PWD Manual, Chapter 3.3). Due to the thickness and variability of the permeability of the fill layer, infiltration is not recommended for the proposed Stormwater Management Practices for the project.

**LIMITATIONS**

This work has been performed in accordance with generally accepted professional practice in the fields of geotechnical engineering. This warranty is in lieu of all other warranties either expressed or implied. Our conclusions and recommendations are based on the data revealed by this exploration. We are not responsible for any conclusions or opinions drawn from the data included herein, other than those specifically stated, nor are the recommendations presented in this report intended for direct use as construction specifications. This report is intended for use with regard to the specific project described herein; any changes in loads, structures, or locations should be brought to our attention so that we may determine how they may affect our conclusions. An attempt has been made to provide for normal contingencies, but the possibility remains that unexpected conditions may be present which we are not aware of. If additional or contradictory data are revealed in the future, we should be notified so that modifications to this report can be made, if necessary. If we do not review relevant construction documents and witness the relevant construction operations, then we cannot be responsible for any problems that may result from misinterpretation or misunderstanding of this report or failure to comply with our recommendations.

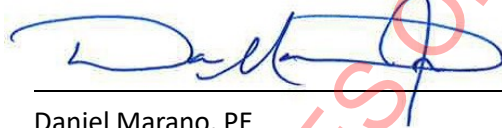
We trust that the information presented in this report is what you require at this time and we thank you for the opportunity to assist you with this project. If you have any questions, or if you need any further assistance with this project, please contact this office at your earliest convenience.

Sincerely,

**PENNONI ASSOCIATES INC.**



Elisabetta Iannetti  
Graduate Engineer



Daniel Marano, PE  
Project Engineer

Enclosures:     *Infiltration Testing Location Sketch (1 page)*  
                      *Test Pit Logs (10 pages)*  
                      *PWD Test Pit Logs (10 pages)*

FOR INFORMATIONAL PURPOSES ONLY

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NORTH  
S. LAWRENCE STREET  
(88' WIDE)  
(13'-62'13")  
(LEGALLY OPEN - ON CITY PLAN)

PATTISON AVENUE  
(39' WIDE)  
(20'-80'-20")  
(LEGALLY OPEN - ON CITY PLAN)

PACKER AVENUE  
(60' WIDE)  
(10'-00'-00")  
(LEGALLY OPEN - ON CITY PLAN)

S. GALLOWAY STREET  
(80' WIDE)  
(18'-84'18")  
(LEGALLY OPEN - ON CITY PLAN)

S. 3RD STREET  
(80' WIDE)  
(12'-56'12")  
(LEGALLY OPEN - ON CITY PLAN)

PROPOSED DRY STORAGE BUILDING  
198,900 SF  
31 LOADING DOCK SPACES  
FFE = 13.50

LEGEND	
	PROPERTY LINE
	ADJACENT PROPERTY LINE
	RIGHT OF WAY LINE
	HISTORIC BUILDING
	BUILDING SETBACK LINE
	EXISTING FENCE
	EXISTING TELEPHONE EASEMENT
	EXISTING GAS EASEMENT
	EXISTING EASEMENT
	EXISTING BUILDING
	EXISTING CURB
	EXISTING CONCRETE
	EXISTING MANHOLE
	EXISTING VALVES
	EXISTING INLET
	EXISTING SEWER VENT
	EXISTING LIGHT POLE
	EXISTING ELECTRIC UTILITIES
	EXISTING OVERHEAD ELECTRIC
	EXISTING GAS METER
	EXISTING HYDRANT
	EXISTING TRAFFIC SIGNAL
	EXISTING BOLLARD
	EXISTING POST
	EXISTING SIGN
	EXISTING TREE
	PROPOSED LIMIT OF DISTURBANCE
	PROPOSED CURB
	PROPOSED EDGE OF PAVEMENT
	PROPOSED BUILDING
	PROPOSED FUTURE BUILDING
	PROPOSED STORM SEWER
	PROPOSED SANITARY SEWER
	PROPOSED FIRE SERVICE
	PROPOSED WATER SERVICE
	PROPOSED ELECTRIC SERVICE
	PROPOSED GAS SERVICE
	PROPOSED SURFACE UTILITIES
	PROPOSED STOP BAR
	PROPOSED SIGN
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	PROPOSED FLOW ARROW
	PROPOSED SPOT ELEVATION

**NOTES:**

**SITE INFORMATION:**  
CURRENT SITE ADDRESS:  
3309 SOUTH GALLOWAY AVENUE & 3401 SOUTH LAWRENCE STREET  
39TH WARD, CITY & COUNTY OF PHILADELPHIA  
COMMUNAL TH OF PENNSYLVANIA 19148  
OPA #'S 885900807 & 885052875

**OWNER/CLIENT:**  
PHILADELPHIA REGIONAL PORT AUTHORITY  
3400 NORTH DELAWARE AVENUE  
PHILADELPHIA, PA 19134

**DESIGNER:**  
PENNONI  
1900 MARKET STREET, SUITE 300  
PHILADELPHIA, PA 19103

**SITE NOTES:**

- A FIELD SURVEY OF THE SITE WAS PERFORMED BY PENNONI ASSOCIATES IN APRIL 2017.
- LOCATIONS OF ON AND OFF SITE UTILITIES AS SHOWN ARE APPROXIMATE AND MAY OR MAY NOT BE COMPLETE. THE NATURE AND EXACT LOCATION OF EXISTING UTILITIES SHOULD BE VERIFIED PRIOR TO INITIATING ANY ACTIVITY THAT MAY AFFECT THEIR USE OR LOCATION.
- THE LOCATION OF THE EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM EXISTING UTILITY RECORDS AVAILABLE AT THE TIME THESE PLANS WERE PREPARED AND FROM SURFACE OBSERVATION OF THE SITE. COMPLETENESS OR ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES AND STRUCTURES IS NOT GUARANTEED.
- IN ACCORDANCE WITH PA ACT 267 OF 1974 AS AMENDED BY PA ACT 121 OF 2008 ENTITLED "UNDERGROUND UTILITY LINE PROTECTION LAW," THE CONTRACTOR SHALL NOTIFY ALL UTILITIES WITHIN THE WORK AREA VIA THE PENNSYLVANIA ONE CALL SYSTEM, INC. (800-242-1776) A MINIMUM OF 3 WORKING DAYS BEFORE THE START OF EXCAVATION.
- THE CONTRACTOR SHALL VERIFY LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.
- IF CONFLICTS ARE FOUND THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND DESIGN ENGINEER FOR INSTRUCTION BEFORE PROCEEDING WITH WORK.
- ALL BOUNDARY DIMENSIONS SHOWN ARE IN CITY OF PHILADELPHIA DISTRICT STANDARD MEASURE (DS) UNLESS DESIGNATED (US) TO DENOTE U.S. SURVEY FOOT.
- THE HORIZONTAL DATUM FOR THIS PROJECT REFERENCES THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NORTH AMERICAN DATUM OF 1983.
- THE VERTICAL DATUM FOR THIS PROJECT REFERENCES THE VERTICAL DATUM OF THE CITY OF PHILADELPHIA (CITY).

**FLOOD ZONE INFORMATION:**

BY GRAPHIC PLOTTING ONLY, BASED UPON THE FLOOD INSURANCE RATE MAP, PANEL NOS. 191-194 OF 230, COMMUNITY MAP NO. 420770191-4H WHICH BEARS AN EFFECTIVE DATE OF NOVEMBER 18TH 2015, THE SITE IS LOCATED IN THE FOLLOWING AREA:

ZONE X  
AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN

NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE AND AN ELEVATION CERTIFICATE MAY BE NEEDED TO VERIFY THIS DETERMINATION OR APPLY FOR A VARIANCE FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

**MUNICIPAL ZONING INFORMATION:**

THE SITE IS LOCATED IN THE FOLLOWING ZONE IN THE CITY OF PHILADELPHIA:

I-2 (MEDIUM INDUSTRIAL)

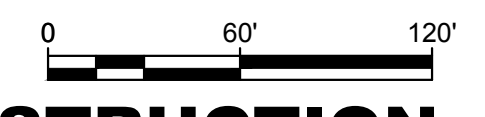
FOR COMPLETE ZONING INFORMATION PLEASE REFER TO THE ZONING CODE OF THE CITY OF PHILADELPHIA AS CURRENTLY AMENDED

**REFERENCE PLANS:**

EXISTING CONDITIONS SURVEY PERFORMED IN APRIL 2017 BY PENNONI ASSOCIATES INC. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON IS TAKEN FROM THE PLANS ENTITLED "ALTANSPIS LAND TITLE SURVEY - SHEETS V0301, V0302, AND V0303, DATED 05-23-2017."

**GRADING NOTES:**

- A GEOTECHNICAL ENGINEER IS REQUIRED TO INSPECT, TEST AND CERTIFY TO THE COMPACTION OF ALL LOAD BEARING FILLS.
- MINIMUM PAVEMENT GRADE SHALL BE 1.5% UNLESS NOTED OTHERWISE.
- BEDDING REQUIREMENTS SPECIFIED HEREIN ARE TO BE CONSIDERED AS MINIMUMS FOR RELATIVELY DRY, STABLE EARTH CONDITIONS. ADDITIONAL BEDDING SHALL BE REQUIRED FOR ROCK TRENCHES AND WET AREAS. CONTRACTOR SHALL HAVE THE RESPONSIBILITY TO PROVIDE SUCH ADDITIONAL BEDDING AS MAY BE REQUIRED TO PROPERLY CONSTRUCT THE WORK.
- COMPACTION OF THE BACKFILL OF ALL TRENCHES SHALL BE COMPACTED TO THE DENSITY OF 95% OF THEORETICAL MAXIMUM DRY DENSITY (ASTM D698). BACKFILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, OR OTHER FOREIGN DEBRIS AND SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES IN COMPACTED FILL THICKNESS. CORRECTION OF ANY TRENCH SETTLEMENT WITHIN A YEAR FROM THE DATE OF APPROVAL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL ENSURE THAT POSITIVE AND ADEQUATE DRAINAGE IS MAINTAINED AT ALL TIMES WITHIN THE PROJECT LIMITS. THIS MAY INCLUDE, BUT NOT BE LIMITED TO, REPLACEMENT OR RECONSTRUCTION OF EXISTING DRAINAGE STRUCTURES THAT HAVE BEEN DAMAGED OR REMOVED OR REGRADING AS REQUIRED BY THE ENGINEER, EXCEPT FOR THOSE DRAINAGE ITEMS SHOWN AT SPECIFIC LOCATIONS AND HAVING SPECIFIC PAY ITEMS IN THE DETAILED ESTIMATE. NO SEPARATE PAYMENT WILL BE MADE FOR ANY COSTS INCURRED TO COMPLY WITH THIS REQUIREMENT.
- THE CONTRACTOR SHALL PROVIDE ANY AND ALL EXCAVATION AND MATERIAL SAMPLES NECESSARY TO CONDUCT REQUIRED SOIL TESTS. ALL ARRANGEMENTS AND SCHEDULING FOR THE TESTING SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- SOILS TESTING AND ON-SITE INSPECTION SHALL BE PERFORMED BY AN INDEPENDENT GEOTECHNICAL ENGINEER. THE SOILS ENGINEER SHALL PROVIDE COPIES OF TEST REPORTS TO THE CONTRACTOR, THE OWNER AND THE OWNER'S REPRESENTATIVE AND SHALL PROMPTLY NOTIFY THE OWNER, HIS REPRESENTATIVE AND THE CONTRACTOR SHOULD WORK PERFORMED BY THE CONTRACTOR FAIL TO MEET THESE SPECIFICATIONS.
- CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES AROUND THE WORK AREA AND SHALL PROVIDE PROTECTION AGAINST WATER DAMAGE AND SOIL EROSION.
- MAXIMUM SIDEWALK CROSS SLOPE IS 2% AND MINIMUM SIDEWALK CROSS SLOPE IS 1.5% WITHIN THE RIGHT OF WAY.
- ELEVATIONS ARE BASED ON CITY OF PHILADELPHIA VERTICAL DATUM.
- CONTRACTOR SHALL RESET EXISTING MANHOLE RIMS TO FINISHED GRADE. CONTRACTOR SHALL COORDINATE DETAIL WITH RESPECTIVE UTILITY COMPANIES.



NOT FOR CONSTRUCTION

**PENNON ASSOCIATES INC.**  
1900 Market Street, Suite 300  
Philadelphia, PA 19103  
T: 215.222.3000

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR  
DISCREPANCIES BEFORE PROCEEDING WITH WORK

PHILAPORT DISTRIBUTION CENTER  
3309 SOUTH GALLOWAY AVENUE & 3401 SOUTH LAWRENCE STREET  
PHILADELPHIA, PA 19148

GRADING PLAN

PHILADELPHIA REGIONAL PORT AUTHORITY  
3400 NORTH DELAWARE AVENUE  
PHILADELPHIA, PA 19134

NO.	DATE	BY	REVISIONS
1	2018-04-01	JAS	30% DESIGN DOCUMENTS

PROJECT	DATE	DRAWN BY	APPROVED BY
PRPAX17013	2019-04-01	SJK	KEW

ALL DOCUMENTS PREPARED BY PENNON ASSOCIATES INC. ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS OR FOR ANY OTHER PURPOSE WITHOUT WRITTEN VERIFICATION OR APPROVAL BY PENNON ASSOCIATES INC. PENNON ASSOCIATES INC. SHALL ACCEPT NO LIABILITY ON LEGAL OR OTHER MATTERS WITHOUT WRITTEN VERIFICATION OR APPROVAL BY PENNON ASSOCIATES INC. AND OWNER SHALL ACCEPT NO LIABILITY ON LEGAL OR OTHER MATTERS WITHOUT WRITTEN VERIFICATION OR APPROVAL BY PENNON ASSOCIATES INC. PENNON ASSOCIATES INC. SHALL ACCEPT NO LIABILITY ON LEGAL OR OTHER MATTERS WITHOUT WRITTEN VERIFICATION OR APPROVAL BY PENNON ASSOCIATES INC.

C150

SHEET 3 OF 11



FOR INFORMATIONAL PURPOSES ONLY



# TEST PIT LOG

Test Pit TP-1

PAGE 1 OF 1

**CLIENT** Philadelphia Regional Port Authority      **PROJECT NAME** PhilaPort Distribution Warehouse  
**PROJECT NUMBER** PRPAX17013      **PROJECT LOCATION** Philadelphia, PA  
**DATE STARTED** 4/18/19      **COMPLETED** 4/18/19      **GROUND ELEVATION** 8.5'  
**EXCAVATION CONTRACTOR** Ambient Group, LLC      **WATER ENCOUNTERED:**  
**EXCAVATION METHOD** Rubber Tire Backhoe      **DURING EXCAVATION** ---  
**OPERATOR / HELPER** Victor      **AT END OF EXCAVATION** ---  
**LOGGED BY** N. Di Sessa      **CHECKED BY** D. Marano      **0 HRS AFTER EXCAVATION** 8.0' / Elev 0.5'

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0				Depth _____ Elev. _____	
			P	0.3 ASPHALT 8.3	
				1.0 Processed Aggregate similar to 3A 7.5	
				4.0 FILL: Gray F/M/C SAND and F GRAVEL and BRICK FRAGMENTS, trace Silt 4.5	
5			F	5.0 FILL: Black SILT, some F/M Sand, trace F/C Gravel	
				9.0	Trace Timber Asphalt Odor

Test Pit terminated at 9.0 feet.

NOTES:





# TEST PIT LOG

Test Pit TP-2

PAGE 1 OF 1

**CLIENT** Philadelphia Regional Port Authority      **PROJECT NAME** PhilaPort Distribution Warehouse  
**PROJECT NUMBER** PRPAX17013      **PROJECT LOCATION** Philadelphia, PA  
**DATE STARTED** 4/18/19      **COMPLETED** 4/18/19      **GROUND ELEVATION** 8.5'  
**EXCAVATION CONTRACTOR** Ambient Group, LLC      **WATER ENCOUNTERED:**  
**EXCAVATION METHOD** Rubber Tire Backhoe      **DURING EXCAVATION** ---  
**OPERATOR / HELPER** Victor      **AT END OF EXCAVATION** ---  
**LOGGED BY** N. Di Sessa      **CHECKED BY** D. Marano      **0 HRS AFTER EXCAVATION** 9.0' / Elev -0.5'

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0				Depth	Elev.
			P	0.3 ASPHALT	8.3
				Processed Aggregate similar to 3A	
				1.0	7.5
				FILL: Red-Brown F SAND and SILT	
				3.0	5.5
				FILL: Green micaceous F SAND and SILT, trace F/C Gravel	
				4.0	4.5
				FILL: Black F SAND, some SILT and F/C Gravel	
5			F		
				9.0	-0.5
					Oily water surface

Test Pit terminated at 9.0 feet.

NOTES:



# TEST PIT LOG

Test Pit TP-3

PAGE 1 OF 1

<b>CLIENT</b> Philadelphia Regional Port Authority	<b>PROJECT NAME</b> PhilaPort Distribution Warehouse
<b>PROJECT NUMBER</b> PRPAX17013	<b>PROJECT LOCATION</b> Philadelphia, PA
<b>DATE STARTED</b> 4/18/19 <b>COMPLETED</b> 4/18/19	<b>GROUND ELEVATION</b> 8.0'
<b>EXCAVATION CONTRACTOR</b> Ambient Group, LLC	<b>WATER ENCOUNTERED:</b>
<b>EXCAVATION METHOD</b> Rubber Tire Backhoe	<b>DURING EXCAVATION</b> ---
<b>OPERATOR / HELPER</b> Victor	<b>AT END OF EXCAVATION</b> ---
<b>LOGGED BY</b> N. Di Sessa <b>CHECKED BY</b> D. Marano	<b>AFTER EXCAVATION</b> ---

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0				Depth	Elev.
			P	0.3 ASPHALT	7.7
				Processed Aggregate similar to 3A	
				1.0	7.0
				FILL: Tan F/M SAND, some Clay and F Gravel	
				4.0	4.0
				FILL: Black F/M SAND, some C/F Gravel, trace Silt	
5				6.0	2.0
			F	FILL: Black F/M SAND, some to little Silt, little F Gravel	
10				11.0	-3.0

Test Pit terminated at 11.0 feet.

NOTES:

FOR INFORMATIONAL PURPOSES ONLY



# TEST PIT LOG

Test Pit TP-4

PAGE 1 OF 1

**CLIENT** Philadelphia Regional Port Authority **PROJECT NAME** PhilaPort Distribution Warehouse  
**PROJECT NUMBER** PRPAX17013 **PROJECT LOCATION** Philadelphia, PA  
**DATE STARTED** 4/18/19 **COMPLETED** 4/18/19 **GROUND ELEVATION** 8.0'  
**EXCAVATION CONTRACTOR** Ambient Group, LLC **WATER ENCOUNTERED:**  
**EXCAVATION METHOD** Rubber Tire Backhoe **DURING EXCAVATION** ---  
**OPERATOR / HELPER** Victor **AT END OF EXCAVATION** ---  
**LOGGED BY** N. Di Sessa **CHECKED BY** D. Marano **0 HRS AFTER EXCAVATION** 9.0' / Elev -1.0'

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0				Depth	Elev.
			P	0.3 ASPHALT	7.7
				Processed Aggregate similar to 3A	
				1.0	7.0
				FILL: Gray F/M SAND and F Gravel, some Clay, trace Brick Fragments	
				4.0	4.0
			F	FILL: Black F/M SAND, some F Gravel, trace Brick Fragments and Silt	
5					
				9.5	-1.5

Test Pit terminated at 9.5 feet.

NOTES:

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# TEST PIT LOG

Test Pit TP-5

PAGE 1 OF 1

**CLIENT** Philadelphia Regional Port Authority      **PROJECT NAME** PhilaPort Distribution Warehouse  
**PROJECT NUMBER** PRPAX17013      **PROJECT LOCATION** Philadelphia, PA  
**DATE STARTED** 4/18/19      **COMPLETED** 4/18/19      **GROUND ELEVATION** 10.0'  
**EXCAVATION CONTRACTOR** Ambient Group, LLC      **WATER ENCOUNTERED:**  
**EXCAVATION METHOD** Rubber Tire Backhoe      **DURING EXCAVATION** ---  
**OPERATOR / HELPER** Victor      **AT END OF EXCAVATION** ---  
**LOGGED BY** N. Di Sessa      **CHECKED BY** D. Marano      **0 HRS AFTER EXCAVATION** 9.0' / Elev 1.0'

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0				Depth	Elev.
			P	0.3 ASPHALT	9.7
				Processed Aggregate similar to 3A	9.0
				1.5 FILL: Brown C/F gravel size ROCK FRAGMENTS and F/M SAND, trace Silt	8.5
				FILL: Tan F/M SAND, little F Gravel, trace Silt and Brick Fragments	
				3.0	7.0
				FILL: Black F/M SAND, some Brick Fragments, little F Gravel, trace Cinder Fragments, glass	
5			F	5.0	5.0
				FILL: Brown-Orange-Gray F/M/C SAND, some F/C Gravel, some Silt	
				9.0	1.0

Test Pit terminated at 9.0 feet.

FOR INFORMATIONAL PURPOSES ONLY

NOTES:



# TEST PIT LOG

Test Pit TP-6

PAGE 1 OF 1

**CLIENT** Philadelphia Regional Port Authority      **PROJECT NAME** PhilaPort Distribution Warehouse  
**PROJECT NUMBER** PRPAX17013      **PROJECT LOCATION** Philadelphia, PA  
**DATE STARTED** 4/18/19      **COMPLETED** 4/18/19      **GROUND ELEVATION** 12.0'  
**EXCAVATION CONTRACTOR** Ambient Group, LLC      **WATER ENCOUNTERED:**  
**EXCAVATION METHOD** Rubber Tire Backhoe      **DURING EXCAVATION** ---  
**OPERATOR / HELPER** Victor      **AT END OF EXCAVATION** ---  
**LOGGED BY** N. Di Sessa      **CHECKED BY** D. Marano      **0 HRS AFTER EXCAVATION** 10.5' / Elev 1.5'

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0				Depth	Elev.
			P	0.2 ASPHALT	11.8
				Processed Aggregate similar to 3A	
				1.0 FILL: Brown F/M SAND, some C/F Gravel, trace Silt	11.0
				2.0 FILL: Brown to Tan F/M SAND, little F Gravel, trace Silt	10.0
				3.0 FILL: Brown to Black F/M SAND, little F Gravel, trace Cinder Fragments and Silt	9.0
5			F	5.0 FILL: Black F/M SAND, some Silt, some to little F/C Gravel and Brick Fragments	7.0
10					Telephone poles Hole collapsed
				10.5	1.5

Test Pit terminated at 10.5 feet.

NOTES:

FOR INFORMATIONAL PURPOSES ONLY



# TEST PIT LOG

Test Pit TP-7

PAGE 1 OF 1

**CLIENT** Philadelphia Regional Port Authority **PROJECT NAME** PhilaPort Distribution Warehouse  
**PROJECT NUMBER** PRPAX17013 **PROJECT LOCATION** Philadelphia, PA  
**DATE STARTED** 4/19/19 **COMPLETED** 4/19/19 **GROUND ELEVATION** 10.0'  
**EXCAVATION CONTRACTOR** Ambient Group, LLC **WATER ENCOUNTERED:**  
**EXCAVATION METHOD** Rubber Tire Backhoe **DURING EXCAVATION** ---  
**OPERATOR / HELPER** Victor **AT END OF EXCAVATION** ---  
**LOGGED BY** N. Di Sessa **CHECKED BY** D. Marano **AFTER EXCAVATION** ---

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0				Depth	Elev.
			P	0.5 ASPHALT	9.5
				1.0 Processed Aggregate similar to 3A	9.0
				FILL: Tan to Brown F/M SAND, some C/F Gravel, trace Silt	
5					Wood Post (telephone pole)
					Moist
			F	6.0 FILL: Black M/C/F SAND and F/C GRAVEL and BRICK FRAGMENTS, little Clay, little organics, debris, wood	4.0
10					
				11.0	-1.0

Test Pit terminated at 11.0 feet.

NOTES:

FOR INFORMATIONAL PURPOSES ONLY



# TEST PIT LOG

Test Pit TP-8

PAGE 1 OF 1

**CLIENT** Philadelphia Regional Port Authority **PROJECT NAME** PhilaPort Distribution Warehouse  
**PROJECT NUMBER** PRPAX17013 **PROJECT LOCATION** Philadelphia, PA  
**DATE STARTED** 4/19/19 **COMPLETED** 4/19/19 **GROUND ELEVATION** 10.0'  
**EXCAVATION CONTRACTOR** Ambient Group, LLC **WATER ENCOUNTERED:**  
**EXCAVATION METHOD** Rubber Tire Backhoe **DURING EXCAVATION** ---  
**OPERATOR / HELPER** Victor **AT END OF EXCAVATION** ---  
**LOGGED BY** N. Di Sessa **CHECKED BY** D. Marano **AFTER EXCAVATION** ---

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0				Depth	Elev.
			P	0.3 ASPHALT	9.7
				1.0 Processed Aggregate similar to 3A	9.0
				FILL: Tan to Brown F/M SAND, some C/F Gravel, trace Silt	
				4.0	6.0
5			F	FILL: Black M/C/F SAND and F/C BRICK FRAGMENTS, little Clay, debris	
10					
				11.0	-1.0

Test Pit terminated at 11.0 feet.

NOTES:

FOR INFORMATIONAL PURPOSES ONLY



# TEST PIT LOG

Test Pit TP-9

PAGE 1 OF 1

**CLIENT** Philadelphia Regional Port Authority      **PROJECT NAME** PhilaPort Distribution Warehouse  
**PROJECT NUMBER** PRPAX17013      **PROJECT LOCATION** Philadelphia, PA  
**DATE STARTED** 4/19/19      **COMPLETED** 4/19/19      **GROUND ELEVATION** 9.0'  
**EXCAVATION CONTRACTOR** Ambient Group, LLC      **WATER ENCOUNTERED:**  
**EXCAVATION METHOD** Rubber Tire Backhoe      **DURING EXCAVATION** ---  
**OPERATOR / HELPER** Victor      **AT END OF EXCAVATION** ---  
**LOGGED BY** N. Di Sessa      **CHECKED BY** D. Marano      **0 HRS AFTER EXCAVATION** 9.0' / Elev 0.0'

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0				Depth	Elev.
				0.3 ASPHALT	8.7
				Processed Aggregate similar to 3A	
				1.0 FILL: Black F/C GRAVEL and F/M/C SAND, little Silt	8.0
				4.0 FILL: Brown SILT, some F/M SAND, trace F Gravel	5.0
5				6.0 F FILL: Black Silty Clay, some F/M SAND	3.0
				11.0	-2.0

Test Pit terminated at 11.0 feet.

NOTES:

FOR INFORMATIONAL PURPOSES ONLY





# TEST PIT LOG

Test Pit TP-10

PAGE 1 OF 1

**CLIENT** Philadelphia Regional Port Authority      **PROJECT NAME** PhilaPort Distribution Warehouse  
**PROJECT NUMBER** PRPAX17013      **PROJECT LOCATION** Philadelphia, PA  
**DATE STARTED** 4/19/19      **COMPLETED** 4/19/19      **GROUND ELEVATION** 9.0'  
**EXCAVATION CONTRACTOR** Ambient Group, LLC      **WATER ENCOUNTERED:**  
**EXCAVATION METHOD** Rubber Tire Backhoe      **DURING EXCAVATION** ---  
**OPERATOR / HELPER** Victor      **AT END OF EXCAVATION** ---  
**LOGGED BY** N. Di Sessa      **CHECKED BY** D. Marano      **0 HRS AFTER EXCAVATION** 9.0' / Elev 0.0'

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	STRATA	DESCRIPTION	REMARKS
0				Depth	Elev.
			P	0.3 ASPHALT	8.8
				Processed Aggregate similar to 3A	
				1.0	8.0
				FILL: Black F/C GRAVEL and F/M/C SAND, little Silt	
				4.0	5.0
5			F	FILL: Brown F/M SAND, some Silt, little F/C Gravel and Brick Fragments, trace Clay	
				9.0	0.0

Test Pit terminated at 9.0 feet.

NOTES:

FOR INFORMATIONAL PURPOSES ONLY

# PWD Stormwater Plan Review Infiltration Testing Log

Version 1 7/1/2015

**Project Name:** PhilaPort Distribution Center **Date:** 4/18/2019  
**Project Address:** Philadelphia, PA **Weather:** Sunny/70s  
**Testing Company:** Pennoni **Tester's Name:** N. Di Sessa  
**Phone Number:** \_\_\_\_\_ **Email Address:** \_\_\_\_\_  
**Test Number:** I-1 **Test Pit/Boring Hole Number:** TP-1 **Test Method:** Double Ring  
**Test Depth (feet):** 5 **Surface Elevation (feet):** 8.5 **Instrument Diameter (inches):** 5.5

## Soil Characterization

Depth (feet):	Soil Texture:	Limiting Layers Type and Depth (feet):
0-0.25	ASPHALT	Water observed at approximately 8 feet
0.25-1.0	Processed Aggregate similar to 3A	
1.0-4.0	FILL: Gray F/M/C SAND and F GRAVEL and BRICK FRAGMENTS, trace Silt	
4.0-9.0	FILL: Black SILT, some F/M Sand, trace F/C Gravel	

## Presoak

Time:	Time Interval (minutes):	Measurement, (feet):	Drop in water level, (feet):
9:09	30	0.43	0.00
9:39	30	0.43	0.00
X	X	X	X

## Infiltration Testing

Time:	Time Interval (10 or 30 minutes):	Measurement, (feet):	Drop in water level, (feet):	Infiltration rate (inches per hour):	Remarks:
10:09	30	0.43	0.00	0.0	
10:39	30	0.43	0.00	0.0	
11:09	30	0.43	0.00	0.0	
11:39	30	0.43	0.00	0.0	

Stabilized Infiltration Testing Rate (inches per hour):

0.0

# PWD Stormwater Plan Review Infiltration Testing Log

Version 1 7/1/2015

**Project Name:** PhilaPort Distribution Center **Date:** 4/18/2019  
**Project Address:** Philadelphia, PA **Weather:** Sunny/70s  
**Testing Company:** Pennoni **Tester's Name:** N. Di Sessa  
**Phone Number:** \_\_\_\_\_ **Email Address:** \_\_\_\_\_  
**Test Number:** I-2 **Test Pit/Boring Hole Number:** TP-2 **Test Method:** Double Ring  
**Test Depth (feet):** 5 **Surface Elevation (feet):** 8.5 **Instrument Diameter (inches):** 5.5

## Soil Characterization

Depth (feet):	Soil Texture:	Limiting Layers Type and Depth (feet):
0-0.25	ASPHALT	Water observed at approximately 9 feet
0.25-1.0	Processed Aggregate similar to 3A	
1.0-3.0	FILL: Red-Brown F SAND and SILT	
3.0-4.0	FILL: Green micaceous F SAND and SILT, trace F/C Gravel	
4.0-9.0	FILL: Black F SAND, some SILT and F/C Gravel	

## Presoak

Time:	Time Interval (minutes):	Measurement, (feet):	Drop in water level, (feet):
9:47	30	0.38	0.21
10:17	30	0.38	0.17
X	X	X	X

## Infiltration Testing

Time:	Time Interval (10 or 30 minutes):	Measurement, (feet):	Drop in water level, (feet):	Infiltration rate (inches per hour):	Remarks:
10:47	10	0.38	0.06	4.5	
10:57	10	0.38	0.06	4.5	
11:07	10	0.38	0.06	4.5	
11:17	10	0.38	0.06	4.0	
Stabilized Infiltration Testing Rate (inches per hour):				4.4	



# PWD Stormwater Plan Review Infiltration Testing Log

Version 1 7/1/2015

**Project Name:** PhilaPort Distribution Center **Date:** 4/18/2019  
**Project Address:** Philadelphia, PA **Weather:** Sunny/70s  
**Testing Company:** Pennoni **Tester's Name:** N. Di Sessa  
**Phone Number:** \_\_\_\_\_ **Email Address:** \_\_\_\_\_  
**Test Number:** I-4 **Test Pit/Boring Hole Number:** TP-4 **Test Method:** Double Ring  
**Test Depth (feet):** 5 **Surface Elevation (feet):** 8 **Instrument Diameter (inches):** 5.5

## Soil Characterization

Depth (feet):	Soil Texture:	Limiting Layers Type and Depth (feet):
0-0.33	ASPHALT	Water observed at approximately 9 feet
0.33-1.0	Processed Aggregate similar to 3A	
1.0-4.0	FILL: Gray F/M SAND and F Gravel, some Clay, trace Brick Fragments	
4.0-9.5	FILL: Black F/M SAND, some F Gravel, trace Brick Fragments and Silt	

## Presoak

Time:	Time Interval:	Measurement, (feet):	Drop in water level, (feet):
11:37	30	0.40	0.19
12:09	30	0.40	0.11
X	X	X	X

## Infiltration Testing

Time:	Time Interval (10 or 30 minutes):	Measurement, (feet):	Drop in water level, (feet):	Infiltration rate (inches per hour):	Remarks:
12:40	30	0.40	0.13	3.0	
1:15	30	0.40	0.10	2.5	
1:45	30	0.40	0.10	2.5	
2:18	30	0.40	0.08	2.0	
2:48	30	0.40	0.08	2.0	

Stabilized Infiltration Testing Rate (inches per hour):

2.4

# PWD Stormwater Plan Review Infiltration Testing Log

Version 1 7/1/2015

**Project Name:** PhilaPort Distribution Center **Date:** 4/18/2019  
**Project Address:** Philadelphia, PA **Weather:** Sunny/70s  
**Testing Company:** Pennoni **Tester's Name:** N. Di Sessa  
**Phone Number:** \_\_\_\_\_ **Email Address:** \_\_\_\_\_  
**Test Number:** I-5 **Test Pit/Boring Hole Number:** TP-5 **Test Method:** Double Ring  
**Test Depth (feet):** 5 **Surface Elevation (feet):** 10 **Instrument Diameter (inches):** 5.5

## Soil Characterization

Depth (feet):	Soil Texture:	Limiting Layers Type and Depth (feet):
0.0-0.33	ASPHALT	Water observed at approximately 9 feet
0.33-1.0	Processed Aggregate similar to 3A	
1.0-1.5	FILL: Brown C/F gravel size ROCK FRAGMENTS and F/M SAND, trace Silt	
1.5-3.0	FILL: Tan F/M SAND, little F Gravel, trace Silt and Brick Fragments	
3.0-5.0	FILL: Black F/M SAND, some Brick Fragments, little F Gravel, trace Cinder	
5.0-9.0	FILL: Brown-Orange-Gray F/M/C SAND, some F/C Gravel, some Silt	

## Presoak

Time:	Time Interval (minutes):	Measurement, (feet):	Drop in water level, (feet):
1:25	30	0.42	0.38
1:57	30	0.42	0.42
X	X	X	X

## Infiltration Testing

Time:	Time Interval (10 or 30 minutes):	Measurement, (feet):	Drop in water level, (feet):	Infiltration rate (inches per hour):	Remarks:
2:37	10	0.42	0.13	9.0	
2:47	10	0.42	0.10	7.2	
2:57	10	0.42	0.10	7.2	
3:07	10	0.42	0.10	7.2	

Stabilized Infiltration Testing Rate (inches per hour):

7.7

# PWD Stormwater Plan Review Infiltration Testing Log

Version 1 7/1/2015

**Project Name:** PhilaPort Distribution Center **Date:** 4/18/2019  
**Project Address:** Philadelphia, PA **Weather:** Sunny/70s  
**Testing Company:** Pennoni **Tester's Name:** N. Di Sessa  
**Phone Number:** \_\_\_\_\_ **Email Address:** \_\_\_\_\_  
**Test Number:** I-6 **Test Pit/Boring Hole Number:** TP-6 **Test Method:** Double Ring  
**Test Depth (feet):** 5 **Surface Elevation (feet):** 12 **Instrument Diameter (inches):** 5.5

## Soil Characterization

Depth (feet):	Soil Texture:	Limiting Layers Type and Depth (feet):
0-0.2	ASPHALT	Water observed at approximately 10.5 feet
0.2-1.0	Processed Aggregate similar to 3A	
1.0-2.0	FILL: Brown F/M SAND, some C/F Gravel, trace Silt	
2.0-3.0	FILL: Brown to Tan F/M SAND, little F Gravel, trace Silt	
3.0-5.0	FILL: Brown to Black F/M SAND, little F Gravel, trace Cinder Fragments and Silt	
5.0-10.5	FILL: Black F/M SAND, some Silt, some to little F/C Gravel and Brick Fragments	

## Presoak

Time:	Time Interval (minutes):	Measurement, (feet):	Drop in water level, (feet):
2:35	30	0.43	0.07
3:06	30	0.43	0.04
X	X	X	X

## Infiltration Testing

Time:	Time Interval (10 or 30 minutes):	Measurement, (feet):	Drop in water level, (feet):	Infiltration rate (inches per hour):	Remarks:
3:36	30	0.43	0.04	1.0	
4:06	30	0.43	0.03	0.6	
4:36	30	0.43	0.03	0.6	
5:06	30	0.43	0.03	0.6	
Stabilized Infiltration Testing Rate (inches per hour):				0.7	

# PWD Stormwater Plan Review Infiltration Testing Log

Version 1 7/1/2015

**Project Name:** PhilaPort Distribution Center **Date:** 4/19/2019  
**Project Address:** Philadelphia, PA **Weather:** Sunny/70s  
**Testing Company:** Pennoni **Tester's Name:** N. Di Sessa  
**Phone Number:** \_\_\_\_\_ **Email Address:** \_\_\_\_\_  
**Test Number:** I-7 **Test Pit/Boring Hole Number:** TP-7 **Test Method:** Double Ring  
**Test Depth (feet):** 5 **Surface Elevation (feet):** 10 **Instrument Diameter (inches):** 5.5

## Soil Characterization

Depth (feet):	Soil Texture:	Limiting Layers Type and Depth (feet):
0.0-0.5	ASPHALT	
0.5-1.0	Processed Aggregate similar to 3A	
1.0-6.0	FILL: Tan to Brown F/M SAND, some C/F Gravel, trace Silt	
6.0-11.0	FILL: Black M/C/F SAND and F/C GRAVEL and BRICK FRAGMENTS, little Clay, little organic debris, wood	

## Presoak

Time:	Time Interval (minutes):	Measurement, (feet):	Drop in water level, (feet):
8:27	30	0.33	0.00
8:57	30	0.33	0.00
X	X	X	X

## Infiltration Testing

Time:	Time Interval (10 or 30 minutes):	Measurement, (feet):	Drop in water level, (feet):	Infiltration rate (inches per hour):	Remarks:
9:27	30	0.33	0.00	0.0	
9:57	30	0.33	0.00	0.0	
10:27	30	0.33	0.00	0.0	
10:57	30	0.33	0.00	0.0	
Stabilized Infiltration Testing Rate (inches per hour):				0.0	



# PWD Stormwater Plan Review Infiltration Testing Log

Version 1 7/1/2015

**Project Name:** PhilaPort Distribution Center **Date:** 4/19/2019  
**Project Address:** Philadelphia, PA **Weather:** Sunny/70s  
**Testing Company:** Pennoni **Tester's Name:** N. Di Sessa  
**Phone Number:** \_\_\_\_\_ **Email Address:** \_\_\_\_\_  
**Test Number:** I-8 **Test Pit/Boring Hole Number:** TP-8 **Test Method:** Double Ring  
**Test Depth (feet):** 5 **Surface Elevation (feet):** 10 **Instrument Diameter (inches):** 5.5

## Soil Characterization

Depth (feet):	Soil Texture:	Limiting Layers Type and Depth (feet):
0.0-0.33	ASPHALT	
0.33-1	Processed Aggregate similar to 3A	
1-4	FILL: Tan to Brown F/M SAND, some C/F Gravel, trace Silt	
4-11	FILL: Black M/C/F SAND and F/C BRICK FRAGMENTS, little Clay, debris	

## Presoak

Time:	Time Interval (minutes):	Measurement, (feet):	Drop in water level, (feet):
9:05	30	0.29	0.02
9:39	30	0.29	0.02
X	X	X	X

## Infiltration Testing

Time:	Time Interval (10 or 30 minutes):	Measurement, (feet):	Drop in water level, (feet):	Infiltration rate (inches per hour):	Remarks:
10:10	30	0.29	0.01	0.2	
10:41	30	0.29	0.00	0.0	
11:11	30	0.29	0.00	0.0	
11:41	30	0.29	0.00	0.0	

Stabilized Infiltration Testing Rate (inches per hour):

0.1

# PWD Stormwater Plan Review Infiltration Testing Log

Version 1 7/1/2015

**Project Name:** PhilaPort Distribution Center **Date:** 4/19/2019  
**Project Address:** Philadelphia, PA **Weather:** Sunny/70s  
**Testing Company:** Pennoni **Tester's Name:** N. Di Sessa  
**Phone Number:** \_\_\_\_\_ **Email Address:** \_\_\_\_\_  
**Test Number:** I-9 **Test Pit/Boring Hole Number:** TP-9 **Test Method:** Double Ring  
**Test Depth (feet):** 5 **Surface Elevation (feet):** 9 **Instrument Diameter (inches):** 5.5

## Soil Characterization

Depth (feet):	Soil Texture:	Limiting Layers Type and Depth (feet):
0.0-0.33	ASPHALT	Water seepage observed at approximately 9 feet
0.33-1.0	Processed Aggregate similar to 3A	
1.0-4.0	FILL: Black F/C GRAVEL and F/M/C SAND, little Silt	
4.0-6.0	FILL: Brown SILT, some F/M SAND, trace F Gravel	
6.0-11.0	FILL: Black Silty Clay, some F/M SAND	

## Presoak

Time:	Time Interval (minutes):	Measurement, (feet):	Drop in water level, (feet):
9:44	30	0.27	0.00
10:14	30	0.27	0.00
X	X	X	X

## Infiltration Testing

Time:	Time Interval (10 or 30 minutes):	Measurement, (feet):	Drop in water level, (feet):	Infiltration rate (inches per hour):	Remarks:
10:44	30	0.27	0.00	0.0	
11:14	30	0.27	0.00	0.0	
11:44	30	0.27	0.00	0.0	
12:14	30	0.27	0.00	0.0	
Stabilized Infiltration Testing Rate (inches per hour):				0.0	

# PWD Stormwater Plan Review Infiltration Testing Log

Version 1 7/1/2015

**Project Name:** PhilaPort Distribution Center **Date:** 4/19/2019  
**Project Address:** Philadelphia, PA **Weather:** Sunny/70s  
**Testing Company:** Pennoni **Tester's Name:** N. Di Sessa  
**Phone Number:** \_\_\_\_\_ **Email Address:** \_\_\_\_\_  
**Test Number:** I-10 **Test Pit/Boring Hole Number:** TP-10 **Test Method:** Double Ring  
**Test Depth (feet):** 5 **Surface Elevation (feet):** 9 **Instrument Diameter (inches):** 5.5

## Soil Characterization

Depth (feet):	Soil Texture:	Limiting Layers Type and Depth (feet):
0.0-0.25	ASPHALT	Water observed at approximately 9 feet
0.25-1.0	Processed Aggregate similar to 3A	
1.0-4.0	FILL: Black F/C GRAVEL and F/M/C SAND, little Silt	
4.0-9.0	FILL: Brown F/M SAND, some Silt, little F/C Gravel and Brick Fragments, trace Clay	

## Presoak

Time:	Time Interval (minutes):	Measurement, (feet):	Drop in water level, (feet):
10:27	30	0.25	0.00
10:57	30	0.25	0.00
X	X	X	X

## Infiltration Testing

Time:	Time Interval (10 or 30 minutes):	Measurement, (feet):	Drop in water level, (feet):	Infiltration rate (inches per hour):	Remarks:
11:27	30	0.25	0.00	0.0	
12:02	30	0.25	0.00	0.0	
12:32	30	0.25	0.00	0.0	
1:02	30	0.25	0.00	0.0	
Stabilized Infiltration Testing Rate (inches per hour):				0.0	

APPENDIX D – NPDES WORKSHEETS

FOR INFORMATIONAL PURPOSES ONLY

FOR INFORMATIONAL PURPOSES ONLY

PROJECT: PHILAPORT DISTRIBUTION CENTER

SUBJECT: PENNSYLVANIA STORMWATER BMP DESIGN

SHEET: 1 OF 5 DATE: 2/5/2021

BY: CLV

CHK'D:

Address  
P/F

GENERAL SITE INFORMATION

INSTRUCTIONS: COMPLETE WORKSHEET FOR EACH WATERSHED

DATE: 2/5/2021

PROJECT NAME: PHILAPORT DISTRIBUTION CENTER

MUNICIPALITY: PHILADELPHIA

COUNTY: PHILADELPHIA

TOTAL AREA (ACRES): 28.57

MAJOR RIVER BASIN: DELAWARE RIVER

<http://www.dep.state.pa.us/dep/deputate/watermgt/wc/default.htm#newtopics>

WATERSHED: DELAWARE

SUB-BASIN: DELAWARE

NEAREST SURFACE WATER(S) TO RECEIVE RUNOFF: DELAWARE RIVER

CHAPTER 93 - DESIGNATED WATER USE: WWF, MF

<http://www.pacode.com/secure/data/025/chapter93/chap93toc.html>

IMPAIRED ACCORDING TO CHAPTER 303(D) LIST? Yes

<http://www.dep.state.pa.us/dep/der/####> No

List Causes of Impairment: ####


IS PROJECT SUBJECT TO, OR PART OF:

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) REQUIREMENTS? Yes

<http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterManagement/GeneralPermits/default.htm> No

EXISTING OR PLANNED DRINKING WATER SUPPLY? Yes

No

IF YES, DISTANCE FROM PROPOSED DISCHARGE (MILES): \_\_\_\_\_

APPROVED ACT 167 PLAN? Yes

[http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterManagement/approved\\_1.html](http://www.dep.state.pa.us/dep/deputate/watermgt/wc/Subjects/StormwaterManagement/approved_1.html) No

EXISTING RIVER CONSERVATION PLAN? Yes

<http://www/dcnr.state.pa.us/brc/rivers/riversconservation/planningprojects/> No

PROJECT:	PHILAPORT DISTRIBUTION CENTER		
SUBJECT:	PENNSYLVANIA STORMWATER BMP DESIGN		
SHEET:	2	OF	5
DATE:	2/5/2021		
BY:	CLV		
CHK'D:	0		

Address  
P/F

SENSITIVE NATURAL RESOURCES

INSTRUCTIONS:

- 1 PROVIDE SENSITIVE RESOURCES MAP ACCORDING TO NON-STRUCTURAL BMP 5.4.1 IN CHAPTER 5. THIS MAP SHOULD IDENTIFY WETLANDS, WOODLANDS, NATURAL DRAINAGE WAYS, STEEP SLOPES AND OTHER SENSITIVE NATURAL AREAS.
- 2 SUMMARIZE THE EXISTING EXTENT OF EACH SENSITIVE RESOURCE IN THE EXISTING SENSITIVE RESOURCES TABLE (BELOW USING ACRES). IF NONE PRESENT ENTER 0.
- 3 SUMMARIZE TOTAL PROTECTED AREA AS DEFINED UNDER BMPs IN CHAPTER 5.
- 4 DO NOT COUNT ANY AREA TWICE. FOR EXAMPLE, AN AREA THAT IS BOTH A FLOODPLAIN AND A WETLAND MAY ONLY BE CONSIDERED ONCE.

EXISTING NATURAL SENSITIVE RESOURCE	MAPPED? yes/no/n/a	TOTAL AREA (AC)	PROTECTED AREA (AC)
Waterbodies	N/A		
Floodplains	N/A		
Riparian Areas	N/A		
Wetlands	N/A		
Woodlands	N/A		
Natural Drainage Ways	N/A		
Steep Slopes, 15%-25%	N/A		
Steep Slopes, over 25%	N/A		
Other:			
Other:			
<b>TOTAL EXISTING:</b>		0.00	0.00

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PROJECT:	PHILAPORT DISTRIBUTION CENTER		
SUBJECT:	PENNSYLVANIA STORMWATER BMP DESIGN		
SHEET:	3	OF	5
DATE:	2/5/2021		
BY:	CLV		
CHK'D:	0		

Address \_\_\_\_\_  
P/F \_\_\_\_\_

NONSTRUCTURAL BMP CREDITS

PROTECTED AREA

1.1 AREA OF PROTECTED SENSITIVE/SPECIAL VALUE FEATURES	0.00	AC
1.2 AREA OF RIPARIAN FOREST BUFFER PROTECTION	0.00	AC
3.1 SUMMARIZE THE EXISTING EXTENT OF EACH SENSITIVE RESOURCE IN 1	0.00	AC
TOTAL	0.00	AC

SITE AREA	MINUS DELAWARE RIVER	PROTECTED AREA	EQUALS	STORMWATER MANAGEMENT AREA
28.57	-	0.00	=	28.57

This is the area that requires stormwater management

VOLUME CREDITS

3.1 MINIMUM SOIL COMPACTION

LAWN	SF	x 1/4" x 1/12	=	0	CF
MEADOW	SF	x 1/3" x 1/12	=	0	CF

3.1 PROTECT EXISTING TREES

*For Tree Canopy within 100 ;####*  
TREE CANOPY

SF	x 1/2" x 1/12	=	0	CF
----	---------------	---	---	----

5.1 DISCONNECT ROOF LEADERS TO VEGETATED AREAS

*For runoff directed to areas protected under 5.8.1 and 5.8.2*  
ROOF AREA

SF	x 1/3" x 1/12	=	0	CF
----	---------------	---	---	----

*For all other disconnected roof areas*  
ROOF AREA

SF	x 1/4" x 1/12	=	0	CF
----	---------------	---	---	----

5.2 DISCONNECT NON-ROOF IMPERVIOUS TO VEGETATED AREAS

*For runoff directed to areas protected under 5.8.1 and 5.8.2*  
AREA

SF	x 1/3" x 1/12	=	0	CF
----	---------------	---	---	----

*For all other disconnected roof areas*  
AREA

SF	x 1/4" x 1/12	=	0	CF
----	---------------	---	---	----

TOTAL NON-STRUCTURAL VOLUME CREDIT \*      0      CF

\* For use on Worksheet 5



_____ Address P/F	PROJECT: PHILAPORT DISTRIBUTION CENTER	
	SUBJECT: PENNSYLVANIA STORMWATER BMP DESIGN	
	SHEET: 4 OF 5	DATE: 2/5/2021
	BY: CLV	CHK'D: 0

**CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT**

PROJECT NAME: PHILAPORT DISTRIBUTION CENTER  
 DRAINAGE AREA ID: 1,244,658 SF (28.57 AC)  
 2-YEAR RAINFALL: 3.36 IN

TOTAL SITE AREA: 28.57 AC  
 PRO-SUMMARIZE THE EXISTING: 0.00 AC  
 MANAGED AREA: 28.57 AC

**EXISTING CONDITIONS:**

COVER TYPE/CONDITION	SOIL GROUP	AREA (SF)	AREA (AC)	CN	S	la (0.2*S)	Q RUNOFF <sup>1</sup> (IN)	RUNOFF VOLUME <sup>2</sup> (CF)
Impervious	Ub	995,726	22.86	98	0.20	0.04	3.13	259,463
Meadow (20% IMP)	Ub	248,932	5.71	58	7.24	1.45	0.399	8,283
TOTALS:		1,244,658	28.57					TOTAL: 267,746

**DEVELOPED CONDITIONS:**

COVER TYPE/CONDITION	SOIL GROUP	AREA (SF)	AREA (AC)	CN	S	la (0.2*S)	Q RUNOFF <sup>1</sup> (IN)	RUNOFF VOLUME <sup>2</sup> (CF)
Impervious	Ub	846,196	19.43	98	0.20	0.04	3.127	220,499
Lawn	Ub	398,464	9.15	61	6.39	1.28	0.511	16,973
TOTALS:		1,244,660	28.57					TOTAL: 237,472

2-YEAR VOLUME INCREASE: -30,274 CF

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1 Runoff (in) =  $Q = (P - 0.2S)^2 / (P + 0.8S)$  where  
 P = 2-Year Rainfall (in)  
 S = (1000/CN) - 10

2 Runoff Volume (CF) =  $Q \times \text{Area} / 12$  where  
 Q = Runoff (in)  
 Area = Land use area (SF)

NOTE: Runoff Volume must be calculated for EACH land use type/coondition and HSG.  
 The use of a weighted CN value for volume calculations is not acceptable.

PROJECT:	PHILAPORT DISTRIBUTION CENTER		
SUBJECT:	PENNSYLVANIA STORMWATER BMP DESIGN		
SHEET:	5	OF	5
DATE:	2/5/2021		
BY:	CLV		
CHK'D:	0		

Address \_\_\_\_\_  
P/F \_\_\_\_\_

**STRUCTURAL BMP VOLUME CREDITS**

PROJECT NAME: PHILAPORT DISTRIBUTION CENTER  
SUB-BASIN: DELAWARE RIVER

Required Control Volume (CF) - <i>from Worksheet 4</i> :	-30,274
Non-structural Volume Credit (CF) - <i>from Worksheet 3</i> :	0
 Structural Volume Requirement (CF):	 -30,274
<i>(Required Control Volume minus Non-structural Credit)</i>	

PROPOSED BMP	AREA (SF)	STORAGE VOLUME (CF)
6.4.1 POROUS PAVEMENT		
6.4.2 INFILTRATION BASIN		
6.4.3 INFILTRATION BED	54,100	108,200
6.4.4 INFILTRATION TRENCH		
6.4.5 RAIN GARDEN/BIORETENTION		
6.4.6 DRY WELL/SEEPAGE PIT		
6.4.7 CONSTRUCTED FILTER		
6.4.8 VEGETATED SWALE		
6.4.9 VEGETATED FILTER STRIP		
6.4.10 BERM		
6.5.1 VEGETATED ROOF		
6.5.2 CAPTURE AND RE-USE		
6.6.1 CONSTRUCTED WETLANDS		
6.6.2 WET POND/RETENTION BASIN		
6.6.3 DRY EXTENDED DETENTION BASIN		
6.6.4 WATER QUALITY FILTERS		
6.7.1 RIPARIAN BUFFER RESTORATION		
6.7.2 LANDSCAPE RESTORATION/REFORESTATION		
6.7.3 SOIL AMENDMENT		
6.8.1 LEVEL SPREADER		
6.8.2 SPECIAL STORAGE AREAS		
OTHER		

TOTAL STRUCTURAL VOLUME (CF):	106,000
STRUCTURAL VOLUME REQUIREMENT (CF):	-30,274
 DIFFERENCE:	 136,274

FOR INFORMATIONAL PURPOSES ONLY

APPENDIX E – OPERATION & MAINTENANCE SCHEDULES

FOR INFORMATIONAL PURPOSES ONLY

FOR INFORMATIONAL PURPOSES ONLY

## BIORETENTION BASIN:

1. Water vegetation at the end of each day for two weeks after planting is completed.
2. Water vegetation regularly to ensure successful establishment every four days during periods of four or more days without rain, June through August for the first year after installation.
3. On a biweekly basis for the first year after installation and on an as needed basis, re-mulch void areas, treat diseased plantings, and keep the overflow drain basins clear of debris.
4. On a monthly basis for the first year after installation inspect inlet controls, outlet structures, and storage areas for trash and sediment accumulation to determine ongoing maintenance frequency.
5. Remulch void areas, treat diseased tree and shrubs, and keep overflow free and clear of leaves on an as needed basis.
6. On a monthly basis, inspect soil and repair eroded areas and remove litter and debris.
7. On a quarterly basis add additional mulch, inspect underdrain cleanouts, and inspect plantings to evaluate health and replace if necessary.
8. Once per year, add additional mulch as necessary and inspect basin for sediment build-up or erosion. Remove sediment from built-up areas and fill eroded areas as necessary. Sediments removed from the basin shall be tested for toxicants in compliance with the current disposal requirements before being discarded.
9. Maintain records of all inspections and maintenance activity, including, but not limited to, photographs, measured sediment levels, and sediment testing results.

## INLETS AND SUMPED MANHOLES

1. Inlet grates shall be kept free of debris, leaves, or other blockages on an as needed basis.
2. Inspect inlets after several storms to ensure that they are functioning properly and that there are no erosion problems developing on an as needed basis.
3. Once per quarter, inlets and sumped manholes shall be inspected for sediment build-up and/or debris. Any debris shall be removed from the structures at this time. When sediment levels reach half of the total sump depth provided, the structure shall be cleaned of all sediment. Sediments shall be tested for toxicants in compliance with current disposal requirements before being discarded.
4. On a biannual basis inspect for sediment and debris build-up. Sediment build-up exceeding two inches in depth or that begins to constrict the flow path must be removed.
5. Maintain records of all inspections and maintenance activity, including, but not limited to, photographs, measured sediment levels, and sediment testing results.

## OUTLET STRUCTURES:

1. Inspect outlet control structures after several storms to ensure that they are functioning properly and that there are no erosion problems developing on an as needed basis.
2. Maintain and cut back vegetation directly surrounding outlet control structures if impairing function of SMP on an as needed basis.
3. Clean out leaves, trash, and debris, from all structures, such as grates and orifices on an as needed basis.
4. On a quarterly basis inspect for sediment and debris build-up. Sediment build-up exceeding two inches in depth or that begins to constrict the flow path must be removed.
5. Maintain records of all inspections and maintenance activity, including, but not limited to, photographs, measured sediment levels, and sediment testing results.

## LANDSCAPING:

1. Vegetation shall be watered at the end of each day for a two week period after planting is complete and on a regular basis after to ensure successful establishment.
2. Maintenance of vegetation including, remulching of beds and treatment of diseased trees and shrubs shall be completed on an as needed basis.
3. Inspection and health evaluation of vegetation, soil and erosion repair and removal of litter and debris shall be completed on a monthly basis.
4. Maintain records of all inspections and maintenance activity.

FOR INFORMATIONAL PURPOSES ONLY

# Worksheet 4 Operations & Maintenance Agreement Information

Project Tracking #: FY19-PHIL-5529-01

Date: 5/30/19

Submitted information will be used to prepare the Operations and Maintenance (O&M) Agreement for all proposed stormwater management practices. Please note that incomplete or incorrect information will prevent this project from proceeding to the Post Construction Stormwater Management Plan (PCSMP) Review Stage. Please contact PWD Stormwater Plan Review at 215-685-6387 or [pwd.planreview@phila.gov](mailto:pwd.planreview@phila.gov) with any questions or concerns regarding this worksheet.

## Legal Address(es) of Property(s) Under Development:

1. Please provide the address for each property under development as they appear according to Office of Property Assessment (OPA) Records. Attach additional sheets as needed. Please note that OPA parcels may be different from mailing addresses. If a consolidation or subdivision is proposed, please refer to the Lot Consolidation or Sub-division section below.

	OPA Account #	Street Address		Zip Code
OPA Address 1	885052675	3401 S LAWRENCE STREET	Phila., PA	19148
OPA Address 2	885900607	3309 S GALLOWAY STREET	Phila., PA	19148
OPA Address 3			Phila., PA	
OPA Address 4			Phila., PA	

## Registered Owner(s) of the Property:

2. Please name all Owner(s) as listed on the current property deed(s). If ownership has recently changed and city records, which can be confirmed at [www.phila.gov/water/swmap](http://www.phila.gov/water/swmap) or [www.phila.gov/opa](http://www.phila.gov/opa), do not match the current deed information then please provide a copy of the current deed(s).

Property Owner   
*Official name(s) of individual(s) or business(es)*

Signatory Name   
*Please provide the full name of the individual who will be signing the O&M Agreement as/on behalf of the owner.*

Signatory Business Title   
*Corporations: President or Vice President  
Limited Partnerships (LPs): General Partner, or if a corporation is the general partner, then President or VP of the corporation  
Limited Liability Companies (LLCs): Member or Manager, depending on how the LLC is managed  
For all others: List the business title, and submit a letter of authorization for the signatory confirming his/her ability to bind the owner organization in legal agreements.*

Mailing Address   
*Address of the signatory, to whom PWD will return the signed/recorded agreements*

City  State  Zip Code

Phone #  E-mail

## Lot Consolidation or Sub-division: (If applicable)

3. If you plan to consolidate or subdivide the parcel(s) under development, please submit a list of the proposed new address(es) and OPA account number(s). Please also submit documentation from the City of intent to change the address(es) and documentation from the OPA of the new OPA account number(s).

## Legal Description of the Property(s):

4. Please submit a metes-and-bounds description for each property under development with reference to the property address. All property descriptions provided must describe full parcels. When consolidating or subdividing an existing parcel(s), please provide the legal description for each parcel with reference to its proposed new property address. **Please note that the legal property description must be submitted in an editable format, such as a Word document, from which PWD can copy text and paste it directly into the O&M Agreement. PDFs or photo files (such as jpeg, bitmap, etc.) will not be accepted.**



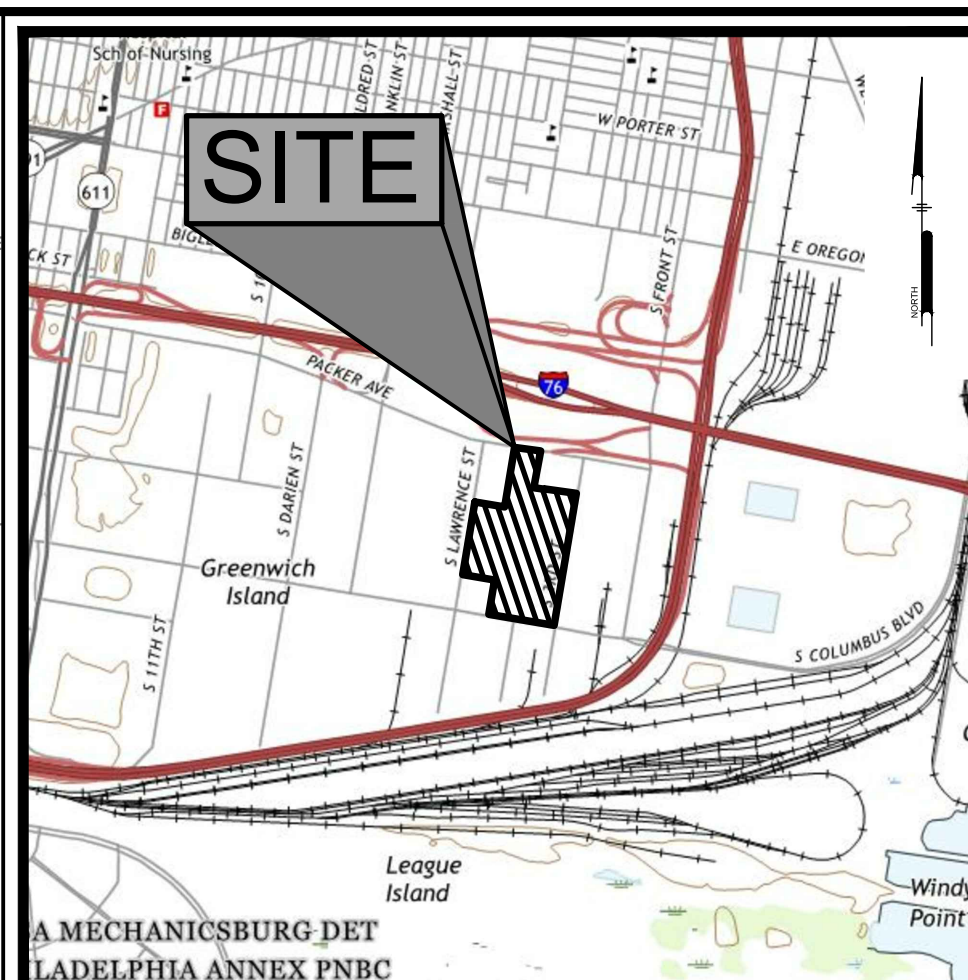
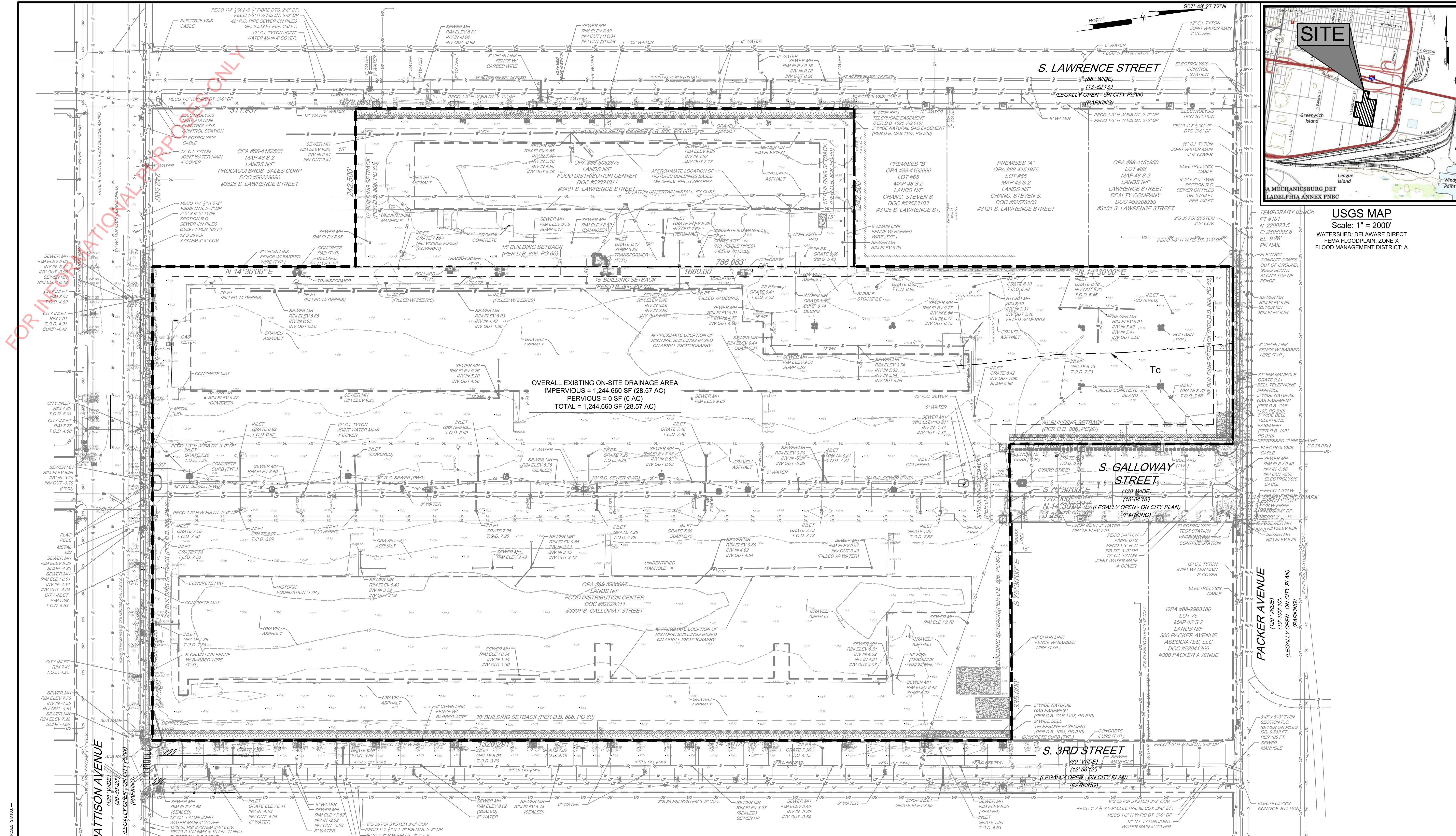
FOR INFORMATIONAL PURPOSES ONLY

APPENDIX F – DRAINAGE AREA PLANS

FOR INFORMATIONAL PURPOSES ONLY

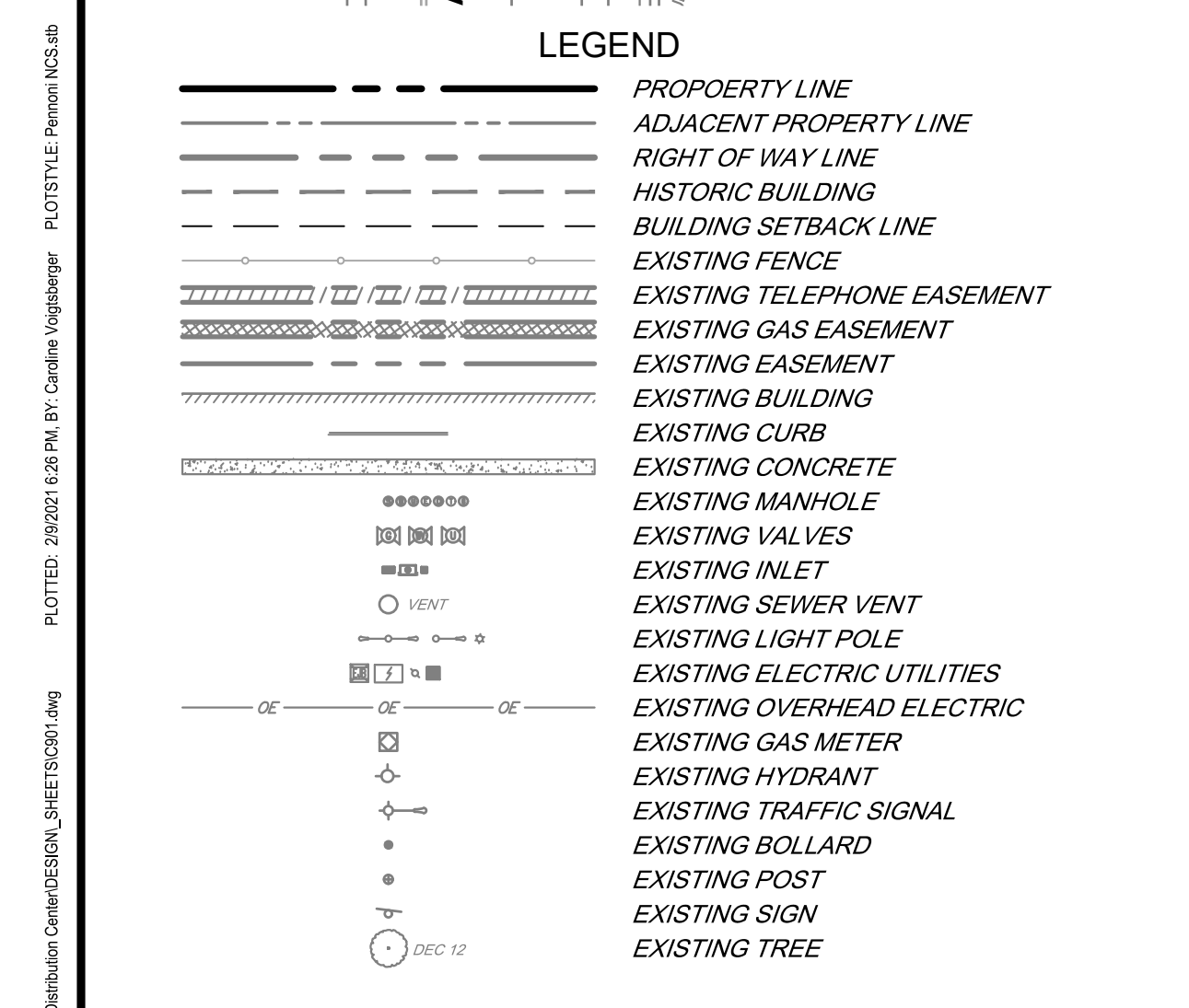
FOR INFORMATIONAL PURPOSES ONLY





**USGS MAP**  
Scale: 1" = 2000'  
WATERSHED: DELAWARE DIRECT  
FEMA FLOODPLAIN ZONE X  
FLOOD MANAGEMENT DISTRICT: A

**OVERALL EXISTING ON-SITE DRAINAGE AREA**  
IMPERVIOUS = 1,244,660 SF (28.57 AC)  
PERVIOUS = 0 SF (0 AC)  
TOTAL = 1,244,660 SF (28.57 AC)



**NOTES:**  
**SITE INFORMATION:**  
CURRENT SITE ADDRESS:  
3308 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
PHILADELPHIA, PA 19148  
OPA #S: 88800007 & 88802675  
**OWNER/APPLICANT:**  
PHILADELPHIA REGIONAL PORT AUTHORITY  
3460 NORTH DELAWARE AVENUE  
PHILADELPHIA, PA 19134  
**DESIGNER:**  
PENNONI  
1900 MARKET STREET, SUITE 300  
PHILADELPHIA, PA 19103  
**SITE NOTES:**  
1. A FIELD SURVEY OF THE SITE WAS PERFORMED BY PENNONI ASSOCIATES IN APRIL 2017.  
2. LOCATIONS OF ON AND OFF SITE UTILITIES AS SHOWN ARE APPROXIMATE AND MAY OR MAY NOT BE COMPLETE. THE NATURE AND EXACT LOCATION OF EXISTING UTILITIES SHOULD BE VERIFIED PRIOR TO INITIATING ANY ACTIVITY THAT MAY AFFECT THEIR USE OR LOCATION.  
3. THE LOCATION OF THE EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM EXISTING UTILITY RECORDS AVAILABLE AT THE TIME THESE PLANS WERE PREPARED AND FROM SURFACE OBSERVATION OF THE SITE. COMPLETENESS OR ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES AND STRUCTURES IS NOT GUARANTEED.  
4. IN ACCORDANCE WITH PA ACT 287 OF 1978 AS AMENDED BY PA ACT 121 OF 2008 ENTITLED "UNDERGROUND UTILITY LINE PROTECTION LAW", THE CONTRACTOR SHALL NOTIFY ALL UTILITIES WITHIN THE WORK AREA VIA THE PENNSYLVANIA ONE CALL SYSTEM, INC. (800-242-1776) A MINIMUM OF 3 WORKING DAYS BEFORE THE START OF EXCAVATION.  
5. THE CONTRACTOR SHALL VERIFY LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.  
6. IF CONFLICTS ARE FOUND THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND DESIGN ENGINEER FOR INSTRUCTION BEFORE PROCEEDING WITH WORK.  
7. ALL BOUNDARY DIMENSIONS SHOWN ARE IN CITY OF PHILADELPHIA DISTRICT STANDARD MEASURE (DS) UNLESS DESIGNATED (US) TO DENOTE U.S. SURVEY FOOT.  
8. THE HORIZONTAL DATUM FOR THIS PROJECT REFERENCES THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NORTH AMERICAN DATUM OF 1983.  
9. THE VERTICAL DATUM FOR THIS PROJECT REFERENCES THE VERTICAL DATUM OF THE CITY OF PHILADELPHIA (CITY).

**PRE-CONSTRUCTION DRAINAGE AREA SUMMARY**

ON-SITE LIMIT OF DISTURBANCE		
	COVER	TOTAL
PERVIOUS	0	0
IMPERVIOUS	1,244,660	28.57
<b>TOTAL SITE</b>	<b>1,244,660</b>	<b>28.57</b>

**LIMIT OF DISTURBANCE - NPDES BOUNDARY**

DRAINAGE AREA	AREA (SF.)	AREA (AC.)
PERVIOUS	0	0
IMPERVIOUS	1259822	28.92
<b>20% MEADOW FROM IMPERVIOUS</b>	<b>251,964</b>	<b>5.78</b>
<b>ADJUSTED IMPERVIOUS "PRE IMP"</b>	<b>1,007,858</b>	<b>23.14</b>
<b>ADJUSTED MEADOW "PRE MEADOW"</b>	<b>251,964</b>	<b>5.78</b>
<b>TOTAL LOD</b>	<b>1259822</b>	<b>28.92</b>

**UTILITY INFORMATION:**

REFERENCE IS MADE TO PENNSYLVANIA ONE CALL SYSTEM, ASSIGNED SERIAL NUMBER 20152081322 & 20152081309. IN ACCORDANCE WITH PA ACT 287 OF 1974, AS AMENDED BY PA ACT 121 OF 2008, ENTITLED "UNDERGROUND UTILITY LINE PROTECTION LAW", THE CONTRACTOR SHALL NOTIFY ALL UTILITIES WITHIN THE WORK AREA, VIA THE PENNSYLVANIA ONE CALL SYSTEM, A MINIMUM OF 3 WORKING DAYS BEFORE THE START OF EXCAVATION. (800) 242-1776

**COMPANY: USIC**  
ADDRESS: 480 S HENDERSON RD SUITE B KING OF PRUSSIA, PA 19406  
CONTACT: NIKKIA SIMPKINS  
EMAIL: NIKKIASIMPKINS@USICLLC.COM

**COMPANY: PHILADELPHIA CITY WATER DEPARTMENT**  
ADDRESS: 1101 MARKET STREET 2ND FLOOR AREA TOWER PHILADELPHIA, PA 19107  
CONTACT: ERIC PONERT  
EMAIL: eric.ponert@phila.gov

**COMPANY: ZAYO BANDWIDTH FORMERLY PPL TELCOM LLC**  
ADDRESS: 1080 HARDEEN DR ARDEN, MD 21011  
CONTACT: GEORGE HUSS  
EMAIL: george.huss@zayo.com

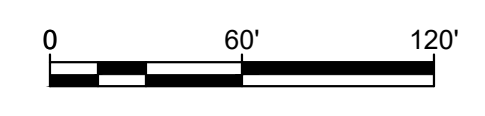
**COMPANY: PHILADELPHIA CITY DEPARTMENT OF STREETS**  
ADDRESS: 1401 JFK BLVD ROOM 840 MSB PHILADELPHIA, PA 19102  
CONTACT: JOSEPH KISIEL  
EMAIL: joseph.kisiel@phila.gov

**COMPANY: PHILADELPHIA GAS WORKS**  
ADDRESS: 800 W MONTGOMERY AVE PHILADELPHIA, PA 19122  
CONTACT: JAMES BOCHANANSKI

**COMPANY: CENTURYLINK FORMERLY EMBARO**  
ADDRESS: 700 W MINERAL AVE GRID NO: U700-D27.34 LITTLETON, CO 80120  
CONTACT: GEORGE MELVIN  
EMAIL: george.melvin@centurylink.com

**COMPANY: VERIZON BUSINESS FORMERLY MCI**  
ADDRESS: 2400 N GLENVILLE RICHARDSON, TX 75082  
CONTACT: DEAN BOYERS  
EMAIL: dean.boyers@verizon.com

**COMPANY: VERIZON PENNSYLVANIA LLC**  
ADDRESS: 180 SHEREE BLVD STE 2100 ROOM N/A EXTON, PA 19341  
CONTACT: KELLY B. BOUM  
EMAIL: kelly.b.boum@verizon.com



**PENNONI ASSOCIATES INC.**  
1900 Market Street, Suite 300  
Philadelphia, PA 19103  
T 215.222.3000 F 215.222.3588

---

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR DISCREPANCIES BEFORE PROCEEDING WITH WORK

---

PHILADELPHIA REGIONAL PORT AUTHORITY  
3460 NORTH DELAWARE AVENUE  
PHILADELPHIA, PA 19134

---

EXISTING DRAINAGE AREA MAP

---

PHILADELPHIA REGIONAL PORT AUTHORITY  
3308 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
PHILADELPHIA, PA 19148

---

NO.	REVISIONS	DATE

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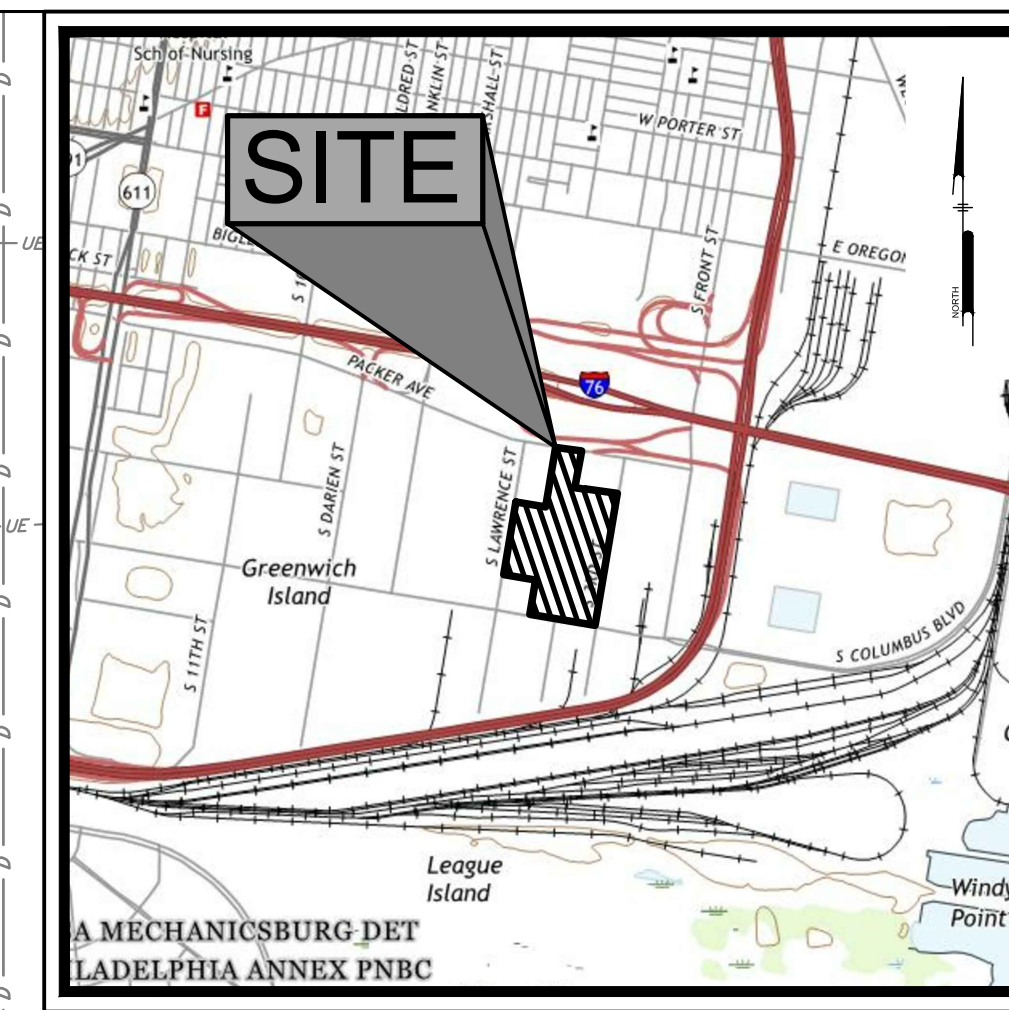
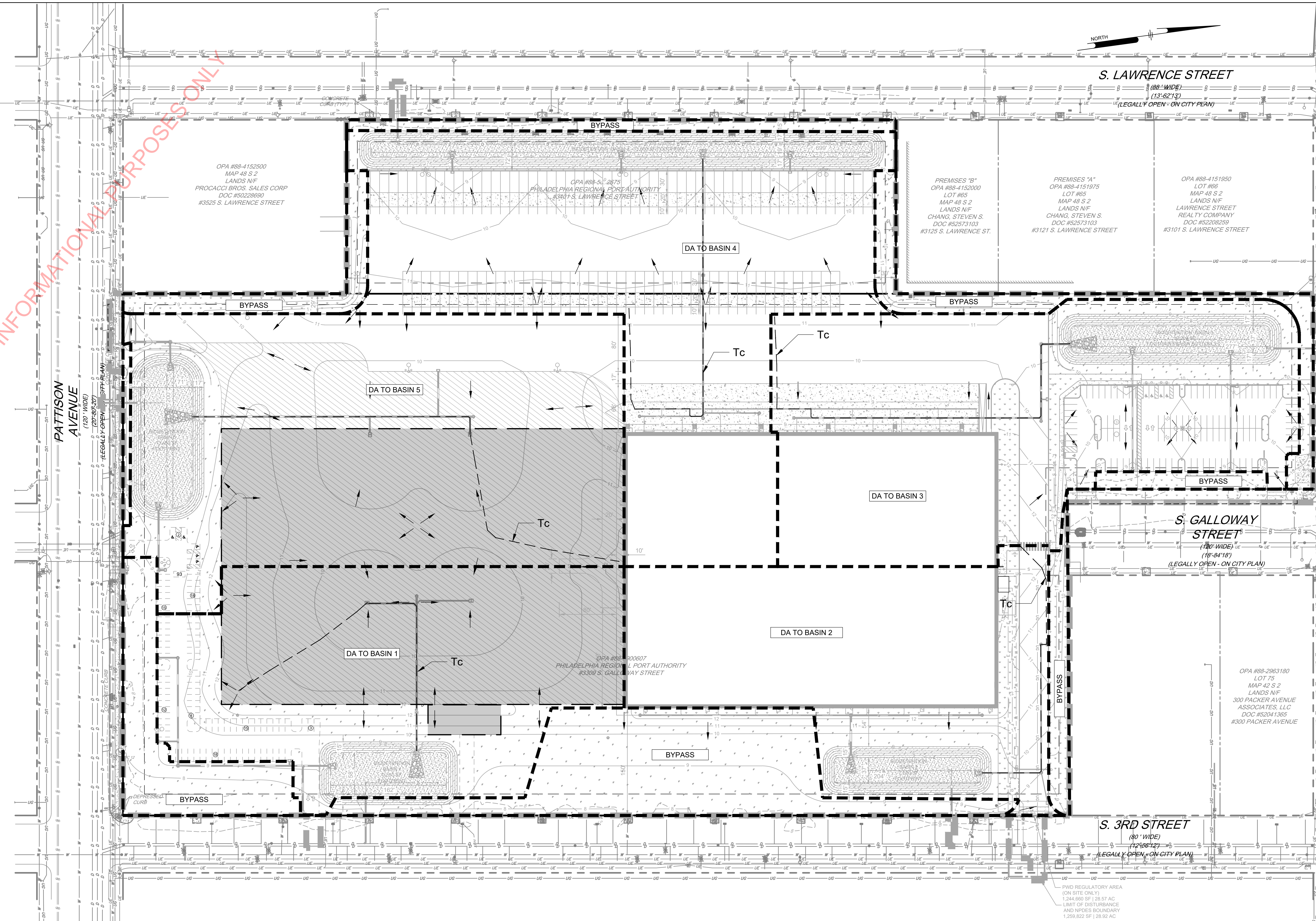
PROJECT: 20-028.1  
DATE: 2019-05-30  
DRAWING SCALE: 1"=60'  
DRAWN BY: CHD  
APPROVED BY: KEW

**C901**

SHEET 1 OF 2



FOR INFORMATIONAL PURPOSES ONLY



**USGS MAP**  
Scale: 1" = 2000'  
WATERSHED: DELAWARE DIRECT  
FEMA FLOODPLAIN: ZONE X  
FLOOD MANAGEMENT DISTRICT: A

**Pennoni**  
PENNONI ASSOCIATES INC.  
1900 Market Street, Suite 300  
Philadelphia, PA 19103  
T 215.222.3000 F 215.222.3588

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR  
DISCREPANCIES BEFORE PROCEEDING WITH WORK

**PHILAPORT DISTRIBUTION CENTER NEW DRY WAREHOUSE**  
3308 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
PHILADELPHIA, PA 19148

**POST CONSTRUCTION DRAINAGE PLAN**

PHILADELPHIA REGIONAL PORT AUTHORITY  
3401 NORTH DELAWARE AVENUE  
PHILADELPHIA, PA 19104

NO.	DATE	BY	REVISIONS
1	2019-05-30	CHD	60% DESIGN DOCUMENTS & PWD COMMENTS
2	2019-05-30	CHD	PWD COMMENTS

PROJECT: 20-028.1  
DATE: 2019-05-30  
DRAWING SCALE: 1"=60'  
DRAWN BY: CHD  
APPROVED BY: KEW

**C902**  
SHEET 2 OF 2

**LEGEND**

- PROPERTY LINE
  - ADJACENT PROPERTY LINE
  - RIGHT OF WAY LINE
  - HISTORIC BUILDING
  - EXISTING SETBACK LINE
  - EXISTING FENCE
  - EXISTING TELEPHONE EASEMENT
  - EXISTING GAS EASEMENT
  - EXISTING EASEMENT
  - EXISTING BUILDING
  - EXISTING CURB
  - EXISTING CONCRETE
  - EXISTING MANHOLE
  - EXISTING VALVES
  - EXISTING INLET
  - EXISTING SEWER VENT
  - EXISTING LIGHT POLE
  - EXISTING ELECTRIC UTILITIES
  - EXISTING OVERHEAD ELECTRIC
  - EXISTING GAS METER
  - EXISTING HYDRANT
  - EXISTING TRAFFIC SIGNAL
  - EXISTING BOLLARD
  - EXISTING POST
  - EXISTING SIGN
  - EXISTING TREE
- PROPOSED LIMIT OF DISTURBANCE
  - PROPOSED PWD REGULATORY AREA
  - PROPOSED CURB
  - PROPOSED EDGE OF PAVEMENT
  - PROPOSED FUTURE BUILDING
  - PROPOSED STORM SEWER
  - PROPOSED SANITARY SEWER
  - PROPOSED FIRE SERVICE
  - PROPOSED WATER SERVICE
  - PROPOSED ELECTRIC SERVICE
  - PROPOSED GAS SERVICE
  - PROPOSED SURFACE UTILITIES
  - PROPOSED STOP BAR
  - PROPOSED SIGN
  - PROPOSED MAJOR CONTOUR
  - PROPOSED MINOR CONTOUR
  - PROPOSED FLOW ARROW
  - PROPOSED SPOT ELEVATION
  - PROPOSED HEADWALL AND RIP RAP APRON
  - PROPOSED FENCE/ GUIDE RAIL
  - PROPOSED LAWN AREAS
  - PROPOSED PAVEMENT
  - PROPOSED CRUSHED CONCRETE/ASPHALT
  - PROPOSED CONCRETE
  - SAWCUT AND PAVEMENT RESTORATION

PROPOSED STORMWATER MANAGEMENT PLAN - SUMMARY

SYSTEM	DRAINAGE AREA	DOIA (SF)	SMP AREA	LOADING RATIO	TYPE	DOIA DRAINAGE AREA DESCRIPTION	POLLUTION REDUCING SMP
BASIN 1	181,031	124,439	0,359	14.41	BIO RETENTION BASIN	LANDSCAPE AREA OF FUTURE DEVELOPMENT	BIO RETENTION
BASIN 2	161,650	120,070	7,500	16.01	BIO RETENTION BASIN	DRIVEWAY, ROOF RUNOFF	BIO RETENTION
BASIN 3	220,390	161,801	10,200	15.91	BIO RETENTION BASIN	PARKING, LOADING AREA RUNOFF	BIO RETENTION
BASIN 4	299,545	217,227	13,600	16.01	BIO RETENTION BASIN	TRAILER PARKING RUNOFF	BIO RETENTION
BASIN 5	290,029	212,659	13,450	15.81	BIO RETENTION BASIN	LANDSCAPE AREA, DRIVEWAY RUNOFF	BIO RETENTION
BYPASS	172,215	0	0	-	BYPASS		
<b>TOTAL</b>	<b>1,244,860</b>	<b>842,341</b>	<b>54,100</b>				

STORMWATER MANAGEMENT FOR WATER QUALITY

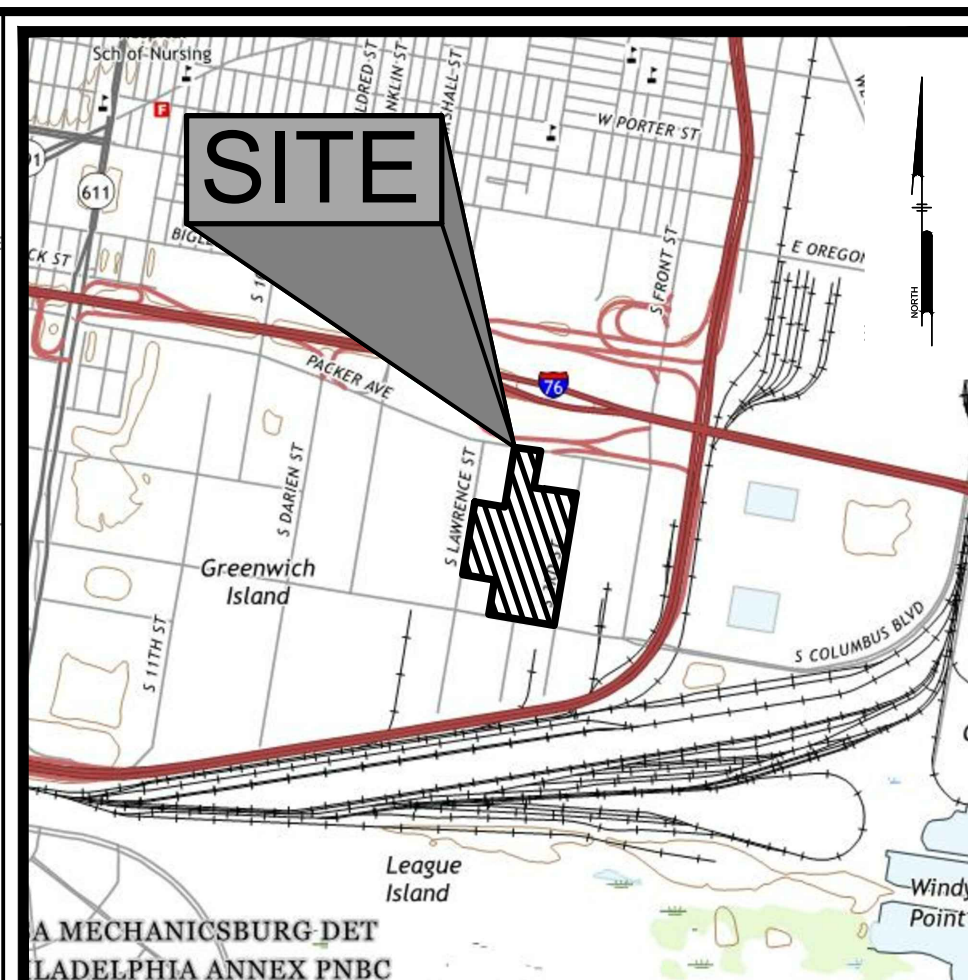
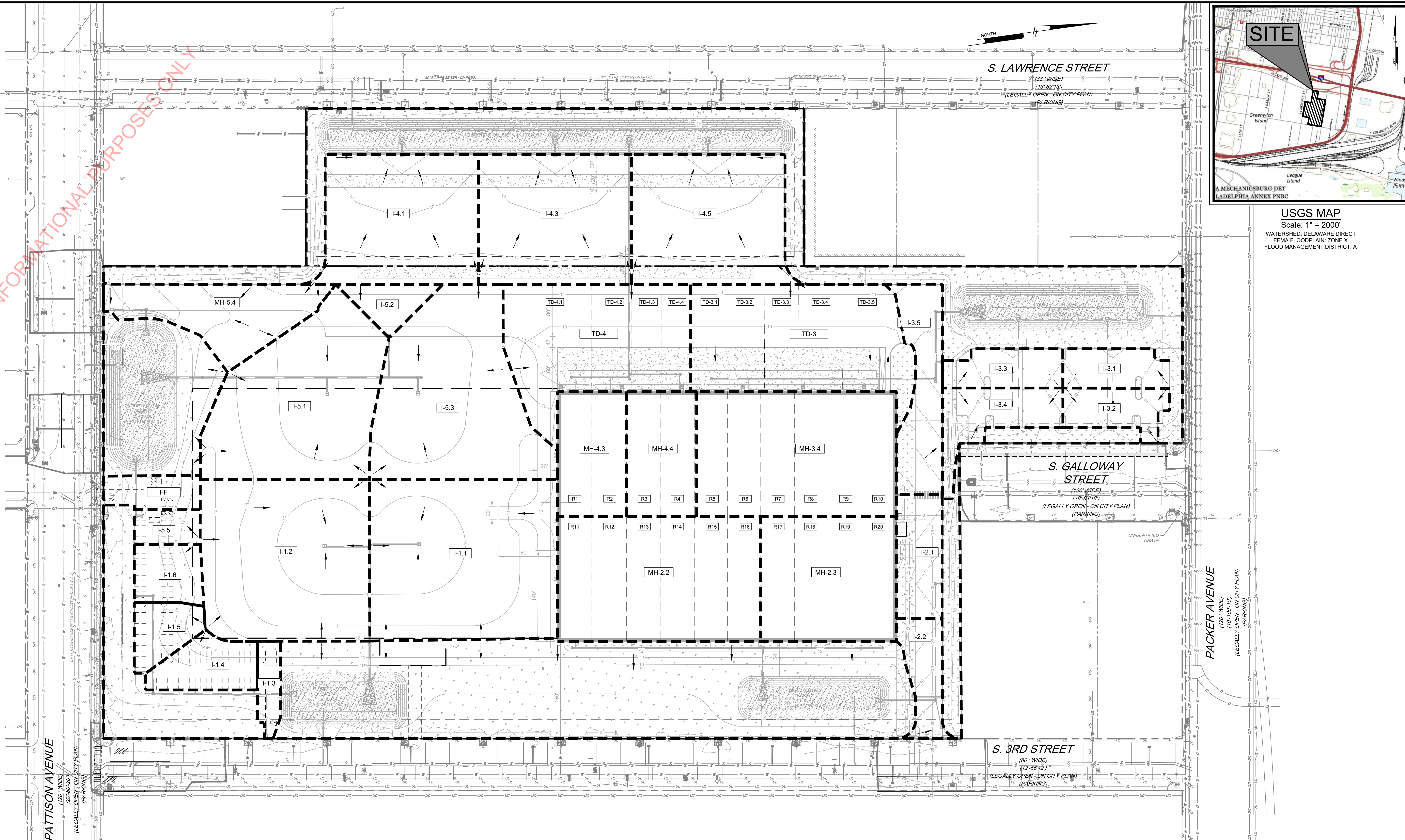
TOTAL LIMIT OF DISTURBANCE	1,259,822 SF
PWD REGULATED AREA	1,244,660 SF
BYPASS AREA	172,015 SF
PROPOSED ROOF AREA MANAGED BY UNDERGROUND BASIN	0
UNDISTURBED AREA MANAGED BY GREEN ROOF	0
<b>TOTAL MANAGED AREA</b>	<b>1,072,645 SF</b>

PWD REGULATORY AREA (ON SITE ONLY)  
1,244,660 SF / 28.57 AC  
LIMIT OF DISTURBANCE AND NPDES BOUNDARY  
1,259,822 SF / 28.92 AC

PROJECT STATUS: PLOTTED: 2020/05/28 BY: CAROL WINGARDY, PROJECT: PHILAPORT DISTRIBUTION CENTER NEW DRY WAREHOUSE



FOR INFORMATIONAL PURPOSES ONLY



**USGS MAP**  
Scale: 1" = 2000'  
WATERSHED: DELAWARE DIRECT  
FEMA FLOODPLAIN: ZONE X  
FLOOD MANAGEMENT DISTRICT: A

**Pennoni**  
PENNONI ASSOCIATES INC.  
1900 Market Street, Suite 300  
Philadelphia, PA 19103  
T: 215.222.3000 F: 215.222.3688

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR  
DISCREPANCIES BEFORE PROCEEDING WITH WORK

**PHILAPORT DISTRIBUTION CENTER NEW DRY WAREHOUSE**  
3308 SOUTH GALLOWAY STREET & 3401 SOUTH LAWRENCE STREET  
PHILADELPHIA, PA 19148  
**INLET DRAINAGE PLAN**  
PHILADELPHIA REGIONAL PORT AUTHORITY  
340 NORTH DELAWARE AVENUE  
PHILADELPHIA, PA 19104

NO.	DATE	BY	REVISIONS
1	2019/04/12	CHD	60% DESIGN DOCUMENTS & PWD COMMENTS
2	2019/04/24	CHD	100% COMMENTS

PROJECT: 20-028.1  
DATE: 2019-05-30  
DRAWING SCALE: 1"=60'  
DRAWN BY: CHD  
APPROVED BY: KEW

**C903**  
SHEET 1 OF 1

**LEGEND**

	PROPERTY LINE		PROPOSED LIMIT OF DISTURBANCE
	ADJACENT PROPERTY LINE		PROPOSED PWD REGULATORY AREA
	RIGHT OF WAY LINE		PROPOSED EDGE OF PAVEMENT
	HISTORIC BUILDING		PROPOSED BUILDING
	BUILDING SETBACK LINE		PROPOSED FUTURE BUILDING
	EXISTING FENCE		PROPOSED STORM SEWER
	EXISTING TELEPHONE EASEMENT		PROPOSED SANITARY SEWER
	EXISTING GAS EASEMENT		PROPOSED FIRE SERVICE
	EXISTING EASEMENT		PROPOSED WATER SERVICE
	EXISTING BUILDING		PROPOSED ELECTRIC SERVICE
	EXISTING CURB		PROPOSED SURFACE UTILITIES
	EXISTING CONCRETE		PROPOSED STOP BAR
	EXISTING MANHOLE		PROPOSED SIGN
	EXISTING VALVES		PROPOSED MAJOR CONTOUR
	EXISTING INLET		PROPOSED MINOR CONTOUR
	EXISTING SEWER VENT		PROPOSED FLOW ARROW
	EXISTING LIGHT POLE		PROPOSED SPOT ELEVATION
	EXISTING ELECTRIC UTILITIES		PROPOSED HEADWALL AND RIP RAP APRON
	EXISTING OVERHEAD ELECTRIC		PROPOSED FENCE/GUIDE RAIL
	EXISTING GAS METER		PROPOSED LAWN AREAS
	EXISTING HYDRANT		PROPOSED PAVEMENT
	EXISTING TRAFFIC SIGNAL		PROPOSED CRUSHED CONCRETE/ASPHALT
	EXISTING BOLLARD		PROPOSED CONCRETE
	EXISTING POST		SAWCUT AND PAVEMENT RESTORATION
	EXISTING SIGN		FUTURE PARKING
	EXISTING TREE		DRAINAGE AREA BOUNDARY

Drainage Area	Total DA (Ac)	Impervious (Ac)	Pervious (Ac)	Impervious	Pervious	Sum (c'ft)	c-value
I-1.1	1.64	1.64	0.00	1.560	0.000	1.560	0.95
I-1.2	1.48	1.48	0.00	1.401	0.000	1.401	0.95
I-1.3	0.11	0.08	0.03	0.080	0.010	0.090	0.80
I-1.4	0.27	0.20	0.07	0.192	0.024	0.216	0.80
I-1.5	0.20	0.15	0.05	0.143	0.018	0.161	0.80
I-1.6	0.22	0.16	0.06	0.154	0.019	0.173	0.80
I-2.1	0.31	0.16	0.15	0.153	0.052	0.205	0.66
I-2.2	0.24	0.14	0.10	0.131	0.035	0.165	0.70
MH-2.2	0.93	0.93	0.00	0.880	0.000	0.880	0.95
MH-2.3	1.39	1.39	0.00	1.317	0.000	1.317	0.95
TD-3	1.28	1.20	0.08	1.141	0.029	1.170	0.91
I-3.1	0.22	0.21	0.01	0.200	0.004	0.203	0.92
I-3.2	0.23	0.22	0.01	0.213	0.004	0.216	0.92
I-3.3	0.24	0.21	0.03	0.200	0.011	0.210	0.87
I-3.4	0.33	0.20	0.03	0.190	0.011	0.201	0.60
I-3.5	0.45	0.41	0.04	0.391	0.013	0.404	0.80
MH-3.4	1.36	1.36	0.00	1.292	0.000	1.292	0.95
TD-4	1.16	1.16	0.00	1.099	0.000	1.099	0.95
I-4.1	1.10	1.10	0.00	1.043	0.000	1.043	0.95
I-4.3	1.09	1.09	0.00	1.032	0.000	1.032	0.95
I-4.5	1.10	1.10	0.00	1.043	0.000	1.043	0.95
MH-4.3	0.47	0.47	0.00	0.446	0.000	0.446	0.95
MH-4.4	0.46	0.46	0.00	0.440	0.000	0.440	0.95
I-5.1	1.37	1.37	0.00	1.298	0.000	1.298	0.95
I-5.2	0.16	0.16	0.00	0.148	0.000	0.148	0.95
I-5.3	1.44	1.44	0.00	1.364	0.000	1.364	0.95
I-5.4	0.59	0.59	0.00	0.564	0.000	0.564	0.95
I-5.5	0.13	0.10	0.03	0.091	0.011	0.102	0.80
I-F	0.17	0.13	0.04	0.122	0.015	0.137	0.80
R1-R20	0.23	0.23	0.00	0.218	0.000	0.218	0.94

Drainage Area	Total DA (Ac)	Impervious (Ac)	Pervious (Ac)	Impervious	Pervious	Sum (c'ft)	c-value
TD-4.1	0.58	0.58	0.00	0.549	0.000	0.549	0.95
TD-4.2	0.23	0.23	0.00	0.219	0.000	0.219	0.95
TD-4.3	0.18	0.18	0.00	0.166	0.000	0.166	0.95
TD-4.4	0.17	0.17	0.00	0.164	0.000	0.164	0.95
TD-4	1.16	1.16	0.00	1.098	0.000	1.098	0.95
TD-3.1	0.21	0.21	0.00	0.201	0.000	0.201	0.95
TD-3.2	0.22	0.22	0.00	0.208	0.000	0.208	0.95
TD-3.3	0.20	0.20	0.00	0.191	0.000	0.191	0.95
TD-3.4	0.25	0.25	0.00	0.241	0.000	0.241	0.95
TD-3.5	0.40	0.31	0.08	0.299	0.029	0.328	0.83
TD-3	1.28	1.28	0.00	1.219	0.000	1.219	0.95