COMBINED APPLICATION FOR A SPECIAL USE PERMIT & A REGULATORY (DIMENSIONAL) VARIANCE

CITY OF NEWPORT, RI ZONING BOARD OF REVIEW

DATE: September 3, 2021

Board members:

The undersigned hereby petitions the Zoning Board of Review for a special use permit a variance in the application of the provisions or regulations of the Zoning Ordinance affecting the following described premises in the manner and on the grounds hereinafter set forth.

Location of premises

Street & No: 138 JT Connell Highway & 184-186 Admiral Kalbfus Road

Tax Assessor's Plat 4 Lot 13-4 & 55

Petitioner Information

Applicant Colbea Enterprises, L.L.C. Address 7 Starline Way, Cranston, RI 02921

Owner Colbea Enterprises, L.L.C. Address 7 Starline Way, Cranston, RI 02921

Lessee N/A

Address N/A

Property Characteristics

Dimensions of lot-frontage 239 & 59 depth >100ft area 62,284 &14,313 sq. ft.

Zoning District in which premises is located Commercial-Industrial

How long have you owned above premises? 7 & 1.5 years, respectively

Are there buildings on the premises at present? Yes on both parcels

Total square footage of the footprint of existing buildings_2,381 sq ft & 1,620 sq ft

Total square footage of the footprint of proposed buildings 6,500 sq ft

Present use of

premises See attached Project Narrative/Exhibit A.

All of the following information and questions must be filled in and answered completely.

Proposed use of premises_____ See attached Project Narrative/Exhibit A.

Give extent of proposed alterations_____ See attached Project Narrative/Exhibit A.

	Zoning Ch	aracteristics Matrix	(. by
	Existing	Required/Allowed	Proposed
Lot Size (sq. ft.)	76,597 sq ft	20,000 sq ft	76,597 sq ft
Lot Coverage	5.2%	50%	13%
Dwelling Units	N/A	N/A	N/A
Parking (# of spaces)	13	29	29
Front Setback	59.3 ft & 12.7 ft	25 ft	47ft. 3in.
Side Setbacks	112.2 ft & 0 ft	20ft	27.4 ft
Rear Setback	0	20ft	23.7 ft
Height	+/- 30 ft	60ft	35.3 ft

The second second

What provisions of the Comprehensive Land Use Plan are the applicable to this project? See attached Project Narrative/Exhibit A.

What special conditions and circumstances exist which are peculiar to the land, structure or building involved, which are not applicable to other lands, structures or buildings in the same district?

See attached Project Narrative/Exhibit A.

Explain how the literal interpretation of the provisions of this zoning code deprive the applicant of rights commonly enjoyed by other property owners in the same district under the provisions of this zoning code?

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See attached Project Narrative/Exhibit A.

Explain why this is the minimum variance that will make possible the reasonable use of the land, building or structure.

ANNY AND 1 C 2 O 1 - 2263

See attached Project Narrative/Exhibit A.

The Zoning Boards Role

Special use permits shall be granted only where the zoning board of review finds that the proposed use or the proposed extension or alteration of an existing use is in accord with the public convenience and welfare, after taking into account, where appropriate:

- 1. The nature of the proposed site, including its size and shape and the proposed size, shape and arrangement of the structure;
- 2. The resulting traffic patterns and adequacy of proposed off-street parking and loading;
- 3. The nature of the surrounding area and the extent to which the proposed use or feature will be in harmony with the surrounding area;
- 4. The proximity of dwellings, churches, schools, public buildings and other places of public gathering;
- 5. The fire hazard resulting from the nature of the proposed buildings and uses and the proximity of existing buildings and uses;
- 6. All standards contained in this zoning code;
- 7. The comprehensive plan for the city.

The burden of proof in a special-use permit application is on the applicant. This means that if the applicant fails to present adequate competent evidence to prove the applicable standard for issuing a special-use permit has been met, the board must deny the application.

In granting a variance, the zoning board of review shall *require* that evidence of the following standards be entered into the record of the proceedings:

- a. That the reasons set forth in the application justify the granting of the variance and that the variance, if granted, is the <u>minimum variance</u> that will make possible the reasonable use of the land, building or structure;
- b. That the variance will not be injurious to the neighborhood or otherwise detrimental to the public welfare, and will not impair the intent or purpose of the zoning code or the comprehensive plan upon which this zoning code is based;
- c. That the hardship from which the applicant seeks relief is due to the unique characteristics of the subject land or structure and not due to the general

characteristics of the surrounding area; and is not due to a physical or economic disability of the applicant; and

- d. That the hardship is not the result of any prior action of the applicant and does not result primarily from the desire of the applicant to realize greater financial gain.
- e. That the hardship that will be suffered by the owner of the subject property if the dimensional variance is not granted shall amount to more than a mere inconvenience. The fact that a use may be more profitable or that a structure may be more valuable after the relief is granted shall not be grounds for relief;

By signing below, I hereby attest that the information provided is accurate and truthful. I also attest that I have read the section entitled "The Zoning Board's Role".

Ar where be	Alua der	
Applicant's Signature	Owner's Signature	
(232) 828-3263		
Telephone Number	Telephone Number	
Email address ddufault@apslaw.com		

Be sure all required drawings are attached to this application at the time of the submittal.

City of Newport

Special Use Permit Application Criteria

Complete N/A

	1.	Complete application with Exhibit A	
	2.	Site plan showing all off-street parking and accessory structures	SHEET 6
	3.	Elevations	ARCHITECTURAL SHEETS 2, 3 & 4
	4.	Floor plans	ARCHITECTURAL SHEET 1
	5.	Filing fee	
	6.	Abutter's List (prepared by City but we can prepare one just in c	ase)

ADLER POLLOCK @ SHEEHAN P.C.

One Citizens Plaza, 8th floor Providence, RI 02903·1345 Telephone 401·274·7200 Fax 401·751·0604 / 351·4607

175 Federal Street Boston, MA 02110-2210 Telephone 617-482-0600 Fax 617-482-0604

www.apslaw.com

September 3, 2021

VIA HAND DELIVERY & ELECTRONIC MAIL

City of Newport City Hall **Attention: Guy Weston, Zoning Officer** Zoning and Inspections Division 43 Broadway Newport, RI 02840

		I VI L	
SEP	3	2021	

RE: Colbea Enterprises, L.L.C. – 138 JT Connell Highway – Special-Use Permit and Regulatory (Dimensional) Variance Application and Development Plan Review Application - 138 JT Connell Highway & 184-186 Kalbfus Road, Plat 4, Lots 13-4 & 55

Dear Mr. Weston:

This office represents Colbea Enterprises, L.L.C. ("Colbea"), the owner of the real property located at 138 JT Connell Highway, Newport, RI, otherwise identified as AP 4, Lot 13-4 (the "JT Connell Property"), and 184-186 Admiral Kalbfus Road, otherwise identified as AP 4, Lot 55 (the "Admiral Kalbfus Property and together with the JT Connell Property, referred to herein collectively as the "Premises"). In connection with Colbea's redevelopment of the Premises, Colbea is submitting a Special-Use Permit and Regulatory (Dimensional) Variance Application and Development Plan Review Application (collectively, the "Applications").

We have enclosed the following:

- 1. Special-Use Permit and Regulatory (Dimensional) Variance Application (the "SUP Application) and checklist;
- 2. Project Narrative, referenced as Exhibit A;
- 3. Site Plans, which include all off-street parking and accessory structures, elevations and floor plans;
- 4. Filing fee in the amount of \$350 made payable to the City of Newport for the SUP Application;
- 5. Abutter's list drafted by Adler, Pollock & Sheehan (in addition to abutter's list prepared by the City of Newport);
- 6. Development Plan Review Application;

ADLER POLLOCK & SHEEHAN P.C.

Guy Weston, Zoning Officer September 3, 2021 Page 2

- 7. Application fee in the amount of \$750 made payable to the City of Newport for the DPR Application;
- 8. Development Plan Review Criteria Checklist;
- 9. One digital and six (6) full size paper copies of the site plans with the minimum requirements, as listed on the City of Newport's Zoning website; and
- 10. Stormwater Management and Soil Erosion Plan prepared by DiPrete Engineering.

Please feel free to reach out to me directly at 401-585-7619 if there is anything else you need in connection with Colbea's Special Permit-Use and Regulatory (Dimensional) Variance Application or the Development Plan Review Application.

Best regards, DANIELLE E. DUFAULT

ddufault@apslaw.com

Enclosures

cc: John D. Russell, Esq. Patricia Reynolds, MA ARCH, Director of Planning & Economic Development

Received:

Complete Submission:

Zoning and Inspections Division

Planning & Economic Development

Date:

Received by:

Patricia Reynolds, Director of Planning & Economic Development

Date:

ADLER POLLOCK @ SHEEHAN P.C.

Guy Weston, Zoning Officer September 3, 2021 Page 2

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Please feel free to reach out to me directly at 401-585-7619 if there is anything else you need in connection with Colbea's Special Permit-Use and Regulatory (Dimensional) Variance Application or the Development Plan Review Application.

Best regards.

DANIELLÉ E. DUFAULT ddufault@apslaw.com

Enclosures

cc: John D. Russell, Esq. Patricia Reynolds, MA ARCH, Director of Planning & Economic Development

Received:

Complete Submission:

Zoning and Inspections Division

Planning & Economic Development

Date: _____

Received by:

Patricia Reynolds, Director of Planning & Economic Development

Date:

City of Newport

Special Use Permit Application Criteria

Complete N/A

	1.	Complete application with Exhibit A	
	2.	Site plan showing all off-street parking and accessory structures	SHEET 6
	3.	Elevations	ARCHITECTURAL SHEETS 2, 3 & 4
	4.	Floor plans	ARCHITECTURAL SHEET 1
	5.	Filing fee	
	6.	Abutter's List (prepared by City but we can prepare one just in c	ase)

PROJECT NARRATIVE/EXHIBIT A

Colbea Enterprises, L.L.C.

138 JT Connell Memorial Highway & 184-186 Admiral Kalbfus Road Newport, RI 02840

Parcel ID No. 04-013-4 & 04-055

Zoning District: Commercial-Industrial

I. <u>Present Use of the Premises</u>

Colbea Enterprises, L.L.C. ("Applicant/Owner") currently operates, a Shell-branded gasoline filling station with a convenience store and car wash facility at its property located at 138 JT Connell Highway, commonly known as Assessor's Plat 4, Lot 13-4 (the "JT Connell Property").

II. Proposed Use of the Premises & Extent of Proposed Alterations

As further depicted on those certain site plans entitled "Seasons Corner Market – JT Connell Highway, Rhode Island" prepared by DiPrete Engineering and dated September 2, 2021 (the "Plans"), the Applicant/Owner proposes to raze the existing convenience store and car wash, remove the existing fueling pumps and canopy and construct a new 5,000 square foot convenience store with co-brand coffee shop, a new car wash facility, five (5) new fueling pumps and a new canopy on both the JT Connell Property and the Applicant/Owner's adjacent parcel, which has an address of 184-186 Admiral Kalbfus Road, and is commonly known as Assessor's Plat 4, Lot 55 (the "Admiral Kalbfus Property," and together with the JT Connell Property, referred to herein collectively as the "Premises"). The Premises is situated in the Commercial-Industrial ("C-I") zoning district, as defined in the City of Newport, Rhode Island Zoning Ordinances (the "Ordinances").

III. <u>Relief Requested by the Applicant/Owner:</u>

A. Special Use Permits

- 1. Special Use Permit for Gasoline Filling Station: Title 17, Chapter 17.108.020 and Title 17, Chapter 17.64.020(B)(10).¹
- 2. Special Use Permit for Fast-Food Restaurant: Title 17, Chapter 17.108.020 and Title 17, Chapter 17.64.020(B)(7).

¹ The proposed Seasons Corner Market convenience store is a permitted use under Chapter 17.64.020(A)(11) and the car wash is a permitted use under Chapter 17.64.020(A)(8).

B. Variances

- 1. Variances for Signage: Title 17, Chapter 17.108.010 and Title 17, Chapter 17.76.150(A) and Chapter 17.76.150(C).
 - a. Pursuant to Chapter 17.76.150(A), freestanding signs in the C-I zoning district must be located twenty-five (25) feet from any property line. The Applicant/Owner requests that its proposed freestanding "I.D. Sign" sign, as depicted on the Plans, be located only five (5) feet from the easterly boundary line of the Premises.
 - b. Pursuant to Chapter 17.76.150(C), the total area of any freestanding sign shall not exceed forty-five (45) square feet. The Applicant/Owner's proposed "I.D. Sign" has a total area of 133.7 square feet. Accordingly, the Applicant/Owner requests relief as to 88.7 square feet.
 - c. Pursuant to Chapter 17.76.150(C), the total area of all wall-mounted signs shall not exceed an amount equal to one and one-half square feet for each lineal front foot of that part of the structure which contains the business frontage on which the signs are located. The Applicant/Owner's total building frontage is 100 feet and its allowable total area for wall-mounted signs equals 150 square feet. The Applicant/Owner's total area for its proposed wall-mounted signs is 199.7 square feet. Accordingly, the Applicant/Owner requests relief as to 49.7 square feet.

IV. <u>Provisions of the Comprehensive Land Use Plan That Are Applicable to the</u> <u>Proposed Project</u>

The proposed project is aligned with the City of Newport's Comprehensive Plan, as amended, given that the Applicant/Owner's proposed project will provide certain opportunities to the North End community and the City at-large by providing certain support services that the North End community wants and needs, including the ability to purchase food stuffs, supplies and gasoline, and additional employment opportunities as well. The redevelopment of the Premises will enhance the character and quality of the surrounding community and the North End.

V. Existing Special Conditions and Circumstances Which Are Peculiar to the Land, Structure or Building Involved, Which Are Not Applicable to Other Lands, Structures or Buildings in the Same District

In addition to the Premises being located in the FEMA designated flood zone of AE-13, the Premises also has been affected by the RI Department of Transportation ("RIDOT") Pell Bridge Ramp realignment project, which has made the Premises subject to a temporary taking by RIDOT and delayed the Applicant/Owner's redevelopment of the Premises. Additionally, given that the Premises is situated in what will be the newly reconstructed RIDOT roundabout, it will have the ability to acquire certain property from RIDOT and reconfigure the layout of the Premises and improve the safety and circulation therein.

VI. <u>Literal Interpretation of the Zoning Code Will Deprive Applicant/Owner of Rights</u> <u>Commonly Enjoyed by Other Property Owners in the Same District</u>

A literal interpretation of the Ordinances could deprive the Applicant/Owner of the rights commonly enjoyed by other property owners in this district given that the unique location of the Premises in the district, which is abutted by the two main outlets in the North End of the City and which comprise the current rotary – JT Connell Highway and Admiral Kalbfus Road. The location of the Premises provides certain visibility impairments to the signage located at the Premises and the circulation at the Premises. Such visibility impairments necessitate the requested variances.

VII. <u>Applicant/Owner Is Seeking the Minimum Variance</u>

The variances requested by the Applicant/Owner are the minimum variances required to assist the Applicant/Owner in its full use and enjoyment of the Premises. Specifically, in that the dimensional relief requested by the Applicant/Owner is limited to the Applicant/Owner's signage package; specifically, the setback of the freestanding "I.D. Sign" and total area allowed for both freestanding signs and wall-mounted signs.

VIII. <u>Summary</u>

A. Special Use Permits

The Applicant/Owner contends that in addition to the proposed use or the proposed extension or alteration of an existing use is in accord with the public convenience and welfare the special use permits requested meet the standards set forth in the Ordinances, Chapter 17.108.020:

- 1. The nature of the proposed site, including its size and shape and the proposed size, shape and arrangement of the structure
- 2. The resulting traffic patterns and adequacy of proposed off-street parking and loading;
- 3. The nature of the surrounding area and the extent to which the proposed use or feature will be in harmony with the surrounding area;
- 4. The proximity of dwellings, churches, schools, public buildings and other places of public gathering;
- 5. The fire hazard resulting from the nature of the proposed buildings and uses and the proximity of existing buildings and uses;
- 6. All standards contained in this zoning code and
- 7. The comprehensive plan for the city.

First, the proposed uses are compatible with the neighboring uses and will not adversely affect the surrounding neighbors' use and enjoyment of their property given that the Applicant/Owner presently operates the Shell-branded gasoline filling station at the Premises and has been providing these services to the surrounding neighborhood for many years. Further, the Applicant/Owner intends to use best practices and procedures to minimize the possibility of any adverse effects on neighboring properties, the City and the environment. In that regard, the

Applicant/Owner has reviewed issues related to stormwater capture and management, such that the proposed uses will not detrimentally affect the surrounding properties or the City.

Second, the Applicant/Owner has taken great consideration of the surrounding area into its redevelopment of the Premises. The Applicant/Owner is proposing to reduce impervious surface and increase green space proposed at the Premises. Additionally, given that the Applicant/Owner proposes to raze the existing convenience store, fueling pumps, canopy structure and car wash and construct a new convenience store with upgraded fueling pumps and canopy, new USTs and a car wash, except for the addition of a co-brand coffee shop to be included in the new convenience store, the proposed uses are generally not changing.

Third, the proposed uses should not have any affect on any dwellings, churches, schools, public buildings or other places of public gathering, given that the Premises is located in the C-I zoning district and is not directly adjacent to any dwellings, churches, schools, public buildings or other places of public gathering.

Fourth, the granting of the special use permits will not result in or create any fire hazards to the surrounding buildings or structures. In fact, the proposed project will improve fire prevention and mitigation at the Premises with the installation of the new fuel pumps and canopy that is equipped with suppression ability, which will benefit the surrounding properties.

Lastly, the intent or purpose of the Ordinances and Comprehensive Plan, as amended, will be served by the proposed uses because they are compatible with the orderly growth and development of the City as these uses are allowed by special use permit. Further, the proposed uses are compatible with the Comprehensive Plan because the redevelopment of the Premises, including the new state-of-the-art Seasons Corner Market convenience store and the additional green space, will enhance the character and quality of the surrounding community and the North End.

B. Variances

The Applicant/Owner contends that the dimensional variances requested meet the standards set forth in the Ordinances, Chapter 17.108.010. Specifically:

- 1. That the relief to be granted is the least relief necessary.
- 2. That the granting of the requested variance will not alter the general character of the surrounding area or impair the intent or purpose of the zoning ordinance or the comprehensive plan upon which the ordinance is based.
- 3. That the hardship from which the applicant seeks relief is due to the unique characteristics of the subject land or structure and not to the general characteristics of the surrounding area; and is not due to a physical or economic disability of the applicant, excepting those physical disabilities addressed in GLRI §45-34-30(a)(16); and
- 4. That the hardship is not the result of any prior action of the applicant and does not result primarily from the desire of the applicant to realize greater financial gain.

First, the relief requested is the least amount of relief necessary in that the dimensional relief requested by the Applicant/Owner is limited to the Applicant/Owner's signage package; specifically, the setback of the freestanding "I.D. Sign" and total area allowed for both freestanding signs and wall-mounted signs. While the Applicant/Owner seeks dimensional variances from the aforementioned requirements, the subject property will conform to the required lot size, side yard, rear yard, building height, depth, frontage and parking requirements.

Second, the granting of the requested variances will not alter the general character of the surrounding area or impair the intent or purpose of the Ordinances or the Comprehensive Plan in that the Premises is surrounded by other commercial properties and the Applicant/Owner has operated the existing gas station, convenience store and car wash at the JT Connell Property for many years. Additionally, the Applicant/Owner intends to increase the green space at the Premises by including a robust landscaping plan as depicted on the Plans. Such improvements will also add an aesthetic benefit to the Premises and surrounding properties.

Third, the hardship from which the Applicant/Owner seeks relief is due to the unique characteristics of the subject land and not to the general characteristics of the surrounding area and not due to a physical or economic disability of the applicant because the Premises is located near other commercial businesses and is less than a minute away from the Pell Bridge on-ramp. Additionally, the location of the Premises adjacent to the RIDOT roundabout requires a unique site plan and circulation pattern, especially when considering the safety of the patrons and the traffic flow in the parking lot at the property. It should be noted that the Premises is located in the AE-13 FEMA Flood Zone and compliance with the City of Newport's Natural Hazard Mitigation Plan has presented the Applicant/Owner with various grading and site design issues, which have presented a significant hardship and challenges to the Applicant/Owner.

Fourth, the hardship is not the result of any prior action of the Applicant/Owner and does not result primarily from the desire of the Applicant/Owner to realize greater financial gain but rather the Applicant/Owner seeks to build a more modern, attractive building and gas pumps that provides City residents and those traveling to the City access to an updated gas station with modern amenities; the proposed use enhances the property values in the surrounding area and adds value to the City. Accordingly, the request is not primarily from Applicant/Owner's desire to realize greater financial gain.

Lastly, the hardship that will be suffered by the Applicant/Owner if the dimensional variances are not granted amounts to more than a mere inconvenience in that the Applicant/Owner seeks to update its facilities and provide a better (and safer) layout for the surrounding area as well as the convenience store and gasoline filling station which will facilitate better traffic flow for vehicles and pedestrians.

SPECIAL USE PERMIT/ DPR SUBMISSION **SEASONS CORNER MARKET** 138 JT CONNELL HIGHWAY NEWPORT, RHODE ISLAND ASSESSOR'S PLAT 4 LOTS 13-4 & 55



Sheet Index

- COVER SHEET
- 2 Aerial Half-Mile Radius & USGS Map
- 3 GENERAL NOTES & LEGEND
- 4 BOUNDARY & TOPOGRAPHIC SURVEY PLAN (BY WATERMAN ENGINEERING)
- 5 SESC & DEMO PLAN
- 6 SITE LAYOUT PLAN
- 7 GRADING & SURFACE DRAINAGE PLAN
- 8 UTILITIES & DRAINAGE PLAN
- 9 STORMWATER TREATMENT SYSTEM A DETAILS
- 10 STORMWATER TREATMENT SYSTEM B DETAILS
- II DETAIL SHEET I
- 12 DETAIL SHEET 2
- 13 LANDSCAPE PLAN
- 14 LANDSCAPE NOTES & DETAILS
- I OF 5 TYPICAL FLOOR PLAN
- 2 OF 5 FRONT ELEVATION
- 3 OF 5 CAR WASH SIDE ELEVATIONS
- 4 OF 5 CAR WASH FRONT/REAR ELEVATIONS
- 5 OF 5 SIGNAGE PLAN & ELEVATIONS
- I OF I PHOTOMETRICS PLAN





ENERAL NOTES

- THE SITE IS LOCATED ON THE CITY OF NEWPORT, RHODE ISLAND ASSESSOR'S PLAT 4 LOTS 13-4 & I. THE CONTRACTOR IS RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL ON SITE WHICH I. CONSTRUCTION TO COMMENCE SPRING 2022 OR UPON RECEIPT OF ALL NECESSARY APPROVALS.
- 2. THE SITE IS APPROXIMATELY 1.76± ACRES AND IS ZONED C-I.
- 3. THE OWNER OF AP 4 LOTS 13-4 & 55 IS:
 - COLBEA ENTERPRISES LLC 2050 PLAINFIELD PIKE
- CRANSTON, RHODE ISLAND 02921
- THIS SITE IS LOCATED IN FEMA FLOOD ZONE AE (ELEVATION 13'). REFERENCE FEMA FLOOD INSURANCE RATE MAP 44005C0089J, MAP REVISED SEPTEMBER 4, 2013 (FLOOD PLAIN DESCRIPTIONS SHOWN BELOW).
- ZONE AE THIS SITE IS LOCATED IN FEMA FLOOD ZONE AE. ZONE AE ARE SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD. BASE FLOOD ELEVATIONS HAVE BEEN DETERMINED.
- THE BOUNDARY LINES AS SHOWN ON THE ENGINEERING PLAN SET DEPICTS THE RESULTS OF A CLASS I BOUNDARY RETRACEMENT SURVEY AS PERFORMED BY WATERMAN ENGINEERING COMPANY. THIS PLAN IS NOT TO BE CONSTRUED AS A CLASS I BOUNDARY RETRACEMENT SURVEY PLAN AND IS 4. IF CONCRETE TRUCKS ARE WASHED OUT ON SITE, ALL WASHOUT MUST BE PERFORMED IN THE NOT SUITABLE FOR RECORDING AS A CLASS I STANDARD SURVEY PLAN.
- CONTOUR DATA SHOWN ON THIS PLAN CONFORMS TO A T-I TOPOGRAPHICAL SURVEY STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS BY WATERMAN ENGINEERING COMPANY
- ALL WORK PERFORMED HEREIN IS TO BE GOVERNED BY CURRENT EDITIONS OF THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CITY OF NEWPORT STANDARD SPECIFICATIONS AND DETAILS AND SPECIFICATIONS INCLUDED AS PART OF THE DRAWINGS. IN AREAS OF CONFLICT BETWEEN THE DIFFERENT SPECIFICATIONS. THE DESIGN PLANS AND PROJECT SPECIFICATIONS WILL TAKE PRECEDENCE OVER THE GENERAL SPECIFICATIONS AND THE DESIGN ENGINEER WILL INTERPRET THE CONSTRUCTION REQUIREMENT. THE CONTRACTOR IS ADVISED TO SUBMIT A REQUEST FOR INFORMATION (RFI) FOR ANY AREAS OF CONFLICT BEFORE COMMITTING TO CONSTRUCTION.
- 8. THE SITE IS NOT WITHIN A:
 - GROUNDWATER PROTECTION AREA (RIDEM) NATURAL HERITAGE AREA (RIDEM)
 - GROUNDWATER PROTECTION OVERLAY DISTRICT (TOWN)
- THE FOLLOWING DOCUMENTS ARE CONSIDERED PART OF THE PROJECT PLANS AND THE CONTRACTOR/OWNER MUST MAINTAIN THESE DOCUMENTS AS PART OF A FULL PLAN SET:
- SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC). THE SESC CONTAINS THE FOLLOWING:
- EROSION CONTROL MEASURES
- SHORT TERM MAINTENANCE •• ESTABLISHMENT OF VEGETATIVE COVER
- CONSTRUCTION POLLUTION PREVENTION SEQUENCE OF CONSTRUCTION
- STORMWATER OPERATION AND MAINTENANCE PLAN (0&M). THE 0&M CONTAINS: • LONG TERM MAINTENANCE
- •• LONG TERM POLLUTION PREVENTION
- THIS PLAN SET REFERENCES RIDOT STANDARD DETAILS (DESIGNATED AS RIDOT STD X.X.X). RIDOT STANDARD DETAILS ARE AVAILABLE FROM RIDOT AND ONLINE AT HTTP://WWW.DOT.RI.GOV/BUSINESS/CONTRACTORSANDCONSULTANTS.PHP.
- . THE SITE IS TO BE SERVICED BY PUBLIC WATER AND PUBLIC SEWER.
- 12. THE DRAINAGE SYSTEM IS DESIGNED TO MEET THE CITY OF NEWPORT SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WITH THE USE OF CATCH BASINS, BIORETENTION, SAND FILTERS AND UNDERGROUND DRAINAGE BASINS. THE STORMWATER MANAGEMENT SYSTEM MEETS THE RIDEM BEST MANAGEMENT PRACTICES.
- 13. THE SITE IS PROPOSED TO BE BUILT IN ONE PHASE.
- 14. SOIL EVALUATIONS WERE COMPLETED BY DIPRETE ENGINEERING ON 8/27/2021 .
- 15. ANY PROPRIETARY PRODUCTS REFERENCED IN THIS PLAN SET ARE REPRESENTATIVE OF THE MINIMUM DESIGN REQUIREMENTS FOR THE PURPOSE THEY PROPOSE TO SERVE ALTERNATIVES TO ANY PROPRIETARY PRODUCT MAY BE SUBMITTED TO THE ENGINEER OF RECORD FOR CONSIDERATION, WHICH MUST BE ACCOMPANIED BY APPROPRIATE SPECIFICATION SHEETS/DESIGN CALCULATIONS THAT DEMONSTRATE THE ALTERNATIVE(S) MEET THE MINIMUM DESIGN PARAMETERS OF THE PRODUCT SHOWN ON THE PLANS. NO ALTERNATIVES MAY BE USED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
- 16. THIS PLAN SET MAY REFERENCE AND/OR INCLUDE REPRODUCTIONS OF PROPRIETARY PRODUCTS/ DETAILS BY OTHERS, AND/OR THEIR ASSOCIATED SPECIFICATIONS, ANY REFERENCED OR REPRODUCED PROPRIETARY PRODUCT OR DETAIL BY OTHERS THAT IS SHOWN ON DIPRETE PLANS IS STRICTLY FOR INFORMATION/SPECIFICATION PURPOSES ONLY DIPRETE ENGINEERING DOES NOT WARRANT ANY PROPRIETARY PRODUCTS, DETAILS BY OTHERS OR THEIR RESPECTIVE DESIGNS. IF A FIELD LOCATION OF IMPROVEMENTS. SURVEYOR MUST PROVIDE OWNER AND CONTRACTOR WITH DIPRETE ENGINEERING PLAN INCLUDES A PROPRIETARY PRODUCT/DETAIL BY OTHERS (EITHER EXPLICITLY OR IMPLIED) AND IS STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND/OR REGISTERED LANDSCAPE ARCHITECT OF DIPRETE ENGINEERING, SAID STAMP DOES NOT EXTEND TO ANY PORTION OF THE PROPRIETARY PRODUCT/DETAIL BY OTHERS OR ITS DESIGN.

SOIL INFORMATION:

(REFERENCE: SOIL MAPPING OBTAINED FROM RIGIS. SOIL GEOGRAPHIC DATA DEVELOPED BY THE RHODE ISLAND SOIL SURVEY PROGRAM IN PARTNERSHIP WITH THE NATIONAL COOPERATIVE SOIL SURVEY) SOIL NAME DESCRIPTION

NEWPORT-URBAN LAND COMPLEX URBAN LAND

AMERICANS WITH DISABILITIES ACT (ADA) NOTES

- ALL IMPROVEMENTS MUST COMPLY WITH THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES" (ADAAG) BY THE US DEPARTMENT OF JUSTICE (CURRENT EDITION).
- MAXIMUM RUNNING SLOPE ALONG ALL ACCESSIBLE PATHS OF TRAVEL MUST BE 4.5% (0.045 FT/FT), AND MAXIMUM CROSS SLOPE ACROSS ALL ACCESSIBLE PATHS OF TRAVEL MUST BE 1.5% (0.015 FT/FT).
- ADA PARKING SPACES AND LOADING AREAS: THE STEEPEST SLOPE OF THE SPACE, MEASURED IN ANY DIRECTION (INCLUDING DIAGONALLY), MUST BE LESS THAN OR EQUAL TO 2% (0.02 FT/FT). DIPRETE ENGINEERING GENERALLY RECOMMENDS A MAXIMUM OF I.4% (0.014 FT/FT) BE USED FOR BOTH RUNNING AND CROSS SLOPES IN ORDER TO COMPLY.
- A MINIMUM 5'X5' LANDING MUST BE PROVIDED IN FRONT OF ALL PUBLICLY ACCESSIBLE BUILDING ENTRANCES/ EGRESSES. THE STEEPEST SLOPE OF THE LANDING, MEASURED IN ANY DIRECTION (INCLUDING DIAGONAL), MUST BE LESS THAN OR EQUAL TO 2% (0.02 FT/FT). DIPRETE ENGINEERING GENERALLY RECOMMENDS A MAXIMUM OF I.4% (0.014 FT/FT) BE USED FOR BOTH RUNNING AND CROSS SLOPES IN ORDER TO COMPLY.
- . FOR EVERY 6 (OR FRACTION OF 6) ADA PARKING SPACES, AT LEAST ONE MUST BE A VAN PARKING SPACE. FOR EXAMPLE, IF 7 ADA PARKING SPACES ARE REQUIRED, A MINIMUM OF 2 MUST BE VAN SPACES.
- NOTWITHSTANDING THE NOTES LISTED ABOVE, TOWN OR STATE-SPECIFIC STANDARDS MAY BE MORE STRINGENT AND OVERRULE. IT IS THE RESPONSIBILITY OF THE USER OF THIS PLAN SET TO MAINTAIN COMPLIANCE WITH THE CONTROLLING STANDARD
- NOTE THAT THE GRADING/PLAN VIEWS AND DETAILS CONTAINED WITHIN THIS PLAN SET MAY NOT SHOW THE DETAIL NECESSARY TO CONSTRUCT WALKWAYS, RAMPS AND SPACES TO COMPLY WITH THE ABOVE REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE LEVEL OF CARE NECESSARY TO BE CERTAIN THAT THE CONSTRUCTED PRODUCT MEETS ADA/CONTROLLING STANDARDS. IN THE EVENT OF ANY NONCOMPLIANCE, THE CONTRACTOR MUST NOTIFY THE DESIGNER BEFORE CONSTRUCTION FOR ADVICE IN FINDING A RESOLUTION.

SOIL EROSION AND SEDIMENT CONTROL NOTES:

- MUST BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS AND AUTHORITY HAVING JURISDICTION. THE CONTRACTOR MUST NOTIFY THE DESIGN ENGINEER. THE DIRECTOR OF PUBLIC WORKS, THE CITY ENGINEERING DIVISION, AND RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- 2. ALL EROSION CONTROL MUST BE INSTALLED PER THE LATEST EDITION OF THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL (RISESC) HANDBOOK AND THE SOIL EROSION AND SEDIMENT CONTROL PLAN(S). NOTE THE SOIL EROSION AND SEDIMENT CONTROL SHOWN ON THESE PLANS ARE THE MINIMUM QUANTITY/TYPE OF EROSION CONTROL DEVICES AND MATERIALS DEEMED REQUIRED BY DIPRETE ENGINEERING TO MEET THE OBJECTIVES OF THE RISESC HANDBOOK, BUT IS CONSIDERED A GUIDE ONLY. ADDITIONAL MEASURES/ALTERNATE CONFIGURATIONS MAY BE REQUIRED IN ORDER TO MEET THE RISESC HANDBOOK BASED ON FACTORS INCLUDING (BUT NOT LIMITED TO) SITE PARAMETERS. WEATHER, INSPECTIONS AND UNIQUE FEATURES. THE SESC WILL CONTINUE TO EVOLVE THROUGHOUT CONSTRUCTION/PHASES. PURSUANT TO NOTE I ABOVE, SESC REMAINS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THE SITE IS FULLY STABILIZED AND/OR SESC RESPONSIBILITIES ARE ASSUMED BY THE OWNER IN WRITING.
- 3. INLET PROTECTION MUST BE INSTALLED ON ALL CATCH BASINS ONCE CONSTRUCTED. DESIGNATED CONCRETE WASHOUT AREA.

DEMOLITION NOTES:

- CONTRACTOR MUST OBTAIN ALL FEDERAL, STATE, AND MUNICIPAL APPROVALS PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR MUST PERFORM DAILY SWEEPING AT CONSTRUCTION ENTRANCES DURING DEMOLITION AND CONSTRUCTION TO MINIMIZE SEDIMENTS ON EXTERNAL STREETS.
- ANY EXISTING BUILDING(S) AND PROPERTY PROPOSED TO REMAIN THAT ARE DAMAGED BY THE CONTRACTOR MUST BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR IS RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) ALL MATERIALS INDICATED ON THE PLANS UNLESS SPECIFIED OTHERWISE HEREIN. R&D MATERIALS INCLUDE BUT ARE NOT LIMITED TO PAVEMENT, GRAVEL, CATCH BASINS, MANHOLES, GRATES/FRAMES/COVERS, AND ANY EXCESS SOIL THAT IS NOT INCORPORATED INTO THE WORK
- IN ADDITION TO THOSE AREAS SPECIFICALLY DESIGNATED ON THE PLANS, ALL DISTURBED AREAS INCLUDING THE CONTRACTOR'S STOCKPILE AND STAGING AREAS WITHIN THE LIMIT OF WORK MUST BE RESTORED TO MATCH THE DESIGN PLANS
- CONTRACTOR MUST DOCUMENT LOCATION OF ALL SUBSURFACE UTILITIES REMAINING IN PLACE AFTER DEMOLITION (ACTIVE AND INACTIVE/ABANDONED). LOCATION MUST BE DOCUMENTED BY FIELD SURVEY OR SWING TIES. COPIES OF LOCATION DOCUMENTATION MUST BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF DEMOLITION AND PRIOR TO START OF NEW CONSTRUCTION. A MARKER MUST BE INSTALLED TO FINISH GROUND AT ALL INSTALLED CAPS/PLUGS. THE MARKER CAN BE A POST IN CONSTRUCTION AREAS OR PAINTED ON A PERMANENT SURFACE.
- ACTIVE UTILITY LINES AND STRUCTURES NOT SPECIFICALLY NOTED ON PLANS, BUT WHICH ARE ENCOUNTERED TO BE IN CONFLICT WITH THE PROPOSED WORK, MUST BE EXTENDED, PROTECTED, OR REWORKED BY THE CONTRACTOR AS DIRECTED OR REQUIRED BY THE UTILITY ENTITY OR WNER UNLESS OTHERWISE NOTED
- CONTRACTOR MUST COORDINATE THE CUTTING AND CAPPING OF ALL UTILITIES WITH THE OWNER, THE MUNICIPALITY, AND ALL APPLICABLE UTILITY ENTITIES HAVING JURISDICTION.
- INACTIVE SUBSURFACE UTILITIES NOT IN CONFLICT WITH THE PROPOSED WORK AREA MAY BE ABANDONED IN PLACE WITH WRITTEN PERMISSION FROM THE OWNER.

TRAFFIC NOTES

- I. ALL TRAFFIC CONTROL MUST CONFORM TO THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) CURRENT EDITION.
- 2. DURING CONSTRUCTION, TRAFFIC CONES MUST BE USED FOR SEPARATION OF ACTIVE TRAFFIC FROM WORK ZONE PER MUTCD REQUIREMENTS. 3. DURING CONSTRUCTION FLAGGERS MUST BE EMPLOYED TO ENSURE SAFETY FOR INTERACTION OF
- CONSTRUCTION VEHICLES AND ACTIVE TRAFFIC. ALL SIGNS, FLAGGERS, TRAFFIC CONTROL DEVICES, AND TEMPORARY TRAFFIC ZONE ACTIVITIES
- MUST MEET THE REQUIREMENTS OF THE MUTCD LATEST EDITION AND SUBSEQUENT ADDENDA. TEMPORARY CONSTRUCTION SIGNS MUST BE MOUNTED ON RIDOT APPROVED SUPPORTS AND MUST BE REMOVED OR COVERED WHEN NOT APPLICABLE.

AS-BUILT NOTES

ALL COMPONENTS OF THE DRAINAGE, SEWER, AND WATER SYSTEMS MUST BE FIELD LOCATED PRIOR TO COVERING. NOTIFY SURVEYOR A MINIMUM OF SEVENTY-TWO (72) HOURS IN ADVANCE OF NEED FOR WRITTEN NOTICE OF COMPLETION OF FIELD WORK PRIOR TO CONTRACTOR COVERING IMPROVEMENTS OWNER/DIPRETE WILL NOT ACCEPT FIELD MEASUREMENTS FROM THE SITE CONTRACTOR.

RIDOT NOTES:

- I. ALL WORK TO BE DONE WITHIN THE STATE RIGHT OF WAY MUST CONFORM TO RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AMENDED MARCH 2018 WITH ALL REVISIONS AND ADDENDA. STANDARD DETAILS FOR THIS WORK ARE RHODE ISLAND STANDARD DETAILS DATED JUNE 21, 2019 WITH ALL REVISIONS.
- 2. CONTRACTOR MUST OBTAIN A UTILITY CONNECTION PERMIT FOR WORK WITHIN THE STATE RIGHT-OF-WAY (ROW) PRIOR TO CONSTRUCTION. THE PHYSICAL ALTERATION PERMIT (PAP) IS NOT A SUBSTITUTE FOR THE UTILITY PERMIT AND THE PAP DOES NOT CONSTITUTE AN APPROVAL OF ANY UTILITY WORK
- 3. ALL TRAFFIC CONTROL MUST CONFORM TO THE MUTCD, LATEST EDITION, WITH ALL REVISIONS. 4. LANE OR SHOULDER CLOSURES MUST NOT BE PERFORMED WITHIN THE STATE ROW DURING PEAK TRAFFIC HOURS.
- 5. SEWER AND WATER CONNECTIONS WITHIN THE STATE ROW WILL REQUIRE A SEPARATE RIDOT UTILITY PERMIT, WHICH CONTRACTOR MUST OBTAIN BEFORE CONSTRUCTION.
- 6. THE DRAINAGE SYSTEM IS DESIGNED TO DECREASE BOTH STORMWATER RUNOFF RATE, AND STORMWATER RUNOFF VOLUME TO THE STATE ROW FROM PRE-DEVELOPMENT TO POST-DEVELOPMENT. THERE SHALL BE NO INCREASE IN RUNOFF TO THE STATE ROW FROM THE PROPOSED DEVELOPMENT.
- 7. WORK WITHIN THE STATE'S ROW WILL CONFORM TO PROPOSED PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG). WORK ONSITE WILL CONFORM TO AMERICANS WITH DISBILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) UNLESS THE WORK IS ON STATE OWNED

LAYOUT AND MATERIALS:

- I. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
- 2. CURBING MUST BE PRECAST CONCRETE, MONOLITHIC CONCRETE OR AS LABELED ON THE PLANS. 3. SIDEWALK MUST BE CONCRETE OR AS LABELED ON THE PLANS.
- 4. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR MUST REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES. 5. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS PERTAINING TO
- THE BUILDING. INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
- 6. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION MUST BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
- 7. CONTRACTOR MUST NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS. CONTRACTOR MUST VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE STAMPED PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.
- 8. ALL GUARDRAIL ONSITE MUST BE STEEL BACKED TIMBER GUARDRAIL WITH STEEL POSTS, IN CONFORMANCE WITH SECTION 5.4.1.7 OF THE AASHTO ROADSIDE DESIGN GUIDE. ALTERNATIVE GUARDRAILS WILL BE CONSIDERED BY THE DESIGN ENGINEER IF THEY ARE RIDOT APPROVED EQUAL AND ACCEPTABLE TO THE OWNER. ALTERNATIVES MUST BE APPROVED IN WRITING BY THE OWNER AND DESIGN ENGINEER PRIOR TO CONSTRUCTION.
- 9. INFRARED TREATMENT OF PAVEMENT IS REQUIRED AT ALL CURB CUTS, AT ANY DISTURBED PAVEMENT ON ROADWAYS, AND WHERE ANY NEW PAVEMENT MEETS EXISTING PAVEMENT.
- 10. ALL EXISTING PAVEMENT MARKING REMOVED AS INCIDENTAL DURING CONSTRUCTION MUST BE
- REPLACED IN-KIND FOLLOWING COMPLETION OF CONSTRUCTION UNLESS OTHERWISE NOTED. II. NEW PAVEMENT MARKING MUST BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248 TYPE F. PAINT MUST BE APPLIED AS SPECIFIED BY THE MANUFACTURER.

GRADING AND UTILITY NOTES:

- 2. THE CONTRACTOR MUST COORDINATE WITH ALL OF THE APPROPRIATE UTILITY COMPANIES FOR AGREFMENTS TO SERVICE THE PROPOSED BUILDING. THIS MUST BE DONE PRIOR TO CONSTRUCTION. NO REPRESENTATIONS ARE MADE BY DIPRETE ENGINEERING THAT UTILITY SERVICE IS AVAILABLE.
 - 3. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING FINISH GRADING AND DRAINAGE AROUND THE BUILDING TO ENSURE SURFACE WATER AND/OR GROUNDWATER IS DIRECTED AWAY FROM THE STRUCTURE
 - 4. PRIOR TO START OF CONSTRUCTION, CONTRACTOR MUST VERIFY EXISTING PAVEMENT FI FVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES. CONTRACTOR MUST NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION
 - 5. ALL PROPOSED UNDERGROUND UTILITIES SERVING THE SITE AND BUILDINGS MUST BE COORDINATED WITH OWNER, ARCHITECT, AND ENGINEER PRIOR TO INSTALLATION
 - 6. ALL RETAINING WALLS AND STEEP SLOPES ARE SUBJECT TO FINAL STRUCTURAL DESIGN. DIPRETE ENGINEERING IS NOT PROVIDING THE STRUCTURAL DESIGN OF THESE ITEMS. ALL WALLS AND STEEP SLOPES MUST BE DESIGNED AND BUILT UNDER THE DIRECTION OF A RHODE ISLAND LICENSED PROFESSIONAL ENGINEER SUITABLY QUALIFIED IN GEOTECHNICAL ENGINEERING AND CERTIFIED TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT. SHOP DRAWINGS MUST BE SUBMITTED PRIOR TO CONSTRUCTION. FINAL STRUCTURAL DESIGN MUST INCORPORATE THE INTENT OF THE GRADING SHOWN ON THESE PLANS AND ALL WORK MUST BE WITHIN THE LIMIT OF DISTURBANCE SHOWN ON THE PLANS.
 - 7. ALL CUT AND FILL WORK MUST BE DONE UNDER THE DIRECTION OF A PROFESSIONAL GEOTECHNICAL ENGINEER, WITH TESTING AND CERTIFICATION PROVIDED TO THE OWNER AT THE COMPLETION OF THE PROJECT. DIPRETE ENGINEERING IS NOT PROVIDING THE FILL SPECIFICATION, GEOTECHNICAL ENGINEERING, STRUCTURAL ENGINEERING SERVICES, OR SUPERVISION AS PART OF THESE DRAWINGS
 - 8. MATERIAL STOCKPILES MUST NOT BE LOCATED IN THE RIGHT-OF-WAY, AND TRENCHES MUST NOT BE LEFT OPEN OVERNIGHT
 - 9. ALL LOAM IN DISTURBED AREAS MUST BE STOCKPILED FOR FUTURE USE. ALL EXCESS SOIL, TREES, ROCKS, BOULDERS, AND OTHER REFUSE, MUST BE DISCARDED OFF SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. STUMPS MUST BE GROUND ON SITE OR REMOVED. 10. THE SITE WILL HAVE 6" CONCRETE CURBING. SITE GRADING/CONTOURS SHOWN ON THE PLANS DO
 - NOT NECESSARILY REFLECT THE APPROPRIATE CURBING REVEAL. CONTRACTOR MUST INSTALL CURBING WITH APPROPRIATE REVEAL UNLESS OTHERWISE NOTED. II. NO STUMP DUMPS ARE PROPOSED ON SITE
 - 12. ALL DRAINAGE OUTFALLS ARE DESIGNED TO BE INSTALLED AT EXISTING GROUND ELEVATION. CONTRACTOR MUST IMMEDIATELY NOTIFY DIPRETE ENGINEERING OF ANY DISCREPANCIES WHERE EXISTING GROUND IS HIGHER THAN OUTFALL DESIGN ELEVATION. ANY RESOLUTION OF DISCREPANCIES BY THE CONTRACTOR. UNLESS AUTHORIZED IN WRITING IN ADVANCE BY THE OWNER AND DIPRETE ENGINEERING. IS DONE AT THE CONTRACTOR'S RISK
 - 13. CONTRACTOR MUST PROVIDE SAW CUTTING AND FULL DEPTH PAVEMENT RESTORATION IN AREAS WHERE PAVEMENT AND/OR SIDEWALK IS REMOVED FOR UTILITY INSTALLATION.
 - 14. IF ROADWAY SURFACE PAVEMENT COURSE IS NOT TO BE INSTALLED FOR 12 MONTHS OR MORE AFTER INSTALLATION OF DRAINAGE STRUCTURES, ALL CATCH BASIN RIMS MUST BE SET AT BINDER GRADE AND RAISED TO FINAL PAVEMENT GRADE PRIOR TO PLACEMENT OF SURFACE COURSE. DRAINAGE

ALL DRAINAGE PIPING MUST BE HIGH-DENSITY POLYETHYLENE (HDPE) WITH WATERTIGHT JOINTS WHERE INSTALLED WITHIN THE SEASONAL HIGH GROUNDWATER TABLE, UNLESS NOTED OTHERWISE ON THE PLANS OR IN THE SPECIFICATIONS. ALL STORMWATER PIPE WITHIN THE STATE'S RIGHT-OF-WAY MUST BE REINFORCED CONCRETE PIPE (RCP).

- DRAINAGE STRUCTURES MUST BE AS FOLLOWS (UNLESS OTHERWISE NOTED ON PLANS): • CATCH BASINS ALONG CURBING: RIDOT STD. 4.4.0, TYPE F, 4' DIAMETER WITH APRON STONE
- CATCH BASINS NOT ALONG CURBING: RIDOT STD 4.4.0, 4' DIAMETER • SINGLE FRAME CATCH BASIN GRATES: RIDOT STD 6.3.2
- HIGH CAPACITY CATCH BASIN GRATES: RIDOT STD 6.3.4 AND INSTALLED ANYWHERE GRADES ARE 6% AND STEEPER
- CATCH BASINS MUST HAVE 3 FT SUMPS WITHOUT SEEP HOLES MANHOLES: RIDOT STD 4.2.0, 4.2.1 OR 4.2.2 AS REQUIRED
- DRAINAGE MANHOLE COVERS: RIDOT STD 6.2.1 DROP INLETS: RIDOT STD 4.5.0, 4.5.1 OR 4.5.2
- APRON STONE, WHERE REQUIRED: RIDOT STD 7.1.7 OR 7.1.8
- ALL DRAINAGE STRUCTURES MUST BE WATERTIGHT.

DRAINAGE CONNECTIONS FROM ALL DOWNSPOUTS (DS) ARE SHOWN FOR SCHEMATIC PURPOSES ONLY THE LEVEL OF DETAIL SHOWN DOES NOT INCLUDE ALL JOINTS THAT MAY BE REQUIRED FOR CONSTRUCTION. ALL FITTINGS AND PIPE SLOPES THAT TIE INTO MAIN TRUNK LINE MUST BE FIELD FIT BY CONTRACTOR.

sanitary sewe

ALL SANITARY SEWER PIPING MUST BE SDR 35 UNLESS NOTED OTHERWISE ON THE PLANS OR IN THE SPECIFICATIONS. ALL SEWER IMPROVEMENTS MUST COMPLY WITH THE CITY OF NEWPORT RULES AND REGULATIONS AND ANY APPLICABLE AUTHORITY HAVING JURISDICTION. INCLUDING (BUT NOT LIMITED TO) MATERIALS, DIMENSIONS AND ACCESS COVERS. CONTRACTOR MUST SUBMIT SHOP DRAWINGS FOR APPROVAL BY ENGINEER OF RECORD PRIOR TO CONSTRUCTION.

ALL WATER MAIN IMPROVEMENTS MUST COMPLY WITH CITY OF NEWPORT REGULATIONS AND ANY APPLICABLE AUTHORITY HAVING JURISDICTION, INCLUDING (BUT NOT LIMITED TO) MATERIALS, DIMENSIONS AND ACCESS COVERS. CONTRACTOR TO PROVIDE SHOP DRAWINGS AND SUBMITTALS TO THE ENGINEER OF RECORD FOR APPROVAL FOR ALL WATER IMPROVEMENTS AND APPURTENANCES INCLUDING BUT NOT LIMITED TO PIPES, VALVES, FITTINGS, HEAT ENCLOSURES, AND BACKFLOW PREVENTERS. ALL COMPONENTS OF THE WATER SYSTEM MUST BE ASBUILT PER PROVIDENCE WATER REQUIREMENTS. ALL COMPONENTS OF THE WATER SYSTEM MUST BE INSPECTED BY PROVIDENCE WATER. CONTRACTOR MUST COORDINATE ALL IMPROVEMENTS WITH PROVIDENCE WATER TO ENSURE INSPECTOR IS ON SITE.

ELECTRIC/TELECOM/GAS

PROPOSED GAS, ELECTRIC, CABLE AND DATA UTILITIES ARE SHOWN SCHEMATICALLY AND ARE PROPOSED TO BE UNDERGROUND. OWNER AND CONTRACTOR MUST COORDINATE FINAL DESIGN WITH APPROPRIATE UTILITY COMPANIES, ALL WORK MUST BE IN ACCORDANCE WITH EACH UTILITY COMPANY'S STANDARDS AND DETAILS AS WELL AS LOCAL AND FEDERAL REGULATIONS. THIS INCLUDES BUT IS NOT LIMITED TO POLES, TRANSFORMERS, PULL BOXES, CONCRETE PADS, CONCRETE ENCASEMENTS AND CONDUITS. CONNECTION POINTS FOR ELECTRIC AND TELECOM UTILITIES, AT THE EXISTING INFRASTRUCTURE, ARE CURRENTLY SHOWN AS UNDERGROUND UTILITIES. THESE UTILITIES MAY BE UNDERGROUND OR OVERHEAD AND MUST BE COORDINATED WITH NATIONAL GRID PRIOR TO CONSTRUCTION.

SITE LIGHTING

SITE LIGHTING (TEMPORARY AND PERMANENT) MUST BE DIRECTED AWAY FROM AND SHIELDED FROM ENVIRONMENTALLY SENSITIVE AREAS AND ABUTTING LANDS. EXACT LOCATIONS OF LIGHT POLES MUST BE COORDINATED WITH THE APPROPRIATE UTILITIES, AND MUST BE LOCATED WITHIN THE STREET RIGHT-OF-WAY. FINAL LIGHTING AND CONDUIT LOCATIONS BY OTHERS.

REDEVELOPMENT NOTES:

- I. ALL EXISTING MANHOLE COVERS, GRATES, VALVE BOXES, SHUT-OFFS, AND HAND HOLES WITHIN THE LIMIT OF WORK MUST BE RESET TO FINISHED GRADE. 2. ALL UTILITY STRUCTURES INDICATED TO BE ABANDONED MUST BE CUT TO FOUR FEET BELOW
- FINISH GRADE ELEVATION, INLETS AND OUTLETS PLUGGED WITH MORTAR, AND SEALED WITH CONCRETE, UNLESS OTHERWISE NOTED.
- . WHEN ABANDONING INACTIVE UTILITY PIPES NEAR THE PROPERTY LINE, THE CONTRACTOR MUST CAP OR PLUG IN PLACE AT THE PROPERTY LINE OR ACCORDING TO AHJ. WHEN REMOVING AND DISPOSING OF A PORTION OF EXISTING PIPE, THE CONTRACTOR MUST CAP OR PLUG BOTH ENDS REMAINING IN PLACE.
- 4. CONTRACTOR MUST DOCUMENT LOCATION OF ALL SUBSURFACE UTILITIES REMAINING IN PLACE AFTER DEMOLITION (ACTIVE AND INACTIVE/ABANDONED). LOCATION CAN BE DOCUMENTED BY FIELD SURVEY OR SWING TIES. COPIES OF LOCATION DOCUMENTATION MUST BE PROVIDED TO THE OWNER. WHERE POSSIBLE.
- 5. NO GUARANTEE IS MADE THAT THE EXISTING UTILITY SERVICE CONNECTION(S) ARE SUITABLE FOR REUSE. EXISTING UTILITY SERVICE CONNECTIONS WERE NOT FIELD VERIFIED FOR SIZE, MATERIAL EXACT LOCATION, OR INSPECTED FOR SUITABILITY FOR REUSE. CONTRACTOR MUST EVALUATE THE SIZE, MATERIAL, LOCATION, AND SUITABILITY FOR REUSE, AND IMMEDIATELY PROVIDE WRITTEN DOCUMENTATION OF CONDITIONS TO THE OWNER/DIPRETE.

BBREVIATIONS LEGEND

ADA	AMERICANS WITH DISABILITY ACT	N/F	NOW OR FORMERLY
AHJ	AUTHORITY HAVING JURISDICTION	OHW	OVERHEAD WIRE
AP	ASSESSOR'S PLAT	PE	POLYETHYLENE
RCH	ARCHITECT	ዊ	PROPERTY LINE
BC	BOTTOM OF CURB	PR	PROPOSED
ΒT	BOTTOM OF TESTHOLE	PVC	POLYVINYL CHLORIDE
BIT	BITUMINOUS (BERM)	R	RADIUS
BIO	BIORETENTION	R&D	REMOVE AND DISPOSE
BS	BASEMENT SLAB ELEVATION	RCP	REINFORCED CONCRETE PIPE
BW	FINISHED GRADE AT BOTTOM OF WALL	RIHB	RHODE ISLAND
СВ	CATCH BASIN		HIGHWAY BOUND
(C)	CALCULATED	RL	ROOF LEADER
Æ	CENTERLINE	ROW	RIGHT-OF-WAY
CA)	CHORD ANGLE	S	SLOPE
DIP	CONCRETE LINED DUCTILE IRON PIPE	SD	SUBDRAIN
CO	CLEAN OUT	SED	SEDIMENT FOREBAY
ONC	CONCRETE	SF	SQUARE FOOT
(D)	DEED	SFL	STATE FREEWAY LINE
DCB	DOUBLE CATCH BASIN	SFM	SEWER FORCE MAIN
DI	DROP INLET	SG	SLAB ON GRADE ELEVATION
DMH	DRAINAGE MANHOLE	SHL	STATE HIGHWAY LINE
DP	DETENTION POND	SMH	SEWER MANHOLE
LEV	ELEVATION	SNDF	SAND FILTER
EOP	EDGE OF PAVEMENT	SS	SIDE SLOPE
ESC	EROSION AND SEDIMENT CONTROL	STA	STATION
ΕX	EXISTING	TC	TOP OF CURB
FES	FLARED END SECTION	TD	TRENCH DRAIN
FFE	FINISH FLOOR ELEVATION	TF	TOP OF FOUNDATION
GS	GARAGE SLAB ELEVATION	TRANS	TRANSITION
SWΤ	GROUND WATER TABLE	ΤW	TOP OF WALL (FINISHED
HW	HEADWALL		GRADE AT TOP OF WALL)
HC	HIGH CAPACITY CATCH BASIN GRATE	TYP	TYPICAL
DPE	HIGH DENSITY POLYETHYLENE		UNDERGROUND
ID	INLINE DRAIN	000	DETENTION SYSTEM
INV	INVERT	UIS	UNDERGROUND
IP	INFILTRATION POND	010	INFILTRATION SYSTEM
RCH	LANDSCAPE ARCHITECT	LIP	UTILITY POLE
LF	LINEAR FEET	WO	WALKOUT ELEVATION
LOD	LIMIT OF DISTURBANCE	WO	WATER QUALITY
LP	LIGHT POLE	¥¥ Q	
(M)	MEASURED		
MEP	MECHANICAL/ELECTRICAL/ PLUMBING		

SITE CALLOUTS LEGEND

ENGINEER

7.1.0	RIDOT STD PRECAST CONCRETE CURB
7.1.1	RIDOT STD 3'-0" PRECAST CONCRETE TRANSITION CURB
(7.3.1)	RIDOT STD 6'-0" GRANITE TRANSITION CURB
7.3.2	RIDOT STD 6'-0" GRANITE TRANSITION CURB
7.6.0	RIDOT STD CURB SETTING DETAIL
20.1.0	PAVEMENT MARKINGS ARROWS AND ONLY
(4DY)	4" EPOXY RESIN PAVEMENT MARKINGS- DOUBLE YELLOW
4W	4" PAINTED WHITE MARKINGS
(4W45)	4" WHITE STRIPING 2' ON CENTER AT 45°
6W	6" WHITE EPOXY RESIN PAVEMENT MARKINGS
(12W)	STOP LINE (REFERENCE MUTCD SECTION 3B.16)
ADAS	ADA SPACE PAVEMENT MARKINGS MUST COMPLY WITH ALL ADA AND MUTCD REGULATIONS AND REQUIREMENTS.
ADAR	ADA CURB RAMP MUST COMPLY WITH ALL ADA REGULATIONS AND REQUIREMENTS.
ADAV	VAN ADA SPACE PAVEMENT MARKINGS MUST COMPLY WITH ALL ADA AND MUTCD REGULATIONS AND REQUIREMENTS.
(43.1.0)	RIDOT STD CEMENT CONCRETE SIDEWALK
\frown	

- RIDOT STD DRIVEWAY DEVELOPMENT FOR 3'-0" TRANSITION CURB
- RIDOT STD DRIVEWAY DEVELOPMENT FOR 6'-0" TRANSITION (43.4.1)
- (43.5.0) RIDOT STD CEMENT CONCRETE DRIVEWAYS

EXISTING LEGEND

(AS SHOWN ON PROPOSED PLANS) NOT ALL ITEMS SHOWN WILL APPEAR

v v
2
10
s s
G
CAD
ZONE X
24
— T GWO T —
↑ GWRA ↑
GWR T
↑ NHA ↑
↑ NCWP ↑

PROPOSED LEGEND

NOT ALL ITEMS SHOWN WILL APP	PEAR ON PLANS
	PROPERTY LIN
	BUILDING SET
	GUARDRAIL SE MATERIALS N
	RETAINING W
308	MINOR CONTO
310	MAJOR CONTO
+(312)	SPOT ELEVAT
	EDGE OF PAV

-----BUILDING OVERHANG

建合成的 建分子 网络白色的



ON PLANS	
OPERTY LINE	A/ \triangle
SESSORS LINE	0 /®
	0/0
USHLINE	Ŕ
EELINE	۲
IARDRAIL	e
NCE	
TAINING WALL	
ONE WALL	D
NOR CONTOUR LINE	A
JOR CONTOUR LINE	
ATER LINE	E
WER LINE	(UP)
WER FORCE MAIN	
S LINE	S
ECTRIC LINE	sv
ERHEAD WIRES	۲
AINAGE LINE	X
ILS LINES	8
' PERIMETER WETLAND	WV
' RIVERBANK WETLAND	\odot
0' RIVERBANK WETLAND	۲
MA BOUNDARY	
	GV
REAM	•
TLAND LINE & FLAG	
ATE HIGHWAY LINE	

STATE FREEWAY LINE

GROUNDWATER OVERLAY

GROUNDWATER RESERVOIR

NATURAL HERITAGE

PROPERTY LINE

BUILDING SETBACKS

MATERIALS NOTE 8.

RETAINING WALL

MINOR CONTOUR LIN

SPOT ELEVATION

CONCRETE CURE

(RIDOT STD 7.1.0)

BUILDING FOOTPRINT

ASPHALT PAVEMENT

HEAVY DUTY ASPHALT

HEAVY DUTY CONCRETE

ASPHALT SIDEWALK

SIGN (RIDOT STD 24.6.2 AS

ACCESSIBLE PARKING SPACE

BUILDING INGRESS/EGRESS

PAVEMENT

CONCRETE

SAWCUT LINE

APPLICABLE)

SINGLE LIGHT

DOUBLE LIGHT

SYMBOLS

OVERHANGING LIGH

EDGE OF PAVEMENT

MAJOR CONTOUR LINE

GUARDRAIL SEE LAYOUT AND

GROUNDWATER RECHARGE AREA

COMMUNITY WELLHEAD PROTECTION

NON-COMMUNITY WELLHEAD PROTECTION

$\checkmark \triangle$	7	NAIL FOUND/SET
)/@)	DRILL HOLE FOUND/SE
)/@)	
/□		BOUND FOUND/SET
Q		SIGN
۲		BOLLARD
SEV		SOIL EVALUATION
	СВ	CATCH BASIN
	DCB	DOUBLE CATCH BASIN
	DMH	DRAINAGE MANHOLE
A	FES	FLARED END SECTION
		GUY POLE
	EMH	ELECTRIC MANHOLE
	UP	UTILITY/POWER POLE
		LIGHTPOST
S	SMH	SEWER/SEPTIC MANHO
SV		SEWER VALVE
۲		CLEANOUT
X		HYDRANT
8		IRRIGATION VALVE
WV		WATER VALVE
0		WELL
۲		MONITORING WELL
		UNKNOWN MANHOLE
GV		GAS VALVE
¢		BENCH MARK
~~• ~~•	-	STREAM FLOW DIRECTI



DRAINAGE LINE

PERFORATED SUBD

LINE

HEADWALI



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ND/SET ET N BASIN OLE CTION DLE POLE IANHOLE			90 Broadway Newport, RI 02840			Boston • Providence • Newpor
/E DLE IRECTION		ONARD	R. BR	ADIEY 66 RED ENGINE		
DRAINAGE LINE PERFORATED SUBDRAIN GAS LINE WATER LINE HYDRANT ASSEMBLY WATER SHUT OFF WATER VALVE THRUST BLOCK SEWER LINE OVERHEAD WIRE ELECTRIC, TELEPHONE, CABLE LINIT OF DISTURBANCE/ LIMIT OF DISTURBANCE/ LIMIT OF CLEARING SEDIMENTATION BARRIER, SILT FENCE (RIDOT STD 9.2.0), COMPOST SOCK OR APPROVED EQUAL UNDERGROUND INFILTRATION OUTLINE BIO RETENTION CATCH BASIN DOUBLE CATCH BASIN MANHOLE FLARED END SECTION HEADWALL	THIS PLAN SET MUST NOT BE USED FOR CONSTRUCTION PURPOSES UNLESS STAMPED 'ISSUED FOR CONSTRUCTION' AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER OF DIPRETE	ENGINEERING. DIPRETE ENGINEERING ONLY WARRANTS PLANS ON A DIPRETE ENGINEERING TITLE BLOCK STAMPED BY REGISTERED	PROFESSIONAL ENGINEER OF DIPRETE ENGINEERING. DIPRETE ENGINEERING. DIPRETE ENGINEERING DOES NOT WARRANT PLANS BY ANY OTHER PARTY. THE CONTRACTOR IS PESPONSIALE FOR ALL OF THE MEANS	METHODS: SAFETY PRECAUTIONS AND REQUIREMENTS, AND OSHA CONFORMANCE IN THE IMPLEMENTATION OF THIS PLAN AND O 1 09-02-21 1 SPECIAL USE PERMIT/DPR SUBMISSION 1 MAH DESIGN.	NO. DATE DESCRIPTION BY: EXISTING UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE	DRAWN BY: MAH DESIGN BY: MAH DAMAGES INCURRED DUE TO LOCATIONS OF EXISTING UTILITIES.
MATE ONLY. LOCATIONS MUST GRADING, PAVEMENT E CONTACTED INCLUDING OF 72 WORKING HOURS PRIOR IES. DIG SAFE MEMBER UTILITY & SAFE MEMBER COMPANIES IFY IF ANY PRIVATELY OWNED ONSIBILITY TO OBTAIN AND, OR VIA UNDERGROUND	ERAL NOTES & LEGEND	SONS CORNER MARKET	UR'S PLAI 4 LUI 13-4 & 55 ?T, RHODE ISLAND	A ENTERPRISES	AINFIELD PIKE, CRANSTON, RHODE ISLAND 02921	-943-0005

JTILITY NOTE

ALL UNDERGROUND UTILITIES SHOWN ON THESE PLANS WERE PROVIDED BY OTHERS AND ARE APPROXIMATE ONLY. LOCATION BE DETERMINED IN THE FIELD BEFORE EXCAVATION, BLASTING, UTILITY INSTALLATION, BACKFILLING, GRADING, PAVEMENT RESTORATION, AND ALL OTHER SITE WORK. ALL UTILITY COMPANIES, PUBLIC AND PRIVATE, MUST BE CONTACTED INCLUDI THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THESE DOCUMENTS. CONTACT DIG SAFE A MINIMUM OF 72 WORKING HOUR TO ANY CONSTRUCTION AT 811. DIG SAFE IS RESPONSIBLE FOR CONTACTING MEMBER UTILITY COMPANIES. DIG SAFE MEMBEF COMPANIES ARE RESPONSIBLE TO MARK ONLY THE FACILITIES THAT THEY OWN OR MAINTAIN, NON DIG SAFE MEMBER COME ARE NOT NOTIFIED BY DIG SAFE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INVESTIGATE AND NOTIFY IF ANY PRIVATELY OR NON DIG SAFE MEMBER UTILITIES ARE IN THE AREA.

PER THE CODE OF FEDERAL REGULATIONS - TITLE 29, PART 1926 IT IS THE SITE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ACCURATE UNDERGROUND UTILITY LINE LOCATIONS FROM THE UTILITY COMPANIES. UTILITY OWNERS AND. OR VIA UNDERGR UTILITY LOCATION EQUIPMENT AS NEEDED TO ESTABLISH ACCURATE LOCATIONS PRIOR TO ANY EXCAVATION. THE USE OF PROFESSIONAL UTILITY LOCATING COMPANIES PRIOR TO ANY EXCAVATION IS RECOMMENDED.

DIPRETE ENGINEERING IS NOT A PROFESSIONAL UTILITY LOCATION COMPANY, AND IS NOT RESPONSIBLE FOR UNDERGROUND UTILITIES, DEPICTED OR NOT, EITHER IN SERVICE OR ABANDONED. ANY SIZES, LOCATIONS, EXISTENCE, OR LACK OF EXISTENCE OF UTILITIES SHOWN ON THESE PLANS SHOULD BE CONSIDERED APPROXIMATE UNTIL VERIFIED BY A PROFESSIONAL UTILITY LOCATION COMPANY. DIPRETE ENGINEERING ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED.

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WATERMAN ENGINEERING COMPANY (COA No. LS.000A483)

WATERMAN ENGINEERING CO. CIVIL ENGINEERS & SURVEYORS 46 SUTTON AVENUE EAST PROVIDENCE, RI 02914-2096

AND ARE NOT TO BE USED FOR ANY OTHER

DIRECTORS'

PURPOSE, LOCATION OR OWNER WITHOUT WRITTEN CONSENT OF THIS OWNER OR ONE OF IT'S

ESE PREMISES ARE SITUATED IN A CI ZON
DIMENSIONAL REQUIREMENTS
MIN. LOT AREA
MIN. LOT WIDTH
MIN. S/B FRONT YARD
MIN. S/B SIDE YARD
MIN. S/B REAR YARD
MAX. STRUCTURE HEIGHT

NO.	DATE	REVISION	CHECKED BY
BO J.T.	OUNDAR CONNEL	Y & TOPOGRAPHIC SURVEY PLAN A.P. 4, LOTS 13-4 & 55 L HIGHWAY & ADMIRAL KALBFUS ROAD NEWPORT, RHODE ISLAND	PROJECT NO. 20-107 SCALE: 1" = 20' DATE: 01/12/2020 DRAWN BY: EBP CHECKED BY: BJT / RSL EU ENAME:
		2050 PLAINFIELD PIKE CRANSTON, RI 02921	20-107_SU1 <u>1</u> of <u>1</u> SHTS DRAWING #: SU1
	V	Sutton Avenue Providence, RI · (401) - 438 - 5775	











NOTES: I. BIORETENTION AREAS SHALL BE HAND COMPACTED ONLY. NO MACHINES SHALL BE DRIVEN THROUGH OR OPERATED WITHIN THE BIORETENTION FOOTPRINT.

MEDIA.

- 2. BIORETENTION AREAS SHALL BE PROTECTED WITH SILT FENCE (RIDOT STD 9.2.0) OR APPROVED EQUAL ONCE BIORETENTION SOIL HAS BE INSTALLED. AREA IS TO REMAIN PROTECTED UNTIL ALL TRIBUTARY AREAS HAVE BEEN STABILIZED AND APPROVAL FROM THE DESIGN ENGINEER. NO CONSTRUCTION TRAFFIC IS ALLOWED ON BIORETENTION
- THE MULCH LAYER SHALL BE SHREDDED HARDWOOD MULCH THAT IS WELL (AGED STOCKPILED/STORED FOR AT LEAST 6 MONTHS), UNIFORM IN COLOR, AND FREE OF OTHER MATERIALS (WEED SEEDS, SOIL, ROOTS ETC.).
- 4. SOIL LINER SHALL BE I' MINIMUM THICKNESS AND HAVE A MAXIMUM PERMEABILITY OF 0.03 FT/DAY (I*10^-5 CM/SEC). LINER MAY BE COMPRISED OF NATIVE MATERIALS WITH MIN OF 90% PASSING THE #200 SIEVE OR CLAY WITH A MINIMUM OF 15% PASSING THE #200 SIEVE

DESCRIPTION	BIO-A
TOP OF POND ELEVATION	8.00
100 YEAR STORM ELEVATION	6.98
10 YEAR STORM ELEVATION	6.13
I YEAR STORM ELEVATION	6.01
OUTLET ELEVATION	2.62
TOP OF MULCH	5.20
BIO-MEDIA LAYER DEPTH	2.25'
SEASONAL HIGH GWT ELEVATION*	N/A
SOIL EVALUATION	N/A
*SEPARATION TO SEASONAL	

HIGH GROUNDWATER PROVIDED

BY LINER.



BIORETENTION CROSS SECTION WITH UNDERDRAIN AND LINER NOT TO SCALE

AINNPROJECTSVI052-013 JT CONNELL HIGHWAY SHELLVAUTOCAD DRAWINGSVI052-013-PLAN.DWG PLOTTED: 9/2















- I. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS BY NOTIFYING DIG-SAFE I-888-344-7233 AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION OR SITE PREPARATION AND ANY/OR ALL LOCAL UTILITY COMPANIES AS REQUIRED.
- CONTRACTOR TO PROVIDE A TWO (2) YEAR GUARANTEE FOR ALL MATERIALS. CONTRACTOR GUARANTEES THAT PLANTS WILL REMAIN HEALTHY FOR TWO (2) GROWING SEASONS. CONTRACTOR TO MAINTAIN ALL PLANTING AND LAWNS UNTIL FINAL PROJECT ACCEPTANCE. GUARANTEE PERIOD TO COMMENCE AT FINAL ACCEPTANCE. ANY REPLACEMENT PLANTS SHALL BE OF THE SAME SIZE AND SPECIES AS SPECIFIED WITH NEW GUARANTEE COMMENCING ON THE DATE OF REPLACEMENT.
- 3. ALL PLANT MATERIAL SHALL CONFORM, IN ALL RESPECTS, TO THE GUIDELINES OF "THE AMERICAN STANDARD FOR NURSERY STOCK," LATEST EDITION, PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION, INC. ALL PLANTS SHALL BE NURSERY GROWN AND SHALL HAVE BEEN GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT FOR AT LEAST TWO (2) YEARS.



4. PLANT SUBSTITUTION SELECTION MUST BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

- THE SURROUNDING GROUND AS TO THEIR ORIGINAL GRADE BEFORE DIGGING.
- FINAL ACCEPTANCE.

/*****}/

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- SEED MIX AT A RATE OF 5-7 LBS. PER 1,000 SF OR AS DIRECTED BY TOWN. ANY SOD (TURF) UTILIZED SHALL BE DROUGHT TOLERANT ENDOPHYTES OR PREDOMINANTLY FESCUE IN CHARACTER.
- NOVEMBER 15.
- DISEASES, LACK OF WATER OR OTHER CAUSES. DAMAGED PLANTS SHALL BE REPLACED WITH THE SAME OR SIMILAR VEGETATION ON AN ANNUAL BASIS.
- EXCESS LOAM TO REMAIN ON THE OWNER'S PROPERTY AND ONLY REMOVED WITH THE OWNERS



PLANT SCHED	ULE				
TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT
+	ARA	5	ACER RUBRUM `ARMSTRONG`	ARMSTRONG RED MAPLE	2.5/3" CAL B&B
	AF	2	Acer x freemanii	Freeman Maple	2/2.5" CAL B&B
$\left(\begin{array}{c} + \\ \end{array} \right)$					
	BNH	2	Betula nigra `Heritage`	HERITAGE RIVER BIRCH	2/2.5" CAL B&B
	СК	10	Cornus kousa	Kousa Dogwood	2/2.5" CAL B&B
+					
	PSK		Prunus serrulata `Kwanzan`	FLOWERING CHERRY	2.5/3" CAL B&B
	PO	2			3.5// " CAL D8D
$\left(\begin{array}{c} + \end{array} \right)$			I KUNUS A UNAME		5.574 CAL BOB
r r r	PC		Pyrus calleryana `Chanticleer`	Chanticleer Pear	2.5/3" CAL B&B
EVERGREEN TREES	CODE	QTY 2	BOTANICAL NAME	COMMON NAME	CONT
+					
20000000000000000000000000000000000000	IA	4	ILEX OPACA	American Holly	7/8` HT
60000000000000000000000000000000000000					
37 + }	JV	6	JUNIPERUS VIRGINIANA	Eastern Red Cedar	6` HT MIN
00000000000000000000000000000000000000	PG	5	PICEA GLAUCA	WHITE SPRUCE	6` HT MIN

ىبىر ب ر	TOS	18	Thuja occidentalis `Smaragd`	Emerald Green Arborvitae	6` HT MIN
<u>ک</u> ہ (23			
		23	THUJA OCCIDENTALIS TECHNY	TECHNY ARBORVITAE	
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
\bigoplus	CS	2	CORNUS SERICEA	RED TWIG DOGWOOD	30" HT MIN
	НМ	12	Hydrangea macrophylla `Endless Summer` TM	Bailmer Hydrangea	3-4` HT
		9	ΙΙ ΕΧ CRENATA `COMPACTA`	DWARE JAPANESE HOLLY	18" HT/SPREAD MIN
(+)					
(+)	ICS	8	ILEX CRENATA `SKY PENCIL`	Sky Pencil Japanese Holly	7 GAL
(+)	ICH	36	ILEX CRENATA 'HELERII'	Heler Japanese Holly	3 gal
	IGS	39	ILEX GLABRA `SHAMROCK`	INKBERRY	3 gal
5 + 5 500000	IVR	13	LIEX VERTICULATA "RED SPRITE"	RED SPRITE WINTERREPRY	30" HT MIN
<u></u>					
(+) +	KL	7	KALMIA LATIFOLIA	MOUNTAIN LAUREL	4/5` HT
+	RAP	6	Rhododendron azalea `PJM`	AZALEA	3 gal
	RD	22	Rhododendron x `Delaware Valley White`	Delaware Valley White Azalea	3 gal
	RGW	/.	RHODODENDRON X GUMPO WHITE	GUMPO WHITE AZALEA	3 GΔI
+		+			
+	RK	17	Rosa x `Knockout` TM	Rose	3 gal
GRASSES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
*	CKF	29	Calamagrostis x acutiflora `Karl Foerster`	FEATHER REED GRASS	2 gal
	FOG	23	Festuca ovina glauca	BLUE SHEEP FESCUE	2 gal
	PAH	54	Pennisetum alopecuroides `Hameln`	HAMELN DWARF FOUNTAIN GRASS	2 gal
*					
ANNUALS/PERENNIAL	S CODE	92	HEMEROCALLIS X HAPPY RETURNS	HAPPY RETURNS DAYLILY	SIZE 2 gal
<u> </u>					
(+)	NF	10	NEPETA X FAASSENII BLUE WONDER		2 gal
(+)	SSB	29	SEDUM SPECTABILE BRILLIANT	BRILLIANT STONECROP	2 gal
لرسيبه					













Prepared by:

Seas sins

Scale: As Shown







- ALUMINUM GUTTER. COLOR BLACK

– BREAK METAL. BLACK

─ E.I.F.S. REVEAL "V-GROOVE" 1" HIGH x 3/4" DEEP - E.I.F.S. SYSTEM 1 1/2" INSULATION MECHANICALLY FASTÉNED TO SUBSTRATE. OUTSULATION LCMD SYSTEM 1 WITH PANZER 15 REINFORCEMENT SYSTEM. COLOR: WHITE ← E.I.F.S. REVEAL "V-GROOVE" 1" HIGH x 3/4" DEEP

B/ FOOTING ELEV. -4'-6"

1. ALUMINUM STOREFRONT SYSTEM IS TO BE TEMPERED AS REQUIRED BY CODE, REFER TO "STOREFRONT MATERIAL SPECIFICATIONS" ON SHEET A6.0 FOR ADDITIONAL INFORMATION.

2. BREAK METAL PANEL (COLOR: BLACK)

- ALUMINUM GUTTER. COLOR BLACK

- BREAK METAL. BLACK

─ E.I.F.S. REVEAL "V-GROOVE" 1" HIGH x 3/4" DEEP - E.I.F.S. SYSTEM 1 1/2" INSULATION MECHANICALLY FASTENED TO SUBSTRATE. OUTSULATION LCMD SYSTEM 1 WITH PANZER 15 REINFORCEMENT SYSTEM. COLOR: WHITE ← E.I.F.S. REVEAL "V-GROOVE" 1" HIGH x 3/4" DEEP

B/ FOOTING
▼EĹEV. −4'−0"

Typical Front/Rear Elevations - Car Wash

Seasons Corner Market

138 JT CONNELL HIGHWAY NEWPORT, RHODE ISLAND

ASSESSOR'S PLAT 4 LOT 13-4 & 55



Scale: As Shown

Prepared by:



KFRIJEJ.
ES AND DESIGN
NCLUDING EXCAVATION,

PROPOSED FLIP OPEN/CLOSED AREA = 3.7 S. (QTY. 1)	SIGN (K) PROPC	ENTER DSED CARWASH AREA =2.9 S. (QTY. 1)	"ENTER" F.		SED CARWASH AREA =2.2 S.F (QTY. 1)	"EXIT"
DESCRIPTION	SIZE	AREA (SF)	QUAN.	SIZE (SF)	ILLUMINATION	REM/

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U.U +	U.1 +	U.1 +	U.3	U./	1.2	1.7	2.0	2.0	2.2	- 2,3	+	+	4.1	/.4 +	+	16.3	20.4	+	26.0	27.3 +	27.7	27.4	+	25.5	24./	+ -		+	12.2	8.8		4.1	4.3	3.6		+ 1.3	+	0.5	+	0.2 +	U.1 +	U.1 (
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Luminaire Sched	inaire Schedule											
Symbol	Qty	Label	Arrangement	Description	LLD	LDD	LLF	Arr. Lum. Lumens	Arr. Watts			
	10	A	SINGLE	SCV-LED-23L-SCFT-50 MTD @ 15'	1.000	1.000	1.000	23101	188			
	10	В	SINGLE	SCV-LED-13L-SC-50 MTD @ 15'	1.000	1.000	1.000	13444	90			
	7	С	SINGLE	MRM-LED-18L-SIL-FT-50-70CRI-SINGLE-16'PDLE+2'BASE	1.000	1.000	1.000	19324	135			
	2	D	SINGLE	XLXM3-PT-5-LED-HD-CW 16'PDLE+2'BASE	1.000	1.000	1.000	7510	108			
	5	E	SINGLE	XWS-LED-05L-FTW-50-80CRI MTD @ 10'	1.000	1.000	1.000	5503	39			

Calculation	Summary

Cutcutu dorr Sunnar y								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	
ALL CALC POINTS	Illuminance	Fc	3.77	63.5	0.0	N.A.	N.A.	
CANDPY	Illuminance	Fc	50.93	63.5	33.0	1.54	1.92	
INSIDE CURB	Illuminance	Fc	6.94	38.2	0.6	11.57	63.67	

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted. Fixture nomenclature noted does not include mounting hardware or poles. This drawing is for photometric evaluation purposes only and should not be used as a construction document or as a final document for ordering product.











Total Project Watts



Plat/Lot	Location	Owner Name	Co-Owner Name	Address	Address 2	City	State	Zip
09-392	0 J T CONNELL MEMORIAL RD-	TWENTY SEVEN SAC SELF STOR	2.LP	207 E CLARENDON		PHOENIX	AZ	85012
04-070	0 ADMIRAL KALBFUS RD	W R P ENTERPRISES LTD		221 THIRD ST	SIXTH FLOOR	NEWPORT	RI	02840
09-414	215 THIRD ST	PSNC HOLDINGS LTD		424 BELLEVUE AVE		NEWPORT	RI	02840
04-073	221 THIRD ST ADMIRALS GATE	W R P ENTERPRISES LTD		221 THIRD ST	SIXTH FLOOR	NEWPORT	RI	02840
04-061	150 J T CONNELL MEMORIAL RD	JR REALTY HOLDINGS LLC		150 J T CONNELL MEMORIAL R	I	NEWPORT	RI	02840
09-403	122 J T CONNELL MEMORIAL RD	122 PROPERTIES LLC		1194 EAST MAIN RD		PORTSMOUTH	RI	02871
04-005	0 ROAD BED	STATE OF RHODE ISLAND &	PROVIDENCE PLANTAT	SMITH STREET		PROVIDENCE	RI	02903
09-379	129 J T CONNELL MEMORIAL RD	FIVE SAC SELF-STORAGE CORPO	CION	207 E CLARENDON		PHOENIX	AZ	85012
04-055	184-186 ADMIRAL KALBFUS RD	COLBEA ENTERPRISES LLC		2050 PLAINFIELD PIKE		CRANSTON	RI	02921
09-393	DYRE ST (OFF)	NARRAGANSETT ELECTRIC COR	RC/O PROPERTIES DEPT	40 SYLVAN RD		WALTHAM	MA	02451
04-059	135 J T CONNELL MEMORIAL RD	SAMUELS REALTY CO INC		POLO CENTER	678 AQUIDNECK AVE	MIDDLETOWN	RI	02842
04-084	215 THIRD ST CONDO, Unit B	MOY TERRANCE M		131-133 WASHINGTON ST		NEWPORT	RI	02840
04-055	0 BLDG ON LEASED LAND	BISHOP STEVEN &	BISHOP SARAH VICTOR	C/O BISHOPS FOURTH STREET	184 ADMIRAL KALBFUS	SNEWPORT	RI	02840
04-084-A	215 THIRD ST CONDO, Unit A	MOY MARGARET R TRUST AGRE	EMOY TERRANCE M TRU	131-133 WASHINGTON ST		Newport	RI	02840
04-084-B	215 THIRD ST CONDO , Unit A	MOY TERRENCE	MOY TERRANCE M TRU	131-133 WASHINGTON ST		Newport	RI	02840
09-403-1	122 J T Connell Memorial, Unit 1	Cunningham, Karen	Dimatteo, Michael	44 Merton Road		Newport	RI	02840
09-403-2	122 J T Connell Memorial, Unit 2	Mencoff, Samuel		670 Bellevue Avene		Newport	RI	02840
09-403-3	122 J T Connell Memorial, Unit 3	Greulich, Claus Dieter		122 JT Connell Highway		Newport	RI	02840
09-403-4	122 J T Connell Memorial, Unit 4	J Class Management, Inc.		28 Church Street		Newport	RI	02840
09-403-4	122 J T Connell Memorial, Unit 5	J Class Management, Inc.		28 Church Street		Newport	RI	02840
09-403-6	122 J T Connell Memorial, Unit 6	Drake, Jed		49 Whittier Road		Jamestown	RI	02835
09-403-7	122 J T Connell Memorial, Unit 7	Siwicki, David		40 Coluumbia Lane		Jamestown	RI	02835
09-403-8	122 J T Connell Memorial, Unit 8	J Class Management, Inc.		28 Church Street		Newport	RI	02840
09-403-9	122 J T Connell Memorial, Unit 9	J Class Management, Inc.		28 Church Street		Newport	RI	02840
09-403-10	122 J T Connell Memorial, Unit 10	Leatherman, William		140 Brenton Road		Newport	RI	02840
09-403-11	122 J T Connell Memorial, Unit 11	Christensen, Kevin M.		6 Beechland Place		Middletown	RI	02842
09-403-12	2 122 J T Connell Memorial, Unit 12	Waterman Realty, LLC		69 1/2 Garfield Street		Newport	RI	02840
Development Plan Review Application

Instructions

Development Plan review is required for qualifying projects, as described in <u>Chapter 17.88 of the City of Newport Code</u> <u>of Ordinances</u>. The Applicant shall submit one digital and six (6) full-size paper copies of all required documents, as described in <u>Section 17.88.040</u>. Additional information regarding review is available in the published <u>Technical Review</u> <u>Committee procedures</u>.

Each applicant will be required to meet with the Department of Utilities prior to submittal of an application to determine submittal requirements to satisfy subsection 17.88.040(T). The City has standards which must be adhered to for stormwater control, in addition to state regulations. The City requires all stormwater to be treated on site, including on redeveloped land. This may reduce the developable area of your land. Substantial new construction will require the submittal of architectural plans and elevations.

The application shall not be processed until it is determined that all required documents have been submitted and all required fees have been paid. Development Plan Review is a prerequisite for a Building Permit. Construction shall be completed in accordance with the approved Development Plan Review. It is strongly suggested that all applicants request informal preliminary review to the City Planner prior to submittal of an application, let alone the commencement of serious design work by consultants.

Basic Informat	tion	
Subject Property Address on file with City Engineer	Tax Assessor	r's Plat and Lot
138 JT Connell Highway & 184-186 Admiral Kalbfus Road	4 , 13-4 & 55	
# 138 & 184 Street JT Connell Highway & Admiral Kalbfus Road	Plat 4	Lot 13-4 & 55
Property Owner's Contact Information		
Colbea Enterprises, L.L.C. 7 Starline Way, Cranston, RI 02921		anston, RI 02921
Name	Mailing Address	
Michael Gazdacko	7 Starline Way, Cranston, RI 02921	
Email mgazdacko@seasonscornermarket.com Phone 323-828-3263		3
Applicant's Contact Information (only complete if different)		
Name	Mailing Address	
Email	Phone	

Property owner's signature authorizing submission of this application and certifying under possible penalty of perjury under the laws of this jurisdiction that the preceding information is true and correct.

Signature of Property Owner

Please provide contact information for any attorneys and/or design consultants retained. For properties with two owners, complete two forms. For developments on multiple properties, complete one form for each property owner.

City of Newport Development Plan Review- Section 17.88.040 Criteria

Complete N/A

	A. Perimeter boundaries of the entire property with lot area and dimensions indicated.	HEET 4
	B. Date, scale, north arrow, phasing, and number of sheets.	
	1. Scale shall be one inch equals fifty (50) feet or larger;	
	2. If the project is to be constructed in phases, this should be clearly indicated	
	3. When more than one sheet is required, a cover sheet drawn to a suitable scale shall show the entire site and indicate match lines for each page of the plan	HEET 1
	C. A vicinity map which indicated the location of the site in relation to the immediate surrounding area of the entire city.	HEET 2
	D. Name, address, stamp/seal and signature of the professional preparing the plan.	SHEETS
	E. Existing and proposed topography a at suitable contour interval.	ET 4 & 7
	F. All existing or proposed easements and rights-of-way SHEET	rs 4 & 6
	G. Limit of disturbance, location and square footage of buildings proposed, and breakdown by square footage of intended uses or number of units.	HEET 6
	H. Layout of the proposed parking area, including arrangement and dimensions of parking spaces and drive aisles as well as existing and proposed points of ingress/egress.	HEET 6
	I. Existing and proposed sewers, watermains, culverts, and other underground facilities, indicating pipe sizes, grades, manholes and location, both onsite and offsite.	HEET 8
	J. Existing and proposed drainage system.	HEET 8
	K. Location and type of lighting. SHEET 8 & LIGHTING	G PLAN
	L. Location and dimensions of pedestrian entrances, exists, and walkways.	HEET 6
	M. Location of any proposed freestanding signs.	HEET 5
	N. Identification of proposed dumpster pad.	HEET 6
	O. Identification of any wetland located on the site and floor hazard information, if applicable.	HEET 3
	P. A landscape plan of the existing and proposed trees, shrubs, and other vegetation prepared by a registered landscape architect.	HEET 13
	Q. Stormwater management plan. The development plan shall contain all of the information and meet the requirements of the City of Newport department of utilities' requirements for development and plans submitted for development plan review. SHEETS	8/9/10 & WATER
	R. All applicants must provide a copy of any existing institutional master plan or similar plan describing existing and/or anticipated institutional development. The administrative officer may require that an institutional master plan be prepared and submitted if the uses on the property are of such a nature that it is reasonably expected that further development thereon may be planned or take place.	
	S. Any additional information deemed necessary by city staff in order to satisfactorily complete review as it pertains to a particular required improvement or other aspect of the proposed development plan. This may include information such as projected average daily water consumption for potable and nonpotable purposes; projected average daily wastewater flow; frequency and duration of peak usage of water and sewer facilities; effluent characteristics; water pressure; existing roadway capacity and traffic counts; projected average daily vehicle trips and peak hour trips generated.	

SPECIAL USE PERMIT/ DPR SUBMISSION **SEASONS CORNER MARKET** 138 JT CONNELL HIGHWAY NEWPORT, RHODE ISLAND ASSESSOR'S PLAT 4 LOTS 13-4 & 55



Sheet Index

- COVER SHEET
- 2 Aerial Half-Mile Radius & USGS Map
- 3 GENERAL NOTES & LEGEND
- 4 BOUNDARY & TOPOGRAPHIC SURVEY PLAN (BY WATERMAN ENGINEERING)
- 5 SESC & DEMO PLAN
- 6 SITE LAYOUT PLAN
- 7 GRADING & SURFACE DRAINAGE PLAN
- 8 UTILITIES & DRAINAGE PLAN
- 9 STORMWATER TREATMENT SYSTEM A DETAILS
- 10 STORMWATER TREATMENT SYSTEM B DETAILS
- II DETAIL SHEET I
- 12 DETAIL SHEET 2
- 13 LANDSCAPE PLAN
- 14 LANDSCAPE NOTES & DETAILS
- I OF 5 TYPICAL FLOOR PLAN
- 2 OF 5 FRONT ELEVATION
- 3 OF 5 CAR WASH SIDE ELEVATIONS
- 4 OF 5 CAR WASH FRONT/REAR ELEVATIONS
- 5 OF 5 SIGNAGE PLAN & ELEVATIONS
- I OF I PHOTOMETRICS PLAN





ENERAL NOTES

- THE SITE IS LOCATED ON THE CITY OF NEWPORT, RHODE ISLAND ASSESSOR'S PLAT 4 LOTS 13-4 & I. THE CONTRACTOR IS RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL ON SITE WHICH I. CONSTRUCTION TO COMMENCE SPRING 2022 OR UPON RECEIPT OF ALL NECESSARY APPROVALS.
- 2. THE SITE IS APPROXIMATELY 1.76± ACRES AND IS ZONED C-I.
- 3. THE OWNER OF AP 4 LOTS 13-4 & 55 IS:
 - COLBEA ENTERPRISES LLO 2050 PLAINFIELD PIKE
- CRANSTON, RHODE ISLAND 0292
- THIS SITE IS LOCATED IN FEMA FLOOD ZONE AE (ELEVATION 13'). REFERENCE FEMA FLOOD INSURANCE RATE MAP 44005C0089J, MAP REVISED SEPTEMBER 4, 2013 (FLOOD PLAIN DESCRIPTIONS SHOWN BELOW).
- ZONE AE THIS SITE IS LOCATED IN FEMA FLOOD ZONE AE. ZONE AE ARE SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD. BASE FLOOD ELEVATIONS HAVE BEEN DETERMINED.
- THE BOUNDARY LINES AS SHOWN ON THE ENGINEERING PLAN SET DEPICTS THE RESULTS OF A CLASS I BOUNDARY RETRACEMENT SURVEY AS PERFORMED BY WATERMAN ENGINEERING COMPANY. THIS PLAN IS NOT TO BE CONSTRUED AS A CLASS I BOUNDARY RETRACEMENT SURVEY PLAN AND IS 4. IF CONCRETE TRUCKS ARE WASHED OUT ON SITE, ALL WASHOUT MUST BE PERFORMED IN THE NOT SUITABLE FOR RECORDING AS A CLASS I STANDARD SURVEY PLAN.
- CONTOUR DATA SHOWN ON THIS PLAN CONFORMS TO A T-I TOPOGRAPHICAL SURVEY STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS BY WATERMAN ENGINEERING COMPANY
- ALL WORK PERFORMED HEREIN IS TO BE GOVERNED BY CURRENT EDITIONS OF THE RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CITY OF NEWPORT STANDARD SPECIFICATIONS AND DETAILS AND SPECIFICATIONS INCLUDED AS PART OF THE DRAWINGS. IN AREAS OF CONFLICT BETWEEN THE DIFFERENT SPECIFICATIONS, THE DESIGN PLANS AND PROJECT SPECIFICATIONS WILL TAKE PRECEDENCE OVER THE GENERAL SPECIFICATIONS AND THE DESIGN ENGINEER WILL INTERPRET THE CONSTRUCTION REQUIREMENT. THE CONTRACTOR IS ADVISED TO SUBMIT A REQUEST FOR INFORMATION (RFI) FOR ANY AREAS OF CONFLICT BEFORE COMMITTING TO CONSTRUCTION.
- 8. THE SITE IS NOT WITHIN A:
 - GROUNDWATER PROTECTION AREA (RIDEM) NATURAL HERITAGE AREA (RIDEM)
 - GROUNDWATER PROTECTION OVERLAY DISTRICT (TOWN)
- THE FOLLOWING DOCUMENTS ARE CONSIDERED PART OF THE PROJECT PLANS AND THE CONTRACTOR/OWNER MUST MAINTAIN THESE DOCUMENTS AS PART OF A FULL PLAN SET:
- SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC). THE SESC CONTAINS THE FOLLOWING:
- EROSION CONTROL MEASURES SHORT TERM MAINTENANCE
- •• ESTABLISHMENT OF VEGETATIVE COVER
- CONSTRUCTION POLLUTION PREVENTION SEQUENCE OF CONSTRUCTION
- STORMWATER OPERATION AND MAINTENANCE PLAN (0&M). THE 0&M CONTAINS: • LONG TERM MAINTENANCE
- •• LONG TERM POLLUTION PREVENTION
- THIS PLAN SET REFERENCES RIDOT STANDARD DETAILS (DESIGNATED AS RIDOT STD X.X.X). RIDOT STANDARD DETAILS ARE AVAILABLE FROM RIDOT AND ONLINE AT HTTP://WWW.DOT.RI.GOV/BUSINESS/CONTRACTORSANDCONSULTANTS.PHP.
- . THE SITE IS TO BE SERVICED BY PUBLIC WATER AND PUBLIC SEWER.
- 12. THE DRAINAGE SYSTEM IS DESIGNED TO MEET THE CITY OF NEWPORT SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WITH THE USE OF CATCH BASINS, BIORETENTION, SAND FILTERS AND UNDERGROUND DRAINAGE BASINS. THE STORMWATER MANAGEMENT SYSTEM MEETS THE RIDEM BEST MANAGEMENT PRACTICES.
- 13. THE SITE IS PROPOSED TO BE BUILT IN ONE PHASE.
- 14. SOIL EVALUATIONS WERE COMPLETED BY DIPRETE ENGINEERING ON 8/27/2021
- 15. ANY PROPRIETARY PRODUCTS REFERENCED IN THIS PLAN SET ARE REPRESENTATIVE OF THE MINIMUM DESIGN REQUIREMENTS FOR THE PURPOSE THEY PROPOSE TO SERVE ALTERNATIVES TO ANY PROPRIETARY PRODUCT MAY BE SUBMITTED TO THE ENGINEER OF RECORD FOR CONSIDERATION, WHICH MUST BE ACCOMPANIED BY APPROPRIATE SPECIFICATION SHEETS/DESIGN CALCULATIONS THAT DEMONSTRATE THE ALTERNATIVE(S) MEET THE MINIMUM DESIGN PARAMETERS OF THE PRODUCT SHOWN ON THE PLANS. NO ALTERNATIVES MAY BE USED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
- 16. THIS PLAN SET MAY REFERENCE AND/OR INCLUDE REPRODUCTIONS OF PROPRIETARY PRODUCTS/ DETAILS BY OTHERS, AND/OR THEIR ASSOCIATED SPECIFICATIONS, ANY REFERENCED OR REPRODUCED PROPRIETARY PRODUCT OR DETAIL BY OTHERS THAT IS SHOWN ON DIPRETE PLANS IS STRICTLY FOR INFORMATION/SPECIFICATION PURPOSES ONLY, DIPRETE ENGINEERING DOES NOT WARRANT ANY PROPRIETARY PRODUCTS, DETAILS BY OTHERS OR THEIR RESPECTIVE DESIGNS. IF A FIELD LOCATION OF IMPROVEMENTS. SURVEYOR MUST PROVIDE OWNER AND CONTRACTOR WITH DIPRETE ENGINEERING PLAN INCLUDES A PROPRIETARY PRODUCT/DETAIL BY OTHERS (EITHER EXPLICITLY OR IMPLIED) AND IS STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND/OR REGISTERED LANDSCAPE ARCHITECT OF DIPRETE ENGINEERING, SAID STAMP DOES NOT EXTEND TO ANY PORTION OF THE PROPRIETARY PRODUCT/DETAIL BY OTHERS OR ITS DESIGN.

SOIL INFORMATION:

(REFERENCE: SOIL MAPPING OBTAINED FROM RIGIS. SOIL GEOGRAPHIC DATA DEVELOPED BY THE RHODE ISLAND SOIL SURVEY PROGRAM IN PARTNERSHIP WITH THE NATIONAL COOPERATIVE SOIL SURVEY) SOIL NAME DESCRIPTION

NEWPORT-URBAN LAND COMPLEX URBAN LAND

AMERICANS WITH DISABILITIES ACT (ADA) NOTES

- ALL IMPROVEMENTS MUST COMPLY WITH THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES" (ADAAG) BY THE US DEPARTMENT OF JUSTICE (CURRENT EDITION).
- MAXIMUM RUNNING SLOPE ALONG ALL ACCESSIBLE PATHS OF TRAVEL MUST BE 4.5% (0.045 FT/FT), AND MAXIMUM CROSS SLOPE ACROSS ALL ACCESSIBLE PATHS OF TRAVEL MUST BE 1.5% (0.015 FT/FT).
- ADA PARKING SPACES AND LOADING AREAS: THE STEEPEST SLOPE OF THE SPACE, MEASURED IN ANY DIRECTION (INCLUDING DIAGONALLY), MUST BE LESS THAN OR EQUAL TO 2% (0.02 FT/FT). DIPRETE ENGINEERING GENERALLY RECOMMENDS A MAXIMUM OF I.4% (0.014 FT/FT) BE USED FOR BOTH RUNNING AND CROSS SLOPES IN ORDER TO COMPLY.
- A MINIMUM 5'X5' LANDING MUST BE PROVIDED IN FRONT OF ALL PUBLICLY ACCESSIBLE BUILDING ENTRANCES/ EGRESSES. THE STEEPEST SLOPE OF THE LANDING, MEASURED IN ANY DIRECTION (INCLUDING DIAGONAL), MUST BE LESS THAN OR EQUAL TO 2% (0.02 FT/FT). DIPRETE ENGINEERING GENERALLY RECOMMENDS A MAXIMUM OF 1.4% (0.014 FT/FT) BE USED FOR BOTH RUNNING AND CROSS SLOPES IN ORDER TO COMPLY.
- . FOR EVERY 6 (OR FRACTION OF 6) ADA PARKING SPACES, AT LEAST ONE MUST BE A VAN PARKING SPACE. FOR EXAMPLE, IF 7 ADA PARKING SPACES ARE REQUIRED, A MINIMUM OF 2 MUST BE VAN SPACES.
- NOTWITHSTANDING THE NOTES LISTED ABOVE, TOWN OR STATE-SPECIFIC STANDARDS MAY BE MORE STRINGENT AND OVERRULE. IT IS THE RESPONSIBILITY OF THE USER OF THIS PLAN SET TO MAINTAIN COMPLIANCE WITH THE CONTROLLING STANDARD
- NOTE THAT THE GRADING/PLAN VIEWS AND DETAILS CONTAINED WITHIN THIS PLAN SET MAY NOT SHOW THE DETAIL NECESSARY TO CONSTRUCT WALKWAYS, RAMPS AND SPACES TO COMPLY WITH THE ABOVE REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE LEVEL OF CARE NECESSARY TO BE CERTAIN THAT THE CONSTRUCTED PRODUCT MEETS ADA/CONTROLLING STANDARDS. IN THE EVENT OF ANY NONCOMPLIANCE, THE CONTRACTOR MUST NOTIFY THE DESIGNER BEFORE CONSTRUCTION FOR ADVICE IN FINDING A RESOLUTION.

SOIL EROSION AND SEDIMENT CONTROL NOTES:

- MUST BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS AND AUTHORITY HAVING JURISDICTION. THE CONTRACTOR MUST NOTIFY THE DESIGN ENGINEER, THE DIRECTOR OF PUBLIC WORKS, THE CITY ENGINEERING DIVISION, AND RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- 2. ALL EROSION CONTROL MUST BE INSTALLED PER THE LATEST EDITION OF THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL (RISESC) HANDBOOK AND THE SOIL EROSION AND SEDIMENT CONTROL PLAN(S). NOTE THE SOIL EROSION AND SEDIMENT CONTROL SHOWN ON THESE PLANS ARE THE MINIMUM QUANTITY/TYPE OF EROSION CONTROL DEVICES AND MATERIALS DEEMED REQUIRED BY DIPRETE ENGINEERING TO MEET THE OBJECTIVES OF THE RISESC HANDBOOK, BUT IS CONSIDERED A GUIDE ONLY. ADDITIONAL MEASURES/ALTERNATE CONFIGURATIONS MAY BE REQUIRED IN ORDER TO MEET THE RISESC HANDBOOK BASED ON FACTORS INCLUDING (BUT NOT LIMITED TO) SITE PARAMETERS, WEATHER, INSPECTIONS AND UNIQUE FEATURES. THE SESC WILL CONTINUE TO EVOLVE THROUGHOUT CONSTRUCTION/PHASES. PURSUANT TO NOTE I ABOVE, SESC REMAINS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THE SITE IS FULLY STABILIZED AND/OR SESC RESPONSIBILITIES ARE ASSUMED BY THE OWNER IN WRITING.
- 3. INLET PROTECTION MUST BE INSTALLED ON ALL CATCH BASINS ONCE CONSTRUCTED. DESIGNATED CONCRETE WASHOUT AREA.

DEMOLITION NOTES

- CONTRACTOR MUST OBTAIN ALL FEDERAL, STATE, AND MUNICIPAL APPROVALS PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR MUST PERFORM DAILY SWEEPING AT CONSTRUCTION ENTRANCES DURING DEMOLITION AND CONSTRUCTION TO MINIMIZE SEDIMENTS ON EXTERNAL STREETS.
- ANY EXISTING BUILDING(S) AND PROPERTY PROPOSED TO REMAIN THAT ARE DAMAGED BY THE CONTRACTOR MUST BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR IS RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) ALL MATERIALS INDICATED ON THE PLANS UNLESS SPECIFIED OTHERWISE HEREIN. R&D MATERIALS INCLUDE BUT ARE NOT LIMITED TO PAVEMENT, GRAVEL, CATCH BASINS, MANHOLES, GRATES/FRAMES/COVERS, AND ANY EXCESS SOIL THAT IS NOT INCORPORATED INTO THE WORK
- IN ADDITION TO THOSE AREAS SPECIFICALLY DESIGNATED ON THE PLANS, ALL DISTURBED AREAS INCLUDING THE CONTRACTOR'S STOCKPILE AND STAGING AREAS WITHIN THE LIMIT OF WORK MUST BE RESTORED TO MATCH THE DESIGN PLANS.
- CONTRACTOR MUST DOCUMENT LOCATION OF ALL SUBSURFACE UTILITIES REMAINING IN PLACE AFTER DEMOLITION (ACTIVE AND INACTIVE/ABANDONED). LOCATION MUST BE DOCUMENTED BY FIELD SURVEY OR SWING TIES. COPIES OF LOCATION DOCUMENTATION MUST BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF DEMOLITION AND PRIOR TO START OF NEW CONSTRUCTION. A MARKER MUST BE INSTALLED TO FINISH GROUND AT ALL INSTALLED CAPS/PLUGS. THE MARKER CAN BE A POST IN CONSTRUCTION AREAS OR PAINTED ON A PERMANENT SURFACE.
- ACTIVE UTILITY LINES AND STRUCTURES NOT SPECIFICALLY NOTED ON PLANS, BUT WHICH ARE ENCOUNTERED TO BE IN CONFLICT WITH THE PROPOSED WORK, MUST BE EXTENDED, PROTECTED, OR REWORKED BY THE CONTRACTOR AS DIRECTED OR REQUIRED BY THE UTILITY ENTITY OR WNER UNLESS OTHERWISE NOTED
- CONTRACTOR MUST COORDINATE THE CUTTING AND CAPPING OF ALL UTILITIES WITH THE OWNER, THE MUNICIPALITY, AND ALL APPLICABLE UTILITY ENTITIES HAVING JURISDICTION.
- INACTIVE SUBSURFACE UTILITIES NOT IN CONFLICT WITH THE PROPOSED WORK AREA MAY BE ABANDONED IN PLACE WITH WRITTEN PERMISSION FROM THE OWNER.

TRAFFIC NOTES

- I. ALL TRAFFIC CONTROL MUST CONFORM TO THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) CURRENT EDITION.
- 2. DURING CONSTRUCTION, TRAFFIC CONES MUST BE USED FOR SEPARATION OF ACTIVE TRAFFIC FROM WORK ZONE PER MUTCD REQUIREMENTS. 3. DURING CONSTRUCTION FLAGGERS MUST BE EMPLOYED TO ENSURE SAFETY FOR INTERACTION OF
- CONSTRUCTION VEHICLES AND ACTIVE TRAFFIC. ALL SIGNS, FLAGGERS, TRAFFIC CONTROL DEVICES, AND TEMPORARY TRAFFIC ZONE ACTIVITIES
- MUST MEET THE REQUIREMENTS OF THE MUTCD LATEST EDITION AND SUBSEQUENT ADDENDA. TEMPORARY CONSTRUCTION SIGNS MUST BE MOUNTED ON RIDOT APPROVED SUPPORTS AND MUST BE REMOVED OR COVERED WHEN NOT APPLICABLE.

AS-BUILT NOTES

ALL COMPONENTS OF THE DRAINAGE, SEWER, AND WATER SYSTEMS MUST BE FIELD LOCATED PRIOR TO COVERING. NOTIFY SURVEYOR A MINIMUM OF SEVENTY-TWO (72) HOURS IN ADVANCE OF NEED FOR WRITTEN NOTICE OF COMPLETION OF FIELD WORK PRIOR TO CONTRACTOR COVERING IMPROVEMENTS OWNER/DIPRETE WILL NOT ACCEPT FIELD MEASUREMENTS FROM THE SITE CONTRACTOR.

RIDOT NOTES

- I. ALL WORK TO BE DONE WITHIN THE STATE RIGHT OF WAY MUST CONFORM TO RHODE ISLAND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AMENDED MARCH 2018 WITH ALL REVISIONS AND ADDENDA. STANDARD DETAILS FOR THIS WORK ARE RHODE ISLAND STANDARD DETAILS DATED JUNE 21, 2019 WITH ALL REVISIONS.
- 2. CONTRACTOR MUST OBTAIN A UTILITY CONNECTION PERMIT FOR WORK WITHIN THE STATE RIGHT-OF-WAY (ROW) PRIOR TO CONSTRUCTION. THE PHYSICAL ALTERATION PERMIT (PAP) IS NOT A SUBSTITUTE FOR THE UTILITY PERMIT AND THE PAP DOES NOT CONSTITUTE AN APPROVAL OF ANY UTILITY WORK
- 3. ALL TRAFFIC CONTROL MUST CONFORM TO THE MUTCD, LATEST EDITION, WITH ALL REVISIONS. 4. LANE OR SHOULDER CLOSURES MUST NOT BE PERFORMED WITHIN THE STATE ROW DURING PEAK TRAFFIC HOURS.
- 5. SEWER AND WATER CONNECTIONS WITHIN THE STATE ROW WILL REQUIRE A SEPARATE RIDOT UTILITY PERMIT, WHICH CONTRACTOR MUST OBTAIN BEFORE CONSTRUCTION.
- 6. THE DRAINAGE SYSTEM IS DESIGNED TO DECREASE BOTH STORMWATER RUNOFF RATE, AND STORMWATER RUNOFF VOLUME TO THE STATE ROW FROM PRE-DEVELOPMENT TO POST-DEVELOPMENT. THERE SHALL BE NO INCREASE IN RUNOFF TO THE STATE ROW FROM THE PROPOSED DEVELOPMENT.
- 7. WORK WITHIN THE STATE'S ROW WILL CONFORM TO PROPOSED PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG). WORK ONSITE WILL CONFORM TO AMERICANS WITH DISBILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) UNLESS THE WORK IS ON STATE OWNED

LAYOUT AND MATERIALS:

- I. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
- 2. CURBING MUST BE PRECAST CONCRETE, MONOLITHIC CONCRETE OR AS LABELED ON THE PLANS. 3. SIDEWALK MUST BE CONCRETE OR AS LABELED ON THE PLANS.
- 4. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR MUST REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
- 5. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS PERTAINING TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
- 6. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION MUST BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
- 7. CONTRACTOR MUST NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS. CONTRACTOR MUST VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE STAMPED PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.
- 8. ALL GUARDRAIL ONSITE MUST BE STEEL BACKED TIMBER GUARDRAIL WITH STEEL POSTS, IN CONFORMANCE WITH SECTION 5.4.1.7 OF THE AASHTO ROADSIDE DESIGN GUIDE. ALTERNATIVE GUARDRAILS WILL BE CONSIDERED BY THE DESIGN ENGINEER IF THEY ARE RIDOT APPROVED EQUAL AND ACCEPTABLE TO THE OWNER. ALTERNATIVES MUST BE APPROVED IN WRITING BY THE OWNER AND DESIGN ENGINEER PRIOR TO CONSTRUCTION.
- 9. INFRARED TREATMENT OF PAVEMENT IS REQUIRED AT ALL CURB CUTS, AT ANY DISTURBED PAVEMENT ON ROADWAYS, AND WHERE ANY NEW PAVEMENT MEETS EXISTING PAVEMENT.
- 10. ALL EXISTING PAVEMENT MARKING REMOVED AS INCIDENTAL DURING CONSTRUCTION MUST BE
- REPLACED IN-KIND FOLLOWING COMPLETION OF CONSTRUCTION UNLESS OTHERWISE NOTED. II. NEW PAVEMENT MARKING MUST BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248 TYPE F. PAINT MUST BE APPLIED AS SPECIFIED BY THE MANUFACTURER.

GRADING AND UTILITY NOTES:

- 2. THE CONTRACTOR MUST COORDINATE WITH ALL OF THE APPROPRIATE UTILITY COMPANIES FOR AGREFMENTS TO SERVICE THE PROPOSED BUILDING. THIS MUST BE DONE PRIOR TO CONSTRUCTION. NO REPRESENTATIONS ARE MADE BY DIPRETE ENGINEERING THAT UTILITY SERVICE IS AVAILABLE.
 - 3. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING FINISH GRADING AND DRAINAGE AROUND THE ${f A}$ BUILDING TO ENSURE SURFACE WATER AND/OR GROUNDWATER IS DIRECTED AWAY FROM THE STRUCTURE
 - 4. PRIOR TO START OF CONSTRUCTION, CONTRACTOR MUST VERIFY EXISTING PAVEMENT FI FVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES. CONTRACTOR MUST NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION
 - 5. ALL PROPOSED UNDERGROUND UTILITIES SERVING THE SITE AND BUILDINGS MUST BE COORDINATED WITH OWNER, ARCHITECT, AND ENGINEER PRIOR TO INSTALLATION.
 - 6. ALL RETAINING WALLS AND STEEP SLOPES ARE SUBJECT TO FINAL STRUCTURAL DESIGN. DIPRETE ENGINEERING IS NOT PROVIDING THE STRUCTURAL DESIGN OF THESE ITEMS. ALL WALLS AND STEEP SLOPES MUST BE DESIGNED AND BUILT UNDER THE DIRECTION OF A RHODE ISLAND LICENSED PROFESSIONAL ENGINEER SUITABLY QUALIFIED IN GEOTECHNICAL ENGINEERING AND CERTIFIED TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT. SHOP DRAWINGS MUST BE SUBMITTED PRIOR TO CONSTRUCTION. FINAL STRUCTURAL DESIGN MUST INCORPORATE THE INTENT OF THE GRADING SHOWN ON THESE PLANS AND ALL WORK MUST BE WITHIN THE LIMIT OF DISTURBANCE SHOWN ON THE PLANS.
 - 7. ALL CUT AND FILL WORK MUST BE DONE UNDER THE DIRECTION OF A PROFESSIONAL GEOTECHNICAL ENGINEER, WITH TESTING AND CERTIFICATION PROVIDED TO THE OWNER AT THE COMPLETION OF THE PROJECT. DIPRETE ENGINEERING IS NOT PROVIDING THE FILL SPECIFICATION, GEOTECHNICAL ENGINEERING, STRUCTURAL ENGINEERING SERVICES, OR SUPERVISION AS PART OF THESE DRAWINGS
 - 8. MATERIAL STOCKPILES MUST NOT BE LOCATED IN THE RIGHT-OF-WAY, AND TRENCHES MUST NOT BE LEFT OPEN OVERNIGHT
 - 9. ALL LOAM IN DISTURBED AREAS MUST BE STOCKPILED FOR FUTURE USE. ALL EXCESS SOIL, TREES, ROCKS, BOULDERS, AND OTHER REFUSE, MUST BE DISCARDED OFF SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. STUMPS MUST BE GROUND ON SITE OR REMOVED. 10. THE SITE WILL HAVE 6" CONCRETE CURBING. SITE GRADING/CONTOURS SHOWN ON THE PLANS DO
 - NOT NECESSARILY REFLECT THE APPROPRIATE CURBING REVEAL. CONTRACTOR MUST INSTALL CURBING WITH APPROPRIATE REVEAL UNLESS OTHERWISE NOTED. II. NO STUMP DUMPS ARE PROPOSED ON SITE
 - 12. ALL DRAINAGE OUTFALLS ARE DESIGNED TO BE INSTALLED AT EXISTING GROUND ELEVATION. CONTRACTOR MUST IMMEDIATELY NOTIFY DIPRETE ENGINEERING OF ANY DISCREPANCIES WHERE EXISTING GROUND IS HIGHER THAN OUTFALL DESIGN ELEVATION. ANY RESOLUTION OF DISCREPANCIES BY THE CONTRACTOR. UNLESS AUTHORIZED IN WRITING IN ADVANCE BY THE OWNER AND DIPRETE ENGINEERING. IS DONE AT THE CONTRACTOR'S RISK
 - 13. CONTRACTOR MUST PROVIDE SAW CUTTING AND FULL DEPTH PAVEMENT RESTORATION IN AREAS WHERE PAVEMENT AND/OR SIDEWALK IS REMOVED FOR UTILITY INSTALLATION.
 - 14. IF ROADWAY SURFACE PAVEMENT COURSE IS NOT TO BE INSTALLED FOR 12 MONTHS OR MORE AFTER INSTALLATION OF DRAINAGE STRUCTURES, ALL CATCH BASIN RIMS MUST BE SET AT BINDER GRADE AND RAISED TO FINAL PAVEMENT GRADE PRIOR TO PLACEMENT OF SURFACE COURSE. DRAINAGE

ALL DRAINAGE PIPING MUST BE HIGH-DENSITY POLYETHYLENE (HDPE) WITH WATERTIGHT JOINTS WHERE INSTALLED WITHIN THE SEASONAL HIGH GROUNDWATER TABLE, UNLESS NOTED OTHERWISE ON THE PLANS OR IN THE SPECIFICATIONS. ALL STORMWATER PIPE WITHIN THE STATE'S RIGHT-OF-WAY MUST BE REINFORCED CONCRETE PIPE (RCP).

- DRAINAGE STRUCTURES MUST BE AS FOLLOWS (UNLESS OTHERWISE NOTED ON PLANS): • CATCH BASINS ALONG CURBING: RIDOT STD. 4.4.0, TYPE F, 4' DIAMETER WITH APRON STONE
- CATCH BASINS NOT ALONG CURBING: RIDOT STD 4.4.0, 4' DIAMETER • SINGLE FRAME CATCH BASIN GRATES: RIDOT STD 6.3.2
- HIGH CAPACITY CATCH BASIN GRATES: RIDOT STD 6.3.4 AND INSTALLED ANYWHERE GRADES ARE 6% AND STEEPER
- CATCH BASINS MUST HAVE 3 FT SUMPS WITHOUT SEEP HOLES MANHOLES: RIDOT STD 4.2.0, 4.2.1 OR 4.2.2 AS REQUIRED
- DRAINAGE MANHOLE COVERS: RIDOT STD 6.2.1 DROP INLETS: RIDOT STD 4.5.0, 4.5.1 OR 4.5.2
- APRON STONE, WHERE REQUIRED: RIDOT STD 7.1.7 OR 7.1.8
- ALL DRAINAGE STRUCTURES MUST BE WATERTIGHT.

DRAINAGE CONNECTIONS FROM ALL DOWNSPOUTS (DS) ARE SHOWN FOR SCHEMATIC PURPOSES ONLY THE LEVEL OF DETAIL SHOWN DOES NOT INCLUDE ALL JOINTS THAT MAY BE REQUIRED FOR CONSTRUCTION. ALL FITTINGS AND PIPE SLOPES THAT TIE INTO MAIN TRUNK LINE MUST BE FIELD FIT BY CONTRACTOR.

sanitary sewe

ALL SANITARY SEWER PIPING MUST BE SDR 35 UNLESS NOTED OTHERWISE ON THE PLANS OR IN THE SPECIFICATIONS. ALL SEWER IMPROVEMENTS MUST COMPLY WITH THE CITY OF NEWPORT RULES AND REGULATIONS AND ANY APPLICABLE AUTHORITY HAVING JURISDICTION, INCLUDING (BUT NOT LIMITED TO) MATERIALS, DIMENSIONS AND ACCESS COVERS. CONTRACTOR MUST SUBMIT SHOP DRAWINGS FOR APPROVAL BY ENGINEER OF RECORD PRIOR TO CONSTRUCTION.

ALL WATER MAIN IMPROVEMENTS MUST COMPLY WITH CITY OF NEWPORT REGULATIONS AND ANY APPLICABLE AUTHORITY HAVING JURISDICTION, INCLUDING (BUT NOT LIMITED TO) MATERIALS, DIMENSIONS AND ACCESS COVERS. CONTRACTOR TO PROVIDE SHOP DRAWINGS AND SUBMITTALS TO THE ENGINEER OF RECORD FOR APPROVAL FOR ALL WATER IMPROVEMENTS AND APPURTENANCES INCLUDING BUT NOT LIMITED TO PIPES, VALVES, FITTINGS, HEAT ENCLOSURES, AND BACKFLOW PREVENTERS. ALL COMPONENTS OF THE WATER SYSTEM MUST BE ASBUILT PER PROVIDENCE WATER REQUIREMENTS. ALL COMPONENTS OF THE WATER SYSTEM MUST BE INSPECTED BY PROVIDENCE WATER. CONTRACTOR MUST COORDINATE ALL IMPROVEMENTS WITH PROVIDENCE WATER TO ENSURE INSPECTOR IS ON SITE.

ELECTRIC/TELECOM/GAS

PROPOSED GAS, ELECTRIC, CABLE AND DATA UTILITIES ARE SHOWN SCHEMATICALLY AND ARE PROPOSED TO BE UNDERGROUND. OWNER AND CONTRACTOR MUST COORDINATE FINAL DESIGN WITH APPROPRIATE UTILITY COMPANIES, ALL WORK MUST BE IN ACCORDANCE WITH EACH UTILITY COMPANY'S STANDARDS AND DETAILS AS WELL AS LOCAL AND FEDERAL REGULATIONS. THIS INCLUDES BUT IS NOT LIMITED TO POLES, TRANSFORMERS, PULL BOXES, CONCRETE PADS, CONCRETE ENCASEMENTS AND CONDUITS. CONNECTION POINTS FOR ELECTRIC AND TELECOM UTILITIES, AT THE EXISTING INFRASTRUCTURE, ARE CURRENTLY SHOWN AS UNDERGROUND UTILITIES. THESE UTILITIES MAY BE UNDERGROUND OR OVERHEAD AND MUST BE COORDINATED WITH NATIONAL GRID PRIOR TO CONSTRUCTION.

SITE LIGHTING

SITE LIGHTING (TEMPORARY AND PERMANENT) MUST BE DIRECTED AWAY FROM AND SHIELDED FROM ENVIRONMENTALLY SENSITIVE AREAS AND ABUTTING LANDS. EXACT LOCATIONS OF LIGHT POLES MUST BE COORDINATED WITH THE APPROPRIATE UTILITIES, AND MUST BE LOCATED WITHIN THE STREET RIGHT-OF-WAY. FINAL LIGHTING AND CONDUIT LOCATIONS BY OTHERS.

REDEVELOPMENT NOTES:

- I. ALL EXISTING MANHOLE COVERS, GRATES, VALVE BOXES, SHUT-OFFS, AND HAND HOLES WITHIN THE LIMIT OF WORK MUST BE RESET TO FINISHED GRADE. 2. ALL UTILITY STRUCTURES INDICATED TO BE ABANDONED MUST BE CUT TO FOUR FEET BELOW
- FINISH GRADE ELEVATION, INLETS AND OUTLETS PLUGGED WITH MORTAR, AND SEALED WITH CONCRETE, UNLESS OTHERWISE NOTED.
- WHEN ABANDONING INACTIVE UTILITY PIPES NEAR THE PROPERTY LINE, THE CONTRACTOR MUST CAP OR PLUG IN PLACE AT THE PROPERTY LINE OR ACCORDING TO AHJ. WHEN REMOVING AND DISPOSING OF A PORTION OF EXISTING PIPE, THE CONTRACTOR MUST CAP OR PLUG BOTH ENDS REMAINING IN PLACE.
- 4. CONTRACTOR MUST DOCUMENT LOCATION OF ALL SUBSURFACE UTILITIES REMAINING IN PLACE AFTER DEMOLITION (ACTIVE AND INACTIVE/ABANDONED). LOCATION CAN BE DOCUMENTED BY FIELD SURVEY OR SWING TIES. COPIES OF LOCATION DOCUMENTATION MUST BE PROVIDED TO THE OWNER. WHERE POSSIBLE.
- 5. NO GUARANTEE IS MADE THAT THE EXISTING UTILITY SERVICE CONNECTION(S) ARE SUITABLE FOR REUSE. EXISTING UTILITY SERVICE CONNECTIONS WERE NOT FIELD VERIFIED FOR SIZE, MATERIAL EXACT LOCATION, OR INSPECTED FOR SUITABILITY FOR REUSE. CONTRACTOR MUST EVALUATE THE SIZE, MATERIAL, LOCATION, AND SUITABILITY FOR REUSE, AND IMMEDIATELY PROVIDE WRITTEN DOCUMENTATION OF CONDITIONS TO THE OWNER/DIPRETE.

BBREVIATIONS LEGEND

ADA	AMERICANS WITH DISABILITY ACT	N/F	NOW OR FORMERLY	
AHJ	AUTHORITY HAVING JURISDICTION	OHW	OVERHEAD WIRE	
AP	ASSESSOR'S PLAT	PE	POLYETHYLENE	
RCH	ARCHITECT	ዊ	PROPERTY LINE	
BC	BOTTOM OF CURB	PR	PROPOSED	
ΒT	BOTTOM OF TESTHOLE	PVC	POLYVINYL CHLORIDE	
BIT	BITUMINOUS (BERM)	R	RADIUS	
BIO	BIORETENTION	R&D	REMOVE AND DISPOSE	
BS	BASEMENT SLAB ELEVATION	RCP	REINFORCED CONCRETE PIPE	
BW	FINISHED GRADE AT BOTTOM OF WALL	RIHB	RHODE ISLAND	
СВ	CATCH BASIN		HIGHWAY BOUND	
(C)	CALCULATED	RL	ROOF LEADER	
Æ	CENTERLINE	ROW	RIGHT-OF-WAY	
CA)	CHORD ANGLE	S	SLOPE	
DIP	CONCRETE LINED DUCTILE IRON PIPE	SD	SUBDRAIN	
CO	CLEAN OUT	SED	SEDIMENT FOREBAY	
ONC	CONCRETE	SF	SQUARE FOOT	
(D)	DEED	SFL	STATE FREEWAY LINE	
DCB	DOUBLE CATCH BASIN	SFM	SEWER FORCE MAIN	
DI	DROP INLET	SG	SLAB ON GRADE ELEVATION	
DMH	DRAINAGE MANHOLE	SHL	STATE HIGHWAY LINE	
DP	DETENTION POND	SMH	SEWER MANHOLE	
LEV	ELEVATION	SNDF	SAND FILTER	
EOP	EDGE OF PAVEMENT	SS	SIDE SLOPE	
ESC	EROSION AND SEDIMENT CONTROL	STA	STATION	
ΕX	EXISTING	TC	TOP OF CURB	
FES	FLARED END SECTION	TD	TRENCH DRAIN	
FFE	FINISH FLOOR ELEVATION	TF	TOP OF FOUNDATION	
GS	GARAGE SLAB ELEVATION	TRANS	TRANSITION	
SWΤ	GROUND WATER TABLE	ΤW	TOP OF WALL (FINISHED	
HW	HEADWALL		GRADE AT TOP OF WALL)	
HC	HIGH CAPACITY CATCH BASIN GRATE	TYP	TYPICAL	
DPE	HIGH DENSITY POLYETHYLENE		UNDERGROUND	
ID	INLINE DRAIN	000	DETENTION SYSTEM	
INV	INVERT	UIS	UNDERGROUND	
IP	INFILTRATION POND	010	INFILTRATION SYSTEM	
RCH	LANDSCAPE ARCHITECT	LIP	UTILITY POLE	
LF	LINEAR FEET	WO	WALKOUT ELEVATION	
LOD	LIMIT OF DISTURBANCE	WO	WATER QUALITY	
LP	LIGHT POLE	¥¥ Q		
(M)	MEASURED			
MEP	MECHANICAL/ELECTRICAL/ PLUMBING			

SITE CALLOUTS LEGEND

ENGINEER

7.1.0	RIDOT STD PRECAST CONCRETE CURB
7.1.1	RIDOT STD 3'-0" PRECAST CONCRETE TRANSITION CURB
7.3.1	RIDOT STD 6'-0" GRANITE TRANSITION CURB
7.3.2	RIDOT STD 6'-0" GRANITE TRANSITION CURB
7.6.0	RIDOT STD CURB SETTING DETAIL
20.1.0	PAVEMENT MARKINGS ARROWS AND ONLY
(4DY)	4" EPOXY RESIN PAVEMENT MARKINGS- DOUBLE YELLOW
4W	4" PAINTED WHITE MARKINGS
(4W45)	4" WHITE STRIPING 2' ON CENTER AT 45°
6W	6" WHITE EPOXY RESIN PAVEMENT MARKINGS
(12W)	STOP LINE (REFERENCE MUTCD SECTION 3B.16)
ADAS	ADA SPACE PAVEMENT MARKINGS MUST COMPLY WITH ALL ADA AND MUTCD REGULATIONS AND REQUIREMENTS.
ADAR	ADA CURB RAMP MUST COMPLY WITH ALL ADA REGULATIONS AND REQUIREMENTS.
ADAV	VAN ADA SPACE PAVEMENT MARKINGS MUST COMPLY WITH ALL ADA AND MUTCD REGULATIONS AND REQUIREMENTS.
(43.1.0)	RIDOT STD CEMENT CONCRETE SIDEWALK
\frown	DIDAT OTO DDIVEWAY DEVELOPMENT FOD ZLAN TDANOITION

(43.4.0) CURB RIDOI SID DRIVEWAY DEVELOPMENT FOR 3'-0" TRANSITION

- RIDOT STD DRIVEWAY DEVELOPMENT FOR 6'-0" TRANSITION (43.4.1)
- (43.5.0) RIDOT STD CEMENT CONCRETE DRIVEWAYS

EXISTING LEGEND

(AS SHOWN ON PROPOSED PLANS) NOT ALL ITEMS SHOWN WILL APPEAR

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PROPOSED LEGEND

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TLAND LINE & FLAG	
ATE HIGHWAY LINE	

STATE FREEWAY LINE

GROUNDWATER OVERLAY

GROUNDWATER RESERVOIR

NATURAL HERITAGE

PROPERTY LINE

BUILDING SETBACKS

MATERIALS NOTE 8.

RETAINING WALL

MINOR CONTOUR LIN

SPOT ELEVATION

CONCRETE CURE

(RIDOT STD 7.1.0)

BUILDING FOOTPRINT

ASPHALT PAVEMENT

HEAVY DUTY ASPHALT

HEAVY DUTY CONCRETE

ASPHALT SIDEWALK

SIGN (RIDOT STD 24.6.2 AS

ACCESSIBLE PARKING SPACE

BUILDING INGRESS/EGRESS

PAVEMENT

CONCRETE

SAWCUT LINE

APPLICABLE)

SINGLE LIGHT

DOUBLE LIGHT

SYMBOLS

OVERHANGING LIGH

EDGE OF PAVEMEN

MAJOR CONTOUR LINE

GUARDRAIL SEE LAYOUT AND

GROUNDWATER RECHARGE AREA

COMMUNITY WELLHEAD PROTECTION

NON-COMMUNITY WELLHEAD PROTECTION

	NAIL FOUND/SET
	DRILL HOLE FOUND/SET
	BOUND FOUND/SET
	SIGN
	BOLLARD
	SOIL EVALUATION
	CATCH BASIN
3	DOUBLE CATCH BASIN
H	DRAINAGE MANHOLE
6	FLARED END SECTION
	GUY POLE
4	ELECTRIC MANHOLE
	UTILITY/POWER POLE
	LIGHTPOST
4	SEWER/SEPTIC MANHOLE
	SEWER VALVE
	CLEANOUT
	HYDRANT
	IRRIGATION VALVE
	WATER VALVE
	WELL
	MONITORING WELL
	UNKNOWN MANHOLE
	GAS VALVE
	BENCH MARK
	STREAM FLOW DIRECTION



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TION	LEON No.
-	P ^S PRC
AINAGE LINE FORATED SUBDRAIN S LINE TER LINE DRANT ASSEMBLY TER SHUT OFF TER VALVE RUST BLOCK VER LINE ERHEAD WIRE CTRIC, TELEPHONE, CABLE E TOF DISTURBANCE/ IT OF DISTURBANCE/ IT OF CLEARING MENTATION BARRIER, SILT ICE (RIDOT STD 9.2.0), MOST SOCK OR APPROVED IAL DERGROUND LTRATION OUTLINE RETENTION	THIS PLAN SET MUST NOT BE USED FOR CONSTRUCTION PURPOSES UNLESS STAMPED 'ISSUED FOR CONSTRUCTION' AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER OF DIPRETE ENGINEERING.

DOUBLE CATCH BASIN MANHOLE

FLARED END SECTION HEADWALI

JTILITY NOTE

ALL UNDERGROUND UTILITIES SHOWN ON THESE PLANS WERE PROVIDED BY OTHERS AND ARE APPROXIMATE ONLY. LOCATIONS MUST BE DETERMINED IN THE FIELD BEFORE EXCAVATION, BLASTING, UTILITY INSTALLATION, BACKFILLING, GRADING, PAVEMENT RESTORATION, AND ALL OTHER SITE WORK. ALL UTILITY COMPANIES, PUBLIC AND PRIVATE, MUST BE CONTACTED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THESE DOCUMENTS. CONTACT DIG SAFE A MINIMUM OF 72 WORKING HOURS PRIOR TO ANY CONSTRUCTION AT 811. DIG SAFE IS RESPONSIBLE FOR CONTACTING MEMBER UTILITY COMPANIES. DIG SAFE MEMBER UTILITY COMPANIES ARE RESPONSIBLE TO MARK ONLY THE FACILITIES THAT THEY OWN OR MAINTAIN. NON DIG SAFE MEMBER COMPANIES ARE NOT NOTIFIED BY DIG SAFE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INVESTIGATE AND NOTIFY IF ANY PRIVATELY OWNED OR NON DIG SAFE MEMBER UTILITIES ARE IN THE AREA.

PER THE CODE OF FEDERAL REGULATIONS - TITLE 29, PART 1926 IT IS THE SITE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ACCURATE UNDERGROUND UTILITY LINE LOCATIONS FROM THE UTILITY COMPANIES. UTILITY OWNERS AND, OR VIA UNDERGROUND UTILITY LOCATION EQUIPMENT AS NEEDED TO ESTABLISH ACCURATE LOCATIONS PRIOR TO ANY EXCAVATION. THE USE OF PROFESSIONAL UTILITY LOCATING COMPANIES PRIOR TO ANY EXCAVATION IS RECOMMENDED.

DIPRETE ENGINEERING IS NOT A PROFESSIONAL UTILITY LOCATION COMPANY, AND IS NOT RESPONSIBLE FOR UNDERGROUND UTILITIES, DEPICTED OR NOT, EITHER IN SERVICE OR ABANDONED. ANY SIZES, LOCATIONS, EXISTENCE, OR LACK OF EXISTENCE OF UTILITIES SHOWN ON THESE PLANS SHOULD BE CONSIDERED APPROXIMATE UNTIL VERIFIED BY A PROFESSIONAL UTILITY LOCATION COMPANY. DIPRETE ENGINEERING ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED.





WATERMAN ENGINEERING COMPANY (COA No. LS.000A483)

WATERMAN ENGINEERING CO. CIVIL ENGINEERS & SURVEYORS 46 SUTTON AVENUE EAST PROVIDENCE, RI 02914-2096

AND ARE NOT TO BE USED FOR ANY OTHER

DIRECTORS'

PURPOSE, LOCATION OR OWNER WITHOUT WRITTEN CONSENT OF THIS OWNER OR ONE OF IT'S

ESE PREMISES ARE SITUATED IN A CI ZON
DIMENSIONAL REQUIREMENTS
MIN. LOT AREA
MIN. LOT WIDTH
MIN. S/B FRONT YARD
MIN. S/B SIDE YARD
MIN. S/B REAR YARD
MAX. STRUCTURE HEIGHT

NO.	DATE	REVISION	CHECKED BY
BOUNDARY & TOPOGRAPHIC SURVEY PLAN A.P. 4, LOTS 13-4 & 55 J.T. CONNELL HIGHWAY & ADMIRAL KALBFUS ROAD NEWPORT, RHODE ISLAND COLBEA ENTERPRISES, L.L.C. 2050 PLAINFIELD PIKE CRANSTON, RI 02921		PROJECT NO. 20-107 SCALE: 1" = 20' DATE: 01/12/2020 DRAWN BY: EBP CHECKED BY: BJT / RSL EU ENAME:	
		20-107_SU1 <u>1</u> of <u>1</u> SHTS DRAWING #: SU1	
	Waterman 46 Sutton Avenue East Providence, RI Phone: (401) - 438 - 5775		











NOTES: I. BIORETENTION AREAS SHALL BE HAND COMPACTED ONLY. NO MACHINES SHALL BE DRIVEN THROUGH OR OPERATED WITHIN THE BIORETENTION FOOTPRINT.

MEDIA.

- 2. BIORETENTION AREAS SHALL BE PROTECTED WITH SILT FENCE (RIDOT STD 9.2.0) OR APPROVED EQUAL ONCE BIORETENTION SOIL HAS BE INSTALLED. AREA IS TO REMAIN PROTECTED UNTIL ALL TRIBUTARY AREAS HAVE BEEN STABILIZED AND APPROVAL FROM THE DESIGN ENGINEER. NO CONSTRUCTION TRAFFIC IS ALLOWED ON BIORETENTION
- THE MULCH LAYER SHALL BE SHREDDED HARDWOOD MULCH THAT IS WELL (AGED STOCKPILED/STORED FOR AT LEAST 6 MONTHS), UNIFORM IN COLOR, AND FREE OF OTHER MATERIALS (WEED SEEDS, SOIL, ROOTS ETC.).
- 4. SOIL LINER SHALL BE I' MINIMUM THICKNESS AND HAVE A MAXIMUM PERMEABILITY OF 0.03 FT/DAY (I*10^-5 CM/SEC). LINER MAY BE COMPRISED OF NATIVE MATERIALS WITH MIN OF 90% PASSING THE #200 SIEVE OR CLAY WITH A MINIMUM OF 15% PASSING THE #200 SIEVE

DESCRIPTION	BIO-A
TOP OF POND ELEVATION	8.00
100 YEAR STORM ELEVATION	6.98
10 YEAR STORM ELEVATION	6.13
I YEAR STORM ELEVATION	6.01
OUTLET ELEVATION	2.62
TOP OF MULCH	5.20
BIO-MEDIA LAYER DEPTH	2.25'
SEASONAL HIGH GWT ELEVATION*	N/A
SOIL EVALUATION	N/A
*SEPARATION TO SEASONAL	

HIGH GROUNDWATER PROVIDED

BY LINER.



BIORETENTION CROSS SECTION WITH UNDERDRAIN AND LINER NOT TO SCALE

AINNPROJECTSVI052-013 JT CONNELL HIGHWAY SHELLVAUTOCAD DRAWINGSVI052-013-PLAN.DWG PLOTTED: 9/2















- I. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS BY NOTIFYING DIG-SAFE I-888-344-7233 AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION OR SITE PREPARATION AND ANY/OR ALL LOCAL UTILITY COMPANIES AS REQUIRED.
- CONTRACTOR TO PROVIDE A TWO (2) YEAR GUARANTEE FOR ALL MATERIALS. CONTRACTOR GUARANTEES THAT PLANTS WILL REMAIN HEALTHY FOR TWO (2) GROWING SEASONS. CONTRACTOR TO MAINTAIN ALL PLANTING AND LAWNS UNTIL FINAL PROJECT ACCEPTANCE. GUARANTEE PERIOD TO COMMENCE AT FINAL ACCEPTANCE. ANY REPLACEMENT PLANTS SHALL BE OF THE SAME SIZE AND SPECIES AS SPECIFIED WITH NEW GUARANTEE COMMENCING ON THE DATE OF REPLACEMENT.
- 3. ALL PLANT MATERIAL SHALL CONFORM, IN ALL RESPECTS, TO THE GUIDELINES OF "THE AMERICAN STANDARD FOR NURSERY STOCK," LATEST EDITION, PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION, INC. ALL PLANTS SHALL BE NURSERY GROWN AND SHALL HAVE BEEN GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT FOR AT LEAST TWO (2) YEARS.



4. PLANT SUBSTITUTION SELECTION MUST BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

- THE SURROUNDING GROUND AS TO THEIR ORIGINAL GRADE BEFORE DIGGING.
- FINAL ACCEPTANCE.

/*****}/

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- SEED MIX AT A RATE OF 5-7 LBS. PER 1,000 SF OR AS DIRECTED BY TOWN. ANY SOD (TURF) UTILIZED SHALL BE DROUGHT TOLERANT ENDOPHYTES OR PREDOMINANTLY FESCUE IN CHARACTER.
- NOVEMBER 15.
- DISEASES, LACK OF WATER OR OTHER CAUSES. DAMAGED PLANTS SHALL BE REPLACED WITH THE SAME OR SIMILAR VEGETATION ON AN ANNUAL BASIS.
- EXCESS LOAM TO REMAIN ON THE OWNER'S PROPERTY AND ONLY REMOVED WITH THE OWNERS



PLANT SCHED	ULE				
TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT
+	ARA	5	ACER RUBRUM `ARMSTRONG`	ARMSTRONG RED MAPLE	2.5/3" CAL B&B
	AF	2	Acer x freemanii	Freeman Maple	2/2.5" CAL B&B
$\left(\begin{array}{c} + \\ \end{array} \right)$					
	BNH	2	Betula nigra `Heritage`	HERITAGE RIVER BIRCH	2/2.5" CAL B&B
	СК	10	Cornus kousa	Kousa Dogwood	2/2.5" CAL B&B
+					
	PSK		Prunus serrulata `Kwanzan`	FLOWERING CHERRY	2.5/3" CAL B&B
	PO	2			3.5// " CAL D8D
$\left(\begin{array}{c} + \end{array} \right)$			I KUNUS A UNAME		5.574 CAL BOB
r r r	PC		Pyrus calleryana `Chanticleer`	Chanticleer Pear	2.5/3" CAL B&B
EVERGREEN TREES	CODE	QTY 2	BOTANICAL NAME	COMMON NAME	CONT
+					
20000000000000000000000000000000000000	IA	4	ILEX OPACA	American Holly	7/8` HT
60000000000000000000000000000000000000					
37 + }	JV	6	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6` HT MIN
00000000000000000000000000000000000000	PG	5	PICEA GLAUCA	WHITE SPRUCE	6` HT MIN

ىبىر ب ر	TOS	18	Thuja occidentalis `Smaragd`	Emerald Green Arborvitae	6` HT MIN
<u>ک</u> ہ (23			
		23	THUJA OCCIDENTALIS TECHNY	TECHNY ARBORVITAE	
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
\bigoplus	CS	2	CORNUS SERICEA	RED TWIG DOGWOOD	30" HT MIN
	НМ	12	Hydrangea macrophylla `Endless Summer` TM	Bailmer Hydrangea	3-4` HT
		9	ΙΙ ΕΧ CRENATA `COMPACTA`	DWARE JAPANESE HOLLY	18" HT/SPREAD MIN
(+)					
(+)	ICS	8	ILEX CRENATA `SKY PENCIL`	Sky Pencil Japanese Holly	7 GAL
(+)	ICH	36	ILEX CRENATA 'HELERII'	Heler Japanese Holly	3 gal
	IGS	39	ILEX GLABRA `SHAMROCK`	INKBERRY	3 gal
5 + 5 500000	IVR	13	LIEX VERTICULATA "RED SPRITE"	RED SPRITE WINTERREPRY	30" HT MIN
(+) +	KL	7	KALMIA LATIFOLIA	MOUNTAIN LAUREL	4/5` HT
+	RAP	6	Rhododendron azalea `PJM`	AZALEA	3 gal
	RD	22	Rhododendron x `Delaware Valley White`	Delaware Valley White Azalea	3 gal
	RGW	/.	RHODODENDRON X GUMPO WHITE	GUMPO WHITE AZALEA	3 GΔI
+		+			
+	RK	17	Rosa x `Knockout` TM	Rose	3 gal
GRASSES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
*	CKF	29	Calamagrostis x acutiflora `Karl Foerster`	FEATHER REED GRASS	2 gal
	FOG	23	Festuca ovina glauca	BLUE SHEEP FESCUE	2 gal
	PAH	54	Pennisetum alopecuroides `Hameln`	HAMELN DWARF FOUNTAIN GRASS	2 gal
*					
ANNUALS/PERENNIAL	S CODE	92	HEMEROCALLIS X HAPPY RETURNS	HAPPY RETURNS DAYLILY	SIZE 2 gal
<u> </u>					
(+)	NF	10	NEPETA X FAASSENII BLUE WONDER		2 gal
(+)	SSB	29	SEDUM SPECTABILE BRILLIANT	BRILLIANT STONECROP	2 gal
لر المراجع الم					

Prepared by:

Seas sins

Scale: As Shown

- ALUMINUM GUTTER. COLOR BLACK

– BREAK METAL. BLACK

─ E.I.F.S. REVEAL "V-GROOVE" 1" HIGH x 3/4" DEEP - E.I.F.S. SYSTEM 1 1/2" INSULATION MECHANICALLY FASTÉNED TO SUBSTRATE. OUTSULATION LCMD SYSTEM 1 WITH PANZER 15 REINFORCEMENT SYSTEM. COLOR: WHITE ← E.I.F.S. REVEAL "V-GROOVE" 1" HIGH x 3/4" DEEP

B/ FOOTING ELEV. -4'-6"

1. ALUMINUM STOREFRONT SYSTEM IS TO BE TEMPERED AS REQUIRED BY CODE, REFER TO "STOREFRONT MATERIAL SPECIFICATIONS" ON SHEET A6.0 FOR ADDITIONAL INFORMATION.

2. BREAK METAL PANEL (COLOR: BLACK)

- ALUMINUM GUTTER. COLOR BLACK

- BREAK METAL. BLACK

─ E.I.F.S. REVEAL "V-GROOVE" 1" HIGH x 3/4" DEEP - E.I.F.S. SYSTEM 1 1/2" INSULATION MECHANICALLY FASTENED TO SUBSTRATE. OUTSULATION LCMD SYSTEM 1 WITH PANZER 15 REINFORCEMENT SYSTEM. COLOR: WHITE ← E.I.F.S. REVEAL "V-GROOVE" 1" HIGH x 3/4" DEEP

B/ FOOTING
▼EĹEV. −4'−0"

Typical Front/Rear Elevations - Car Wash

Seasons Corner Market

138 JT CONNELL HIGHWAY NEWPORT, RHODE ISLAND

ASSESSOR'S PLAT 4 LOT 13-4 & 55

Scale: As Shown

Prepared by:

KFRIJEJ.
ES AND DESIGN
NCLUDING EXCAVATION,

PROPOSED FLIP OPEN/CLOSED AREA = 3.7 S. (QTY. 1)	SIGN (K) PROPC	ENTER DSED CARWASH AREA =2.9 S. (QTY. 1)	"ENTER" F.		SED CARWASH AREA =2.2 S.F (QTY. 1)	"EXIT"
DESCRIPTION	SIZE	AREA (SF)	QUAN.	SIZE (SF)	ILLUMINATION	REM/

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Luminaire Sched	lule								
Symbol	Qty	Label	Arrangement	Description	LLD	LDD	LLF	Arr. Lum. Lumens	Arr. Watts
	10	A	SINGLE	SCV-LED-23L-SCFT-50 MTD @ 15'	1.000	1.000	1.000	23101	188
3	10	В	SINGLE	SCV-LED-13L-SC-50 MTD @ 15'	1.000	1.000	1.000	13444	90
	7	С	SINGLE	MRM-LED-18L-SIL-FT-50-70CRI-SINGLE-16'PDLE+2'BASE	1.000	1.000	1.000	19324	135
	2	D	SINGLE	XLXM3-PT-5-LED-HO-CW 16'POLE+2'BASE	1.000	1.000	1.000	7510	108
	5	E	SINGLE	XWS-LED-05L-FTW-50-80CRI MTD @ 10'	1.000	1.000	1.000	5503	39

Calculation	Summary

Culculu dori Summur y							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ALL CALC POINTS	Illuminance	Fc	3.77	63.5	0.0	N.A.	N.A.
CANDPY	Illuminance	Fc	50.93	63.5	33.0	1.54	1.92
INSIDE CURB	Illuminance	Fc	6.94	38.2	0.6	11.57	63.67

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted. Fixture nomenclature noted does not include mounting hardware or poles. This drawing is for photometric evaluation purposes only and should not be used as a construction document or as a final document for ordering product.

Total Project Watts

Soil Erosion and Sediment Control Plan

For:

Seasons Corner Market

138 J.T. Connell Highway

Newport, RI 02840

AP 4, Lots 13-4 & 55

	Colbea Enterprises, LLC
	2050 Plainfield Pike
Owner:	Cranston, RI 02921
	401-943-0005
	mgazdaoko@seasonscomermarket.com
	Company Name
	Name
Operator:	Address
TO BE DETERMINED UPON CONTRACT AWARD	City, State, Zip Code
	Telephone Number
	Email Address
Estimated Project Dates:	Start Date: Spring 2022
Estimated Project Dates.	Completion Date: Fall 2022
	DiPrete Engineering
	Leonard Bradley, Jr., P.E.
	2 Stafford Court
SESC Plan Prepared By:	Cranston, Rhode Island 02920 No. 6610
	(401) 619-5890
	Ibradely@diprete-eng.com
	Professional Engineer RI PE 6610
	1/

SESC Plan Preparation Date:	09/02/2021
SESC Plan Revision Date:	

Revision Date: 05/01/2015

OWNER CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under the direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I am aware that it is the responsibility of the site owner and operator to implement and amend the Soil Erosion and Sediment Control Plan as appropriate in accordance with the requirements of the RIPDES Construction General Permit.

Owner	Signature:
-------	------------

Date

Owner Name: Colbea Enterprises, LLC Address: 2050 Plainfield Pike Cranston, RI 02921 Phone Number: 401-943-0005 Email Address: mgazdacko@seasonscornermarket.com

OPERATOR CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under the direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I am aware that it is the responsibility of the owner/operator to implement and amend the Soil Erosion and Sediment Control Plan as appropriate in accordance with the requirements of the RIPDES Construction General Permit.

Operator Signature:

Date

Contractor Representative: Contractor Title: Contractor Company Name: Address: Phone Number:

Email Address:

Contractor must fill out this section and sign after the contract is awarded and before any construction begins.

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INTRODUCTION

This Construction Site Soil Erosion and Sediment Control Plan (SESC Plan) has been prepared for Colbea Enterprises for the Seasons Corner Market in Newport, RI. In accordance with the RIDEM Rhode Island Pollutant Discharge Elimination System (RIPDES) General Permit for Stormwater Discharge Associated with Construction Activity (RIPDES Construction General Permit ("CGP")), projects that disturb one (1) or more acres require the preparation of a SESC Plan. This SESC Plan provides guidance for complying with the terms and conditions of the RIPDES Construction General Permit and Minimum Standard 10 of the RI Stormwater Design and Installation Standards Manual. In addition, this SESC Plan is also consistent with Part D of the *RI SESC Handbook* entitled "Soil Erosion and Sediment Control Plans". This document does not negate or eliminate the need to understand and adhere to all applicable RIPDES regulations.

The purpose of erosion, runoff, and sedimentation control measures is to prevent pollutants from leaving the construction site and entering waterways or environmentally sensitive areas during and after construction. This SESC Plan has been prepared prior to the initiation of construction activities to address anticipated worksite conditions. The control measures depicted on the site plan and described in this narrative should be considered the minimum measures required to control erosion, sedimentation, and stormwater runoff at the site. Since construction is a dynamic process with changing site conditions, it is the operator's responsibility to manage the site during each construction phase so as to prevent pollutants from leaving the site. This may require the operator to revise and amend the SESC Plan during construction to address varying site and/or weather conditions, such as by adding or realigning erosion or sediment controls to ensure the SESC Plan remains compliant with the RIPDES Construction General Permit. Records of these changes must be added to the amendment log attached to the SESC Plan, and to the site plans as "red-lined" drawings. Please Note: Even if practices are correctly installed on a site according to the approved plan, the site is only in compliance when erosion, runoff, and sedimentation are effectively controlled throughout the entire site.

It is the responsibility of the site owner and the site operator to maintain the SESC Plan at the site, including all attachments, amendments and inspection records, and to make all records available for inspection by RIDEM during and after construction. (RIPDES CGP - Part III.G)

The site owner, the site operator, and the designated site inspector are required to review the SESC Plan and sign the Party Certification pages (Section 8). The primary contractor (if different) and all subcontractors (if applicable) involved in earthwork or exterior construction activities are also required to review the SESC Plan and sign the certification pages before construction begins.

Any questions regarding the SESC Plan, control measures, inspection requirements, or any other facet of this document may be addressed to the RIDEM Office of Water Resources, at 401-222-4700 or via email: water@dem.ri.gov.

Soil Erosion and Sediment Control Plan Seasons Corner Market - Newport ADDITIONAL RESOURCES

Rhode Island Department of Environmental Management Office of Water Resources 235 Promenade Street Providence, RI 02908-5767 phone: 401-222-4700 email: <u>water@dem.ri.gov</u>

RIDEM <u>*RI Stormwater Design and Installation Standards Manual*</u> (RISDISM) (as amended) <u>http://www.dem.state.ri.us/programs/benviron/water/permits/ripdes/stwater/t4guide/desman.htm</u>

<u>RI Soil Erosion and Sediment Control Handbook</u> http://www.dem.state.ri.us/soilerosion2014final.pdf

RIDEM 2013 RIPDES Construction General Permit http://www.dem.ri.gov/pubs/regs/regs/water/ripdesca.pdf

Rhode Island Department of Transportation <u>Standard Specifications for Road and Bridge</u> <u>Design and Other Specifications</u> and <u>Standard Details</u> <u>http://www.dot.ri.gov/business/bluebook.php</u>

RIDEM Office of Water Resources Coordinated Stormwater Permitting website http://www.dem.state.ri.us/programs/benviron/water/permits/swcoord/index.htm

RIDEM RIPDES Stormwater website http://www.dem.state.ri.us/programs/benviron/water/permits/ripdes/stwater/index.htm

RIDEM Water Quality website (for 303(d) and TMDL listings) http://www.dem.ri.gov/programs/benviron/water/guality/index.htm

RIDEM Rhode Island Natural Heritage Program http://www.dem.ri.gov/programs/bpoladm/plandev/heritage/index.htm

RIDEM Geographic Data Viewer – Environmental Resource Map <u>http://www.dem.ri.gov/maps/index.php</u>

Natural Resources Conservation Service - Rhode Island Soil Survey Program http://www.ri.nrcs.usda.gov/technical/soils.html

EPA NPDES – Stormwater Discharges from Construction Activities webpage: <u>http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-Discharges-From-Construction-Activities.cfm</u>

EPA Construction Site Stormwater Runoff Control BMP Menu http://water.epa.gov/polwaste/npdes/swbmp/Construction-Site-Stormwater-Run-Off-Control.cfm

Soil Erosion and Sediment Control Plan Seasons Corner Market - Newport SECTION 1: SITE DESCRIPTION

1.1 Project/Site Information

Seasons Corner Market – Newport:

- Located at the corner of J.T. Connell Highway and Admiral Kalbfus Road in Newport, RI
- Total Area of the site is 1.76 acres.
- The proposed redevelopment work includes demolition of the existing building and construction of a new 5,000 SF Seasons Corner Market with five (5) gas pumps and associated parking, drainage and utilities.

Location Map:

The following are estimates of the construction site area:

- Total Project Area
 1.76 acres
- Total Project Area to be Disturbed
 1.84 acres

1.2 Receiving Waters

RIPDES CGP - Parts IV.A.7 & IV.A.8

Soil Erosion and Sediment Control Plan

Seasons Corner Market - Newport

List/description of separate storm sewer systems or drainage systems that may be impacted during construction and the water bodies that receive discharges from each storm sewer or drainage system:

• Unnamed Tributary to Newport Harbor (Waterbody ID RI0007030R-01)

List/description of receiving waters that may be impacted during construction:

• Unnamed Tributary to Newport Harbor (Waterbody ID RI0007030R-01)

Are any of the receiving waters in the vicinity of the proposed construction project listed as being impaired or subject to a TMDL?

🗌 Yes 🛛 🖾 No

1.3 Natural Heritage Area Information

RIPDES CGP - Part III.H

Are there any Natural Heritage Areas being disturbed by the construction activity or will discharges be directed to the Natural Heritage Area as a result of the construction activity?

🗌 Yes 🛛 🖾 No

1.4 Historic Preservation/Cultural Resources

Are there any historic properties, historic cemeteries or cultural resources on or near the construction site?

🗌 Yes 🛛 🖾 No

Describe how this determination was made and summarize state or tribal review comments:

• RIDEM GIS

1.5 Site Features and Constraints

List All Site Constraints and Sensitive Areas that require avoidance and protection through the implementation of control measures:

• See Erosion Control Plan in the latest plan set prepared by DiPrete Engineering

Soil Erosion and Sediment Control Plan Seasons Corner Market - Newport SECTION 2: EROSION, RUNOFF, AND SEDIMENT CONTROL

RIPDES Construction General Permit – Part III.J.1

The purpose of <u>erosion controls</u> is to prevent sediment from being detached and moved by wind or the action of raindrop, sheet, rill, gully, and channel erosion. Properly installed and maintained erosion controls are the primary defense against sediment pollution.

<u>Runoff controls</u> are used to slow the velocity of concentrated water flows. By intercepting and diverting stormwater runoff to a stabilized outlet or treatment practice or by converting concentrated flows to sheet flow erosion and sedimentation are reduced.

<u>Sediment controls</u> are the last line of defense against moving sediment. The purpose is to prevent sediment from leaving the construction site and entering environmentally sensitive areas.

This section describes the set of control measures that will be installed before and during the construction project to avoid, mitigate, and reduce impacts associated with construction activity. Specific control measures and their applicability are contained in <u>Section Four: Erosion Control Measures</u>, <u>Section Five:</u> <u>Runoff Control Measures</u>, and <u>Section Six: Sediment Control Measures</u> of the *RI SESC Handbook*. The *RI SESC Handbook* can be found at the following address:

http://www.dem.ri.gov/soilerosion2014final.pdf.

2.1 Avoid and Protect Sensitive Areas and Natural Features

Per RI Stormwater Design and Installation Standards Manual 3.3.7.1:

Areas of existing and remaining vegetation and areas that are to be protected as identified in the Section 1.5 of the SESC Plan must be clearly identified on the SESC Site Plans for each Phase of Construction. Prior to any land disturbance activities commencing on the site, the Contractor shall physically mark limits of disturbance (LOD) on the site and any areas to be protected within the site, so that workers can clearly identify the areas to be protected.

Feature Requiring Protection	Construction Phase #	Method of Protection	Sheet #
Bioretention Area	All Phases	Silt Fence	5

2.2 Minimize Area of Disturbance

Per RI Stormwater Design and Installation Standards Manual 3.3.7.2:

Will >5 acres be disturbed in order to complete this project?

🗌 Yes 🛛 🖾 No

Will <5 acres be disturbed or will disturbance activities be completed within a six (6) month window?

🛛 Yes 🗌 No

Based on the answers to the above questions will phasing be required for this project?

🗌 Yes 🛛 🖾 No

PHASING PLAN

The following are estimates of each phase of the construction project:

	Soil Erosion and Sediment Control Plan		
	Seasons Corner Market - Newport		
Total Area of Phase	1.84 acres		
Area to be Disturbed	1.84 acres		

Description of Construction Sequencing for All Phases

- 1. Contractor is responsible for Soil Erosion and Sediment Control (SESC) on site. Sequence of construction provided may be modified as field conditions warrant with prior approval from the Owner or their representative.
- 2. Construction to begin in the Spring 2022 or upon receipt of all necessary approvals.
- 3. Survey and stake limit of sedimentation barriers/limit of disturbance.
- 4. Cut Trees on site, within LOD. In no case is the tree cutting to extend beyond the LOD.
- 5. Place perimeter erosion control barriers as shown on the plans along Limit of disturbance. In no case is the limit of disturbance to extend beyond the sedimentation barriers.
- 6. Grub and remove tree stumps on site. Topsoil is to be stripped and stockpiled in approved locations. Stockpiles are to be protected by a row of silt fence and covered or temporarily seeded.
- 7. Install inlet sediment control devices on all catch basins that are to remain in accordance with the SESC plan.
- 8. Complete demolition of existing building and infrastructure that is not to remain.
- 9. Survey and stake drain lines, water lines, and sewer lines. Survey drainage BMPs and protect bioretention area from runoff and construction vehicle traffic.
- 10. Grade the proposed site. Once rough grade on the site has been established, disturbed areas shall be stabilized with hydroseeding or approved equal. Erosion control blankets shall be installed as necessary to stabilize soil and promote vegetation.
- 11. Install drain piping, drainage manholes and catch basins beginning at the lowest point and working up gradient. Install inlet protection on catch basins. Install water, sewer, electric, telephone, cable, and gas in accordance with the approved final construction plans.
- 12. Place compacted gravel foundation and rough grade the site in accordance with the site plans and in accordance with the geotechnical requirements.
- 13. Place bituminous asphalt binder per site plans and in accordance with the geotechnical requirements.
- 14. Stabilize areas outside of roadway.
- 15. Sweep/vacuum the roadway areas to remove all sediments. Flush drainage structures and pipes.
- 16. Sand filters may be brought online once all tributary area has been stabilized.
- 17. Finalize permanent stabilization around building.
- 18. Remove excess sediments on site.
- 19. Remove all temporary soil erosion and sedimentation control measures following final vegetative establishment of all disturbed areas.

Soil Erosion and Sediment Control Plan

- Seasons Corner Market Newport
- 20. Prior to activation of all utilities (water, sewer, and storm), the design engineer and the appropriate utility company shall to be notified at least 48 hours in advance to schedule final inspection.

2.3 Minimize the Disturbance of Steep Slopes

Per RI Stormwater Design and Installation Standards Manual 3.3.7.3:

Are steep slopes (>15%) present within the proposed project area?

🗌 Yes 🛛 🖾 No

2.4 Preserve Topsoil

Per RI Stormwater Design and Installation Standards Manual 3.3.7.4:

Site owners and operators must preserve existing topsoil on the construction site to the maximum extent feasible and as necessary to support healthy vegetation, promote soil stabilization, and increase stormwater infiltration rates in the post-construction phase of the project.

Will existing topsoil be preserved at the site?

🛛 Yes 🗌 No

The site operator shall strip top soil in proposed project limit of disturbance areas. Top Soil shall be stockpiled in the location specified on the SESC plan. Stock Pile areas shall be surrounded by silt fence or approved erosion control measures to prevent migration of soils during rain events. Upon project completion, the site operation shall redistribute top soil over disturbed areas ensuring at minimum a 4" layer is provided over all disturbed areas. Additional material shall be brought on site should the need arise. Final top soil areas have been shown on the site plans as landscape areas. Top soil should be screened and free of weeds, sticks, and stones over ³/₄" in size and otherwise complying with section M.18.01 of the RIDOT Standard Specifications for Road and Bridge Construction. Contractor shall follow recommendations provided by the landscape plans and the Landscape Architect.

Soil compaction must be minimized by maintaining limits of disturbance throughout construction. In instances where site soils are compacted the site owner and operator must restore infiltration capacity of the compacted soils by tilling or scarifying compacted soils and amending soils as necessary to ensure a minimum depth of topsoil is available in these areas. In areas where infiltrating stormwater treatment practices are located compacted soils must be amended such that they will comply the design infiltration rates established in the *RI Stormwater Design and Installation Standards Manual*.

In areas of where over compaction has been compromised the natural infiltration rate of onsite soils, the contractor shall scarify or till these areas to restore them to their natural state. Areas prone to over compaction are paths proposed to be used by construction equipment and construction equipment storage areas. Construction equipment storage areas are shown on the SESC Plan.

2.5 Stabilize Soils

Per RI Stormwater Design and Installation Standards Manual 3.3.7.5:

Upon completion and acceptance of site preparation and initial installation of erosion, runoff, and sediment controls and temporary pollution prevention measures, the operator shall initiate appropriate temporary or permanent stabilization practices during all phases of construction on all disturbed areas as soon as possible, but not more than fourteen (14) days after the construction activity in that area has temporarily or permanently ceased.

Any disturbed areas that will not have active construction activity occurring within 14 days must be stabilized using the control measures depicted in the SESC Site Plans, in accordance with the *RI SESC Handbook*, and per manufacturer product specifications.
Soil Erosion and Sediment Control Plan

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Only areas that can be reasonably expected to have active construction work being performed within 14 days of disturbance will be cleared/grubbed at any one time. It is NOT acceptable to clear and grub the entire construction site if portions will not be active within the 14-day time frame. Proper phasing of clearing and grubbing activities shall include temporary stabilization techniques for areas cleared and grubbed that will not be active within the 14-day time frame.

All disturbed soils exposed prior to October 15 of any calendar year shall be seeded by that date if vegetative measures are the intended soil stabilization method. Any such areas that do not have adequate vegetative stabilization, as determined by the site operator or designated inspector, by November 15, must be stabilized through the use of non-vegetative erosion control measures. If work continues within any of these areas during the period from October 15 through April 15, care must be taken to ensure that only the area required for that day's work is exposed, and all erodible soil must be restabilized within 5 working days. In limited circumstances, stabilization may not be required if the intended function of a specific area of the site necessitates that it remain disturbed (i.e. construction of a motocross track).

- When construction activities have temporarily or permanently ceased, stabilization controls shall consist of one or more of the following:
 - Seeding with native vegetation
 - Straw or straw application, in the amount of 2 tons/acre (temporary only)
 - Fiber mulch or covering consisting of mat/fiber lining (temporary only)
- Dust control generation shall be controlled by one or more of the following:
 - Vegetative cover (see stabilization controls above)
 - Sprinkle site with water until surface is wet. Take care to not create runoff from excessive use of water. The general contractor shall have an on-site water vehicle for dust control.
 - Stone to stabilize construction roads
 - Calcium chloride (only with approval of the Design Engineer)

Temporary Vegetative Control Measures

- When construction activities have temporarily ceased, stabilization controls shall consist of one or more of the following:
 - 1. Hydro seeding
 - 2. Seeding with native vegetation

Temporary Non-Vegetative Control Measures

- When construction activities have temporarily ceased, stabilization controls shall consist of one or more of the following:
 - 1. Mulching
 - 2. Rolled Erosion control mats Steep Slopes >15%
 - 3. Rolled Erosion control netting

Permanent Vegetative Control Measures

- When construction activities have permanently ceased, stabilization controls shall consist of one or more of the following:
 - 1. Hydro seeding
 - 2. Seeding with native vegetation
 - 3. Sodding

Soil Erosion and Sediment Control Plan Seasons Corner Market - Newport *Protect Storm Drain Outlets*

Per RI Stormwater Design and Installation Standards Manual 3.3.7.7:

Temporary or permanent outlet protection must be used to prevent scour and erosion at discharge points through the protection of the soil surface, reduction in discharge velocities, and through the promotion of infiltration. Outlets often have high velocity, high volume flows, and require strong materials that will withstand the forces of stormwater. Storm drain outlet control measures also offer a last line of protection against sediment entering environmentally sensitive areas.

All stormwater outlets that may discharge sediment-laden stormwater flow from the construction site must be protected using the control practices depicted on the approved plan set and in accordance with the *RI SESC Handbook*.

Temporary control measures have been designed in accordance with the RI SESC Handbook. Following development completion/implementation of the permanent stormwater control measures, all stormwater will be directed to the proposed BMP's through the proposed storm drains that eventually drain into the existing Drainage Network.

Will temporary or permanent point source discharges be generated at the site as the result of construction of sediment traps or basins, diversions, and conveyance channels?



2.6

2.7 Establish Temporary Controls for the Protection of Post-Construction Stormwater Treatment Practices

Per RI Stormwater Design and Installation Standards Manual 3.3.7.8:

Temporary measures shall be installed to protect permanent or long-term stormwater control and treatment measures as they are installed and throughout the construction phase of the project so that they will function properly when they are brought online.

- Storm drain outlets shall be protected by using one or more of the following:
 - 1. Catch basin inserts such as silt sacks. Install according to manufacturer specifications.
 - 2. Sandbags
 - 3. Staked strawbales or silt fence (for unpaved areas ONLY RI Standards 9.1.0, 9.2.0 & 9.3.0)
 - 4. Staked filter socks (for unpaved areas ONLY). Install according to manufacturer specifications.

Will long-term stormwater treatment practices be installed at the site?

🛛 Yes 🛛 🛛	🗌 No
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Long term stormwater treatment practices, that will use infiltration, will be staked off throughout the construction phases. No construction vehicles shall enter these staked areas to avoid sedimentation and compaction. See the Erosion Control Plan prepared by DiPrete Engineering for locations of these areas.

2.8 Divert or Manage Run-on from Up-gradient Areas

Per RI Stormwater Design and Installation Standards Manual 3.3.7.10:

Is stormwater from off-site areas anticipated to flow onto the project area or onto areas where soils will be disturbed?

🗌 Yes 🛛 🖾 No

Soil Erosion and Sediment Control Plan Seasons Corner Market - Newport 2.9 *Retain Sediment Onsite through Structural and Non-Structural Practices*

Per RI Stormwater Design and Installation Standards Manual 3.3.7.12:

Once the erosion control measures and the run-on diversions are identified and located on the plans, the next step to site planning is sediment control and sediment management. Sediment barriers, inlet protection, construction entrances, and stockpile containment must be integrated into the SESC Plan if applicable. Refer to the RI SESC Handbook Section Six: Sediment Control Measures for additional guidance.

Per RI Stormwater Design and Installation Standards Manual 3.3.7.9:

SEDIMENT BARRIERS must be installed along the perimeter areas of the site that will receive stormwater from disturbed areas. This also may include the use of sediment barriers along the contour of disturbed slopes to maintain sheet flow and minimize rill and gully erosion during construction. Installation and maintenance of sediment barriers must be completed in accordance with the maintenance requirements specified by the product manufacturer or the *RI SESC Handbook*.

Will sediment barriers be utilized at the toe of slopes and other downgradient areas subject to stormwater impacts and erosion during construction?

🛛 Yes 🗌 No

Sediment barriers will be used to protect stormwater from discharging onto adjacent properties, sensitive areas and proposed BMPs.

Will sediment barriers be utilized along the contour of slopes to maintain sheet flow and minimize rill and gully erosion during construction?

Yes No

SEDIMENT BARRIERS						
Construction Phase #	Sediment Barrier Type	Sediment Barrier is Labeled on Sheet #	Detail is on Sheet #			
All Phases	Silt Fence	5	RIDOT Detail (9.2.0)			

Per RI Stormwater Design and Installation Standards Manual 3.3.7.6:

INLET PROTECTION will be utilized to prevent soil and debris from entering storm drain inlets. These measures are usually temporary and are implemented before a site is disturbed. ALL stormwater inlets &/or catch basins that are operational during construction and have the potential to receive sediment-laden stormwater flow from the construction site must be protected using control measures outlined in the *RI SESC Handbook*.

For more information on inlet protection refer to the *RI SESC Handbook*, Inlet Protection control measure.

Maintenance

The operator must clean, or remove and replace the inlet protection measures as sediment accumulates, the filter becomes clogged, and/or as performance is compromised. Accumulated sediment adjacent to the inlet protection measures should be removed by the end of the same work day in which it is found or by the end of the following work day if removal by the same work day is not feasible.

Do inlets exist adjacent to or within the project area that require temporary protection?

Soil Erosion and Sediment Control Plan Seasons Corner Market - Newport

🛛 Yes 🗌 No

Existing on-site and off-site drainage inlets must be protected during construction. Proposed drainage inlets shall be protected once install to ensure sediments kept out of the drainage network. All inlet protections shall be maintained per the RI SESC handbook and manufacturers recommendations.

The following lists the proposed storm drain inlet types selected from Section Six of the *RI SESC Handbook*. Each row is unique for each phase and inlet protection type.

INLET PROTECTION					
Construction Phase #	Inlet Protection Type	Inlet Protection is labeled on Sheet #	Detail(s) is/are on Sheet #		
All Phases	Inlet Sediment Control Device	As Applicable	5		

CONSTRUCTION ENTRANCES will be used in conjunction with the stabilization of construction roads to reduce the amount of sediment tracking off the project. This project has avoided placing construction entrances on poorly drained soils where possible. Where poorly drained soils could not be eliminated, the detail includes subsurface drainage.

Any construction site access point must employ the control measures on the approved SESC site plans and in accordance with the *RI SESC Handbook*. Construction entrances shall be used in conjunction with the stabilization of construction roads to reduce the amount of mud picked up by construction vehicles. All construction access roads shall be constructed prior to any roadway accepting construction traffic.

The site owner and operator must:

- 1. Restrict vehicle use to properly designated exit points.
- 2. Use properly designed and constructed construction entrances at all points that exit onto paved roads so that sediment removal occurs prior to vehicle exit.
- 3. When and where necessary, use additional controls to remove sediment from vehicle tires prior to exit (i.e. wheel washing racks, rumble strips, and rattle plates).
- 4. Where sediment has been tracked out from the construction site onto the surface of off-site streets, other paved areas, and sidewalks, the deposited sediment must be removed by the end of the same work day in which the track out occurs. Track-out must be removed by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal.

Will construction entrances be utilized at the proposed construction site?

⊠ Yes □ No

Construction entrances have been shown on the Erosion Control Plan prepared by DiPrete Engineering. Construction entrance shall be installed per RIDOT Standard 9.9.0 and maintained in accordance with the RI SESC handbook and RIDOT Standards.

STOCKPILE CONTAINMENT will be used onsite to minimize or eliminate the discharge of soil, topsoil, base material or rubble, from entering drainage systems or surface waters. All stockpiles must be located within the limit of disturbance, protected from run-on with the use of temporary sediment barriers and provided with cover or stabilization to avoid contact with precipitation and wind where and when practical.

Stock pile management consists of procedures and practices designed to minimize or eliminate the discharge of stockpiled material (soil, topsoil, base material, rubble) from entering drainage systems or surface waters.

Soil Erosion and Sediment Control Plan

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For any stockpiles or land clearing debris composed, in whole or in part, of sediment or soil, you must comply with the following requirements:

- 1. Locate piles within the designated limits of disturbance.
- 2. Protect from contact with stormwater (including run-on) using a temporary perimeter sediment barrier.
- 3. Where practicable, provide cover or appropriate temporary vegetative or structural stabilization to avoid direct contact with precipitation or to minimize sediment discharge.
- 4. <u>NEVER</u> hose down or sweep soil or sediment accumulated on pavement or other impervious surfaces into any stormwater conveyance, storm drain inlet, or surface water.
- 5. To the maximum extent practicable, contain and securely protect from wind.

STOCKPILE CONTAINMENT						
Construction Phase #	Run-on measures necessary? (yes/no)	Stabilization or Cover Type	Stockpile Containment Measure	Sheet #		
All Phases	Yes	Top and Sub-Soil piles should be covered or vegetated	Silt Fence	5		
All Phases	No	Treated wood should be covered with plastic or comparable material	Treated wood should be covered with plastic or comparable material	Where applicable		

CONSTRUCTED SEDIMENT STRUCTURES

Are temporary sediment traps required at the site?

🗌 Yes 🛛 🖾 No

While the total limit of disturbance is greater than one acre, the site is a redevelopment site on a small lot that does not provide the necessary room for a sediment trap. Additionally, the center of the site is the high point and stormwater naturally discharges to all directions, therefore it would not be feasible to capture a substantial amount of stormwater with a single trap.

2.10 Properly Design Constructed Stormwater Conveyance Channels

Are temporary stormwater conveyance practices required in order to properly manage runoff within the proposed construction project?

🗌 Yes 🛛 🖾 No

2.11 Erosion, Runoff, and Sediment Control Measure List

It is expected that this table and corresponding Inspection Reports will be amended as needed throughout the construction project as control measures are added or modified.

Phase No. #				
Location/Station	Control Measure Description/Reference	Maintenance Requirement		
Down gradient Limit of disturbance Silt Fence	Straw Wattle/Straw Bales and/or Silt Fence Section Six: Sediment Control Measures – RI SESC Handbook.	Inspection should be made after each storm event and repair or replacement should be made promptly as needed. Cleanout of accumulated sediment behind the		
		bales becomes filled in with sediment.		
Construction Entrances	Stone Stabilized Pad. Section Six: Sediment Control Measures – Construction Entrances –RI SESC Handbook. Constriction pad per RIDOT Standard 9.9.0	The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto pave surfaces. Provide periodic top dressing with additional stone or additional length as conditions demand. Roads adjacent to entrance shall be clean at the end of each day. If maintenance alone is not enough to prevent excessive track out, increase length of entrance, modify construction access road surface, or install washrack or mudrack.		
Silt Sacks	Inlet Protection, Section Six: Sediment Control Measures – Inlet Protection –RI SESC Handbook.	Install & maintain per manufacture specifications Inspect after each rain event Lift filters carefully from the drainage structure. Remove any accumulated sediment and reinsert device into drain opening. Remove all accumulated sediment and dispose of properly		
Water or Calcium Chloride application for Dust Control	Dust Control, Section Three: Pollution Prevention and Good House Keeping –RI SESC Handbook.	When temporary measures are used, repetitive treatments should be applied as needed to control dust.		

Soil Erosion and Sediment Control Plan Seasons Corner Market - Newport SECTION 3: CONSTRUCTION ACTIVITY POLLUTION PREVENTION

Per RI Stormwater Design and Installation Standards Manual 3.3.7.14:

The purpose of construction activity pollution prevention is to prevent day to day construction activities from causing pollution.

This section describes the key pollution prevention measures that must be implemented to avoid and reduce the discharge of pollutants in stormwater. Example control measures include the proper management of waste, material handling and storage, and equipment/vehicle fueling/washing/maintenance operations.

Where applicable, include *RI* SESC Handbook or the *RI* Department of Transportation Standard Specifications for Road and Bridge Construction (as amended) specifications.

3.1 Existing Data of Known Discharges from Site

Per RIPDES Construction General Permit – Part III.I:

Are there known discharges from the project area?

🛛 Yes 🗌 No

Describe how this determination was made:

• Existing Conditions Survey, Online GIS information, RIDOT Plans

If yes, list discharges and locations:

• Existing gas station and car wash with older stormwater infrastructure connected to City stormwater system.

Is there existing data on the quality of the known discharges?

🗌 Yes 🛛 🖾 No

3.2 Prohibited Discharges

Per RI SESC Handbook – Part D

The following discharges are prohibited at the construction site:

- Contaminated groundwater, unless specifically authorized by the DEM. These types of discharges may only be authorized under a separate DEM RIPDES permit.
- Wastewater from washout of concrete, unless the discharge is contained and managed by appropriate control measures.
- Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials.
- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance. Proper storage and spill prevention practices must be utilized at all construction sites.
- Soaps or solvents used in vehicle and equipment washing.
- Toxic or hazardous substances from a spill or other release.

All types of waste generated at the site shall be disposed of in a manner consistent with State Law and/or regulations.

Will any of the above listed prohibited discharges be generated at the site?

🗌 Yes 🛛 🖾 No

3.3 Proper Waste Disposal

Per RI SESC Handbook – Part D

Building materials and other construction site wastes must be properly managed and disposed of in a manner consistent with State Law and/or regulations.

- A waste collection area shall be designated on the site that does not receive a substantial amount of runoff from upland areas and does not drain directly to a waterbody or storm drain.
- All waste containers shall be covered to avoid contact with wind and precipitation.
- Waste collection shall be scheduled frequently enough to prevent containers from overfilling.
- All construction site wastes shall be collected, removed, and disposed of in accordance with applicable regulatory requirements and only at authorized disposal sites.
- Equipment and containers shall be checked for leaks, corrosion, support or foundation failure, or other signs of deterioration. Those that are found to be defective shall be immediately repaired or replaced.

Is waste disposal a significant element of the proposed project?

Yes No

Building construction and general construction waste is anticipated. Before construction begins, an area within the project limits will be designated as a waste collection area. A waste collection time will be arranged so that the containers do not overflow. In the event that a container does spill, cleanup will be provided immediately. The construction waste will be collected, removed, and disposed of only at authorized disposal areas. All waste shall be disposed of in a manner consistent with federal, state and local regulations. Construction debris shall be disposed of daily to avoid exposure to precipitation.

3.4 Spill Prevention and Control

Per RI SESC Handbook – Part D

All chemicals and/or hazardous waste material must be stored properly and legally in covered areas, with containment systems constructed in or around the storage areas. Areas must be designated for materials delivery and storage. All areas where potential spills can occur and their accompanying drainage points must be described. The owner and operator must establish spill prevention and control measures to reduce the chance of spills, stop the source of spills, contain and clean-up spills, and dispose of materials contaminated by spills. The operator must establish and make highly visible location(s) for the storage of spill prevention and control equipment and provide training for personnel responsible for spill prevention and control on the construction site.

Are spill prevention and control measures required for this particular project?

🛛 Yes 🗌 No

- The construction site supervisor will create and adopt a spill control plan that includes measures to stop the source of the spill, contain the spill, clean up the spill, dispose of materials contaminated by the spill, and identify and train personnel responsible for spill prevention and control. The following measures will be appropriate for a spill prevention and response plan.
- Store and handle materials to prevent spills
 - Tightly seal containers.

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- Make sure all containers are clearly labeled
- Stack containers neatly and securely
- Reduce storm water contact if there is a spill
 - Have cleanup procedures clearly posted
 - Have cleanup materials readily available
 - Contain any liquid
 - Stop the source of the spill
 - o Cover spill with absorbent materials such as sawdust.
- At no time shall spills be cleaned and/or flushed down storm drains or to any environmentally sensitive area (stream, pond, wetland etc.)
- Dispose of contaminated materials according to manufacturer's instructions or according to state or local requirements.
- Equipment/vehicle fueling and repair/maintenance operations or hazardous material storage shall not take place within regulated wetlands or buffer zone area. Designated areas shall be approved by site owner and project engineer.
- Identify personnel responsible for responding to spill of toxic or hazardous materials.
 - Provide personnel spill response training
 - Post names of spill response personnel
 - o Keep the spill area well ventilated
 - If necessary, use a private firm that specializes in spill cleanup
- Spills that exceed Reportable Quantity (RQ) levels or reportable materials must be reported and documented.
 - Notify the Rhode Island Department of Environmental Management (401) 222-3961, (401) 222-6519 or (401) 222-2284 at night as soon as there is knowledge of a spill.
 - Notify the permitting authority in writing within 5 days.
 - The SESC must be modified within 14-days to provide a description of the release, the circumstances leading to the release and the date of the release.
- Stone Stabilization Pad (RI Standard 9.9.0)
 - Located at construction site entrance/exit as shown on the SESC Site Plans.
 - The maintenance shall include top dressing with additional stone or additional length as conditions demand or as directed by the engineer.
 - Sediments spilled, dropped, washed or tracked on the public right of way must be removed immediately by the contractor and disposed of according to all applicable regulations.

3.5 Control of Allowable Non-Stormwater Discharges

Per RIPDES Construction General Permit – Part III.J.2.e:

Are there allowable non-Stormwater discharges present on or near the project area?

🛛 Yes 🗌 No

List of allowable non-stormwater discharge(s) and the associated control measure(s):

- Water for Dust Control
- Fire Hydrant / Water Main Flushing.
- Stormwater Main Flushing

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If any existing or proposed discharges consist of <u>contaminated</u> groundwater, such discharges are <u>not</u> <u>authorized</u> under the RIPDES Construction General Permit. These discharges must be permitted separately by seeking coverage to treat and discharge under a separate RIPDES individual permit or under the RIPDES Remediation General Permit. Contact the RIDEM Office of Water Resources RIPDES Permitting Program at 401-222-4700 for application requirements and additional information.

Are there any known or proposed contaminated discharges, including anticipated contaminated dewatering operations, planned on or near the project area?



If yes, list the discharge types and the RIPDES individual permit number(s) or RIPDES Remediation General Permit Authorization number(s) associated with these discharges.

• Contaminated groundwater due to existing LUST.

3.6 Control Dewatering Practices

Per RI SESC Handbook – Part D

Site owners and operators are prohibited from discharging groundwater or accumulated stormwater that is removed from excavations, trenches, foundations, vaults, or other similar points of accumulation, unless such waters are first effectively managed by appropriate control measures.

Examples of appropriate control measures include, but are not limited to, temporary sediment basins or sediment traps, sediment socks, dewatering tanks and bags, or filtration systems (e.g. bag or sand filters) that are designed to remove sediment. Uncontaminated, non-turbid dewatering water can be discharged without being routed to a control.

At a minimum the following discharge requirements must be met for dewatering activities:

- 1. Do not discharge visible floating solids or foam.
- 2. To the extent feasible, utilize vegetated, upland areas of the site to infiltrate dewatering water before discharge. In no case will surface waters be considered part of the treatment area.
- 3. At all points where dewatering water is discharged, utilize velocity dissipation devices.
- 4. With filter backwash water, either haul it away for disposal or return it to the beginning of the treatment process.
- 5. Replace and clean the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturer's specifications.
- 6. Dewatering practices must involve the implementation of appropriate control measures as applicable (i.e. containment areas for dewatering earth materials, portable sediment tanks and bags, pumping settling basins, and pump intake protection.)

Is it at all likely that the site operator will need to implement construction dewatering in order to complete the proposed project?



Dewatering maybe required during deep utility construction. Any dewatering practices must comply with the RI SESC Handbook. Dewatering basins shall be used on site and comply with RIDOT Standard 9.7.0 or approved equal. Contractor to submit alternatives to project engineer for approval.

Soil Erosion and Sediment Control Plan Seasons Corner Market - Newport 3.7 Establish Proper Building Material Staging Areas

Per RI SESC Handbook – Part D

All construction materials that have the potential to contaminate stormwater must be stored properly and legally in covered areas, with containment systems constructed in or around the storage areas. Areas must be designated for materials delivery and storage. Designated areas shall be approved by the site owner/engineer. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in the discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

- An inventory will be kept of all reportable materials and all materials with a reportable quantity on site. There will be neat and orderly storage of hazardous materials. Regular garbage, rubbish, construction waste, and sanitary waste disposal will be employed. There will be prompt cleanup of any spills, either liquid or dry materials. The following practices will be used to avoid problems associated with the disposal of hazardous materials.
- Check with local waste management authorities to determine what the requirements are for disposing of hazardous materials.
- Use the entire product before disposing of the container.
- Do not remove the original product label from the container, since it contains important information.
- If surplus products must be disposed, do not mix products together unless specifically recommended by the manufacturer.
- The correct method of disposal of hazardous materials varies with the product use. Follow the manufacturer's recommended method, which is often found on the label.

Asphalt	Detergents
Concrete	 Fertilizers (no Phosphate based fertilizers permitted)
• Loam	 Petroleum Based Products
Gravel for Roadway	Cleaning Solvents
Stone	• Wood
Sewer Pipe	Paints (enamel and latex)
Drainage Pipe	Roofing Shingles
Water Pipe	Masonry Block
Gas pipe	 Sheet Rock / Gypsum Board
Manholes	Electrical Materials/Supplies
Catch Basins	 Plumbing Materials/Supplies
 Catch Basin / Manhole Frames & Grates 	

• Construction materials will consist of any or all of the following:

3.8 Minimize Dust

Per RI SESC Handbook – Part D

Dust control procedures and practices shall be used to suppress dust on a construction site during the construction process, as applicable. Precipitation, temperature, humidity, wind velocity and direction will determine amount and frequency of applications. However, the best method of controlling dust is to prevent dust production. This can best be accomplished by limiting the amount of bare soil exposed at one time. Dust Control measures outlined in the *RI SESC Handbook* shall be followed. Other dust control methods include watering, chemical application, surface roughening, wind barriers, walls, and covers.

• Dust control will be utilized throughout the entire construction process. For example, keeping disturbed surfaces moist during windy periods will be an effective control measure, especially for construction haul roads. The use of dust control will prevent the movement of soil to

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offsite areas. However, care must be taken to not create runoff from excessive use of water to control dust. The following are methods of Dust Control that may be used on-site:

<u>Vegetative Cover</u> - The most practical method for disturbed areas not subject to traffic.

• <u>Sprinkling</u> - The site may be sprinkled until the surface is wet. Sprinkling will be effective for dust control on haul roads and other traffic routes.

• <u>Stone</u> - Stone will be used to stabilize construction roads; it will also be effective for dust control.

• <u>Calcium Chloride</u> – Calcium Chloride or other additive may be used with approval of Engineer.

• The general contractor will have an on-site water vehicle to control dust.

3.9 Designate Washout Areas

Per RI SESC Handbook – Part D

At no time shall any material (concrete, paint, chemicals) be washed into storm drains, open ditches, streets, streams, wetlands, or any environmentally sensitive area. The site operator must ensure that construction waste is properly disposed of, to avoid exposure to precipitation, at the end of each working day.

Will washout areas be required for the proposed project?

🛛 Yes	🗌 No
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- The construction site supervisor shall establish a washout area prior to construction as indicated on the Erosion Control Plan prepared by DiPrete Engineering. This area shall not be located in or adjacent to a permanent stormwater BMP.
- Concrete trucks may be allowed to wash out or discharge surplus concrete or drum wash water in the washout area. However, this material must be disposed of in a manner that prevents contact between these materials and stormwater runoff.

3.10 Establish Proper Equipment/Vehicle Fueling and Maintenance Practices

Per RI SESC Handbook – Part D

Vehicle fueling shall not take place within regulated wetlands or buffer zone areas, or within 50-feet of the storm drain system. Designated areas shall be depicted on the SESC Site Plans, or shall be approved by the site owner.

Vehicle maintenance and washing shall occur off-site, or in designated areas depicted on the SESC Site Plans or approved of by the site owner. Maintenance or washing areas shall not be within regulated wetlands or buffer zone areas, or within 50-feet of the storm drain system. Maintenance areas shall be clearly designated, and barriers shall be used around the perimeter of the maintenance area to prevent stormwater contamination.

Construction vehicles shall be inspected frequently for leaks. Repairs shall take place immediately. Disposal of all used oil, antifreeze, solvents and other automotive-related chemicals shall be according to applicable regulations; at no time shall any material be washed down the storm drain or in to any environmentally sensitive area.

Vehicle fueling storage and maintenance should only be done in the area as shown on the Erosion Control Plan prepared by DiPrete Engineering. Any spills should be handled per section 3.4.

Soil Erosion and Sediment Control Plan Seasons Corner Market - Newport 3.11 Chemical Treatment for Erosion and Sediment Control

Per RI SESC Handbook – Appendix J

Chemical stabilizers, polymers, and flocculants are readily available on the market and can be easily applied to construction sites for the purposes of enhancing the control of erosion, runoff, and sedimentation. The following guidelines should be adhered to for construction sites that plan to use treatment chemicals as part of their overall erosion, runoff, and sedimentation control strategy.

The U.S. Environmental Protection Agency has conducted research into the relative toxicity of chemicals commonly used for the treatment of construction stormwater discharges. The research conducted by the EPA focused on different formulations of chitosan, a cationic compound, and both cationic and anionic polyacrylamide (PAM). In summary, the studies found significant toxicity resulting from the use of chitosan and cationic PAM in laboratory conditions, and significantly less toxicity associated with using anionic PAM. EPA's research has led to the conclusion that the use of treatment chemicals for erosion, runoff, and sedimentation control requires proper operator training and appropriate usage to avoid risk to aquatic species. In the case of cationic treatment chemicals additional safeguards may be necessary.

Application/Installation Minimum Requirements

If a site operator plans to use polymers, flocculants, or other treatment chemicals during construction the SESC plan must address the following:

- 1. <u>Treatment chemicals shall not be applied directly to or within 100 feet of any surface water body,</u> wetland, or storm drain inlet.
- Use conventional erosion, runoff, and sedimentation controls prior to and after the application of treatment chemicals. Use conventional erosion, runoff, and sedimentation controls prior to chemical addition to ensure effective treatment. Chemicals may only be applied where treated stormwater is directed to a sediment control (e.g. temporary sediment basin, temporary sediment trap or sediment barrier) prior to discharge.
- 3. <u>Sites shall be stabilized as soon as possible using conventional measures to minimize the need to use chemical treatment.</u>
- 4. <u>Select appropriate treatment chemicals.</u> Chemicals must be selected that are appropriately suited to the types of soils likely to be exposed during construction and to the expected turbidity, pH, and flow rate of stormwater flowing into the chemical treatment system or treatment area. Soil testing is essential. Using the wrong form of chemical treatment will result in some form of performance failure and unnecessary environmental risk.
- 5. <u>Minimize discharge risk from stored chemicals.</u> Store all treatment chemicals in leak-proof containers that are kept under storm-resistant cover and surrounded by secondary containment structures (e.g., spill berms, decks, spill containment pallets), or provide equivalent measures, designed and maintained to minimize the potential discharge of treatment chemicals in stormwater or by any other means (e.g., storing chemicals in covered areas or having a spill kit available on site).
- 6. <u>Use chemicals in accordance with good engineering practices and specifications of the chemical provider/supplier.</u> You must also use treatment chemicals and chemical treatment systems in accordance with good engineering practices, and with dosing specifications and sediment removal design specifications provided by the supplier of the applicable chemicals, or document specific departures from these practices or specifications and how they reflect good engineering practice.

Will chemical stabilizers, polymers, flocculants or other treatment chemicals be utilized on the proposed construction project?



Soil Erosion and Sediment Control Plan Seasons Corner Market - Newport 3.12 Construction Activity Pollution Prevention Control Measure List

It is expected that this table will be amended as needed throughout the construction projection

Phase No. #					
Location/Station	Control Measure Description/Reference	Maintenance Requirement			
Adjacent Roads Public roads adja a construction site be clean at the er each day.		Street Sweep if construction site sediment is visible			
Site Wide	Pick up of construction trash and debris.	All loose trash and debris must be disposed of properly at the end of each working day.			
Construction Entrances Construction Entrances Construction Patrances Construction Patrances Construction Part RIDOT Standard 9.9.0		The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto pave surfaces. Provide periodic top dressing with additional stone or additional length as conditions demand. Roads adjacent to entrance shall be clean at the end of each day. If maintenance alone is not enough to prevent excessive track out, increase length of entrance, modify construction access road surface, or install washrack or mudrack.			
Water or Calcium Chloride application for Dust Control	Dust Control, Section Three: Pollution Prevention and Good House Keeping –RI SESC Handbook.	When temporary measures are used, repetitive treatments should be applied as needed to control dust.			

SECTION 4: CONTROL MEASURE INSTALLATION, INSPECTION, and MAINTENANCE

4.1 Installation

Per RI SESC Handbook – Part D:

Complete the installation of temporary erosion, runoff, sediment, and pollution prevention control measures by the time each phase of earth-disturbance has begun. All stormwater control measures must be installed in accordance with good judgment, including applicable design and manufacturer specifications. Installation techniques and maintenance requirements may be found in manufacturer specifications and/or the *RI SESC Handbook*.

Erosion control measures shall be located per the Erosion Control Plan prepared by DiPrete Engineering.

Soil Erosion and Sediment Control Plan Seasons Corner Market - Newport 4.2 Monitoring Weather Conditions

Per RI SESC Handbook – Part D:

<u>Anticipating Weather Events</u> - Care will be taken to the best of the operator's ability to avoid disturbing large areas prior to anticipated precipitation events. Weather forecasts must be routinely checked, and in the case of an expected precipitation event of over 0.25-inches over a 24-hour period, it is highly recommended that all control measures should be evaluated and maintained as necessary, prior to the weather event. In the case of an extreme weather forecast (greater than one-inch of rain over a 24-hour period), additional erosion/sediment controls may need to be installed.

<u>Storm Event Monitoring For Inspections</u> - At a minimum, storm events must be monitored and tracked in order to determine when post-storm event inspections must be conducted. Inspections must be conducted and documented at least once every seven (7) calendar days and within twenty-four (24) hours after any storm event, which generates at least 0.25 inches of rainfall per twenty-four (24) hour period and/or after a significant amount of runoff or snowmelt.

In order for an operator to successfully satisfy this requirement list the weather gauge station that will be utilized to monitor weather conditions on the construction site. See <u>www.wunderground.com</u> or <u>www.weather.gov</u> for available stations.

The weather gauge station and website that will be utilized to monitor weather conditions on the construction site is as follows:

Poplar Street - KRINEWPO50

4.3 Inspections

Per RI SESC Handbook – Part D:

<u>Minimum Frequency</u> - Each of the following areas must be inspected by or under the supervision of the owner and operator at least once every seven (7) calendar days and within twenty-four (24) hours after any storm event, which generates at least 0.25 inches of rainfall per twenty-four (24) hour period and/or after a significant amount of runoff or snowmelt:

- a. All areas that have been cleared, graded, or excavated and where permanent stabilization has not been achieved;
- b. All stormwater erosion, runoff, and sediment control measures (including pollution prevention control measures) installed at the site;
- c. Construction material, unstabilized soil stockpiles, waste, borrow, or equipment storage, and maintenance areas that are covered by this permit and are exposed to precipitation;
- d. All areas where stormwater typically flows within the site, including temporary drainage ways designed to divert, convey, and/or treat stormwater;
- e. All points of discharge from the site;
- f. All locations where temporary soil stabilization measures have been implemented;
- g. All locations where vehicles enter or exit the site.

<u>Reductions in Inspection Frequency</u> - If earth disturbing activities are suspended due to frozen conditions, inspections may be reduced to a frequency of once per month. The owner and operator must document the beginning and ending dates of these periods in an inspection report.

<u>Qualified Personnel</u> – The site owner and operator are responsible for designating personnel to conduct inspections and for ensuring that the personnel who are responsible for conducting the inspections are

Soil Erosion and Sediment Control Plan

Seasons Corner Market - Newport

"qualified" to do so. A "qualified person" is a person knowledgeable in the principles and practices of erosion, runoff, sediment, and pollution prevention controls, who possesses the skills to assess conditions at the construction site that could impact stormwater quality, and the skills to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of the permit.

<u>Recordkeeping Requirements</u> - All records of inspections, including records of maintenance and corrective actions must be maintained with the SESC Plan. Inspection records must include the date and time of the inspection, and the inspector's name, signature, and contact information.

General Notes

- A separate inspection report will be prepared for each inspection.
- The Inspection Reference Number shall be а combination of the RIPDES Construction General Permit No consecutively numbered inspections. ex/ Inspection reference number for the 4th inspection of a project would be: RIR10####-**4**
- Each report will be signed and dated by the Inspector and must be kept onsite.
- Each report will be signed and dated by the Site Operator.
- <u>The corrective action log contained in each inspection report must be completed, signed, and dated by the site operator once all necessary repairs have been completed.</u>
- It is the responsibility of the site operator to maintain a copy of the SESC Plan, copies of <u>all</u> completed inspection reports, and amendments as part of the SESC Plan documentation <u>at the site during construction</u>.

Failure to make and provide documentation of inspections and corrective actions under this part constitutes a violation of your permit and enforcement actions under 46-12 of R.I. General Laws may result.

4.4 Maintenance

Per RI SESC Handbook – Part D:

Maintenance procedures for erosion and sedimentation controls and stormwater management structures/facilities are described on the SESC Site Plans and in the *RI SESC Handbook*.

Site owners and operators must ensure that all erosion, runoff, sediment, and pollution prevention controls remain in effective operating condition and are protected from activities that would reduce their effectiveness. Erosion, runoff, sedimentation, and pollution prevention control measures must be maintained throughout the course of the project.

Note: It is recommended that the site operator designates a full-time, on-site contact person responsible for working with the site owner to resolve SESC Plan-related issues.

4.5 Corrective Actions

Per RI SESC Handbook – Part D:

If, in the opinion of the designated site inspector, corrective action is required, the inspector shall note it on the inspection report and shall inform the site operator that corrective action is necessary. The site operator must make all necessary repairs whenever maintenance of any of the control measures instituted at the site is required.

In accordance with the *RI SESC Handbook*, the site operator shall initiate work to fix the problem immediately after its discovery, and complete such work by the close of the next work day, if the problem

Soil Erosion and Sediment Control Plan

Seasons Corner Market - Newport

does not require significant repair or replacement, or if the problem can be corrected through routine maintenance.

When installation of a new control or a significant repair is needed, site owners and operators must ensure that the new or modified control measure is installed and made operational by no later than seven (7) calendar days from the time of discovery where feasible. If it is infeasible to complete the installation or repair within seven (7) calendar days, the reasons why it is infeasible must be documented in the SESC Plan along with the schedule for installing the control measures and making it operational as soon as practicable after the 7-day timeframe. Such documentation of these maintenance procedures and timeframes should be described in the inspection report in which the issue was first documented. If these actions result in changes to any of the control measures outlined in the SESC Plan, site owners and operators must also modify the SESC Plan accordingly within seven (7) calendar days of completing this work.

SECTION 5: AMENDMENTS

Per RIPDES Construction General Permit – Part III.F:

This SESC Plan is intended to be a working document. It is expected that amendments will be required throughout the active construction phase of the project. Even if practices are installed on a site according to the approved plan, the site is only in compliance when erosion, runoff, and sedimentation are effectively controlled throughout the entire site for the entire duration of the project.

The SESC Plan shall be amended within seven (7) days whenever there is a change in design, construction, operation, maintenance or other procedure which has a significant effect on the potential for the discharge of pollutants, or if the SESC Plan proves to be ineffective in achieving its objectives (i.e. the selected control measures are not effective in controlling erosion or sedimentation).

In addition, the SESC Plan shall be amended to identify any new operator that will implement a component of the SESC Plan.

All revisions must be recorded in the Record of Amendments Log Sheet, which is contained in Attachment G of this SESC Plan, and dated red-lined drawings and/or a detailed written description must be appended to the SESC Plan. Inspection Forms must be revised to reflect all amendments. Update the Revision Date and the Version # in the footer of the Report to reflect amendments made.

All SESC Plan Amendments, except minor non-technical revisions, must be approved by the site owner and operator. Any amendments to control measures that involve the practice of engineering must be reviewed, signed, and stamped by a Professional Engineer registered in the State of RI.

The amended SESC plan must be kept on file <u>at the site</u> while construction is ongoing and any modifications must be documented.

Attach a copy of the Amendment Log.

SECTION 6: RECORDKEEPING

RIPDES Construction General Permit – Parts III.D, III.G, III.J.3.b.iii, & V.O

It is the site owner and site operator's responsibility to have the following documents available at the construction site and immediately available for RIDEM review upon request:

- A copy of the fully signed and dated SESC Plan, which includes:
 - A copy of the General Location Map INCLUDED AS ATTACHMENT A

Soil Erosion and Sediment Control Plan Seasons Corner Market - Newport

- A copy of all SESC Site Plans INCLUDED AS ATTACHMENT B
- A copy of the RIPDES Construction General Permit INCLUDED AS ATTACHMENT C
- A copy of any regulatory permits (RIDEM Freshwater Wetlands Permit, CRMC Assent, RIDEM Water Quality Certification, RIDEM Groundwater Discharge Permit, RIDEM RIPDES Construction General Permit authorization letter, etc.) INCLUDED AS ATTACHMENT D
- The signed and certified NOI form or permit application form INCLUDED AS ATTACHMENT E
- Completed Inspection Reports w/Completed Corrective Action Logs INCLUDED AS ATTACHMENT F
- SESC Plan Amendment Log INCLUDED AS ATTACHMENT G

SECTION 7: PARTY CERTIFICATIONS

RIPDES Construction General Permit – Part V.G

All parties working at the project site are required to comply with the Soil Erosion and Sediment Control Plan (SESC Plan including SESC Site Plans) for any work that is performed on-site. The site owner, site operator, contractors and sub-contractors are encouraged to advise all employees working on this project of the requirements of the SESC Plan. A copy of the SESC Plan is available for your review at the following location: Construction Trailer, or may be obtained by contacting the site owner or site operator.

The site owner and site operator and each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement.

I acknowledge that I have read and understand the terms and conditions of the Soil Erosion and Sediment Control (SESC) Plan for the above designated project and agree to follow the control measures described in the SESC Plan and SESC Site Plans.

Site Owner:

Insert Company or Organization Name Insert Name & Title Insert Address Insert City, State, Zip Code Insert Telephone Number, Insert Fax/Email

Site Operator:

Insert Company or Organization Name Insert Name & Title Insert Address Insert City, State, Zip Code Insert Telephone Number, Insert Fax/Email

Designated Site Inspector: Insert Company or Organization Name signature/date

signature/date

Soil Erosion and Sediment Control Plan Seasons Corner Market - Newport

Insert Name & Title Insert Address Insert City, State, Zip Code Insert Telephone Number, Insert Fax/Email

SubContractor SESC Plan Contact:

Insert Company or Organization Name Insert Name & Title Insert Address Insert City, State, Zip Code Insert Telephone Number, Insert Fax/Email signature/date

signature/date

LIST OF ATTACHMENTS

Attachment A - General Location Map

- **Attachment B SESC Site Plans**
- Attachment C Copy of RIPDES Construction General Permit and Authorization to Discharge
- **Attachment D Copy of Other Regulatory Permits**

Attachment E - Copy of RIPDES NOI

Attachment F - Inspection Reports w/ Corrective Action Log

Attachment G - SESC Plan Amendment Log

Attachment A - General Location Map

(See latest plan set prepared by DiPrete Engineering)

Attachment B - SESC Site Plans

(See latest plan set prepared by DiPrete Engineering)

Attachment C - Copy of RIPDES Construction General Permit and Authorization to Discharge

Attachment D - Copy of Other Regulatory Permits

Attachment E - Copy of RIPDES NOI

Attachment F - Inspection Reports w/ Corrective Action Log



For all projects subject to the requirements of the *RI Stormwater Design and Installation Standards Manual* or the *RIPDES Construction General Permit* the site owner and operator are required to develop and comply with a site specific Soil Erosion and Sediment Control Plan (SESC Plan) in order to remain in compliance with applicable regulations.

This inspection report template has been provided by RIDEM for use by the site operator and designated inspector to document the adequacy and condition of erosion, runoff, sediment, and pollution prevention control measures specified for use on the construction site. It should be customized for your specific site conditions and consistent with the SESC Plan developed for your site.

Using the Inspection Report

This inspection report is designed to be customized according to the control measures and conditions at the site. On a copy of the applicable SESC Site Plans, number or label all stormwater control measures and areas of the site that will be inspected. Include all control measures (temporary traps, basins, inlet protection measures, etc.) and areas that will be inspected. Also, identify all point source discharges/outfalls, and the priority natural resource areas (i.e. streams, wetlands, mature trees, etc). List each control measure or area to be inspected separately in the site-specific control measure section of the inspection report.

Complete any items that will remain constant, such as the project information and control measure locations and descriptions. Then, print out multiple copies of this customized inspection report to use during the inspections.

When conducting the inspection, walk the site by following the SESC Site Plans and numbered control measure locations for inspection. Also note whether the overall site issues have been addressed. Customize this list according to the conditions at the site.

Minimum Monitoring and Reporting Requirements

Your site must be inspected by or under the supervision of the owner and operator at least once every seven (7) calendar days and within twenty-four (24) hours after any storm event which generates at least 0.25 inches of rainfall per twenty-four (24) hour period and/or after a significant amount of runoff. Read Section 4.2 of your SESC Plan for more information regarding the importance of monitoring weather conditions.

General Notes

• <u>A separate inspection report will be prepared for each inspection</u>.

- The <u>Inspection Reference Number</u> shall be a combination of the RIPDES Permit Authorization Number - consecutively numbered inspections. For example: Inspection reference number for the 4th inspection of a project would be: RIR101000-4
- <u>Each report will be signed and dated by the inspector</u> and forwarded to the site operator within 24 hours of the inspection.
- Each report will be signed and dated by the site operator upon his/her receipt and after completion of all required corrective actions.
- It is the responsibility of the site operator to maintain a copy of the SESC Plan, copies of <u>all</u> completed inspection reports, and amendments as part of the SESC Plan documentation at the site during construction.

Corrective Actions

If the SESC Plan Inspection determines that corrective actions are necessary to install or repair control measures, the resultant actions taken must be documented by the site operator. The actions must be recorded in the Corrective Action Log attached to each SESC Plan inspection form. If the site operator disagrees with the corrective action recommendations, it must be documented, with justifiable reasons, in the Corrective Action Log, as well. **Required timeframes for corrective actions are established by regulation and are discussed in Section 4.5 of your SESC Plan.**

Amendments

All SESC Plan Amendments, except minor non-technical revisions, must be approved by the site owner and site operator. The revision must be recorded in the Record of Amendments Log Sheet within the SESC Plan, and dated red-line drawings and/or a detailed written description of the revision must be appended to the SESC Plan. Inspection forms must be revised to reflect all amendments. Update the *Revision Date* and the *Version* # in the footer of the report to reflect amendments made.

The SESC Plan shall be amended whenever there is a change in design, construction, operation, maintenance or other procedure, which has a significant effect on the potential for the discharge of pollutants, or if the SESC Plan proves to be ineffective in achieving its objectives.

***Remember that the regulations are performance-oriented. Even if all control measures are installed on a site according to the SESC Plan, the site is only in compliance when erosion, runoff, sedimentation, and pollution are effectively controlled. ***

SESC Plan Inspection Report

Project Information						
Name						
Location						
DEM Permit No.						
Site Owner		Name		Phone		Email
Site Operator		Name		Phone		Email
Inspection Information						
Inspector Name		Name		Phone		Email
Inspection Date				Start/End	l Time	
Inspection Type UWeekly	Pre-s	torm event	During sto	rm event	Post-storm event	Other
			Weath	er Informa	tion	
Last Rain Event Date:		Duration (h	rs):	Approxi	mate Rainfall (in):	
Rain Gauge Locat	tion & So	urce:				
Weather at time o	f this ins	pection:				

Check statement that applies then sign and date below:

□ I, as the designated Inspector, certify that this site has been inspected as required by regulation and I have determined that maintenance and corrective actions are not required at this time.

□ I, as the designated Inspector, certify that this site has been inspected as required by regulation and I have made the determination that the site requires corrective actions. The required corrective actions are noted within this inspection report.

Inspector:	Print Name	Signature	Date		
The Site Operator acknowledges by his/her signature, the receipt of this SESC Plan inspection report and its findings. He/she acknowledges that all recommended corrective actions must be completed and documentation of all such corrective actions must be made in this inspection report per applicable regulations.					
Operator:	Print Name	Signature	Date		

Site-specific Control Measures

Number the structural and non-structural stormwater control measures identified in the SESC Plan and on the SESC Site Plans and list them below (add as necessary). Bring a copy of this inspection form and any applicable SESC Site Plans with you during your inspections. This list will assist you to inspect all control measures at your site.

FILL	THIS TABLE USING	THE SESC PLAN TABLES 2.1	1 & 3.12			
	Location/Station	Control Measure Description	Installe Operat Proper	ed & ting tly?	Assoc. Photo/ Figure #	Corrective Action Needed (Yes or No; if 'Yes', please detail action required)
1	Example 1: Eastern Parcel – Slope No. 4 Adjacent to I-95. Straw Wattles	Straw Wattle. Section Six, Sediment Control Measures, Straw Wattles, Compost Tubes and Fiber Rolls - <i>RI</i> <i>SESC Handbook</i> .	□Yes	□No		
2	Example 2: Western Parcel – Green Street Construction Entrance	Stone Stabilized Pad. Section Six: Sediment Control Measures – Construction Entrances – <i>RI</i> SESC Handbook.	□Yes	□No		
3	Example 3: Hospital Main Footings – Excavation Area – SESC Site Plan Sheet No. 3.	Pump Intake Protection Using Stone Filled Sump with Standpipe. Section Six: Sediment Control Measures, Pump Intake Protection, <i>RI</i> <i>SESC Handbook.</i>	□Yes	□No		
4	Example 4: Bridge Abutment Construction Southbound Bridge Abutment, Bridge No. 244 – SESC Site Plan Sheet No. 18.	Prefabricated Concrete Washout Container with Ramp. Used to contain concrete washout during concrete pouring operations. Section Three: Pollution Prevention and Good Housekeeping, Concrete Washouts, <i>RI SESC</i> Handbook.	□Yes	□No		
5	INSERT TEXT	INSERT TEXT	□Yes	□No		
6	Attention Operator:	You must modify this inspection form as the project progresses, control measure locations change, and amendments to the SESC Plan are instituted in the field.	□Yes	□No		
7			□Yes	□No		
8			□Yes	□No		

	Location/Station	Control Measure Description	Installed & Operating Properly?	Assoc. Photo/ Figure #	Corrective Action Needed (Yes or No; if 'Yes', please detail action required)
9			Yes No		
10			□Yes □No		
11			□Yes □No		
12			□Yes □No		
13			□Yes □No		
14			□Yes □No		
15			□Yes □No		
16			□Yes □No		
17			□Yes □No		
18			□Yes □No		
19			□Yes □No		
20			□Yes □No		
21			□Yes □No		
22			□Yes □No		
23			□Yes □No		
24			□Yes □No		

	Location/Station	Control Measure Description	Installed & Operating Properly?	Assoc. Photo/ Figure #	Corrective Action Needed (Yes or No; if 'Yes', please detail action required)
25			□Yes □No		
26			□Yes □No		
27			□Yes □No		
28			□Yes □No		
29			□Yes □No		
30			□Yes □No		

(add more as necessary)

General Site Issues

Below are some general site issues that should be assessed during inspections. Please **customize** this list as needed for conditions at the site.

	Compliance Question		Assoc. Photo/ Figure #	Corrective Action Needed (If 'Yes', please detail action required and include location/station)
1	Have all control measures been installed as specified in the RISESC Handbook and prior to any earth disturbing activities?	□Yes □No □ N/A		
2	Are appropriate limits of disturbance (LOD) established?	□Yes □No □ N/A		
3	Are controls that limit runoff from exposed soils by diverting, retaining, or detaining flows (such as check dams, sediment basins, etc.) in place?	□Yes □No □ N/A		
4	Are all temporary conveyance practices installed correctly and functioning as designed?	□Yes □No □ N/A		
5	Has maintenance been performed as required to ensure continued proper function of all temporary conveyances practices?	□Yes □No □ N/A		
6	Were all exposed soils seeded by October 15 th ?	□Yes □No □ N/A		
7	Have soils been stabilized where earth disturbance activities have permanently or temporarily ceased on any portion of the site and will not resume for more than 14 days?	□Yes □No □ N/A		
8	In instances where adequate vegetative stabilization was not established by November 15 th , have non-vegetative erosion control measures must be employed?	□Yes □No □ N/A		
9	If work is to continue from October 15 th through April 15 th , are steps taken to ensure that only the day's work area will be exposed and all erodible soil is stabilized within 5 working days?	□Yes □No □ N/A		
10	Have inlet protection measures (such as fabric drop inlet protection, curb drop inlet protection, etc.) been properly installed?	□Yes □No □ N/A		
11	Has the operator cleaned and maintained inlet protection measures when needed?	□Yes □No □ N/A		
12	Has the operator removed accumulated sediment adjacent to inlet protection measures within 24 hours of detection?	□Yes □No □ N/A		

SESC Plan Inspection Report

Page ____ of ____

	Compliance Question			Assoc. Photo/ Figure #	Corrective Action Needed (If 'Yes', please detail action required and include location/station)
13	Has the operator properly installed outlet protection (such as riprap, turf mats, etc.) at all temporary and permanent discharge points?	□Yes □ N/A	□No		
14	Are all outlet protection measures functioning properly in order to reduce discharge velocity, promote infiltration, and eliminate scour?	□Yes □ N/A	□No		
15	Have all discharge points been inspected to ensure the prevention of scouring and channel erosion?	□Yes □ N/A	□No		
16	Have sediment controls been installed along perimeter areas that will receive stormwater from earth disturbing activities?	□Yes □ N/A	□No		
17	Is the operator maintaining sediment controls in accordance with the requirements in the <i>RI SESC</i> <i>Handbook</i> ?	□Yes □ N/A	□No		
18	Have temporary sediment barriers been installed around permanent infiltration areas (such as bioretention areas, infiltration basins, etc.)?	□Yes □ N/A	□No		
19	Have staging areas and equipment routing been implemented to avoid compaction where permanent infiltration areas will be located?	□Yes □ N/A	□No		
20	Are surface outlet structures (such as skimmers, siphons, etc.) installed for each temporary sediment basin? [Exception: frozen conditions]	□Yes □ N/A	□No		
21	Have all temporary sediment basins or traps been inspected and maintained as required to ensure proper function?	□Yes □ N/A	□No		
22	Does the project include the use of polymers, flocculants, or other chemicals to control erosion, sedimentation, or runoff from the site?	□Yes □ N/A	□No		
23	Are all chemicals being managed in accordance with Appendix J of the <i>RISESC Handbook</i> and current best management practices?	□Yes □ N/A	□No		
24	Has the site operator taken steps to prohibit the following pollutant discharges on the site?				
а	Contaminated groundwater.	□Yes □ N/A	□No		

	Compliance Question			Assoc. Photo/ Figure #	Corrective Action Needed (If 'Yes', please detail action required and include location/station)
b	Wastewater from washout of concrete; unless properly contained, managed, and disposed of.	□Yes □ N/A	□No		
с	Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction products.	□Yes □ N/A	□No		
d	Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.	□Yes □ N/A	□No		
е	Soaps or solvents used in vehicle and equipment washing.	□Yes □ N/A	□No		
f	Toxic or hazardous substances from a spill or other release.	□Yes □ N/A	□No		
25	Is the operator using properly constructed entrances/exits to the site so sediment removal occurs prior to vehicles exiting?	□Yes □ N/A	□No		
26	If needed, are additional controls (such as rumble strips, rattle plates, etc.) in place to remove sediment from tires prior to exiting?	□Yes □ N/A	□No		
27	Is sediment track-out being removed by the end of the same workday in which it occurs (via sweeping, shoveling, or vacuuming)?	□Yes □ N/A	□No		
28	Are all wastes generated at the site being managed and properly disposed of by the end of each workday?	□Yes □ N/A	□No		
29	Are all chemicals and hazardous waste materials stored properly in covered areas and surrounded by containment control systems?	□Yes □ N/A	□No		
30	Has the operator established highly visible locations for the storage of spill prevention and control equipment on the construction site?	□Yes □ N/A	□No		
31	Are allowable non-stormwater discharges being managed properly with adequate controls?	□Yes □ N/A	□No		
32	Is the site operator properly managing groundwater or stormwater that is removed from excavations, trenches, or similar points of accumulation?	□Yes □ N/A	□No		
33	Are proper procedures and controls in place for the storage of materials that may discharge pollutants if	□Yes □ N/A	□No		

SESC Plan Inspection Report

Compliance Question		Assoc. Photo/ Figure #	Corrective Action Needed (If 'Yes', please detail action required and include location/station)
exposed to stormwater?			
Are stockpiles located within the limits of disturbance?	□Yes □No □N/A		
Are stockpiles being protected from contact with stormwater using a temporary sediment barrier?	□Yes □No □ N/A		
Where needed, has cover or appropriate temporary vegetative or structural stabilization been utilized for stockpiles?	□Yes □No □ N/A		
Is the operator effectively managing the generation of dust through the use of water, chemicals, or minimization of exposed soil?	□Yes □No □ N/A		
Are designated washout areas (such as wheel washing stations, washout for concrete, paint, stucco, etc.) clearly marked on the site?	□Yes □No □ N/A		
Are vehicle fueling and maintenance areas properly located to prevent pollutants from impacting stormwater and sensitive receptors?	□Yes □No □ N/A		
(Other)			

(add more as necessary)

General Field Comments:
Photos:

(Associated photos – each photo should be dated and have a unique identification # and written description indicating where it is located within the project area. If a close up photo is required, it should be preceded with a photo including both the detail area and some type of visible fixed reference point. Photos should be annotated with Station numbers and other identifying information where needed.)

Photo #:	Station:
(insert Photo here)	Description:

Photo #:	Station:
(insert Photo here)	Description:

Photo #:	Station:
(insert Photo here)	Description:

Photo #:	Station:
(insert Photo here)	Description:

Photo #:	Station:
(insert Photo here)	Description:

Photo #:	Station:
(insert Photo here)	Description:

(add more as necessary)

SESC Plan Inspection Report

Corrective Action Log

TO BE FILLED OUT BY SITE OPERATOR

Describe repair, replacement, and maintenance of control measures, actions taken, date completed, and note the person that completed the work.

	Location/Station	Corrective Action	Date Completed	Person Responsible
			• • • • •	
<u> </u>				
	1			
Ор	erator Signature:		Date:	

SESC Plan Inspection Report

Attachment G - SESC Plan Amendment Log

Amendment Log

TO BE FILLED OUT BY SITE OPERATOR

Describe amendment(s) to be made to the SESC Plan, the date, and the person/title making the amendment. ALL amendments must be approved by the Site Owner.

#	Date	Description of Amendment	Amended by: Person/Title	Site Owner Must Initial
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Add more lines/pages as necessary



Stormwater System Operation & Maintenance Plan



Seasons Corner Market - Newport

Located in Newport, Rhode Island Applicant: Colbea Enterprises, LLC 09-03-2021

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Operation & Maintenance Plan Overview

An essential component of a successful Stormwater System (SS) is the ongoing Operation and Maintenance (O&M) of the various components of the stormwater drainage, control, and conveyance systems. These components include swales, pipes, catch basins, and treatment/ control devices are commonly referred to as Best Management Practices (BMPs). Failure to provide effective maintenance can reduce the hydraulic capacity and the pollutant removal efficiency of stormwater practices.

Many people expect that stormwater facilities will continue to function correctly forever. However, it is inevitable that deterioration of the stormwater system will occur once it becomes operational. The question is not whether stormwater system maintenance is necessary but how often.

This plan has been developed to proactively address operations and maintenance to minimize potential problems and maximize potential stormwater runoff treatment and management. Ongoing inspections and maintenance will extend the service life of the Best Management Practices.

This plan addresses:

- 1. Stormwater management system(s) owners;
- 2. The party or parties responsible for operation and maintenance, including how future property owners will be notified of the presence of the stormwater management system and the requirement for proper operation and maintenance;
- 3. A description and delineation of public safety features;
- 4. The routine (scheduled) and non-routine (corrective) maintenance tasks for each BMP to be undertaken after construction is complete and a schedule for implementing those tasks;
- 5. A plan that is drawn to scale and shows the location of all stormwater BMPs in each treatment train along with the discharge point;
- 6. An estimated operation and maintenance budget; and
- 7. Funding source for operation and maintenance activities and equipment.

A major contributor to unmaintained stormwater facilities is a lack of clear ownership and responsibility definition. In order for an inspection and maintenance program to be effective, the roles for each responsibility must be clearly defined prior to construction of a system. This can be accomplished with a maintenance agreement between the site owners and the responsible authority.

This report is suitable for recording as an attachment to a maintenance agreement between the site owner and the responsible authority. A copy of a sample agreement prepared by RIDEM is attached to this report as Appendix B.

Stormwater System Owner / Party Responsible for O&M

Stormwater BMPs are maintained during construction by the site contractor as identified in the Soil Erosion and Sediment Control Plan (SESC) for the site. A copy of the SESC is required to be kept on site during construction. The SESC requires maintenance and inspection of the BMPs during the construction phase of project and requires a log be kept of these activities. Once construction is complete and the contractor's warranty period is elapsed, the contractor must obtain the signature of the stormwater system's owner releasing the contractor from his maintenance and inspection responsibilities. A copy of this release of contractor's responsibility must be attached to this document.

The property owner will also be the owner of the stormwater system. Upon completion of construction, the owner of the property along with mailing and emergency contact information must be added below.

Owner:	
Mailing Address:	
-	
Emergency Contact Name:	
Phone:	

Transfer of Ownership

In the event that the owner of the property changes, the current owner (grantor) must provide a copy of this document to the new owner (grantee). The new owner must notify the Rhode Island Department of Environmental Management of the change of ownership and provide a signed updated Operations and Maintenance Plan to the Rhode Island Department of Environmental Management.

The Stormwater System Owner is the Party Responsible for the ongoing O&M of the system.

The two key components to adequately maintain the stormwater infrastructure are:

- 1. Performance of periodic and scheduled inspections
- 2. Performance of scheduled maintenance

The actual operation and maintenance of the system may be performed by a third party designated by the owner. If the owner contracts with a third party for O&M the name, address, and emergency contact information must be added below, and updated if the third party designee changes.

Name:		
Mailing Address:		
<u> </u>		
Emergency Contact Name:		
Phone:		

Public Safety

Public safety was a critical factor in designing the stormwater system. Public safety features included in this design are:

- Accessibility to Stormwater BMPs
- Winter & Non-Winter Maintenance

Accessibility to Stormwater BMPs

As shown on the site plans, drainage manholes along with several inspection ports are proposed to provide access to the underground stormwater systems. The bioretention area is accessible from the drive aisles.

Winter Maintenance

The following tasks must be performed to protect public safety during the winter season:

- Roadways and parking lots will be salted/ sanded/ plowed in accordance with applicable City of Newport and RIDOT guidelines;
- Inspect the open and closed drainage networks adjacent to the snow stockpiles to ensure they are free of clogging and debris;
- Inspect roadways and drainage structures post-storm event to alleviate any signs of icing or damming.

Non-Winter Maintenance

The following tasks must be performed to protect public safety during the non-winter seasons:

- Roadways and parking lots will be swept in accordance with applicable City of Newport and RIDOT guidelines;
- The stormwater management systems must be inspected and maintained in accordance with the enclosed Operations & Maintenance Plan.

Particular care must be taken in the operation and maintenance of these features.

Stormwater System Plan

A plan identifying each component of the stormwater system is included on the following page.



DE JOB NO: 1052-013 COPYRIGHT 2021 BY DIPRETE ENGINEERING ASSOCIATES, INC.

Inspections & Maintenance

Inspections must be performed on a regular basis and scheduled based on the BMP type and configuration. It is not mandatory that all inspectors be trained engineers, but they must have some knowledge or experience with stormwater systems and in general, trained stormwater engineers should direct the inspectors. Follow-up inspections by registered professional engineers must be performed where a routine inspection has revealed a question of structural or hydraulic integrity affecting public safety.

Not all inspections can be conducted by direct human observation. For subsurface systems, video equipment may be required. There may be cases where other specialized equipment is necessary. The inspection program must be tailored to address the operational characteristics of the system.

The inspection process must document observations made in the field and must cover structural conditions, hydraulic operational conditions, evidence of vandalism, condition of vegetation, occurrence of obstructions, unsafe conditions, and build-up of trash, sediments and pollutants.

Maintenance of the stormwater management system is essential and can be divided into two types, scheduled and corrective.

Scheduled maintenance tasks are those that are typically accomplished on a regular basis and can generally be scheduled without referencing inspection reports. These items consist of such things as vegetation maintenance (such as mowing) and trash and debris removal. These tasks are required at well-defined time intervals and are a requirement for all stormwater structural facilities.

Corrective maintenance tasks consist of items such as sediment removal, stream bank stabilization, and outlet structure repairs that are done on an as-needed basis. These tasks are typically scheduled based on inspection results or in response to complaints.

Since specialized equipment may be required, some maintenance tasks can be effectively handled on a contract basis with an outside entity specializing in that field. In addition, some maintenance may also require a formal design and bid process to accomplish the work.

Appendix A provides an "Inspection Schedule & Maintenance Checklist" for the stormwater system components on this site. Completed checklists must be maintained as an ongoing record of inspections for each component of the stormwater system.

In addition to the maintenance of the stormwater system, maintenance of other site improvements can significantly enhance the ability for the BMPs to function as designed. Several of these have been listed below, along with the recommended maintenance.

Lawn, Garden and Landscape Management

- Lawns should be cut no shorter than 1-1/2" in the spring and fall to stimulate root growth, and no shorter than 2 to 3 inches throughout the summer.
- Infiltration ponds should be mowed at least twice per year.
- Fertilize no more than twice per year, once in May-June and once in September-October.
- Avoid spreading fertilizer on impervious surfaces.
- Weeds should be dug or pulled out. Large areas of weeds can be removed by covering with large plastic sheet(s) for a few days.
- Chemical pesticides should be used as a last resort. A healthy lawn is naturally disease resistant.
 - Visible insects can be removed by hand, by spraying with water, or even vacuum cleaning.
 - Store bought traps, specific for a species, can be used.
 - Slugs and other soft bodied insects can be eliminated using diatomaceous earth.
 - Plants infected with bacteria and fungi should be removed and disposed of.
 - Beneficial organisms should be maintained on the property and should be encouraged/ attracted to the property. Homeowners and property facility maintenance personal should become familiar with beneficial organisms.
- Irrigation should be minimal if required at all. Most lawns do not require watering and will become dormant during dry periods.
 - Established lawns require no more than one inch of water per week.
 - \circ $\;$ Areas should be watered before 9am to avoid evaporation.

Road and Parking Area Management

Street and Parking Lot Sweeping

• All street and parking areas on site must be swept a minimum of 2 times per year.

Deicing:

- Salt storage areas must be completely covered and located on an impervious surface.
- Runoff must be contained in appropriate areas.
- See The Rhode Island Stormwater Design and Installation Standards Manual Appendix G for approved deicing agents and ways to reduce deicer impacts. The manual Appendices can be found online at:

http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/pdfs/swdsnapd.pdf

Sealants:

• Only asphalt based sealants are permitted, no coal-tar based asphalt sealants can be used on site.

Snow Removal:

- Snow must not be dumped in any water body including rivers, reservoirs, ponds, lakes, wetlands, bays, or the ocean.
- Avoid disposing of snow on top of storm drain catch basins or stormwater drainage swales or ditches.
- Snow must be stored in upland areas, not in or adjacent to water bodies or wetlands.

Solid Waste Containment

• Trash and recycling receptacles must be located onsite for all commercial areas.

Reference; Additional information relating to operation and maintenance of specific BMPs can be found in the Rhode Island Stormwater Design and Installation Standards Manual. (www.dem.ri.gov/pubs/regs/water/swmanual.pdf)

Estimated Inspections & Maintenance Budget

It is important to be able to budget for the O&M costs associated with the stormwater system. To assist the owner in budgeting, below is an estimate of the costs that may be incurred in maintaining the system. The costs have been estimated on a <u>Yearly</u> basis.

Periodic inspections, if performed by an outside entity will cost approximately \$1,440/yr.

Sand Filter:

For a 20 year maintenance period, sand filter structure cost can be calculated using this equation: $C = 10,556 A^{0.534}$ Where A is tributary area in acres. The site has 0.18 acres flowing to the sand filter area and the total 20 year cost would be \$4,225. This cost equals \$211 per year.

Bio Retention:

For a 25 year finance period, Bio Retention cells cost approximately \$1,847.53 per acre of tributary area per year. The site contains approximately 0.63 acres of area flowing to Bioretention. This equates to an approximate cost of \$1,164 per year to maintain the Bioretention areas.

Extended Detention Structure:

For a 25 year finance period, detention structures cost approximately \$268.59 per acre of tributary area per year. The site contains approximately 0.24 acres of area flowing to detention structures. This equates to an approximate cost of \$65 per year to maintain the detention structure.

Based on the costs outlined above, the stormwater system will cost approximately \$1,440 per year to maintain. This is only an estimate and costs may vary.

These costs are the responsibility of the stormwater system owner.

Reference; Maintenance costs are based on information provided by Horsley Witten during the January 19, 2011 Stormwater Manual Training. (http://www.dem.ri.gov/programs/benviron/water/permits/ripdes/stwater/t4quide/slides/sess210.ppt)

Appendix A – Inspection Schedule & Maintenance Checklists

Street Sweeping Operation, Maintenance, and Management Inspection Checklist

Project:

Location:

Site Status:

Date: Time:

Inspector:

Notes:

- Beyond inspection frequency noted in parenthesis, i.e. (quarterly), inspections shall be completed after storms equal to or greater than the 1-year 24-hour Type III storm event (2.7" of rain fall)
- All Checklist Maintenance items are MANDATORY.
- During inspections, if maintenance items are found not to be applicable, note as N/A in comments
- All removed sediments shall be disposed at an approved and permitted location.
- All hazardous debris removed shall be disposed of in accordance with state and federal regulations by a properly licensed contractor

MAINTENANCE ITEM	SATISFACTORY (YES/NO)	COMMENTS
Sweep all roadways two times per year. One of these sweepings must occur after winter sanding operations have concluded.		

COMMENTS:

Street Sweeping Operation, Maintenance, and Management Inspection Checklist

Project:	Date:
Location:	Time:
Site Status:	Inspector:
ACTIONS TO BE TAKEN:	

Drainage Structures (Catch Basins, Manholes, etc.) Operation, Maintenance, and Management Inspection Checklist

Project:

Location:

Site Status:

Date:

Time: Inspector:

Notes:

- Beyond inspection frequency noted, inspections shall be completed after storms equal to or greater than the 1-year 24-hour Type III storm event (2.7" of rain fall)
- All Checklist Maintenance items are MANDATORY.
- During inspections, if maintenance items are found not to be applicable, note as N/A in comments
- All removed sediments shall be disposed at an approved and permitted location.
- All hazardous debris removed shall be disposed of in accordance with state and federal regulations by a properly licensed contractor

MAINTENANCE ITEM	SATISFACTORY (YES/NO)	COMMENTS
Semi-annually inspect drainage structures for damage		
Use a vacuum truck or other means to clean out any sediment or debris present in any drainage structure or whenever sediments reach ½ of the sump depth, which ever comes first.		
Semi-annually inspect drainage structures for debris and remove as necessary		

Drainage Structures (Catch Basins, Manholes, etc.) Operation, Maintenance, and Management Inspection Checklist

Ins	pection Checklist
Project:	Date:
Location:	Time:
Site Status:	Inspector:
COMMENTS:	
ACTIONS TO BE TAKEN:	

Oil Water Separator Operation, Maintenance, and Management Inspection Checklist

Project:

Location:

Site Status:

Date: Time:

Inspector:

Notes:

- Beyond inspection frequency noted in parenthesis, i.e. (quarterly), inspections shall be completed after storms equal to or greater than the 1-year 24-hour Type III storm event (2.7" of rain fall)
- All Checklist Maintenance items are MANDATORY.
- During inspections, if maintenance items are found not to be applicable, note as N/A in comments
- All removed sediments shall be disposed at an approved and permitted location.
- All hazardous debris/liquids removed shall be disposed of in accordance with state and federal regulations by a properly licensed contractor

MAINTENANCE ITEM	SATISFACTORY (YES/NO)	COMMENTS
1. Det	oris Cleanout (Sei	mi-Annual)
Sediment chamber clear of debris and accumulated sediment		
Greater than 50% of the storage volume remaining (sediment depth = 18")		
Remove sediment by vactoring (vacuuming)		
Oil Separation chamber clear of fuel/oil		
2. Aggregate Repairs (Annually)		
Annual inspection for damage		
Inlet and outlet pipes in good condition		

Oil Water Separator Operation, Maintenance, and Management Inspection Checklist

Project:	Date:
Location:	Time:
Site Status:	Inspector:

3. In the Event of a Fuel Spill			
Device to be emptied and cleaned			

COMMENTS:

Oil Water Separator Operation, Maintenance, and Management Inspection Checklist

Project:	Date:
Location:	Time:
Site Status:	Inspector:
ACTIONS TO BE TAKEN:	

Bioretention Filter Operation, Maintenance, and Management Inspection Checklist

Project:

Location:

Site Status:

Date:

Time:

Inspector:

Notes:

- During the first six months following construction bioretention facilities should be inspected at least twice following precipitation events of at least 1.0 inch to ensure that the system is functioning properly. Beyond inspection frequency noted in parenthesis, i.e. (quarterly), inspections shall be completed after storms equal to or greater than the 1-year 24-hour Type III storm event (2.7" of rain fall)
- All Checklist Maintenance items are MANDATORY.
- During inspections, if maintenance items are found not to be applicable, note as N/A in comments
- All removed sediments shall be disposed at an approved and permitted location.
- All hazardous debris removed shall be disposed of in accordance with state and federal regulations by a properly licensed contractor
- When filtering capacity of the filter diminishes substantially (i.e., when water ponds on the surface of the filter bed for more than 48 hours), the top few inches of discolored material shall be removed and shall be replaced with fresh material. Sediment shall be disposed of in an acceptable manner at an approved and permitted location.

MAINTENANCE ITEM	SATISFACTORY (YES/NO)	COMMENTS
1. Deb	oris Cleanout (Qu	iarterly)
Bioretention and contributing areas clean of debris including yard waste, litter and limbs		
Overflow Weir / outlet area clear of debris		
2. Sedir	mentation (Quar	terly)
Obvious trapping of sediment		
Removal of sediment when depth is greater than 1.0 inches over filter media bed.		

Bioretention Filter Operation, Maintenance, and Management Inspection Checklist

Project:

Location:

Site Status:

Date: Time:

Inspector:

3. Vegetation (Quarterly)		
 If there are plantings within the bioretention areas: Plant height is not less than design water depth. Plant composition according to approved plans. No placement of inappropriate plans 		
If there is grass, grass height not greater than 10 inches.		
If there is a mulch layer, it should be replenished (to the original depth) every other year, as directed by inspection records. The previous mulch layer should be removed, and properly disposed of, or roto-tilled into the soil surface.		
Seasonally plants may need to be watered, mulch added to void areas, treating of diseased trees and shrubs, inspection of soil and repair eroded areas, and removal of litter and debris.		
Every 3 years pruning or replacement of wood vegetation.		
If 50% of vegetation coverage is not established after 2 years reinforcement planting is required.		
4. Embank	kments (Quart	erly)
Evidence of erosion		
Slopes stabilized with vegetation, slope protection, riprap, etc		

Bioretention Filter Operation, Maintenance, and Management Inspection Checklist

Project:	Date:
Location:	Time:
Site Status:	Inspector:
COMMENTS:	
ACTIONS TO BE TAKEN:	

Underground System Operation, Maintenance, and Management Inspection Checklist

Project:

Location:

Site Status:

Date: Time:

Inspector:

Notes:

- Beyond inspection frequency noted in parenthesis, i.e. (quarterly), inspections shall be completed after storms equal to or greater than the 1-year 24-hour Type III storm event (2.7" of rain fall)
- All Checklist Maintenance items are MANDATORY.
- During inspections, if maintenance items are found not to be applicable, note as N/A in comments
- All removed sediments shall be disposed at an approved and permitted location.
- All hazardous debris removed shall be disposed of in accordance with state and federal regulations by a properly licensed contractor
- Repair or complete replacement to Underground Infiltration System Practice is required if system fails to infiltrate fully within 48 hours.
- Inspection Ports are provided over each row of the chambers for inspections. Manholes are provided at one end of each isolator row for access and maintenance.

MAINTENANCE ITEM	SATISFACTORY (YES/NO)	COMMENTS
1. Debris	Cleanout (Quart	erly)
The isolator row chamber(s) clear of debris/ floatables or accumulated sediment.		
Inflow pipes clear of debris/ floatables		
Overflow spillway clear of debris/ floatables		
Inlet area clear of debris/ floatables		
2. Dewa	atering (Annual)	
Chamber dewaters between storms		
Outlet devices shall be cleaned/repaired when draw down exceeds 36 hours.		

Underground System Operation, Maintenance, and Management Inspection Checklist

Project:

Location:

Site Status:

Date:

Time:

Inspector:

3. Sediment Cleanout of Chamber (Annual)		
No evidence of sedimentation in chamber		
Sedimentation accumulation doesn't yet require cleanout		
Sediment Shall be removed from the system when sediment volume exceeds 10% of the total vault volume		
Remove sediments by hydro-jetting of sediments and vactoring (vacuuming)		
4. Inlets (Quarterly)		
Good condition		
No evidence of disrepair (presence of structural damage)		
5. Aggregate Repairs (Annual)		
Annual inspection for damage		
Annual inspection for hydrocarbon build-up and removal if detected.		
Annual inspection for sediment accumulation in the facility		
Surface of aggregate clean		
Top layer of stone does not need replacement		
Chamber does not need rehabilitation (presence of structural damage)		

Underground System Operation, Maintenance, and Management Inspection Checklist

Project:	Date:
Location:	Time:
Site Status:	Inspector:
COMMENTS:	
ACTIONS TO BE TAKEN:	

Appendix B – RIDEM Sample Stormwater Facility Maintenance Agreement

A site-specific Stormwater Facility Maintenance Agreement between the Owner and the responsible authority must be developed prior to construction

Sample Stormwater Facility Maintenance Agreement

THIS AGREEMENT, made and entered into this ____ day of _____, 20___, by and between (Insert Full Name of Owner)

hereinafter called the "Landowner", and the [Local Jurisdiction], hereinafter called the "[Town/City]". WITNESSETH, that WHEREAS, the Landowner is the owner of certain real property described as (Tax Map/Parcel Identification Number) as recorded by deed in the land records of [Local Jurisdiction] Deed Book Page ______, hereinafter called the "Property".

WHEREAS, the Landowner is proceeding to build on and develop the property; and WHEREAS, the Site Plan/Subdivision Plan known as

______, (Name of Plan/Development) hereinafter called the "Plan", which is expressly made a part hereof, as approved or to be approved by the [Town/City], provides for detention of stormwater within the confines of the property; and

WHEREAS, the [Town/City] and the Landowner, its successors and assigns, including any homeowners association, agree that the health, safety, and welfare of the residents of [Local Jurisdiction] require that on-site storm water management facilities be constructed and maintained on the Property; and

WHEREAS, the [Town/City] requires that on-site stormwater management facilities as shown on the Plan be constructed and adequately maintained by the Landowner, its successors and assigns, including any homeowners association.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The on-site stormwater management facilities shall be constructed by the Landowner, its successors and assigns, in accordance with the plans and specifications identified in the Plan.

2. The Landowner, its successors and assigns, including any homeowners association, shall adequately maintain the stormwater management facilities in accordance with the required Operation and Maintenance Plan. This includes all pipes, channels or other conveyances built to convey stormwater to the facility, as well as all structures, improvements, and vegetation provided to control the quantity and quality of the stormwater. Adequate maintenance is herein defined as good working condition so that these facilities are performing their design functions. The Stormwater Best Management Practices Operation, Maintenance and Management Checklists are to be used to establish what good working condition is acceptable to the [Town/City].

3. The Landowner, its successors and assigns, shall inspect the stormwater management facility and submit an inspection report annually. The purpose of the inspection is to assure safe and proper functioning of the facilities. The inspection shall cover the entire facilities, berms, outlet structure, basin areas, access roads, etc. Deficiencies shall be noted in the inspection report.

4. The Landowner, its successors and assigns, hereby grant permission to the [Town/City], its authorized agents and employees, to enter upon the Property and to inspect the stormwater management facilities whenever the [Town/City] deems necessary. The purpose of inspection is to follow-up on reported deficiencies and/or to respond to citizen complaints. The [Town/City] shall provide the Landowner, its successors and assigns, copies of the inspection findings and a directive to commence with the repairs if necessary.

5. In the event the Landowner, its successors and assigns, fails to maintain the stom water management facilities in good working condition acceptable to the [Town/City], the [Town/City] may enter upon the Property and take <u>whatever</u> <u>steps necessary</u> to correct deficiencies identified in the inspection report and to charge the costs of such repairs to the Landowner, its successors and assigns. This provision shall not be construed to allow the [Town/City] to erect any structure of permanent nature on the land of the Landowner outside of the easement for the stormwater management facilities. It is expressly understood and agreed that the [Town/City] is under no obligation to routinely maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the [Town/City].

6. The Landowner, its successors and assigns, will perform the work necessary to keep these facilities in good working order as appropriate. In the event a maintenance schedule for the stormwater management facilities (including sediment removal) is outlined on the approved plans, the schedule will be followed.

7. In the event the [Town/City] pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner, its successors and assigns, shall reimburse the [Town/City] upon demand, within thirty (30) days of receipt thereof for all actual costs incurred by the [Town/City] hereunder.

8. This Agreement imposes no liability of any kind whatsoever on the [Town/City] and the Landowner agrees to hold the [Town/City] harmless from any liability in the event the stormwater management facilities fail to operate properly.

9. This Agreement shall be recorded among the land records of [Local Jurisdiction] and shall constitute a covenant running with the land, and shall be binding on the Landowner, its administrators, executors, assigns, heirs and any other successors in interests, including any homeowners association.

WITNESS the following signatures and seals:

Company/Corporation/Partnership Name (Seal)

Ву: _____

(Type Name and Title)

The foregoing Agreement was acknowledged before me this _____ day of _____, 20____, by

<u> </u>.

NOTARY PUBLIC My Commission Expires: _____

By: _____

(Type Name and Title)

The foregoing Agreement was acknowledged before me this ____ day of ____, 20___, by

<u> </u>.

NOTARY PUBLIC My Commission Expires: _____

Approved as to Form:

[Town/City] Attorney Date



Stormwater Management Report





Seasons Corner Market - Newport

Located in Newport, Rhode Island Applicant: Colbea Enterprises, LLC 09-03-2021

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Executive Summary

On behalf of the Client, we are submitting drainage calculations for the proposed development at 138 JT Connell Highway in Newport, RI. The site is located on Assessors' Plat 13 Lots 13-4 and 55. The site exists today as almost entirely pavement and buildings with some woods and gravel areas in the rear of the property. Existing uses include gas station, convenience store, car wash, retail and food establishment. The client proposes to demolish the buildings and construct a new Seasons Corner Marker with gas station, car wash, parking, utilities, landscaping and water quality improvements. This project includes an approximate 3% impervious reduction within the property limits, while the actual impervious reduction will be much greater when off-site improvements are accounted for. Additionally, the total number of curb cuts into the site will be reduced from six existing curb cuts to two proposed curb cuts (one on Admiral Kalbfus Road and one on JT Connell Highway).

Currently, all buildings on site sit within the FEMA Zone AE flood elevation of 13 feet. As part of the redevelopment of the site, the finished floor of the main Seasons Corner Market building will be raised to elevation 14, out of the flood plain. Note that the site is within the Coastal Flood Zone impacted by tidal waters.

Under the RISDISM, the site is considered a redevelopment site since the existing site is over 40% impervious, which triggers a reduced scope of reporting under Section 3.2.6 of the RISDISM. This redevelopment requires minimum stormwater management standards 2,3 and 7-11 to be addressed. The required water quality and recharge volume must include 50% of the redevelopment area. Refer to Appendix A3.3 for a graphical representation of the impervious calculations.

The site today discharges all stormwater to the RIDOT right of way via sheet flow where it is collected by catch basins on Admiral Kalbfus Road and JT Connell Highway. Following redevelopment of the site, the flow to each of these three catch basins will be reduced for all storms, lessening the burden on the RIDOT drainage network. Additionally, due to the reduced impervious associated with the project, the volume discharged to the RIDOT drainage network will also be reduced.

The stormwater quality will be improved by utilizing BMP's as established by the RISDISM for the treatment and recharge of stormwater runoff from the proposed redevelopment. BMP's will consist of a bioretention area, an underground sand filter and underground detention systems. Because the site is listed as an active LUST (Leaking Underground Storage Tank/UST-803) site for the existing Newport Shell Gas Station, recharge is not proposed on site. Except for recharge, the site has been designed to meet the RIDEM Stormwater Design and Installations Manual for redevelopment.

This report details how the site will show no net increase in stormwater runoff from pre development to post development conditions, and how the proposed BMPs will provide water quality treatment for stormwater runoff.

Pre development Conditions versus Post Development Conditions for each watershed are summarized below:

Flows:

Subwatershed (design point)	1. Peak	.2" Flow	1-yr Flo	Peak ow	10-yr Flo	Peak ow	25-yr Fle	Peak ow	100-уі Flo	[.] Peak ow
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
DP-1 RIDOT Drainage Network	1.27	0.59	3.39	1.39	6.18	3.35	7.75	3.94	11.01	7.19
DP-2 Railroad Tracks	0.23	0.02	1.00	0.17	2.18	0.51	2.86	0.73	4.26	1.21
Totals:	1.50	0.61	4.39	1.56	8.36	3.86	10.61	4.67	15.27	8.40

All flows in cubic feet per second (cfs)

Volumes:

Subwatershed (design point)	ned 1.2" nt) Peak Volume		1-yr Peak Volume		10-yr Volu	10-yr Peak Volume		25-yr Peak Volume		100-yr Peak Volume	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	
DP-1 RIDOT Drainage Network	0.096	0.098	0.258	0.269	0.485	0.528	0.615	0.680	0.888	1.000	
DP-2 Railroad Tracks	0.016	0.002	0.058	0.013	0.129	0.037	0.171	0.052	0.261	0.087	
Totals:	0.112	0.100	0.316	0.282	0.614	0.565	0.786	0.732	1.149	1.087	

All volumes in acre-feet per second (af)

<u>APPENDIX A</u>: STORMWATER MANAGEMENT PLAN CHECKLIST AND LID PLANNING REPORT – STORMWATER DESIGN SUMMARY

PROJECT NAME	(RIDEM USE ONLY)		
Seasons Corner Market – Newport			
TOWN	STW/WQC File #:		
Newport, RI			
BRIEF PROJECT DESCRIPTION:	Date Received:		
Redevelopment of lots including demolition of existing buildings and infrastructure			
and construction of a new 5,000 SF Seasons Corner Market with gas station, car			
wash, parking, utilities and drainage infrastructure.			
Stormwater Management Plan (SMP) Elements – Minimum Standards			

When submitting a SMP,¹ submit <u>four separately bound</u> documents: Appendix A Checklist; Stormwater Site Planning, Analysis and Design Report with Plan Set/Drawings; Soil Erosion and Sediment Control (SESC) Plan, and Post Construction Operations and Maintenance (O&M) Plan. Please refer to <u>Suggestions to Promote Brevity</u>.

<u>Note</u>: All stormwater construction projects <u>must create</u> a Stormwater Management Plan (SMP). However, not every element listed below is required per the <u>RIDEM Stormwater Rules</u> and the <u>RIPDES Construction General Permit (CGP)</u>. This checklist will help identify the required elements to be submitted with an Application for Stormwater Construction Permit & Water Quality Certification.

PART 1. PROJECT AND SITE INFORMATION PROJECT TYPE (Check all that apply) Residential X Commercial Federal Retrofit Restoration

□ Road	□ Utility	🗆 Fill	□ Dredge	□ Mine
\Box Other (specify):				

SITE INFORMATION

☑ Vicinity Map

INITIAL DISCHARGE LOCATION(S) : The WQv discharges to: (You may choose more than one answer if several discharge						
points are associated with	points are associated with the project.)					
□ Groundwater	□ Surface Water	⊠ MS4				
□ GAA	□ Isolated Wetland	🛛 RIDOT				
□ GA	□ Named Waterbody	□ RIDOT Alteration Permit is Approved				
GB	Unnamed Waterbody Connected to Named	□ Town				

ULTIMATE RECEIVING WATERBODY LOCATION(S): Include pertinent information that applies to both WQ _v and flow from larger storm events including overflows. Choose all that apply, and repeat table for each waterbody.					
Groundwater or Disconnected Wetland	□ SRWP				
☑ Waterbody Name: Unnamed Trib to Newport Harbor	□ Coldwater	🛛 Warmwater	□ Unassessed		
☑ Waterbody ID: RI0007030R-01	\Box 4 th order stream	n of pond 50 acres of	or more		
□ TMDL for:	\Box Watershed of f	lood prone river (e.	g., Pocasset River)		
□ Contributes to a priority outfall listed in the TMDL	□ Contributes sto	ormwater to a public	e beach		

APPENDIX A: STORMWATER MANAGEMENT PLAN CHECKLIST Updated 09/2020

Waterbody

 \Box Other (specify):

¹ Applications for a Construction General Permit that do not require any other permits from RIDEM and will disturb less than 5 acres over the entire course of the project do not need to submit a SMP. The Appendix A checklist must still be submitted.

PROJECT HISTORY				
□ RIDEM Pre- Application Meeting	Meeting Date:	□ Minutes Attached		
Municipal Master Plan Approval	Approval Date:	□ Minutes Attached		
□ Subdivision Suitability Required	Approval #:			
□ Previous Enforcement Action has been taken on the property	Enforcement #:			
FLOODPLAIN & FLOODWAY See Guidance Pertaining to Floodplain and Floodways				
Riverine 100-year floodplain: FEMA FLOODPLAIN FIRMETTE has been reviewed and the 100-year floodplain is on site				
□ Delineated from FEMA Maps				
<u>NOTE</u> : Per Rule 250-RICR-150-10-8-1.1(B)(5)(d)(3), provide volu fill/displacement calculated by qualified professional	metric floodplain compensation calcula	ations for cut and		
□ Calculated by Professional Engineer				
□ Calculations are provided for cut vs. fill/displacement volumes	Amount of Fill (CY):			
proposed within the 100-year floodplain Amount of Cut (CY):				
□ Restrictions or modifications are proposed to the flow path or velocities in a floodway				
□ Floodplain storage capacity is impacted				
□ Project area is not within 100-year floodplain as defined by RIDEM				

CRMC JURISDICTION

□ CRMC Assent required

- □ Property subject to a Special Area Management Plan (SAMP). If so, specify which SAMP:
- \Box Sea level rise mitigation has been designed into this project

LUHPPL IDENTIFICATION - MINIMUM STANDARD 8:

1.	OFFICE OF Land Revitalization and Sustainable Materials Management (OLRSMM)	
	□ Known or suspected releases of HAZARDOUS MATERIAL are present at the site	RIDEM CONTACT:
	(Hazardous Material is defined in Rule 1.4(A)(33) of 250-140-30-1 of the RIDEM	
	Rules and Regulations for Investigation and Remediation of Hazardous Materials (the	
	Remediation Regulations))	
	□ Known or suspected releases of PETROLEUM PRODUCT are present at the site	
	(Petroleum Product as defined in Rule 1.5(A)(84) of 250-140-25-1 of the RIDEM Rules	
	and Regulations for Underground Storage Facilities Used for Regulated Substances and	
	Hazardous Materials)	
	This site is identified on the <u>RIDEM Environmental Resources Map</u> as one of the	SITE ID#:
	following regulated facilities	
	CERCLIS/Superfund (NPL)	
	State Hazardous Waste Site (SHWS)	
	Environmental Land Usage Restriction (ELUR)	
	Leaking Underground Storage Tank (LUST)	2211-LS / UST-803
	Closed Landfill	
Note:	If any boxes in 1 above are checked, the applicant must contact the RIDEM OLRSMM Project	et Manager associated with the
	Site to determine if subsurface infiltration of stormwater is allowable for the project. Indicate	if the infiltration corresponds
	to "Red," "Yellow" or "Green" as described in Section 3.2.8 of the RISDISM Guidance	e (Subsurface Contamination
	Guidance). Also, note and reference approval in PART 3, Minimum Standard 2: Groundwat	er Recharge/Infiltration.
2.	PER MINIMUM STANDARD 8 of RICR 8.14.C.1-6 "LUHPPLS," THE SITE IS/HAS:	
	□ Industrial Site with RIPDES MSGP, except where No Exposure Certification exists.	
	http://www.dem.ri.gov/programs/water/permits/ripdes/stormwater/status.php	
	Auto Fueling Facility (e.g., gas station)	
	Exterior Vehicles Service, Maintenance, or Equipment Cleaning Area	

	□ Road Salt Storage and Loading Areas (exposed to rainwater)	
	Outdoor Storage and Loading/Unloading of Hazardous Substances	
3.	STORMWATER INDUSTRIAL PERMITTING	
	The site is associated with existing or proposed activities that are considered Land Uses with Higher Potential Pollutant Loads (LUHPPLS) (see RICR 8.14.C)	Activities: Gas Station Sector:
	□ Construction is proposed on a site that is subject to <u>THE MULTI-SECTOR</u> <u>GENERAL PERMIT (MSGP) UNDER RULE 31(B)15 OF THE RIPDES</u> <u>REGULATIONS.</u>	MSGP permit #
	 Additional stormwater treatment is required by the MSGP Explain: 	

REDEV	REDEVELOPMENT STANDARD – MINIMUM STANDARD 6				
🛛 Pre G	Construction Impervious Area				
	\boxtimes Total Pre-Construction Impervious Area (TIA) = 1.226				
	\boxtimes Total Site Area (TSA) = 1.758				
	□ Jurisdictional Wetlands (JW)				
	Conservation Land (CL)				
🛛 Calc	ulate the Site Size (defined as contiguous properties under sam	e ownership)			
	Site Size $(SS) = (TSA) - (JW) - (CL) = 1.758$				
	\square (TIA) / (SS) = 69.7%	\square (TIA)/(SS)>0.4?			
X YES	Redevelopment				

PART 2. LOW IMPACT DEVELOPMENT ASSESSMENT – MINIMUM STANDARD 1 (NOT REQUIRED FOR REDEVELOPMENT OR RETROFITS) This section may be deleted if not required.

Note: A written description must be provided specifying why each method is not being used or is not applicable at the Site. Appropriate answers may include:

- Town requires ... (state the specific local requirement)
- Meets Town's dimensional requirement of ...
- Not practical for site because ...
- Applying for waiver/variance to achieve this (pending/approved/denied)
- Applying for wavier/variance to seek relief from this (pending/approved/denied)

<i>A</i>)	PR	ESERVATION OF UNDISTURBED AREAS, BUFFERS, AND FLOODPLAINS	IF NOT
	\boxtimes	Sensitive resource areas and site constraints are identified (required)	EXPLAIN HERE
	\boxtimes	Local development regulations have been reviewed (required)	
		All vegetated buffers and coastal and freshwater wetlands will be protected during and after	
		construction	
		Conservation Development or another site design technique has been incorporated to protect	
		open space and pre-development hydrology. <u>Note</u> : If Conservation Development has been	
		used, check box and skip to Subpart C	
	\boxtimes	As much natural vegetation and pre-development hydrology as possible has been maintained	

<i>B)</i>	LO NA	OCATE DEVELOPMENT IN LESS SENSITIVE AREAS AND WORK WITH THE ATURAL LANDSCAPE CONDITIONS, HYDROLOGY, AND SOILS	
	\boxtimes	Development sites and building envelopes have been appropriately distanced from wetlands and waterbodies	
		Development and stormwater systems have been located in areas with greatest infiltration	
		Plans show measures to prevent soil compaction in areas designated as Qualified Pervious	
	\boxtimes	Areas (QPA's) Development sites and building envelopes have been positioned outside of floodplains	
		Site design positions buildings, roadways and parking areas in a manner that avoids impacts to surface water features	
	\boxtimes	Development sites and building envelopes have been located to minimize impacts to steep slopes (>15%)	
		Other (describe):	
<i>C</i>)	MI	INIMIZE CLEARING AND GRADING	
	\boxtimes	Site clearing has been restricted to <u>minimum area needed</u> for building footprints, development activities construction access and safety	
	\boxtimes	Site has been designed to position buildings, roadways, and parking areas in a manner that	
		Protection for stands of trees and individual trees and their root zones to be preserved has	
		been specified, and such protection extends at least to the tree canopy drip line(s) Plan notes specify that public trees removed or damaged during construction shall be replaced	
		with equivalent	
D)	RE	EDUCE IMPERVIOUS COVER	
		Reduced roadway widths (≤ 22 feet for ADT ≤ 400 ; ≤ 26 feet for ADT $400 - 2,000$) Reduced driveway areas (length minimized via reduced ROW width (≤ 45 ft.) and/or reduced (or absolute minimum) front yard setback; width minimized to ≤ 9 ft. wide one lane; ≤ 18 ft. wide two lanes; shared driveways; pervious surface)	
		Reduced building footprint: Explain approach:	
		Reduced sidewalk area (≤ 4 ft. wide; one side of the street; unpaved path; pervious surface) Reduced cul-de-sacs (radius < 45 ft; vegetated island; alternative turn-around) Reduced parking lot area: Explain approach	
		Use of pervious surfaces for driveways, sidewalks, parking areas/overflow parking areas, etc.	
		Ordinance)	
		Other (describe):	
<i>E)</i>	DI_{2}	ISCONNECT IMPERVIOUS AREA Impervious surfaces have been disconnected, and runoff has been diverted to OPAs to the	
	_	maximum extent possible	
		Residential street edges allow side-of-the-road drainage into vegetated open swales Parking lot landscaping breaks up impervious expanse AND accepts runoff	
		Other (describe):	
<i>F</i>)	MI	ITIGATE RUNOFF AT THE POINT OF GENERATION	
	\boxtimes	Small-scale BMPs have been designated to treat runoff as close as possible to the source	

G)	PR	OVIDE LOW-MAINTENANCE NATIVE VEGETATION	
	\boxtimes	Low-maintenance landscaping has been proposed using native species and cultivars Plantings of native trees and shrubs in areas previously cleared of native vegetation are shown on site plan	
	\boxtimes	Lawn areas have been limited/minimized, and yards have been kept undisturbed to the maximum extent practicable on residential lots	
H)		STORE STREAMS/WETLANDS Historic drainage patterns have been restored by removing closed drainage systems, daylighting buried streams, and/or restoring degraded stream channels and/or wetlands Removal of invasive species Other	

PART 3. SUMMARY OF REMAINING STANDARDS

GROUNDWATER RECHARGE – MINIMUM STANDARD 2									
YES	NO								
	\boxtimes	The project has been designed to meet the groundwater recharge standard.							
\boxtimes		If "No," the justification for groundwater recharge criterion waiver has been explained in the Narrative (e.g., threat of groundwater contamination or physical limitation), if applicable (see RICR 8.8.D);							
		Your waiver request has been explained in the Narrative, if applicable.							
\boxtimes		Is this site identified as a Regulated Facility in Part 1, Minimum Standard 8: LUHPPL Identification?							
	\boxtimes	If "Yes," has approval for infiltration by the OLRSMM Site Project Manager, per Part 1, Minimum Standard 8, been requested?							

TABLE 2-1: Summary of Recharge (see RISDISM Section 3.3.2) - N/A (Add or Subtract Rows as Necessary)								
Design Point	Impervious Area Treated (sq ft) Treated (cu ft)		LID Stormwater Credits (see RISDISM Section 4.6.1) Portion of Rev directed to a QPA (cu ft)	Recharge Required by Remaining BMPs (cu ft)	Recharge Provided by BMPs (cu ft)			
DP-1:								
DP-2:								
DP-3:			N/A					
DP-4:								
TOTALS:								

Notes:

1. Only BMPs listed in RISDISM Table 3-5 "List of BMPs Acceptable for Recharge" may be used to meet the recharge requirement.

2. Recharge requirement must be satisfied for each waterbody ID.

□ Indicate where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.): N/A

WATE	R QUA	LITY – MINIMUM STANDARD 3
YES	NO	
\boxtimes		Does this project meet or exceed the required water quality volume WQv (see RICR 8.9.E-I)?
\boxtimes		Is the proposed final impervious cover greater than 20% of the disturbed area (see RICR 8.9.E-I)?
\boxtimes		If "Yes," either the Modified Curve Number Method or the Split Pervious/Impervious method in Hydro-CAD was used to calculate WQv; or,
		If "Yes," either TR-55 or TR-20 was used to calculate WQv; and,
		If "No," the project meets the minimum WQv of 0.2 watershed inches over the entire disturbed area.
		Not Applicable
\boxtimes		Does this project meet or exceed the ability to treat required water quality flow WQf (see RICR 8.9.I.1-3)?
	\boxtimes	Does this project propose an increase of impervious cover to a receiving water body with impairments?
		If "Yes," please indicate below the method that was used to address the water quality requirements of no further degradation to a low-quality water.
	\boxtimes	RICR 8.36. A Pollutant Loading Analysis is needed and has been completed.
\boxtimes		The Water Quality Guidance Document (<u>Water Quality Goals and Pollutant Loading Analysis Guidance for</u> <u>Discharges to Impaired Waters</u>) has been followed as applicable.
\boxtimes		BMPs are proposed that are on the <u>approved technology list</u> . If "Yes," please provide all required worksheets from the manufacturer.
	\boxtimes	Additional pollutant-specific requirements and/or pollutant removal efficiencies are applicable to the site as the result of a TMDL, SAMP, or other watershed-specific requirements. If "Yes," please describe:

TABLE 3-1: Summary of Water Quality (see RICR 8.9)										
Design Point and WB ID	Impervious area treated (sq ft)	Total WQ _v Required (cu ft)	LID Stormwater Credits (see RICR 8.18) WQv directed to a QPA (cu ft)	Water Quality Treatment Remaining (cu ft)	Water Quality Provided by BMPs (cu ft)					
SITE:	27,704	2,431	n/a	2,431	2,770					
 <u>Notes:</u> Only BMPs listed in RICR 8.20 and 8.25 or the Approved Technologies List of BMPs is Acceptable for Water Quality treatment. For each Design Point, the Water Ouality Volume Standard must be met for each Waterbody ID. 										
\bowtie YES \square NO	This project has met If "No," please expl	t the setback requirem ain:	nents for each BMP.							
 Indicate where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.): Stormwater Report. 										

CONV	CONVEYANCE AND NATURAL CHANNEL PROTECTION (RICR 8.10) – MINIMUM STANDARD 4								
YES	NO		NO						
\boxtimes		this standard waived? If "Yes," please indicate one or more of the reasons below:	\Box Is this						
		The project directs discharge to a large river (i.e., 4th-order stream or larger. See RISDISM Appendix I for State-wide list and map of stream orders), bodies of water >50.0 acres in surface area (i.e., lakes, ponds, reservoirs), or tidal waters.							
] The project is a small facility with impervious cover of less than or equal to 1 acre.							
		The project has a post-development peak discharge rate from the facility that is less than 2 cfs for the 1- year, 24-hour Type III design storm event (prior to any attenuation). (<u>Note</u> : LID design strategies can greatly reduce the peak discharge rate).							
		Conveyance and natural channel protection for the site have been met.							
		If "No,' explain why:							

TABLE 4-1: Summary of Channel Protection Volumes (see RICR 8.10) – N/A										
Design Point	Receiving Water Body Name	Coldwater Fishery? (Y/N)	Total CPv Required (cu ft)	Total CPv Provided (cu ft)	Average Release Rate Modeled in the 1-yr storm (cfs)					
DP-1:										
DP-2:										
DP-3:	Ν	J/A								
DP-4:										
TOTALS:										
Note: The Channel	Protection Volume Standard must be met in ea	ch waterbody I	D.		·					
□ YES □ NO	The CPv is released at roughly a uniform rate Appendix D of the RISDISM).	over a 24-hour	duration (see ex	amples of sizing	calculations in					
□ YES □ NO	Do additional design restrictions apply resulting from any discharge to cold-water fisheries; If "Yes," please indicate restrictions and solutions below.									
Indicate below where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.).										

OVEF STAN	RBANK DARD	FLOOD PROTECTION (RICR 8.11) AND OTHER POTENTIAL HIGH FLOWS – MINIMUM 5							
YES	NO								
\boxtimes		Is this standard waived? If ves, please indicate one or more of the reasons below:							
1		 ☑ The project directs discharge to a large river (i.e., 4th-order stream or larger. See Appendix I for state-wide list and map of stream orders), bodies of water >50.0 acres in surface area (i.e., lakes, ponds, reservoirs), or tidal waters. ☑ A Downstream Analysis (see RICR 8.11.D and E) indicates that peak discharge control would not be beneficial or would exacerbate peak flows in a downstream tributary of a particular site (e.g., through coincident peaks). 							
		Does the project flow to an MS4 system or subject to other stormwater requirements? If "Yes," indicate as follows:							
		$\Box \text{RIDOT}$ $\Box \text{Other (specify):}$							
<u>Note</u> :	The pr volum alread MS4.	oject could be approved by RIDEM but not meet RIDOT or Town standards. RIDOT's regulations indicate that post- es must be less than pre-volumes for the 10-yr storm at the design point entering the RIDOT system. If you have not y received approval for the discharge to an MS4, please explain below your strategy to comply with RIDEM and the							
		Indicate below which model was used for your analysis. TR-55 TR-20 HydroCAD Bentley/Haestad Intellisolve							
		U Other (Specify):							
		Does the drainage design demonstrate that flows from the 100-year storm event through a BMP will safely manage and convey the 100-year storm? If "No," please explain briefly below and reference where in the application further documentation can be found (i.e., name of report/document, page numbers, appendices, etc.):							
		Do off-site areas contribute to the sub-watersheds and design points? If "Yes,"							
		Are the areas modeled as "present condition" for both pre- and post-development analysis?							
		Are the off-site areas shown on the subwatershed maps?							
		Does the drainage design confirm safe passage of the 100-year flow through the site for off-site runoff?							
		Is a Downstream Analysis required (see RICR 8.11.E.1)?							
		Calculate the following:							
		Area of disturbance within the sub-watershed (areas)							
		□ Impervious cover (%)							
		Is a dam breach analysis required (earthen embankments over six (6) feet in height, or a capacity of 15 acre-feet or more, and contributes to a significant or high hazard dam)?							
		Does this project meet the overbank flood protection standard?							

Table 5-1 Hydraulic Analysis Summary								
Subwatershed	1.2" Peak Flow (cfs) **		1-yr Pe (c	ak Flow fs)	10-yr Peak Flow (cfs)		100-yr Peak Flow (cfs)	
(Design Fonit)	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)
DP-1:								
DP-2:								
DP-3:				N/A				
DP-4:								
TOTALS:								
** Utilize modif <u>Note</u> : The hydraulio wetland or wa	 ** Utilize modified curve number method or split pervious /impervious method in HydroCAD. <u>Note</u>: The hydraulic analysis must demonstrate no impact to each individual subwatershed DP unless each DP discharges to the same wetland or water resource. 							
Indicate as follows where the pertinent calculations and/or information for the items above are provided Name of report/document, page numbers, appendices, etc.								ent, page es, etc.
Existing conditions analysis for each subwatershed, including curve numbers, times of concentration, runoff rates, volumes, and water surface elevations showing methodologies used and supporting calculations.								
Proposed conditions analysis for each subwatershed, including curve numbers, times of concentration, runoff rates, volumes, water surface elevations, and routing showing the methodologies used and supporting calculations								
Final sizing calculat area, storage, and ou	Final sizing calculations for structural stormwater BMPs, including contributing drainage Stormwater Report area, storage, and outlet configuration.							
Stage-storage, inflow and outflow hydrographs for storage facilities (e.g., detention, retention, or infiltration facilities). Stormwater Report								

	Table 5-2 Summary of Best Management Practices											
BMP ID		ВМР Туре	BMP Functions					Bypass Type Horizontal Setback Crite met per RICR 8.21.B 8.22.D.11, and 8.35.I			Criteria are 21.B.10, .35.B.4	
	DP #	(e.g., bioretention, tree filter)	Pre- Treatment (Y/N/ NA)	Rev	WQ _v	CP _v (Y/N/ NA)	Overbank Flood Reduction (Y/N/NA)	External (E) Internal (I) or NA	Yes/ No	Technical Justification (Design Report page number)	Distance Provided	
А	1	Bioretention	Y	Ν	Y	NA	NA	Е	Y	Section 3.2	10'	
В	1	Underground Sand Filter	Y	Ν	Y	NA	NA	Е	Y	Section 3.2	47'	
		TOTALS:										

Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8)

Table 5.3 Summary of Soils to Evaluate Each BMP											
		DMD T	Soils Analysis for Each BMP								
DP #	BMP ID	(e.g., bioretention,	Test Pit ID# and Ground Elevation		SHWT	Bottom of Practice	Separation Distance	Hydrologic Soil Group	Exfiltration Rate		
		tree filter)	Primary	Secondary	(ft)	Elevation* (ft)	Provided (ft)	(A, B, C, D)	Applied (in/hr)		
				N/A – Iı	nfiltration no	ot Proposed					
		TOTALS:									

* For underground infiltration systems (UICs) bottom equals bottom of stone, for surface infiltration basins bottom equals bottom of basin, for filters bottom equals interface of storage and top of filter layer

LANI) USES	WITH	I HIGHER POTENTIAL POLLUTANTS LOADS (LUHPPLs) – MINIMUM STANDARD 8
YES	NO	N/A	
\boxtimes			Describe any LUHPPLs identified in Part 1, Minimum Standard 8, Section 2. If not applicable, continue to Minimum Standard 9.
	\boxtimes		Are these activities already covered under an MSGP? If "No," please explain if you have applied for an MSGP or intend to do so?
			List the specific BMPs that are proposed for this project that receive stormwater from LUHPPL drainage areas. These BMP types must be listed in RISDISM Table 3-3, "Acceptable BMPs for Use at LUHPPLs." Please list BMPs: Oil/Water Separator.
	\boxtimes		Additional BMPs, or additional pretreatment BMP's if any, that meet RIPDES MSGP requirements; Please list BMPs:
			Indicate below where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.). Design Plans and Stormwater Report.

ILLIC	ILLICIT DISCHARGES – MINIMUM STANDARD 9						
Illicit uncon	Illicit discharges are defined as unpermitted discharges to Waters of the State that do not consist entirely of stormwater or uncontaminated groundwater, except for certain discharges identified in the RIPDES Phase II Stormwater General Permit.						
YES	NO	N/A					
\boxtimes			Have you checked for illicit discharges?				
	\boxtimes		Have any been found and/or corrected? If "Yes," please identify.				
\boxtimes			Does your report explain preventative measures that keep non-stormwater discharges out of the Waters of the State (during and after construction)?				

SOIL	EROSI	ION A	ND SEDIMENT CONTROL (SESC) – MINIMUM STANDARD 10				
YES	NO	N/A					
\boxtimes			Have you included a Soil Erosion and Sediment Control Plan Set and/or Complete Construction Plan Set?				
\boxtimes			Have you provided a separately-bound document based upon the SESC Template? If yes, proceed to				
			Minimum Standard 11 (the following items can be assumed to be addressed).				
			If "No," include a document with your submittal that addresses the following elements of an SESC Plan:				
			Soil Erosion and Sediment Control Plan Project Narrative, including a description of how the fifteen				
			(15) Performance Criteria nave been met:				
			Provide Natural Buffers and Maintain Existing Vegetation				
			Minimize Area of Disturbance				
			□ Minimize the Disturbance of Steep Slopes				
			□ Preserve Topsoil				
			□ Stabilize Soils				
			Protect Storm Drain Inlets				
			Protect Storm Drain Outlets				
			Establish Temporary Controls for the Protection of Post-Construction Stormwater Control Measure				
			Establish Perimeter Controls and Sediment Barriers				
			Divert or Manage Run-On from Up-Gradient Areas				
			Properly Design Constructed Stormwater Conveyance Channels				
			□ Retain Sediment On-Site				
			Control Temporary Increases in Stormwater Velocity, Volume, and Peak Flows				
			Apply Construction Activity Pollution Prevention Control Measures				
			Install, Inspect, and Maintain Control Measures and Take Corrective Actions				
			Qualified SESC Plan Preparer's Information and Certification				
			Operator's Information and Certification; if not known at the time of application, the Operator must				
			certify the SESC Plan upon selection and prior to initiating site activities				
			Description of Control Measures, such as Temporary Sediment Trapping and Conveyance Practices,				
			including design calculations and supporting documentation, as required				

STORMWATER MANAGEMENT SYSTEM OPERATION, MAINTENANCE, AND POLLUTION PREVENTION PLAN – MINIMUM STANDARDS 7 AND 9

Opera	Operation and Maintenance Section						
YES	NO						
\boxtimes		Have you minimized all sources of pollutant contact with stormwater runoff, to the maximum extent practicable?					
\boxtimes		Have you provided a separately-bound Operation and Maintenance Plan for the site and for all of the BMPs, and does it address each element of RICR 8.17 and RISDISM Appendix C and E?					
		Lawn, Garden, and Landscape Management meet the requirements of RISDISM Section G.7? If "No," why not?					
		Is the property owner or homeowner's association responsible for the stormwater maintenance of all BMP's? If "No," you must provide a legally binding and enforceable maintenance agreement (see RISDISM Appendix E, page 26) that identifies the entity that will be responsible for maintenance of the stormwater. Indicate where this agreement can be found in your report (i.e., name of report/document, page numbers, appendices, etc.).					
		Do you anticipate that you will need legal agreements related to the stormwater structures? (e.g. off-site easements, deed restrictions, covenants, or ELUR per the Remediation Regulations). If "Yes," have you obtained them? Or please explain your plan to obtain them:					

Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8)

	\boxtimes	Is stormwater being directed from public areas to private property? If "Yes," note the following: <u>Note</u> : This is not allowed unless a funding mechanism is in place to provide the finances for the long-term maintenance of the BMP and drainage, or a funding mechanism is demonstrated that can guarantee the long-
		term maintenance of a stormwater BMP by an individual homeowner.
Pollut	ion Pr	evention Section
\boxtimes		Designated snow stockpile locations?
	\boxtimes	Trash racks to prevent floatables, trash, and debris from discharging to Waters of the State?
\boxtimes		Asphalt-only based sealants?
	\boxtimes	Pet waste stations? (<u>Note</u> : If a receiving water has a bacterial impairment, and the project involves housing units, then this could be an important part of your pollution prevention plan).
\boxtimes		Regular sweeping? Please describe:
\square		De-icing specifications, in accordance with RISDISM Appendix G. (NOTE: If the groundwater is GAA, or this area contributes to a drinking water supply, then this could be an important part of your pollution prevention plan).
\boxtimes		A prohibition of phosphate-based fertilizers? (<u>Note</u> : If the site discharges to a phosphorus impaired waterbody, then this could be an important part of your pollution prevention plan).

PART 4. SUBWATERSHED MAPPING AND SITE-PLAN DETAILS

Existin	Existing and Proposed Subwatershed Mapping (REQUIRED)						
YES	NO						
\boxtimes		Existing and proposed drainage area delineations					
\boxtimes		Locations of all streams and drainage swales					
\boxtimes		Drainage flow paths, mapped according to the DEM <i>Guidance for Preparation of Drainage Area Maps</i> (included in RISDISM Appendix K)					
\boxtimes		Complete drainage area boundaries; include off-site areas in both mapping and analyses, as applicable					
\boxtimes		Logs of borings and/or test pit investigations along with supporting soils/geotechnical report					
\boxtimes		Mapped seasonal high-water-table test pit locations					
\boxtimes		Mapped locations of the site-specific borings and/or test pits and soils information from the test pits at the locations of the BMPs					
\boxtimes		Mapped locations of the BMPs, with the BMPs consistently identified on the Site Construction Plans					
\boxtimes		Mapped bedrock outcrops adjacent to any infiltration BMP					
\boxtimes		Soils were logged by a:					
		DEM-licensed Class IV soil evaluator Name: Christian Sutter					
		RI-registered P.E. Name:					

Subwatershed and Impervious Area Summary								
Subwatershed (area to each design point)	First Receiving Water ID or MS4	Area Disturbed (units)	Existing Impervious (units)	Proposed Impervious (units)				
SITE:	RI0007030R-01	1.873	1.226	1.171				

Site C	onstru	ction Plans (Indicate that the following applicable specifications are provided)
YES	NO	
\boxtimes		Existing and proposed plans (scale not greater than $1'' = 40'$) with North arrow
\boxtimes		Existing and proposed site topography (with 1 or 2-foot contours); 10-foot contours accepted for off-site areas
\boxtimes		Boundaries of existing predominant vegetation and proposed limits of clearing
\boxtimes		Site Location clarification
	\boxtimes	Location and field-verified boundaries of resource protection areas such as:
		 freshwater and coastal wetlands, including lakes and ponds
		 coastal shoreline features
		Perennial and intermittent streams, in addition to Areas Subject to Storm Flowage (ASSFs)
\boxtimes		All required setbacks (e.g., buffers, water-supply wells, septic systems)
\boxtimes		Representative cross-section and profile drawings, and notes and details of structural stormwater management
		practices and conveyances (i.e., storm drains, open channels, swales, etc.), which include:
		 Location and size of the stormwater treatment practices (type of practice, depth, area). Stormwater
		treatment practices (BMPs) must have labels that correspond to RISDISM Table 5-2;
		 Design water surface elevations (applicable storms);
		 Structural details of outlet structures, embankments, spillways, stilling basins, grade-control structures,
		conveyance channels, etc.;
		 Existing and proposed structural elevations (e.g., inverts of pipes, manholes, etc.);
		 Location of floodplain and, if applicable, floodway limits and relationship of site to upstream and
		downstream properties or drainage that could be affected by work in the floodplain;
		 Planting plans for structural stormwater BMPs, including species, size, planting methods, and
		maintenance requirements of proposed planting
\boxtimes		Logs of borings and/or test pit investigations along with supporting soils/geotechnical report and corresponding
		water tables
	\boxtimes	Mapping of any OLRSMM-approved remedial actions/systems (including ELURs)
\boxtimes		Location of existing and proposed roads, buildings, and other structures including limits of disturbance;
		 Existing and proposed utilities (e.g., water, sewer, gas, electric) and easements;
		► Location of existing and proposed conveyance systems, such as grass channels, swales, and storm drains,
		and location(s) of final discharge point(s) (wetland, waterbody, etc.);
		 Cross sections of roadways, with edge details such as curbs and sidewalks;
		 Location and dimensions of channel modifications, such as bridge or culvert crossings
	\boxtimes	Locations, cross sections, and profiles of all stream or wetland crossings and their method of stabilization

1.0 Project Description

The purpose of this report is to specify a "Stormwater Management System" to be implemented in the redevelopment project at 138 JT Connell Highway in Newport, Rhode Island.

The site has a total area of 1.758 acres and is located on Assessors' Plat 4 Lots 13-4 & 55 in Newport, Rhode Island. The site is located on the west side of JT Connell Highway with Admiral Kalbfus Road to the North and the New York, New Haven & Hartford Railroad to the west. The east and north sides of the site along Admiral Kalbfus Road and JT Connell Highway are almost entirely impervious with a mixture of buildings, parking and drive aisles. There are six total curb cuts along these roads and the rotary that connects them. As part of the redevelopment, the client proposes to reduce the total number of curb cuts to two and greatly increase the landscaping along the frontage of the site. The proposed redevelopment will integrate seamlessly with the proposed RIDOT improvements to the area.

The client proposes to raze the existing site in its entirety and to construct a Seasons Corner Market with a gas station, car wash, parking, utilities, landscaping and water quality improvements. The proposal includes removing approximately 3% of the existing impervious areas within the property boundary and an additional 0.25 acres of offsite impervious between the property and the rotary edge of pavement, allowing for additional landscape buffering. The site will continue to be serviced by public water and sewer utilities.

Currently, all buildings on site sit within the FEMA Zone AE flood elevation of 13 feet. As part of the redevelopment of the site, the finished floor of the main Seasons Corner Market building will be raised to elevation 14, out of the flood plain.

Under the RISDISM, the site is considered a redevelopment site since the existing site is over 40% impervious, which triggers a reduced scope of reporting under Section 3.2.6 of the RISDISM. This redevelopment requires minimum stormwater management standards 2,3 and 7-11 to be addressed. The required water quality and recharge volume must include 50% of the redevelopment area. Because the site is listed as an active LUST (UST-803) site for the existing Newport Shell Gas Station, recharge is not proposed on site. Refer to Appendix A3.3 for a graphical representation of the impervious calculations.

The stormwater quality will be improved by utilizing BMP's as established by the RISDISM for the treatment and recharge of stormwater runoff from the proposed redevelopment. BMP's will consist of a bioretention area, an underground sand filter and underground detention systems. The site has been designed to meet the RIDEM Stormwater Design and Installations Manual for redevelopment.

2.0 Site Conditions

2.1 SOILS

There are the following soil types within the analyzed area of the Site as mapped by the NRCS USDA Soil Conservation service:

Soil Symbol	Description	Hydrologic Group
NP	Newport-Urban land complex	С
Ur	Urban land	None

The onsite soils are Ur - Urban Land and NP – Newport-Urban land complex. NP is Hydrologic Group C soil; therefore, Hydrologic Group C has been used for modeling the site.

Site specific soil evaluations can be found in Appendix A2.1.

2.2 EXISTING SITE CONDITIONS

Currently the site is predominantly impervious with and area of woods and gravel to the rear of the property. There are five existing buildings with uses including convenience, gas canopy, restaurant, retail and car wash. There are six existing curb cuts along Admiral Kalbfus Road and JT Connell Highway providing access to the site.

All stormwater from the impervious areas on site eventually ends up in the RIDOT drainage system by way of sheet flow from the site into the right of way where it is collected by one of three catch basins. Stormwater in the rear of the site from the woods and gravel areas flows unmitigated onto the railroad property. There are currently no stormwater BMPs on site for either water quality or peak flow mitigation. This section of the RIDOT drainage system ultimately discharges to an Unnamed Tributary to Newport Harbor (RI000703R-01).

2.3 POST SITE CONDITIONS

Following redevelopment, the project area will consist of a 3% decrease in impervious cover within the property boundary. Additionally, 0.25 acres of off-site impervious will be removed as part of the redevelopment project in conjunction with the proposed RIDOT improvements. This will naturally result in a decrease in stormwater runoff from pre to post development conditions for all design storm events, therefore reducing the impact to the existing RIDOT drainage system. The water quality volume as established by the RISDISM for the treatment of stormwater runoff will be provided by utilizing one of two BMPs. For the LUHPPL areas on site, water quality will be provided by a lined bioretention area. For the non-LUHPPL areas on site, water quality will be provided by an underground sand filter. The majority of the asphalt on site will be treated by a proprietary device for pretreatment and a BMP for water quality, while the cleaner roof runoff will enter the underground detention systems directly, reducing

the burden on the water quality practices. Because the site is listed as an Active LUST site, stormwater recharge is not proposed as part of this project.

The proposed drainage analysis uses stormwater management systems to control and treat runoff from the proposed development. The following BMP's are used on site and have been designed to include the following elements:

- Bypass Structures
 - Directs water quality flow to the water quality BMP and bypasses larger storms directly to the QP BMP, thus protecting the water quality BMP.
- Proprietary Separator: Stormceptor
 - $\circ~~3^{rd}$ party testing demonstrates over 80% removal efficiency of TSS.
- Underground Sand Filter (Lined)
 - Provides an underdrain and is lined with an impermeable poly liner.
 - Fully filters the water quality stormwater event through 18" of sand media mix before discharging through under drain.
 - Proprietary device provides pretreatment of stormwater prior to the sand filter.
- Bio Retention Areas
 - Equipped with sediment forebay and/or stone diaphragm and grass filter strip for pretreatment
 - 2.25' of bioretention soil under rain garden for stormwater filtration
 - Stores 75% of WQv
 - Maximum 9" of Ponding
 - Safely convey the 100 year storm.
 - Subdrain collects treated stormwater
- Underground Detention Systems (Lined)
 - Provides Overbank Flood Protection (Qp) for the 1-100 year storm events.
 - Impermeable liner to be placed under detention structures to prevent water from infiltrating into the previously contaminated soil.

The above elements will used to meet the design standards of the Rhode Island Stormwater Design and Installation Standard.

The primary goal of increasing water quality treatment is accomplished by providing water quality BMPs. Stormwater runoff mitigation is provided through the use of underground detention systems. By reducing the flow rates to the RIDOT drainage network, the capacity of the existing network will be increased, providing a benefit to the area. Additionally, existing flooding issues at the railroad will be lessened by reducing the flow and volume from pre to post development conditions.

3.0 Minimum Standards

The site has been designed to meet the minimum standards as outlined in the Rhode Island Stormwater Design and Installation Standards Manual (RISDISM). The following sections outline how the site meets and exceeds the minimum required standards.

3.1 Minimum Standard 1: LID Site Planning and Design Strategies

See "Appendix A: Stormwater Management Checklist" from the RISDISM provided at the beginning of this report.

3.2 Minimum Standard 2: Groundwater Recharge

Groundwater is to be recharged per watershed based on impervious area coverage in accordance with section 3.2.2 of the RISDISM.

Groundwater recharge is determined from the following equation:

Re_v=1"*F*I/12

Where:

Re_v=Groundwater Recharge Volume (cf)

F=Recharge Factor based on Hydrologic Soil Groups (HSG) (see table below) I=Impervious Area (sf)

HSG Recharge Factor (F)					
А	0.60				
В	0.35				
С	0.25				
D	0.10				

Groundwater recharge is not proposed for this project due to the site being listed as an active LUST. Groundwater monitoring wells will remain active on site to maintain compliance with the RIDEM.

3.3 Minimum Standard 3: Water Quality

The required water quality from the redevelopment area is to be treated through an approved BMP before being discharge to the existing RIDOT drainage system. The site has been designed to use bioretention and underground sand filters as water quality BMPs.

Per Section 3.2.6 of the RISDISM, the water quality requirement may be met by a combination of impervious area reduction and BMP's for at least 50% of the redevelopment area.

Refer to Appendix A3.3 for a graphical representation of the impervious calculations.

Existing Impervious Area:	1.226 acres
Proposed Impervious Area:	1.171 acres
Impervious Reduction:	1.226 – 1.171 = 0.055 acres
Total Offsite Impervious Reduction:	0.25 acres
WQ Required (Redevelopment):	1.226 * 50% = 0.613 acres
Total WQ Required:	
Redevelopment – Impervious Reduction (On site)	0.613 – 0.055 = 0.558 acres
Total WQ Provided:	
Impervious treated by Bioretention (LUHPPL)	0.483 acres
Impervious treated by Sand Filter (non-LUHPPL)	0.153 acres
	0.636 acres

Bio Retention Calculations

See next page for bioretention sizing calculations.



Bioretention Sizing

Name of Bioretention: A

Water Quality Calculations

 WQ_v = 1inch x Impervious Area WQ_v = 1,753 (Cubic Feet)

Minimum Size of Bioretention Filter Area

 $\begin{array}{l} A_{f}=(WQ_{v})x(d_{f})/[(k)x(h_{f}+d_{f})(t_{f})]\\ \text{Required Af= 751 (Square Feet)}\\ \text{Provided Af= 940 (Square Feet)} \end{array}$

Where $A_{\rm f}$ is the required filter bed area

Bioretention Pre Treatment

Type of Pre Treatment: Other

Bioretention Parame	<u>eters</u>	
At,Total Area to Bioretention	0.627 (Ac	res)
Impervious Area To Bioretention	0.483 (Ac	res)
d _f , Filter Bed Depth	2.25 (fee	et)
k, Coefficient of Permeability	1.0 (ft/d	lay)
h _f , Average Height of Water	0.38 (ft)	
t _f , Design Filter Bed Drain Time	2.00 (da	ys)
Ponding Depth	9 (in)	
Mulch Depth	3 (in)	

Required Water Quality Volume

75% of the WQv must be held within system Required WQ $_{\rm v}$ 1,315 (Cubic Feet)

Volume of Mulch 78 (Cubic Feet)

Volume of Ponding 818 (Cubic Feet) Volume of Voids in Filter Bed 698 (Cubic Feet) Total 1,593 (Cubic Feet)

3.4 Minimum Standard 4: Conveyance and Natural Channel Protection

Under RIDSISM Section 3, the project is considered a redevelopment site, therefore this minimum standard is not required to be addressed. Due to the reduction in impervious area, the discharge to the existing Warwick Avenue RIDOT drainage system has been reduced for all storm events, improving the conveyance and natural channel protection for downstream areas from the site.

3.5 Minimum Standard 5: Overbank Flood Protection & Downstream Analysis

Under RISDISM Section 3, the project is considered a redevelopment site, therefore this minimum standard is not required to be addressed. Note that due to the overall reduction in pavement along with the use of BMP's and landscape buffers, this redevelopment will provide a significant decrease in stormwater runoff for all storm events (1-100 year frequency storm).

3.6 Minimum Standard 6: Redevelopment and Infill Projects.

This is a redevelopment site in accordance with the Rhode Island Stormwater Design and Installations Standards Manual (RISDISM) Section 3.2.6.

The total area of this site is 1.758 Acres. Of this, the existing site is 69.7% impervious. Due to the site being over 40% impervious the site is considered a redevelopment.

3.7 Minimum Standard 7: Pollution Prevention

A Soil Erosion and Sediment Control Plan (SESC) for this development can be found under a separate document. See the Soil Erosion and Sediment Control Plan for the development prepared by DiPrete Engineering. The SESC contains information for construction pollution prevention. For post construction pollution prevention see the Operations and Maintenance (O&M) document prepared for this development by DiPrete Engineering.

3.8 Minimum Standard 8: Land Uses with High Potential Pollutant Loads (LUHPPLs)

Per RISDISM SECTION 3.2.8 Guidance for Infiltration at Auto Fueling Facilities, auto fueling is characterized as a LUHPPL. The LUHPPL portion of an auto fueling facility is the fuel dispensing area and the tank filling area (tank traffic mat). Stormwater runoff from these areas will be pre-treated by an oil/ water separator, in compliance with the Guidance document. The site has also been graded to isolate stormwater runoff from these areas to the maximum extent practicable, in order to isolate that section of the drainage network in the event of a spill. As shown on the plans, the oil/ water separator will be fitted with an emergency shutoff valve. Runoff from these areas will be treated for water quality with a bioretention BMP.

3.9 Minimum Standard 9: Illicit Discharges

There are no proposed Illicit Discharges on site. The site will be serviced by public water and sewer.

3.10 Minimum Standard 10: Construction Activity Soil Erosion, Runoff and Sedimentation and Pollution Prevention Control Measure Requirements

See the SESC for this development prepared by DiPrete Engineering.

3.11 Minimum Standard 11: Stormwater Management System Operation and Maintenance

See the O&M for this development prepared by DiPrete Engineering.

Appendix A

A2.1 Soil Evaluations



Property Owner: Colbea Enterprises

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management Office of Water Resources Onsite Wastewater Treatment Systems Program



Site Evaluation Form

Part A – Soil Profile Description

Application Number NA

Property Location: <u>138 JT Connell Memorial Rd.</u> Newport, RI Date of Test Hole: August 27, 2021 Soil Evaluator: Chris Sutter License Number: D-4077 No Weather: Clear, 80's Shaded: Yes Time: 8:00 am **Horizon Boundaries** Soil Colors Re-Dox **TH** 1 Soil Depth **Texture** Structure Consistence Re-Dox Horizon Category Dist Торо Matrix Ab. S. Contr. **Features** HTM 1 0-30" С S Fill mixed Fill* HTM 2 30-50" С S silty HTM 3 50-84" С Fill S sandy С 84-92" S 10YR 2/1 1-sbk fri 3 Ab sil fri 2.5Y 5/3 ls 0-m 6 Cg 92-108" **Horizon Boundaries** Soil Colors **Re-Dox TH**² Soil Depth Texture Structure Consistence **Re-Dox** Horizon Dist Matrix Ab. S. Contr. Category Торо **Features** HTM 1 0-8" С S loamy Fill HTM 2 8-32" С S Fill sandy HTM 3 32-67" С S Fill silty С S 10YR 2/1 fsl 1-sbk fri Ab 67-77" 4 fri 77-102" 2.5Y 5/2 vfs 0-m 7 Cg HTM/Till 108" Impervious/Limiting Layer Depth 60" 1 NA 60" Total Depth _ Soil Class SHWT ΤН (og) GW Seepage Depth (oq)102" Impervious/Limiting Layer Depth HTM/Till 60" 2 60" NA Soil Class SHWT Total Depth (og) GW Seepage Depth ΤH (og) Comments: *TH1: HTM 2 horizon consists of dark, silty fill containing debris including metal, brick, other debris



Property Owner: Colbea Enterprises

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management Office of Water Resources Onsite Wastewater Treatment Systems Program



Site Evaluation Form

Part A – Soil Profile Description

Application Number NA

Property Lo	ocation: <u>13</u>	<u>38 JT Con</u>	nell Memo	orial Rd. N	lewport, RI						
Date of Tes	st Hole: <u>A</u>	ugust 27, 2	2021								
Soil Evalua	ator: <u>Chris</u>	Sutter					License Number: D-4077				
Weather: _	Clear, 80	's					Shaded	: Yes 📃 🛛 No	DIIII Time:	8:00 am	
TH 3	Dauth	Horizon B	oundaries	Soil	Colors	Re	-Dox	Texture	Chrysterre		Soil
Horizon	Depth	Dist	Торо	Matrix	Re-Dox Features	Ab. S.	Contr.	lexture	Structure	Consistence	Category
HTM 1	0-50"	С	S					mixed			Fill
HTM 2	50-84"	С	S					silty			Fill*
TH _4		Horizon B	oundaries	Soil Colors		Re-Dox			0	Osmalatanaa	Soil
Horizon	Depth	Dist	Торо	Matrix	Re-Dox Features	Ab. S.	Contr.	lexture	Structure	Consistence	Category
HTM 1	0-84"	С	S					silty			Fill**
TH3	Soil Class	HTM	Total De	epth84"	_ Impervious/L	imiting Lay	er Depth	NA(og) GW	Seepage Depth		(og)
TH4	Soil Class	HTM	Total De	epth 84"	_ Impervious/L	imiting Lay	er Depth	NA (og) GW	Seepage Depth	56"SHWT	(og)
Comments:_											
	*TH3: F	ITM 2 hor	izon consi	sts of dark	, silty fill co	ontaining	abundar	nt concrete fr	agments of	varying size	

*TH4: HTM horizon consists of dark, silty fill containing abundant debris including metal, brick, concrete, and glass

A3.2 Water Quality HydroCAD Storm Analysis

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. Reach routing by Dyn-Stor-Ind method . Pond routing by Dyn-Stor-Ind method				
Subcatchment10: Pre-10	Runoff Area=0.338 ac 94.96% Impervious Runoff Depth=0.94" Tc=6.0 min CN=74/98 Runoff=0.35 cfs 0.026 af			
Pond 11: RIDOT CB-1 (North) 12.00"	Peak Elev=2.48' Inflow=0.35 cfs 0.026 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.35 cfs 0.026 af			
Subcatchment 12: Pre-12	Runoff Area=0.203 ac 100.00% Impervious Runoff Depth=0.99" Tc=6.0 min CN=0/98 Runoff=0.22 cfs 0.017 af			
Pond 13: RIDOT CB-2 (Central) 12.00"	Peak Elev=2.39' Inflow=0.22 cfs 0.017 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.22 cfs 0.017 af			
Subcatchment14: Pre-14	Runoff Area=0.771 ac 75.72% Impervious Runoff Depth=0.82" Tc=6.0 min CN=86/98 Runoff=0.70 cfs 0.053 af			
Pond 15: RIDOT CB-3 (South) 12.00"	Peak Elev=2.65' Inflow=0.70 cfs 0.053 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.70 cfs 0.053 af			
Link 16: DP-1 RIDOT Drainage	Inflow=1.27 cfs 0.096 af Primary=1.27 cfs 0.096 af			
Subcatchment 20: Subcat 20	Runoff Area=19,412 sf 26.28% Impervious Runoff Depth=0.42" Tc=0.0 min CN=83/98 Runoff=0.23 cfs 0.016 af			
Link 21: DP-2 Railroad Tracks	Inflow=0.23 cfs 0.016 af Primary=0.23 cfs 0.016 af			

1052-013-EHCDType III 24-hiPrepared by DiPrete EngineeringHydroCAD® 10.10-4b s/n 01125 © 2020 HydroCAD Software Solutions LLC

Type III 24-hr WQ Storm Rainfall=1.20" Printed 9/2/2021

1052-013-PHCDType III 2Prepared by DiPrete EngineeringHydroCAD® 10.10-4bs/n 01125© 2020 HydroCAD Software Solutions LLC

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment100: Post-100	Runoff Area=0.293 ac 84.41% Impervious Runoff Depth=0.84" Tc=6.0 min CN=74/98 Runoff=0.27 cfs 0.021 af
Subcatchment101: Post-101	Runoff Area=0.248 ac 94.85% Impervious Runoff Depth=0.94" Tc=6.0 min CN=74/98 Runoff=0.26 cfs 0.019 af
Pond 102: WQ Bypass - A Primary=0.53 cfs 0	Peak Elev=6.19' Inflow=0.53 cfs 0.040 af .040 af Secondary=0.00 cfs 0.000 af Outflow=0.53 cfs 0.040 af
Subcatchment 103: Post-103	Runoff Area=0.086 ac 0.02% Impervious Runoff Depth=0.15" Tc=6.0 min CN=80/98 Runoff=0.01 cfs 0.001 af
Pond 104: Bioretention System - A Primary=0.00 cfs 0.	Peak Elev=4.96' Storage=622 cf Inflow=0.54 cfs 0.041 af .000 af Secondary=0.05 cfs 0.041 af Outflow=0.05 cfs 0.041 af
Pond 105: Underground Detention System Primary=0.00 cfs 0	- A Peak Elev=5.00' Storage=0 cf Inflow=0.00 cfs 0.000 af .000 af Secondary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af
Subcatchment 106: Post-106	Runoff Area=0.177 ac 90.37% Impervious Runoff Depth=0.90" Tc=6.0 min CN=74/98 Runoff=0.17 cfs 0.013 af
Pond 107: DMH A-11 8.00" Round	Peak Elev=2.81' Inflow=0.23 cfs 0.054 af Culvert n=0.012 L=70.0' S=0.0057 '/' Outflow=0.23 cfs 0.054 af
Subcatchment 108: Post-108	Runoff Area=0.012 ac 34.23% Impervious Runoff Depth=0.38" Tc=6.0 min CN=74/98 Runoff=0.00 cfs 0.000 af
Pond 109: RIDOT CB-1 (North) 12.00" Round	Peak Elev=2.40' Inflow=0.23 cfs 0.055 af Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.23 cfs 0.055 af
Subcatchment110: Post-110	Runoff Area=0.026 ac 17.90% Impervious Runoff Depth=0.23" Tc=6.0 min CN=74/98 Runoff=0.01 cfs 0.000 af
Pond 111: RIDOT CB-2 (Central) 12.00" Round	Peak Elev=2.13' Inflow=0.01 cfs 0.000 af Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.01 cfs 0.000 af
Subcatchment112: Post-112	Runoff Area=0.184 ac 83.16% Impervious Runoff Depth=0.83" Tc=6.0 min CN=74/98 Runoff=0.17 cfs 0.013 af
Pond 113: WQ Bypass - B Primary=0.17 cfs 0	Peak Elev=8.84' Inflow=0.17 cfs 0.013 af .013 af Secondary=0.00 cfs 0.000 af Outflow=0.17 cfs 0.013 af
Pond 114: Underground Sand Filter - B	Peak Elev=6.50' Storage=43 cf Inflow=0.17 cfs 0.013 af Outflow=0.08 cfs 0.013 af
Subcatchment115: Post-115	Runoff Area=0.126 ac 100.00% Impervious Runoff Depth=0.99" Tc=6.0 min CN=0/98 Runoff=0.14 cfs 0.010 af

1052-013-PHCD Prepared by DiPrete Engineering HvdroCAD® 10.10-4b s/n 01125 © 2020	Type III 24-hr WQ Storm Rainfall=1.20" Printed 9/2/2021 HydroCAD Software Solutions LLC
Subcatchment 116: Post-116	Runoff Area=0.078 ac 100.00% Impervious Runoff Depth=0.99" Tc=6.0 min CN=0/98 Runoff=0.09 cfs 0.006 af
Subcatchment117: Post-117	Runoff Area=0.034 ac 100.00% Impervious Runoff Depth=0.99" Tc=6.0 min CN=0/98 Runoff=0.04 cfs 0.003 af
Pond 118: Underground Detention S	ystem - B Peak Elev=7.89' Storage=49 cf Inflow=0.26 cfs 0.020 af Outflow=0.16 cfs 0.020 af
Subcatchment 119: Post-119	Runoff Area=0.122 ac 91.24% Impervious Runoff Depth=0.90" Tc=6.0 min CN=74/98 Runoff=0.12 cfs 0.009 af
Pond 120: DMH B-7 12.00"	Peak Elev=2.85' Inflow=0.36 cfs 0.042 af Round Culvert n=0.012 L=70.0' S=0.0057 '/' Outflow=0.36 cfs 0.042 af
Subcatchment 121: Post-121	Runoff Area=0.088 ac 0.00% Impervious Runoff Depth=0.05" Tc=6.0 min CN=73/0 Runoff=0.00 cfs 0.000 af
Subcatchment 122: Post-122	Runoff Area=0.098 ac 0.00% Impervious Runoff Depth=0.06" Tc=6.0 min CN=74/0 Runoff=0.00 cfs 0.001 af
Pond 123: RIDOT CB-3 (South) 12.00"	Peak Elev=2.48' Inflow=0.36 cfs 0.042 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.36 cfs 0.042 af
Link 124: DP-1 RIDOT Drainage	Inflow=0.59 cfs 0.098 af Primary=0.59 cfs 0.098 af
Subcatchment 200: Post-200	Runoff Area=0.186 ac 8.69% Impervious Runoff Depth=0.13" Tc=6.0 min CN=73/98 Runoff=0.02 cfs 0.002 af
Link 201: DP-2 Railroad Tracks	Inflow=0.02 cfs 0.002 af Primary=0.02 cfs 0.002 af

A3.5.4.1 HydroCAD Node Diagram



Area Listing (all nodes)

Area	CN	Description
(acres)		(subcatchment-numbers)
0.017	74	>75% Grass cover, Good, HSG C (10, 14)
0.285	96	Gravel surface, HSG C (14, 20)
0.985	98	Impervious, HSG C (10, 12, 14, 20)
0.241	98	Roofs, HSG C (10, 12, 14, 20)
0.230	70	Woods, Good, HSG C (14, 20)
1.758	94	TOTAL AREA



Area Listing (all nodes)

Area	a CN	Description
(acres)	(subcatchment-numbers)
0.517	7 74	>75% Grass cover, Good, HSG C (100, 101, 103, 106, 108, 110, 112, 119, 121, 122, 200)
0.932	2 98	Impervious, HSG C (100, 101, 103, 106, 108, 110, 112, 119, 200)
0.239	9 98	Roofs, HSG C (100, 112, 115, 116, 117)
0.022	2 98	Water Surface, 0% imp, HSG C (103)
0.050) 70	Woods, Good, HSG C (121, 200)
1.75	B 90	TOTAL AREA
A3.5.4.2 HydroCAD 1-Year Storm Analysis

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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								
Subcatchment10: Pre-10	Runoff Area=0.338 ac 94.96% Impervious Runoff Depth=2.46" Tc=6.0 min CN=97 Runoff=0.90 cfs 0.069 af							
Pond 11: RIDOT CB-1 (North) 12.00"	Peak Elev=2.73' Inflow=0.90 cfs 0.069 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.90 cfs 0.069 af							
Subcatchment 12: Pre-12	Runoff Area=0.203 ac 100.00% Impervious Runoff Depth=2.57" Tc=6.0 min CN=98 Runoff=0.55 cfs 0.044 af							
Pond 13: RIDOT CB-2 (Central) 12.00"	Peak Elev=2.58' Inflow=0.55 cfs 0.044 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.55 cfs 0.044 af							
Subcatchment 14: Pre-14	Runoff Area=0.771 ac 75.72% Impervious Runoff Depth=2.25" Tc=6.0 min CN=95 Runoff=1.95 cfs 0.145 af							
Pond 15: RIDOT CB-3 (South) 12.00"	Peak Elev=3.13' Inflow=1.95 cfs 0.145 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=1.95 cfs 0.145 af							
Link 16: DP-1 RIDOT Drainage	Inflow=3.39 cfs 0.258 af Primary=3.39 cfs 0.258 af							
Subcatchment 20: Subcat 20	Runoff Area=19,412 sf 26.28% Impervious Runoff Depth=1.57" Tc=0.0 min CN=87 Runoff=1.00 cfs 0.058 af							
Link 21: DP-2 Railroad Tracks	Inflow=1.00 cfs 0.058 af Primary=1.00 cfs 0.058 af							

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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

Subcatchment 100: Post-100	Runoff Area=0.293 ac 84.41% Impervious Runoff Depth=2.16" Tc=6.0 min CN=94 Runoff=0.72 cfs 0.053 af
Subcatchment 101: Post-101	Runoff Area=0.248 ac 94.85% Impervious Runoff Depth=2.46" Tc=6.0 min CN=97 Runoff=0.66 cfs 0.051 af
Pond 102: WQ Bypass - A Primary=0.88 cfs	Peak Elev=6.36' Inflow=1.38 cfs 0.104 af 0.097 af Secondary=0.50 cfs 0.007 af Outflow=1.38 cfs 0.104 af
Subcatchment103: Post-103	Runoff Area=0.086 ac 0.02% Impervious Runoff Depth=1.10" Tc=6.0 min CN=80 Runoff=0.11 cfs 0.008 af
Pond 104: Bioretention System - A Primary=0.39 cfs	Peak Elev=6.01' Storage=1,592 cf Inflow=0.99 cfs 0.105 af 0.019 af Secondary=0.05 cfs 0.086 af Outflow=0.45 cfs 0.105 af
Pond 105: Underground Detention System Primary=0.00 cfs	n - A Peak Elev=5.42' Storage=236 cf Inflow=0.50 cfs 0.007 af 0.000 af Secondary=0.04 cfs 0.007 af Outflow=0.04 cfs 0.007 af
Subcatchment106: Post-106	Runoff Area=0.177 ac 90.37% Impervious Runoff Depth=2.36" Tc=6.0 min CN=96 Runoff=0.46 cfs 0.035 af
Pond 107: DMH A-11 8.00" Round	Peak Elev=3.08' Inflow=0.63 cfs 0.146 af d Culvert n=0.012 L=70.0' S=0.0057 '/' Outflow=0.63 cfs 0.146 af
Subcatchment108: Post-108	Runoff Area=0.012 ac 34.23% Impervious Runoff Depth=1.22" Tc=6.0 min CN=82 Runoff=0.02 cfs 0.001 af
Pond 109: RIDOT CB-1 (North) 12.00" Round	Peak Elev=2.62' Inflow=0.64 cfs 0.147 af d Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.64 cfs 0.147 af
Subcatchment110: Post-110	Runoff Area=0.026 ac 17.90% Impervious Runoff Depth=0.99" Tc=6.0 min CN=78 Runoff=0.03 cfs 0.002 af
Pond 111: RIDOT CB-2 (Central) 12.00" Round	Peak Elev=2.20' Inflow=0.03 cfs 0.002 af d Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.03 cfs 0.002 af
Subcatchment112: Post-112	Runoff Area=0.184 ac 83.16% Impervious Runoff Depth=2.16" Tc=6.0 min CN=94 Runoff=0.45 cfs 0.033 af
Pond 113: WQ Bypass - B Primary=0.31 cfs	Peak Elev=8.95' Inflow=0.45 cfs 0.033 af 0.032 af Secondary=0.14 cfs 0.001 af Outflow=0.45 cfs 0.033 af
Pond 114: Underground Sand Filter - B	Peak Elev=7.90' Storage=241 cf Inflow=0.31 cfs 0.032 af Outflow=0.16 cfs 0.032 af
Subcatchment115: Post-115	Runoff Area=0.126 ac 100.00% Impervious Runoff Depth=2.57" Tc=6.0 min CN=98 Runoff=0.34 cfs 0.027 af

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Subcatchment116: Post-116	Runoff Area=0.078 ac	100.00% Impe	rvious Runoff Depth=2.57"
	Tc=	6.0 min CN=98	8 Runoff=0.21 cfs 0.017 af
Subcatchment117: Post-117	Runoff Area=0.034 ac	100.00% Impe	rvious Runoff Depth=2.57"
	Tc=	6.0 min CN=98	8 Runoff=0.09 cfs 0.007 af
Pond 118: Underground Detention System	- B Peak Elev=8.59	' Storage=363 d	f Inflow=0.79 cfs 0.052 af Outflow=0.28 cfs 0.052 af
Subcatchment119: Post-119	Runoff Area=0.122 a	c 91.24% Impe	rvious Runoff Depth=2.36"
	Tc=	6.0 min CN=96	6 Runoff=0.32 cfs 0.024 af
Pond 120: DMH B-7	Culvert n=0.012 L=70	Peak Elev=3.0 [*]	l' Inflow=0.64 cfs 0.108 af
12.00" Round		.0' S=0.0057 '/'	Outflow=0.64 cfs 0.108 af
Subcatchment 121: Post-121	Runoff Area=0.088 a	ac 0.00% Impe	rvious Runoff Depth=0.74"
	Tc=	6.0 min CN=73	8 Runoff=0.07 cfs 0.005 af
Subcatchment 122: Post-122	Runoff Area=0.098 a	ac 0.00% Impe	rvious Runoff Depth=0.78"
	Tc=	6.0 min CN=74	Runoff=0.08 cfs 0.006 af
Pond 123: RIDOT CB-3 (South)	Culvert n=0.012 L=50	Peak Elev=2.69	9' Inflow=0.79 cfs 0.120 af
12.00" Round		.0' S=0.0014 '/'	Outflow=0.79 cfs 0.120 af
Link 124: DP-1 RIDOT Drainage			Inflow=1.39 cfs 0.269 af Primary=1.39 cfs 0.269 af
Subcatchment 200: Post-200	Runoff Area=0.186 a	ac 8.69% Impe	rvious Runoff Depth=0.83"
	Tc=	6.0 min CN=75	5 Runoff=0.17 cfs 0.013 af
Link 201: DP-2 Railroad Tracks			Inflow=0.17 cfs 0.013 af Primary=0.17 cfs 0.013 af

A3.5.4.3 HydroCAD 10-Year Storm Analysis

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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								
Subcatchment 10: Pre-10	Runoff Area=0.338 ac 94.96% Impervious Runoff Depth=4.55" Tc=6.0 min CN=97 Runoff=1.61 cfs 0.128 af							
Pond 11: RIDOT CB-1 (North) 12.00"	Peak Elev=3.00' Inflow=1.61 cfs 0.128 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=1.61 cfs 0.128 af							
Subcatchment 12: Pre-12	Runoff Area=0.203 ac 100.00% Impervious Runoff Depth=4.66" Tc=6.0 min CN=98 Runoff=0.97 cfs 0.079 af							
Pond 13: RIDOT CB-2 (Central) 12.00"	Peak Elev=2.76' Inflow=0.97 cfs 0.079 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.97 cfs 0.079 af							
Subcatchment 14: Pre-14	Runoff Area=0.771 ac 75.72% Impervious Runoff Depth=4.32" Tc=6.0 min CN=95 Runoff=3.59 cfs 0.278 af							
Pond 15: RIDOT CB-3 (South) 12.00"	Peak Elev=3.92' Inflow=3.59 cfs 0.278 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=3.59 cfs 0.278 af							
Link 16: DP-1 RIDOT Drainage	Inflow=6.18 cfs 0.485 af Primary=6.18 cfs 0.485 af							
Subcatchment 20: Subcat 20	Runoff Area=19,412 sf 26.28% Impervious Runoff Depth=3.47" Tc=0.0 min CN=87 Runoff=2.18 cfs 0.129 af							
Link 21: DP-2 Railroad Tracks	Inflow=2.18 cfs 0.129 af Primary=2.18 cfs 0.129 af							

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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

Subcatchment 100: Post-100	Runoff Area=0.293 ac 84.41% Impervious Runoff Depth=4.21" Tc=6.0 min CN=94 Runoff=1.35 cfs 0.103 af
Subcatchment 101: Post-101	Runoff Area=0.248 ac 94.85% Impervious Runoff Depth=4.55" Tc=6.0 min CN=97 Runoff=1.18 cfs 0.094 af
Pond 102: WQ Bypass - A Primary=0.86 cfs	Peak Elev=6.51' Inflow=2.53 cfs 0.197 af 0.161 af Secondary=1.67 cfs 0.036 af Outflow=2.53 cfs 0.197 af
Subcatchment 103: Post-103	Runoff Area=0.086 ac 0.02% Impervious Runoff Depth=2.81" Tc=6.0 min CN=80 Runoff=0.28 cfs 0.020 af
Pond 104: Bioretention System - A Primary=0.91 cfs	Peak Elev=6.13' Storage=1,747 cf Inflow=1.14 cfs 0.181 af 0.074 af Secondary=0.05 cfs 0.107 af Outflow=0.97 cfs 0.181 af
Pond 105: Underground Detention System Primary=0.00 cfs	1-A Peak Elev=6.39' Storage=1,453 cf Inflow=1.67 cfs 0.036 af 0.000 af Secondary=0.06 cfs 0.036 af Outflow=0.06 cfs 0.036 af
Subcatchment106: Post-106	Runoff Area=0.177 ac 90.37% Impervious Runoff Depth=4.43" Tc=6.0 min CN=96 Runoff=0.83 cfs 0.065 af
Pond 107: DMH A-11 8.00" Round	Peak Elev=4.74' Inflow=1.68 cfs 0.282 af I Culvert n=0.012 L=70.0' S=0.0057 '/' Outflow=1.68 cfs 0.282 af
Subcatchment108: Post-108	Runoff Area=0.012 ac 34.23% Impervious Runoff Depth=2.99" Tc=6.0 min CN=82 Runoff=0.04 cfs 0.003 af
Pond 109: RIDOT CB-1 (North) 12.00" Round	Peak Elev=3.04' Inflow=1.72 cfs 0.285 af I Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=1.72 cfs 0.285 af
Subcatchment110: Post-110	Runoff Area=0.026 ac 17.90% Impervious Runoff Depth=2.63" Tc=6.0 min CN=78 Runoff=0.08 cfs 0.006 af
Pond 111: RIDOT CB-2 (Central) 12.00" Round	Peak Elev=2.27' Inflow=0.08 cfs 0.006 af I Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.08 cfs 0.006 af
Subcatchment112: Post-112	Runoff Area=0.184 ac 83.16% Impervious Runoff Depth=4.21" Tc=6.0 min CN=94 Runoff=0.85 cfs 0.065 af
Pond 113: WQ Bypass - B Primary=0.66 cfs	Peak Elev=9.33' Inflow=0.85 cfs 0.065 af 0.060 af Secondary=0.45 cfs 0.005 af Outflow=0.85 cfs 0.065 af
Pond 114: Underground Sand Filter - B	Peak Elev=9.24' Storage=595 cf Inflow=0.66 cfs 0.060 af Outflow=0.16 cfs 0.060 af
Subcatchment115: Post-115	Runoff Area=0.126 ac 100.00% Impervious Runoff Depth=4.66" Tc=6.0 min CN=98 Runoff=0.60 cfs 0.049 af

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Subcatchment116: Post-116	Runoff Area=0.078 ac 100.00% Impervious Runoff Depth=4.66" Tc=6.0 min CN=98 Runoff=0.37 cfs 0.030 af
Subcatchment117: Post-117	Runoff Area=0.034 ac 100.00% Impervious Runoff Depth=4.66" Tc=6.0 min CN=98 Runoff=0.17 cfs 0.013 af
Pond 118: Underground Detention System	I-B Peak Elev=9.65' Storage=949 cf Inflow=1.59 cfs 0.097 af Outflow=0.39 cfs 0.097 af
Subcatchment119: Post-119	Runoff Area=0.122 ac 91.24% Impervious Runoff Depth=4.43" Tc=6.0 min CN=96 Runoff=0.57 cfs 0.045 af
Pond 120: DMH B-7 12.00" Round	Peak Elev=3.25' Inflow=1.07 cfs 0.202 af Culvert n=0.012 L=70.0' S=0.0057 '/' Outflow=1.07 cfs 0.202 af
Subcatchment121: Post-121	Runoff Area=0.088 ac 0.00% Impervious Runoff Depth=2.20" Tc=6.0 min CN=73 Runoff=0.22 cfs 0.016 af
Subcatchment122: Post-122	Runoff Area=0.098 ac 0.00% Impervious Runoff Depth=2.28" Tc=6.0 min CN=74 Runoff=0.26 cfs 0.019 af
Pond 123: RIDOT CB-3 (South) 12.00" Round	Peak Elev=2.98' Inflow=1.55 cfs 0.237 af Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=1.55 cfs 0.237 af
Link 124: DP-1 RIDOT Drainage	Inflow=3.35 cfs 0.528 af Primary=3.35 cfs 0.528 af
Subcatchment200: Post-200	Runoff Area=0.186 ac 8.69% Impervious Runoff Depth=2.37" Tc=6.0 min CN=75 Runoff=0.51 cfs 0.037 af
Link 201: DP-2 Railroad Tracks	Inflow=0.51 cfs 0.037 af Primary=0.51 cfs 0.037 af

A3.5.4.4 HydroCAD 25-Year Storm Analysis

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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								
Subcatchment 10: Pre-10	Runoff Area=0.338 ac 94.96% Impervious Runoff Depth=5.74" Tc=6.0 min CN=97 Runoff=2.01 cfs 0.162 af							
Pond 11: RIDOT CB-1 (North) 12.00"	Peak Elev=3.15' Inflow=2.01 cfs 0.162 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=2.01 cfs 0.162 af							
Subcatchment 12: Pre-12	Runoff Area=0.203 ac 100.00% Impervious Runoff Depth=5.86" Tc=6.0 min CN=98 Runoff=1.22 cfs 0.099 af							
Pond 13: RIDOT CB-2 (Central) 12.00"	Peak Elev=2.85' Inflow=1.22 cfs 0.099 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=1.22 cfs 0.099 af							
Subcatchment 14: Pre-14	Runoff Area=0.771 ac 75.72% Impervious Runoff Depth=5.51" Tc=6.0 min CN=95 Runoff=4.52 cfs 0.354 af							
Pond 15: RIDOT CB-3 (South) 12.00"	Peak Elev=4.46' Inflow=4.52 cfs 0.354 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=4.52 cfs 0.354 af							
Link 16: DP-1 RIDOT Drainage	Inflow=7.75 cfs 0.615 af Primary=7.75 cfs 0.615 af							
Subcatchment 20: Subcat 20	Runoff Area=19,412 sf 26.28% Impervious Runoff Depth=4.61" Tc=0.0 min CN=87 Runoff=2.86 cfs 0.171 af							
Link 21: DP-2 Railroad Tracks	Inflow=2.86 cfs 0.171 af Primary=2.86 cfs 0.171 af							

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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

Subcatchment 100: Post-100	Runoff Area=0.293 ac 84.41% Impervious Runoff Depth=5.40" Tc=6.0 min CN=94 Runoff=1.70 cfs 0.132 af
Subcatchment 101: Post-101	Runoff Area=0.248 ac 94.85% Impervious Runoff Depth=5.74" Tc=6.0 min CN=97 Runoff=1.47 cfs 0.119 af
Pond 102: WQ Bypass - A Primary=0.9	Peak Elev=6.82' Inflow=3.18 cfs 0.251 af 96 cfs 0.202 af Secondary=2.27 cfs 0.049 af Outflow=3.18 cfs 0.251 af
Subcatchment103: Post-103	Runoff Area=0.086 ac 0.02% Impervious Runoff Depth=3.87" Tc=6.0 min CN=80 Runoff=0.39 cfs 0.028 af
Pond 104: Bioretention System - A Primary=0.9	Peak Elev=6.32' Storage=2,011 cf Inflow=1.30 cfs 0.230 af 99 cfs 0.115 af Secondary=0.05 cfs 0.115 af Outflow=1.04 cfs 0.230 af
Pond 105: Underground Detention S Primary=0.0	System - A Peak Elev=6.82' Storage=1,984 cf Inflow=2.27 cfs 0.049 af 00 cfs 0.000 af Secondary=0.07 cfs 0.049 af Outflow=0.07 cfs 0.049 af
Subcatchment106: Post-106	Runoff Area=0.177 ac 90.37% Impervious Runoff Depth=5.63" Tc=6.0 min CN=96 Runoff=1.04 cfs 0.083 af
Pond 107: DMH A-11 8.00"	Peak Elev=5.07' Inflow=1.81 cfs 0.361 af Round Culvert n=0.012 L=70.0' S=0.0057 '/' Outflow=1.81 cfs 0.361 af
Subcatchment 108: Post-108	Runoff Area=0.012 ac 34.23% Impervious Runoff Depth=4.08" Tc=6.0 min CN=82 Runoff=0.06 cfs 0.004 af
Pond 109: RIDOT CB-1 (North) 12.00"	Peak Elev=3.10' Inflow=1.87 cfs 0.365 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=1.87 cfs 0.365 af
Subcatchment110: Post-110	Runoff Area=0.026 ac 17.90% Impervious Runoff Depth=3.67" Tc=6.0 min CN=78 Runoff=0.11 cfs 0.008 af
Pond 111: RIDOT CB-2 (Central) 12.00"	Peak Elev=2.30' Inflow=0.11 cfs 0.008 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.11 cfs 0.008 af
Subcatchment 112: Post-112	Runoff Area=0.184 ac 83.16% Impervious Runoff Depth=5.40" Tc=6.0 min CN=94 Runoff=1.07 cfs 0.083 af
Pond 113: WQ Bypass - B Primary=0.9	Peak Elev=10.21' Inflow=1.07 cfs 0.083 af 92 cfs 0.073 af Secondary=0.47 cfs 0.010 af Outflow=1.07 cfs 0.083 af
Pond 114: Underground Sand Filter	- B Peak Elev=10.17' Storage=836 cf Inflow=0.92 cfs 0.073 af Outflow=0.16 cfs 0.073 af
Subcatchment115: Post-115	Runoff Area=0.126 ac 100.00% Impervious Runoff Depth=5.86" Tc=6.0 min CN=98 Runoff=0.75 cfs 0.062 af

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Subcatchment116: Post-116	Runoff Area=0.078 ac 100.00% Impervious Runoff Depth=5.86" Tc=6.0 min CN=98 Runoff=0.47 cfs 0.038 af
Subcatchment117: Post-117	Runoff Area=0.034 ac 100.00% Impervious Runoff Depth=5.86" Tc=6.0 min CN=98 Runoff=0.21 cfs 0.017 af
Pond 118: Underground Detention S	ystem - B Peak Elev=10.25' Storage=1,227 cf Inflow=1.84 cfs 0.126 af Outflow=0.64 cfs 0.127 af
Subcatchment119: Post-119	Runoff Area=0.122 ac 91.24% Impervious Runoff Depth=5.63" Tc=6.0 min CN=96 Runoff=0.72 cfs 0.057 af
Pond 120: DMH B-7 12.00"	Peak Elev=3.38' Inflow=1.26 cfs 0.257 af Round Culvert n=0.012 L=70.0' S=0.0057 '/' Outflow=1.26 cfs 0.257 af
Subcatchment 121: Post-121	Runoff Area=0.088 ac 0.00% Impervious Runoff Depth=3.17" Tc=6.0 min CN=73 Runoff=0.33 cfs 0.023 af
Subcatchment 122: Post-122	Runoff Area=0.098 ac 0.00% Impervious Runoff Depth=3.27" Tc=6.0 min CN=74 Runoff=0.37 cfs 0.027 af
Pond 123: RIDOT CB-3 (South) 12.00"	Peak Elev=3.13' Inflow=1.96 cfs 0.306 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=1.96 cfs 0.306 af
Link 124: DP-1 RIDOT Drainage	Inflow=3.94 cfs 0.680 af Primary=3.94 cfs 0.680 af
Subcatchment 200: Post-200	Runoff Area=0.186 ac 8.69% Impervious Runoff Depth=3.37" Tc=6.0 min CN=75 Runoff=0.73 cfs 0.052 af
Link 201: DP-2 Railroad Tracks	Inflow=0.73 cfs 0.052 af Primary=0.73 cfs 0.052 af

A3.5.4.5 HydroCAD 100-Year Storm Analysis

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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								
Subcatchment 10: Pre-10	Runoff Area=0.338 ac 94.96% Impervious Runoff Depth=8.24" Tc=6.0 min CN=97 Runoff=2.85 cfs 0.232 af							
Pond 11: RIDOT CB-1 (North) 12.00"	Peak Elev=3.58' Inflow=2.85 cfs 0.232 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=2.85 cfs 0.232 af							
Subcatchment 12: Pre-12	Runoff Area=0.203 ac 100.00% Impervious Runoff Depth=8.36" Tc=6.0 min CN=98 Runoff=1.72 cfs 0.142 af							
Pond 13: RIDOT CB-2 (Central) 12.00"	Peak Elev=3.04' Inflow=1.72 cfs 0.142 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=1.72 cfs 0.142 af							
Subcatchment 14: Pre-14	Runoff Area=0.771 ac 75.72% Impervious Runoff Depth=8.00" Tc=6.0 min CN=95 Runoff=6.45 cfs 0.514 af							
Pond 15: RIDOT CB-3 (South) 12.00"	Peak Elev=5.97' Inflow=6.45 cfs 0.514 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=6.45 cfs 0.514 af							
Link 16: DP-1 RIDOT Drainage	Inflow=11.01 cfs 0.888 af Primary=11.01 cfs 0.888 af							
Subcatchment 20: Subcat 20	Runoff Area=19,412 sf 26.28% Impervious Runoff Depth=7.03" Tc=0.0 min CN=87 Runoff=4.26 cfs 0.261 af							
Link 21: DP-2 Railroad Tracks	Inflow=4.26 cfs 0.261 af Primary=4.26 cfs 0.261 af							

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Summary for Subcatchment 10: Pre-10

Runoff = 2.85 cfs @ 12.08 hrs, Volume= 0.232 af, Depth= 8.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

 Area (ac)	CN	Desc	ription		
0.017	74	>75%	6 Grass co	over, Good	d, HSG C
0.262	98	Impe	rvious, HS	SG C	
 0.059	98	Roof	s, HSG C		
0.338	97	Weig	hted Aver	age	
0.017	74	5.04	% Perviou	s Area	
0.321	98	94.90	6% Imperv	vious Area	
 Tc Leng (min) (fee	gth et)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Pond 11: RIDOT CB-1 (North)

Inflow Area	a =	0.338 ac, 9	4.96% Impe	ervious,	Inflow Dept	th = 8.	.24" for	100-Yea	r event
Inflow	=	2.85 cfs @	12.08 hrs,	Volume	= 0.	.232 af			
Outflow	=	2.85 cfs @	12.08 hrs,	Volume	= 0.	.232 af	, Atten= 0	%, Lag=	= 0.0 min
Primary	=	2.85 cfs @	12.08 hrs,	Volume	= 0.	.232 af		-	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Peak Elev= 3.58' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.07'	12.00'' Round RIDOT Culvert L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 2.07' / 2.00' S= 0.0014 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.84 cfs @ 12.08 hrs HW=3.58' TW=0.00' (Dynamic Tailwater) -1=RIDOT Culvert (Barrel Controls 2.84 cfs @ 3.62 fps)

Summary for Subcatchment 12: Pre-12

Runoff = 1.72 cfs @ 12.08 hrs, Volume= 0.142 af, Depth= 8.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

Area (ac)	CN	Description
0.165	98	Impervious, HSG C
0.038	98	Roofs, HSG C
0.203	98	Weighted Average
0.203	98	100.00% Impervious Area

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Type III 24-hr 100-Year Rainfall=8.60" Printed 9/2/2021

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Tc (min)	Length (feet)	Slope Velo (ft/ft) (ft/s	ocity Capacity sec) (cfs)	Description						
6.0			<i>i i i i</i>	Direct Entry,						
	Summary for Pond 13: RIDOT CB-2 (Central)									
Inflow Area = 0.203 ac,100.00% Impervious, Inflow Depth = 8.36" for 100-Year event Inflow = 1.72 cfs @ 12.08 hrs, Volume= 0.142 af Outflow = 1.72 cfs @ 12.08 hrs, Volume= 0.142 af, Atten= 0%, Lag= 0.0 min Primary = 1.72 cfs @ 12.08 hrs, Volume= 0.142 af Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Peak Elev= 3.04' @ 12.08 hrs										
Device	Routing	Inver	t Outlet Devic	ces						
#1	Primary	2.07	' 12.00" Rou Inlet / Outlet n= 0.012, F	und RIDOT Culvert L= 50.0' Ke= 0.500 t Invert= 2.07' / 2.00' S= 0.0014 '/' Cc= 0.900 Flow Area= 0.79 sf						
Primary OutFlow Max=1.71 cfs @ 12.08 hrs HW=3.04' TW=0.00' (Dynamic Tailwater) 1=RIDOT Culvert (Barrel Controls 1.71 cfs @ 2.81 fps)										

Summary for Subcatchment 14: Pre-14

Runoff	=	6.45 cfs @	12.08 hrs,	Volume=	0.514 af, Depth= 8.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

A	rea (ac)	CN	Description
	0.000	74	>75% Grass cover, Good, HSG C
	0.117	96	Gravel surface, HSG C
	0.492	98	Impervious, HSG C
	0.092	98	Roofs, HSG C
	0.070	70	Woods, Good, HSG C
	0.771	95	Weighted Average
	0.187	86	24.28% Pervious Area
	0.584	98	75.72% Impervious Area
	Tc Leng	th :	Slope Velocity Capacity Description
(m	nin) (fee	et)	(ft/ft) (ft/sec) (cfs)

(min)
6.0

Direct Entry,

Summary for Pond 15: RIDOT CB-3 (South)

Inflow Area	=	0.771 ac,	75.72% Imperv	vious, Inflow [Depth = 8.00"	for 100-Year event
Inflow	=	6.45 cfs @	12.08 hrs, V	′olume=	0.514 af	
Outflow	=	6.45 cfs @	12.08 hrs, V	′olume=	0.514 af, At	ten= 0%, Lag= 0.0 min
Primary	=	6.45 cfs @	12.08 hrs, V	′olume=	0.514 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Peak Elev= 5.97' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.07'	12.00" Round RIDOT Culvert L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 2.07' / 2.00' S= 0.0014 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=6.43 cfs @ 12.08 hrs HW=5.96' TW=0.00' (Dynamic Tailwater) **1=RIDOT Culvert** (Barrel Controls 6.43 cfs @ 8.19 fps)

Summary for Link 16: DP-1 RIDOT Drainage

Inflow Are	ea =	1.313 ac, 8	34.44% Impervious,	Inflow Depth = 8.	12" for 100-Year event
Inflow	=	11.01 cfs @	12.08 hrs, Volume	e 0.888 af	
Primary	=	11.01 cfs @	12.08 hrs, Volume	e= 0.888 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 20: Subcat 20

Runoff	=	4.26 cfs @	12.00 hrs,	Volume=	0.261 af,	Depth= 7.03"
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Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

Ar	ea (sf)	CN	Description
	7,336	96	Gravel surface, HSG C
	2,821	98	Impervious, HSG C
	2,281	98	Roofs, HSG C
	6,975	70	Woods, Good, HSG C
	19,412	87	Weighted Average
	14,310	83	73.72% Pervious Area
	5,101	98	26.28% Impervious Area

Summary for Link 21: DP-2 Railroad Tracks

Inflow Area	a =	0.446 ac, 2	26.28% Imp	ervious,	Inflow Depth	= 7.0	03" for	100-Year	event
Inflow	=	4.26 cfs @	12.00 hrs,	Volume	= 0.26	61 af			
Primary	=	4.26 cfs @	12.00 hrs,	Volume	= 0.26	61 af,	Atten= C	%, Lag=	0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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

Subcatchment 100: Post-100	Runoff Area=0.293 ac 84.41% Impervious Runoff Depth=7.88" Tc=6.0 min CN=94 Runoff=2.44 cfs 0.193 af
Subcatchment101: Post-101	Runoff Area=0.248 ac 94.85% Impervious Runoff Depth=8.24" Tc=6.0 min CN=97 Runoff=2.09 cfs 0.170 af
Pond 102: WQ Bypass - A Primary=1.3	Peak Elev=7.67' Inflow=4.53 cfs 0.363 af 38 cfs 0.283 af Secondary=3.44 cfs 0.080 af Outflow=4.53 cfs 0.363 af
Subcatchment103: Post-103	Runoff Area=0.086 ac 0.02% Impervious Runoff Depth=6.19" Tc=6.0 min CN=80 Runoff=0.61 cfs 0.044 af
Pond 104: Bioretention System - A Primary=1.	Peak Elev=6.98' Storage=3,038 cf Inflow=1.76 cfs 0.327 af 08 cfs 0.202 af Secondary=0.05 cfs 0.125 af Outflow=1.13 cfs 0.327 af
Pond 105: Underground Detention S Primary=0.4	System - A Peak Elev=7.66' Storage=2,850 cf Inflow=3.44 cfs 0.080 af 84 cfs 0.013 af Secondary=0.07 cfs 0.067 af Outflow=0.89 cfs 0.080 af
Subcatchment106: Post-106	Runoff Area=0.177 ac 90.37% Impervious Runoff Depth=8.12" Tc=6.0 min CN=96 Runoff=1.48 cfs 0.119 af
Pond 107: DMH A-11 8.00"	Peak Elev=6.11' Inflow=2.18 cfs 0.527 af Round Culvert n=0.012 L=70.0' S=0.0057 '/' Outflow=2.18 cfs 0.527 af
Subcatchment108: Post-108	Runoff Area=0.012 ac 34.23% Impervious Runoff Depth=6.43" Tc=6.0 min CN=82 Runoff=0.09 cfs 0.007 af
Pond 109: RIDOT CB-1 (North) 12.00"	Peak Elev=3.25' Inflow=2.23 cfs 0.533 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=2.23 cfs 0.533 af
Subcatchment110: Post-110	Runoff Area=0.026 ac 17.90% Impervious Runoff Depth=5.95" Tc=6.0 min CN=78 Runoff=0.18 cfs 0.013 af
Pond 111: RIDOT CB-2 (Central) 12.00"	Peak Elev=2.36' Inflow=0.18 cfs 0.013 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=0.18 cfs 0.013 af
Subcatchment112: Post-112	Runoff Area=0.184 ac 83.16% Impervious Runoff Depth=7.88" Tc=6.0 min CN=94 Runoff=1.53 cfs 0.121 af
Pond 113: WQ Bypass - B Primary=0.	Peak Elev=10.45' Inflow=1.53 cfs 0.121 af 98 cfs 0.093 af Secondary=0.57 cfs 0.028 af Outflow=1.53 cfs 0.121 af
Pond 114: Underground Sand Filter	- B Peak Elev=10.35' Storage=872 cf Inflow=0.98 cfs 0.093 af Outflow=0.16 cfs 0.093 af
Subcatchment115: Post-115	Runoff Area=0.126 ac 100.00% Impervious Runoff Depth=8.36" Tc=6.0 min CN=98 Runoff=1.06 cfs 0.088 af

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Subcatchment116: Post-116	Runoff Area=0.078 ac 100.00% Impervious Runoff Depth=8.36" Tc=6.0 min CN=98 Runoff=0.66 cfs 0.054 af
Subcatchment117: Post-117	Runoff Area=0.034 ac 100.00% Impervious Runoff Depth=8.36" Tc=6.0 min CN=98 Runoff=0.29 cfs 0.024 af
Pond 118: Underground Detention S	System - B Peak Elev=10.43' Storage=1,294 cf Inflow=2.57 cfs 0.195 af Outflow=2.54 cfs 0.195 af
Subcatchment119: Post-119	Runoff Area=0.122 ac 91.24% Impervious Runoff Depth=8.12" Tc=6.0 min CN=96 Runoff=1.02 cfs 0.083 af
Pond 120: DMH B-7 12.00"	Peak Elev=5.86' Inflow=3.71 cfs 0.370 af Round Culvert n=0.012 L=70.0' S=0.0057 '/' Outflow=3.71 cfs 0.370 af
Subcatchment 121: Post-121	Runoff Area=0.088 ac 0.00% Impervious Runoff Depth=5.35" Tc=6.0 min CN=73 Runoff=0.55 cfs 0.039 af
Subcatchment 122: Post-122	Runoff Area=0.098 ac 0.00% Impervious Runoff Depth=5.47" Tc=6.0 min CN=74 Runoff=0.62 cfs 0.044 af
Pond 123: RIDOT CB-3 (South) 12.00"	Peak Elev=4.69' Inflow=4.87 cfs 0.453 af Round Culvert n=0.012 L=50.0' S=0.0014 '/' Outflow=4.87 cfs 0.453 af
Link 124: DP-1 RIDOT Drainage	Inflow=7.19 cfs 1.000 af Primary=7.19 cfs 1.000 af
Subcatchment 200: Post-200	Runoff Area=0.186 ac 8.69% Impervious Runoff Depth=5.59" Tc=6.0 min CN=75 Runoff=1.21 cfs 0.087 af
Link 201: DP-2 Railroad Tracks	Inflow=1.21 cfs 0.087 af Primary=1.21 cfs 0.087 af

Summary for Subcatchment 100: Post-100

Runoff = 2.44 cfs @ 12.08 hrs, Volume= 0.193 af, Depth= 7.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

Area	(ac)	CN	Desc	cription		
0.	046	74	>75%	% Grass co	over, Good	I, HSG C
0.	248	98	Impe	ervious, HS	SG C	
0.	000	98	Roof	fs, HSG C		
0.	293	94	Weig	ghted Aver	age	
0.	046	74	15.5	9% Pervio	us Area	
0.	248	98	84.4	1% Imperv	vious Area	
Tc	Leng	th	Slope	Velocity	Capacity	Description
(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)	
6.0						Direct Entry,
						-

Summary for Subcatchment 101: Post-101

Runoff = 2.09 cfs @ 12.08 hrs, Volume= 0.170 af, Depth= 8.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

Area (ac)	CN	Description		
0.013	74	>75% Grass cover,	Good, HSG C	
0.235	98	Impervious, HSG C		
0.248	97	Weighted Average		
0.013	74	5.15% Pervious Are	a	
0.235	98	94.85% Impervious	Area	
Tc Leng (min) (fee	ith s et)	Slope Velocity Ca (ft/ft) (ft/sec)	acity Description (cfs)	
6.0			Direct Entr	у,

Summary for Pond 102: WQ Bypass - A

Inflow Area =	0.541 ac, 89.19% Impervious, Inflow D	epth = 8.04" for 100-Year event
Inflow =	4.53 cfs @ 12.08 hrs, Volume=	0.363 af
Outflow =	4.53 cfs @ 12.08 hrs, Volume=	0.363 af, Atten= 0%, Lag= 0.0 min
Primary =	1.38 cfs @_ 12.20 hrs, Volume=	0.283 af
Secondary =	3.44 cfs @ 12.08 hrs, Volume=	0.080 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Peak Elev= 7.67' @ 12.23 hrs

Type III 24-hr 100-Year Rainfall=8.60" Printed 9/2/2021

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Device	Routing	Invert	Outlet Devices
#1	Primary	5.76'	8.00" Round To Bioretention L= 61.5' Ke= 0.500
			Inlet / Outlet Invert= 5.76' / 5.20' S= 0.0091 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.35 sf
#2	Device 3	6.25'	4.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#3	Secondary	5.76'	18.00" Round To Underground QP L= 8.0' Ke= 0.500
			Inlet / Outlet Invert= 5.76' / 5.63' S= 0.0162 '/' Cc= 0.900
			n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=1.37 cfs @ 12.20 hrs HW=7.64' TW=6.61' (Dynamic Tailwater) **1=To Bioretention** (Outlet Controls 1.37 cfs @ 3.91 fps)

Secondary OutFlow Max=2.74 cfs @ 12.08 hrs HW=6.90' TW=6.72' (Dynamic Tailwater) -3=To Underground QP (Outlet Controls 2.74 cfs @ 2.64 fps) -2=Sharp-Crested Rectangular Weir (Passes 2.74 cfs of 4.52 cfs potential flow)

Summary for Subcatchment 103: Post-103

Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.044 af, Depth= 6.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

Area (ac)	CN	Description			
0.064	74	>75% Grass c	over, Good	HSG C	
0.000	98	Impervious, H	SG C		
0.022	98	Water Surface	, 0% imp, H	SGC	
0.086	80	Weighted Ave	rage		
0.086	80	99.98% Pervic	us Area		
0.000	98	0.02% Impervi	ous Area		
Tc Lenç (min) (fe	gth et)	Slope Velocity (ft/ft) (ft/sec)	Capacity (cfs)	Description	
6.0				Direct Entry,	

Summary for Pond 104: Bioretention System - A

Inflow Area =	0.627 ac, 76.99% Impervious, Inflow De	epth = 6.26" for 100-Year event
Inflow =	1.76 cfs @ 12.14 hrs, Volume=	0.327 af
Outflow =	1.13 cfs @ 12.62 hrs, Volume=	0.327 af, Atten= 36%, Lag= 28.3 min
Primary =	1.08 cfs @ 12.62 hrs, Volume=	0.202 af
Secondary =	0.05 cfs @ 6.29 hrs, Volume=	0.125 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Peak Elev= 6.98' @ 12.50 hrs Surf.Area= 940 sf Storage= 3,038 cf

Plug-Flow detention time= 126.1 min calculated for 0.327 af (100% of inflow) Center-of-Mass det. time= 126.2 min (893.4 - 767.2)

Type III 24-hr 100-Year Rainfall=8.60" Printed 9/2/2021

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Volume	Inve	rt Avail.Sto	orage Storag	e Description	
#1	5.2	0' 4,3	38 cf Pondi	ng Storage (Pris	matic)Listed below (Recalc) -Impervious
#2	2.9	5' 6	98 cf Biome	edia/Loam (Prism	natic)Listed below (Recalc)
			2,115	cf Overall x 33.0%	% Voids
		5,0	36 cf Total A	Available Storage	
				0	
Elevatio	on s	Surf.Area	Inc.Store	Cum.Store	
(tee	et)	(sq-tt)	(CUDIC-TEET)	(cubic-teet)	
5.2	20	940	0	0	
5.9	95	1,241	818	818	
6.0	00	1,262	63	880	
7.0	00	1,715	1,489	2,369	
8.0	00	2,224	1,970	4,338	
Elevatio	on s	Surf.Area	Inc.Store	Cum.Store	
(fee	et)	(sa-ft)	(cubic-feet)	(cubic-feet)	
2.0)5	940	0		
5.2	20	940	2,115	2,115	
			-		
Device	Routing	Invert	Outlet Devic	es	
#1	Device 2	5.95'	24.00" x 24	.00" Horiz. CB Gi	rate Inlet C= 0.600 ads
#2	Primary	2 62'	5.00" Rour	d Culvert from C	CB to DMH A-11 = 16.0' Ke= 0.500
	. mai y	2.02	Inlet / Outlet	Invert= 2 62' / 2 5	50' S = 0.0075 '/' Cc = 0.900
			n=0.012 F	low Area= 0.14 sf	
#3	Device 4	2.95'	2.410 in/hr	Infiltration throu	gh Media over Surface area
			Phase-In=	0.01'	
#4	Secondar	ry 2.62'	4.00" Rour	nd Underdrain L=	= 18.0' Ke= 0.500
			Inlet / Outlet	: Invert= 2.62' / 2.8	50' S= 0.0067 '/' Cc= 0.900
			n= 0.012, F	low Area= 0.09 sf	F
Primary	OutFlow	Max=1.08 cfs (@ 12.62 hrs H	HW=6.91' TW=4.1	10' (Dynamic Tailwater)
└─2ॣ=Cu	lvert from	CB to DMH A	-11 (Outlet Co	ntrols 1.08 cfs @	7.94 fps)
└ ─ 1=	CB Grate	Inlet (Passes	1.08 cfs of 18.	89 cfs potential flo	ow)

Secondary OutFlow Max=0.05 cfs @ 6.29 hrs HW=3.00' TW=2.67' (Dynamic Tailwater) 4=Underdrain (Passes 0.05 cfs of 0.17 cfs potential flow) 3=Infiltration through Media (Exfiltration Controls 0.05 cfs)

Summary for Pond 105: Underground Detention System - A

Inflow	=	3.44 cfs @	12.08 hrs,	Volume=	0.080 af		
Outflow	=	0.89 cfs @	12.23 hrs,	Volume=	0.080 af,	Atten= 74%,	Lag= 8.8 min
Primary	=	0.84 cfs @	12.23 hrs,	Volume=	0.013 af		-
Secondary	=	0.07 cfs @	12.53 hrs,	Volume=	0.067 af		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Peak Elev= 7.66' @ 12.23 hrs Surf.Area= 1,709 sf Storage= 2,850 cf

Plug-Flow detention time= 310.3 min calculated for 0.080 af (100% of inflow) Center-of-Mass det. time= 310.4 min (1,032.4 - 722.1)

Type III 24-hr 100-Year Rainfall=8.60" Printed 9/2/2021

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Volume	Invert	Avail.Storage	Storage Description
#1A	5.00'	1,292 cf	25.25'W x 67.70'L x 3.50'H Field A
			5,983 cf Overall - 2,067 cf Embedded = 3,915 cf x 33.0% Voids
#2A	5.50'	2,067 cf	ADS_StormTech SC-740 +Cap x 45 Inside #1
			Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
			Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
			45 Chambers in 5 Rows
		2 250 of	Total Available Storage

3,359 ct I otal Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Device 2	7.50'	4.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#2	Primary	4.25'	12.00" Round Culvert Outlet L= 73.0' Ke= 0.500
			Inlet / Outlet Invert= 4.25' / 3.77' S= 0.0066 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf
#3	Device 4	4.50'	4.00" Round Underdrain L= 10.0' Ke= 0.500
			Inlet / Outlet Invert= 4.50' / 4.25' S= 0.0250 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.09 sf
#4	Secondary	4.25'	1.25" Vert. Underdrain Cap C= 0.600
			Limited to weir flow at low heads

Primary OutFlow Max=0.83 cfs @ 12.23 hrs HW=7.66' TW=6.06' (Dynamic Tailwater)

2=Culvert Outlet (Passes 0.83 cfs of 4.29 cfs potential flow) **1=Sharp-Crested Rectangular Weir** (Weir Controls 0.83 cfs @ 1.31 fps)

Secondary OutFlow Max=0.07 cfs @ 12.53 hrs HW=7.51' TW=4.25' (Dynamic Tailwater) -4=Underdrain Cap (Orifice Controls 0.07 cfs @ 8.63 fps) -3=Underdrain (Passes 0.07 cfs of 0.71 cfs potential flow)

Summary for Subcatchment 106: Post-106

1.48 cfs @ 12.08 hrs, Volume= 0.119 af, Depth= 8.12" Runoff =

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

Area (ac)	CN	Description	ו	
0.017	74	>75% Gra	ss cover, Good	I, HSG C
0.160	98	Impervious	s, HSG C	
0.177	96	Weighted A	Average	
0.017	74	9.63% Per	vious Area	
0.160	98	90.37% Im	pervious Area	
_ .		.		–
IC Lei	ngth	Slope Velo	city Capacity	Description
<u>(min)</u> (f	feet)	<u>(ft/ft) (ft/s</u>	ec) (cfs)	
6.0				Direct Entry,

Summary for Pond 107: DMH A-11

 Inflow Area =
 0.804 ac, 79.93% Impervious, Inflow Depth = 7.86" for 100-Year event

 Inflow =
 2.18 cfs @ 12.22 hrs, Volume=
 0.527 af

 Outflow =
 2.18 cfs @ 12.22 hrs, Volume=
 0.527 af, Atten= 0%, Lag= 0.0 min

 Primary =
 2.18 cfs @ 12.22 hrs, Volume=
 0.527 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Peak Elev= 6.11' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices	
#1	Primary	2.50'	8.00" Round Culvert L= 70.0' Ke= 0.500 Inlet / Outlet Invert= 2.50' / 2.10' S= 0.0057 '/' Cc= 0.900 n= 0.012, Flow Area= 0.35 sf	

Primary OutFlow Max=2.18 cfs @ 12.22 hrs HW=6.10' TW=3.25' (Dynamic Tailwater) **1=Culvert** (Outlet Controls 2.18 cfs @ 6.24 fps)

Summary for Subcatchment 108: Post-108

	Runoff	=	0.09 cfs @	12.09 hrs,	Volume=	0.007 af, Depth= 6.43	3"
--	--------	---	------------	------------	---------	-----------------------	----

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

Area (ac)	CN	Description					
0.008	74	>75% Grass cover, Good, HSG C					
0.004	98	Impervious, HSG C					
0.012	82	Weighted Average					
0.008	74	65.77% Pervious Area					
0.004	98	34.23% Impervious Area					
Tc Lengt (min) (feet	h ଶ t)	lope Velocity Capacity Description (ft/ft) (ft/sec) (cfs)					
6.0		Direct Entry,					
Summary for Pond 109: RIDOT CB-1 (North)							
Inflow Area = Inflow = Outflow = Primary =	(2 2 2	.816 ac, 79.24% Impervious, Inflow Depth = 7.84" for 100-Year event .23 cfs @ 12.22 hrs, Volume= 0.533 af .23 cfs @ 12.22 hrs, Volume= 0.533 af, Atten= 0%, Lag= 0.0 min .23 cfs @ 12.22 hrs, Volume= 0.533 af					

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Peak Elev= 3.25' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.07'	12.00" Round RIDOT Culvert L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 2.07' / 2.00' S= 0.0014 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.23 cfs @ 12.22 hrs HW=3.25' TW=0.00' (Dynamic Tailwater) **1=RIDOT Culvert** (Barrel Controls 2.23 cfs @ 3.04 fps)

Summary for Subcatchment 110: Post-110

Runoff = 0.18 cfs @ 12.09 hrs, Volume= 0.013 af, Depth= 5.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

Area (ac) CN Description	
0.022 74 >75% Grass cover, Good, HSG C	
0.005 98 Impervious, HSG C	
0.026 78 Weighted Average	
0.022 74 82.10% Pervious Area	
0.005 98 17.90% Impervious Area	

(11111)	(leet)	(1711)	(II/Sec)	(05)		-
(min)	(foot)	(f+/f+)	(ft/ooo)	(ofo)		
Тс	Length	Slope	Velocity	Capacity	Description	

6.0

Direct Entry,

Summary for Pond 111: RIDOT CB-2 (Central)

Inflow Area	ı =	0.026 ac, ⁻	17.90% Impe	rvious,	Inflow Depth	= 5.9	95" for 1	00-Year event
Inflow	=	0.18 cfs @	12.09 hrs, 1	Volume	= 0.01	13 af		
Outflow	=	0.18 cfs @	12.09 hrs, `	Volume	= 0.01	13 af,	Atten= 0%	%, Lag= 0.0 min
Primary	=	0.18 cfs @	12.09 hrs, `	Volume	= 0.01	13 af		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Peak Elev= 2.36' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.07'	12.00" Round RIDOT Culvert L= 50.0' Ke= 0.500
			Inlet / Outlet Invert= 2.07' / 2.00' S= 0.0014 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.18 cfs @ 12.09 hrs HW=2.36' TW=0.00' (Dynamic Tailwater) -1=RIDOT Culvert (Barrel Controls 0.18 cfs @ 1.41 fps)

Summary for Subcatchment 112: Post-112

Runoff = 1.53 cfs @ 12.08 hrs, Volume= 0.121 af, Depth= 7.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

Type III 24-hr 100-Year Rainfall=8.60" Printed 9/2/2021

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Area (ac)	CN	Description			
0.031	74	>75% Grass c	over, Good	, HSG C	
0.153	98	Impervious, H	SG C		
0.000	98	Roofs, HSG C			
0.184	94	Weighted Ave	age		
0.031	74	16.84% Pervic	us Area		
0.153	98	83.16% Imper	/ious Area		
Tc Ler (min) (f	ngth eet)	Slope Velocity (ft/ft) (ft/sec)	Capacity (cfs)	Description	
6.0				Direct Entry,	

Direct Entry,

Summary for Pond 113: WQ Bypass - B

Inflow Area	=	0.184 ac, 8	3.16% Imp	ervious, l	Inflow De	epth =	7.8	8" for 1	100-Yea	ar event
Inflow =	=	1.53 cfs @	12.08 hrs,	Volume=	:	0.121	af			
Outflow =	=	1.53 cfs @	12.08 hrs,	Volume=	:	0.121	af,	Atten= 09	%, Lag	= 0.0 min
Primary =	=	0.98 cfs @	12.08 hrs,	Volume=	:	0.093	af		•	
Secondary =	=	0.57 cfs @	12.11 hrs,	Volume=	:	0.028	af			

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Peak Elev= 10.45' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	8.59'	6.00" Round To Sand Filter L= 18.0' Ke= 0.500
	·		Inlet / Outlet Invert= 8.59' / 8.24' S= 0.0194 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf
#2	Device 3	8.90'	4.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)
#3	Secondary	8.59'	12.00" Round To Underground QP L= 10.0' Ke= 0.500
	-		Inlet / Outlet Invert= 8.59' / 8.54' S= 0.0050 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.92 cfs @ 12.08 hrs HW=10.36' TW=9.40' (Dynamic Tailwater) -1=To Sand Filter (Inlet Controls 0.92 cfs @ 4.70 fps)

Secondary OutFlow Max=0.58 cfs @ 12.11 hrs HW=10.45' TW=10.42' (Dynamic Tailwater) -3=To Underground QP (Inlet Controls 0.58 cfs @ 0.74 fps) -2=Sharp-Crested Rectangular Weir (Passes 0.58 cfs of 5.41 cfs potential flow)

Summary for Pond 114: Underground Sand Filter - B

Inflow Are	ea =	0.184 ac, 8	33.16% Impervious	, Inflow Depth =	6.03" fo	r 100-Year event
Inflow	=	0.98 cfs @	12.08 hrs, Volum	e= 0.093	af	
Outflow	=	0.16 cfs @	11.71 hrs, Volum	e= 0.093	af, Atten=	83%, Lag= 0.0 min
Primary	=	0.16 cfs @	11.71 hrs, Volum	e= 0.093	af	-

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Peak Elev= 10.35' @ 12.24 hrs Surf.Area= 843 sf Storage= 872 cf

Plug-Flow detention time= 29.2 min calculated for 0.093 af (100% of inflow) Center-of-Mass det. time= 29.2 min (795.4 - 766.2)

Type III 24-hr 100-Year Rainfall=8.60" Printed 9/2/2021

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Volume	Invert	Avail.Storage	Storage Description
#1A	7.70'	324 cf	10.50'W x 39.22'L x 3.50'H Field A
			1,441 cf Overall - 459 cf Embedded = 982 cf x 33.0% Voids
#2A	8.20'	459 cf	ADS_StormTech SC-740 +Cap x 10 Inside #1
			Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
			Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
			10 Chambers in 2 Rows
#3	6.20'	214 cf	11.00'W x 39.22'L x 1.50'H Sand Storage
			647 cf Overall x 33.0% Voids
		007 of	Tatal Available Ctarage

997 cf I otal Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Device 2	6.20'	8.270 in/hr Exfiltration over Surface area Phase-In= 0.01'
#2	Primary	5.62'	4.00" Round Underdrain L= 75.0' Ke= 0.200
	-		Inlet / Outlet Invert= 5.62' / 5.32' S= 0.0040 '/' Cc= 0.900
			n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.09 sf

Primary OutFlow Max=0.16 cfs @ 11.71 hrs HW=7.73' TW=3.00' (Dynamic Tailwater) **2=Underdrain** (Passes 0.16 cfs of 0.32 cfs potential flow) **1=Exfiltration** (Exfiltration Controls 0.16 cfs)

Summary for Subcatchment 115: Post-115

Runoff	=	1.06 cfs @	12.08 hrs.	Volume=	0.088 af.	Depth= 8.36"	
i tanton		1.00 010 (00)	12.00110,	Volumo	0.000 al,	Dopui 0.00	

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

Area (ac)	CN	Desc	cription		
0.126	98	Root	fs, HSG C		
0.126	98	100.	00% Impe	rvious Area	a
Tc Len (min) (fe	gth eet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 116: Post-116

Runoff 0.66 cfs @ 12.08 hrs, Volume= 0.054 af, Depth= 8.36" =

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

Area (ac)	CN	Description
0.078	98	Roofs, HSG C
0.078	98	100.00% Impervious Area

Type III 24-hr 100-Year Rainfall=8.60" Printed 9/2/2021

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Tc (min)	Length	Slope	Velocity	Capacity	Description			
<u> (IIIII)</u> 6.0	(leet)	(1011)	(11/SEC)	(015)	Direct Entry,			
	Summary for Subcatchment 117: Post-117							
Runoff	=	0.29 cfs	s@ 12.0	8 hrs, Volu	me= 0.024 af, Depth= 8.36"			
Runoff by Type III 24	SCS TR- 4-hr 100-	20 meth Year Ra	nod, UH=S ainfall=8.60	CS, Weigh)"	ted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs			
Area (a	ac) CN	Desc	cription					
0.0)34 98	Root	fs, HSG C					
0.0)34 98	100.	00% Impe	rvious Area	1			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
6.0					Direct Entry,			
	Sı	ummai	ry for Po	nd 118: l	Jnderground Detention System - B			
Inflow Are Inflow Outflow Primary	ea = = = =	0.239 a 2.57 cfs 2.54 cfs 2.54 cfs	ac,100.009 s @ 12.08 s @ 12.10 s @ 12.10	% Imperviou 8 hrs, Volu 0 hrs, Volu 0 hrs, Volu	us, Inflow Depth = 9.79" for 100-Year event ime= 0.195 af ime= 0.195 af, Atten= 1%, Lag= 1.2 min ime= 0.195 af			
Routing b Peak Elev	y Dyn-Sto /= 10.43' (or-Ind m @ 12.10	ethod, Tim) hrs Surf	e Span= 0. .Area= 765	.00-72.00 hrs, dt= 0.01 hrs 5 sf Storage= 1,294 cf			
Plug-Flow Center-of	Plug-Flow detention time= (not calculated: outflow precedes inflow) Center-of-Mass det. time= 15.2 min (755.3 - 740.1)							
Volume	Invei	rt Av	vail.Storag	e Storage	e Description			
#1A	7.70)'	580 0	of 19.50'V	W x 39.22'L x 3.50'H Field A			
#2A	8.20)'	919 0	2,677 c cf ADS_S Effectiv Overall 20 Cha	of Overall - 919 cf Embedded = 1,758 cf x 33.0% Voids StormTech SC-740 +Cap x 20 Inside #1 /e Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf I Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap ambers in 4 Rows			

1,499 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Device 3	10.20'	6.0' long Overflow Weir 2 End Contraction(s)
#2	Device 3	7.37'	4.00" Round Underdrain L= 47.0' Ke= 0.500
			Inlet / Outlet Invert= 7.37' / 7.18' S= 0.0040 '/' Cc= 0.900
			n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.09 sf
#3	Primary	5.29'	12.00" Round Culvert
	-		L= 46.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 5.29' / 5.06' S= 0.0050 '/' Cc= 0.900

n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.54 cfs @ 12.10 hrs HW=10.43' TW=5.83' (Dynamic Tailwater) 3=Culvert (Passes 2.54 cfs of 7.97 cfs potential flow) 1=Overflow Weir (Weir Controls 2.08 cfs @ 1.55 fps) 2=Underdrain (Barrel Controls 0.45 cfs @ 5.20 fps)

Summary for Subcatchment 119: Post-119

Runoff = 1.02 cfs @ 12.08 hrs, Volume= 0.083 af, Depth= 8.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

A	vrea (ac)	CN	Description
	0.011	74	>75% Grass cover, Good, HSG C
	0.111	98	Impervious, HSG C
	0.122	96	Weighted Average
	0.011	74	8.76% Pervious Area
	0.111	98	91.24% Impervious Area

Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
~ ~ ~						

6.0

Direct Entry,

Summary for Pond 120: DMH B-7

Inflow Area	a =	0.545 ac,	92.35% Impe	rvious, Inflo	ow Depth =	8.14" for	100-Year event
Inflow	=	3.71 cfs @	12.10 hrs, '	Volume=	0.370	af	
Outflow	=	3.71 cfs @	12.10 hrs, `	Volume=	0.370 :	af, Atten=	0%, Lag= 0.0 min
Primary	=	3.71 cfs @	12.10 hrs, '	Volume=	0.370 ;	af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Peak Elev= 5.86' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.50'	12.00" Round Culvert L= 70.0' Ke= 0.500 Inlet / Outlet Invert= 2.50' / 2.10' S= 0.0057 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=3.64 cfs @ 12.10 hrs HW=5.81' TW=4.69' (Dynamic Tailwater) -1=Culvert (Outlet Controls 3.64 cfs @ 4.63 fps)

Summary for Subcatchment 121: Post-121

Runoff = 0.55 cfs @ 12.09 hrs, Volume= 0.039 af, Depth= 5.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

Type III 24-hr 100-Year Rainfall=8.60" Printed 9/2/2021

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Area	(ac)	CN	Desc	cription					
0.	.066	74	>75%	>75% Grass cover, Good, HSG C					
0.	.022	70	Woo	ds, Good,	HSG C				
0.	.088	73	Weig	ghted Aver	age				
0.	.088	73	100.	00% Pervi	ous Area				
Tc (min)	Leng (fee	th et)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
6.0						Direct Entry,			

Summary for Subcatchment 122: Post-122

Runoff = 0.62 cfs @ 12.09 hrs, Volume= 0.044 af, Depth= 5.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

% Grass cover, Good, HSG C	
.00% Pervious Area	
Velocity Capacity Description (ft/sec) (cfs)	
Direct Entry,	
02.0	6 Grass cover, Good, HSG C 00% Pervious Area Velocity Capacity Description (ft/sec) (cfs) Direct Entry,

Summary for Pond 123: RIDOT CB-3 (South)

Inflow Area	a =	0.730 ac, (68.89% Impe	ervious,	Inflow Depth =	7.4	5" for 100	-Year event
Inflow	=	4.87 cfs @	12.10 hrs,	Volume	= 0.453	3 af		
Outflow	=	4.87 cfs @	12.10 hrs,	Volume	= 0.453	3 af,	Atten= 0%,	Lag= 0.0 min
Primary	=	4.87 cfs @	12.10 hrs,	Volume	= 0.453	3 af		-

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Peak Elev= 4.69' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	2.07'	12.00'' Round RIDOT Culvert L= 50.0' Ke= 0.500 Inlet / Outlet Invert= 2.07' / 2.00' S= 0.0014 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=4.86 cfs @ 12.10 hrs HW=4.68' TW=0.00' (Dynamic Tailwater) **T=RIDOT Culvert** (Barrel Controls 4.86 cfs @ 6.18 fps)

Summary for Link 124: DP-1 RIDOT Drainage

Inflow A	Area =	1.573 ac, 7	73.41% Impe	ervious,	Inflow	Depth =	7.6	3" for	100-Ye	ear event
Inflow	=	7.19 cfs @	12.10 hrs,	Volume	=	1.000	af			
Primary	/ =	7.19 cfs @	12.10 hrs,	Volume	=	1.000	af, /	Atten= 0	%, La	g= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 200: Post-200

Runoff = 1.21 cfs @ 12.09 hrs, Volume= 0.087 af, Depth= 5.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year Rainfall=8.60"

	Area (ac	;) CN	Deso	cription		
	0.142	2 74	>75	% Grass co	over, Good	d, HSG C
	0.016	6 98	3 Impe	ervious, HS	SG C	
	0.028	870) Woo	ds, Good,	HSG C	
	0.186	6 75	5 Weig	ghted Aver	age	
	0.170	0 73	91.3	1% Pervio	us Area	
	0.016	6 98	8 8.69	% Impervio	ous Area	
(Tc Le (min) (ength (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	6.0					Direct Entry,

Summary for Link 201: DP-2 Railroad Tracks

Inflow A	rea =	0.186 ac,	8.69% Impervious,	Inflow Depth = 5.	59" for 100-Year event
Inflow	=	1.21 cfs @	12.09 hrs, Volume	= 0.087 af	
Primary	=	1.21 cfs @	12.09 hrs, Volume	= 0.087 af,	Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Watershed Maps

