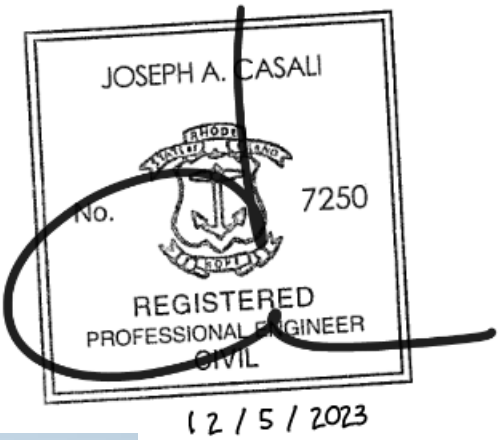
Project Narrative

For

Pitman Street Redevelopment

A Proposed Multi-Family Structure Consisting of 16 Residential Units

150 Pitman Street
Providence, RI
AP 15, Lots 238 - 240



Prepared for:
Walter Bronhard Realty
c/o Mr. Walter Bronhard, Manager
972 Highland Avenue
Fall River, MA 02720

Image Courtesy of Aharonian & Associates, Inc.

Submission Date:
October 2023; Revised December 2023

Submitted by:

JCE
JOE CASALI ENGINEERING, INC.
CIVIL · SITE DEVELOPMENT · TRANSPORTATION
DRAINAGE · WETLANDS · ISDS · TRAFFIC · FLOODPLAIN
300 POST ROAD, WARWICK, RI 02888
(401) 944-1300 (401)944-1313 FAX WWW.JOECASALI.COM

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APPENDICES

1 INTRODUCTION

On behalf of Mr. Walter Bronhard and 150 Pitman Street, LLC, Joe Casali Engineering, Inc. (JCE) has prepared the following Project Narrative to identify existing and proposed site conditions related to a proposed Major Land Development Project consisting of a new 44,050 sq. ft. (9,210 footprint), five-story, multi-family dwelling. The subject properties, known as Tax Assessor's Plat (AP) 15, Lots 238, 239 and 240, has frontage on Pitman Street in the City of Providence. The three (3) lots will be merged into one (1) contiguous parcel totaling 12,862 square feet (0.295 acres).

The project consists of razing the existing three-story, two-family dwelling for the construction of a 44,050 sq. ft. (9,210 footprint), five (5) story, multi-family residential structure. The proposed building consists of 16 two-bedroom residential units within the upper four (4) floors. The ground level will be reserved for parking, utilities, and support space.

2 SITE LOCATION AND PHYSICAL DESCRIPTION

The subject properties are identified as Tax Assessor's Plat (AP) 15, Lots 238, 239 and 240 with the physical address of 158, 154, and 150 Pitman Street, respectively in Providence, Rhode Island. Based on the Class I Comprehensive Boundary Survey, performed by Waterman Engineering Company, the site contains a total of 12,862 square feet (0.295 acres) and has frontage on Pitman Street. AP 15, Lot 240 has an area of approximately 4,696 sq. ft. and currently contains an existing three-story, two-family dwelling. AP 15, Lots 239 and 240 have a combined area of 8,166 sq. ft. and currently contain an existing parking lot. The site is bound by commercial properties to the north, a single-family dwelling to the east, Pitman Street to the south, and the Delano apartment complex to the west, as shown below in Figure 1 – Locus Map.

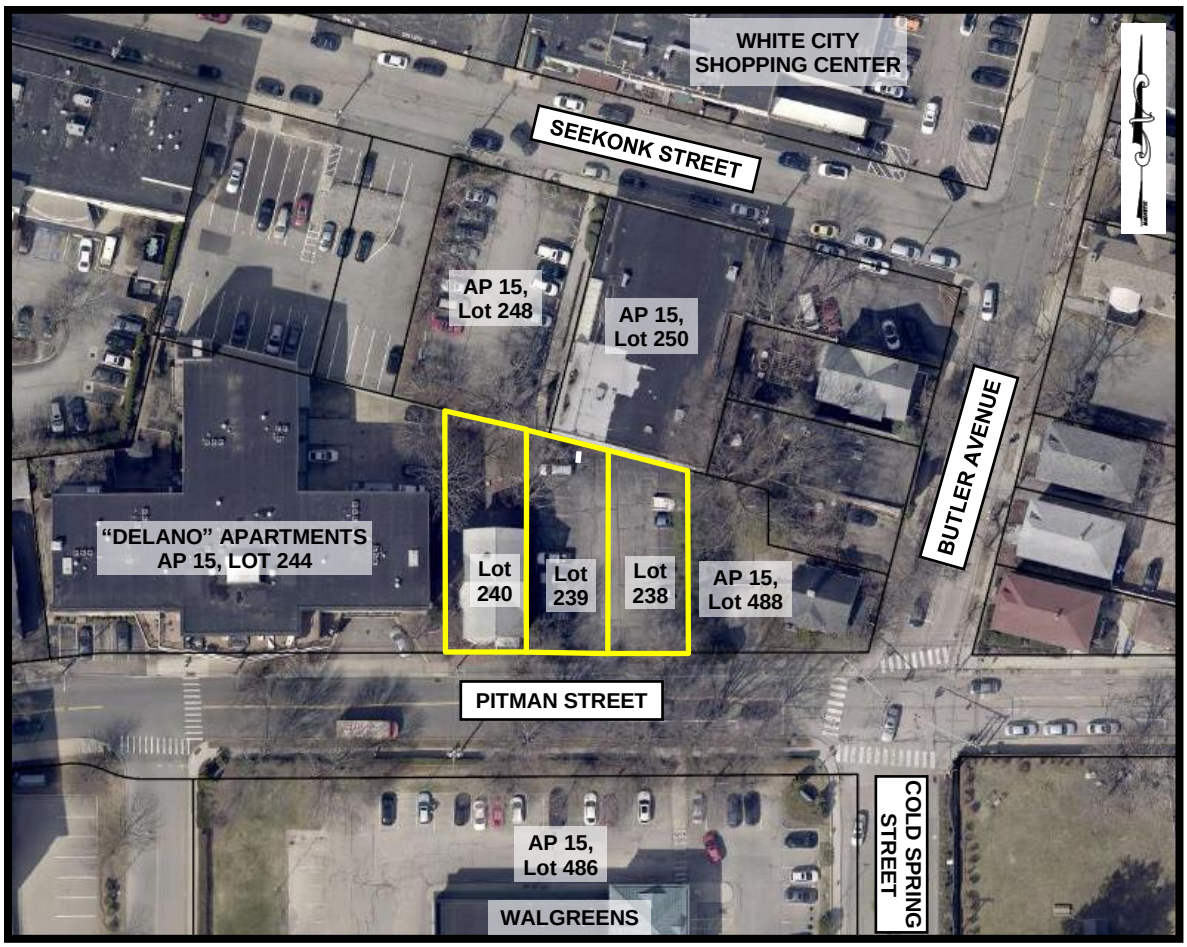


Figure 1 – Locus Map

NOT TO SCALE

2.1 Soil Classification

According to the *Web Soil Survey (WSS)* operated by the US Department of Agriculture Natural Resources Conservation Service (NRCS), produced by the National Cooperative Soil Survey, the soils on-site consist of Merrimac-Urban land complex, 0-8% slopes (MU), and Udorthents-Urban land complex (UD). MU soils consist of nearly level and undulating Merrimac soil. The Merrimac soil is very deep and somewhat excessively drained. These soils have been assigned to the Hydrologic Soil Group 'A'. UD soils consists of moderately well drained to excessively drained soils that have been disturbed by cuffing or filling, and areas that are covered by buildings and pavement.

Figure 2 – Soils Map
NOT TO SCALE

2.2 Flood Zone Classification

The subject parcel is located on the Flood Insurance Rate Map (FIRM) for Providence County, Map Number 44007C0309K, effective October 2, 2015. Based on this FIRM, the

site and all adjacent sites are identified as Zone X – areas determined to be outside of the 0.2% annual-chance flood hazard area.

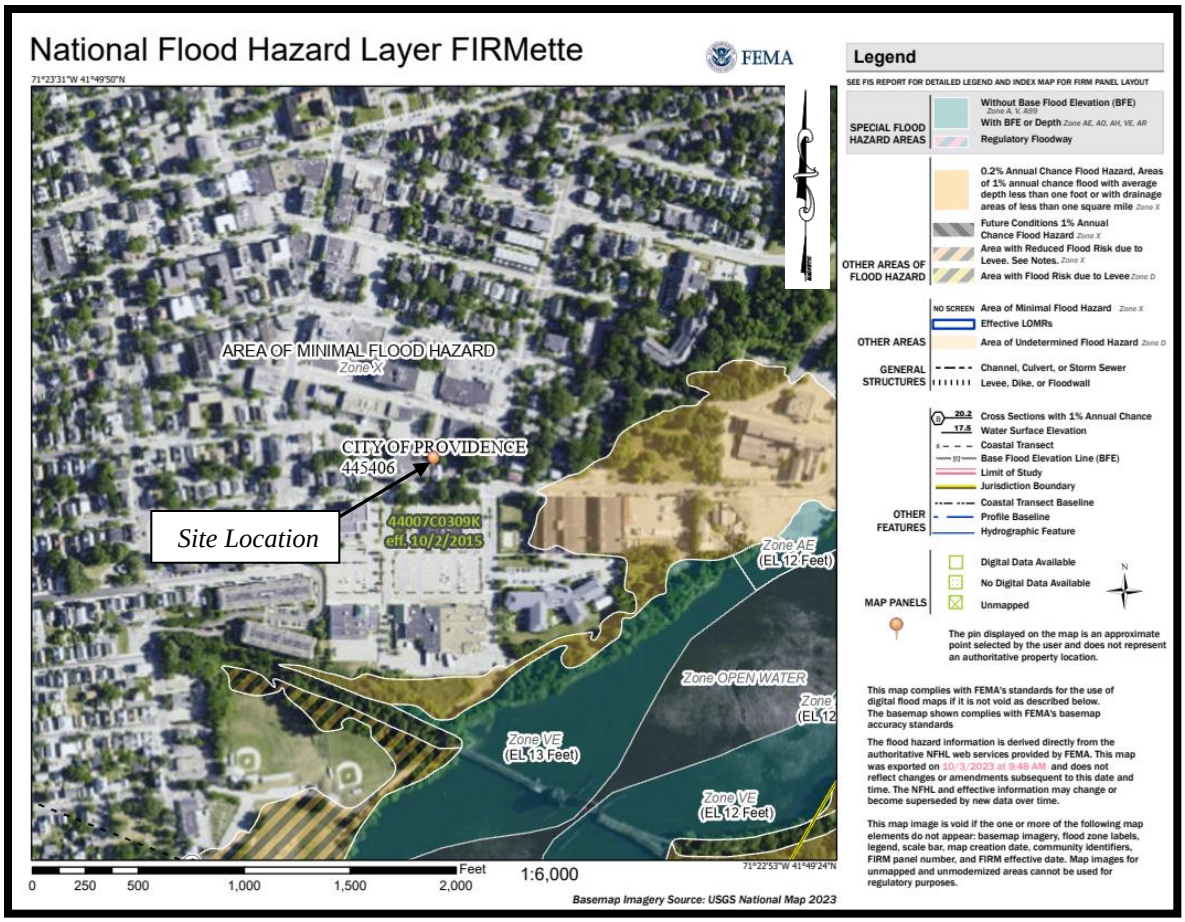


Figure 3 – Flood Map
NOT TO SCALE

2.3 Natural Resource Inventory

According to the Rhode Island Department of Environmental Management (RIDEM) Environmental Resource Mapping, there are no wetland features within or adjacent to the subject parcels.

The site is located within the Seekonk River – Providence River Watershed (#010900040901). Stormwater runoff from the site sheet flows to existing catch basins within Pitman Street. Stormwater runoff from this area is routed through a series of pipes to discharge to the Seekonk River (RI0007019E-01) which has impairments for fecal coliform, total nitrogen, and dissolved oxygen. There are no total maximum daily loads (TMDL) established for these impairments.

2.4 Recreational Resource Inventory

There are no known existing public, recreational or cultural resources within the subject site. The parcel is not located in a historic planning district, land conservation area, or natural heritage area. There are no boat launches, lake, and/or stream access points, beaches, or water trails.

2.5 Easements

Based on the Class I Comprehensive Boundary Survey, there are no existing easements on the subject parcels. It should be noted, however, that the subject parcels are encumbered by a drain line that runs through Lot 239 carrying stormwater from Lot 248 to the north and into Pitman Street. A gas line from Pitman Street crosses Lot 238 and connects to the existing building on Lot 250 to the north.

2.6 Zoning

According to the City of Providence Zoning Ordinance and Zoning Map, the subject property is currently located within the General Commercial District (C-2). This district is intended for more intensive commercial uses and key commercial nodes, including larger retail establishments. The proposed multi-family development is permitted by right in the C-2 zone.

The following are the current dimensional requirements for the C-2 Zone:

Requirement	C-2 Zone Req'd
Minimum Lot Area	None
Minimum Building Height	16 ft.
Minimum First Story Height	9' Residential use 11' Non-Residential Use
Maximum Building Height	50 ft., not to exceed 4 stories[1]
Maximum Building Coverage	None
Total Maximum Impervious Surface Coverage	None
Minimum Front Setback	Build-to-zone of 0' to 5'[2]
Minimum Side Setback	None; unless abutting residential district, then 10'
Minimum Rear Setback	None; unless abutting residential district, then 20'

Notes:

1. The City Plan Commission has the authority to adjust the building height by up to 24 feet or 2 stories in non-residential zones through land development project review for this project due to structured parking being provided on-site.
2. The required build-to percentage is 60% on the front lot line.

2.7 Existing Utilities

Water: There is an 8-inch ductile iron water main within Pitman Street. A 1-inch copper line services the existing building on site. This water main is owned and maintained by the Providence Water Supply Board (PWSB).

The closest fire hydrant is located approximately 140 feet east of the project site, at the intersection of Pitman Street and Butler Avenue.

Sewer: According to the City of Providence sewer card, a 30-inch x 45-inch brick combined sanitary sewer is available within Pitman Street, owned and maintained by the Narraganset Bay Commission. Effluent is ultimately routed to the Field's Point Wastewater Treatment Facility, owned, and operated by the Narragansett Bay Commission.

Drainage: There is no dedicated drainage main within Pitman Street. Existing catch basins tie into the combined sanitary (CSO) sewer within Pitman Street. A 10-inch metal drainage line crosses the project site conveying stormwater runoff from the abutter located immediately to the north and ties into the CSO within Pitman Street. Stormwater runoff from the site sheet flows in a southerly direction to the existing catch basins within Pitman Street. Ultimately stormwater runoff is discharged to the Seekonk River.

Gas: A 6-inch polyethylene gas main exists within Pitman Street. This gas main is owned and maintained by RI Energy.

Electric/Communications: Electric and communications services are available to the subject site via overhead lines on the north side of Pitman Street; owned and maintained by RI Energy.

3 PROPOSED SCOPE OF WORK

3.1 General

The project consists of the development of a 44,050 gross sq. ft. (9,210 sq. ft. footprint), five-story, multi-family residential structure. The proposed building consists of 16 two-bedroom residential units within the upper four (4) floors (4 units per floor). Each unit ranges from 1,650 square feet to 2,176 square feet, has two-and-a-half bathrooms and a private balcony. The proposed building will be constructed with a parking area providing 16 parking spaces, including one (1) van accessible parking space complying with the American Disabilities Act (ADA) on the ground floor. The ground floor is also comprised of a sprinkler room, a utility room, a trash area, two (2) egress stairwells, an elevator, a lobby, a gymnasium, and a mechanical room. A new driveway is proposed off Pitman Street providing access to the development. Other improvements include utility connections, stormwater management, rerouting an existing drain line, and landscaped areas. Floor Plans and Renderings are included in Appendix A. Please refer to Appendix B for Site Plans.

3.2 Zoning

As discussed previously, the subject property is located within the General Commercial District (C-2). The proposed mixed-use development is permitted by right in the C-2 zone. The following are the current dimensional requirements for the C-2 Zone:

Requirement	C-2 Zone Req'd	Proposed
Minimum Lot Area	None	12,862 sq. ft.
Minimum Building Height	16 ft.	60 ft.
Minimum First Story Height	9' Residential Use	11 ft.
Maximum Building Height	50 ft., not to exceed 4 stories	57 ft. (5 stories)[2]
Maximum Building Coverage	None	74.2%
Total Maximum Impervious Surface Coverage	None	76.1%
Minimum Front Setback	Build-to-zone of 0' to 5'[1]	Varies (0-3.533 ft.)
Minimum Side Setback	None	6 ft.
Minimum Rear Setback	None	3.94 ft.

Notes:

1. The required build-to percentage is 60% on the front lot line.
2. The City Plan Commission has the authority to adjust the building height by up to 24 feet or 2 stories in non-residential zones through land development project

review for this project due to structured parking being provided on-site. Dimensional adjustment requested for an additional story (7 feet above max.).

The Applicant seeks the following waivers and/or adjustments for this project:

- Height: Pursuant to Section 1904E, the Applicant seeks adjustment of seven (7) feet or one (1) story as the condition of providing structured parking on-site has been met.

The proposed building complies with Article 5 Commercial Districts, Section 503A C-1 and C-2 District Design Standards. The proposed building has been designed to have an orientation to and entrance from the sidewalk along the primary building frontage along Pitman Street. The ground floor building entrance is not recessed more than six feet from the required front setback and is more than the maximum width of eight feet.

Per Article 14 Off-Street Parking and Loading, Section 1402 Required Off-Street Vehicle and Bicycle Parking Spaces, dwelling – multi-family uses required 1 parking space per dwelling unit and 1 bicycle space per 5 dwelling units. The proposed development requires 16 off-street parking spaces, including one (1) van accessible parking space complying with the American Disabilities Act (ADA) and four (4) bicycle spaces, all of which are provided within the ground level of the proposed residential structure. Per Section 1403 Required Off-Street Loading Spaces, multi-family dwelling uses of 40,000 sq. ft. or more gross floor area (not including interior parking spaces) must provide 1 loading space. Not including the interior parking spaces, the proposed residential structure has an area of 37,729 sq. ft. gross floor area and therefore a loading space is not required for this development.

Per Article 15 Trees and Landscaping, Section 1503 On-Site Landscaping and Required Trees, sufficient trees shall be retained and/or planted on a lot so that the square footage of vegetative canopy of such trees, when mature, equals 15% of the square footage of the lot. The subject property requires 1,929 square feet of tree canopy. Existing street trees located in the public right-of-way directly adjacent to the lot line may be counted toward the canopy coverage for the lot. There is an existing street tree in front of the project site that will be maintained and protected. An additional tree may be required to meet this requirement. Coordination with the City Forester will be required to confirm this requirement has been met.

3.3 Utilities

Water: The proposed development will require a new domestic water service connection and a new fire protection service connection from the existing water main within Pitman Street. Review and approval of the proposed domestic and fire protection service designs will be required by Providence Water.

Sewer: The proposed development will require a new sewer service connection to the existing combined sewer main within Pitman Street. Review and approval will be required by the Narragansett Bay Commission (via a direct connection permit) and by the City of Providence Engineering Division.

Gas/Electric/Communications: Gas, electric and communications services are proposed from the existing infrastructure within Pitman Street. Coordination with RI Energy will be required.

Drainage: The overall size of the proposed development requires the project to comply with the City's Stormwater Ordinance. Stormwater appurtenances to provide water quality will be required. An underground infiltration chamber system (UIC) is proposed for stormwater management. Excess stormwater runoff from the system that is unable to be infiltrated on-site will be routed directly to the CSO within Pitman Street. The stormwater design and connection will require review and approval by both the Narragansett Bay Commission and the City of Providence Engineering Division. The UIC will require a permit from the RI Department of Environmental Management.

A stormwater runoff analysis of the pre- and post-construction conditions for the drainage improvements result in the following:

Table 1: Stormwater Runoff Discharge Rates

	Peak Discharge Rate (cfs)			
	1-yr	10-yr	25-yr	100-yr
Design Point 1				
Existing Stormwater Runoff	1.30	2.89	3.77	5.69
Proposed Stormwater Runoff	0.98	2.88	3.68	5.46
ΔQ	***-0.32***	***-0.01***	***-0.09***	***-0.23***

As shown in Table 1, the peak stormwater runoff rates realized at Design Point 1 (combined sewer system within Pitman Street) have been decreased when comparing existing conditions to proposed conditions for all design storm events. This reduction in

peak stormwater rates is due to the addition of landscaped areas and the proposed UIC, resulting in an increase in groundwater infiltration.

Table 2: Stormwater Total Runoff Volume

		Total Runoff Volume (cf)		
	1-yr	10-yr	25-yr	100-yr
Design Point 1				
Existing Stormwater Runoff	4,226	9,537	12,575	19,304
Proposed Stormwater Runoff	3,394	7,814	10,390	16,357
ΔV	***-832***	***-1,723***	***-2,185***	***-2,947***

As shown in Table 2, the total stormwater runoff volume realized at Design Point 1 has decreased when comparing existing conditions to proposed conditions for the 1-year, 10-year, 25-year and 100-year design storm events. This reduction in stormwater runoff volumes is due to the addition of landscaped areas and the stormwater management system, resulting in an increase in groundwater infiltration.

Refer to Appendix C for the existing and proposed watershed maps.

3.4 Quasi-State and Local Permit Requirements

3.4.1 City Plan Commission (CPC)

The proposed building will need to be reviewed by the City Plan Commission. The project requires three stages of review: (1) Master Plan (2) Preliminary Plan, and (3) Final Plan. The Applicant seeks a wavier and/or adjustment for an additional building story.

3.4.2 City of Providence Engineering Division & Traffic Division; City Forester

The proposed development will require review and approval from the City of Providence Engineering Division for the proposed sewer and drainage connection. In addition, the development will require review and approval from the City of Providence Traffic Division. Coordination with the City Forester will be required regarding tree canopy.

3.4.3 Fire Department

The site will require review and approval from the City of Providence Fire Department.

3.4.4 Providence Water Supply Board

The proposed development will require approval from the Providence Water Supply Board for the proposed fire protection and domestic water service design.

3.4.5 Narragansett Bay Commission (NBC)

All effluent from the subject parcel is ultimately treated at the Fields Point Wastewater Facility, operated by the Narragansett Bay Commission (NBC). Accordingly, the proposed sewer service will require a Sewer Connection Permit from the Narragansett Bay Commission. The project will also require a Stormwater Management Permit from NBC.

3.4.6 Rhode Island Department of Environmental Management (RIDEM)

A Stormwater Construction and Water Quality Certification, and a Groundwater Discharge Permit will be required from the Rhode Island Department of Environmental Management (RIDEM).

Appendix A

Floor Plans and Renderings

Prepared by Aharonian and Associates, Inc., dated December 2023

Appendix B

Site Plans

Prepared by Joe Casali Engineering, Inc., dated December 2023

SITE IMPROVEMENT PLANS FOR A
MINOR LAND DEVELOPMENT PROJECT

PITMAN STREET REDEVELOPMENT

A PROPOSED MULTI-FAMILY STRUCTURE
CONSISTING OF 16 RESIDENTIAL UNITS

150, 154, & 158 PITMAN STREET
PROVIDENCE, RHODE ISLAND
AP 15, LOTS 238-240

ZONING DISTRICT: GENERAL COMMERCIAL DISTRICT (C-2)

PROPERTY OWNER	PROPERTY OWNER	APPLICANT
LOTS 238 & 239 WALTER L. BRONHARD 972 HIGHLAND AVENUE FALL RIVER, MA 02720	LOT 240 150 PITMAN STREET LLC C/O WALTER L. BRONHARD 972 HIGHLAND AVENUE FALL RIVER, MA 02720	WALTER L. BRONHARD 972 HIGHLAND AVENUE FALL RIVER, MA 02720
ENGINEER	**ARCHITECT**	**SURVEYOR**
JOE CASALI ENGINEERING, INC. 300 POST ROAD WARWICK, RI 02888 (401) 944-1300 PHONE WWW.JOECASALI.COM	AHARONIAN & ASSOCIATES, INC. 310 GEORGE WASHINGTON HWY SMITHFIELD, RI 02917 (401) 944-1300 PHONE	WATERMAN ENGINEERING CO. 46 SUTTON AVENUE EAST PROVIDENCE, RI 02914 (401) 438-5773 PHONE

GENERAL NOTES:

1. THIS PLAN IS BASED ON CLASS I COMPREHENSIVE BOUNDARY AND CLASS III TOPOGRAPHIC SURVEY DATED AUGUST 2018, PERFORMED BY WATERMAN ENGINEERING COMPANY LOCATED AT 46 SUTTON AVENUE, EAST PROVIDENCE, RI.
2. THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATEST AVAILABLE INFORMATION. THE UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE ALL INCLUSIVE. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, BOTH OVERHEAD AND UNDERGROUND, AND "DIG-SAFE" MUST BE NOTIFIED PRIOR TO COMMENCING ANY CONSTRUCTION OPERATIONS. RESTORATION AND REPAIR OF DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL COST THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR CITY WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCE.
3. THE SITE IS LOCATED ON THE FLOOD INSURANCE RATE MAP FOR PROVIDENCE COUNTY, MAP NUMBER 440007C0309K, DATED OCTOBER 2, 2015. THE ENTIRE PROJECT SITE IS LOCATED WITHIN FLOOD ZONE X, WHICH IS DEFINED AS AREAS OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD HAZARD AREA.
4. SOILS ON THE SITE CONSIST OF UDORTHENTS-URBAN LAND COMPLEX (UD) AND MERRIMAC-URBAN LAND COMPLEX, 0-8% SLOPES. UD SOILS CONSIST OF HUMAN TRANSPORTED MATERIALS.
5. THERE ARE NO KNOWN WETLANDS ON SITE. THE SITE IS LOCATED WITHIN THE SEEKONK-PROVIDENCE RIVER WATERSHED (RIDEM INVENTORY NO. 010900040901).
6. THERE ARE NO KNOWN EASEMENTS WITHIN THE PROJECT SITE.
7. PUBLIC WATER, SEWER, ELECTRIC/COMMUNICATIONS AND GAS ARE AVAILABLE TO THE PROJECT SITE.

ZONING CRITERIA	REQUIRED
ZONING DISTRICT	C-2
MINIMUM LOT AREA	NONE
MINIMUM BUILDING HEIGHT	16 FT
MINIMUM FIRST STORY HEIGHT	SEE NOTE 1
MAXIMUM BUILDING HEIGHT	50 FT [2]
MAXIMUM BUILDING COVERAGE	NONE
TOTAL MAX. IMPERVIOUS SURFACE COVERAGE	NONE
MINIMUM FRONT SETBACK	SEE NOTE 3
MINIMUM SIDE SETBACK	SEE NOTE 4
MINIMUM REAR SETBACK	SEE NOTE 5

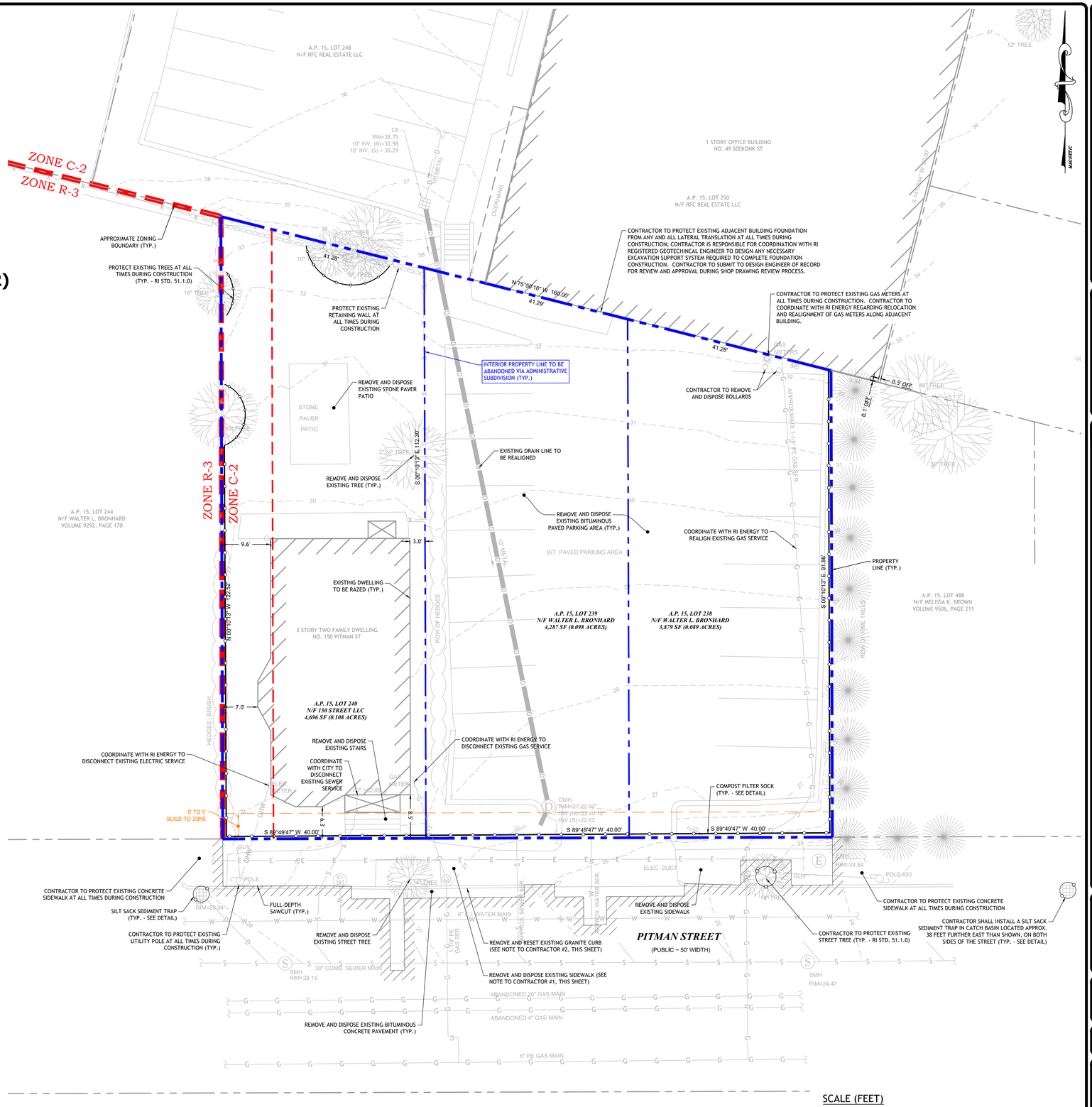
NOTES:
1. 9 FT RESIDENTIAL USE; 11' NON-RESIDENTIAL USE
2. 50 FT, NOT TO EXCEED 4 STORIES
3. BUILD TO ZONE OF 0-5 FT; THE REQUIRED BUILD-TO PERCENTAGE IS 60% ON THE FRONT LOT LINE
4. NONE, UNLESS ABUTTING A RESIDENTIAL DISTRICT, THEN 10 FT
5. NONE; UNLESS ABUTTING A RESIDENTIAL DISTRICT, THEN 20 FT

SOIL EROSION NOTE:

1. CONTRACTOR SHALL ESTABLISH SUFFICIENT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ALONG THE NORTHERN AND EASTERN, DOWN GRADIENT SIDE OF PROJECT AREA INCLUDING BUT NOT LIMITED TO COMPOST SOCK AND SILTSACK SEDIMENT TRAPS ILLUSTRATED ON THE PLANS.

NOTES TO CONTRACTOR - WORK IN CITY RIGHT-OF-WAY:

1. A PHYSICAL ALTERATION PERMIT MUST BE OBTAINED FROM THE CITY OF PROVIDENCE'S DEPARTMENT OF PUBLIC WORKS (DPW) ENGINEERING DIVISION PRIOR TO THE REMOVAL OF SIDEWALK WITHIN CITY RIGHT-OF-WAYS. A DPW TRAFFIC ENGINEERING PERMIT IS REQUIRED FOR THE CLOSING OF THE SIDEWALK TO PEDESTRIAN TRAFFIC. APPLICATION MUST ADDRESS ALTERNATIVE PEDESTRIAN PATH OF TRAVEL.
2. ANY AND ALL SURPLUS CURB IS THE PROPERTY OF THE CITY OF PROVIDENCE AND SHALL BE TRANSPORTED AND STOCKPILED, AS DIRECTED, AT THE DEPARTMENT OF PUBLIC WORKS (DPW) FACILITY AT 20 ERNEST STREET, PROVIDENCE, RI.
3. ALL CONSTRUCTION WITHIN THE CITY RIGHT-OF-WAY MUST BE IN ACCORDANCE WITH THE CITY'S STANDARD DETAILS AVAILABLE AT HTTPS://WWW.PROVIDENCERI.GOV/PUBLIC-WORKS/FORMS/ UNDER "REPORTS + PUBLICATIONS"



SCALE (FEET)
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1 INCH = 10 FT

1-888-DIG-SAFE
PROTECT YOURSELF: DIG THREE WORKING DAYS NOTICE

LOCATION OF EXISTING UTILITIES SHOWN, ARE FROM GATE LOCATION AND EXISTING DOCUMENTATION AND MAY NOT BE ACCURATE. EXACT LOCATION TO BE DONE BY THE APPROPRIATE UTILITY COMPANY OR MUNICIPALITY PRIOR TO ANY EXCAVATION CALL DIGSAFE AT:1-888-DIG-SAFE
1-888-344-7233

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JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL
12/5/2023

16-UNIT, FIVE-STORY RESIDENTIAL STRUCTURE
PITMAN STREET REDEVELOPMENT
PROVIDENCE, RHODE ISLAND
AP 15, LOTS 238-240

REVISIONS:		
NO.	DATE.	DESCRIPTION
1	12/5/23	PLANNING COMMENTS

DESIGNED BY:	WLMJR
DRAWN BY:	SD/SEP
CHECKED BY:	JAC
DATE:	NOV. 2023
PROJECT NO:	19-19s

PRELIMINARY, NOT FOR CONSTRUCTION

EXISTING CONDITIONS

SHEET 1 OF 5

Q:\19-19 Aharonian & Associates\19-19s 150 Pitman St\ACAD\150 Pitman Street (Master Plan) - R1.dwg, Dec. 05, 2023 4:11pm

ZONING CRITERIA	REQUIRED	PROPOSED
ZONING DISTRICT	C-2	C-2
MINIMUM LOT AREA	NONE	12,862 SF
MINIMUM BUILDING HEIGHT	16 FT	>16 FT
MINIMUM FIRST STORY HEIGHT	SEE NOTE 1	11 FT
MAXIMUM BUILDING HEIGHT	50 FT [2]	57 FT (5 STORIES)
MAXIMUM BUILDING COVERAGE	NONE	74.2%
TOTAL MAX. IMPERVIOUS SURFACE COVERAGE	NONE	76.1%
MINIMUM FRONT SETBACK	SEE NOTE 3	0 FT - 3.33 FT
MINIMUM SIDE SETBACK	SEE NOTE 4	6 FT
MINIMUM REAR SETBACK	SEE NOTE 5	3.94 FT

NOTES:
1. 9 FT RESIDENTIAL USE; 11' NON-RESIDENTIAL USE
2. 50 FT, NOT TO EXCEED 4 STORIES
3. BUILD TO ZONE OF 0-5 FT; THE REQUIRED BUILD-TO PERCENTAGE IS 60% ON THE FRONT LOT LINE
4. NONE, UNLESS ABUTTING A RESIDENTIAL DISTRICT, THEN 10 FT
5. NONE; UNLESS ABUTTING A RESIDENTIAL DISTRICT, THEN 20 FT
6. ADJUSTMENT REQUESTED FOR ONE (1) ADDITIONAL STORY / 7 FEET

VEHICLE AND BICYCLE PARKING REQUIREMENTS:

VEHICLE PARKING: PER SECTION 1402, TABLE 14-1: OFF STREET VEHICLE AND BICYCLE PARKING REQUIREMENTS

USE: MULTI-FAMILY DWELLING
MINIMUM 1 PARKING SPACE PER DWELLING UNIT
16 DWELLING UNITS PROPOSED

REQUIRED: 16 PARKING SPACES
PROVIDED: 16 PARKING SPACES (1 VAN ACCESSIBLE ADA SPACE)

BICYCLE PARKING: ONE (1) BICYCLE SPACE IS REQUIRED PER FIVE (5) DWELLING UNITS. 16 UNITS ARE PROPOSED, THEREFORE 4 BICYCLE SPACES ARE REQUIRED. ALL 4 BICYCLE SPACES ARE PROPOSED WITHIN THE BASEMENT OF THE PROPOSED STRUCTURES; REFER TO ARCHITECTURAL PLANS FOR DETAILED LOCATIONS.

LOADING SPACE REQUIREMENT:

LOADING SPACE: PER SECTION 1403, TABLE 14-2: OFF STREET LOADING REQUIREMENTS

USE: MULTI-FAMILY DWELLING
MINIMUM 1 LOADING SPACE FOR 40,000 SF OR MORE GFA*
*NOT INCLUDING INTERIOR PARKING SPACES

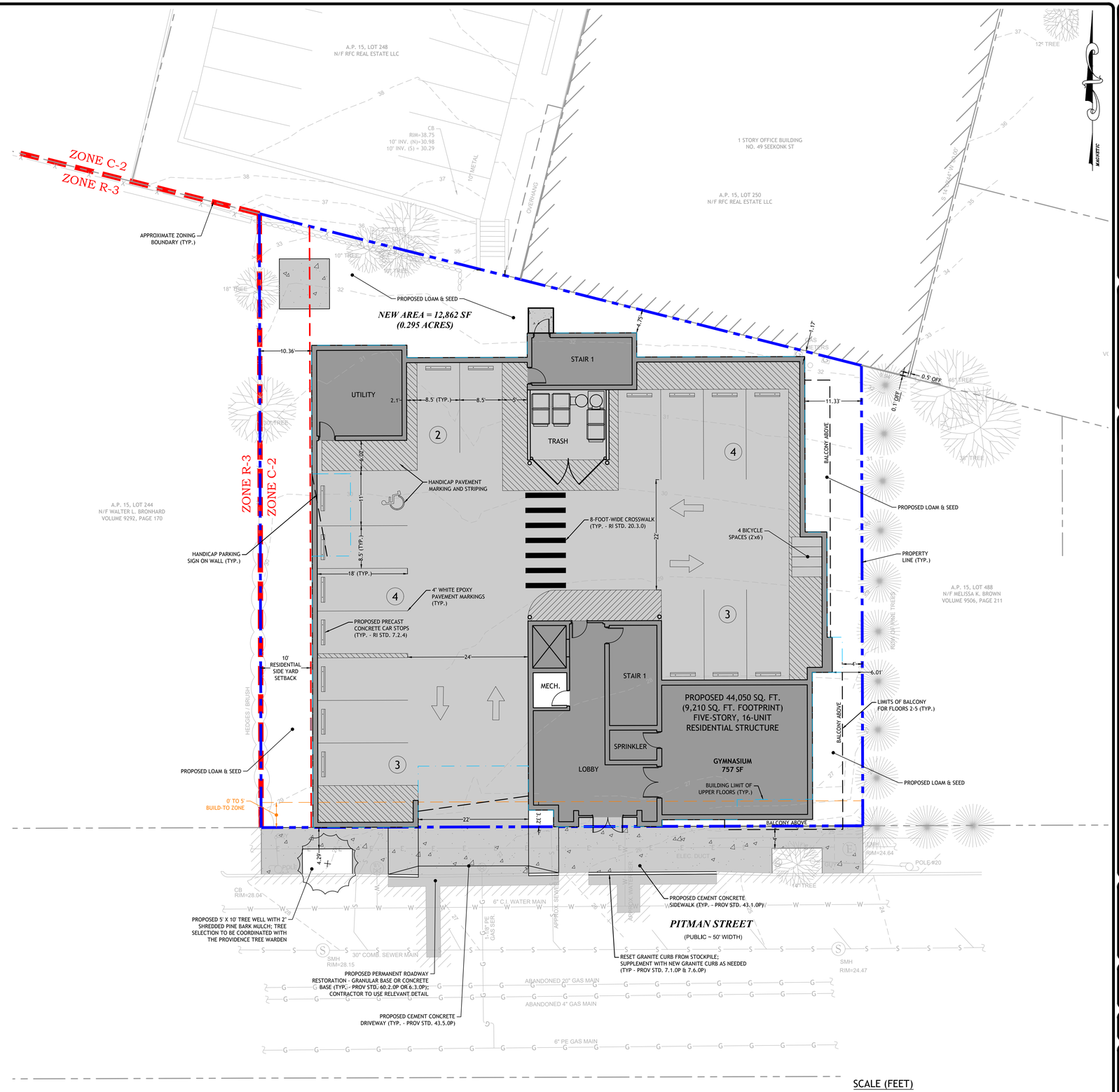
PROPOSED GFA* = 37,729 SF
NO LOADING SPACE REQUIRED

LANDSCAPING REQUIREMENTS:
PER SECTION 1503, - ONSITE LANDSCAPING AND REQUIRED TREES
SECTION C - REQUIRED TREE CANOPY
(ALL OTHER DISTRICTS: 15% OF THE SF OF THE LOT)

12,862 SF TOTAL LOT AREA x 15% OF LOT AREA
= 1,929 SF OF TREE CANOPY

REQUIRED: 1,929 SF OF TREE CANOPY
PROPOSED: 2,000 SF OF TREE CANOPY*
*ONE (1) EXISTING STREET TREE ADJACENT TO THE SUBJECT PROPERTY AND ONE (1) PROPOSED STREET TREE ARE ASSUMED TO MEET THIS REQUIREMENT (LARGE STREET TREE = 1,000 SF CANOPY)

CITY OF PROVIDENCE DEPT. OF PUBLIC WORKS (DPW) NOTES:
1. CONTACT DPW ENGINEERING BEFORE ANY EXCAVATION IN THE PUBLIC RIGHT-OF-WAY OR SEWER CONNECTION AT 401-680-7525.
2. ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY MUST BE IN ACCORDANCE WITH THE CITY'S STANDARD DETAILS.
3. ANY AND ALL SURPLUS GRANITE CURBING SHALL BE RETURNED TO THE CITY OF PROVIDENCE DEPARTMENT OF PUBLIC WORKS.
4. ANY CONSTRUCTION ACTIVITY THAT HINDERS VEHICLE TRAFFIC OR PEDESTRIAN TRAFFIC MUST BE PERMITTED THROUGH THE CITY TRAFFIC ENGINEER.
5. CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING A LETTER OF APPROVAL AND SUBMITTING TO THE DEPARTMENT OF STANDARDS. A PHYSICAL ALTERATION PERMIT, ROAD EXCAVATION PERMIT FOR EACH UTILITY AND SEWER PERMITS ARE REQUIRED BEFORE THAT PARTICULAR WORK COMMENCES.
6. ROOF DRAINS SHALL NOT BE TIED INTO THE SANITARY SEWER CONNECTION.



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DRAINAGE · WETLANDS · ISDS · TRAFFIC · FLOODPLAIN
300 POST ROAD, SUITE 103, WARWICK, RI 02888
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JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL
12/5/2023

16-UNIT, FIVE-STORY RESIDENTIAL STRUCTURE
PITMAN STREET REDEVELOPMENT
PROVIDENCE, RHODE ISLAND
AP 15, LOTS 238-240

REVISIONS:

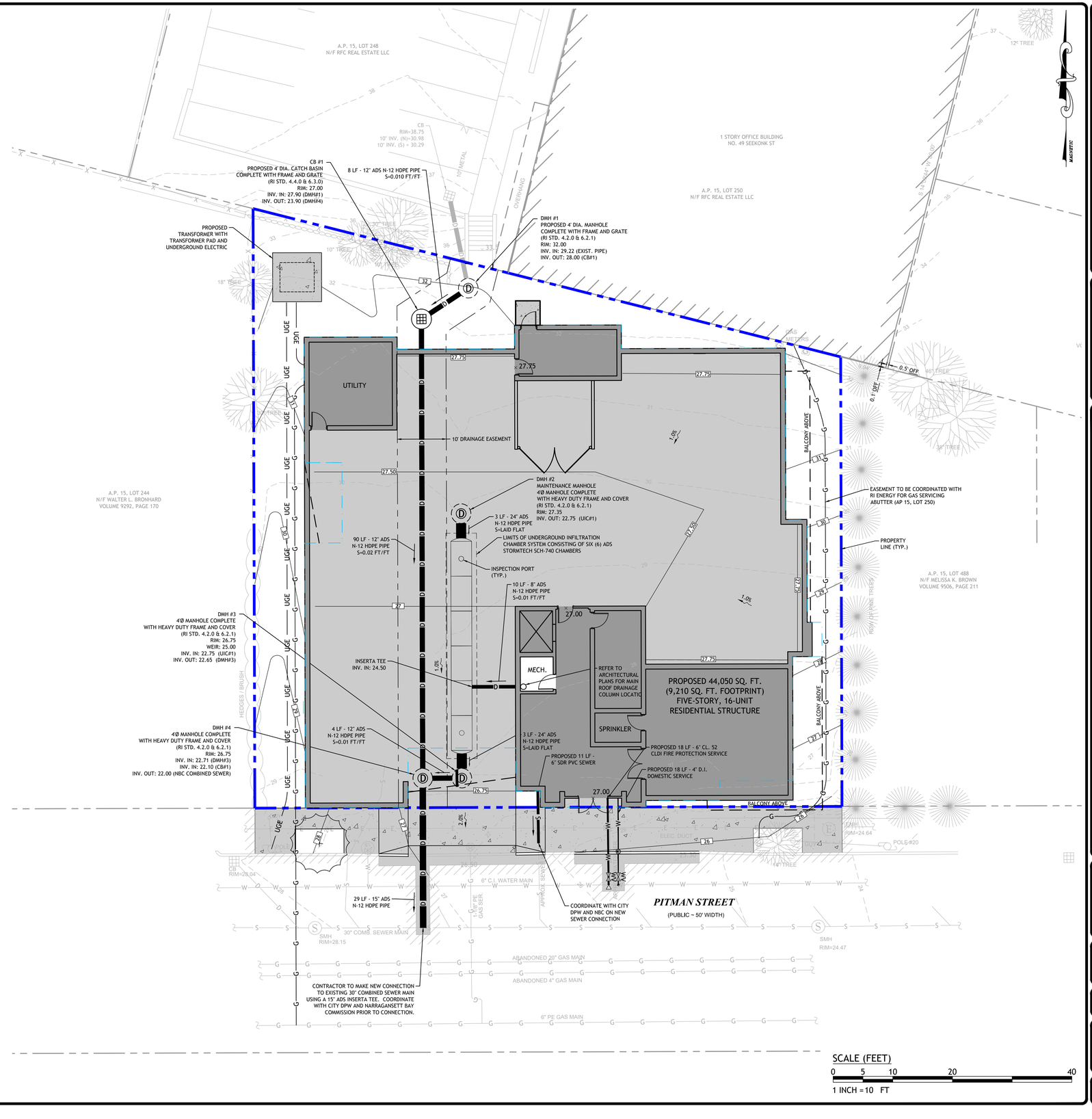
NO.	DATE	DESCRIPTION
1	12/5/23	PLANNING COMMENTS

DESIGNED BY:	WLMJR
DRAWN BY:	SD/SEP
CHECKED BY:	JAC
DATE:	NOV. 2023
PROJECT NO:	19-19s

PRELIMINARY, NOT FOR CONSTRUCTION

SITE PLAN

SHEET 2 OF 5



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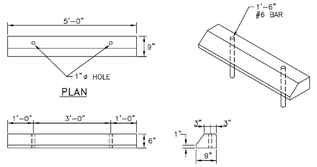
UTILITY & DRAINAGE PLAN

SHEET 3 OF 5



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. ALL EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
3. ALL SURFACES TO HAVE A SPONGE FLOAT FINISH.

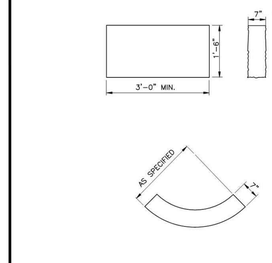
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE
1	MLP	Mar 05

PRECAST CONCRETE CAR STOPS

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 7.2.4

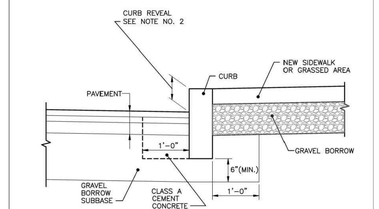


NOTE:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE RI STANDARD SPECIFICATIONS.
2. TOP SURFACE TO BE DRESSED BY SAW. REMAINDER TO BE SAWCUT OR QUARRY SPLIT.
3. MINIMUM LENGTH OR CIRCULAR PIECES TO BE 3'-0".
4. CIRCULAR CURB IS REQUIRED ON CURVES AS INDICATED. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.
5. CURB TO BE SET PER PROVIDENCE CURB SETTING DETAIL.

GRANITE CURB - STRAIGHT AND CIRCULAR
N.T.S.

7.3.0 P PROVIDENCE STANDARD

ISSUE DATE: 1/6/17

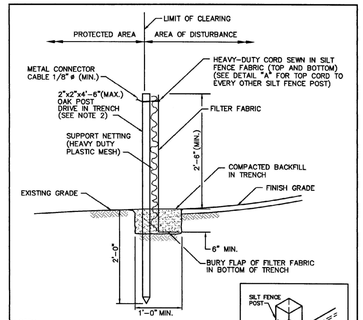


NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. NEW CURBING CONSTRUCTION SHALL BE SET AT A 6 INCH REVEAL OR AS INDICATED ON PLANS OR DIRECTED BY PROVIDENCE DPW. NEW CURBING INSTALLED ADJACENT TO EXISTING CURBING SHALL MATCH THE EXISTING REVEAL OR A MINIMUM OF 4 INCHES, WHICHEVER IS GREATER. IF ADJACENT EXISTING REVEAL IS LESS THAN 4 INCHES, THE FIRST SECTION OF NEW CURB SHALL TRANSITION TO 4" REVEAL.

CURB SETTING DETAIL
N.T.S.

7.6.0 P PROVIDENCE STANDARD

ISSUE DATE: 1/6/17



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
2. 2"x2"x4'-6"(MAX.) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0"(MAX.) O.C. IN WETLAND AREAS AND 4'-0" (MAX.) O.C. IN WETLAND RAVINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
3. 1"x1"x4'-6"(MIN.) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
4. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.

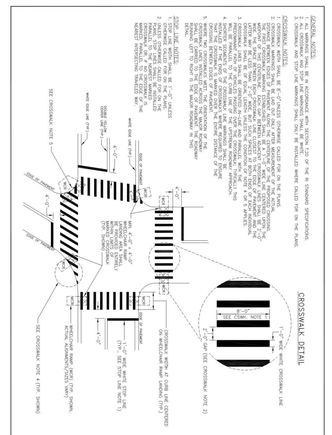
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

SILT FENCE DETAIL

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 9.2.0



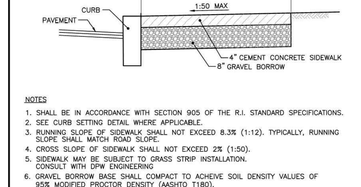
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

PAVEMENT MARKINGS - CROSSWALKS AND STOP LINES

FEBRUARY 27, 2018 (ISSUE DATE)

R.I. STANDARD 20.3.0

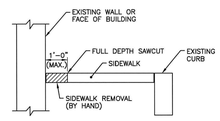


NOTES
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. SEE CURB SETTING DETAIL WHERE APPLICABLE.
3. RUNNING SLOPE OF SIDEWALK SHALL NOT EXCEED 8.3% (1:12). TYPICALLY, RUNNING SLOPE SHALL MATCH ROAD SLOPE.
4. CROSS SLOPE OF SIDEWALK SHALL NOT EXCEED 2% (1:50).
5. SIDEWALK MAY BE SUBJECT TO GRASS STRIP INSTALLATION. CONSULT WITH DPW ENGINEERING
6. GRAVEL BORROW BASE SHALL COMPACT TO ACHIEVE SOIL DENSITY VALUES OF 95% MODIFIED PROCTOR DENSITY (AASHTO T180).
7. SIDEWALK REPAIRS TWENTY FEET OR LONGER ARE SUBJECT TO REQUIREMENTS HEREIN. SIDEWALK REPAIRS SHORTER THAN TWENTY FEET SHALL MAKE EVERY EFFORT TO MEET REQUIRED SLOPES.
8. CONTROLL JOINTS SHALL BE INSTALLED EVERY 5 FEET IN EACH DIRECTION.
9. EXPANSION JOINTS SHALL BE INSTALLED EVERY 20 FEET IN EACH DIRECTION AT FOUNDATIONS AND WALLS AND IN A SQUARE PATTERN AROUND MANHOLE COVERS, HYDRANTS, SIGN POSTS AND UTILITY POLES. THE EXPANSION JOINT SHALL BE THE FULL DEPTH OF THE SIDEWALK AND FILLED WITH AN APPROVED TYPE OF PREMOLDED EXPANSION JOINT FILLER.

CEMENT CONCRETE SIDEWALK
N.T.S.

43.1.0 P PROVIDENCE STANDARD

ISSUE DATE: 1/6/17



NOTES:
1. IN AREAS WHERE SIDEWALKS ARE TO BE REMOVED IN FRONT OF EXISTING WALLS OR BUILDINGS, THE CONTRACTOR SHALL SAWCUT ONE(1) FOOT (MAXIMUM) IN FRONT OF THE WALL/BUILDING AND REMOVE THE SIDEWALK STRUCTURE BY HAND.

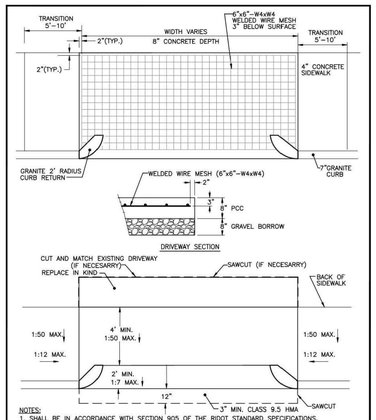
2. IN THE EVENT THAT THE EXISTING SIDEWALK IS A STRUCTURAL ELEMENT OF THE WALL/BUILDING, THE EXISTING SIDEWALK IN FRONT OF THESE STRUCTURES WILL REMAIN IN-PLACE AND A NEW SIDEWALK CONSTRUCTED TO MATCH THE EXISTING SECTION.

3. ANY DAMAGE TO THE WALL OR BUILDING BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.

SIDEWALK REMOVAL DETAIL
N.T.S.

43.1.1 P PROVIDENCE STANDARD

ISSUE DATE: 1/8/17

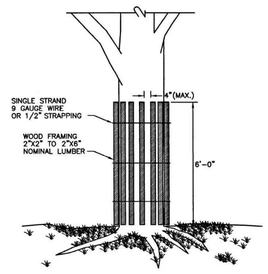


NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE RIDOT STANDARD SPECIFICATIONS.
2. RUNNING SLOPE OF SIDEWALK/DRIVEWAY SHALL NOT EXCEED 8.3% (1:12)
3. 4' MINIMUM ACCESSIBLE PATH SHALL BE INSTALLED WITH CROSS SLOPE NOT EXCEEDING 2% (1:50)
4. RESIDENTIAL CURB CUTS SHALL BE NO WIDER THAN 12' FROM INSIDE OF CURB RETURNS.

CEMENT CONCRETE DRIVEWAYS
N.T.S.

43.5.0 P PROVIDENCE STANDARD

ISSUE DATE: 1/6/17, REVISED 10/6/17



NOTE:
SHALL BE IN ACCORDANCE WITH SECTION L.11 OF THE STANDARD SPECIFICATIONS.

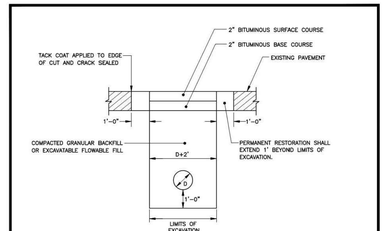
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

TREE PROTECTION DEVICE

JUNE 15, 1998 (ISSUE DATE)

R.I. STANDARD 51.1.0



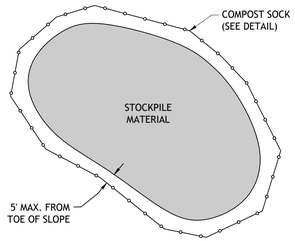
NOTES:
1. BITUMINOUS CONCRETE SHALL ADHERE TO RIDOT SPECIFICATIONS, SECTION 401.
2. GRANULAR BASE MATERIAL SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY (AASHTO T180). GRAVEL BASE COURSE SHALL ADHERE TO RIDOT SPECIFICATIONS, SECTION 301.
3. EXCAVATABLE FLOWABLE FILL (CONTROLLED DENSITY FILL; CDF) SHALL ADHERE TO 95% OF THE MODIFIED PROCTOR DENSITY (AASHTO T180), ADHERING TO RIDOT SPECIFICATIONS, SECTION 603.
4. PRIOR TO PERMANENT RESTORATION, ALL EDGES OF THE EXCAVATED AREA AND ONE FOOT BEYOND SHALL BE SAWCUT TO A CLEAN, SQUARE EDGE.
5. IF EXCAVATION IS ON A PROTECTED STREET, THE REMAINING ROADWAY OUTSIDE THE TRENCH TO THE NEAREST CURB SHALL BE MILLED 1.5 INCHES WITH 1.5 INCH BITUMINOUS CONCRETE SURFACE OVERLAY. THE JOINTS SHALL BE SEALED USING INFRARED TECHNOLOGY. THE LENGTH OF THE NEW PAVED AREA MUST BE A MINIMUM OF 10 FEET TO ALLOW FOR PROPER ROLLING.
6. IF EXCAVATION IS ON A NON-PROTECTED STREET, AND THE DISTANCE FROM EDGE OF EXCAVATION TO EDGE OF ROADWAY IS TWO FEET OR LESS, THE REMAINING AREA TO EDGE OF ROADWAY SHALL BE REMOVED AND REPLACED IN CONJUNCTION WITH THE PERMANENT PAVEMENT RESTORATION.

PERMANENT ROADWAY RESTORATION - GRANULAR BASE
N.T.S.

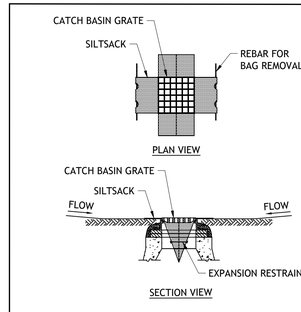
80.2.0 P PROVIDENCE STANDARD

ISSUE DATE: 1/8/17

NOTE TO CONTRACTOR:
CONTRACTOR TO COORDINATE WITH OWNER REGARDING FINAL LOCATION OF CONSTRUCTION TRAILER AND STAGING AREAS.

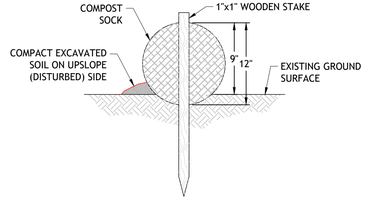


1 STOCKPILE DETAIL
NOT TO SCALE



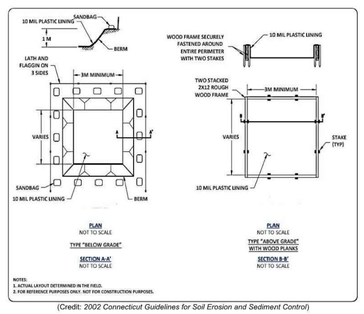
NOTES:
1. INSTALL SILTSACK IN SELECTED CATCH BASINS IDENTIFIED ON THE EXISTING CONDITIONS AND SITE PREPARATION PLAN BEFORE COMMENCING WORK.
2. GRATE TO BE PLACED OVER SILTSACK. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED.

2 SILT SACK SEDIMENT TRAP
NOT TO SCALE



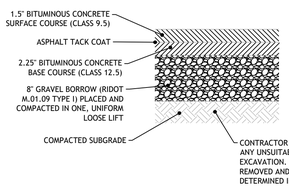
NOTES:
1. BEGIN WATTLE INSTALLATION BY EXCAVATING A 2 TO 3-INCH-DEEP BY 9" WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE OR ALONG THE EXISTING GROUND SURFACE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE OR ON THE DISTURBED SIDE OF THE ANCHOR TRENCH.
2. PLACE WATTLE IN THE TRENCH SUCH THAT IT CONTOURS TO THE EXISTING SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UP-SLOPE OR DISTURBED SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE WATTLE WITH 18 TO 24-INCH-LONG STAKES. INSTALL AN ADDITIONAL STAKE AT EACH END OF THE WATTLE. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2 TO 3 INCHES OF STAKE EXTENDING ABOVE. THE STAKES SHOULD BE DRIVEN PERPENDICULAR TO THE SLOPE FACE OR GROUND SURFACE.

3 COMPOST SOCK
NOT TO SCALE



(Credit: *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*)

4 TEMPORARY CONCRETE WASHOUT DETAIL
NOT TO SCALE



NOTES:
1. IF UNSUITABLE MATERIALS ARE ENCOUNTERED AT SUBGRADE ELEVATION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. THE DEPTH OF UNSUITABLE MATERIAL TO BE REMOVED WILL BE DETERMINED IN THE FIELD. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE THE UNSUITABLE MATERIALS AND REPLACE WITH SUITABLE MATERIAL APPROVED BY THE ENGINEER.
2. MINIMUM COMPACTION FOR GRAVEL BORROW SUB-BASE AND SUBGRADE: 95% MODIFIED PROCTOR.

5 BITUMINOUS CONCRETE PAVEMENT
NOT TO SCALE

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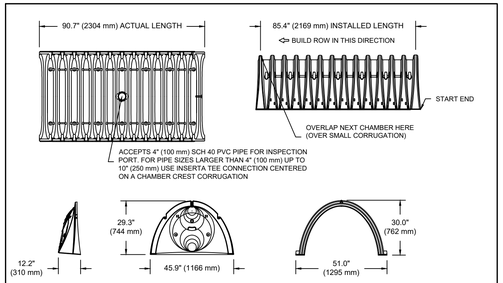
CIVIL DETAILS

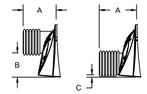
SHEET 4 OF 5



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

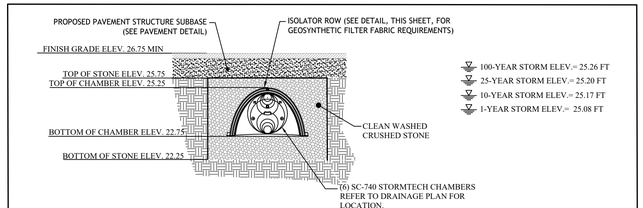
PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

5 SC-740 TECHNICAL SPECIFICATION
NOT TO SCALE



6 UIC #1 INSTALLATION ELEVATION DETAIL
NOT TO SCALE

NOTES FOR THE INSTALLATION OF THE SC-740 SYSTEM

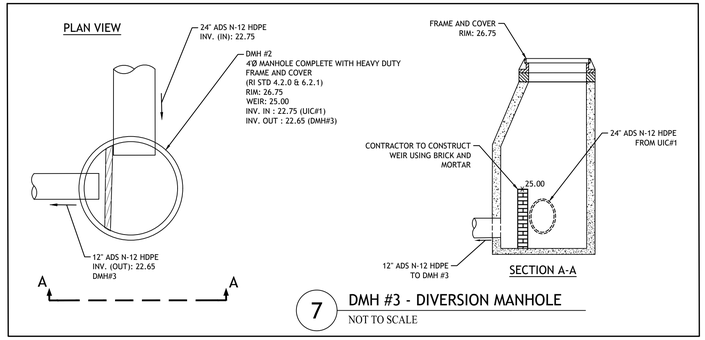
1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.
   STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2".
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

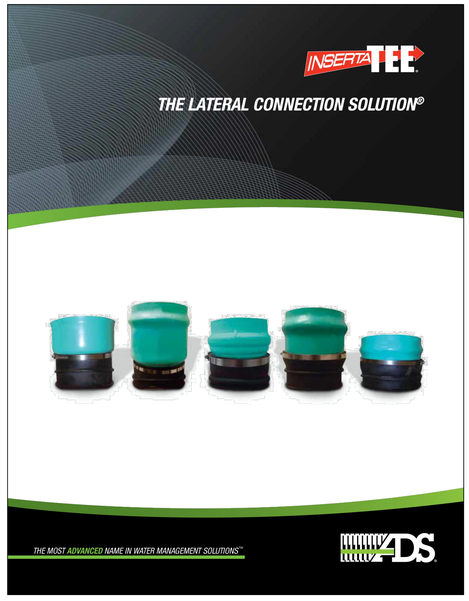
1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



7 DMH #3 - DIVERSION MANHOLE
NOT TO SCALE



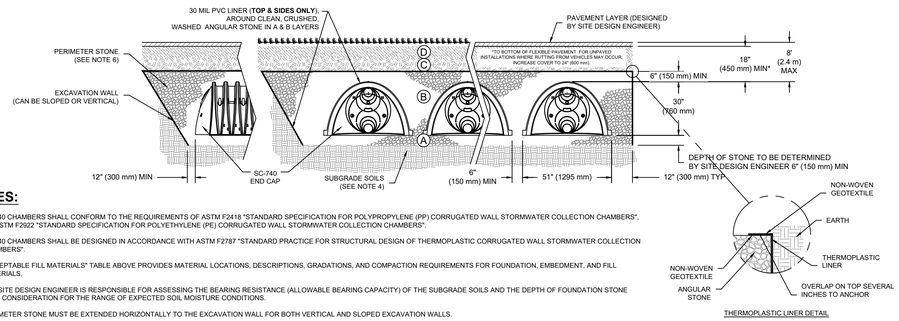
HOLE SAW SIZING CHART

INSERTA TEE Size	Hole Saw Size
2" (51 mm) ¾	2⅝" (67 mm)
3" (75 mm)	3⅝" (95 mm)
4" (100 mm)	4¼" (114 mm)
6" (150 mm)	6¼" (165 mm)
8" (200 mm)	8⅝" (222 mm)
10" (250 mm)	10⅞" (276 mm)
12" (300 mm)	12⅞" (327 mm)
15" (375 mm)	15¹⁵/₁₆" (402 mm)
18" (450 mm)	19⅛" (503 mm)
21" (525 mm)	27⁹/₁₆" (0.73 mm)
24" (600 mm)	25⅜" (643 mm)
27" (675 mm)	28⅜" (724 mm)
30" (750 mm)	32⁷/₁₆" (826 mm)

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, WASHED, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, WASHED, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2] [3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, WASHED, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

THERMOPLASTIC LINER DETAIL

8 STORMTECH SC-740 CROSS SECTION DETAIL
NOT TO SCALE

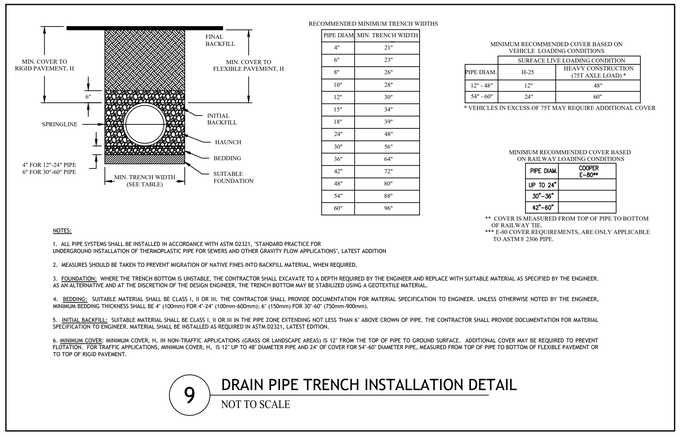
SC-740 STANDARD GROSS SECTION
DATE: 11/18/14 DRAWN: JLM CHECKED: JLM PROJECT #:

REV	DESCRIPTION	DRW	CHK

THE DRAWINGS AND DESIGNS SHOWN ON THIS DRAWING ARE THE PROPRIETARY PROPERTY OF ADS AND ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY PROJECT OTHER THAN A PROJECT DESIGNED BY ADS, NOR ARE THEY TO BE LOANED, COPIED OR DISCLOSED TO ANY UNAUTHORIZED PERSON WITHOUT THE WRITTEN CONSENT OF ADS. IT IS THE RESPONSIBILITY OF THE SITE DESIGN ENGINEER AND OTHER PROJECT REPRESENTATIVES TO OBTAIN THE LATEST VERSION OF THIS DRAWING FROM ADS PRIOR TO CONSTRUCTION. BY BID THE CONTRACTOR ACKNOWLEDGES THAT THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS AND FIELD CONDITIONS TO THE SITE DESIGN ENGINEER PRIOR TO BEGINNING CONSTRUCTION.

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473
WWW.ADS-PIPE.COM

SHEET 1 OF 1



RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

	SURFACE LIVE LOADING CONDITION	
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-80**
UP TO 24"	
30"-36"	
42"-60"	

** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE.
*** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

9 DRAIN PIPE TRENCH INSTALLATION DETAIL
NOT TO SCALE

JCE
JOE CASALI ENGINEERING, INC.
CIVIL · SITE DEVELOPMENT · TRANSPORTATION
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300 POST ROAD, SUITE 103, WARWICK, RI 02888
(401) 944-1300 (401) 944-1313 FAX WWW.JOECASALI.COM

JOSEPH A. CASALI — No. 7250 — REGISTERED PROFESSIONAL ENGINEER — CIVIL
12/5/2023

16-UNIT, FIVE-STORY RESIDENTIAL STRUCTURE
PITMAN STREET REDEVELOPMENT
PROVIDENCE, RHODE ISLAND
AP 15, LOTS 238-240

REVISIONS:		
NO.	DATE.	DESCRIPTION
1	12/5/23	PLANNING COMMENTS

DESIGNED BY:	WLMJR
DRAWN BY:	SD/SEP
CHECKED BY:	JAC
DATE:	NOV. 2023
PROJECT NO:	19-19s

PRELIMINARY, NOT FOR CONSTRUCTION

DRAINAGE DETAILS

SHEET 5 OF 5

Appendix C

Watershed Maps

LEGEND

WATERSHED BOUNDARY LINE
TIME OF CONCENTRATION LINE
UNDERGROUND TIME OF CONCENTRATION LINE

SEEKONK STREET

WATERSHED 1A
AREA = 19,409 SF
TC = 6.0 MIN.
CN = 93

TIME OF CONCENTRATION LINE (TYP.)

AGAPE DERMATOLOGY

DELANO BUIDING

WATERSHED 1B
AREA = 12,841 SF
TC = 6.0 MIN.
CN = 79

EXISTING CATCH BASIN

BUTLER AVENUE

PITMAN STREET

DP1

SCALE (FEET)
0 15 30 60 120
1 INCH = 30 FT

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150 PITMAN STREET
150, 154, 158 PITMAN STREET
PROVIDENCE, RHODE ISLAND
AP 15 LOTS 238, 239 &240

REVISIONS:
NO. DATE. DESCRIPTION

DESIGNED BY:	SD
DRAWN BY:	SD
CHECKED BY:	JAC
DATE:	NOV. 2023
PROJECT NO:	19-19s

STORMWATER REPORT

EXISTING CONDITIONS WATERSHED MAP

SHEET 1 OF 1

Q:\19-19 Aharonian & Associates\19-19s 150 Pitman St\Drainage\Watershed Map\150 Pitman Street [Watershed Map] R1.dwg Dec. 05, 2023 1:00pm

LEGEND

WATERSHED BOUNDARY LINE
TIME OF CONCENTRATION LINE
UNDERGROUND TIME OF CONCENTRATION LINE

SEEKONK STREET

WATERSHED 1A
AREA = 19,409 SF
TC = 6.0 MIN.
CN = 93

TIME OF CONCENTRATION LINE (TYP.)

EXISTING CATCH BASIN

AGAPE DERMATOLOGY

WATERSHED 1B (BUILDING ROOF)
AREA = 9,282 SF
TC = 6.0 MIN.
CN = 98

PROPOSED BUIDING

PROPOSED UNDERGROUND CHAMBER SYSTEM

DELANO BUIDING

WATERSHED 1C
AREA = 3,559 SF
TC = 6.0 MIN.
CN = 41

EXISTING CATCH BASIN

BUTLER AVENUE

PITMAN STREET

DP1

SCALE (FEET)
0 15 30 60 120
1 INCH = 30 FT

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150 PITMAN STREET
150, 154, 158 PITMAN STREET
PROVIDENCE, RHODE ISLAND
AP 15 LOTS 238, 239 &240

REVISIONS:

NO.	DATE:	DESCRIPTION

DESIGNED BY:	SD
DRAWN BY:	SD
CHECKED BY:	JAC
DATE:	NOV. 2023
PROJECT NO:	19-19s

STORMWATER REPORT

PROPOSED CONDITIONS WATERSHED MAP

SHEET 1 OF 1

Q:\19-19 Aharonian & Associates\19-19s 150 Pitman St\Drainage\Watershed Map\150 Pitman Street [Watershed Map] R1.dwg Dec. 05, 2023 1:01pm