



City of New Bedford

Department of Planning, Housing & Community Development

608 Pleasant St, New Bedford, Massachusetts 02740

Telephone: (508) 979.1500 Facsimile: (508) 979.1575

PATRICK J. SULLIVAN

DIRECTOR

STAFF REPORT

PLANNING BOARD MEETING

November 16, 2016

Case #31-16: SITE PLAN REVIEW

Case #32-16: SPECIAL PERMIT FOR PARKING REDUCTION

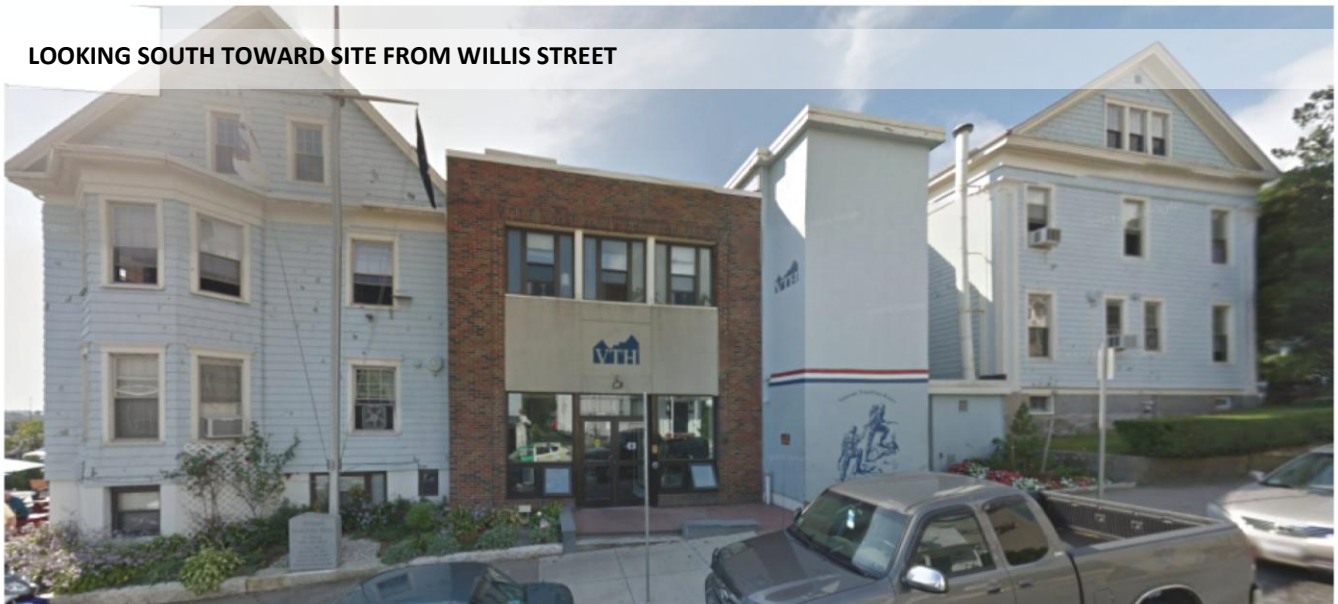
20 Willis Street
WS Purchase Street
NW Purchase Street
(Map 66, Lots 167,
168 & 33)

Applicant: Women's Development Corporation
861A Broad Street Providence, RI 02907

Owners: **Map 66, Lots 33 and 167**
Southeastern Massachusetts Veterans Housing Program, Inc
20 Willis Street (formerly 181 Hillman Street)
New Bedford, MA 02740

Map 66, Lot 168
Purchase Street Corp
1265 Purchase Street
New Bedford, MA 02740

LOOKING SOUTH TOWARD SITE FROM WILLIS STREET



LOOKING SOUTHWEST AT SITE FROM INTERSECTION at WILLIS/PURCHASE STREETS



Overview of Request

Request to consider applications under Chapter 9 Comprehensive Zoning, §5400-5490B Site Plan Review, associated Special Permit under §5300-5390-Special Permit, and §3000-General Regulations, 3100-Parking & Loading, 3110-Applicability, 3120-Special Permit for Parking Reduction, and 3130-Table of Parking and Loading Requirements - Appendix C for new construction of veteran's housing with support services and reduction of off-street parking from 35 to 18 spaces, on a combined .51+/- acre site, located at 20 Willis Street, WS Purchase Street and NW Purchase Street(Map 66, Lots 167, 168 & 33) in the Mixed-Use Business (MUB) zoning district.

Nonprofit educational corporation uses are permitted by right in the MUB zoning district. The Veteran's Transition House (VTH) is a 501 (c) (3) non-profit, founded in 1990 by a group of Vietnam veterans and community leaders who acknowledged the need for housing and supportive services on the South Coast for veterans and those experiencing homelessness. The program's objectives are to offer rehabilitation services, a path to self-sufficiency and reintegration of veterans into the community by offering a "hand-up, not a hand-out". The Veteran's Transition House is an active member of the City of New Bedford's Homeless Service Provider's Network (HSPN) which serves as a coordinated Continuum of Care (CoC) under programming with the U.S. Department of Housing and Urban Development (HUD).

Due to significant site constraints including the size, shape, and grade of lot coupled with the demands of the logistical considerations of the supportive housing program, the applicant is not able to fully comply with certain dimensional requirements of the municipal ordinance. It is understood that the mixed-use facility proposed by VTH provides significant educational programming. Therefore, the project proposal is exempt from certain dimensional requirements dictated by the long, narrow shape of the land, so services offered by the facility may meet the needs of veterans within the perimeter area of the proposed new construction.

Existing Conditions:

The existing Veteran's Transition House is located at 20 Willis Street between Pleasant and Purchase Streets in the Acushnet Heights National Register Historic District. Extensive exterior remodeling efforts over the years have been made since the establishment of the initial site buildings. The existing structure at 20 Willis Street is legally non-conforming by lot area and setbacks.

Currently, a 3.5 story structure containing administrative offices and 36 residential units serve up to 45 occupants at any given time who live, dine and utilize on-site program services.

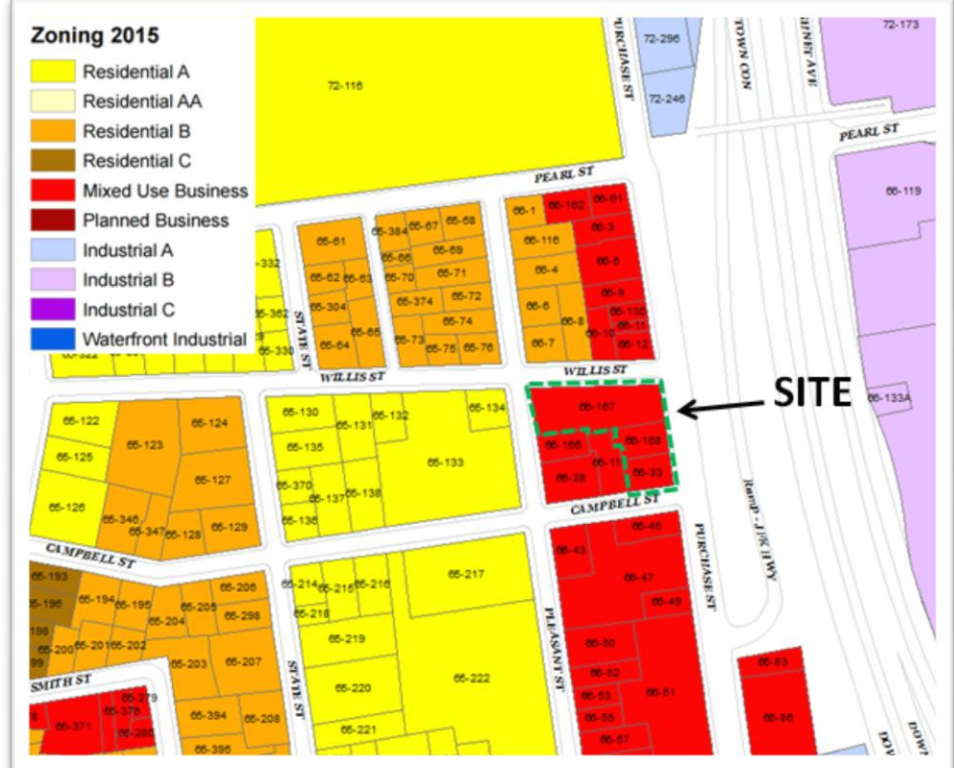
The proposed redevelopment of Veteran's Transition House will come together exercising three parcels whose current arrangement is under a "gentlemen's agreement:"

- Two parcels are under ownership of Southeastern Massachusetts Veterans Housing Program, Inc.; Map 66, Lot 167 is a 14,445+/- SF parcel located at 20 Willis Street and site of the former Francis P. Memorial Hospital stretching the length of Willis Street between Pleasant Street to the west and Purchase Street to the south. A second parcel is Map 66, Lot 33 with 3,686+/- SF of grassy open space associated with Map 66, Lot 45, whose structure may be recognized as Copytype Equipment Company with a business address of 1311 Purchase Street.
- A middle parcel, Map 66, Lot 168, is a 4,136+/- SF area fronting on Purchase Street is currently used as off-street parking by VTH and is under negotiation for purchase and sale by the applicant from current owner. The owner of this parcel has provided written acknowledgement of the applications before the Planning Board.



The development overlooks Route 18. There is a change in grade between Pleasant and Purchase streets with low point at Purchase Street.

Area business entities include Bizzaro Smoke Shop, Glaser Glass Corporation, and Dipper Café. Neighboring service provider, Child and Family Services, is located at 1061 Pleasant Street. Clasky Common Park is one block north of the site.



Proposal Conditions:

Demolition. The applicant proposes a complete demolition of the three existing buildings in order to make way for new construction. Demolition review was conducted by the City of New Bedford's Preservation Planner and recommendation for demolition indicated that:

- Due to the exterior alterations of two of the existing buildings (a structure c.1838 and a structure c.1910) neither building retains sufficient integrity to meet the criteria for listing in the National Register and that in light of this, it was recommended to the City Council that the structures are neither Historically Significant nor Preferably Preserved structures.
- A third structure slated for demolition (three story brick masonry addition) dates to c.1952 and that it did rise to the 75 year threshold necessitated to fall under the city's Demolition Delay Ordinance and that as such, it was not considered by the Preservation Planner.

New Construction. New construction will consist of two (2) buildings:

- Building A, to be built along Willis and Purchase Streets, will house 23 Single Residency Occupancy (SRO) apartments, social office suite, a community kitchen, large dining/community room, several outdoor patios and site improvements covering 4,000+/- SF.
- Building B, located at the corner of Willis and Pleasant streets will provide seven (7) apartments, to feature two (2) studio style, three (3) one-bedroom, and two (2) two bedroom units within 2,000+/- SF of interior space. Seven (7) staff members will assist the residents.

Estimated time for completion and occupancy is October 2018 with an estimated budget of \$4.4 million.

Site Plan Review:

Plans submitted for consideration:

The plan submittal is shown as Site Redevelopment for Willis Street Apartments (A.P. 66, Lots 33, 167 & 168) at 20 Willis Street in New Bedford, MA, for Women's Development Corporation, 861A Broad Street, Providence, RI 02907 and Southeastern Massachusetts Veterans Housing Program, Inc, 20 Willis Street, New Bedford, MA 02740, dated October 21, 2016, prepared by Commonwealth Engineers & Consultants, Inc., 400 Smith Street, Providence, RI 02908 [consisting of thirteen (13) pages];

and

Existing Conditions for A.P. 66, Lots 33, 167 & 168, 20 Willis Street, in New Bedford, MA, dated 08/10/16, prepared by Commonwealth Land Surveyors [consisting of one (1) page];

and

Willis Street Apartments, 20 Willis Street, New Bedford, MA, for Women's Development Corporation and Southeastern Massachusetts Veterans Housing Program, Inc., dated 10/21/2016, prepared by ICON Architecture, 101 Summer St, Boston, MA 02110 [consisting of seven (7) pages].

Title Sheet – Sheet 1

Existing Conditions Plan - Sheet 2/13

Demolition Plan – Sheet 3/13

Construction Layout Plan – Sheet 4/13

Grading & Drainage Plan – Sheet 5/13

Utility & Grading Plan – Sheet 6/13

Landscape Plan – Sheet 7/13

Erosion Control Plan – Sheet 8/13

Lighting Plan – Sheet 9/13

- Lighting Plan illustrates obtrusive light limitations for exterior lighting installations to be under 5.0 with the exception of the northeast corner of the site at Willis & Purchase Streets where light trespass at the interior patio area is projected as being 6.2.

Construction Details – Sheet 10/13
Construction Detail – 11/13
Construction Details – Sheet 12/13
Construction Details Sheet 13/13

Existing Conditions (Survey) – Sheet 1/1
Site Diagram for Willis Street Apartments – Sheet 1/1

Cover Sheet
Building A-Ground Floor and First Floor Plan – A-101
Building A-Third Floor Fourth Floor & Roof Plan – A-102
Building B-Floor Plans & Roof Plan – A-103
Building A-Elevations – A-201
Building B- Elevations- A-202
Enlarged Unit Plans - A-501

The applicant has submitted cut sheets for Washingtonian-style lighting in keeping with the Acushnet Heights National Register Historic District guidelines. Wall mount fixtures are down lit and feature LED illumination elements.

SRTA has provided a short letter briefly noting the distance between 20 Willis Street and New Bedford bus stop located at Purchase and Willis Streets.

Stormwater Calculations were prepared using HydroCAD dated October 14, 2016 as presented by Commonwealth Engineers & Consultants, Inc. The report notes the relatively steep down gradient from the west to the east with water flowing in this direction through the property. Currently, there are no stormwater on-site controls.

The report states one catch basin will be installed adjacent to the parking lot to collect runoff and runoff will flow by gravity through a pipe into a diversion manhole, where the flow is mitigated to a proposed underground infiltration system. The catch basin will be comprised of a deep sump and hood, and water flow will be directed through a Stormtech “isolator row” via the diversion manhole. This “isolator row” acts like a sediment forebay whose intent is to prolong the longevity of the system. Should an intense storm event occur, the diversion manhole directs the water flow to a seven (7) row pipe manifold system. The system ultimately outlets to a nearby drain manhole located in Purchase Street.

The Department of Public Infrastructure stipulates drainage must tie in directly to the manhole over the 48 inch storm drain at the northwest corner of Campbell and Purchase streets (See Item 11 of DPI Memo). The site is not located within the 100 year- year floodplain, as concluded by applicant’s review of FEMA FIRM Map #25005C0393G.

Appendix C-Table of Parking & Loading Regulations

USE	PARKING REQUIREMENTS	LOADING REQUIREMENTS
Hotel, motel, bed and breakfast, rooming or boarding or lodging house, tourist home, dormitories, or other non-family residence accommodations, excluding group homes.	One (1) space per each employee per shift, who does not reside on the premises; one (1) space per guest room, dwelling parking requirements, if applicable.	One (1) loading space for each building containing more than 20 guest rooms

Special Permit for Parking Reduction:

The site plan illustrates nineteen (19) off-street parking spaces, with includes one (1) ADA compliant space. When considering an application for Special Permit, the Board must take into account the characteristics of the site and of the proposal in relation to that site, in addition to any specific factors that may be set forth under Section 5300 of the zoning ordinance. As to those thresholds, staff offers the following considerations:

- **Social, economic, or community needs which are served by the proposal.**

The Veteran's Transition House is the only organization of its type in Greater New Bedford. The facility offers a broad array of supportive services designed to provide a strong foundation for each veteran's recovery and rehabilitation, which includes one-on-one case management, relapse prevention, drug and alcohol education, nutrition and health counseling, anger management, arts therapy, and job training and placement. VTH also offers in-house computer training. Since its inception, VTH has provided over 2,500 formerly-homeless veterans with housing and specialized supportive services and as previously noted, is an integral member of the City's HSPN which develops and executes strategic actions toward ending homelessness. Ending veteran's homelessness by 2017 has been a critical first step toward that overarching goal and is reinforced through both federal policy and local planning efforts.

- **Traffic flow and safety, including parking and loading.**

Those receiving housing/services through VTH most often do not have their own private vehicles and as such, do not make a significant contribution to the parking load. It is staff at VTH who generally occupies parking spaces onsite. Because this proposal calls for a reduction in staffing from the existing 21 to seven (7) onsite personnel at any given time, the anticipated parking needs by staff is thereby expected to decrease proportionately.

- **Adequacy of utilities and other public services.**

Whereas the applicant is replacing an existing structure within a neighborhood with complete utility and public services, there is no anticipated issue with this adequacy.

- **Neighborhood character and social structures.**

In light of the anticipated programmatic shift to more permanent housing supports, the reduced staff needed to support program operations onsite is expected to diminish. As such, the historic fabric of the immediate neighborhood should not be compromised by the proposed reduction in parking. It could be argued that the applicant's request to reduce the parking requirement actually enhances rather than detracts from the character of the neighborhood in which it sits by promoting greater pedestrian activity and eliminating the prospect of increased impervious area.

- **Impacts on the natural environment**

The proposal for reduced parking on-site only serves to promote rather than negatively impact the natural environment. Limited on-site parking creates greater opportunity for less vehicular congestion at the site and its immediate environs.

- **Potential fiscal impact, including impact on City services, tax base, and employment**

As the City of New Bedford Master Plan states in Chapter 5. Jobs and Business, the well being of any community is often measured by the strength of its economy. The Veteran's Transition House advises that their mission is to help each veteran they serve improve overall health and wellness, live a self-directed life, and strive to reach their full potential. VTH employs seven staff member on site, serving 40 clients seven days per week between the hours of 8:00 a.m. and 5:00 p.m. By providing necessary services to our veterans, the reduction in parking that is proposed is not anticipated to negatively impact the city's fiscal position.

▪ **Master Plan Goal**

This proposal is consistent with the master plan's goal (of establishing a sound foundation for future growth that builds upon its coastal location, preserves its historic legacy, and expands cultural and workforce opportunities) as it restores deteriorating property and improves the neighborhood. This is a project that also promotes the greater good for those who have dedicated their life in service to their country.

Review Comments

Plans were distributed to City Clerk, City Solicitor, Health Department, Inspectional Services, Engineering, Public Infrastructure, Conservation Commission, Fire Department and School Department offices.

The Department of Public Infrastructure responded and their Memorandum will be available at the Planning Board meeting.

Outside of this, no further comments from city offices were received in this matter.

Recommendation:

The proposed plan for new construction of veteran's housing and support services and reduction of off-street parking from 35 to 18 spaces appears to meet the thresholds for the provision of a special permit from a practical standpoint (economic, pedestrian, environmental and potential fiscal benefits) as well as meeting site plan approval for a project that offers much needed services to our veterans. Staff recommends approval of the Site Plan and Special Permit. Any conditions recommended by staff will be available to the board at its meeting of November 16, 2016.

Attachments:

1. Site Plan Review Application
2. Special Permit Application
3. Building Demolition Review Dated October 25, 2015
4. Deeds of Ownership - Bristol County Registry of Deeds
Book 10962, Page 246; Bk 2886, Pg 81; Bk 3392, Pg 23
5. Letter of Authorization for Map 66, Lot 168
6. Project Narrative
7. Development Impact Statement
8. Memorandum from DPI Dated November 3, 2016
9. SRTA Citing Bus Stop Distance
10. Lighting Tear Sheets and Photo metrics
11. Cost Estimate
12. Stormwater Calculations
13. Letter of Support from Department of Veterans Services
14. Site Photos
15. Site Plan Set
16. Architectural Plan Set



CITY OF NEW BEDFORD
JONATHAN F. MITCHELL, MAYOR

PLANNING BOARD

2016 OCT 11 P 12:25
CITY CLERK
NEW BEDFORD, MA
CITY CLERK'S OFFICE

SUBMIT TO:
Planning Department
133 William Street
Room 303
New Bedford, MA 0274

SITE PLAN REVIEW APPLICATION

The undersigned, being the Applicant, seeks Site Plan Approval for property depicted on a plan entitled: "Construction/Layout Plan" by: Commonwealth Engineers & Consultants, Inc dated: 10/21/16

1. Application Information

Street Address: 20 Willis Street, New Bedford, MA (1074 Pleasant Street on deed)

Assessor's Map(s): 066 Lot(s) 167, 168, 33

Registry of Deeds Book: 2886, 3392, 10962 Page: 87, 23, 246

Zoning District: MUB

Applicant's Name (printed): Women's Development Corporation

Mailing Address: 861A Broad Street Providence RI 02907
(Street) (City) (State) (Zip)

Contact Information: 401-941-2900 thomasdavison@wdchoc.org
Telephone Number Email Address

Applicant's Relationship to Property: ☐ Owner ☐ Contract Vendee ☒ Other Developer

List all submitted materials (include document titles & volume numbers where applicable) below:

See Table of Contents in Site Plan Review Application submission

By signing below, I/we acknowledge that all information presented herein is true to the best of my/our knowledge. I/we further understand that any false information intentionally provided or omitted is grounds for the revocation of the approval (s). I/we also give Planning Department staff and Planning Board Members the right to access the premises (both interior and exterior) at reasonable times and upon reasonable notice for the purpose of taking photographs and conducting other visual inspections.

10/20/16

Date

Signature of Applicant

OCT 21 2016

DEPARTMENT

City Hall • 133 William Street • Room 303 • New Bedford, MA 02740 • www.newbedford-ma.gov
PH: (508)979-1488 • FX: (508)979-1576

CASE 31-16

2. Review Applicability (Check All That Apply to Your Proposal)

Category

- ☒ Residential
- ☒ Commercial
- ☐ Industrial
- ☒ Mixed (Check all categories that apply)

Construction

- ☒ New Construction
- ☐ Expansion of Existing
- ☐ Conversion
- ☐ Rehabilitation

Scale

- ☐ < 2,000 gross sq feet
- ☒ > 2,000 gross sq feet
- ☒ 3 or more new residential units
- ☐ 1 or more new units in existing res. multi-unit
- ☐ Drive Thru Proposed
- ☐ Ground Sign Proposed
- ☒ Residential Driveway With > 1 curbcut

3. Zoning Classifications

Present Use of Premises: MUB

Proposed Use of Premises: MUB

Zoning Relief Previously Granted (Variances, Special Permits, with Dates Granted):

N/A

4. Briefly Describe the Proposed Project:

APPROPRIATE

Applicant seeks to construct 30 units of permanent housing. Including 23 enhanced SRO apartments with supportive services and 7 affordable family apartments. Apartments include (2) studios, (3) one-bedrooms and (2) two-bedroom units. The project is comprised of 3 parcels, 2 of which will become an 18-space parking lot for the new project.

The existing facility is beyond its useful life and will be demolished as part of the project. The new facility will be approximately 20,000 sqft and will replace the existing

22,000 sqft building. The existing facility has 13 parking spaces and 36 residential units with up to 45 occupants. Currently VTH has 21 FTE on a given day. The new project will reduce the staff count to 7, the unit count to 30 units and increase the parking to 18 spaces. The project is seeking a special permit for parking reduction.

5. Please complete the following:

SEE ATTACHED ZONING TABLE

	<u>Existing</u>	<u>Allowed/Required</u>	<u>Proposed</u>
Lot Area (sq ft)	14,462	15,000	22,307
Lot Width (ft)	varies		varies
Number of Dwelling Units	36	36	30
Total Gross Floor Area (sq ft)	22,222		20,370
Residential Gross Floor Area (sq ft)	19,392		18,412
Non-Residential Gross Floor Area (sq ft)	2,830		1,958
Building Height (ft)	approx 35'		42'
Front Setback (ft)	50.7'	0'	20.6'
Side Setback (ft)	0.9'	10'	7.4'
Side Setback (ft)	0'	10'	

LOT 167 ONLY/
COMBINED 3 LOTS

Rear Setback (ft)	N/A	20'	N/A
Lot Coverage by Buildings (% of Lot Area)	48.9%	0%	41.1%/26%
Permeable Open Space (% of Lot Area)	13%		15.9%
Green Space (% of Lot Area)	13%		15.9%
Off-Street Parking Spaces	13	36	18
Long-Term Bicycle Parking Spaces	0		0
Short-Term Bicycle Parking Spaces	0		9
Loading Bays	0		0

6. Please complete the following:

	Existing	Proposed
a) Number of customers per day:	<u>50</u>	<u>40</u>
b) Number of employees:	<u>21</u>	<u>7</u>
c) Hours of operation:	<u>24 hrs</u>	<u>8-5</u>
d) Days of operation:	<u>7 days</u>	<u>7 days</u>
e) Hours of deliveries:	<u>8-5</u>	<u>8-5</u>
f) Frequency of deliveries: <input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input checked="" type="checkbox"/> Monthly <input checked="" type="checkbox"/> Other: <u>bi-monthly</u>		

7. Planning Board Special Permits:



The applicant is also requesting a Special Permit from the Planning Board.

Specify the requested Special Permit(s) below, and set forth within attached Development Impact Statement how the request meets approval criteria listed in §5320 of the zoning code.

Special permit for parking reduction

8. ZBA Variances and Special Permits:

NOTICE: Checking below does not constitute application for a special permit or a variance. The applicant must also file the proper application form and fee with the Zoning Board of Appeals.



The applicant is also requesting a special permit from the ZBA:

Specify zoning code section & title



The applicant is also requesting a variance from the ZBA:

Specify zoning code section & title

5. Please complete the following:

	Existing	Proposed
a) Number of customers per day:	<u>50</u>	<u>40</u>
b) Number of employees:	<u>21</u>	<u>7</u>
c) Hours of operation:	<u>24 hrs</u>	<u>8-5</u>
d) Days of operation:	<u>7 days</u>	<u>7 days</u>
e) Hours of deliveries:	<u>8-5</u>	<u>8-5</u>
f) Frequency of deliveries:	<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input checked="" type="checkbox"/> Monthly <input checked="" type="checkbox"/> Other:	<u>bi-monthly</u>

6. OWNERSHIP VERIFICATION

This section is to be completed & signed by the property owner:

I hereby authorize the following Applicant: Women's Development Corporation

at the following address: 861A Broad Street, Providence, RI 02907

to apply for: Site Plan Review and Special Permit for Parking Reduction

on premises located at: 20 Willis Street, New Bedford, MA, 02740

in current ownership since: 1993

whose address is: 20 Willis Street, New Bedford, MA, 02740

for which the record title stands in the name of: Southeastern Massachusetts Veterans Housing Program, Inc.

whose address is: 20 Willis Street, New Bedford, MA 02740

by a deed duly recorded in the:

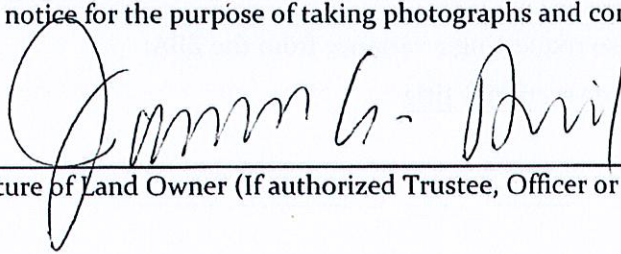
Registry of Deeds of County: Bristol County Book: 2886 Page: 87

OR Registry District of the Land Court, Certificate No.: _____ Book: _____ Page: _____

I/we acknowledge that all information presented herein is true to the best of my/our knowledge. I/we further understand that any false information intentionally provided or omitted is grounds for the revocation of the approval(s). I/we also give Planning Department staff and Planning Board Members the right to access the premises (both interior and exterior) at reasonable times and upon reasonable notice for the purpose of taking photographs and conducting other visual inspections.

10/20/16

Date


Signature of Land Owner (If authorized Trustee, Officer or Agent, so identify)

ZONING TABLE:

REQUIREMENTS

MIXED USE BUSINESS

LOT SIZE:	8,000 S.F. ALLOWED IN RA 10,000 S.F. FOR TWO FAMILY UNITS 15,000 S.F. FOR 3 OR MORE FAMILY UNITS
DENSITY:	1 PER 10,000 S.F. FOR SINGLE FAMILY 1 PER 5,000 S.F. FOR TWO FAMILY 1 PER 1,000 S.F. FOR THREE OR MORE FAMILY
FRONTAGE:	75 FT. FOR USES ALLOWED IN RA 100 FT. FOR TWO FAMILY 150 FT. FOR THREE OR MORE FAMILY 0 FT. FOR OTHER ALLOWED USES
HEIGHT:	45 FT. FOR SINGLE OR TWO FAMILY 60 FT. FOR THREE FAMILY 100 FT. FOR OTHER ALLOWED USES (1)
HEIGHT:	2.5 STORIES FOR USES ALLOWED IN RA OR RB 4 STORIES FOR THREE OR MORE FAMILY 7 STORIES FOR OTHER ALLOWED USES
FRONT YARD:	20 FT. FOR USES ALLOWED IN RESIDENTIAL DISTRICT (1) 0 FT. FOR OTHER ALLOWED USES
SIDE YARD:	10 FT. ON ONE SIDE, 12 FT. ON OTHER IN RESIDENTIAL FOR OTHER USES, 10 FT. ON ANY SIDE ADJACENT LOT IN A RESIDENTIAL DISTRICT OR USED FOR RESIDENTIAL PURPOSES.
REAR YARD:	30 FT. FOR USES ALLOWED IN RESIDENTIAL DISTRICT 10 FT. FOR 1 TO 2 STORY BUILDINGS 20 FT. FOR 3 OR MORE STORY BUILDINGS
BLDG. LOT COVERAGE:	30%; 40% ON CORNER LOTS FOR USES ALLOWED IN RESIDENTIAL DISTRICT; 0% FOR OTHER USES
GREEN SPACE:	35% FOR USES ALLOWED IN RESIDENTIAL DISTRICTS; 0 FOR OTHER USES

(1) DENOTES HEIGHT SHALL NOT EXCEED 1.75 TIMES THE HORIZONTAL DISTANCE FROM ITS FACE TO THE OPPOSITE STREET LINE.

A.P. 66 LOT 33	EXISTING	PROPOSED
LOT SIZE:	3,707 S.F.	3,707 S.F.
DENSITY:	0 UNITS	0 UNITS
FRONTAGE:	50.99 FT.	50.99 FT.
HEIGHT:	NOT APPLICABLE	NOT APPLICABLE
FRONT YARD:	NOT APPLICABLE	NOT APPLICABLE
SIDE YARD:	NOT APPLICABLE	NOT APPLICABLE
REAR YARD:	NOT APPLICABLE	NOT APPLICABLE
BLDG. LOT COVERAGE:	NOT APPLICABLE	NOT APPLICABLE
GREEN SPACE:	100%	22.9%

PARKING DIMENSIONAL REQUIREMENTS:

REQUIREMENTS

MULTI-FAMILY (3) OR MORE PER STRUCTURE:

TWO (2) SPACES PER DWELLING UNIT
ONE (1) LOADING SPACE FOR EACH MULTI-FAMILY
DWELLING CONTAINING MORE THAN TEN (10)
DWELLING UNITS.

A.P. 66 LOT 168	EXISTING	PROPOSED
LOT SIZE:	4,138 S.F.	4,138 S.F.
DENSITY:	0 UNITS	0 UNITS
FRONTAGE:	50.99 FT.	50.99 FT.
HEIGHT:	NOT APPLICABLE	NOT APPLICABLE
FRONT YARD:	NOT APPLICABLE	NOT APPLICABLE
SIDE YARD:	NOT APPLICABLE	NOT APPLICABLE
REAR YARD:	NOT APPLICABLE	NOT APPLICABLE
BLDG. LOT COVERAGE:	NOT APPLICABLE	NOT APPLICABLE
GREEN SPACE:	13%	15.9%

30 DWELLING UNITS PROPOSED REQUIRED = 30 SPACES PLUS 1
LOADING SPACE

OFFICES; ONE SPACE PER 200 SQ. FT. OF GROSS OF GROSS
FLOOR AREA

OFFICE AREA = 878 SQ. FT. GROSS FLOOR AREA = 5 SPACES

TOTAL REQUIRED = 35 SPACES PLUS 1 LOADING SPACE

PARKING SUMMARY:

EXISTING = 15 SPACES (NO LOADING)

PROPOSED = 18 SPACES (NO LOADING) INCLUDES
1 ADA VAN ACCESSABLE AND 1 ADA REGULAR
HANDICAPPED SPACE

NOTES:

1. THE EXISTING SITE CONTAINS 36 DWELLING UNITS AND THE PROPOSED SITE WILL CONTAIN 30 DWELLING UNITS.
2. THE EXISTING DEVELOPMENT IS CONSIDERED
NON-CONFORMING BY DIMENSION (LOT AREA AND SETBACKS).

15K
FOR 302 >



CITY OF NEW BEDFORD
JONATHAN F. MITCHELL, MAYOR

PLANNING BOARD

SUBMIT TO:
Planning Department
133 William Street
Room 303
New Bedford, MA 0274

2016 OCT 21 12:28
CITY CLERKS OFFICE
NEW BEDFORD, MA

SPECIAL PERMIT APPLICATION

The undersigned, being the Applicant, seeks Special Permit Approval for property depicted on a plan entitled: "Construction/Layout Plan" by: Commonwealth Engineers & Consultants, Inc dated: 10/21/16

1. Application Information

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Assessor's Map(s): 066 Lot(s) 167, 168, 33

Registry of Deeds Book: 2886, 3392, 10962 Page: 87, 23, 246

Zoning District: MUB

Applicant's Name (printed): Women's Development Corporation

Mailing Address: 861A Broad Street Providence RI 02907
(Street) (City) (State) (Zip)

Contact Information: 401-941-2900 thomasdavis@wdchoc.org
Telephone Number Email Address

Applicant's Relationship to Property: ☐ Owner ☐ Contract Vendee ☒ Other Developer

List all submitted materials (include document titles & volume numbers where applicable) below:

See Site Plan Review Application for plans, certified abutter's list, proof of ownership and electronic files. Refer to "Appendix C. Special Permit Application" for 5. Photos Depicting Existing Conditions and 6. Impact Statement.

By signing below, I/we acknowledge that all information presented herein is true to the best of my/our knowledge. I/we further understand that any false information intentionally provided or omitted is grounds for the revocation of the approval (s). I/we also give Planning Department staff and Planning Board Members the right to access the premises (both interior and exterior) at reasonable times and upon reasonable notice for the purpose of taking photographs and conducting other visual inspections.

10/20/16

Date

Signature of Applicant

City Hall • 133 William Street • Room 303 • New Bedford, MA 02740 • www.newbedford-ma.gov
PH: (508)979-1488 • FX: (508)979-1576

ATTACHMENT 2

PLANNING
OCT 21 2016
DEPARTMENT
CASE 32-14

2. Zoning Classifications

Present Use of Premises: MUB

Proposed Use of Premises: MUB

Zoning Relief Previously Granted (Variances, Special Permits, with Dates Granted):

N/A

3. Briefly Describe the Proposed Project and Specify all Requested Special Permits:

Applicant seeks to construct 30 units of permanent affordable housing. Including 23 enhanced SRO apartments with supportive services and 7 affordable apartments. Apartments include (2) studios, (3) one-bedrooms and (2) two-bedrooms units. Seeking a SPECIAL PERMIT FOR PARKING REDUCTION as part of our site plan review.

The project is comprised of 3 parcels, 2 of which will become an 18-space parking lot for the new project. The existing facility is beyond its useful life and

will be demolished as part of the project. The new facility will be approximately 20,000 sqft and will replace the existing 22,000 sqft building. The existing facility has 13 parking

spaces and 36 residential units with as many as 45 residential occupants. Currently VTH has 21 FTE on a given day. The new project will reduce unit count to 30 and will

operate with a reduced staff count of 7 FTE. New Bedford parking requirements are 35 spaces plus 1 loading space. We request relief from these requirements. Proposed

parking is 18 spaces with no loading space. This includes 1 ADA van accessible space and 1 ADA regular handicapped space.

4. Please complete the following: **SEE ATTACHED ZONING TABLE**

	Existing	Allowed/Required	Proposed
Lot Area (sq ft)	14,462	15,000	22,307
Lot Width (ft)	varies		varies
Number of Dwelling Units	36	36	30
Total Gross Floor Area (sq ft)	22,222		20,370
Residential Gross Floor Area (sq ft)	19,392		18,412
Non-Residential Gross Floor Area (sq ft)	2,830		1,958
Building Height (ft)	approx 35'	100'	42'
Front Setback (ft)	50.7'	0' 20	20.6'
Side Setback (ft)	0.9'	10' 10	7.4'
Side Setback (ft)	0'	10' 10	N/A
Rear Setback (ft)	N/A	20'	N/A
Lot Coverage by Buildings (% of Lot Area)	48.9%	0%	41.1%/26%
Permeable Open Space (% of Lot Area)	13%		15.9%
Green Space (% of Lot Area)	13%		15.9%
Off-Street Parking Spaces	13	36	18
Long-Term Bicycle Parking Spaces	0		0
Short-Term Bicycle Parking Spaces	0		6
Loading Bays	0		0

**LOT 167 ONLY/
COMBINED 3 LOTS**

5. Please complete the following:

	Existing	Proposed
a) Number of customers per day:	<u>50</u>	<u>40</u>
b) Number of employees:	<u>21</u>	<u>7</u>
c) Hours of operation:	<u>24 hrs</u>	<u>8-5</u>
d) Days of operation:	<u>7 days</u>	<u>7 days</u>
e) Hours of deliveries:	<u>8-5</u>	<u>8-5</u>
f) Frequency of deliveries:	<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input checked="" type="checkbox"/> Monthly <input checked="" type="checkbox"/> Other: <u>bi-monthly</u>	

6. OWNERSHIP VERIFICATION

This section is to be completed & signed by the property owner:

I hereby authorize the following Applicant: Women's Development Corporation

at the following address: 861A Broad Street, Providence, RI 02907

to apply for: Site Plan Review and Special Permit for Parking Reduction

on premises located at: 20 Willis Street, New Bedford, MA, 02740

in current ownership since: 1993

whose address is: 20 Willis Street, New Bedford, MA, 02740

for which the record title stands in the name of: Southeastern Massachusetts Veterans Housing Program, Inc.

whose address is: 20 Willis Street, New Bedford, MA 02740

by a deed duly recorded in the:

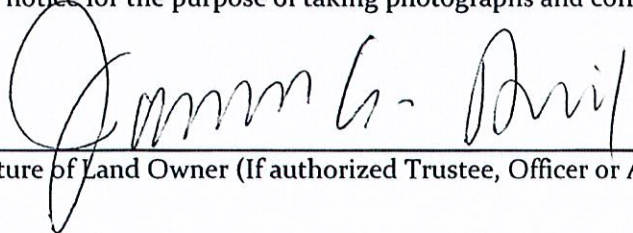
Registry of Deeds of County: Bristol County Book: 2886 Page: 87

OR Registry District of the Land Court, Certificate No.: _____ Book: _____ Page: _____

I/we acknowledge that all information presented herein is true to the best of my/our knowledge. I/we further understand that any false information intentionally provided or omitted is grounds for the revocation of the approval(s). I/we also give Planning Department staff and Planning Board Members the right to access the premises (both interior and exterior) at reasonable times and upon reasonable notice for the purpose of taking photographs and conducting other visual inspections.

10/20/16

Date


Signature of Land Owner (If authorized Trustee, Officer or Agent, so identify)

ZONING TABLE:

REQUIREMENTS

MIXED USE BUSINESS	8,000 S.F. ALLOWED IN RA
LOT SIZE:	10,000 S.F. FOR TWO FAMILY UNITS 15,000 S.F. FOR 3 OR MORE FAMILY UNITS
DENSITY:	1 PER 10,000 S.F. FOR SINGLE FAMILY 1 PER 5,000 S.F. FOR TWO FAMILY 1 PER 1,000 S.F. FOR THREE OR MORE FAMILY
FRONTAGE:	75 FT. FOR USES ALLOWED IN RA 100 FT. FOR TWO FAMILY 150 FT. FOR THREE OR MORE FAMILY 0 FT. FOR OTHER ALLOWED USES 45 FT. FOR SINGLE OR TWO FAMILY 60 FT. FOR THREE FAMILY
HEIGHT:	100 FT. FOR OTHER ALLOWED USES (1) 2.5 STORIES FOR USES ALLOWED IN RA OR RB 4 STORIES FOR THREE OR MORE FAMILY 7 STORIES FOR OTHER ALLOWED USES
FRONT YARD:	20 FT. FOR USES ALLOWED IN RESIDENTIAL DISTRICT (1) 0 FT. FOR OTHER ALLOWED USES 10 FT. ON ONE SIDE, 12 FT. ON OTHER IN RESIDENTIAL FOR OTHER USES, 10 FT. ON ANY SIDE ADJACENT LOT IN A RESIDENTIAL DISTRICT OR USED FOR RESIDENTIAL PURPOSES.
SIDE YARD:	10 FT. FOR 1 TO 2 STORY BUILDINGS 20 FT. FOR 3 OR MORE STORY BUILDINGS
REAR YARD:	30 FT. FOR USES ALLOWED IN RESIDENTIAL DISTRICT 10 FT. FOR 1 TO 2 STORY BUILDINGS
BLDG. LOT COVERAGE:	30%; 40% ON CORNER LOTS FOR USES ALLOWED IN RESIDENTIAL DISTRICT; 0% FOR OTHER USES 35% FOR USES ALLOWED IN RESIDENTIAL DISTRICTS; 0 FOR OTHER USES
GREEN SPACE:	

(1) DENOTES HEIGHT SHALL NOT EXCEED 1.75 TIMES THE HORIZONTAL DISTANCE FROM ITS FACE TO THE OPPOSITE STREET LINE.

A.P. 66 LOT 33

LOT SIZE:	EXISTING	PROPOSED
DENSITY:	3,707 S.F.	3,707 S.F.
FRONTAGE:	0 UNITS	0 UNITS
HEIGHT:	50.99 FT.	50.99 FT.
FRONT YARD:	NOT APPLICABLE	NOT APPLICABLE
SIDE YARD:	NOT APPLICABLE	NOT APPLICABLE
REAR YARD:	NOT APPLICABLE	NOT APPLICABLE
BLDG. LOT COVERAGE:	NOT APPLICABLE	NOT APPLICABLE
GREEN SPACE:	100%	22.9%

PARKING DIMENSIONAL REQUIREMENTS:

REQUIREMENTS

MULTI-FAMILY (3) OR MORE PER STRUCTURE:

TWO (2) SPACES PER DWELLING UNIT
ONE (1) LOADING SPACE FOR EACH MULTI-FAMILY DWELLING CONTAINING MORE THAN TEN (10) DWELLING UNITS.

A.P. 66 LOT 168

LOT SIZE:	EXISTING	PROPOSED
DENSITY:	4,138 S.F.	4,138 S.F.
FRONTAGE:	0 UNITS	0 UNITS
HEIGHT:	50.99 FT.	50.99 FT.
FRONT YARD:	NOT APPLICABLE	NOT APPLICABLE
SIDE YARD:	NOT APPLICABLE	NOT APPLICABLE
REAR YARD:	NOT APPLICABLE	NOT APPLICABLE
BLDG. LOT COVERAGE:	NOT APPLICABLE	NOT APPLICABLE
GREEN SPACE:	13%	15.9%

30 DWELLING UNITS PROPOSED REQUIRED = 30 SPACES PLUS 1 LOADING SPACE

OFFICES: ONE SPACE PER 200 SQ. FT. OF GROSS OF GROSS FLOOR AREA

OFFICE AREA = 878 SQ. FT. GROSS FLOOR AREA = 5 SPACES

TOTAL REQUIRED = 35 SPACES PLUS 1 LOADING SPACE

PARKING SUMMARY:

EXISTING = 15 SPACES (NO LOADING)

PROPOSED = 18 SPACES (NO LOADING) INCLUDES
1 ADA VAN ACCESSIBLE AND 1 ADA REGULAR HANDICAPPED SPACE

NOTES:
1. THE EXISTING SITE CONTAINS 36 DWELLING UNITS AND THE PROPOSED SITE WILL CONTAIN 30 DWELLING UNITS.
2. THE EXISTING DEVELOPMENT IS CONSIDERED NON-CONFORMING BY DIMENSION (LOT AREA AND SETBACKS).

A.P. 66 LOT 167	EXISTING	PROPOSED
LOT SIZE:	14,462 S.F.	14,462 S.F.
DENSITY:	36 UNITS	30 UNITS
FRONTAGE:	64.77 FT.	64.77 FT.
HEIGHT:	3 STORY	4 STORY
FRONT YARD:	50.7 FT.	20.6 FT.
SIDE YARD:	0.9 FT.	7.4 FT.
REAR YARD:	NOT APPLICABLE	NOT APPLICABLE
BLDG. LOT COVERAGE:	48.9%	41.1%
GREEN SPACE:	13%	15.9%



Item Title:

DEMOLITION - 20 WILLIS STREET

Item Detail:

13. COMMUNICATION/DEMOLITION REVIEW, Anne Louro Preservation Planner, to City Council, re: 20 Willis Street (Map 66, Lot 167), circa 1838, 2 ½ story wood framed building and circa 1910, 2 ½ wood framed building, the property is located in the Acushnet Heights National Register Historic District; the circa 1838 structure is associated with Clement C. Covell, a Master Mariner who, for a period time was part owner of the Bark Lagoda; the buildings have experienced acute alterations, resulting in a lack of historical integrity in their design, setting, materials, workmanship and feeling; due to the exterior alterations, the buildings no longer retain sufficient integrity to meet the criteria for listing and therefore, in light of these findings, the Preservation Planner has determined that the circa 1838 and circa 1910 structures at 20 Willis Street are neither Historically Significant nor Preferably Preserved structures. The Council may wish to note that the owner additionally intends to demolish the circa 1952 three story brick masonry additions, which once served as Union Hospital, because those building additions are not seventy-five (75) years old, they are not subject to the Demolition Delay Ordinance and therefore are not included in this determination.

Additional Information:

ATTACHMENTS:

Description	Type
□ DEMOLITION REVIEW	Cover Memo

CASE 31-16 + 32-16

ATTACHMENT 3

PLANNING
NOV 08 2016
DEPARTMENT



City of New Bedford

HISTORICAL COMMISSION

133 William Street, New Bedford, Massachusetts 02740

Telephone: (508) 979.1488 Facsimile: (508) 979.1576

JONATHAN F. MITCHELL
MAYOR

MEMORANDUM

TO: New Bedford City Council

FROM: Anne Louro, Preservation Planner

DATE: October 25, 2016

RE: **BUILDING DEMOLITION REVIEW**
20 Willis Street (Map 66, Lot 167)
Circa 1838, 2-1/2 story wood framed building
Circa 1910, 2-1/2 story wood framed building

CITY CLERKS OFFICE
NEW BEDFORD, MA
2016 OCT 26 A 11: 14
CITY CLERK

In accordance with the requirements of the New Bedford City Code, Article XI, Section 2-157 Demolition of Buildings, the Preservation Planner, designated to act on behalf of the New Bedford Historical Commission, has examined the structures located at the above-captioned site in order to determine its historical significance and whether it is in the public interest to preserve such structure.

Having reviewed the application for demolition I offer the following findings and recommendation in this matter to the New Bedford City Council:

- The property is located in the Acushnet Heights National Register Historic District.
- The circa 1838 structure is associated with Clement C. Covell, a Master Mariner who, for a period of time, was part owner of the Bark Lagoda.
- The buildings have experienced acute alterations, resulting in a lack of historical integrity in their design, setting, materials, workmanship and feeling.
- Due to the exterior alterations, the buildings no longer retain sufficient integrity to meet the criteria for listing in the National Register.

In light of these findings, the Preservation Planner has determined that the circa 1838 and circa 1910 structures at 20 Willis Street are neither Historically Significant nor Preferably Preserved structures.

The Council may wish to note that the owner additionally intends to demolish the circa 1952 three story brick masonry additions which once served as Union Hospital. Because those building additions are *not* seventy-five (75) years old, they are not subject to the Demolition Delay Ordinance and therefore are not included in this determination.

cc. Veterans Transition House, Property Owner
Department of Inspectional Services
Mayor's Office
Councilor Dana Rebeiro
New Bedford Historical Commission

PLANNING
NOV 08 2016
DEPARTMENT

REG. DEEDS
REG. NO.
BRISTOL S

BK 10962 PG 246
11/27/13 03:44 DOC. 28315
Bristol Co. S.D.

11/27/13 03:44
DOC. 28315

11/27/13 03:44

11/27/13 03:44

QUITCLAIM DEED

STEPHEN A. LAWRENCE of New Bedford, Massachusetts and CHRISTINE E. LAWRENCE of 5 Sunset Lane, Fairhaven, Massachusetts 02719, for consideration paid, and in full consideration of TWO HUNDRED FIFTY-NINE THOUSAND DOLLARS (\$259,000.00), grant to SOUTHEASTERN MASSACHUSETTS VETERANS HOUSING PROGRAM, INC., a Massachusetts corporation having its principal office at 20 Willis Street, New Bedford, Massachusetts 02740, with *quitclaim covenants*, the land, together with any buildings and improvements thereon, in New Bedford, Bristol County, Commonwealth of Massachusetts, being more particularly bounded and described as follows:

PARCEL ONE:

Beginning at the northeast corner of the said lot at the intersection of Campbell and Purchase Street; thence

SOUTH 08° 06' 17" EAST thirty-nine and 50/100 (39.50) feet to a drill hole; thence

SOUTH 81° 44' 53" WEST sixty-five (65) feet to a point; thence

SOUTH 08° 06' 17" WEST one (1) foot to land now or formerly of Jeanne E. Gravel; thence

SOUTH 84° 34' 19" WEST thirty-nine and 94/100 (39.94) feet; thence

NORTH 08° 15' 07" WEST thirty-eight and 53/100 (38.53) feet to the southerly line of Campbell Street; thence

NORTH 81° 44' 53" EAST one hundred five (105) feet to the point of beginning.

PARCEL TWO:

Beginning at the southeast corner thereof at a point formed by the intersection of the west line of Purchase Street with the north line of Campbell Street; thence

1311 Purchase St New Bedford, Ma.

REC'D
DEPT. OF REVENUE

WESTERLY in said north line of Campbell Street, seventy-five and 75/100 (75.75) feet to land formerly of Susan Tripp; thence

NORTHERLY in line of last-named land forty-eight and 40/100 (48.40) feet to land now or formerly of Fred R. Shaw; thence

EASTERLY in line of last-named land seventy-five and 75/100 (75.75) feet to the said west line of Purchase Street; and thence

SOUTHERLY in said west line of Purchase Street forty-eight and 40/100 (48.40) feet to the place of beginning.

CONTAINING thirteen and 46/100 (13.46) square rods, more or less.

Parcel Two is subject to an easement, which easement will run with the land in favor of Parcel One for the use of Parcel Two as off-street parking, such that Parcel One is in compliance with the City of New Bedford off-street parking zoning regulations.

Subject to and together with the benefit of all restrictions, easements, rights and encumbrances of record insofar as the same are applicable and lawfully enforceable.

Being the same premises conveyed to Stephen A. Lawrence and Christine E. Lawrence by Quitclaim Deed of Mark Perry and Robert T. Beauregard, said deed dated October 18, 1993 and recorded with the Bristol County (S.D.) Registry of Deeds in Book 3160, Page 335.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK
SIGNATURES FOLLOW ON PAGE 3

RECORDED
OCT 21 2003
BOSTON, MASS.

20924

062006 P0000

VOA PROPERTY CORPORATION OF NEW BEDFORD, INC.

a corporation duly established under the laws of the Commonwealth of Massachusetts,
and having its usual place of business at

Bristol County, Massachusetts, for consideration paid, /

of \$300,000.

grants to SOUTHEASTERN MASSACHUSETTS VETERANS HOUSING PROGRAM, INC.,
a Massachusetts corporation having its principal place of business
at 181 Hillman Street, New Bedford, Massachusetts.

with certain covenants

the land, with any buildings thereon, in New Bedford, Bristol County, Massachusetts,
bounded and described as follows:

BEGINNING at the southwesterly corner of the land to be described,
which is one hundred nine and 56/100 (109.56) feet north from the
intersection of the easterly sideline of Pleasant Street with the
northerly sideline of Campbell Street;

thence NORTH 11°08'52" EAST by said easterly sideline of Pleasant
Street, seventy-five and 64/100 (75.64) feet to a corner and the
southerly sideline of Willis Street;

thence SOUTH 73°12'01" EAST by said southerly sideline of Willis
Street, two hundred one and 29/100 (201.29) feet to a corner and the
westerly sideline of Purchase Street;

thence SOUTH 10°19'40" WEST by said westerly sideline of Purchase
Street, sixty-four and 77/100 (64.77) feet to the northeast corner of
Parcel "D" as shown on plan of land hereinafter mentioned;

thence NORTH 79°40'70" WEST by last-named land, fifty-one and 00/100
(51.00) feet to a point;

thence NORTH 78°27'32" WEST by last-named land, thirty-four and
36/100 (34.36) feet to the northeast corner of land now or formerly
of Eliezer Nochinow;

thence NORTH 78°51'09" WEST by last-named land, forty and 14/100
(40.14) feet to the northeast corner of Parcel "E" as shown on said
plan;

thence NORTH 11°08'52" WEST by last-named land, seven and 46/100
(7.46) feet to a corner;

thence NORTH 77°21'50" WEST by last-named land, seventy-five and
78/100 (75.78) feet to the point of beginning.

CONTAINING 14,445 square feet.

BEING shown as PARCEL "C" on plan entitled, "Plan of Land in New
Bedford, MA drawn for Volunteers of America", Jan. 18, 1991, Olde
Boston Land Survey Co., Inc., filed in the Bristol County (S.D.)
Registry of Deeds in Plan Book 126, Page 151.

For title, see deed dated June 20, 1988, recorded in said Registry of
Deeds in Book 2188, Page 208, and deed dated July 7, 1988, recorded
in said Registry of Deeds in Book 2188, Page 212.

SUBJECT to the 1991 fiscal real estate taxes which the Grantee
assumes and agrees to pay.

TOGETHER WITH the benefit of an easement reserved in a deed from VOA
Property Corporation of New Bedford, Inc. to Philip A. Galindo and
Robert E. Galindo, dated August 6, 1981, recorded in said Registry of
Deeds in Book 2678, Page 192.

SUBJECT to an easement to maintain, repair and replace the existing
wires located in an electrical conduit, as more fully described in
said deed recorded in Book 2678, Page 192.

Property Address: 1074 Pleasant Street
New Bedford, MA

In witness whereof, the said VOA PROPERTY CORPORATION OF NEW BEDFORD, INC. has caused its corporate seal to be hereto affixed and these presents to be signed, acknowledged and delivered in its name and behalf by BRUCE KESTENBAUM, its President and SHIRLEY A. VERONEAU, its Treasurer

doe hereto duly authorized, this 26th day of August, In the year one thousand nine hundred and ninety-two, Signed and sealed in presence of

VOA PROPERTY CORPORATION OF NEW BEDFORD, INC.

by Bruce Kestenbaum President

Shirley A. Veroneau, Treasurer

The Commonwealth of Massachusetts

Belmont, ss.

New Bedford

August 26, 1992

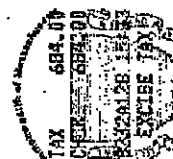
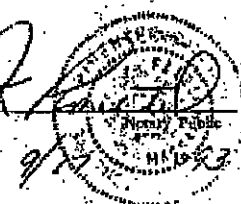
Then personally appeared the above named Officers

and acknowledged the foregoing instrument to be the free act and deed of said corporation.

before me,

Michael J. [Signature]

My commission expires



(THE FOLLOWING IS NOT A PART OF THE DEED, AND IS NOT TO BE RECORDED.)

PLANNING
08/21/2016
DEPARTMENT

W2886 700 083

VQA PROPERTY CORPORATION OF NEW BEDFORD, INC.
CERTIFICATE OF VOTE

This is to certify that at a Special Meeting of the Directors of VQA PROPERTY CORPORATION OF NEW BEDFORD, INC., duly called and held on January 20, 1991, at which all of the Directors were present and voting throughout, it was, on motion duly made and seconded, unanimously

VOTED: that the Corporation sell certain portions of its real estate, as follows:

PARCEL "C" as shown on plan entitled, "Plan of Land in New Bedford, MA. drawn for Volunteers of America", Jan. 18, 1991, Old Boston Land Survey Co., Inc., filed in the Bristol County (S.D.) Registry of Deeds in Plan Book 126, Page 151 to SOUTHEASTERN MASSACHUSETTS VETERANS HOUSING PROGRAM, INC., a Massachusetts corporation, for the sum of THREE HUNDRED THOUSAND (\$300,000.00) DOLLARS;

PARCEL "D" as shown on the above-described plan to ALVIN GLASER for the sum of TWENTY-FIVE THOUSAND (\$25,000.00) DOLLARS;

1702 Aquinnet Avenue, New Bedford, Massachusetts to MANUEL A. MEDEIROS for the sum of NINETY THOUSAND (\$90,000.00) DOLLARS;

VOTED: that BRUCE KESTENBAUM, President and SHIRLEY A. VERONNEAU, Treasurer of said corporation, be authorized and empowered to execute and deliver the deeds and any and all other documents that may be necessary in order to carry out the provisions of the above votes.

I certify that BRUCE KESTENBAUM is the President of said corporation, and that SHIRLEY A. VERONNEAU is the Treasurer; that the corporation is in good standing; that this sale does not constitute a sale of all or substantially all of the assets of the corporation; that none of the foregoing votes is inconsistent with any provisions of the By-Laws of said Corporation; and that the same is in full force and effect.

David Roderick
David Roderick, Secretary

DATED: August 14, 1992.

(FORMS)

Received & Recorded Aug. 27, 1992 at 3 hrs 35 min. P.M.

Attest: *John Brown* Register

VOA PROPERTY CORPORATION OF NEW BEDFORD, INC.

a corporation duly established under the laws of the Commonwealth of Massachusetts,
and having its usual place of business at 1704 Acushnet Avenue, New Bedford,

Bristol County, Massachusetts, for consideration/paid, of \$12,500.00

grants to PURCHASE STREET CORP., a Massachusetts corporation, having a principal place of business at 1265 Purchase Street, New Bedford, MA 02740,

with quitclaim covenants

the land, with any buildings thereon, in New Bedford, Bristol County, Massachusetts, bounded and described as follows:

BEGINNING at a point on the westerly side of Purchase Street, which point is sixty-four and 77/100 (64.77) feet southerly from Willis Street, at the northeasterly corner of the property to be described;

thence **SOUTH 10°19'40" WEST** by said Purchase Street, fifty and 99/100 (50.99) feet to land now or formerly of Alan L. Katz;

thence **NORTH 79°11'58" WEST** by last-named land, seventy-five and 75/100 (75.75) feet to land now or formerly of Eliezer Nochinow;

thence **NORTH 10°19'40" EAST** by last-named land, twenty-one and 72/100 (21.72) feet to a point;

thence **NORTH 79°11'58" WEST** by last-named land, ten and 30/100 (10.30) feet to a point;

thence **NORTH 11°41'15" EAST** by last-named land, twenty-nine and 30/100 (29.30) feet to land now or formerly of Francis P. Memorial Hospital;

thence **SOUTH 78°27'32" EAST** by last-named land, thirty-four and 36/100 (34.36) feet to a point;

thence **SOUTH 79°40'28" EAST** by Parcel "C" as shown on plan of land hereinafter mentioned, fifty-one and 00/100 (51.00) feet to the point of beginning.

CONTAINING 4,136 square feet.

BEING shown as Parcel "D" on plan entitled, "Plan of Land in New Bedford, MA drawn for Volunteers of America, Jan. 18, 1991, Olds Boston Land Survey Co., Inc.", filed in the Bristol County (S.D.) Registry of Deeds in Plan Book 126, Page 151.

For title, see deed dated June 20, 1988, recorded in said Registry of Deeds in Book 2188, Page 208; and deed dated July 7, 1988, recorded in said Registry of Deeds in Book 2188, Page 212.

Subject to the 1995 fiscal real estate taxes which the Grantee(s) assume(s) and agree(s) to pay.

RECORDS REC'D
BRISTOL SOUTH
11/17/94

TAX 57.00
CHECK 57.00
9592AL28 13:45
EXCISE TAX

In witness whereof, the said VOA PROPERTY CORPORATION OF NEW BEDFORD, INC., has caused its corporate seal to be hereto affixed and these presents to be signed, acknowledged and delivered in its name and behalf by BRUCE KESTENBAUM, its President and by DAVID RODERICK,

its Treasurer

hereto duly authorized, this 9th

day of November, in the year one thousand nine hundred and ninety-four.

Signed and sealed in presence of

VOA PROPERTY CORPORATION OF
NEW BEDFORD, INC.

by Bruce Kestenbaum
President

by David Roderick
Treasurer

Shirley E. Fria
(for both)

The Commonwealth of Massachusetts

Bristol, ss.

Ma.

New Bedford Nov. 9,

1994

Then personally appeared the above named, Bruce Kestenbaum and David Roderick and acknowledged the foregoing instrument to be the free act and deed of said corporation.

before me,

Michelle M. Pimentel
Michelle M. Pimentel
My commission expires August 25, 2000

68721 2013

DEPT. OF REVENUE

VOA PROPERTY CORPORATION OF NEW BEDFORD, INC.
CERTIFICATE OF VOTE

This is to certify that at a Special Meeting of the Directors of VOA PROPERTY CORPORATION OF NEW BEDFORD, INC., duly called and held on October 11, 1994, at which all of the Directors were present and voting throughout, it was, on motion duly made and seconded, unanimously

VOTED: to sell PARCEL "D" as shown on plan entitled, "Plan of Land in New Bedford, MA drawn for Volunteers of America", Jan. 13, 1991, Olde Boston Land Survey Co., Inc., filed in the Bristol County (S.D.) Registry of Deeds in Plan Book 126, Page 151, to for the sum of TWELVE THOUSAND FIVE HUNDRED (\$12,500.00) DOLLARS.

VOTED: that BRUCE KESTENBAUM, President and DAVID RODERICK, Treasurer of said corporation, be authorized and empowered to execute and deliver the deed and any and all other documents that may be necessary in order to carry out the provisions of the above Vote.

I certify that BRUCE KESTENBAUM is the President of said corporation, and that DAVID RODERICK is the Treasurer; that the corporation is in good standing; that neither of the foregoing votes is inconsistent with any provisions of the By-laws of said Corporation; and that the same is in full force and effect.

David Roderick
Secretary

Dated Oct. 9, 1994

Constance M. Brawders

From: Charlotte Thomas-Davison [ThomasDavison@wdchoc.org]
Sent: Monday, October 24, 2016 1:49 PM
To: Constance M. Brawders
Cc: Jennifer Clarke
Subject: Willis Street Apartments (VTH) - Site control for lot 168

Hi Connie,

Please see the attached email from the Glaser family (Purchase Street Corp.) attorney regarding site control for lot 168. Please let me know if you need anything else at this time. We intend to have an agreement in place before the November 16th Planning Board meeting. We will certainly share that with you when we get it finalized.

Thanks So Much,
Charlotte

Charlotte Thomas-Davison
Senior Project Manager
861A Broad Street
Providence, RI 02907
office: 401.941.2900 ext. 118
www.wdchoc.org



From: Gregory Koldys [mailto:gjk@kklawpc.com]
Sent: Monday, October 24, 2016 11:41 AM
To: Dean Harrison <harrison@wdchoc.org>
Subject: RE: VTH -

Dean,
As you are aware, I represent Purchase Street Corp. This is to confirm that the Women's Development Corporation and VTH have permission from Purchase Street Corp. to include Purchase Street Corp.'s property (Map 66 Lot 168) in your application for zoning relief in light of the fact that we are currently negotiating with you regarding the purchase of said property and expect to reach an agreement with you regarding said purchase.

If you need anything else to confirm this, please advise.

Best regards,
Greg

Gregory J. Koldys, Esq.
Koldys & Kelleher, P.C.
449 A Faunce Corner Road
Dartmouth, MA 02747
Phone (508) 998-0000
Fax (508) 998-0300
GJK@kklawpc.com



Veterans Transition House

Southeastern Massachusetts Veterans Housing Program, Inc.
20 Willis Street, New Bedford, Massachusetts 02740
Tel: (508) 992-5313 Fax: (508) 999-3909

October 19, 2016

City of New Bedford
Attn: Patrick Sullivan, Director DPHCD
133 William St., Rm 303
New Bedford, MA 02740

Dear Mr. Sullivan:

This application includes a parcel of land described in an attached Quitclaim Deed for property beginning at the northeast corner of Campbell and Purchase Streets in New Bedford, MA as "PARCEL TWO." Said parcel is subject to an easement in favor of "PARCEL ONE." In furtherance of the Twenty Willis Street Project, it is the intention of Southeastern Massachusetts Veterans Housing Program, Inc. (the owner of both parcels) to convey "PARCEL TWO" to the ownership entity of the Twenty Willis Street Project and dissolve the easement upon conveyance.

Sincerely,

James A. Reid
Executive Director

PLANNING
OCT 21 2016
DEVELOPMENT

"Our Mission is to provide hope for homeless veterans in a safe, sober, supportive residence and to assist those who desire to achieve rehabilitation, self-sufficiency, and community reintegration."

Project Narrative

A. Site Description

1. **Applicant:** Women's Development Corporation
861A Broad Street
Providence, RI 02907
2. **Owner:** Southeastern Massachusetts Veterans Housing Program, Inc.
(dba Veterans Transition House)
20 Willis Street
New Bedford, MA 02740
3. **Location:**
 - a. 20 Willis Street (Assessor's Map 066 Lot 167)
 - b. 1311 Purchase Street, Parcel 2 (Assessor's Map 066 Lot 33)
 - c. WS Purchase Street between Willis and Campbell
(Assessor's Map 066 Lot 168)
4. **Zoning:** Mixed Use Business
5. **Existing Site Conditions:**

The existing Veteran's Transition House is located at 20 Willis Street between Pleasant and Purchase Streets, Assessor's Map 66, Lot 167. The building has aggregated over time with the original structure having been built at the turn of the 20th century. Significant alterations have been made to the building over time and it has been determined that the property retains none of its historic significance. The site has significant grade change, dropping fifteen feet as it slopes down from Pleasant Street to Purchase Street. The site is 14,462 square feet while the 3.5 story building is 22,222 square feet with 36 residential units and as many as 45 occupants. The building is utilized for transitional veterans housing as well as for dining services, administrative and program offices for VTH and its 21 full-time employees.

6. Proposed Project Site:

The proposed project site will be comprised of the parcel currently bearing the address 20 Willis Street (Assessor's Map 66, Lot 167), as well as two adjacent parcels along Purchase Street (Assessor's Map 66, Lots 168 and 33). The existing facility on Lot 167 will be demolished in its entirety and replaced by 20,370 square feet of new construction. Lot 168, in use since 1994 as parking for the 20 Willis Street facility, is owned by Purchase Street Corp, an unaffiliated entity. It is the intention of Purchase Street Corp to convey said lot to VTH upon closing of financing for the project. A formal agreement is currently being finalized. At the NW corner of Purchase and Campbell Streets is an undeveloped lot (Assessor's Map 66, Lot 33) under the ownership of VTH. Both lots 33 and 168 will be developed as parking for the new project. The aggregate project site is 22,307 square feet.

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B. Project Description

WILLIS STREET APARTMENTS is being developed as a joint venture between Southeastern Massachusetts Veterans Housing Program, Inc of New Bedford, MA and Women's Development Corporation of Providence, RI.

The proposed project, development name of WILLIS STREET APARTMENTS, will be the product of the demolition of the aging 22,000 square foot facility and the new construction of 20,307 square feet of quality affordable housing and supportive services for veterans and families in its place. Of the 20,370 square feet of new construction, 18,412 is residential with roughly 2,000 dedicated to commercial activity in the form of social services and dining facilities.

WILLIS STREET APARTMENTS will provide thirty permanent veteran-preference housing units divided between two buildings, as well as a 6,300 square feet of parking lot/drive lane resulting in 18 regulation parking spaces and site improvements through outdoor patios and green space.

The larger of the two buildings located at the corner of Willis and Purchase Streets, Building A, is a three-story bar shaped structure housing (23) enhanced SRO units, on-floor laundry and storage, a 1200 square foot social service office suite, onsite property management, community kitchen, a large dining/community room adjacent to an enclosed outdoor patio and a light-filled public lobby. The facility will include a sheltered outdoor waiting area for loading and unloading from passenger transport vans, a 17-spot parking lot and an attractive combination of hardscape and landscape. Due to the change in grade, the building will be 4-stories at Purchase Street and 3-stories on the uphill side to the west.

The smaller of the two, Building B, located uphill of the bar building at the corner of Pleasant Street and Willis Street, will be a 3-story classic New England-style multifamily house comprised of (2) studios, (3) one-bedroom and (2) two-bedroom units. This family housing will have one accessible unit on the ground floor and will provide much needed housing for those veterans in our community that have families. The building will have on-site laundry and access to the parking lot shared with the 23-unit bar building. The building will have one dedicated accessible parking spot. The two buildings sit on the same .33 acre parcel. The aggregate lot size is 22,307 square feet or .51 acres of land. At 20,370 square feet of new construction and a building footprint of 5,800 square feet the lot coverage by building is 26% in the aggregate. Green space is just shy of 16% representing a 3% improvement over the existing. Two large patios, sun screened entries, professional landscaping and rebuilt city sidewalks add finishing touches.

C. Evidence of Adherence to Parking and Loading Requirements

The WILLIS STREET APARTMENTS development project is seeking relief from the New Bedford off-street parking requirement of 36-spaces through the Special Permit process.

The existing facility contains 36-units of housing with an occupancy of up to 45 individuals and is operated by 21 FTE of staff on a given day. The facility offers a modest parking lot with 13 spaces; many of them are located on adjacent land under different ownership. Typically the parking lot is 50-75% full during normal business hours, due primarily to the quantity of employees onsite during those times. Due to the income mix of the tenants, only a fraction of

the residents have vehicles and thus do not contribute substantially to the parking load which is primarily staff driven. VTH maintains 4 passenger vans which are parked at the property.

The proposed development, WILLIS STREET APARTMENTS, represents a reduction in population from the existing 36-unit facility with a proposed unit count of 30. Unlike the existing facility which often places 3 or more individuals in a room, the proposed studios and SROs are to house no more than one occupant. With an overall 6-unit reduction and an even greater reduction in occupants, it is expected that the parking load for WILLIS STREET APARTMENTS will be noticeably from the existing. Additionally, due to changes in programming the on-site staff for the new facility will be reduced from (21) to only (7) FTE on a given day. Likewise the operating hours will be set at 8am-6pm, with only residential functions occurring after hours.

VTH will continue to operate their van service, encouraging tenants and clients to utilize the service in lieu of owning or driving a vehicle. This van fleet has been a cornerstone of the VTH program for years as a response to the fact that clients of the organization typically do not have personal vehicles. The site is located at the corner of Purchase and Willis and is the site of a SRTA bust stop for routes 2 and 4 and providing a public transportation connection to the greater SRTA network. Additionally (9) bicycle parking spaces will located near the main entry.

Due to site grading and dimensional constraints, it is not possible to locate more parking on the site. We ask for relief from the 36-space off-site parking requirement with the confidence that the 18 parking spaces that we are providing, including (1) ADA van accessible space and (1) ADA regular handicapped space, are sufficient to serve the facility. (Refer to "Appendix C. Special Permit Application" for additional discussion and exhibits)

D. Forms of ownership

The development project, WILLIS STREET APARTMENTS, is a joint venture between Southeastern Massachusetts Veterans Housing Program, Inc (dba VTH) and Women's Development Corporation and will be financed as a low income tax credit project using a tax credit investor.

The WILLIS STREET APARTMENTS will be located on three adjacent parcels of land in New Bedford, MA (Assesor's Map 66, Lots 33, 167, 168). Two of the three parcels (map 066, lots 33 & 167) are currently owned by Southeastern Veterans Housing Program, Inc. (dba VTH). The third parcel (map 066, lot 168) is owned by Purchase Street Corp, but has been used as parking by VTH since 1994. At the time of the closing of financing, all three lots will be conveyed to the WILLIS STREET APARTMENTS development entity. (Refer to "6. Proof of Ownership" for documentation of the current ownership of the three properties)

E. Compliance with the zoning ordinance

The existing facility is non-conforming by dimension, as is the parcel it occupies. Where possible we have improved on the existing condition so that the proposed facility either meets a given dimensional requirement or represents an improvement over the existing.

Due to significant site constraints including the size, shape and grade of the lot, and the demands of our supportive housing program, we are unable to comply with some of the dimensional requirements. The long and narrow shape of the parcel, coupled with the square footage and

PROXIMITY

adjacencies of program our spaces means that we are unable to get a large enough structure on the site to accommodate our program while meeting all of the dimensional requirements. Although this only occurs in a couple of places, it would be a significant hardship the project to be required to meet the requirements, as it would force us to reduce our program and square footage of affordable housing.

It is our understanding that as a mixed use facility that provides significant educational programming, we are exempt from some of the dimensional requirements. For this reason and because altering the proposed project to meet all of the dimensional requirements would substantially diminish our ability to provide service, we have requested to be released from several of the dimensional requirements that we are unable to meet. (See site plans and zoning table for specific requirements and site conditions)

F. Estimated time required to complete the proposed project

Estimated completion of construction of the project is August 2018. The detailed development schedule is as follows:

Milestone	Date Completed
Responded to RFP	April 2016
Designated as Co-Developer	May 2016
Application for FHLBB AHP Funding	September 2016
Planning Board Meeting	November 2016
Traffic Commission Meeting	November 2016
DHDC Pre-Application	December 2016
Application to Mass Development (4% Tax Credit TE Bond)	December 2016
Design Development / Construction Docs	January 2017
Mass Development Funding Decision	January/February 2017
Application to DHCD - LIHTC	February/March 2017
DHCD Funding Decision –LIHTC	May/June 2017
Construction Bidding	May 2017
Financial Closing	July 2017
Construction Start	August 2017
Construction Completion	August 2018
Qualified Occupancy Complete and Income Verified	October 2018

G. Projected costs of all site improvements (see attached cost estimate)

H. Drainage Calculations (See "9. Stormwater Management Report" for full description)

The post project stormwater runoff from the site will have peak runoff rates less than pre-project conditions since the project incorporates a subsurface infiltration system which will detail and infiltrate stormwater. The runoff from the site will also receive water quality treatment via the infiltration system to the maximum extent possible. Additional details regarding the stormwater system can be found the Stormwater Management Calculations Report which is attached to the application.

DEVELOPMENT IMPACT STATEMENT

The WILLIS STREET APARTMENTS development project, undertaken jointly by Southeastern Massachusetts Veterans Housing Program (dba VTH) of New Bedford, MA and Women's Development Corporation of Providence, RI, is seeking relief from the New Bedford off-street parking requirement of 36-spaces through the Special Permit process.

Located on the site of the existing VTH facility at 20 Willis Street, WILLIS STREET APARTMENTS represents a major commitment to providing quality housing to veterans in need as well as a major capital investment for the area. The existing 22,000 sf facility is well beyond its useful life and will be demolished and replaced with 20,000 sf of new construction.

The existing facility contains 36-units of housing with an occupancy of up to 45 individuals and is operated by 21 FTE of staff on a given day. The facility offers a modest parking lot with 13 parking spaces, although many of them are located on adjacent land under different ownership. Typically the parking lot is 75% full during normal business hours, due primarily to the quantity of employees onsite during those times. Due to the income mix of the tenants, only a fraction of them have vehicles and thus they do not contribute substantially to the parking load which is primarily staff driven. VTH maintains 4 passenger vans which are parked at the property.

The proposed development, WILLIS STREET APARTMENTS, represents a reduction in population from the existing facility with a unit count of 30. The 30 permanent units include (23) enhanced SRO, (2) studios, (3) one-bedrooms and (2) two-bedroom units. Unlike the existing facility which often places 3 or more individuals in a room, the proposed studios and SROs are to house no more than one occupant. With an overall 6-unit reduction and an even greater reduction in occupants, it is expected that the parking load for WILLIS STREET APARTMENTS will be noticeably from the existing.

Additionally, due to changes in programming the on-site staff for the new facility will be reduced from (21) to only (7) FTE on a given day. Likewise the operating hours will be set at 8am-6pm, with only residential functions occurring after hours.

VTH will continue to operate their van service on site, encouraging tenants and clients to utilize the service in lieu of owning or driving a vehicle. This van fleet has been a cornerstone of the VTH program for years as a response to the fact that clients of the organization typically do not have personal vehicles. The site is located at the corner of Purchase and Willis and is the site of a SRTA bust stop for routes 2 and 4 and providing a public transportation connection to the greater SRTA network.

Due to site grading and dimensional constraints, it is not possible to locate more parking on the site. We ask for relief from the 36-space off-site parking requirement with the confidence that the 18 parking spaces that we are providing, including (1) ADA van accessible space and (1) ADA regular handicapped space, are sufficient to serve the facility.

*Please refer to attached pages for Parking Requirement Table, SRTA Letter and Bus Stop Locus Map

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ATTACHMENT 7

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PARKING DIMENSIONAL REQUIREMENTS:

REQUIREMENTS

MULTI-FAMILY (3) OR MORE PER STRUCTURE:

TWO (2) SPACES PER DWELLING UNIT
ONE (1) LOADING SPACE FOR EACH MULTI-FAMILY
DWELLING CONTAINING MORE THAN TEN (10)
DWELLING UNITS.

30 DWELLING UNITS PROPOSED REQUIRED = 30 SPACES PLUS 1
LOADING SPACE

OFFICES; ONE SPACE PER 200 SQ. FT. OF GROSS OF GROSS
FLOOR AREA

OFFICE AREA = 878 SQ. FT. GROSS FLOOR AREA = 5 SPACES

TOTAL REQUIRED = 35 SPACES PLUS 1 LOADING SPACE

PARKING SUMMARY:

EXISTING = 15 SPACES (NO LOADING)

PROPOSED = 18 SPACES (NO LOADING) INCLUDES
1 ADA VAN ACCESSABLE AND 1 ADA REGULAR
HANDICAPPED SPACE

NOTES:

1. THE EXISTING SITE CONTAINS 36 DWELLING UNITS AND THE
PROPOSED SITE WILL CONTAIN 30 DWELLING UNITS.
2. THE EXISTING DEVELOPMENT IS CONSIDERED
NON-CONFORMING BY DIMENSION (LOT AREA AND SETBACKS).



Department of Public Infrastructure

Euzebio Arruda
Commissioner

CITY OF NEW BEDFORD

Jonathan F. Mitchell, Mayor

Water
Wastewater
Highways
Engineering
Cemeteries
Park Maintenance
Forestry
Energy

MEMORANDUM

To: City of New Bedford Planning Board

From: Euzebio Arruda, Commissioner, DPI

Date: November 3, 2016

RE: Willis Street Apartments – Site Plan
Willis Street
Plot 66 Lots 33,168 and 167

The Department of Public Infrastructure has reviewed the proposed site plan referenced above and recommends approval with the following conditions:

1. Driveway permits are subject to Traffic Commission approval.
2. Permits for sidewalk, driveways, drainage, sewer and water must be obtained from the Department of Public Infrastructure Engineering Division.
3. Driveways and Sidewalks to be built in accordance with City of New Bedford regulations and the driveways with 4 foot transitions curb on both sides.
4. All utilities to be installed in accordance with City of New Bedford standards.
5. This site plan includes 3 lots, which may need to be combined to meet zoning requirements.
6. Owner must contact the Department of Public Infrastructure to assign a new address for the proposed buildings.
7. Cement concrete wheelchair ramps to be build in accordance with ADA and City of New Bedford Standards.
8. Owner to install wheelchair ramp on the east side of Purchase Street across from the southwest corner of Willis St./ Purchase St.
9. Owner must contact the Department of Public Infrastructure about the location of Wheelchair ramps at the Willis St. / Pleasant St. intersection.
10. Thermoplastic crosswalks must be installed at all wheelchair ramps.

1105 Shawmut Avenue, New Bedford, MA 02746 Telephone 508-979-1550 Fax 1-508-961-3054
ZEB.ARRUDA@NEWBEDFORD-MA.GOV

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11. Drainage must tie in directly to the manhole over the 48" storm drain at the Northwest corner of Campbell St. / Purchase St.
12. Trees to be a minimum of 2 ½" caliper.
13. Cut and cap all unused water services at the main.
14. Cut and cap all unused sewer services at the property line.
15. Install tapping sleeve and gate for the 4 inch and 6 inch water services.
16. Install a #8 curb stop box 1.5 feet from the face of the curb for the 2 inch domestic water service.
17. Install backflow preventers on all fire supplies.
18. Water meters to be installed at point of entry 1 foot from basement wall.
19. The Department of Public Infrastructure requires a final set of approval plans to be submitted that reflect all revisions made prior to the start of construction.
20. Developer and site contractor must schedule a pre- construction meeting with DPI prior to the start of construction.
21. Upon Completion, Engineer must submit "As Built Drawings" in CADD format prior to the Certificate of Occupancy being issued.

CC: Department of Inspectional Services
Environmental Stewardship
Women's Development Corporation
Southeastern Mass. Veterans Housing Program, Inc.
Commonwealth Engineers & Consultants, Inc.



August 1, 2016

Robin Dionne
Project Manager
Women's Development Corporation
861 A Broad Street
Providence, RI 02907

Dear Ms. Dionne:

Per the request of Women's Development Corporation, I am confirming the distance between 20 Willis Street, New Bedford MA, the location of the current Veterans Transition House, to the outbound New Bedford 2 and New Bedford 4 Bus Stop at the corner of Purchase and Willis Street. The distance between these points is 250 feet.

Sincerely,

Erik B. Rousseau

Administrator

OK 31-16 + 32-16

Serving the Communities of

Acushnet, Dartmouth, Fairhaven, Fall River, Freetown, Mattapoisett, New Bedford, Somerset, Swansea, Westport

700 Pleasant St., Suite 320, New Bedford, MA 02740
srtabus.com, (P) 508-999-5211 (F) 508-993-9196

ATTACHMENT 9



**SRTA Outbound Bus
Routes 2 & 4
Bus Stop Location:
Purchase & Willis
Streets**

20 Willis St

© 2016 Google

Google Earth

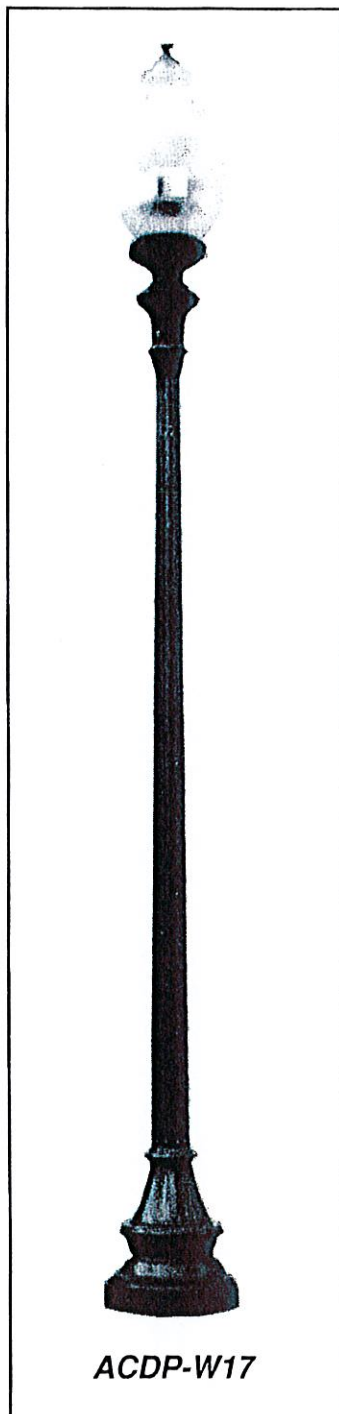
41°38'34.55" N 70°55'39.78" W elev 46 ft eye alt 541 ft



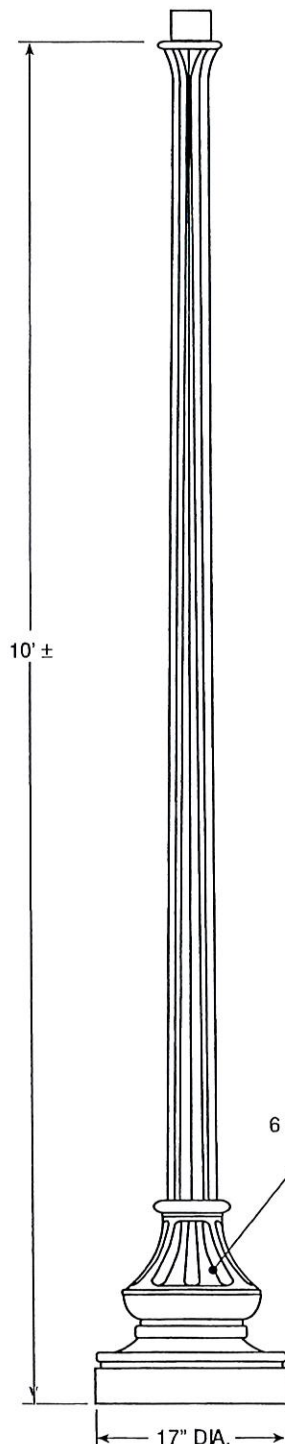
From: ALLOY CASTINGS CO., INC.
Quality Aluminum Castings Since 1948

151 West Union Street • East Bridgewater, MA 02333
Telephone: (508) 378-2541 • FAX: (508) 378-1240
www.alloycastings.com

Washington 17 Style Decorative Pole



ACDP-W17



Style: Washington 17
Height: 10' ±
Base: 17" ± diameter, round
Tennon: 3" x 2-7/8" diameter.

Material: Heavy Wall Cast Aluminum
356 Alloy.

Finish: Primed and finish painted to
your specifications.

Access Door: 6 1/4" x 4", located in base.

Anchor Bolts: (3) 3/4" x 24" plus 3" hook including
1 lock washer, 2 flat washers and
2 nuts. Fully galvanized. Template
included with each order.

Bolt Projection: 3" above foundation.

Bolt Circle: 12 1/4" ± Diameter.

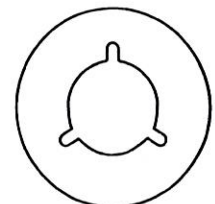
Features: A variety of heights are available
in straight shafts and extruded shafts.
A variety of bolt circles are also available.

**Luminaire
Options:**

There is a wide variety of luminaries
available. Consult factory for options.

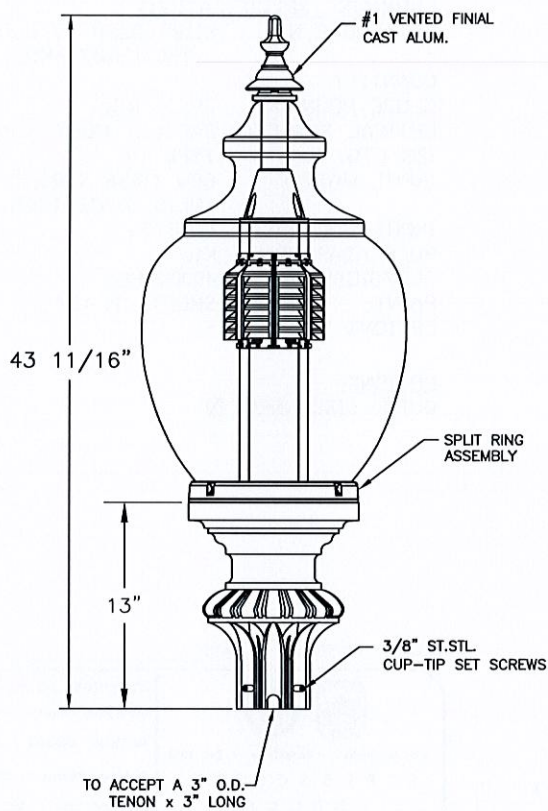
Finish Options: Gloss Black

ANCHOR BOLT DETAIL



(3) 3/4" ANCHOR BOLTS
ON 12 1/4" ± BOLT CIRCLE

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DEPARTMENT



REV.	ALTERATION	DATE	BY

SPECIFICATIONS

CATALOGUE NO: K118R-B2PR-III-60(SSL)
-1042-120-277-K16



QUANTITY: 1
GLOBE MOUNTING: SPLIT RING
OPTICAL SYSTEM: BAFFLED POLYCARBONATE RIPPLED
IES LTG. CLASS: TYPE III
INPUT WATTS: 60W (1042 SERIES)
SOLID STATE LIGHTING
INPUT VOLTAGE: 120-277V
POLE ADAPTOR: K16
CCT/DIODE: 4000K/HE5
PAINT: SMOOTH BLACK

OPTIONS:

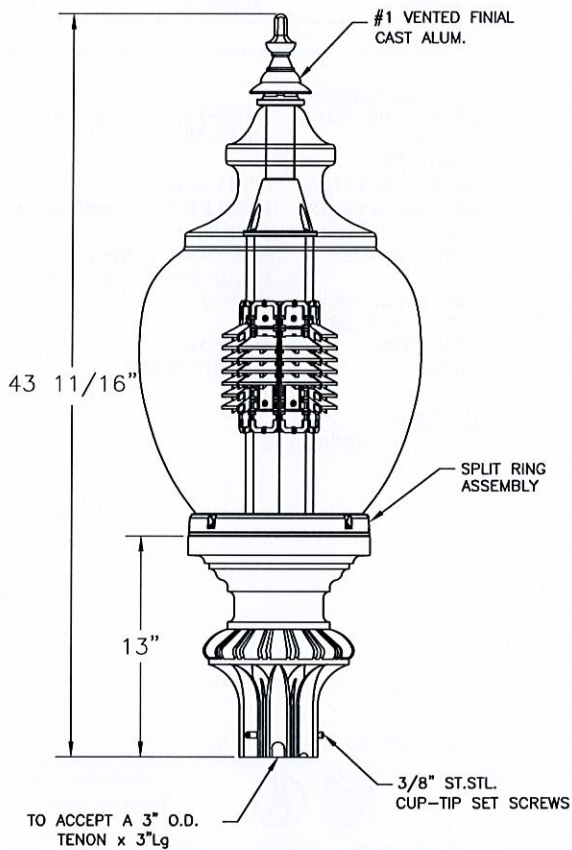
QUICK DISCONNECT ☒

CUSTOMER APPROVAL & DATE: _____

CUSTOMER ORDER No:
KING U.S. ORDER No:
KWFG. ORDER No:

 		Manufacturing Locations: Burlington, Ontario 1-800-268-7809 Northport, Alabama 1-800-435-6563 Atchison, Kansas 1-800-837-1024 Jefferson, Ohio 1-800-268-7809	
King Luminaire • StressCrete • Est. 1953 STRESSCRETE GROUP			
PROJECT/CUSTOMER: 20 WILLIS STREET - NEW BEDFORD, MA			
DRAWN BY: VISHAL V.	AT: SC1	CHECKED BY: [Signature]	DATE: 10/13/16
DRAWING TYPE: CONCEPT DWG.		DRAWING NUMBER: 206A8898-1	

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TO ACCEPT A 3" O.D.
TENON x 3"Lg

CUSTOMER ORDER No:
KING U.S. ORDER No:
KMFG. ORDER No:

REV.	ALTERATION	DATE	BY

LUMINAIRE SPECIFICATIONS



CATALOGUE NO: K118R-B3PR-IV-60(SSL)
-1036-120277-K16

QUANTITY:
GLOBE MOUNTING: SPLIT RING
OPTICAL SYSTEM: BAFFLED POLY, RIPPLED
IES LTG. CLASS: TYPE IV
INPUT WATTS: 60W (1036 SERIES)
SOLID STATE LIGHTING
INPUT VOLTAGE: 120/277V
POLE ADAPTOR: K16
CCT/DIODE: 4000K/HE5
PAINT: SMOOTH BLACK
OPTIONS:

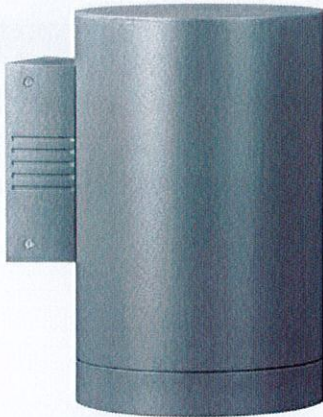
OPTIONS:

QUICK DISCONNECT ☒

CUSTOMER APPROVAL & DATE:

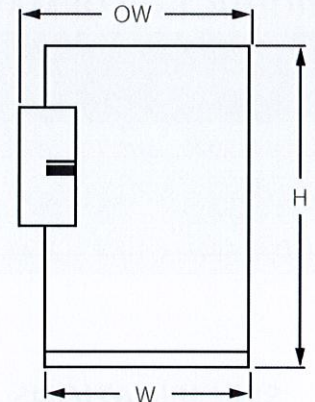
 		Manufacturing Locations: Burlington, Ontario 1-800-268-7809 Northport, Alabama 1-800-435-6563 Atchison, Kansas 1-800-837-1024 Jefferson, Ohio 1-800-268-7809	
King Luminaire • StressCrete • Est. 1953 STRESSCRETE GROUP			
PROJECT/CUSTOMER: 20 WILLIS STREET - NEW BEDFORD, MA			
DRAWN BY: VISHAL V.	AT: SC1	CHECKED BY: DATE: 10/13/16	REVISION:
DRAWING TYPE: CONCEPT DWG.		DRAWING NUMBER: 206A8898-2	

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Product Dimensions

Model	Overall Width (W)	Width (W)	Height (H)
020-C	6.75"	4.75"	8.00"
030-B	8.00"	6.00"	10.00"
060-A	9.85"	7.85"	12.50"



**** AVAILABLE ****

0 - 10V
FULL DIMMING

Incredible 100,000 hrs

GENERAL DESCRIPTION

Neptun's LED Wall Mount fixtures feature architectural design and durability to fit new construction and retrofit applications. The LED-414 series feature high output LED's and custom engineered optics to provide excellent uniformity and efficiency. Offered in a variety of sizes and wattages, they can replace existing HID & HPS fixtures up to 175W.

APPLICATION

- Building Accent Lighting
- Building Facade Lighting
- Accent Lighting
- Landscape Lighting
- Security Lighting
- Stairwell Lighting

STRUCTURE, MATERIALS, & FEATURES

- Heavy-gauge, die-cast aluminum housing.
- Heat and impact resistant sealed glass lens around optics.
- Corrosion resistant electrocoat dark grey finish (custom colors available).
- Correlated Color Temperature of (5000°K) for greater visibility and safety.
- High Output COB LED's with borosilicate glass lens optics.
- High power factor, low THD driver with 6kV/3kA surge protection.
- InstantON flicker-free Cold Start and Hot Re-Start.
- Up to 15 years Maintenance free operation.
- 5 Year Warranty on complete fixture. (LED's, Driver, & Housing)
- **Optional:** 0-10V Dimming, Remote Monitoring and ON/ OFF Control, DC 24V Operation - Solar Compatible

ORDERING INFORMATION

Sample Number: LED-414020-C-UNV-0-10VDIM-850-LD-120V-DGRY
Custom options and accessories available. Please consult factory

Series	Wattage	Voltage	Options	Color Temp	Accessories	Color
LED-414	020-C	UNV		841		
LED-414 = Wall Mount	020-C = 20 W 030-B = 30 W 060-A = 60 W * See dimensions above	UNV = 120-277 VAC 24VDC = 24 VDC	0-10VDIM = 0-10V Dimming* * Only available in 30W / 60W ** Contact Factory for dimming options	835 = 3500°K 841 = 4100°K 850 = 5000°K * * Standard	LD-120V = 120V Swivel Photocell LD-277V = 277V Swivel Photocell	DGRY = Dark Grey * Custom Colors Available

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lightinnovations@work™

PRODUCT INFORMATION

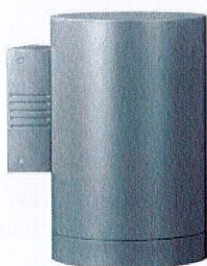
Model No.	Description	Rated Watts	Input Watts	Delivered Lumens	Universal Line Voltage (VAC)	Max Line Current (Amp) @ 120 - 277	THD	Power Factor	Weight
LED-414020-C-UNV	Wall Mount Fixture	20	21	2,400	120-277	0.17 - 0.07	<20%	>0.90	15 lbs
LED-414030-B-UNV	Wall Mount Fixture	30	31	3,600	120-277	0.34 - 0.15	<20%	>0.90	15 lbs
LED-414060-A-UNV	Wall Mount Fixture	60	61	7,200	120-277	0.52 - 0.22	<20%	>0.90	15 lbs

SPECIFICATIONS

- Driver Constant Current
- Start Method InstantON
- Hot Re-start InstantON
- Power Supply 350mA
- Driver UL Rating Class 1
- Driver UL Outdoor Rated Wet Location
- Sound Rating Class A
- ANSI Surge Protection IEEE C62.41 C High
- Driver Off-State Draw 0 Watts
- Universal Input Line Voltage 120-277 VAC
- Input Line Frequency 50/60 Hz
- Projected (L70) @ 25°C > 100,000 hrs.
- Color Temperature 5,000°K
- Color Rendering Index (CRI) > 80
- Minimum Starting Temperature -40°C
- Maximum Starting Temperature +50°C
- Lumens per Watt > 100
- Shock / Vibration Resistant Yes
- Power Factor > 0.90
- Total Harmonic Distortion < 20%
- Inrush Current Peak < 10 Amp
- FCC Compliance Part 15, Subp. C
- Housing IP Rating IP65
- Driver IP Rating IP67
- Optics IP Rating IP68
- Warranty 5 Year

MOUNTING OPTIONS

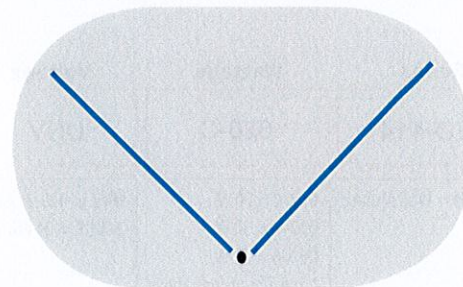
Wall Mount



Down-Light

PHOTOMETRICS (See Complete IES File)

Type 3 Distribution



Neptun Light, Inc.
13950 Business Center Drive
Lake Forest, IL 60045
Fax: 847.735.8004

Neptun Light, Inc. reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program.

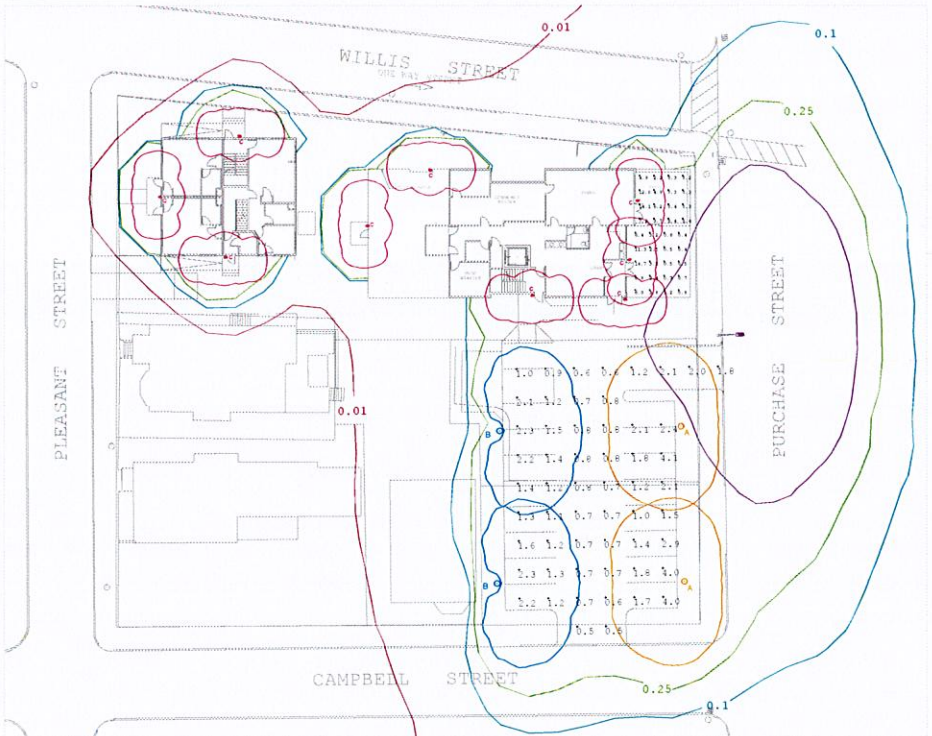
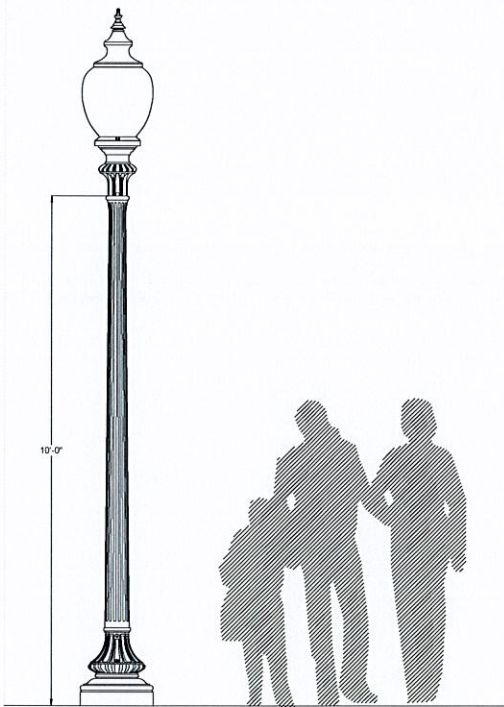
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Spec. Rev. 6-2016

Photometric Analysis - Run 1

Luminaire Schedule										
Symbol	Qty	Label	Description	IES Class	Arrangement	Arm	MH	LLF	Lum. Lumens	Lum. Watts
	2	A	Parking King Luminaire K100MR-B2PR-III-60-1042	Type III	SINGLE	0	12	0.850	4635	64.2
	2	B	Parking King Luminaire K100MR-B3PR-III-IV-60-1036	Type IV	SINGLE	0	12	0.850	3659	60.9
	9	C	Wall Sconce Neptun Light LED-414020-C-UNV-850	Type II	SINGLE	0	6	0.850	2232	20.2
	1	EX	Existing 250W HPS	Type II	SINGLE	8	30	0.650	19212	250

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking Lot	Illuminance	Fc	1.5	4.1	0.6	2.4	6.8
Lobby Entry	Illuminance	Fc	3.4	14.7	0.4	8.6	36.8
Patio	Illuminance	Fc	3.6	14.1	0.2	18.1	70.5



PLANNING
OCT 21 2016
DEPARTMENT



September 6, 2016

Ms. Charlotte Thomas-Davison
Sr. Project Manager
Women's Development Corp.
861A Broad Street
Providence, RI 02907

Re: 20 Willis Street, New Bedford
Veteran's Transition House

Dear Ms. Thomas-Davison,

We have reviewed the information provided to us regarding this project and have attached our preliminary conceptual budget for the construction costs. Note, this budget includes the costs of the building permit and bond.

If you have any questions or need any additional information, please let me know. Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read "WJG", with a long horizontal flourish extending to the right.

William J. Glasser
President

WJG/em

Enc.

Cc: Mr. John Burns - Landmark

PLANNING
OCT 21 2016
DEPARTMENT

CASE 31-16 + 32-16

282 Montvale Avenue - Woburn, MA 01801 ♦ Phone: (781) 376-1801 Fax: (781) 376-1802

ATTACHMENT 11

Uses of Funds 20 Willis (VTH)

Direct Construction Costs:

105 Who prepared the estimate:

William Glasser, Landmark Structures Corp

For the Women's Development Corporation

106 What was the basis for estimate:

Schematic Plans dated 8-11-2016, 2-Bldgs 20,000sf

	DV	Trade Item	Conceptual Budget	
107	3	Concrete	198,000.00	
108	4	Masonry	50,000.00	
109	5	Metals	72,600.00	
110	6	Rough Carpentry	594,000.00	
111	6	Finish Carpentry	109,000.00	
112	7	Waterproofing	11,000.00	
113	7	Insulation	92,400.00	
114	7	Roofing	66,000.00	
115	7	Sheet Metal & Flashing	17,600.00	
116	7	Exterior Siding	61,600.00	
117	8	Doors	92,400.00	
118	8	Windows	96,800.00	
119	8	Glass	6,600.00	
120	9	Lath & Plaster	0.00	
121	9	Drywall	215,600.00	
122	9	Tile Work	39,600.00	
123	9	Acoustical	4,800.00	
124	9	Wood Flooring	66,000.00	
125	9	Resilient Flooring	77,000.00	
126	9	Carpet	33,000.00	
127	9	Paint and Decorating	88,000.00	
128	10	Specialties	22,000.00	
129	11	Special Equipment	0.00	
130	11	Cabinets	74,800.00	
131	11	Appliances	33,000.00	
132	12	Blinds & Shades	6,600.00	
133	12	Modular/Manufactured	0.00	
134	13	Special Construction	0.00	
135	14	Elevator or Conveying	100,000.00	
136	15	Plumbing & Hot Water	277,200.00	
137	15	Heat and Ventilation	294,800.00	
138	15	Air Conditioning	0.00	
139	15	Fire Protection	74,800.00	
140	16	Electrical	264,000.00	
141		Accessory Buildings	0.00	
142		other / misc.	88,000.00	Building Permit and Bond
143		Subtotal Structural	3,227,200.00	
144	2	Earth Work	286,000.00	
145	2	Site Utilities	87,000.00	
146	2	Roads and walks	35,200.00	
147	2	Site Improvement	17,600.00	
148	2	Lawns & Planting	33,000.00	
149	2	Geotechnical Conditions	0.00	
150	2	Environmental Conditions	0.00	
151	2	Demolition	75,000.00	
152	2	Unusual Site Conditions	0.00	
153		Subtotal Site Work	533,800.00	
154		Total Improvements	3,761,000.00	
155	1	General Conditions	352,000.00	
156		Subtotal	4,113,000.00	
157	1	Builders Overhead	155,000.00	
158	1	Builders Profit	132,000.00	
159		TOTAL	4,400,000.00	

STORMWATER MANAGEMENT CALCULATIONS

FOR

VETERANS' TRANSITION HOME
SITE REDEVELOPMENT
20 WILLIS STREET
NEW BEDFORD, MA

PREPARED FOR:

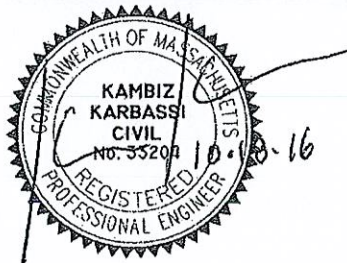
*SOUTHEASTERN MA VETERANS HOUSING PROGRAM INC.
20 WILLIS STREET
NEW BEDFORD, MA 02740*

PREPARED BY:

*COMMONWEALTH ENGINEERS & CONSULTANTS, INC.
400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908*

October 14, 2016

CE&C Project No. 16037.00



PLANNING
OCT 21 2016
DEPARTMENT

CASE 31-16 + 32-16

ATTACHMENT 12

Introduction

This report is in support of the stormwater management system designed for the redevelopment the Veterans' Transition Home located at 20 Willis Street in New Bedford, Massachusetts. The primary goal of the proposed drainage system is to treat and control the flows generated by the redevelopment of this lot. The site is intended for residential use and is not categorized as a land use with higher potential pollutant loads (LUHPPL).

With the proper construction and maintenance of the proposed storm water management system, the post-development storm flows will be controlled and the impacts due to the development of the site will be mitigated as mandated by the local governing authorities.



Google Earth

feet 1000
meters 600



Pre-Development Conditions

The site encompasses approximately 0.50 acre of land that currently contains one 7,000+ square feet of existing building with associated parking. It is bordered by Pleasant Street to the west, Willis Street to the north and Purchase Street to the east. To the south (off site) are additional buildings. The topography of the property is relatively steep with a down gradient from west (elevation 54') to east (elevation 37'). According to FEMA Flood Insurance Rate Map #25005C0393G, revision date July 16, 2014, the site is not located within 100-year floodplain.

The soils within the study area, based upon the Soil Survey of Bristol County, Massachusetts, Southern Part, are Ur- Urban Land. These soils require onsite investigation. As a result, on-site soil evaluations in the vicinity of the proposed infiltration system were conducted and were utilized in the design of the stormwater treatment system for the site. There are no existing on-site stormwater controls.

Under pre-development conditions, the area was analyzed as one watershed which flows from west to east through the property. The watershed contains 0.58 acre of land due to the inclusion of off-site contributory areas. The following table provides data for the pre-development 2-yr, 10-yr, 25-yr and 100-yr peak storm flows.

WATERSHED	2-Year Storm	10-Year Storm	25-Year Storm	100-Year Storm
PRE	1.18 CFS	2.05 CFS	2.88 CFS	4.36 CFS

Post Development Conditions

Under redevelopment (post) conditions, there will be a slight decrease in the amount of impervious surface area on the property. However, due to the redevelopment of the site provisions have been made to infiltrate to the greatest extent practicable in order to comply with the recharge requirements and the TSS removal. Only one catch basin will be installed adjacent to the parking lot to collect runoff and the runoff will flow by gravity through a pipe into a diversion manhole, where the flows are mitigated to a proposed underground infiltration system. The catch basin will be comprised of a deep sump and hood, and the flows will be directed first through a Stormtech “isolator row”, via the diversion manhole. The “isolator row” acts similarly to a sediment forebay in that its intent is to prolong the longevity of the system. When larger storms occur, the diversion manhole will direct flows to the other seven rows of the system via a pipe manifold system. The system outlets to a nearby drain manhole located in Purchase Street.

On-site investigation soil evaluation determined an infiltration rate of 0.52 inches/hour with a minimum seasonal high groundwater table at a depth of eight feet (8') below the surface as documented through performed test holes on October 14, 2016. The overall stormwater management system as designed will infiltrate the full water quality volume.

Under post-development conditions the site was analyzed with respect to two sub-watershed areas; POST UNC and POST CONT. The POST UNC watershed contains 0.20 acre of the property consisting of both grassed and impervious areas that flow off into the street east of the property. The POST CONT watershed contains the remainder (0.38 acre) of new building roof, parking area, lawn and landscape runoff draining into the infiltration system via the single catch basin and a piping system that captures the roof runoff and directs it to the underground system. The bottom of the infiltration basin is a minimum of two feet above the seasonal high ground water table, in accordance with the requirements. The depth to groundwater table was obtained from on-site test holes and recorded at eight feet. An outfall orifice has been designed within the system to discharge stormwater volumes within the system above elevation 35.50 via a pipe discharge into the existing system with Purchase Street.

The following table summarizes the results of the inflow analysis for the five sub-watershed areas under post development conditions:

WATERSHED	2-YEAR STORM	10-YEAR STORM	25-YEAR STORM	100-YEAR STORM
POS-CONT	0.86 CFS	1.48 CFS	2.06 CFS	3.09 CFS
POST-UNC	0.35 CFS	0.65CFS	0.95 CFS	1.48 CFS

The following table summarizes the results of the outflow from the infiltration basin under post development conditions:

	2-Year Storm	10-Year Storm	25-Year Storm	100-Year Storm
INFILTRATION	0.12 CFS (0.02 CFS INFIL)	0.91 CFS (0.02 CFS INFIL)	1.78 CFS (0.02 CFS INFIL)	2.67 CFS (0.02 CFS INFIL)
MAX. ELE.	35.65' (1.35' freeboard)	35.98' (1.02' freeboard)	36.22' (0.78' freeboard)	36.49' (0.51' freeboard)
OVERFLOW	0.09 CFS	0.89 CFS	1.76 CFS	2.65 CFS

Conclusion

By controlling the expected flows through the proposed infiltration system, the newly constructed area is expected to provide safe access to the new buildings without increasing downstream impacts to the adjacent properties or to the City roadway drainage system. Although there is a decrease in the overall amount of impervious surface areas on the site, a portion of the new parking layout will occur on a portion of the site that currently contains no impervious surface areas. This area is 2,735 square feet (0.06 acre) in size.

WATERSHED	2-Year Storm	10-Year Storm	25-Year Storm	100-Year Storm
PRE VS. POST	1.18 > 0.35 CFS (-0.83 CFS)	2.05 > 1.38 CFS (-0.67 CFS)	2.88 > 2.66 CFS (-0.22 CFS)	4.36 > 4.07 CFS (-0.29 CFS)

Recharge Volume Requirement:

$$\text{ReV} = (1'')(0.35)(0.06)/12 = 0.002 \text{ ac-ft}$$

Water Quality Volume Requirement:

$$\text{WQV} = (1'')(0.06)/12 = 0.005 \text{ ac-ft}$$

Infiltration System	= 0.039 ac-ft > 0.002 Recharge	OK
	= 0.039 ac-ft > 0.005 WQV	OK

**COMMONWEALTH ENGINEERS & CONSULTANTS, INC.**

400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908

Site Location: Purchase Street, New Bedford **Date:** 10/14/16
Project No. 16037.00 **Test Hole No.** TH-# **Weather** 60°F Sunny
Land Use: Vacant Lot **Slope:** 17% **Surface Stones:** None
Additional Site Notes: Located on a backslope with a total relief of approximately 5'

Test Hole	General Texture	ESHWT (from existing grade)	Notes
1	0-3' Fill 3'-6' Cb, FSL 6'-12' Cb, SL	12'	No redoximorphic features found, ESHWT assumed at bottom of hole
2	0-3' Fill 3'-12' G, FSL	12'	No redoximorphic features found, ESHWT assumed at bottom of hole
3	0-3' Fill 3'-5.5' FSL 5.5'-7' LVFS 7'-9' LFS 9'-12' LS	8'	Saturated Soil @ 9'
4	0-8' Fill 8'-11' ST, FSL	8'	Redoximorphic features found @ 8' Water Seepage @ 9.5'

Cb = Cobbly (15% - 35% cobbles)

G = Gravely (15% - 35% gravels)

FSL = Fine Sandy Loam

LFS = Loamy Fine Sand

LVFS = Loamy Very Fine Sand

LS = Loamy Sand

SL = Sandy Loam

ST = Stony (15% - 35% stones)

ESHWT = Estimated Seasonal High Water Table



Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.¹ This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8²
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

¹ The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

² For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

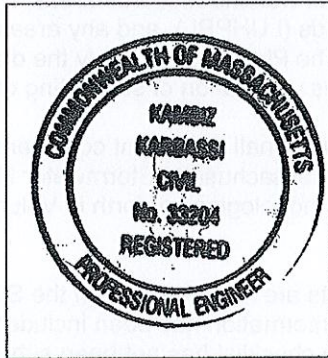
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



Signature and Date

[Handwritten Signature] 10.18.2016

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- ☐ New development
- ☒ Redevelopment
- ☐ Mix of New Development and Redevelopment



Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☒ No disturbance to any Wetland Resource Areas
- ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☒ Reduced Impervious Area (Redevelopment Only)
- ☐ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
 - ☐ Credit 1
 - ☐ Credit 2
 - ☐ Credit 3
- ☐ Use of "country drainage" versus curb and gutter conveyance and pipe
- ☐ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☐ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☐ Other (describe): _____

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☒ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☒ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- ☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- ☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- ☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- ☒ Soil Analysis provided.
- ☒ Required Recharge Volume calculation provided.
- ☐ Required Recharge volume reduced through use of the LID site Design Credits.
- ☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - ☐ Static
 - ☒ Simple Dynamic
 - ☐ Dynamic Field¹
- ☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.
- ☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- ☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- ☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
 - ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
 - ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- ☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- ☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- ☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- ☒ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- ☐ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
 - ☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
 - ☐ is within the Zone II or Interim Wellhead Protection Area
 - ☐ is near or to other critical areas
 - ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - ☐ involves runoff from land uses with higher potential pollutant loads.
 - ☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.
 - ☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- ☒ The BMP is sized (and calculations provided) based on:
 - ☒ The ½" or 1" Water Quality Volume or
 - ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- ☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- ☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- ☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- ☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- ☐ The NPDES Multi-Sector General Permit does **not** cover the land use.
- ☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- ☐ All exposure has been eliminated.
- ☐ All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- ☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- ☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- ☐ Critical areas and BMPs are identified in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- ☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
 - ☐ Limited Project
 - ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - ☐ Bike Path and/or Foot Path
- ☒ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.
- ☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- ☒ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- ☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- ☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- ☐ The project is **not** covered by a NPDES Construction General Permit.
- ☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- ☐ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

- ☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - ☒ Name of the stormwater management system owners;
 - ☒ Party responsible for operation and maintenance;
 - ☒ Schedule for implementation of routine and non-routine maintenance tasks;
 - ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
 - ☒ Description and delineation of public safety features;
 - ☐ Estimated operation and maintenance budget; and
 - ☒ Operation and Maintenance Log Form.
- ☐ The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

- ☐ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- ☐ An Illicit Discharge Compliance Statement is attached;
- ☐ NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.



INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Version 1, Automated: Mar. 4, 2008

Location:

TSS Removal Calculation Worksheet	B	C	D	E	F
	BMP ¹	TSS Removal Rate ¹	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
	Deep Sump and Hooded Catch Basin	0.25	1.00	0.25	0.75
	Infiltration Trench	0.80	0.75	0.60	0.15
		0.00	0.15	0.00	0.15
		0.00	0.15	0.00	0.15
		0.00	0.15	0.00	0.15

Total TSS Removal =

85%

Separate Form Needs to
be Completed for Each
Outlet or BMP Train

Project:
Prepared By:
Date:

*Equals remaining load from previous BMP (E)
which enters the BMP

Non-automated TSS Calculation Sheet
must be used if Proprietary BMP Proposed
1. From MassDEP Stormwater Handbook Vol. 1

Mass. Dept. of Environmental Protection



COMMONWEALTH Engineers & Consultants, Inc.
► 400 Smith Street
Providence, RI 02908
► Tel. 401-273-6600
Fax. 401-273-6674

COMPUTATION SHEET

PROJECT NUMBER 16037.00
SHEET NO. 1 OF 1
CALCULATED BY KAB DATE 10-14-16
CHECKED BY _____ DATE _____
PROJECT VETERANS

DRAWDOWN

$$\text{Time dd} = \frac{RV}{(k) \text{ bottom area}}$$

$$RV = 0.35/12 \times 0.25 = 0.007 \text{ acft} \\ = 317 \text{ cf}$$

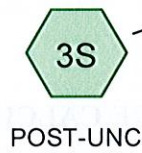
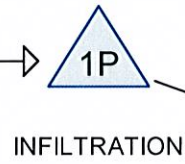
$$BA = 1686 \text{ sf}$$

$$k = 0.26 \text{ in/hr} = (50\% 0.52/\text{hr})$$

$$T = \frac{317}{(0.26/12)(1686)} = \frac{317}{(0.022)(1686)} \\ = \frac{317}{37.09} = 8.55 \text{ hrs} < 72 \text{ hrs.}$$

OK

HYDROCAD DRAINAGE CALCULATIONS



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Page 2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.450	61	>75% Grass cover, Good, HSG B (1S, 2S, 3S)
0.710	98	Unconnected pavement, HSG B (1S, 2S, 3S)
1.160	84	TOTAL AREA

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.160	HSG B	1S, 2S, 3S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
1.160		TOTAL AREA

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Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.450	0.000	0.000	0.000	0.450	>75% Grass cover, Good	1S, 2S, 3S
0.000	0.710	0.000	0.000	0.000	0.710	Unconnected pavement	1S, 2S, 3S
0.000	1.160	0.000	0.000	0.000	1.160	TOTAL AREA	

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Type III 24-hr 2-YR Rainfall=3.30"

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Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: POST-CONT

Runoff Area=0.380 ac 65.79% Impervious Runoff Depth=1.84"
Flow Length=180' Tc=4.6 min CN=85 Runoff=0.86 cfs 0.058 af

Subcatchment 2S: PRE

Runoff Area=0.580 ac 62.07% Impervious Runoff Depth=1.77"
Flow Length=78' Slope=0.0830 '/' Tc=6.5 min CN=84 Runoff=1.18 cfs 0.085 af

Subcatchment 3S: POST-UNC

Runoff Area=0.200 ac 50.00% Impervious Runoff Depth=1.48"
Flow Length=157' Slope=0.0700 '/' Tc=5.3 min CN=80 Runoff=0.35 cfs 0.025 af

Pond 1P: INFILTRATION

Peak Elev=35.64' Storage=1,182 cf Inflow=0.86 cfs 0.058 af
Discarded=0.02 cfs 0.034 af Primary=0.09 cfs 0.013 af Outflow=0.11 cfs 0.047 af

Link 7L: POST

Inflow=0.35 cfs 0.038 af
Primary=0.35 cfs 0.038 af

Total Runoff Area = 1.160 ac Runoff Volume = 0.168 af Average Runoff Depth = 1.74"
38.79% Pervious = 0.450 ac 61.21% Impervious = 0.710 ac

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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 1S: POST-CONT

Runoff = 0.86 cfs @ 12.07 hrs, Volume= 0.058 af, Depth= 1.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

Area (ac)	CN	Description
0.250	98	Unconnected pavement, HSG B
0.130	61	>75% Grass cover, Good, HSG B
0.380	85	Weighted Average
0.130		34.21% Pervious Area
0.250		65.79% Impervious Area
0.250		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.1100	0.20		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.2	70	0.1100	5.34		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.3	60	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
4.6	180	Total			

Summary for Subcatchment 2S: PRE

Runoff = 1.18 cfs @ 12.10 hrs, Volume= 0.085 af, Depth= 1.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

Area (ac)	CN	Description
0.220	61	>75% Grass cover, Good, HSG B
0.360	98	Unconnected pavement, HSG B
0.580	84	Weighted Average
0.220		37.93% Pervious Area
0.360		62.07% Impervious Area
0.360		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	78	0.0830	0.20		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"

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Type III 24-hr 2-YR Rainfall=3.30"

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Summary for Subcatchment 3S: POST-UNC

Runoff = 0.35 cfs @ 12.08 hrs, Volume= 0.025 af, Depth= 1.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-YR Rainfall=3.30"

Area (ac)	CN	Description
0.100	61	>75% Grass cover, Good, HSG B
0.100	98	Unconnected pavement, HSG B
0.200	80	Weighted Average
0.100		50.00% Pervious Area
0.100		50.00% Impervious Area
0.100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	50	0.0700	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.4	107	0.0700	4.26		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
5.3	157	Total			

Summary for Pond 1P: INFILTRATION

Inflow Area = 0.380 ac, 65.79% Impervious, Inflow Depth = 1.84" for 2-YR event
 Inflow = 0.86 cfs @ 12.07 hrs, Volume= 0.058 af
 Outflow = 0.11 cfs @ 12.65 hrs, Volume= 0.047 af, Atten= 87%, Lag= 34.9 min
 Discarded = 0.02 cfs @ 10.63 hrs, Volume= 0.034 af
 Primary = 0.09 cfs @ 12.65 hrs, Volume= 0.013 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 35.64' @ 12.65 hrs Surf.Area= 1,686 sf Storage= 1,182 cf

Plug-Flow detention time= 345.5 min calculated for 0.047 af (80% of inflow)
 Center-of-Mass det. time= 269.1 min (1,092.6 - 823.4)

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	1,973 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 5,058 cf Overall - 125 cf Embedded = 4,933 cf x 40.0% Voids
#2	34.50'	125 cf	StormTech SC-310 x 8 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 2.07 sf x 8 rows
		2,098 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	1,686	0	0
37.00	1,686	5,058	5,058

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Type III 24-hr 2-YR Rainfall=3.30"

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Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	0.520 in/hr Exfiltration over Horizontal area Phase-In= 0.01'
#2	Primary	35.50'	12.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.02 cfs @ 10.63 hrs HW=34.03' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.09 cfs @ 12.65 hrs HW=35.64' (Free Discharge)

↑**2=Orifice/Grate** (Orifice Controls 0.09 cfs @ 1.29 fps)

Summary for Link 7L: POST

Inflow Area = 0.580 ac, 60.34% Impervious, Inflow Depth = 0.78" for 2-YR event

Inflow = 0.35 cfs @ 12.08 hrs, Volume= 0.038 af

Primary = 0.35 cfs @ 12.08 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

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Type III 24-hr 10-YR Rainfall=4.80"

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Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: POST-CONT

Runoff Area=0.380 ac 65.79% Impervious Runoff Depth=3.18"
Flow Length=180' Tc=4.6 min CN=85 Runoff=1.48 cfs 0.101 af

Subcatchment 2S: PRE

Runoff Area=0.580 ac 62.07% Impervious Runoff Depth=3.09"
Flow Length=78' Slope=0.0830 '/' Tc=6.5 min CN=84 Runoff=2.05 cfs 0.149 af

Subcatchment 3S: POST-UNC

Runoff Area=0.200 ac 50.00% Impervious Runoff Depth=2.72"
Flow Length=157' Slope=0.0700 '/' Tc=5.3 min CN=80 Runoff=0.65 cfs 0.045 af

Pond 1P: INFILTRATION

Peak Elev=35.98' Storage=1,410 cf Inflow=1.48 cfs 0.101 af
Discarded=0.02 cfs 0.036 af Primary=0.88 cfs 0.050 af Outflow=0.90 cfs 0.087 af

Link 7L: POST

Inflow=1.37 cfs 0.095 af
Primary=1.37 cfs 0.095 af

Total Runoff Area = 1.160 ac Runoff Volume = 0.295 af Average Runoff Depth = 3.06"
38.79% Pervious = 0.450 ac 61.21% Impervious = 0.710 ac

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Type III 24-hr 10-YR Rainfall=4.80"

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Summary for Subcatchment 1S: POST-CONT

Runoff = 1.48 cfs @ 12.07 hrs, Volume= 0.101 af, Depth= 3.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.80"

Area (ac)	CN	Description
0.250	98	Unconnected pavement, HSG B
0.130	61	>75% Grass cover, Good, HSG B
0.380	85	Weighted Average
0.130		34.21% Pervious Area
0.250		65.79% Impervious Area
0.250		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.1100	0.20		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.2	70	0.1100	5.34		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.3	60	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
4.6	180	Total			

Summary for Subcatchment 2S: PRE

Runoff = 2.05 cfs @ 12.09 hrs, Volume= 0.149 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.80"

Area (ac)	CN	Description
0.220	61	>75% Grass cover, Good, HSG B
0.360	98	Unconnected pavement, HSG B
0.580	84	Weighted Average
0.220		37.93% Pervious Area
0.360		62.07% Impervious Area
0.360		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	78	0.0830	0.20		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"

Summary for Subcatchment 3S: POST-UNC

Runoff = 0.65 cfs @ 12.08 hrs, Volume= 0.045 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.80"

Area (ac)	CN	Description
0.100	61	>75% Grass cover, Good, HSG B
0.100	98	Unconnected pavement, HSG B
0.200	80	Weighted Average
0.100		50.00% Pervious Area
0.100		50.00% Impervious Area
0.100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	50	0.0700	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.4	107	0.0700	4.26		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
5.3	157	Total			

Summary for Pond 1P: INFILTRATION

Inflow Area = 0.380 ac, 65.79% Impervious, Inflow Depth = 3.18" for 10-YR event
 Inflow = 1.48 cfs @ 12.07 hrs, Volume= 0.101 af
 Outflow = 0.90 cfs @ 12.16 hrs, Volume= 0.087 af, Atten= 39%, Lag= 5.5 min
 Discarded = 0.02 cfs @ 9.30 hrs, Volume= 0.036 af
 Primary = 0.88 cfs @ 12.16 hrs, Volume= 0.050 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 35.98' @ 12.16 hrs Surf.Area= 1,686 sf Storage= 1,410 cf

Plug-Flow detention time= 202.1 min calculated for 0.087 af (86% of inflow)
 Center-of-Mass det. time= 140.5 min (948.3 - 807.8)

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	1,973 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 5,058 cf Overall - 125 cf Embedded = 4,933 cf x 40.0% Voids
#2	34.50'	125 cf	StormTech SC-310 x 8 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 2.07 sf x 8 rows
		2,098 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	1,686	0	0
37.00	1,686	5,058	5,058

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Type III 24-hr 10-YR Rainfall=4.80"

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Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	0.520 in/hr Exfiltration over Horizontal area Phase-In= 0.01'
#2	Primary	35.50'	12.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.02 cfs @ 9.30 hrs HW=34.03' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.88 cfs @ 12.16 hrs HW=35.98' (Free Discharge)

↑**2=Orifice/Grate** (Orifice Controls 0.88 cfs @ 2.36 fps)

Summary for Link 7L: POST

Inflow Area = 0.580 ac, 60.34% Impervious, Inflow Depth = 1.97" for 10-YR event
 Inflow = 1.37 cfs @ 12.14 hrs, Volume= 0.095 af
 Primary = 1.37 cfs @ 12.14 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

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Type III 24-hr 25-YR Rainfall=6.20"

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Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: POST-CONT

Runoff Area=0.380 ac 65.79% Impervious Runoff Depth=4.49"
Flow Length=180' Tc=4.6 min CN=85 Runoff=2.06 cfs 0.142 af

Subcatchment 2S: PRE

Runoff Area=0.580 ac 62.07% Impervious Runoff Depth=4.38"
Flow Length=78' Slope=0.0830 '/' Tc=6.5 min CN=84 Runoff=2.88 cfs 0.212 af

Subcatchment 3S: POST-UNC

Runoff Area=0.200 ac 50.00% Impervious Runoff Depth=3.96"
Flow Length=157' Slope=0.0700 '/' Tc=5.3 min CN=80 Runoff=0.95 cfs 0.066 af

Pond 1P: INFILTRATION

Peak Elev=36.22' Storage=1,574 cf Inflow=2.06 cfs 0.142 af
Discarded=0.02 cfs 0.038 af Primary=1.76 cfs 0.089 af Outflow=1.78 cfs 0.127 af

Link 7L: POST

Inflow=2.66 cfs 0.155 af
Primary=2.66 cfs 0.155 af

Total Runoff Area = 1.160 ac Runoff Volume = 0.420 af Average Runoff Depth = 4.35"
38.79% Pervious = 0.450 ac 61.21% Impervious = 0.710 ac

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Type III 24-hr 25-YR Rainfall=6.20"

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Summary for Subcatchment 1S: POST-CONT

Runoff = 2.06 cfs @ 12.07 hrs, Volume= 0.142 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (ac)	CN	Description
0.250	98	Unconnected pavement, HSG B
0.130	61	>75% Grass cover, Good, HSG B
0.380	85	Weighted Average
0.130		34.21% Pervious Area
0.250		65.79% Impervious Area
0.250		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.1100	0.20		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.2	70	0.1100	5.34		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.3	60	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
4.6	180	Total			

Summary for Subcatchment 2S: PRE

Runoff = 2.88 cfs @ 12.09 hrs, Volume= 0.212 af, Depth= 4.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (ac)	CN	Description
0.220	61	>75% Grass cover, Good, HSG B
0.360	98	Unconnected pavement, HSG B
0.580	84	Weighted Average
0.220		37.93% Pervious Area
0.360		62.07% Impervious Area
0.360		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	78	0.0830	0.20		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"

Summary for Subcatchment 3S: POST-UNC

Runoff = 0.95 cfs @ 12.08 hrs, Volume= 0.066 af, Depth= 3.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-YR Rainfall=6.20"

Area (ac)	CN	Description
0.100	61	>75% Grass cover, Good, HSG B
0.100	98	Unconnected pavement, HSG B
0.200	80	Weighted Average
0.100		50.00% Pervious Area
0.100		50.00% Impervious Area
0.100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	50	0.0700	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.4	107	0.0700	4.26		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
5.3	157	Total			

Summary for Pond 1P: INFILTRATION

Inflow Area = 0.380 ac, 65.79% Impervious, Inflow Depth = 4.49" for 25-YR event
 Inflow = 2.06 cfs @ 12.07 hrs, Volume= 0.142 af
 Outflow = 1.78 cfs @ 12.11 hrs, Volume= 0.127 af, Atten= 14%, Lag= 2.6 min
 Discarded = 0.02 cfs @ 8.41 hrs, Volume= 0.038 af
 Primary = 1.76 cfs @ 12.11 hrs, Volume= 0.089 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 36.22' @ 12.11 hrs Surf.Area= 1,686 sf Storage= 1,574 cf

Plug-Flow detention time= 149.8 min calculated for 0.127 af (89% of inflow)
 Center-of-Mass det. time= 99.2 min (897.3 - 798.1)

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	1,973 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 5,058 cf Overall - 125 cf Embedded = 4,933 cf x 40.0% Voids
#2	34.50'	125 cf	StormTech SC-310 x 8 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 2.07 sf x 8 rows
		2,098 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	1,686	0	0
37.00	1,686	5,058	5,058

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Type III 24-hr 25-YR Rainfall=6.20"

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Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	0.520 in/hr Exfiltration over Horizontal area Phase-In= 0.01'
#2	Primary	35.50'	12.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.02 cfs @ 8.41 hrs HW=34.03' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=1.76 cfs @ 12.11 hrs HW=36.22' (Free Discharge)

↑ **2=Orifice/Grate** (Orifice Controls 1.76 cfs @ 2.89 fps)

Summary for Link 7L: POST

Inflow Area = 0.580 ac, 60.34% Impervious, Inflow Depth = 3.21" for 25-YR event
 Inflow = 2.66 cfs @ 12.10 hrs, Volume= 0.155 af
 Primary = 2.66 cfs @ 12.10 hrs, Volume= 0.155 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

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Type III 24-hr 100-YR Rainfall=8.70"

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Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: POST-CONT

Runoff Area=0.380 ac 65.79% Impervious Runoff Depth=6.89"
Flow Length=180' Tc=4.6 min CN=85 Runoff=3.09 cfs 0.218 af

Subcatchment 2S: PRE

Runoff Area=0.580 ac 62.07% Impervious Runoff Depth=6.77"
Flow Length=78' Slope=0.0830 '/' Tc=6.5 min CN=84 Runoff=4.36 cfs 0.327 af

Subcatchment 3S: POST-UNC

Runoff Area=0.200 ac 50.00% Impervious Runoff Depth=6.28"
Flow Length=157' Slope=0.0700 '/' Tc=5.3 min CN=80 Runoff=1.48 cfs 0.105 af

Pond 1P: INFILTRATION

Peak Elev=36.49' Storage=1,753 cf Inflow=3.09 cfs 0.218 af
Discarded=0.02 cfs 0.041 af Primary=2.65 cfs 0.162 af Outflow=2.67 cfs 0.203 af

Link 7L: POST

Inflow=4.07 cfs 0.267 af
Primary=4.07 cfs 0.267 af

Total Runoff Area = 1.160 ac Runoff Volume = 0.650 af Average Runoff Depth = 6.73"
38.79% Pervious = 0.450 ac 61.21% Impervious = 0.710 ac

Summary for Subcatchment 1S: POST-CONT

Runoff = 3.09 cfs @ 12.07 hrs, Volume= 0.218 af, Depth= 6.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

Area (ac)	CN	Description
0.250	98	Unconnected pavement, HSG B
0.130	61	>75% Grass cover, Good, HSG B
0.380	85	Weighted Average
0.130		34.21% Pervious Area
0.250		65.79% Impervious Area
0.250		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.1100	0.20		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.2	70	0.1100	5.34		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.3	60	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
4.6	180	Total			

Summary for Subcatchment 2S: PRE

Runoff = 4.36 cfs @ 12.09 hrs, Volume= 0.327 af, Depth= 6.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

Area (ac)	CN	Description
0.220	61	>75% Grass cover, Good, HSG B
0.360	98	Unconnected pavement, HSG B
0.580	84	Weighted Average
0.220		37.93% Pervious Area
0.360		62.07% Impervious Area
0.360		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	78	0.0830	0.20		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"

Summary for Subcatchment 3S: POST-UNC

Runoff = 1.48 cfs @ 12.08 hrs, Volume= 0.105 af, Depth= 6.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-YR Rainfall=8.70"

Area (ac)	CN	Description
0.100	61	>75% Grass cover, Good, HSG B
0.100	98	Unconnected pavement, HSG B
0.200	80	Weighted Average
0.100		50.00% Pervious Area
0.100		50.00% Impervious Area
0.100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	50	0.0700	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.4	107	0.0700	4.26		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
5.3	157	Total			

Summary for Pond 1P: INFILTRATION

Inflow Area = 0.380 ac, 65.79% Impervious, Inflow Depth = 6.89" for 100-YR event
 Inflow = 3.09 cfs @ 12.07 hrs, Volume= 0.218 af
 Outflow = 2.67 cfs @ 12.11 hrs, Volume= 0.203 af, Atten= 14%, Lag= 2.6 min
 Discarded = 0.02 cfs @ 6.98 hrs, Volume= 0.041 af
 Primary = 2.65 cfs @ 12.11 hrs, Volume= 0.162 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 36.49' @ 12.11 hrs Surf.Area= 1,686 sf Storage= 1,753 cf

Plug-Flow detention time= 107.8 min calculated for 0.203 af (93% of inflow)
 Center-of-Mass det. time= 70.2 min (856.6 - 786.4)

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	1,973 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 5,058 cf Overall - 125 cf Embedded = 4,933 cf x 40.0% Voids
#2	34.50'	125 cf	StormTech SC-310 x 8 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 2.07 sf x 8 rows
		2,098 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	1,686	0	0
37.00	1,686	5,058	5,058

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Type III 24-hr 100-YR Rainfall=8.70"

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Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	0.520 in/hr Exfiltration over Horizontal area Phase-In= 0.01'
#2	Primary	35.50'	12.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.02 cfs @ 6.98 hrs HW=34.03' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=2.65 cfs @ 12.11 hrs HW=36.49' (Free Discharge)

↑2=Orifice/Grate (Orifice Controls 2.65 cfs @ 3.38 fps)

Summary for Link 7L: POST

Inflow Area = 0.580 ac, 60.34% Impervious, Inflow Depth = 5.52" for 100-YR event
Inflow = 4.07 cfs @ 12.09 hrs, Volume= 0.267 af
Primary = 4.07 cfs @ 12.09 hrs, Volume= 0.267 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

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Type III 24-hr WQV Rainfall=0.50"

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Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: POST-CONT

Runoff Area=0.380 ac 65.79% Impervious Runoff Depth=0.01"
Flow Length=180' Tc=4.6 min CN=85 Runoff=0.00 cfs 0.000 af

Subcatchment 2S: PRE

Runoff Area=0.580 ac 62.07% Impervious Runoff Depth=0.01"
Flow Length=78' Slope=0.0830 '/' Tc=6.5 min CN=84 Runoff=0.00 cfs 0.000 af

Subcatchment 3S: POST-UNC

Runoff Area=0.200 ac 50.00% Impervious Runoff Depth=0.00"
Flow Length=157' Slope=0.0700 '/' Tc=5.3 min CN=80 Runoff=0.00 cfs 0.000 af

Pond 1P: INFILTRATION

Peak Elev=34.00' Storage=1 cf Inflow=0.00 cfs 0.000 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Link 7L: POST

Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 1.160 ac Runoff Volume = 0.001 af Average Runoff Depth = 0.01"
38.79% Pervious = 0.450 ac 61.21% Impervious = 0.710 ac

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Type III 24-hr WQV Rainfall=0.50"

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Summary for Subcatchment 1S: POST-CONT

Runoff = 0.00 cfs @ 14.78 hrs, Volume= 0.000 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr WQV Rainfall=0.50"

Area (ac)	CN	Description
0.250	98	Unconnected pavement, HSG B
0.130	61	>75% Grass cover, Good, HSG B
0.380	85	Weighted Average
0.130		34.21% Pervious Area
0.250		65.79% Impervious Area
0.250		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.1100	0.20		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.2	70	0.1100	5.34		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.3	60	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
4.6	180	Total			

Summary for Subcatchment 2S: PRE

Runoff = 0.00 cfs @ 15.32 hrs, Volume= 0.000 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr WQV Rainfall=0.50"

Area (ac)	CN	Description
0.220	61	>75% Grass cover, Good, HSG B
0.360	98	Unconnected pavement, HSG B
0.580	84	Weighted Average
0.220		37.93% Pervious Area
0.360		62.07% Impervious Area
0.360		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	78	0.0830	0.20		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"

Summary for Subcatchment 3S: POST-UNC

Runoff = 0.00 cfs @ 24.06 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr WQV Rainfall=0.50"

Area (ac)	CN	Description
0.100	61	>75% Grass cover, Good, HSG B
0.100	98	Unconnected pavement, HSG B
0.200	80	Weighted Average
0.100		50.00% Pervious Area
0.100		50.00% Impervious Area
0.100		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	50	0.0700	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.4	107	0.0700	4.26		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
5.3	157	Total			

Summary for Pond 1P: INFILTRATION

Inflow Area = 0.380 ac, 65.79% Impervious, Inflow Depth = 0.01" for WQV event
 Inflow = 0.00 cfs @ 14.78 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 15.05 hrs, Volume= 0.000 af, Atten= 1%, Lag= 16.4 min
 Discarded = 0.00 cfs @ 15.05 hrs, Volume= 0.000 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 34.00' @ 15.05 hrs Surf.Area= 1,686 sf Storage= 1 cf

Plug-Flow detention time= 16.6 min calculated for 0.000 af (100% of inflow)
 Center-of-Mass det. time= 16.6 min (1,076.7 - 1,060.1)

Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	1,973 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 5,058 cf Overall - 125 cf Embedded = 4,933 cf x 40.0% Voids
#2	34.50'	125 cf	StormTech SC-310 x 8 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 2.07 sf x 8 rows
		2,098 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	1,686	0	0
37.00	1,686	5,058	5,058

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Type III 24-hr WQV Rainfall=0.50"

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Device	Routing	Invert	Outlet Devices
#1	Discarded	34.00'	0.520 in/hr Exfiltration over Horizontal area Phase-In= 0.01'
#2	Primary	35.50'	12.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.00 cfs @ 15.05 hrs HW=34.00' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=34.00' (Free Discharge)

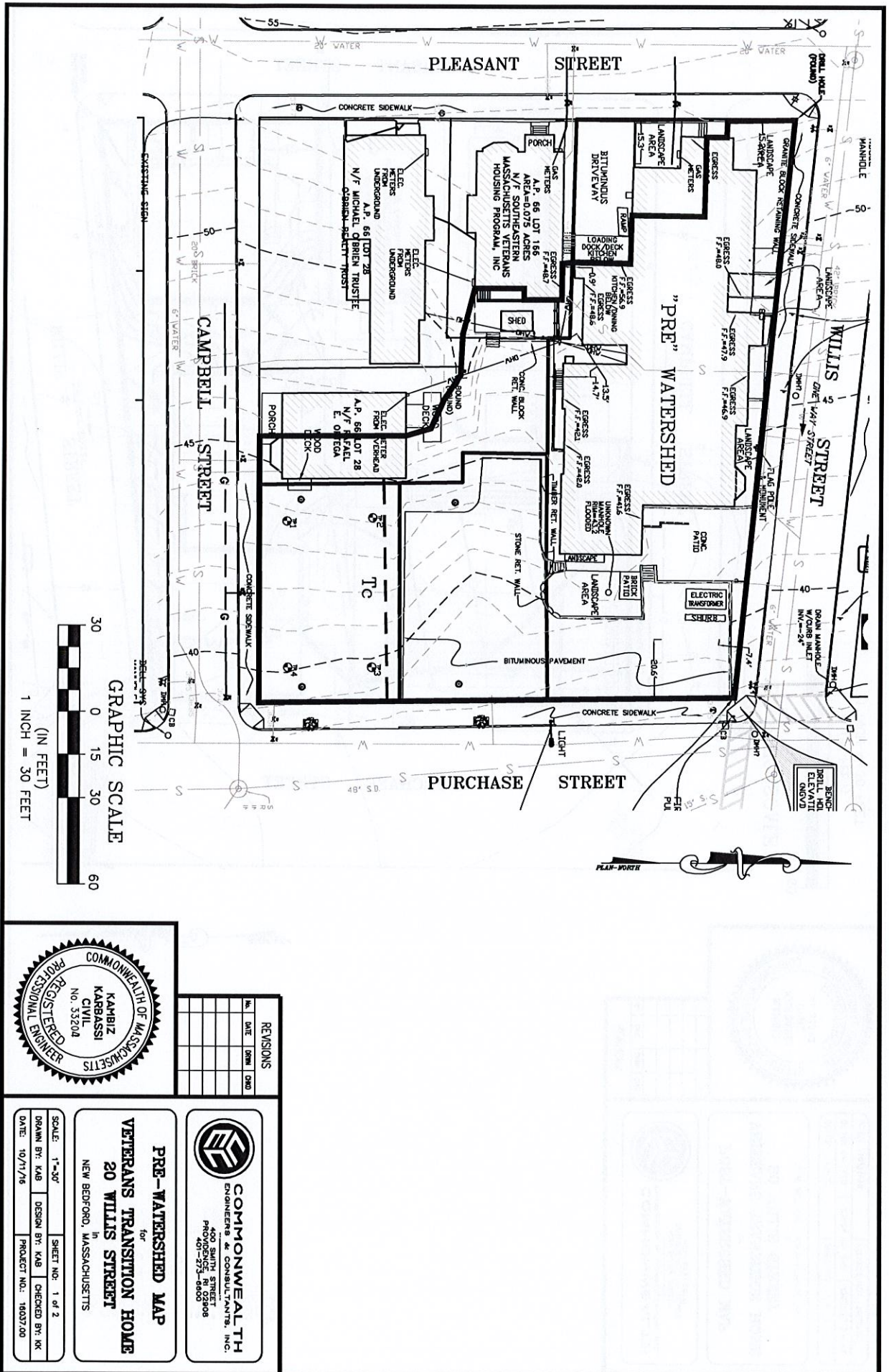
↑2=Orifice/Grate (Controls 0.00 cfs)

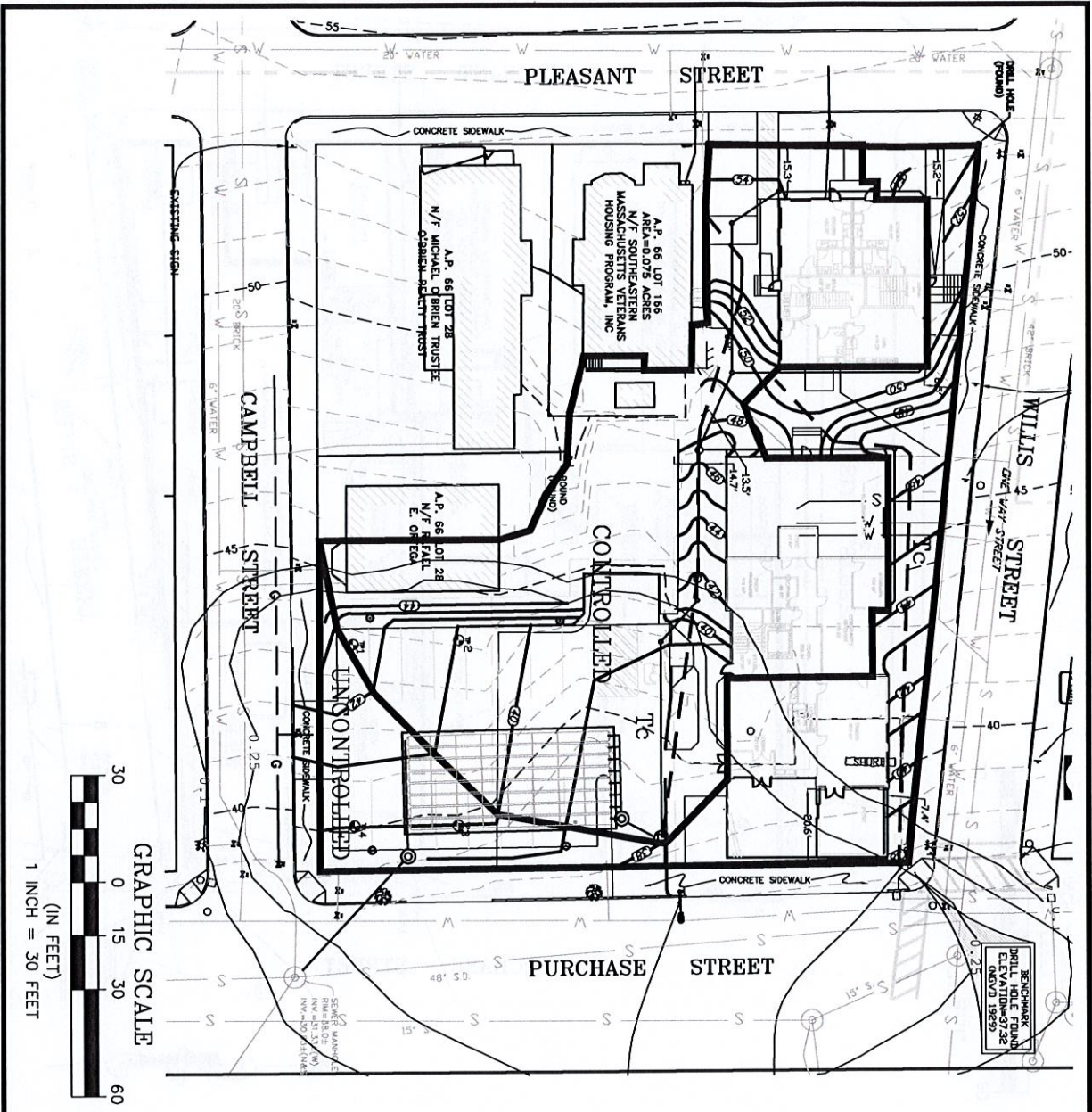
Summary for Link 7L: POST

Inflow Area = 0.580 ac, 60.34% Impervious, Inflow Depth = 0.00" for WQV event
Inflow = 0.00 cfs @ 24.06 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 24.06 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

WATERSHED MAPS





REVISIONS			
NO.	DATE	BY	CHKD

POST-WATERSHED MAP
for
VETERANS TRANSITION HOME
20 WILLIS STREET
NEW BEDFORD, MASSACHUSETTS

SCALE: 1"=30'
DRAWN BY: KAB
DESIGN BY: KAB
DATE: 10/11/16

SHEET NO: 2 of 2
CHECKED BY: KK
PROJECT NO: 16037.00

COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.
400 SOUTH STREET
PROVIDENCE, RI 02908
401-273-6600

PLANNING
OCT 21 2016
DEPARTMENT



THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF HEALTH AND HUMAN SERVICES
DEPARTMENT OF VETERANS' SERVICES
600 WASHINGTON STREET, 7TH FLOOR
BOSTON, MASSACHUSETTS 02111
TEL: (617) 210-5480 FAX: (617) 210-5755 TTY: (617) 210-5883
WWW.MASS.GOV/VETERANS

CHARLES D. BAKER
GOVERNOR

KARYN E. POLITO
LIEUTENANT GOVERNOR

MARYLOU SUDDERS
SECRETARY, EOHHS

FRANCISCO A. UREÑA
SECRETARY, DVS

October 19, 2016

City of New Bedford
Attn: Patrick Sullivan, Director
DPHCD
133 William St., Rm 303
New Bedford, MA 02740

Dear Mr. Sullivan:

I am pleased to write this letter supporting the Southeastern Massachusetts Veterans Housing Program, d/b/a Veterans Transition House (VTH) with respect to the proposed new construction at their 20 Willis Street site in New Bedford.

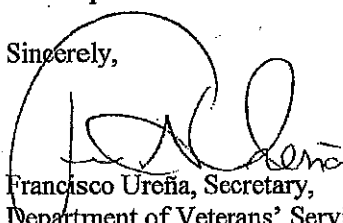
As the Secretary of Veterans Services, the Department of Veterans Services has worked with VTH in providing support and services to our commonwealths' veterans and their families.

As New Bedford's trusted provider of services, the Veterans Transition House is poised to help and support the next phase in the mission to end veteran homelessness that the Commonwealth of Massachusetts has undertaken. Utilizing a housing-first model, re-purposing of 20 Willis Street will allow VTH to provide both permanent housing and support services that are critical making the transition to permanent housing successful.

New Bedford needs affordable, supportive housing for veterans, and because VTH's plan meets this need consistent with evidence-practices recognized on both the state and federal levels, I ask that you favorably consider this project.

The Department of Veterans Services and I look forward to working with you on this worthwhile project.

Sincerely,


Francisco Ureña, Secretary,
Department of Veterans' Services

RECEIVED
OCT 21 2016
DEPT. OF VETERANS SERVICES

CAGE 3410 F 32-16

5. PHOTOS DEPICTING EXISTING CONDITIONS

The following photos show the density of parking and typical occupancy during business hours. Most of the vehicles shown belong to the current 21 onsite staff members. Parking occupancy dramatically decreases after 4:30pm as the majority of onsite staff end their work day.

Deliveries of bulk and food items occur semi-monthly or monthly. The staff of VTH are responsible for picking up and delivering goods. Large delivery trucks do not typically supply goods to the site.



PHOTO 1. Pleasant Street (Map 066, Lot 167) - Utilized for short term parking and delivery only.

*Photos taked on Monday 10/17/16 at 11:00am

Case 31-16 + 32-16

PLANNING
OCT 21 2016
DEPARTMENT



PHOTO 2. Purchase & Campbell (Map 066, Lot 33) - Not currently utilized

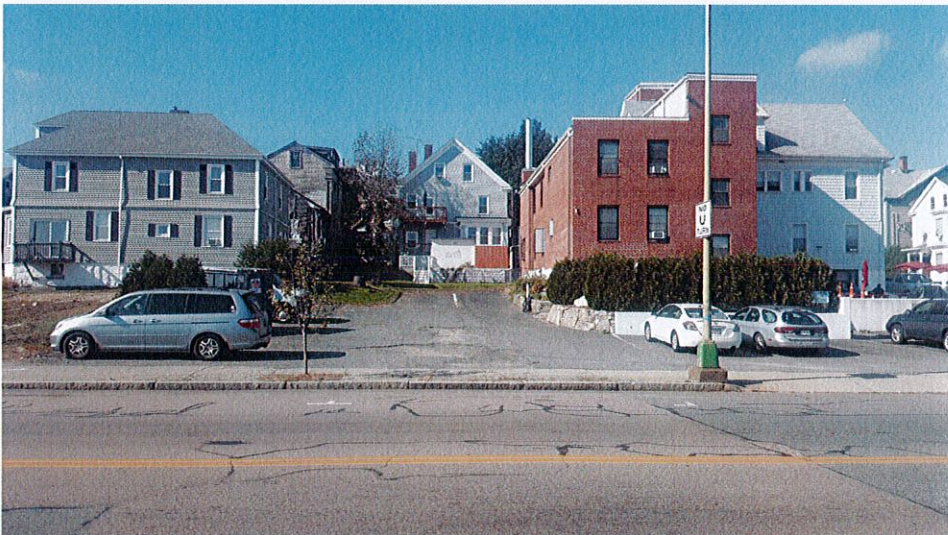


PHOTO 3. Purchase Street (Map 066, Lot 168) - Current use includes (7) parking spots

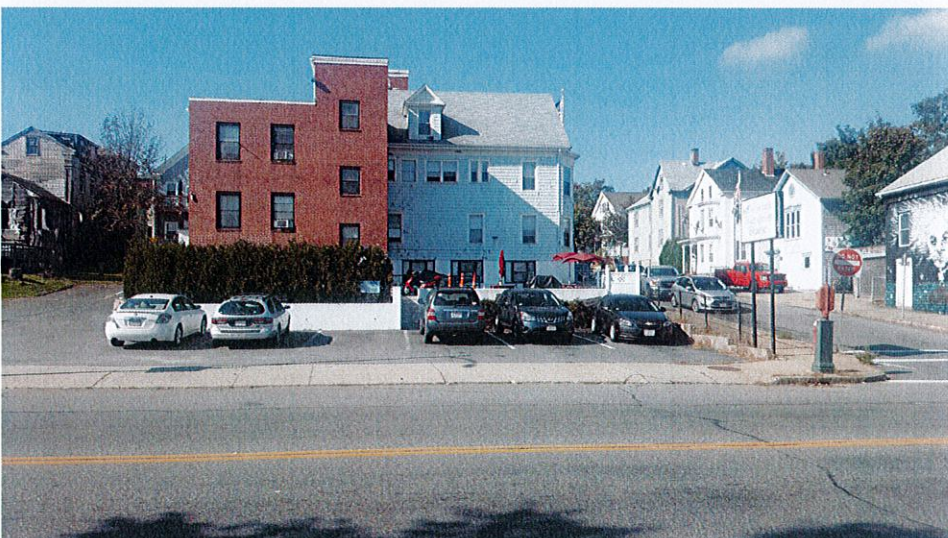
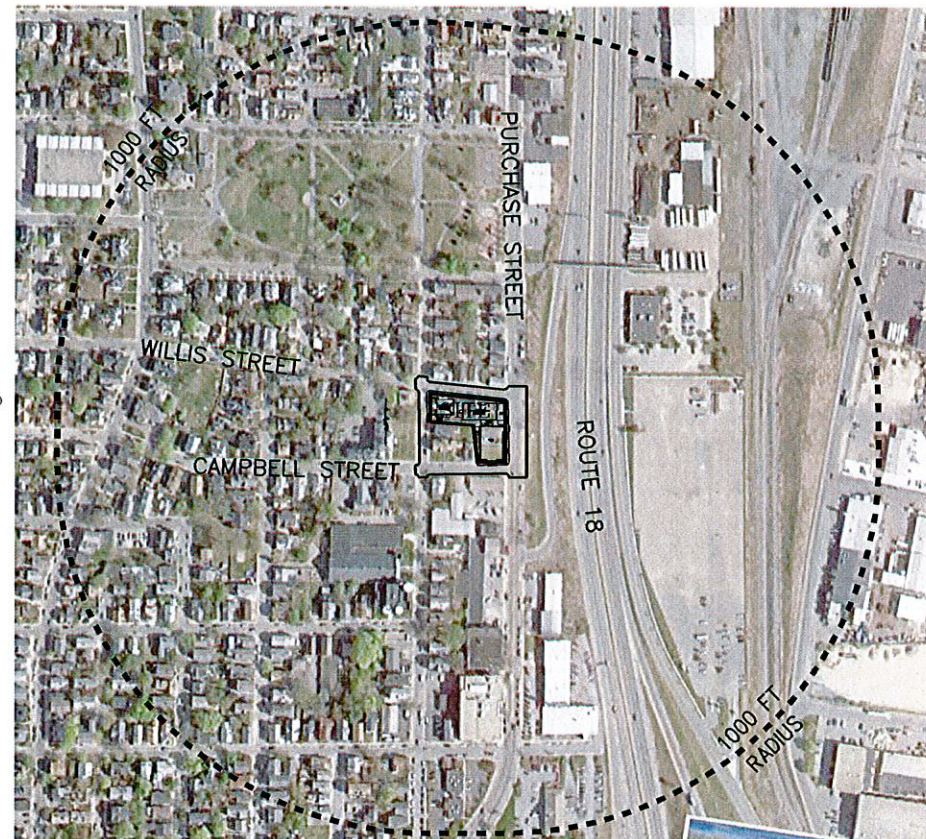


PHOTO 4. Purchase & Willis (Map 066, Lot 167)- Current use includes (6) parking spots

SITE REDEVELOPMENT
FOR
"WILLIS STREET APARTMENTS"
A.P. 66 LOTS 33, 167 & 168
AT
20 WILLIS STREET
IN
NEW BEDFORD, MASSACHUSETTS



COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.

400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908

DATE OCTOBER 21, 2016



APPLICANT:
WOMEN'S DEVELOPMENT CORPORATION
861A BROAD STREET
PROVIDENCE, RI 02907

OWNER:
SOUTHEASTERN MASSACHUSETTS
VETERANS HOUSING PROGRAM, INC.
20 WILLIS STREET
NEW BEDFORD, MA 02740

ENGINEER / LANDSCAPE ARCHITECT:
COMMONWEALTH ENGINEERS & CONSULTANTS, INC.
400 SMITH STREET
PROVIDENCE, RI 02908

ARCHITECT:
ICON ARCHITECTURE
101 SUMMER STREET
BOSTON, MA 02110

STRUCTURAL ENGINEER:
SOUZA TRUE & PARTNERS, INC.
265 WINTER STREET
WALTHAM, MA 02451

MECHANICAL, PLUMBING, ELECTRICAL
& FIRE PROTECTION ENGINEER:
WOZNY BARBAR & ASSOCIATES
1076 WASHINGTON STREET
HANOVER, MA 02339

FOR REGISTRY USE ONLY
NEW BEDFORD PLANNING BOARD
APPROVAL UNDER THE SUBDIVISION
CONTROL LAWS NOT REQUIRED.

DATE: _____

ZONING TABLE:

REQUIREMENTS

MIXED USE BUSINESS
LOT SIZE: 8,000 S.F. ALLOWED IN RA
10,000 S.F. FOR TWO FAMILY UNITS
15,000 S.F. FOR 3 OR MORE FAMILY UNITS
DENSITY: 1 PER 10,000 S.F. FOR SINGLE FAMILY
1 PER 5,000 S.F. FOR TWO FAMILY
1 PER 1,000 S.F. FOR THREE OR MORE FAMILY
FRONTAGE: 75 FT. FOR USES ALLOWED IN RA
100 FT. FOR TWO FAMILY
150 FT. FOR THREE OR MORE FAMILY
0 FT. FOR OTHER ALLOWED USES
HEIGHT: 45 FT. FOR SINGLE OR TWO FAMILY
60 FT. FOR THREE FAMILY
100 FT. FOR OTHER ALLOWED USES (1)
HEIGHT: 2.5 STORIES FOR USES ALLOWED IN RA OR RB
4 STORIES FOR THREE OR MORE FAMILY
7 STORIES FOR OTHER ALLOWED USES
FRONT YARD: 20 FT. FOR USES ALLOWED IN RESIDENTIAL DISTRICT (1)
0 FT. FOR OTHER ALLOWED USES
SIDE YARD: 10 FT. ON ONE SIDE, 12 FT. ON OTHER IN RESIDENTIAL
FOR OTHER USES, 10 FT. ON ANY SIDE ADJACENT LOT
IN A RESIDENTIAL DISTRICT OR USED FOR RESIDENTIAL PURPOSES.
REAR YARD: 30 FT. FOR USES ALLOWED IN RESIDENTIAL DISTRICT
10 FT. FOR 1 TO 2 STORY BUILDINGS
20 FT. FOR 3 OR MORE STORY BUILDINGS
BLDG. LOT COVERAGE: 30%; 40% ON CORNER LOTS FOR USES ALLOWED IN RESIDENTIAL DISTRICT;
0% FOR OTHER USES
GREEN SPACE: 35% FOR USES ALLOWED IN RESIDENTIAL DISTRICTS; 0 FOR OTHER USES

(1) DENOTES HEIGHT SHALL NOT EXCEED 1.75 TIMES THE HORIZONTAL DISTANCE FROM ITS FACE TO
THE OPPOSITE STREET LINE.

A.P. 66 LOT 33	EXISTING	PROPOSED
LOT SIZE:	3,707 S.F.	3,707 S.F.
DENSITY:	0 UNITS	0 UNITS
FRONTAGE:	50.99 FT.	50.99 FT.
HEIGHT:	NOT APPLICABLE	NOT APPLICABLE
FRONT YARD:	NOT APPLICABLE	NOT APPLICABLE
SIDE YARD:	NOT APPLICABLE	NOT APPLICABLE
REAR YARD:	NOT APPLICABLE	NOT APPLICABLE
BLDG. LOT COVERAGE:	NOT APPLICABLE	NOT APPLICABLE
GREEN SPACE:	100%	22.9%

A.P. 66 LOT 168	EXISTING	PROPOSED
LOT SIZE:	4,138 S.F.	4,138 S.F.
DENSITY:	0 UNITS	0 UNITS
FRONTAGE:	50.99 FT.	50.99 FT.
HEIGHT:	NOT APPLICABLE	NOT APPLICABLE
FRONT YARD:	NOT APPLICABLE	NOT APPLICABLE
SIDE YARD:	NOT APPLICABLE	NOT APPLICABLE
REAR YARD:	NOT APPLICABLE	NOT APPLICABLE
BLDG. LOT COVERAGE:	NOT APPLICABLE	NOT APPLICABLE
GREEN SPACE:	13%	15.9%

A.P. 66 LOT 167	EXISTING	PROPOSED
LOT SIZE:	14,462 S.F.	14,462 S.F.
DENSITY:	36 UNITS	30 UNITS
FRONTAGE:	64.77 FT.	64.77 FT.
HEIGHT:	3 STORY	4 STORY
FRONT YARD:	50.7 FT.	20.6 FT.
SIDE YARD:	0.9 FT.	7.4 FT.
REAR YARD:	NOT APPLICABLE	NOT APPLICABLE
BLDG. LOT COVERAGE:	48.9%	41.1%
GREEN SPACE:	13%	15.9%

NOTE:

TITLE TO PROPERTY RECORDED IN THE BRISTOL COUNTY
SOUTHERN DISTRICT REGISTRY OF DEEDS

A.P. 66 LOT 33 - BOOK 10962 PAGE 246
A.P. 66 LOT 167 - BOOK 2886 PAGE 81
A.P. 66 LOT 168 - BOOK 3392 PAGE 23

PARKING DIMENSIONAL REQUIREMENTS:

REQUIREMENTS

MULTI-FAMILY (3) OR MORE PER STRUCTURE:

TWO (2) SPACES PER DWELLING UNIT
ONE (1) LOADING SPACE FOR EACH MULTI-FAMILY
DWELLING CONTAINING MORE THAN TEN (10)
DWELLING UNITS.

30 DWELLING UNITS PROPOSED REQUIRED = 30 SPACES PLUS 1
LOADING SPACE

OFFICES: ONE SPACE PER 200 SQ. FT. OF GROSS OF GROSS
FLOOR AREA

OFFICE AREA = 878 SQ. FT. GROSS FLOOR AREA = 5 SPACES

TOTAL REQUIRED = 35 SPACES PLUS 1 LOADING SPACE

PARKING SUMMARY:

EXISTING = 15 SPACES (NO LOADING)

PROPOSED = 18 SPACES (NO LOADING) INCLUDES
1 ADA VAN ACCESSIBLE AND 1 ADA REGULAR
HANDICAPPED SPACE

NOTES:

- THE EXISTING SITE CONTAINS 36 DWELLING UNITS AND THE
PROPOSED SITE WILL CONTAIN 30 DWELLING UNITS.
- THE EXISTING DEVELOPMENT IS CONSIDERED
NON-CONFORMING BY DIMENSION (LOT AREA AND SETBACKS)
AND PARKING.
- THERE ARE NO WETLANDS FOR FLOOD PLAINS ON SUBJECT
PROPERTIES. ALL LOT AREAS ARE CONSIDERED "UPLAND".

LIST OF DRAWINGS

CIVIL

- TITLE SHEET
- EXISTING CONDITIONS PLAN
- DEMOLITION PLAN
- CONSTRUCTION/LAYOUT PLAN
- GRADING AND DRAINAGE PLAN
- UTILITIES AND GRADING PLAN
- LANDSCAPE PLAN
- EROSION CONTROL PLAN
- LIGHTING PLAN
- DETAILS PLAN
- DETAILS PLAN
- DETAILS PLAN
- DETAILS PLAN

ARCHITECTURAL

- G-000 COVER SHEET
- A-101 BUILDING A - GROUND FLOOR
AND FIRST FLOOR
- A-102 BUILDING A - THIRD FLOOR, FOURTH
FLOOR AND ROOF PLAN
- A-103 BUILDING B - FLOOR PLAN AND
ROOF PLAN
- A-201 BUILDING A ELEVATIONS
- A-202 BUILDING B ELEVATIONS
- A-501 ENLARGED UNIT PLANS

SURVEY

- EXISTING CONDITIONS

PLANNING

REVISIONS	DRWN	CHKD
		NOV 15 2015
		DEPARTMENT

PROJECT NO. 16037.00

CASE 31-16 + 32-16

NEW BEDFORD PLANNING BOARD
APPROVAL UNDER THE SUBDIVISION
CONTROL LAWS NOT REQUIRED.

DATE: _____

2016 OCT 2 P 12:39
CITY CLERK
FOR REGISTRY USE ONLY

CITY CLERK'S OFFICE
NEW BEDFORD, MA

REFERENCE:
PLAN OF LAND IN NEW BEDFORD, MA. DRAWN FOR VOLUNTEERS OF
AMERICA SCALE 1"=20' JAN.18, 1991
PREPARED BY OLDE BOSTON LAND SURVEY CO., INC.
RECORDED IN THE BRISTON COUNTY SOUTHERN DISTRICT REGISTRY
OF DEEDS BOOK 126 PAGE 151

TOPOGRAPHIC SURVEY PERFORMED ON 7-29-16 BY
COMMONWEALTH LAND SURVEYORS

SITE UTILITIES - CONTACT INFORMATION:
(OBTAINED FROM CURRENT UTILITY BILLS)

WATER/SEWER:
CITY OF NEW BEDFORD
P.O. BOX 967
NEW BEDFORD, MA 02741

GAS/ELECTRIC:
EVERSOURCE
P.O. BOX 660369
DALLAS, TX 75265

CATV/TELEPHONE:
COMCAST
P.O. BOX 6505
CHELMSFORD, MA 01824

NOTES:

1. THIS PROPERTY IS LOCATED ADJACENT TO THE NORTH
BEDFORD NATIONAL REGISTER DISTRICT WHICH CONTAINS
HISTORICAL BUILDINGS NORTHERLY, WESTERLY AND SOUTHERLY
WITHIN 250 FEET OF THE SITE.
2. SUBJECT PROPERTIES NOT IDENTIFIED IN A NHESP (AREAS OF
ESTIMATED AND PRIORITY HABITATS).
3. SUBJECT PROPERTIES NOT IDENTIFIED AS A 21E CONTAMINATED
SITE.
4. SUBJECT PROPERTIES DO NOT CONTAIN WETLANDS OR
FLOODPLAINS.

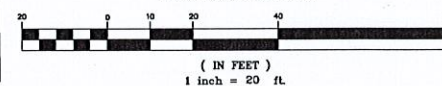
SOIL TEST PITS: (EXCAVATED ON 10/14/2016)

TEST PIT#1 = 12' TO E.S.H.W.T.
TEST PIT#2 = 12' TO E.S.H.W.T.
TEST PIT#3 = 8' TO E.S.H.W.T.
TEST PIT#4 = 8' TO E.S.H.W.T.

LEGEND

STREET LIGHT	1
LAMP POST	2
WATER GATE	3
HYDRANT	4
ELECTRIC MANHOLE	5
GAS VALVE	6
CATCH BASIN	7
DRAIN MANHOLE	8
CLEANOUT	9
OVERHEAD WIRES	10
EXISTING CONTOUR	11
PROPOSED CONTOUR	12
RETAINING WALL	13
ELECTRIC LINE	14
GAS LINE	15
SEWER LINE	16
WATER LINE	17
STRAW WADDLE	18
CB	19
CO	20
CONC.	21
EL. OR ELEV.	22
ELEC.	23
EX.	24
F.F.	25
DMH	26
HDPE	27
INV.	28
MH	29
N/F	30
PRO.	31
SMH	32
TEST PIT	33
W/	34
CATCH BASIN	35
CLEANOUT	36
CONCRETE	37
ELEVATION	38
ELECTRIC	39
EXISTING	40
FINISH FLOOR	41
DRAIN MANHOLE	42
HIGH DENSITY POLYETHYLENE	43
INVERT	44
MANHOLE	45
NOW OR FORMERLY	46
PROPOSED	47
SEWER MANHOLE	48
WITH	49

GRAPHIC SCALE



COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.
400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908
401-273-6600

REVISIONS

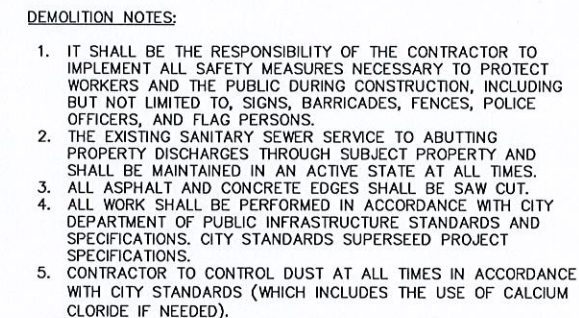
No.	DATE	DRWN	CHKD

EXISTING CONDITIONS PLAN
for
"WILLIS STREET APARTMENTS"
A.P. 66 LOTS 33, 167 & 168
20 WILLIS STREET
in
NEW BEDFORD, MASSACHUSETTS

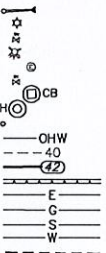
SCALE: 1"=20' SHEET NO: 2 OF 13
DRAWN BY: JP DESIGN BY: N/A CHECKED BY: KK
DATE: 10/21/16 PROJECT NO: 16037.00

DATE: _____

2016 OCT 21 P 22
CITY CLERK'S OFFICE
NEW BEDFORD, MA
CITY CLERK
FOR REGISTRY USE ONLY



STREET LIGHT
LAMP POST
WATER GATE
HYDRANT
ELECTRIC MANHOLE
GAS VALVE
CATCH BASIN
DRAIN MANHOLE
CLEANOUT
OVERHEAD WIRES
EXISTING CONTOUR
PROPOSED CONTOUR
RETAINING WALL
ELECTRIC LINE
GAS LINE
SEWER LINE
WATER LINE
STRAW WADDLE



CB
CO
CONC.
EL. OR ELEV.
ELEC.
EX.
F.F.
DMH
HDPE
INV.
MH
N/F
PRO.
SWH
TEST PIT
W/
CATCH BASIN
CLEANOUT
CONCRETE
ELEVATION
ELECTRIC
EXISTING
FINISH FLOOR
DRAIN MANHOLE
HIGH DENSITY POLYETHYLENE
INVERT
MANHOLE
NOW OR FORMERLY
PROPOSED
SEWER MANHOLE
WITH



COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.
400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908
401-273-6600

"WILLIS STREET APARTMENTS"
A.P. 66 LOTS 33, 167 & 168
20 WILLIS STREET

NEW BEDFORD, MASSACHUSETTS

SCALE: 1"=20'		SHEET NO: 3 OF 13	
DRAWN BY: JP		DESIGN BY: N/A	CHECKED BY: KK
DATE: 10/21/16		PROJECT NO.: 16037.00	

NEW BEDFORD PLANNING BOARD
APPROVAL UNDER THE SUBDIVISION
CONTROL LAWS NOT REQUIRED.

DATE: _____

FOR REGISTRY USE ONLY

CITY CLERK

2016 OCT 21 P 12:39

CITY CLERKS OFFICE
NEW BEDFORD, MA

NOTES:
ANY MINOR MODIFICATIONS (AS DETERMINED BY THE CITY ENGINEER)
TO THE INFORMATION SHOWN ON THE APPROVED SITE PLAN SHALL
BE SUBMITTED TO THE CITY ENGINEER AS A MINOR PLAN REVISION
FOR APPROVAL PRIOR TO THE WORK BEING PERFORMED.

ANY WORK AND MATERIAL WITHIN THE CITY RIGHT OF WAY SHALL
CONFORM TO THE CITY OF NEW BEDFORD REQUIREMENTS.

ALL HANDICAP PARKING, RAMPS, AND ACCESS SHALL CONFORM TO
AAB & MAAB REQUIREMENTS.

ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO
CONSTRUCTION. EROSION CONTROL SHALL CONFORM TO THE CITY OF
NEW BEDFORD CONSERVATION COMMISSION REQUIREMENTS AS
STATED IN THE ORDER OF CONDITIONS. (REFER TO EROSION
CONTROL PLAN IF PART OF SUBMISSION).

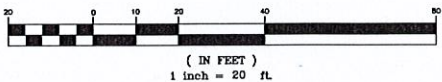
ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO MUTCD
REQUIREMENTS.

SNOW SHALL BE REMOVED FROM SITE BY PRIVATE SNOW REMOVAL
CONTRACTOR.

LEGEND

STREET LIGHT	1
LAMP POST	2
WATER GATE	3
HYDRANT	4
ELECTRIC MANHOLE	5
GAS VALVE	6
CATCH BASIN	7
DRAIN MANHOLE	8
CLEANOUT	9
OVERHEAD WIRES	10
EXISTING CONTOUR	11
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EX.	24
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INV.	28
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N/F	30
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TEST PIT	33
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INVERT	44
MANHOLE	45
NOW OR FORMERLY	46
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SEWER MANHOLE	48
WITH	49

GRAPHIC SCALE



COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.

400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908
401-273-6600

CONSTRUCTION LAYOUT PLAN
for
"WILLIS STREET APARTMENTS"
A.P. 66 LOTS 33, 167 & 168
20 WILLIS STREET
in
NEW BEDFORD, MASSACHUSETTS

SCALE: 1"=20' SHEET NO: 4 OF 13

DRAWN BY: JP DESIGN BY: N/A CHECKED BY: KK

DATE: 10/21/16 PROJECT NO.: 16037.00

NEW BEDFORD PLANNING BOARD
APPROVAL UNDER THE SUBDIVISION
CONTROL LAWS NOT REQUIRED.

DATE: _____

CITY CLERKS OFFICE
NEW BEDFORD, MA
2016 OCT 21 P 12:39
CITY CLERK
FOR REGISTRY USE ONLY

GRAPHIC SCALE
(IN FEET)
1 INCH = 20 FEET

ROOF DRAIN DETAIL
NOT TO SCALE

LEGEND

STREET LIGHT
LAMP POST
WATER GATE
HYDRANT
ELECTRIC MANHOLE
GAS VALVE
CATCH BASIN
DRAIN MANHOLE
CLEANOUT
OVERHEAD WIRES
EXISTING CONTOUR
PROPOSED CONTOUR
RETAINING WALL
ELECTRIC LINE
GAS LINE
SEWER LINE
WATER LINE
STRAW WADDLE

CB
CO
CONC.
EL. OR ELEV.
ELEC.
EX.
F.F.
DMH
HDPE
INV.
MH
N/F
PRO.
SMH
TEST PIT
W/

CATCH BASIN
CLEANOUT
CONCRETE
ELEVATION
ELECTRIC
EXISTING
FINISH FLOOR
DRAIN MANHOLE
HIGH DENSITY POLYETHYLENE
INVERT
MANHOLE
NOW OR FORMERLY
PROPOSED
SEWER MANHOLE
WITH



COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.
400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908
401-273-6600

REVISIONS				
No.	DATE	DRWN	CHKD	

GRADING AND DRAINAGE PLAN
for
"WILLIS STREET APARTMENTS"
A.P. 66 LOTS 33, 167 & 168
20 WILLIS STREET
in
NEW BEDFORD, MASSACHUSETTS

SCALE: 1"=20' SHEET NO: 5 OF 13
DRAWN BY: JP DESIGN BY: N/A CHECKED BY: KK
DATE: 10/21/16 PROJECT NO.: 16037.00

NEW BEDFORD PLANNING BOARD
APPROVAL UNDER THE SUBDIVISION
CONTROL LAWS NOT REQUIRED.

DATE: _____

CITY CLERK'S OFFICE
NEW BEDFORD, MA
2016 OCT 21 PM 2:39
CITY CLERK
FOR REGISTRY USE ONLY

UTILITY NOTES:

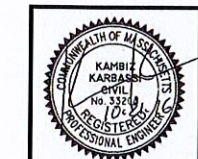
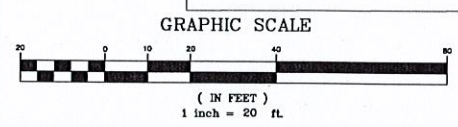
1. THE CONTRACTOR SHALL OBTAIN A STREET DISTURBANCE & OBSTRUCTION PERMIT PRIOR TO ANY CONSTRUCTION WITHIN THE RIGHT-OF-WAY
2. ALL WATER AND SEWER MATERIALS SHALL CONFORM TO THE CITY OF NEW BEDFORD REQUIREMENTS
3. ALL WATER AND SEWER CONSTRUCTION SHALL BE INSPECTED BY THE CITY OF NEW BEDFORD BEFORE BEING BACKFILLED
4. THE CITY SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE REQUIRED INSPECTION

LEGEND

- STREET LIGHT
LAMP POST
WATER GATE
HYDRANT
ELECTRIC MANHOLE
GAS VALVE
CATCH BASIN
DRAIN MANHOLE
CLEANOUT
OVERHEAD WIRES
EXISTING CONTOUR
PROPOSED CONTOUR
RETAINING WALL
ELECTRIC LINE
GAS LINE
SEWER LINE
WATER LINE
STRAW WADDLE
- CB
CO
CONC.
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INV.
MH
N/F
PRO.
SMH
TEST PIT
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- CATCH BASIN
CLEANOUT
CONCRETE
ELEVATION
ELECTRIC
EXISTING
FINISH FLOOR
DRAIN MANHOLE
HIGH DENSITY POLYETHYLENE
INVERT
MANHOLE
NOW OR FORMERLY
PROPOSED
SEWER MANHOLE
WITH

LEGEND

- STREET LIGHT
LAMP POST
WATER GATE
HYDRANT
ELECTRIC MANHOLE
GAS VALVE
CATCH BASIN
DRAIN MANHOLE
CLEANOUT
OVERHEAD WIRES
EXISTING CONTOUR
PROPOSED CONTOUR
RETAINING WALL
ELECTRIC LINE
GAS LINE
SEWER LINE
WATER LINE
STRAW WADDLE
- CB
CO
CONC.
EL. OR ELEV.
ELEC.
EX.
F.F.
DMH
HDPE
INV.
MH
N/F
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SMH
TEST PIT
W/
- CATCH BASIN
CLEANOUT
CONCRETE
ELEVATION
ELECTRIC
EXISTING
FINISH FLOOR
DRAIN MANHOLE
HIGH DENSITY POLYETHYLENE
INVERT
MANHOLE
NOW OR FORMERLY
PROPOSED
SEWER MANHOLE
WITH



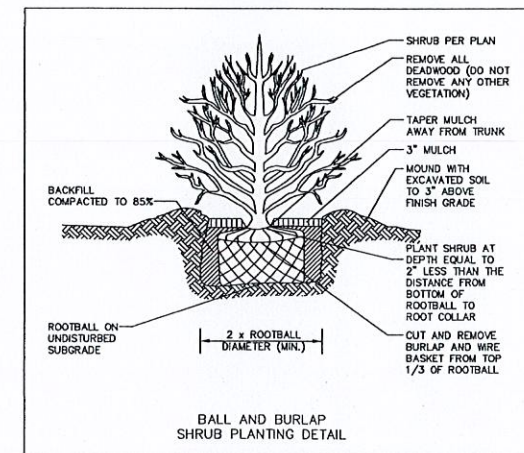
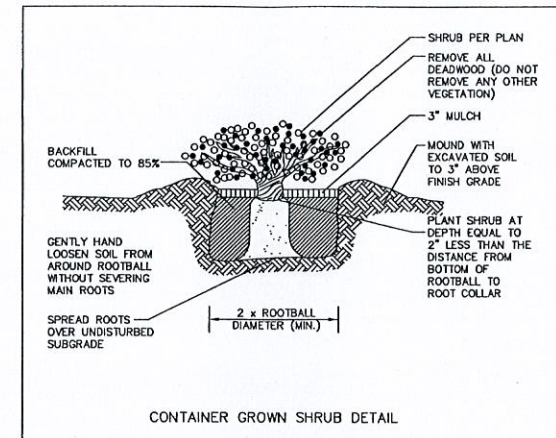
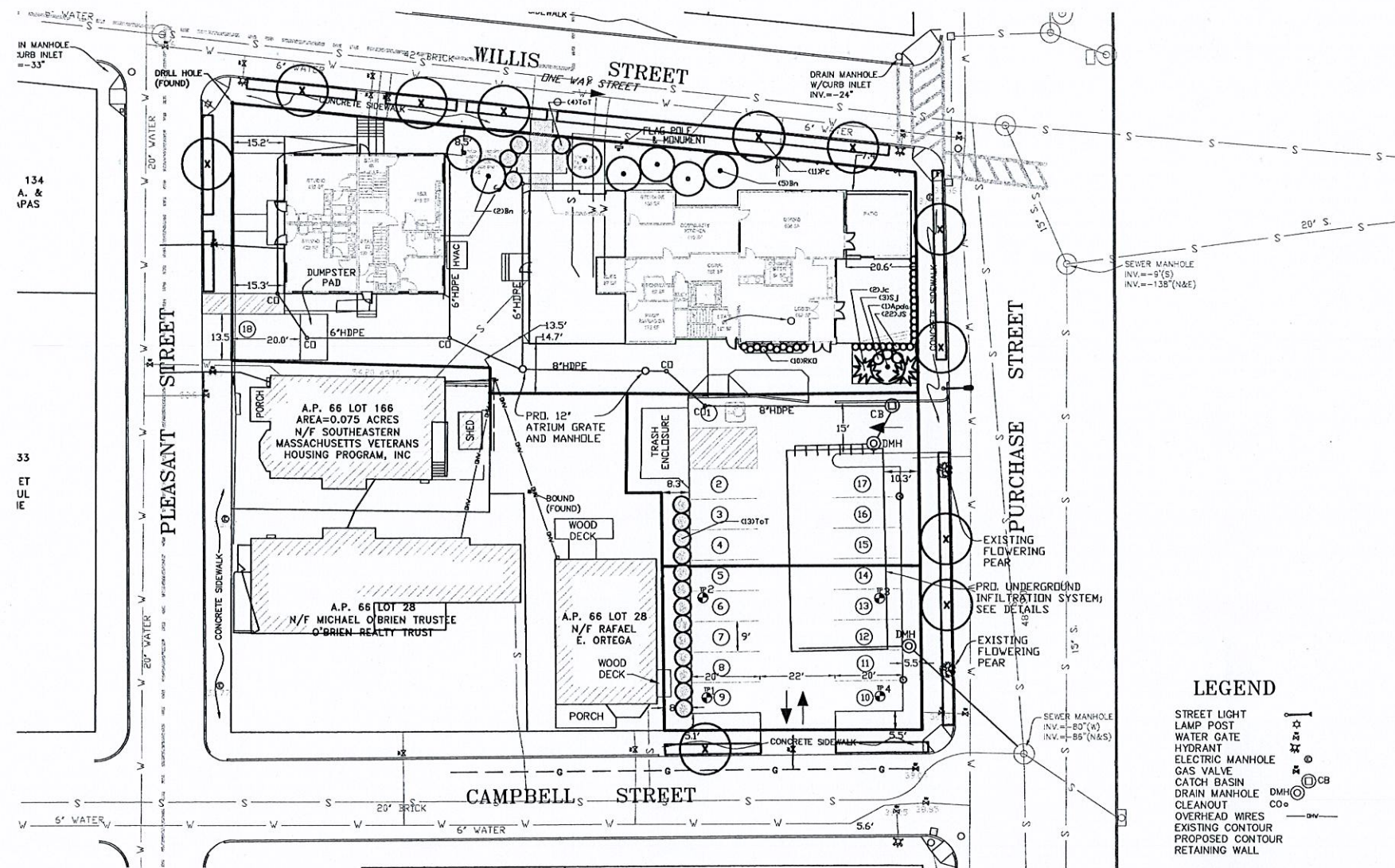
COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.
400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908
401-273-8600

REVISIONS

No.	DATE	DRWN	CHKD

UTILITY AND GRADING PLAN
for
"WILLIS STREET APARTMENTS"
A.P. 66 LOTS 33, 167 & 168
20 WILLIS STREET
NEW BEDFORD, MASSACHUSETTS

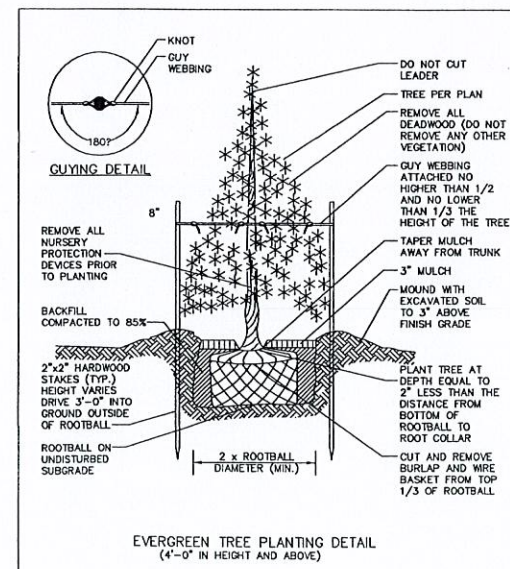
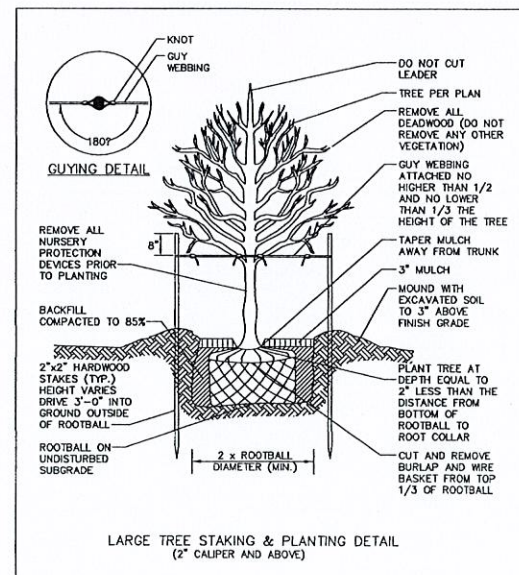
SCALE: 1"=20'
DRAWN BY: JP
DATE: 10/21/16
SHEET NO: 6 OF 13
DESIGN BY: N/A
CHECKED BY: KK
PROJECT NO: 16037.00



STREET LIGHT
LAMP POST
WATER GATE
HYDRANT
ELECTRIC MANHOLE
GAS VALVE
CATCH BASIN
DRAIN MANHOLE
CLEANOUT
OVERHEAD WIRES
EXISTING CONTOUR
PROPOSED CONTOUR
RETAINING WALL

MASTER PLANT SCHEDULE						
SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARK
Apda	1	<i>Acer palmatum dissectum</i> Crimson Queen	Red cutleaf Japanese maple	3-4'	B&B	SPECIMEN
Bn	7	<i>Betula nigra</i> Cutly	Cully river birch	8-10'	B&B	Clump
Jc	2	<i>Juniperus conferta</i>	Shore juniper	#3	CAN	---
JS	22	<i>Juniperus scopulorum</i> Skyrocket	Skyrocket juniper	4-5'	B&B	2' o.c.
Pc	11	<i>Pyrus calleryana</i> Cleveland Select	Cleveland Select flowering pear	2.5-3' cal.	B&B	5' STD.
13	10	<i>Rosa Knockout</i> Double	Double red Knockout rose	#3	CAN	2' o.c.
Pc	3	<i>Spiraea japonica</i> Goldmound	Goldmound spiraea	#3	CAN	3' o.c.
13	17	<i>Thuja occidentalis</i> Techny	Techny arbor-vitae	4-5'	B&B	5' o.c.

- 1) ALL PLANT MATERIAL TO CONFORM TO AAN STANDARDS.
- 2) ALL PLANT MATERIAL TO RECEIVE THREE INCHES OF SHREDDED PINE BARK MULCH.
- 3) ALL PLANT MATERIAL TO BE GUARANTEED TO SURVIVE AT LEAST ONE GROWING SEASON,
OR THEY SHALL BE REPLACED AT THE LANDSCAPE CONTRACTOR'S EXPENSE.
- 4) ALL PLANT MATERIAL SUBJECT TO VERIFICATION AS TO LOCATION AND SPECIES.
- 5) THERE WILL BE NO PLANT MATERIAL SUBSTITUTIONS WITHOUT THE WRITTEN CONSENT
OF THE LANDSCAPE ARCHITECT.
- 6) DISTURBED SOILS WITHIN THE PROJECT LIMITS ARE TO BE LOAMED AND SEEDED.



COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.

400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908
401-273-6600

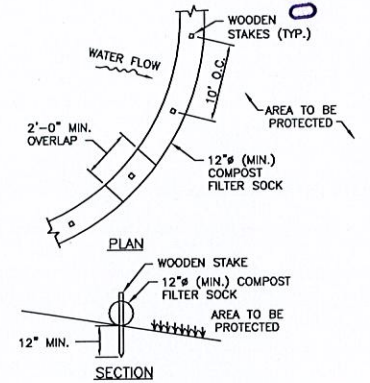
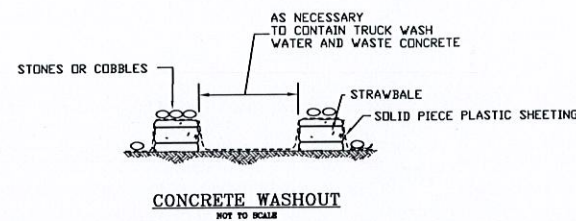
REVISIONS

No.	DATE	DRAWN	CHKD

1. REFER TO SOIL EROSION CONTROL NOTES LOCATED IN THE DETAIL SHEETS.
2. CONTRACTOR TO CONTROL DUST AT ALL TIMES IN ACCORDANCE WITH CITY STANDARDS (WHICH INCLUDES THE USE OF CALCIUM CHLORIDE IF NEEDED).
3. ALL BMP EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO DEMOLITION OR ANY SITE WORK.
4. EROSION CONTROL BMPs SHALL CONFORM TO US EPA, NPDES, MA DEP AND MASSACHUSETTS EROSION AND SEDIMENTATION CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS.
5. MAINTENANCE SPECIFICATIONS FOR ALL PROPOSED EROSION AND SEDIMENTATION CONTROLS.

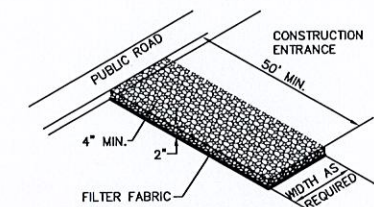
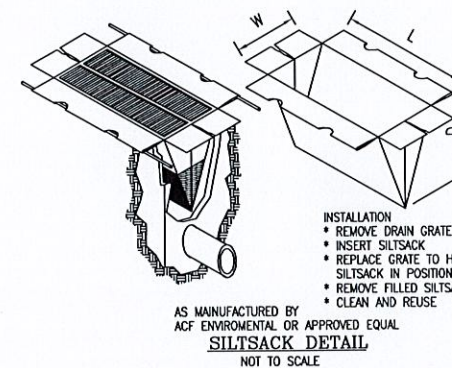
DATE: _____

CITY CLERKS OFFICE
 NEW BEDFORD, MA
 2016 OCT 21
 CITY CLERK
 FOR REGISTRY USE ONLY



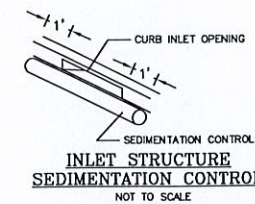
SUBMIT SHOP DRAWING OF COMPOST MATERIAL FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT.

STRAW WADDLE/COMPOST FILTER SOCK
NOT TO SCALE



MATERIALS SIZE			
SQUARE MESH SIEVES	2" CRUSHED STONE OR GRAVEL	ASTM C-33 NO. 2	ASTM C-33 NO. 3
	% FINER	% FINER	% FINER
2-1/2 INCHES	100	90-100	100
2 INCHES	95-100	35-70	90-100
1-1/2 INCHES	30-55	0-15	35-70
1-1/4 INCHES	0-25	-	-
1 INCH	0-5	-	0-15
3/4 INCH	-	0-5	-
1/2 INCH	-	-	0-5
3/8 INCH	-	-	-

RIP-RAP STABILIZATION PAD @
CONSTRUCTION ENTRANCE
NOT TO SCALE



STREET LIGHT
LAMP POST
WATER GATE
HYDRANT
ELECTRIC MANHOLE
GAS VALVE
CATCH BASIN
DRAIN MANHOLE
CLEANOUT
OVERHEAD WIRE
EXISTING COURSE
PROPOSED CONTOUR
RETAINING WALL
ELECTRIC LINE
GAS LINE
SEWER LINE
WATER LINE
STRAW WADDE

CB
CO
CONC.
EL. OR ELEV.
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MH
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PRO.
SMH
TEST PIT
W/
WITH

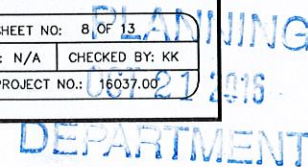
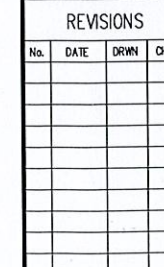
CATCH BASIN
CLEANOUT
CONCRETE
ELEVATION
ELECTRIC
EXISTING
FINISH FLOOR
DRAIN MANHOLE
HIGH DENSITY POL.
INVERT
MANHOLE
NOW OR FORMERLY
PROPOSED
SEWER MANHOLE



COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.
400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908
401-273-6600

EROSION CONTROL PLAN
for
"WILLIS STREET APARTMENTS"
A.P. 66 LOTS 33, 167 & 168
20 WILLIS STREET
in
NEW BEDFORD, MASSACHUSETTS

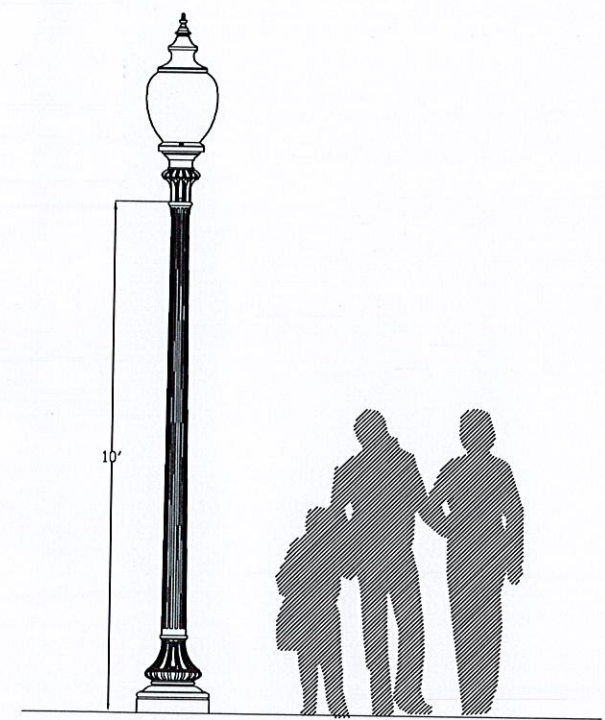
SCALE: 1"=20'		SHEET NO: 8 OF 13	
DRAWN BY: JP		DESIGN BY: N/A	CHECKED BY: KK
DATE: 10/21/16		PROJECT NO.: 16037.00	



NEW BEDFORD PLANNING BOARD
APPROVAL UNDER THE SUBDIVISION
CONTROL LAWS NOT REQUIRED.

DATE: _____

CITY CLERKS OFFICE
NEW BEDFORD, MA
2016 OCT 21 PM 12:40
CITY CLERK
FOR REGISTRY USE ONLY



REFERENCE: LIGHTING PLANS AND SCHEDULE FROM





speclines
INNOVATIVE OUTDOOR LIGHTING SOLUTIONS

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400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908
401-273-6600

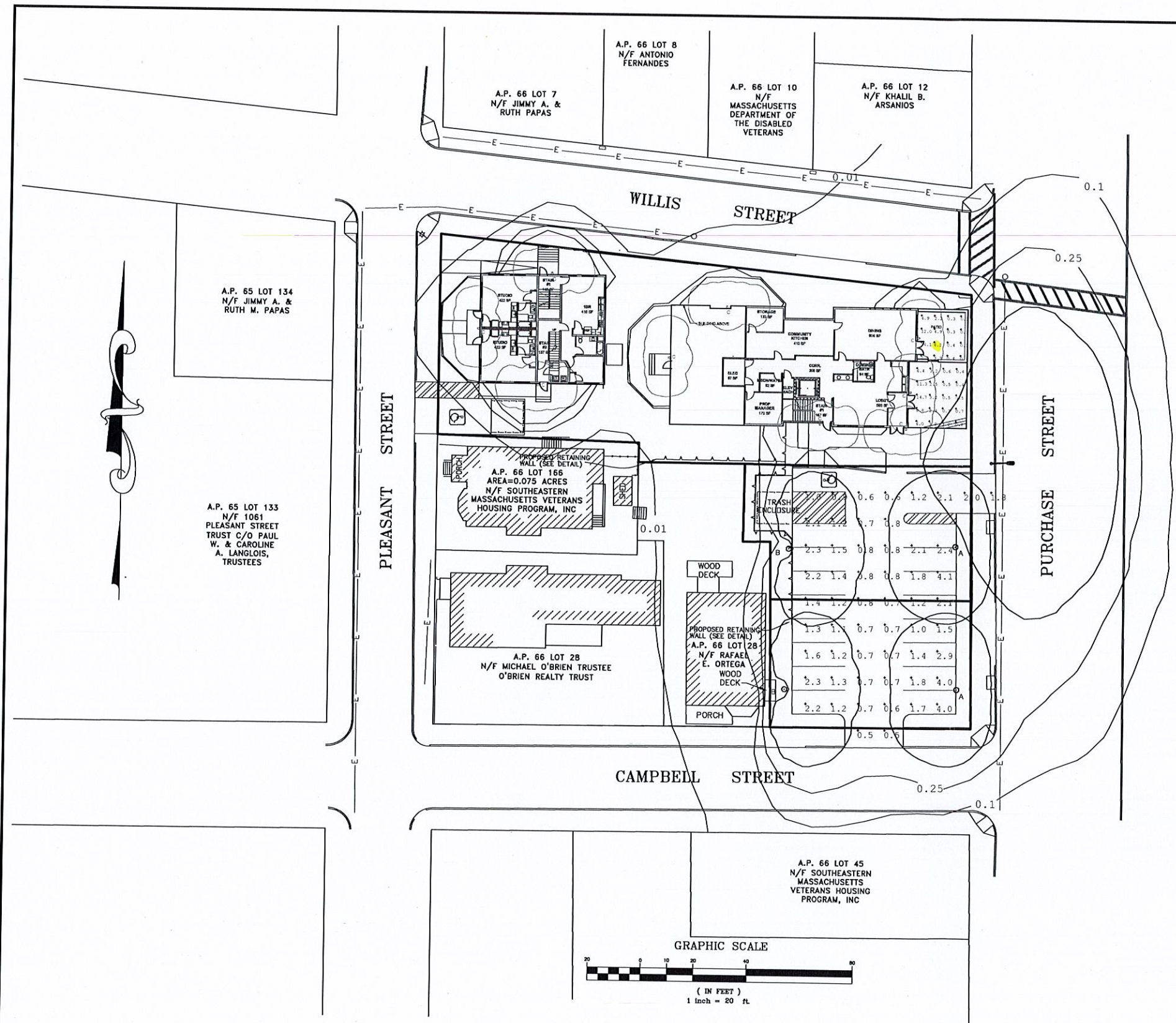
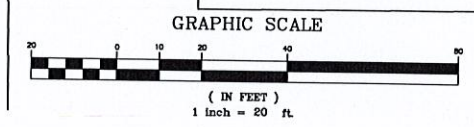
LIGHTING PLAN
for
"WILLIS STREET APARTMENTS"
A.P. 66 LOTS 33, 167 & 168
20 WILLIS STREET
in
NEW BEDFORD, MASSACHUSETTS

SCALE: 1"=20' SHEET NO: 9 OF 13
DRAWN BY: JP DESIGN BY: N/A CHECKED BY: KK
DATE: 10/21/16 PROJECT NO.: 16037.00

REVISIONS			
No.	DATE	DRWN	CHKD

Luminaire Schedule										
Symbol	Qty	Label	Description	IES Class	Arrangement	Arm	MH	LLF	Lum. Lumens	Lum. Watts
	2	A	Parking King Luminaire K100NR-B2PR-III-60-1042	Type III	SINGLE	0	12	0.850	4635	64.2
	2	B	Parking King Luminaire K100NR-B3PR-III-IV-60-1036	Type IV	SINGLE	0	12	0.850	3659	60.9
	9	C	Wall Sconce: Neptun Light LED-414020-C-UNV-850	Type II	SINGLE	0	6	0.850	2232	20.2
	1	EX	Existing 250W HPS	Type II	SINGLE	8	30	0.650	19212	250

Calculation Summary							
Label	CaleType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking Lot	Illuminance	Fc	1.5	4.1	0.6	2.4	6.8
Lobby Entry	Illuminance	Fc	3.4	14.7	0.4	8.6	36.8
Patio	Illuminance	Fc	3.6	14.1	0.2	18.1	70.5



1. ALL REQUIRED SITE IMPROVEMENTS SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARDS AND INSPECTED BY THE CITY ENGINEER TO ENSURE SATISFACTORY UPTO. PRIOR NOTIFICATION IS GIVEN TO THE CITY ENGINEER. IF IMPROVEMENTS ARE STARTED SHALL BE WHEN NOTIFIED BY THE CITY ENGINEER PRIOR TO ANY SUCH START OF CONSTRUCTION. A FINAL INSPECTION OF THE IMPROVEMENTS, UTILITIES AND GRADING WILL BE MADE TO DETERMINE WHETHER THE WORK IS SATISFACTORY AND IN SUBSTANTIAL AGREEMENT WITH THE APPROVED FINAL CONSTRUCTION DRAWING AND THE CITY SPECIFICATIONS.
2. LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD. ANY DAMAGE TO EXISTING UTILITIES AS SHOWN OR NOT SHOWN ON PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO CONSTRUCTION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES NOTIFY DIG-SAFE (1-800-344-7233) A MINIMUM OF 72 WORKING HOURS BEFORE BY THE ARE NOTIFIED 48-HOURS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION AND/OR BLASTING WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION AND/OR BLASTING WORK MUST BE SUPPLIED TO DIG-SAFE, IF IT DIFFERS FROM THE CALLER.
3. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY, BUT NOT LIMITED TO, THE COMMONWEALTH OF MASSACHUSETTS, THE FEDERAL GOVERNMENT, THE CITY OF NEW BEDFORD AND ALL INDIVIDUAL UTILITY COMPANIES PRIOR TO COMMENCING ANY WORK.
4. ALL MATERIAL FOR FILL SHALL BE CLEAN AND FREE OF MATTER WHICH COULD POLLUTE ANY DOWN STREAM WATERCOURSE.
5. FILL MATERIAL SHALL BE COMPACTED IN ONE FOOT (MAXIMUM) LIFTS TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D-1557 (MODIFIED PROCTOR TEST).

STORM DRAINAGE SYSTEM MAINTENANCE PLAN:

THE FOLLOWING LIST OF MAINTENANCE TASKS AND FREQUENCIES MUST BE ADHERED TO IN ORDER TO INSURE A SUCCESSFUL LONG TERM OPERATION OF THE STORM DRAINAGE SYSTEM.

1. DURING CONSTRUCTION ACTIVITIES ALL EROSION CONTROLS ON THE SITE SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWO (2) HOURS AFTER AN EVENT WHICH GENERATES AT LEAST 0.25 INCHES OF RAIN IN A TWENTY FOUR (24) HOUR PERIOD.
 2. SEDIMENTS SHALL BE REMOVED FROM ALL BASINS IMMEDIATELY AFTER SITE STABILIZATION.
 3. ALL TRASH, LITTER AND OTHER DEBRIS SHALL BE REMOVED FROM ALL STORM WATER INLET AND OUTLET STRUCTURES A MINIMUM OF TWICE PER YEAR. THESE STRUCTURES SHALL ALSO BE INSPECTED TWICE PER YEAR. INSPECTIONS SHALL BE PERFORMED SEVERAL TIMES WITHIN THE FIRST SIX MONTHS OF OPERATION.
 4. INSPECTIONS OF ALL CATCH BASINS SHALL OCCUR ON AN ANNUAL BASIS TO CHECK FOR DEBRIS REMOVAL (SEDIMENT AND HYDROCARBONS) AND STRUCTURAL INTEGRITY OR DAMAGE. SUCH DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.
 5. REPAIRS OR REPLACEMENT OF INLET/OUTLET STRUCTURES OR ANY ELEMENT OF THE FACILITY SHALL BE DONE WITHIN THIRTY (30) DAYS OF DEFICIENCY REPORTS. IF AN EMERGENCY SITUATION IS IMMINENT THEN REPAIR/REPLACEMENT SHALL BE DONE IMMEDIATELY TO AVERT FAILURE OR DANGER TO NEARBY RESIDENTS.
 6. MAKE REPAIRS IMMEDIATELY USING APPROPRIATE STONE SIZES. DO NOT PLACE STONES ABOVE FINISHED GRADE.
 7. ALL REMOVED SEDIMENTS AND DEBRIS SHALL BE DISPOSED OF OFF SITE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
 8. ALL OUTLET STRUCTURES AND OUTFLOW CHANNELS WILL BE INSPECTED ANNUALLY. INSPECTIONS WILL BE ACCOMPLISHED SEVERAL TIMES DURING THE FIRST SIX MONTHS OF OPERATION, ESPECIALLY AFTER RAINFALL EVENTS TO CHECK FOR CLOGGING OR, CONVERSELY, TOO RAPID OF A RELEASE.
 9. REPAIRS OR REPLACEMENT OF INLET/OUTLET STRUCTURES, RIP-RAP CHANNELS, FENCES, OR OTHER ELEMENTS OF THE FACILITY WILL BE DONE WITHIN 30 DAYS OF DEFICIENCY REPORTS. IF AN EMERGENCY SITUATION IS IMMINENT THEN REPAIR/REPLACEMENT MUST BE DONE IMMEDIATELY TO AVERT FAILURE OR DANGER TO NEARBY RESIDENTS.
 10. ALL SEDIMENT GENERATING DURING CONSTRUCTION AND AS A RESULT OF MAINTENANCE OF THE DRAINAGE SYSTEM MUST BE DISPOSED OF PROPERLY. SEDIMENT SHALL NOT BE DISPOSED OF IN OR NEAR STATE OR FEDERAL REGULATED WATERS.
 11. ANNUAL BMP INSPECTION/MAINTENANCE MEASURES OUTLINED WITHIN THE PROJECT STORMWATER POLLUTION PREVENTION PLAN SHALL BE ADHERED TO.
- DRAINAGE AND UTILITY NOTES:**
- UTILITY LOCATION VERIFICATION IS TO INCLUDE TEST HOLES AS NEEDED.
- WATER MAINS AND APPURTENANCES, INCLUDING SERVICE CONNECTIONS SHALL BE INSTALLED IN CONFORMANCE WITH THE SPECIFICATIONS OF THE CITY OF NEWBEDFORD.
- THE CONTRACTOR IS REQUIRED TO SCHEDULE AND COORDINATE WATER SERVICE INSTALLATIONS, SHUT DOWNS AND DISRUPTIONS WHICH AFFECT THE SITE AND SITE ADJACENT USERS WITH THE LOCAL WATER AUTHORITY AND THE LOCAL FIRE DEPARTMENT.
- UNDERGROUND UTILITIES, ELECTRIC, TELEPHONE, FIRE ALARM CABLE, TELEVISION AND CABLE SERVICES SHALL BE INSTALLED PER THE REQUIREMENTS OF THE APPLICABLE SITE UTILITY PROVIDER
- METALLIC WARNING TAPE SHALL BE INSTALLED 12" ABOVE ALL STORM DRAIN AND OTHER UTILITIES.
- IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF EXISTING UTILITIES, STRUCTURES AND ADJUTING PROPERTIES. THE COST OF ANY PAIR OR REPLACEMENT OF DAMAGED ITEMS SHALL BE BORNE BY THE CONTRACTOR.

DRAINAGE AND UTILITY NOTES:

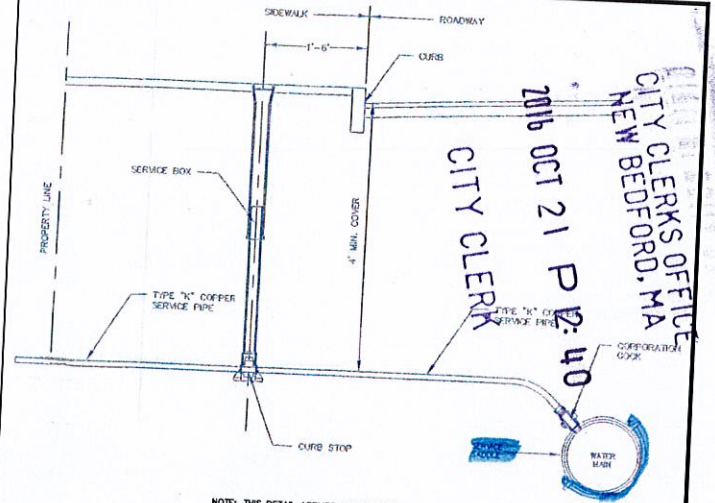
1. UTILITY LOCATION VERIFICATION IS TO INCLUDE TEST HOLES AS NEEDED.
2. WATER MAINS AND APPURTENANCES, INCLUDING SERVICE CONNECTIONS SHALL BE INSTALLED IN CONFORMITY WITH THE SPECIFICATIONS OF THE CITY OF NEWBORD.
3. THE CONTRACTOR IS REQUIRED TO SCHEDULE AND COORDINATE WATER SERVICE INSTALLATIONS, SHUT DOWNS AND DISRUPTIONS WHICH AFFECT THE SITE AND SITE ADJACENT USERS WITH THE LOCAL WATER AUTHORITY AND THE LOCAL FIRE DEPARTMENT.
4. UNDERGROUND UTILITIES, ELECTRIC, TELEPHONE, FIRE ALARM CABLE, TELEVISION AND GAS SERVICES SHALL BE INSTALLED PER THE REQUIREMENTS OF THE APPLICABLE SITE UTILITY PROVIDER
5. METALLIC WARNING TAPE SHALL BE INSTALLED 12" ABOVE ALL STORM DRAIN AND OTHER UTILITIES.
6. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITIES, STRUCTURES AND ABUTTING PROPERTIES. THE COST OF ANY REPAIR OR REPLACEMENT OF DAMAGED ITEMS SHALL BE BORNE BY THE CONTRACTOR.

EROSION CONTROL, SOIL STABILIZATION AND
SEDIMENT CONTROL PROGRAM:

1. PRIOR TO THE COMMENCEMENT OF ANY CLEARING, GRUBBING, DEMOLITION OR EARTHWORK ACTIVITY, TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE PLANS ARE TO BE INSTALLED BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERIODIC INSPECTION, MAINTENANCE, REPAIR AND REPLACEMENT OF EROSION, SOIL STABILIZATION AND SEDIMENT CONTROL DEVICES UNTIL AN ACCEPTABLE PERMANENT VEGETATIVE GROWTH IS ESTABLISHED. THE CONTRACTOR SHALL MAINTAIN A DOCUMENTATION LOG OF ALL EROSION CONTROL MEASURE INSPECTIONS AND CORRECTIVE ACTIONS THROUGHOUT THE COURSE OF PROJECT CONSTRUCTION.
3. TEMPORARY TREATMENTS SHALL CONSIST OF STRAW, FIBER MULCH, RIP RAP OR PROTECTIVE COVERS SUCH AS MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING AND EXCLOSIDR). THESE AND OTHER ACCEPTABLE MEASURES SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
4. CONSTRUCTION SITES ARE DYNAMIC. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND OR MOVEMENT OF EROSION, SOIL AND SEDIMENT CONTROL MEASURES AS REQUIRED TO MAXIMIZE THE INTENT OF THE PROGRAM FOR ALL SITE CONDITIONS THROUGHOUT THE CONSTRUCTION PERIOD.
5. STRAW APPLICATION SHOULD BE IN THE AMOUNT OF 2,000 LBS/ACRE.
6. EROSION CONTROL MEASURES ARE TO BE REMOVED AT THE COMPLETION OF CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.
7. STOCKPILES OF TOPSOIL AND EARTH MATERIALS SHALL NOT BE LOCATED NEAR WATERWAYS OR WETLANDS. STOCKPILES SHALL HAVE SIDE SLOPES NO GREATER THAN THIRTY PERCENT (30%). STOCK PILES SHALL BE SURROUNDED ON THE DOWN GRADIENT SIDE BY STRAW BALES OR SILT FENCE AND THE STOCKPILE SHALL ALSO BE SEEDED AND/OR STABILIZED IN SOME MANNER TO PREVENT SOIL EROSION.
8. DENUDED SLOPES SHALL NOT BE LEFT EXPOSED FOR EXCESSIVE PERIODS OF TIME, SUCH AS INACTIVE WINTER PERIODS.
9. EXPOSED STEEP OR LONG SLOPES SHOULD BE TREATED WITH "CRIMPING" OR "TRACKING" TO REDUCE EROSION AND SEDIMENT AND TO TACK DOWN SEEDING OR MUCH APPLICATIONS.
10. TEMPORARY SEEDING SHOULD BE DONE WITHIN ONE (1) MONTH AFTER DISTURBANCE.
11. ALL DISTURBED AREAS MUST BE SEEDDED OR PLANTED WITHIN THE CONSTRUCTION SEASON. STABILIZATION OF ONE FORM OR ANOTHER SHALL BE ACHIEVED WITHIN FIFTEEN (15) DAYS OF FINAL GRADING.
12. TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE, RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, AND LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS. TOPSOIL SHALL CONFORM TO THE CITY OF NEW BEDFORD APPLICABLE RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND.
13. THE NORMAL ACCEPTABLE SEASONABLE SEEDING DATES ARE APRIL 1ST THROUGH OCTOBER 31ST.
14. SEED MIX SHALL BE INOCULATED WITHIN 24-HOURS BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH SEED VARIETY.
15. THE DESIGN SEED MIX UTILIZED IN ALL DISTURBED AREAS IS TO BE A LAWN MIX AS REQUIRED BY THE CITY OF NEW BEDFORD RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND.
16. IN TOPSOIL SEEDING AREAS, THE CONTRACTOR WILL LIME AND/OR FERTILIZE AS REQUIRED TO COMPLEMENT OR UPGRADE EXISTING SOIL CONDITIONS.
17. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN A PERIOD OF ONE (1) YEAR. REPAIR AND RESEED SHALL BE DONE AT ADDITIONAL COST.
18. TREES OR SHRUBS TO BE RETAINED SHALL BE FENCED OR ROPED OFF TO PROTECT THEM FROM CONSTRUCTION EQUIPMENT.
19. ALL PROPOSED PLANTINGS MUST BE ACCOMPLISHED AS EARLY AS POSSIBLE UPON COMPLETION OF GRADING AND CONSTRUCTION, AND AT LEAST PRIOR TO ANY ON-SITE CUPFANY.
20. SHOULD ANY OF THE PROPOSED PLANTS FAIL, TO SURVIVE AT LEAST ONE (1) FULL GROWING SEASON FROM THE TIME THEY HAVE BEEN PLANTED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT AND MAINTAINING THE SAME PLANT SPECIES FOR ONE (1) ADDITIONAL YEAR.
21. ALL STRAW BALES OR TEMPORARY PROTECTION SHALL REMAIN IN-PLACE UNTIL AN ACCEPTABLE STAIN OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
22. THE SEED MIX SHALL BE INOCULATED WITHIN 24-HOURS BEFORE MIXING AND PLANTING, WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
23. THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1ST THROUGH DECEMBER 15TH.
24. STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN FIFTEEN (15) DAYS OF FINAL GRADING.
25. ALL PROPOSED PLANTINGS MUST BE ACCOMPLISHED AS EARLY AS POSSIBLE UPON COMPLETION OF GRADING AND CONSTRUCTION, AND AT LEAST PRIOR TO ANY ON-SITE PANCY.
26. ALL PROPOSED PLANTINGS MUST BE MAINTAINED BY THE PROPERTY OWNER TO PREVENT SURVIVAL.
27. ALL DISTURBED AREAS MUST BE SEEDDED OR PLANTED WITHIN THE CONSTRUCTION SEASON.
28. ALL DISTURBED AREAS MUST BE PERMANENTLY SEEDDED OR PLANTED BEFORE DECEMBER 15TH, IF NOT THEY MUST BE TEMPORARILY SEEDDED.

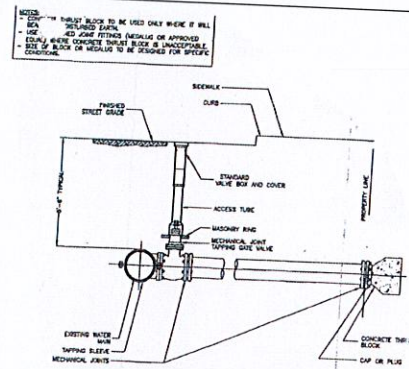
SEDIMENTATION CONTROL PROGRAM:

1. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING DOWNSTREAM WATERCOURSES AND STORM WATER DRAINAGE SYSTEMS.
 2. DURING CONSTRUCTION, THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUN-OFF FLOW DURING STORMS AND PERIODS OF RAIN.
 3. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.
 4. CARE SHALL BE TAKEN SO AS NOT TO PLACE "REMOVED SEDIMENTS" WITHIN THE PATH OF EXISTING, NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED WATERCOURSES OR THOSE AREAS SUBJECTED TO STORM WATER FLOWAGE.
 5. ADDITIONAL STRAW BALES OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
 6. SEDIMENTATION TRAPS SHALL BE PROVIDED AT ALL DRAINAGE STRUCTURES DURING CONSTRUCTION.
 7. EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AT THE SITE PRIOR TO THE START OF CONSTRUCTION AND BE PROPERLY MAINTAINED UNTIL ALL DISTURBED AREAS ARE STABILIZED INCLUDING:
 - A) THE INSTALLATION OF A CONTINUOUS LINE OF STAKED STRAW BALES IN ALL LOCATIONS SHOWN ON THE APPROVED SITE PLANS AND WHERE OTHERWISE NECESSARY TO PREVENT SEDIMENTS FROM ENTERING DOWNSTREAM WATERCOURSES AND STORM WATER DRAINAGE SYSTEMS.
 - B) ALL DISTURBED AREAS ARE TO BE PERMANENTLY STABILIZED WITH APPROVED GROUND COVER PRIOR TO THE COMPLETION OF THE PROJECT. AREAS EXPOSED FOR EXTENDED PERIODS ARE TO BE COMPLETELY COVERED WITH SPREAD STRAW MULCH. THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED, PUMPS ARE TO BE CLEANED IMMEDIATELY FOLLOWING INSTALLATION OF PERMANENT PAVEMENT.
 - C) ALL DISTURBED AREAS ARE TO BE PROTECTED BY STRAW BALE FILTERS UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED WITH APPROVED GROUND COVER.
 - D) ALL CONTROL MEASURES WILL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
 8. THE LIMITS OF ALL CLEARING, GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE SHALL REMAIN TOTALLY UNDISTURBED.
 9. UPON COMPLETION OF CONSTRUCTION OF SITE IMPROVEMENTS AND THE STORM WATER DRAINAGE SYSTEM, ALL CATCH BASINS AND STORM DRAIN PIPING SHALL BE CLEANED OF SEDIMENT. DETENTION BASINS SHALL BE CLEANED OF SEDIMENT TO THE DESIGN GRADES INDICATED (IF APPLICABLE).
 10. AT NO TIME DURING CONSTRUCTION SHALL THE SUBGRADE OF THE SITE BE SUCH THAT SURFACE RUNOFF WILL BE PERMITTED TO DIRECTLY ENTER ANY DRAINAGE STRUCTURE. A TEMPORARY DEPRESSED AREA AROUND THE STRUCTURE SHALL BE INCORPORATED AS A SEDIMENTATION TRAP. THE MOUTH OF THE TRAP SHALL BE LINED WITH STRAW BALES AROUND THE COMPLETE PERIMETER. DURING ALL PRELIMINARY STAGES, THE TOP OF THE STRUCTURE SHALL ALWAYS BE HIGHER THAN THE SUBGRADE.
 11. STRAW BALE EROSION CHECKS SHALL BE MAINTAINED AROUND ALL CATCH BASINS UNTIL ALL UPGRADING DISTURBED AREAS ARE STABILIZED BY PAVEMENT OR VEGETATION.
 12. ALL COMPONENTS OF THE DRAINAGE SYSTEM MUST BE CLEANED OF SEDIMENT BY THE APPLICANT OR HIS REPRESENTATIVE IMMEDIATELY AFTER CONSTRUCTION IS COMPLETED.
 13. INSPECT TEMPORARY DIVERSIONS AND THEIR COMPONENTS ONCE A WEEK AND AFTER EVERY RAINFALL. DAMAGE CAUSED BY CONSTRUCTION TRAFFIC OR OTHER ACTIVITY SHOULD BE REPAIRED BEFORE THE END OF EACH WORKING DAY. A SEDIMENTATION TRAP. THE MOUTH OF THE TRAP SHALL BE LINED WITH STRAW BALES AROUND THE COMPLETE PERIMETER. DURING ALL PRELIMINARY STAGES, THE TOP OF THE STRUCTURE SHALL ALWAYS BE HIGHER THAN THE SUBGRADE.
 14. CHECK DAMS SHALL BE INSTALLED EVERY 300 FEET FOR SLOPES OF 1% OR LESS, EVERY 200 FEET FOR SLOPES OF 2%, EVERY 150 FEET FOR SLOPES OF 3% TO 5%, AND EVERY 100 FEET FOR SLOPES OF 5% OR GREATER.
 15. SEDIMENTS SHOULD BE REMOVED FROM THE CHECK DAM WHEN IT REACHES ONE-HALF THE DAM HEIGHT.
- MISCELLANEOUS NOTES:**
1. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH ANY APPLICABLE LOCAL, STATE AND FEDERAL LAWS GOVERNING HIS INTENDED ACTIVITIES. OSHA REGULATIONS ARE APPLICABLE OF PROJECT SITE CONSTRUCTION ACTIVITIES.
 2. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITIES, STRUCTURES, AND ABUTTING PROPERTIES. THE COST OF ANY REPAIR OR REPLACEMENT OF DAMAGED ITEMS SHALL BE BORNE BY THE CONTRACTOR.
 3. IF THE MUNICIPALITY REQUIRES A PROJECT PRE-CONSTRUCTION CONFERENCE, THE PROJECT DEVELOPER AND THE PROJECT CONTRACTOR WILL ATTEND AND WILL PROVIDE ALL REQUESTED MATERIALS PRIOR TO COMMENCING ANY WORK.
 4. CEMENT CONCRETE MIX TRUCKS ARE TO BE WASHED OUT ON SITE. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING A WASH OUT AREA WITH APPROPRIATE PROTECTION CONTROLS.
 5. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING COLLECTION AND DRAINAGE LOCATIONS ON-SITE FOR ALL CONSTRUCTION DEBRIS AND TRASH SO THAT THIS DEBRIS DOES NOT BECOME A NEIGHBORHOOD NUISANCE.



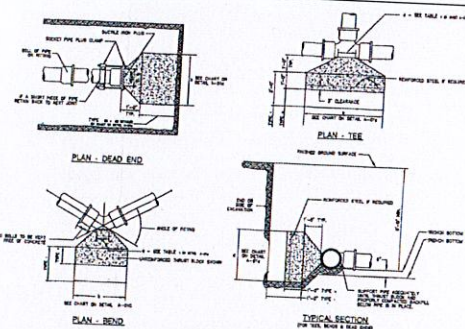
NOTE: THIS DETAIL APPLIES TO SMALL DIAMETER WATER SERVICES AS APPROVED BY THE CITY OF NEW BEDFORD.

WATER SERVICE DETAIL
NOT TO SCALE

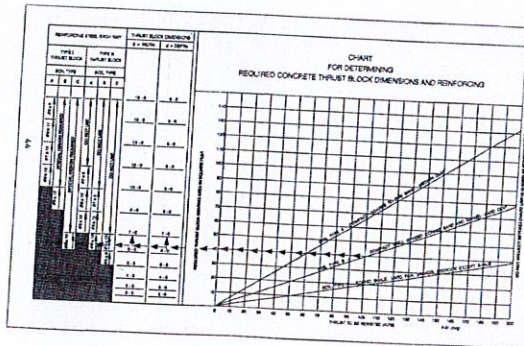


NOTE: THIS DETAIL APPLIES TO LARGER DIAMETER WATER SERVICES AS APPROVED BY THE CITY OF NEW BEDFORD.

TAPPING SLEEVE & GATE VALVE DETAIL
NOT TO SCALE

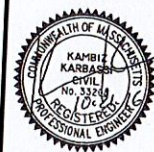


THRUST BLOCK DETAIL
NOT TO SCALE



THRUST BLOCK CHARTS
NOT TO SCALE

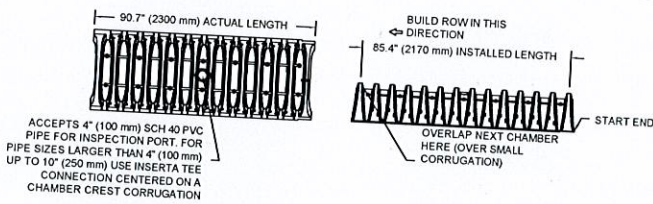
CONCRETE THRUST BLOCK REQUIREMENTS	
FITTING	MINIMUM BEARING SURFACE AREA
30" 1/8 BENDS	30 SQ. FT.
12" 1/8 BENDS	9 SQ. FT.
16" 1/16 BENDS	8 SQ. FT.
10" 1/8 BENDS	8 SQ. FT.
8" 1/16 BENDS	4 SQ. FT.
8" 1/8 BENDS	6 SQ. FT.
8" 1/4 BENDS	10 SQ. FT.
30" X 12" TEE	4 SQ. FT.
30" X 10" TEE	16 SQ. FT.
30" X 6" TEE	12 SQ. FT.
16" X 6" TEE	10 SQ. FT.
12" X 8" TEE	10 SQ. FT.
12" X 6" TEE	10 SQ. FT.
8" X 8" TEE	6 SQ. FT.
8" X 6" TEE	10 SQ. FT.
8" X 4" TEE	6 SQ. FT.
	4 SQ. FT.

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COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.
400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908
401-273-6600

CONSTRUCTION DETAILS
for
"WILLIS STREET APARTMENTS"
A.P. 66 LOTS 33, 167 & 168
20 WILLIS STREET
in
NEW BEDFORD, MASSACHUSETTS

SCALE: NOT TO SCALE		SHEET NO.: 10 OF 13	
DRAWN BY: JP	DESIGN BY: N/A	CHECKED BY: KK	
DATE: 10/21/16		PROJECT NO.: 16037.00	



PART #	STUB	A	B	C
SC310PE06T	6" (150 mm)	9.6" (244 mm)	5.8" (147 mm)	—
SC310PE06B	6" (150 mm)	9.6" (244 mm)	5.8" (147 mm)	—
SC310PE08T	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	0.5" (13 mm)
SC310PE08B	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	0.5" (13 mm)
SC310PE10T	10" (250 mm)	12.7" (323 mm)	1.4" (36 mm)	0.6" (15 mm)
SC310PE10B	10" (250 mm)	12.7" (323 mm)	1.4" (36 mm)	0.6" (15 mm)
SC310PE12B	12" (300 mm)	13.5" (343 mm)	—	0.7" (18 mm)
SC310PE12T	12" (300 mm)	13.5" (343 mm)	—	0.9" (23 mm)

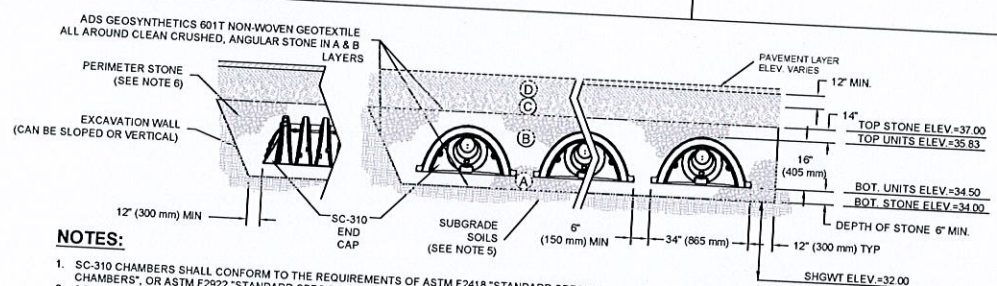
ALL STUBS, EXCEPT FOR THE SC310PE12B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

*FOR THE SC310PE12B THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

SC-310 TECHNICAL SPECIFICATION

NOT TO SCALE



NOTES:

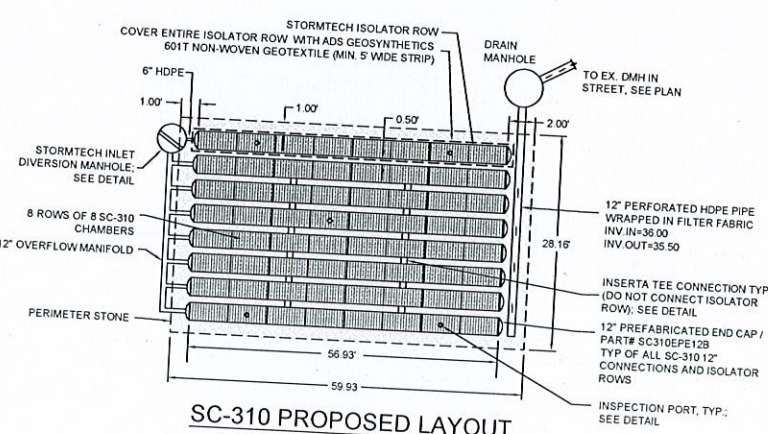
- SC-310 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REMOVE ANY FILL ENCOUNTERED AND REPLACE WITH "SEPTIC GRAVEL" (SEE SPEC) COMPACT IN 12" LIFTS.

SEPTIC GRAVEL SPEC.
GRAVEL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN 3". UP TO 10% MAY BE SIZED BETWEEN 3/4" AND 3". GRAVEL SHALL MEET THE FOLLOWING:

SIEVE SIZE	% PASSING
3/4"	100%
#4	55%-100%
#10	40%-100%
#40	10%-50%
#100	0%-15%
#200	0%-2%

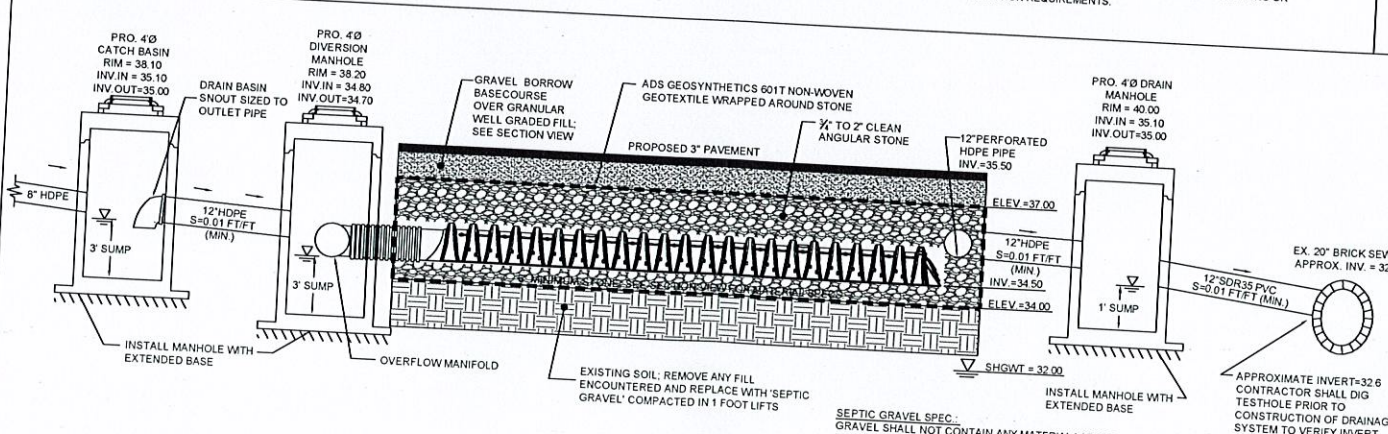
SC-310 SECTION VIEW

NOT TO SCALE



SC-310 PROPOSED LAYOUT

NOT TO SCALE



DRAIN PROFILE

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ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

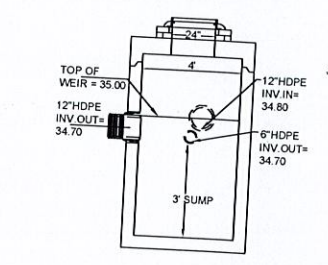
MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	MIN. 12" GRAVEL BORROW BASECOURSE AASHTO M145' A-1	COMPACT IN 6" LIFTS
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE 'B' LAYER TO THE BOTTOM OF GRAVEL BORROW BASECOURSE ('D' LAYER). DEPTH OF 'C' LAYER VARIES	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	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	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE **

PLEASE NOTE:

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR, FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTIONED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- 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.

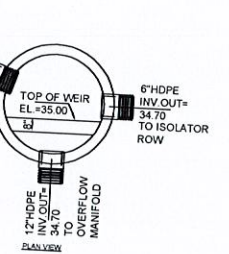
CLEANOUT DETAIL

NOT TO SCALE



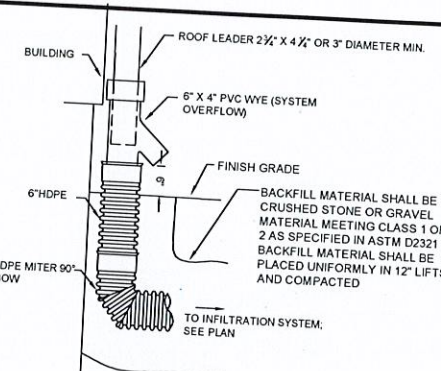
INLET DIVERSION MANHOLE

NOT TO SCALE



ROOF LEADER DETAIL

NOT TO SCALE



IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

- STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310 SC-740 SC-780 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.
- STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - BACKFILL 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.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEALED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm) NOMINAL SIZE.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- STORMTECH 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

- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310 SC-740 SC-780 CONSTRUCTION GUIDE".
 - THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 CHAMBERS IS LIMITED TO:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER TIED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED.
 - IN ACCORDANCE WITH THE "STORMTECH SC-310 SC-740 SC-780 CONSTRUCTION GUIDE", THE WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310 SC-740 SC-780 CONSTRUCTION GUIDE".
 - 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.

STORMWATER CHAMBER SPECIFICATIONS

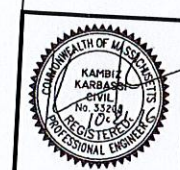
- CHAMBERS SHALL BE STORMTECH SC-310, OR APPROVED EQUAL.
- CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPED FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL:
 - a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
 - b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
 - c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
- A5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 4) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

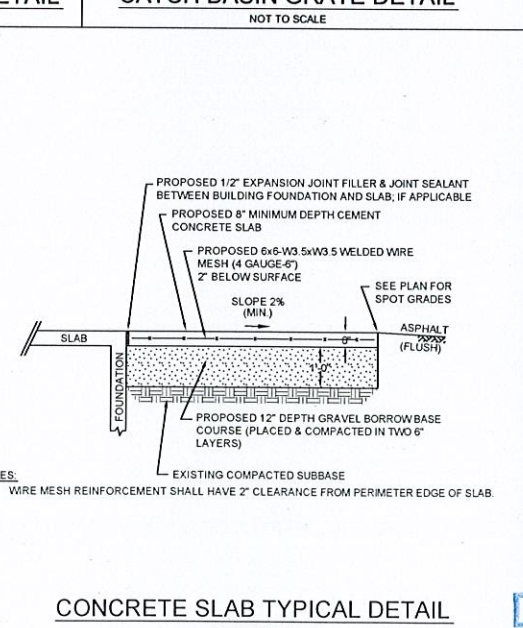
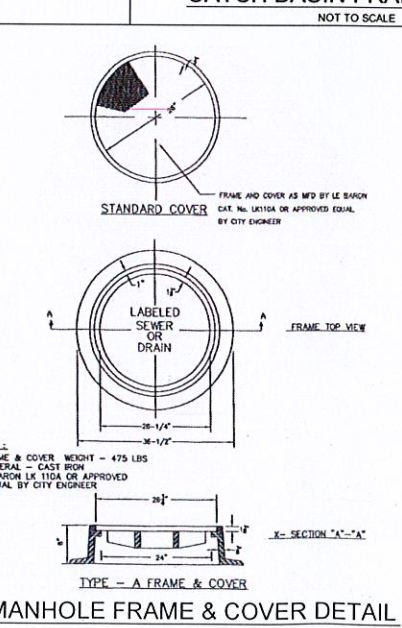
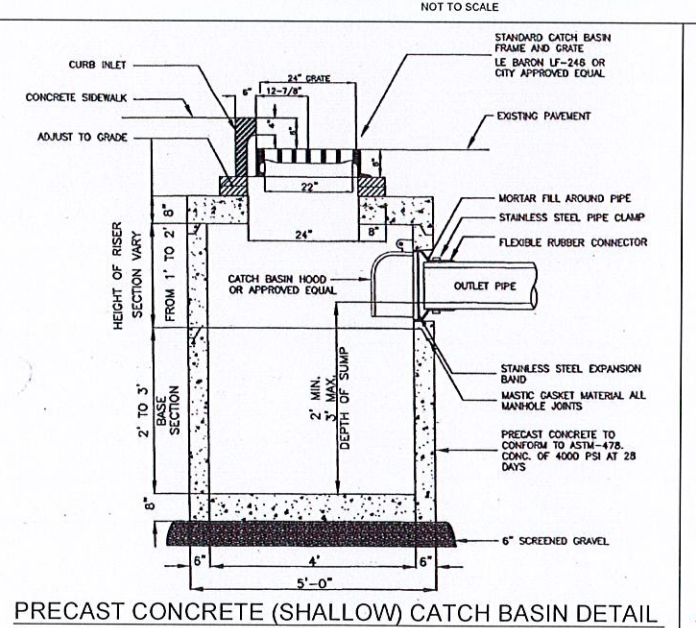
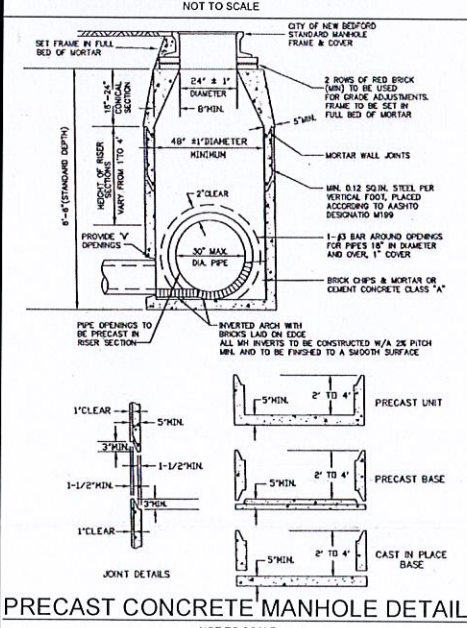
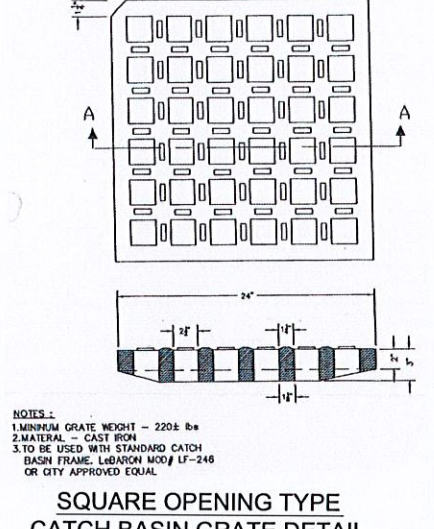
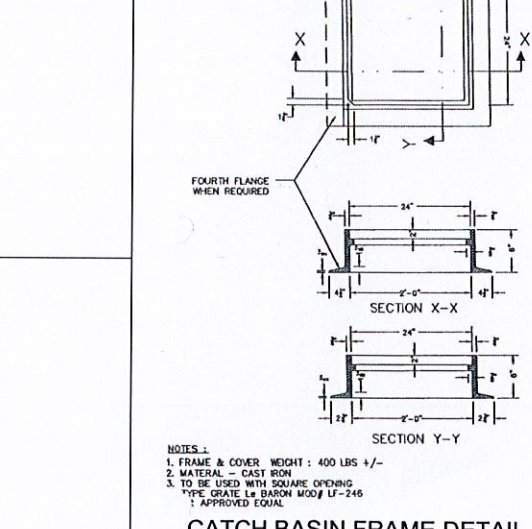
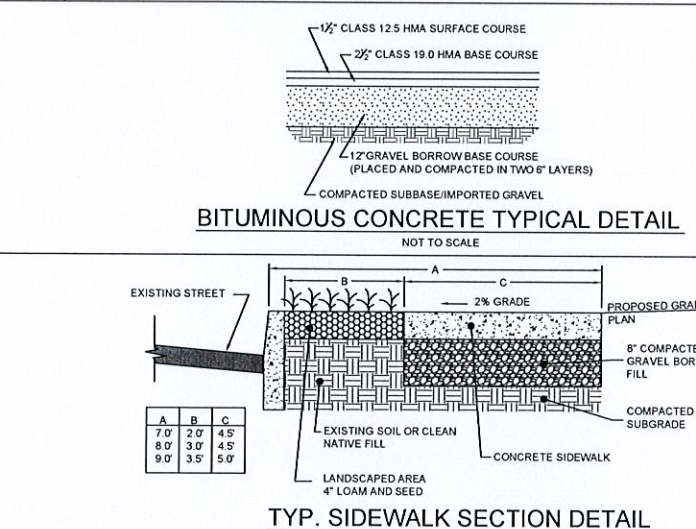
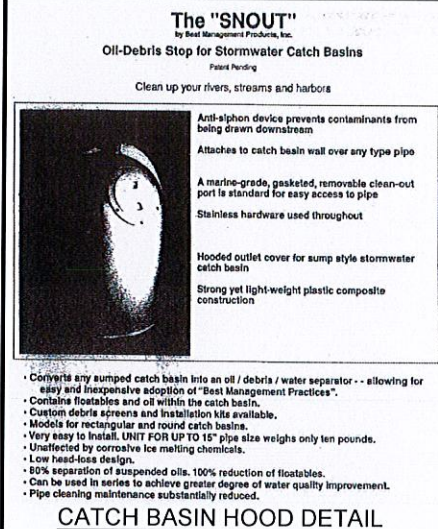
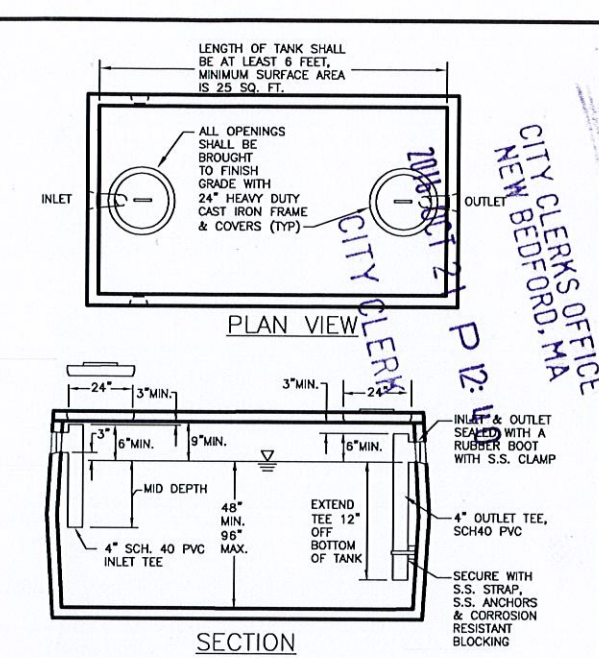
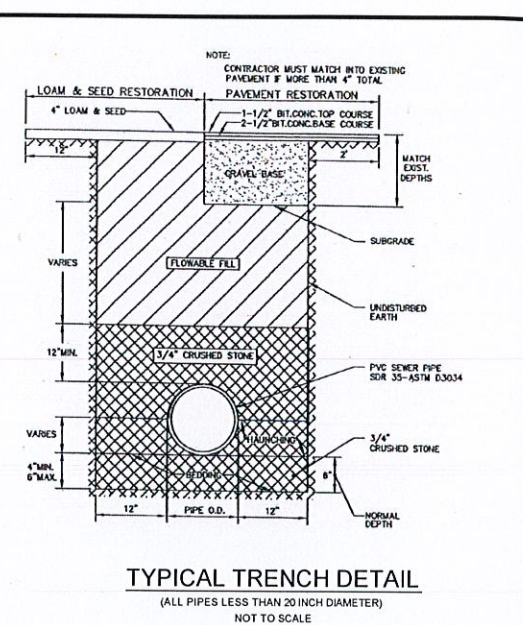
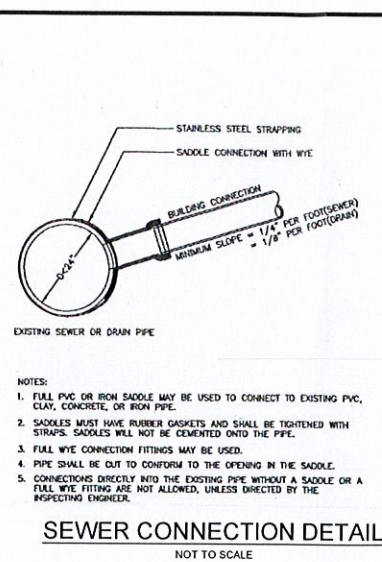
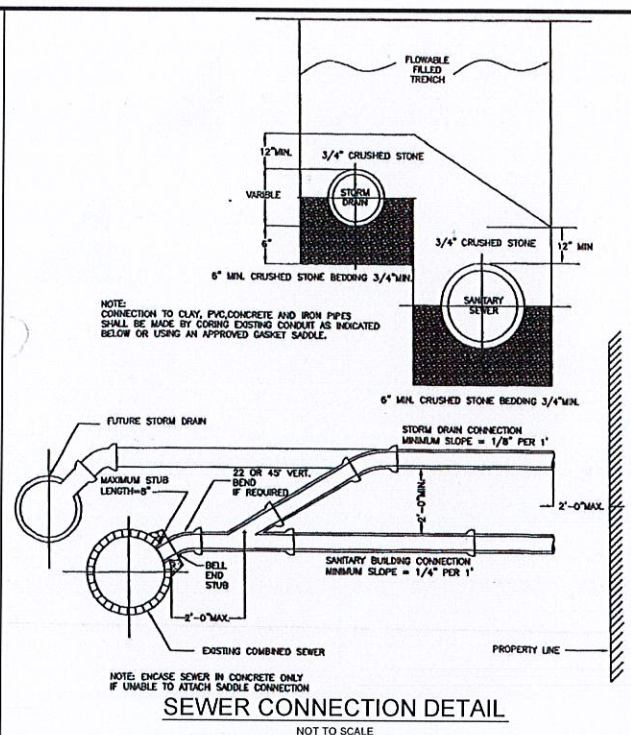
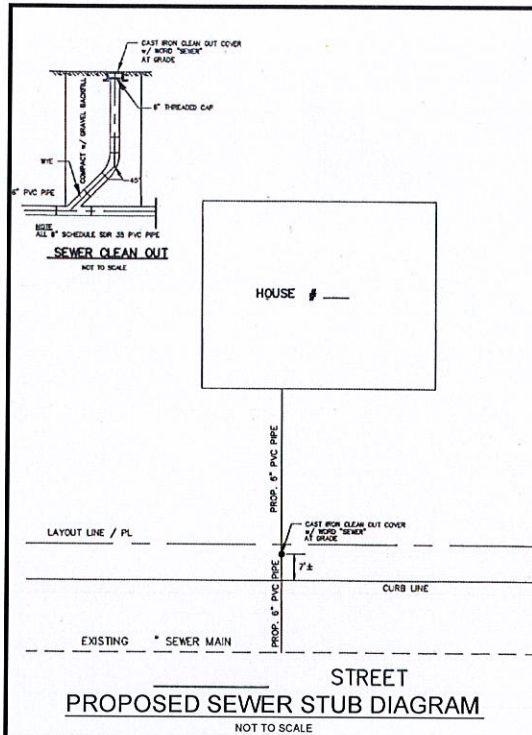
- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



COMMONWEALTH ENGINEERS & CONSULTANTS, INC.
400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908
401-273-6600

CONSTRUCTION DETAILS
for
"WILLIS STREET APARTMENTS"
A.P. 66 LOTS 33, 167 & 168
20 WILLIS STREET
in
NEW BEDFORD, MASSACHUSETTS

SCALE: NOT TO SCALE SHEET NO: 11 OF 13
DRAWN BY: JP DESIGN BY: KB CHECKED BY: KK
DATE: 10/21/16 PROJECT NO.: 16037.00



COMMONWEALTH ENGINEERS & CONSULTANTS, INC.

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CONSTRUCTION DETAILS

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A.P. 66 LOTS 33, 167 & 168
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REVISIONS				
No.	DATE	DRWN	CHKD	

SCALE: NOT TO SCALE

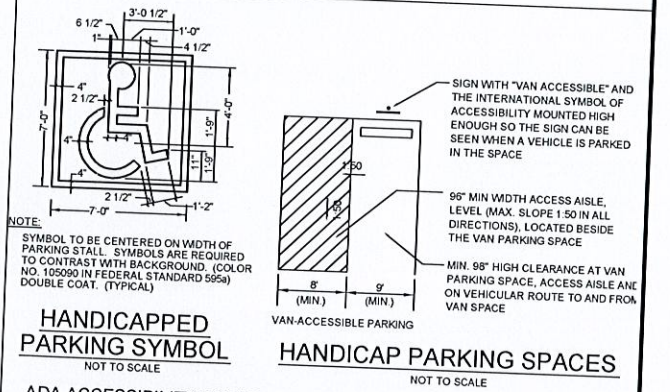
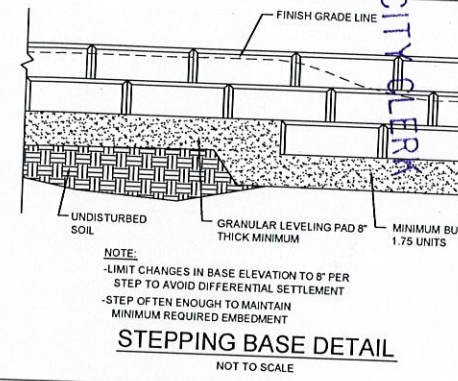
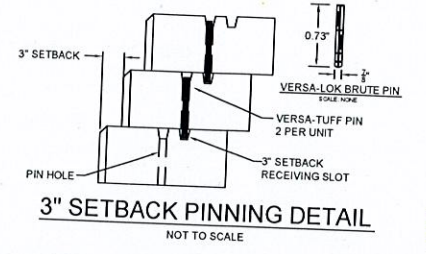
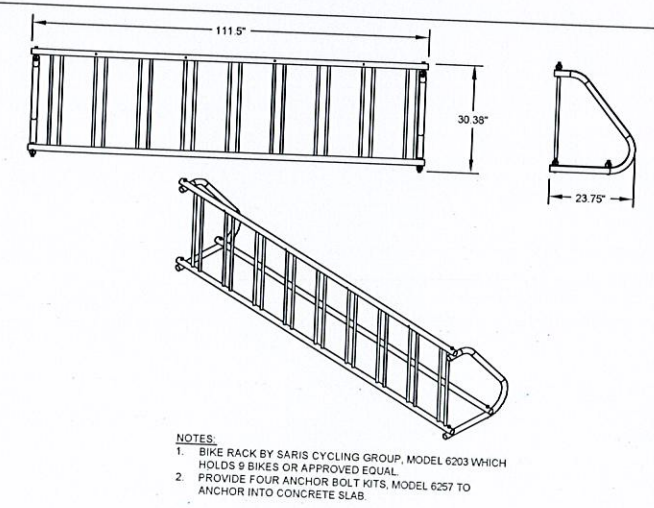
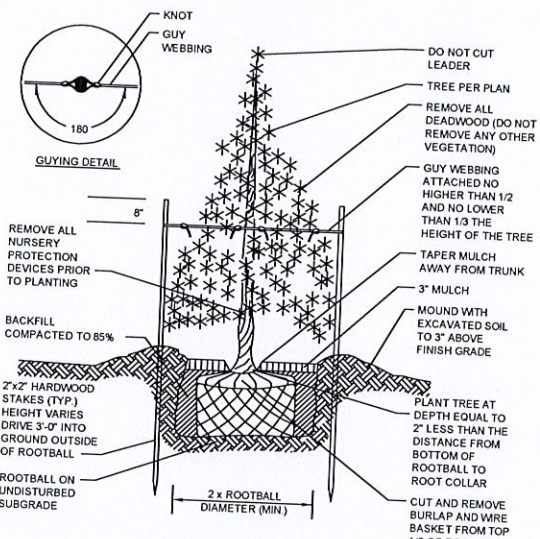
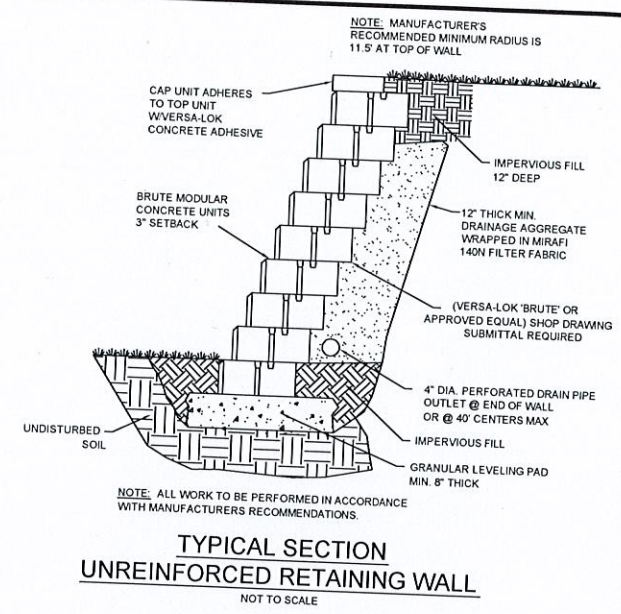
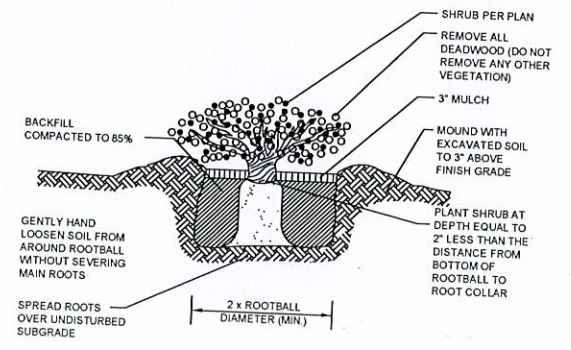
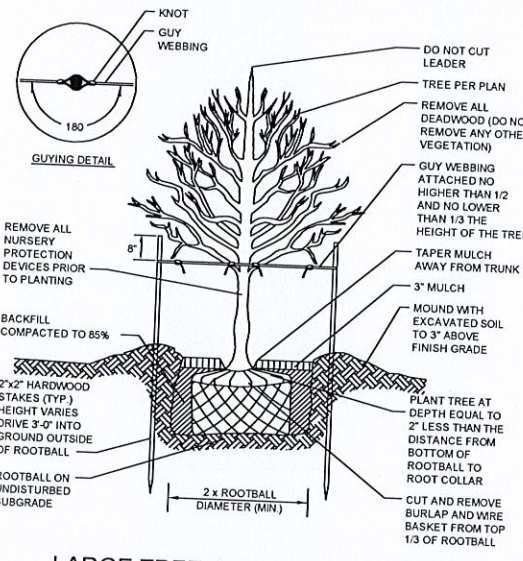
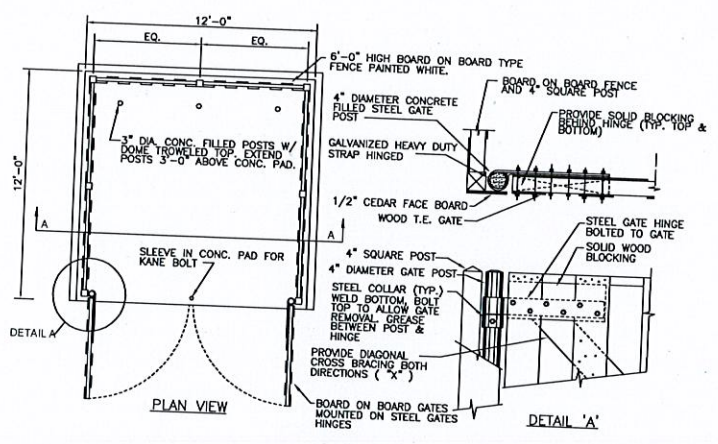
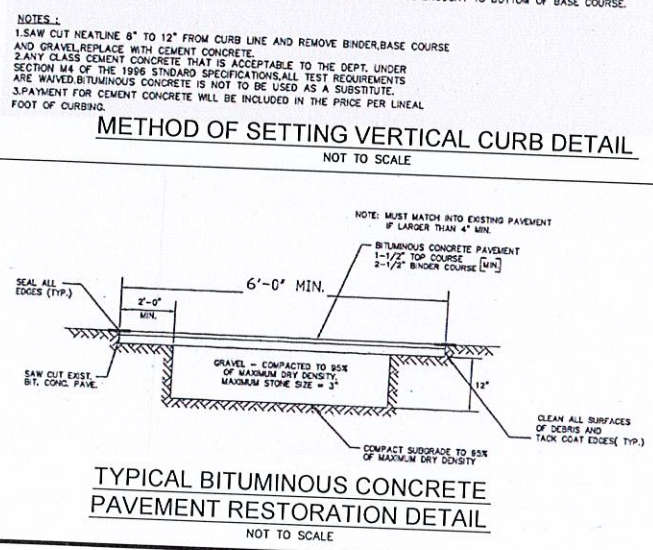
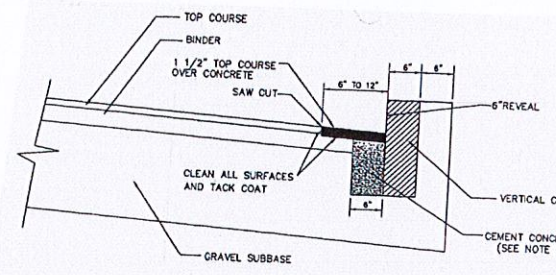
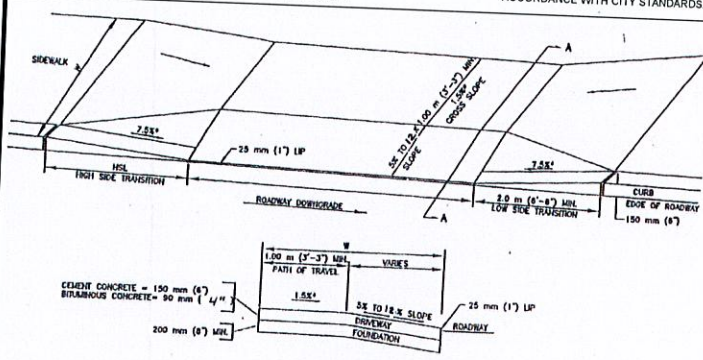
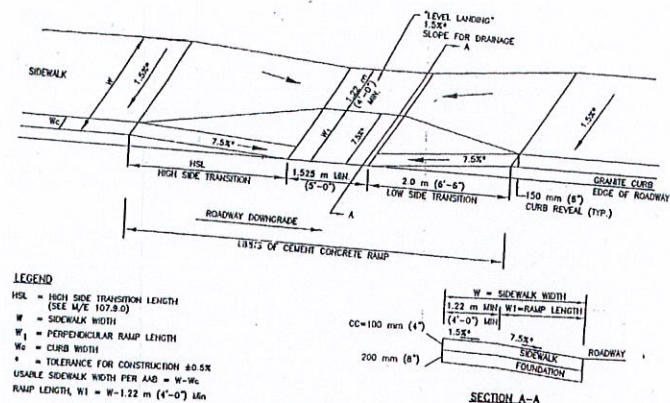
DRAWN BY: JP

DATE: 10/21/16

SHEET NO: 12 OF 13

DESIGN BY: N/A

PROJECT NO.: 16037.00



ADA ACCESSIBILITY NOTES:

- THE PROJECT SITE SHALL BE CONSTRUCTED IN CONFORMANCE WITH DEPARTMENT OF JUSTICE 28 CFR PART 35 "ADA STANDARDS FOR ACCESSIBLE DESIGN", LATEST REVISION/AMENDMENT.
- THE CONTRACTOR SHALL NOT ALTER THE GRADING ON THE PLAN UNLESS APPROVED BY THE ENGINEER.
- ALL WORK SHALL CONFORM TO "ADA STANDARDS FOR ACCESSIBLE DESIGN" AND CITY STANDARDS (1.50).
- ADA PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 2%.
- ALL ADA PARKING SPACES SHALL BE FURNISHED WITH DETECTABLE SIGNAGE AND MARKINGS.
- ALL CURB RAMP SHALL BE FURNISHED WITH DETECTABLE WARNING.
- ANY ACCESSIBLE ROUTE WITH A SLOPE GREATER THAN 5% (1:20) IS CONSIDERED A RAMP. RAMP SHALL HAVE A MAXIMUM SLOPE OF 1:12.5 FOR A MAXIMUM HORIZONTAL DISTANCE OF 8 FEET. A 60 IN X 60 IN LANDING IS REQUIRED AT EACH END OF THE RAMP. RAMP GREATER THAN 6' LONG REQUIRE HANDRAILS IN ACCORDANCE WITH ADA REQUIREMENTS.

LANDSCAPE NOTES:

- ALL PLANT MATERIAL TO CONFORM TO AAS STANDARDS.
- ALL PLANT MATERIAL TO RECEIVE THREE INCHES OF SHREDDED PINE BARK MULCH.
- ALL PLANT MATERIAL TO BE GUARANTEED TO SURVIVE AT LEAST ONE GROWING SEASON, OR THEY SHALL BE REPLACED AT THE LANDSCAPE CONTRACTOR'S EXPENSE.
- ALL PLANT MATERIAL SUBJECT TO VERIFICATION AS TO LOCATION AND SPECIES.
- THERE WILL BE NO PLANT MATERIAL SUBSTITUTIONS WITHOUT THE WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT.
- DISTURBED SOILS WITHIN THE PROJECT LIMITS ARE TO BE LOAMED AND SEED.

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A.P. 66 LOTS 33, 167 & 168
20 WILLIS STREET
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NEW BEDFORD, MASSACHUSETTS

REVISIONS

No.	DATE	DRWN	CHKD

SCALE: NOT TO SCALE
SHEET NO: 13 OF 13
DRAWN BY: JP
DESIGN BY: N/A
CHECKED BY: KK
DATE: 10/21/16
PROJECT NO: 16037.00

CITY CLERKS OFFICE
NEW BEDFORD, MA

2016 OCT 21 P 12:40

CITY CLERK

LEGEND

- STREET LIGHT
- LAMP POST
- WATER GATE
- HYDRANT
- ELECTRIC MANHOLE
- GAS VALVE
- CATCH BASIN
- RETAINING WALL
- OVERHEAD WIRES
- CONTOUR

PURCHASE STREET

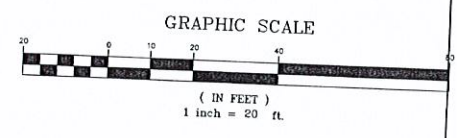
WILLIS STREET

CAMPBELL STREET

PLEASANT STREET


RESIDENTIAL A
MIXED USE BUSINESS

RESIDENTIAL B
RESIDENTIAL A



REFERENCE:
PLAN OF LAND IN NEWBEDFORD, MA. DRAWN FOR
VOLUNTEERS OF AMERICA SCALE 1"=20' JAN.18, 1991
PREPARED BY OLDE BOSTON LAND SURVEY CO., INC.
RECORDED IN THE BRISTON COUNTY SOUTHERN
DISTRICT REGISTRY OF DEEDS BOOK 126 PAGE 151

NOTE:
A.P. 66 LOT 33 IS SUBJECT TO A PARKING EASEMENT
FOR THE BENEFIT OF A.P. 66 LOT 45.



COMMONWEALTH
LAND SURVEYORS, INC.
1182 SOUTH MAIN ST.
ATTLEBORO, MA. 02703
508-455-2634

REVISIONS				
No.	DATE	DRWN	CHKD	
1	10/17/16	JP	CAN	

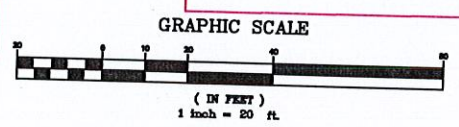
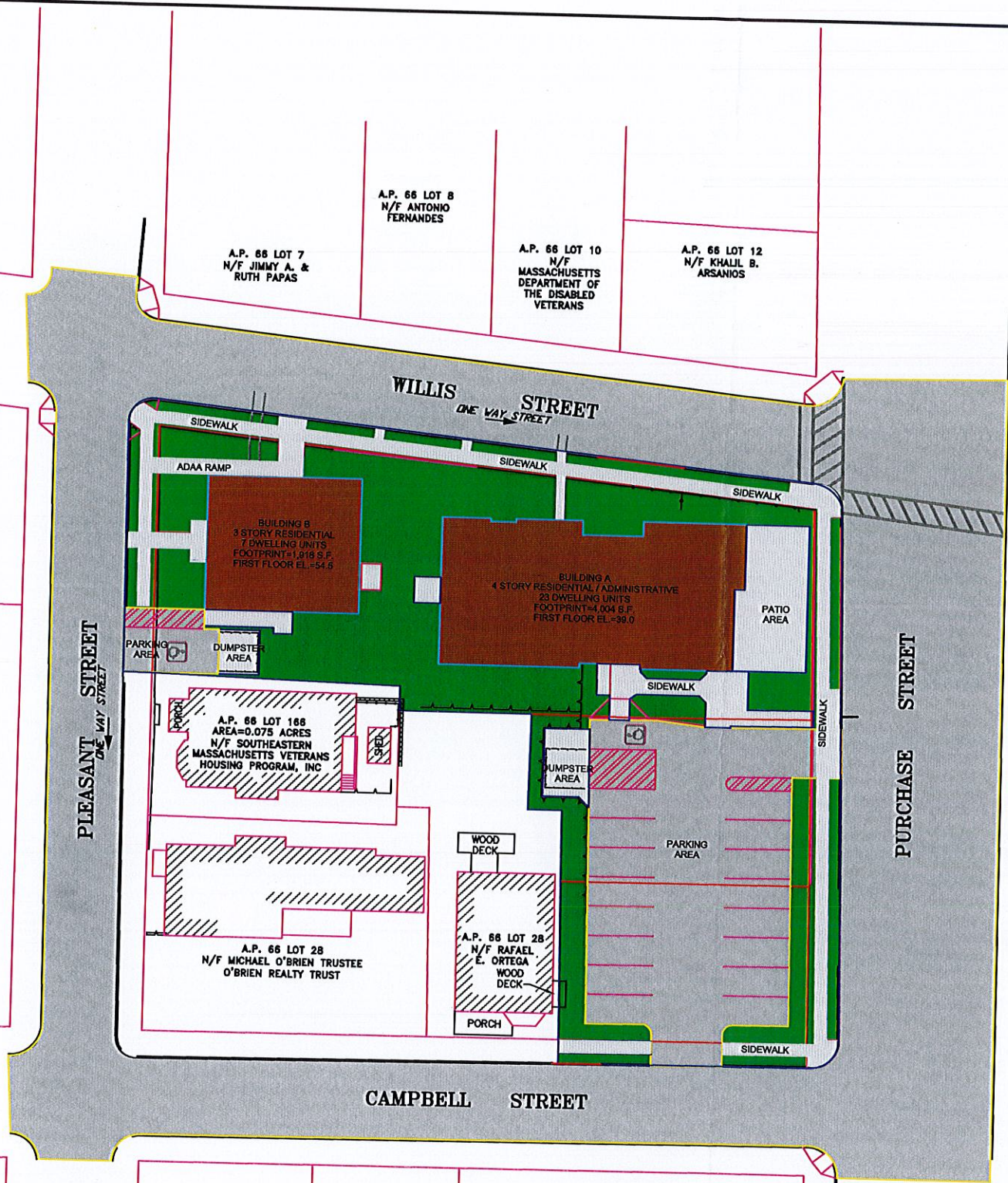
EXISTING CONDITIONS
for
A.P. 66 LOTS 33, 167 & 168
20 WILLIS STREET
in
NEW BEDFORD, MASSACHUSETTS

SCALE: 1"=20'
DRAWN BY: JP
DATE: 08/10/16

SHEET NO: 1 OF 1
DESIGN BY: N/A
PROJECT NO.: 16034.00

PLANNING
OCT 21 2016
DEPARTMENT

CITY CLERK'S OFFICE
NEW BEDFORD, MA
2016 OCT 21 P 12:39
CITY CLERK



 **COMMONWEALTH**
ENGINEERS & CONSULTANTS, INC.
400 SMITH STREET
PROVIDENCE, RHODE ISLAND 02908
401-273-8600

SITE DIAGRAM
for
"WILLIS STREET APARTMENTS"
A.P. 66 LOTS 33, 167 & 168
20 WILLIS STREET
In
NEW BEDFORD, MASSACHUSETTS

SCALE: REDUCED SHEET NO: 1 OF 1
DRAWN BY: JP DESIGN BY: N/A CHECKED BY: KKG
DATE: 10/21/16 PROJECT NO: 16037.00

DEPARTMENT

75 78

133 134

167

168

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WILLIS ST

CAMPBELL ST

1950

City of New Bedford
Massachusetts

Map 858

Legend

Shaded Area

Water

Unimproved Land

Improvements

Buildings

Highway

Street

Lot

Block

Section

Map

Scale

North Arrow

Index

Notes

Source

Author

Editor

Printer

Distributor

Map

Scale

North Arrow

Index

Notes

Source

Author

Editor

Printer

Distributor

An aerial photograph of a city block. A white dashed rectangle highlights a specific area in the center of the block. The text "20 Willis St" is overlaid on the image, pointing to the highlighted area. A small label "1000" is visible near the top left of the highlighted area. The image is grainy and has a high-contrast, black-and-white appearance.

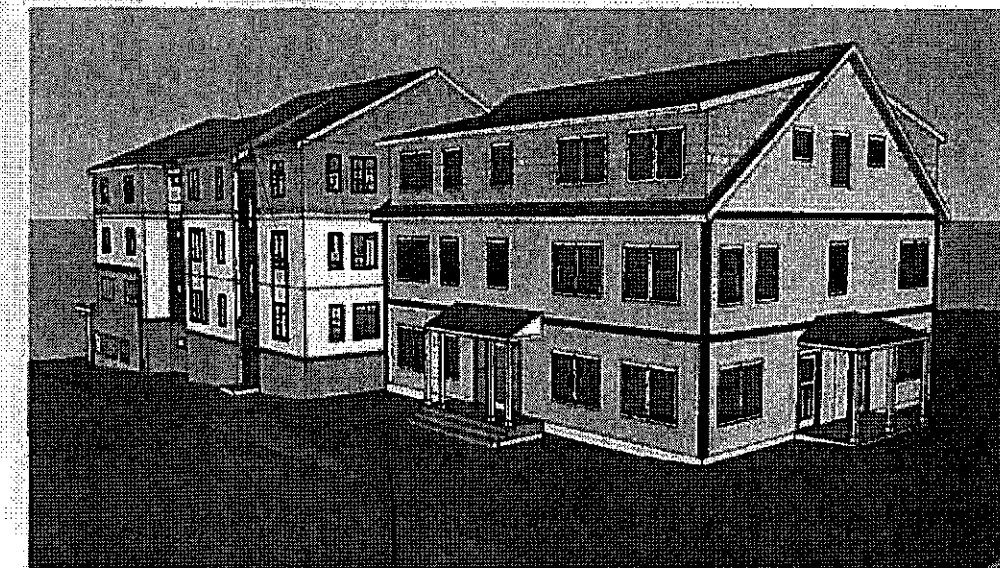
01 - GENERAL
G-000 COVER SHEET

04 - ARCHITECTURAL

A-101 BUILDING A - G
A-102 BUILDING A - TI
A-103 BUILDING B - FI
A-201 BUILDING A - E
A-202 BUILDING B - E
A-501 ENLARGED U

REQUIREMENTS

MAXED USE BUSINESSES
LOT SIZE: 8,000 S.F. ALLOWED IN RA
 10,000 S.F. FOR TWO FAMILY UNITS
 10,000 S.F. FOR 3 OR MORE FAMILY UNITS
DENSITY: 1 PER 10,000 S.F. FOR SINGLE FAMILY
 1 PER 8,000 S.F. FOR TWO OR MORE FAMILY
 1 PER 1,000 S.F. FOR THREE OR MORE FAMILY
FRONTAGE: 75 FT. FOR USES ALLOWED IN RA
 100 FT. FOR TWO FAMILY
 150 FT. FOR THREE OR MORE FAMILY
 0 FT. FOR OTHER ALLOWED USES
HEIGHT: 45 FT. FOR SINGLE OR TWO FAMILY
 80 FT. FOR THREE FAMILY
 100 FT. FOR OTHER ALLOWED USES (1)
HEIGHT: 2.5 STORIES FOR USES ALLOWED IN RA OR RS
 4 STORIES FOR THREE OR MORE FAMILY
 7 STORIES FOR OTHER ALLOWED USES
FRONT YARD: 20 FT. FOR USES ALLOWED IN RESIDENTIAL DISTRICT (F)
 0 FT. FOR OTHER ALLOWED USES
SIDE YARD: 10 FT. ON ONE SIDE, 12 FT. ON OTHER IN RESIDENTIAL
 FOR OTHER USES, 10 FT. ON ANY SIDE ADJACENT LOT
 IN RESIDENTIAL DISTRICT OR USED FOR RESIDENTIAL PURPOSES
REAR YARD: 30 FT. FOR USES ALLOWED IN RESIDENTIAL DISTRICT
 10 FT. FOR 1 TO 2 STORY BUILDINGS
 20 FT. FOR 3 OR MORE STORY BUILDINGS
 20 FT. FOR 3 OR MORE STORY BUILDINGS
 20 FT. FOR 3 OR MORE STORY BUILDINGS
BLOQ. LOT COVERAGE: 5% - 40% ON CORNER LOTS FOR USES ALLOWED IN RESIDENTIAL DISTRICT;
 0% FOR OTHER USES
GREEN SPACE: 35% FOR USES ALLOWED IN RESIDENTIAL DISTRICT; 0 FOR OTHER USES
 (1) DENOTES HEIGHT SHALL NOT EXCEED 1.75 TIMES THE HORIZONTAL DISTANCE
 FROM ITS FACE TO THE OPPOSITE STREET USE.



A.P. 66 LOT 13	EXISTING	PROPOSED
LOT SIZE:	3,707 S.F.	3,707 S.F.
DENSITY:	0 UNITS	0 UNITS
FRONTAGE:	60.00 FT.	60.00 FT.
HEIGHT:	NOT APPLICABLE	NOT APPLICABLE
FRONT YARD:	NOT APPLICABLE	NOT APPLICABLE
SIDE YARD:	NOT APPLICABLE	NOT APPLICABLE
REAR YARD:	NOT APPLICABLE	NOT APPLICABLE
BLDG. LOT COVERAGE:	NOT APPLICABLE	NOT APPLICABLE
GREEN SPACE: 100%		32.0%

A.P. 68 LOT 168 EXISTING		PROPOSED	
LOT SIZE:	4,130 S.F.	4,130 S.F.	4,130 S.F.
DENSITY:	0 UNITS	0 UNITS	0 UNITS
FRONTAGE:	50.50 FT.	50.50 FT.	50.50 FT.
HEIGHT:	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
FRONT YARD:	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
SIDE YARD:	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
REAR YARD:	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
BLDG. LOT COVERAGE:	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE
GREEN SPACE:	13%	13.0%	13.0%

A.P. 68 LOT 167 EXISTING		PROPOSED	
LOT SIZE:	14,462 S.F.	14,462 S.F.	14,462 S.F.
DENSITY:	30 UNITS	30 UNITS	30 UNITS
FRONTAGE:	64.71 FT.	64.71 FT.	64.71 FT.
HEIGHT:	9 STORY	9 STORY	9 STORY
FRONT YARD:	60.57 FT.	60.57 FT.	20.65 FT.
SIDE YARD:	0.9 FT.	7.4 FT.	7.4 FT.
BLDG. LOT COVERAGE:	40.0%	NOT APPLICABLE	NOT APPLICABLE
GREEN SPACE:	13%	11.1%	13.0%

PARKING DIMENSIONAL REQUIREMENTS:

REQUIREMENTS

MULTI-FAMILY (3) OR MORE PER STRUCTURE
 TWO (2) SPACES PER DWELLING UNIT
 ONE (1) LOADING SPACE FOR EACH MULTI-FAMILY DWELLING UNIT
 CONTAINING MORE THAN TEN (10) DWELLING UNITS

30 DWELLING UNITS PROPOSED REQUIRED = 30 SPACES PLUS 1 LOADING SPACE
 OFFICE AREA PER 200 SQ. FT. OF GROSS FLOOR AREA
 OFFICE AREA = 1,181 SQ. FT. GROSS FLOOR AREA = 6 SPACES
 TOTAL REQUIRED = 36 SPACES PLUS 1 LOADING SPACE

PARKING SUMMARY

EXISTING = 15 SPACES (NO LOADING)

PROPOSED # 10 8 PAGE (NO LOADING)

NOTE: THE EXISTING SITE CONTAINS 38 DWELLING UNITS
THE PROPOSED SITE WILL CONTAIN 30 DWELLING UNITS

Willis Street Apartments

20 Willis Street
New Bedford, MA

**Women's Development Corporation and
Southeastern Massachusetts Veteran's Housing Program Inc.**

SITE PLAN REVIEW SUBMISSION

October 21, 2016

CLERK

01b OCT 21 P 12:5

CASE 31-16 + 32-16

PLANNING

207 21 208

1991

ATTACHMENT 16

Willis Street
Apartments

20 Willis Street
New Bedford, MA

Women's Development
Corporation and
Southeastern Massachusetts
Veteran's Housing Program Inc.

ARCHITECT

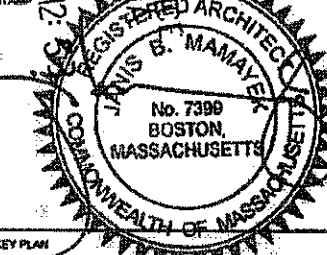
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ARCHITECTURE

101 SUMMER ST BOSTON MA 02110

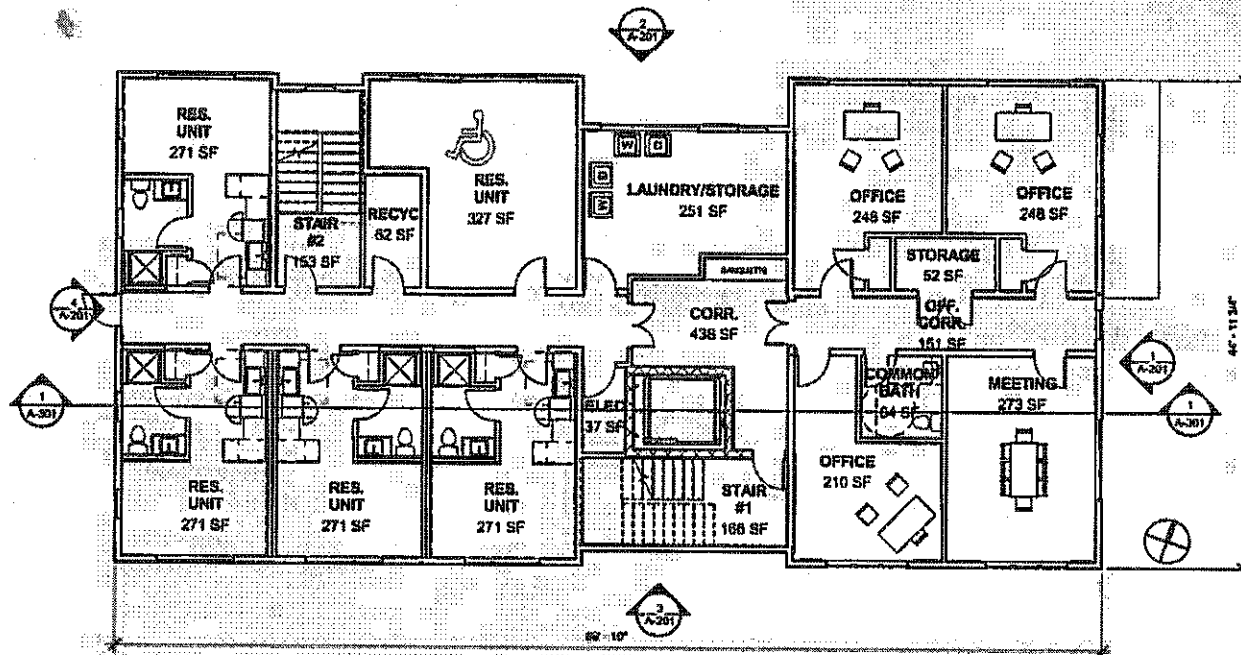
CONSULTANT

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NEW BEDFORD, MA

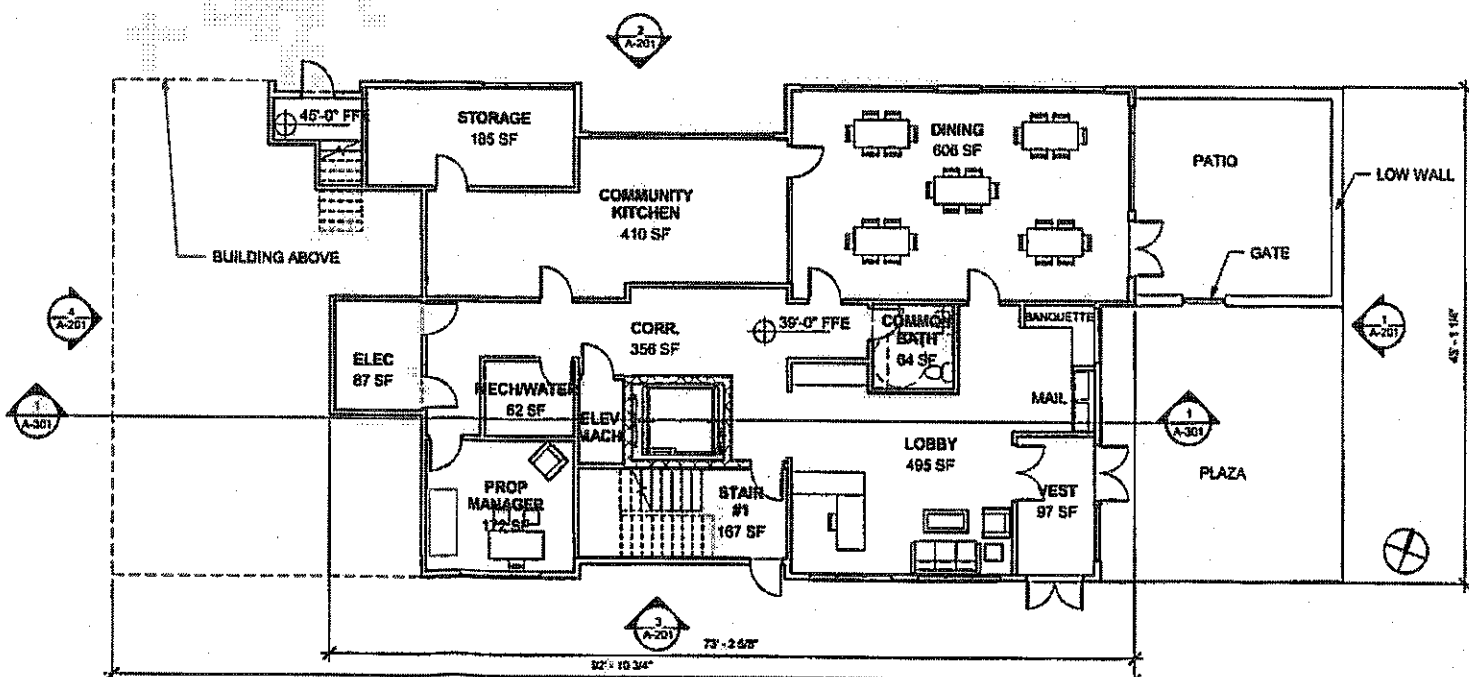
STATE



KEY PLAN



2 BUILDING A - FIRST FLOOR
1/8" = 1'-0"



1 BUILDING A - GROUND FLOOR
1/8" = 1'-0"

10/21/16 Site Plan Review

MARK DATE DESCRIPTION

PROJECT NUMBER: 216015

DRAWN BY: JL

CHECKED BY: JM

SHEET TITLE

BUILDING A - GROUND
FLOOR AND FIRST
FLOOR PLAN

A-101

10/18/2016 1:05:11 PM

Willis Street
Apartments

20 Willis Street
New Bedford, MA

Women's Development
Corporation and
Southeastern Massachusetts
Veteran's Housing Program Inc.

ARCHITECT

E-ICON
ARCHITECTURE

101 SUMMER ST BOSTON MA 02110

CONSULTANT

CITY CLERK

10/21/16

12:53

STAMP

REGISTERED ARCHITECT

JANIS B. MAMAYER

No. 7399

BOSTON,

MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS

KEY PLAN

10/21/16

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Willis Street Apartments

20 Willis Street
New Bedford, MA

Women's Development Corporation and
Southeastern Massachusetts
Veteran's Housing Program Inc.

ARCHITECT
E-ICON
ARCHITECTURE

101 SUMMER ST. BOSTON MA 02110

CONSULTANT
CITY CLERK
NEW BEDFORD, MA

20 OCT 21 P 12 53

REGISTERED ARCHITECT
JAMES B. MAMAYEK
No. 7399
BOSTON, MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS

KEY PLAN

10/21/16 Site Plan Review

MARK DATE DESCRIPTION

PROJECT NUMBER: 216015

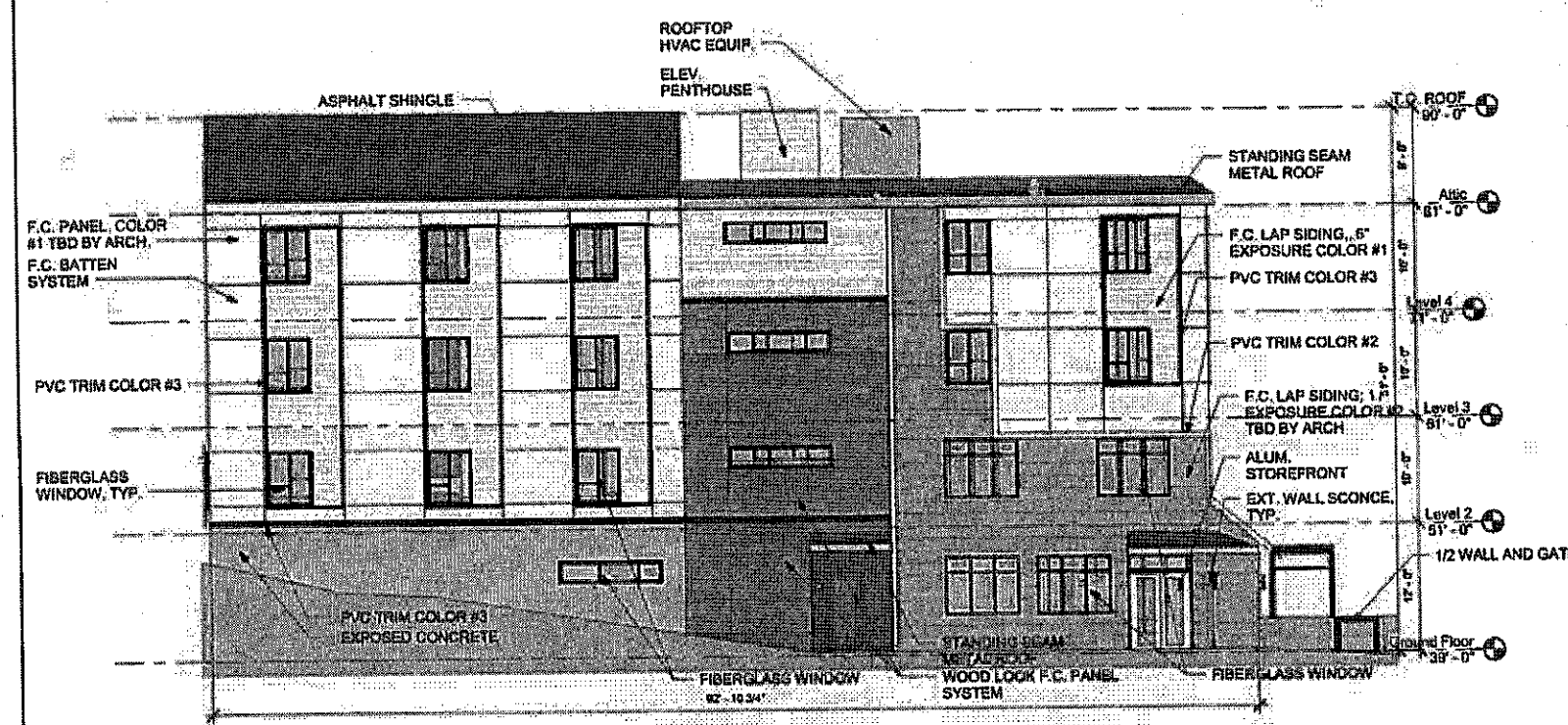
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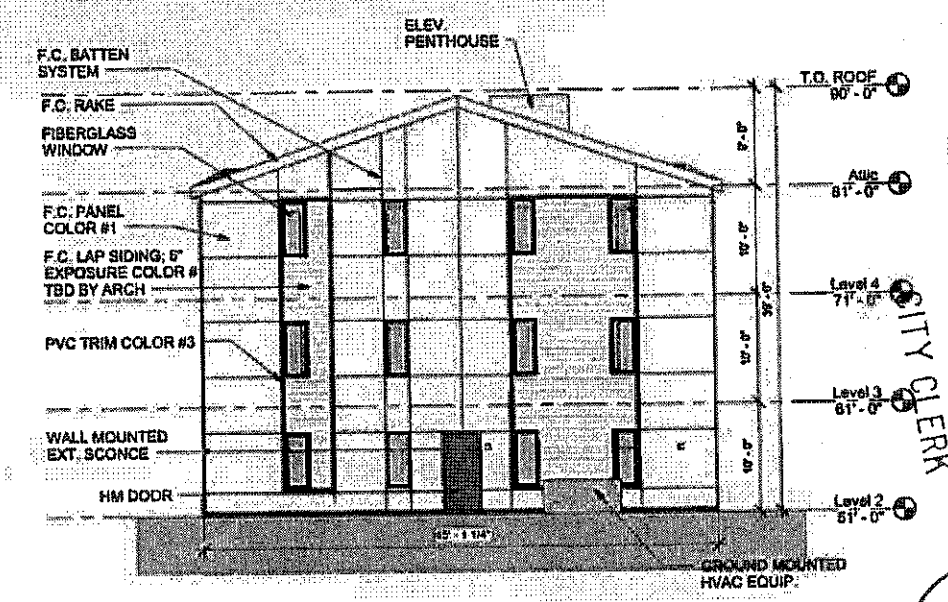
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BUILDING A - ELEVATIONS

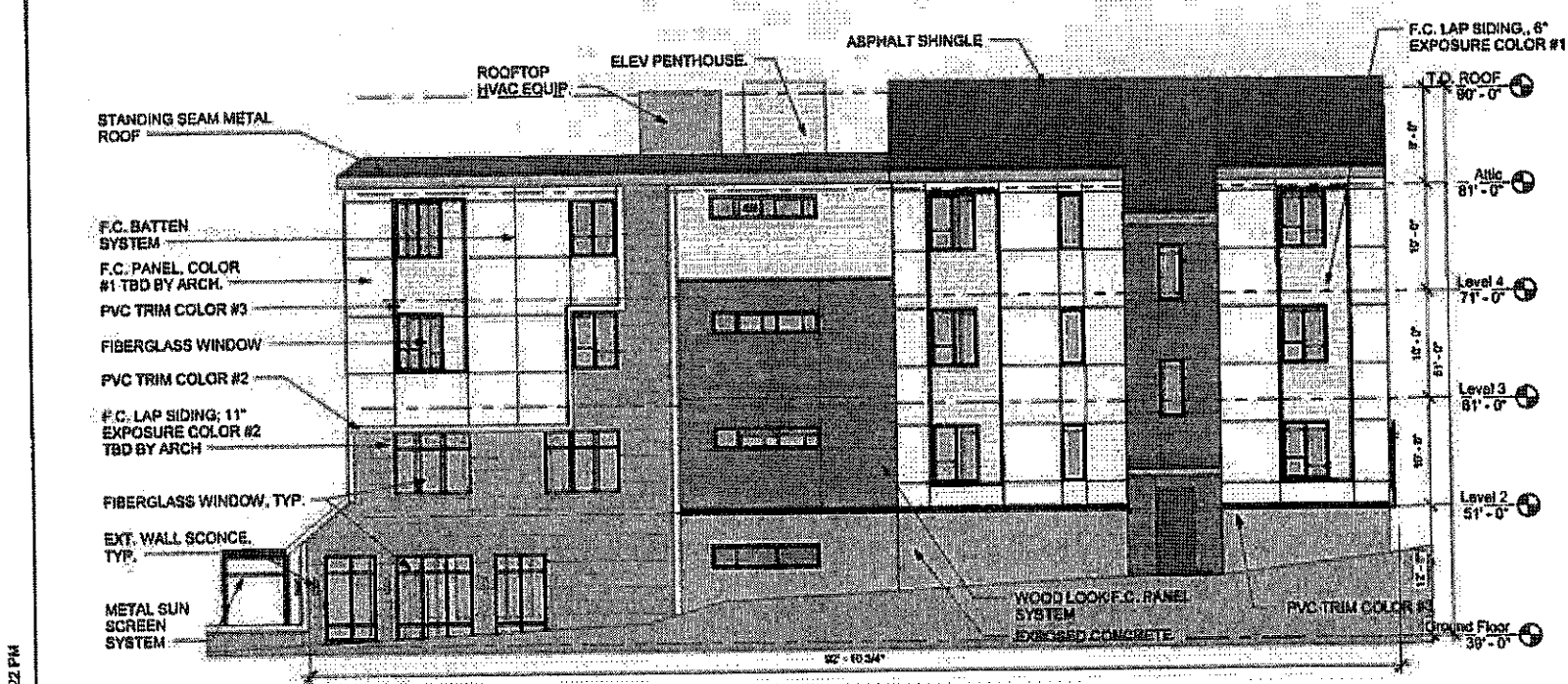
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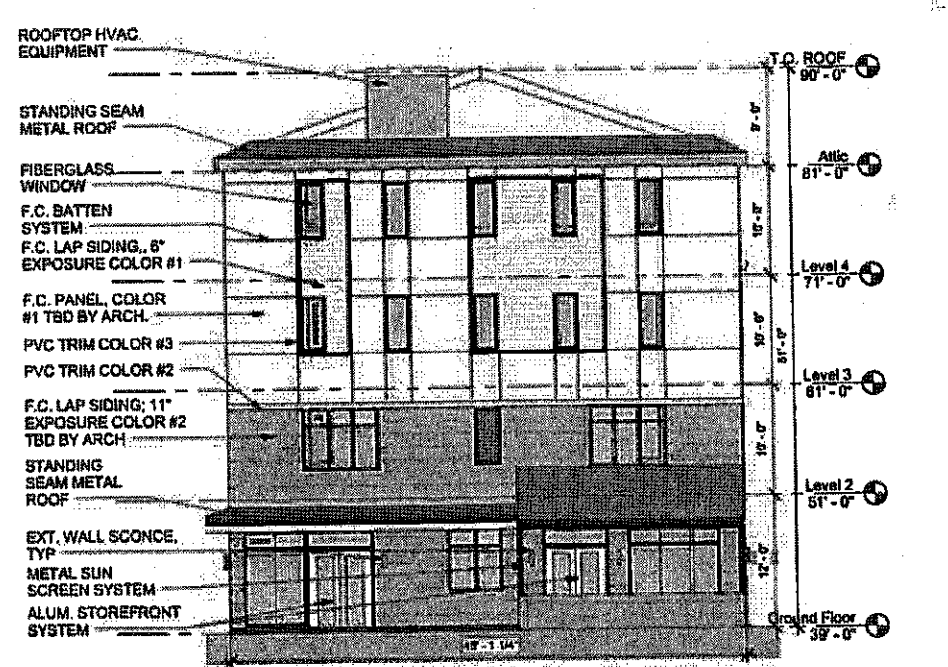
3 BUILDING A - SOUTH ELEVATION (PARKING)
1/8" = 1'-0"



4 BUILDING A - WEST ELEVATION
1/8" = 1'-0"



2 BUILDING A - NORTH ELEVATION (WILLIS STREET)
1/8" = 1'-0"



1 BUILDING A - EAST ELEVATION (PURCHASE STREET)
1/8" = 1'-0"

10/19/2016 1:05:22 PM

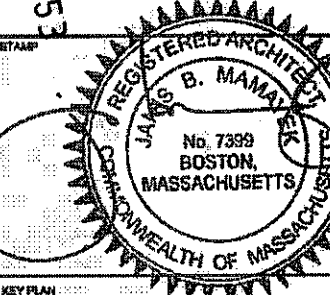
Willis Street
Apartments

20 Willis Street
New Bedford, MA

Women's Development
Corporation and
Southeastern Massachusetts
Veteran's Housing Program Inc.

ARCHITECT
E-ICON
ARCHITECTURE
100 SUMMER ST BOSTON MA 02110

CONSULTANT
CITY CLERK
10/21/18 2:12 PM
CLERKS OFFICE
NEW BEDFORD, MA



KEY PLAN
10/21/18

MARK	DATE	DESCRIPTION
10/21/18	10/21/18	Site Plan Review
PROJECT NUMBER: 218015		
DRAWN BY: JL		
CHECKED BY: JM		

SHEET TITLE
**BUILDING B -
ELEVATIONS**

A-202

