SITE PLAN REVIEW TECHNICAL ADVISORY COMMITTEE PORTSMOUTH, NEW HAMPSHIRE

CONFERENCE ROOM A CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE

Members of the public also have the option to join the meeting over Zoom (See below for more details)*

2:00 PM

July 5, 2023

AGENDA

I. APPROVAL OF MINUTES

A. Approval of minutes from the June 6, 2023 Site Plan Review Technical Advisory Committee Meeting.

II. NEW BUSINESS

A. The request of Aviation Avenue Group LLC (Applicant), for property located at 80 Rochester Avenue (100 New Hampshire Avenue) requesting Amended Site Plan Approval for construction of a 101,200 sq. ft. footprint including 4,700 sq. ft. of office space and associated site improvements consisting of parking, loading docks, underground utilities, landscaping, lighting, and a stormwater management system. Said property is located on Assessor Map 308 Lot 1 and lies within the Pease Industrial (PI) District. (LU-22-210)

III. OTHER BUSINESS

IV. ADJOURNMENT

https://us06web.zoom.us/webinar/register/WN_qmpQ3vBzSDiXAJumbMT74Q

SITE PLAN REVIEW TECHNICAL ADVISORY COMMITTEE PORTSMOUTH, NEW HAMPSHIRE

CONFERENCE ROOM A CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE

2:00 PM

June 6, 2023

MINUTES

MEMBERS PRESENT:

	Peter Stith, Chairperson, Planning Manager; David Desfosses, Construction Technician Supervisor; Patrick Howe, Deputy Fire Chief; Shanti Wolph, Chief Building
	Cronin, Assistant City Engineer, Eric Eby, Parking and Transportation Engineer; Mike Maloney; Deputy Police Chief
MEMBERS ABSENT:	Peter Britz, Director of Planning & Sustainability

ADDITIONAL	
STAFF PRESENT:	Kate Homet. Associate Environmental Planner

I. APPROVAL OF MINUTES

A. Approval of minutes from the May 2, 2023 Site Plan Review Technical Advisory Committee Meeting.

P. Howe made a motion to approve the May meeting minutes. N. Cracknell seconded the motion. The motion passed unanimously.

II. NEW BUSINESS

A. The request of CP Management Inc (Applicant) and Sarnia Properties INC, (Owner), for property located at 933 US Route 1 BYP requesting a Conditional Use Permit in accordance with Section 10.1112.14 of the Zoning Ordinance to provide 83 parking spaces where 114 are required. Said property is located on Assessor Map 142 Lot 37 and lies within the Business (B) District. (LU-23-76)

SPEAKING TO THE APPLICATION

Chris Mulligan, Craig Annis (Vanguard Key Club), and Dana (?), the principal manager, came to present this application.

[7:21] Mr. Mulligan proceeded to describe the application and the proposed fitness center use, where the building owner will rent out the existing space with the same square footage in order to be a Vanguard Key Club fitness center. The applicants believed that the parking requirements are excessive and not necessary for this proposed use. They plan to use only the north corner of the parking lot as you are coming off of Emery Street. The proposed new tenant, Vanguard Key Club, would not require any staff parking. The current location of the facility on Raynes Avenue has 41 spaces which has been enough for that use currently.

Staff Comments:

- The supplemental information provided has answered my initial questions. I am satisfied that there will be enough parking available on or near the site to accommodate the change in use.
- Please update plan set to reflect proposed project and parking calculations.

The applicant will provide data on the parking usage at the current Vanguard Key Club location in Portsmouth to see if there are any shortages. The applicant is also in discussion with an abutting business that has different peak hours that may allow them to share or borrow parking. The applicant will need a conditional use permit for providing less than the required number of parking spaces but they are of the opinion that they have more than enough currently.

[10:20] E. Eby asked the applicant whether they would be re-striping the parking lot.

Mr. Annis responded that having the parking lot sealed and re-striped would be optimal.

[10:50] E. EBy asked if they would be constructing a new entrance to the building.

Mr. Annis responded that they would be. There is currently a concrete pad about 52 inches above the finished floor grade which they will add a glass door to, creating an entrance.

[11:53] Chairman Stith asked if there had been any consideration in constructing parking spaces in the back of the lot.

Mr. Annis responded that the area in the back was all for loading and unloading of large trucks.

PUBLIC HEARING

[12:28] Chairman Stith opened the public hearing. No one spoke. The public hearing was closed.

DISCUSSION AND DECISION OF THE BOARD

[12:58] D. Desfosses made a motion to recommend approval. E. Eby seconded the motion. The motion passed unanimously.

B. The request of **Murdock Living Trust (Owner)**, **15 Lafayette Road** requesting Preliminary and Final Subdivision Approval to subdivide one lot into two lots to create the following: Proposed Lot 1 to be 9,129 square feet of lot area and 73.8 feet of frontage and Proposed Lot 2 to be 8,172 square feet of lot area and 102 feet of frontage. Said property is located on Assessor Map 152 Lot 2 and lies within the General Residence A (GRA) and Historic Districts. (LU-23-26)

SPEAKING TO THE APPLICATION

[13:55] Bruce Scammon of James Verra Associates came to present this application on behalf of the Murdock Trust. They are proposing to add a new lot onto the site through a subdivision with no plans to develop the lot. A series of notes (13-18) had been added to the subdivision plan to require that any future developer would have to come in for any and all permits such as sewer, water, etc.

Staff Comments:

• *TAC does not recommend granting waivers. The information requested to be waived will be required for TAC to recommend approval to the Planning Board.*

Mr. Scammon noted that this information for the permits would be provided in the future at the time of development.

DISCUSSION AND DECISION OF THE BOARD

[17:11] D. Desfosses made a motion to approve the application with the stipulation that note 15 on the plans be corrected. S. Wolph seconded the motion. The motion passed unanimously.

C. The application of Banfield Realty, LLC (Owner), for property located at 375 Banfield Road requesting Site Plan review approval to demolish two existing commercial buildings and an existing shed and construct a 75,000 s.f. industrial warehouse building with 75 parking spaces as well as associated paving, stormwater management, lighting, utilities and landscaping. Said property is shown on Assessor Map 266 Lot 7 and lies within the Industrial (I) District. (LU-20-259)

SPEAKING TO THE APPLICATION

[18:21] Robert Graham of Banfield Realty LLC, Joseph Coronoti from Jones & Beach Engineers, Bill Wilcox from Wilcox and Barton, and Lynn Preston from Sheehan Phinney came to present this application. This application had previously been at TAC and was now back with NHDES approvals and EPA approvals for their remediation and work plans.

[19:31] Mr. Coronati proceeded to explain the proposed site work - including the construction of a 75,000 square foot industrial building and a driveway off of Banfield Road, with parking on site and loading in the back. The plans have not changed since 2021 but the applicants have obtained their alteration of terrain, wetland, and septic permits. They have already completed work involving shoring up the shoulders of the curbs on Banfield Road for trucks.

[21:05] Mr. Wilcox went on to describe the different NHDES and US EPA permits that had been acquired and the overall plan for remediation of onsite contaminants in the soils.

[21:53] D. Desfosses asked what the timeline was for the remediation.

Mr. Wilcox responded that it would happen concurrently with the project construction.

[22:30] Z. Cronin asked the applicants about the tap for the fire line coming off of Banfield Road, noting that the lines coming into the building and into the hydrant were both 6 inches. He noted that the line should be at least 8 inches coming off of Banfield until it splits into the two 6 inch lines.

Staff Comments:

- All traffic concerns were previously addressed.
- All DES conditions must be met
- Staff recommends applicant return to the conservation commission to reaffirm recommendation from 6/9/2021

PUBLIC HEARING

[23:37] Chairman Stith opened the public hearing.

David Ecker, a property owner at 422 Banfield Road, came to speak. Mr. Ecker passed out the original real estate listing for the applicant's property, a groundwater contamination report for the site, and multiple photos of the stream on his neighboring property. He mentioned that he would not like to see a building built on this property until it is completely cleaned up and the stream health is improved. He would prefer to see this property cleaned and turned into a park that would be dedicated to those displaced during Portsmouth's urban renewal era.

[35:14] Chairman Stith closed the public hearing.

DISCUSSION AND DECISION OF THE BOARD

[35:24] N. Cracknell asked if NHDES had signed off on the ability to sell the property and if they had agreed with the statement that all remediation was complete.

Mr. Graham responded that NHDES had told them that no further action was needed for an arsenic issue that had been under monitoring.

[36:44] N. Cracknell asked the applicants what had prompted further investigation into this site.

Mr. Graham noted that he was hired after the sale of the site and had done more research into the history of the site, which prompted him to send this information to the property owner and Mr. Wilcox. This led to the discovery that there were outstanding work orders from NHDES for this site that had not been completed by the former owners. The applicants went further into details about the applications with NHDES and the two remediation plans for the property.

[39:57] N. Cracknell asked what assures the City and the public that they would complete the project and remediation measures once the building is up.

Ms. Preston responded that under NHDES they are required to clean up the site and if the applicants did not clean it up, they would be subject to a lawsuit and their liability under owner operator liability.

[41:32] P. Howe brought up that one of the staff comments had suggested that the applicant go back to the Conservation Commission before the Planning Board for their Wetland Conditional Use Permit.

Chairman Stith noted that P. Britz had made that comment due to this application last being presented to the Commission two years ago for a Wetland Conditional Use Permit, which they received a recommendation for approval. But the applicant never went to the Planning Board for that permit and the Commission may want to reaffirm their position on this application before a Wetland Conditional Use Permit is sought again.

[43:11] S. Wolph asked for specific details on the proposed cap and its design to prevent contaminated soils and water from leaving the site.

Mr. Wilcox responded that they are proposing a cap on the upland portion of the site with a cap consisting of either the building foundation itself, asphalt or it could have two feet of clean fill material. He went on to explain the different phases of remediation, the purposes of the different cap components in containing different levels of contaminants and where the contaminated soil would be located on site.

[48:21] D. Desfosses asked if there would be any sort of liner with the cap, such as a landfill liner to prevent groundwater from touching the contaminated material.

Mr. Wilcox responded that there was no liner planned. The purpose of the cap is to prevent direct contact with the contaminated material. There would be a deed restriction put onto the property to prevent anyone from digging up the area of contamination. The materials that would be capped would be those contaminants between 400 and 4000 ppm of lead materials and PCB's between 1 and 10 ppm.

[49:49] N. Cracknell asked what would happen to the areas located outside of the cap, specifically those that are within the wetland buffer.

Mr. Wilcox responded that there was only a small area within the wetland buffer that is located where the stormwater outfall would go. This area would have two feet of clean soil material placed on top of it.

N. Cracknell asked if there was any contamination within the wetland and/or wetland buffer that would need remediation as well.

Mr. Wilcox noted that within the upland portion of the site that is currently being proposed it is just within that area near the proposed stormwater outfall where that contaminated soil will be removed and two feet clean soil will replace it.

[50:44] P. Howe asked if the lowland area was part of the remediation plan from NHDES.

Mr. Wilcox responded that the NHDES have approved their sampling plan for the lowland portion and once their sampling is done, they can start to create a remediation plan for that site with the approval of NHDES. Mr. Graham noted that on sites like these, they never allow you to tear up the whole site at once, everything needs to be phased which can take some time.

[52:12] Chairman Stith asked if the lowland portion of the site would require offsite or downstream testing of the contamination on the site.

Mr. Wilcox stated that the state has requested testing both up-gradient and down-gradient of the site, to the geographic extent that the data will show in future investigations.

[53:37] S. Wolph asked the applicant what the end use would be for the building.

Mr. Graham responded that they do not yet have a tenant for it.

[54:37] S. Wolph noted that the client is doing something, the plan is there and is approved by NHDES, and that since the remediation will be occurring, this would be a win-win.

[55:32] N. Cracknell mentioned that the applicant should make sure that the Planning Board has some sort of performance guarantee or surety that the remediation will be completed.

[57:21] S. Wolph asked if there was some sort of summary letter from NHDES and EPA that shows what the applicant was required to do and the penalties they would face if not completed.

Mr. Wilcox responded that this was not something that had been put into the rap but that the State holds them to a report that must be completed before 90 days post-construction that documents the completion of the project and allows for recording the deed restriction of the project.

N. Cracknell noted that the NHDES and EPA are the only experts that we have in these cases to refer to and depend on for jurisdictional overview for the environmental issues presented with this cleanup.

[1:056:22] N. Cracknell discussed what Planning & Sustainability Director Peter Britz had commented in an email to staff with comments for this application. Mr. Cracknell added in his own language and after discussion among TAC members and the applicants, created a stipulation of approval for this project and officially made a motion for approval. The stipulation reads as follows:

Subject to assurance and any required surety for performance provided to the Planning Board, the applicant shall conduct work in accordance with all requirements of the NHDES letter dated April 26, 2023, which includes investigation work in the proposed upland development areas, approval of an Activities and Use limitation and the completion of a remedial action implementation plan for the upland development area. In addition, as presented by the applicant, they shall continue their investigation of the lowland area, including full characterization of any reportable site contaminants in compliance with any and all remedial action plans or other permits from NHDES or the EPA.

[1:19:31] Z. Cronin added a second stipulation to the notion, that the fire service line shall be at least 8" in diameter up until where it splits to meet the two 6" lines.

[1:20:01] S. Wolph seconded the motion, the motion passed unanimously.

III. OTHER BUSINESS

IV. ADJOURNMENT

The meeting adjourned at 3:18 p.m.

Respectfully submitted,

Kate E. Homet Secretary for the Technical Advisory Committee



P0595-015 June 16, 2023

Mr. Peter Britz, Director of Planning and Sustainability City of Portsmouth Planning Department 1 Junkins Avenue Portsmouth, New Hampshire 03801

Re: Amended Site Review Permit Application Proposed Fidelitone Facility – 100 New Hampshire Avenue

Dear Peter:

On behalf of Aviation Avenue Group, LLC, we are pleased to submit the following amended information to support a request from the Planning Board for a recommendation of approval to the Pease Development Authority (PDA) for an Amended Site Plan Review Permit for the above referenced project:

- One (1) copy of the PDA Application for Site Review, dated June 16, 2023;
- One (1) copy of the Owner Authorization, dated October 25, 2022;
- One (1) full size & one (1) half size copy of the Site Plan Set, last revised June 16, 2023;
- One (1) copy of the Truck Turning Exhibit, last revised June 16, 2023;
- One (1) copy of the Drainage Analysis, last revised June 16, 2023;
- One (1) copy of the Trip Generation Memorandum, dated June 16, 2023;

On April 20, 2023, the Planning Board recommended approval to the PDA for an advanced manufacturing facility at 100 New Hampshire Avenue. The project is seeking amendments to the previously approved Site Plan for the applicant's prospective tenant, Fidelitone, which is a supply chain management company. The amended project consists of the construction of Fidelitone's facility, a proposed $\pm 101,200$ SF footprint that includes $\pm 4,700$ SF of office space and associated site improvements the consist of parking, loading docks, improvements to Rochester Avenue, pedestrian sidewalks, underground utilities, stormwater management, lighting and landscaping.

On June 15, 2023, the PDA Board granted concept approval for Fidelitone's facility. Thus, we respectfully request to be placed on the Technical Advisory Committee (TAC) meeting agenda for the July 5, 2023, meeting. If you have any questions or need any additional information, please contact Patrick Crimmins by phone at (603) 433-8818 or by email at <u>pmcrimmins@tighebond.com</u>.

Sincerely, **TIGHE & BOND, INC.**

Patrick M. Crimmins, PE Vice President

Copy: Aviation Avenue Group, LLC (via email) Pease Development Authority

Neil A. Hansen, PE Project Manager

Pease Development Authority 55 International Drive, Portsmouth, NH 03801, (603) 433-6088



Application for Site Review

For PDA Use Only			
Date Submitted:	Municipal Review:	Fee:	
Application Complete:	Date Forwarded:	Paid:	Check #:

Applicant Information

Applicant: Aviation Avenue Group, LLC	Agent: Tighe & Bond
Address: 210 Commerce Way, Suite 300, Portsmouth, NH	Address: 177 Corporate Drive Portsmouth, NH
Business Phone: 603-430-4000	Business Phone: 603-433-8818
Mobile Phone:	Mobile Phone:
Fax: 603-430-8940	Fax:

Site Information

Portsmouth Tax Map: 308	Lot #: 1	Zone: Pease Industrial (PI)			
Site Address / Location : 80 Rochester Ave (100 New Hampshire Ave)					
Site Address / Location : Area of On-site Wetlands:					

Activity Information

Change of lies: Ves IVI No. 1.1. Evicting liss: Ve came
Proposed Use: Manufacturing
Description of Project: The proposed project is for the construction of a ±101,200 SF
Fidelitone facility including $\pm 4,700$ SF of office space, parking areas, loading dock
areas, minor realignment of a portion of Rochester Avenue, and associated site
improvements consisting of underground utilities, landscaping, lighting, and a
ctormwater management system
stormwater management system.
All above information shall be shown on a site plan submitted with this application. Provide 3 full size hard copies and one
PDF copy of all application materials as well as one half-size set of drawings to PDA. Applicant shall supply additional copies a
may be required by applicable municipality. Refer to Chapter 400 of PDA land Use Controls for additional information.
Certification
I hereby certify under the penalties of perjury that the foregoing information and accompanying plans, documents, and supporting data
are true and complete to the best of my knowledge. I hereby apply for Site Review and acknowledge I will comply with all regulations and

any conditions established by the Review Committee(s) and PDA Board in the development and construction of this project. Signature of Applicant Neil A. Hansen A complete to the best of my knowledge. I hereby apply for Site Review and acknowledge I will comply with all regulation any conditions established by the Review Committee(s) and PDA Board in the development and construction of this project. 6/16/23 Date Date

Printed Name

N:\Engineer\ ApplicationforSiteReview.xlsx

<u>AUTHORIZATION</u> <u>100 New Hampshire Avenue</u> <u>Map 308, Lot 1</u>

The undersigned owner of the above referenced property hereby authorizes representatives of Bosen & Associates, PLLC, and Tighe & Bond to represent the company's interests before the Portsmouth land use boards and to submit any and all applications and materials related thereto on its behalf.

Date: October 25, 2022

Aviation Avenue Group, LLC By: Name: John STERISTIZ Title: Manacone MRMBRN

PROPOSED FIDELITONE FACILITY 100 NEW HAMPSHIRE AVENUE PORTSMOUTH, NEW HAMPSHIRE PERMIT DRAWINGS DECEMBER 10, 2022 LAST REVISED: JUNE 16, 2023

	LIST OF DRAWINGS				
SHEET NO.	SHEET TITLE	LAST REVISED			
	COVER SHEET	06/16/2023			
1 OF 8	EXISTING CONDITIONS PLAN	09/21/2022			
2 OF 8	EXISTING CONDITIONS PLAN	09/21/2022			
7 OF 8	EXISTING CONDITIONS PLAN	09/21/2022			
8 OF 8	EXISTING CONDITIONS PLAN	09/21/2022			
C-101	OVERALL EXISTING CONDITIONS / DEMOLITION PLAN	06/16/2023			
C-101.1	EXISTING CONDITIONS / DEMOLITION PLAN	06/16/2023			
C-101.2	EXISTING CONDITIONS / DEMOLITION PLAN	06/16/2023			
C-102	OVERALL SITE PLAN	06/16/2023			
C-102.1	SITE PLAN	06/16/2023			
C-102.2	SITE PLAN	06/16/2023			
C-103	OVERALL GRADING, DRAINAGE & EROSION CONTROL PLAN	06/16/2023			
C-103.1	GRADING, DRAINAGE & EROSION CONTROL PLAN	06/16/2023			
C-103.2	GRADING, DRAINAGE & EROSION CONTROL PLAN	06/16/2023			
C-104	UTILITY PLAN	06/16/2023			
C-105	OVERALL LANDSCAPE PLAN	06/16/2023			
C-105.1	LANDSCAPE PLAN	06/16/2023			
C-105.2	LANDSCAPE PLAN	06/16/2023			
C-501	EROSION CONTROL NOTES & DETAILS SHEET	06/16/2023			
C-502	DETAILS SHEET	06/16/2023			
C-503	DETAILS SHEET	06/16/2023			
C-504	DETAILS SHEET	06/16/2023			
C-505	DETAILS SHEET	06/16/2023			
C-506	DETAILS SHEET	06/16/2023			
A1.03	PROPOSED EXTERIOR ELEVATIONS	06/16/2023			
C-701	PHOTOMETRICS PLAN	06/16/2023			
A1.03 C-701	PROPOSED EXTERIOR ELEVATIONS PHOTOMETRICS PLAN	06/16/20 06/16/20			





PREPARED BY:

Fighe&Bond Portsmouth New Hampshire, 03801 603.433.8818

LESSOR:

Pease Development Authority 55 International Drive Portsmouth, NH 03801 603.433.6088

APPLICANT:

Aviation Avenue Group, LLC 210 Commerce Way, Suite 300 Portsmouth New Hampshire, 03801 603.427.5500

LOCATION MAP SCALE: 1" = 2,000'

WILDLIFE PROTECTION NOTES:

 ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: NHB23-0148, PROPOSED ADVANCED MANUFACTURING FACILITY, WILDLIFE SPECIES OBSERVATION. PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHF&G IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION AS FEASIBLE. IN THE EVENT A THREATENED OR ENDANGERED SPECIES IS OBSERVED ON THE PROJECT SITE DURING THE TERM OF THE PERMIT, THE SPECIES SHALL NOT BE DISTURBED, HANDLED, OR HARMED IN ANY WAY PRIOR TO CONSULTATION WITH NHF&G AND IMPLEMENTATION OF

CORRECTIVE ACTIONS RECOMMENDED BY NHF&G, IF ANY, TO ASSURE THE PROJECT DOES NOT APPRECIABLY JEOPARDIZE THE CONTINUED EXISTENCE OF THREATENED AND ENDANGERED SPECIES AS DEFINED IN FIS 1002.04.

• THE NHF&G, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT









Serving Your Professional Surveying & Mapping Nee 102 Kent Place, Newmarket, NH 03857 (603) 659-6560 2 Commerce Drive (Suite 202) Bedford, NH 03110 (603) 614-4060 10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005 http://www.doucetsurvey.com



	1.	REFERENCE:	PEASE HANGAR 227 AREA (ENCOMPASSING PARTS OF NEW HAMPSHIRE AVE, AVIATION AVE, STRATHAM ST, ROCHESTER AVE, NEWFIELD ST, LEE STREET, & FLIGHTLINE ROAD IN PORTSMOUTH, NH) D.S.I. PROJECT NO. 7239		
<text></text>	2.	OWNER OF RECORD:	PEASE DEVELOPMENT AUTHORITY (ALL BUT ONE PARCEL) 55 INTERNATIONAL DRIVE BORTSMOUTH NIL 03801		
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	3.	FIELD SURVEY PERFO	AND A TRIMBLE R10 SURVEY LLC STAFF DURING JANUARY & FEBRUARY 2022 USING A TRIMBLE AND A TRIMBLE R10 SURVEY GRADE GPS WITH A TRIMBLE TSC3 DATA COLLECTOR AND A		
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 AL, UNREDROUND JULIES (JECTIES, AS, TL, WARE, SERVI DEAV, EEVICE), ME, SHOWIN III SORVATE UNREPLACE AND UNRITIES (JECTIES, AS, TL, WARE, SERVI DEAV, EEVICE), ME, SHOWIN III SORVATE CONCERNED WIT THE SUBJECT STRVEE LOARING FOR WORKANICH REARING SUCH, CALL DE-SAF & T I-SSTD-FO-FR. ALMAN, TROCKAMY, MS, CONDUCTE BY LATERN TO CONCORMING FIRMED STRVEES CONCERNMENT AND STRUCT CONCERNMENT AND STOLD THE VIEW DETERMINE CONCORMING FIRMENT AND AND STRVEES CONCERNMENT AND AND AND AND AND AND AND AND AND AND	10.	DUE TO THE COMPLE INCONCLUSIVE, OBLIT ATTEMPTING TO DETE ROAD(S)) AS DEPICT AUTHORITY (PDA), N DEEDS. AN OFFICIAL THAT THERE WERE N FOR THE STREETS SI CITY ENGINEERING OF	IXITY OF RESEARCHING ROAD RECORDS AS A RESULT OF INCOMPLETE, UNORGANIZED, ERATED, OR LOST DOCUMENTS, THERE IS AN INHERENT UNCERTAINTY INVOLVED WHEN ERMINE THE LOCATION AND WIDTH OF A ROADWAY RIGHT OF WAY. THE EXTENT OF (THE ED HEREON IS/ARE BASED ON RESEARCH CONDUCTED AT THE PEASE DEVELOPMENT HDOT, PORTSMOUTH ENGINEERING DEPARTMENT, AND ROCKINGHAM COUNTY REGISTRY OF AT PDA ADVISED DOUCET SURVEY THAT THEY HAVE PREVIOUSLY SEARCHED AND BELIEVE IEVER ANY LAYOUT PLANS DEVELOPED FOR THE RIGHT-OF-WAYS AT PEASE. ROAD LAYOUTS HOWN HEREON WERE ALSO NOT FOUND AT NHOOT PROJECT VIEWER OR AT THE PORTSMOUTH FFICES.	320–0	
 ARAL TPOGRAPHY WAS CONDUCTED BY EASTERN TOPOGRAPHYS FROM WAGES TEACH DURING DECEMBER 2021 WHI A PHOD SELLE 6" 4017111 AREA MARKING DOVIDERS AND WARKES TESSION WHIN REGISTICS SIGN WHICH WARKES AND AND ADDRESS AND WHIN REGISTICS SIGN WHICH WARKES AND ADDRESS AND ADDRESS	11.	ALL UNDERGROUND U FASHION, THEIR LOCA UNDERTAKEN USING CONCERNED WITH TH 1-888-DIG-SAFE.	JTILITIES (ELECTRIC, GAS, TEL. WATER, SEWER DRAIN SERVICES) ARE SHOWN IN SCHEMATIC ATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES E SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE AT		
 13. THE FRED SURVEY WAS PERFORMED IN INNEE COMMUNES INTO SOM WAS DEE DOES ON THE GROWN. A STRUCTURE OF RECOMMENDED IN THE SYMMET TO EXAMPLE TO ECOMPLETE SCI ACCOUNT OF THE INFORMATION SHOWN THERES. 14. THE FLEN WAS PERFORDED FROM RECORD RESERCED, OTHER MASS. LIMITED FIELD MEASUREMENTS AND OTHER SURVEY. THE INCOMPLETE STITUT TO BE CONSTITUED AS A PROPERTY J BOUNDARY SURVEY FOR THE COMPLETE STITUT TO BE CONSTITUED AS A PROPERTY J BOUNDARY SURVEY FOR THE COMPLETE STITUT TO BE CONSTITUED AS A PROPERTY J BOUNDARY SURVEY FOR THE COMPLETE STITUT TO BE CONSTITUE STORM THEORY AND IS DOES IN THE THE SURVEY. A MAD STILL TO BE CONSTITUED AS A PROPERTY J BOUNDARY SURVEY FOR THE COMPLETE STICK THE SURVEY. A MAD STILL TO BE CONSTITUED AS A PROPERTY J BOUNDARY SURVEY FOR THE COMPLETE STICK THE SURVEY. A MAD STILL TO BE CONSTITUTE AND THE SURVEY. A MAD STILL TO BE CONSTITUTE AND THE SURVEY. A MAD STILL TO BE CONSTITUT AND RESTRUCTED DAYS CALLED FOR IN RETERENCE FLANS A. 9, 10, 12, AND 14 ARE STOWN IN THOSE FLANS (L.S. MANDORT HEAD THE SURVEY. RETERENCE FLANS 15. BUBLIFASE BOUNDARY PLAN FOR FLASS DAYS. DAYS MAD AND THE SURVEY. RETERENCE FLANS 15. BUBLIFASE BOUNDARY PLAN FOR FLASS DAYS. DAYS MAD AND THE A SURVEY. RETERENCE FLANS 15. BUBLIFASE BOUNDARY PLAN FOR FLASS DAYS. SURVEY AND AND ASS REAMED THE SURVEY. RETERENCE FLANS 15. BUBLIFASE BOUNDARY PLAN FOR FLASS BOUNDARY. AND ASS REAME STATE MANAGEMENT LICU ASS REAMED STATE MANAGEMENT LICU ASS REAMED AND AND ASS REAMED	12.	AERIAL TOPOGRAPHY WITH A PHOTO SCAL ARE APPROXIMATE A	WAS CONDUCTED BY EASTERN TOPOGRAPHICS FROM IMAGES TAKEN DURING DECEMBER 2021 E OF 40 FEET. AERIAL MAPPING CONTOURS AND OBJECTS SHOWN WITHIN OBSCURED AREAS ND SHOULD BE VERIFIED BEFORE USE FOR DESIGN & CONSTRUCTION PURPOSES.		
 Ha B, RA WAS PREVARED FROM RECORD RESEARCH, OTHER MARS, LIMITED FELD MEASUREMENTS AND OTHER SOURCES. IT IS NOT TO BE CONSTRUED AS A PROPERTY / BOUNDARY SIMPLY FOR HALL CONFELTE STOP TAX MAP AND LITS SHOW INFERDAL, AND IS SUBJECT TO SUCH HALTS AS SAD SUMPLY IN MAY DECORE. THIS PLAN MAR AND ADD LITS SHOW INFERDAL, AND IS SUBJECT TO SUCH HALTS AS SAD SUMPLY IN MAY DECORE. THIS PLAN MAR AND ADD LITS SHOW INFERDAL, AND IS SUBJECT TO SUCH HALTS AS SAD SUMPLY IN MAY DECORE. THIS PLAN BETERENCE FLANS (DCATOR BOUNDARY START, AND THE SUPPLY). A. MAP 307 LIT 1 (FER REF. HAN 3) A. MAP 207 LIT 1 (FER REF. HAN 3) B. MAR 200 LIT 1 (FER REF. HAN 30, LIT 1 (FER MAR 3) B. MAR 200 LIT 1 (FER REF. HAN 30, LIT 1 (FER REF. HAN 30, LIT 1 (FER REF. HAR 307, LIT 1 (FER REF. HAR	13.	THIS FIELD SURVEY I SITE CHECK IS RECO SHOWN HEREON.	WAS PERFORMED IN WINTER CONDITIONS WITH SNOW AND ICE COVER ON THE GROUND. A MMENDED IN THE SPRING TO ENSURE THE COMPLETENESS/ACCURACY OF THE INFORMATION		
 THE LOCATIONS OF THE VARIOUS RESTRICTED ZONES CALLED FOR IN REFERENCE PLANS 8, 0, 10, 12, AND 14 ARE SHOWN HERCEN BASED ON COORDINATE VALUES FROMDED IN THOSE PLANS AND/CR FEATURES SHOWN IN THOSE PLANS (C.G. MANTONING MELLS) THAT WELL LOCATED DURING THIS SUDVEY. REFERENCE PLANS: SUBLEASE BOUNDARY PLAN FOR PEASE DEVELOPMENT AUTORITY – BULDINGS 115 AND 116 – 31 ROCHESTER AVENUE – PCASE MERINATIONAL TRADEPORT – PORTSMULTH, N.H.: DATED NOV. 6, 1995 AND LAST REVISED (REV-2) ON 03/03/97 PT RICHARD F. MILLETE NDI ASSOCIATES. SUBDINSON DLAN TOR S, 13, IS, NO 21 HANDFOX STREET – PORTSMULTH, N.H. – LAND OF PEASE DEVELOPMENT AUTHORITY LEASED TO EXECUTIVE ARROOK, LLC (A PORTINO OF TAX MAP 310, LOT 0) HAMFTON ATE. PORTSMULTH, NEW HAMPSHIRE DATED JULY. 12021 AND REVISED (REV-1) NOV 30, 2021 BY DOUCT SURVEY LLC VALTA/NSPS LAND TITE SURVEY FOR CONTRESSY REAL ESTATE MANAGENENT LLC (LESSEE) C/O TRE KANE COMPANY AND PEASE DEVELOPMENT AUTHORITY (LESSED) OF TAX MAP 310, LOT 0) HAMFTON ATE. PORTSMULTH, NEW HAMPSHIRE DATED JULY. 1, 2021 AND REVISED (REV-1) NOV 30, 2021 BY DOUCT SURVEY LLC VALTA/NSPS LAND TITE SURVEY FOR CONTRESSY REAL ESTATE MANAGENENT LLC (LESSEE) C/O TRE KANE COMPANY AND PEASE DEVELOPMENT AUTORITY (LESSED) OF TAX MAP 300, LOT 1 – 66 NEW HAMPSHIRE AVE. PORTSMUUTH, NEW HAMPSHIRE DATED DECEMBER 21, 2021 BY DOUCT SURVEY LLC. VALEDATE MERCHES ADREEDMENT BETVERE NOT FOR FORTSMUUTH – TOWN OF NEWNOTON – AND PEASE DEVELOPMENT AUTORITY (LESSED) OF TAX MAP 300, LOT 1 – 66 NEW HAMPSHIRE AVE. PORTSMUUTH, NEW HAMPSHIRE AVENUE' TOR LONDARIA, INC. DATED 29–SEPT–1998 BY KIMBALL CHASE. SUBDINSON PLAN FOR LAN TO BE LEASED TO PAI—AM 14 WARTON AVE. PEASE INTERNATIONAL TRADEPORT PORTSMUUTH, NYL VAST REVICES (DREVLADIN DALL 28, TASED DEVELOPMENT, NEW HAMPSHIRE FREEZARED FOR MAH AMERICAS MAVERN, PAI OATED OLTONES REVERED (DALL 14, 2002 AND LAST REVISED (REV-2) 16/22/-02 SUBDINSON PLAN FOR LAND TO BE LEASED TO PAI—AM 14 WARTO	14.	THIS PLAN WAS PRE SOURCES. IT IS NOT MAP AND LOTS SHOW DOES, HOWEVER, ILLS REFERENCE PLANS IN A. MAP 307 L B. MAP 307 L C. MAP 306 L	PARED FROM RECORD RESEARCH, OTHER MAPS, LIMITED FIELD MEASUREMENTS AND OTHER TO BE CONSTRUED AS A PROPERTY / BOUNDARY SURVEY FOR THE COMPLETE SET OF TAX WN HEREON, AND IS SUBJECT TO SUCH FACTS AS SAID SURVEYS MAY DISCLOSE. THIS PLAN STRATE THE BOUNDARIES OF THE FOLLOWING TAX MAP AND LOT NUMBERS PER THE NDICATED BELOW AND RECORD MONUMENTS RECOVERED BY THIS SURVEY: OT 1 (PER REF. PLAN 3) OT 2 (PER REF. PLAN 7) OT 4 (PER REF. PLAN 12)		
 SUBLINGT FUNCTIONAL TRADEPORT - PORTSMOUTH, N.H. DATED NOV. 6, 1995 AND LAST REVISED (REV-2) ON 03/03/91 by ROHARD FULLTE AND SOCIATES. SUBDIMSON PLAN FOR 5, 7, 19, AND 21 HAMPTON STREET - PORTSMOUTH, N.H LAND OF PEASE DEVELOPMENT AUTHORITY LEASE TO EXECUTIVE ARBOCK, LLD (A PORTON OF TAX MAP 30, LLDT () HAMPTON ST. & AVATON AVE. PORTSMOUTH, N.H LAND OF PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LDT () HOW STREET - PORTSMOUTH, N.H LAND OF PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LDT () HOW STREET - PORTSMOUTH, N.H LAND OF PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LDT () HOW STREET - PORTSMOUTH, N.H LAND OF PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LDT () HOW STREET AND PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LDT () HOW STREET AND PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LDT () HOW STREET AND ADD PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LDT () HOW STREET AND ADD PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LDT () HOW STREET AND ADD PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LDT () HOW STREET AND ADD PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LDT () HOW STREET AND ADD PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LDT () HOW STREET AND ADD PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LDT () HOW STREET AND ADD REVISED (REV-1) 28-0010000000000000000000000000000000000	15. RFI	THE LOCATIONS OF T ARE SHOWN HEREON THOSE PLANS (E.G. 1	THE VARIOUS RESTRICTED ZONES CALLED FOR IN REFERENCE PLANS 8, 9, 10, 12, AND 14 BASED ON COORDINATE VALUES PROVIDED IN THOSE PLANS AND/OR FEATURES SHOWN IN MONITORING WELLS) THAT WERE LOCATED DURING THIS SURVEY.		
 Subbinston PLAN FOR 1, MILLIN AND ADDITION STREET - PORTSMOUTH, NH - LAND OF PEASE DEVELOPMENT AUTHORITY LESSED TO EXECUTIVE AREDGX, LLC (A PORTION OF TAX MAP 310, LOT 0) HAMPTON ST. & AVARTON AVE. PORTSMOUTH, NEW HAMPSNIRE 70AE DUITY 1, 2021 AND REVISED (REV-1) NOV 30, 2021 BY DOUGET SURFYE'LLC JULTA/NSPS LAND TITLE SURVEY FOR CURTHESYS REAL ESTATE MANAGEMENT LLC (LESSEE) C/C) THE KANE COMPANY AND PEASE DEVELOPMENT AUTHORITY. (JUSSED) OF TAX MAP 307, LOT 1 – 68 NEW HAMPSHIRE AVE. PORTSMOUTH, NEW HAMPSHIRE TATED DECEMBER 21, 2021 BY DOUGET SURVEY LLC. APPENDIX Y MUNOPAL SERVICES AGREEMENT BETWEEN CITY OF PORTSMOUTH - TOWN OF NEWINGTON - AND PEASE DEVELOPMENT AUTHORITY EFFECTIVE AS OF JULY 1, 1993. SUBDINSION PLAN 68 NEW HAMPSHIRE AVENUE'FOR LONDAVIA, INC. DATED 29-SEPT-1998 BY KIMBALL CHASE. R.C.R.D. PLAN 26777. SUBDINSION PLAN 61 AND TO BE LEASED TO PAN-AM 14 AVATION AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, INT LAST REVISED TO PAN-AM 14 AVATION AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, NUM LAST REVISED TO PAN-AM 14 AVATION AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, NUM LAST REVISED TO PAN-AM 14 AVATION AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, NUM LAST REVISED TO PAN-AM 14 AVATION AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, NUM LAST REVISED TO PAN-AM 14 AVATION AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, NUM LAST REVISED TO PAN-AM 14 AVATION AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, NEW HAMPSHIRE AREAD TO RELEASED TO PAN-AM 14 AVATION AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, NEW HAMPSHIRE AREAD TO RELEASED TO PAN-AM 14 AVATION AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, NEW HAMPSHIRE AREN PEASE AR FORCE BASE PORTSMOUTH AND NEWNOTON, NEW HAMPSHIRE PREPARED FOR MUM AMERICAS MALVERN, PA TO ATED JULY 1002 AND REVISED (REV-1) 1022-03 BY TTM. R.C.R.D. PLAN 37504. PLAN OF USE RESTRICTION ZONE SITE 3. PEASE AR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JULY 10. 2002 AND REVISED (REV-1) 1	1.	"SUBLEASE BOUNDAR – PEASE INTERNATIO	Y PLAN FOR PEASE DEVELOPMENT AUTHORITY – BUILDINGS 115 AND 116 – 31 ROCHESTER AVENUE NAL TRADEPORT – PORTSMOUTH, N.H.: DATED NOV. 6, 1995 AND LAST REVISED (REV–2) ON		
 'ALTA/NSPS LAND TITLE SURVEY FOR CINTHESYS REAL ESTATE MANAGEMENT LLC (LESSEE) C/O THE KANE COMPANY AND PEASE DEVELOPMENT AUTHORITY (LESSOR) OF TAX MAP 307, LOT 1 - 68 NEW HAMPSHIRE AXE, PORTSMOUTH, NEW HAMPSHIRE 'DATED DECOMBER 21, 2021 BY DOUCTS UNKY LLC. 'APPENDIX 'N MUNICIPAL SERVICES AGREEMENT BETWEEN CITY OF PORTSMOUTH - TOWN OF NEWINGTON - AND PEASE DEVELOPMENT AUTHORITY EFFECTIVE AS OF JULY, 1 (1980). 'SUBDIVISION PLAN 68 NEW HAMPSHIRE AVENUE'FOR LONDAMA, INC. DATED 20-SEPT-1998 BY KIMBALL CHASE. R.C.R.D. FLAN 26777. 'SUBDIVISION PLAN - AIR CARGO FACILITY 139 FUGHTLINE ROAD' DATED 20-FEB-1998 AND REVISED (REV-1) 28-00T-98 BY KIMBALL CHASE. R.C.R.D. PLAN 26778. 'SUBDIVISION PLAN FOR LAND TO BE LEASED TO PAN-AM 14 AVAITON AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, NH' LAST REVISED (REV-3) ON AUG. 25, 1999 BY EMANUEL ENGINEERING, INC. R.C.R.D. PLAN 27540. 'EXCEPTED SUBPARCEL ZONE 3 PEASE AIR FORCE BASE PORTSMOUTH AND NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED OCTOBER 22, 2002 AND LAST REVISED (REV-3) 10/22-03 BY TAM. R.C.R.D. PLAN 31494. PLAN OF GROUNDWATER MANAGEMENT ZONE - PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 4, 2002 AND LAST REVISED (REV-2) 6/27//2 BY TTM. R.C.R.D. PLAN 31503. PLAN OF USE RESTRICTION ZONE SITE 32 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JULY 11, 2002 AND REVISED (REV-1) 7/18/02 BY TFM. R.C.R.D. PLAN 31506. PLAN OF USE RESTRICTION ZONE SITE 32 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JULY 11, 2002 AND REVISED (REV-1) 7/18/02 BY TFM. R.C.R.D. PLAN 3302. PLAN OF USE RESTRICTION ZONE SITE 32 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JULY 11, 2002 AND REVISED (REV-1) 7/18/02 BY TFM. R.C.R.D. PLAN 33502. PLAN OF US	2.	"SUBDIVISION PLAN F AUTHORITY LEASED " PORTSMOUTH, NEW F	OR 5, 7, 19, AND 21 HAMPTON STREET – PORTSMOUTH, NH – LAND OF PEASE DEVELOPMENT TO EXECUTIVE AIRDOCK, LLC (A PORTION OF TAX MAP 310, LOT 0) HAMPTON ST. & AVIATION AVE. HAMPSHIRE" DATED JULY 1, 2021 AND REVISED (REV-1) NOV 30, 2021 BY DOUCET SURVEY LLC		
 4. APPENDIX VI MUNICIPAL SERVICES AGREEMENT BETWEEN CITY OF PORTSMOUTH – TOWN OF NEWINGTON- AND PEASE DEVELOPMENT AUTHORITY EFFECTIVE AS OF JULY 1, 1998. 5. SUBDIVISION PLAN B NEW HAMPSHIRE AVENUE'FOR LONDAMA, INC. DATED 29-SEPT-1998 BY KIMBALL CHASE. R.C.R.D. PLAN 26777. 6. SUBDIVISION PLAN A DREW HAMPSHIRE AVENUE'FOR LONDAMA, INC. DATED 20-FEB-1998 AND REVISED (REV-1) 26-OCT-98 BY KIMBALL CHASE. R.C.R.D. PLAN 26778. 7. SUBDIVISION PLAN FOR LAND TO BE LEASED TO PAN-AM 14 AVIATION AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, NH LAST REVISED (REV-3) ON AUG. 26, 1999 BY EMANUEL BONNEERING, INC. G.C.R.D. PLAN 27540. 8. EXCEPTED SUBPARCEL ZONE 3 PEASE AIR FORCE BASE PORTSMOUTH AND NEWNERDER, INC. G.C.R.D. PLAN 27540. 8. EXCEPTED SUBPARCEL ZONE 3 PEASE AIR FORCE BASE PORTSMOUTH AND NEWNERDER PREPARED FOR WHH AMERICAS MALVERN, PA' DATED JUNE 4, 2002 AND LAST REVISED (REV-2) 6/27/02 BY TFM. R.C.R.D. PLAN 31633. 9. PLAN OF USE RESTRICTION ZONE SITE 32 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 14, 2002 AND LAST REVISED (REV-2) 6/27/02 BY TFM. R.C.R.D. PLAN 31505. 10. PLAN OF USE RESTRICTION ZONE SITE 32 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 14, 2002 AND LAST REVISED (REV-2) 6/27/02 BY TFM. R.C.R.D. PLAN 31506. 11. "PLAN OF USE RESTRICTION ZONE SITE 31 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 31506. 12. PLAN OF USE RESTRICTION ZONE SITE 31 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 31506. 13. "PLAN OF USE RESTRICTION ZONE SITE 81 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 10, 2005 AND REVISED (REV-2) SAME DATE AUGUST 1, 2005 BY TFM. R.C.R.D. PLAN 33592. 14. SUBDIVISION PLAN DEGRI	3.	"ALTA/NSPS LAND TI AND PEASE DEVELOP NEW HAMPSHIRE" DA	TLE SURVEY FOR CINTHESYS REAL ESTATE MANAGEMENT LLC (LESSEE) C/O THE KANE COMPANY MENT AUTHORITY (LESSOR) OF TAX MAP 307, LOT 1 – 68 NEW HAMPSHIRE AVE. PORTSMOUTH, TED DECEMBER 21, 2021 BY DOUCET SURVEY LLC.		
SUBDIVISION PLAN 68 NEW HAMPSHIRE AVENUE'FOR LONDAVIA, INC. DATED 29-SEPT-1998 BY KIMBALL CHASE. R.C.R.D. PLAN 26777. SUBDIVISION PLAN - AIR CARGO FACILITY 139 FLIGHTLINE ROAD' DATED 20-FEB-1998 AND REVISED (REV-1) 26-OCT-98 BY KIMBALL CHASE. R.C.R.D. PLAN 26778. SUBDIVISION PLAN FOR LAND TO BE LEASED TO PAN-AM 14 AMATION AVE. PEASE INTERNATIONAL TRADEPORT PORTISMOUTH, NI' LAST REVISED (REV-3) ON AUG. 26, 1999 BY EMANUEL ENGNEERING, INC. R.C.R.D. PLAN 27540. CXCCPTED SUBPARCEL ZONE 3 PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MIH AMERICAS MALVERN, PA' DATED OCTOBER 22, 2002 AND LAST REVISED (REV-3) 10/22-O3 BY TFM. R.C.R.D. PLAN OF GROUNDWATER MANAGEMENT ZONE - ZONE 3 - PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MIH AMERICAS MALVERN, PA' DATED JUNE 4, 2002 AND LAST REVISED (REV-2) 6/27/02 BY TFM. R.C.R.D. PLAN 31633. PLAN OF USE RESTRICTION ZONE SITE 32 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 31506. HI. "PLAN OF USE RESTRICTION ZONE SITE 32 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 3300. HI. "PLAN OF USE RESTRICTION ZONE SITE 31 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 33301. HI. "PLAN OF USE RESTRICTION ZONE SITE 72 - BASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 33302. HI. "PLAN OF USE RESTRICTION ZONE SITE 72 - DATED MORE PLAN 33301. HI. PLAN OF USE RESTRICTION ZONE SITE 72 - DASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 33302. HI. SUBDIVISION PLAN DEPICTING PORTSMOUTH TAX MAP 306 LOT 3' DATED AUGUST 1, 2005 MID LAST REVISED (REV-2) SAME DATE AUGUST 1, 2005 BY ALTUS ENGINEERING, R.C.R.D. PLAN 33392. HI. SUBDIVISION PL	4.	"APPENDIX VI MUNICI DEVELOPMENT AUTHO	PAL SERVICES AGREEMENT BETWEEN CITY OF PORTSMOUTH - TOWN OF NEWINGTON- AND PEASE DRITY EFFECTIVE AS OF JULY 1, 1998".		
 SUBDIVISION PLAN - AR CARGO FACILITY 135 FLIGHTLINE ROAD' DATED 20-FEB-1998 AND REVISED (REV-1) 28-OCT-98 BY KIMBALL CHASE. R.C.RD. PLAN 26778. SUBDIVISION PLAN FOR LAND TO BE LEASED TO PAN-AM 14 AVIATION AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, NH' LAST REVISED (REV-3) ON AUG. 26, 1999 BY EMANUEL ENGINEERING, INC. R.C.R.D. PLAN 27540. EXCEPTED SUBPARCEL ZONE 3 PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED OCTOBER 22, 2002 AND LAST REVISED (REV-3) 10/22-03 BY TFM. R.C.R.D. PLAN 31494. PLAN OF GROUNDWATER MANAGEMENT ZONE - ZONE 3 - PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 4, 2002 AND LAST REVISED (REV-2) 6/27/02 BY TFM. R.C.R.D. PLAN 31503. PLAN OF USE RESTRICTION ZONE SITE 32 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JULY 11, 2002 AND REVISED (REV-1) 7/18/02 BY TFM. R.C.R.D. PLAN 31506. PLAN OF USE RESTRICTION ZONE SITE 32 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JULY 11, 2002 AND REVISED (REV-1) 7/18/02 BY TFM. R.C.R.D. PLAN 33501. PLAN OF USE RESTRICTION ZONE SITE 81 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 33301. PLAN OF USE RESTRICTION ZONE SITE 72 - BASE MOTOR POOL - PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 33302. SUBDIVISION PLAN EPFORTED AULTUS ENGINEERING. R.C.R.D. PLAN 33502. SUBDIVISION PLAN EPFORTED AULTUS ENGINEERING. R.C.R.D. PLAN 33592. USE RESTRICTION ZONE SITE 3 - PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA' DATED JUNE 10, 2005 AND LAST REVISED (REV-2) SAME DATE AUGUST 11. 2005 BY TISM. C.R.D. PLAN 33592. USE RESTRICTION ZONE SITE A	5.	"SUBDIVISION PLAN 6 R.C.R.D. PLAN 26777	8 NEW HAMPSHIRE AVENUE"FOR LONDAVIA, INC. DATED 29-SEPT-1998 BY KIMBALL CHASE. 7.		
 SUBDIVISON PLAN FOR LAND TO BE LEASED TO PAN-AM 14 AMATION AVE. PEASE INTERNATIONAL TRADEPORT PORTSMOUTH, NH* LAST REVISED (REV-3) ON AUG. 26, 1999 BY EMANUEL ENGINEERING, INC. R.C.R.D. PLAN 27540. EXCEPTED SUBPARCEL ZONE 3 PEASE AR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA* DATED OCTOBER 22, 2002 AND LAST REVISED (REV-3) 10/22-03 BY TFM. R.C.R.D. PLAN 31494. PLAN OF GROUNDWATER MANAGEMENT ZONE - ZONE 3 - PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR WWH AMERICAS MALVERN, PA* DATED JUNE 4, 2002 AND LAST REVISED (REV-2) 6/27/02 BY TFM. R.C.R.D. PLAN 31503. PLAN OF USE RESTRICTION ZONE SITE 32 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA* DATED JULY 11, 2002 AND REVISED (REV-1) 7/18/02 BY TFM. R.C.R.D. PLAN 31506. PLAN OF USE RESTRICTION ZONE SITE 81 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA* DATED JULY 11, 2002 AND REVISED (REV-1) 7/18/02 BY TFM. R.C.R.D. PLAN 31506. *PLAN OF USE RESTRICTION ZONE SITE 81 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA* DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 33301. *PLAN OF USE RESTRICTION ZONE SITE 72 – BASE MOROR POOL – PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 33302. SUBDIVISION PLAN DEPICTING PORTSMOUTH TAX MAP 306 LOT 3* DATED AUGUST 1, 2005 AND LAST REVISED (REV-2) SAME DATE AUGUST 1, 2005 BY ALTUS ENGINEENING. R.C.R.D. PLAN 33592. USE RESTRICTION ZONE – ZONE 3 – PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA* DATED JUNE 10, 2005 AND LAST REVISED (REV-2) SAME DATE AUGUST 1, 2005 BY ALTUS ENGINEENING. R.C.R.D. PLAN 33592. USE RESTRICTION ZONE - ZONE 3 – PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPA	6.	"SUBDIVISION PLAN - 26-OCT-98 BY KIME	- AIR CARGO FACILITY 139 FLIGHTLINE ROAD" DATED 20–FEB–1998 AND REVISED (REV–1) BALL CHASE. R.C.R.D. PLAN 26778.		
 MWH AMERICAS MALVERN, PA DATED OCTOBER 22, 2002 AND LAST REVISED (REV-3) 10/22-03 BY TFM. R.C.R.D. PLAN 31494. PLAN OF GROUNDWATER MANAGEMENT ZONE – ZONE 3 – PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA* DATED JUNE 4, 2002 AND LAST REVISED (REV-2) 6/27/02 BY TFM. R.C.R.D. PLAN 31503. PLAN OF USE RESTRICTION ZONE SITE 32 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA* DATED JULY 11, 2002 AND REVISED (REV-1) 7/18/02 BY TFM. R.C.R.D. PLAN 31506. "PLAN OF USE RESTRICTION ZONE SITE 81 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA* DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 33301. "PLAN OF USE RESTRICTION ZONE SITE 72 – BASE MOTOR POOL – PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA* DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 33302. SUBDIVISION PLAN DEPICTING PORTSMOUTH TAX MAP 306 LOT 3* DATED AUGUST 1, 2005 AND LAST REVISED (REV-2) SAME DATE AUGUST 1, 2005 BY ALTUS ENGINEERING. R.C.R.D. PLAN 33592. USE RESTRICTION ZONE – ZONE 3 – PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA* DATED JUNE 10, 2005 AND LAST REVISED (REV-2) SAME DATE AUGUST 1, 2005 BY ALTUS ENGINEERING. R.C.R.D. PLAN 33592. USE RESTRICTION ZONE – ZONE 3 – PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA* DATED JUNE 10, 2005 AND REVISED (REV-1) JUNE 17, 2005 BY TFM. R.C.R.D. PLAN 3593. SUBDIVISION PLAN FOR 75 NEW HAMPSHIRE LLC – 75 NEW HAMPSHIRE AVENUE – 50 INTERNATIONAL DRIVE & 80 INTERNATIONAL DRIVE (TAX MAP 306, LOTS 1, 2, 4 & 5) PEASE INTERNATIONAL TRADEPORT ROCKINGHAM COUNTY PORTSMOUTH, NEW HAMPSHIRE DATED AUG 14, 2007 AND LAST REVISED (REV-4) 10/15/07 BY DOUCET SURVEY INC. R.C.R.D. PLAN 35260. PLAN FOR NEW HAMPSHIRE DATED AUG 14, 2007 AND LAST REVISED (REV-4) 10/15/07 BY DOUCET SURVEY INC. R.C	7. 8.	"SUBDIVISON PLAN FO PORTSMOUTH, NH" LA "EXCEPTED SUBPARC	DR LAND TO BE LEASED TO PAN-AM 14 AVIATION AVE. PEASE INTERNATIONAL TRADEPORT AST REVISED (REV-3) ON AUG. 26, 1999 BY EMANUEL ENGINEERING, INC. R.C.R.D. PLAN 27540. EL ZONE 3 PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR		
BY TFM. R.C.R.D. PLAN 31503. 10. PLAN OF USE RESTRICTION ZONE SITE 32 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA" DATED JULY 11, 2002 AND REVISED (REV-1) 7/18/02 BY TFM. R.C.R.D. PLAN 31506. 11. "PLAN OF USE RESTRICTION ZONE SITE 81 PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA" DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 33501. 12. PLAN OF USE RESTRICTION ZONE SITE 72 - BASE MOTOR POOL - PEASE AIR FORCE BASE PORTSMOUTH, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA" DATED JUNE 10, 2005 BY TFM. R.C.R.D. PLAN 33302. 13. SUBDIVISION PLAN DEPICTING PORTSMOUTH TAX MAP 306 LOT 3" DATED AUGUST 1, 2005 AND LAST REVISED (REV-2) SAME DATE AUGUST 1, 2005 BY ALTUS ENGINEERING. R.C.R.D. PLAN 33592. 14. USE RESTRICTION ZONE - ZONE 3 - PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE PREPARED FOR MWH AMERICAS MALVERN, PA" DATED JUNE 10, 2005 AND REVISED (REV-1) JUNE 17, 2005 BY TFM. R.C.R.D. PLAN 33593. 15. SUBDIVISION PLAN FOR 75 NEW HAMPSHIRE LLC - 75 NEW HAMPSHIRE AVENUE - 50 INTERNATIONAL DRIVE & 80 INTERNATIONAL DRIVE (TAX MAP 306, LOTS 1, 2, 4 & 5) PEASE INTERNATIONAL TRADEPORT ROCKINGHAM COUNTY PORTSMOUTH, NEW HAMPSHIRE AIR NATIONAL GUARD PEASE BLVD, AIRLINE AVENUE - 50 INTERNATIONAL DRIVE & 80 INTERNATIONAL TRADEPORT, NEWINAGTON ROCKINGHAM COUNTY, NH" DATED 7-DEC-2009 AND LAST REVISED 1/21/11 BY EASTERLY SURVEYING, INC. 16. PLAN FOR NEW HAMPSHIRE AIR NATIONAL GUARD PEASE BLVD, AIRLINE AVE & NEW HAMSHIRE AVE PEASE INTERNATIONAL	9.	PLAN OF GROUNDWA HAMPSHIRE PREPARE	TER MANAGEMENT ZONE – ZONE 3 – PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW D FOR MWH AMERICAS MALVERN, PA" DATED JUNE 4, 2002 AND LAST REVISED (REV-2) 6/27/02		
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 15. "SUBDIVISION PLAN FOR 75 NEW HAMPSHIRE LLC – 75 NEW HAMPSHIRE AVENUE – 50 INTERNATIONAL DRIVE & 80 INTERNATIONAL DRIVE (TAX MAP 306, LOTS 1, 2, 4 & 5) PEASE INTERNATIONAL TRADEPORT ROCKINGHAM COUNTY PORTSMOUTH, NEW HAMPSHIRE" DATED AUG 14, 2007 AND LAST REVISED (REV-4) 10/15/07 BY DOUCET SURVEY INC. R.C.R.D. PLAN 35260. 16. "PLAN FOR NEW HAMPSHIRE AIR NATIONAL GUARD PEASE BLVD, AIRLINE AVE & NEW HAMSHIRE AVE PEASE INTERNATIONAL TRADEPORT, NEWINGTON ROCKINGHAM COUNTY, NH" DATED 7-DEC-2009 AND LAST REVISED 1/21/11 BY EASTERLY SURVEYING, INC. 17. "PROPOSED 4 STORY OFFICE BUILDING 100 NEW HAMPSHIRE AVENUE PORTSMOUTH, NH" DATED NOVEMBER 16, 2018 AND 	14.	USE RESTRICTION ZO PREPARED FOR MWH R.C.R.D. PLAN 33593	DNE – ZONE 3 – PEASE AIR FORCE BASE PORTSMOUTH AND NEWINGTON, NEW HAMPSHIRE AMERICAS MALVERN, PA" DATED JUNE 10, 2005 AND REVISED (REV-1) JUNE 17, 2005 BY TFM. 3.		
 16. "PLAN FOR NEW HAMPSHIRE AIR NATIONAL GUARD PEASE BLVD, AIRLINE AVE & NEW HAMSHIRE AVE PEASE INTERNATIONAL TRADEPORT, NEWINGTON ROCKINGHAM COUNTY, NH" DATED 7-DEC-2009 AND LAST REVISED 1/21/11 BY EASTERLY SURVEYING, INC. 17. "PROPOSED 4 STORY OFFICE BUILDING 100 NEW HAMPSHIRE AVENUE PORTSMOUTH, NH" DATED NOVEMBER 16, 2018 AND 	15.	"SUBDIVISION PLAN F INTERNATIONAL DRIVI PORTSMOUTH, NEW F	OR 75 NEW HAMPSHIRE LLC – 75 NEW HAMPSHIRE AVENUE – 50 INTERNATIONAL DRIVE & 80 E (TAX MAP 306, LOTS 1, 2, 4 & 5) PEASE INTERNATIONAL TRADEPORT ROCKINGHAM COUNTY IAMPSHIRE" DATED AUG 14, 2007 AND LAST REVISED (REV-4) 10/15/07 BY DOUCET SURVEY INC.		
17. "PROPOSED 4 STORY OFFICE BUILDING 100 NEW HAMPSHIRE AVENUE PORTSMOUTH, NH" DATED NOVEMBER 16, 2018 AND	16.	PLAN FOR NEW HAM INTERNATIONAL TRAD EASTERLY SURVEYING	~ IPSHIRE AIR NATIONAL GUARD PEASE BLVD, AIRLINE AVE & NEW HAMSHIRE AVE PEASE IEPORT, NEWINGTON ROCKINGHAM COUNTY, NH" DATED 7-DEC-2009 AND LAST REVISED 1/21/11 BY G, INC.		<u></u>
LAST REVISED 12/04/18 BY HOYLE, TANNER & ASSOCIATES.	17.	"PROPOSED 4 STORY LAST REVISED 12/04	OFFICE BUILDING 100 NEW HAMPSHIRE AVENUE PORTSMOUTH, NH" DATED NOVEMBER 16, 2018 AND //18 BY HOYLE, TANNER & ASSOCIATES.		

NOTES:



MAJOR CONTOUR LINE -100 — MAJOR CONTOUR LINE -98 — MINOR CONTOUR LINE -100 — LIDAR MAJOR CONTOUR LINE -98 — LIDAR MINOR CONTOUR LINE TREE LINE SHRUB LINE $\sim \tilde{q}$ — – — WATERCOURSE <u>业止</u> WETLAND AREA

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MEDIUM LONE TREE SMALL LONE TREE UTILITY COVER UTILITY COVER FIRE HYDRANT WATER GATE VALVE GAS GATE VALVE GAS GATE VALVE VENT PIPE ELECTRIC BOX TELEPHONE BOX DRAIN CATCH BASIN DRAIN MANHOLE FLARED END SECTION MANHOLE ELECTRIC MANHOLE TELEPHONE MANHOLE SEWER MANHOLE SEWER MANHOLE CLEANOUT FLAG POLE MONITORING WELL LOCATION	RIP RAP RETAINING WALL DRIVEWAY DRIVEWAY OBSCURED ASPHALT TAXIWAY CONCRETE TAXIWAY CONCRETE TAXIWAY CURB BOTTOM CURB BACK PIPELINES UTILITY POLE UTILITY POLE & GUY WIRE UTILITY POLE W/LIGHT UTILITY POLE OBSCURED LIGHT POLE SIGN SIGN (TWO POSTS) BOUND FOUND IRON PIPE/ROD FOUND POST POST BOLLARD LOCATED OBJECT	× 100.0 TYP. BND. FND. I.P.F. CONC. GRAN. HDWL SGC "NP" "NT" "NT" "NTT" ACP CIP CMP RCP HDPE PVC UNK VCP TOP NM	SPOT GRADE TYPICAL BOUND FOUND IRON PIPE FOUND CONCRETE GRANITE HEADWALL SLOPED GRANITE CURB NO PARKING SIGN NO TRESPASSING SIGN NO THRU TRAFFIC SIGN ASBESTOS CEMENT PIPE CAST IRON PIPE CORRUGATED METAL PIPE REINFORCED CONCRETE F HIGH DENSITY POLYETHY POLYVINYL CHLORIDE PIF UNKNOWN VITREOUS CLAY PIPE TOP OF PIPE NOT MEASURED
ACCESSIBLE PARKING SPACE			



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NAME: C:\Users\whitney/AppData\Local/Temp/AcPublish_7172/72384 (REV 1) 2022-09-21.dwg LAYOUT NAME: TOPO PLAN (2) PLOTTED: Wednesday, September 21, 2022 - 11:20am



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· · · · · · · · · · · · · · · · · · ·	EXCEPTED SUBPARCEL ZONE 3 (PER REF. PLAN 8)
+ + +	GROUNDWATER MANAGEMENT ZONE 3
	USE RESTRICTION ZONE SITE 32 (PER REF. PLAN 10)
	USE RESTRICTION ZONE SITE 81 ((PER REF. PLAN 11)
	USE RESTRICTION ZONE SITE 72 ((PER REF. PLAN 12)
	LIMIT OF DRAINAGE LICENSE RESERVED
	USE RESTRICTION ZONE SITE 3

250	0	250	500
	SCALE: 1 IN	NCH = 250 FT	
	SCALE: 1 IN	NCH = 250 FT.	

EXISTING CONDITIONS PLAN

FOR TIGHE & BOND OF

PEASE HANGAR 227 AREA PORTIONS OF AVIATION AVENUE, FLIGHTLINE ROAD, LEE STREET, NEWFIELDS STREET, NEW HAMPSHIRE AVENUE ROCHESTER AVENUE AND STRATHAM STREET PORTSMOUTH, NEW HAMPSHIRE

1	09/21/22	UPDATED DM	H 1925	OUTLE	T SIZE		W.D.C.
NO.	DATE	DE	SCRIPTI	ON			BY
DRAV	DRAWN BY: W.D.C. DATE: FEBRUARY 202					22	
CHEC	CHECKED BY: M.J.C. DRAWING NO. 7239A					\	
JOB I	JOB NO. 7239 SHEET 2 OF 8						
	DOUCET BURVEY Surveying & Mapping Needs						

102 Kent Place, Newmarket, NH 03857 (603) 659-6560 2 Commerce Drive (Suite 202) Bedford, NH 03110 (603) 614-4060 10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005 http://www.doucetsurvey.com





E: C:\Users\whitney\AppData\Local\Temp\AcPublish_7172\7239A (REV 1) 2022-09-21.4%g LAYOUT NAME: TOPO PLAN (8) PLOTTED: Wednesday, September 21, 2022 - 11:21an

S	
	DMH 1925
	RIM ELEV.=52.2'
•	(A) 12" RCP RECESSED UNABLE TO MEAS.
,	(B) 36" RCP INV.=43.7'
48'	(C) 36" RCP INV.=43.5'
	(OUTFALL) 60" RCP INV.=41.7'
	DMH 2136
	RIM ELEV.=54.2'
50.1	(5379) 24" RCP INV.=47.0'
49.9′	(A) 42" RCP INV.=46.9'
	(1947) 42" RCP INV.=46.7'
	CB 2137
50.4'	RIM ELEV.=52.7'
	(A) 8" VCP INV.=48.6'
	(B) 12" RCP INV.=48.1'
	(C) 8" VCP INV.=48.1'
	(D) 12" RCP INV.=48.1'
5'	
5'	CB 2142
	RIM ELEV.=52.2'
	(A) 12" RCP INV.=48.3'
0.0 40 E'	
=46.5	$RIM \ ELEV = 50.8^{\circ}$
=46.6	(A) 6 VCP INV.= 46.3°
	(1902) 12" RCP INV.=46.3"
	(B) 12" RCP INV.=46.1'
•	
•	
44.3'	
o)	

EXISTING CONDITIONS PLAN

FOR TIGHE & BOND OF

PEASE HANGAR 227 AREA PORTIONS OF AVIATION AVENUE, FLIGHTLINE ROAD, LEE STREET, NEWFIELDS STREET, NEW HAMPSHIRE AVENUE ROCHESTER AVENUE AND STRATHAM STREET PORTSMOUTH, NEW HAMPSHIRE

				
UPDATED DM	IH 1925 OUTLET SIZE	W.D.C.		
DF	ESCRIPTION	BY		
DRAWN BY: W.D.C. DATE: FEBRUARY 2022				
CHECKED BY: M.J.C. DRAWING NO. 7239A				
JOB NO. 7239 SHEET 8 OF 8				
DOUCET® SURVEYS Serving Your Professional Surveying & Mapping Needs				
	UPDATED DM DE W.D.C. M.J.C. 7239 Dur Professional S	UPDATED DMH 1925 OUTLET SIZE DESCRIPTION W.D.C. DATE: FEBRUARY 20. M.J.C. DRAWING NO. 7239A 7239 SHEET 8 OF 8 SHEET 8 OF 8 SHEET 8 OF 8 OF 8 SURVEYS		

102 Kent Place, Newmarket, NH 03857 (603) 659-6560 2 Commerce Drive (Suite 202) Bedford, NH 03110 (603) 614-4060 10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005 http://www.doucetsurvey.com

EXISTING CONDITIONS PLAN NOTES:

- JANUARY & FEBRUARY 2022.
- JURISDICTIONAL WETLANDS DELINEATED BY TIGHE & BOND, DURING DECEMBER 2021.

"EXISTING CONDITIONS PLAN FOR TIGHE & BOND OF PEASE HANGAR 227 AREA, PORTIONS OF AVIATION AVENUE, FLIGHTLINE ROAD, LEE STREET, NEWFIELDS STREET, NEW HAMPSHIRE AVENUE, ROCHESTER AVENUE, AND STRATHEM STREET" PREPARED BY DOUCET SURVEY LLC, LAST REVISED 09/21/2022.

- ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
- ACTIVITIES.
- CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
- COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
- ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL
- SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR PAVEMENT OR CONCRETE TO REMAIN.
- CONDITIONS OF ALL OF THE PERMIT APPROVALS.
- NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
- OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS. MATERIAL DEMOLITION AND DISPOSAL SHALL BE DONE IN CONFORMANCE WITH THE PEASE WASTE MANAGEMENT PLAN REQUIREMENTS.

- LOCATED WITHIN THE LIMITS OF WORK.

(MAP 308, LOT 1			PARKING REQUIREMENTS: PARKING STALL LAYOUT:	REQUIRED	PROPOSED	
ROCHESTER AVENUE RTSMOUTH, NEW HAMPSHIR	E		 STANDARD 90° 	WIDTH: 8.5' MIN AREA: 160 SF MIN	9' X 18' (162 SF)	
CT: INDUSTRIAL INDUSTRIAL / WAREH	HOUSE		DRIVE AISLE WIDTH: • 90° (2-WAY TRAFFIC)	24 FT	24 FT (MIN)	
<u>EQUIREMENTS:</u> REA:	<u>REQUIRED</u> 10 ACRES	PROPOSED ±10.95 ACRES	PARKING SPACE REQUIREMENTS: <u>INDUSTRIAL:</u> 2 / 3 EMPLOYEES (LARGEST SHIFT)			
T FRONTAGE:	200 FT	±1,200 FT	+1 / COMPANY-OWNED-VEHICLE = 60 EMPLOYEES x 2/3 EMPLOYEES)			
CKS:	70 FT 50 FT	51 FT ⁽¹⁾ 142 FT 161 6 FT	+ 2 COMPANY-OWNED-VEHICLE = TOTAL REQUIRED PARKING:	42 SPACES 42 SPACES	68 SPACES ⁽¹⁾	
ING HEIGHT:	PER FAA	36 FT	(1) - FOUR (4) ADA SPACES PROVIDED			
SPACE:	25%	±54%				

LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON

YEAR.

12. TREE STAKES SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1

13. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING

AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY THE TREE TRUNK. ANY EXISTING TREE OR SHRUB SHOWN TO REMAIN, WHICH IS REMOVED

FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF ONE (1) YEAR BEGINNING AT

BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF

AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE

PL

PLANT SCHEDULE				
CODE	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	REMARKS
TREES				
AF	ACER FREEMANII	AUTUM BLAZE MAPLE	2-1/2" - 3"	CALIPER
GD	GYMNOCLADUS DIOICUS 'ESPROSSO'	KENTUCKY COFFEE	2-1/2" - 3"	CALIPER
LT	LIRIODENDRON TULIPIFERA	TULIP TREE	2-1/2" - 3"	CALIPER
QR	QUERCUS RUBRA	RED OAK	2-1/2" - 3"	CALIPER
MS	MALUS 'SUTYZAM'	SUGAR TYME CRABAPPLE	2" - 2-1/2"	CALIPER
МР	MALUS 'PRAIRIE FIRE'	PRAIRIE FIRE CRABAPPLE	2" - 2-1/2"	CALIPER
СК	CORNUS KOUSA	KOUSA DOGWOOD	2" - 2-1/2"	CALIPER
PG	PICEA GLAUCA	WHITE SPRUCE	7' - 8' HT	
PN	CASUARINA EQUISETIFOLIA	AUSTRALIAN PINE	7' - 8' HT	

GENERAL PROJECT INFORMATION	A. TEMPORARY
PROJECT LESSOR: PEASE DEVELOPMENT AUTHORITY	B. MULCHING.
PORTSMOUTH, NH 03801	5. WHEN CONSTRU
PROJECT APPLICANT: AVIATION AVENUE GROUP, LLC	OF NEARBY SUR
PROJECT NAME: PROPOSED ADVANCED MANUFACTURING FACILITY	CEASES PERMAN
PROJECT ADDRESS: 80 ROCHESTER AVE (100 NEW HAMPSHIRE AVE)	BARRIERS AND
PROJECT MAP / LOT: MAP 308 / LOT 1	6. DURING CONSTR
PROJECT LATITUDE: 43°04'49.9"N PROJECT LONGITUDE: 70°48'33.6"W	PIPING OR STAB
	STORM DRAIN B
THE PROJECT CONSISTS OF THE CONSTRUCTION OR A NEW INDUSTRIAL WAREHOUSE ON A	RACKS. THE SIT
PREVIOUSLY DEVELOPED LOT THE WORK IS ANTICIPATED TO START IN SUMMER OF 2023, AND BE	DUST CONTROL:
COMPLETED DT WINTER OF 2023.	CONSTRUCTION
DISTURBED AREA THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 11.4 ACRES.	2. DUST CONTROL EXPOSED AREAS
	MULCHING.
SOIL CHARACTERISTICS BASED ON THE NRCS WEB SOIL SURVEY FOR ROCKINGHAM COUNTY - NEW HAMPSHIRE. THE	3. DUST CONTROL FROM THE SITE
SOILS ON SITE CONSIST OF URBAN LAND AS THE SITE HAS BEEN PREVIOUSLY DEVELOPED AND	STOCKDII ES.
THE HIDROLOGIC SOLE GROOP RATING(S) IS ASSUMED TO BE C.	1. LOCATE STOCKP
NAME OF RECEIVING WATERS THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED VIA OVERLAND FLOW TO A	CULVERTS. 2. ALL STOCKPILES
CLOSED DRAINAGE SYSTEM AND ULTIMATELY FLOWS TO NEWFIELDS DITCH.	PRIOR TO THE O
(STATE WATERBODY ID: NHRIV600031001-10).	ACCOMMODATE
CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:	INTEGRITY OF T
 CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL 	CONTROL MEAS
FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNGES SUCH AS:	PREVENT MIGRA
NEW CONSTRUCTION	OFF SITE VEHICLE
 CONTROL OF DUST CONSTRUCTION OF ACCESS DRIVES 	1. THE CONTRACTO ANY EXCAVATIO
NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS	VECETATION
 CONSTRUCTION DURING LATE WINTER AND EARLY SPRING 3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS 	1. TEMPORARY GR/
TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFE TO THEM	A. SEEDBED PF
4. CLEAR AND DISPOSE OF DEBRIS.	LIMEST
 CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA 	RATE OI B. SEEDING:
SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.	a. UTILIZE
SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.	D. WHERE SOIL TO
8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES SEDIMENT TRAPS FTC MULCH AND SEED AS REQUIRED	SEED;
9. SEDIMENT TRAPS AND/OR BASINS SHALL BE USED AS NECESSARY TO CONTAIN RUNOFF	INCLUD
10. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.	BE LEFT HYDROS
11. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.	C. MAINTENAN
13. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN	THE SO
REMOVE TEMPORARY EROSION CONTROL MEASURES.	EROSIO
SPECIAL CONSTRUCTION NOTES:	DAMS, E
 THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT 	2. PERMANENT MEA A. LIMESTONE
OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.	THREE (3) T
5. NO MORE MAN 5 ACRES SHALE BE DISTORBED (NOT STABILIZED) AT ANT TIME.	B. FERTILIZER SURFACE. F
EROSION CONTROL NOTES: 1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW	FERTILIZER; C. SOIL CONDI
HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING	AND SHALL
2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS	EVEN SURFA
FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.	ROLLERS WI
BALES, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE	CALM, DRY I
DRAWINGS AS THE FIRST ORDER OF WORK. 4. SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH	WORKMEN. HALF THE SI
BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE	ANGLES TO
5. PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE	POUNDS PE
BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED	E. HAY MULCH
6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION	R. THE SURFAC
CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION. 7. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM SEED AND	AREAS WHI
FERTILIZER.	G. THE CONTRA
5. INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO	H. A GRASS SE APPLIED AT
MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT	
9. CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.	TAL
STABILIZATION:	(<i>FE</i> .
1. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:	SAL
B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;	(PU
C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED:	REL
D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.;	IN NO CASE
E. IN AREAS TO BE PAVED, STABLE MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, LATEST	SHALL COMI LATER THAN
EDITION, ITEM 304.2 HAVE BEEN INSTALLED.	3. DORMANT SEED
A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT	A. FULLOW PER REQUIREME
VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON	INDICATED
SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER	CONCRETE WASHO
EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER	1. THE FOLLOWING NON-STORMWAT
ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS	A. THE CONCR
B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT	B. IF IT IS NEC
VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS	AND DESIG
APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;	DRAINS, SW
C. AFTER OUTOBER 13, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3	D. INSPECT WA WHEN MATE
INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO	
AFTER EACH STORM EVENT;	ALLOWABLE NON-S
3. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21)	2. FIRE HYDRANT F
CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS	4. WATER USED TO
PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:	5. POTABLE WATER

SEEDING;

- ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE
- E SHALL BE STABILIZED FOR THE WINTER BY OCTOBER 15.
- PERIOD.
- TO ABUTTING AREAS.
- NSET OF PRECIPITATION.

TRACKING

- N ACTIVITIES.
 - ASS COVER:
- REPARATION
- F THREE (3) TONS PER ACRE;
- E ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE;
- SEEDING;
- CE:
- ETC.).
- ASURES AND PLANTINGS:
- ERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20

- ER LINEAR FOOT OF WIDTH
- XIOUS WEEDS REMOVED;
- - THE INDICATED RATE: SEED APPI 1 MIX

L FESCUE

STUCA ARUNDINACEA) 72 LB

TY ALKALI GRASS JCCINELLIA TENUIFLORA) 36 LE

IANT HARD FESCUE EEPING RED FESCUE 12 LBS/ACRE 85% SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED PLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.

- ING (SEPTEMBER 15 TO FIRST SNOWFALL): RMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING
- FOR PERMANENT MEASURES.

UT AREA:

- TER DISCHARGES ARE PROHIBITED ON SITE:
- AT THEIR OWN PLANT OR DISPATCH FACILITY; CESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS
- IN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
- ALES AND SURFACE WATERS OR DELINEATED WETLANDS;
- ERIALS NEED TO BE REMOVED.

STORMWATER DISCHARGES: ACTIVITIES;

- LUSHING;
- CONTROL DUST;
- INCLUDING UNCONTAMINATED WATER LINE FLUSHING;

LL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE. JCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET FACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY NENTLY IN AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE

RUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, SILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE UGH SILT FENCES, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL ASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH

OR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE

METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON , COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY

MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST

PILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND

S SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES

RIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE HE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY. OCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION URES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO TION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

OR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO

ERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY ONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A

THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN) A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND

SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY DING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN

RARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF DIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF ON OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER RARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK

SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF ONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5; SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE

ITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL CE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN ACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED EIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH; BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE EED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100

SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE; CE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, ASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY CH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED.

ACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED; ED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE

CATION ATE	MINIMUM GERMINATION (%)	MINIMUM PURITY (%)
3S/ACRE	85%	96%
BS/ACRE	85%	96%

NTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS

GARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER

ETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT

OR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM

ASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY

TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;

- 6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED; PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
- 8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION
- UNCONTAMINATED GROUND WATER OR SPRING WATER; 10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;

11. UNCONTAMINATED EXCAVATION DEWATERING;

12. LANDSCAPE IRRIGATION.

WASTE DISPOSAL 1. WASTE MATERIAL

- A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
- NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
- C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT. 2. HAZARDOUS WASTE:
- A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER; SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
- 3. SANITARY WASTE: A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION

- 1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST
- MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW 2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
- A. GOOD HOUSEKEEPING THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
- a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE:
- b. ALL REGULATED MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE, ON AN IMPERVIOUS SURFACE;
- c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED; d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND
- DISPOSAL OF MATERIALS: e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY
- THE MANUFACTURER; f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER
- g. THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF
- REGULATED SUBSTANCES. B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
- a. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE; b. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT
- **PRODUCT INFORMATION;** c. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING
- TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
 - a. PETROLEUM PRODUCTS
 - ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
 - PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. SECURE FUEL STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
 - INSPECT FUEL STORAGE AREAS WEEKLY;
 - WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS;
 - COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS
 - SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.
 - THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE: (1) EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED;
 - (2) PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS;
 - (3) HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS;
 - (4) USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES;
 - (5) PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
 - FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT SHALL COMPLY WITH THE REGULATIONS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6 BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT, OR ITS SUCCESSOR DOCUMENT.
 - HTTPS://WWW.DES.NH.GOV/ORGANIZATION/COMMISSIONER/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF b. FERTILIZERS: FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED
 - BY THE SPECIFICATIONS; ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
 - STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
 - PAINTS: • ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
 - EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
 - EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
- SPILL CONTROL PRACTICES IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
- a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
- b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE;
- c. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY; d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR
- APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
- e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;

(DIMENSIONS VARY) 2" X 2" WOODEN STAKE-SILT SOCK -(12" TYPICAL) WORK AREA

TIMES

EXISTING

GROUND 🖇

3" CRUSHED

EXISTING

GROUN

STONE +

EXCAVATION-REQUIRED FOR STORAGE 3:1 MAX. SLOPE-

JI MAX. SLOPE	
IDE SLOPES TO	
BE STABILIZED	
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	Total	[MANUFAC]	Mounting					
	Watts		Height					
	252	COOPER LIGHTING SOLUTIONS	25					
	170	MULE LIGHTING	25					
	875	COOPER LIGHTING SOLUTIONS	25					
	750	COOPER LIGHTING SOLUTIONS	25					
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SOUTH ELEVATION





100 NEW HAMPSHIRE AVENUE SUPPLY CHAIN LOGISTICS CENTER PORTSMOUTH, NEW HAMPSHIRE

PROPOSED EXTERIOR ELEVATIONS







			1		

NORTH ELEVATION





ave Date: June 7, 2023 11:28 AM By: CML ate: Wednesday, June 07, 2023 Plotted By: (



Proposed Fidelitone Facility

Portsmouth, NH

Drainage Analysis

Prepared For:

Aviation Avenue Group, LLC 210 Commerce Way Suite 300 Portsmouth, NH 03801

December 19, 2022

Last Revised: June 16, 2023





Section 1 Drainage Analysis

1.1	Calcul	ation Methods	1-1
1.2	Pre-De	evelopment Conditions	1-2
	1.2.1	Pre-Development Watershed Plan	1-2
	1.2.2	Pre-Development Soil Plan	1-3
	1.2.3	Pre-Development Calculation	1-4
1.3	Post-D	Development Conditions	1-5
	1.3.1	Post-Development Watershed Plan	1-5
	1.3.2	Post-Development Soil Plan	1-6
	1.3.3	Post-Development Calculation	1-7
1.4	Peak F	Rate Comparisons	1-8
1.5	Mitiga	tion Description	1-8
	1.5.1	Mitigation Calculations	1-8
	1.5.2	Pre-Treatment Methods for Protecting Water Quality	1-8
	1.5.3	Treatment Methods for Protecting Water Quality	1-8
ndices			

Appendices

- A Civil Plans (Bound Separately)
- B Extreme Precipitation Tables
- C Contech Engineered Solutions Jellyfish Filter Maintenance Guide
- D Remediation Site Documentation
- E BMP Worksheets
- F NRCS Web Soil Survey

 $\label{eq:linear} J:\PC0595 \mbox{ Proposals}\PO595-015 \mbox{ 100 NH Avenue}\Report_Evaluation\Drainage \Report\PO595-015_Drainage \Analysis_Rev-04.docx$

Section 1 Drainage Analysis

The project site is identified as Map 308 Lot 1 on the City of Portsmouth Tax Maps. The site is located on a piece of land that is bound by Stratham Street to the north, New Hampshire Avenue to the east, Newfields Street to the south, and Rochester Avenue to the west. The proposed project is for the construction of a $\pm 101,200$ SF Fidelitone facility including $\pm 4,700$ SF of office space, a parking area, loading dock areas, minor realignment of a portion of Rochester Avenue, and associated site improvements consisting of underground utilities, landscaping, lighting, and a stormwater management system. There is approximately 196,665 SF of existing impervious area that is currently untreated before entering the municipal drainage system. The proposed stormwater management system has been designed to provide treatment for the existing impervious surface that are currently untreated and for ±182,040 SF of additional impervious that results from the proposed project. The on-site underground detention system and treatment unit were sized to account for potential future buildout on the north side of the site. In addition to the on-site stormwater treatment the proposed project decreases the impervious area within the Rochester Avenue Right of Way by $\pm 15,900$ SF, while also adding seven (7) new offline catch basins to provide additional stormwater treatment within the Right of Way.

The Stormwater Management System was designed in accordance with the requirements of the New Hampshire Department of Environmental Services (NHDES) Alteration of Terrain (AoT) rules and regulations (Env-Wq 1500). The system includes deep sump catch basins with oil water separator hoods, an underground detention system and a proprietary Jellyfish Filter Treatment Unit. In accordance with Env-Wq 1500 the proposed Jellyfish Filter Treatment Unit was sized to treat the Water Quality Flow (WQF). The WQF is the peak flow rate associated with the Water Quality Volume (WQV), which is based on equivalent to the volume of runoff attributable to the first one (1) inch of rainfall. The use of a proprietary treatment unit is proposed due to the site being located within multiple remediation areas as well a Groundwater Management Zone (GMZ), and per the requirements of Env-Wq 1507.02 (c) no infiltration, filtering, or groundwater recharge practices are permitted in these areas.

1.1 Calculation Methods

The design storms analyzed in this study are the 1-year, 2-year, 10-year, 25-year and 50-year 24-hour Type III duration storm events. The stormwater modeling system, HydroCAD 10.0 was utilized to predict the peak runoff rates from these storm events. A Type III storm pattern was used in the model. The rainfall data for these storm events was obtained from the data published by the Northeast Regional Climate Center (NRCC) at Cornell University, with an additional 15% added factor of safety as required by Env-Wq 1503.08(I) and shown in Table 1.1.

YEAR	24-hr Estimate (inches)	+ 15% (inches)
1	2.66	3.06
2	3.21	3.69
10	4.87	5.60
25	6.17	7.10
50	7.40	8.51

TABLE 1.1 – EXTREME PRECIPITATION ESTIMATES (NRCC)

The time of concentration was computed using the TR-55 Method, which provides a means of determining the time for an entire watershed to contribute runoff to a specific location via sheet flows, shallow concentrated flow, and channel flow. Runoff curve numbers were calculated by estimating the coverage areas and then summing the curve number for the coverage area as a percent of the entire watershed.

References:

- 1. HydroCAD Stormwater Modeling System, by HydroCAD Software Solutions LLC, Chocorua, New Hampshire.
- 2. New Hampshire Stormwater Management Manual, Volume 2, Post-Construction Best Management Practices Selection and Design, December 2008.
- 3. "Extreme Precipitation in New York & New England." Extreme Precipitation in New York & New England by Northeast Regional Climate Center (NRCC), 26 June 2012.

1.2 Pre-Development Conditions

To analyze the Pre-Development condition, the site has been modeled utilizing one (1) sub-catchment area (PRE-1.0) with the distinct point of analysis (PA-1). This point of analysis and watershed are depicted on the plan entitled "Pre-Development Watershed Plan", Sheet C-801.

The point of analysis and their contributing watershed area is described below:

Point of Analysis One (PA-1)

Point of analysis PA-1 is comprised of one (1) watershed area (PRE-1.0). This area includes the land that is currently utilized as an abandoned parking lot along with a grassed area. Runoff from this area travels southwest to northeast across the site via overland flow which is then collected in a closed drainage system then flowing through Point of Analysis 1 (PA-1).

1.2.1 Pre-Development Watershed Plan



1.2.2 Pre-Development Soil Plan



1.2.3 Pre-Development Calculation



Area Listing (all nodes)

Area	CN	Description
(acres)		(subcatchment-numbers)
6.914	74	>75% Grass cover, Good, HSG C (PRE 1.0)
4.515	98	Paved parking, HSG C (PRE 1.0)
11.429	83	TOTAL AREA

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

> Runoff Area=497,841 sf 39.50% Impervious Runoff Depth>1.49" Flow Length=1,512' Tc=5.0 min CN=83 Runoff=20.01 cfs 1.423 af

Link PA-1:

SubcatchmentPRE 1.0:

Inflow=20.01 cfs 1.423 af Primary=20.01 cfs 1.423 af

Total Runoff Area = 11.429 ac Runoff Volume = 1.423 af Average Runoff Depth = 1.49" 60.50% Pervious = 6.914 ac 39.50% Impervious = 4.515 ac Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRE 1.0: Runoff Area=

Runoff Area=497,841 sf 39.50% Impervious Runoff Depth>2.02" Flow Length=1,512' Tc=5.0 min CN=83 Runoff=27.08 cfs 1.922 af

Link PA-1:

Inflow=27.08 cfs 1.922 af Primary=27.08 cfs 1.922 af

Total Runoff Area = 11.429 ac Runoff Volume = 1.922 af Average Runoff Depth = 2.02" 60.50% Pervious = 6.914 ac 39.50% Impervious = 4.515 ac

Summary for Subcatchment PRE 1.0:

Runoff = 49.71 cfs @ 12.07 hrs, Volume= 3.542 af, Depth> 3.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Rainfall=5.60"

A	rea (sf)	CN E	Description		
3	01,177	74 >	75% Gras	s cover, Go	ood, HSG C
1	96,664	98 F	Paved park	ing, HSG C	
4	97,841	83 V	Veighted A	verage	
3	01,177	6	60.50% Pei	rvious Area	
1	96,664	3	89.50% Imp	pervious Ar	ea
_		~			
IC	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(CfS)	
0.2	10	0.0150	0.83		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.69"
0.2	38	0.0050	3.47	2.73	Pipe Channel,
					12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'
					n= 0.012 Concrete pipe, finished
2.3	595	0.0030	4.27	13.42	Pipe Channel,
					24.0" Round Area= 3.1 st Perim= 6.3' r= 0.50'
~ ~ ~					n= 0.012 Concrete pipe, finished
2.3	869	0.0030	6.20	59.70	Pipe Channel,
					42.0" Round Area= 9.6 st Perim= 11.0' r= 0.88'
					n= 0.012 Concrete pipe, finished
5.0	1,512	Total			

Summary for Link PA-1:

Inflow /	Area =	11.429 ac, 3	39.50% Imperviou	is, Inflow Depth >	· 3.72"	for 10-Yea	r event
Inflow	=	49.71 cfs @	12.07 hrs, Volu	me= 3.542	2 af		
Primar	y =	49.71 cfs @	12.07 hrs, Volu	me= 3.542	2 af, Atte	en= 0%, Lag	g= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

> Runoff Area=497,841 sf 39.50% Impervious Runoff Depth>5.12" Flow Length=1,512' Tc=5.0 min CN=83 Runoff=67.64 cfs 4.876 af

Link PA-1:

SubcatchmentPRE 1.0:

Inflow=67.64 cfs 4.876 af Primary=67.64 cfs 4.876 af

Total Runoff Area = 11.429 ac Runoff Volume = 4.876 af Average Runoff Depth = 5.12" 60.50% Pervious = 6.914 ac 39.50% Impervious = 4.515 ac Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRE 1.0:

Runoff Area=497,841 sf 39.50% Impervious Runoff Depth>6.46" Flow Length=1,512' Tc=5.0 min CN=83 Runoff=84.49 cfs 6.154 af

Link PA-1:

Inflow=84.49 cfs 6.154 af Primary=84.49 cfs 6.154 af

Total Runoff Area = 11.429 ac Runoff Volume = 6.154 af Average Runoff Depth = 6.46" 60.50% Pervious = 6.914 ac 39.50% Impervious = 4.515 ac

1.3 Post-Development Conditions

The post-development drainage condition is characterized by two (2) sub watershed areas POST-1.0 and POST-1.1modeled at the same point of analysis as the pre-development condition. This point of analysis and watersheds are depicted on the plan entitled "Post Development Watershed Plan", Sheets C-802.

The point of analysis and their contributing watershed area is described below:

Point of Analysis One (PA-1)

Point of analysis PA-1 is comprised of two (2) sub watershed areas POST-1.0 and POST-1.1 as shown on the Post-Development Watershed Plan (Sheet C-802). These areas include the additional proposed impervious area on site as well the proposed green / landscaped areas on site. The proposed impervious areas generating runoff on site include roofs, parking lots, concrete sidewalks, and loading dock areas. Runoff from site is captured via overland flow then captured in the proposed onsite drainage system where it is detained and treated prior to being discharged through Point of Analysis 1 (PA-1).

1.3.1 Post-Development Watershed Plan



1.3.2 Post-Development Soil Plan



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1.3.3 Post-Development Calculation



Area Listing (all nodes)

Are	a CN	Description
(acres	S)	(subcatchment-numbers)
2.57	6 74	>75% Grass cover, Good, HSG C (POST 1.0, POST 1.1)
4.98	5 98	Paved parking, HSG C (POST 1.0, POST 1.1)
3.86	8 98	Roofs, HSG C (POST 1.0)
11.42	29 93	TOTAL AREA

P0595-015_Post	Type III 24-hr 1-Year Rainfall=3.06"
Prepared by Tighe & Bond	Printed 6/7/2023
HydroCAD® 10.00-20 s/n 03436 © 2017 HydroCA	AD Software Solutions LLC Page 3
Time span=0.00-2	4.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-2) method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind m	ethod - Pond routing by Dyn-Stor-Ind method
SubcatchmentPOST 1.0: Ru	noff Area=442.775 sf 85.53% Impervious Runoff Depth>2.51"
Flow I	ength=1,156' Tc=5.3 min CN=95 Runoff=28.10 cfs 2.123 af
SubcatchmentPOST 1.1:	unoff Area=55,066 sf 12.62% Impervious Runoff Depth>1.11"
	Tc=5.0 min CN=77 Runoff=1.60 cfs 0.117 af
Pond POS-01	Peak Elev=46.64' Inflow=12.97 cfs 2.124 af
Primary=12.07 cfs 2.09	5 af Secondary=0.90 cfs 0.029 af Outflow=12.97 cfs 2.124 af
·	
Pond PUD-1:	Peak Elev=47.37' Storage=17,166 cf Inflow=28.10 cfs 2.123 af
	Outflow=12.97 cfs 2.124 af
l ink PA-1.	Inflow=13.97 cfs. 2.241 af
	Primary=13.97 cfs 2.241 af
Total Runoff Area = 11.429 ac	Runoff Volume = 2.240 af Average Runoff Depth = 2.35"
22	.54% Pervious = 2.576 ac 77.46% Impervious = 8.853 ac

Summary for Subcatchment POST 1.0:

28.10 cfs @ 12.08 hrs, Volume= Runoff = 2.123 af, Depth> 2.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 1-Year Rainfall=3.06"

_	A	Area (sf) CN Description					
168,481 98 Roofs, HSG C							
		64,089	74 >	75% Gras	s cover, Go	ood, HSG C	
	2	10,205	98 F	aved park			
-	4	42.775	95 V	Veighted A	verage		
		64.089	1	4.47% Per	rvious Area		
	3	78.686	8	35.53% Imr	pervious Ar	ea	
	-	-,	-				
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	•	
-	1.1		0.0125	1.16		Sheet Flow.	
						Smooth surfaces $n = 0.011$ P2= 3.69"	
	0.2	27	0.0125	2.27		Shallow Concentrated Flow.	
	-					Paved Kv= 20.3 fps	
	0.5	102	0.0050	3.21	2.52	Pipe Channel,	
						12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'	
						n= 0.013 Corrugated PE, smooth interior	
	0.9	216	0.0050	4.20	7.43	Pipe Channel,	
						18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38'	
						n= 0.013 Corrugated PE, smooth interior	
	0.4	125	0.0050	5.09	16.00	Pipe Channel,	
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'	
						n= 0.013 Corrugated PE, smooth interior	
	0.8	223	0.0025	4.72	33.35	Pipe Channel,	
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'	
						n= 0.013 Corrugated PE, smooth interior	
	0.8	222	0.0020	4.68	44.99	Pipe Channel,	
						42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88'	
						n= 0.013 Corrugated PE, smooth interior	
	0.6	164	0.0015	4.43	55.63	Pipe Channel,	
						48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00'	
_						n= 0.013 Corrugated PE, smooth interior	
	5.3	1.156	Total				

1.156 Total

Summary for Subcatchment POST 1.1:

1.60 cfs @ 12.08 hrs, Volume= 0.117 af, Depth> 1.11" Runoff =

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 1-Year Rainfall=3.06"

P0595-015 Post

Prepared by Tighe & Bond

Type III 24-hr 1-Year Rainfall=3.06" Printed 6/7/2023 HydroCAD® 10.00-20 s/n 03436 © 2017 HydroCAD Software Solutions LLC Page 5

Area	(sf) (CN [Description			
	0	98 F	Roofs, HSG	G C		
48,	116	74 >	>75% Gras	s cover, Go	ood, HSG C	
6,	950	98 F	Paved park	ing, HSG C	C	
55,	066	77 \	Neighted A	verage		
48,	116	8	37.38% Per	vious Area	а	
6,	950	12.62% Impervious Area				
Tc Le (min) (ength (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
3.0					Direct Entry,	
3.0	0 1	Fotal.	Increased t	o minimum	n Tc = 5.0 min	

Summary for Pond POS-01:

Inflow Area =	10.165 ac, 8	5.53% Impervious,	Inflow Depth > 2.5	51" for 1-Year event
Inflow =	12.97 cfs @	12.22 hrs, Volume	= 2.124 af	
Outflow =	12.97 cfs @	12.22 hrs, Volume	= 2.124 af,	Atten= 0%, Lag= 0.0 min
Primary =	12.07 cfs @	12.22 hrs, Volume	= 2.095 af	
Secondary =	0.90 cfs @	12.22 hrs, Volume	= 0.029 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev= 46.64' @ 12.22 hrs Flood Elev= 54.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.00'	24.0" Vert. To JellyFish Treatment Unit C= 0.600
#2	Secondary	46.30'	36.0" Vert. To PDMH-13 C= 0.600

Primary OutFlow Max=12.05 cfs @ 12.22 hrs HW=46.64' TW=0.00' (Dynamic Tailwater) -1=To JellyFish Treatment Unit (Orifice Controls 12.05 cfs @ 4.36 fps)

Secondary OutFlow Max=0.89 cfs @ 12.22 hrs HW=46.64' TW=0.00' (Dynamic Tailwater) 2=To PDMH-13 (Orifice Controls 0.89 cfs @ 1.99 fps)

Summary for Pond PUD-1:

Inflow Area	a =	10.165 ac, 8	5.53% Impervious,	Inflow Depth >	2.51"	for 1-Ye	ar event
Inflow	=	28.10 cfs @	12.08 hrs, Volume	e 2.123 a	af		
Outflow	=	12.97 cfs @	12.22 hrs, Volume	e 2.124 a	af, Atte	n= 54%,	Lag= 8.8 min
Primary	=	12.97 cfs @	12.22 hrs, Volume	e= 2.124 a	af		-

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Starting Elev= 45.00' Surf.Area= 17,150 sf Storage= 0 cf Peak Elev= 47.37' @ 12.25 hrs Surf.Area= 17,150 sf Storage= 17,166 cf Flood Elev= 50.00' Surf.Area= 17,150 sf Storage= 42,731 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 14.8 min (796.2 - 781.3)

P0595-015_Post

Type III 24-hr 1-Year Rainfall=3.06" Printed 6/7/2023 LLC Page 6

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Volume	Invert	Avail.Storage	Storage Description
#1A	44.50'	0 cf	83.59'W x 205.17'L x 6.08'H Field A
			104,336 cf Overall - 51,829 cf Embedded = 52,507 cf x 0.0% Voids
#2A	45.00'	43,660 cf	ADS N-12 60" x 99 Inside #1
			Inside= 59.5"W x 59.5"H => 19.30 sf x 20.00'L = 386.0 cf
			Outside= 67.0"W x 67.0"H => 22.91 sf x 20.00'L = 458.2 cf
			Row Length Adjustment= +11.00' x 19.30 sf x 11 rows
			80.59' Header x 19.30 sf x 2 = 3,110.7 cf Inside
		43,660 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	45.00'	24.0" Vert. Orifice C= 0.600
#2	Primary	47.50'	8.0' Iong Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=12.87 cfs @ 12.22 hrs HW=47.37' TW=46.64' (Dynamic Tailwater) -1=Orifice (Orifice Controls 12.87 cfs @ 4.10 fps) -2=Sharp-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Link PA-1:

Inflow Are	ea =	11.429 ac, 7	7.46% Impervious,	Inflow Depth > 2.3	35" for 1-Year event
Inflow	=	13.97 cfs @	12.17 hrs, Volume	= 2.241 af	
Primary	=	13.97 cfs @	12.17 hrs, Volume	= 2.241 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

P0595-015_Post	Type III 24-hr 2-Year Rainfall=3.69"
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HydroCAD® 10.00-20 s/n 03436 © 2017 Hydro	CAD Software Solutions LLC Page 7
Time span=0.00 Runoff by SCS TR Reach routing by Dyn-Stor-Ind	24.00 hrs, dt=0.05 hrs, 481 points 20 method, UH=SCS, Weighted-CN method - Pond routing by Dyn-Stor-Ind method
SubcatchmentPOST 1.0:	Runoff Area=442,775 sf 85.53% Impervious Runoff Depth>3.12" v Length=1,156' Tc=5.3 min CN=95 Runoff=34.57 cfs 2.646 af
SubcatchmentPOST 1.1:	Runoff Area=55,066 sf 12.62% Impervious Runoff Depth>1.57" Tc=5.0 min CN=77 Runoff=2.31 cfs 0.166 af
Pond POS-01:	Peak Elev=46.91' Inflow=17.22 cfs 2.646 af
Primary=14.52 cfs 2.5	69 af Secondary=2.70 cfs 0.078 af Outflow=17.22 cfs 2.646 af
Pond PUD-1:	Peak Elev=47.75' Storage=21,338 cf Inflow=34.57 cfs 2.646 af
	Outflow=17.22 cfs 2.646 af
Link PA-1:	Inflow=18.54 cfs 2.812 af
	Primary=18.54 cfs 2.812 af
Total Runoff Area = 11.429	nc Runoff Volume = 2.812 af Average Runoff Depth = 2.95" 22.54% Pervious = 2.576 ac 77.46% Impervious = 8.853 ac

Summary for Subcatchment POST 1.0:

Runoff = 34.57 cfs @ 12.08 hrs, Volume= 2.646 af, Depth> 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Rainfall=3.69"

	A	Area (sf) CN Description					
168,481 98 Roofs, HSG C							
		64,089	74 >	75% Gras	s cover, Go	ood, HSG C	
210,205 98 Paved parking, HSG C							
-	4	42.775	95 V	Veighted A	verage		
		64.089	1	4.47% Pe	rvious Area		
	3	78.686	8	35.53% Imr	pervious Ar	ea	
	-	-,	-				
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	•	
_	1.1		0.0125	1.16		Sheet Flow.	
						Smooth surfaces $n = 0.011$ P2= 3.69"	
	0.2	27	0.0125	2.27		Shallow Concentrated Flow.	
	•					Paved Kv= 20.3 fps	
	0.5	102	0.0050	3.21	2.52	Pipe Channel,	
						12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'	
						n= 0.013 Corrugated PE, smooth interior	
	0.9	216	0.0050	4.20	7.43	Pipe Channel,	
						18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38'	
						n= 0.013 Corrugated PE, smooth interior	
	0.4	125	0.0050	5.09	16.00	Pipe Channel,	
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'	
						n= 0.013 Corrugated PE, smooth interior	
	0.8	223	0.0025	4.72	33.35	Pipe Channel,	
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'	
						n= 0.013 Corrugated PE, smooth interior	
	0.8	222	0.0020	4.68	44.99	Pipe Channel,	
						42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88'	
						n= 0.013 Corrugated PE, smooth interior	
	0.6	164	0.0015	4.43	55.63	Pipe Channel,	
						48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00'	
_						n= 0.013 Corrugated PE, smooth interior	
	5.3	1.156	Total				

Summary for Subcatchment POST 1.1:

Runoff = 2.31 cfs @ 12.08 hrs, Volume= 0.166 af, Depth> 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Rainfall=3.69"

P0595-015 Post

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Type III 24-hr 2-Year Rainfall=3.69" Printed 6/7/2023 HydroCAD® 10.00-20 s/n 03436 © 2017 HydroCAD Software Solutions LLC Page 9

Are	a (sf)	CN	Description			
	0	98	Roofs, HSC	G C		
48	3,116	74	>75% Gras	s cover, Go	Good, HSG C	
(6,950	98	Paved park	ing, HSG C	С	
55	5,066	77	Weighted A	verage		
48	3,116		87.38% Per	rvious Area	а	
(6,950	12.62% Impervious Area				
Tc L (min)	_ength (feet)	Slope (ft/ft	e Velocity) (ft/sec)	Capacity (cfs)	Description	
3.0					Direct Entry,	
3.0	0	Total,	Increased t	o minimum	m Tc = 5.0 min	

Summary for Pond POS-01:

Inflow Area =	10.165 ac, 8	5.53% Impervious,	Inflow Depth > 3.1	12" for 2-Year event
Inflow =	17.22 cfs @	12.21 hrs, Volume:	= 2.646 af	
Outflow =	17.22 cfs @	12.21 hrs, Volume:	= 2.646 af,	Atten= 0%, Lag= 0.0 min
Primary =	14.52 cfs @	12.21 hrs, Volume:	= 2.569 af	
Secondary =	2.70 cfs @	12.21 hrs, Volume:	= 0.078 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev= 46.91' @ 12.21 hrs Flood Elev= 54.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.00'	24.0" Vert. To JellyFish Treatment Unit C= 0.600
#2	Secondary	46.30'	36.0" Vert. To PDMH-13 C= 0.600

Primary OutFlow Max=14.48 cfs @ 12.21 hrs HW=46.90' TW=0.00' (Dynamic Tailwater) -1=To JellyFish Treatment Unit (Orifice Controls 14.48 cfs @ 4.69 fps)

Secondary OutFlow Max=2.67 cfs @ 12.21 hrs HW=46.90' TW=0.00' (Dynamic Tailwater) 2=To PDMH-13 (Orifice Controls 2.67 cfs @ 2.64 fps)

Summary for Pond PUD-1:

Inflow Area	a =	10.165 ac, 8	35.53% Impervious,	Inflow Depth > 3.7	12" for 2-Year event
Inflow	=	34.57 cfs @	12.08 hrs, Volume	= 2.646 af	
Outflow	=	17.22 cfs @	12.21 hrs, Volume	= 2.646 af,	Atten= 50%, Lag= 7.9 min
Primary	=	17.22 cfs @	12.21 hrs, Volume	= 2.646 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Starting Elev= 45.00' Surf.Area= 17,150 sf Storage= 0 cf Peak Elev= 47.75' @ 12.22 hrs Surf.Area= 17,150 sf Storage= 21,338 cf Flood Elev= 50.00' Surf.Area= 17,150 sf Storage= 42,731 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 15.7 min (791.4 - 775.7)

P0595-015_Post

Type III 24-hr 2-Year Rainfall=3.69" Printed 6/7/2023 LLC Page 10

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Volume	Invert	Avail.Storage	Storage Description
#1A	44.50'	0 cf	83.59'W x 205.17'L x 6.08'H Field A
			104,336 cf Overall - 51,829 cf Embedded = 52,507 cf x 0.0% Voids
#2A	45.00'	43,660 cf	ADS N-12 60" x 99 Inside #1
			Inside= 59.5"W x 59.5"H => 19.30 sf x 20.00'L = 386.0 cf
			Outside= 67.0"W x 67.0"H => 22.91 sf x 20.00'L = 458.2 cf
			Row Length Adjustment= +11.00' x 19.30 sf x 11 rows
			80.59' Header x 19.30 sf x 2 = 3,110.7 cf Inside
		43,660 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	45.00'	24.0" Vert. Orifice C= 0.600
#2	Primary	47.50'	8.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=16.86 cfs @ 12.21 hrs HW=47.74' TW=46.90' (Dynamic Tailwater) -1=Orifice (Orifice Controls 13.84 cfs @ 4.40 fps) -2=Sharp-Crested Rectangular Weir (Weir Controls 3.02 cfs @ 1.60 fps)

Summary for Link PA-1:

Inflow Are	a =	11.429 ac, 7	77.46% Impervious,	Inflow Depth > 2.9	95" for 2-Year event
Inflow	=	18.54 cfs @	12.19 hrs, Volume	= 2.812 af	
Primary	=	18.54 cfs @	12.19 hrs, Volume	= 2.812 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

P0595-015_Post	Type III 24-hr	10-Year Rainfall=5.60"
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Time span=	0.00-24.00 hrs, dt=0.05 hrs, 481 points	
Runoff by SCS	STR-20 method, UH=SCS, Weighted-CN	
Reach routing by Dyn-Stor	r-Ind method - Pond routing by Dyn-Stor	-Ind method
SubcatchmentPOST 1.0:	Runoff Area=442,775 sf 85.53% Imper Flow Length=1,156' Tc=5.3 min CN=95	vious Runoff Depth>5.01" Runoff=53.99 cfs 4.245 af
SubcatchmentPOST 1.1:	Runoff Area=55,066 sf 12.62% Imper Tc=5.0 min CN=77	vious Runoff Depth>3.13" Runoff=4.65 cfs 0.330 af
Pond POS-01:	Peak Elev=47.85'	Inflow=36.15 cfs 4.244 af
Primary=20.56 cfs	3.832 af Secondary=15.58 cfs 0.412 af C	Dutflow=36.15 cfs 4.244 af
Pond PUD-1:	Peak Elev=48.49' Storage=29,510 cf	Inflow=53.99 cfs 4.245 af
	(Dutflow=36.15 cfs 4.244 af
Link PA-1:		Inflow=39.65 cfs 4.574 af
	F	Primary=39.65 cfs 4.574 af
Total Runoff Area = 11.	429 ac Runoff Volume = 4.575 af Ave 22.54% Pervious = 2.576 ac 77.4	erage Runoff Depth = 4.80" 6% Impervious = 8.853 ac

Summary for Subcatchment POST 1.0:

Runoff = 53.99 cfs @ 12.08 hrs, Volume= 4.245 af, Depth> 5.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Rainfall=5.60"

	A	rea (sf)	CN E	Description				
	1	68,481	98 F	Roofs, HSC	G C			
		64,089 74 >75% Grass cover, Good, HSG C						
	2	10,205	98 F	aved park	ing, HSG C			
	4	42.775	95 V	Veighted A	verage			
		64.089	1	4.47% Per	rvious Area			
	3	78,686	8	35.53% Imp	pervious Ar	ea		
	Тс	Length	Slope	Velocity	Capacity	Description		
(r	nin)	(feet)	(ft/ft)	(ft/sec)	(cfs)	•		
	1.1	77	0.0125	1.16	· · ·	Sheet Flow.		
						Smooth surfaces $n = 0.011$ P2= 3.69"		
	0.2	27	0.0125	2.27		Shallow Concentrated Flow.		
	-					Paved Kv= 20.3 fps		
	0.5	102	0.0050	3.21	2.52	Pipe Channel,		
						12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'		
						n= 0.013 Corrugated PE, smooth interior		
	0.9	216	0.0050	4.20	7.43	Pipe Channel,		
						18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38'		
						n= 0.013 Corrugated PE, smooth interior		
	0.4	125	0.0050	5.09	16.00	Pipe Channel,		
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'		
						n= 0.013 Corrugated PE, smooth interior		
	0.8	223	0.0025	4.72	33.35	Pipe Channel,		
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'		
						n= 0.013 Corrugated PE, smooth interior		
	0.8	222	0.0020	4.68	44.99	Pipe Channel,		
						42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88'		
						n= 0.013 Corrugated PE, smooth interior		
	0.6	164	0.0015	4.43	55.63	Pipe Channel,		
						48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00'		
						n= 0.013 Corrugated PE, smooth interior		

5.3 1,156 Total

Summary for Subcatchment POST 1.1:

Runoff = 4.65 cfs @ 12.08 hrs, Volume= 0.330 af, Depth> 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Rainfall=5.60"

P0595-015_Post

 Type III 24-hr
 10-Year Rainfall=5.60"

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 6/7/2023

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 Page 13

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A	rea (sf)	CN	Description		
	0	98	Roofs, HSC	G C	
	48,116	74	>75% Gras	s cover, Go	ood, HSG C
	6,950	98	Paved park	ing, HSG C	C
	55,066	77	Weighted A	verage	
	48,116		87.38% Pei	rvious Area	а
	6,950 12.62% Impervious Area				
Тс	Length	Slope	e Velocity	Capacity	Description
<u>(min)</u>	(feet)	(ft/ft) (ft/sec)	(cfs)	
3.0					Direct Entry,
3.0	0	Total,	Increased t	o minimum	n Tc = 5.0 min

Summary for Pond POS-01:

Inflow Area	=	10.165 ac, 8	5.53% Impe	ervious, Inflo	w Depth > 5	5.01" for 1	0-Year event
Inflow	=	36.15 cfs @	12.15 hrs,	Volume=	4.244 a	ıf	
Outflow	=	36.15 cfs @	12.15 hrs,	Volume=	4.244 a	if, Atten= 09	%, Lag= 0.0 min
Primary	=	20.56 cfs @	12.15 hrs,	Volume=	3.832 a	ıf	
Secondary	=	15.58 cfs @	12.15 hrs,	Volume=	0.412 a	ıf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev= 47.85' @ 12.15 hrs Flood Elev= 54.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.00'	24.0" Vert. To JellyFish Treatment Unit C= 0.600
#2	Secondary	46.30'	36.0" Vert. To PDMH-13 C= 0.600

Primary OutFlow Max=20.56 cfs @ 12.15 hrs HW=47.85' TW=0.00' (Dynamic Tailwater) T=To JellyFish Treatment Unit(Orifice Controls 20.56 cfs @ 6.54 fps)

Secondary OutFlow Max=15.56 cfs @ 12.15 hrs HW=47.85' TW=0.00' (Dynamic Tailwater) 2=To PDMH-13 (Orifice Controls 15.56 cfs @ 4.23 fps)

Summary for Pond PUD-1:

Inflow Area	a =	10.165 ac, 8	5.53% Impervious,	Inflow Depth >	5.01" for	r 10-Year event
Inflow	=	53.99 cfs @	12.08 hrs, Volume	e= 4.245	af	
Outflow	=	36.15 cfs @	12.15 hrs, Volume	e= 4.244	af, Atten=	33%, Lag= 4.4 min
Primary	=	36.15 cfs @	12.15 hrs, Volume	e= 4.244	af	-

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Starting Elev= 45.00' Surf.Area= 17,150 sf Storage= 0 cf Peak Elev= 48.49' @ 12.17 hrs Surf.Area= 17,150 sf Storage= 29,510 cf Flood Elev= 50.00' Surf.Area= 17,150 sf Storage= 42,731 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 15.5 min (779.8 - 764.3)
P0595-015_Post

 Type III 24-hr
 10-Year Rainfall=5.60"

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 6/7/2023

 SLLC
 Page 14

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Volume	Invert	Avail.Storage	Storage Description
#1A	44.50'	0 cf	83.59'W x 205.17'L x 6.08'H Field A
			104,336 cf Overall - 51,829 cf Embedded = 52,507 cf x 0.0% Voids
#2A	45.00'	43,660 cf	ADS N-12 60" x 99 Inside #1
			Inside= 59.5"W x 59.5"H => 19.30 sf x 20.00'L = 386.0 cf
			Outside= 67.0"W x 67.0"H => 22.91 sf x 20.00'L = 458.2 cf
			Row Length Adjustment= +11.00' x 19.30 sf x 11 rows
			80.59' Header x 19.30 sf x 2 = 3,110.7 cf Inside
		43,660 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	45.00'	24.0" Vert. Orifice C= 0.600
#2	Primary	47.50'	8.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=34.00 cfs @ 12.15 hrs HW=48.47' TW=47.85' (Dynamic Tailwater) -1=Orifice (Orifice Controls 11.91 cfs @ 3.79 fps) -2=Sharp-Crested Rectangular Weir (Weir Controls 22.09 cfs @ 2.93 fps)

Summary for Link PA-1:

Inflow Are	ea =	11.429 ac, 7	77.46% Impervious,	Inflow Depth > 4.8	80" for 10-Year event
Inflow	=	39.65 cfs @	12.14 hrs, Volume	= 4.574 af	
Primary	=	39.65 cfs @	12.14 hrs, Volume	= 4.574 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

P0595-015_Post	Type III 24-hr 25-Year Rainfall=7.10"
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Time span=(Runoff by SCS Reach routing by Dyn-Stor	0.00-24.00 hrs, dt=0.05 hrs, 481 points 5 TR-20 method, UH=SCS, Weighted-CN -Ind method - Pond routing by Dyn-Stor-Ind method
SubcatchmentPOST 1.0:	Runoff Area=442,775 sf 85.53% Impervious Runoff Depth>6.50" Flow Length=1,156' Tc=5.3 min CN=95 Runoff=69.10 cfs 5.507 af
SubcatchmentPOST 1.1:	Runoff Area=55,066 sf 12.62% Impervious Runoff Depth>4.45" Tc=5.0 min CN=77 Runoff=6.58 cfs 0.469 af
Pond POS-01: Primary=23.54 cfs	Peak Elev=48.42' Inflow=49.92 cfs 5.503 af 4.745 af Secondary=26.38 cfs 0.758 af Outflow=49.92 cfs 5.503 af
Pond PUD-1:	Peak Elev=48.98' Storage=34,665 cf Inflow=69.10 cfs 5.507 af
Link PA-1:	Outflow=49.92 cfs 5.503 af Inflow=55.93 cfs 5.972 af Primary=55.93 cfs 5.972 af
Total Runoff Area = 11.4	129 ac Runoff Volume = 5.977 af Average Runoff Depth = 6.28

noff Area = 11.429 ac Runoff Volume = 5.977 af Average Runoff Depth = 6.28" 22.54% Pervious = 2.576 ac 77.46% Impervious = 8.853 ac

Summary for Subcatchment POST 1.0:

Runoff = 69.10 cfs @ 12.08 hrs, Volume= 5.507 af, Depth> 6.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Rainfall=7.10"

	A	rea (sf)	CN E	Description			
	1	68,481	98 F	Roofs, HSC	G C		
		64,089	89 74 >75% Grass cover, Good, HSG C				
	2	10,205	5 98 Paved parking, HSG C				
	442,775 95 Weighted Average						
		64.089	1	4.47% Per	rvious Area		
	3	78.686	8	35.53% Imp	pervious Ar	ea	
		,					
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·	
	1.1	77	0.0125	1.16	· · ·	Sheet Flow.	
						Smooth surfaces $n= 0.011$ P2= 3.69"	
	0.2	27	0.0125	2.27		Shallow Concentrated Flow.	
						Paved Kv= 20.3 fps	
	0.5	102	0.0050	3.21	2.52	Pipe Channel,	
						12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'	
						n= 0.013 Corrugated PE, smooth interior	
	0.9	216	0.0050	4.20	7.43	Pipe Channel,	
						18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38'	
						n= 0.013 Corrugated PE, smooth interior	
	0.4	125	0.0050	5.09	16.00	Pipe Channel,	
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'	
						n= 0.013 Corrugated PE, smooth interior	
	0.8	223	0.0025	4.72	33.35	Pipe Channel,	
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'	
						n= 0.013 Corrugated PE, smooth interior	
	0.8	222	0.0020	4.68	44.99	Pipe Channel,	
						42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88'	
						n= 0.013 Corrugated PE, smooth interior	
	0.6	164	0.0015	4.43	55.63	Pipe Channel,	
						48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00'	
_						n= 0.013 Corrugated PE, smooth interior	

5.3 1,156 Total

Summary for Subcatchment POST 1.1:

Runoff = 6.58 cfs @ 12.08 hrs, Volume= 0.469 af, Depth> 4.45" Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Rainfall=7.10"

P0595-015 Post

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Type III 24-hr 25-Year Rainfall=7.10" Printed 6/7/2023 HydroCAD® 10.00-20 s/n 03436 © 2017 HydroCAD Software Solutions LLC Page 17

Ar	rea (sf)	CN	Description			
	0	98	Roofs, HSC	ЭС		
	48,116	74	>75% Gras	s cover, Go	ood, HSG C	
	6,950	98	Paved park	ing, HSG C)	
	55,066	77	Weighted A	verage		
	48,116		87.38% Pe	rvious Area	l	
	6,950		12.62% Imp	pervious Ar	ea	
т.	المربع مرالم	Olam	Valasiti.	O a sa a it s	Description	
	Length	Siope		Capacity	Description	
<u>(min)</u>	(feet)	(ft/ft) (ft/sec)	(CfS)		
3.0					Direct Entry,	
3.0	0	Total.	Increased	o minimum	n Tc = 5.0 min	

Summary for Pond POS-01:

Inflow Area =	10.165 ac, 8	5.53% Impervious,	Inflow Depth > 6.5	50" for 25-Year event
Inflow =	49.92 cfs @	12.12 hrs, Volume	= 5.503 af	
Outflow =	49.92 cfs @	12.12 hrs, Volume	= 5.503 af,	Atten= 0%, Lag= 0.0 min
Primary =	23.54 cfs @	12.12 hrs, Volume	= 4.745 af	-
Secondary =	26.38 cfs @	12.12 hrs, Volume	= 0.758 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev= 48.42' @ 12.12 hrs Flood Elev= 54.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.00'	24.0" Vert. To JellyFish Treatment Unit C= 0.600
#2	Secondary	46.30'	36.0" Vert. To PDMH-13 C= 0.600

Primary OutFlow Max=23.20 cfs @ 12.12 hrs HW=48.35' TW=0.00' (Dynamic Tailwater) -1=To JellyFish Treatment Unit (Orifice Controls 23.20 cfs @ 7.39 fps)

Secondary OutFlow Max=25.15 cfs @ 12.12 hrs HW=48.35' TW=0.00' (Dynamic Tailwater) -2=To PDMH-13 (Orifice Controls 25.15 cfs @ 4.88 fps)

Summary for Pond PUD-1:

Inflow Area	a =	10.165 ac, 8	35.53% Impervious,	Inflow Depth >	6.50" for	25-Year event
Inflow	=	69.10 cfs @	12.08 hrs, Volume	e= 5.507 a	af	
Outflow	=	49.92 cfs @	12.12 hrs, Volume	e= 5.503 a	af, Atten= 2	8%, Lag= 2.6 min
Primary	=	49.92 cfs @	12.12 hrs, Volume	e= 5.503 a	af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Starting Elev= 45.00' Surf.Area= 17,150 sf Storage= 0 cf Peak Elev= 48.98' @ 12.16 hrs Surf.Area= 17,150 sf Storage= 34,665 cf Flood Elev= 50.00' Surf.Area= 17,150 sf Storage= 42,731 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 15.1 min (773.7 - 758.7)

P0595-015_Post

Type III 24-hr 25-Year Rainfall=7.10" Printed 6/7/2023 SLLC Page 18

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Volume	Invert	Avail.Storage	Storage Description
#1A	44.50'	0 cf	83.59'W x 205.17'L x 6.08'H Field A
			104,336 cf Overall - 51,829 cf Embedded = 52,507 cf x 0.0% Voids
#2A	45.00'	43,660 cf	ADS N-12 60" x 99 Inside #1
			Inside= 59.5"W x 59.5"H => 19.30 sf x 20.00'L = 386.0 cf
			Outside= 67.0"W x 67.0"H => 22.91 sf x 20.00'L = 458.2 cf
			Row Length Adjustment= +11.00' x 19.30 sf x 11 rows
			80.59' Header x 19.30 sf x 2 = 3,110.7 cf Inside
		43,660 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	45.00'	24.0" Vert. Orifice C= 0.600
#2	Primary	47.50'	8.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=41.71 cfs @ 12.12 hrs HW=48.86' TW=48.35' (Dynamic Tailwater) -1=Orifice (Orifice Controls 10.80 cfs @ 3.44 fps) -2=Sharp-Crested Rectangular Weir (Weir Controls 30.91 cfs @ 2.93 fps)

Summary for Link PA-1:

Inflow Are	ea =	11.429 ac, 7	77.46% Impervious,	Inflow Depth > 6.2	27" for 25-Year event
Inflow	=	55.93 cfs @	12.11 hrs, Volume	= 5.972 af	
Primary	=	55.93 cfs @	12.11 hrs, Volume	= 5.972 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

P0595-015_Post	Type III 24-hr 50-Year Rainfall=8.51"
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Time span= Runoff by SCS Reach routing by Dyn-Stor	0.00-24.00 hrs, dt=0.05 hrs, 481 points 5 TR-20 method, UH=SCS, Weighted-CN -Ind method - Pond routing by Dyn-Stor-Ind method
SubcatchmentPOST 1.0:	Runoff Area=442,775 sf 85.53% Impervious Runoff Depth>7.91" Flow Length=1,156' Tc=5.3 min CN=95 Runoff=83.24 cfs 6.696 af
SubcatchmentPOST 1.1:	Runoff Area=55,066 sf 12.62% Impervious Runoff Depth>5.74" Tc=5.0 min CN=77 Runoff=8.47 cfs 0.605 af
Pond POS-01: Primary=25.78 cfs	Peak Elev=48.90' Inflow=61.59 cfs 6.688 af 5.570 af Secondary=35.81 cfs 1.118 af Outflow=61.59 cfs 6.688 af
Pond PUD-1:	Peak Elev=49.45' Storage=38,888 cf Inflow=83.24 cfs 6.696 af Outflow=61.59 cfs 6.688 af
Link PA-1:	Inflow=69.28 cfs 7.293 af Primary=69.28 cfs 7.293 af
Total Runoff Area = 11.	429 ac Runoff Volume = 7.301 af Average Runoff Depth = 7.67"

 $22.54\% \text{ Pervious} = 2.576 \text{ ac} \qquad 77.46\% \text{ Impervious} = 8.853 \text{ ac}$

Summary for Subcatchment POST 1.0:

Runoff = 83.24 cfs @ 12.08 hrs, Volume= 6.696 af, Depth> 7.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 50-Year Rainfall=8.51"

	A	rea (sf)	CN E	Description				
168,481 98 Roofs, HSG C								
64,089 74 >75% Grass cover, Go						ood, HSG C		
	2	210,205 98 Paved parking, HSG C						
-	4	42.775	95 V	Veighted A	verage			
		64.089	1	4.47% Per	rvious Area			
	3	78.686	8	35.53% Imr	pervious Ar	ea		
	-	-,	-					
	Тс	Length	Slope	Velocity	Capacity	Description		
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	•		
_	1.1		0.0125	1.16		Sheet Flow.		
						Smooth surfaces $n = 0.011$ P2= 3.69"		
	0.2	27	0.0125	2.27		Shallow Concentrated Flow.		
	•					Paved Kv= 20.3 fps		
	0.5	102	0.0050	3.21	2.52	Pipe Channel,		
						12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'		
						n= 0.013 Corrugated PE, smooth interior		
	0.9	216	0.0050	4.20	7.43	Pipe Channel,		
						18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38'		
						n= 0.013 Corrugated PE, smooth interior		
	0.4	125	0.0050	5.09	16.00	Pipe Channel,		
						24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'		
						n= 0.013 Corrugated PE, smooth interior		
	0.8	223	0.0025	4.72	33.35	Pipe Channel,		
						36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75'		
						n= 0.013 Corrugated PE, smooth interior		
	0.8	222	0.0020	4.68	44.99	Pipe Channel,		
						42.0" Round Area= 9.6 sf Perim= 11.0' r= 0.88'		
						n= 0.013 Corrugated PE, smooth interior		
	0.6	164	0.0015	4.43	55.63	Pipe Channel,		
						48.0" Round Area= 12.6 sf Perim= 12.6' r= 1.00'		
_						n= 0.013 Corrugated PE, smooth interior		
	5.3	1.156	Total					

1,100 10141

Summary for Subcatchment POST 1.1:

Runoff = 8.47 cfs @ 12.07 hrs, Volume= 0.605 af, Depth> 5.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 50-Year Rainfall=8.51"

P0595-015_Post

Type III 24-hr 50-Year Rainfall=8.51" Printed 6/7/2023 S LLC Page 21

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Ar	ea (sf)	CN	Description		
	0	98	Roofs, HSC	G C	
4	48,116	74	>75% Gras	s cover, Go	ood, HSG C
	6,950	98	Paved park	ing, HSG C	C
	55,066	77	Weighted A	verage	
4	48,116		87.38% Per	rvious Area	а
	6,950		12.62% Imp	pervious Ar	rea
Tc (min)	Length (feet)	Slop (ft/ft	e Velocity) (ft/sec)	Capacity (cfs)	Description
3.0					Direct Entry,
3.0	0	Total,	Increased t	o minimum	n Tc = 5.0 min

Summary for Pond POS-01:

Inflow Area	=	10.165 ac, 8	5.53% Impe	ervious,	Inflow E	Depth >	7.90)" for 50-	Year event
Inflow	=	61.59 cfs @	12.12 hrs,	Volume=	=	6.688	af		
Outflow	=	61.59 cfs @	12.12 hrs,	Volume=	=	6.688	af, A	Atten= 0%,	Lag= 0.0 min
Primary	=	25.78 cfs @	12.12 hrs,	Volume=	=	5.570	af		
Secondary	=	35.81 cfs @	12.12 hrs,	Volume=	=	1.118	af		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Peak Elev= 48.90' @ 12.12 hrs Flood Elev= 54.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.00'	24.0" Vert. To JellyFish Treatment Unit C= 0.600
#2	Secondary	46.30'	36.0" Vert. To PDMH-13 C= 0.600

Primary OutFlow Max=25.50 cfs @ 12.12 hrs HW=48.84' TW=0.00' (Dynamic Tailwater) T=To JellyFish Treatment Unit(Orifice Controls 25.50 cfs @ 8.12 fps)

Secondary OutFlow Max=34.65 cfs @ 12.12 hrs HW=48.84' TW=0.00' (Dynamic Tailwater) 2=To PDMH-13 (Orifice Controls 34.65 cfs @ 5.43 fps)

Summary for Pond PUD-1:

Inflow Area	a =	10.165 ac, 8	5.53% Imperv	vious, Inflow I	Depth > 7.91"	' for 50-Y	ear event
Inflow	=	83.24 cfs @	12.08 hrs, Vo	olume=	6.696 af		
Outflow	=	61.59 cfs @	12.12 hrs, Vo	olume=	6.688 af, At	tten= 26%,	Lag= 2.6 min
Primary	=	61.59 cfs @	12.12 hrs, Vo	olume=	6.688 af		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs Starting Elev= 45.00' Surf.Area= 17,150 sf Storage= 0 cf Peak Elev= 49.45' @ 12.16 hrs Surf.Area= 17,150 sf Storage= 38,888 cf Flood Elev= 50.00' Surf.Area= 17,150 sf Storage= 42,731 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 14.8 min (769.5 - 754.7)

P0595-015_Post

Type III 24-hr 50-Year Rainfall=8.51" Printed 6/7/2023 SLLC Page 22

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Volume	Invert	Avail.Storage	Storage Description
#1A	44.50'	0 cf	83.59'W x 205.17'L x 6.08'H Field A
			104,336 cf Overall - 51,829 cf Embedded = 52,507 cf x 0.0% Voids
#2A	45.00'	43,660 cf	ADS N-12 60" x 99 Inside #1
			Inside= 59.5"W x 59.5"H => 19.30 sf x 20.00'L = 386.0 cf
			Outside= 67.0"W x 67.0"H => 22.91 sf x 20.00'L = 458.2 cf
			Row Length Adjustment= +11.00' x 19.30 sf x 11 rows
			80.59' Header x 19.30 sf x 2 = 3,110.7 cf Inside
		43,660 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	45.00'	24.0" Vert. Orifice C= 0.600
#2	Primary	47.50'	8.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=51.40 cfs @ 12.12 hrs HW=49.31' TW=48.84' (Dynamic Tailwater) -1=Orifice (Orifice Controls 10.34 cfs @ 3.29 fps) -2=Sharp-Crested Rectangular Weir (Weir Controls 41.06 cfs @ 2.97 fps)

Summary for Link PA-1:

Inflow Are	ea =	11.429 ac, 7	77.46% Impervious,	Inflow Depth > 7.6	66" for 50-Year event
Inflow	=	69.28 cfs @	12.11 hrs, Volume	= 7.293 af	
Primary	=	69.28 cfs @	12.11 hrs, Volume	= 7.293 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs



GENERAL CALCULATIONS - WQV and WQF (optional worksheet)

This worksheet may be useful when designing a BMP **that does not fit into one of the specific worksheets already provided** (i.e. for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

10.17	ас	A = Area draining to the practice
8.69	ас	A ₁ = Impervious area draining to the practice
0.86	decimal	I = Percent impervious area draining to the practice, in decimal form
0.82	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x l)
8.33	ac-in	WQV= 1" x Rv x A
30,249	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.82	inches	Q = Water quality depth. Q = WQV/A
98	unitless	CN = Unit peak discharge curve number. CN =1000/(10+5P+10Q-10*[Q ² + 1.25*Q*P] ^{0.5})
0.2	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.034	inches	Ia = Initial abstraction. Ia = 0.2S
5.0	minutes	T _c = Time of Concentration
600.0	cfs/mi ² /in	${\sf q}_{\sf u}$ is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
7.812	cfs	WQF = $q_u \times WQV$. Conversion: to convert "cfs/mi ² /in * ac-in" to "cfs" multiply by 1mi ² /640ac.

Designer's Notes:

This calculation represents the treatment train directed to Contech Jellyfish Treatment Unit.

Full Treatment in compliance with Env-Wq 1508.10 shall be achieved by use of a proprietary flow-through device. The proposed Contech Jellyfish Treatment Unit - Model#: JFPD0816 will be used to treat the WQF as calculated in the above spreadsheet. The specified device is designed to treat up to 7.84 cfs of flow.

P0595-015_Post

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Stage-Discharge for Pond POS-01:

Elevation	Discharge	Primary	Secondary	Elevation	Discharge	Primary	Secondary
45.00					5 73	5 73	0.00
45.00	0.00	0.00	0.00	46.06	5.03	5.03	0.00
45.02	0.00	0.00	0.00	46.08	6 12	6.12	0.00
45.04	0.01	0.01	0.00	46 10	6.32	6.32	0.00
45.00	0.02	0.02	0.00	46.12	6 52	6 52	0.00
45.00	0.04	0.06	0.00	46 14	6 72	6 72	0.00
45 12	0.09	0.09	0.00	46 16	6.93	6.93	0.00
45.14	0.12	0.12	0.00	46.18	7.13	7.13	0.00
45.16	0.16	0.16	0.00	46.20	7.34	7.34	0.00
45.18	0.20	0.20	0.00	46.22	7.55	7.55	0.00
45.20	0.25	0.25	0.00	46.24	7.76	7.76	0.00
45.22	0.30	0.30	0.00	46.26	7.97	7.97	0.00
45.24	0.36	0.36	0.00	46.28	8.18	8.18	0.00
45.26	0.42	0.42	0.00	<mark>46.30</mark>	8.39	8.39	0.00
45.28	0.48	0.48	0.00	46.32	8.61	8.60	0.00
45.30	0.55	0.55	0.00	46.34	8.83	8.82	0.01
45.32	0.62	0.62	0.00	46.36	9.06	9.03	0.03
45.34	0.70	0.70	0.00	46.38	9.30	9.25	0.05
45.36	0.79	0.79	0.00	46.40	9.54	9.46	0.08
45.38	0.87	0.87	0.00	46.42	9.79	9.68	0.11
45.40	0.96	0.96	0.00	46.44	10.05	9.89	0.15
45.42	1.06	1.06	0.00	46.46	10.31	10.11	0.20
45.44	1.16	1.16	0.00	46.48	10.57	10.32	0.25
45.46	1.26	1.26	0.00	46.50	10.85	10.54	0.31
45.48	1.37	1.37	0.00	40.52	11.13	10.75	0.37
45.50	1.48	1.48	0.00	40.54	11.41	10.97	0.44
45.52	1.59	1.09	0.00	40.00	11.70	11.10	0.52
45.54	1.71	1.71	0.00	40.50	12.99	11.59	0.00
45.50	1.00	1.05	0.00	46.62	12.29	11.00	0.03
45.60	2.09	2.09	0.00	46 64	12.00	12.02	0.70
45.62	2.00	2 22	0.00	46.66	13 21	12.02	0.98
45.64	2.36	2.36	0.00	46.68	13.52	12.43	1.09
45.66	2.50	2.50	0.00	46.70	13.84	12.63	1.21
45.68	2.64	2.64	0.00	46.72	14.16	12.83	1.33
45.70	2.79	2.79	0.00	46.74	14.48	13.03	1.45
45.72	2.94	2.94	0.00	46.76	14.81	13.23	1.59
45.74	3.09	3.09	0.00	46.78	15.14	13.42	1.72
45.76	3.25	3.25	0.00	46.80	15.47	13.60	1.86
45.78	3.41	3.41	0.00	46.82	15.80	13.79	2.01
45.80	3.57	3.57	0.00	46.84	16.13	13.97	2.16
45.82	3.74	3.74	0.00	46.86	16.46	14.14	2.32
45.84	3.91	3.91	0.00	46.88	16.79	14.31	2.49
45.86	4.08	4.08	0.00	46.90	17.12	14.47	2.65
45.88	4.25	4.25	0.00	46.92	17.45	14.62	2.83
45.90	4.43	4.43	0.00	46.94	1/./7	14./7	3.01
45.92	4.61	4.61	0.00	46.96	18.09	14.90	3.19
45.94	4.79	4.79	0.00	46.98	18.40	15.03	3.38
40.90	4.97	4.97	0.00	47.00	10.70	15.13	3.51 277
40.90 16 00	5.10	U.10	0.00	47.02	19.00	10.20 15 12	3.11 207
40.00	5.55	5.55	0.00	47.04 47.06	19.40	15.43	J.97
70.02	0.04	0.04	0.00	-7.00	13.15	10.07	т . 10

1.4 Peak Rate Comparisons

The following table summarizes and compares the pre- and post-development peak runoff rates from the 1-year, 2-year, 10-year, 25-year and 50-year storm events at each point of analysis.

Table 1.4 – Comparison of Pre- and Post-Development Flows (CFS)								
Point of Analysis	1-Year Storm	2-Year Storm	10-Year Storm	25-Year Storm	50-Year Storm			
Pre-Development Watershed (PA-1)	20.01	27.08	49.71	67.64	84.49			
Post-Development Watershed (PA-1)	13.97	18.54	39.65	55.93	69.28			

The Peak Runoff Control Requirements of Env-Wq 1507.06 are required to be met for the point of analysis. As shown in Table 1.4 the Post-Development flows are decreased from the Pre-Development flows at PA-1.

The Channel Protection requirements of Env-Wq 1507.05 are met for the point of analysis as the 2-year, 24-hour Post-Development peak flowrate (18.54 cfs) is less than or equal to the 1-year, 24-hour pre-development peak flowrate (20.01 cfs).

1.5 Mitigation Description

1.5.1 Mitigation Calculations

The proposed project area has been evaluated to treat the required water quality flow (WQF) per the requirements of Env-Wq 1500. These calculations have been provided in appendix E of this report.

1.5.2 Pre-Treatment Methods for Protecting Water Quality

Pretreatment methods for protecting water quality on this site include offline deep sump catch basins with oil water separator hoods.

Table 1.5 – Pollutant Removal Efficiencies								
BMP	Total Suspended Solids	Total Phosphorus						
Deep Sump Catch Basin w/Hood ¹	15%	5%						

1. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix B.

1.5.3 Treatment Methods for Protecting Water Quality

The runoff from proposed impervious areas will be captured in the proposed closed drainage system directed to an underground detention system and then treated by an ADS Water Quality Unit. The water quality unit has been sized to treat the Water Quality Flow from the contributing subcatchment areas. The system has been designed with an internal bypass structure that diverts peak flows greater than the 1-inch storm event.

Table 1.6 below, shows design pollutant removal efficient for the proposed Jellyfish Filter Treatment Unit which meets the requirements of Env-Wq 1508.10. Additional reference information on the proposed Jellyfish Filter Treatment Unit can be found in Appendix C.

Table 1.6 – Pollutant Removal Efficiencies								
BMP	Total Suspended Solids	Total Phosphorus						
Jellyfish Filter Treatment Unit ¹	89%	59%						

1. Pollutant removal efficiencies per Contech Engineered Solutions Jellyfish Filter Performance testing results.

Table 1.7 – Pollutant	Table 1.7 – Pollutant Removal Calculations									
	Total Suspended Solids Removal									
BMP	TSS Removal Rate	Starting TSS Load	TSS Removed	Remaining TSS Load						
Deep Sump Catch Basin w/Hood ¹	0.15	1.00	0.15	0.85						
Jellyfish Filter Treatment Unit ²	0.89	0.85	0.76	0.09						
	Total Su	uspended Soli	ds Removed:	91%						

	Total Phos	phorus Remov	val	
	TP Removal Rate	Starting TP Load	TP Removed	Remaining TP Load
Deep Sump Catch Basin w/Hood ¹	0.05	1.00	0.05	0.95
Jellyfish Filter Treatment Unit ²	0.59	0.95	0.56	0.39
	Тс	otal Phosphor	us Removed:	61%

1. Pollutant removal efficiencies from NH Stormwater Manual Volume 2, Appendix B.

 Pollutant removal efficiencies per Contech Engineered Solutions Jellyfish Filter Performance testing results.





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APPENDIX B

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.808 degrees West
Latitude	43.075 degrees North
Elevation	0 feet
Date/Time	Tue, 29 Jun 2021 09:16:17 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.82	1.04	1yr	0.70	0.98	1.21	1.56	2.03	<mark>2.66</mark>	2.92	1yr	2.35	2.81	3.21	3.94	4.54	1yr
2yr	0.32	0.50	0.62	0.81	1.02	1.30	2yr	0.88	1.18	1.51	1.94	2.49	<mark>3.21</mark>	3.57	2yr	2.84	3.43	3.93	4.67	5.32	2yr
5yr	0.37	0.58	0.73	0.97	1.24	1.60	5yr	1.07	1.46	1.88	2.43	3.14	4.07	4.57	5yr	3.60	4.40	5.03	5.93	6.70	5yr
10yr	0.41	0.64	0.81	1.11	1.44	1.88	10yr	1.25	1.72	2.22	2.88	3.74	<mark>4.87</mark>	5.53	10yr	4.31	5.31	6.07	7.10	7.98	10yr
25yr	0.47	0.75	0.96	1.32	1.76	2.32	25yr	1.52	2.13	2.76	3.61	4.73	<mark>6.17</mark>	7.10	25yr	5.46	6.82	7.78	9.02	10.06	25yr
50yr	0.53	0.85	1.09	1.52	2.05	2.74	50yr	1.77	2.51	3.27	4.30	5.65	<mark>7.40</mark>	8.58	50yr	6.55	8.25	9.40	10.81	11.99	50yr
100yr	0.60	0.97	1.25	1.76	2.39	3.22	100yr	2.06	2.96	3.86	5.11	6.74	8.86	10.38	100yr	7.84	9.98	11.35	12.96	14.30	100yr
200yr	0.67	1.09	1.41	2.02	2.79	3.80	200yr	2.41	3.49	4.58	6.09	8.06	10.62	12.55	200yr	9.40	12.07	13.71	15.54	17.05	200yr
500yr	0.79	1.30	1.69	2.45	3.43	4.71	500yr	2.96	4.34	5.71	7.65	10.19	13.50	16.15	500yr	11.95	15.53	17.61	19.77	21.55	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.73	0.89	1yr	0.63	0.87	0.92	1.32	1.66	2.23	2.53	1yr	1.97	2.43	2.85	3.16	3.88	1yr
2yr	0.32	0.49	0.60	0.81	1.00	1.19	2yr	0.86	1.16	1.37	1.82	2.34	3.05	3.46	2yr	2.70	3.32	3.82	4.55	5.07	2yr
5yr	0.35	0.54	0.67	0.92	1.17	1.40	5yr	1.01	1.37	1.61	2.13	2.74	3.80	4.21	5yr	3.36	4.05	4.71	5.54	6.26	5yr
10yr	0.39	0.59	0.73	1.03	1.32	1.60	10yr	1.14	1.56	1.81	2.40	3.07	4.38	4.89	10yr	3.88	4.70	5.46	6.43	7.22	10yr
25yr	0.44	0.67	0.83	1.19	1.56	1.90	25yr	1.35	1.86	2.10	2.78	3.56	4.70	5.94	25yr	4.16	5.72	6.69	7.84	8.73	25yr
50yr	0.48	0.73	0.91	1.31	1.77	2.17	50yr	1.53	2.12	2.35	3.10	3.97	5.31	6.88	50yr	4.70	6.61	7.80	9.11	10.08	50yr
100yr	0.54	0.81	1.02	1.47	2.02	2.47	100yr	1.74	2.42	2.63	3.45	4.40	5.96	7.96	100yr	5.27	7.65	9.09	10.60	11.64	100yr
200yr	0.59	0.89	1.13	1.64	2.29	2.82	200yr	1.98	2.76	2.94	3.83	4.86	6.67	9.21	200yr	5.91	8.85	10.59	12.34	13.46	200yr
500yr	0.69	1.03	1.32	1.92	2.73	3.38	500yr	2.36	3.30	3.41	4.39	5.56	7.76	11.16	500yr	6.87	10.73	12.98	15.12	16.29	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	1yr	0.77	1.06	1.26	1.75	2.21	3.00	3.14	1yr	2.66	3.02	3.58	4.37	5.05	1yr
2yr	0.33	0.52	0.64	0.86	1.06	1.26	2yr	0.92	1.24	1.48	1.96	2.51	3.43	3.69	2yr	3.03	3.54	4.07	4.82	5.64	2yr
5yr	0.40	0.61	0.76	1.05	1.33	1.61	5yr	1.15	1.58	1.88	2.53	3.24	4.33	4.93	5yr	3.84	4.74	5.36	6.34	7.13	5yr
10yr	0.47	0.71	0.89	1.24	1.60	1.96	10yr	1.38	1.92	2.27	3.09	3.93	5.33	6.16	10yr	4.72	5.92	6.75	7.80	8.71	10yr
25yr	0.57	0.87	1.08	1.54	2.03	2.55	25yr	1.75	2.49	2.93	4.05	5.10	7.79	8.26	25yr	6.90	7.95	9.02	10.27	11.35	25yr
50yr	0.66	1.01	1.26	1.81	2.43	3.10	50yr	2.10	3.03	3.57	4.96	6.24	9.76	10.34	50yr	8.64	9.94	11.25	12.63	13.88	50yr
100yr	0.78	1.18	1.47	2.13	2.92	3.77	100yr	2.52	3.68	4.34	6.10	7.64	12.21	12.94	100yr	10.81	12.44	14.02	15.57	16.99	100yr
200yr	0.91	1.37	1.73	2.51	3.50	4.59	200yr	3.02	4.49	5.29	7.51	9.36	15.32	16.21	200yr	13.56	15.59	17.49	19.17	20.80	200yr
500yr	1.12	1.67	2.15	3.13	4.44	5.95	500yr	3.84	5.81	6.86	9.90	12.27	20.70	21.84	500yr	18.32	21.00	23.45	25.25	27.19	500yr



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APPENDIX C



Jellyfish[®] Filter Maintenance Guide







JELLYFISH[®] FILTER INSPECTION & MAINTENANCE GUIDE

Jellyfish units are often just one of many structures in a more comprehensive stormwater drainage and treatment system.

In order for maintenance of the Jellyfish filter to be successful, it is imperative that all other components be properly maintained. The maintenance and repair of upstream facilities should be carried out prior to Jellyfish maintenance activities.

In addition to considering upstream facilities, it is also important to correct any problems identified in the drainage area. Drainage area concerns may include: erosion problems, heavy oil loading, and discharges of inappropriate materials.

TABLE OF CONTENTS

Inspection and Maintenance Overview	3
Inspection Procedure	3
Maintenance Procedure	4
Cartridge Assembly & Cleaning	5
Inspection Process	7

1.0 Inspection and Maintenance Overview

The primary purpose of the Jellyfish® Filter is to capture and remove pollutants from stormwater runoff. As with any filtration system, these pollutants must be removed to maintain the filter's maximum treatment performance. Regular inspection and maintenance are required to insure proper functioning of the system.

Maintenance frequencies and requirements are site specific and vary depending on pollutant loading. Additional maintenance activities may be required in the event of non-storm event runoff, such as base-flow or seasonal flow, an upstream chemical spill or due to excessive sediment loading from site erosion or extreme runoff events. It is a good practice to inspect the system after major storm events.

Inspection activities are typically conducted from surface observations and include:

- Observe if standing water is present
- Observe if there is any physical damage to the deck or cartridge lids
- Observe the amount of debris in the Maintenance Access Wall (MAW) or inlet bay for vault systems

Maintenance activities include:

- Removal of oil, floatable trash and debris
 - Removal of collected sediments
 - Rinsing and re-installing the filter cartridges
- Replace filter cartridge tentacles, as needed



2.0 Inspection Timing

Inspection of the Jellyfish Filter is key in determining the maintenance requirements for, and to develop a history of, the site's pollutant loading characteristics. In general, inspections should be performed at the times indicated below; *or per the approved project* stormwater quality documents (if applicable), whichever is more frequent.

- 1. A minimum of quarterly inspections during the first year of operation to assess the sediment and floatable pollutant accumulation, and to ensure proper functioning of the system.
- 2. Inspection frequency in subsequent years is based on the inspection and maintenance plan developed in the first year of operation. Minimum frequency should be once per year.
- 3. Inspection is recommended after each major storm event.
- 4. Inspection is required immediately after an upstream oil, fuel or other chemical spill.

3.0 Inspection Procedure

The following procedure is recommended when performing inspections:

- 1. Provide traffic control measures as necessary.
- 2. Inspect the MAW or inlet bay for floatable pollutants such as trash, debris, and oil sheen.
- 3. Measure oil and sediment depth in several locations, by lowering a sediment probe until contact is made with the floor of the structure. Record sediment depth, and presences of any oil layers.
- 4. Inspect cartridge lids. Missing or damaged cartridge lids to be replaced.
- 5. Inspect the MAW (where appropriate), cartridge deck and receptacles, and backwash pool weir, for damaged or broken components.

3.1 Dry weather inspections

- Inspect the cartridge deck for standing water, and/or sediment on the deck.
- No standing water under normal operating conditions.
- Standing water inside the backwash pool, but not outside the backwash pool indicates, that the filter cartridges need to be rinsed.



Inspection Utilizing Sediment Probe

- Standing water outside the backwash pool is not anticipated and may indicate a backwater condition caused by high water elevation in the receiving water body, or possibly a blockage in downstream infrastructure.
- Any appreciable sediment (≥1/16") accumulated on the deck surface should be removed.

3.2 Wet weather inspections

- Observe the rate and movement of water in the unit. Note the depth of water above deck elevation within the MAW or inlet bay.
- Less than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges (i.e. cartridges located outside the backwash pool).
- Greater than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges and each of the hi-flo cartridges (i.e. cartridges located inside the backwash pool), and water should be overflowing the backwash pool weir.
- 18 inches or greater and relatively little flow is exiting the cartridge lids and outlet pipe, this condition indicates that the filter cartridges need to be rinsed.

4.0 Maintenance Requirements

Required maintenance for the Jellyfish Filter is based upon results of the most recent inspection, historical maintenance records, or the site specific water quality management plan; whichever is more frequent. In general, maintenance requires some combination of the following:

- 1. Sediment removal for depths reaching 12 inches or greater, or within 3 years of the most recent sediment cleaning, whichever occurs sooner.
- 2. Floatable trash, debris, and oil removal.
- 3. Deck cleaned and free from sediment.
- 4. Filter cartridges rinsed and re-installed as required by the most recent inspection results, or within 12 months of the most recent filter rinsing, whichever occurs sooner.
- Replace tentacles if rinsing does not restore adequate hydraulic capacity, remove accumulated sediment, or if damaged or missing. It is recommended that tentacles should remain in service no longer than 5 years before replacement.
- 6. Damaged or missing cartridge deck components must be repaired or replaced as indicated by results of the most recent inspection.
- The unit must be cleaned out and filter cartridges inspected immediately after an upstream oil, fuel, or chemical spill.
 Filter cartridge tentacles should be replaced if damaged or compromised by the spill.

5.0 Maintenance Procedure

The following procedures are recommended when maintaining the Jellyfish Filter:

- 1. Provide traffic control measures as necessary.
- 2. Open all covers and hatches. Use ventilation equipment as required, according to confined space entry procedures. *Caution: Dropping objects onto the cartridge deck may cause damage*.

- 3. Perform Inspection Procedure prior to maintenance activity.
- 4. To access the cartridge deck for filter cartridge service, descend into the structure and step directly onto the deck. Caution: Do not step onto the maintenance access wall (MAW) or backwash pool weir, as damage may result. Note that the cartridge deck may be slippery.
- 5. Maximum weight of maintenance crew and equipment on the cartridge deck not to exceed 450 lbs.

5.1 Filter Cartridge Removal

- 1. Remove a cartridge lid.
- 2. Remove cartridges from the deck using the lifting loops in the cartridge head plate. Rope or a lifting device (available from Contech) should be used. *Caution: Should a snag occur, do not force the cartridge upward as damage to the tentacles may result. Wet cartridges typically weigh between 100 and 125 lbs.*
- 3. Replace and secure the cartridge lid on the exposed empty receptacle as a safety precaution. Contech does not recommend exposing more than one empty cartridge receptacle at a time.

5.2 Filter Cartridge Rinsing

1. Remove all 11 tentacles from the cartridge head plate. Take care not to lose or damage the O-ring seal as well as the plastic threaded nut and connector.



- Position tentacles in a container (or over the MAW), with the threaded connector (open end) facing down, so rinse water is flushed through the membrane and captured in the container.
- 3. Using the Jellyfish rinse tool (available from Contech) or a low-pressure garden hose sprayer, direct water spray onto the tentacle membrane, sweeping from top to bottom along the length of the tentacle. Rinse until all sediment is removed from the membrane. *Caution: Do not use a high pressure sprayer or focused stream of water on the membrane. Excessive water pressure may damage the membrane.*

- 4. Collected rinse water is typically removed by vacuum hose.
- 5. Reassemble cartridges as detailed later in this document. Reuse O-rings and nuts, ensuring proper placement on each tentacle.

5.3 Sediment and Flotables Extraction

- Perform vacuum cleaning of the Jellyfish Filter only after filter cartridges have been removed from the system. Access the lower chamber for vacuum cleaning only through the maintenance access wall (MAW) opening. Be careful not to damage the flexible plastic separator skirt that is attached to the underside of the deck on manhole systems. Do not lower the vacuum wand through a cartridge receptacle, as damage to the receptacle will result.
- 2. Vacuum floatable trash, debris, and oil, from the MAW opening or inlet bay. Alternatively, floatable solids may be removed by a net or skimmer.



Vacuuming Sump Through MAW

- 3. Pressure wash cartridge deck and receptacles to remove all sediment and debris. Sediment should be rinsed into the sump area. Take care not to flush rinse water into the outlet pipe.
- 4. Remove water from the sump area. Vacuum or pump equipment should only be introduced through the MAW or inlet bay.
- 5. Remove the sediment from the bottom of the unit through the MAW or inlet bay opening.



Vacuuming Sump Through MAW

6. For larger diameter Jellyfish Filter manholes (≥8-ft) and some vaults complete sediment removal may be facilitated by removing a cartridge lid from an empty receptacle and inserting a jetting wand (not a vacuum wand) through the receptacle. Use the sprayer to rinse loosened sediment toward the vacuum hose in the MAW opening, being careful not to damage the receptacle.

5.4 Filter Cartridge Reinstallation and Replacement

- Cartridges should be installed after the deck has been cleaned. It is important that the receptacle surfaces be free from grit and debris.
- 2. Remove cartridge lid from deck and carefully lower the filter cartridge into the receptacle until head plate gasket is seated squarely in receptacle. *Caution: Do not force the cartridge downward; damage may occur.*
- 3. Replace the cartridge lid and check to see that both male threads are properly seated before rotating approximately 1/3 of a full rotation until firmly seated. Use of an approved rim gasket lubricant may facilitate installation. See next page for additional details.
- 4. If rinsing is ineffective in removing sediment from the tentacles, or if tentacles are damaged, provisions must be made to replace the spent or damaged tentacles with new tentacles. Contact Contech to order replacement tentacles.

5.5 Chemical Spills

Caution: If a chemical spill has been captured, do not attempt maintenance. Immediately contact the local hazard response agency and contact Contech.

5.6 Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads. Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local waste water treatment plant or on-site treatment and discharge.

Jellyfish Filter Components & Filter Cartridge Assembly and Installation



TABLE 1: BOM	
--------------	--

DESCRIPTION
JF HEAD PLATE
JF TENTACLE
JF O-RING
JF HEAD PLATE
GASKET
JF CARTRIDGE EYELET
JF 14IN COVER
JF RECEPTACLE
BUTTON HEAD CAP
SCREW M6X14MM SS
JF CARTRIDGE NUT

TABLE 2: APPROVED GASKET LUBRICANTS

PART NO.	MFR	DESCRIPTION
78713	LA-CO	LUBRI-JOINT
40501	HERCULES	DUCK BUTTER
30600	OATEY	PIPE LUBRICANT
PSLUBXL1Q	PROSELECT	PIPE JOINT LUBRICANT

NOTES:

Head Plate Gasket Installation:

Install Head Plate Gasket (Item 4) onto the Head Plate (Item 1) and liberally apply a lubricant from Table 2: Approved Gasket Lubricants onto the gasket where it contacts the Receptacle (Item 7) and Cartridge Lide (ITem 6). Follow Lubricant manufacturer's instructions.

Lid Assembly:

Rotate Cartridge Lid counter-clockwise until both male threads drop down and properly seat. Then rotate Cartridge Lid clock-wise approximately one-third of a full rotation until Cartridge Lid is firmly secured, creating a watertight seal.

Jellyfish Filter Inspection and Maintenance Log

Owner:				Jellyfish Model No:		
Location:				GPS Coordinates:		
Land Use:	Commercial:		Industrial:		Service Station:	
Roadway/Highway:			Airport:		Residential:	

Date/Time:			
Inspector:			
Maintenance Contractor:			
Visible Oil Present: (Y/N)			
Oil Quantity Removed:			
Floatable Debris Present: (Y/N)			
Floatable Debris Removed: (Y/N)			
Water Depth in Backwash Pool			
Draindown Cartridges externally rinsed and recommissioned: (Y/N)			
New tentacles put on Draindown Cartridges: (Y/N)			
Hi-Flo Cartridges externally rinsed and recommissioned: (Y/N)			
New tentacles put on Hi-Flo Cartridges: (Y/N)			
Sediment Depth Measured: (Y/N)			
Sediment Depth (inches or mm):			
Sediment Removed: (Y/N)			
Cartridge Lids intact: (Y/N)			
Observed Damage:			
Comments:			





800.338.1122 www.ContechES.com

- Drawings and specifications are available at www.conteches.com/jellyfish.
- Site-specific design support is available from Contech Engineered Solutions.
- Find a Certified Maintenance Provider at www.conteches.com/ccmp

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Contech Engineered Solutions LLC provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, sanitary sewer, stormwater, wastewater treatment and earth stabilization products. For information on other Contech segment offerings, visit ContechES.com or call 800.338.1122

Support

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APPENDIX D

1/16/2023		Underground Injection Control Project Report	1.	of 2			
Site Number:	100330336	Project Number:	0036693				
Name and Address: <u>Mapit</u>	BUILDING 119 (SITE 36) 5B6 PEASE AIR FORCE BASE PORTSMOUTH	Responsible Party:	BUILDING 119 (SITE 36) 5B6 PORTSMOUTH				
Wellhead Protection Area:	No	Risk Level:	DW SUPPLY WITHIN 1000' OR SITE IN SWPA				
Eligibile:	REGISTRATION	Eligibility Determined on:	U4/12/2010				
MTBE:	Ν	Brownfield:	Ν				
Activities (1)							

Staff Assigned

Document Title

LOCKER

Document Type

Action

Date

04/26/2016

Activity Documents (1)

SITE #36 INJECTION REGISTRATION (5B6) ISSUED

Action Description

UIC Registration Issued

Comments

File Size

.08 MB

REGISTERED

Document Date

04/26/2016

Submittal

Date

04/12/2016

Submittal Description

REGISTRATION

UIC Application Received

<u>4601803</u>

1/16/2023		Underground Injection Control Project Report		2 of 2
Site Number:	100330336	Project Number:	0036693	
Name and Address:	BUILDING 119 (SITE 36) 5B6 PEASE AIR FORCE BASE	Responsible Party:	BUILDING 119 (SITE 36) 5B6 PORTSMOUTH	
<u>Mapit</u>	PORTSMOUTH			
Wellhead Protection Area:	No	Risk Level:	DW SUPPLY WITHIN 1000' OR SITE IN SWPA	
Assigned To:	REGISTRATION	Discovery Date:	04/12/2016	
Eligibile:		Eligibilty Determined on:		
MTBE:	N	Brownfield:	N	

No Vapor Recovery Information

1/16/2023				Superfund Site	Project Rep	oort				1 of 11
Nai	Site Number: me and Address:	7: 100330336 5: BUILDING 119 (SITE 36)			P	roject Number:	0004283 U S AIR FORCE			
	Mapit	PEASE AIR FORCE BASE PORTSMOUTH					2261 HUGHES AVE, STE 15 JBSA LACKLAND TX 78236	55 6-9853		
							PHONE: 210-395-9420			
Wellhead	Protection Area:	Unknown				Risk Level:	DW SUPPLY WITHIN 1000'	OR SITE IN SW	PA	
	Assigned To:	SANDIN			D	iscovery Date:	05/14/1993			
	Eligibile:				Eligibilty [Determined on:				
	MTBE:	N				Brownfield:	Ν			
				Activit	ies (31)					
Submittal Date	Subm	nittal Description		Staff Assigned	Action Date	Ad	ction Description		Comments	
06/09/2022	Non-Permit GW	Monitoring Result Received	UNASSIGNED)						
[Activity Do	cuments (1)					
								Document		
	5001486 R	Document Type FPORT TO DES		Document Title	NG EVENT DAT		AL 7-APR-2022	Date 06/09/2022	File Size	
40/40/0004										
10/19/2021	Additional Inform	ation Received	UNASSIGNEL)						
				<u>Activity Do</u>	cuments (1)					
		Document Type		Document Title				Document Date	File Size	
	<u>4958065</u> R	EPORT TO DES		FINAL SS036 FAALL 2021 R NOTIFICATION	EMEDIAL ACTI	ON-OPERATIO	NS FIELD WORK	10/19/2021	4.61 MB	
10/23/2020	Annual Report R	eceived	UNASSIGNED)						
1				Activity Do	cuments (1)					
								Document		
	4884500 R	Document Type FPORT		Document Title		IG REPORT		Date	File Size	
01/00/0040		ation Dessived							0.00 1112	
01/22/2019	Additional Inform		UNASSIGNEL)						
				<u>Activity Do</u>	cuments (1)					
		Document Type		Document Title				Document Date	File Size	
	<u>4755436</u> R	REPORT TO DES FINAL IN SITU CHEMICAL OXIDATION PILOT STUDY COMPLETION REPORT							5.00 MB	

1/16/2023				Superfund Site	Project Re	port				2 of 11
	Site Number:	100330336	0336 Project Number: 0004283							
Na	Name and Address: BUILDING 119 (SITE 36) PEASE AIR FORCE BASE			Responsible Party: USAIR FORCE 2261 HUGHES AVE, STE 15				55		
	<u>Mapit</u>	PORTSMOUTH					JBSA LACKLAND TX 7823	6-9853		
							PHONE: 210-395-9420			
Wellhead	Protection Area:	Unknown				Risk Level:	DW SUPPLY WITHIN 1000	OR SITE IN SV	/PA	
	Assigned To:	SANDIN			C	Discovery Date:	05/14/1993			
	Eligibile:				Eligibilty I	Determined on:				
	MTBE:	N				Brownfield:	Ν			
				Activiti	ies (31)					
Submittal Date	nittal submittal Description			Staff Assigned	Action Date	A	ction Description	Comments		
11/14/2018	18 Additional Information Received SANDIN 12/14/2018					TECHNICAL IN	FORMATION PROVIDED	REPORT INCO	OMPLETE	
				Activity Do	cuments (2)					
		Document Type	•	Document Title				Document Date	File Size	
	4749416 C	ORRESPONDENCE		DES COMMENTS 12.14.18				12/14/2018	.08 MB	
	<u>4746936</u> R	EPORT TO DES		DRAFT IN-SITU CHEMICAL	DXIDATION PII	LOT STUDY CC	MPLETION REPORT	11/14/2018	5.00 MB	
11/07/2018	Additional Inform	ation Received	OTHER		11/13/2018	No Action Nece	essary (Report filed)	WETLANDS V	IOLATIONS CA	SE CLOSED
				Activity Doc	cuments (2)					
		Devent						Document		
	4747011 C			WETLANDS CASE CLOSED				Date 11/13/2018	-Tile Size	
	4746460 REPORT TO DES 2018 WETLAND MONITORING REPORT					11/07/2018	2.90 MB			
01/31/2018	Additional Inform	ation Received	UNASSIGNED)						
L				Activity Do	cuments (1)			1		
	Decument									
		Document Type	•	Document Title				Date	File Size	
	4696966 R	REPORT TO DES FINAL IN SITU CHEMICAL OXIDATION PILOT STUDY					01/31/2018	5.00 MB		
1/16/2023				Superfund Site	Project Rep	port				3 of 11
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	Site Number:	100330336			Р	roject Number:	0004283			
Na	me and Address:	BUILDING 119 (SITE 36) PEASE AIR FORCE BASE	E	Responsible Party: USAIR FORCE 2261 HUGHES AVE, STE 155						
	<u>Mapit</u>	PORTSMOUTH					JBSA LACKLAND TX 7823	6-9853		
Wellhead	d Protection Area:	Unknown			/PA					
	Assigned To:	SANDIN			Discovery Date: 05/14/1993					
	Eligibile:				Eligibilty [Determined on:				
	MTBE:	Ν				Brownfield:	Ν			
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	4688637 R	EPORT TO DES		2017 WETLAND MONITORIN	IG REPORT			12/20/2017	5.00 MB	
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1/16/2023				Superfund Site	Project Re	port				4 of 11
	Site Number	: 100330336			Р	roject Number:	0004283			
Na	me and Address	BUILDING 119 (SITE 36)	_	Responsible Party: USAIR FORCE				-		
	<u>Mapit</u>	PEASE AIR FORCE BASE PORTSMOUTH	-	JBSA LACKLAND TX 78236						
				PHONE: 210-395-9420						
Wellhead	Protection Area	Unknown				Risk Level:	DW SUPPLY WITHIN 1000'	OR SITE IN SV	/PA	
	Assigned To:	SANDIN			C	iscovery Date:	05/14/1993			
	Eligibile	:		Eligibilty Determined on:						
	MTBE	: N				Brownfield:	Ν			
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	<u>4635429</u> I	REPORT TO DES	;	2016 WETLAND MONITORING REPORT				12/21/2016	3.81 MB	
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	<u>4632437</u>	REPORT TO DES		2015 ANNUAL REPORT				11/15/2016	5.00 MB	
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Na	me and Address:	BUILDING 119 (SITE 36) PEASE AIR FORCE BASE	E	Responsible Party: USAIR FORCE 2261 HUGHES AVE, STE 15				5			
	<u>Mapit</u>	PORTSMOUTH			6-9853						
							PHONE. 210-333-3420				
Wellhead	Protection Area:	Unknown		Risk Level: DW SUPPLY WITHIN 1000'				OR SITE IN SW	/PA		
	Assigned To:	SANDIN			E	Discovery Date:	05/14/1993				
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	4630401 C	ORRESPONDENCE		DES COMMENTS 11.4.16 TO ISCO RESTART PLAN 10.27.16				11/04/2016	.08 MB		
	<u>4629781</u> R	EPORT TO DES		IN SITU CHEMICAL OXIDATI	ON (ISCO) INJ	ECTIONS RES	TART PLAN	10/27/2016	1.75 MB		
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	4616481 R	EPORT TO DES		DRAFT LONG-TERM MONIT	ORING PLAN F	REVISION 5		08/10/2016	5.00 MB		

1/16/2023				Superfund Site	Project Re	port				6 of 11
	Site Number:	100330336			P	roject Number:	0004283			
Na	me and Address:	BUILDING 119 (SITE 36) PEASE AIR FORCE BASE PORTSMOUTH	E	Responsible Party: USAIR FORCE 2261 HUGHES AVE, STE 155 JBSA LACKLAND TX 78236				55 6-9853		
				PHONE: 210-395-9420						
Wellhead	Protection Area:	Unknown		Risk Level: DW SUPPLY WITHIN 1000'					/PA	
	Assigned To:	SANDIN		Discovery Date: 05/14/1993						
	Eligibile:			Eligibility Determined on:						
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07/27/2016	Additional Information	ation Received	HILTON		09/14/2016	TECHNICAL IN	FORMATION PROVIDED	AF PROCEED CONCURREN RESULTED IN	ING WITHOUT F CE. IMPLEMEN WETLANDS VI	REGULATOR ITATION OLATIONS
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	4624264 C	ORRESPONDENCE	2	Des EMAIL 9.22.16				09/22/2016	.07 MB	
	<u>4614946</u> RI	EPORT TO DES		FINAL ADDITIONAL INVEST	IGATION AND	PILOT STUDY \	WORK PLAN 01-JUL-2016	07/27/2016	5.00 MB	
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06/09/2016	Additional Information Received HILTON				06/30/2016	Not Approved		SEE 6.30.16 P DRAFT PSWP	BC LETTER AT	TACHED TO
				Activity Do	cuments (1)					
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	<u>4606630</u> C	ORRESPONDENCE-TO		RESPONSE TO COMMENTS INVESTIGATION STATUS RI	ON THE DRA	FT SUPPPLEM R-2016	ENTAL SITE	06/09/2016	.19 MB	

1/16/2023		Superfund Site Project Report	7 of	11
Site Number:	100330336	Project Number:	0004283	
Name and Address: <u>Mapit</u>	BUILDING 119 (SITE 36) PEASE AIR FORCE BASE PORTSMOUTH	Responsible Party:	U S AIR FORCE 2261 HUGHES AVE, STE 155 JBSA LACKLAND TX 78236-9853	
			PHONE: 210-395-9420	
Wellhead Protection Area:	Unknown	Risk Level:	DW SUPPLY WITHIN 1000' OR SITE IN SWPA	
Assigned To:	SANDIN	Discovery Date:	05/14/1993	
Eligibile:		Eligibilty Determined on:		
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Submittal Date	Submittal Description	Staff Assigned	Action Date	Action Description	Comments					
06/09/2016	Work Plan Received	HILTON	06/30/2016	Not Approved	PREVIOUS COMMENTS UNRESOLVED, DES DOES NOT CONCUR WITH APPROACH AS PROPOSED. PROGRAM- WIDE LETTTER OF 6.30.16 APPLIES					

	Activity Documents (3)									
	Document Type	Document Title	Document Date	File Size						
<u>4624250</u>	CORRESPONDENCE	EMAIL TRANSMITING DES 6.30.16 LETTER	06/30/2016	.04 MB						
<u>4624249</u>	CORRESPONDENCE	DES LETTER 6.30.16	06/30/2016	.04 MB						
<u>4606631</u>	REPORT TO DES	DRAFT ADDITIONAL INVESTIGATION AND PILOT STUDY WORK PLAN 01-JUN-2016	06/09/2016	5.00 MB						

06/05/2015	Additional Information Received	UNASSIGNED			
01/27/2015	Additional Information Received	HILTON	03/31/2015	TECHNICAL INFORMATION PROVIDED	DES EMAIL DETAILING REPORT AND CONCEPTUAL SITE MODEL DEFICIENCIES

	Activity Documents (2)									
	Document Type	Document Title	Document Date	File Size						
<u>4541861</u>	CORRESPONDENCE	DES EMAIL COMMENTS 3.31.15 TO 1.26.15 SSI STATUS REPORT	03/31/2015	.06 MB						
<u>4535965</u>	REPORT TO DES	SUPPLEMENTAL SITE INVESTIGATION STATUS REPORT SITE 36 SS036 BUILDING 119 26-JAN-2015	01/27/2015	5.00 MB						

1/16/2023				Superfund Site	Project Re	port				8 of 11
	Site Number:	100330336			Р	roject Number:	0004283			
Na	me and Address:	BUILDING 119 (SITE 36) PEASE AIR FORCE BASE PORTSMOUTH	:	Responsible Party: USAIR FORCE 2261 HUGHES AVE, STE 1 JBSA LACKLAND TX 7823						
	mapr									
Wellhead	Protection Area:	Unknown			Risk Level: DW SUPPLY WITHIN 1000' OR SITE IN SWPA					
	Assigned To:	SANDIN			C	iscovery Date:	05/14/1993			
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	MTBE: N					Brownfield:	N			
				Activiti	ies (31)					
Submittal Date	Subn	nittal Description		Staff Assigned	Action Date	A	ction Description		Comments	
02/10/2014	Additional Inform	nation Received	HILTON		10/02/2014	TECHNICAL IN	FORMATION PROVIDED	DES EMAIL CO AND WORK TH	DMMENTS TO S HROUGH SUMN	SITE STATUS IER 2014
				Activity Do	cuments (4)			•		
		Document Type		Document Title				Document Date	File Size	
	<u>4520591</u> C	ORRESPONDENCE		SITE 36 ADDITIONAL COMM	IENTS-CONCE	RNS		11/03/2014	.08 MB	
	<u>4521795</u> C	ORRESPONDENCE		10-2-14 DES EMAIL				10/02/2014	.07 MB	
	4487323 CORRESPONDENCE SITE 36 STATUS REPORT AND WORK PLAN; DES COMMENTS				ENTS	03/17/2014	.05 MB			
	4484102 REPORT TO DES STATUS REPORT AND SUPPLEMENTAL SITE INVESTIGATION WORK PLAN ADDENDUM 10-FEB-2014 ADDENDUM 10-FEB-2014					02/10/2014	3.72 MB			
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<u>4424839</u>	CORRESPONDENCE-FROM	SITE 36 S HILTON DEC 13 2012 EMAIL TO SHAW ENV	12/13/2012	.03 MB

1/16/2023				Superfund Site	Project Re	port				9 of 11
	Site Number:	100330336			Р	roject Number:	0004283			
Na	me and Address:	BUILDING 119 (SITE 36) PEASE AIR FORCE BASE PORTSMOUTH	I	Responsible Party: USAIR FORCE 2261 HUGHES AVE, STE 15 JBSA LACKLAND TX 78236						
				PHONE: 210-395-9420						
Wellhead	d Protection Area:	Unknown		Risk Level: DW SUPPLY WITHIN 1000' OR SITE IN SWPA						
	Assigned To:	SANDIN		Discovery Date: 05/14/1993						
	Eligibile:				Eligibility Determined on:					
	MTBE:	N				Brownfield:	N			
	Activities (31)							-		
Submittal Date	Subn	nittal Description		Staff Assigned	Action Date	A	ction Description	Comments		
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		Document Type		Document Title				Document Date	File Size	
	<u>4422065</u> R	EPORT TO DES		RESPONSE TO COMMENTS TABLE SUPPLEMENTAL SITE INVESTIGATION WORK PLAN 01-NOV-2012				11/09/2012	.14 MB	
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	4422064 R	Document Type FPORT TO DES		Document Title	TAL SITE INVE	STIGATION WO	ORK PLAN 01-NOV-2012	Date 11/09/2012	File Size	
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	4487465 C	ORRESPONDENCE		SITE 36 COMMENTS TO AUG 2012 DRAFT SOIL GW CONF SAM.				09/13/2012	.05 MB	
	<u>4487464</u> C	ORRESPONDENCE		SITE 36 COVER TO COMME	ENTS SI WORK	PLAN AUGUS	T 2012.	09/13/2012	.06 MB	
	<u>4402604</u> R	EPORT TO DES		DRAFT SUPPLEMENTAL SIT	E INVESTIGA	TION WORK PL	AN 01-AUG-2012	08/03/2012	1.43 MB	

1/16/2023				Superfund Site Project Report						
	Site Number:	100330336		Project Number: 0004283						
Na	me and Address:	BUILDING 119 (SITE 36) PEASE AIR FORCE BASE	E	Responsible Party: USAIR FORCE 2261 HUGHES AVE, STE 155						
Mapit PORTSMOOTH			PHONE: 210-395-9420							
Wellhead Protection Area: Unknown				Risk Level: DW SUPPLY WITHIN 1000' OR SITE IN SWPA						
Assigned To: SANDIN				Discovery Date: 05/14/1993						
Eligibile:				Eligibility Determined on:						
MTBE: N				Brownfield: N						
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Submittal Date	Subm	ittal Description	Staff Assigned	Action Date	A	ction Description	Comments			
12/12/2011	Additional Inform	ation Received	UNASSIGNED							
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		Document Type	Document Title				Document Date File Size			

PEASE AFB; DES REVIEW OF WHITE PAPER FOR SITE 36

07/02/1993

05/14/1993

Technical Report Approved

Comments to Waste Management Division

CDES REVIEW WHITE PAPER FOR SITE 36

12/12/2011

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1/16/2023		Superfund Site Project Report	11 of 1	1
Site Number:	100330336	Project Number:	0004283	
Name and Address:	BUILDING 119 (SITE 36) PEASE AIR FORCE BASE	Responsible Party:	U S AIR FORCE 2261 HUGHES AVE. STE 155	
<u>Mapit</u>	PORTSMOUTH		JBSA LACKLAND TX 78236-9853	
			PHONE: 210-395-9420	
Wellhead Protection Area:	Unknown	Risk Level:	DW SUPPLY WITHIN 1000' OR SITE IN SWPA	
Assigned To:	SANDIN	Discovery Date:	05/14/1993	
Eligibile:		Eligibilty Determined on:		
MTBE:	Ν	Brownfield:	Ν	

No Vapor Recovery Information

Tighe&Bond

APPENDIX E



GENERAL CALCULATIONS - WQV and WQF (optional worksheet)

This worksheet may be useful when designing a BMP **that does not fit into one of the specific worksheets already provided** (i.e. for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

10.55	ас	A = Area draining to the practice
7.99	ас	A _i = Impervious area draining to the practice
0.76	decimal	I = Percent impervious area draining to the practice, in decimal form
0.73	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x l)
7.72	ac-in	WQV= 1" x Rv x A
28,031	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.73	inches	Q = Water quality depth. Q = WQV/A
97	unitless	CN = Unit peak discharge curve number. CN =1000/(10+5P+10Q-10*[Q ² + 1.25*Q*P] ^{0.5})
0.3	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.055	inches	la = Initial abstraction. la = 0.2S
5.0	minutes	T _c = Time of Concentration
600.0	cfs/mi ² /in	${\sf q}_{\sf u}$ is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
7.239	cfs	WQF = $q_u \times WQV$. Conversion: to convert "cfs/mi ² /in * ac-in" to "cfs" multiply by 1mi ² /640ac.

Designer's Notes:

This calculation represents the treatment train directed to Contech Jellyfish Treatment Unit.

Full Treatment in compliance with Env-Wq 1508.10 shall be achieved by use of a proprietary flow-through device. The proposed Contech Jellyfish Treatment Unit - Model#: JFPD0816 will be used to treat the WQF as calculated in the above spreadsheet. The specified device is designed to treat up to 7.84 cfs of flow.

Tighe&Bond

APPENDIX F



Web Soil Survey National Cooperative Soil Survey





Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
314A	Pipestone sand, 0 to 5 percent slopes	A/D	4.7	10.0%
538A	Squamscott fine sandy loam, 0 to 5 percent slopes	C/D	3.4	7.4%
699	Urban land		36.8	79.3%
799	Urban land-Canton complex, 3 to 15 percent slopes		1.5	3.3%
Totals for Area of Inter	est	46.5	100.0%	

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.



Tighe&Bond

P0595-015 June 16, 2023

Michael R. Mates, PE Pease Development Authority 55 International Drive Portsmouth, NH 03801

Re: Trip Generation Memorandum Distribution Facility 100 New Hampshire Avenue, Portsmouth, NH

Dear Mr. Mates:

Tighe & Bond has prepared this trip generation memorandum as an update to the previously approved *Traffic Impact Assessment*, revised February 17, 2023, for an Advanced Manufacturing Facility located at 100 New Hampshire Avenue within the Pease International Tradeport in Portsmouth, NH. The applicant has revised the proposed use and site layout to construct a 100,000+/- square foot distribution facility in place of the previously proposed and approved advanced manufacturing facility. The revised site design accommodates truck access via two full access driveways on Rochester Avenue: one directly opposite Lee Street, and one east of Newfields Street. Passenger car access will be provided via a full access driveway on New Hampshire Avenue. Visitor/employee parking will be separated from truck parking and loading dock operation by an emergency access gate. The proposed building is expected to be complete and occupied by Fall 2024. This memorandum describes the proposed trip generation based on tenant data, and resultant impact on traffic operations.

Trip Generation

Site generated traffic volumes were estimated using site-specific data provided by the perspective building tenant. The distribution facility is anticipated to be a low throughput facility, operating between 5:00 AM and 5:00 PM with no overnight operations. The facility will utilize approximately 30 box trucks to deliver large-scale items such as large furniture directly to the consumer. These deliveries typically require large amounts of time, often requiring on-site assembly. As such, it is assumed each of the 30 trucks will make two delivery runs each day. Trip generation also assumes up to four large tractor trailer deliveries to provide goods to be partially assembled on site and delivered to the end customer via box truck.

Additionally, the building will be staffed by up to 30 employees who will remain at the facility throughout the day. Based on the trip generation analysis, the facility is expected to generate approximately 288 total trips (160 cars and 128 trucks) per day with the majority of the projected trips occurring outside the peak periods between 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. The full trip generation summary is shown in Table 1.

The previously developed distribution of site traffic for the full study is expected to remain the same for this tenant. Based on the low throughput of the facility, the proposed development is expected to generate significantly less site traffic than the previously approved advanced manufacturing facility.

Conclusions & Recommendations

- 1. A 100,000+/- square foot distribution facility is proposed to be constructed on the presently vacant lot on New Hampshire Avenue in the Pease Tradeport area in Portsmouth, NH. The development will provide approximately 74 parking spaces to accommodate employee and visitor parking. A total of 30 truck loading docks and 20 trailer storage spaces will also be provided. The proposed development is expected to be complete and occupied by Fall 2024.
- 2. Access to the Site will be provided via three full access, unsignalized driveways. One driveway on New Hampshire Avenue will serve passenger cars, while two driveways on Rochester Avenue will serve truck traffic to and from the proposed loading docks. Trucks will access the site to and from Rochester Avenue to the south. The employee and visitor parking area will be separated from the truck parking and loading dock area by an emergency access gate.
- 3. Based on the program data provided by the perspective tenant, the proposed manufacturing facility is expected to generate 288 trips over a typical weekday with minimal estimated trips during the peak hours. The total number of daily and peak hour trips projected are significantly lower than the previously approved trip generation, which included 996 total trips. Truck trips are also significantly reduced under the proposed site use, with minimal tractor trailer deliveries and up to 30 box trucks providing local delivery of large-scale goods such as furniture.
- 4. Based on the results of the foregoing analysis, it is the professional opinion of Tighe & Bond that the addition of site-generated traffic is expected to have a negligible effect on traffic operations within the study area.

Sincerely,

TIGHE & BOND, INC.

gy 2 Lun

Greg Lucas, PE, PTOE, RSP1 Senior Project Manager

Enclosures Trip Generation Summary (Table 1) Conceptual Site Plan

J:\P\P0595 Pro Con General Proposals\P0595-015 100 NH Avenue\Report_Evaluation\Traffic Impact Study\Traffic Study Memo Update (June 2023)\100 NH Ave Traffic Memo Update.docx

TABLE 1

Site-Generated Traffic Summary

	Entering Trips					Exiting Trips				Total Trips				
Time Period	Enter Truck	Enter Cars	Total Enter	% of Total Entering Trips	% of Total Entering Trucks	Exit Truck	Exit Cars	Total Exit	% of Total Exiting Trips	% of Total Exiting Trucks	% Total Trips	Total Trips	Total Trucks	Total Cars
5:00 AM	2	30	32	22.2%	3%			0	0.0%	0%	11.1%	32	2	30
6:00 AM	2	25	27	18.8%	3%			0	0.0%	0%	9.4%	27	2	25
7:00 AM		5	5	3.5%	0%	15		15	10.4%	23%	6.9%	20	15	5
8:00 AM			0	0.0%	0%	15		15	10.4%	23%	5.2%	15	15	0
9:00 AM			0	0.0%	0%	2		2	1.4%	3%	0.7%	2	2	0
10:00 AM			0	0.0%	0%	2		2	1.4%	3%	0.7%	2	2	0
11:00 AM	20		20	13.9%	31%		5	5	3.5%	0%	8.7%	25	20	5
12:00 PM	10	10	20	13.9%	16%	15	15	30	20.8%	23%	17.4%	50	25	25
1:00 PM		10	10	6.9%	0%	15		15	10.4%	23%	8.7%	25	15	10
2:00 PM			0	0.0%	0%			0	0.0%	0%	0.0%	0	0	0
3:00 PM	10		10	6.9%	16%		10	10	6.9%	0%	6.9%	20	10	10
4:00 PM	20		20	13.9%	31%		20	20	13.9%	0%	13.9%	40	20	20
5:00 PM			0	0.0%	0%		30	30	20.8%	0%	10.4%	30	0	30
	64	80	144	100.0%	100.0%	64	80	144	100.0%	100.0%	100%	288	128	160

Methodology Notes (based on tenant data) 1. Hours of operation are between 5:00 AM and 5:00 PM 2. Assume delivery trucks leave and return to the site twice during the day 3. Assume maximum of 30 box trucks take two delivery runs per day 4. Maximum of 30 employees who work on site throughout day 5. Assume 30 employees how truck drivers

5. Assume 30 employee box truck drivers

6. Assume four tractor trailer truck deliveries to site each day



11:52 2023



8, LOT 1 ED AVENUE			PARKING REQUIREMENTS:	REQUIRED	PROPOSED	
H, NEW HAMPSHIR	E		 STANDARD 90° 	WIDTH: 8.5' MIN AREA: 160 SF MIN	9' X 18' (162 SF)	
DUSTRIAL					(,	
DUSTRIAL / WAREH	IOUSE		DRIVE AISLE WIDTH: • 90° (2-WAY TRAFFIC)	24 FT	24 FT (MIN)	
IENTS:	<u>REQUIRED</u> 10 ACRES	PROPOSED ±10.95 ACRES	PARKING SPACE REQUIREMENTS:	2111		
AGE:	200 FT	±1,200 FT	INDUSTRIAL: 2 / 3 EMPLOYEES (LARGEST SHIFT) +1 / COMPANY-OWNED-VEHICLE			
	70 FT 50 FT 50 FT	51 FT ⁽¹⁾ 142 FT 150.2 FT	= 60 EMPLOYEES x 2/3 EMPLOYEES) + 2 COMPANY-OWNED-VEHICLE = TOTAL REQUIRED PARKING:	40 SPACES 42 SPACES	74 SPACES ⁽¹⁾	
GHT:	PER FAA	36 FT	(1) - FOUR (4) ADA SPACES PROVIDED			
	25%	±51%				