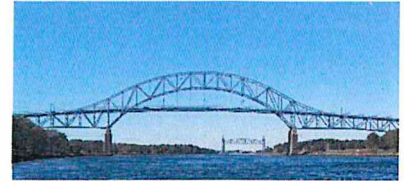


# Board of Sewer Commissioners

## Meeting Agenda **AMENDED**



Date

November 29, 2022

Time

7:00 PM

Location

Bourne Community Center  
239 Main St., Buzzards Bay  
Or virtually (see information below)

*The Zoom chat will not be monitored. Participants who wish to speak must raise the hand icon until the Chair asks them to unmute. Note this meeting is being televised, streamed or recorded by Bourne TV. If anyone in the audience is recording or videotaping, they need to acknowledge such at this time.*

**Zoom Meeting ID: 834 6437 0688**

**Password: SEWER**

All items within the meeting agenda are subject to deliberation and vote(s) by the Board of Sewer Commissioners.

### **7:00 P.M. Call Public Session to Order in Open Session**

RECEIVED  
2022 NOV 22 PM 1:43  
TOWN CLERK BOURNE

1. Moment of Silence to recognize our troops and our public safety personnel
2. Salute to the flag
3. Vision: Bourne is a proud community that embraces change while respecting the rich heritage of the town and its villages. It is a municipality based on strong fiscal government with a durable economy that recognizes the rights of all citizens, respects the environment, especially the coastal areas of the community and the amenities that it affords. Bourne embraces excellent education, and offers to citizens a healthy, active lifestyle.
4. Mission: Bourne will maximize opportunities for social and economic development while retaining an attractive, sustainable and secure coastline and environment for the enjoyment of residents and visitors. Through responsible and professional leadership and in partnership with others, Bourne will strive to improve the quality of life for all residents living and working in the larger community.
5. Public comment on non-agenda items: Public comments are allowed for up to a total of 12 minutes at the beginning of each meeting. Each speaker is limited to 3 minutes for comment. Based on past practice, members of the Board are not allowed to comment or respond.
6. Board of Sewer Commissioners Business
  - a. Discussion and possible vote - Allocation request for 2 Kendall Rae Place
  - b. Discussion and possible vote - Allocation request for 340 Main Street
  - c. **Discussion and possible vote – Allocation request for 227R Main Street**
  - d. **Discussion and possible vote – Allocation request for 140 Main Street**
  - e. Discussion and possible vote - CWMP - Review draft of Phase II: Alternative Analysis Report from Environmental Partners
  - f. ARPA update - Manhole project – grease trap compliance at Way Ho
  - g. Discussion – Bourne Scenic Park – service area extension request

- h. Discussion and possible vote - Rates for the remainder of FY23 (user fee) and overage rate for calendar year 2023
- i. FY24 - Budget – initial discussion & BOSC budget priorities
- j. Discussion - PFAS Testing – Wareham Wastewater Treatment Plant

7. Minutes: 9/27/22

8. Future agenda items

9. Town Administrator report – drainage project at Wastewater Treatment Facility.

10. Committee reports

11. Correspondence

12. Next meeting date

13. Adjourn



## Sewer Service Application Form

### Town of Bourne, Massachusetts

#### Section 1: General Information

- A. Applicant Name Oxford Development
- B. Applicant Address and Phone: 20 Centerville Road, Suite 1, Warwick, RI 02886 401-578-6063
- C. Is the Applicant the Property Owner? Yes \_\_\_\_\_ No X
- D. Property Owner Name CMP Development LLC
- E. Property Owner Address 91 Sarah Sherman Rd Rochester MA 02770
- F. Property Owner Mailing Address same
- G. Property Owner Phone/Email 508-989-0101 correia.investments@gmail.com
- H. Building Contractor Name, Address, Phone, and License Number Bentley Builders LLC, 450 Old Baptist Road North Kingstown, RI 02852 401-578--6063
- I. Licensed Drain Layer or Master Plumber Name, Address, Phone, and License Number to be determined
- J. Source of Property Water Supply Buzzards Bay Water District
- K. Number of Residential Bedrooms 272
- L. Types of Plumbing Fixtures
- |              |                             |              |                             |
|--------------|-----------------------------|--------------|-----------------------------|
| Kitchen Sink | <u>x</u>                    | Water Closet | <u>x</u>                    |
| Lavatory     | <u>x</u>                    | Bath Tub     | <u>x</u>                    |
| Laundry Tub  | <u>x</u>                    | Shower       | <u>x</u>                    |
| Urinal       | <u>                    </u> | Disposal     | <u>                    </u> |
- M. Dig Safe # to be determined
- N. Water District/Department Connection (if applicable) Buzzards Bay Water District

Bourne Sewer Service Application Form

- O. Plans and Specifications for the proposed building sewer, as required, by the Planning Board checklist, are attached hereto (Refer to the Bourne Planning Board Department for the updated checklist)

X

- P. Connection Request:

Residential Connection less than 500 Gallons per Day (GPD)

Residential Connection greater than 500 GPD

Mixed Use/Commercial Change of Use or Increase in Flow

Industrial User

*Skip to Section 5.*

*Complete Sections 2, 3, and 5*

*Complete Sections 2, 3, and 5*

*Complete Sections 2 through 5*

## Section 2: Wastewater Allocation Form

- A. Location of Proposed Project (Address)

2 Kendall Rae Lane

- Location of Proposed Project (Map and Parcel)

24.1-6-0

- B. Is Applicant Leasing or Buying?

*If buying, attach Purchase & Sale*

Leasing \_\_\_\_\_ Buying x

- C. Is there an existing connection to the sewer system?

No

- D. Description of Proposed Project

Mixed use apartments, commercial and retail space.

- E. Financing is in Place

TBD \_\_\_\_\_ *Copy of Documentation Attached*

- F. Applicant has a letter of intent to finance

TBD \_\_\_\_\_ *Copy Attached*

- G. Allocation Requested

37, 262 GPD

- H. Any unusual characteristics of projected flow?

Yes \_\_\_\_\_ No x

If Yes, describe type of wastewater flow:

- I. Requested Amount Exceeds Available Allocation

Yes \_\_\_\_\_ No x



### Section 3: General Commercial/Mixed Use

Tenants To Be Determined

- A. Company Name \_\_\_\_\_
- B. Facility Address and Phone: \_\_\_\_\_
- C. Property Owner Name \_\_\_\_\_
- D. Property Owner Address \_\_\_\_\_
- E. Property Owner Mailing Address \_\_\_\_\_
- F. Property Owner Phone/Email \_\_\_\_\_
- G. Name and Title of Corporate Officer Signing Application \_\_\_\_\_
- H. Name and Title of Facility Manager \_\_\_\_\_
- I. Name and Title of Employee Responsible for Wastewater Discharge \_\_\_\_\_
- J. Type of Business: \_\_\_\_\_
- K. Principle Product or service: \_\_\_\_\_
- L. Describe Operation and Activities of Facility \_\_\_\_\_

- M. Describe any factors affecting operation (Seasonal production, scheduled shutdown, peak operation, batch operation, etc.) \_\_\_\_\_ None Expected

- N. Number of Employees \_\_\_\_\_ To Be Determined

## Section 4: Industrial Users

- A. Standard Industrial Classification Code (SIC) and/or North American Industry Classification System (NAICS) Code None Expected
- B. List all raw materials used in the operation  
*Attach additional pages if necessary* NA
- C. List any flammable, combustible, or explosive substances which are stored, utilized, or produced at this facility: *Attach additional pages if necessary*  
NA
- D. List any hazardous substances, SDS sheets (as defined in 310 CMR 30.00), which are stored, utilized, or produced at this facility: *Attach additional pages if necessary*  
NA
- E. Describe all measures which are taken to isolate those areas of the facility where the substances listed in Item C. and D. are stored, utilized, or produced. In particular, list efforts to prevent the discharge of these substances to the sewer system (*attach additional pages if necessary*):  
NA
- F. Is there a Spill Prevention Plan? Yes \_\_\_\_\_ → **Attach Copy** No Not at this time
- G. Attach copies of Statement of Violation Penalties issued to the Industrial User Attached \_\_\_\_\_ Not Applicable x
- H. Name and Title of Employee Responsible for Wastewater Discharge  
To Be Determined
- I. List the size, location, average daily flow and maximum daily flow of all connections to the sewer system. *Note: The maximum daily flow listed will be considered the maximum day permitted flow, if this application is accepted; attach additional pages if necessary*  
37,262 GPD

Bourne Sewer Service Application Form

- J. List all other methods of wastewater disposal (e.g. direct to waterbody or ground, waste hauling service). *Attach additional pages if necessary.*

None

K. Baseline Monitoring Report

Attached \_\_\_\_\_ Date Completed \_\_\_\_\_

*Note: The Department requires that an applicant for an industrial connection permit submit a "Baseline Monitoring Report" which shall be prepared by a Professional Civil Engineer, registered in the Commonwealth of Massachusetts, in accordance with the U.S. EPA "General Pretreatment Regulations for Existing and New Sources of Pollution" (40 CFR 403, as amended). The completed Baseline Monitoring Report shall be reviewed by the Manager of the facility from which the wastewater is discharged and the Manager of the facility shall certify in writing that "all sampling for the Report was performed under normal operating conditions at the Facility, particularly with regard to the quantity and characteristics of the wastewater which was generated during the sampling."*

- L. Operating Parameter Ranges of Wastewater Effluent (% ranges if not operational yet):

	Effluent Range	Efficiency Removal (%)
pH		
Temperature		
BOD (mg/L)		
TSS (mg/L)		
Oil & Grease (mg/L)		

- M. Attach copies of the results of all analyses conducted on the wastewater (raw and pretreated) over the past two years.

Attached \_\_\_\_\_ Not Applicable   x  

- N. Describe any proposed or existing pretreatment which this wastewater will receive prior to discharge. If this is a proposed process or modification to an existing process, attach a copy of the design report prepared by a Professional Civil Engineer, registered in the Commonwealth of Massachusetts, including a detailed flow schematic, plans, and specifications.

Grease trap for restaurant. Final Plans to be completed at a later date.

## Section 5: Certification

In consideration of granting this permit, the undersigned agrees:

1. To accept and abide by all provisions of "Sewer Use Regulations" of the Town of Bourne, Massachusetts and of all other pertinent rules and regulations that may be adopted in the future.
2. That no person shall excavate, construct, effect, maintain, modify, or use any sewer connection or extension without a currently valid permit from the Town of Bourne. The permit must be "in-hand" before work can commence.
3. To pay all the cost of said particular sewer and its connection with the public sewer in said street, including all labor and materials or any other expense incurred necessary for proper construction of said particular sewer as determined by the Sewer Commission.
4. To maintain the building sewer at no expense to the Town.
5. For himself, his heirs, devisees and assigns, that the said Department of Public Works shall have access at all reasonable hours, to the said premises, to see that all the laws, rules, and regulations relating to the sewer are complied with.
6. To notify the Superintendent when the building sewer is ready for inspection and connection to the public sewer, but before any portion of the work is covered. Notice of two (2) business days shall be provided to the Superintendent.
7. That construction of the sewer connection will be completed within ninety (90) days of issuance of this permit.

Signed: Jason Pannone

Applicant's Name: Jason Pannone Date: 11/2/22

**DO NOT WRITE BELOW THIS LINE – OFFICE USE ONLY**

Total Fee Paid: \_\_\_\_\_

Street Opening Permit \_\_\_\_\_ Valid Bond and Insurance \_\_\_\_\_

Approved \_\_\_\_\_ Not Approved \_\_\_\_\_

Permit Number \_\_\_\_\_ Expires \_\_\_\_\_

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

Date: \_\_\_\_\_

## **Estimated Wastewater Flow - 2 Kendall Rae Place Buzzards Bay, MA**

### **Crossings at the Canal**

Prepared for: Oxford Development

Prepared by: JL3 Consulting, Inc.

Date: 9/23//22

<b>Use Type</b>	<b>Number</b>	<b>Unit Type</b>	<b>Value</b>	<b>Title 5 unit by use type</b>	<b>Flow (GPD)</b>
Bedrooms	248	Bedrooms	110	gallons per day (GPD)	27,280
Restaurant - Indoor Seats	225	Seats	35	GPD	7,875
Restaurant - Outdoor Seats	50	Seats	35	GPD	1,750
Retail / Office	4,765	Square Feet	75	GPD/1,000 SF	357
				<b>Total Estimated Flow:</b>	<b>37,262</b>

1. Flow estimated based on 310 CMR 15.00 State Environmental Code Title 5
2. Uses provided by Oxford Development
3. GPD - gallons per day
4. SF - square feet



# THE CROSSINGS AT THE CANAL

## 2 KENDALL RAE PLACE BUZZARDS BAY, MASSACHUSETTS

DATE: AUGUST 17, 2021  
REV 1: MAY 16, 2022  
REV 2: SEPTEMBER 1, 2022

### LIST OF DRAWINGS

SHEET NO.	TITLE
1 OF 12	COVER SHEET
2 OF 12	EXISTING CONDITIONS
3 OF 12	EROSION CONTROL & SITE PREP
4 OF 12	LAYOUT & PARKING PLAN
5 OF 12	GRADING & CURB TIE PLAN
6 OF 12	DRAINAGE PLAN
7 OF 12	UTILITIES PLAN
8 OF 12	EMERGENCY ACCESS PLAN
9 OF 12	DETAIL SHEET 1
10 OF 12	DETAIL SHEET 2
11 OF 12	DETAIL SHEET 3
12 OF 12	DETAIL SHEET 4

**APPLICANT:**  
OXFORD DEVELOPMENT GROUP, INC  
20 CENTERVILLE ROAD, STE 1  
WARWICK, RI 02886

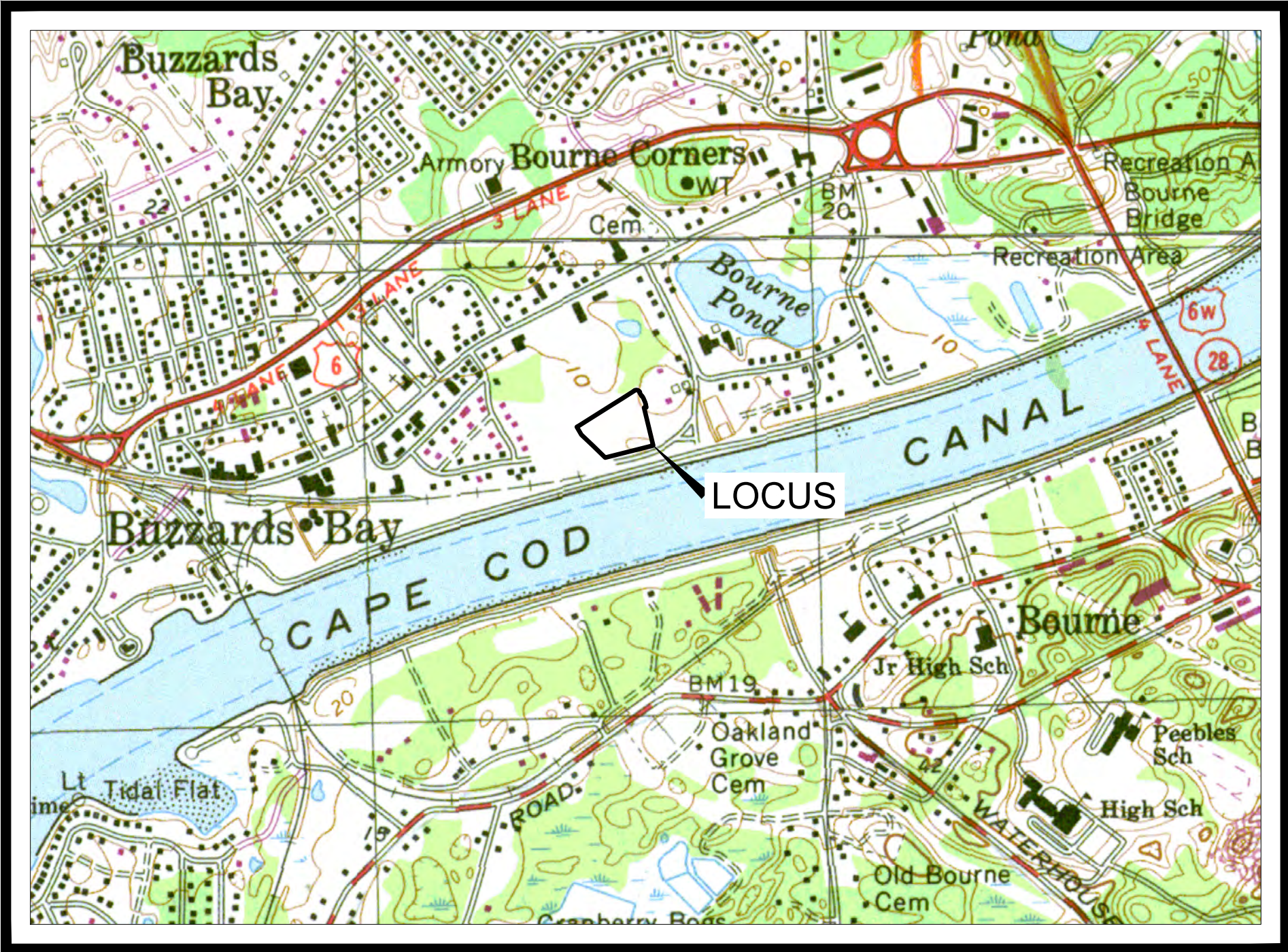
**OWNER:**  
CMP DEVELOPMENT, LLC  
91 SARAH SHERMAN RD  
ROCHESTER, MA 02770

**ENGINEERING & SURVEYING BY:**  
JL3 CONSULTING, INC  
34 ARNOLD STREET  
WEST WAREHAM MA 02576  
508-274-0947

JC ENGINEERING, INC.  
2854 CRANBERRY HIGHWAY  
EAST WAREHAM, MA 02538

**ARCHITECTURE BY:**  
ZDS INC.  
2 CHARLES STREET, SUITE A1  
PROVIDENCE, RI 02904  
401-680-6699

**LANDSCAPE DESIGN BY:**  
DIANE C. SOULE & ASSOCIATES  
422 FARNUM PIKE  
SMITHFIELD, RHODE ISLAND 02917



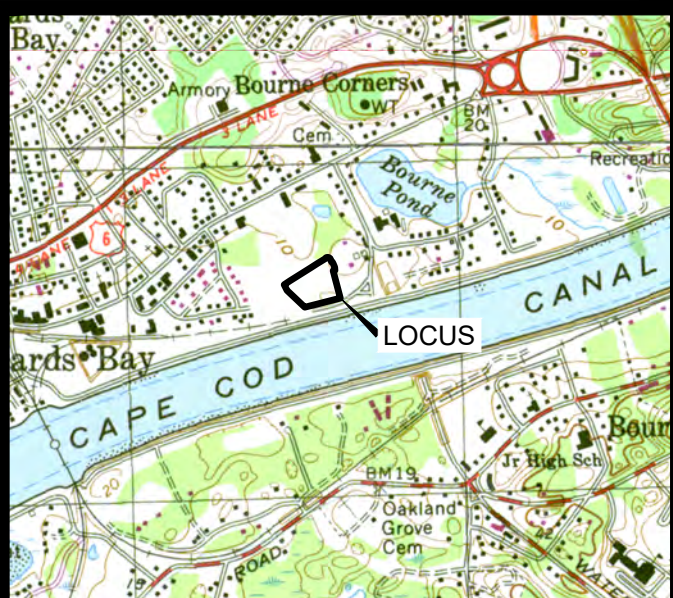
LOCUS MAP  
SCALE 1" = 1000'



AERIAL MAP  
SCALE 1" = 500'

### LEGEND

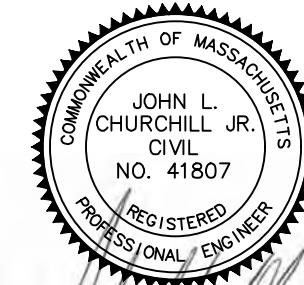
EXISTING	DESCRIPTION	PROPOSED
	CONCRETE BOUND	
	UTILITY POLE	
	CATCH BASIN	
	DRAIN MANHOLE	
	DRAIN LINE	
	ROOF DRAIN	
	WATER LINE	
	WATER GATE	
	HYDRANT	
	UNDERGROUND ELEC. UTILITIES	
	OVERHEAD ELEC. UTILITIES	
	UNDERGROUND GAS UTILITIES	
	CONTOUR	
	SPOT GRADE	
	SEWER MANHOLE	
	SEWER PIPE	
	SEWER FORCE MAIN	
	FENCE	



LOCUS MAP  
SCALE 1" = 2000'



JOHN L. CHURCHILL JR., P.L.S. DATE



JOHN L. CHURCHILL JR., P.E. DATE

### THE CROSSINGS AT THE CANAL AT 2 KENDALL RAE PLACE IN BUZZARDS BAY, MASSACHUSETTS (BARNSTABLE COUNTY)

#### COVER SHEET

REVISIONS:		
No.	DATE	DESC.
2	9/1/22	Peer Review Comments
1	5/16/22	Site Layout Changes

**PREPARED FOR:**  
OXFORD DEVELOPMENT  
GROUP, INC  
20 CENTERVILLE ROAD, STE 1  
WARWICK, RI 02886

**PREPARED BY:**  
JL3 CONSULTING, INC.  
WAREHAM, MA  
508-274-0947

JC ENGINEERING, INC  
2854 CRANBERRY HIGHWAY  
EAST WAREHAM, MA 02538

DATE: AUGUST 17, 2021

CALC./DESIGN: BJW

DRAWN: BJW

CHECK: JLC

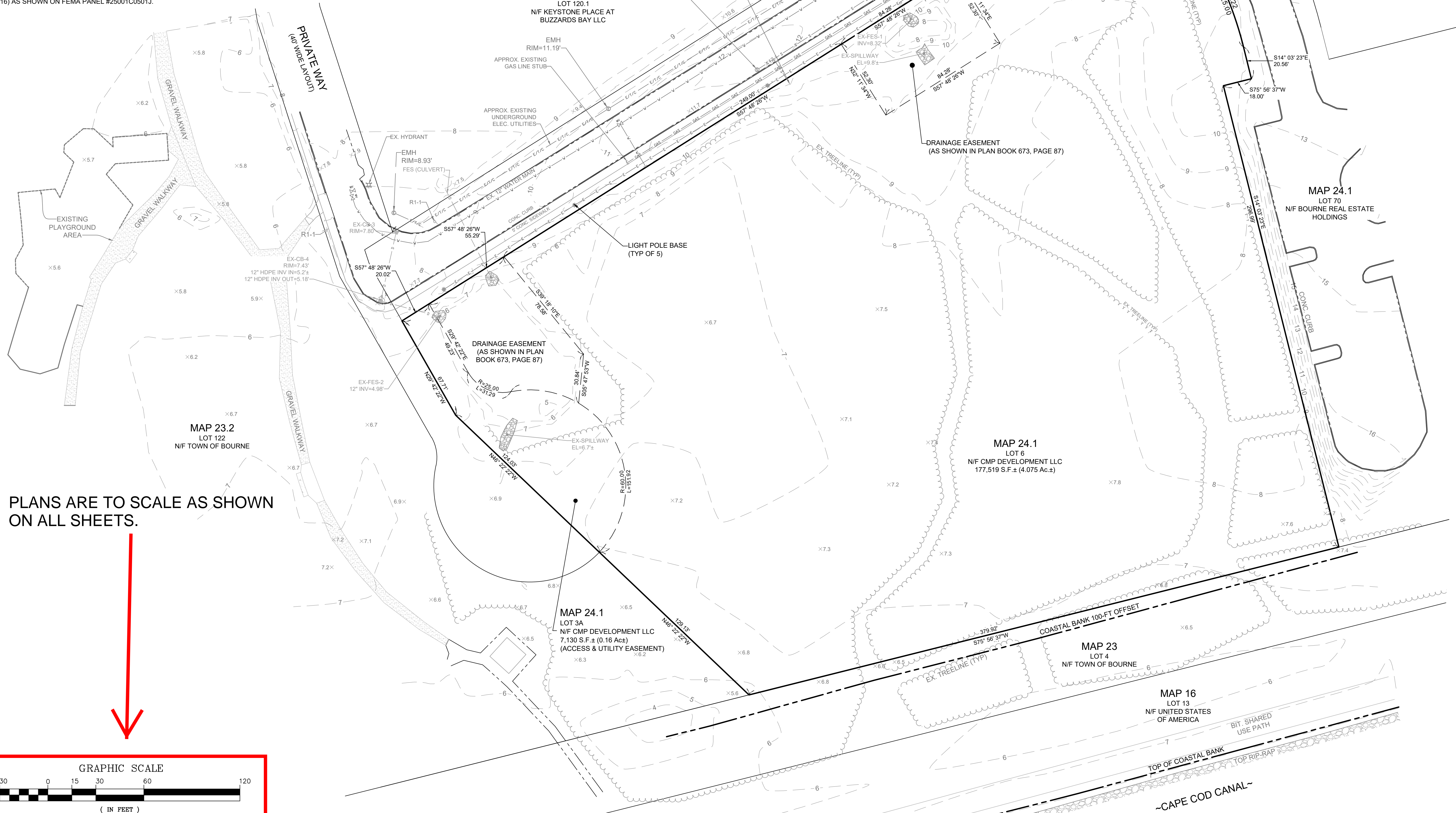
JOB NO: 5099

SHEET 1 OF 12

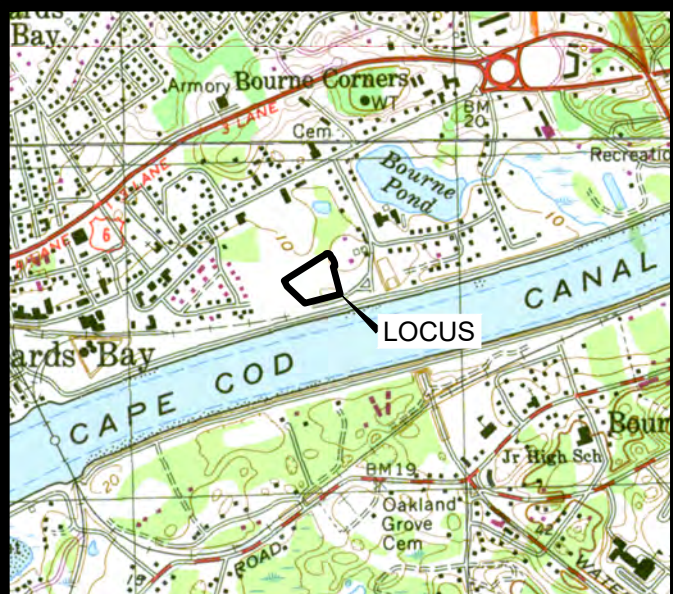
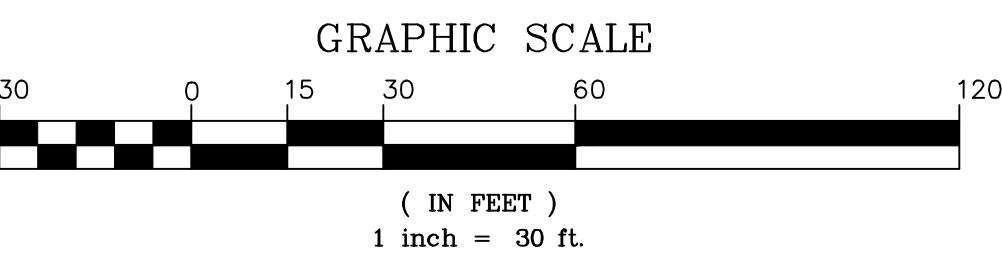


GENERAL NOTES:

1. PROPERTY LOCUS:  
2 KENDALL RAE PLACE  
BOURNE ASSESSORS MAP 24.1, LOTS 6 & 3A
2. OWNER:  
CMP DEVELOPMENT LLC  
91 SARAH SHERMAN RD  
ROCHESTER, MA 02770
3. APPLICANT:  
OXFORD DEVELOPMENT GROUP, INC  
20 CENTERVILLE ROAD, STE 1  
WARWICK, RI 02886
4. PLAN REFERENCES:  
PLAN BOOK 93, PAGE 31  
PLAN BOOK 147, PAGE 159  
PLAN BOOK 277, PAGE 17  
PLAN BOOK 300, PAGE 100  
PLAN BOOK 670, PAGE 33  
PLAN BOOK 673, PAGE 87
5. DEED REFERENCES:  
BOOK 29810, PAGE 157
6. SUBJECT PROPERTY IS NOT LOCATED WITHIN A ZONE II OR A BOURNE WATER RESOURCES DISTRICT.
7. SUBJECT PROPERTY IS LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE (AE EL. 16) AS SHOWN ON FEMA PANEL #25001C0501J.
8. SUBJECT PROPERTY IS NOT WITHIN A NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM (NHESP) AREA OF ESTIMATED HABITATS OF RARE WILDLIFE OR PRIORITY HABITATS OF RARE SPECIES.
9. UTILITIES AS SHOWN ON THIS PLAN ARE BASED ON RECORD PLANS AVAILABLE AND FIELD LOCATED MARK OUTS PERFORMED BY THE RESPECTIVE UTILITY COMPANY. UTILITY LOCATIONS ON THIS PLAN SHALL BE CONSIDERED APPROXIMATE ONLY AND MAY NOT FULLY REPRESENT ALL UNDERGROUND UTILITIES LOCATED ON OR IN PROXIMITY TO THE SITE. THE CONTRACTOR SHALL CONTACT DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.



PLANS ARE TO SCALE AS SHOWN ON ALL SHEETS.



LOCUS MAP  
SCALE 1" = 2000'



JOHN L. CHURCHILL JR., P.L.S. DATE



JOHN L. CHURCHILL JR., P.E. DATE

THE CROSSINGS AT  
THE CANAL

AT  
2 KENDALL RAE PLACE  
IN  
BUZZARDS BAY,  
MASSACHUSETTS  
(BARNSTABLE COUNTY)

EXISTING  
CONDITIONS

REVISIONS:

No.	DATE	DESC.
2	9/1/22	Peer Review Comments
1	5/16/22	Site Layout Changes

PREPARED FOR:

OXFORD DEVELOPMENT  
GROUP, INC  
20 CENTERVILLE ROAD, STE 1  
WARWICK, RI 02886

PREPARED BY:

JL3 CONSULTING, INC.  
WAREHAM, MA  
508-274-0947

JC ENGINEERING, INC  
2854 CRANBERRY HIGHWAY  
EAST WAREHAM, MA 02538

DATE: AUGUST 17, 2021

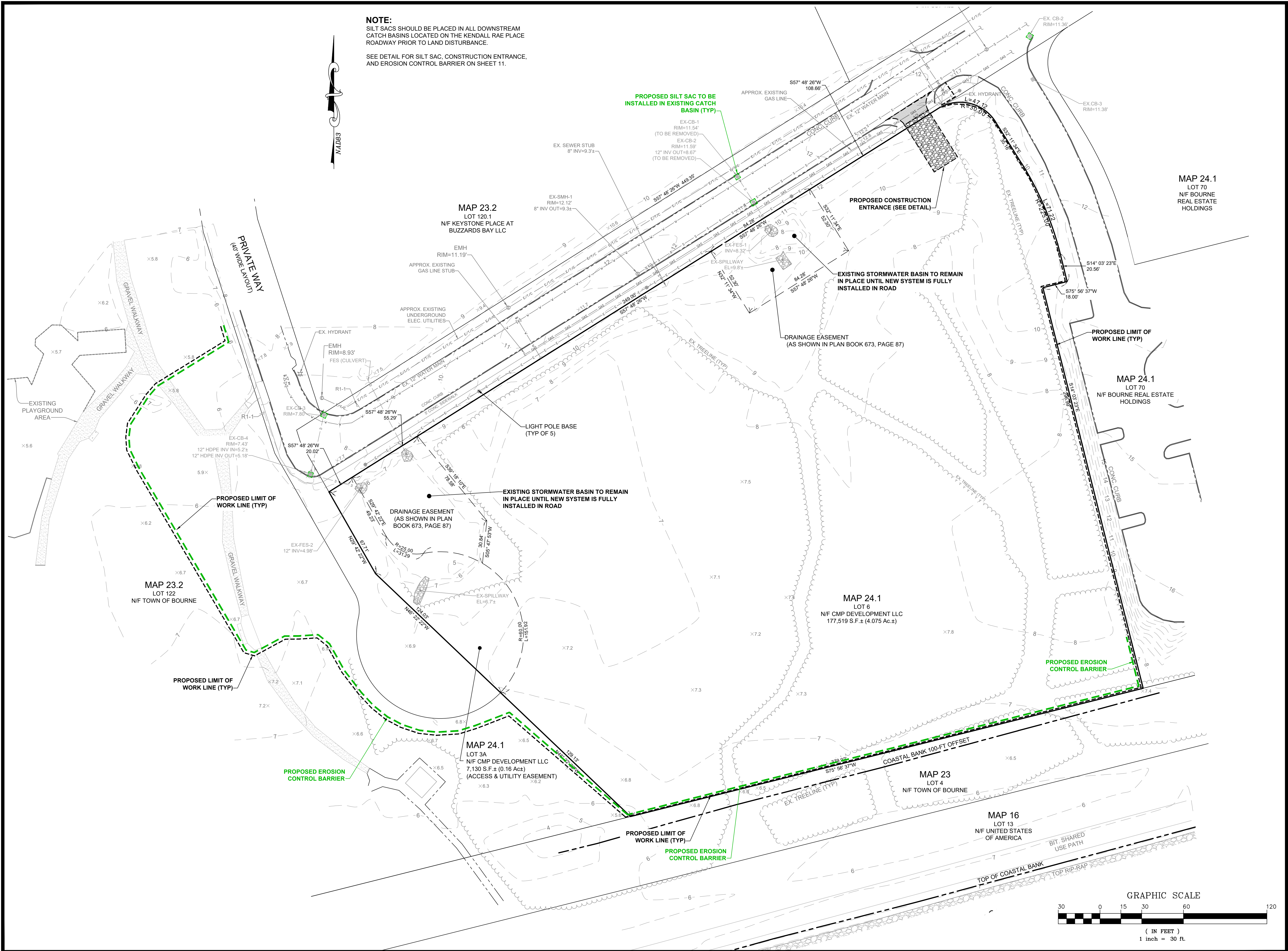
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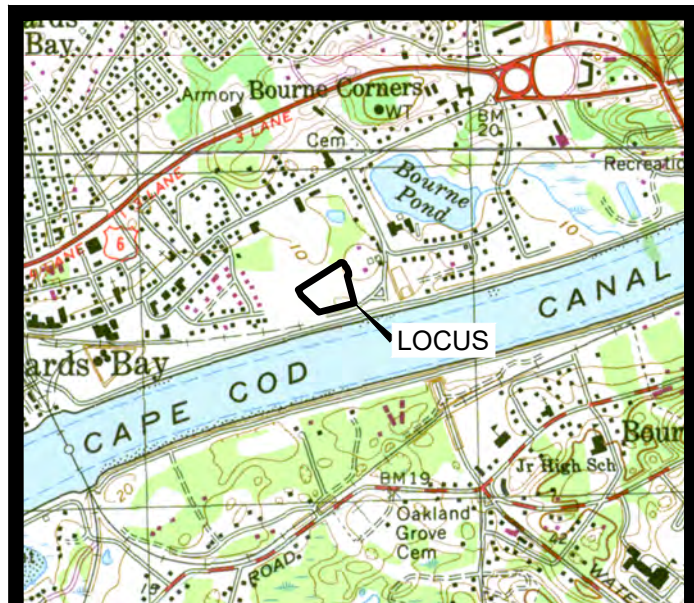
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JOB NO: 5099

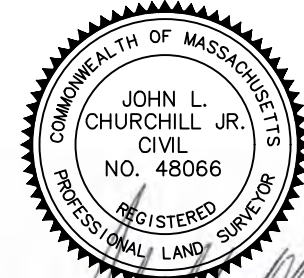




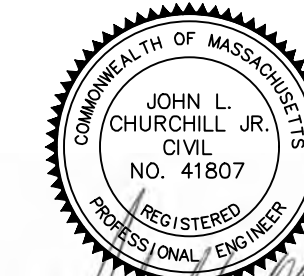
**NOTE:**  
SILT SACS SHOULD BE PLACED IN ALL DOWNSTREAM  
CATCH BASINS LOCATED ON THE KENDALL RAE PLACE  
ROADWAY PRIOR TO LAND DISTURBANCE.  
  
SEE DETAIL FOR SILT SAC, CONSTRUCTION ENTRANCE,  
AND EROSION CONTROL BARRIER ON SHEET 11.



LOCUS MAP  
SCALE 1" = 2000'



JOHN L. CHURCHILL JR., P.L.S. DATE



JOHN L. CHURCHILL JR., P.E. DATE

**THE CROSSINGS AT  
THE CANAL**  
AT  
**2 KENDALL RAE PLACE**  
IN  
**BUZZARDS BAY,  
MASSACHUSETTS**  
(BARNSTABLE COUNTY)

**EROSION CONTROL &  
SITE PREPARATION**

REVISIONS:		
No.	DATE	DESC.
2	9/1/22	Peer Review Comments
1	5/16/22	Site Layout Changes

**PREPARED FOR:**  
**OXFORD DEVELOPMENT  
GROUP, INC**  
20 CENTERVILLE ROAD, STE 1  
WARWICK, RI 02886

**PREPARED BY:**  
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JOB NO: 5099

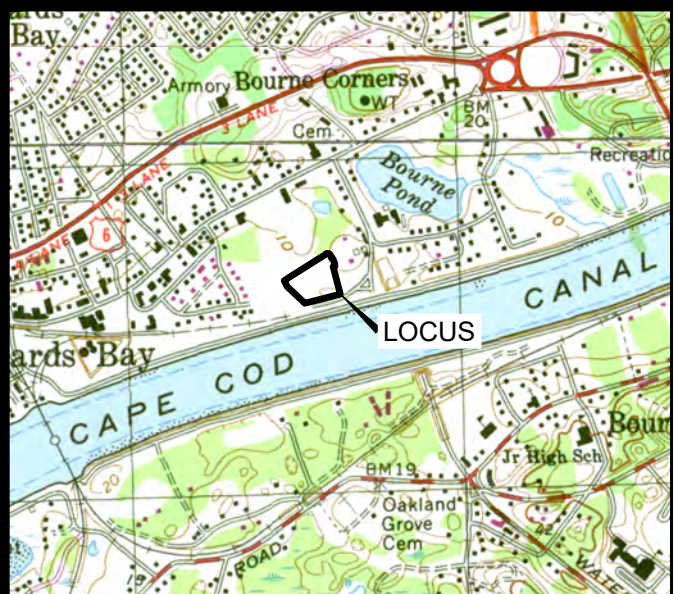
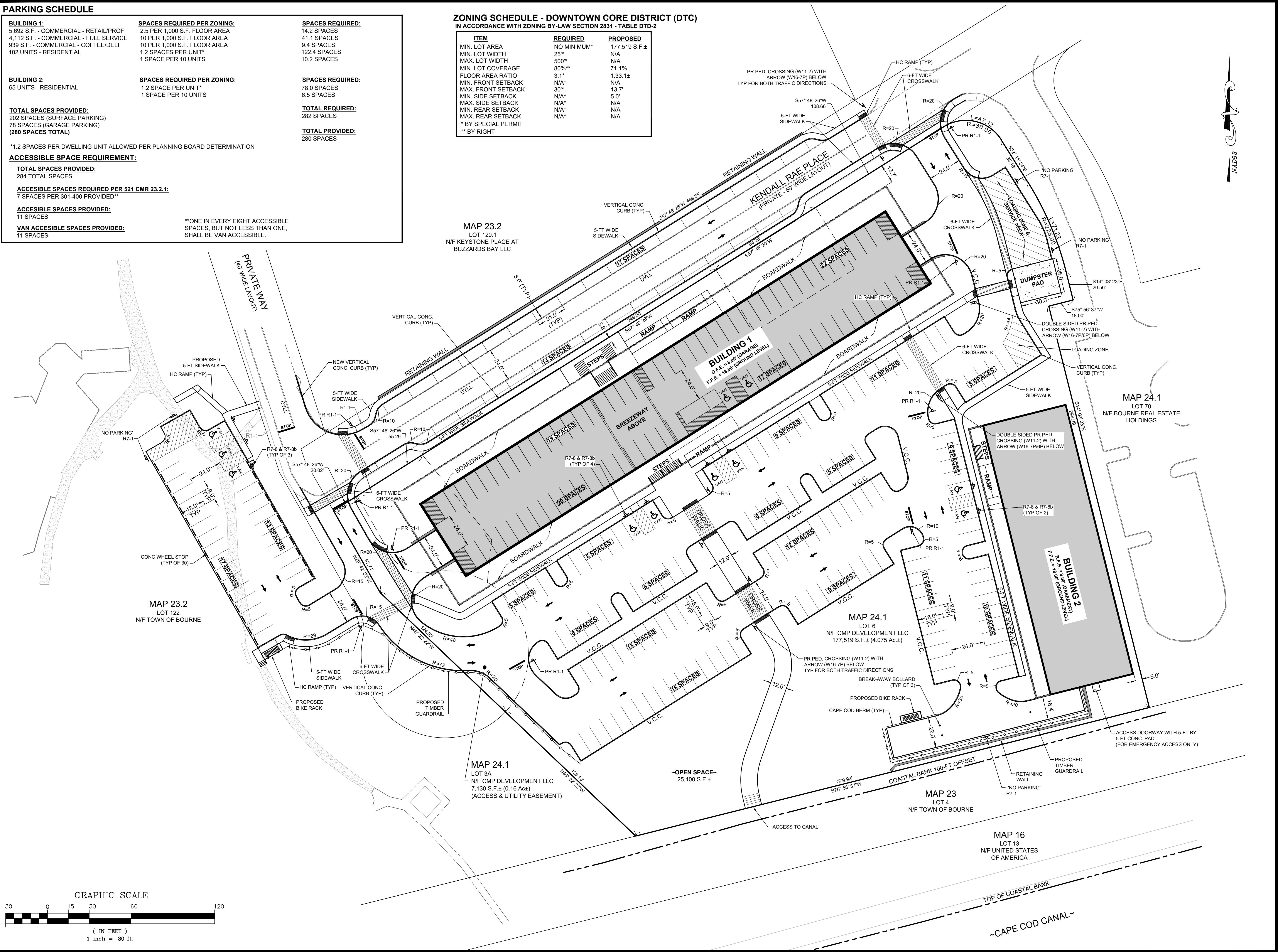


PARKING SCHEDULE

<b>BUILDING 1:</b> 5,692 S.F. - COMMERCIAL - RETAIL/PROF 4,112 S.F. - COMMERCIAL - FULL SERVICE 939 S.F. - COMMERCIAL - COFFEE/DELI 102 UNITS - RESIDENTIAL	<b>SPACES REQUIRED PER ZONING:</b> 2.5 PER 1,000 S.F. FLOOR AREA 10 PER 1,000 S.F. FLOOR AREA 1.2 SPACES PER UNIT 1 SPACE PER 10 UNITS	<b>SPACES REQUIRED:</b> 14.2 SPACES 41.1 SPACES 122.4 SPACES 10.2 SPACES
<b>BUILDING 2:</b> 65 UNITS - RESIDENTIAL	<b>SPACES REQUIRED PER ZONING:</b> 1.2 SPACE PER UNIT 1 SPACE PER 10 UNITS	<b>SPACES REQUIRED:</b> 78.0 SPACES 6.5 SPACES
<b>TOTAL SPACES PROVIDED:</b> 202 SPACES (SURFACE PARKING) 78 SPACES (GARAGE PARKING) (280 SPACES TOTAL)		<b>TOTAL REQUIRED:</b> 282 SPACES
*1.2 SPACES PER DWELLING UNIT ALLOWED PER PLANNING BOARD DETERMINATION		<b>TOTAL PROVIDED:</b> 280 SPACES
<b>ACCESSIBLE SPACE REQUIREMENT:</b>		
<b>TOTAL SPACES PROVIDED:</b> 284 TOTAL SPACES		
<b>ACCESSIBLE SPACES REQUIRED PER 521 CMR 23.2.1:</b> 7 SPACES PER 301-400 PROVIDED**		
<b>ACCESSIBLE SPACES PROVIDED:</b> 11 SPACES		
<b>VAN ACCESSIBLE SPACES PROVIDED:</b> 11 SPACES		
		**ONE IN EVERY EIGHT ACCESSIBLE SPACES, BUT NOT LESS THAN ONE, SHALL BE VAN ACCESSIBLE.

ZONING SCHEDULE - DOWNTOWN CORE DISTRICT (DTC)  
IN ACCORDANCE WITH ZONING BY-LAW SECTION 2831 - TABLE DTD-2

ITEM	REQUIRED	PROPOSED
MIN. LOT AREA	NO MINIMUM*	177,519 S.F.±
MIN. LOT WIDTH	25'	N/A
MAX. LOT WIDTH	500'	N/A
MIN. LOT COVERAGE	80%**	71.1%
FLOOR AREA RATIO	3:1*	1.33:1±
MIN. FRONT SETBACK	N/A*	N/A
MAX. FRONT SETBACK	30'	13.7'
MIN. SIDE SETBACK	N/A*	5.0'
MAX. SIDE SETBACK	N/A*	N/A
MIN. REAR SETBACK	N/A*	N/A
MAX. REAR SETBACK	N/A*	N/A
* BY SPECIAL PERMIT		
** BY RIGHT		



LOCUS MAP  
SCALE 1" = 2000'



JOHN L. CHURCHILL JR., P.E. DATE

THE CROSSINGS AT  
THE CANAL

AT  
2 KENDALL RAE PLACE  
IN  
BUZZARDS BAY,  
MASSACHUSETTS  
(BARNSTABLE COUNTY)

LAYOUT &  
PARKING PLAN

REVISIONS:

No.	DATE	DESC.
2	9/1/22	Peer Review Comments
1	5/16/22	Site Layout Changes

PREPARED FOR:

OXFORD DEVELOPMENT  
GROUP, INC  
20 CENTERVILLE ROAD, STE 1  
WARWICK, RI 02886

PREPARED BY:

JL3 CONSULTING, INC.  
WAREHAM, MA  
508-274-0947

JC ENGINEERING, INC  
2854 CRANBERRY HIGHWAY  
EAST WAREHAM, MA 02538

DATE: AUGUST 17, 2021

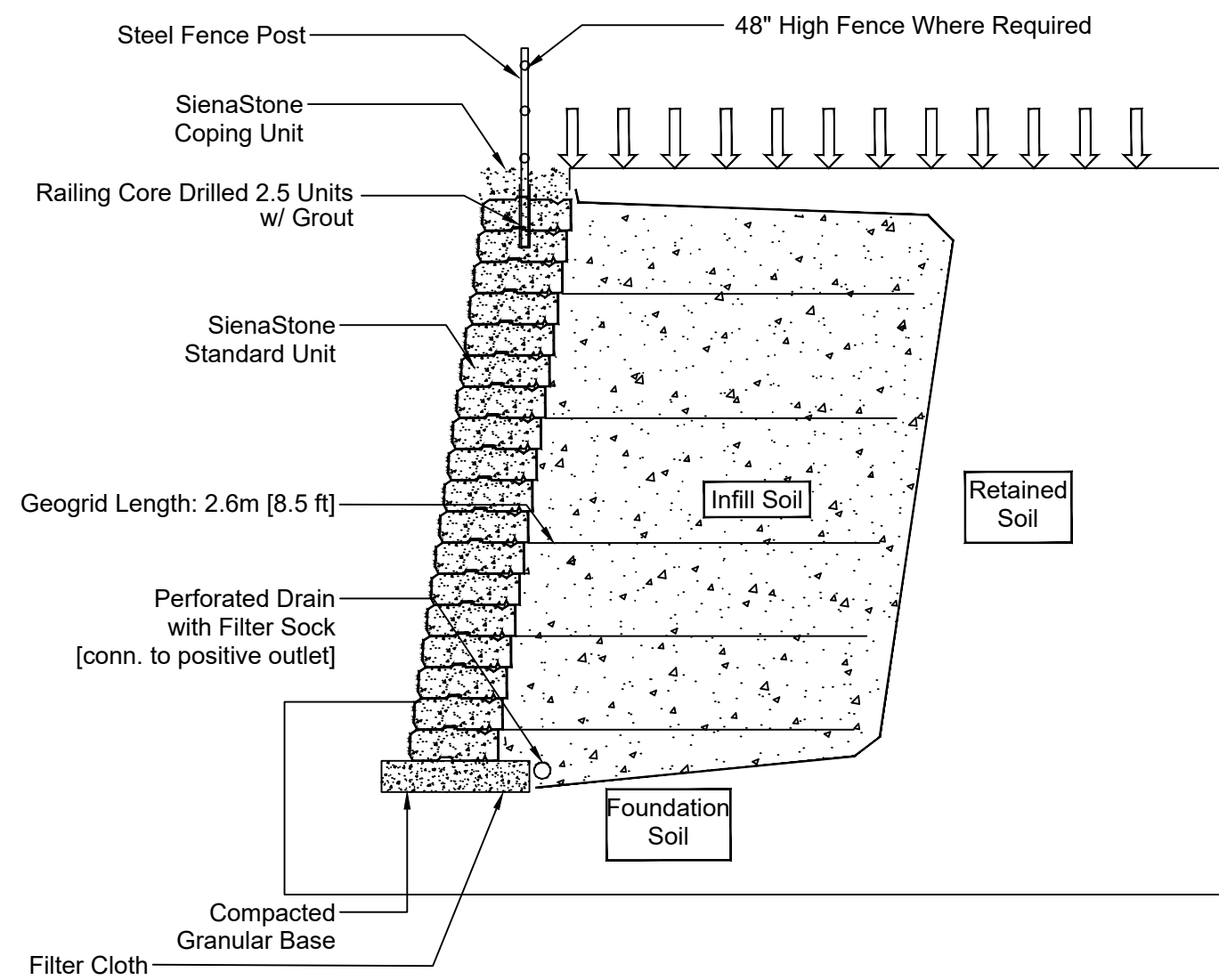
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CHECK: JLC

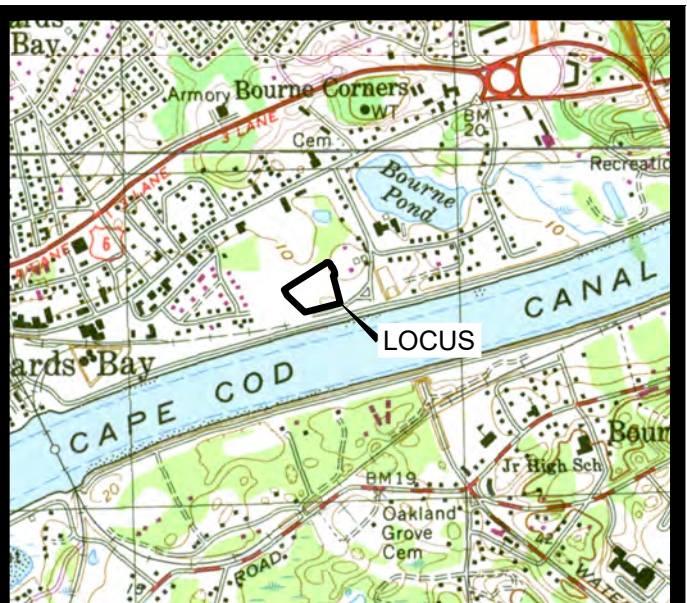
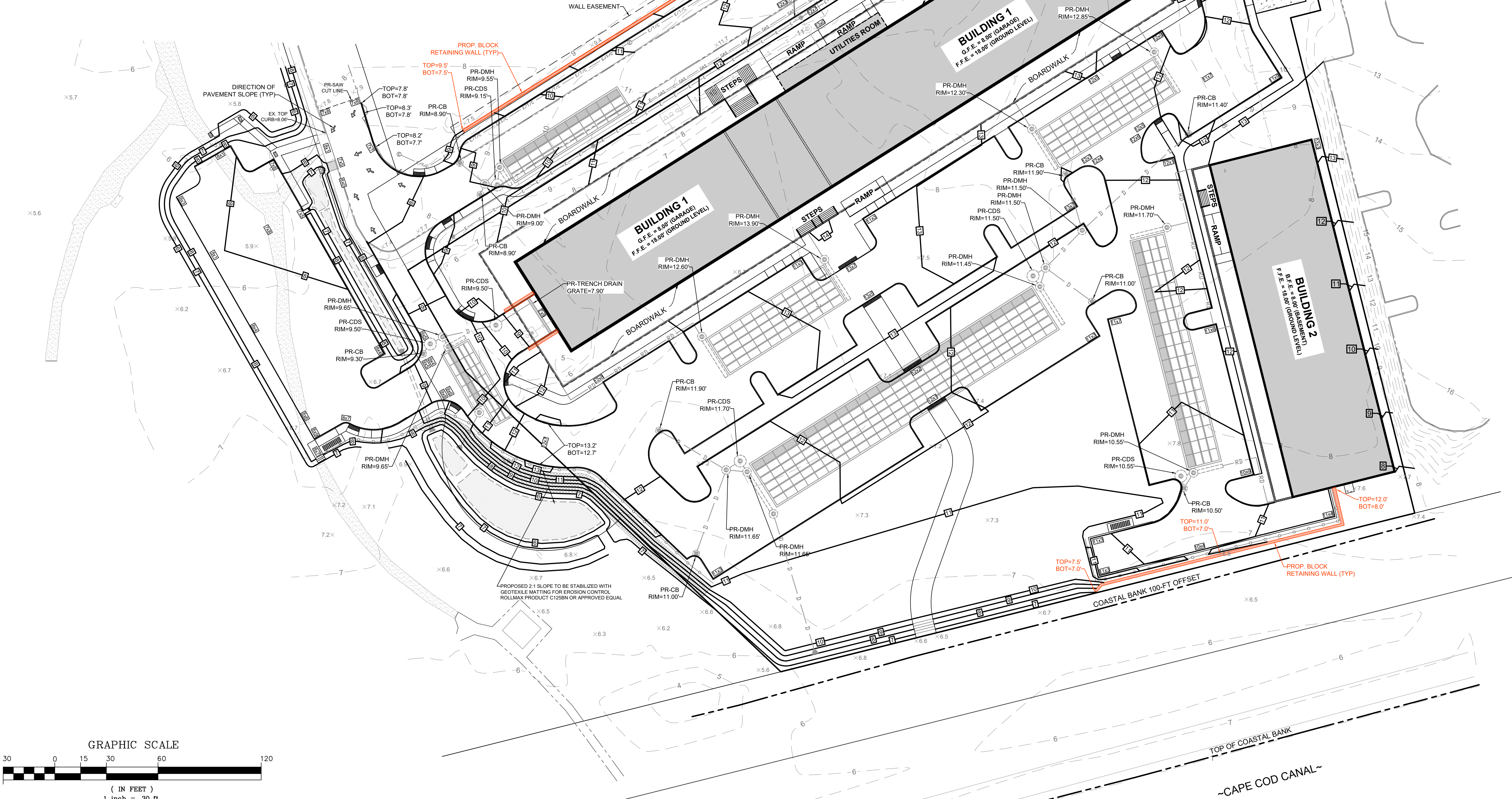
JOB NO: 5099



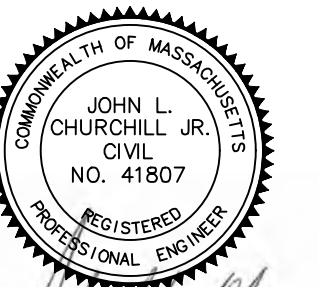


NOTE: WALL DETAIL IS FOR CONCEPTUAL PURPOSES ONLY. FINAL WALL TO BE SELECTED APPLICANT. WALLS EXCEEDING 4-FT IN HEIGHT SHALL REQUIRE A BUILDING PERMIT.

**UNILOCK "SIENA STONE" SEG. RET. WALL SECTION**  
TYPICAL SECTION - NOT FOR CONSTRUCTION  
NOT TO SCALE



LOCUS MAP  
SCALE 1" = 2000'



JOHN L. CHURCHILL JR., P.E. DATE

**THE CROSSINGS AT  
THE CANAL**  
AT  
**2 KENDALL RAE PLACE**  
IN  
**BUZZARDS BAY,  
MASSACHUSETTS**  
(BARNSTABLE COUNTY)

**GRADING &  
CURB TIE PLAN**

REVISIONS:		
No.	DATE	DESC.
2	9/1/22	Peer Review Comments
1	5/16/22	Site Layout Changes

**PREPARED FOR:**  
**OXFORD DEVELOPMENT  
GROUP, INC**  
20 CENTERVILLE ROAD, STE 1  
WARWICK, RI 02886

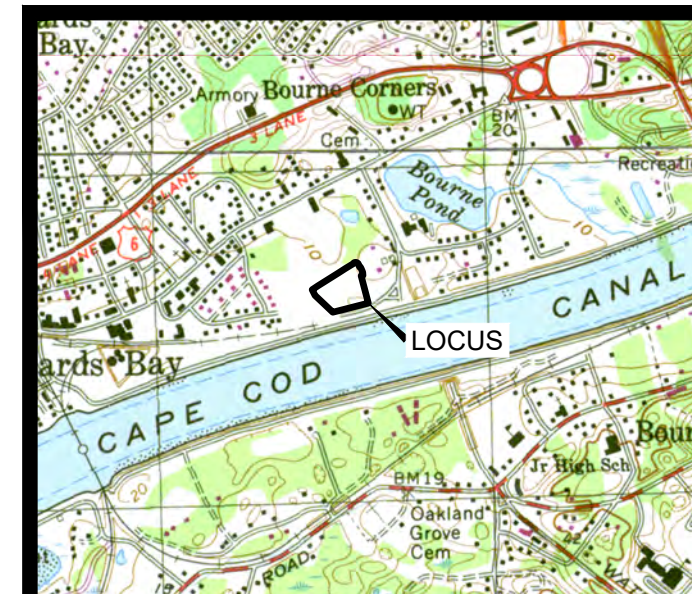
**PREPARED BY:**  
**JL3 CONSULTING, INC.**  
WAREHAM, MA  
508-274-0947

**JC ENGINEERING, INC**  
2854 CRANBERRY HIGHWAY  
EAST WAREHAM, MA 02538

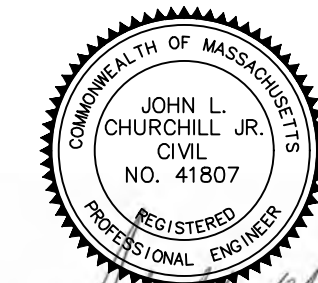
DATE:	AUGUST 17, 2021
CALC./DESIGN:	BJW
DRAWN:	BJW
CHECK:	JLC
JOB NO:	5099



**NOTE:** SEE SHEET 11 FOR DRAINAGE DETAILS, TEST PIT DATA, PIPE INFORMATION AND NOTES FOR THE DRAINAGE SYSTEM.



LOCUS MAP  
SCALE 1" = 2000'



JOHN L. CHURCHILL JR., P.E. DATE

## THE CROSSINGS AT THE CANAL

**2 KENDALL RAE PLACE**  
IN  
**BUZZARDS BAY,**  
**MASSACHUSETTS**  
(BARNSTABLE COUNTY)

## DRAINAGE PLAN

## REVISIONS:

No.	DATE	DESC.
2	9/1/22	Peer Review Comments
1	5/16/22	Site Layout Changes

PREPARED FOR:

OXFORD DEVELOPMENT  
GROUP, INC  
20 CENTERVILLE ROAD, STE 1  
WARWICK, RI 02886

**PREPARED BY:**

JL3 CONSULTING, INC.  
WAREHAM, MA  
508-274-0947

JC ENGINEERING, INC  
2854 CRANBERRY HIGHWAY  
EAST WAREHAM, MA 02538

DATE: AUGUST 17, 2021

CALC./DESIGN: B JW

DRAWN: BJW

CHECK: JLC

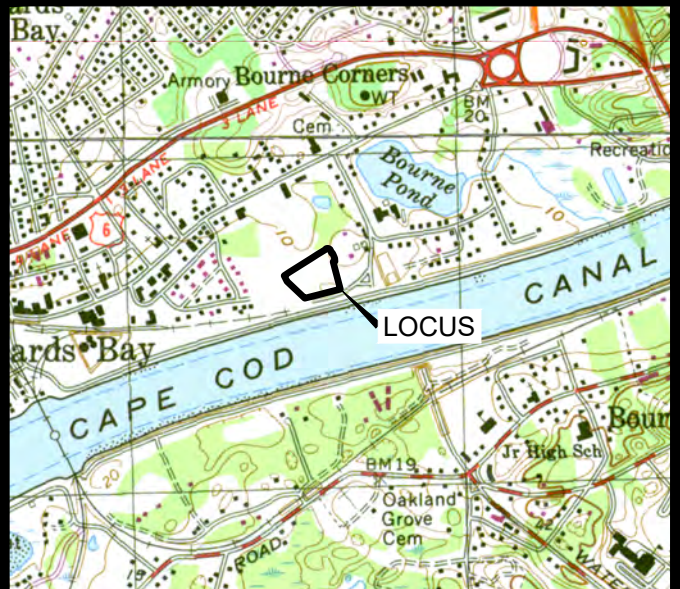
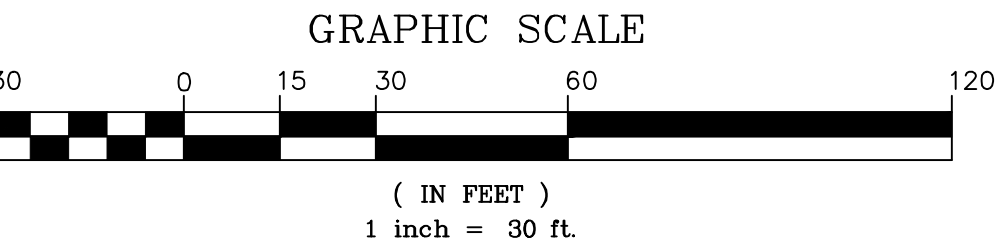
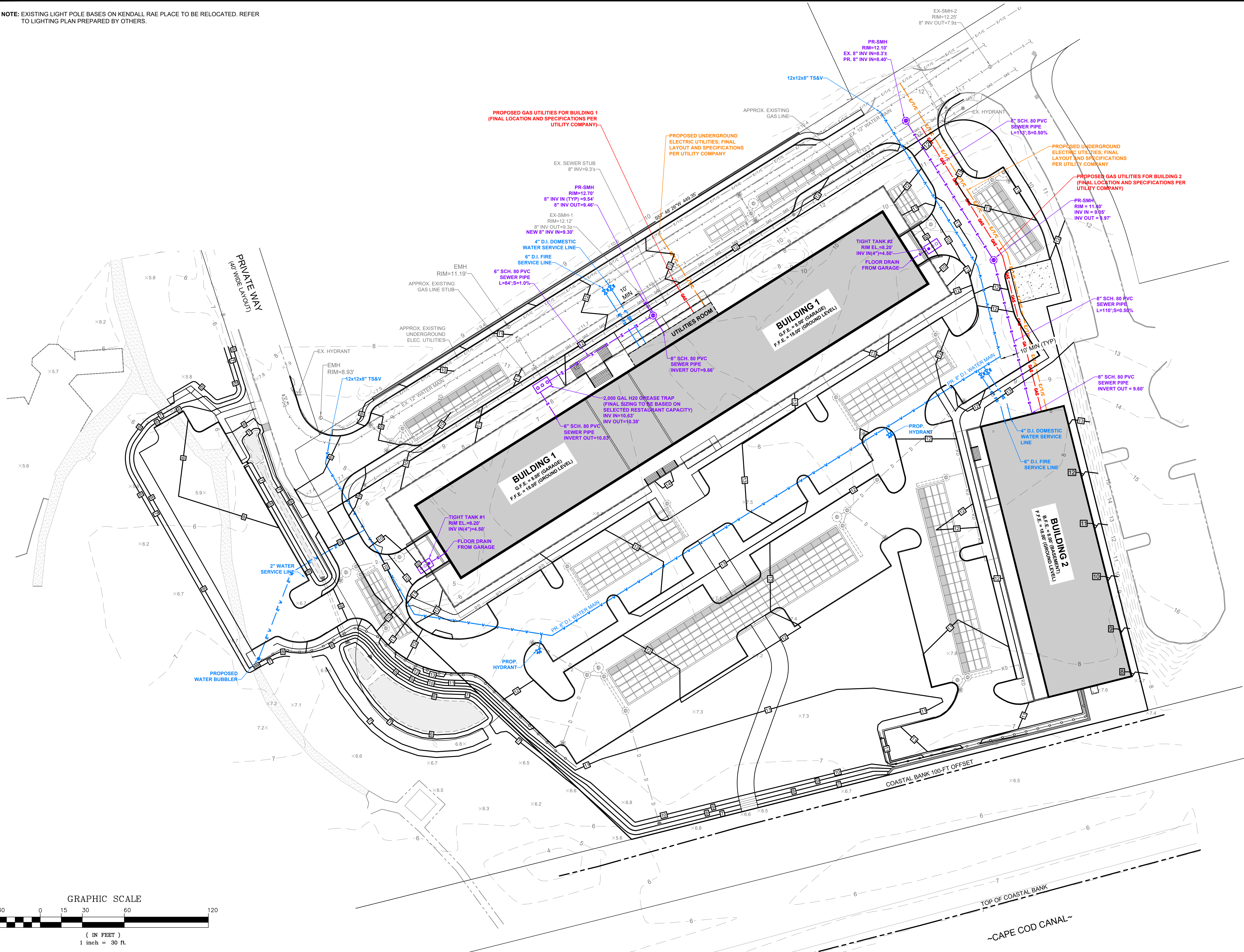
JOB NO: 5099

**SHE**

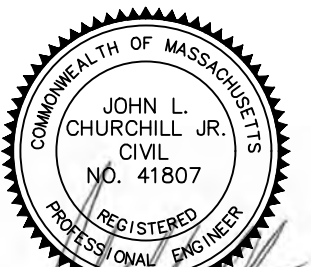
**SHEET 6 OF 12**



NOTE: EXISTING LIGHT POLE BASES ON KENDALL RAE PLACE TO BE RELOCATED. REFER TO LIGHTING PLAN PREPARED BY OTHERS.



LOCUS MAP  
SCALE 1" = 2000'



JOHN L. CHURCHILL JR., P.E. DATE

THE CROSSINGS AT  
THE CANAL  
AT  
2 KENDALL RAE PLACE  
IN  
BUZZARDS BAY,  
MASSACHUSETTS  
(BARNSTABLE COUNTY)

UTILITIES PLAN

REVISIONS:

No.	DATE	DESC.
2	9/1/22	Peer Review/FD Comments
1	5/16/22	Site Layout Changes

PREPARED FOR:

OXFORD DEVELOPMENT  
GROUP, INC  
20 CENTERVILLE ROAD, STE 1  
WARWICK, RI 02886

PREPARED BY:

JL3 CONSULTING, INC.  
WAREHAM, MA  
508-274-0947

JC ENGINEERING, INC  
2854 CRANBERRY HIGHWAY  
EAST WAREHAM, MA 02538

DATE: AUGUST 17, 2021

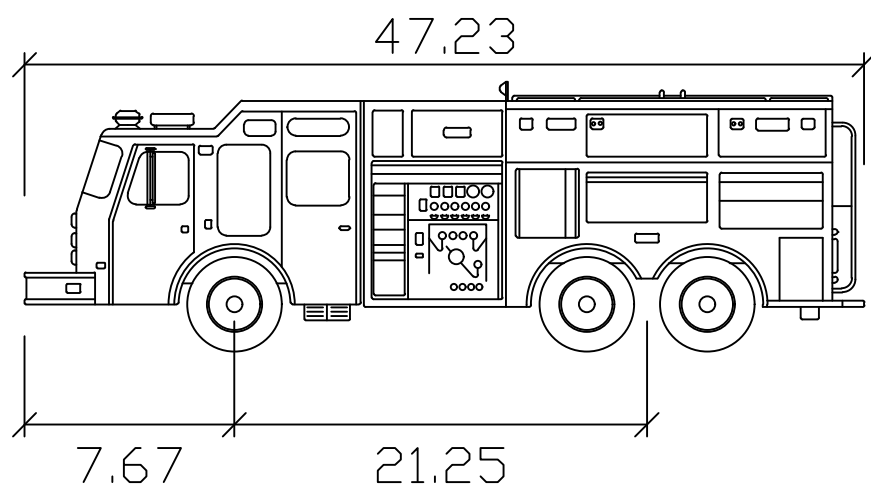
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DRAWN: BJW

CHECK: JLC

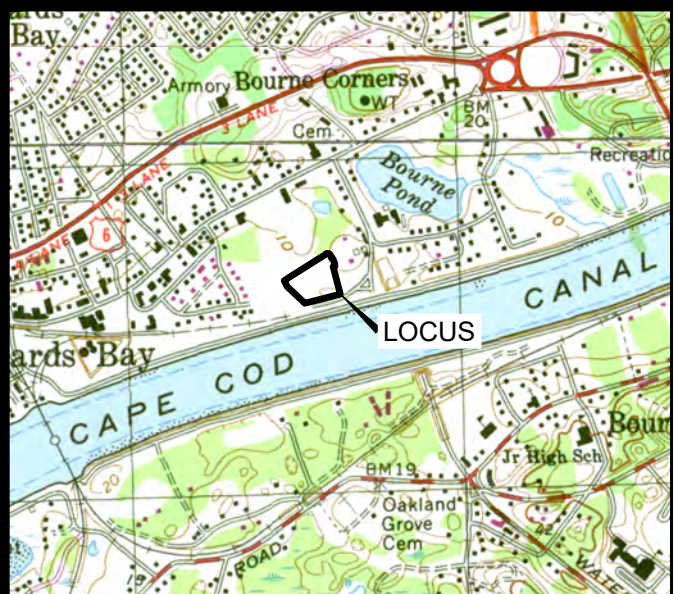
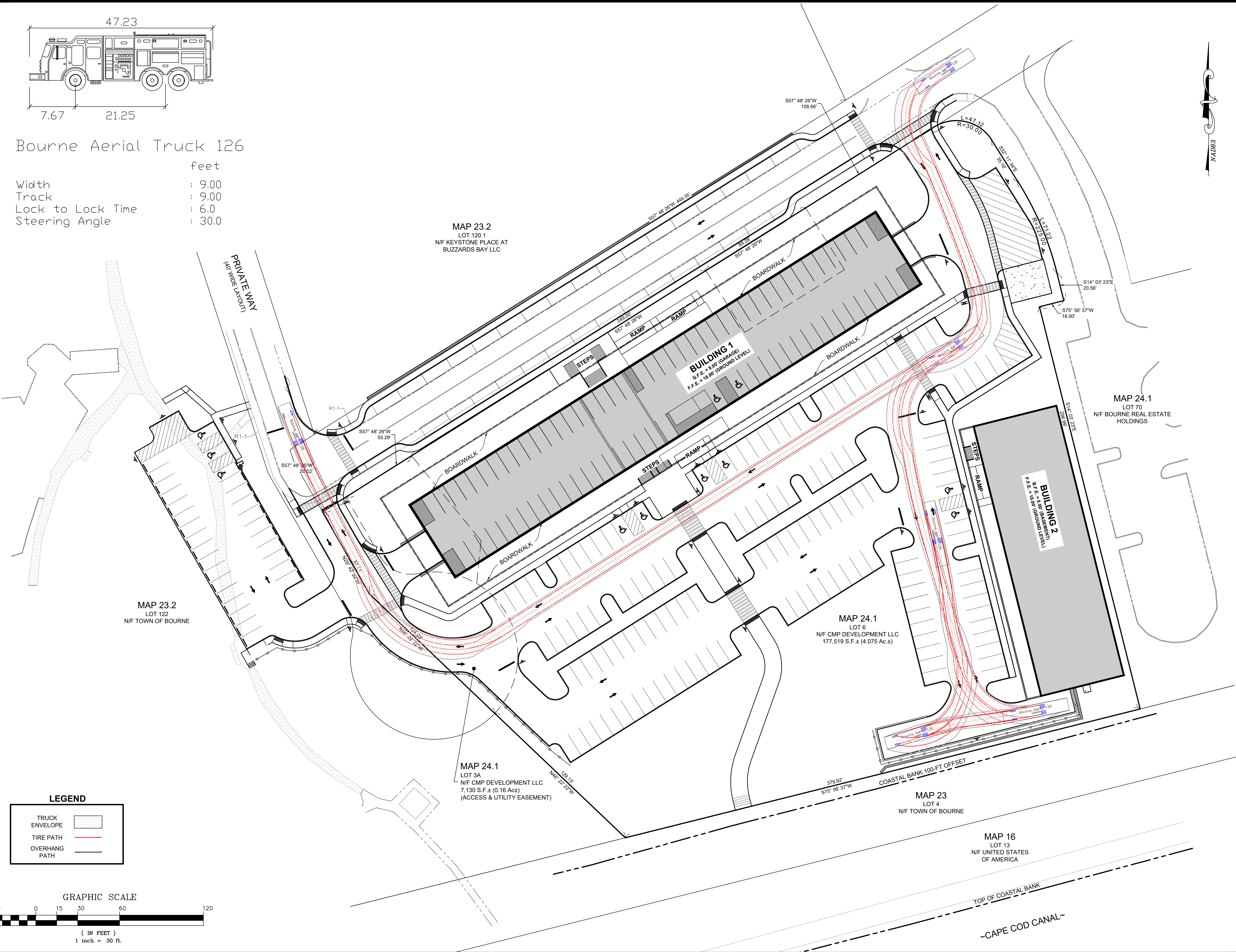
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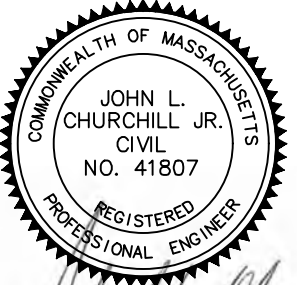


Bourne Aerial Truck 126

	feet
Width	: 9.00
Track	: 9.00
Lock to Lock Time	: 6.0
Steering Angle	: 30.0



LOCUS MAP  
SCALE 1" = 2000'



JOHN L. CHURCHILL JR., P.E. DATE

THE CROSSINGS AT  
THE CANAL  
AT  
2 KENDALL RAE PLACE  
IN  
BUZZARDS BAY,  
MASSACHUSETTS  
(BARNSTABLE COUNTY)

EMERGENCY  
ACCESS PLAN

REVISIONS:		
No.	DATE	DESC.
2	9/1/22	No Changes
1	5/16/22	Site Layout Changes

PREPARED FOR:  
OXFORD DEVELOPMENT  
GROUP, INC  
20 CENTERVILLE ROAD, STE 1  
WARWICK, RI 02886

PREPARED BY:  
JL3 CONSULTING, INC.  
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508-274-0947

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2854 CRANBERRY HIGHWAY  
EAST WAREHAM, MA 02538

DATE: AUGUST 17, 2021

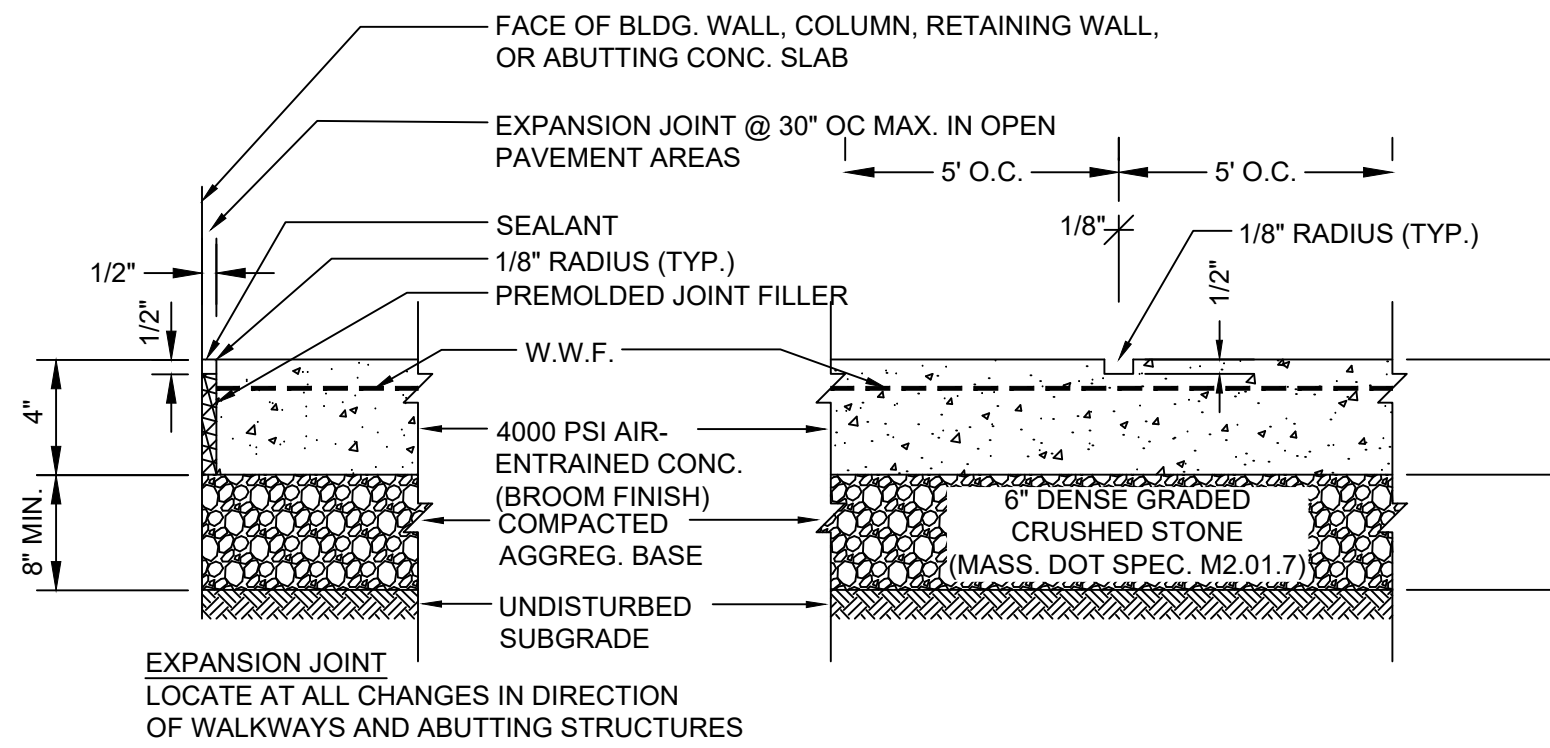
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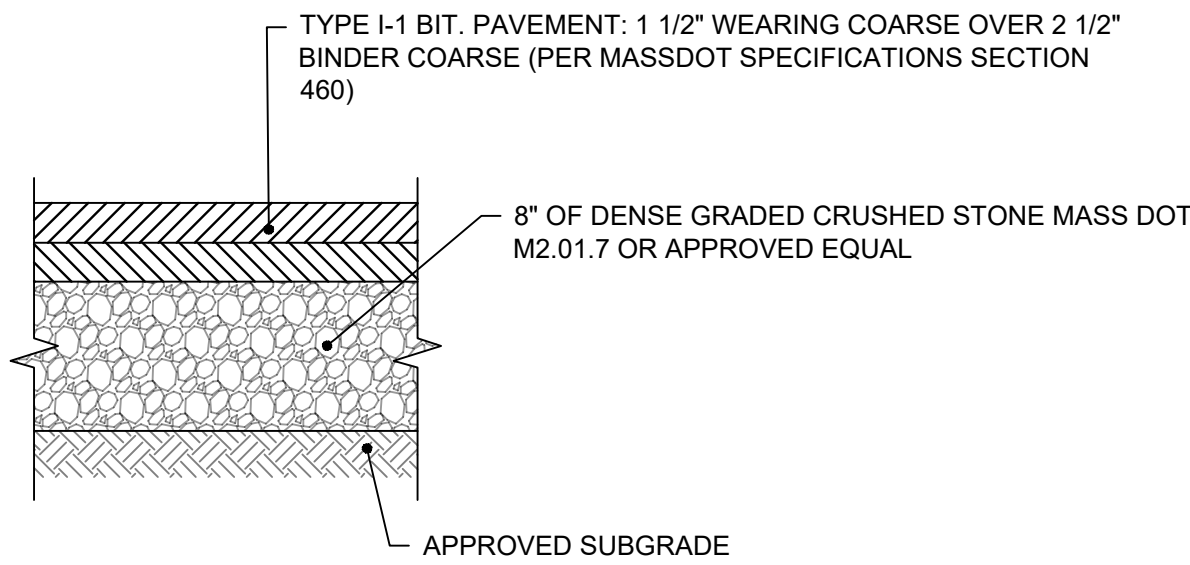
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JOB NO: 5099



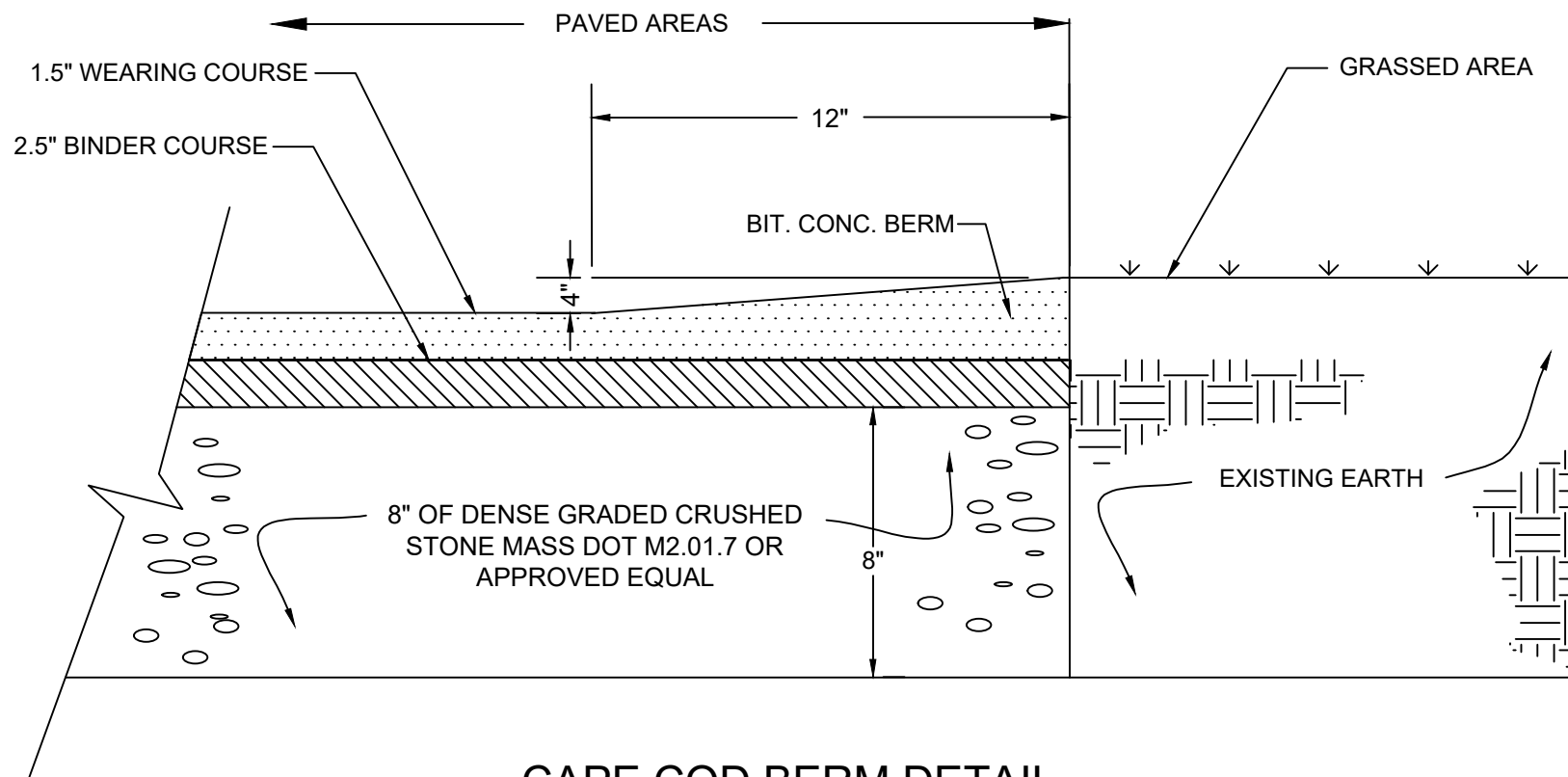


CONCRETE SIDEWALK

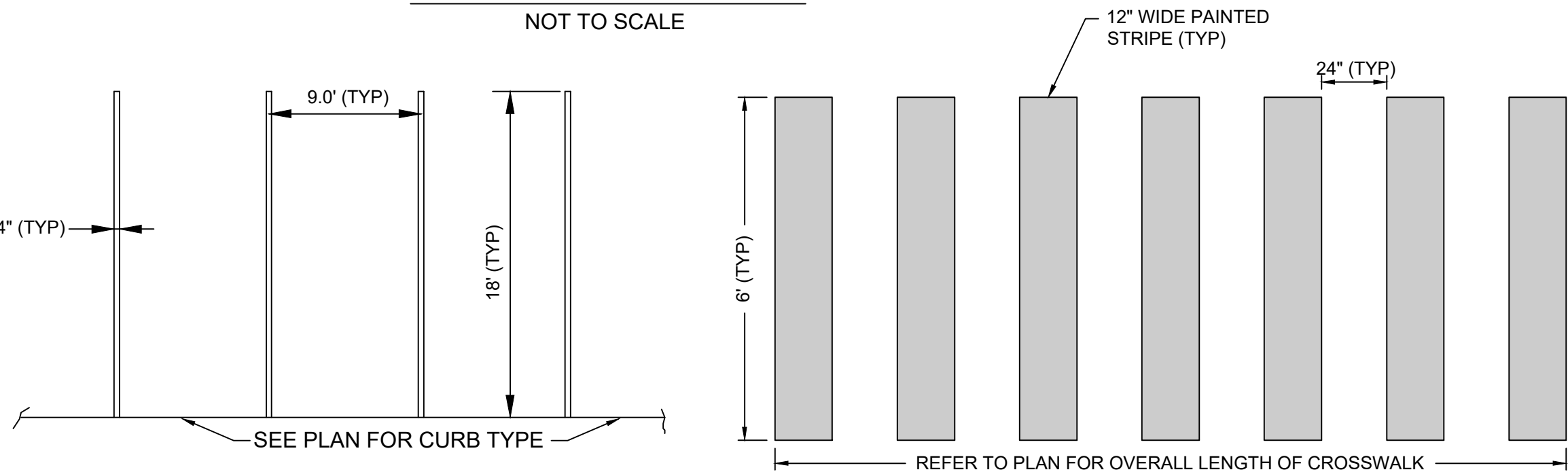


PAVEMENT NOTES:  
1. SUBGRADE MATERIAL SHALL CONSISTS OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND/OR COARSE SAND, FREE FROM LOAM AND CLAY TO A DEPTH NOT LESS THAN 4-FT BELOW FINISHED GRADE ELEVATION. ALL UNSUITABLE MATERIAL SHALL BE EXCAVATED AND REMOVED PRIOR TO SUBGRADE INSTALLATION.  
2. SUBGRADE SHALL BE PLACED IN MAXIMUM 8" LIFTS (COMPACTED TO 95%)  
3. REFER TO SITE PLAN FOR EXTENTS OF BIT. PAVEMENT.  
4. THE INSTALLED BINDER COARSE SHALL BE SWEEPED CLEAN PRIOR TO THE INSTALLATION OF THE WEARING COARSE BY A MECHANICAL SWEEPER. TACK COAT SHALL BE APPLIED PER THE SPECIFICATIONS.

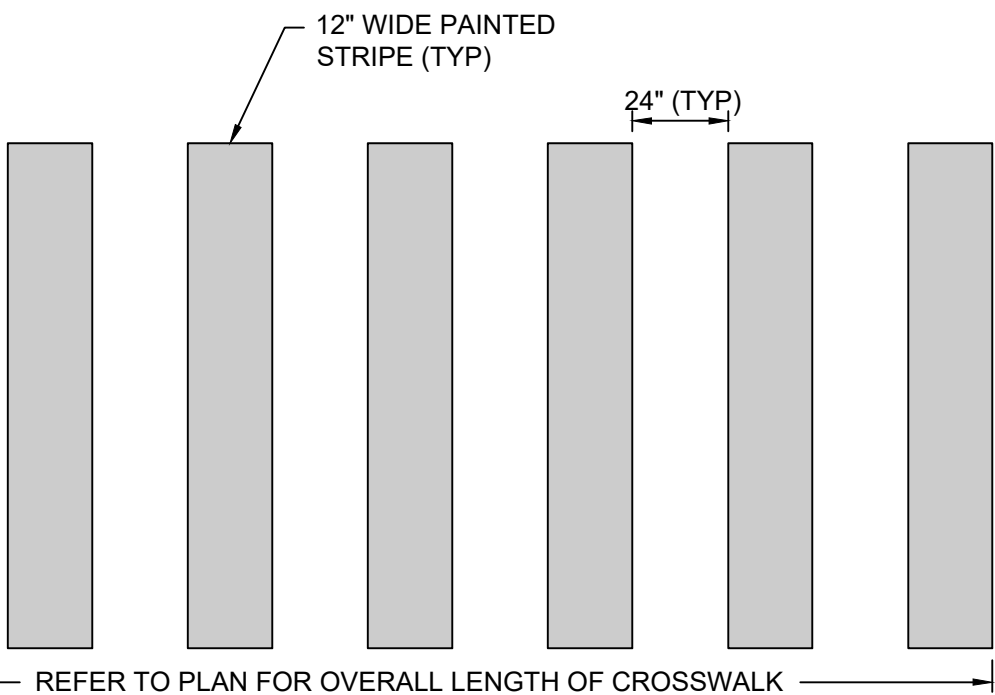
TYPICAL PAVEMENT SECTION



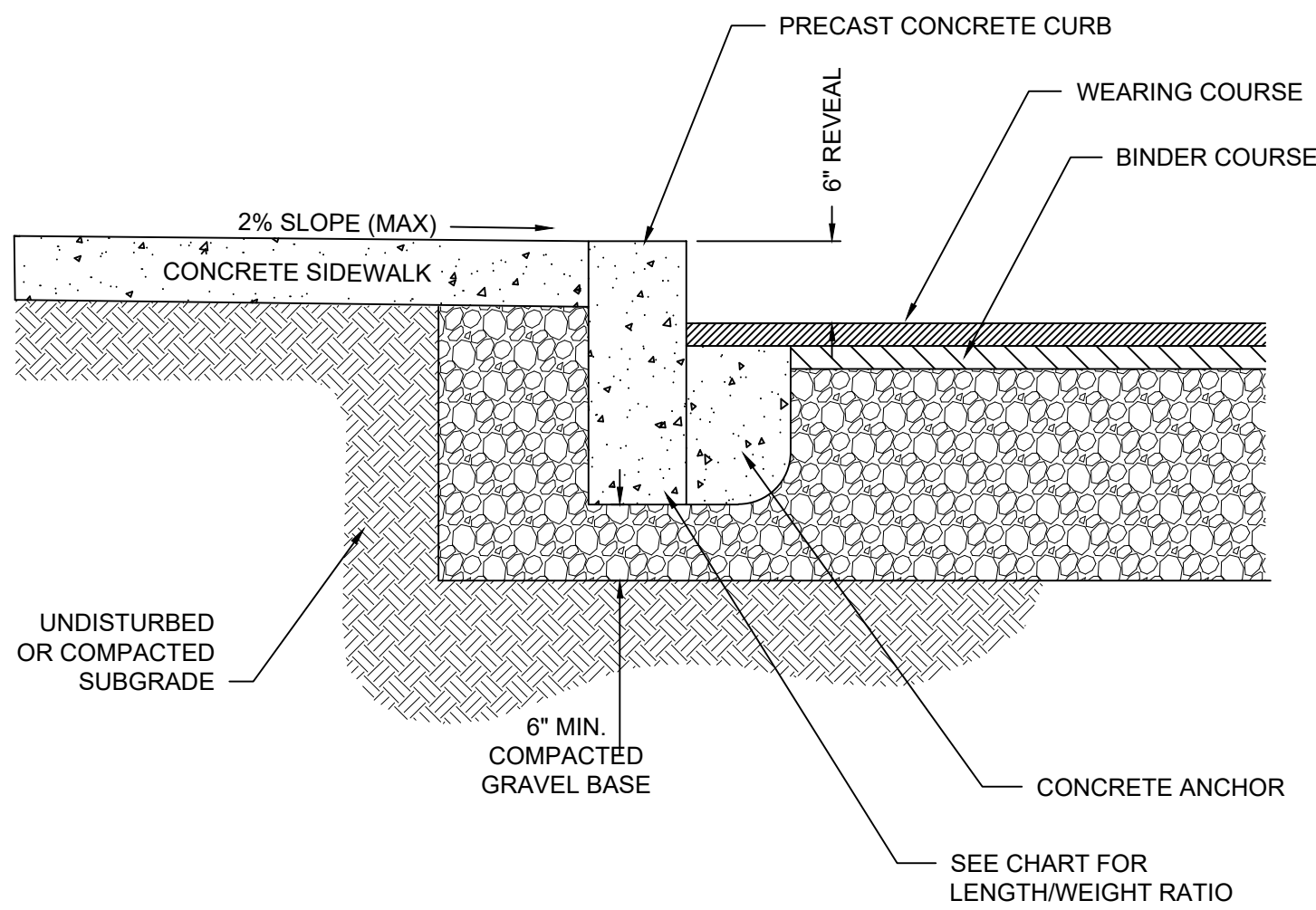
CAPE COD BERM DETAIL



TYPICAL STRIPING DETAIL



CROSSWALK STRIPING DETAIL



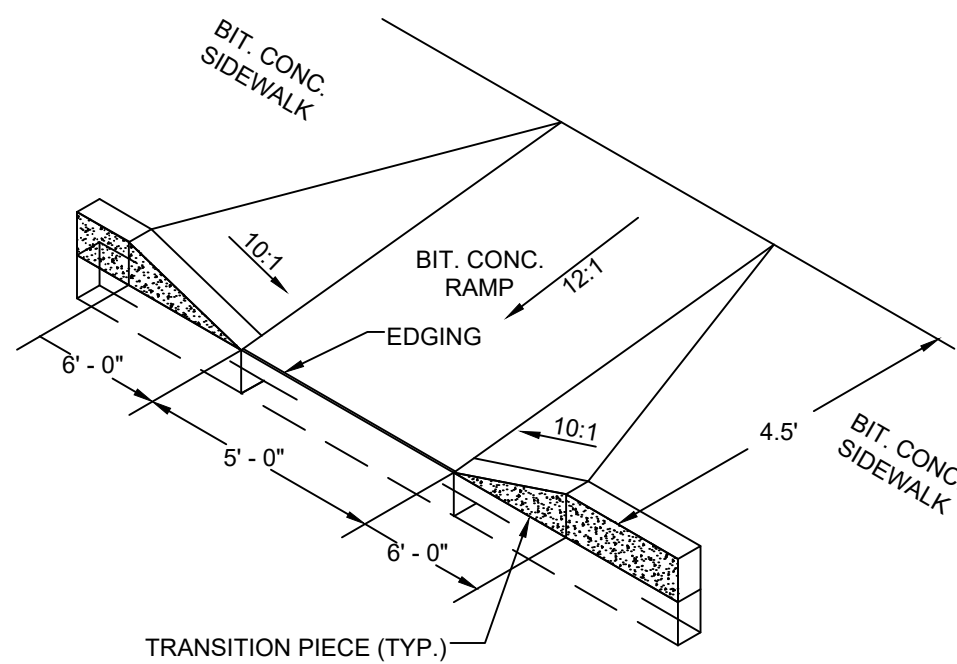
DESIGN DATA & GENERAL NOTES

- (1) CONCRETE STRENGTH F'C 4,000 PSI @ 28 DAYS. DENSITY 150 PCF
- (2) CEMENT, PORTLAND TYPE I OR III PER ASTM C150-81.
- (3) ADMIXTURES, OIR & PLASTICIZERS PER ASTM C233-82.
- (4) AIR ENTRAINMENT 5%-7%

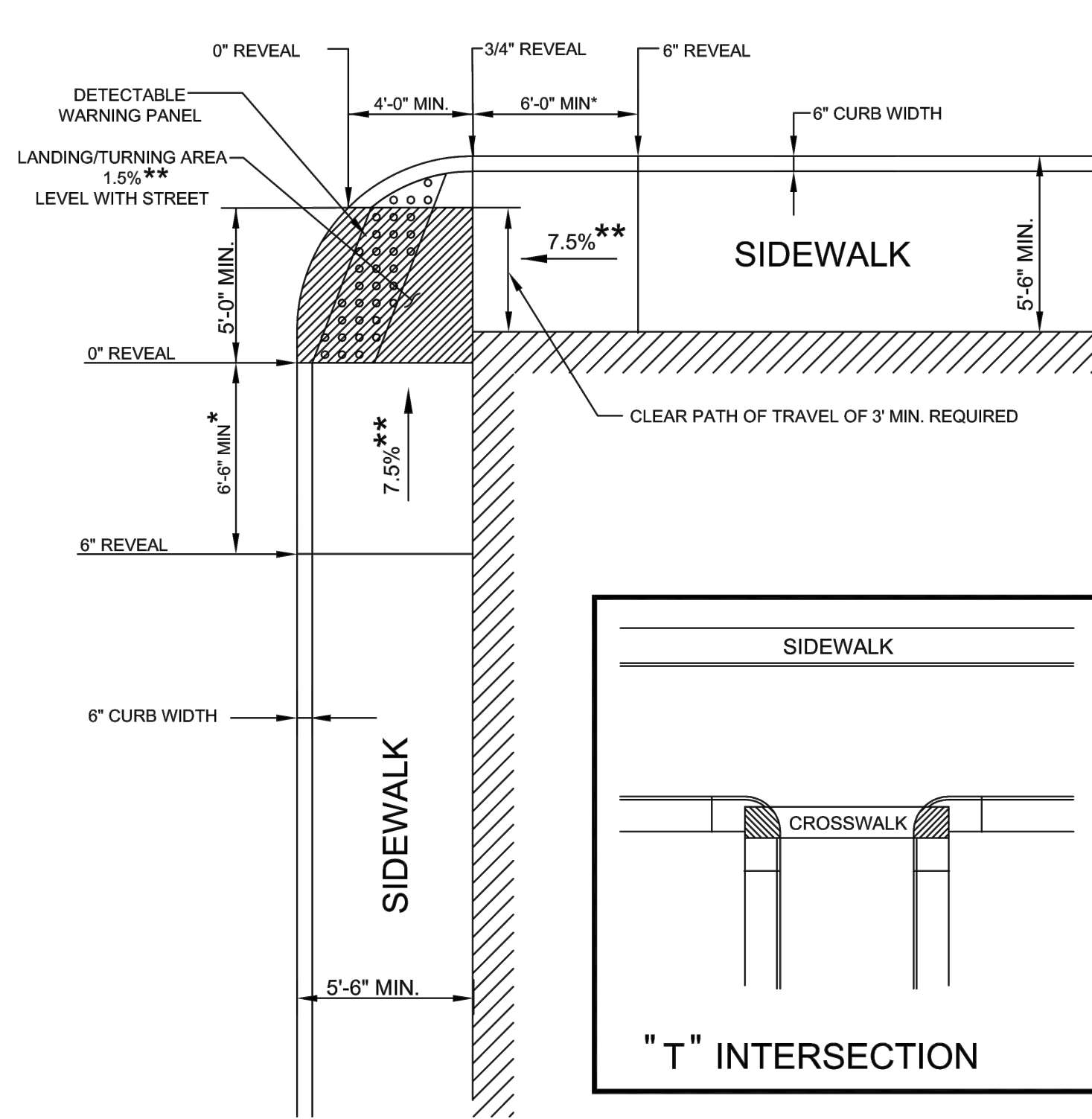
DATA CHARTS

LENGTH	APPROX. WEIGHT
3'-0"	365 LBS
4'-0"	487 LBS
5'-0"	609 LBS
6'-0"	731 LBS

PRECAST CONCRETE CURB



NOTE: ALL RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ADA / MASS. AAB REGULATIONS.



LEGEND

BUILDING OR OTHER UNALTERABLE CONDITION

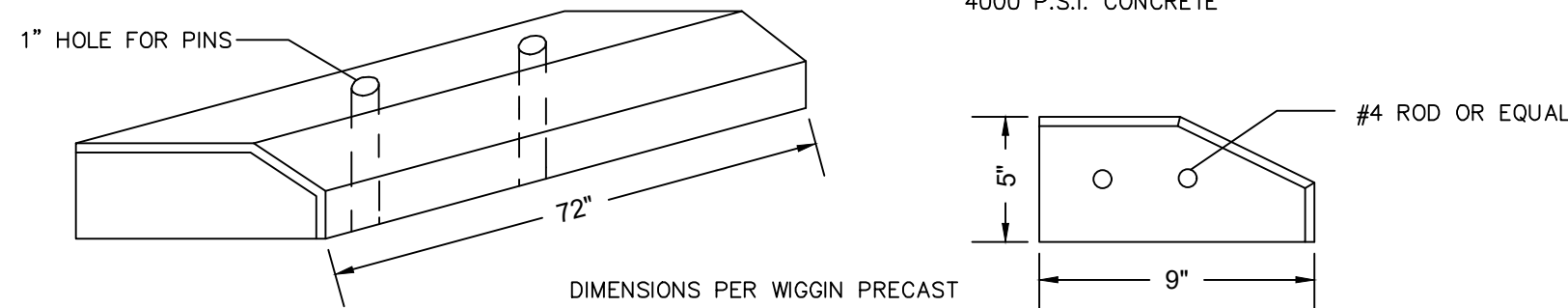
\* TRANSITION LENGTH SHOWN IS MINIMUM. (SEE E 107.9.0)

\*\* TOLERANCE FOR CONSTRUCTION ±0.5%

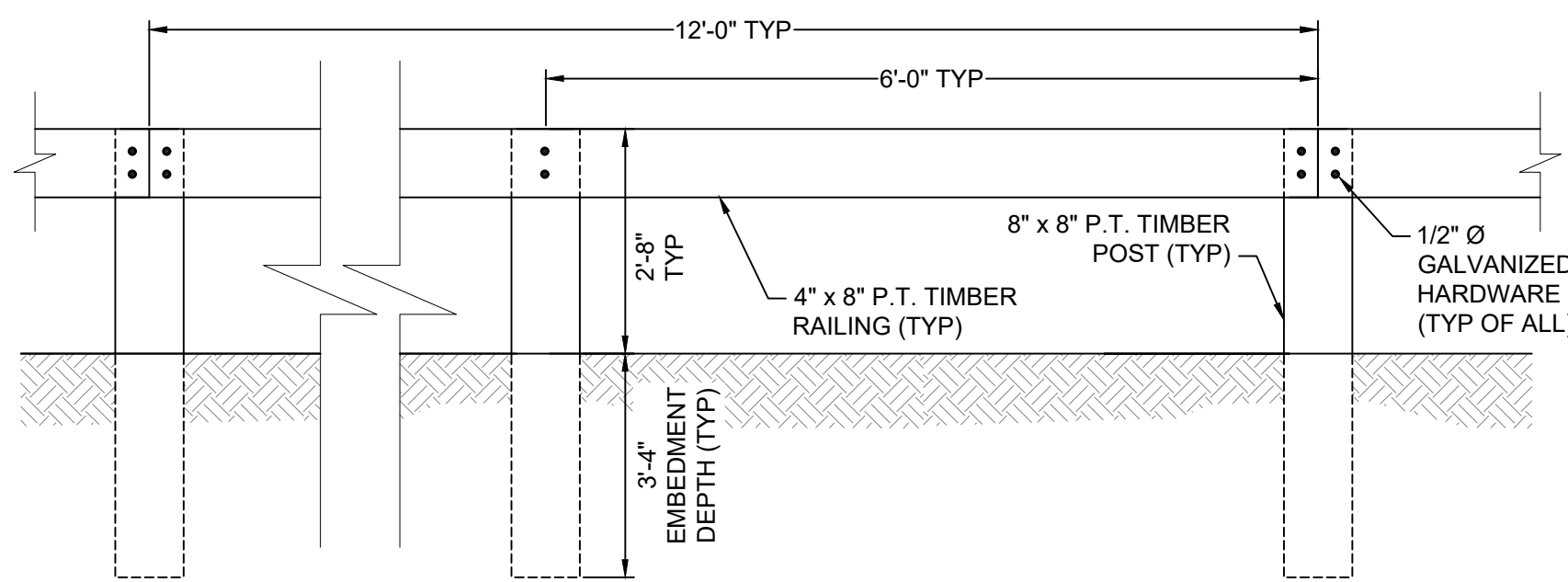
NOTE:

ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS

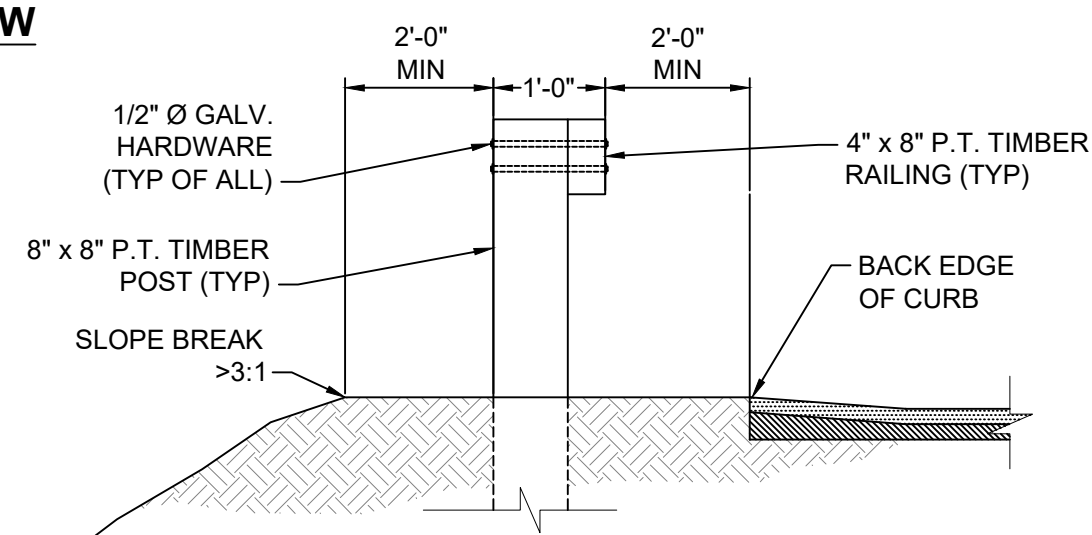
HANDICAP RAMP DETAIL



CONCRETE WHEELSTOP DETAIL

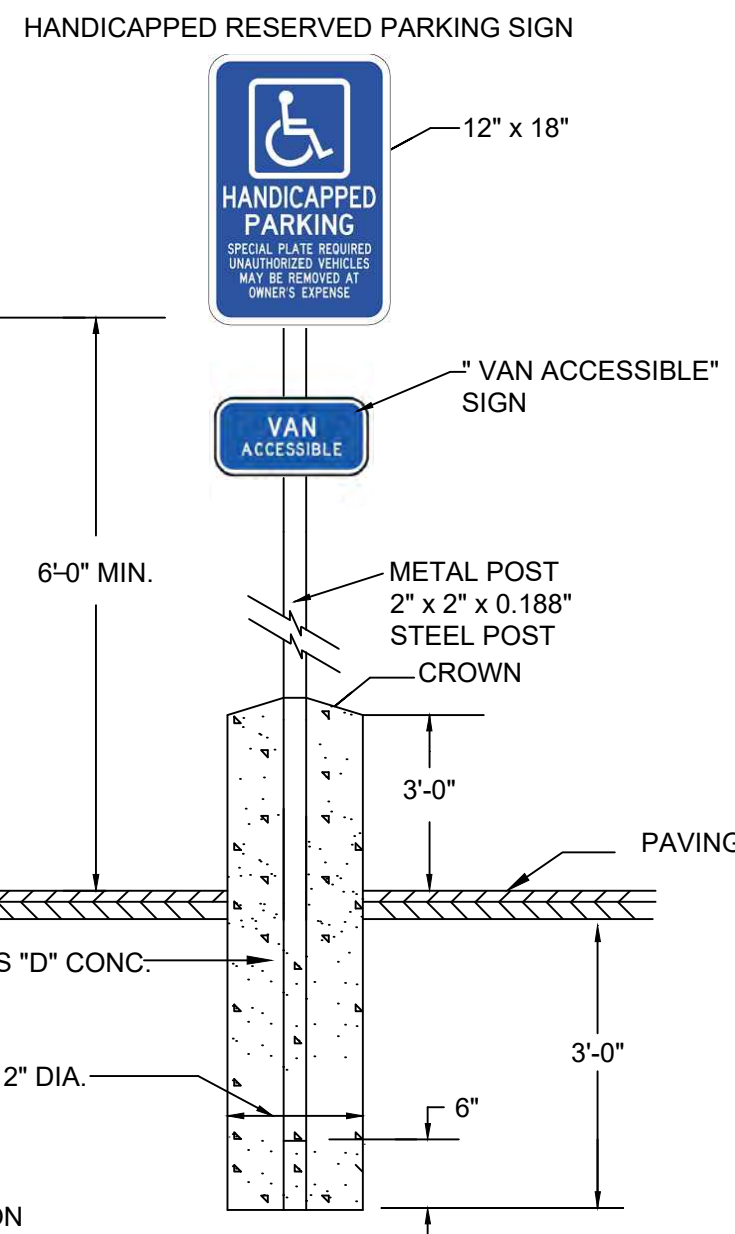


ELEVATION VIEW



PROFILE VIEW

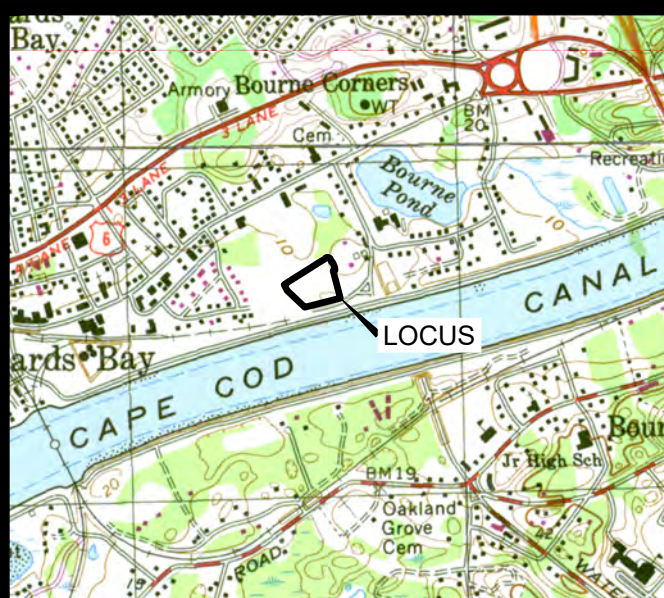
ROADWAY PROFILE GRADE	* HIGH SIDE TRANSITION LENGTH
%	ENGLISH UNITS
=0%	6'-6"
>0% TO 1%	7'-8"
>1% TO 2%	9'-0"
>2% TO 3%	11'-0"
>3% TO 4%	14'-0"
>4% TO 5%	15'-0" Max



ELEVATION  
NOTE: 1. SIGN LAYOUT, COLORS, SYMBOL AND LETTERING SHALL BE STANDARD.  
2. TO BE LOCATED ON SITE AS DIRECTED.  
3. METAL POST TO BE PAINTED 2 COATS OF EXTERIOR GREEN ENAMEL.  
4. TO BE LOCATED AT APPROPRIATE SPACES.

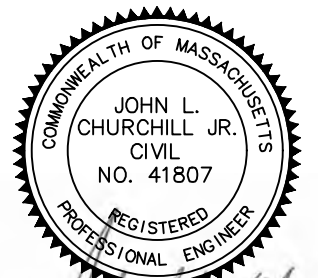
HANDICAP SIGN DETAIL

SIGN SUMMARY		
M.U.T.C.D. NUMBER	SPECIFICATION WIDTH	DESC. HEIGHT
R1-1	24"	24"
R7-8 MA	12"	18"
R7-8b	12"	6"
W11-2	30"	30"
W16-7P	24"	12"
W16-6P	24"	12"
R7-1	12"	18"



LOCUS MAP

SCALE 1" = 2000'



JOHN L. CHURCHILL JR., P.E. DATE

THE CROSSINGS AT THE CANAL

AT  
2 KENDALL RAE PLACE  
IN  
BUZZARDS BAY,  
MASSACHUSETTS  
(BARNSTABLE COUNTY)

DETAIL SHEET

REVISIONS:

No.	DATE	DESC.
2	9/1/22	Peer Review Comments
1	5/16/22	Site Layout Changes

PREPARED FOR:

OXFORD DEVELOPMENT  
GROUP, INC  
20 CENTERVILLE ROAD, STE 1  
WARWICK, RI 02886

PREPARED BY:

JL3 CONSULTING, INC.  
WAREHAM, MA  
508-274-0947

JC ENGINEERING, INC  
2854 CRANBERRY HIGHWAY  
EAST WAREHAM, MA 02538

DATE: AUGUST 17, 2021

CALC./DESIGN: BJW

DRAWN: BJW

CHECK: JLC

JOB NO: 5099

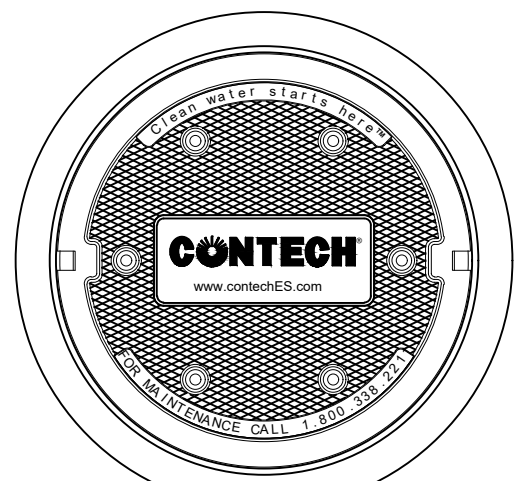


CDS GENERAL NOTES:

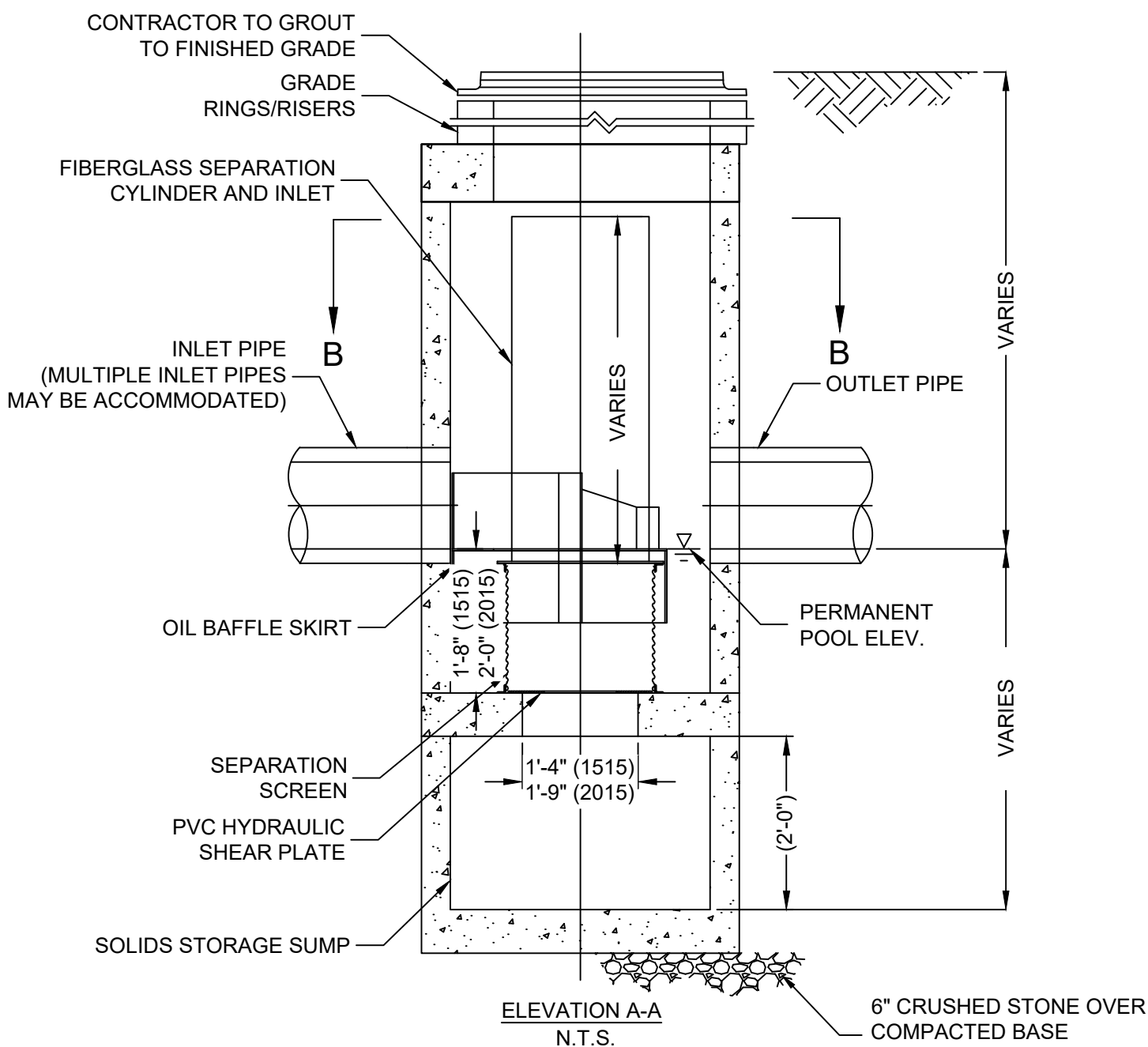
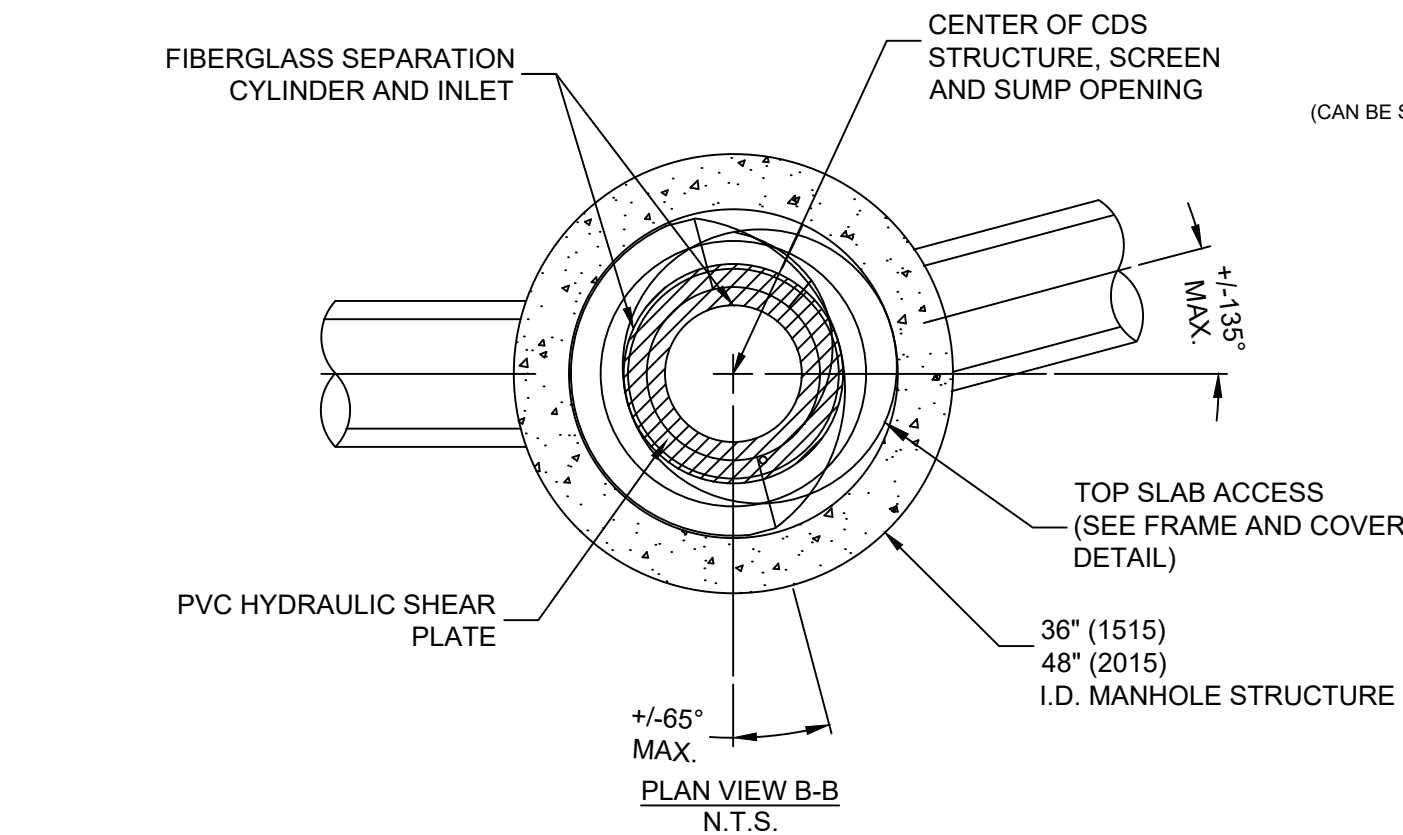
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
- CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET AASHTO H520 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
- IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
- CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

CDS INSTALLATION NOTES:

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



CDS FRAME & COVER  
NOT TO SCALE



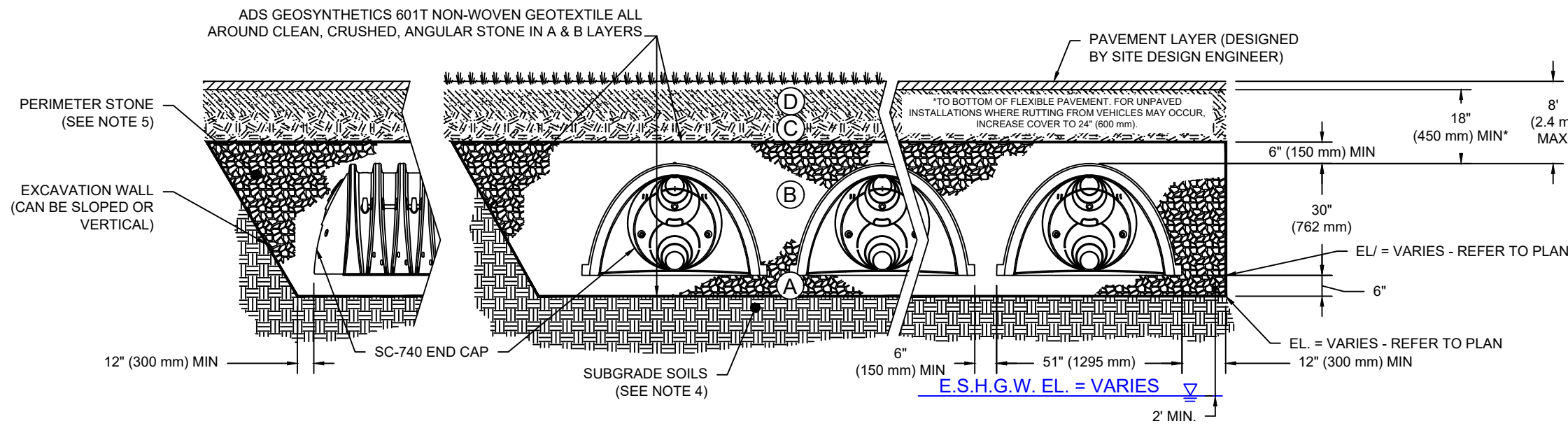
CDS HYDRODYNAMIC SEPARATOR DETAIL  
(NOT FOR CONSTRUCTION)  
NOT TO SCALE

ACCEPTABLE FILL MATERIALS: STORMTECH CHAMBER SYSTEMS

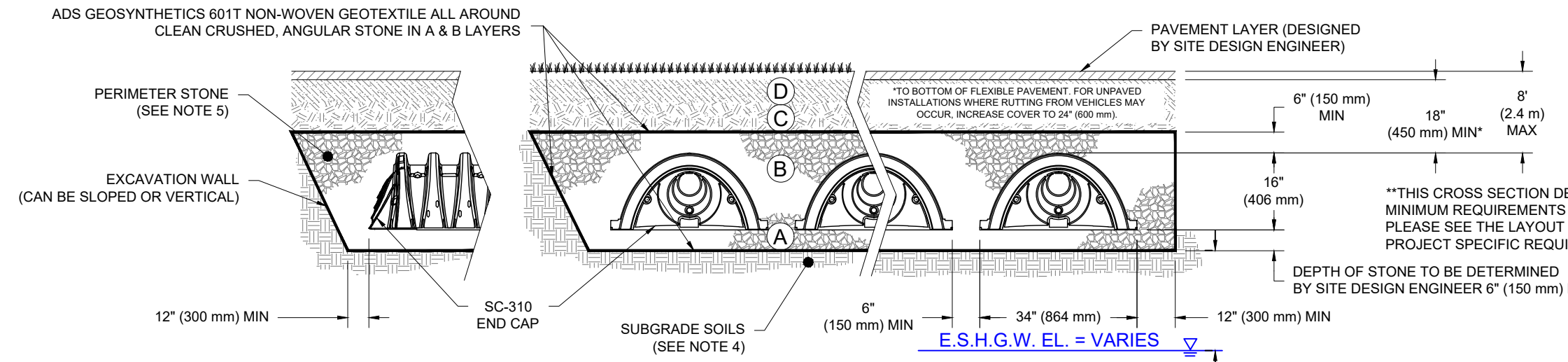
MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	<b>FINAL FILL:</b> FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	<b>INITIAL FILL:</b> FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145' A-1, A-2.4, A-3 OR AASHTO M43' 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	<b>EMBEDMENT STONE:</b> FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43' 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	<b>FOUNDATION STONE:</b> FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER	AASHTO M43' 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>2,3</sup>

PLEASE NOTE:

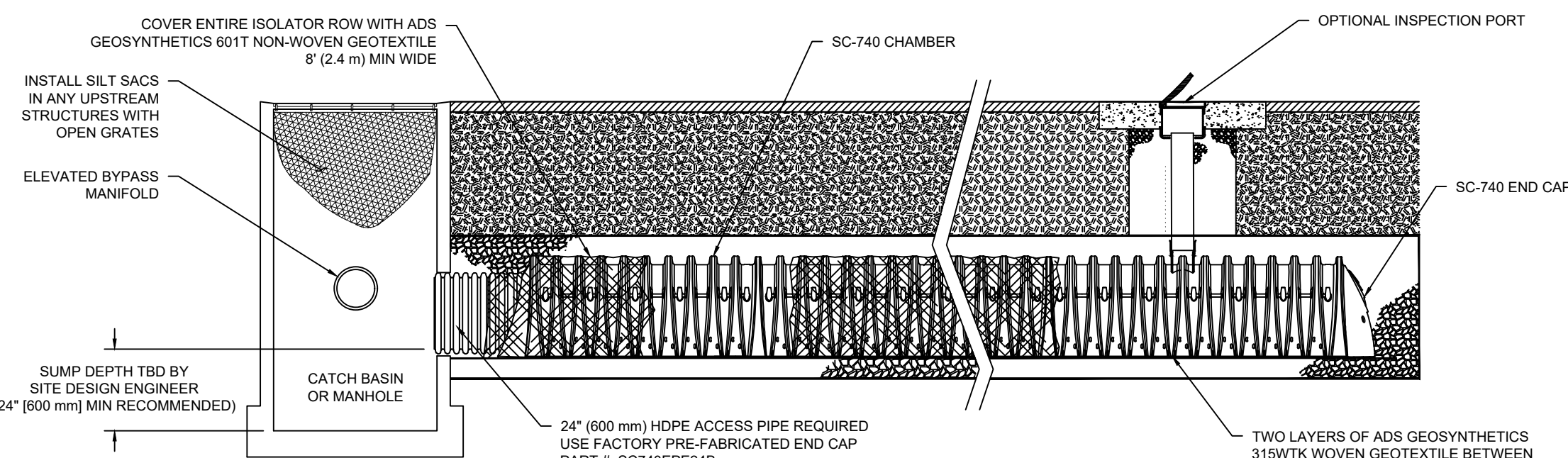
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTIONED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



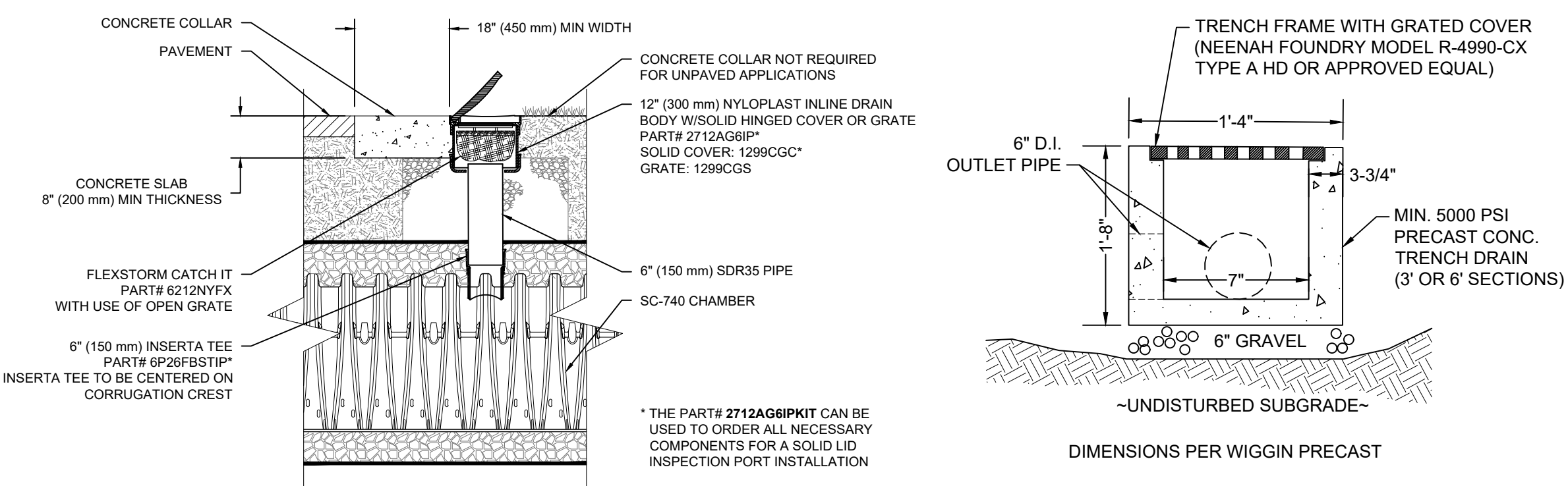
SC-740 CROSS SECTION DETAIL  
NOT TO SCALE



SC-310 CROSS SECTION DETAIL  
NOT TO SCALE



SC-740 ISOLATOR ROW DETAIL  
NOT TO SCALE



INSPECTION PORT DETAIL  
NOT TO SCALE

NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

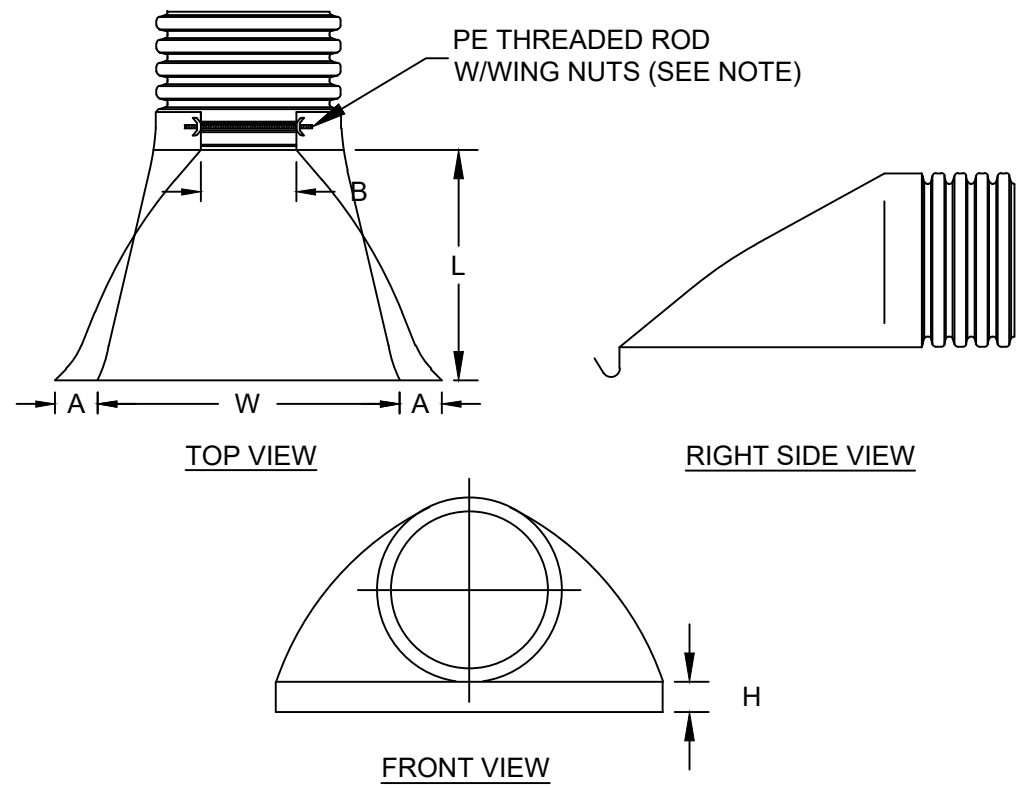
- STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- CHAMBERS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

NOTES FOR CONSTRUCTION EQUIPMENT

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

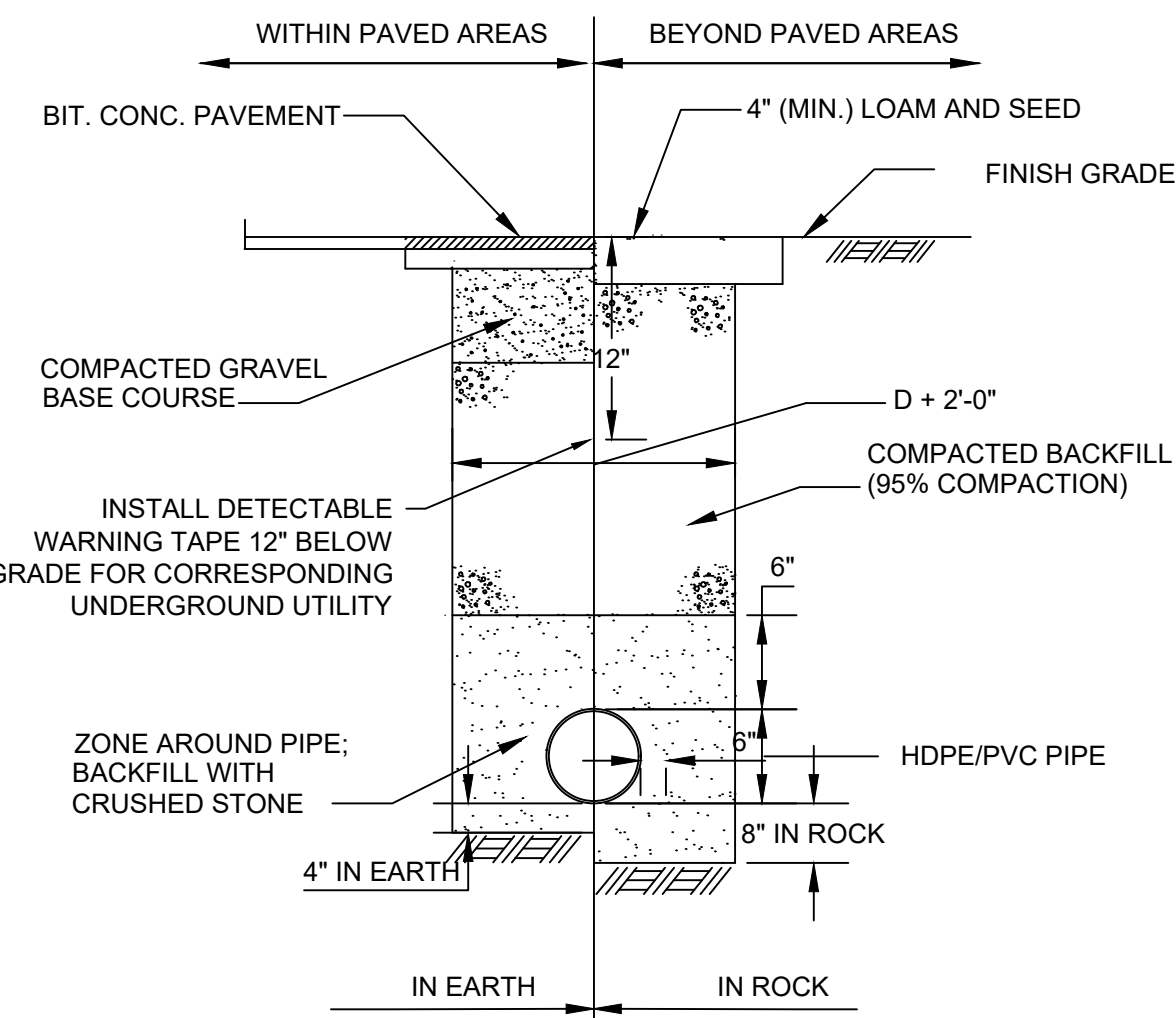
CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



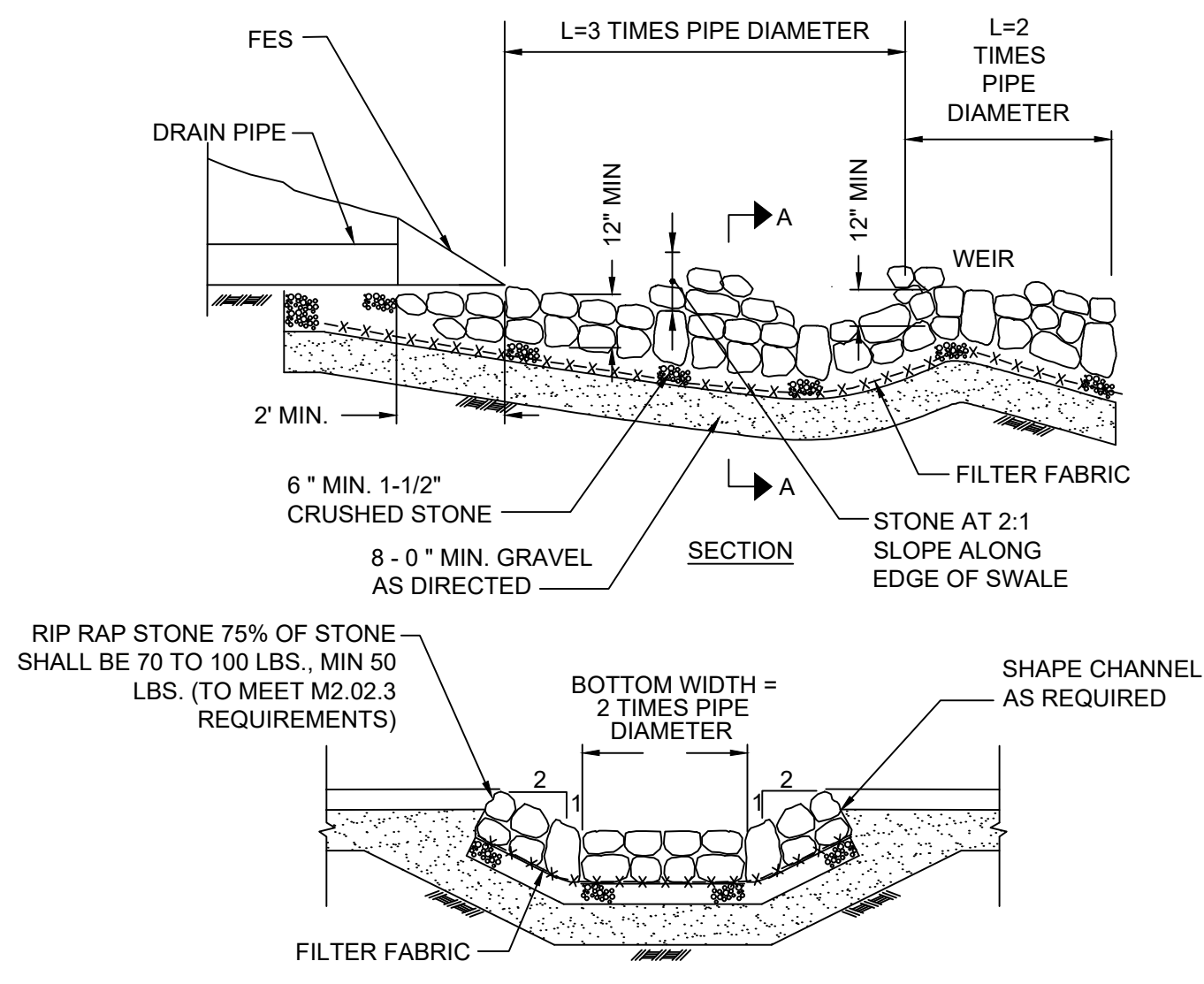
PART	PIPE SIZE	A	B (MAX)	H	L	W
1210-NP	12"	6.5"	10"	6.5"	25"	29"
	300 mm	165 mm	254 mm	165 mm	635 mm	735 mm

NOTE: PE THREADED ROD W/WING NUTS PROVIDED FOR END SECTIONS 12"-24", 30" & 36" END SECTIONS TO BE WELDED TO PIPE PER MANUFACTURER'S RECOMMENDATIONS.

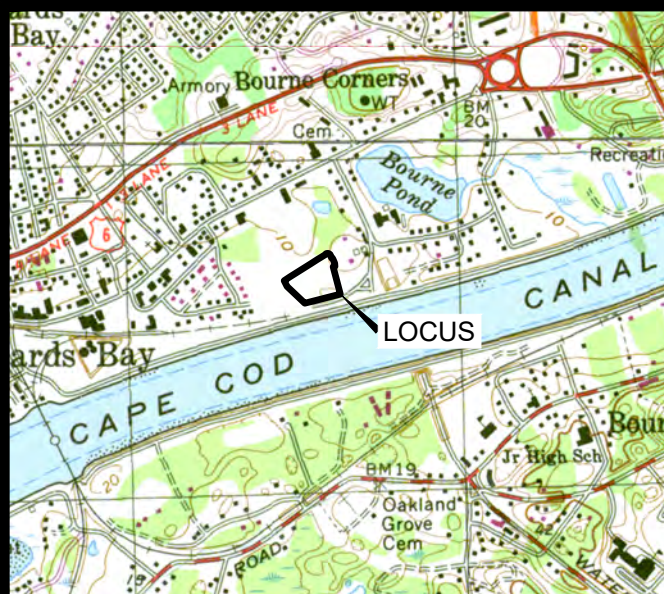
ADS FLARED END SECTION  
NOT TO SCALE



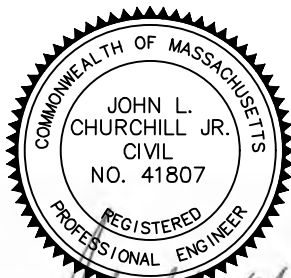
TRENCH DETAIL  
NOT TO SCALE



RIP-RAP  
NOT TO SCALE



LOCUS MAP  
SCALE 1" = 2000'



JOHN L. CHURCHILL JR., P.E. DATE

THE CROSSINGS AT  
THE CANAL  
AT  
2 KENDALL RAE PLACE  
IN  
BUZZARDS BAY,  
MASSACHUSETTS  
(BARNSTABLE COUNTY)

DETAIL  
SHEET

REVISIONS:

No.	DATE	DESC.
2	9/1/22	Peer Review Comments
1	5/16/22	Site Layout Changes

PREPARED FOR:

OXFORD DEVELOPMENT  
GROUP, INC  
20 CENTERVILLE ROAD, STE 1  
WARWICK, RI 02886

PREPARED BY:

JL3 CONSULTING, INC.  
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2854 CRANBERRY HIGHWAY  
EAST WAREHAM, MA 02538

DATE: AUGUST 17, 2021

CALC./DESIGN: BJW

DRAWN: BJW

CHECK: JLC

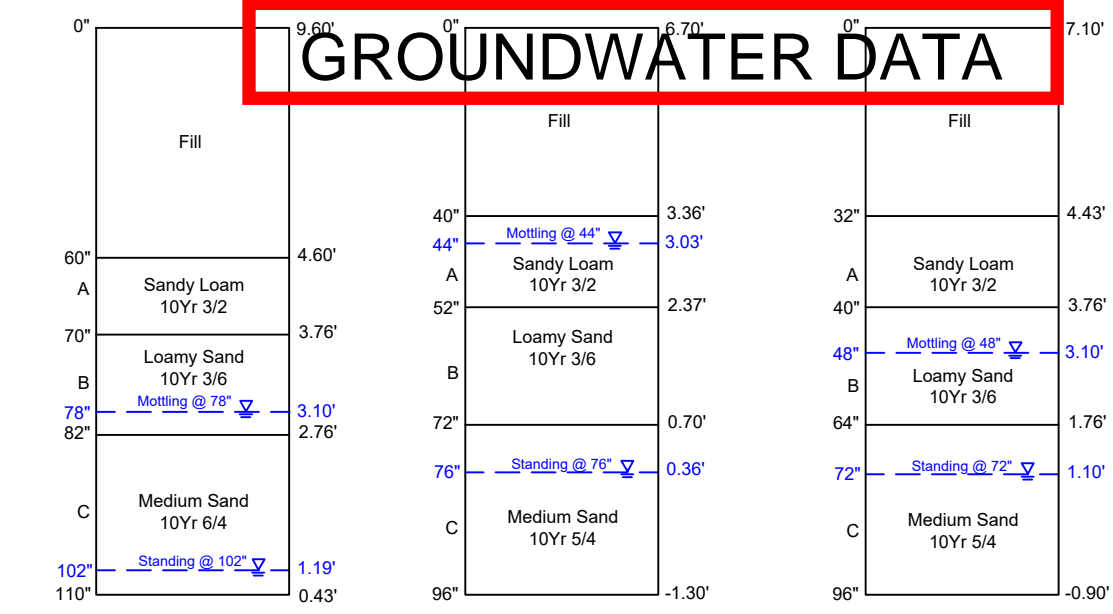
JOB NO: 5099



## TEST PIT DATA

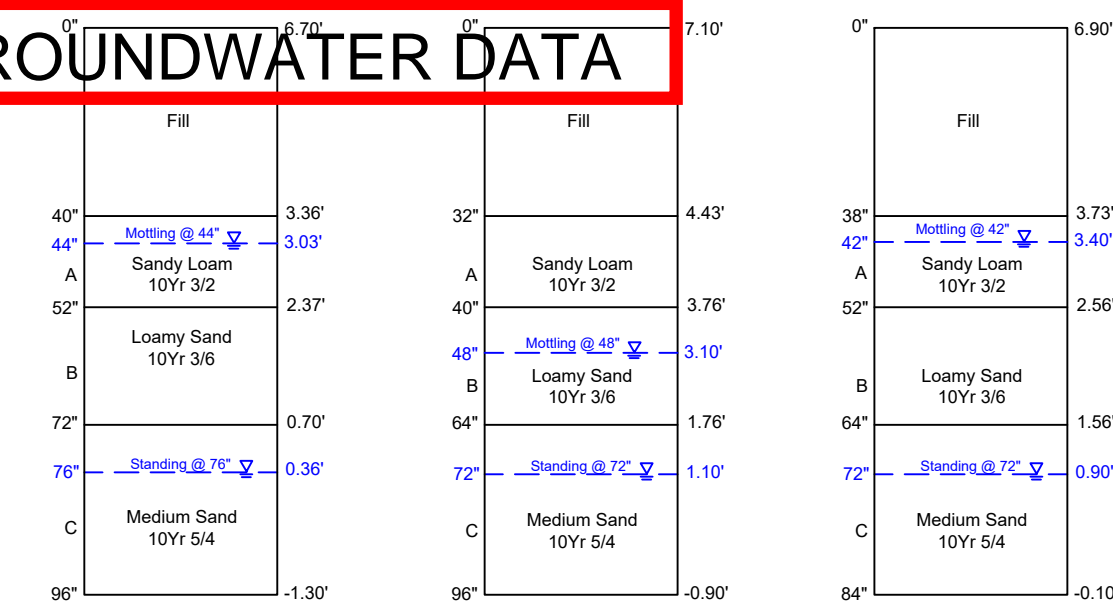
## TEST PIT D1

EVALUATOR: Brian J. Wallace, CSE  
DATE: August 12, 2022  
TEST PIT #: D1  
ELEV TOP = 9.60'  
ESHOW EL = 3.10'



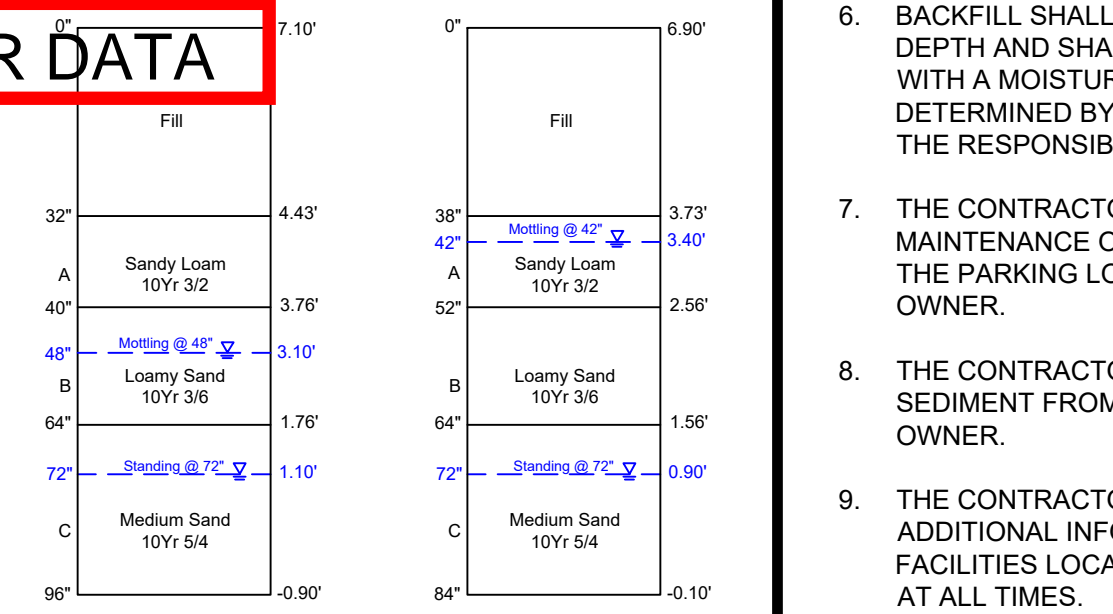
## TEST PIT D2

EVALUATOR: Brian J. Wallace, CSE  
DATE: August 12, 2022  
TEST PIT #: D2  
ELEV TOP = 6.70'  
ESHOW EL = 3.03'



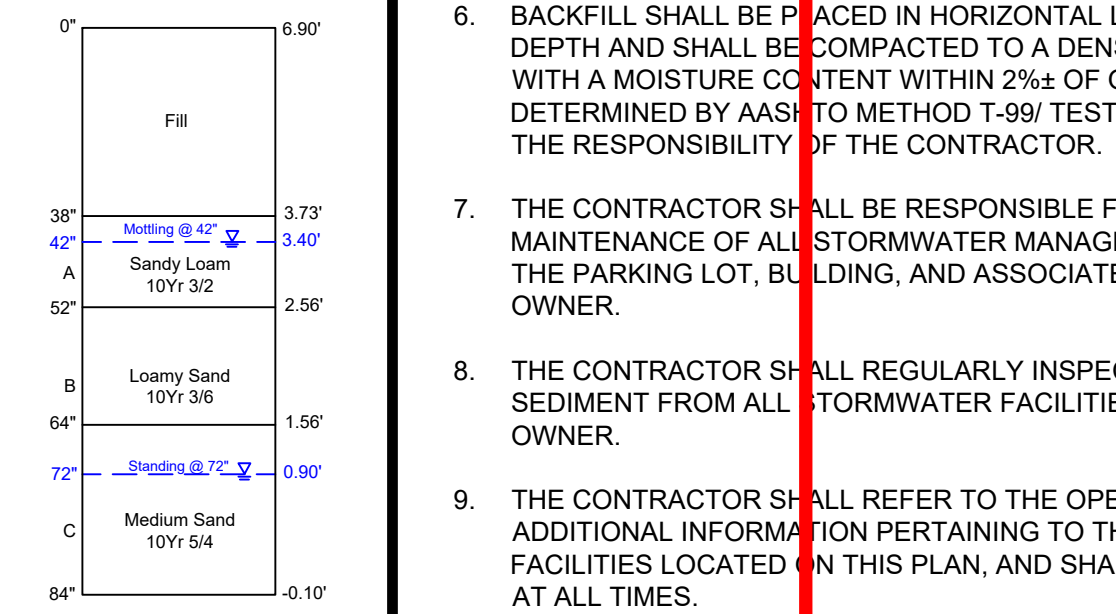
## TEST PIT D3

EVALUATOR: Brian J. Wallace, CSE  
DATE: August 12, 2022  
TEST PIT #: D3  
ELEV TOP = 7.10'  
ESHOW EL = 3.10'



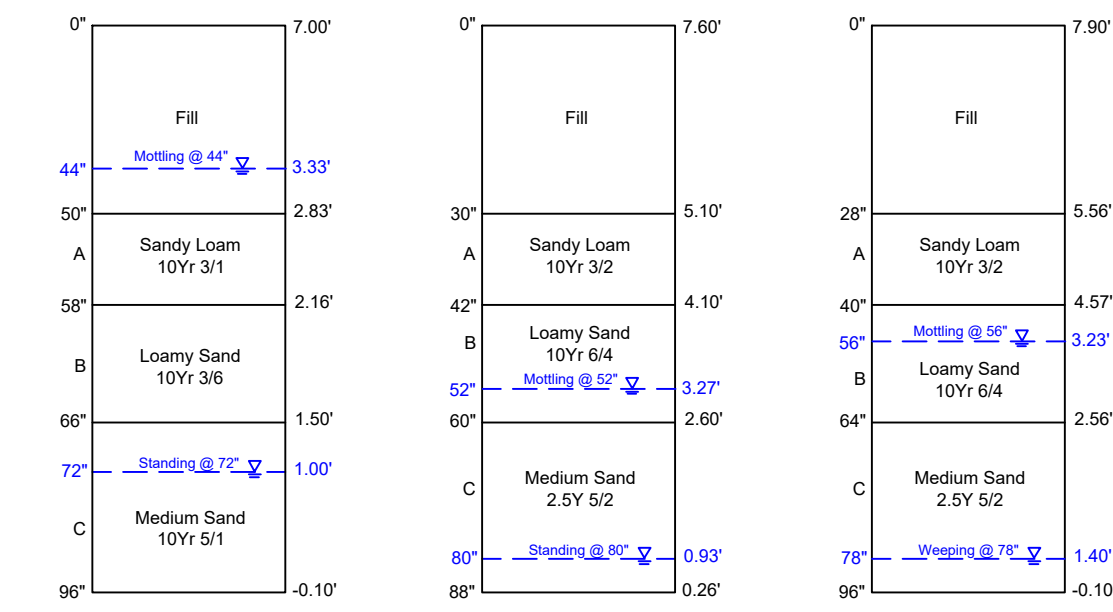
## TEST PIT D4

EVALUATOR: Brian J. Wallace, CSE  
DATE: August 12, 2022  
TEST PIT #: D4  
ELEV TOP = 8.90'  
ESHOW EL = 3.57'



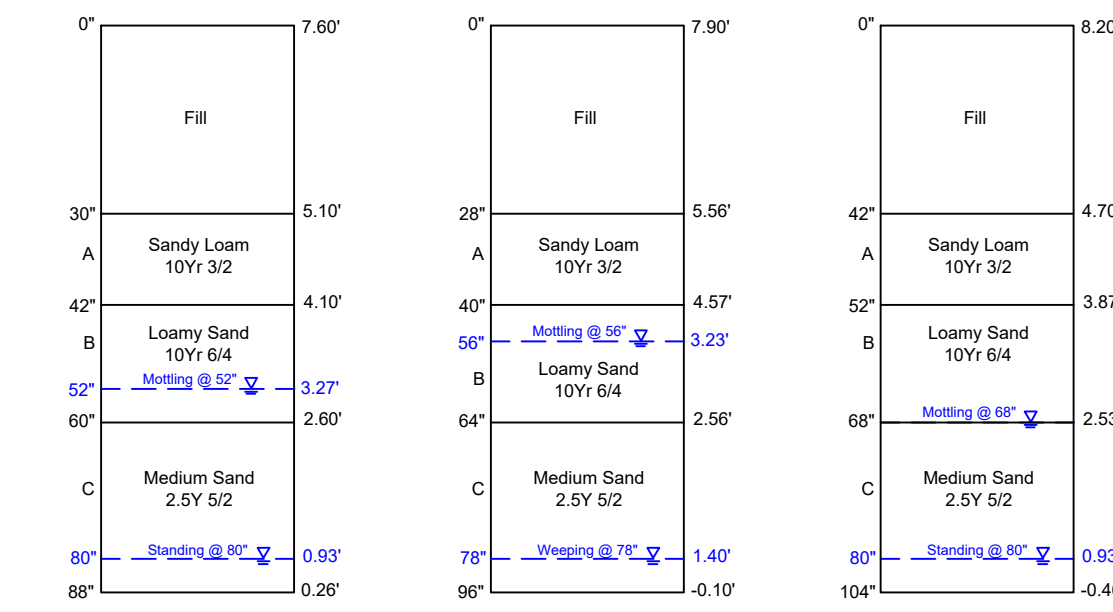
## TEST PIT D5

EVALUATOR: Brian J. Wallace, CSE  
DATE: August 12, 2022  
TEST PIT #: D5  
ELEV TOP = 7.00'  
ESHOW EL = 3.33'



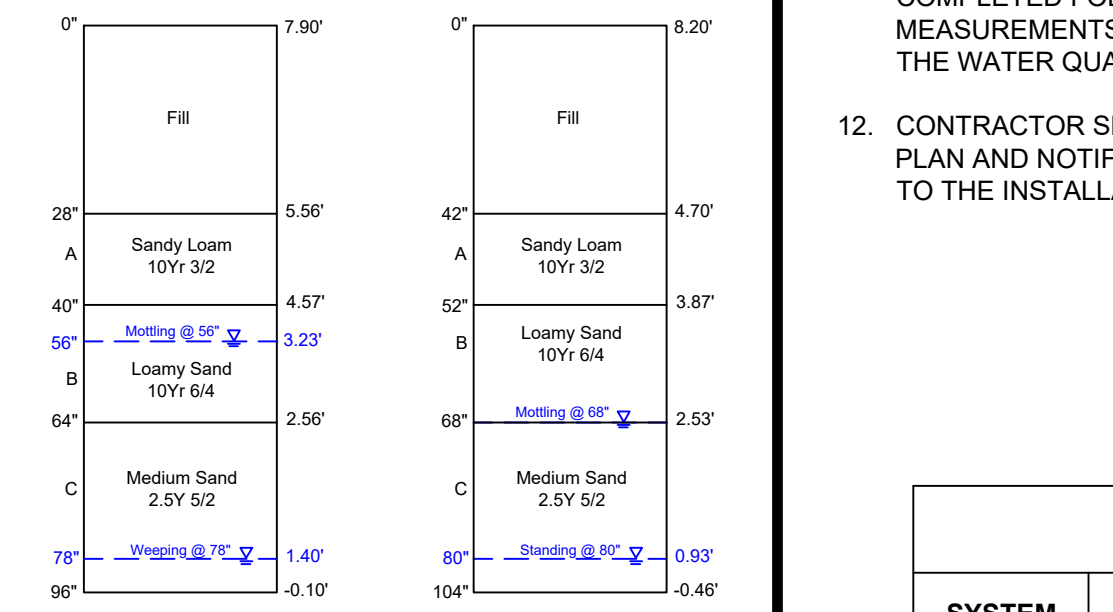
## TEST PIT D6

EVALUATOR: Brian J. Wallace, CSE  
DATE: August 12, 2022  
TEST PIT #: D6  
ELEV TOP = 7.60'  
ESHOW EL = 3.27'



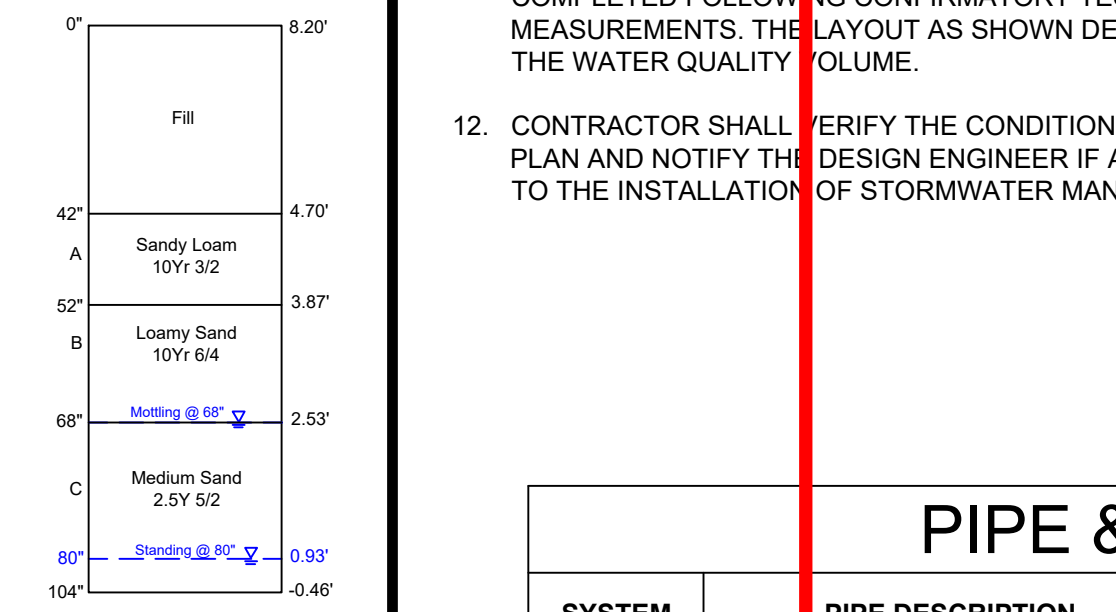
## TEST PIT D7

EVALUATOR: Brian J. Wallace, CSE  
DATE: August 12, 2022  
TEST PIT #: D7  
ELEV TOP = 7.90'  
ESHOW EL = 3.23'



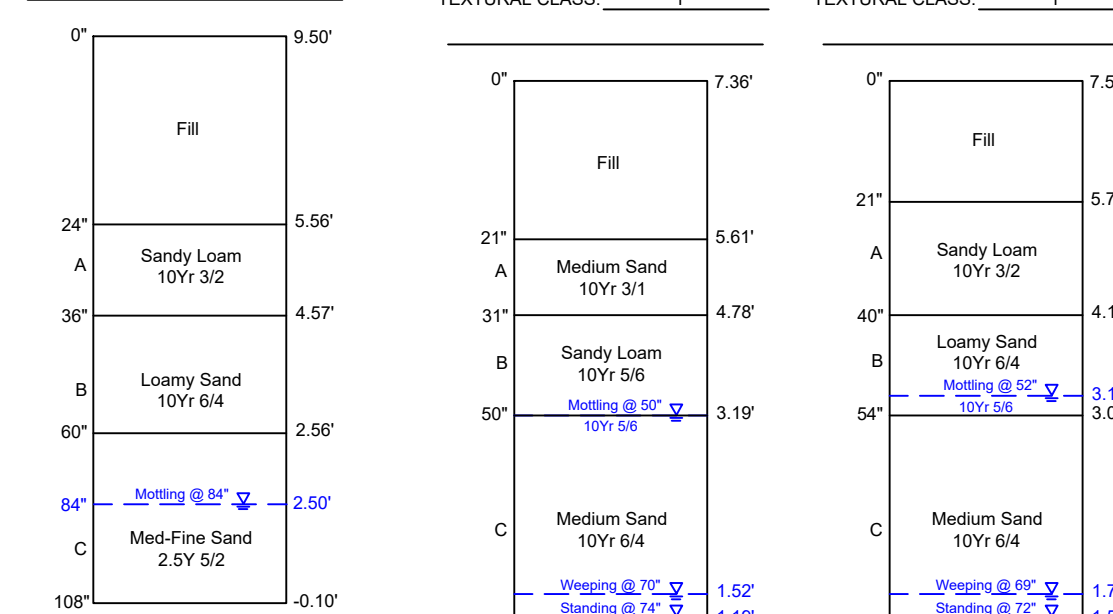
## TEST PIT D8

EVALUATOR: Brian J. Wallace, CSE  
DATE: August 12, 2022  
TEST PIT #: D8  
ELEV TOP = 8.20'  
ESHOW EL = 2.53'



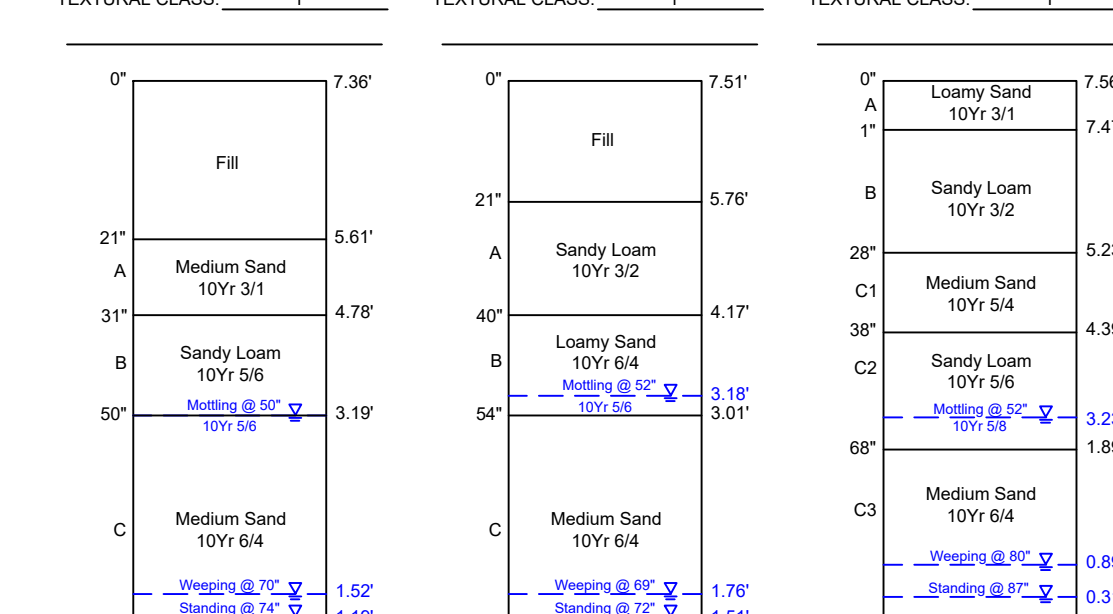
## TEST PIT D9

EVALUATOR: Brian J. Wallace, CSE  
DATE: August 12, 2022  
TEST PIT #: D9  
ELEV TOP = 9.50'  
ESHOW EL = 2.50'



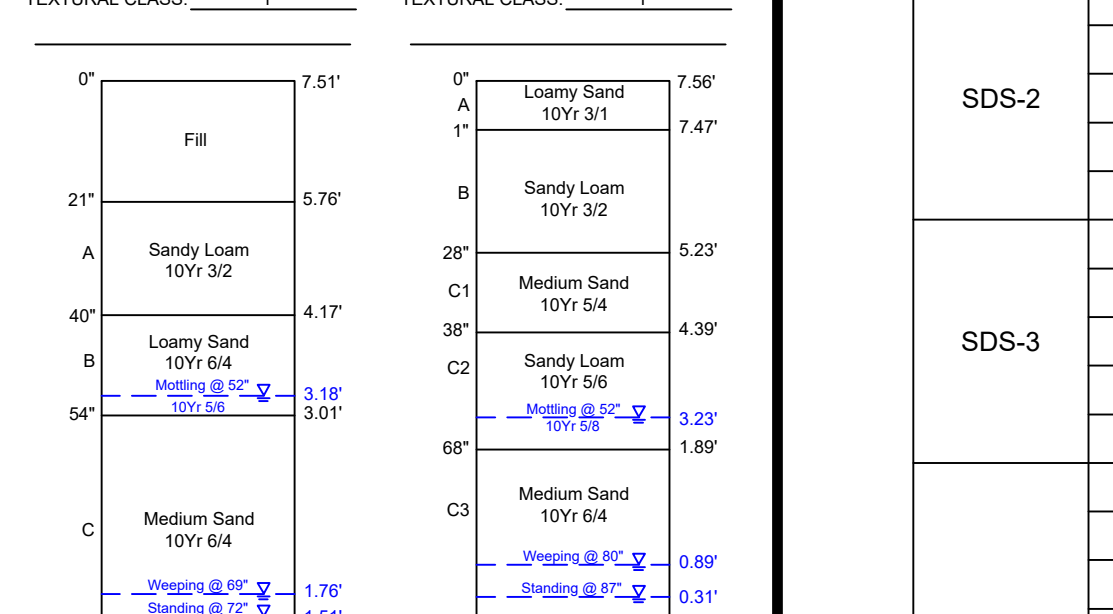
## TEST PIT #3.1

EVALUATOR: Joseph Longo  
DATE: February 12, 2020  
TEST PIT #: 3.1  
ELEV TOP = 7.36'  
ELEV WATER = 3.19'  
TEXTURAL CLASS: 1



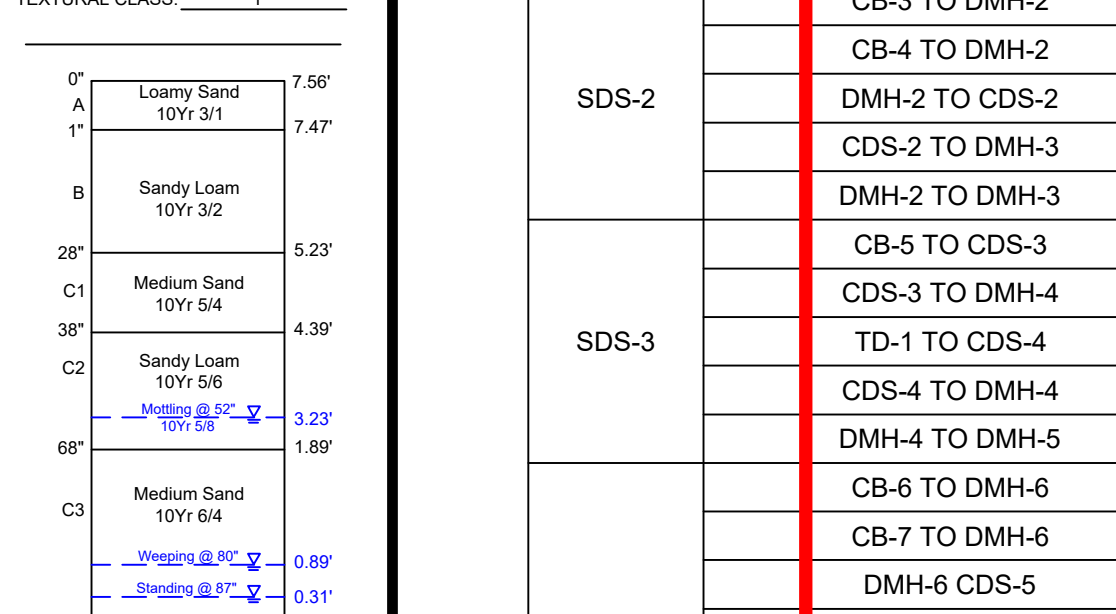
## TEST PIT #3.3

EVALUATOR: Joseph Longo  
DATE: February 12, 2020  
TEST PIT #: 3.3  
ELEV TOP = 7.51'  
ELEV WATER = 3.19'  
TEXTURAL CLASS: 1



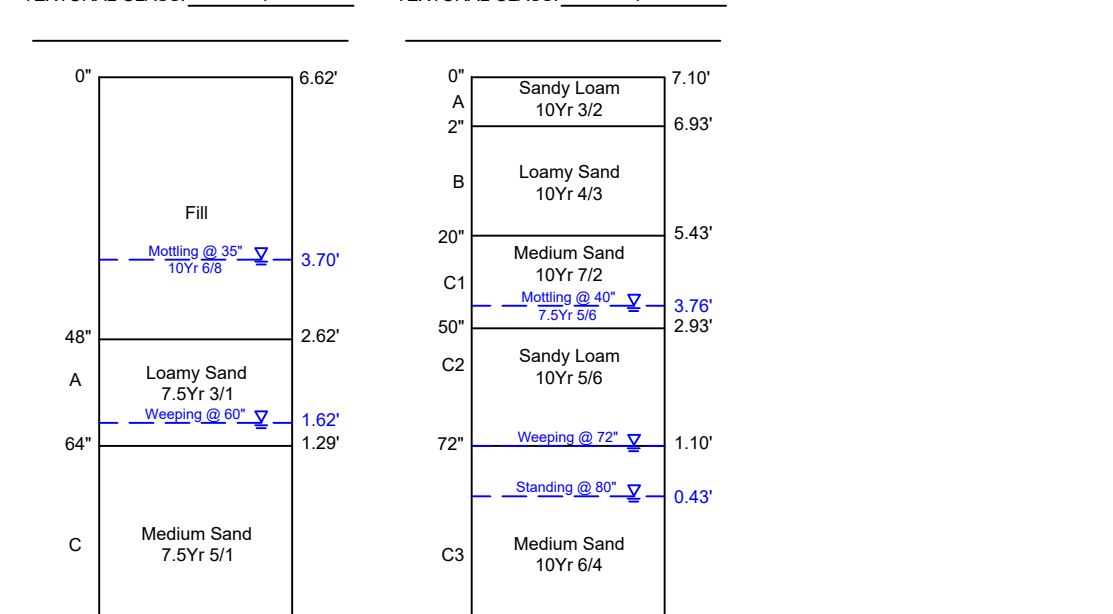
## TEST PIT #3.2

EVALUATOR: Joseph Longo  
DATE: February 12, 2020  
TEST PIT #: 3.2  
ELEV TOP = 7.56'  
ELEV WATER = 3.23'  
TEXTURAL CLASS: 1



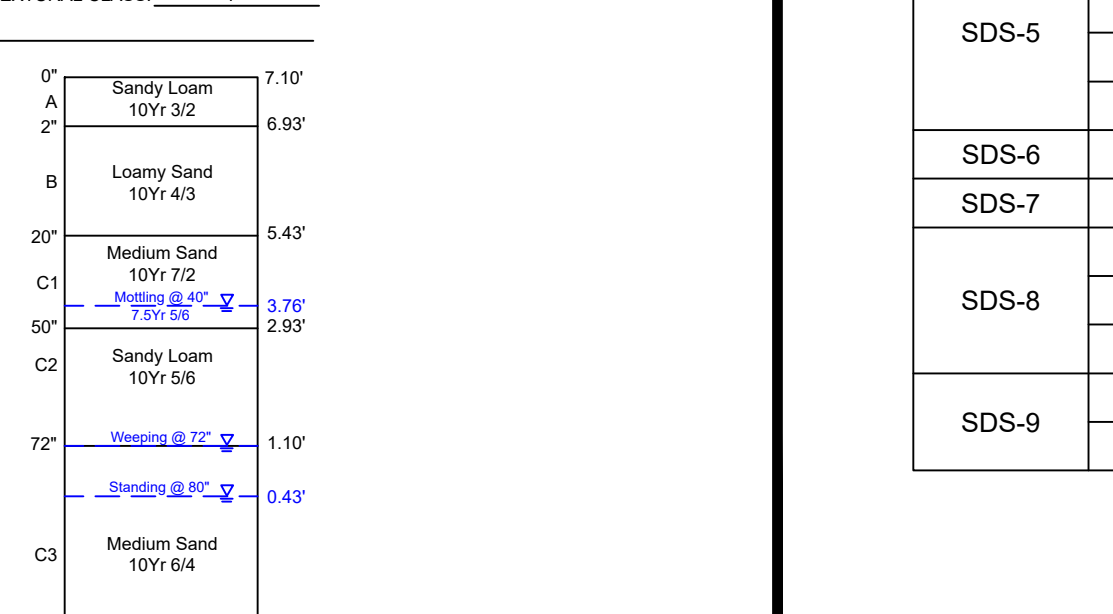
## TEST PIT #3.4

EVALUATOR: Joseph Longo  
DATE: February 12, 2020  
TEST PIT #: 3.4  
ELEV TOP = 8.62'  
ELEV WATER = 3.70'  
TEXTURAL CLASS: 1



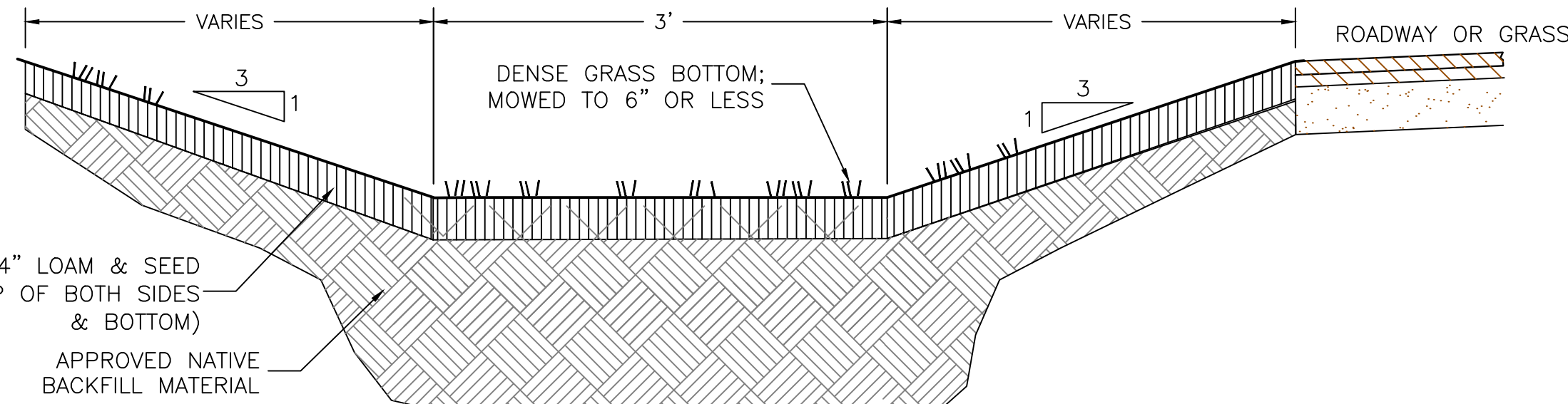
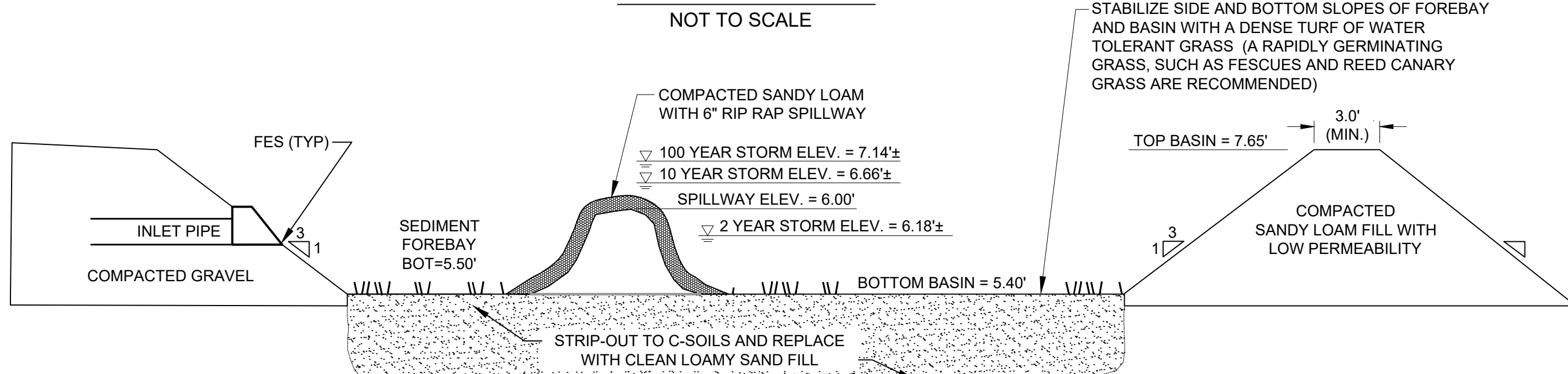
## TEST PIT #3.5

EVALUATOR: Joseph Longo  
DATE: February 12, 2020  
TEST PIT #: 3.5  
ELEV TOP = 7.10'  
ELEV WATER = 3.78'  
TEXTURAL CLASS: 1

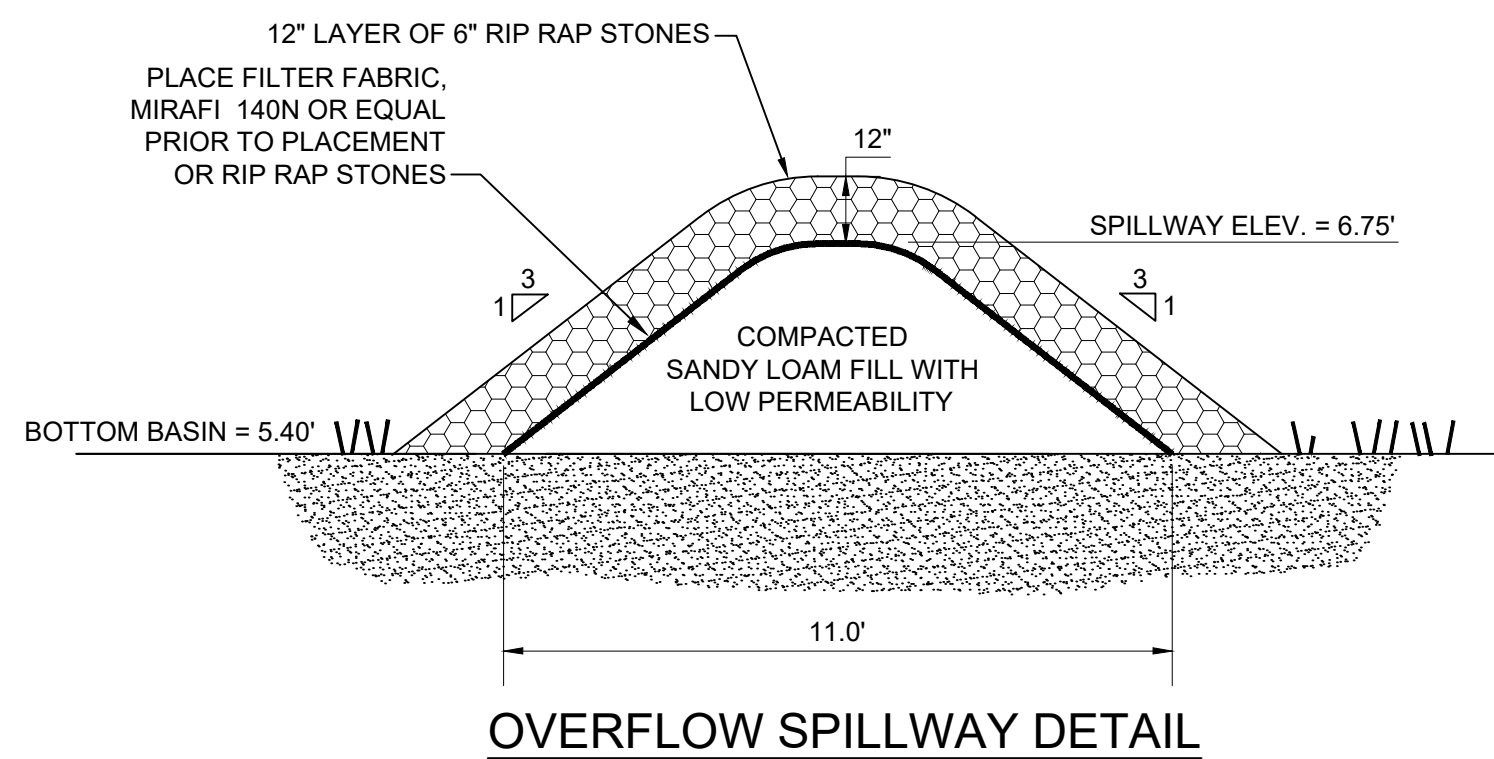
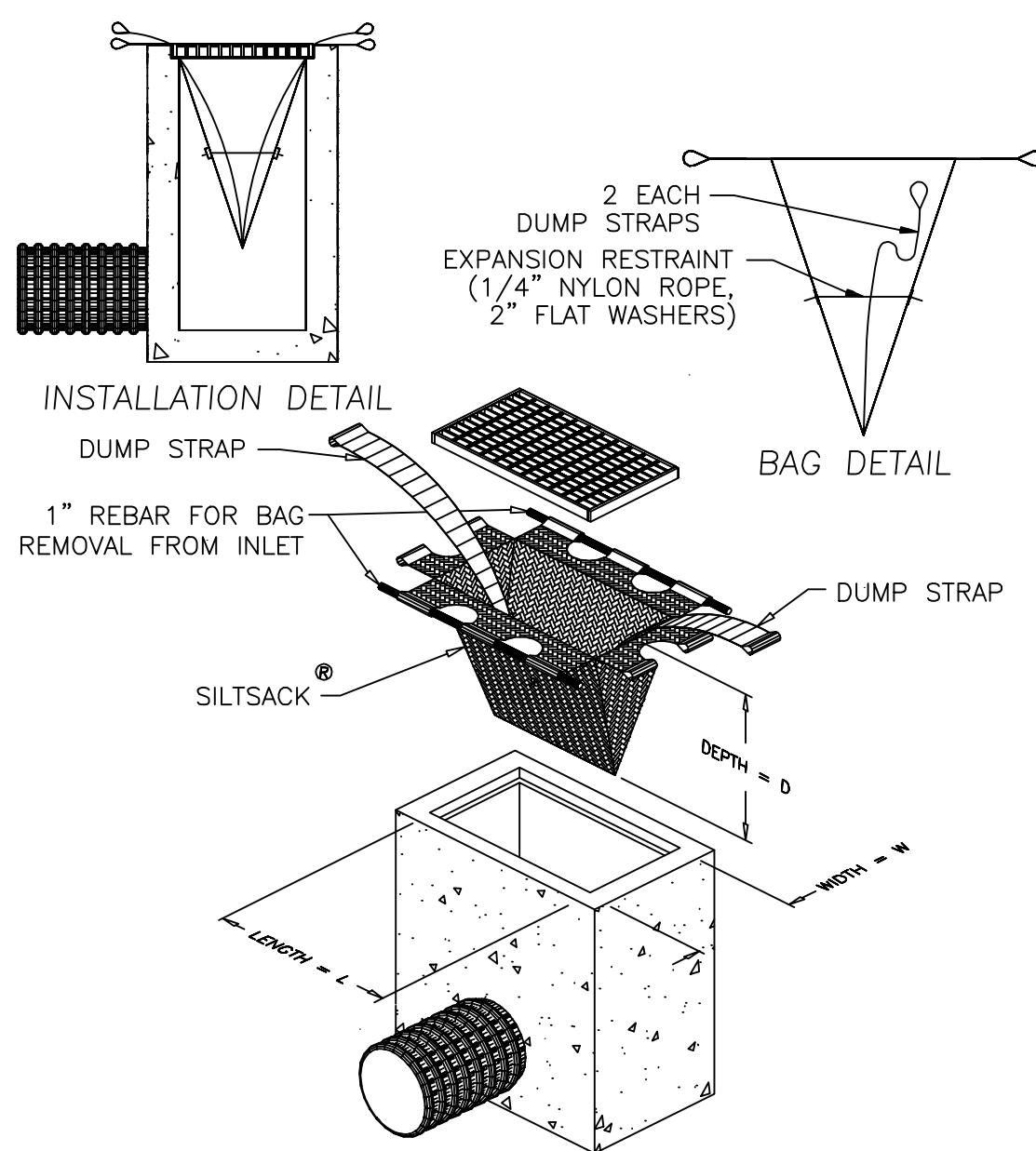


## GRADING &amp; DRAINAGE NOTES

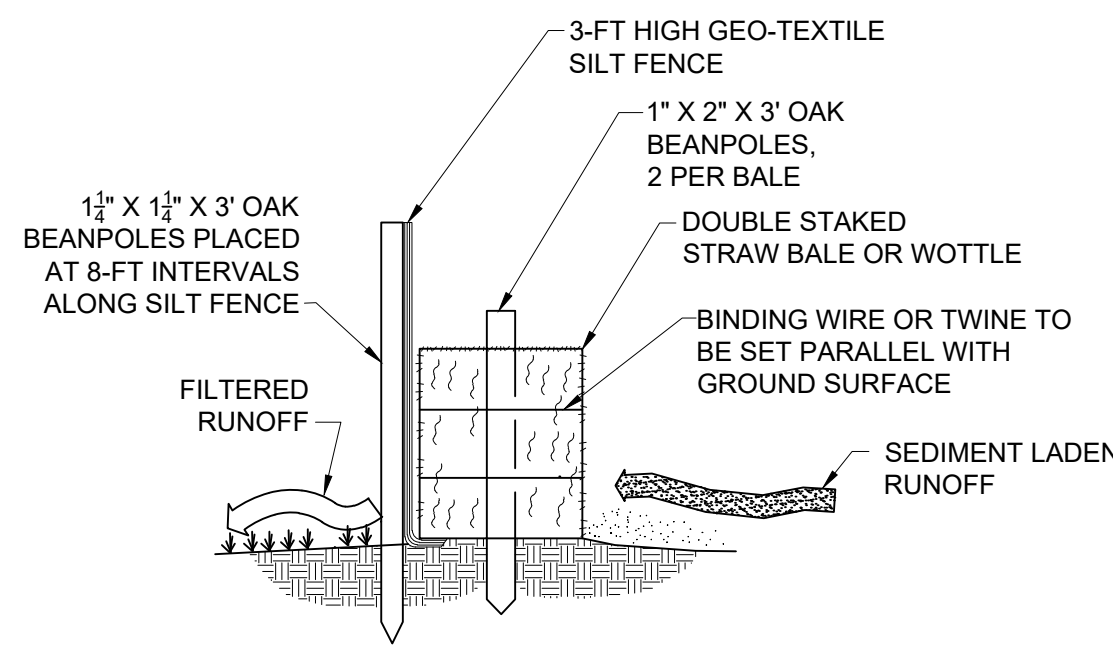
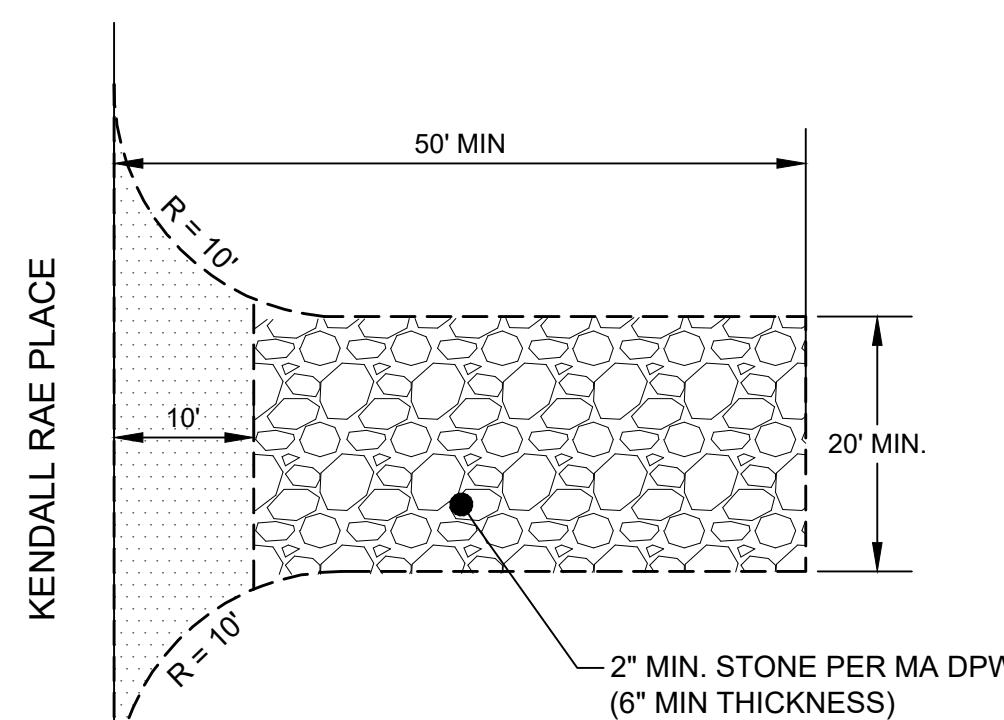
- ALL CUT & FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED ON THIS PLAN.
- EXISTING AND PROPOSED GRADE CONTOURS ARE SHOWN AT 1-FT INTERVALS.
- ALL DRAINAGE PIPES UNLESS OTHERWISE NOTED, ARE TO BE HIGH-DENSITY POLYETHYLENE (HDPE) AND CONFORM TO AASHTO M284 CORRUGATED POLYETHYLENE PIPE WITH SOIL TIGHT JOINTS AND FITTINGS. REFER TO PLAN FOR LOCATIONS, SIZES, LENGTHS AND SLOPES.
- MINIMUM COVER OVER PIPE SHALL NOT BE LESS THAN 1.0 FEET.
- PARKING AREAS SHALL NOT BE PAVED UNTIL THE ENTIRE PERMANENT DRAINAGE SYSTEM HAS BEEN INSTALLED AND PIPE CONNECTIONS COMPLETE. CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO BACKFILL FOR INSPECTION.
- BACKFILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING SIX INCHES IN DEPTH AND SHALL BE COMPACTED TO A DENSITY OF 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN 2%± OF OPTIMUM. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99/ TESTING OF BACKFILL MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER INSPECTION AND MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES UNTIL SUCH TIME THAT THE PARKING LOT, BUILDING, AND ASSOCIATED UTILITIES ARE ACCEPTED BY THE OWNER.
- THE CONTRACTOR SHALL REGULARLY INSPECT AND REMOVE DEBRIS AND/OR SEDIMENT FROM ALL STORMWATER FACILITIES PRIOR TO FINAL ACCEPTANCE OF THE OWNER.
- THE CONTRACTOR SHALL REFER TO THE OPERATION AND MAINTENANCE PLAN FOR ADDITIONAL INFORMATION PERTAINING TO THE STORMWATER MANAGEMENT FACILITIES LOCATED ON THIS PLAN, AND SHALL HAVE A COPY OF SAID PLAN ON SITE AT ALL TIMES.
- UTILITIES AS SHOWN ON THIS PLAN ARE BASED ON RECORD PLANS AVAILABLE AND FIELD LOCATED MARK-OUTS PERFORMED BY THE RESPECTIVE UTILITY COMPANY. UTILITY LOCATIONS ON THIS PLAN SHALL BE CONSIDERED APPROXIMATE ONLY AND MAY NOT FULLY REPRESENT ALL UNDERGROUND UTILITIES LOCATED ON SITE. THE CONTRACTOR SHALL CONTACT DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- FINAL DESIGN AND LAYOUT OF CONSTRUCTED STORMWATER WETLAND TO BE COMPLETED FOLLOWING CONFIRMATORY TEST PIT AND GROUNDWATER MEASUREMENTS. THE LAYOUT AS SHOWN DEMONSTRATES ADEQUATE CAPACITY FOR THE WATER QUALITY VOLUME.
- CONTRACTOR SHALL VERIFY THE CONDITIONS IN THE TEST PITS AS SHOWN ON THIS PLAN AND NOTIFY THE DESIGN ENGINEER IF ANY DISCREPANCIES ARE FOUND PRIOR TO THE INSTALLATION OF STORMWATER MANAGEMENT FACILITIES.

GRASS CHANNEL (BIOSWALE)  
CROSS SECTION  
NOT TO SCALE

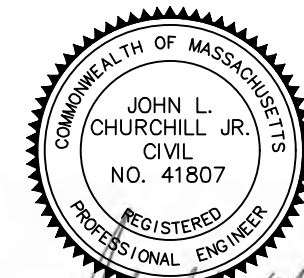
- NOTES:
- DETENTION BASIN IS DESIGNED TO INFILTRATE.
  - CLEAN GRANULAR SOIL IS TO BE USED IN THE INFILTRATION AREA OF BASINS AND FOREBAYS.
  - LIGHT EARTH MOVING EQUIPMENT IS TO BE USED DURING CONSTRUCTION TO REDUCE COMPACTION OF BASIN BOTTOM.
  - PROPER EROSION SEDIMENT CONTROLS SHOULD BE UTILIZED DURING CONSTRUCTION TO PREVENT SEDIMENT AND/OR DEBRIS FROM ENTERING THE BASIN.

SEDIMENT FOREBAY / INFILTRATION BASIN  
NOT TO SCALEOVERFLOW SPILLWAY DETAIL  
NOT TO SCALE

- NOTE: SILT SACKS SHALL BE PLACED IN ALL EXISTING CATCH BASINS LOCATED DOWN GRADIENT OF PROPOSED CONSTRUCTION ENTRANCE AND IN ANY NEW CATCH BASINS INSTALLED PRIOR TO SLOPE STABILIZATION.

DETAIL OF SILT SACK SEDIMENT CONTROL DEVICE  
NOT TO SCALECROSS SECTION OF  
HAYBALE/SILT FENCE LINE  
NOT TO SCALETEMPORARY CONSTRUCTION  
ENTRANCE DETAIL  
NOT TO SCALE

LOCUS MAP  
SCALE 1" = 2000'



JOHN L. CHURCHILL, JR., P.E. DATE

THE CROSSINGS AT  
THE CANAL  
AT

2 KENDALL RAE PLACE  
IN  
BUZZARDS BAY,  
MASSACHUSETTS  
(BARNSTABLE COUNTY)

DETAIL  
SHEET

## REVISIONS:

No.	DATE	DESC.
2	9/1/22	Peer Review Comments
1	5/16/22	Site Layout Changes

## PREPARED FOR:

OXFORD DEVELOPMENT  
GROUP, INC  
20 CENTERVILLE ROAD, STE 1  
WARWICK, RI 02886

## PREPARED BY:

JL3 CONSULTING, INC.  
WAREHAM, MA  
508-274-0947

JC ENGINEERING, INC  
2854 CRANBERRY HIGHWAY  
EAST WAREHAM, MA 02538

DATE: AUGUST 17, 2021

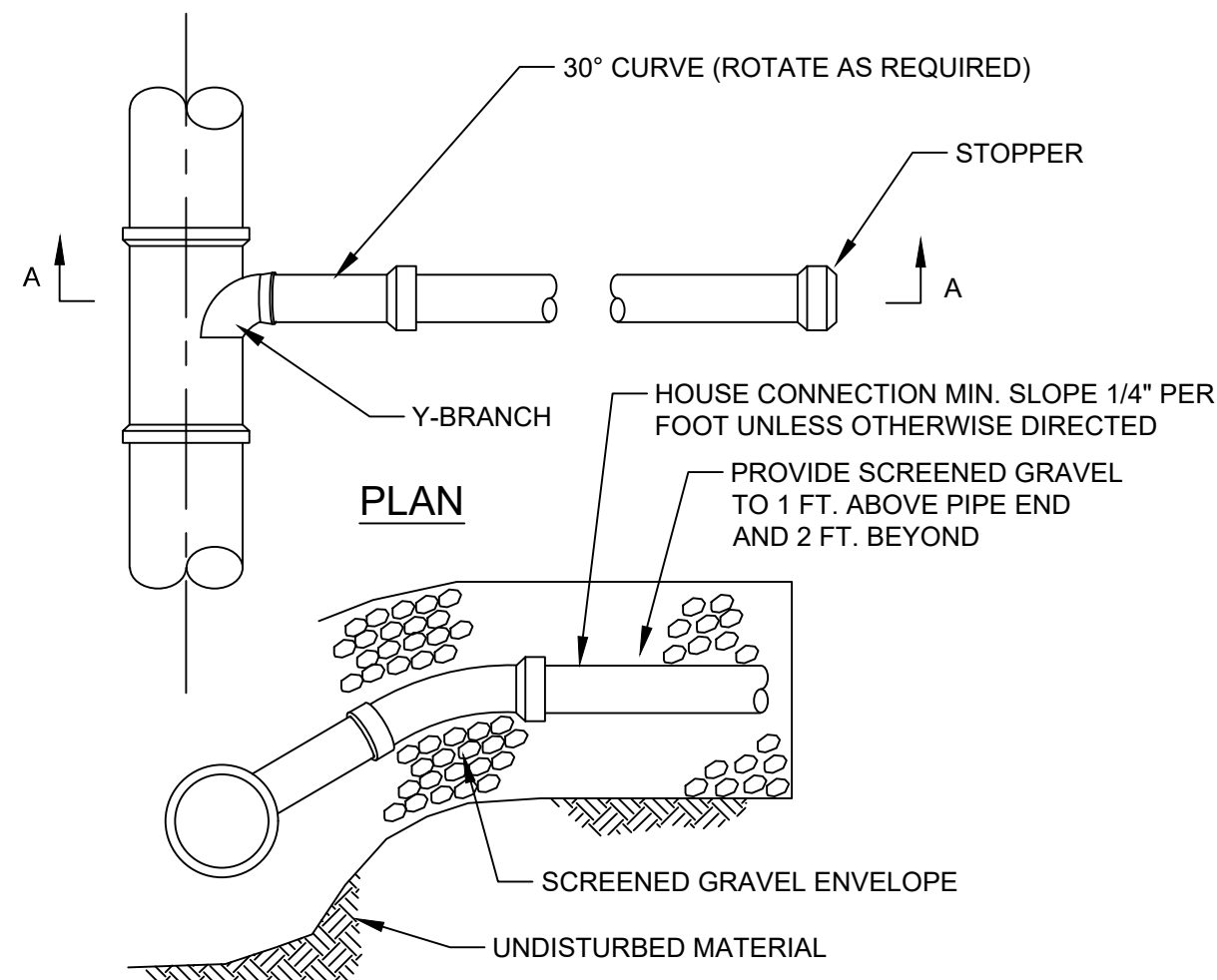
CALC./DESIGN: BJW

DRAWN: BJW

CHECK: JLC

JOB NO: 5099

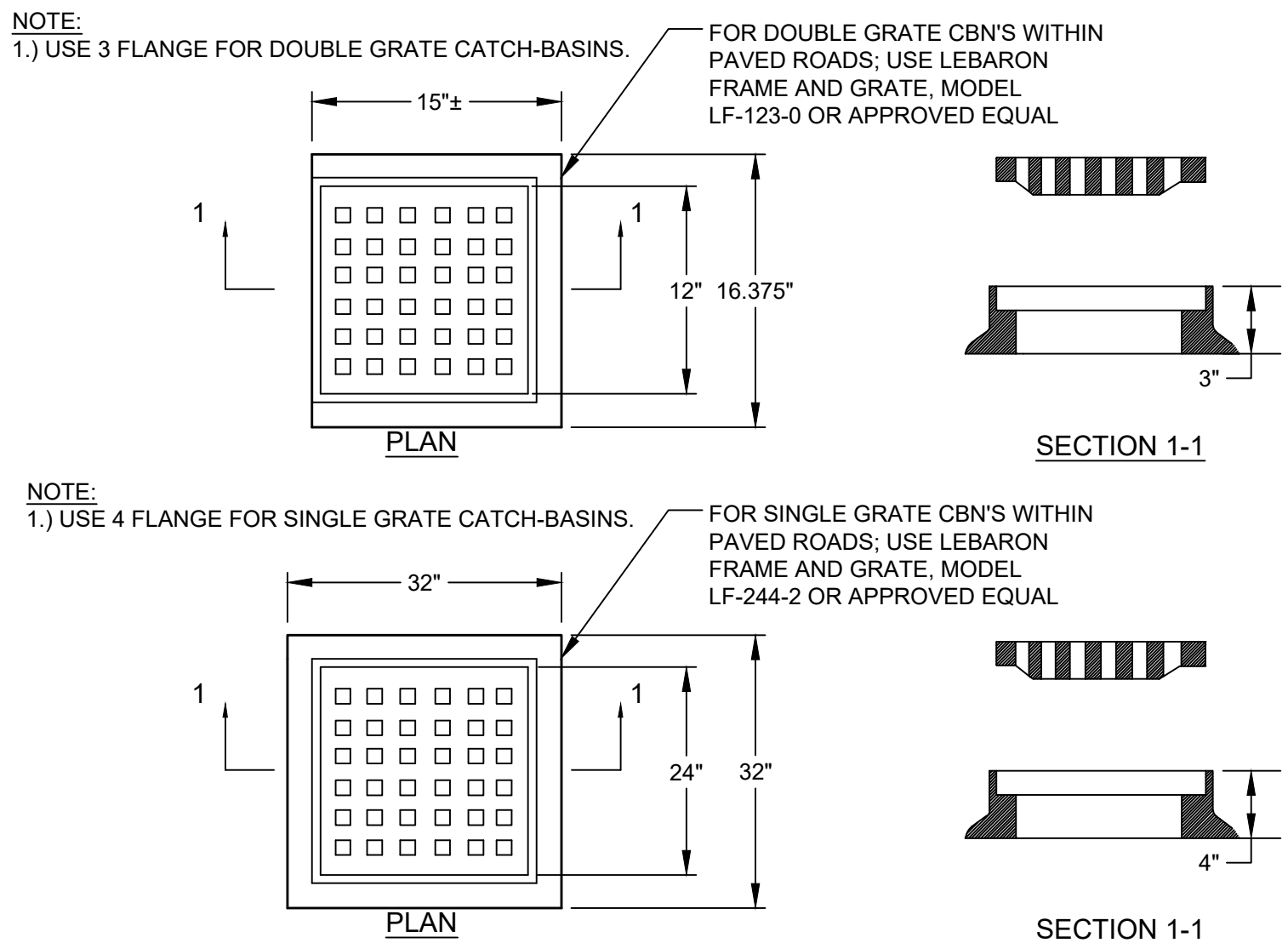




SECTION A-A

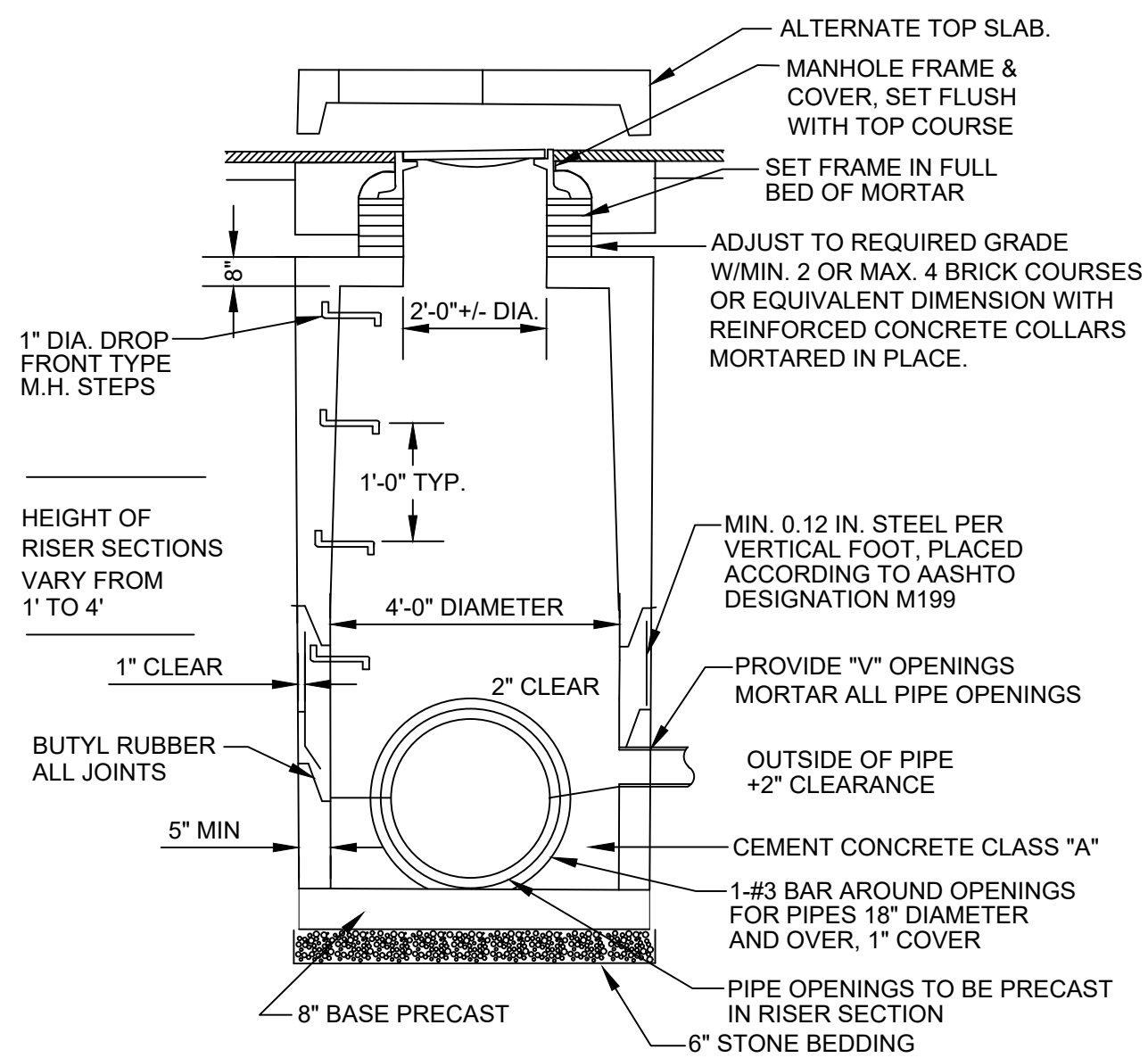
## SEWER SERVICE CONNECTION

NOT TO SCALE



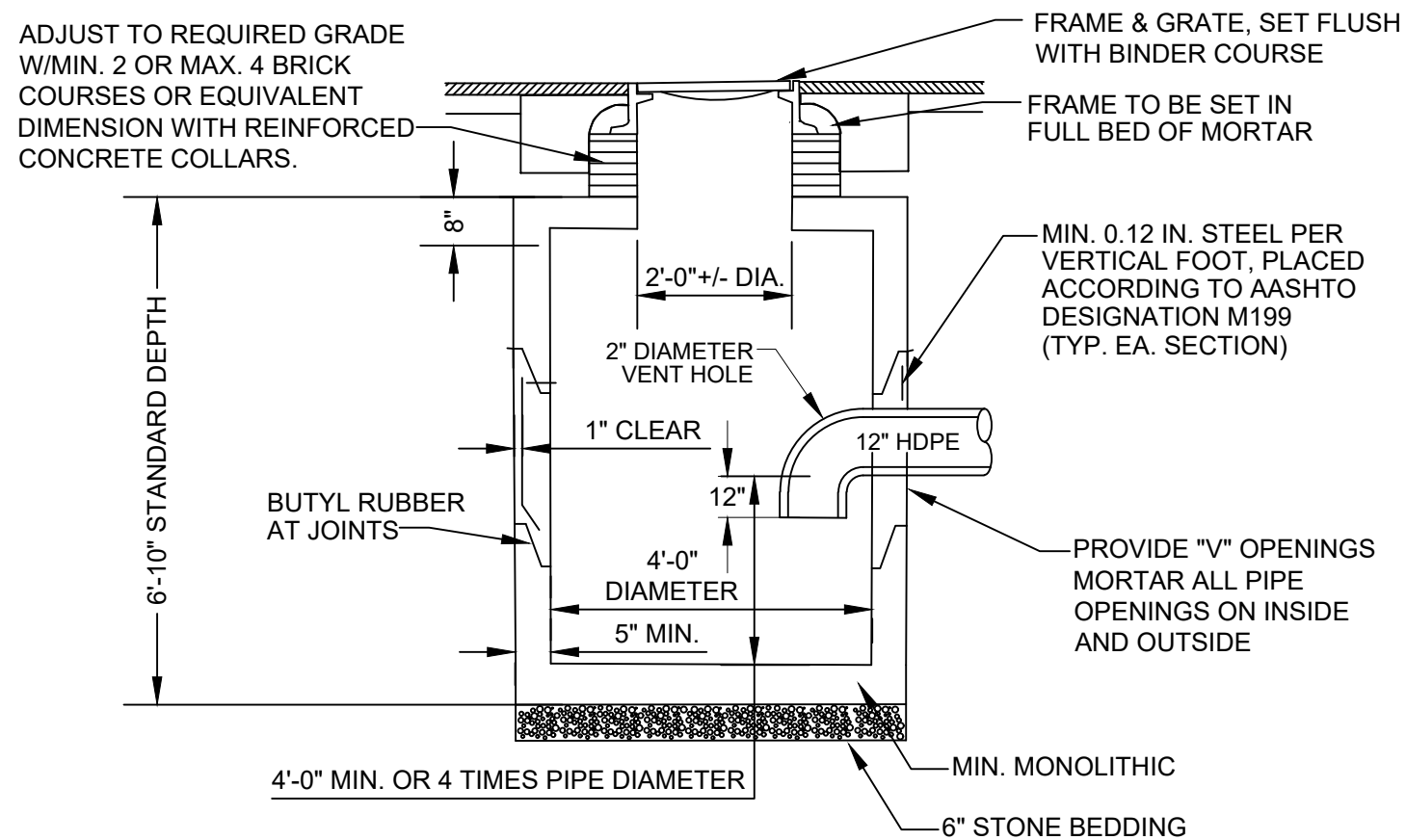
## CATCH BASIN FRAME & GRATE (H-20)

NOT TO SCALE



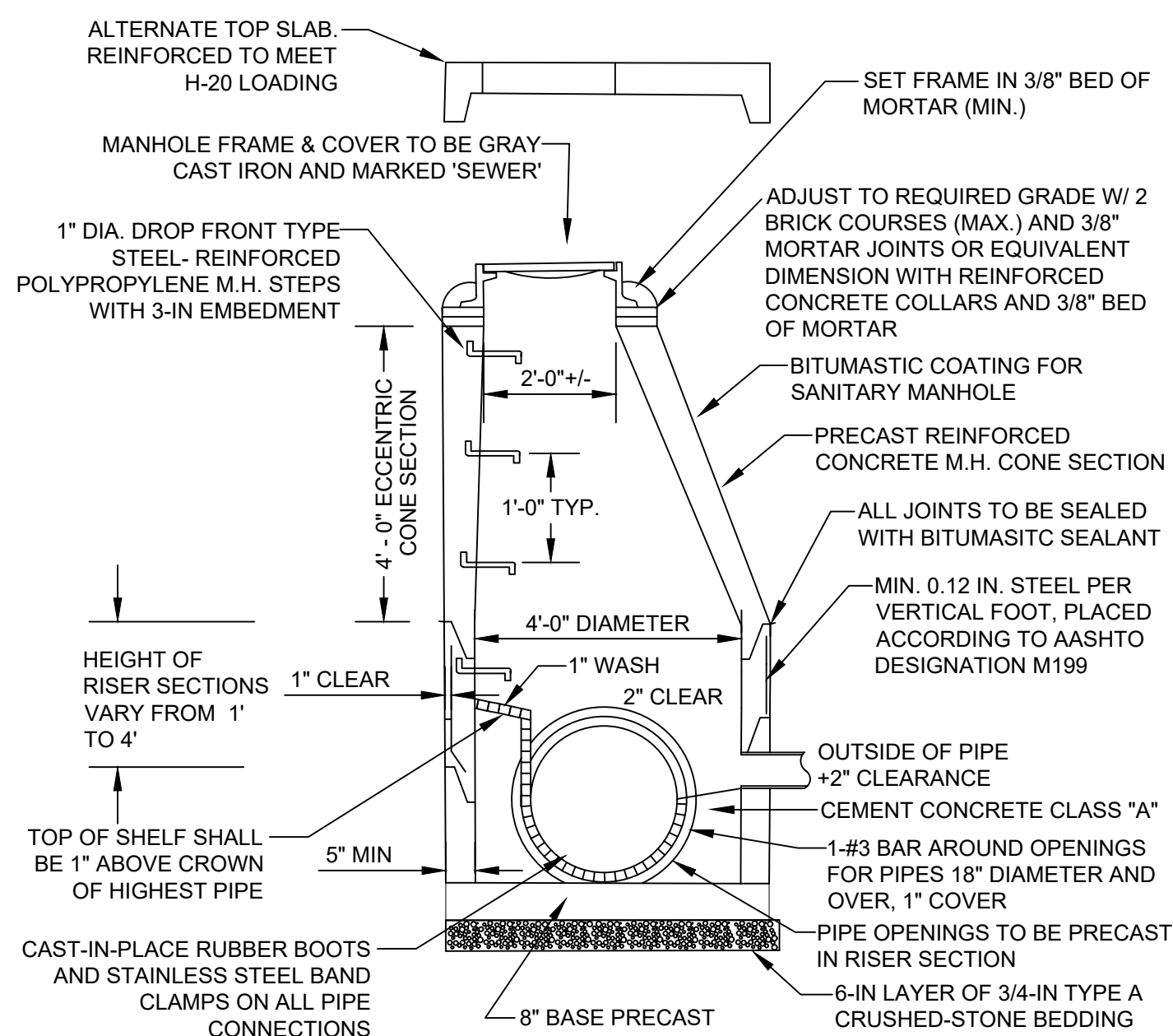
## PRECAST DRAIN MANHOLE (H-20)

NOT TO SCALE



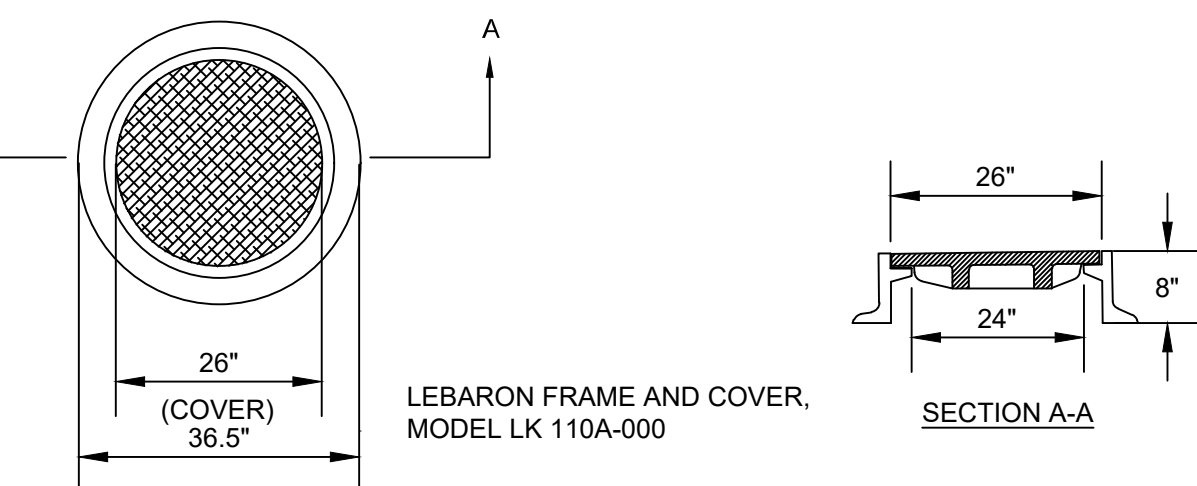
## PRECAST CONCRETE CATCH BASIN (H-20)

NOT TO SCALE



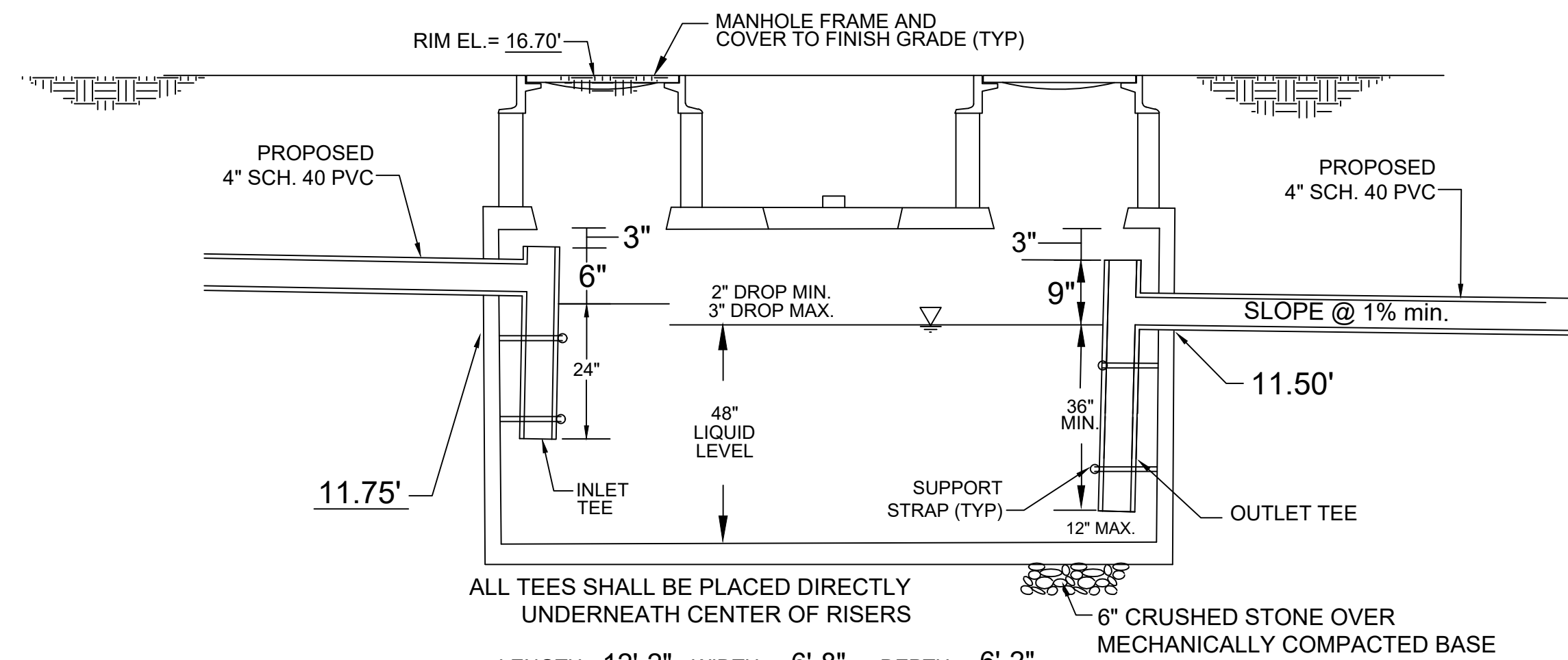
## PRECAST SEWER MANHOLE (H-20)

NOT TO SCALE



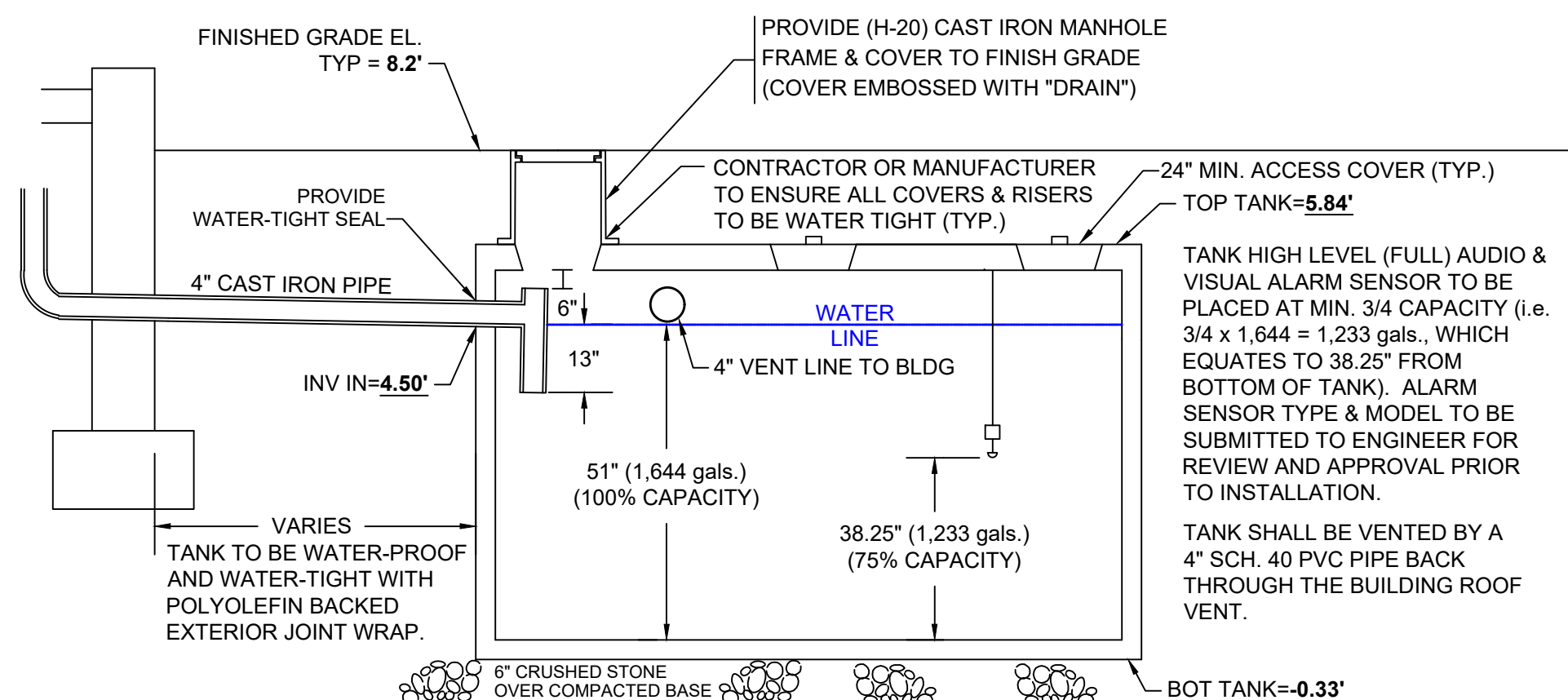
## STANDARD MANHOLE FRAME & COVER (H-20)

NOT TO SCALE



## PROPOSED 2,000 GALLON H-20 GREASE TRAP

NOT TO SCALE



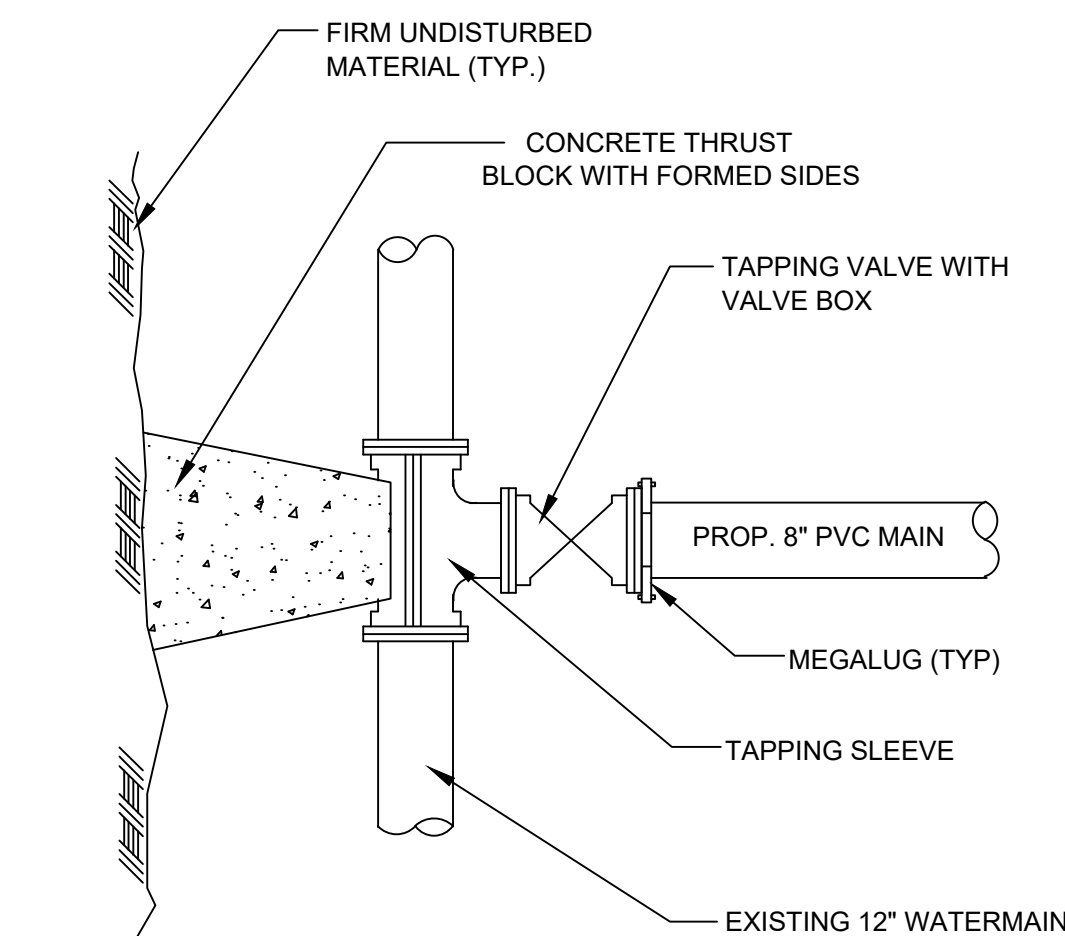
## PROPOSED 1,500 GALLON CONCRETE TIGHT TANK (H-20)

LENGTH 10'-8" WIDTH 5'-10" DEPTH 6'-2"

## 1,500 GALLON HOLDING TANK DETAIL (H-20 TIGHT TANK)

NOT TO SCALE

\*DIMENSIONS AND SPECIFICATIONS PER WIGGIN PRECAST



NOTE: CONTRACTOR TO VERIFY OUTSIDE DIAMETER OF EXISTING MAIN.

## TAPPING SLEEVE & VALVE DETAIL

NOT TO SCALE

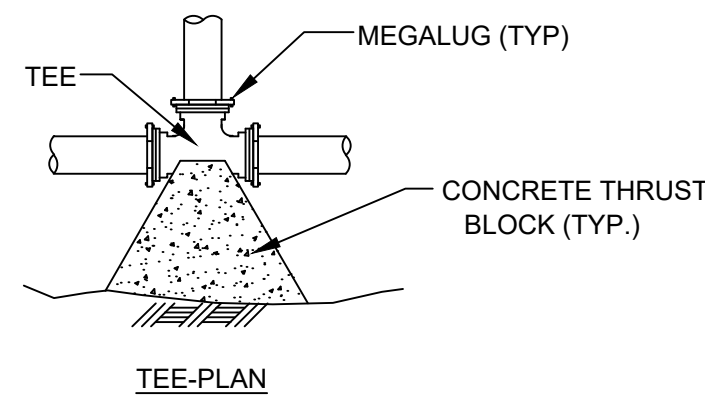
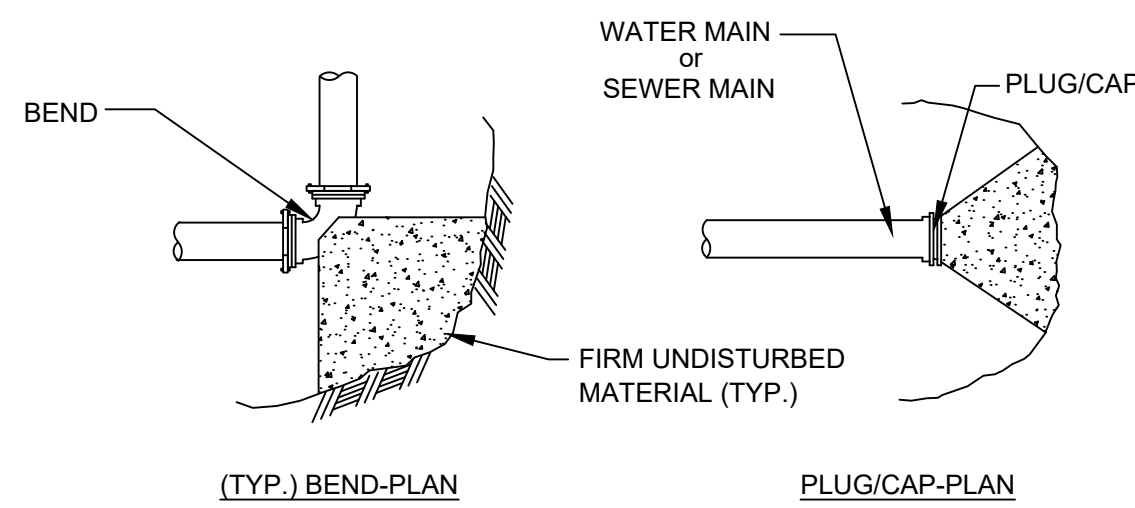
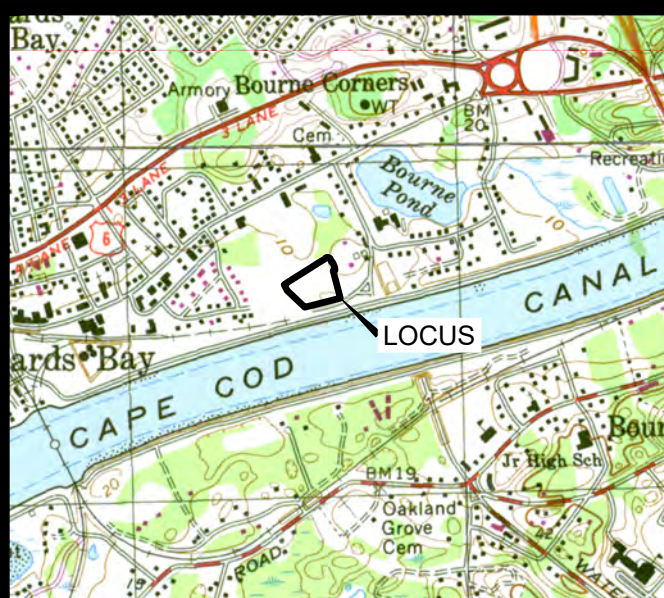


TABLE OF BEARING AREAS (S.F.)				
SIZE OF MAIN (IN.)	BEND (90)	BENDS (45&UNDER)	TEES, CAPS OR PLUGS	
8 & UNDER	6	3	4	
10 & 12	12	6	9	

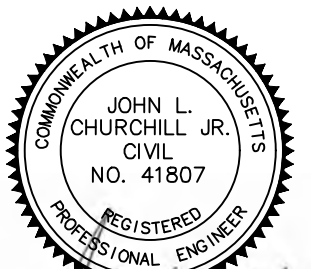
- NOTES: 1. CONCRETE FOR THRUST BLOCKS SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
2. THRUST BLOCK BEARING AREAS TO BE IN ACCORDANCE WITH TABLE, UNLESS DETERMINED OTHERWISE BY THE ENGINEER BECAUSE OF SOIL CONDITIONS.
3. THRUST BLOCK SIDES SHALL BE FORMED WITH PLYWOOD.

## THRUST BLOCK DETAIL

NOT TO SCALE



LOCUS MAP  
SCALE 1" = 2000'



JOHN L. CHURCHILL JR., P.E. DATE

## THE CROSSINGS AT THE CANAL

AT

2 KENDALL RAE PLACE

IN

BUZZARDS BAY,

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## DETAIL SHEET

REVISIONS:		
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## PREPARED FOR:

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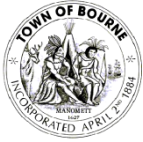
CALC./DESIGN: BJW

DRAWN: BJW

CHECK: JLC

JOB NO: 5099





# TOWN OF BOURNE ***ENGINEERING DEPARTMENT***



TIMOTHY P LYDON, SIT,  
CFM  
ENGINEERING TECHNICIAN

TOWN HALL  
24 PERRY AVE.  
BUZZARDS BAY, MA 02532  
PHONE: 508-759-0600 x1345 • FAX: 508-759-8026  
Email: tlydon@townofbourne.com

November 15, 2022

RE: Preliminary Allocation Fee for pending sewer application  
LOCUS: 2 Kendall Rae, Map 24.1 Parcel 6.00  
TO: Board of Sewer Commissioners (BOSC)  
Oxford Development  
CMP Development, LLC

**Subject:** Preliminary Allocation

Based on the most recently adopted Town of Bourne Sewer Use Rules & Regulations dated August 30, 2022 and outlined under Section 5.3 and 6.1 and further described in Attachment C (the fee schedule) the Engineering Department has provided the following fee breakdown.

**Application and Design Review Fee:** \$1,500 (received February 25, 2022)

**Preliminary Allocation Fee:** Per the Bourne Sewer Regulations Sewer System Fee Structure, the proposed 37,262 gallons per day (gpd) is assessed to cost **\$41,262.00** using the following formula:

$$\$5000 (\$5 \text{ per first } 1000\text{gpd}) + \$36,262 (\$1 \text{ per } 36,262\text{gpd additional}) = \$41,262.00$$

Per Section 5.3, projects not complete but have been granted Allocation by vote of the Board, shall be considered Preliminary Allocations. Per Section 5.3.4 §1b, the preliminary allocation fee is due within 30 days of the Boards approval. The developer or owner of such projects should have come before the Board within six months to meet the requirements for a Preliminary Allocation as stated in Section 5.3 herein and to pay the Preliminary Allocation Fee described herein minus the amount of fees paid previously.

**Residential Connection:** \$16,700 (\$100 per unit, 167 units) due prior to Building Permit issuance

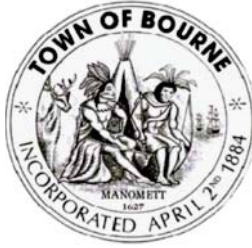
**Commercial Connection:** \$1,224.30 (\$150 + \$0.10 per square foot of building floor space, 10,743sf) due prior to Building Permit issuance

**Sewer System Development Charge:** \$87,553.75 (\$75 x 517.25' frontage plus \$11,500 x 4.24 Acres) due prior to Building Permit issuance

Please see the relevant sections of the Sewer Regulations if you may have any questions.

Respectfully,

Timothy Lydon  
Engineering Department



## Sewer Service Application Form

### Town of Bourne, Massachusetts

#### Section 1: General Information

A. Applicant Name	340 Main Street, LLC
B. Applicant Address and Phone:	(508) 246-7937 561 Thomas B Landers Road, Falmouth MA 02536
C. Is the Applicant the Property Owner?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
D. Property Owner Name	Same as Applicant
E. Property Owner Address	Same as Applicant
F. Property Owner Mailing Address	Same as Applicant
G. Property Owner Phone/Email	N/A
H. Building Contractor Name, Address, Phone, and License Number	N/A
I. Licensed Drain Layer or Master Plumber Name, Address, Phone, and License Number	N/A
J. Source of Property Water Supply	Buzzards Bay Water District
K. Number of Residential Bedrooms	72 Bedrooms
L. Types of Plumbing Fixtures	
Kitchen Sink <input checked="" type="checkbox"/>	Water Closet <input checked="" type="checkbox"/>
Lavatory <input type="checkbox"/>	Bath Tub <input checked="" type="checkbox"/>
Laundry Tub <input checked="" type="checkbox"/>	Shower <input checked="" type="checkbox"/>
Urinal <input type="checkbox"/>	Disposal <input type="checkbox"/>
M. Dig Safe #	N/A
N. Water District/Department Connection (if applicable)	Buzzards Bay Water District

- O. Plans and Specifications for the proposed building sewer, as required, by the Planning Board checklist, are attached hereto (Refer to the Bourne Planning Board Department for the updated checklist)



- P. Connection Request:

Residential Connection less than 500 Gallons per Day (GPD)

Residential Connection greater than 500 GPD

Mixed Use/Commercial Change of Use or Increase in Flow

Industrial User

*Skip to Section 5.*

*Complete Sections 2, 3, and 5*

*Complete Sections 2, 3, and 5*

*Complete Sections 2 through 5*

## Section 2: Wastewater Allocation Form

- A. Location of Proposed Project (Address)

340 Main Street, Bourne MA 02532

Location of Proposed Project (Map and Parcel)

Map: 20.4 Parcel: 6

- B. Is Applicant Leasing or Buying?

*If buying, attach Purchase & Sale*

Leasing \_\_\_\_\_ Buying \_\_\_\_\_

- C. Is there an existing connection to the sewer system?

Yes

- D. Description of Proposed Project

Twelve residential duplex units with three bedrooms in each unit (see plan).

- E. Financing is in Place

☒ *Copy of Documentation Attached*

- F. Applicant has a letter of intent to finance

☒ *Copy Attached*

- G. Allocation Requested

7,920 gpd

- H. Any unusual characteristics of projected flow?

Yes \_\_\_\_\_ No ☒

If Yes, describe type of wastewater flow:

- I. Requested Amount Exceeds Available Allocation

Yes ☒ No \_\_\_\_\_

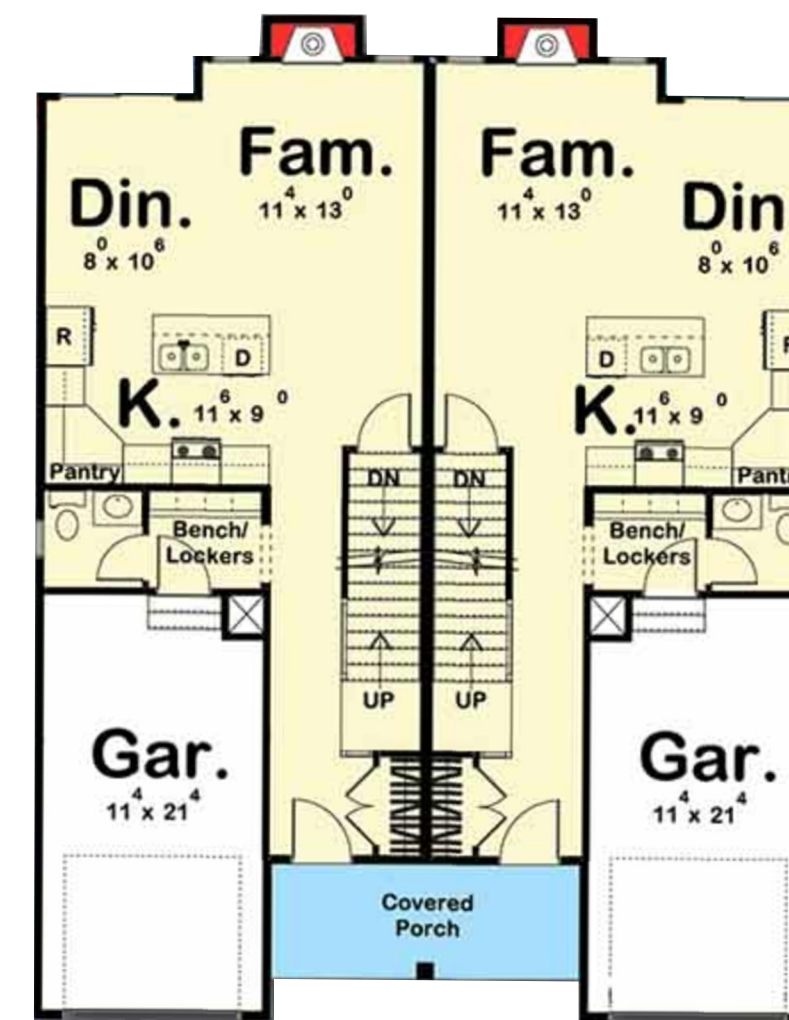


MAIN (ROUTE 6) STREET



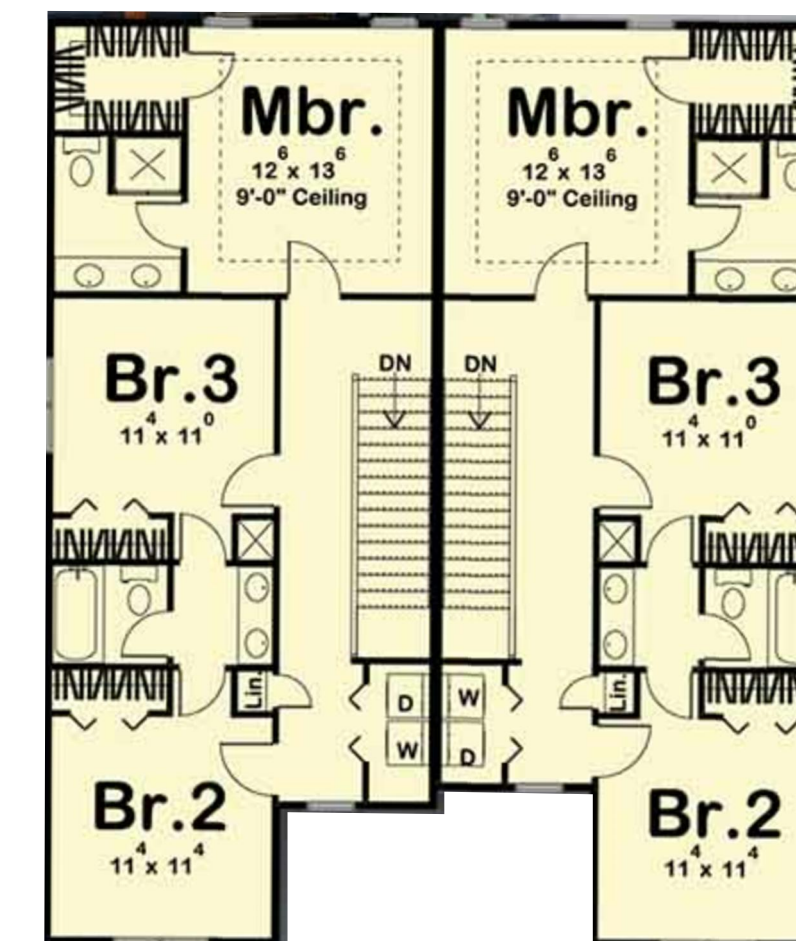
FRONT ELEVATION

NOT TO SCALE



FIRST FLOOR

NOT TO SCALE



SECOND FLOOR

NOT TO SCALE



FRONT ELEVATION

NOT TO SCALE

CHOUBAH ENGINEERING GROUP, P.C.  
**CEG**  
CONSULTING PROFESSIONAL ENGINEERS

112 STATE ROAD (RTE. 6)  
No. DARTMOUTH, MA 02747

TEL: (508) 858-5040 FAX: (508) 858-5041  
www.choubahgroup.com

Sheet Title:  
PRELIMINARY SITE  
LAYOUT &  
ARCHITECTURAL  
RENDERINGS

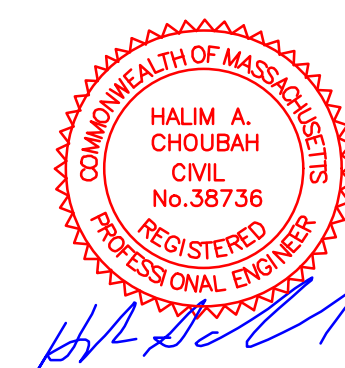
SITE DATA:  
ADDRESS: 340 MAIN STREET (REAR),  
BOURNE, MA 02532  
ZONING DISTRICT:  
(DTG) DOWNTOWN GATEWAY  
LOT AREA:  
179,987 SQ.FT. (4.13 ACRES)

APPLICANT/OWNER:  
340 MAIN STREET, LLC  
561 THOMAS B LANDERS RD,  
FALMOUTH, MA 02536  
(508) 246-7937

OWNER'S REFERENCE:  
BOOK 31086 PAGE 236

ASSESSORS REFERENCE:  
20.4 - 6 - 0

BARNSTABLE COUNTY REGISTRY  
OF DEEDS



Designed By: CMS

Drawn By: CMS Checked By: HC

Scale: AS SHOWN

Project Number: 22-621

Issue Date: 07/12/2022

Revisions

No.	Date	Description

Prepared For:

340 MAIN STREET, LLC  
561 THOMAS B LANDERS RD  
FALMOUTH, MA 02536

Project:

PROPOSED 24 UNIT  
RESIDENTIAL  
DEVELOPMENT  
AT 340 MAIN STREET (REAR),  
BOURNE, MA 02532

Sheet Number. 1 OF 1

N/F MAXIM  
Book, Page: 12277, 167  
Property ID: 20.3\_135\_0

LOT AREA  
179,987 S.F.  
(4.13 AC.)

UNITED STATES  
OF AMERICA

340 MAIN STREET REAR  
120,000± S.F. 2.75 ACRES

UNIT #1  
UNIT #2  
UNIT #3  
UNIT #4  
UNIT #5  
UNIT #6  
UNIT #7  
UNIT #8  
UNIT #9  
UNIT #10  
UNIT #11  
UNIT #12  
UNIT #13  
UNIT #14  
UNIT #15  
UNIT #16  
UNIT #17  
UNIT #18  
UNIT #19  
UNIT #20  
UNIT #21  
UNIT #22  
UNIT #23  
UNIT #24

SANITARY FLOW ANALYSIS (PER TITLE V, 310 CMR (15.203))

PROPOSED SEWER DESIGN FLOW

(12)-TWELVE UNITS WITH (3)-THREE BEDROOMS IN EACH UNIT

(24) UNITS X 3 BEDROOMS X 110 GPD/BEDROOM = 7,920 GPD

UTILITY NOTES

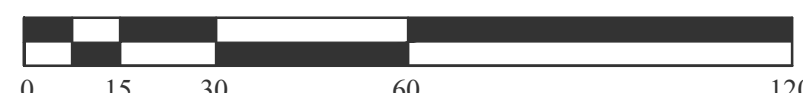
1. CONTRACTOR TO LOCATE ALL EXISTING UTILITY SERVICES ON LOT PRIOR TO CONSTRUCTION.

2. CONNECTION OF SEWER SERVICE AND OTHER UTILITIES TO NEW BUILDINGS ARE SUBJECT TO THE INSPECTION & APPROVAL OF THE TOWN OF BOURNE OFFICIALS HAVING JURISDICTION OVER COMPLETED WORK.

3. CONTRACTOR TO RELOCATE ANY EXISTING UTILITIES IN CONFLICT WITH NEW BUILDINGS LOCATION IN COMPLIANCE WITH APPLICABLE REQUIREMENTS BY LOCAL DEPARTMENTS HAVING JURISDICTION OVER PROPOSED WORK.

4. THIS ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY AND LOCATION OF UNDERGROUND EXISTING UTILITIES ON SITE.

1"=30' SCALE IN FEET



CANAL SPORTSMAN CLUB





September 19<sup>th</sup>, 2022

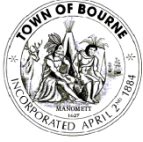
To whom it may concern,

Johnny Hatem is a top tier commercial bank customer at Martha's Vineyard Bank. We are interested in financing the 24-unit town home construction project located on Main Street in Bourne, MA. In the event Johnny decided not to finance the construction, he has enough funds in deposit accounts at our bank to cover the cost of the entire project. If you have any questions, please contact me at (508) 564-3985.

Sincerely,

A handwritten signature in cursive script that reads "Ryan Yarosh".

Ryan Yarosh  
Commercial Loan Officer  
Martha's Vineyard Bank



TIMOTHY P LYDON, SIT,  
CFM  
ENGINEERING TECHNICIAN

# TOWN OF BOURNE **ENGINEERING DEPARTMENT**

TOWN HALL  
24 PERRY AVE.  
BUZZARDS BAY, MA 02532  
PHONE: 508-759-0600 x1345 • FAX: 508-759-8026  
Email: tlydon@townofbourne.com



November 22, 2022

RE: Preliminary Allocation Fee for pending sewer application  
LOCUS: 340 Main Street, Map 23.2 Parcel 145 (Phase 2, Phase 1 approved 2020)  
TO: Board of Sewer Commissioners (BOSC)  
340 Main Street, LLC

**Subject:** Preliminary Allocation

Based on the most recently adopted Town of Bourne Sewer Use Rules & Regulations dated August 30, 2022 and outlined under Section 5.3 and 6.1 and further described in Attachment C (the fee schedule) the Engineering Department has provided the following fee breakdown.

**Application and Design Review Fee:** **\$1,500** (Not received as of 11/22/2022)

**Preliminary Allocation Fee:** Per the Bourne Sewer Regulations Sewer System Fee Structure, the proposed 7,920 gallons per day (gpd) is assessed to cost **\$11,920** using the following formula:

$\$5 \text{ per first } 1,000\text{gpd } (\$5,000) + \$1 \text{ per gpd after } (\$6,920) (72 \text{ bedrooms} \times 110\text{gpd}) = \$11,920$

Per Section 5.3, projects not complete but have been granted Allocation by vote of the Board, shall be considered Preliminary Allocations. Per Section 5.3.4 §1b, the preliminary allocation fee is due within 30 days of the Boards approval. The developer or owner of such projects should have come before the Board within six months to meet the requirements for a Preliminary Allocation as stated in Section 5.3 herein and to pay the Preliminary Allocation Fee described herein minus the amount of fees paid previously.

**Residential Connection:** *\$3000 (\$100 per unit including Phase 1) due prior to Building Permit issuance*

**Commercial Connection:** *\$750 (\$150 + \$0.10 per square foot of building floor space including Phase 1) due prior to Building Permit issuance*

**Sewer System Development Charge:** *\$66,260.75 (\$75 x 250.21 frontage plus \$11,500 x 4.13 Acres) due prior to Building Permit issuance*

Please see the relevant sections of the Sewer Regulations if you may have any questions.

Respectfully,

Timothy Lydon  
Engineering Department

pd. \$1500  
C/L 10852  
11/18/22 KT

paid \$300  
in sept



Bourne Sewer Service Application Form

- O. Plans and Specifications for the proposed building sewer, as required, by the Planning Board checklist, are attached hereto (Refer to the Bourne Planning Board Department for the updated checklist)

X

- P. Connection Request:

Residential Connection less than 500 Gallons per Day (GPD)

*Skip to Section 5.*

Residential Connection greater than 500 GPD

*Complete Sections 2, 3, and 5*

Mixed Use/Commercial Change of Use or Increase in Flow

*Complete Sections 2, 3, and 5*

Industrial User

*Complete Sections 2 through 5*

## Section 2: Wastewater Allocation Form

- A. Location of Proposed Project (Address)

227 Main Street (Rear)

Location of Proposed Project (Map and Parcel)

Map 20.3 / Parcel 100-0 (portion of)

- B. Is Applicant Leasing or Buying? **N/A**

*If buying, attach Purchase & Sale*

Leasing \_\_\_\_\_ Buying \_\_\_\_\_

- C. Is there an existing connection to the sewer system?

Yes (at 227 Main (Front))

- D. Description of Proposed Project

Construction of a proposed Duplex

and garage/studio

- E. Financing is in Place

\_\_\_\_\_ Copy of Documentation Attached

- F. Applicant has a letter of intent to finance

\_\_\_\_\_ Copy Attached

- G. Allocation Requested

550

- H. Any unusual characteristics of projected flow?

Yes \_\_\_\_\_ No X

If Yes, describe type of wastewater flow:

- I. Requested Amount Exceeds Available Allocation

Yes \_\_\_\_\_ No X

## Section 5: Certification

In consideration of granting this permit, the undersigned agrees:

1. To accept and abide by all provisions of "Sewer Use Regulations" of the Town of Bourne, Massachusetts and of all other pertinent rules and regulations that may be adopted in the future.
2. That no person shall excavate, construct, effect, maintain, modify, or use any sewer connection or extension without a currently valid permit from the Town of Bourne. The permit must be "in-hand" before work can commence.
3. To pay all the cost of said particular sewer and its connection with the public sewer in said street, including all labor and materials or any other expense incurred necessary for proper construction of said particular sewer as determined by the Sewer Commission.
4. To maintain the building sewer at no expense to the Town.
5. For himself, his heirs, devisees and assigns, that the said Department of Public Works shall have access at all reasonable hours, to the said premises, to see that all the laws, rules, and regulations relating to the sewer are complied with.
6. To notify the Superintendent when the building sewer is ready for inspection and connection to the public sewer, but before any portion of the work is covered. Notice of two (2) business days shall be provided to the Superintendent.
7. That construction of the sewer connection will be completed within ninety (90) days of issuance of this permit.

Signed: \_\_\_\_\_

Applicant's Name: James McLaughlin Date: \_\_\_\_\_

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**DO NOT WRITE BELOW THIS LINE – OFFICE USE ONLY**

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Total Fee Paid: \_\_\_\_\_

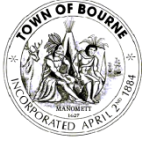
Street Opening Permit \_\_\_\_\_ Valid Bond and Insurance \_\_\_\_\_

Approved \_\_\_\_\_ Not Approved \_\_\_\_\_

Permit Number \_\_\_\_\_ Expires \_\_\_\_\_

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

Date: \_\_\_\_\_



TIMOTHY P LYDON, SIT,  
CFM  
ENGINEERING TECHNICIAN

# TOWN OF BOURNE *ENGINEERING DEPARTMENT*

TOWN HALL  
24 PERRY AVE.  
BUZZARDS BAY, MA 02532  
PHONE: 508-759-0600 x1345 • FAX: 508-759-8026  
Email: tlydon@townofbourne.com



November 22, 2022

RE: Preliminary Allocation Fee for pending sewer application  
LOCUS: 227R Main Street, Map 20.3 Parcel 100.00 (Lot 2 of recent 2022 subdivision)  
TO: Board of Sewer Commissioners (BOSC)  
James McLaughlin

**Subject:** Preliminary Allocation

Based on the most recently adopted Town of Bourne Sewer Use Rules & Regulations dated August 30, 2022 and outlined under Section 5.3 and 6.1 and further described in Attachment C (the fee schedule) the Engineering Department has provided the following fee breakdown.

**Application and Design Review Fee:** *COMPLETE (received November 18, 2022)*

**Preliminary Allocation Fee:** Per the Bourne Sewer Regulations Sewer System Fee Structure, the proposed 550 gallons per day (GPD) is assessed to cost **\$2,750** using the following formula:

$$550 \text{ gpd} \times \$5.00 \text{ per GPD} = \$2,750$$

Per Section 5.3, projects not complete but have been granted Allocation by vote of the Board, shall be considered Preliminary Allocations. Per Section 5.3.4 §1b, the preliminary allocation fee is due within 30 days of the Boards approval. The developer or owner of such projects should have come before the Board within six months to meet the requirements for a Preliminary Allocation as stated in Section 5.3 herein and to pay the Preliminary Allocation Fee described herein minus the amount of fees paid previously.

**Residential Connection:** *\$300 (\$100 per unit) due prior to Building Permit issuance*

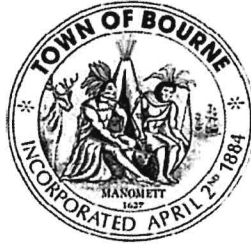
**Sewer System Development Charge:** *\$5,785.75 (\$75 x 25.01' frontage plus \$11,500 x 0.34 Acres)*

Please see the relevant sections of the Sewer Regulations if you may have any questions.

Respectfully,

Timothy Lydon  
Engineering Department

Facility Address: 140 Main Street  
Map 23.2, Parcel 145



**Sewer Service Application Form**  
**Town of Bourne, Massachusetts**

**Section 1: General Information**

A. Applicant Name	140 Main Buzz Bay, LLC, c/o Keith Galizio		
B. Applicant Address and Phone:	1 Sand Dollar Lane, Buzzards Bay, MA 02532 617-592-1053		
C. Is the Applicant the Property Owner?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
D. Property Owner Name	SAME		
E. Property Owner Address			
F. Property Owner Mailing Address			
G. Property Owner Phone/Email	617-592-1053   keithgalizio@gmail.com		
H. Building Contractor Name, Address, Phone, and License Number	James Halliday, Halliday Builders 44 Route 28A, Pocasset, MA 02559 CS-047206		
I. Licensed Drain Layer or Master Plumber Name, Address, Phone, and License Number	T.B.D		
J. Source of Property Water Supply	Buzzards Bay Water District		
K. Number of Residential Bedrooms	Ten (10)		
L. Types of Plumbing Fixtures			
Kitchen Sink	6	Water Closet	1
Lavatory	7	Bath Tub	6
Laundry Tub	0	Shower	0
Urinal	0	Disposal	0
M. Dig Safe #	T.B.D		
N. Water District/Department Connection (if applicable)	Buzzards Bay Water District		

- O. Plans and Specifications for the proposed building sewer, as required, by the Planning Board checklist, are attached hereto (Refer to the Bourne Planning Board Department for the updated checklist)

☐

- P. Connection Request:

Residential Connection less than 500 Gallons per Day (GPD)

Residential Connection greater than 500 GPD

Mixed Use/Commercial Change of Use or Increase in Flow

Industrial User

*Skip to Section 5.*

*Complete Sections 2, 3, and 5*

*Complete Sections 2, 3, and 5*

*Complete Sections 2 through 5*

## Section 2: Wastewater Allocation Form

- A. Location of Proposed Project (Address)

140 Main Street

Location of Proposed Project (Map and Parcel)

Map 23.2, Parcel 145

- B. Is Applicant Leasing or Buying?

*If buying, attach Purchase & Sale*

Leasing n/a Buying n/a OWNS

- C. Is there an existing connection to the sewer system?

Yes

- D. Description of Proposed Project

Redevelopment of a commercial building

to a Mixed Use Residential/Commercial Building

- E. Financing is in Place

Copy of Documentation Attached

- F. Applicant has a letter of intent to finance

Copy Attached

- G. Allocation Requested

1,160 GPD

- H. Any unusual characteristics of projected flow?

Yes \_\_\_\_\_ No X

If Yes, describe type of wastewater flow:

- I. Requested Amount Exceeds Available Allocation

Yes \_\_\_\_\_ No X

**Section 3: General Commercial/Mixed Use** T.B.D.

A. Company Name \_\_\_\_\_

B. Facility Address and Phone: \_\_\_\_\_

C. Property Owner Name \_\_\_\_\_

D. Property Owner Address \_\_\_\_\_

E. Property Owner Mailing Address \_\_\_\_\_

F. Property Owner Phone/Email \_\_\_\_\_

G. Name and Title of Corporate Officer Signing  
Application \_\_\_\_\_

H. Name and Title of Facility Manager \_\_\_\_\_

I. Name and Title of Employee Responsible for  
Wastewater Discharge \_\_\_\_\_

J. Type of Business: \_\_\_\_\_

K. Principle Product or service: \_\_\_\_\_

L. Describe Operation and Activities of Facility \_\_\_\_\_

\_\_\_\_\_  
M. Describe any factors affecting operation  
(Seasonal production, scheduled shutdown,  
peak operation, batch operation, etc.) \_\_\_\_\_

\_\_\_\_\_  
N. Number of Employees \_\_\_\_\_

## Section 5: Certification

In consideration of granting this permit, the undersigned agrees:

1. To accept and abide by all provisions of "Sewer Use Regulations" of the Town of Bourne, Massachusetts and of all other pertinent rules and regulations that may be adopted in the future.
2. That no person shall excavate, construct, effect, maintain, modify, or use any sewer connection or extension without a currently valid permit from the Town of Bourne. The permit must be "in-hand" before work can commence.
3. To pay all the cost of said particular sewer and its connection with the public sewer in said street, including all labor and materials or any other expense incurred necessary for proper construction of said particular sewer as determined by the Sewer Commission.
4. To maintain the building sewer at no expense to the Town.
5. For himself, his heirs, devisees and assigns, that the said Department of Public Works shall have access at all reasonable hours, to the said premises, to see that all the laws, rules, and regulations relating to the sewer are complied with.
6. To notify the Superintendent when the building sewer is ready for inspection and connection to the public sewer, but before any portion of the work is covered. Notice of two (2) business days shall be provided to the Superintendent.
7. That construction of the sewer connection will be completed within ninety (90) days of issuance of this permit.

Signed: \_\_\_\_\_



Applicant's Name: 140 Main Buzz Bay, LLC Date: \_\_\_\_\_  
c/o Keith Galizio

**DO NOT WRITE BELOW THIS LINE – OFFICE USE ONLY**

Total Fee Paid: \_\_\_\_\_

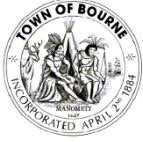
Street Opening Permit \_\_\_\_\_ Valid Bond and Insurance \_\_\_\_\_

Approved \_\_\_\_\_ Not Approved \_\_\_\_\_

Permit Number \_\_\_\_\_ Expires \_\_\_\_\_

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

Date: \_\_\_\_\_



TIMOTHY P LYDON, SIT,  
CFM  
ENGINEERING TECHNICIAN

# TOWN OF BOURNE *ENGINEERING DEPARTMENT*

TOWN HALL  
24 PERRY AVE.  
BUZZARDS BAY, MA 02532  
PHONE: 508-759-0600 x1345 • FAX: 508-759-8026  
Email: tlydon@townofbourne.com



November 22, 2022

RE: Preliminary Allocation Fee for pending sewer application  
LOCUS: 140 Main Street, Map 23.2 Parcel 145  
TO: Board of Sewer Commissioners (BOSC)  
140 Main Buzz Bay, LLC c/o Keith Galizio

**Subject:** Preliminary Allocation

Based on the most recently adopted Town of Bourne Sewer Use Rules & Regulations dated August 30, 2022 and outlined under Section 5.3 and 6.1 and further described in Attachment C (the fee schedule) the Engineering Department has provided the following fee breakdown.

**Application and Design Review Fee:** \$1,500 COMPLETE (received November 22, 2022)

**Preliminary Allocation Fee:** Per the Bourne Sewer Regulations Sewer System Fee Structure, the proposed 550 gallons per day (gpd) is assessed to cost **\$5,300** using the following formula:

\$5.00 per first 1,000 gpd (\$5,000) + \$1.00 per gpd after (\$300) (10 bedrooms x 110 gpd + 1,232sf retail space @ 200 gpd minimum) = \$5,300

Per Section 5.3, projects not complete but have been granted Allocation by vote of the Board, shall be considered Preliminary Allocations. Per Section 5.3.4 §1b, the preliminary allocation fee is due within 30 days of the Boards approval. The developer or owner of such projects should have come before the Board within six months to meet the requirements for a Preliminary Allocation as stated in Section 5.3 herein and to pay the Preliminary Allocation Fee described herein minus the amount of fees paid previously.

**Residential Connection:** \$600 (\$100 per unit) due prior to Building Permit issuance

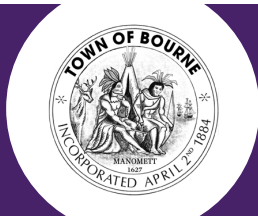
**Sewer System Development Charge:** \$39,218.50 (\$75 x 475.38' frontage plus \$11,500 x 0.31 Acres) due prior to Building Permit issuance

Please see the relevant sections of the Sewer Regulations if you may have any questions.

Respectfully,

Timothy Lydon  
Engineering Department





# Comprehensive Wastewater Management Plan

## Town of Bourne, MA

### Project Update #5

Update: 11/18/2022

#### Work Completed:

1. Presented Alternatives Analysis Findings to public through a Public Workshop & Incorporated feedback into revised Alternatives Analysis.
2. Revised Alternatives Analysis and presented draft to Wastewater Advisory Committee.
3. Uploaded Watershed Fact Sheets and Alternatives Analysis to [CWMP Webpage on Town of Bourne website](#).

#### Work Planned:

1. Draft Recommended Plan, including cost estimates and rate impacts.
2. Coordinate with stakeholders for public workshops and educational events.

#### Contact Info

Questions, comments and concerns? Email:  
[Bourne.CWMP@envpartners.com](mailto:Bourne.CWMP@envpartners.com)

#### Upcoming Events

MassDEP Public Hearings on  
Title 5 Regulatory Amendments and  
New Watershed Permit Regulations

**Wednesday, November 30, 2022**

Hybrid (In Person and Zoom)  
MassDEP Lakeville Office  
6:00 PM

**Thursday, December 1, 2022**

Virtual (Zoom)  
1:00 PM

**Monday, December 5, 2022**

Hybrid (In Person and Zoom)  
Barnstable Town Hall  
6:00 PM

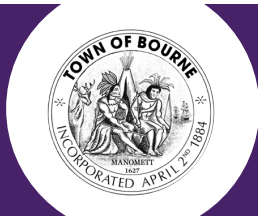
Details (including addresses and links to register)  
are on the [MassDEP Website](#)



Photo: Bourne Railroad Bridge , Credit: PhotogsRUs

Prepared By:





# Comprehensive Wastewater Management Plan

## Town of Bourne, MA

### Megansett– Squeteague Alternatives Analysis

Update: 10/25/2022

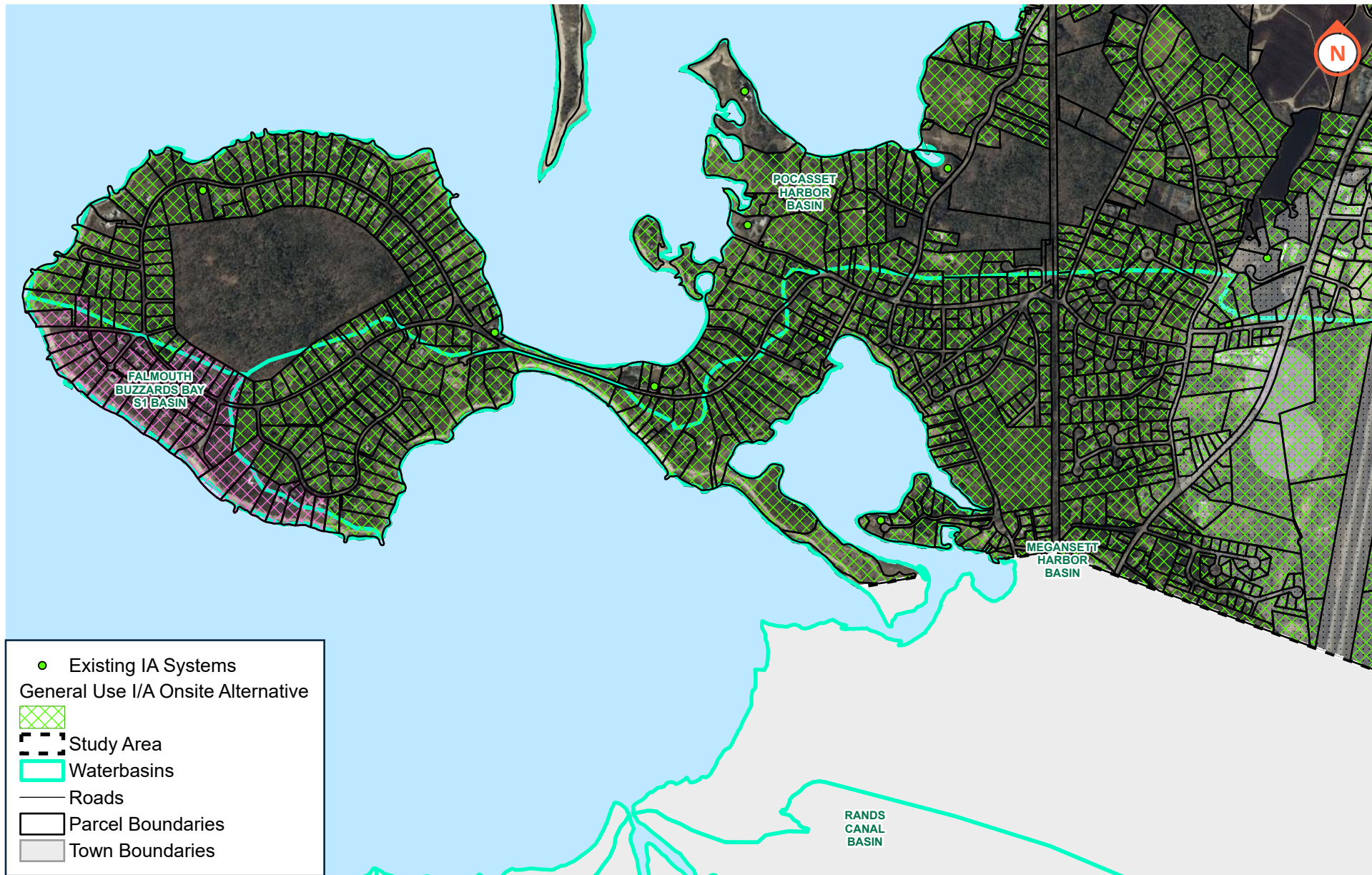
#### Overview

- Nitrogen impaired watershed.
- Has Total Maximum Daily Limit (TMDL) requirement.
- Priority watershed with annual nitrogen removal goal of 600 kilograms of nitrogen per year (kg-N/y).
- Nitrogen reduction through General Use Approved Innovative/Alternative (I/A) on-site wastewater system replacements.
- Stormwater Best Management Practices (BMP) improvements will be implemented to supplement primary source reduction.

Alternatives	Estimated Nitrogen Reduction (kg-N/y)
Residential I/A General Use Onsite System Replacement	504—631
Stormwater BMP	219
<b>Total</b>	<b>723 - 850</b>
Nitrogen Removal Goal	600
<b>Removal Goal Met?</b>	<b>Yes</b>

Source:

“Comprehensive Wastewater Management Plan Alternatives Analysis Draft”, 10-18-2022, Section 4.3, Page 18,  
[https://www.townofbourne.com/sites/g/files/vyhli7346/f/uploads/2022-10-18\\_draft\\_alternatives\\_analysis.pdf](https://www.townofbourne.com/sites/g/files/vyhli7346/f/uploads/2022-10-18_draft_alternatives_analysis.pdf)

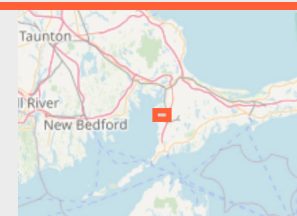
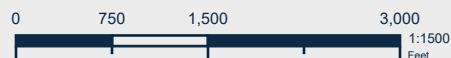


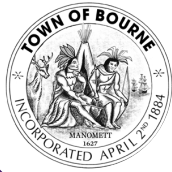
**ENVIRONMENTAL**  
**PARTNERS**  
 — An Apex Company —

## Megansett Squeteague Harbor

Bourne, MA

10/3/2022





# Comprehensive Wastewater Management Plan

## Town of Bourne, MA

### Phinneys Harbor Alternatives Analysis

Update: 10/25/2022

#### Overview

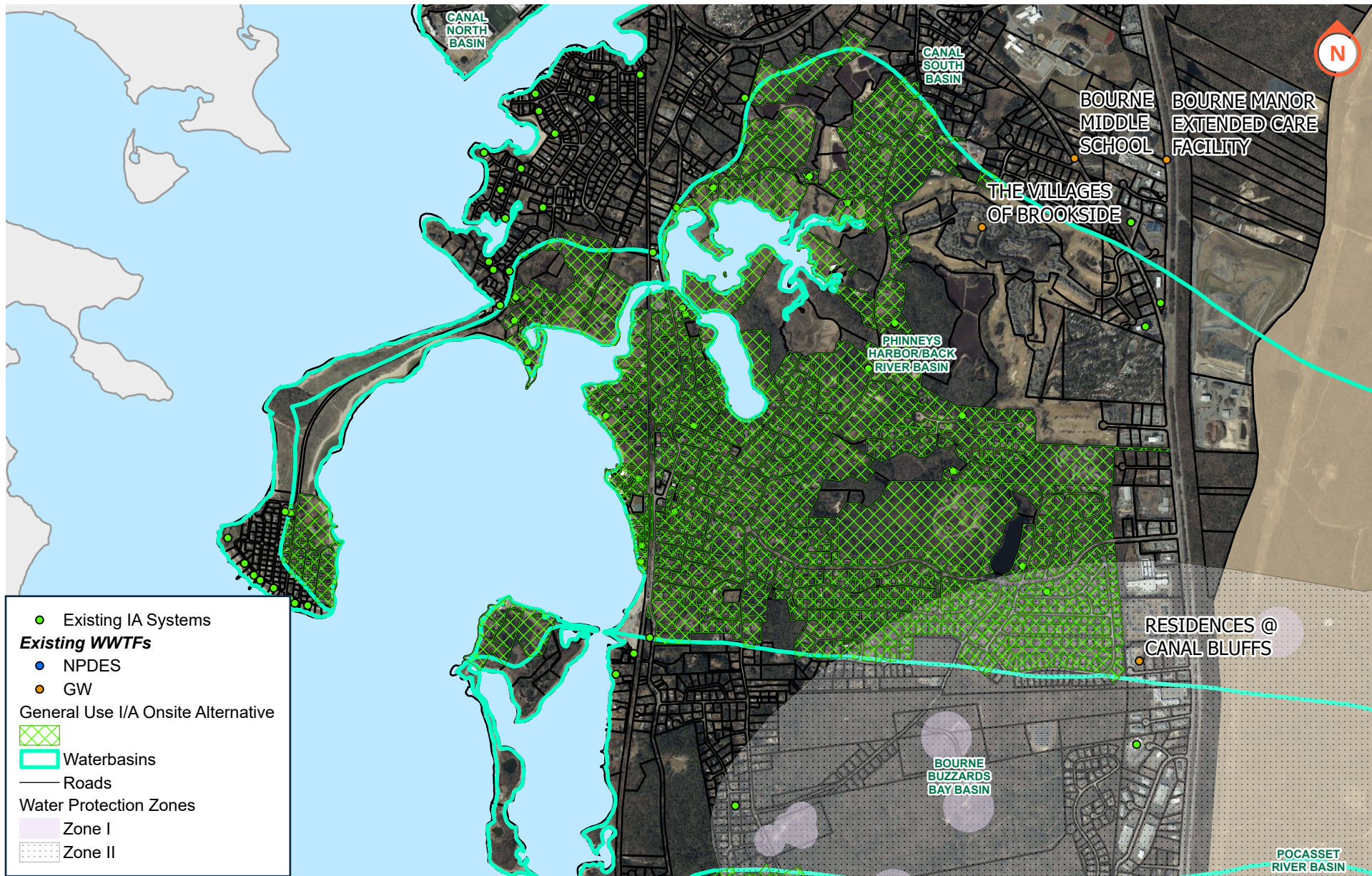
- Nitrogen impaired watershed.
- Current Total Maximum Daily Limit (TMDL) removal requirement of 1,706 kilograms of nitrogen per year (kg-N/y).
- Primary nitrogen source reduction will be through General Use Approved Innovative/Alternative (I/A) on-site wastewater system conversion, targeting 1,133 to 1,235 parcels.
- Improvements to Stormwater Best Management Practices (BMPs) will be implemented to supplement primary source reduction.

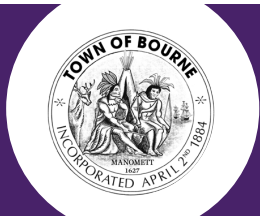
Alternatives	Estimated Nitrogen Reduction
Residential I/A General Use Onsite System Replacement	2,001- 2,182
Stormwater BMP	383
<b>Total</b>	<b>2,384– 2,565</b>
Nitrogen Removal Goal	1,706
<b>Removal Goal Met?</b>	<b>YES</b>

Source:

“Comprehensive Wastewater Management Plan Alternatives Analysis Draft”, 10-18-2022, Section 4.3, Page 20,  
[https://www.townofbourne.com/sites/g/files/vyhli7346f/uploads/2022-10-18\\_draft\\_alternatives\\_analysis.pdf](https://www.townofbourne.com/sites/g/files/vyhli7346f/uploads/2022-10-18_draft_alternatives_analysis.pdf)







# Comprehensive Wastewater Management Plan

## Town of Bourne, MA

### Buttermilk Bay Alternatives Analysis

Update: 10/25/2022

#### Overview

- Nitrogen impaired watershed
- No current Total Maximum Daily Limit (TMDL) requirement
- Priority watershed with documented water quality concerns
- 25% nitrogen removal needed
- Target removal met using combination of General Use Approved Innovative and Alternative (I/A) onsite wastewater system conversions and one sewer area

Alternatives	Estimated Nitrogen Reduction (kilograms-Nitrogen/year)
Residential I/A General Use Onsite System Replacement	588
Sewer Alternative 1	1,160
Stormwater BMP	117
<b>Total</b>	<b>1,925</b>
Nitrogen Removal Goal	1,102
Removal Goal Met?	<b>Yes</b>

Source:

"Comprehensive Wastewater Management Plan Alternatives Analysis Draft", 10-18-2022, Section 4.3, Page 23,  
[https://www.townofbourne.com/sites/g/files/vyhlif7346/f/uploads/2022-10-18\\_draft\\_alternatives\\_analysis.pdf](https://www.townofbourne.com/sites/g/files/vyhlif7346/f/uploads/2022-10-18_draft_alternatives_analysis.pdf)



# Comprehensive Wastewater Management Plan

## Town of Bourne, MA

### Pocasset Harbor Alternatives Analysis

Update: 10/25/2022

#### Overview

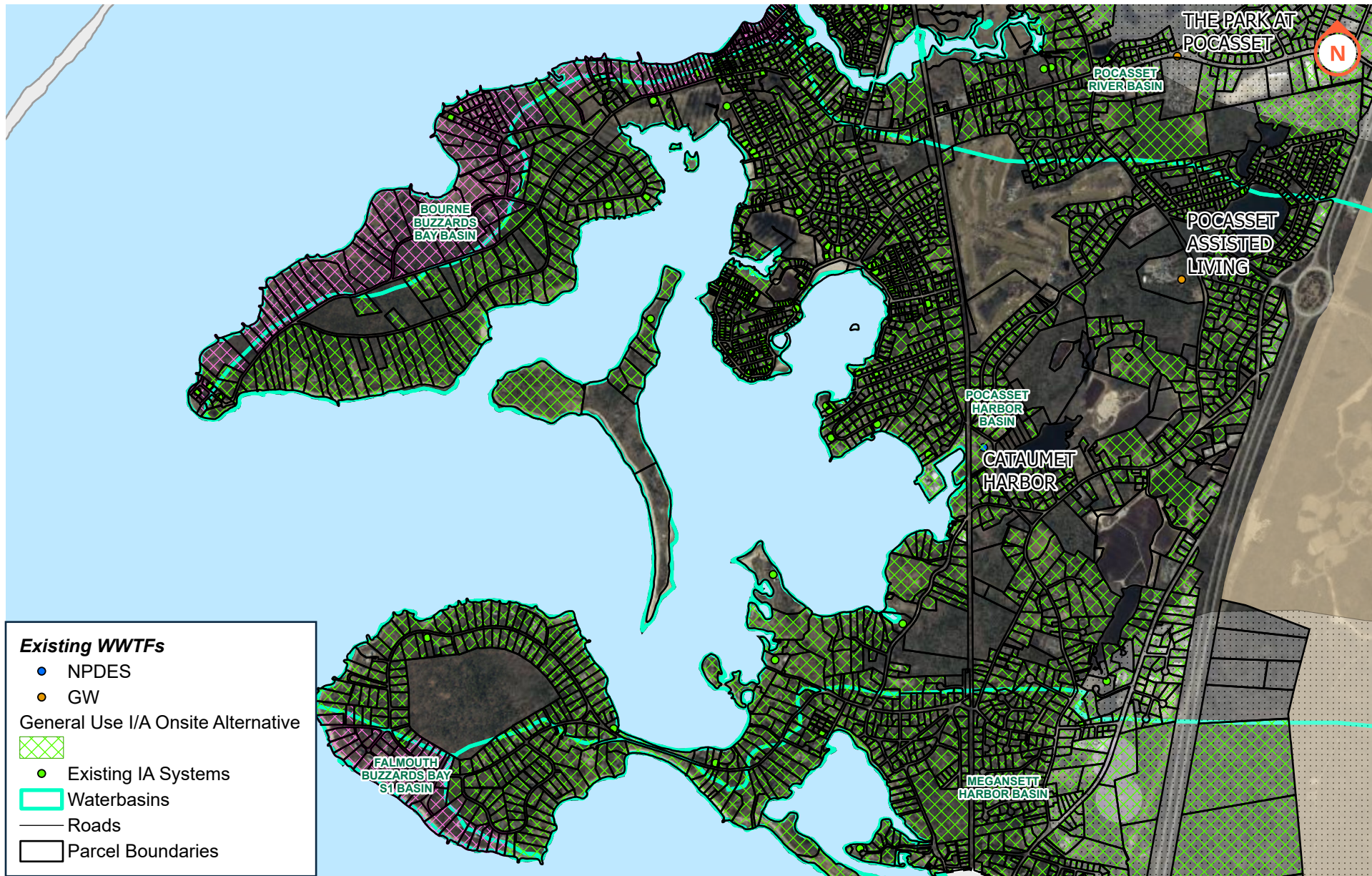
- Nitrogen impaired watershed.
- No Total Maximum Daily Limit (TMDL) requirement.
- Priority watershed with documented water quality concerns.
- Nitrogen reduction mainly through General Use Approved Innovative/Alternative (I/A) Onsite wastewater system replacements, targeting about 1,503 parcels.
- Stormwater Best Management Practices (BMP) will be implemented to supplement primary source reduction.

Alternatives	Estimated Nitrogen Reduction (kilograms-Nitrogen/year)
Residential I/A General Use Onsite System Replacement	2,562
Commercial I/A General Use Onsite System Replacement	262
Stormwater BMP	470
<b>Total</b>	<b>3,292</b>
Nitrogen Removal Goal	3,129
<b>Removal Goal Met?</b>	<b>Yes</b>

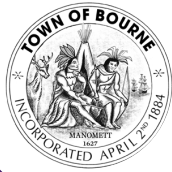
Source

"Comprehensive Wastewater Management Plan Alternatives Analysis Draft", 10-18-2022, Section 4.3, Page 27,  
[https://www.townofbourne.com/sites/g/files/vyhli7346/f/uploads/2022-10-18\\_draft\\_alternatives\\_analysis.pdf](https://www.townofbourne.com/sites/g/files/vyhli7346/f/uploads/2022-10-18_draft_alternatives_analysis.pdf)









# Comprehensive Wastewater Management Plan

## Town of Bourne, MA

### Pocasset River Alternatives Analysis

Update: 10/25/2022

#### Overview

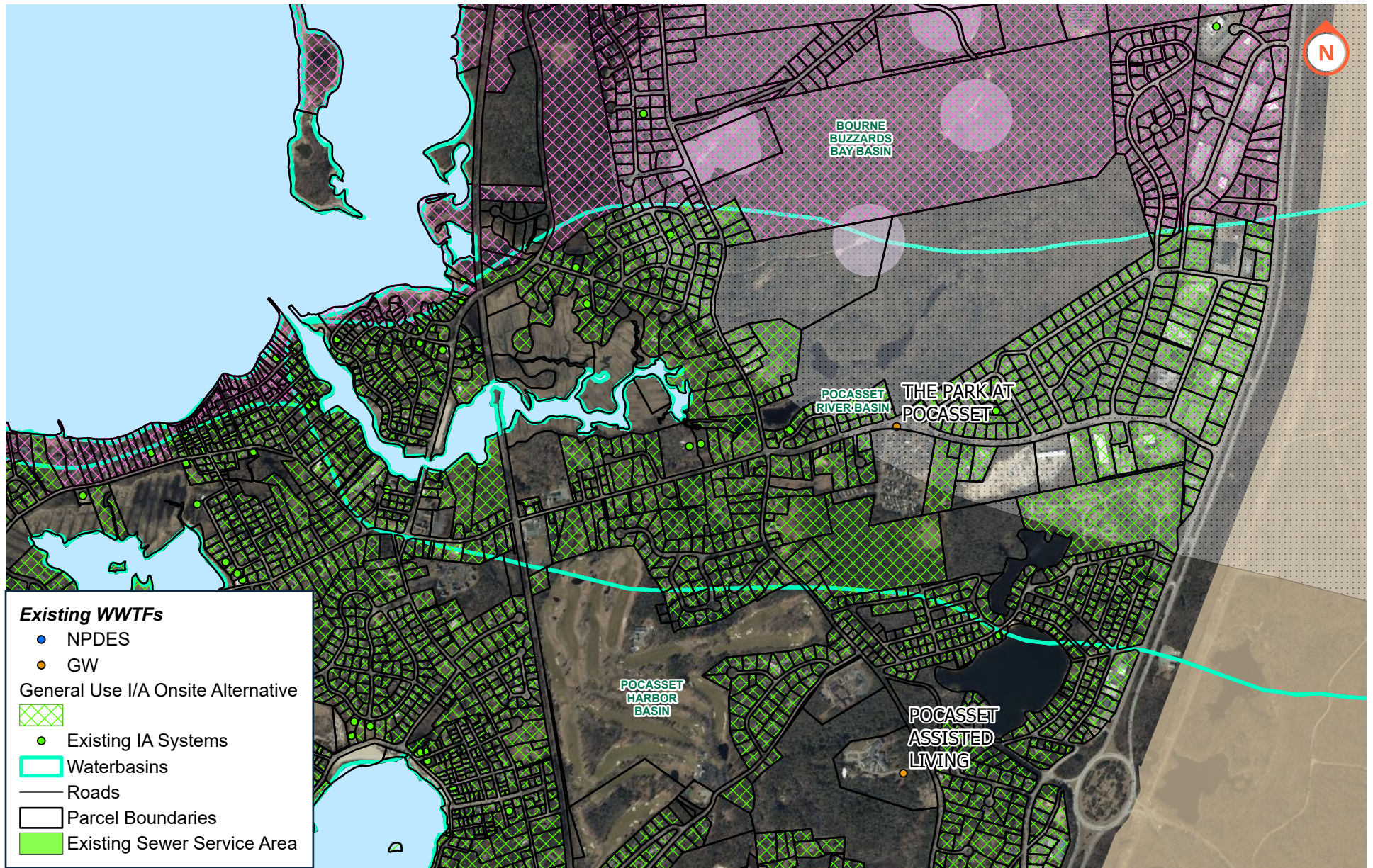
- Nitrogen impaired watershed.
- No Total Maximum Daily Limit (TMDL) requirement.
- Priority watershed with documented water quality concerns.
- Majority reduction through Residential General Use Innovative/Alternative (I/A) systems targeting about 650 parcels.
- Stormwater Best Management Practice (BMP) improvements will be implemented to supplement primary source reduction.

Alternatives	Estimated Nitrogen Reduction (kilograms-Nitrogen/year)
Residential I/A General Use Onsite System Replacement	1,148
Stormwater BMP	215
<b>Total</b>	<b>1,363</b>
Nitrogen Removal Goal	1,289
<b>Removal Goal Met?</b>	<b>Yes</b>

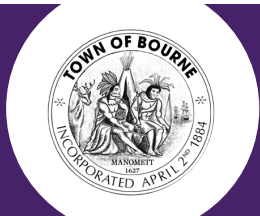
Source:

"Comprehensive Wastewater Management Plan Alternatives Analysis Draft", 10-18-2022, Section 4.3, Page 29,  
[https://www.townofbourne.com/sites/g/files/vyhli7346/f/uploads/2022-10-18\\_draft\\_alternatives\\_analysis.pdf](https://www.townofbourne.com/sites/g/files/vyhli7346/f/uploads/2022-10-18_draft_alternatives_analysis.pdf)









# Comprehensive Wastewater Management Plan

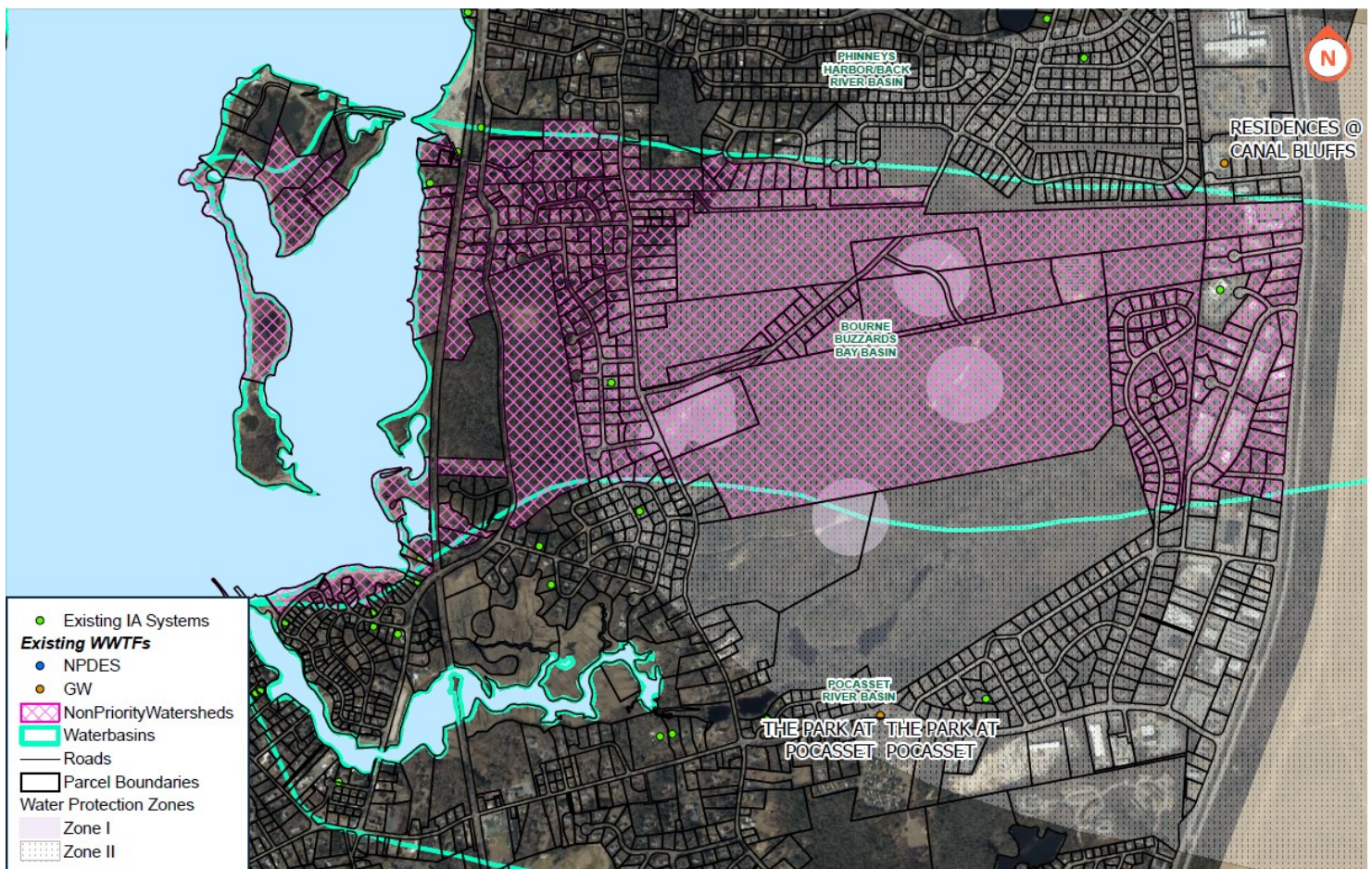
## Town of Bourne, MA

### Buzzards Bay Alternatives Analysis

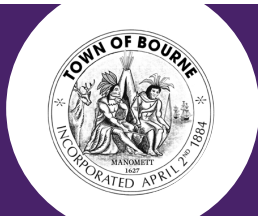
Update: 10/25/2022

#### Overview

- No Nitrogen impairment.
- No current or expected Total Maximum Daily Limit (TMDL) for nitrogen.
- Long term solutions are recommended to be implemented in a phased approach.
- General Use Innovative/Alternative Onsite Systems could be a long term solution.







# Comprehensive Wastewater Management Plan

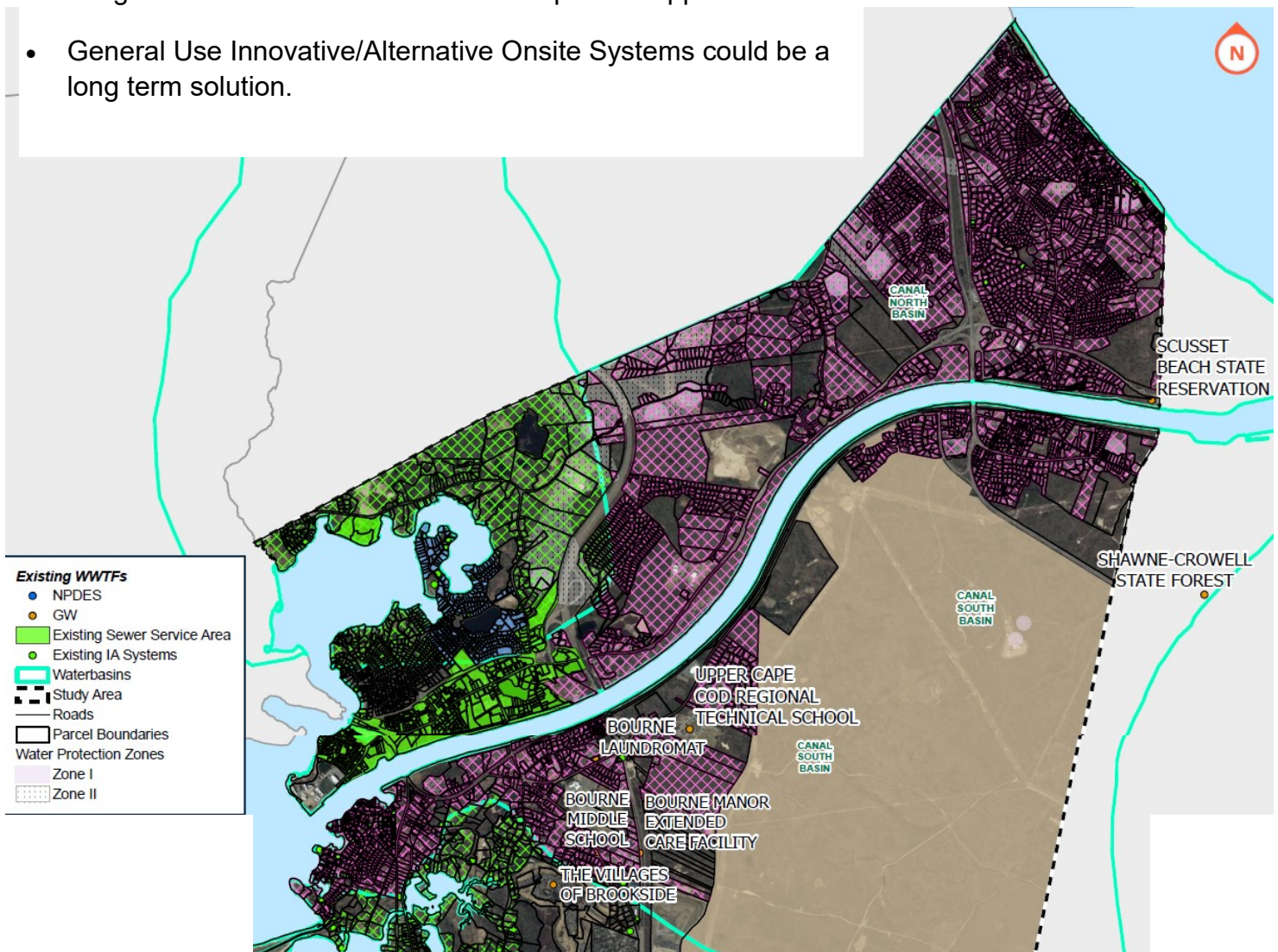
## Town of Bourne, MA

### Cape Cod Canal Alternatives Analysis

Update: 10/25/2022

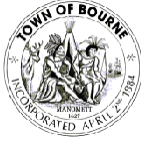
#### Overview

- No Nitrogen impairments
- No current or expected Total Maximum Daily Limit (TMDL) requirements
- Long-term solutions recommended in a phased approach
- General Use Innovative/Alternative Onsite Systems could be a long term solution.



Source:

"Comprehensive Wastewater Management Plan Alternatives Analysis Draft", 10-18-2022, Section 4.3, Page 33,  
[https://www.townofbourne.com/sites/g/files/vyhliif7346/f/uploads/2022-10-18\\_draft\\_alternatives\\_analysis.pdf](https://www.townofbourne.com/sites/g/files/vyhliif7346/f/uploads/2022-10-18_draft_alternatives_analysis.pdf)



# TOWN OF BOURNE **ENGINEERING DEPARTMENT**

TOWN HALL  
24 PERRY AVE.

BUZZARDS BAY, MA 02532

PHONE: 508-759-0600 x1345 • FAX: 508-759-8026

Email: tlydon@townofbourne.com



**TIMOTHY P LYDON, SIT, CFM**  
ENGINEERING TECHNICIAN

November 22, 2022

TO: Board of Sewer Commissioners  
Department of Public Works (DPW)  
Board of Health  
Building and Inspections Department

FROM: Timothy Lydon, Engineering Department

RE: Sewer Use Rules & Regulations Enforcement

LOCUS: 300 Main Street, Map 20.3 Parcel 133

**Subject:** Grease Trap issues at 300 Main Street

**Purpose:**

The purpose of this memorandum is to memorialize a recent inspection of sewer infrastructure on private property at 300 Main Street. The Town of Bourne Engineering Department was made aware of excess grease historically entering the Town of Bourne municipal sewer system at 300 Main Street by the Department of Public Works. Ahead of procuring construction services to upgrade the manhole and grinder pump at this location this Winter 2023, the Engineering Department seeks the guidance of the Board of Sewer Commissioners (BOSC) for violations of the Sewer Use Rules and Regulations recently approved August 30, 2022.

**Inspection:**

On Monday November 14, 2022, a joint inspection of 300 Main Street's sewer connection was performed. The joint staff consisted of: Shawn Patterson (DPW Director), Matt Quinn (Asst. DPW Director), Tom Parrot (DPW-Sewer), Cameron McWade (DPW-Sewer), Mike Golden (Town Plumbing Inspector - Building/ Inspections), Deon Wills (Health Inspector), and Timothy Lydon (Engineering Dept). The owner of the property, Benny Chu, was present and available for questions.

**External Grease Trap:** Upon first navigating the property, it was clear that the on-site grease trap location did not match the plan on file with the Town Hall being used at the inspection. The owner was then asked for maintenance history of the external grease trap. A maintenance log was not made available. However, the owner did produce an invoice from November 8, 2022 for grease pumping. The DPW then used the sewer truck crane to open the grease trap manhole. The tank was full, the tee and riser were covered in dry/caked grease above the water line (evidence of historical backup), and a layer of 1-2" of grease/scum on the top was observed and measured.

**Internal Grease Trap:** Concurrently, Health Department staff and Plumbing Inspection staff both investigated the internal kitchen operations while DPW staff investigated the external grease trap. It was concluded that an internal grease trap or other preventative measures were not present indoors.

**Violations:**

- Per section 8.1 of the Town Sewer Rules & Regulations, prohibitions and restrictions include *"any water or waste containing fats, wax, grease, or oils, whether emulsified or not in excess of one hundred milligrams per liter (100mg/L) or containing substances which may solidify or become viscous at temperatures between thirty-two degrees (32 F) and one hundred and fifty degrees (150 F)."* Based on the calculations provided, this grease

trap tank is producing approximately 18 gallons of grease each day:

Typical 2,000 gallon H-20 precast grease trap: 6' wide x 12' long x 4' effective depth

$6' \times 12' \times 0.167' \text{ (scum depth)} = 12.024 \text{ Cu. Ft. scum produced}$  which is equivalent to 90.18 gallons

$90.18 \text{ gallons} / \sim 5 \text{ days} = \text{approximately } 18 \text{ gallons of grease produced each day. (11/8/22 thru 11/13/22)}$

- Per Section 6.2.3, the Sewer Rules and Regulations *"require the submission of a FOG Management Plan"* for permitted grease traps. Currently, the Town does not have any on file and the fines and fees are not outlined in the Sewer Rules and Regulations. (FOG: fats, oils, grease)

### **Summary/Recommendation:**

The Town sewer system has seen grease issues at this property in the past. According to DPW staff the worst historical issue was when the electrical system failed in the grinder pump. What was observed was a tank that shows a history of backup and a grinder pump that occasionally sees more grease than it should.

In order to protect the scheduled improvement of the grinder pump and manhole using ARPA funding it is the conclusion of the Engineering and DPW departments for the owner to complete the following:

- Grease removal operation at this property needs to be documented and made available when necessary.
- The owner will formally clean the piping from the restaurant to the grease trap, the grease trap, and from the grease trap to the grinder pump.
- Provide the Town with a plan to install improved infrastructure internally or externally that is proven to address excess grease.
- A FOG Management Plan shall be prepared and submitted by licensed personnel that addresses operation and maintenance of any new and existing preventative grease trap infrastructure.
- Bi-weekly pumping of the grease trap until satisfaction of the DPW.

If you have any further questions please reach out via email or call the Engineering Department at 508-759-0600 extension 1345.

Respectfully,

Timothy Lydon  
Engineering Department

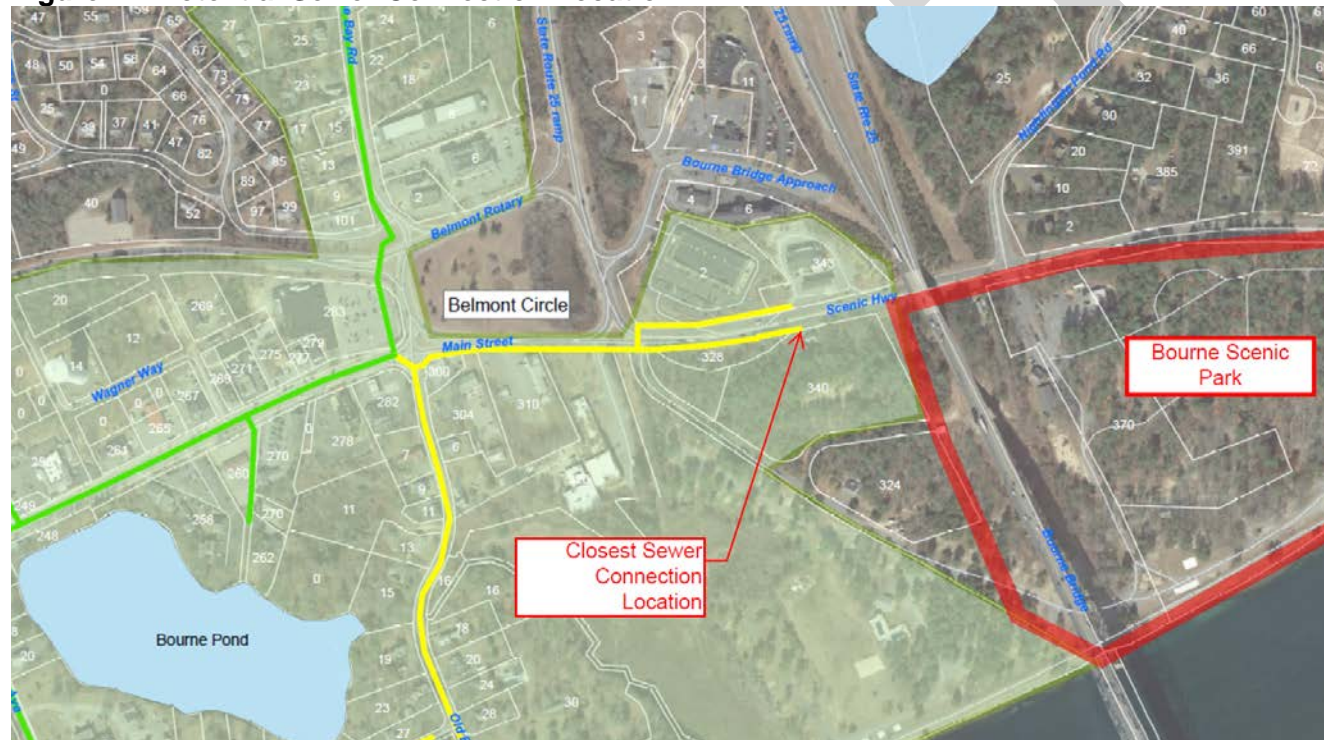




### **Sewer Connection Options**

Currently the closest point in the BSP to the Town Sewer collection system is the western portion of the park along the Scenic Highway as shown below in Figure 1 on the Town of Bourne Sanitary Sewer Map prepared March 1, 2019. The connection point is noted as a low pressure line, which would require a pressure connection from the BSP into the system. The conceptual collection system layout prepared by HW consists of a combination of gravity and pump systems that would be capable of transporting the wastewater to the connection point. Additional detail on the size and capacity of the existing low pressure line would be required prior to final design.

**Figure 1 – Potential Sewer Connection Location**



### **Current Available Sewer Capacity & Allocations**

The Queen Sewell Park Wastewater Treatment Plant (WWTP) services the Buzzards Bay area of Bourne. It has an approximate design capacity of 100,000 gallons per day (gpd) and currently receives approximately 50,000 gpd of flow. The Town of Bourne also has an agreement with the Town of Wareham to send an additional 200,000 gpd of flow from critical areas in Buzzards Bay and Hideaway Village to its Municipal WWTP.

Currently the Wareham WWTP has a moratorium on accepting new flow not already allocated for connection to the WWTP. The BSP is not currently allocated to either the Queen Sewell Park or Wareham WWTP nor is it within a critical area that is planned to connect. Based on discussion with Sewer Commission Chair Mary Jane Mastrangelo, the BSP will be added to future discussions related to the Comprehensive Wastewater Management Plan (CWMP).

### **Estimated System Connection & Usage Fees**

Current Sewer regulations require the submittal of an application and the application fee of \$1500 (2022 rate) to the Sewer Commission for consideration of the allocation for the project. If

the Commission approves the flow allocation, an estimated preliminary allocation fee of \$37,607 will be due within 30 days of Commission's approval. If construction of the sewer collection system at the BSP is not started within two years of the Commission's approval, a preliminary allocation extension fee of \$ 2,500 (2022 rate) will be assessed. Additional charges include a one-time sewer permit fee of \$46,579 (2022 rate) and sewer system development charge of \$1,133,300 (2022 rate). Once the BSP is connected, an annual sewer usage fee of \$269,144 (2022 rate) will apply. The estimated fees are outlined below in Table 2. As the park doesn't fall into a specific category as outlined in the Towns regulations, HW has assumed that the cottages and campsites would qualify as residential use and the office area as commercial use. Additionally, the Sewer System Development charge is based on the frontage and acreage of a property, which is significant when applied to the BSP. Additional discussion with the Town is required to finalize the fees. Based on discussion with the Chair Mary Jane Mastrangelo, the current fee structure is being evaluated and may change in the near future.

**Table 2 – Estimated Connection & Usage Fees (2022)**

DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL AMOUNT
Allocation Fee and Design Review Fee				\$ 1,500
Preliminary Allocation Fee (First 1,000 gpd)	1,000.00	gallon per day (gpd)	5	\$ 5,000
Preliminary Allocation Fee (over 1,000 gpd)	32,607.00	gallon per day (gpd)	1	\$ 32,607
Residential Sewer Permit Fee (cottage)	40.00	residential property	\$100.00	\$ 4,000
Residential Sewer Permit Fee (Camp Sites)	419.00	residential property	\$100.00	\$ 42,050
Commercial Sewer Permit Fee (Office)	3,788.00	office SF	\$0.10	\$ 529
Sewer System Development Charge (frontage)	4,680.00	feet of forntage	\$75.00	\$ 351,150
Sewer System Development Charge (acre)	68.00	acre	\$11,500.00	\$ 782,150
<b>TOTAL FEES</b>				<b>\$ 1,218,986</b>
User Fee (Annual)	461.00	Unit	\$583.50	\$ 269,144
Preliminary Allocation Extension Fee (over 500 gpd)	1.00	Unit	\$2,500.00	\$ 2,500


### **Conclusion**

There are many unknown factors in determining the feasibility of a connection to the Town of Bourne's sewer system. The Town is working through its available capacity at its own WWTP along with the agreement to the Wareham WWTP facility, updating sewer connection fees and finalizing the CWMP. HW recommends the BSP revisit the potential sewer connection option in the Spring of 2023 to reevaluate based on the Town's progress.



# memo

## Town of Bourne

To: Board of Sewer Commissioners  
From: Marlene McCollem, Town Administrator   
CC: Erica Flemming, Finance Director  
Michael Ellis, Town Accountant  
Date: November 18, 2022  
Re: Sewer Rate Recommendation

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Based on FY23 budget an annual rate of \$1,167 per user is necessary to maintain and operate the system. I recommend that you continue the rate for the second half of FY23 at \$583.50 per user. This rate will be reflected in the March commitment and billing.

Furthermore, I recommend an overage charge of \$0.0175 per gallon be set for calendar year 2023.

## DRAFT

**Board of Sewer Commissioners  
Minutes of Tuesday, September 27, 2022  
Bourne Community Center  
239 Main Street, Buzzards Bay**

**TA Marlene McCollem**

### **Board of Sewer Commissioners**

Mary Jane Mastrangelo, Chair

Judith Froman, Clerk

Melissa Ferretti

Peter Meier

Others: Michael Rausch, Erica Flemming (virtual), Mike Ellis (virtual), Tim Lydon (virtual), Corey Repucci (virtual), Halim Choubah (virtual), Janine Giambarresi (virtual), Stanley Andrews, and Joe Sullivan.

Note this meeting is being televised, streamed or recorded by Bourne TV. All items within the meeting agenda are subject to deliberation and vote(s) by the Board of Sewer Commissioners. Michael Rausch acknowledged that he is recording the meeting. Jared MacDonald is excused.

**This meeting is available on Zoom. Meeting ID: 830 2376 5902 Password: SEWER**

### **7:02 PM Call Public Session to Order in Open Session**

Chair Mastrangelo said they will be skipping items 3 and 4 because they already did them at the Board of Selectmen's meeting that was held prior to this meeting.

- 1. Moment of Silence to recognize our Troops and our public safety personnel.**
- 2. Salute to the Flag.**
- 3. Vision:** Bourne is a proud community that embraces change while respecting the rich heritage of the town and its villages. It is a municipality based on strong fiscal government with a durable economy that recognizes the rights of all citizens, respects the environment, especially the coastal areas of the community and the amenities that it affords. Bourne embraces excellent education, and offers to citizens a healthy, active lifestyle.
- 4. Mission:** Bourne will maximize opportunities for social and economic development while retaining an attractive, sustainable, and secure coastline and environment for the enjoyment of residents and visitors. Through responsible and professional leadership and in partnership with others, Bourne will strive to improve the quality of life for all residents living and working in the larger community.
- 5. Public Comment on Non-Agenda Items** – Public Comments are allowed for up to a total of 12 minutes at the beginning of each meeting. Each speaker is limited to 3 minutes for comment. Based on past practice, members of the Board are not allowed to comment or respond.

**6. Board of Sewer Commissioners Business**

- a. **Abatement request for 21F Nautical Way in Hideaway**
- b. **Wastewater Treatment Facility – status update from Building Committee**
  - i. **Noise complaint**
  - ii. **Drainage runoff concerns**
  - iii. **Continuation of the committee, outstanding project balance, next steps**
- c. **Sewer allocation updates.**
- d. **FY23 budget amendments for the October 24, 2022 Town Meeting – Article 3**

**6.a. Abatement request for 21F Nautical Way in Hideaway**

Janine Giambarresi said that she will be moving into 21F Nautical Way once it is completed. She said that she just received the permit in May, and they just had the rough inspection and are just starting the plumbing. She said she is requesting an abatement on the sewer since they haven't used it yet. She said she did receive an abatement in the past and is hoping to get another one.

Peter Meier asked if the connection was disconnected at the street, and she said she believes so. He said that she shouldn't be getting a bill if that is the case. Town Administrator Marlene McCollem said that the house was demolished, and the connection was gone, however, since it is specified to be rebuilt, it is still an active address. Ms. McCollem said that billing should start again when the connection is made, and the Board should extend the abatement through the calendar year.

**Voted:** Peter Meier moved, and Judith Froman seconded to grant an extension of the abatement through the calendar year of 2022.

**Vote:** 4-0-0.

**6.b. Wastewater Treatment Facility – status update from Building Committee**

i. **Noise complaint** – Stanley Andrews, Vice Chairman, Wastewater Building Committee, said that the modifications to the exhaust fan system to the plant have been completed. He said that he spoke to the neighbor who brought the noise issue to their attention, and he stated that it has been a lot better.

ii. **Drainage runoff concerns** – Mr. Andrews said that he met last week with the Town Engineer, the Town Health Agent, and the DPW Director on site. He said they noticed some runoff coming down the hills from the plant, from the ball field, the Armory property, and down Colonial Road. Mr. Andrews said that he has been in discussions with Corey Repucci of Weston and Sampson about what can be done about the runoff.

Mr. Repucci said that they will work with the Town to come up with a solution to the drainage issues. Joe Sullivan, OPM, from CHA, said that there is runoff coming from the plant, and the downspouts on the right and left-hand sides discharge onto the ground and around the backside of the Wastewater Treatment Plant. He said that he did a walk around earlier in the day and did see the areas that Mr. Andrews



had stated. He said that he and Mr. Repucci have discussed some type of retention or infiltration within the property of the Wastewater Treatment Facility.

Peter Meier asked what was left in contingency and Mr. Sullivan said it is about \$200,000. Ms. McCollem said that the runoff from the Wastewater Treatment Facility needs to be mitigated. She said that she agrees that a designed and engineered solution is needed. She said that she is ok with the Building Committee continuing through this process or if the Building Committee wants to turn this process over to her and to Tim Lydon, she is ok with that too.

**iii. Continuation of the committee, outstanding project balance, next steps –**

Mr. Andrews said that the committee has been pretty much closed out except for one piece which is what the Town is going to get back from Kubota in relation to the foaming events. Mr. Andrews said that this runoff project would have to go out for bid. Judith Froman asked if this would be paid for from the contingency that is left in the budget and Mr. Andrews said that it would.

Chair Mastrangelo said that deadlines need to be in place for this runoff project. Ms. McCollem said that this would be a contract amendment to add scope with Weston & Sampson. Mr. Repucci said that they will work as quickly as they can to get the numbers.

Chair Mastrangelo recapped and said that there will be a contract amendment of scope with Weston & Sampson, Weston & Sampson is going to do the engineering, design, and drainage calculations for stormwater mitigation associated with the Wastewater Treatment Facility project, which includes the runoff and the restoration of the easement area. The building committee will meet sometime in the next week to keep this project moving and at this time they will keep the committee in place.

**6.c. Sewer allocation updates.**

Ms. McCollem listed the people that were invited to attend this meeting to give project updates regarding preliminary sewer allocations: Maritime Holdings, Calamar, 100 Main Street block, Bay Motor Inn, 2 Kendall Rae, and 340 Main Street.

Maritime Holdings – A representative from Maritime Holdings via Zoom said that their project is still moving forward, and all of their funding and grants are starting to come back. Chair Mastrangelo asked if they had a timeline, and she answered that she does not want to give a timeline but said that they finally have some good momentum.

Calamar – There was no representative from Calamar at the meeting.

100 Main Street Block, Vincent Michienzi - There was no representative from 100 Main Street Block at the meeting.

Bay Motor Inn – Fred Carbone, Owner of the Bay Motor Inn, said that they have their property under agreement, and they will be in front of the Planning Board in the next 2 or 3 months.

340 Main Street - Halim Choubah said he is representing the owner. He said that they are under construction, and they have all the permits from MassDOT and all building permits from the Town. He said that most of the sewer system onsite has been constructed and they anticipate being able to connect to the Town sewer in a few months. He said they hope to be open for business by late Fall of 2023.

Peter Meier asked if this is just for the gas station, and he wanted to know if the housing above part of the project will be. Mr. Choubah said that the second floor will be part of the first phase. Mr. Meier also wanted to know if there would be only one grinder pump or will the apartment upstairs be a separate billable unit. Ms. McCollem said that it depends on the connection plans.

2 Kendall Rae – Ms. McCollem said that they may have just finished with the Planning Board, and they do know that they have to re-apply based on the allocation of their new project.

Peter Meier said that the last time they had the list in front of the Board, Domino's still owed the Town and he wanted to know if they have been made whole. Ms. McCollem said that have paid.

Judith Froman said that she would like to have added to their spreadsheet a section for developers who were invited and were no-shows or did not respond.

Carl Schoener of 28 Colonial Road said he is an abutter of the Waster Treatment Facility. He said that he has been at this address for 22 years and he never had any problems with water accumulation in all those years. He said that since the construction of the Police Station has been completed and the Wastewater Treatment Facility, his property has been flooded three times. He said that the water drain off is a result of the cutting of trees for the projects.

Mr. Schoener said he is appreciative of the encouraging news that he heard at tonight's meeting from Stanley Andrews, but he is concerned about there being no point of contact, and that he met people that work for the Town that had said they could not be involved. He is also appreciative of the noise abatement work that was done. He also is requesting that the next time that his property is flooded that the DPW assist in pumping out the property. Peter Meier asked if there was a way to mitigate the water accumulation with a temporary fix and Ms. McCollem said that she is hesitant to agree to it because the water must go somewhere, and this is precisely why a design needs to be done by an engineer, and quick. She cannot tell anyone to go work on the property until an engineer has a real plan.

**6.d. FY23 budget amendments for October 24, 2022, Town Meeting – Article 3**

Ms. McCollem said that the bottom line is that they believe they can do this as essentially net zero. She said that what they are proposing will be offset by the sewer overage increase. She said they

are pulling in the Wareham Environmental Quality capital project, which shows a payment increase of \$35,552 for FY 23, and there is a decrease in the SRF debt because they anticipated paying more this year than is required. She also said that due to the volatility in electric costs, they are recommending that the electricity line gets bumped up.

**7. Minutes: 8/9/22; 8/30/22**

**Voted:** Melissa Ferretti moved, and Judith Froman seconded to approve the minutes of August 9<sup>th</sup>, 2022.

**Vote:** 3-0-1. Peter Meier abstained.

**Voted:** Peter Meier moved, and Melissa Ferretti seconded to approve the August 30<sup>th</sup>, 2022, minutes.

**Vote:** 4-0-0.

**8. Future Agenda Items**

Chair Mastrangelo said they should be hearing from CWMP sometime and the CWMP process. Ms. Froman said that they talked about looking at the charge and the makeup of the Wastewater Advisory Committee. Chair Mastrangelo said that the committee is finishing up the first half of the needs assessment and they will wait for the breaking point to bring the topic up.

**9. Town Administrator Report**

Ms. McCollem said that she had a good meeting last week with Environmental Partners (EP) and that Environmental Partners is drafting phase 2 of the Alternative Analysis, which is due to the Town Staff on Monday, October 3<sup>rd</sup>. Town staff comments are due back to EP on Friday, October 7<sup>th</sup>. She said EP will have some time to work on the draft from the staff's comments and the week of October 17<sup>th</sup> the revision is due from EP, and it will be sent to the Board of Sewer Commissioners and the Wastewater Advisory Committee and will be available on the website at that time and will be discussed at the next Wastewater Advisory Committee meeting on October 26<sup>th</sup>.

Ms. McCollem said they want to set November 11<sup>th</sup> as the deadline for the Wastewater Advisory Committee to return any comments to EP. The document will be turned over again, and EP has a deadline of November 18<sup>th</sup>, to return the revised draft with the Wastewater Advisory Comments in it, then it will be distributed to everyone again and be updated on the website. She said the goal is that that draft will go to the Board of Sewer Commissioners for discussion on November 29<sup>th</sup>, and if there is anything left to be incorporated or revised, then that is the last chance to do so. She said that they are hoping that in early December Phase 2 will be done.

TMDL request to DEP – Ms. McCollem said that she did send the letter to DEP requesting the TMDLs for the nitrogen-sensitive areas that don't yet have them.



**10. Committee Reports**

None.

**11. Correspondence**

None.

**12. Adjourn**

**Voted:** Judith Froman moved, and Peter Meier seconded to adjourn.

**Vote:** 4-0-0.

The Board of Sewer Commissioner's Meeting ended at 8:01 PM

Respectfully Submitted,

Kim Johnson, Recording Secretary