SELECTMEN'S MEETING AGENDA*

Griffin Room, Town Hall
732 Main Street, Harwich, MA
Interview for Finance Director Finalist 5:45 P.M.
Regular Meeting 6:30 P.M.
Monday, February 27, 2017

I. **CALL TO ORDER**

II. **PLEDGE OF ALLEGIANCE**

III. **INTERVIEW FOR FINANCE DIRECTOR POSITION**

A. Carol Coppola

IV. **WEEKLY BRIEFING**

V. **PUBLIC COMMENT/ANNOUNCEMENTS**

VI. **CONSENT AGENDA**

A. Approve minutes – February 6, 2017 Regular Session
B. Authorize Chairman to sign Certificate of Recognition to be presented to Afghanistan and Iraq War Veterans at Cranberry Valley Golf Course event
C. Approve 2017 Long Pond Bass Tournaments
D. Re-vote proposed Marijuana Temporary Moratorium By-Law language and resend to Planning Board
E. Approve request for assistance from the Caleb Chase Fund
F. Accept resignation of Claudia Williams from the Housing Committee effective immediately

VII. **PUBLIC HEARINGS/PRESENTATIONS** *(Not earlier than 6:30 P.M.)*

A. Update on proposed changes to Monomoy Regional School District agreement – *Supt. Carpenter and School Committee Chair Brian Widegren*

VIII. **OLD BUSINESS**

A. Wastewater Issues –
    1. Chatham/Harwich Inter-Municipal Wastewater Agreement
    2. Proposed Phase 2 Wastewater Program Engineering Agreement
    3. Wastewater Educational Brochure
    4. Sewer Regulation
    5. Wastewater Governance
    6. Town Meeting Article
B. Action Item Register

IX. **NEW BUSINESS**

A. Annual Town Meeting Warrant Article Review
B. Draft Accessory Apartment Dwelling Unit By-Law

X. **TOWN ADMINISTRATOR'S REPORT**

A. Letter to MassDOT regarding Route 28 Project Initiation Form – Dennis and Harwich
B. Notice of Zoning Violation for 1 Auston Road
C. Letter from Habitat for Humanity regarding 93-97 Route 28 project
D. Letter from Mass DEP regarding Massachusetts Estuaries Project
E. Letter regarding JayZ Drive installation of gate

XI. **SELECTMEN'S REPORT**

XII. **ADJOURNMENT**

Per the Attorney General's Office: The Board of Selectmen may hold an open session for topics not reasonably anticipated by the Chair 48 hours in advance of the meeting following "New Business." If you are deaf or hard of hearing or a person with a disability who requires an accommodation contact the Selectmen's Office at 508-430-7513.

Authorized Posting Officer:

_____
Ann Steidel, Admin. Secretary

Posted by: _____
Town Clerk

Date: February 23, 2017

MINUTES
SELECTMEN'S MEETING
GRIFFIN ROOM, TOWN HALL
MONDAY, FEBRUARY 6, 2017
6:30 P.M.

SELECTMEN PRESENT: Hughes, Kavanagh, LaMantia, MacAskill

OTHERS PRESENT: Town Administrator Christopher Clark, Assistant Town Administrator Charleen Greenhalgh, Aly Sabatino, Peter DeBakker, Ed McManus, Jeremy Gingras, Pat Nadle, Sally Urbano, and others.

WEEKLY BRIEFING

No one appeared before the Board.

PUBLIC COMMENT/ANNOUNCEMENTS

No one appeared before the Board.

CONSENT AGENDA

A. Approve minutes –
    1. January 17, 2017 Regular Meeting
    2. January 23, 2017 Regular Meeting
B. Set seasonal population at 30,500 for Alcoholic Beverages Control Commission
C. Approve application for Road Race by B.A. Event Promotions for the Harwich Cranberry Harvest Half Marathon & 10K Road Races on Sunday, October 1, 2017 including request for a One-Day Entertainment License and One-Day Special License for Wine and Malt and to waive Town-wide Facilities Use Policy for the event
D. Reappoint Dan Casey as full member of the Waterways Committee for a term to expire June 30, 2019
E. Approve request for assistance from the Caleb Chase Fund as recommended
F. Approve the 2017 Summer Concert Series to be held at Brooks Park
G. Approve the recommendation of the Town Administrator to approve the Eversource petitions to install underground conduit and hand holes to supply service to 18 Snow Inn Road and 30 Cherokee Road

Ms. Kavanagh moved approval of the Consent Agenda. Mr. Hughes seconded the motion and the motion carried by a unanimous vote.

PUBLIC HEARINGS/PRESENTATIONS *(Not earlier than 6:30 P.M.)*

A. Presentation – Outer Cape Health Services

Mr. McManus, member of the Board of Directors of Outer Cape Health Services and Chair of their Building Committee, introduced fellow Board member Jeremy Gingras, and Larry Ballantine of their Harwich Site Advisory Committee. He further introduced their new Executive Director Pat Nadle and other staff members Andy Lowe and Patty Hartsfeld. Mr. Lowe, Ms. Hartsfeld and Ms. Nadle

provided a Power Point presentation to the Board outlining their services and their mission. They stressed that they are not going to be urgent care. They took questions from the Board with regard to parking, impact on local fire departments, and lease of the property. Ms. Nadle responded that they have the required parking, she reiterated that they aren't urgent care and therefore expect impact on local fire departments to be minimal, and with regard to their lease she noted that they have right of first refusal every 5 years. Mr. Hughes said this is a great service for the community and the Board thanked them.

OLD BUSINESS

A. CDM Smith Phase II Contract

Mr. Clark opened discussion by noting that tonight we are asking to enter into a contract with CDM Smith which will be contingent on Town Meeting vote and it is anticipated to be a debt exclusion for the Pleasant Bay Watershed project. David Young, CDM Smith and Patrick Hughes, Senior Vice President of CDM Smith provided a presentation of the contract elements, the company's qualifications, an overview of CDM Smith services done to date with Harwich and the proposed phase 2 services. Mr. Hughes asked for an organization chart and to clarify how we would be billed for services. He said he is comfortable with CDM Smith and commented on Mr. Young's professionalism. Chairman MacAskill agreed but asked why we shouldn't go out to bid as this is a $22 million project. Mr. Clark said this contract is for $4 million to design out the system and then put the material out for bid. He pointed out that the big construction element will be competitively bid. Chairman MacAskill questioned the same for the $4 million element of the project. He asked why it makes sense to go with CDM Smith and not go outside. Mr. Clark drew attention to page 45 of the presentation regarding what other projects cost in other towns. He said from a reasonable perspective they are in the ballpark of other projects of this magnitude. He stated that by going out to bid we do have the potential that someone could bid less but we already have $1.2 million into this partnership, and someone else could come in with a different management or design style and we could be rehashing what has already been done and that is not in the best interest of the town. He commented on the character of the company noting that they are reputable and have lived up to what they have said. He commented that this is the best decision for the town. The Board further discussed the financial aspects of the contract. Chairman MacAskill said he had some questions regarding the fine print and would like to bring this item back. The Board agreed to bring the item back.

B. 97-93 Route 28 Project Update

Mr. Howell reported on organizational changes at HECH noting that Robin Wilkins resigned and Terry Newberry is now President and he is the Vice President. He then made the following statement:

> As far as the project goes, we have actually found a purchaser for the front part of the building and we are actively negotiating the language to put into the title restriction for the historic preservation of the façade of the building. You may recall that when we met in April and then again in October concerning this project, Habitat was not in the position with their engineering to identify all of the site conditions. They were able to place the houses roughly where they are going to be. They have done substantially more work now. When the April meeting occurred there was a motion by Mr. LaMantia relative to $25,000 for HECH's part of this project and the Chair actually asked what that was going to be spent on at that point and it was for the reconfiguration of the property, to promote the development of affordable housing, and to hire a historic preservation consultant to create

and manage a historic restriction. We found that we were able to accomplish all the earlier tasks in-house on our own time but what we didn't anticipate was when the engineering came in from Habitat, it necessitated us as the owners of the property to reconfigure and move two separate systems, one was actually going to be under the roadway that's going to provide the access into the 40B project, we have to move that, we also have to move the other one that's on the historic property 97 so that it's on our side of the lot line that is being created. In any event, we anticipate that we would be aiming that money to that function to be able to engineer and re-locate the septic so that we can effectuate the sale of both of the properties under the 40B plan which is why I am here tonight. We haven't spent any of it, we haven't incurred any obligations relative to it but we're probably going to have to because at least on 93 there's some very unusual things that have to happen with the leaching field to get it onto the property and locate it so that its within the lot lines which will allow the 40B homes to be built in the back.

Ms. Greenhalgh said this past Thursday, Habitat for Humanity filed their Comprehensive Permit with the Zoning Board of Appeals and they are looking at a hearing date on either March 8th or 15th. She stated that abutters will be notified as required by law, it will be advertised in the newspaper and information is available on the website regarding this application.

Mr. Hughes said considering the Board's original intent of using that $25,000, is there a way they could bill the Town against that $25,000 for what they have already done and then they could use their own money to do the septic. Mr. Howell said it would have to be used for the reconfiguration of the property and he was just letting the Board know that HECH has absorbed the cost of the first two legs of that. Mr. Clark said he would look at the original intent of the Board vote and if it was to include redoing the sight lines or the property lines, the study relating to the septic could be in the confines of the original vote. He said he would meet with Mr. Howell and the Accountant to seek clarification of the vote.

C. Housing Production Plan

Mr. Hughes said the presentation did a good job of telling us where we are and what we need to do regarding number of units in order to get to the 10% that the state requires but he is not sure it tells us how to go about doing that. Chairman MacAskill said it is a very aggressive plan and asked Ms. Greenhalgh if there has been discussion in the working plan about how we are going to obtain those goals. Ms. Greenhalgh said that right now the plan is outdated so this plan will lend itself to additional monies from grants. She commented that even if we are doing it one unit at a time we are making progress. She discussed the problem of lack of land and unique methods for creating affordable housing. Ms. Greenhalgh took further questions from the Board. She said the Planning Board is taking this up at their meeting on the 14th. Mr. LaMantia moved to approve the Housing Production Plan as presented to us. Mr. Hughes seconded the motion and the motion carried by a unanimous vote.

D. Wastewater Information Guide

Mr. Hughes said all of his comments have been included and it is time to get this out there. He thanked David Young, Sharon Pfleger and the Wastewater Implementation Committee for their efforts. Mr. LaMantia said he still concerned and has a problem with not focusing on why we are

doing this project in the first place. Ms. Kavanagh said we should flip flop some of the information from end to beginning and include an introduction regarding the impact if we don't do this. Chairman MacAskill pointed out that this will be followed up by both a 4 page more direct piece as well as some 1 page pieces to be followed by some Channel 18 programs. Mr. Clark stressed the need to get this material out and noted that they expect to have the 4 pager out in a week or so. He described other forums for distribution of the information including the website. Mr. DeBakker said people don't want to hear it and all we can do is distribute the brochure and continue to provide more details. He commented that it doesn't matter what order we put things in. Ms. Kavanagh moved to approve for distribution the Town of Harwich Protecting our Water Resources Wastewater Education Handbook. Mr. Hughes seconded the motion and the motion carried by a 3-1-0 vote with Mr. LaMantia in opposition.

E. Wastewater Tracking Project Update

Chairman MacAskill referred to the tracking spreadsheet provided by Administration. Ms. Greenhalgh highlighted the document. Mr. Clark commented that this is a functional tool to be used for tracking so that responsible parties have ability to access their portions and update it. He stated that the CWMP calls for us to provide a status report annually. He noted that this could allow the general public to see how the Town is complying but it is primarily for internal use to comply with CWMP. Mr. Clark thanked Ms. Pfleger for her work on this.

F. Wastewater Project Oversight discussion

Chairman MacAskill suggested approaching the Water Commission about having the Water /Wastewater Superintendent manage the wastewater project. Mr. Clark said that was a good idea. He stated that his sense was that the Board wanted to have Administration do the work in terms of getting the construction, and when that is done in Phase 2 then it gets turned over to Water but if the Board wants to accelerate it that it makes perfect sense. Mr. Hughes stated that he thought the Board would be responsible at first. He stated that he thinks if we are successful in negotiating with Chatham, Phase 2 would more appropriate with the Water Department but initial levels should be with the Board. Chairman MacAskill pointed out that at the same time the Board talked about making the Water Commission a five member Board. He said it is important that this falls under one point person. He questioned if the Board should have control of the project, with the exception of finances, as the Board turns over often and they are not wastewater experts. Mr. Clark noted that it is important to have the Administrator function. He said it should be managed by a team of people, not just one. Ms. Kavanagh agreed with Chairman MacAskill's recommendation. Mr. LaMantia said he prefers it to be the way they voted but said he sees no problem with starting the Phase 2 step a little earlier but the Town Administrator must be involved and none of this can happen until the agreement is made with Chatham. Mr. Clark stated that as things need to be financed you need the Administrator to farm that out and to determine if there are things that could be done in-house. He said that when there are times that he can't get to what needs to be done or he doesn't think the house staff has the talent to do it, we need to reach out to that resource to move the project forward. He said he doesn't think the $150,000 is necessarily for a project manager but to help us move forward in terms of the overall plan and have this organization move. He stressed that by Charter, the Water/Wastewater Superintendent doesn't have the authority to compel people to do things that need to get done. Chairman MacAskill said he visualizes it the way it was presented in the packet and it is obvious that the Town

Administrator will direct the project. Mr. Young noted that task #4 ($150,000) includes assisting with public outreach, community partnership discussions, discussing open space acquisition, fertilizer management brochures and education programs. Chairman MacAskill said that this is why we hired the Water/Wastewater Superintendent and Mr. Clark said he agreed with having him be more of the driver of this. Mr. LaMantia said it is important he gets involved at this point and that he and Mr. Clark work together. The Board agreed that Mr. Clark and Chairman MacAskill can have this conversation with the Water Commission.

G. Action Item Register

Ms. Kavanagh said she met with Traffic Safety and she doesn't see it updated. Mr. Clark said he has those comments and will get them in. Chairman MacAskill said the Board should be prepared to give updates in the next couple of weeks.

NEW BUSINESS

A. Draft RFI for West Harwich School

Ms. Sabatino highlighted the RFI to relocate or repurpose the West Harwich School. Mr. Hughes suggested making the response time 45 days rather than 30 days. The Board discussed it and it was decided that the response time should be 60 days. Ms. Urbano asked about Ms. Sabatino's thought process in putting the RFP together as it is different than what was put together earlier. Ms. Sabatino said the only difference is the relocation of the building. Ms. Urbano asked if anyone has inquired about this and Chairman MacAskill responded that the farm bureau has reached out to us but there is nothing official. Mr. Hughes asked if it is clear that we would accept a lease or sale of the building. Ms. Sabatino said she would add the sale of the building.

B. Potential Adoption of West Bridgewater Temporary Moratorium on Legalized Marijuana

Mr. Clark stated that a moratorium would allow us another Town Meeting cycle to be able to do zoning changes. Mr. Hughes asked if Attorney Giorgio has weighed in on this and Mr. Clark said we could send it to him but noted that the Attorney General approved the West Bridgewater language. Ms. Kavanagh moved that we approve adoption of the West Bridgewater temporary moratorium on legalized marijuana for Harwich and refer to the Planning Board to start the public hearing process necessary for a zoning amendment. Mr. LaMantia seconded the motion and the motion carried by a unanimous vote.

C. Support of Room Rental Tax

Mr. Clark stated that we had a discussion as a result of the MMA meeting and this is informational only. He said it would allow taxation to be extended to private residences that are used for rental purposes. Mr. LaMantia suggested looking at what other towns have done. Mr. Hughes said he would only have an interest in this if the revenue generated can be specifically designated for something like wastewater. He also questioned how we would enforce it and said they should think about it first. There was discussion about the rental registration program and how it might be applied. Ms. Greenhalgh pointed out that the program is a one time deal. Ms. Kavanagh was opposed to regulating these rentals. No action was taken on this item.

TOWN ADMINISTRATOR'S REPORT

A. FY18 Budget Message to be presented at February 13, 2017 Board of Selectmen meeting

Mr. Clark noted that the FY18 Budget Message will be presented at the February 13th meeting.

B. Response from Attorney Giorgio on Charter changes

Mr. Clark reported that Mr. Giorgio has responded about the various Charter changes presented by the By-Law Charter Review Committee and he outlined that response. He reported that he met with Mr. Howell and he has been made aware of the opinion.

C. Efficiency and Regionalization Grant Program

Mr. Clark stated that we put together an Efficiency and Regionalization Grant Program that would be for $185,000 to assist the 3 towns of Dennis, Yarmouth and Harwich to basically get us to where we are now with the Chatham IMA. He noted that the grant was submitted officially by the town of Dennis as the host community and he did write a letter of support for the project. He reported that March 8th has been selected for a meeting of the 3 towns to hear a presentation by CDM Smith on the potential value of a tri-town agreement.

ADJOURNMENT

Mr. Hughes moved to adjourn at 9:25 p.m. Mr. LaMantia seconded the motion and the motion carried by a unanimous vote.

Respectfully submitted,

Ann Steidel
Recording Secretary

Related Documents - 2/6/17 BOS Meeting

01 Agenda.pdf
02 Minutes Jan 17, 2017.pdf
03 Minutes Jan 23, 2017.pdf
04 Seasonal Population.pdf
05 Road Race.pdf
06 Waterways Appointment.pdf
07 Concert Series.pdf
08 Eversource Petitions.pdf
09 Outer Cape Health Presentation.pdf
10 CDM Smith Phase II Contract.pdf
10 CDM Smith Profile.pdf
11 Housing Production Plan.pdf
12 Action Item Register.pdf
13 Wastewater Information Guide.pdf
14 West Harwich School RFI.pdf
15 Proposed Adoption of Marijuana Moratorium.pdf
16 Room Rental Tax.pdf
17 Charter Changes.pdf
18 Efficiency & Regionalization Grant.pdf

February 15, 2017

To: Town of Harwich Selectmen

From: Town of Harwich Golf Committee

This May 8th, 2017 the HGC, in concert with the Director of Golf are sponsoring a golf outing honoring service men and women who have served their country and have sacrificed much.

The golf committee has sponsored outings such as this in the past, and has honored our own outstanding Veteran members of the Town.
This year's activity will be held in conjunction with the Service Veteran's Golf Association. This will make Harwich the only municipal golf operation on the Cape that has partnered with the SVGA.

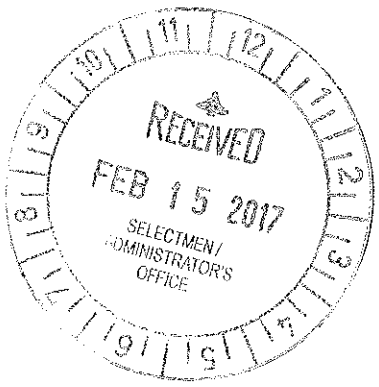
The SVGA works with various golf clubs in New England to attract disabled Post 9/11 veterans to the game of golf. This community of support has contributed in a meaningful way in allowing Veterans to transition back into a normal civilian life.

We would like the approval of the attached proclamation and provide a signed copy from the Chairman. We intend to give each participant a copy for display in their own homes.

We invite your Chairman to the CVGC to address the group as well as any other interested Selectmen from the board.

Sincerely,

Clement F. Smith, HGC Chair



Town of Harwich

Certificate of Recognition

Presented to Post 911

Afghanistan and Iraq Veterans

On the occasion of an outing for Veterans of the Salute Military Golf Association (SMGA) supported by Cranberry Valley Golf Course, we the Harwich Board of Selectmen and Harwich Golf Committee do hereby proclaim that:

WHEREAS, the SMGA Mission Statement is to provide rehabilitative golf programs, experiences, and family inclusive golf opportunities for post 9/11 wounded war veterans to improve the life of these American heroes.

WHEREAS, SMGA has established that post 9/11 returning Veterans of Iraq and Afghanistan may suffer from physical and psychological injuries of Post-Traumatic Stress and from Traumatic Brain Injury and respond positively to learning to play the game of golf alongside their fellow veterans

WHEREAS, Veterans and their Families participating in recreation promote resilience, recovery and community support

WHEREAS, the Harwich Golf Committee wishes to provide a spring day of golf for Veterans in the SMGA program as a way of thanking them for their sacrifices and introducing them to the best municipal golf course on Cape Cod

THEREFORE, the Cranberry Valley Golf Tournament for the benefit of our SMGA program is being conducted as a sincere gesture of thanks and appreciation for the sacrifices you and your family have made while courageously serving your country, this proclamation is provided to you by the Selectmen of the Town of Harwich, Massachusetts as a symbol of its deep respect for your selfless dedication to our country, it's values and its freedoms, which your loyal service has helped preserve.

Michael D. MacAskill, Chairman
HARWICH BOARD OF SELECTMEN

Clement Smith, Chairman
HARWICH GOLF COMMITTEE

Presented this 8th Day of May, 2017

Harwich Recreation Department
Youth, Park, Beach, & Commission

Memo

DATE: Thursday, March 10, 2016
TO: Harwich Board of Selectmen
PHONE: 508-430-7513

FROM: Lee Ames
Executive Assistant, Recreation and Youth
PHONE: 508-430-7553
RE: 2017 Long Pond Bass Tournaments

GROUP	DATE	PAID
Avid Anglers	04/15/17	CK# 324
South Shore Bassmasters	04/22/17	CK# 3314
Bay State Rodbenders	04/23/17	Ck # 4132
Captain Bub's Bass Trail	04/29/17	CK# 4242
Forge Pond Bass Club	04/30/17	CK# 105
American Bass Anglers	05/07/17	CK# 0105
Last Cast Anglers	05/20/17	CK# 5206
Silver City Bass	05/21/17	CK# 1166
American Bass Anglers	09/10/17	CK# 0105
Mass Bass Busters	09/24/17	CK# 1108
Silver City Bass	10/08/17	CK# 1166
South Shore Bassmasters	10/11/17	CK# 3314

Cc: John Rendon, Harwich Harbormaster
Chief Guillemette, Harwich Police
Chris Clarke, Town Administrator

100 Oak Street Harwich, MA 02645 Fax 508-430-7579
Director: Eric J. Beebe 508-430-7552 ebeebe@town.harwich.ma
Executive Assistant: Lee A. Ames 508-430-7553 leeames@town.harwich.ma.us
Recreation Program Specialist II: Susan H. Fraser 508-430-7554 sfraser@town.harwich.ma.us

Charleen Greenhalgh

From:	John Giorgio <JGiorgio@k-plaw.com>
Sent:	Wednesday, February 15, 2017 4:02 PM
To:	Charleen Greenhalgh
Cc:	Christopher Clark
Subject:	FW: Harwich - Proposed Zoning Article
Attachments:	KP-#575806-v1-Harwich_-_Marijuana_Article_XXII.DOCX; The Regulation and Taxation of Marijuana Act - January 2017 - with SAMPL....pdf

Charlene:

I asked Attorney Katherine Laughman in my office to review the moratorium article. Below and attached please find our recommendations.

John

John W. Giorgio, Esq.
KP | LAW
101 Arch Street, 12th Floor
Boston, MA 02110
O: (617) 556 0007
D: (617) 654 1705
F: (617) 654 1735
C: (617) 785 0725
jgiorgio@k-plaw.com
www.k-plaw.com

From: Katherine D. Laughman
Sent: Wednesday, February 15, 2017 3:50 PM
To: John Giorgio
Subject: RE: Harwich - Proposed Zoning Article

This Moratorium does not follow our model (see attached). I have redlined their version it to bring it closer to what we are recommending. I would not ok this without the proposed changes.

From: John Giorgio
Sent: Wednesday, February 15, 2017 3:23 PM
To: Katherine D. Laughman
Subject: FW: Harwich - Proposed Zoning Article

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From: Charleen Greenhalgh [mailto:cgreenhalgh@town.harwich.ma.us]
Sent: Wednesday, February 15, 2017 3:09 PM
To: John Giorgio
Cc: Christopher Clark; Sandy Robinson
Subject: Harwich - Proposed Zoning Article

Hi John –

My apologies if this had already been forwarded to you. If not, the Board of Selectmen voted at the February 6th meeting to approve and forward the attached zoning amendment to the Planning Board to begin the public hearing process. I have formatted the document's numbering to be consistent with the format of the Zoning Bylaw. The language comes from the Town of West Bridgewater who approved this and the AG also approved it. Would you kindly do a quick review and let me know if this is appropriate to forward along to the Planning Board.

Charleen

Charleen L. Greenhalgh
Assistant Town Administrator
Town of Harwich
732 Main Street
Harwich, MA 02645
508-430-7513
508-432-5039 (Fax)
cgreenhalgh@town.harwich.ma.us

ARTICLE X: To see if the Town will vote to amend the Town's Zoning By-laws by adding the following new section:

XXII "TEMPORARY MORATORIUM ON THE SALE AND DISTRIBUTION OF RECREATIONAL MARIJUANA" and further to amend the Table of Contents to add Article XXII. "Temporary Moratorium on the Sale and Distribution of Recreational Marijuana" and the ensuing parts as proposed herein.

§235-134 Purpose: By vote at the State election on November 8, 2016, the voters of the Commonwealth approved a law regulating the cultivation, distribution, possession and use of marijuana fox recreational purposes. The law ~~provides that it is effective~~took effect on December 15, 2016 and (as amended on December 30, 2016: Chapter 351 of the Acts of 2016) requires ~~and the~~ a Cannabis Control Commission ~~Advisory Board is required~~ to issue regulations regarding the licensing of commercial activities ~~implementation~~ by ~~September~~ March 15, 201~~7~~8 and begin accepting applications for licenses on April 1, 2018.

Currently under the Zoning Bylaw, non-medical ~~Recreational~~ Marijuana Establishments (hereinafter a "Recreational Marijuana Establishment") ~~and Marijuana Retailers~~ as defined in G.L. c.94G, §1 are not a permitted use in the Town and any regulations promulgated by the State Cannabis ~~Advisory Board~~Control Commission are expected to provide guidance to the Town in regulating Recreational Marijuana Establishments~~ and Marijuana Retailers~~. Further, the ~~ballot measure~~ Act establishes ~~two~~ a ~~important~~ provisions that involves ~~require~~ ballot action by the Town whereby ~~prior to the adoption of zoning. First,~~ the Town may~~must~~, by ballot, determine whether it ~~will issue licenses for~~ will prohibit Recreational Marijuana Establishments ~~and Marijuana Retailers~~ within the Town~~and second, by ballot that cannot occur prior to November 6, 2018, the next biennial state election, on whether to allow on consumption of marijuana products should the Town decide to allow licenses for such facilities.~~

Commented [A1]: Marijuana Retailers are a sub-category of Marijuana Establishments under the Act and do not need to be called out separately for purposes of the moratorium.

Commented [A2]: This is an "opt-in" provision which would not, in my opinion, provide a basis for a zoning moratorium.

The regulation of Recreational Marijuana Establishments and Marijuana Retailers raise novel and complex legal, planning, and public safety issues, and the Town needs time to study and consider the regulation of Recreational Marijuana Establishments ~~and Marijuana Retailers~~ and address such ~~novel and complex~~ issues, as well as to address the potential impact of the State regulations on local zoning and to undertake a planning process to consider amending the Zoning Bylaw regarding regulation of Recreational Marijuana Establishments ~~and Marijuana Retailers~~ and other uses related to the regulation of recreational marijuana. The Town intends to adopt a temporary moratorium on the use of land and structures in the Town for Recreational Marijuana Establishments ~~and Marijuana Retailers~~ so as to allow the Town sufficient time to engage in a planning process to address the effects of such structures and uses in the Town and to adopt provisions of the Zoning Bylaw in a manner consistent with sound land use planning goals and objectives.

§325-135 Definitions

"Manufacture", to compound, blend, extract, infuse or otherwise make or prepare a marijuana product.

"Marijuana accessories", equipment, products, devices or materials of any kind that are intended or designed for use in planting, propagating, cultivating, growing, harvesting, manufacturing, compounding,

converting, producing, processing, preparing, testing, analyzing, packaging, repackaging, storing, containing, ingesting, inhaling or otherwise introducing marijuana into the human body.

"Marijuana cultivator", an entity licensed to cultivate, process and package marijuana, to deliver marijuana to marijuana establishments and to transfer marijuana to other marijuana establishments, but not to consumers,

"Marijuana establishment", a marijuana cultivator, marijuana testing facility, marijuana product manufacturer, marijuana retailer or any other type of licensed marijuana-related business.

Commented [A3]: This is the only definition that is required for purposes of the moratorium. It is the catch-all definition in the Act that includes all marijuana-related businesses.

~~(k)~~ "Marijuana product manufacturer", an entity licensed to obtain, manufacture, process and package marijuana and marijuana products, to deliver marijuana and marijuana products to marijuana establishments and to transfer marijuana and marijuana products to other marijuana establishments, but not to consumers.

"Marijuana products", products that have been manufactured and contain marijuana or an extract from marijuana, including concentrated forms of marijuana and products composed of marijuana and other ingredients that are intended for use or consumption, including edible products, beverages, topical products, ointments, oils and tinctures.

"Marijuana testing facility", an entity licensed to test marijuana and marijuana products, including certification for potency and the presence of contaminants.

"Marijuana retailer", an entity licensed to purchase and deliver marijuana and marijuana products from marijuana establishments and to deliver, sell or otherwise transfer marijuana and marijuana products to marijuana establishments and to consumers.

§325-136 Temporary Moratorium.

For the reasons set forth above and notwithstanding any other provision of the Zoning Bylaw to the contrary, the Town hereby adopts a temporary moratorium on the use of land or structures for Recreational Marijuana Establishments ~~and Marijuana Retailers~~. The moratorium shall be in effect through June 30, 2018. During the moratorium period, the Town shall undertake a planning process to address the potential impacts of recreational marijuana in the Town, consider the Cannabis Control Commission's ~~Advisory Board~~ regulations regarding Recreational Marijuana Establishments ~~and Marijuana Retailers~~ and related uses, determine whether the town shall, by ballot measure, restrict any, or all~~, licenses for~~ Recreational Marijuana Establishments ~~and Marijuana Retailers, determine whether the town will prohibit on-site consumption at Recreational Marijuana Establishments and Marijuana Retailers~~ and shall consider adopting new provisions of the Zoning Bylaw to address the impact and operation of Recreational Marijuana Establishments ~~and Marijuana Retailers~~ and related uses,

§325-137 Severability. The provisions of this by-law are severable. If any provision, paragraph, sentence, or clause of this By-law or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this bylaw."

And to act fully thereon. By request of the Board of Selectmen

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The Regulation and Taxation of Marijuana Act

A Guide to the New Law Legalizing Recreational Use of Marijuana

****Revised January 2017****

On November 8, 2016, Massachusetts voters approved Question 4 legalizing the recreational use of marijuana (Chapter 334 of the Acts of 2016). Implementation of the Act is generating significant questions at state and local levels. The Act contains inconsistencies and outright contradictions. In particular, questions and concerns have been raised regarding the timeline for implementation, enforcement, local control, regulation of marijuana products produced by personal growers, amount of the tax, and additional matters. It is not certain whether or when the General Court may address these issues. The legislature has already acted to amend the deadlines for implementation of the law, as shown below. This new law, Chapter 351 of the Acts of 2016, was signed by the Governor on December 30, 2016. Responding to numerous questions from local officials, we have summarized the Act's provisions regarding the implementation timeline, personal use of marijuana, licensing of recreational marijuana establishments, local control mechanisms, and employment implications.

CURRENT TIMELINE

DECEMBER 15, 2016 **Effective Date of Law/ Personal Recreational Growing and Use Allowed**	"Personal use" of marijuana is now legal for a person at least 21 years old. General Laws c. 94G, §7 provides that individuals, but not businesses, will be permitted to engage in a range of activities as outlined below.
MARCH 15, 2018 **Deadline for CCC to Adopt "Initial Regulations"**	The Act creates a three-member Cannabis Control Commission ("CCC") to be appointed by and under the jurisdiction of the State Treasurer. The CCC will regulate and issue licenses for recreational marijuana establishments, but not for medical marijuana establishments, regulated by the Department of Public Health.
APRIL 1, 2018 **Deadline for CCC to Begin Accepting Specific Licenses**	Initial applicants: only businesses with medical marijuana experience are eligible, for a limited number of licenses. The filing of certain applications is staged over the course of the ensuing two years.
JULY 1, 2018 **Deadline for Final Regulations, or "Default"**	If the CCC has <u>not</u> adopted regulations, "each medical marijuana treatment center" may begin to "possess, cultivate, or otherwise obtain marijuana and marijuana products and may deliver, sell or otherwise transfer" to anyone over the age of 21. If regulations <u>are</u> timely adopted, the CCC will issue licenses within 90 days after applications are received on or after April 1, 2018, to qualified establishments.

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PERSONAL USE OF MARIJUANA

- The Act authorizes persons 21 years of age or older to possess, use, purchase, process or manufacture one ounce or less of marijuana, of which not more than five grams can be in the form of marijuana concentrate.
- Within a person's "primary residence", a person may possess up to 10 ounces of marijuana and any marijuana produced on the premises for personal use by not more than six marijuana plants. If there is more than one grower at the residence, there may be up to 12 plants cultivated on the premises.
- A person may give away or transfer without "remuneration" to a person age 21 years or older up to one ounce of marijuana, of which no more than five grams may be in the form of marijuana concentrate, provided that such transfer is not advertised or promoted to the "public".
- A person 21 years of age or older may also possess or manufacture marijuana accessories or sell such accessories to a person 21 years of age or older.
- Local regulations - although personal possession and use is now legal, consumption is still subject to certain restrictions pursuant to G.L. c. 94G, §§ 2 and 13.

LOCAL CONTROL — REGULATION, PROHIBITION

The Act defines a "marijuana establishment" to include, "a marijuana cultivator, marijuana testing facility, marijuana product manufacturer, marijuana retailer or any other type of marijuana-related business", and authorizes certain types of "local control".

Ordinances and Bylaws Regulating Time, Place and Manner

The Act provides that municipalities may adopt ordinances or bylaws regulating the time, place and manner of operations of marijuana establishments, provided that such ordinances or bylaws are not "unreasonably impracticable" and do not otherwise conflict with the Act. Standard practices for adoption of ordinances or bylaws will apply.

Further Regulation - Bylaws and Ordinances/Local Ballot Questions

The Act also authorizes imposition by "ordinance or bylaw by a vote of the voters of that city or town" of additional limitations on recreational marijuana establishments. The use of the phrase "by a vote of the voters of that city or town" typically requires a vote at an election, whereas the adoption of an ordinance or bylaw occurs by vote of the local legislative body (city or town council or town meeting). In our opinion, given this reference to voters, rules of statutory construction suggest that any attempt to approve an ordinance or bylaw, requires approval by the voters of the municipality at an election.

The topics that may be regulated under this section are as follows:

- prohibiting the operation of one or more types of marijuana establishments within the municipality;
- limiting the number of marijuana retailers to fewer than 20 per cent of the number of licenses issued within the municipality for the retail sale of alcoholic beverages not to be drunk on the premises where sold under chapter 138 of the General Laws; or

- limiting the number of any type of marijuana establishment to fewer than the number of medical marijuana treatment centers registered to engage in the same type of activity in the town.

The reference to "one or more types of marijuana establishments", in our opinion, can be read to allow a municipality to ban marijuana establishments within its borders. However, this language is subject to interpretation, and may be addressed in the CCC regulations.

Under the laws generally governing elections, no question may appear on the ballot unless specifically authorized by law. While the form of the question is typically included in the authorizing law, the Act does not do so. For your information, pursuant to G.L. c.54, §42C, the Board of Selectmen must vote to put the question on the ballot and provide notice to the Town Clerk no less than 35 days prior to the date of the election.

Petition for Question on State Ballot to Permit Marijuana "Cafés"

The Act provides that municipalities may, upon petition of not fewer than 10 percent of the number of the voters of the city or town voting at the state election preceding the filing of the petition, present to the voters of the city or town at the next state election the question of whether it will allow the consumption of marijuana and marijuana products on the premises where they are sold (i.e., so-called marijuana "cafés"). There is no timeline provided in the law for this type of petition, although it is reasonable to anticipate that any such request must be filed with the Secretary of the Commonwealth no later than the first Wednesday in August.

Regulation Prohibited or Strictly Limited

A municipality may not adopt an ordinance or bylaw prohibiting the transportation of marijuana or marijuana products or making such transportation "unreasonably impracticable".

Similarly, a municipality may not adopt an ordinance or bylaw prohibiting an establishment that "cultivates, manufactures or sells marijuana products in any area in which a medical marijuana treatment center is registered to engage in the same type of activity". [Emphasis added]. The Act contains no definition of "area".

The Act provides that no agreement between a municipality and a marijuana establishment may contain a payment that is not "directly proportional and reasonably related" to the costs imposed on the municipality by the operation of the recreational marijuana establishment.

Zoning Moratoria

Municipalities have asked about the ability to adopt a zoning bylaw or ordinance establishing a moratorium on the locating of recreational marijuana establishments to allow time to study the issue and develop appropriate bylaws and ordinances. We expect the Attorney General will likely approve a moratorium for one year (for example, through June 30, 2018), consistent with those approved for medical marijuana and other moratoria. With the recent extension of the deadline in the CCC's regulation to March 15, 2018, the Attorney General might approve extensions to the moratorium due to expire in Spring of 2018. We expect to have clearer guidance on this in the future. For municipalities with registered medical marijuana facilities, however, a moratorium may not be effective in preventing a recreational marijuana establishment "in any area" in which a medical marijuana treatment center is registered to engage in the "same type of activity."

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Now that the legislature has delayed implementation for six months, there is ample time for municipalities to determine the timing for any local action. Discussions might include whether or not to adopt ordinances or bylaws regulating time, place and manner issues, including moratoria, or to place questions before the voters relative to limitations on the type or number of recreational marijuana establishments that may be located in the municipality. Municipalities wishing to adopt ordinances or bylaws should have these in place before applications are filed on April 1, 2018.

Marijuana Related Uses Not "Agriculture"

Newly enacted Chapter 351 of the Acts of 2016 includes an amendment to the Zoning Act, G.L. c.40A, §3. The new language states that the "growing, cultivation, distribution or dispensation of marijuana" does not qualify for the agricultural exemption under the Zoning Act.

LOCAL OPTION TAXES

Question 4 also includes a new Chapter 64N of the General Laws setting tax rates for the sale of recreational marijuana products. Section 3 allows cities and towns to impose a local sales tax of up to 2%. In our opinion, this will require approval by the municipality's legislative body.

EMPLOYMENT ISSUES

The new law may also have significant implications for public employers. The relevant portion of the law provides, "This chapter shall not require an employer to permit or accommodate conduct otherwise allowed by this chapter in the workplace and shall not affect the authority of employers to enact and enforce workplace policies restricting the consumption of marijuana by employees."

Thus, despite the legalization in Massachusetts of the personal use of marijuana, public employers may continue to prohibit their employees from using or possessing marijuana in the workplace or in public buildings and from working while impaired by marijuana. Drug and alcohol testing and related policies should be reviewed to ensure that such policies will continue to be consistent with the public entity's desired treatment of marijuana following the change in the law. In some cases, policies may need to be updated or clarified to account for the change in the law.

Be further aware, however, that federal law prohibiting the use of marijuana by employees who possess firearms, such as police officers, and those required to hold a Commercial Driver's License, will continue to be in full force and effect notwithstanding the change in Massachusetts law. We are aware that some police chiefs are considering issuing a general reminder to all law enforcement personnel that marijuana is still a controlled substance for purposes of federal law and that the use or possession of marijuana is still prohibited.

FURTHER DEVELOPMENTS

We will continue to monitor developments in the law, including possible amendments by the General Court and guidance issued by the offices of the State Treasurer, Attorney General, or Secretary of the Commonwealth's Elections Division.

In the meantime, if you have any questions concerning regulation of recreational marijuana, please contact Attorneys Joel Bard (jbard@k-plaw.com) or Katherine Laughman (klaughman@k-plaw.com) at 617-556-0007. Members of our Labor and Employment Practice Group are also available to assist with employment-related questions.

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MODEL RECREATIONAL MARIJUANA ESTABLISHMENT BALLOT QUESTIONS

Banning all types of marijuana establishments:

Shall this Town prohibit the operation of all types of marijuana establishments as defined in G.L. c.94G, §1, including marijuana cultivators, marijuana testing facilities, marijuana product manufacturers, marijuana retailers or any other type of licensed marijuana-related businesses, within the Town of _____?

Banning one type of marijuana establishment (retail):

Shall this Town prohibit the operation of marijuana retailers, as that term is defined in G.L. c.94G, §1, within the Town of _____?

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MODEL RECREATIONAL MARIJUANA ESTABLISHMENT BAN WARRANT ARTICLE

To see if the Town will vote to amend the Town's Zoning Bylaw by adding a new Section _____, **MARIJUANA ESTABLISHMENTS,** that would provide as follows, and further to amend the Table of Contents to add Section ___, "Marijuana Establishments:"

Section _____

Consistent with G.L. c.94G, § 3(a)(2), all types of marijuana establishments as defined in G.L. c.94G, §1(j), to including marijuana cultivators, marijuana testing facilities, marijuana product manufacturers, marijuana retailers or any other types of licensed marijuana-related businesses, shall be prohibited within the Town of _____.

This Section shall be effective upon passage by the voters at a Town Election.

Or take any action relative thereto.

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MODEL MORATORIUM WARRANT ARTICLE

To see if the Town will vote to amend the Town's Zoning Bylaw by adding a new Section _____, **TEMPORARY MORATORIUM ON RECREATIONAL MARIJUANA ESTABLISHMENTS,** that would provide as follows, and further to amend the Table of Contents to add Section ___, "Temporary Moratorium on Recreational Marijuana Establishments:"

Section _____ Purpose

On November 8, 2016, the voters of the Commonwealth approved a law regulating the cultivation, processing, distribution, possession and use of marijuana for recreational purposes (new G.L. c. 94G, Regulation of the Use and Distribution of Marijuana Not Medically Prescribed). The law, which allows certain personal use and possession of marijuana, took effect on December 15, 2016 and (as amended on December 30, 2016; Chapter 351 of the Acts of 2016) requires a Cannabis Control Commission to issue regulations regarding the licensing of commercial activities by March 15, 2018 and to begin accepting applications for licenses on April 1, 2018. Currently under the Zoning Bylaw, a non-medical Marijuana Establishment (hereinafter, a "Recreational Marijuana Establishment"), as defined in G.L. c. 94G, §1, is not specifically addressed in the Zoning Bylaw. Regulations to be promulgated by the Cannabis Control Commission may provide guidance on certain aspects of local regulation of Recreational Marijuana Establishments. The regulation of recreational marijuana raises novel legal, planning, and public safety issues, and the Town needs time to study and consider the regulation of Recreational Marijuana Establishments and address such issues, as well as to address the potential impact of the State regulations on local zoning and to undertake a planning process to consider amending the Zoning Bylaw regarding regulation of Recreational Marijuana Establishments. The Town intends to adopt a temporary moratorium on the use of land and structures in the Town for Recreational Marijuana Establishments so as to allow sufficient time to address the effects of such structures and uses in the Town and to enact bylaws in a consistent manner.

Section _____ Definition

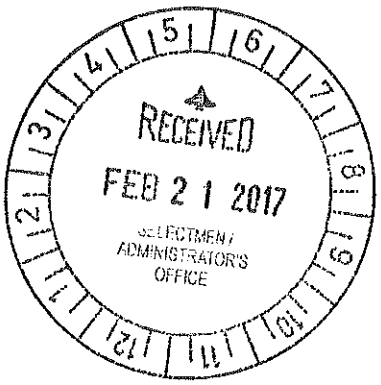
"Recreational Marijuana Establishment" shall mean a "marijuana cultivator, marijuana testing facility, marijuana product manufacturer, marijuana retailer or any other type of licensed marijuana-related business."

Section _____ Temporary Moratorium

For the reasons set forth above and notwithstanding any other provision of the Zoning Bylaw to the contrary, the Town hereby adopts a temporary moratorium on the use of land or structures for a Recreational Marijuana Establishment and other uses related to recreational marijuana. The moratorium shall be in effect through June 30, 2018 or until such time as the Town adopts Zoning Bylaw amendments that regulate Recreational Marijuana Establishments, whichever occurs earlier. During the moratorium period, the Town shall undertake a planning process to address the potential impacts of recreational marijuana in the Town, and to consider the Cannabis Control Commission regulations regarding Recreational Marijuana Establishments, and shall consider adopting new Zoning Bylaws in response to these new issues.

Or take any action relative thereto.

Anita Doucette
Town Clerk
Harwich Town Hall
732 Main Street
Harwich, Ma 02645



February 16, 2017

Dear Anita,

I am resigning my position on the Harwich Housing Committee effective immediately. I am grateful to have served but do not have the time needed to serve to my fullest.

Thank you and please let me know if you need anything further from me.

Best regards

Claudia Williams

Christopher Clark

From: Carpenter, Scott <scarpenter@monomoy.edu>
Sent: Friday, February 17, 2017 3:54 PM
To: Christopher Clark; Jill Goldsmith; Brian Widegren
Cc: Barbara Susko (bsusko@monomoy.edu)
Subject: Regional Agreement Update
Attachments: Regional Agreement DESE Approved Version 12 10 kfb edit.doc

Jill and Chris,

The Monomoy Regional School Committee will be discussing suggested changes to the Regional Agreement at its next meeting (Thursday, Feb. 23 at 6PM at the high school library).

Attached is the working draft of the regional agreement with our district's lawyer's comments.

Chairman Widegren and I will come to the Harwich BOS meeting on Feb. 27 to discuss the Monomoy Regional School Committee's suggestions and thoughts/reasons for edits to the regional agreement. We would be glad to come to a Chatham BOS meeting on a mutually convenient date.

Ultimately the regional agreement amendments must be approved by each Town Meeting. They also are subject to the State's Department of Elementary and Secondary Education (DESE) approval, although I don't think there is anything being changed that would be of concerned by DESE, but this approval process takes time too.

Scott

Scott Carpenter
Superintendent
Monomoy Regional Schools
425 Crowell Road, Chatham, MA 02633
Office: 508-945-5130

LEGEND:
Not Applicable now that we are fully regionalized
Things to potentially be discussed [comment made in brackets] – comments in document

Amendments must be initiated in accordance with **Section XVII.A.**

AGREEMENT BETWEEN THE TOWNS OF CHATHAM AND HARWICH WITH RESPECT TO THE FORMATION OF A REGIONAL SCHOOL DISTRICT

Whereas the Towns of Chatham and Harwich, towns in the Commonwealth of Massachusetts, hereinafter referred to as "member towns", have ~~desire to~~ created a regional school district consistent with the terms of Chapter 71 of the Massachusetts General Laws, as amended, the member towns, in consideration of the mutual promises contained herein, agree as follows:

Section I. MEMBERSHIP OF THE REGIONAL DISTRICT SCHOOL COMMITTEE

A. Name and Composition. ~~During the transition period spoken of in Section XX herein, the District shall be named by the Interim Regional School Committee, utilizing a majority vote consistent with Section I,B below.~~ The name of the Regional School District shall be the Monomoy Regional School District. The Regional District School Committee, hereinafter sometimes referred to as the "Committee", shall consist of eight (8) members, four (4) of whom reside in the Town of Chatham and four (4) of whom reside in the Town of Harwich.

B. Weighted Voting. Because of the disparity in the population of the two towns, each of the four (4) Committee members from Harwich will have one full vote on all matters and each of the four (4) Committee members from Chatham will have 50% of a vote on all matters, for a total of six (6) votes. For a motion which requires a majority vote to pass, a majority (i.e., greater than 50%) of the six (6) votes (which must be no fewer than 3.5 votes) must be cast in the affirmative and at least one Committee member from each of the two towns must vote in the affirmative. For the passage of a motion requiring a two-thirds vote (such as the passage of the annual budget), at least two thirds (i.e., no fewer than 4 votes) of the six (6) total votes must be cast in the affirmative. Should a shift in the respective populations of the member towns, based on the most recent decennial federal census figures, cause an impermissible disparity based on one-person, one-vote principles, the Committee will act to address the disparity via the amendment process. [SEE SECTION ON QUORUM]

C. Election of Members. Each member must reside in the town which she or he represents. Each member must be elected consistent with the process for the election of town officials in said town and will be elected to open seats during the annual election or special election in said town. The term of each elected member will begin on the first business day after his or her election and after being sworn in by the respective Town Clerk. A member who has not otherwise vacated his or her seat will continue to serve until his or her successor is elected and sworn.

At every annual election, ~~except at the initial election of the Regional School District Committee when the procedure specified below in subsection E (Initial Staggering of Terms) will be~~

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~~applied,~~ there shall be elected one or two members of the Committee from the Town of Chatham and one or two members of the Committee from the Town of Harwich as is necessary to maintain the membership of the Committee in accordance with subsection A (Name and Composition) above.

D. Length of Terms. ~~With the sole exception of the initial election of the Regional School District Committee by the procedure specified below in subsection E (Initial Staggering of Terms), t~~The term of office of each elected member shall be three years, and a member will serve until his/her successor is elected and sworn in by the respective Town Clerk.

~~E. Initial Staggering of Terms. For the purpose of staggering the terms of the initial Regional School District Committee only, the following procedure will apply:~~

~~In regard to each of the member towns, the two (2) candidates receiving the highest and second-highest number of votes will be elected to three (3) year terms; the candidate receiving the third highest number of votes will elected to a two (2) year term; and the candidate receiving the fourth highest number of votes will be elected to a one (1) year term.~~

F. Vacancies. Any vacancy occurring on the Regional District School Committee for any cause shall be filled by the local Board of Selectmen and the remaining Regional District School Committee members from the town where the vacancy occurs. The members of the Board of Selectmen shall meet in joint session with the remaining members of the Regional School District Committee from the town where the vacancy occurs. A majority vote of the members of this joint session shall be required to fill the vacant position. Such replacement shall serve until the next annual town election. At that next annual election, a person will be elected to serve the balance of the unexpired term, if any, which had become vacant.

G. Organization. At the first scheduled meeting of the Regional District School Committee after the annual election of all member towns, the Regional District School Committee shall organize in accordance with Massachusetts General Laws, Chapter 71, Section 16A, known as "Regional School Committee, Organization". In addition, the Regional District School Committee shall fix the times and place for its regular meetings for the new term, provide for the calling of special meetings upon written or electronic notice to all its members, and appoint appropriate sub-committees and other officers.

Section II. POWERS OF THE COMMITTEE

The Committee shall possess all of the powers conferred by law upon regional school district committees via G.L. Chapter 71, section 16 and otherwise, including but not limited to the power to acquire property and/or to enter into leases for land and/or buildings. ~~During the period July 1, 2012 to June 30, 2013, the Committee shall have the power to perform all of the end of the year reporting functions that normally would have been performed by the Chatham School Committee and the Harwich School Committee.~~

Commented [KFB1]: Removal of entire sections or subsections will require the re-numbering of other sections. This has not been done in this draft, since it will be cleaner to wait until all proposed changes have been agreed upon.

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Section III. QUORUMS, VOTES AND GOVERNANCE

A. A quorum to conduct business shall consist of a majority of the total number of members of the Committee (regardless of weighted votes)~~five (5) members~~, with no fewer than two members being present from each of the member towns. A number less than the majority may vote to adjourn, but shall not take any other action. [HOW TO HANDLE QUORUM IF THE COMMITTEE TEMPORARILY HAS FEWER THAN 8 MEMBERS]

Commented [KFB2]: By law, a quorum is defined as a simple majority of the members of a public body. A general or special law, or "other authorizing provision" may define it otherwise, but the law does not define the term "other authorizing provision." Before proposing an amendment which would define quorum as a majority of the members serving on the body (which would make 4 members a quorum when there was one temporary vacancy), I recommend getting an opinion from the Attorney General's office (for Open Meeting Law purposes).

B. On all issues requiring a vote of the Regional District School Committee, a simple majority vote (i.e., no fewer than 3.5 of the six (6) votes as spoken to in Section I, subsection B) shall be required to pass all motions, except as specified elsewhere in this Agreement, or as required by statute.

C. The Regional District School Committee shall annually elect officers at the first regularly scheduled meeting held after the last of the elections in the member towns. Such officers shall exercise the powers expressed and implied in G.L. Chapter 71, section 16A.

D. A Chairperson and a Vice-Chairperson shall be elected from among the Regional District School Committee's membership. The Committee will have as standard practice that the position of Chairperson will rotate annually between the member towns. For example, in the first year that the District is in existence, the Chairperson will be elected without regard to where he/she resides. In year two, however, the Chairperson shall be elected from members who reside in the other town. This rotation sequence will then be maintained in future years. By a two-thirds (2/3) vote, and with at least one Committee member from each of the member towns voting in the affirmative, the Regional District School Committee may in any given year deviate from this standard practice. The Vice-Chairperson in any given year shall be drawn from the members who reside in the member town different from that of the Chairperson.

E. The Regional District School Committee shall elect a Secretary who may or may not be a member of the Regional District School Committee's membership.

F. The Regional District School Committee shall appoint a Treasurer who shall not be a member of the Regional District School Committee.

G. Any action voted by the Regional District School Committee which directly and specifically affects the elementary school(s) in only one town will require that three of the four members of the Regional District School Committee from the town in which the affected elementary school(s) is/are located vote in support of that action.

Section IV. TYPE OF SCHOOL DISTRICT AND TRANSFER OF ASSETS

A. The Regional School District shall provide educational programs for public school students who reside in the member towns and who are attending grades pre-kindergarten through and including grade 12. [What about Grades 12+ to age 22?]The Regional School District Committee, as established consistent with Section I (Membership of the Regional School District School Committee) above, is authorized in its discretion to establish and maintain other

Commented [KFB3]: The existing language, referencing PreK-Grade 12, is sufficient and there is no need to specifically reference students with special needs up to age 22.

educational programs, including, but not limited to, vocational-technical educational programs consistent with G.L Chapter 74, and is authorized in its discretion to join or form educational collaboratives consistent with G.L. Chapter 40, s. 4E.

B. The Regional School District may, at the Committee's discretion, include pre-kindergarten, and shall include all grades from K-12.

C. The elementary schools shall serve students in grades K-4, and, at the Committee's discretion, pre-kindergarten.

D. The middle school(s)/high school(s) shall serve students in grades 5-12.

E. Where the term "preschool" is mentioned in this Agreement, it is done in order to permit the Regional District School Committee, at some future date, the discretion to provide "universal" preschool classes.

F. The Committee may in its discretion alter the elementary/secondary grade configuration spoken to above.

G. At the time of the creation of the District, any and all money held in so-called "revolving funds," in gift accounts, in grant accounts, or in student activity accounts/funds that are held by the member towns for the benefit of their respective school departments will be conveyed to the District to be utilized for educational and/or extracurricular purposes consistent with the purposes for which the revolving funds or accounts were created. Additionally, school-related equipment, material, and supplies that are owned by the school departments of the member towns at the time of the creation of the District will be conveyed to the District.

Commented [KFB4]: While no longer necessary, since all actions described in this paragraph have already occurred, I would recommend consideration of leaving this language in for reference purposes.

Section V. LOCATION AND OWNERSHIP OF SCHOOLS

A. All Regional District schools shall be located within the geographical limits of the District. The Regional District school buildings shall be located on sites owned by, or leased to, the District.

~~B. It is the intent of the member towns to seek to build a new high school and to renovate a middle school with all due alacrity.~~

C. There shall be no less than one elementary school in each member town. Barring requirements now or in the future by the Commonwealth of Massachusetts to the contrary, ~~S~~students in the elementary grades shall attend schools in their towns of residence, except ~~in special cases as defined by the Regional District School Committee.~~ as hereinafter provided.

1) Students with special needs receiving services under the provisions of Chapter 71B of the General Laws, as amended, shall attend schools within the District as designated by the Committee.

2) Students may also be accommodated in other schools within the District when approved by the child's parents and the School Committee provided that the

committee determines that such an assignment or reassignment is prudent, can be accomplished, and is in the best interest of the student.

3) Students in grades K-8, inclusive, may be reassigned to schools outside their respective towns when, in the judgment of the Committee, there is a temporary need to reassign students when damage to a physical plant renders a facility unusable, in whole or in part, for its intended purposes.

D. Each member town shall retain ownership of its elementary school buildings and grounds that are in existence at the time of the formation of the District and shall lease the same to the District for the sum of one dollar per year. Each lease shall be for a term of up to twenty (20) years, with said term to be established by the District School Committee. The term shall commence on the date when the Regional District School Committee completes the transition period spoken to in Section XX and comes into full existence. The leases shall contain provisions for an extension of up to 20 years at the option of the Regional District School Committee. The leases shall contain provisions authorizing the District to repair, improve, alter, remodel and maintain the buildings or any part thereof, at the District's expense. Said leases shall not prevent the use of the buildings or premises by the respective owner towns, upon approval of the Regional School District Committee; such approval shall not be unreasonably withheld. Each lease involving a member town may include such other terms as may be agreed upon by the Selectmen of that member town and by the Regional District School Committee, who shall execute the lease for the member towns and the District, respectively.

E. The Town of Chatham shall lease to the Regional District School Committee the land and buildings (at the option of the Committee) presently known as the Elementary School, as well as the land and/or the buildings (at the option of the Committee) comprising the combined Middle School/High School. The terms expressed in paragraph V, D shall apply equally to this paragraph.

F. The Town of Harwich, shall lease to the Regional District School Committee the land and/or buildings (at the option of the Committee) presently known as the Elementary School~~, as well as the land and/or the buildings (at the option of the Committee) presently known as the Middle School, and the land and/or the buildings (at the option of the Committee) presently known as the High School~~. The terms expressed in paragraph V,D shall apply equally to this paragraph.

Commented [KFB5]: Were these properties leased to the Committee, and subsequently declared surplus in accordance with subsection H? If so, the same comment number 4 above may apply, regarding keeping the language in for reference purposes.

G. The leases of all of the above-referenced school buildings should be signed by the date the District Committee completes the transition period spoken to in Section XX and comes into full existence.

H. At whatever point in time the land and/or buildings that are leased by a member town to the Regional District School Committee ceases to be needed by the District, the District School Committee shall vote to declare said land and/or buildings as surplus, and the custody and control of said land and/or buildings shall revert to the owner town.

I. Payments from future leases of Regional property shall be paid to the Regional School District.

Section VI. TRANSPORTATION

The Regional District School Committee shall set District transportation policy. School transportation shall be provided by the Regional School District, and the cost thereof shall be apportioned among the member towns as defined in Section IX.

Section VII. BUDGET

A. The Committee shall prepare an annual operating and maintenance budget using accounts itemized in conformance with the chart of accounts utilized and required by the Massachusetts Department of Elementary and Secondary Education or its successor.

B. The Regional School District's budgetary process, and the timing of and method of appropriation of funds in regard thereto, shall be governed by the provisions of G. L. c. 71 §16(m) and c. 71 §16B and other applicable provisions of G. L. c. 71 and any special laws or regulations relating thereto.

C. The Regional District School Committee shall prepare a budget on a fiscal year basis for the District in the following manner:

1. The Regional District budget process shall be initiated annually on or about October 1 and shall provide opportunity for the Selectman and Finance Committee of each member town to have input into its preparation. On or about January 15th, the Regional District School Committee shall complete its proposed budget for the ensuing year. Said proposed budget shall be approved by majority vote, with at least one Committee member from each member town voting in the affirmative. Said proposed budget shall be posted in the Town Hall of each member town, shall be provided to each member town's public library, and shall be submitted to the Selectmen and Finance Committee members of each member town.

2. Said proposed budget shall contain a notice stating when and where a public hearing will be held. The public hearing shall be held in any District school building. The notice of the public hearing shall be posted in all member towns and published consistent with G.L. chapter 71, section 38N in a newspaper having general circulation in the region. Upon request of the Finance Committee and/or the Board of Selectmen of any member town, the Regional District School Committee shall arrange to meet with such Finance Committee and/or Board of Selectmen for the purpose of discussing the proposed budget. Said proposed budget shall be in reasonable detail, itemized at least as follows: central administration, expenses of instruction, transportation, operation of school plant, maintenance of school plant, capital outlay, and debt and interest charges. All non-recurring expenditures shall be itemized. Enrollment, staffing, total expenditures and assessments for the past five (5) years shall be included. The Finance Committee or the Board of Selectmen of a member town may request further information.

3. Consistent with G.L. chapter 71, section 16B the Regional District School Committee shall adopt by a two-thirds (2/3) vote of all its members a budget with such changes as may have resulted from conferences and/or the public hearing. Within thirty (30) days from the date on which the budget is adopted, the Treasurer of the District shall certify to the Treasurer of each member town that town's assessed share of such budget.

4. The budget and assessments shall be so constructed as to show debt service, transportation, operating, and capital costs. It shall also list all sources of revenue used to reduce operating costs as described in Section IX.

5. The process and the requirements for the approval or disapproval of the budget by the member towns will be consistent with the terms and conditions of chapter 71, section 16B, as well as 603 CMR section 41, et seq, as those terms and conditions may be amended.

Section VIII. BUDGETARY DEFINITIONS

The budget for the operation of the District's Schools, including payments of principal and interest on bonds and other evidence of indebtedness issued by the District, shall be apportioned to the member towns via the method set out in Section IX and subject to the following definitions:

A. Budget

As defined by this document, the budget is the amount of money voted by the Regional District School Committee to finance the District schools and which will be assessed to the member towns.

B. The budget shall be comprised of various costs, each as herein defined as follows:

1. "Operating Costs" include all costs not included in capital costs, transportation costs, or debt service, as defined below, but operating costs include interest and principal on revenue anticipation notes. Operating costs include the net costs of evening, graduate and extension courses or any other types of courses, including vocational education programs, which are offered by the District to persons other than pupils attending a regular district school program in any of the grades K-12,[Pre K – 12+ to age 22?] inclusive.

Commented [KFB6]: As noted above, no need to change this language.

2. "Capital costs" will include all capital outlay appearing in the 7000 DESE function codes.

3. "Transportation costs" include all costs associated with transporting the District's students to and from school.

4. "Debt service" includes all costs that are used for payment of principal and interest on bonds or other obligations issued by the District except revenue anticipation notes.

Section IX. METHOD OF ASSESSING COSTS OF THE REGIONAL SCHOOL DISTRICT

A. Operating Costs. Operating costs needed to support the district's budget will be reduced by all general fund revenues and state aid. Member town assessments will then be prepared as follows:

1. Each member town will contribute to the District no less than its minimum required local contribution as determined by the Commissioner pursuant to G.L. chapter 70.

2. Any excess costs needed to support the district's budget will be assessed to the member towns on the basis of the town's foundation enrollment.

3. Excess costs will be assessed to each member town on the basis of the combined three-year rolling average of foundation enrollment for each member town. That is, the October 1 foundation enrollment figures as published by the DESE [perhaps further clarify - as published at the time the budget is approved?] for each member town for the most recent past three years will be averaged, as will the total of the foundation enrollments of all of the member towns for the most recent past three years. Each member town will be assessed the same percentage of the excess costs as that member's foundation enrollment for the past three years relates to the foundation enrollment for the entire District during those three years.

B. Capital Costs. ~~Except as expressed in subsection E below (which pertains to the assessment of capital costs and debt service on facilities that are in existence at the time of creation of the District until such time that there is one regional high school and one regional middle school),~~ Capital costs shall include all expenses in the nature of capital outlay such as the cost of acquiring land, the cost of constructing, reconstructing, or adding to a school building or buildings, the cost of remodeling or making extraordinary repairs to a school building or buildings, the cost of constructing sewerage systems and sewerage treatment and disposal facilities or the cost of the purchase or use of such systems with a municipality, and any other item of capital outlay for which a regional school district may be authorized to borrow, or which could be categorized as a capital expense in conformance with applicable law and regulation, including without limitation the cost of original equipment and furnishings for such school buildings or additions, plans, architects' and consultants' fees, grading and other costs incidental to placing school buildings and additions, sewerage systems and sewerage treatment and disposal facilities, and any premises related to the foregoing in operating condition. Capital costs shall also include payment of principal of and interest on bonds, notes and other obligations issued by the District to finance capital costs.

Ceapital costs that are attributable to facilities that are under the custody and control of the District, whether they are owned by or leased to the District, shall be assessed to the member towns on the basis of the three year rolling average of each town's foundation enrollment as

described in Section IX, A, 34 above. [IS THERE A NEED TO CLARIFY CAPITAL MAINTENANCE OF LEASED BUILDINGS (CES, HES, AND MRMS), WHICH ULTIMATELY ARE ASSETS OF A PARTICULAR TOWN?] (see possible language above)

C. Transportation Costs. Transportation costs will be assessed to the member towns based upon the number of students residing in each town who attend the District's schools based on the average of the most recent three years' October 1 enrollment figures as reported to DESE.

D. Debt Service. ~~Except as expressed in subsection E below (which pertains to the assessment of capital costs and debt service on facilities that are in existence at the time of creation of the District until such time there is one regional high school and one regional middle school),~~ Notwithstanding the terms of subsections B and D above, debt service costs which were incurred prior to July 1, 2017, will be assessed to the member towns as follows:

1. Debt service costs attributable to the high school and the middle school will be assessed to the member towns using the three year rolling average of each town's foundation enrollment as described in Section IX,A,34 above.

2. Debt service costs attributable to the District's elementary schools will be assessed to the member towns based upon the mechanism described in paragraph E below which utilizes the most recent three years' October 1 enrollment figures.

E. ~~Notwithstanding the terms and conditions of subsections B and D above, until such time as there is one regional high school and one regional middle school, expenditures on capital items and debt service which are attributed to facilities that are in existence at the time of the creation of the District and which are under the care and custody of the District, regardless of whether they are owned by the District or leased to the District, will be assessed to the member towns using the following approach.~~ The number of students who reside in each of the member towns who attend the facility in question based upon the average of the most recent three years' October 1 enrollment figures as reported to DESE will be identified. Each member town will then be assessed a percentage of the capital and debt service expenditures attributable to that facility. This percentage will be the same percentage as the number of students from that town who are enrolled in the facility in question, using the three year average referenced in this paragraph, bears to the two towns' combined enrollment in that facility. If the construction of a new high school is undertaken after the creation of the District, the capital costs and debt service attributed to said construction, and the planning for same, will be assessed under subsections B and D above, despite the fact that the completion of the new high school will occur prior to there being one regional middle school. If a renovation of and/or addition to the building which is known at the time of creation of the District as the Chatham Middle School/High School is undertaken for purposes of converting said building to a District middle school, the capital costs and debt service attributed to said renovation/addition, and the planning for same, will be assessed under subsections B and D above. ~~However, the capital costs and debt service attributable to this building continuing to be used as a middle school for the Chatham students while the Harwich Middle School is still in operation will be assessed consistent with this paragraph E.~~

F. The payment of the assessed share of costs by each member town, as computed by the Regional District School Committee according to the methods specified in Section IX, shall be

made by each member town's Treasurer by check or electronic transfer payable to the Regional School District in ~~five~~ equal installments by the first business day of the month as set forth below:
Chatham: August, October, December, February, April, May, June
Harwich: July, September, November, January, March, May, June
each ~~August, November, February, May, and June.~~ [For cash flow purposes this has been modified Chatham – August, October,December,February, April, May, June and Harwich July, September, Novemebr,January, March, May, June]

Section X. STABILIZATION FUND.

The Regional District School Committee may, consistent with the terms and conditions of G.L. chapter 71, section 16G½, establish and maintain a stabilization fund.

Section XI. ADMISSION OF ADDITIONAL TOWNS

By an amendment to this agreement adopted by each member town in accordance with Section XVII (Amendments) and in compliance with the provisions therein contained, any other town or towns may be admitted to the Regional School District upon adoption of such amendment, and also upon compliance with any statutory or regulatory requirement as may be applicable.

Section XII. WITHDRAWAL OF MEMBER TOWNS

In the event that a member town decides to seek to withdraw from the District, the following procedures and requirements will apply:

A. Vote Expressing Desire to Withdraw. Any member town seeking to withdraw from the District shall, by vote at an annual or special town meeting, request the Committee to formulate an amendment to this Agreement setting forth the terms under which the town may withdraw from the District. No withdrawal will take effect on other than July 1 of a given year, and the vote spoken of in the preceding sentence, as well as the notification to the District consistent with paragraph B below, as well as the submittal of a long range education plan consistent with paragraph C below, must all occur no less than two (2) years prior to the desired date of withdrawal.

B. Notice. The clerk of the town seeking to withdraw shall, within seven (7) days of the vote, notify the Committee chairperson as well as the District's superintendent in writing that the town has voted to request the Committee to formulate an amendment to the Agreement setting forth the terms for withdrawal. The clerk will provide a certified copy of the vote with the notification.

C. Long Range Education Plan. No less than two (2) full years prior to the desired date of withdrawal, the town seeking to withdraw, in addition to the other requirements spoken to in paragraph A above, will submit to the Commissioner of Elementary and Secondary Education (hereinafter "the Commissioner") and to the District a "Long Range Education Plan" consistent

with 603 CMR 41.02(2). The Long Range Plan will address, in addition to any other factor required by the Commissioner, the following: the expected educational benefits of reorganization; the current and projected enrollments; an inventory of all educational facilities under the jurisdiction of the District; the proposed administrative structure; the fiscal ramifications of withdrawal upon the withdrawing town as well as the other member towns in the District; the geographical and physical characteristics of the area; and the effect that withdrawal will have on student transportation.

D. Requirements. In addition to other terms and requirements which the Committee may include in the amendment, the town seeking to withdraw will be responsible for the following: (1) payment of all operating costs for which it is liable as a member of the District; (2) continuing payments beyond the time of withdrawal to the District for the town's share of the indebtedness of the District which is outstanding at the time of such withdrawal, and for interest thereon, to the same extent and in the same manner as though the town had not withdrawn from the District; and (3) for the costs, including legal fees, that accrue to the District as a result of the withdrawal process.

E. Approval of Withdrawal. A request to withdraw shall become effective only if the amendment to the Agreement is approved by vote of the Committee, is approved by the Commissioner, and is approved by majority vote at an annual or special town meeting in the town seeking to withdraw and in each of the other member towns, and the withdrawal can become effective no less than one full year after the completion of these requirements.

F. In no event shall such withdrawal take place prior to ten (10) years from the effective date of this agreement as defined in Section XVIII (Effective Date and Jurisdiction).

Section XIII. ANNUAL REPORT

The Regional District School Committee shall submit to each member town an annual report containing a detailed financial statement and a statement showing methods by which the annual charges assessed against each town were computed, together with such additional information relating to the operation and maintenance of the schools as may be deemed necessary by the Regional District Committee or by the Selectman and/or the Finance Committee of any member town.

~~**Section XIV. TEACHERS**~~

~~In accordance with G.L. chapter 71, section 42B , teachers serving in the schools of a member town at the time that the District comes into existence and who have professional teacher status shall be employed by the District with that same status. Teachers who are serving in the schools of a member town at the time that the District comes into existence and who do not have professional teacher status shall be employed by the District if there is an available position which such person is certified to fill~~.

Section XV. INCURRING OF DEBT

The District School Committee may vote to incur debt consistent with the terms and conditions of G.L. chapter 71, section 16. At the time of taking action to incur debt, and except for the incurring of temporary debt in anticipation of revenue, the District School Committee by majority vote will choose either the process that appears in subsection (d) of chapter 71, section 16, or the process that appears in subsection (n) of chapter 71, section 16.

Section XVI. REVIEW OF AGREEMENT **FY17 is year five**

At least every five (5) years, the Committee will undertake a review of the terms of this Agreement. The first review of this Agreement shall occur no later than in the fifth fiscal year of the District's existence. Proposals for amendments to this Agreement will follow the procedure contained in Section XVII (Amendments).

Section XVII. AMENDMENTS

A. Amendments to this Agreement may be initiated by a three-quarters (3/4) vote (i.e., no fewer than 4.5 votes) of the District Committee or by a petition signed by ten per cent (10%) of a member town(s) registered voters. Said signatures need to be certified by the Clerk of the respective town who must also certify the fact that the number of signatures represents at least 10% of the registered voters of the town. Such amendments to the agreement must receive a majority vote of approval by each member town at an annual town meeting, and all amendments are subject to the approval of the Commissioner.

B. No such amendment shall be made which shall substantially impair the rights of the holders of any of the District's bonds or notes of the District then outstanding, or the rights of the District to procure the means for payments thereof.

Section XVIII. EFFECTIVE DATE AND JURISDICTION

The full jurisdiction of the Regional District School Committee will commence on July 1, 2012 at the conclusion of the transition period established in Section XX.

Section XIX. SEVERABILITY OF SECTIONS

Consistent with G.L. Chapter 71, section 16I, if any provision of this Regional School District Agreement shall be held invalid in any circumstance, such invalidity shall not affect any other provisions or circumstances.

~~**Section XX. TRANSITION PERIOD**~~

~~As part of the approval of this Agreement, and of the Regional School District created by this Agreement, the member towns as well as the Commissioner will be taken to have approved a transition period, consistent with 603 CMR 41.03(5) which will extend from the date of voter approval of the District until the end of the fiscal year following the fiscal year in which the vote to approve the District was taken. During this transition period, the existing local school~~

committees will continue in existence and will continue to operate the schools of the member towns subject to the restrictions spoken to in this Section XX (hereinafter "this section"). During this transition period, and prior to the seating of the Regional School Committee on July 1, 2011, an Interim Regional School Committee (hereinafter the "IRSC") will be formed consistent with this section which will exercise the powers expressed in this section. The IRSC will exist until midnight on June 30, 2011, at which time the Regional School Committee will be seated and will serve for the balance of the transition period and thereafter.

A. Composition of the Interim Regional School Committee. As soon as possible after the approval of this Agreement by the voters, the Interim Regional School Committee will be formed which will consist of eight (8) members, four (4) from each town. Two (2) of such members will be drawn from the members of, and elected by vote of, each of the two (2) local school committees. Each of these local school committees will also appoint two (2) additional citizens who reside in their respective towns and who are not members of the local school committee to serve on the IRSC. The votes of these members will be weighted, and the requirements for an affirmative vote will be the same, as is expressed in Section I, subsection B of this Agreement. During that part of the transition period when the IRSC is in existence, should any member on the IRSC resign from membership on the IRSC or become ineligible for continued membership on the IRSC (e.g., by leaving the membership of the local school committee or by moving from their respective town) the local school committee will vote a replacement. If the vacancy is caused by one of the members of a local school committee leaving the IRSC, then the replacement shall be chosen from among the remaining members of that local school committee. If the vacancy is caused by one of the citizens leaving the IRSC, then the respective local school committee shall appoint another citizen who is not a member of the local committee as the replacement.

B. Quorum. A quorum shall exist when a five (5) of the eight (8) IRSC members are present, with no less than two (2) present from each of the member towns. At a meeting where there is no quorum, the members present may vote to adjourn but shall not take any other action.

C. Election of Officers. The IRSC will elect officers consistent with Section III (Quorums, Votes, and Governance) except that the IRSC officers so chosen will serve throughout that part of the transition period that the IRSC is in existence.

D. Powers of the IRSC and the Regional School Committee During the Transition Period. During the transition period, the IRSC (until June 30, 2011) and the Regional School Committee (from July 1, 2011 to June 30, 2012) shall possess all powers, subject to the availability of funds necessary for the exercise of such powers, necessary for the planning and implementation of the regional school district, including but not limited to the following:

1. The power to receive funds from the Commonwealth as well as appropriations, grants, and gifts from other sources. This is not intended to alter the fact that during the transition period other funds from the Commonwealth will continue to flow to the member towns and their individual school departments.

2. The power to establish and adopt policies for the regional school district.

3. The power to employ a superintendent, treasurer, chief financial officer, and director of Special education, as well as the power to authorize the superintendent to employ other personnel as needed.

4. The power to contract for and/or purchase goods and services, as well as the power to enter into lease and other agreements with the member towns, collaboratives, vendors, and other agencies and parties, with all the powers being able to be exercises on behalf of the regional school district.

5. The power to adopt budgets for the regional school district, and to assess the member towns for these budgets.

6. The power to negotiate and to enter into collective bargaining agreements, which will take effect no sooner than the inception of the Regional School District.

7. The power to appoint a regional School Building Committee.

8. The power to develop and adopt a strategic plan for the Regional School District.

9. The power to appoint subcommittees.

E. Relationship between the IRSC and the Local School Committees and Between the Regional School Committee and the Local School Committees During the Transition Period. During the transition period, the local school committees of the member towns may not make decisions that will financially obligate or legally encumber the regional School district without ratification by majority vote of the IRSC or, after June 30, 2011, by majority vote of the Regional School Committee. In addition, the local school committees shall comply with the following during the transition period:

1. No building projects will be undertaken and no building closures will occur unless ratified by majority vote of the IRSC or, after June 30, 2011, by majority vote of the Regional School Committee.

2. Program offerings will remain substantially the same.
3. No school choice openings will be filled except with the approval by majority vote of the IRSC or, after June 30, 2011, by majority vote of the Regional School Committee.

4. The school administration of the local school districts shall cooperate with the Regional Administration in terms of information sharing and in terms of the transfer control during the transition period.

5. During the period July 1, 2011 to June 30, 2012, the Regional School Committee will assume responsibility for the transportation of the regular education students (i.e., not the special education students or the vocational students) who reside in Chatham and Harwich and who are enrolled in the Chatham or Harwich Public Schools. During 2011-2012, the Chatham School Committee and the Harwich School Committee shall pay an assessment to the Regional School Committee of an amount equal to the cost

~~of said transportation for their respective regular students. The Regional School Committee will have the option of designating the Chatham School Department, the Harwich School Department, or both, as its financial agents(s) for purposes of processing invoices and payments for said transportation.~~

~~F. Termination of IRSC. The IRSC will exist until midnight on June 30, 2011, at which time the Regional School Committee will assume jurisdiction of the Regional School District for the balance of the transition period and thereafter. The Regional School Committee will be deemed to be the legal successor to the IRSC for purposes of all contracts, collective bargaining agreements, other agreements, and leases that have been entered into by the IRSC.~~

Dated this _____ day of _____, 2011

Chatham Board of Selectmen

_____
Leonard M. Sussman, Chairman

Harwich Board of Selectmen

_____
Angelo S. LaMantia, Chairman

Interim Regional School Committee

_____
Jeffrey Dykens, Chatham

_____
Eric Whiteley, Chatham

_____
William Bystrom, Chatham

_____
Craig Vokey, Chatham

_____
Thomas Blute, Harwich

_____
Sue Daggett, Harwich

_____
Mark Russell, Harwich

_____
Brian Widegren, Harwich

Chatham School Committee

_____
Jeffrey Dykens, Chair

Harwich School Committee

_____
Polly Hemstock, Chair

Chatham Public Schools

_____
Dr. Mary Ann Lanzo
Superintendent

Harwich Public Schools

_____
Dr. Carolyn M. Cragin
Superintendent

Department of Elementary and Secondary Education

_____
Mitchell D. Chester, Commissioner

INTERMUNICIPAL AGREEMENT

For

Wastewater Collection and Treatment by and between

(CHATHAM/HARWICH)

This Intermunicipal Agreement ("Agreement") is entered into as of _____ (the "Effective Date") by and between the Town of CHATHAM, Massachusetts ("Chatham"), a municipal corporation, and the Town of HARWICH, Massachusetts ("Harwich"), a municipal corporation (collectively, with their successors and assigns, the "Parties").

RECITALS

WHEREAS, Chatham owns and operates a sewage collection, treatment and disposal system, including customer service operations for which the Commonwealth of Massachusetts Department of Environmental Protection ("DEP„) has issued a Ground Water Discharge Permit (Permit No.: 44-1), located within the municipal corporate boundaries of Chatham; and

WHEREAS, Harwich plans to construct and operate a sanitary wastewater system within the boundaries of Harwich to service the East Harwich area but desires to deliver its wastewater from the East Harwich area to the Chatham System for treatment and recharge; and

WHEREAS, Chatham and Harwich deem it to be in the public interest to enter into an intermunicipal agreement whereby Chatham would receive and treat Harwich's wastewater and septage at the Chatham Water Pollution Control Facility (the "WPCF„) in consideration of Harwich's contribution toward the capital and operational expenses generated by said connection and the other terms and conditions set forth herein, and

WHEREAS, in order to accommodate the additional flow of wastewater from East Harwich as set forth on Figure 13-1 attached hereto as Exhibit A, Chatham must design, fund and construct a connection with Harwich (the "Connection Point„). The Chatham WPCF can accommodate the flow from East Harwich as set forth in Exhibit A while it continues to expand the Chatham collection system to other parts of Chatham not currently connected to the Chatham collection system. Chatham will continue to evaluate the need to design and build upgrades to the WPCF taking into account Chatham's needs, the Harwich flow, and water conservation efforts in both communities; and

WHEREAS, municipalities are authorized in accordance with G.L. c. 40 §§ 4 and 4A to enter into intermunicipal agreements for the purpose of aiding the prevention or abatement of water pollution; and

WHEREAS, Chatham and Harwich have been authorized to enter into this Agreement as evidenced by the execution of this Agreement by their respective Boards of Selectmen.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and for the mutual covenants, promises, obligations and agreements contained herein, the Parties hereto, intending to be legally bound, agree as follows:

AGREEMENT

1. DEFINITIONS.

The below terms, as used in this Agreement, shall have the following meanings:

a. "Connection Point" means an underground sewage pipe at which the Chatham collection system is connected to the Harwich collection system and which Connection Point is in approximately the location indicated on the diagram attached hereto as Exhibit B.

b. "Harwich Flow" means the sum of metered flow, which is metered at the Connection Point, and Unmetered Flow.

c. "Harwich Project Share" means Harwich's proportionate share of Project Costs which shall be calculated on the ratio between the 300,000 gpd and the total treatment capacity of the WPCF at the time of the Project (1.3 mgd). With respect to PS6 and associated piping, the Harwich Project Share shall be a proportional share as mutually agreed to by the Parties prior to design and construction.

d. "East Harwich Flow" means the amount of wastewater flowing into Chatham from East Harwich Service Area via the Connection Point.

e. "East Harwich Service Area,, means the areas in East Harwich, specifically sub-watersheds to Upper Muddy Creek, Lower Muddy Creek, Pleasant Bay, Round Cove, and potentially the Great Sand Lakes Area provided the combined flow does not exceed 300,000 gpd daily annual average, as described in the Harwich Comprehensive Wastewater Management Plan dated March 2016. (Figure 13-1, Exhibit A).

f. "Operation and Maintenance Expenses" (O&M Expense) includes the total annual expenses actually incurred by Chatham in the operation and maintenance of the System pursuant to a budget covering the categories of annual operating and maintenance expense listed on Exhibit C attached hereto, which budget shall be adopted prior to the commencement of each

Fiscal Year; provided, however, that O&M Expense (a) shall not exceed in the aggregate the total amount of the budget for such fiscal year, (b) shall not include any principal, interest or other charges in connection with any indebtedness incurred by Chatham, and (c) shall not include any Chatham expenses not directly attributable to and included in such annual budget of the System except for supplemental and/or emergency appropriations.

g. "O&M Share" means that portion of Harwich's Fixed and Flow Variable O&M Expenses determined quarterly as defined in Section 4.

h. "Project" means any future upgrades or capital improvements to the System required by regulatory or other legal authority, including without limitation by MassDEP, any future capital improvements to the System deemed necessary by Chatham to preserve the System's useful life, add/improve treatment quality or parameters treated, or maintain capacity to the System and any cost-saving capital modifications to the System. The term "Project,, shall also include pumping station(s), gravity sewer, forcemain and any other wastewater infrastructure used to convey Harwich wastewater to the Chatham WPCF.

i. "Project Cost" means the total cost to be incurred in the execution of the Project, including, but not limited to, assessment/feasibility, architectural, permitting, and engineering services, and construction work and construction phase services, interest or other costs of borrowing.

j. "System" means the WPCF, including the effluent recharge beds, the Connection Point(s), pumping station(s), and the gravity sewer and forcemain to convey the collected wastewater from Harwich to the Chatham WPCF.

k. "Total Flow,, means the sum of measured flow received at the WPCF including, but not limited to, wastewater from Chatham, East Harwich Service Area, septage, and grease. Flow shall be calculated on a 12 month rolling average. Exhibit D depicts the average daily Total Flow into the WPCF for the period July, 2015 through June, 2016.

l. "Unmetered Flow" means flow from Harwich which is not measured by Harwich metering devices at the Connection Point as a result of Harwich residential sewer users being connected directly to the Chatham collection system and billed directly by Harwich. Unmetered flow shall be calculated based upon water usage of those users as set forth in the regulations and shall be paid by Harwich directly to Chatham on a quarterly basis.

m. "WPCF" means the Chatham Water Pollution Control Facility and all components thereof, including improvements constructed and as may be amended from time to time.

2. EAST HARWICH SERVICE AREA.

2.1 Chatham agrees to receive and treat wastewater from Harwich users in the East Harwich Service Area at an annual average daily volume of up to 300,000 gpd at the Connection Point, and at such other mutually agreeable connection locations as may be designated by Chatham and Harwich. Notwithstanding the foregoing, Harwich may expand the East Harwich Service Area to serve the Great Sand Lakes Area, subject to the approval of Chatham, which approval shall not be unreasonably withheld, provided that Harwich shall not extend its sewer system beyond the East Harwich Service Area if the result of such an extension would cause Harwich to deliver wastewater to Chatham for treatment in excess of 300,000 gpd, unless this Agreement is amended.

2.2 Flow Management Plan. When the Harwich total annual flow metered at the Connection Point exceeds 80 percent of the purchased capacity for a three month period, then Harwich shall present, within 90 days, a plan to Chatham explaining how Harwich intends to manage the remaining 20 percent of the purchased capacity so that total flow exceedances do not occur on a 12-month rolling average. The plan shall 1.) define measures to limit flow connection areas in the future; 2.) define measures to reduce existing flows entering the system; 3.) discuss potential expansion options at the Chatham WPCF; or 4.), take any other appropriate action as required to enforce the flow capacity allocation.

3. CAPACITY PURCHASE FEE

Harwich will purchase 300,000 gpd average annual daily flow capacity of the Chatham WPCF, for the amount of $6,765,000. Harwich shall make an initial payment of $1,500,000 upon execution of this Agreement: a second payment of $1,500,000 shall be made upon the commencement of flow from the East Harwich Service Area to the WPCF; a third payment of $1,500,000 shall be made upon an average daily flow of over 50,000 gpd or five (5) years from the date of signing of this Agreement, whichever occurs first; a fourth payment of $1,500,000 shall be made upon an average daily flow of over 150,000 gpd or seven (7) years from the date of signing this Agreement, whichever occurs first; and, a fifth and final payment of $765,000 shall be made upon an average daily flow of over 250,000 gpd or ten (10) years from date of signing this Agreement, whichever occurs first.

4. O&M EXPENSES

Terms for paying these costs will be defined into two categories: Fixed and Flow Variable.

A. WPCF

1) Given that Chatham will be reserving capacity for Harwich which will require ongoing O&M expenses to maintain the WPCF, Harwich shall pay Fixed O&M expenses (including but not limited to Contract Services, Plant Maintenance, 20% of Chatham DPW Director salary, SCADA contracts, etc.) based on the actual percentage (%) of wastewater flow capacity for East Harwich

Service Area to Chatham WPCF Phase I design flow capacity (300,000 gpd/1,300,000 gpd = 23.08%). Fixed O&M payments shall begin at the time of Harwich connection.

2) Flow Variable O&M expenses for the WPCF (including but not limited to chemicals, electricity, natural gas, diesel, sludge removal/disposal, testing, etc.) shall be paid based on the actual percentage (%) of wastewater flow from the East Harwich Service Area as measured at the Connection Point(s) to Total Flow. Flow Variable O&M payments shall begin once flow is measured at the Connection Point.

B. Collection System

1) Harwich shall pay Fixed O&M costs in a ratio of Harwich design flow to Chatham design flow for that portion of the conveyance system from the Connection Point(s), through pumping station(s), to the WPCF and any off-site effluent recharge location within Chatham, if applicable. Fixed O&M payments shall begin at the time of Harwich connection.

2) Flow Variable O&M expenses for the collection system (including but not limited to chemicals, electricity, natural gas, diesel, testing, etc.) shall be paid based on the actual percentage (%) of wastewater flow from the East Harwich Service Area as measured at the Connection Point(s) to total flow measured at Pump Station 6 or other such pump station designation. Flow Variable O&M payments shall begin once flow is measured at the Connection Point.

3) For the avoidance of any doubt, Harwich shall not be responsible for the payment of any O&M expenses incurred by Chatham that relate solely and exclusively to the operation and maintenance of any portion of the Chatham sewer collection system or other components thereof that are not used by Harwich.

C. Within thirty (30) days after the end of each calendar quarter, Chatham will send a statement to Harwich showing, for the period since the beginning of the Fiscal Year to the end of such quarter, Total Flow, flow for that quarter as measured at the Connection Point and the total flow measured at Pump Station 6 or other such pump station designation.

5. EFFLUENT RECHARGE

Chatham shall recharge effluent originating from the East Harwich Service Area at the Chatham WPCF site during the initial years of the Agreement. While the existing recharge system was sized for the capacity of the Chatham WPCF, the Groundwater Discharge Permit (GDP) is limited to five (5) years. The discharge allowed by the current GDP is 1.0 MGD, below the WPCF's capacity of 1.3 MGD. The duration of the initial recharge of Harwich effluent at the Chatham

WPCF would be at least until the Chatham facility reaches 80% of its permitted flow capacity. Upon being notified by MassDEP that Chatham must redirect effluent recharge, Chatham shall notify Harwich, in which case Harwich shall construct, maintain and repair the necessary infrastructure to redirect the Harwich flow to a suitable site in Harwich, in an amount necessary to meet the requirements of the MassDEP. In the event that Chatham notifies Harwich of the need to construct infrastructure required to redirect treated effluent back to Harwich for recharge, Harwich shall, at its sole cost and expense, complete the infrastructure construction within three years of said notice from Chatham. Thereafter, the Harwich share of O&M costs shall not include any costs incurred by Chatham for effluent recharge for the portion of effluent directed back to Harwich for recharge. Chatham shall provide any easements necessary at the Chatham WPCF to locate a treated effluent pumping station and appurtenances, including forcemain easements necessary on town-owned properties or within existing rights-of-way from the Chatham WPCF to Harwich. Chatham shall have the right to review and comment on the location of any proposed easements to ensure coordination with other Chatham infrastructure. Chatham shall not unreasonably deny, delay or condition the granting of such easements.

6. SEPTAGE

Chatham shall accept septage pumped from properties located in the East Harwich Service Area upon abandonment of the septic system as part of the connection to sewer process, subject to appropriate documentation, and at the prevailing rate of the Chatham WPCF.

7. FLOW BUY BACK PROVISION

Harwich shall notify Chatham upon completion of the sewering of the East Harwich Service Area in accordance with the Harwich program. In the event Harwich does not use the entirety of the 300,000 gpd allocated to it at any time during the term of this Agreement, Chatham may buy back any unused flow at a price reflecting the ratio of the amount of gallons to be bought back to the total number of gallons purchased by Harwich at the commencement of this Agreement multiplied by $6,765,000 which amount shall be adjusted for inflation in accordance with the Consumer Price Index – Northeast Region or any other mutually accepted cost method. Harwich shall not transfer any portion of the 300,000 gpd allocation to any other entity. Harwich shall not divert any portion of the 300,000 gpd allocation to any area outside the East Harwich Service Area.

8. TERM.

This Agreement shall commence on Execution of the Agreement and shall continue, unless sooner terminated, for a Term of twenty five (25) years. This Agreement shall continue in full force and effect on the Expiration Date unless it is modified in writing by the Parties or notice is provided by one of the Parties to the other Party of the intent not to renew this Agreement. Such notice shall be provided no later than five (5) years prior to the Expiration Date. If this Agreement is not renewed, Harwich shall pay to Chatham any unpaid amounts owing

hereunder. If this Agreement is extended beyond the original 25 year Term Harwich shall not be responsible for any additional Capacity Purchase Fee.

9. CONNECTION POINT.

a. Harwich may construct and connect the East Harwich portion of its wastewater system as set forth on Exhibit A in coordination with Chatham's infrastructure implementation schedule. Chatham will furnish to Harwich wastewater conveyance and treatment services. The connection of Harwich with the System shall take place by means of the Connection Point at or near the Chatham town line. The cost for any future expansion or additions to the Connection Point necessary to accommodate any increases in wastewater flow of East Harwich shall be borne by Harwich at no cost to Chatham and shall be subject to approval by Chatham.

b. Harwich hereby grants Chatham and its agents and independent contractors the authority, right and license at all times to have access to such portion of the Connection Point located within Harwich for the purpose of improving, repairing, using and inspecting the same and will issue, promptly upon request therefor, such permits and licenses as shall be necessary to accomplish any of such purposes.

c. Harwich will pay its proportional share of System Project Costs to convey the collected wastewater from the Connection Point to the Chatham WPCF. The proportional share shall be based on the ratio of Harwich's design flow and Chatham's design flow for that segment of the collection system.

10. REGULATIONS.

a. Sewer Use Regulations. Harwich shall adopt local Sewer Use Regulations ("Harwich Regulations,,) for residential and commercial users of the Harwich System located in East Harwich, which is no less stringent and is as broad in scope as the sewer use regulations set forth in the Chatham Regulations, as amended. The Harwich Regulations shall include pollutant specific local limits which address at least the same pollutant parameters and are at least as stringent as the local limits enacted by Chatham. Harwich shall forward to Chatham for review a proposed draft of the Harwich Regulations within six (6) months, or such longer period of time as may be reasonably agreed upon by the parties, of the date of this Agreement, and shall adopt the Harwich Regulations within sixty (60) days of receiving approval from Chatham of the content thereof or by any other time as reasonably agreed to by the parties..

b. Revisions by Chatham. Whenever Chatham proposes to adopt revisions to its sewer use Regulations it shall forward to Harwich for review the proposed revisions. Whenever Chatham adopts a revision to its sewer use Regulations, it shall forward a copy of the revisions to Harwich within ten

(10) business days of enactment thereof. Harwich shall adopt revisions to the Harwich Regulations that are consistent with and at least as stringent as those adopted by Chatham. Harwich shall forward to Chatham for review its proposed revisions within thirty (30) days of receipt of Chatham's revisions. Harwich shall adopt its revisions within sixty (60) days of receiving approval from Chatham of the content thereof or by any time as reasonably agreed to by the parties.

c. Revisions by Harwich. Harwich shall forward a copy of any proposed revisions to the Harwich Regulations to Chatham for review and comment no later than forty-five (45) days prior to proposed adoption. Chatham shall provide comment to Harwich within fifteen (15) days of receipt. Harwich shall not enact any such revisions inconsistent with this Agreement.

d. Review. The Parties shall periodically review their respective sewer use Bylaw(s) and/or Regulations and jointly draft and adopt amendments (which are equivalent in scope and stringency) when deemed necessary for the effective administration and operation of Chatham's or Harwich's pretreatment program or may be responsive to requirements of MassDEP or address other matters which Chatham or Harwich deem appropriate to maintain the System. This review shall be conducted not less than once every five (5) years. However, either Party may request a joint review whenever such party believes that a review is necessary.

e. Compliance with Law. Each of the Parties shall comply with all applicable current and subsequent regulations of the U.S. E.P.A. and MassDEP relating to the administration, operation and control of the System during the term of this Agreement, and no party shall be liable for the act or neglect of the other. Chatham shall maintain compliance with the MassDEP permit requirements applicable to the WPCF and all federal, state, and local laws, water quality standards, orders and decrees of governmental authorities with jurisdiction over the treatment and discharge of wastewater. Chatham shall comply with any orders issued by governmental entities relating to the WPCF and shall pay any fines, penalties, or costs resulting from such enforcement actions without recourse to Harwich, except to the extent the violation is caused by flow entering the System from Harwich or other acts or omissions directly attributable to Harwich.

11. IMPLEMENTATION; ENFORCEMENT.

a. Agency. Harwich designates Chatham as an agent of Harwich for the purposes of implementation and enforcement of Harwich's sewer use Regulations against all users located in Harwich. Chatham may take any action under Harwich's sewer use Regulations that could have been taken by Harwich, including the enforcement of the Regulations in courts of law. Chatham shall have concurrent authority with Harwich to enforce its sewer use Regulation in Harwich. The foregoing authorization is not an

abdication of Harwich's obligations to in good faith enforce this Agreement but in addition thereto. Harwich's .Regulations shall indicate said designation of Chatham as a supplemental implementation/ enforcement authority. Notwithstanding the foregoing, Harwich shall have the responsibility of all collections related to users of Unmetered Flow. Harwich shall be required, regardless of the users' collection status, to pay Chatham on a quarterly basis for all Unmetered Flow.

b. Duties. Chatham, on behalf of and as agent for Harwich, may, at its sole option , perform any and all technical and administrative duties necessary to implement and enforce Harwich's sewer use Regulations or its own sewer use Bylaw. Chatham may, at its sole option: (1) update the industrial waste survey; (2) issue permits to all industrial users required to obtain a permit; (3) conduct inspections, sampling, and analysis; (4) take all appropriate enforcement action; and (5) perform any other technical and administrative duties the Parties mutually deem appropriate.

c. Permitting. Under no circumstances may Harwich discharge any industrial waste or other waste requiring pretreatment into Chatham's wastewater treatment system until an industrial wastewater pretreatment permit (or modification to an existing permit) is issued by Chatham which allows such industrial waste discharges. Any future industrial user must apply for a permit in conformance with this Agreement and the controlling sewer use Bylaw. Chatham shall not unreasonably deny, delay or condition the granting of such an application.

d. Right of Access. Harwich grants to Chatham the authority to access all parts of Harwich's sewer system which flow to the Connection Point and, as permitted by applicable law, all parts of the facilities of industrial users located within Harwich that contribute to Chatham's System, including the right to review and copy all records compiled by Harwich and, as permitted by applicable law, industrial users in relation to discharge activities, to periodically verify compliance with all applicable permits, orders, rules, Regulations and Bylaws, including pretreatment standards and requirements. On-site inspections and monitoring may be conducted (i) during business hours without prior notice or (ii) during non-business hours with notification to the Harwich Police Department or Public Works Department.

e. Restriction on Foreign Wastewater. Harwich shall not authorize the use of the Connection Point for the transmission of wastewater to the System generated by any source of wastewater that is not located in East Harwich Service Area.

f. Violations. Industrial users of the system in Harwich, if any, shall be subject to enforcement action by Chatham for any violation of Harwich's or Chatham 's sewer use Bylaw or Regulations, or any applicable federal, state or local pretreatment regulation or standard, including, but not limited to, administrative orders, fines and penalties (up to such limits as

may be then applicable under state and federal law), injunctive relief, and/or termination of sewer service; provided, however, that Chatham shall be entitled to implement the remedy of termination of sewer services only if any such violation by the industrial user results in a discharge which, in Chatham's sole determination, reasonably appears to present a danger or threat as described in Section (11)((g) of this Agreement.

g. Emergencies. Notwithstanding anything to the contrary contained herein, Chatham shall have the immediate and effective authority, on its own behalf and as the agent of Harwich, to take emergency action to halt or prevent any discharge to the System which (i) presents or may present an imminent danger to the health or welfare of humans, (ii) reasonably appears to threaten the environment, (iii) threatens to cause to pass through sludge contamination or substantial interference with the appropriate operation of the System, or (iv) may result in a Permit violation.

h. Costs. All costs and expenses (including labor, equipment, attorneys' fees, etc.) incurred by Chatham in implementing and enforcing Harwich's sewer use Regulations against users of the System located in East Harwich shall be paid by Harwich upon issuance of a quarterly invoice by Chatham itemizing the same.

i. Secondary Authority. If the authority of Chatham to act as agent for Harwich under this Agreement is questioned by an industrial or any other user, court of law, or otherwise, Harwich will take whatever action is necessary to ensure the implementation and enforcement of its sewer use Regulations against any of its users, including, but not limited to, implementing and enforcing its sewer use Regulations on its own behalf and/or amending this Agreement to clarify Chatham's authority.

j. Natural Disasters. In the event of floods or other natural disasters that cause water flows in the System to exceed capacity limits and/or that result in an unsafe condition, and/or that cause, or threaten to cause, harm to the public health, the Parties shall cooperate fully and reasonably to resolve such capacity, safety and public health concerns in accordance with the broad objectives of this Agreement and applicable laws and regulations.

12. ALLOCATIONS OF MAXIMUM FLOWS; FLOW CHARACTERISTICS.

a. Maximum Flows. The annual average daily flow from Harwich shall be 300,000 gpd or less calculated on a 12 month rolling average. This represents 23.08% of the initial design average annual flow of the WPCF. Because the flow from Harwich will be pumped to the Chatham WPCF, Harwich is allowed 23.08% of other measured or calculated flows including, but not limited to, maximum 30 day average, peak day, and peak hour.

b. Flow Characteristics. Harwich will not authorize, and Chatham shall exclude, wastewater flows into the System in excess of the rates of flow specified above for East Harwich; provided, however, that before excluding flow from East Harwich hereunder, a determination based on actual data over a period of at least twelve (12) months shall have been made that the average flow from East Harwich shall have exceeded the limitation applicable thereto and Harwich shall have been given at least ninety (90) days prior written notice thereof. Chatham and Harwich shall take all reasonable steps to preclude the introduction into the System of wastewater having characteristics, including, but not limited to, BOD, TSS, Total Nitrogen, Nitrate Nitrogen, Turbidity, TOC, Oil & Grease, Sodium, not in accordance with the local limits in place from time to time as established by Chatham.

Local Limits shall be defined as follows:

1. BOD, TSS, Total Nitrogen – Harwich shall be allowed a share of the influent load planned for the WPCF that is commensurate with the flow from Harwich. Preliminary Design Memo M-1B defines the Chatham WPCF loads (Exhibit E).

2. Turbidity, Oil & Grease, TOC, and Nitrate Nitrogen – are expected to be similar to Chatham's influent.

3. Harwich shall not discharge into the Harwich or Chatham system waste originating from marine pumpout facilities, or other non-standard sources, without the prior written approval of Chatham.

13. METHODS OF DETERMINING FLOWS.

a. East Harwich Flow, other than Unmetered Flow, shall be measured by a standard metering device to be located and installed at the Connection Point in the location indicated on Exhibit B. Unless replaced or changed pursuant to a future agreement between the parties, such standard metering device will consist of the following apparatus: One Venturi Meter, a direct reading totalizer, indicator, and recorder-transmitter with instantaneous flow signal data transmitted to the Chatham Water Pollution Control Facility SCADA system on a continuous basis. Chatham shall be responsible for maintaining the SCADA system. Said apparatus shall be subject to the approval of Chatham, which shall not be unreasonably withheld.

b. Chatham will cause the flow of wastewater from East Harwich to be measured and recorded on a continuous basis in the same manner as set forth in Section 13(a) above, so that the Total Flow (other than Unmetered Flow) and flow from East Harwich shall at all times be known.

c. In the event any metering device fails to register or registers incorrectly the flow of wastewater, Chatham and Harwich will agree on an estimate

(if an historic record is not available from earlier similar periods) of the period of time during which the metering device failed to register or registered incorrectly and the quantity of wastewater that would have been measured were the metering device operating correctly, and an appropriate adjustment based thereon shall be made in the wastewater flow to be used as the basis on which to determine Harwich's O&M Share.

d. For billing purposes, Chatham shall read the metering devices at intervals of approximately thirty (30) days. Harwich, at its expense, shall periodically, but not less than twice each year (spring and fall), inspect, test and calibrate the Venturi metering device referred to in Section 13(a) and within 48 hours after any failure of the meter.

e. Harwich recognizes that the System has a maximum permitted flow of One (1) MGD and that further there are portions of Chatham that still require connection to the System. Harwich, therefore, shall be entitled to no more than 300,000 gpd of permitted Flow into the System.

14. COLLECTION OF AMOUNTS PAYABLE.

a. O&M Share. Within thirty (30) days after the end of each calendar quarter, Chatham will send a statement to Harwich showing, for the period since the beginning of the Fiscal Year to the end of such quarter, (a) East Harwich Flow, (b) the Total Flow, (c) O&M Expense incurred, (d) Harwich's O&M Share thereof and (e) the amount, if any, previously paid by Harwich on account thereof. Harwich shall remit payment of the balance due to Chatham within thirty (30) days of receipt of such statement.

b. Harwich Project Share. Harwich shall pay the Harwich Project Share of the Project Costs. Such payments shall be based upon the payments actually made by Chatham pursuant to all financings and/or borrowings, including, without limitation, interest costs, in connection with the Project, but shall not include any amounts reimbursed to Chatham under any federal or state grant program. Chatham will send a monthly statement to Harwich showing the amount actually paid to Chatham's lender. Harwich shall remit payment to Chatham within thirty (30) days of receipt of such statement.

c. Construction Costs Following Early Termination. In the event of any termination of this Agreement prior to the Expiration Date, Harwich shall pay to Chatham the full amount of (i) Harwich's Project Share of the Project Costs for work actually performed and invoiced to Chatham and which remains unpaid as of the date of termination, (ii) Harwich's Project Share of the Project Costs for all then-remaining work to be performed in connection with the Upgrades resulting from Harwich's use of the WPCF and (iii) any other amounts owing hereunder. Such payment shall be made to Chatham within thirty (30) days of the date of notice of

termination or, for work not yet performed at the time of the notice of termination, within thirty (30) days of the date of invoicing for work when it is actually performed. In the event that any payment due under this Section 14 is not received by Chatham within forty-five (45) days of Harwich's receipt of Chatham's statement, interest on the amount overdue shall accrue at the rates and in the manner as is charged to Chatham ratepayers who have amounts owed and past due. The provisions of this Section 14 shall survive any termination of this Agreement.

d. Fees. Harwich shall be responsible for collecting, and Chatham shall be entitled to receive the proceeds from, the issuance and collection of sewer use and pretreatment fees and assessments, if any, as set forth in the controlling sewer use Bylaw or Regulations, as amended, from any and all contributing users located within Harwich. Harwich hereby covenants and agrees that East Harwich-based users of the System shall be subject to and responsible for the payment of such fees, including without limitation any special assessment or similar charge to the extent such fees, assessments or charges are also payable by Chatham-based users of the System, and that Harwich shall bill and collect said amounts and pay to Chatham, at no cost or expense to Chatham, all such amounts on a quarterly basis.

15. MATTERS SUBJECT TO CONFERENCE BETWEEN THE PARTIES.

Chatham and Harwich recognize and agree that they are both users of the System and contribute financially to the O&M Expense of the same, and that such use of the System and financial contribution to Chatham from Harwich shall be considered whenever such facts are pertinent to the observance and performance of this Agreement. Representatives of Harwich may be requested to attend any conference with Chatham where the matters discussed are or may be affected by such use and contribution or may affect such use and contribution. Further, Chatham and Harwich shall create an advisory board for the purpose of exchanging communication regarding the System. Such board shall consist of five (5) members, comprised of three (3) from Chatham and two (2) members from Harwich. The Chatham Town Manager shall serve as one of Chatham's designated members and shall also act as chair. The board shall meet quarterly to discuss the status of the System and any major issues related thereto. The board shall be advisory in nature, and may make recommendations to Chatham with respect to proposed improvements or other modifications to the administration of the System, but shall not have the legal authority to require or direct that its recommendations be implemented. Each Town shall determine on their own, how to designate their remaining members of the board.

16. DISPUTE RESOLUTION.

Any disputes arising out of this Agreement shall be submitted to non-binding mediation performed by an independent mediator stipulated by Chatham and Harwich. A resolution reached in mediation shall in no way limit Chatham's power to enforce pretreatment standards and requirements directly against

industrial users or other users located in Harwich, nor shall it preclude the parties from seeking other remedies against each other. The cost of such mediation, except for the cost of each Party's direct representation, shall be shared equally between the Parties.

17. REMEDIES.

a. Legal and Equitable Relief. The Parties acknowledge and agree that money damages may not be a sufficient remedy for any breach of this Agreement, that either Chatham or Harwich may be entitled to equitable relief (including, without limitation, injunction, specific performance and termination of this Agreement) as a remedy for any such breach or threatened breach, and that neither Party shall oppose the granting of any such relief to Chatham. Such remedy shall not be deemed to be the exclusive remedy for a breach of this Agreement but shall be in addition to all other remedies available to either Party for all damages, costs and expenses, including reasonable attorneys' fees, incurred by it in this regard.

b. Waiver. No delay or failure to exercise a right resulting from breach of this Agreement shall impair such right or be construed as a waiver thereof, so that such right may be exercised from time to time and as may be deemed expedient. Any waiver shall be in writing and signed by the party granting such waiver. If any provision contained in this Agreement is breached by either Party and thereafter waived by the other Party, such waiver shall be limited to the particular breach so waived and shall not be deemed to waive any other breach under this Agreement.

18. TERMINATION.

18.1 Either party may terminate this Agreement for convenience by providing at least five (5) years advance written notice to the other party, provided that such notice is delivered to the other Party on or after the Tenth Anniversary of this Agreement All benefits and obligations under this Agreement will cease upon the termination date set forth in such written notice. Upon the effective date of such termination, Chatham shall discontinue the services of its System, including collection and pretreatment of wastewater discharge, for any and all residential, industrial and other users located in Harwich. All users located in Harwich shall cease and desist discharging into Chatham's System upon Chatham's election to discontinue services. In the event of any termination of this Agreement prior to the Expiration Date, Harwich shall pay to Chatham the amount described in Section 14 hereof, in addition to any other amounts owing hereunder.

In the event that Chatham terminates this Agreement pursuant to this section, Chatham shall pay to Harwich the unamortized portion of the Capacity Purchase Fee remaining on the effective date of the termination in accordance with the following formula:

(((50 year WPCF Life) minus (Year from Date of original agreement that Termination takes effect)) times ($135,300)).

- Where $135,300 is the Capital Purchase Fee divided 50.
- Payment to Harwich shall be reduced by $135,300 per year up to the "Initiate Termination,, year 44 from the execution date of the original Agreement following renewal of said Agreement.

Example:

- Chatham Initiates Termination in Year 10 (notice not allowed prior to Year 10 per Agreement)
- Termination takes effect in Year 15 (Agreement requires 5 years minimum Notice)
- Therefore, Payment to Harwich = (50 – 15)*$135,300 = $4,735,500

Table below shows full schedule estimated for 50 year WPCF system life.

Initiate Termination at year (years from original agreement date)	Year Termination takes effect (5 years after "Initiate Termination,,)	Years remaining in WPCF Life	Payment to Harwich
10	15	35	$ 4,735,500
11	16	34	$ 4,600,200
12	17	33	$ 4,464,900
13	18	32	$ 4,329,600
14	19	31	$ 4,194,300
15	20	30	$ 4,059,000
16	21	29	$ 3,923,700
17	22	28	$ 3,788,400
18	23	27	$ 3,653,100
19 (1)	24	26	$ 3,517,800
20	*25*	*25*	*$ 3,382,500*

21	26	24	$ 3,247,200
22	27	23	$ 3,111,900
23	28	22	$ 2,976,600
24	29	21	$ 2,841,300
25	30	20	$ 2,706,000
26	31	19	$ 2,570,700
27	32	18	$ 2,435,400
28	33	17	$ 2,300,100
29	34	16	$ 2,164,800
30	35	15	$ 2,029,500
31	36	14	$ 1,894,200
32	37	13	$ 1,758,900
33	38	12	$ 1,623,600
34	39	11	$ 1,488,300
35	40	10	$ 1,353,000
36	41	9	$ 1,217,700
37	42	8	$ 1,082,400
38	43	7	$ 947,100
39	44	6	$ 811,800
40	45	5	$ 676,500
41	46	4	$ 541,200
42	47	3	$ 405,900
43	48	2	$ 270,600
44	49	1	$ 135,300
45	50	0	$ -

Notes:

1. Termination for convenience per the Agreement may not be initiated after year 19 without the renewal or renegotiation of the Agreement between Chatham and Harwich.

18.2.

A. For any material breach of this Agreement, either party may terminate this Agreement by giving the other party written notice thereof with an effective termination date twelve (12) months after receipt of the notice to terminate and after providing an opportunity to cure such material breach.

B. No failure or delay in any performance hereunder shall be deemed to be a breach of this Agreement when such failure or delay is occasioned by or due to an Act of God, strike, lockout, war, riot, epidemic, explosion, sabotage, breakage, or accident to machinery or line or pipes or binding order of any court or governmental authority, or any other cause whether of the kind herein enumerated or otherwise not attributable to or within the control of the Party against whom the breach is alleged.

C. It shall be deemed a material breach of this Agreement if sixty (60) days passes after which Chatham has sent to Harwich a written notice of overdue payment of any undisputed amount and Harwich does not pay same within ten (10) days after receipt of said overdue notice.

19. NOTICES.

Whenever notice shall be required to be given pursuant to the terms of this Agreement, it shall be in writing and shall be deemed given when mailed by United States registered or certified mail, postage prepaid, return receipt requested and addressed as follows:

To Chatham:

Town Manager
549 Main St.
Chatham, MA 02633
With copy to Board of Selectmen

To Harwich:

Town Administrator
732 Main St.
Harwich, MA 02645
With copy to Board of Selectmen

20. MISCELLANEOUS.

a. Entire Agreement. This Agreement constitutes the entire agreement between the Parties with respect to implementation and enforcement of a pretreatment program to control wastewater discharges from all industrial users of the System.

b. Periodic Review. The Parties will review and revise this Agreement to ensure compliance with the Federal Clean Water Act (33 U.S.C. § 1251 et seq.) and rules and regulations (see 40 C.F.R. Part 403) and the rules and regulations of the DEP, as necessary.

c. Further Assurances. Each of the Parties hereto shall execute and deliver any and all additional documents or instruments (including easements and other rights in land), in recordable form as appropriate, shall provide other assurances, shall make any necessary applications or filings and submit any records or data to any regulatory body, governmental entity or agency having jurisdiction as necessary to obtain any additional permits, licenses and approvals required, and shall do any and all acts and things reasonably necessary to carry out the intent of the Parties hereto and to confirm the continued effectiveness of this Agreement. Without limiting the foregoing, the Parties agree to amend their respective facilities plans as necessary in connection with any change in applicable industrial pretreatment requirements.

d. Industrial User Contracts. Nothing in this Agreement precludes Chatham from entering into direct contracts with users located in Harwich establishing wastewater discharge restrictions and pretreatment requirements that are at least as stringent as those provided for in Harwich's sewer use Regulations.

e. Relationship. This Agreement does not create a fiduciary relationship between the Parties. Nothing in this Agreement is intended to constitute either Party an agent, legal representative, subsidiary, joint venture, partner, employee, or servant of the other for any purpose.

f. Modification. No modification, alternation, amendment or waiver of any provision of this Agreement shall be effective or binding on either party unless mutually agreed to in writing by the Parties.

g. Captions. The captions appearing in this Agreement are inserted only as a matter of convenience and for reference, and in no way define, limit construe or describe the scope or intent of any provisions of this Agreement nor in any way affect this Agreement.

h. Governing Law. This Agreement shall be governed by, construed and interpreted in accordance with the laws of the Commonwealth of Massachusetts, which shall also be determinative in any litigation in connection with, or enforcement of this Agreement.

i. Severability. If any term of this Agreement is held to be invalid in any judicial action, it shall be severed from this Agreement and the remaining terms will be unaffected.

j. Third Parties. Nothing contained in this Agreement shall create a contractual relationship with, or a cause of action in favor of, a third party against any or all of the Parties.

k. Binding Effect. The terms, covenants, and conditions contained in this Agreement shall be binding upon and inure to the benefit of the Parties hereto and their respective legal representatives, successors and assigns and any person or persons, natural or corporate, claiming through or under them, or any of them.

l. Assignment. No assignment of this Agreement or any Party's rights, interests or obligations hereunder may be made without the other Party's consent, which shall not be unreasonably denied, withheld, delayed or conditioned.

m. The obligation of Harwich to pay Chatham the Capacity Purchase Fee and its proportionate share of the improvements to the System required to deliver wastewater to the WPCF, including the construction of conveyance infrastructure, shall be subject to appropriation. Notwithstanding the legal requirement for an appropriation, any failure of Harwich to pay any sum due hereunder to Chatham in a timely basis shall constitute a material breach of the terms hereof for purposes of Article 18.2.

[Signature page follows]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized officers and their respective seals to be affixed as of the dates given below.

Board of Selectmen, Town of Chatham	Board of Selectmen, Town of Harwich
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Exhibit A

East Harwich Service Area

Exhibit B

Connection Point

Exhibit C

O&M Expenses

Exhibit D

WPCF Flow

Exhibit E

Draft Preliminary Design Memorandum M-1B Flows and Loadings

STEARNS & WHELER LLC
Environmental Engineers & Scientists

DRAFT PRELIMINARY DESIGN MEMORANDUM M-1B

From: J. Jefferson Gregg, P.E.

Date: April 21, 2006

Re: Chatham, MA Preliminary Design
Flows and Loadings

Purpose of Memo

The purpose of this memorandum is to summarize the development of wastewater flows and loadings for the Town of Chatham (Town) to be used in the preliminary design of wastewater facilities.

Average Wastewater Flows Development

To remain consistent with the facilities planning process to date and the Massachusetts Estuaries Project Efforts, the Town's existing water consumption data has been used as the basis for the future Wastewater Treatment WWTF design flows and loadings.

The following is a summary of the Town's water data analysis and how it is being applied to this project:

1. 2002-2003 Water data (provided by the Town – summer to summer, and used as part of the Massachusetts Estuaries Project (MEP)). Currently approximately 90 percent of the Town is on public water.

2. Ninety percent reduction applied to convert water use to wastewater generation (facilities plan, and MEP). This 90% reduction is based on an analysis of the wastewater flows to the existing Chatham WWTF.

3. Calculated average water use per parcel for those parcels without known irrigation systems, as identified by Town.

4. Actual water data was used where available, if no water data was available the following approach was used:

    a. Average water use for single family home was estimated to be 120 gpd/parcel (rounded to two significant figures). Estimations based on the parcel by parcel analysis.
    b. For non-single family homes, estimated water use assigned to these parcels was based on the average water use of parcels with the same state class code (similar property type).
    c. Build-out parcels (future) were assigned 120 gpd/parcel.

5. Build-out projections based on the approach established as part of the facilities planning effort and accepted by the Town and Cape Cod Commission (CCC).

6. Existing developed-properties wastewater flow compared to projected build-out flow, and the higher of the two values used.

7. Additional build-out criteria used, as agreed upon with the Town:

- Residential properties are redeveloped to full extent based on current zoning.
- Commercial and Industrial, vacant-developable land is converted to residential.
- All other existing uses remain the same.
- Maps were reviewed with the Town and site specific modifications were made.

Wastewater Flows and Peaking Factors

Table 1 presents the average flows seen at the existing Chatham wastewater treatment facility, generated from the existing collection system.

TABLE 1

EXISTING WWTF FLOWS (2002-2005)

CONDITION	FLOW (MGD)
Average Flow	0.10
Minimum Month Flow	0.07
Maximum Month Flow	0.16

Water use and wastewater flow peaking factors were evaluated and compared to TR-16. The peaking factors considered for the preliminary design are presented in Table 2. As part of the evaluation, both the wastewater flows recorded at the existing WWTF and the drinking water well pumping records were evaluated for the following reasons:

- The limited size of the existing collection system may not be representative of the Town demographics.
- Existing WWTF peaking factors may represent a more year round population and might not be representative of the entire Town (if sewered).
- Town water supply well pumping records are more likely to show the seasonal impacts of the entire Town.
- Well pumping records also reflect higher peak pumping rates in the summer because of additional uses like car washing, lawn irrigation, etc, and therefore would require downward adjustments to the wastewater estimate.
- Well pumping does not equate to 100% wastewater generation, and therefore should not be considered as the sole means of estimating peaking factors.

Therefore, peaking factors falling between those seen at the WWTF and from the well pumping records were considered as a reasonable approximation of those for a Townwide system and were compared to estimated TR-16 values, for validation purposes. The peak day and peak hour estimates

were well within the range recommended by TR-16. TR-16 does not have estimates for summer average, minimum month or maximum month flows.

TABLE 2

PEAKING FACTORS

CONDITION	EXISTING WWTF [1]	TR-16 [5]	PROPOSED
Minimum Month	0.7		0.5
Summer Average [2]	1.3		1.6
Maximum Month [3]	1.6		1.9
Peak Day [4]	1.8	2.1	2.2
Peak Hour		3.4	3.4

Notes:
1. Based on 2002 through 2005 data
2. Three month average (June, July, and August) divided by average annual
3. Maximum month divided by average annual
4. Peak day divided by average annual
5. TR-16 estimates based on average annual flow of 1.5 mgd

Summer average flows during the years 2002 through 2005 were evaluated for June through August, June through September and July through September. The highest average summer flow occurred during the June through August period, although all three periods yielded similar results.

Table 3 presents the Townwide wastewater flow estimates. Existing average annual flow and build-out flows are based on the previously agreed upon approach. Peaking factors are then applied to calculate the remaining build-out flows. Build-out is considered the design conditions for this project.

TABLE 3

TOWN-WIDE FLOW ESTIMATES
(not including I/I)

CONDITION	FLOW (MGD)
Existing (2003) Average Annual Flow [1]	1.0
Build-out (BO) Average Annual Flow	1.3
BO Summer Average Flow	2.1
BO Minimum Month Flow	0.86
BO Maximum Month Flow	2.5
BO Peak Day Flow	2.9
BO Peak Hourly Flow	4.5

Note:
1. Calculated flow based on 2002-2003 water data and existing Town wide land use and units based on 2004 Town assessors data.

The future Chatham collection system will be a new system over very significant areas of Town. The new gravity PVC sewers and manhole joints and covers will be gasketed. Portions of the Town will be low pressure sewers. All new connections will be wye-connections with new laterals to the house, and no roof leaders or sump pumps and/or foundation drain connections will be allowed under any condition. In addition, public education programs should be employed to prevent illegal connections. Because of this, inflow is expected to be negligible.

Table 4 summarizes the projected Infiltration and Inflow (I/I) estimates for the collection system. The "startup" condition is based on the existing collection system and an infiltration rate of 500 gpd/in-mile (based on TR-16). I/I was calculated based on the preliminary sewer layouts developed at the time of this memorandum, and based on 8-inch diameter pipe, and using an I/I rate of 500 gpd/in-mile. I/I for laterals is based on 500 gpd/in-mile for approximately 5,100 4-inch connections each approximately 80 feet long. Estimated length based on Town-wide average distance of building to property line based on GIS information. Although 500 gpd/in-mile is on the high end of the TR-16 range for just infiltration, for this preliminary design it will be used to represent infiltration and inflow.

TABLE 4

INFILTRATION / INFLOW ESTIMATE

CONDITION	FLOW (GPD)
Existing Collection System	20,000
Preliminary Gravity Sewer Layout	350,000
Laterals (All Phases)	160,000
Total	530,000

The proposed sewer areas presented in Table 4 are based on future areas of Town to be sewered as presented in a memorandum to the Town dated June 7, 2005 and entitled Wastewater System Implementation Capital Improvement Planning Items.

Once the proposed sewer layouts are finalized, the estimated I/I values will be adjusted. At this time, the lengths of pressure sewers and gravity sewers have not been finalized. I/I values are not peaked and represent the condition of maximum I/I occurring under any flow condition.

Table 5 presents the proposed WWTF design flows, which are the total of the Townwide flows under build-out conditions presented in Table 3 and the I/I flows presented in Table 4.

TABLE 5

TOTAL PROPOSED WWTF DESIGN FLOWS [1]

CONDITION	FLOW (MGD)
Startup Minimum Month Flow	0.08
Average Annual Flow	1.9
Average Summer Design Flow	2.7
Minimum Month Design Flow	1.2
Maximum Month Design Flow	3.1
Peak Day Design Flow	3.5
Peak Hourly Design Flow	5.1
Note: 1. Includes I/I	

Maximum month flows and loadings will be critical for meeting any effluent nitrogen limit. Peak flows are also critical for process design and hydraulic considerations and effluent disposal. Also, with continued reconstruction of homes in Chatham, it is quite possible that a higher proportion of year-round residents may eventually reside in Town. However, such projections are not available at the time of this technical memorandum, so for planning purposes the present distribution of seasonal and year-round properties (outside of the projected growth due to Build-out) would remain the same in the future. To minimize the impact of future conversion of seasonal to year round homes, the facility will also consider a summer average flow rate and loading, which would account for the majority of the potential residential sewer users in the future. However the fact that the facility will be designed around maximum month and peak day conditions will address this increase in flow and loading.

Development of Loadings

Table 6 presents TR-16 factors for loading variability.

TABLE 6

TR-16 LOADING FACTORS

CONDITION	MAXIMUM MONTH	PEAK DAY
BOD	1.14	1.8
TSS	1.3	2.1

Table 7 presents the existing loadings for the Chatham WWTF (2002-2005).

TABLE 7

EXISTING WWTF FLOWS AND LOADINGS (2002-2005)

CONDITION	AVERAGE	MINIMUM MONTH	MAXIMUM MONTH
Flow, mgd	0.1	0.08	0.16
BOD_5, lb/day	180	70	420
TSS, lb/day	180	80	300
TKN, lb/day	30	10	60
Ammonia, lb/day	20	< 10	40

Note:
Flows and loadings represent a 4 year average (through October 2005)
Rounded to two significant figures

Table 8 presents the flows and loads for the entire WWTF (Phase 1 and 2). Loadings were based on concentrations currently seen at the existing WWTF, increased with build-out estimates, and TR-16 factors were applied for Maximum Month and Peak Day conditions for TSS, and BOD.

TABLE 8

WWTF DESIGN FLOWS AND LOADINGS

CONDITION	STARTUP (3)	AVERAGE ANNUAL	DESIGN SUMMER AVERAGE	MINIMUM MONTH	MAXIMUM MONTH	PEAK DAY	PEAK HOUR (2)
Flow, mgd	0.08	1.9	2.7	1.2	3.1	3.5	5.1
BOD_5, lb/day (1)	100	3,200	6,200	1,400	7,400	8,500	-
TSS, lb/day (1)	160	3,400	5,900	2,200	7,000	8,100	-
TKN, lb/day	20	600	900	200	1,100	1,300	-
Ammonia, lb/day	10	400	600	100	800	900	-

Notes:
1. BOD and TSS loadings for Maximum Month and Peak Day adjusted based on recommended Loading Factors listed in Table 8.
2. Peak Hour loadings not calculated.
3. Start-up loadings based on 2005 data.

For design purposes, seasonal correlations were developed showing under what temperature conditions the facility might see its maximum loading conditions. This impacts the sizing of the facility.

TABLE 9

SEASONAL CORRELATION OF FLOWS AND LOADS

SEASON	DESIGN FLOW	DESIGN LOAD	DESIGN AVERAGE MONTHLY TEMPERATURE (DEGREES C)
Dec-Feb	Use Min. Month	Use Min. Month	7
March-May	Use Average Design Flow	Use Average Design Flow	10
June-Aug	Use Max Month	Use Max Month	20
Sept-Nov	Use Average Design Flow	Use Average Design Flow	16

WWTF Phasing

Preliminary design of the WWTF is based on two phases, based on a preliminary division of the Town to address potential sewering options. Phase I flows would cover portions of the Town located generally south of Route 28, and Phase II would encompass the remaining areas of Town.

Table 10 summarizes the approximate flow split.

TABLE 10

PHASED WWTF DESIGN FLOWS [1]

CONDITION	PHASE I FLOWS (MGD)	PHASE II FLOWS (MGD)
Startup Minimum Month Flow	0.08	0.8
Average Annual Flow	1.3	1.9
Average Summer Design Flow	1.8	2.7
Minimum Month Design Flow	0.8	1.2
Maximum Month Design Flow	2.1	3.1
Peak Day Design Flow	2.3	3.5
Peak Hourly Design Flow	3.5	5.1

Note:
1. Includes I/I

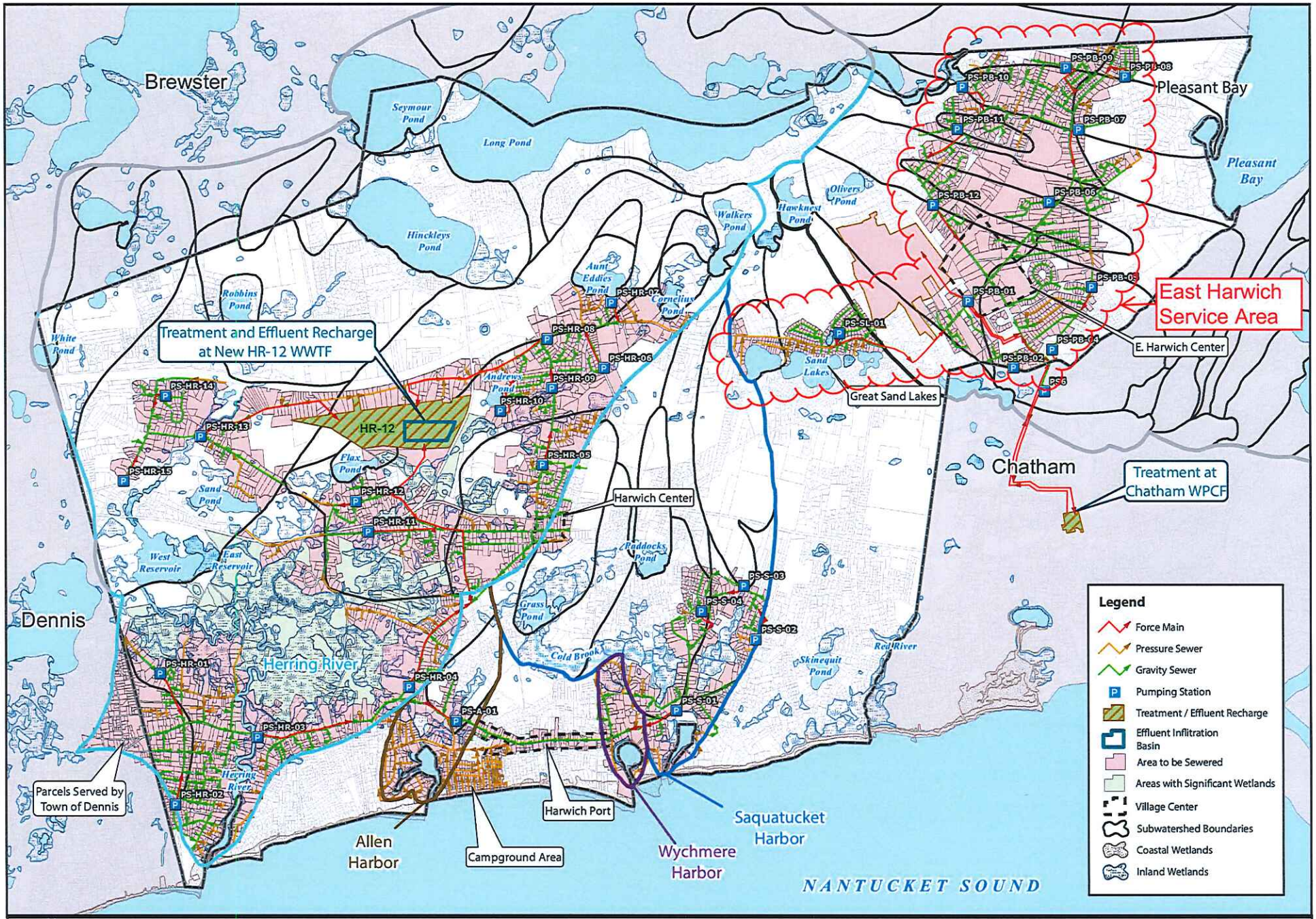
Other Flow Considerations

1. Future Harwich Sewer Extensions:

The Town is currently in discussions with the Town of Harwich regarding the possible extension of any proposed collection system into Harwich. This would require an inter-municipal agreement between the two Towns establishing the quantity of flow and other requirements. No flow estimate is available at this time, and the ultimate ability of Chatham to extend sewers into Harwich will be dependant on the effluent disposal capacity of the Town of Chatham.

2. Septage:

As identified in the 1999 Needs Assessment Report (Table 5-8), "Septage and grease are treated in the sludge holding tanks and the decant liquid and belt filter press filtrate from these flows have minimal contributions to the wastewater treatment process." Therefore for this analysis concentrations from septage are considered to have minimal impact on the new WWTF. Also, the Town of Chatham only receives septage from the Town, therefore as more of the Town is sewered, an even smaller portion of the wastewater flow stream will originate from this source. However, the septage will be considered in the sludge processing and disposal calculations.



N

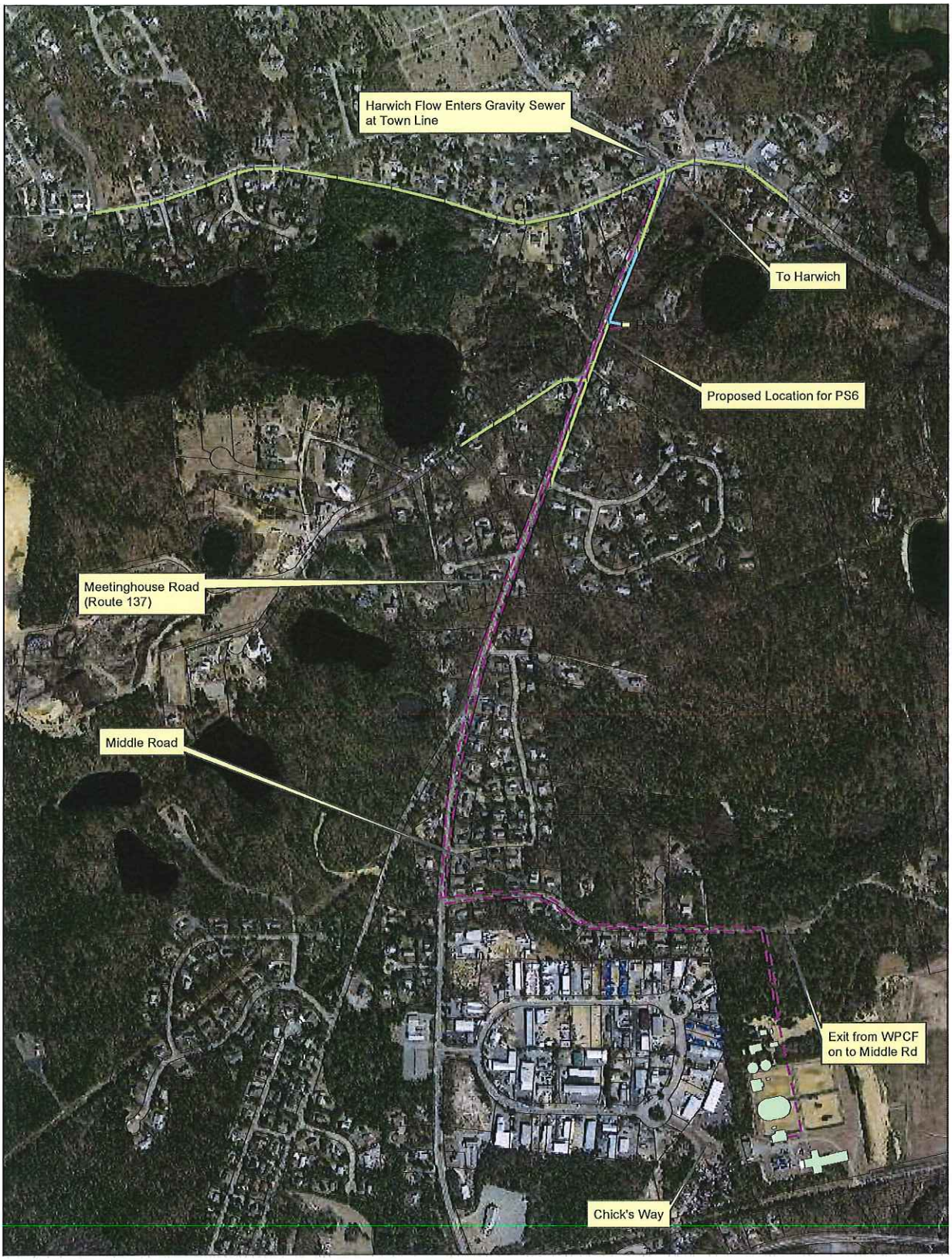
Town of Harwich
Comprehensive Wastewater
Management Plan

1 inch = 4,000 feet
0 1,000 2,000 4,000 Feet

Figure 13-1
Recommended Areas to be Sewered

CDM Smith

Z:\Harwich\Harwich_cwmp\MXD\Section_13\Fig13-1Recommended_Plan_Overview.mxd NEWELLJD 12/5/2012



Legend

Force Main
10"

Gravity Sewer
8"
12"

Manholes
New Buildings

0 250 500 1,000 Feet

Paper Size ANSI B

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet

CDM Smith Inc.
Harwich Comprehensive
Wastewater Management Plan

Site 6 Gravity
and Force Main Extents

Job Number 86-14969
Revision A
Date 11 Jun 2012

Figure 5

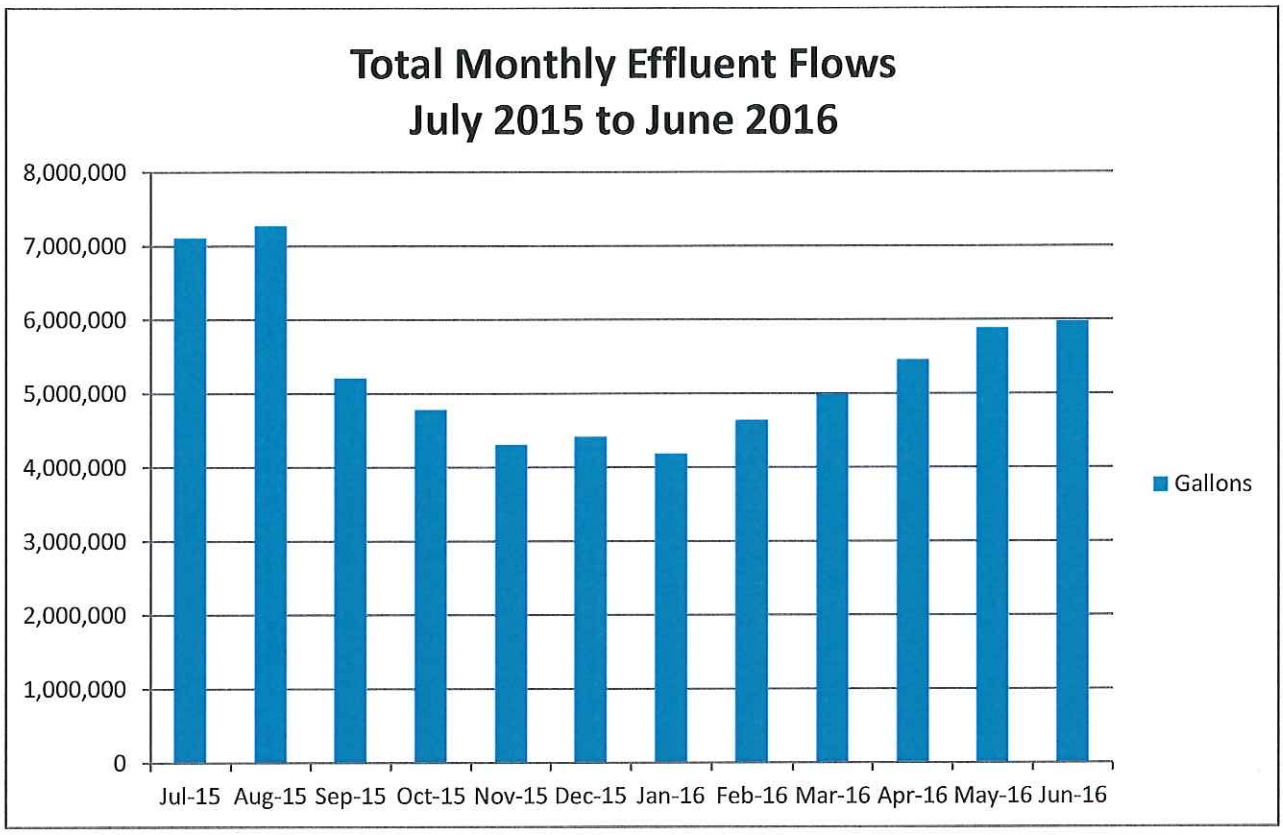
G:\86\14969\GIS\Fig 5 - Site 6.mxd

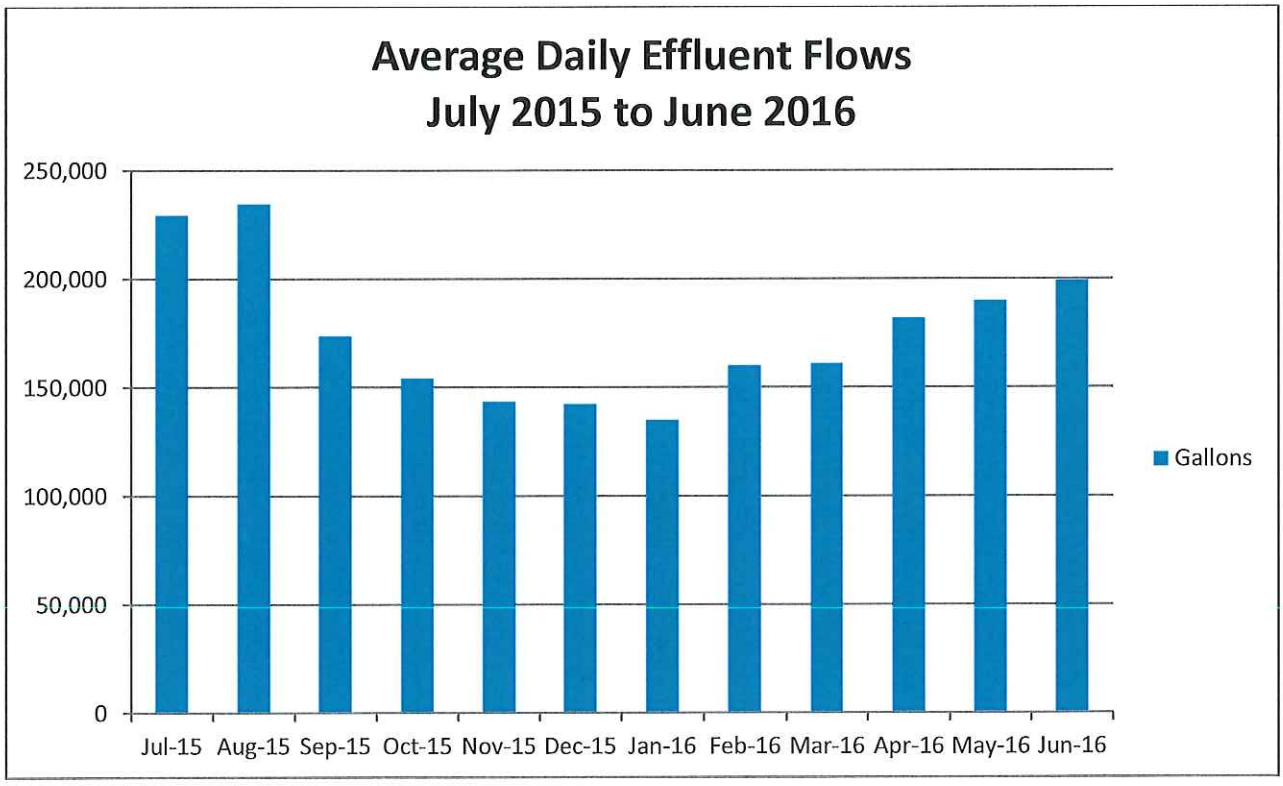
1545 Iyannough Rd Hyannis MA 02601 USA T 774-470-1630 F774-470-1631 E hyamail@ghd.com W www.ghd.com

Department Detail

FY 2018 Budget	Dept - 443 Sewer	Department Detail

		FY 2015 Actual	FY 2016 Actual	FY 2017 Budget	FY 2017 YTD 12/31/16	FY 2018 Dept Req	Supplemental Request	FY 2018 Town Manager
5110	Regular Wages	22,884	27,021	22,753	10,971	23,910	-	23,910
5120	Temporary Wages	-	-	-	-	-	-	-
5130	Overtime	-	-	-	-	-	-	-
5141	Longevity	-	-	-	-	-	-	-
	Personnel Services	**22,884**	**27,021**	**22,753**	**10,971**	**23,910**	**0**	**23,910**
5200	Purchase of Services	-	8,083	500	-	500	-	500
5203	Testing	17,261	17,225	20,000	9,259	20,000	(1,500)	18,500
5209	Electric WWFT	106,099	116,207	140,000	69,713	140,000	(8,000)	132,000
5210	Electric-Pump Station	37,511	35,168	45,000	16,658	45,000	4,000	49,000
5212	Gas Heat	35,528	24,709	40,000	3,603	40,000	(2,700)	37,300
5249	Plant Maintenance	107,763	100,603	90,000	63,935	90,000	30,000	120,000
5289	Solid Waste Disposal	26,537	32,831	26,000	14,066	26,000	16,000	42,000
5307	Contract Services	487,630	497,410	507,190	252,780	516,970	-	516,970
5312	Traffic Control/Public Safety	6,584	7,958	5,000	5,786	5,000	5,400	10,400
5317	Professional/Legal/Consulting	7,630	3,652	5,000	1,874	5,000	-	5,000
5340	Telecommunications	-	-	500	-	500	(500)	-
5343	Advertising	129	185	500	-	500	-	500
5344	Printing	420	-	100	-	100	-	100
5345	Postage	183	47	100	-	100	-	100
5400	Operational Supplies	585	2,643	500	-	500	-	500
5420	Office Supplies	212	416	250	577	250	-	250
5430	Building & Grounds Maintenance	-	175	500	-	500	-	500
5432	Chemicals	36,696	34,308	30,000	19,287	30,000	6,000	36,000
5481	Vehicle & Equipment Maint	9,999	6,028	4,800	2,705	4,800	1,500	6,300
5705	Meetings/Dues & Travel	189	-	250	-	250	-	250
5800	Capital Outlay-Operating	-	-	200	-	200	(200)	-
5805	Ground Water Monitoring	23,806	20,850	24,000	-	24,000	-	24,000
	Expenses	**904,761**	**908,498**	**940,390**	**460,243**	**950,170**	**50,000**	**1,000,170**
	Total Sewer	**927,645**	**935,518**	**963,143**	**471,214**	**974,080**	**50,000**	**1,024,080**


Total Monthly Effluent Flows
July 2015 to June 2016
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
Jul-15 Aug-15 Sep-15 Oct-15 Nov-15 Dec-15 Jan-16 Feb-16 Mar-16 Apr-16 May-16 Jun-16
Gallons


Average Daily Effluent Flows
July 2015 to June 2016
250,000
200,000
150,000
100,000
50,000
0
Jul-15 Aug-15 Sep-15 Oct-15 Nov-15 Dec-15 Jan-16 Feb-16 Mar-16 Apr-16 May-16 Jun-16
Gallons

CDM Smith

Memorandum

To: *Christopher Clark, Town Administrator*
Town of Harwich

From: *David F. Young, P.E.*
Michael P. Guidice, P.E.

Date: *December 20, 2016*

Subject: *Harwich Wastewater Program*
Proposed Phase 2 Wastewater Program - Engineering Agreement

CDM Smith Inc. is pleased to submit our attached proposed Standard Form of Agreement for Engineering Services for Phase 2 (Pleasant Bay – South) of the Town's Wastewater Program. As requested, the Agreement includes scope of services language for engineering and permitting during the design, bidding and construction phases of Phase 2 as well as CWMP implementation services. Per our discussion, we propose that the Town only authorize the design/permitting and CWMP services portions of the Agreement at this time. The bidding and construction phase services would be authorized by a future contract amendment, at the Town's discretion. We have included a budget allowance for those anticipated services in order to provide an overall project budget.

The following is a breakdown of the estimated total costs for Phase 2:

Survey	$204,000
Preliminary Design	$198,000
Final Design	$1,592,000
Subtotal Design Phase:	**$1,994,000**
CWMP Implementation Services	$150,000
Bidding	$30,000
General Services during Construction	$531,000
Resident Inspection	$1,680,000
Construction	$17,680,000
Policing (allowance)	$385,000
Phase 2 Total:	**$22,450,000**

As shown above, the attached Agreement requests a total authorization of $2,144,000 for Phase 2 design/permitting phase services and CWMP implementation services. This includes approximately $350,000 for subcontractors to prepare the topographical survey for the Phase 2 area and portions of the Phase 3 and 8 areas for coordination (including aerial photography) and to perform drilling of more than 200 borings along the proposed Phase 2 pipeline alignment. The design/permitting phase includes preparation of approximately 100 design drawings and technical specifications suitable for bidding for construction of 12 miles of pipelines and six pumping stations; preliminary and final cost

estimates; submittal of all required permit applications; subcontractor procurement and oversight; inspection during drilling of borings; geotechnical laboratory testing and evaluation of soil samples; easement plan preparation for the pumping station sites; coordination with Chatham for the common pumping station and force main; implementation of CDM Smith's rigorous QA/QC program; coordination of the State Revolving Fund (SRF) loan documents with DEP; meetings with the Town, including public meetings; and overall project management of all aspects of the design phase. The CWMP services task includes assisting the Town with developing and implementing a public outreach program; assisting with community partnership discussions with Dennis and Yarmouth on a potential regional treatment facility; assisting with open space acquisitions for nitrogen control; and development of a fertilizer management brochure.

A complete, detailed description of the design phase services is included in Exhibit A to the attached Agreement.

We look forward to continuing to work with the Town on this important program and are available to discuss any aspect of this Agreement at your earliest convenience.

CC: Robert Cafarelli
Dan Pelletier

STANDARD FORM OF AGREEMENT
BETWEEN
OWNER AND ENGINEER
FOR
DESIGN, BIDDING AND CONSTRUCTION PHASE SERVICES

THIS IS AN AGREEMENT made as of _____, 2017 between Town of Harwich, Massachusetts ("OWNER") and CDM Smith Inc. ("ENGINEER").

OWNER's Project is generally identified as follows: Sewer Collection System - Phase 2 (the "Project").

OWNER and ENGINEER, in consideration of their mutual covenants herein, agree in respect of the performance or furnishing of services by ENGINEER to the Project and the payment for those services by OWNER as set forth below. Execution of this Agreement by ENGINEER and OWNER constitutes OWNER's written authorization to ENGINEER to proceed on the date first above written with the Services described in Article 1 below. This Agreement will become effective on the date first above written.

ARTICLE 1 – SCOPE OF SERVICES

1.1 ENGINEER agrees to perform, or cause to be performed, for OWNER services as described in Exhibit A (hereinafter referred to as "Services,,) in accordance with the requirements outlined in this Agreement.

ARTICLE 2 – TIMES FOR RENDERING SERVICES

2.1 Specific time periods and/or specific dates for the performance of ENGINEER's Services are set forth in Exhibit A.

2.2 If, through no fault of Engineer, such periods of time or dates are changed, or the orderly and continuous progress of Engineer's services is impaired, or Engineer's services are delayed or suspended, then the time for completion of Engineer's services, and the rates and amounts of Engineer's compensation, shall be adjusted equitably.

2.3 If Owner authorizes changes in the scope, extent, or character of the Project or Engineer's services, then the time for completion of Engineer's services, and the rates and amounts of Engineer's compensation, shall be adjusted equitably.

2.4 Owner shall make decisions and carry out its other responsibilities in a timely manner so as not to delay the Engineer's performance of its services. If ENGINEER's services are delayed or suspended in whole or in part by OWNER for more than three months through no fault of ENGINEER, ENGINEER shall be entitled to equitable adjustment of the schedule and of rates and amounts of compensation provided for elsewhere in this Agreement to reflect, among other things, reasonable costs incurred by ENGINEER in connection with such delay or suspension and reactivation.

ARTICLE 3 – OWNER'S RESPONSIBILITIES

OWNER shall:

3.1 Pay the ENGINEER in accordance with the terms of this Agreement.

3.2 Designate in writing a person to act as OWNER's representative with respect to the services to be performed or furnished by ENGINEER under this Agreement. Such person will have complete authority to transmit instructions, receive information, interpret, and define OWNER's policies and decisions with respect to ENGINEER's services for the Project.

3.3 Provide all criteria and full information as to OWNER's requirements for the Project, including, as applicable to the Services, design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and furnish copies of all design and construction standards which OWNER will require to be included in the Drawings and Specifications.

3.4 Be responsible for all requirements and instructions that it furnishes to Engineer pursuant to this Agreement, and for the accuracy and completeness of all programs, reports, data, and other information furnished by Owner to Engineer pursuant to this Agreement. Engineer may use and rely upon such requirements, programs, instructions, reports, data, and information in performing or furnishing services under this Agreement, subject to any express limitations or reservations applicable to the furnished items.

3.5 Give prompt written notice to ENGINEER whenever OWNER observes or otherwise becomes aware of any development that affects the scope or time of performance or furnishing of ENGINEER's Services or any relevant, material defect or nonconformance in ENGINEER's Services or in the work of any Contractor employed by Owner on the Project.

3.6 Bear all costs incident to compliance with the requirements of this Article 3.

ARTICLE 4 – PAYMENTS TO ENGINEER FOR SERVICES

4.1 Methods of Payment for Services of ENGINEER.

4.1.1 OWNER shall pay ENGINEER for Services performed or furnished under this Agreement or as described in Exhibit A. The amount of any excise, VAT, or gross receipts tax that may be imposed shall be added to the compensation shown in Exhibit A. If after the Effective Date any governmental entity takes a legislative action that imposes additional sales or use taxes on Engineer's services or compensation under this Agreement, then Engineer may invoice such additional taxes for reimbursement by Owner. Owner shall reimburse Engineer for the cost of such invoiced additional taxes in addition to the compensation to which Engineer is entitled.

4.1.2 Invoices for Services will be prepared in accordance with ENGINEER's standard invoicing practices and will be submitted to OWNER by ENGINEER at least monthly. Payments are due within 30 days of receipt of invoice.

OWNER agrees to pay ENGINEER all costs of collection including but not limited to reasonable attorneys' fees, collection fees and court costs incurred by ENGINEER to collect properly due payments.

ARTICLE 5 – GENERAL CONDITIONS

5.1 Standard of Care

The standard of care for all professional engineering and related services performed or furnished by ENGINEER under this Agreement will be the care and skill ordinarily used by members of ENGINEER's profession practicing under similar conditions at the same time and in the same locality. Engineer makes no warranties, express or implied, under this Agreement or otherwise, in connection with any services performed or furnished by Engineer.

5.2 Technical Accuracy

Owner shall not be responsible for discovering deficiencies in the technical accuracy of Engineer's services. Engineer shall correct deficiencies in technical accuracy without additional compensation, unless such corrective action is directly attributable to deficiencies in Owner-furnished information.

5.3 Opinions of Probable Construction Cost

Engineer's opinions (if any) of probable Construction Cost are to be made on the basis of Engineer's experience, qualifications, and general familiarity with the construction industry. However, because Engineer has no control over the cost of labor, materials, equipment, or services furnished by others, or over contractors' methods of determining prices, or over competitive bidding or market conditions, Engineer cannot and does

not guarantee that proposals, bids, or actual Construction Cost will not vary from opinions of probable Construction Cost prepared by Engineer. If Owner requires greater assurance as to probable Construction Cost, then Owner agrees to obtain an independent cost estimate.

5.4 Compliance with Laws and Regulations, and Policies and Procedures

5.4.1 Engineer and Owner shall comply with applicable Laws and Regulations.

5.4.2 This Agreement is based on Laws and Regulations procedures as of the Effective Date. Changes after the Effective Date to Laws and Regulations may be the basis for modifications to Owner's responsibilities or to Engineer's scope of services, times of performance, or compensation.

5.4.3 Engineer shall not be required to sign any document, no matter by whom requested, that would result in the Engineer having to certify, guarantee, or warrant the existence of conditions whose existence the Engineer cannot ascertain. Owner agrees not to make resolution of any dispute with the Engineer or payment of any amount due to the Engineer in any way contingent upon the Engineer signing any such document.

5.4.4 Engineer shall not at any time supervise, direct, control, or have authority over any Constructor's work, nor shall Engineer have authority over or be responsible for the means, methods, techniques, sequences, or procedures of construction selected or used by any Constructor, or the safety precautions and programs incident thereto, for security or safety at the Site, nor for any failure of a Constructor to comply with Laws and Regulations applicable to that Constructor's furnishing and performing of its work. Engineer shall not be responsible for the acts or omissions of any Constructor.

5.4.5 Engineer neither guarantees the performance of any Constructor nor assumes responsibility for any Constructor's, failure to furnish and perform the Work in accordance with the Construction Contract Documents.

5.4.6 Engineer shall not be responsible for any decision made regarding the Construction Contract Documents, or any application, interpretation, clarification, or modification of the Construction Contract Documents, other than those made by Engineer or its Consultants.

5.4.7 Engineer is not required to provide and does not have any responsibility for surety bonding or insurance-related advice, recommendations, counseling, or research, or enforcement of construction insurance or surety bonding requirements.

5.4.8 Engineer's services do not include providing legal advice or representation.

5.4.9 Engineer's services do not include (1) serving as a "municipal advisor,, for purposes of the registration requirements of Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) or the municipal advisor registration rules issued by the Securities and Exchange Commission, or (2) advising Owner, or any municipal entity or other person or entity, regarding municipal financial products or the issuance of municipal securities, including advice with respect to the structure, timing, terms, or other similar matters concerning such products or issuances.

5.4.10 While at the Site, Engineer, its Consultants, and their employees and representatives shall comply with the applicable requirements of Contractor's and Owner's safety programs of which Engineer has been informed in writing.

5.5 Termination

The obligation to provide further services under this Agreement may be terminated:

5.5.1 For cause,

a. by either party upon 30 days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party.

b. by Engineer:

1) upon seven days written notice if Owner demands that Engineer furnish or perform services contrary to Engineer's responsibilities as a licensed professional; or

2) upon seven days written notice if the Engineer's services for the Project are delayed or suspended for more than 90 days for reasons beyond Engineer's control, or as the result of the presence at the Site of undisclosed Constituents of Concern.

3) Engineer shall have no liability to Owner on account of such termination.

c. Notwithstanding the foregoing, this Agreement will not terminate for cause if the party receiving such notice begins, within seven days of receipt of such notice, to correct its substantial failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt thereof; provided, however, that if and to the extent such substantial failure cannot be reasonably cured within such 30 day period, and if such party has diligently attempted to cure the same and thereafter continues diligently to cure the same, then the cure period provided for herein shall extend up to, but in no case more than, 60 days after the date of receipt of the notice.

5.5.2 For convenience, by Owner effective upon Engineer's receipt of notice from Owner.

5.5.3 Effective Date of Termination: The terminating party under Paragraph 5.5.1 may set the effective date of termination at a time up to 30 days later than otherwise provided to allow Engineer to demobilize personnel and equipment from the Site, to complete tasks whose value would otherwise be lost, to prepare notes as to the status of completed and uncompleted tasks, and to assemble Project materials in orderly files.

5.5.4 Payments Upon Termination:

a. In the event of any termination under Paragraph 5.5, Engineer will be entitled to invoice Owner and to receive full payment for all services performed or furnished in accordance with this Agreement and all Reimbursable Expenses incurred through the effective date of termination. Upon making such payment, Owner shall have the limited right to the use of Documents, at Owner's sole risk, subject to the provisions of Paragraph 5.6.

b. In the event of termination by Owner for convenience or by Engineer for cause, Engineer shall be entitled, in addition to invoicing for those items identified in Paragraph 5.5.4.a, to invoice Owner and receive payment of a reasonable amount for services and expenses directly attributable to termination, both before and after the effective date of termination, such as reassignment of personnel, costs of terminating contracts with Engineer's Consultants, and other related close-out costs.

5.6 Use of Documents

5.6.1 All Documents are instruments of service, and ENGINEER shall retain an ownership and property interest therein (including the copyright and the right of reuse at the discretion of the ENGINEER) whether or not the Project is completed.

5.6.2 If Engineer is required to prepare or furnish Drawings or Specifications under this Agreement, Engineer shall deliver to Owner at least one original printed record version of such Drawings and Specifications, signed and sealed according to applicable Laws and Regulations.

5.6.3 Owner and Engineer may transmit, and shall accept, Project-related correspondence, Documents, text, data, drawings, information, and graphics, in electronic media or digital format, either directly, or through access to a secure Project website, in accordance with a mutually agreeable protocol. If this Agreement does not establish protocols for electronic or digital transmittals, then Owner and Engineer shall jointly develop such protocols. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

5.6.4 OWNER may make and retain copies of Documents for information and reference in connection with use on the Project by OWNER. Upon receipt of full payment due and owing for all Services, ENGINEER grants OWNER a license to use the Documents on the Project, extensions of the Project, and related uses of OWNER, subject to the following limitations: (1) OWNER acknowledges that such Documents are not intended or represented to be suitable for use on the Project unless completed by ENGINEER, or for use or reuse by OWNER or others on extensions of the Project or on any other project without written verification or adaptation by ENGINEER; (2) any such use or reuse, or any modification of the Documents, without written verification, completion, or adaptation by ENGINEER, as appropriate for the specific purpose intended, will be at OWNER's sole risk and without liability or legal exposure to ENGINEER or to ENGINEER's Consultants; (3) OWNER shall indemnify and hold harmless ENGINEER and ENGINEER's Consultants from all claims, damages, losses, and expenses, including attorneys' fees, arising out of or resulting from any use, reuse, or modification without written verification, completion, or adaptation by ENGINEER; (4) such limited license to OWNER shall not create any rights in third parties.

5.6.5 If ENGINEER at OWNER's request verifies or adapts the Documents for extensions of the Project or for any other project, then OWNER shall compensate ENGINEER at rates or in an amount to be agreed upon by OWNER and ENGINEER.

5.7 Controlling Law

This Agreement is to be governed by the Laws and Regulations of the state in which the Project is located.

5.8 Mutual Waiver of Consequential Damages

Notwithstanding any other provision of this Agreement to the contrary, neither party including their officers, agents, servants and employees shall be liable to the other for lost profits or any special, indirect, incidental, or consequential damages in any way arising out of this Agreement however caused under a claim of any type or nature based on any theory of liability (including, but not limited to: contract, tort, or warranty) even if the possibility of such damages has been communicated.

5.9 Limitation of Liability

In no event shall ENGINEER's total liability to OWNER and/or any of the OWNER's officers, employees, agents, contractors or subcontractors for any and all injuries, claims, losses, expenses or damages whatsoever arising out of or in any way related to this agreement from cause or causes, including, but not limited to, ENGINEER's wrongful act, omission, negligence, errors, strict liability, breach of contract, breach of warranty, express or implied, exceed the total amount of fee paid to ENGINEER under this agreement or $50,000, whichever is greater.

5.10 Successors and Assigns

5.10.1 OWNER and ENGINEER each is hereby bound and the partners, successors, executors, administrators and legal representatives of OWNER and ENGINEER (and to the extent permitted by

paragraph 5.10.2 the assigns of OWNER and ENGINEER) are hereby bound to the other party to this Agreement and to the partners, successors, executors, administrators and legal representatives (and said assigns) of such other party, in respect of all covenants, agreements and obligations of this Agreement.

5.10.2 Neither OWNER nor ENGINEER may assign, sublet or transfer any rights under or interest (including, but without limitation, moneys that may become due or moneys that are due) in this Agreement without the written consent of the other, except to the extent that any assignment, subletting or transfer is mandated by law or the effect of this limitation may be restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement.

5.10.3 Unless expressly provided otherwise in this Agreement:

a. Nothing in this Agreement shall be construed to create, impose or give rise to any duty owed by ENGINEER to any Constructor, other person or entity, or to any surety for or employee of any of them, or give any rights in or benefits under this Agreement to anyone other than OWNER and ENGINEER.

b. All duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of OWNER and ENGINEER and not for the benefit of any other party.

5.11 Notices

Any notice required under this Agreement will be in writing, addressed to the appropriate party at the address which appears on the signature page to this Agreement (as modified in writing from time to time by such party) and given personally, by registered or certified mail, return receipt requested, by facsimile, or by a nationally recognized overnight courier service. All notices shall be effective upon the date of receipt.

5.12 Severability

Any provision or part of the Agreement held to be void or unenforceable under any law or regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and ENGINEER, who agree that the Agreement shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

5.13 Changed Conditions

If concealed or unknown conditions that affect the performance of the Services are encountered, which conditions are not ordinarily found to exist or which differ materially from those generally recognized as inherent in the Services of the character provided for under this Agreement or which could not have reasonably been anticipated, notice by the observing party shall be given promptly to the other party and, if possible, before conditions are disturbed. Upon claim by the ENGINEER, the payment and schedule shall be equitably adjusted for such concealed or unknown condition by change order or amendment to reflect additions that result from such concealed, changed, or unknown conditions.

5.14 Environmental Site Conditions

It is acknowledged by both parties that ENGINEER's scope of services does not include any services related to Constituents of Concern, as defined in Article 6. If ENGINEER or any other party encounters an undisclosed Constituent of Concern, or if investigative or remedial action, or other professional services, are necessary with respect to disclosed or undisclosed Constituents of Concern as defined in Article 6, then ENGINEER may, at its option and without liability for consequential or any other damages, suspend performance of services on the portion of the Project affected thereby until OWNER: (1) retains appropriate specialist consultant(s) or contractor(s) to identify and, as appropriate, abate, remediate, or remove the Constituents of Concern, and (2) warrants that the Site is in full compliance with applicable Laws and Regulations.

If the presence at the Site of undisclosed Constituents of Concern adversely affects the performance of ENGINEER's services under this Agreement, then the ENGINEER shall have the option of (1) accepting an equitable adjustment in its compensation or in the time of completion, or both; or (2) terminating this Agreement for cause on 30 days' notice.

OWNER acknowledges that ENGINEER is performing professional services for OWNER and that ENGINEER is not and shall not be required to become an "arranger,,, "operator,,, "generator,,, or "transporter,, of hazardous substances, so defined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, which are or may be encountered at or near the Site in connection with ENGINEER's activities under this Agreement.

5.15 Insurance

ENGINEER shall procure and maintain insurance for protection from claims under workers' compensation acts, claims for damages because of bodily injury including personal injury, sickness or disease or death of any and all employees or of any person other than such employees, and from claims or damages because of injury to or destruction of property.

5.16 Discovery

ENGINEER shall be entitled to compensation on a time and materials basis when responding to all requests for discovery relating to this Project and to extent that ENGINEER is not a party to the lawsuit.

5.17 Nondiscrimination and Affirmative Action

In connection with its performance under this Agreement, ENGINEER shall not discriminate against any employee or applicant for employment because of race, color, creed, religion, age, sex, marital status, sexual orientation or affectional preference, national origin, ancestry, citizenship, physical or mental handicap or because he or she is a disabled veteran or veteran of the Vietnam era. ENGINEER shall take affirmative action to ensure that qualified applicants are employed and that employees are treated during employment without regard to their race, color, creed, religion, age, sex, marital status, sexual orientation or affectional preference, national origin, ancestry, citizenship, physical or mental handicap or because he or she is a disabled veteran or veteran of the Vietnam era. Such actions shall include recruiting and hiring, selection for training, promotion, fixing rates or other compensation, benefits, transfers and layoff or termination.

5.18 Force Majeure

Any delays in or failure of performance by ENGINEER shall not constitute a default under this Agreement if such delays or failures of performance are caused by occurrences beyond the reasonable control of ENGINEER including but not limited to: acts of God or the public enemy; expropriation or confiscation; compliance with any order of any governmental authority; changes in law; act of war, rebellion, terrorism or sabotage or damage resulting therefrom; fires, floods, explosions, accidents, riots; strikes or other concerted acts of workmen, whether direct or indirect; delays in permitting; OWNER's failure to provide data in OWNER's possession or provide necessary comments in connection with any required reports prepared by ENGINEER, or any other causes which are beyond the reasonable control of ENGINEER. ENGINEER's scheduled completion date shall be adjusted to account for any force majeure delay and ENGINEER shall be reimbursed by OWNER for all costs incurred in connection with or arising from a force majeure event, including but not limited to those costs incurred in the exercise of reasonable diligence to avoid or mitigate a force majeure event.

5.19 Waiver

Non-enforcement of any provision by either party shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Agreement.

5.20 Headings

The headings used in this Agreement are for general reference only and do not have special significance.

5.21 Subcontractors

ENGINEER may utilize such ENGINEER's Subcontractors as ENGINEER deems necessary to assist in the performance of its Services.

5.22 Coordination with Other Documents

It is the intention of the parties that if the ENGINEER's Services include design then the Standard General Conditions will be used as the General Conditions for the Project and that all amendments thereof and supplements thereto will be generally consistent therewith. Except as otherwise defined herein, the terms which have an initial capital letter in this Agreement and are defined in the Standard General Conditions will be used in this Agreement as defined in the Standard General Conditions. The term *"defective"* will be used in this Agreement as defined in the Standard General Conditions.

5.23 Purchase Order

Notwithstanding anything to the contrary contained in any purchase order or in this Agreement, any purchase order issued by OWNER to ENGINEER shall be only for accounting purposes for OWNER and the pre-printed terms and conditions contained on any such purchase order are not incorporated herein, shall not apply to this Agreement, and shall be void for the purposes of the Services performed by ENGINEER under this Agreement.

5.24 Dispute Resolution

In the event of any dispute between the parties arising out of or in connection with the contract or the services or work contemplated herein; the parties agree to first make a good faith effort to resolve the dispute informally. Negotiations shall take place between the designated principals of each party. If the parties are unable to resolve the dispute through negotiation within 45 days, then either party may give written notice within 10 days thereafter that it elects to proceed with non-binding mediation pursuant to the commercial mediation rules of the American Arbitration Association. In the event that mediation is not invoked by the parties or that the mediation is unsuccessful in resolving the dispute, then either party may submit the controversy to a court of competent jurisdiction. The foregoing is a condition precedent to the filing of any action other than an action for injunctive relief or if a Statute of Limitations may expire.

Each party shall be responsible for its own costs and expenses including attorneys' fees and court costs incurred in the course of any dispute, mediation, or legal proceeding. The fees of the mediator and any filing fees shall be shared equally by the parties.

ARTICLE 6 – DEFINITIONS

Whenever used in this Agreement the following terms have the meanings indicated which are applicable to both the singular and the plural.

6.1 Agreement

This Agreement between OWNER and ENGINEER for Professional Services including those exhibits listed in Article 7.

6.2 Constituent of Concern

Any substance, product, waste, or other material of any nature whatsoever (including, but not limited to, Asbestos, Petroleum, Radioactive Material, and PCBs) which is or becomes listed, regulated, or addressed pursuant to [a] the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq, ("CERCLA,,)l [b] the Hazardous Materials Transportation Act, 49 U.S.C. §§1801 et seq.; [c] the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA,,); [d] the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; [e] the Clean Water Act, 33 U.S.C. §v1251 et seq.; [f] the Clean Air Act, 42 U.S.C. §§7401 et seq.; and [g] any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

6.3 Construction Cost – ♦

The total cost to OWNER of those portions of the entire Project designed or specified by ENGINEER. Construction Cost does not include ENGINEER's compensation and expenses, the cost of land, rights-of-way, or compensation for or damages to properties, or OWNER's legal, accounting, insurance counseling or auditing services, or interest and financing charges incurred in connection with the Project or the cost of other services to be provided by others to OWNER pursuant to Article 3. Construction Cost is one of the items comprising Total Project Costs.

6.4 Constructor

Any person or entity (not including the Engineer, its employees, agents, representatives, and Consultants), performing or supporting construction activities relating to the Project, including but not limited to Contractors, Subcontractors, Suppliers, Owner's work forces, utility companies, other contractors, construction managers, testing firms, shippers, and truckers, and the employees, agents, and representatives of any or all of them.

6.5 Contractor - ♦

The person or entity with whom OWNER enters into a written agreement covering construction work to be performed or furnished with respect to the Project.

6.6 Documents

As applicable to the Services, the data, reports, drawings, specifications, record drawings and other deliverables, whether in printed or electronic media format, provided or furnished by ENGINEER to OWNER pursuant to the terms of this Agreement.

6.7 ENGINEER's Subcontractor.

A person or entity having a contract with ENGINEER to perform or furnish Services as ENGINEER's independent professional subcontractor engaged directly on the Project.

6.8 Reimbursable Expenses.

The expenses incurred directly in connection with the performance or furnishing of Services for the Project for which OWNER shall pay ENGINEER as indicated in Exhibit A.

6.9 Resident Project Representative - ♦

The authorized representative of ENGINEER who will be assigned to assist ENGINEER at the site during the Construction Phase. The Resident Project Representative will be ENGINEER's agent or employee and under ENGINEER's supervision. As used herein, the term Resident Project Representative includes any assistants of Resident Project Representative agreed to by OWNER. The duties and responsibilities of the Resident Project Representative are set forth in Exhibit B, "Duties, Responsibilities and Limitations of Authority of Resident Project Representative" ("Exhibit B").

6.10 Standard General Conditions - ♦

The Standard General Conditions of the Construction Contract (No.) of the Engineers Joint Contract Documents Committee.

6.11 Total Project Costs - ♦

The sum of the Construction Cost, allowances for contingencies, the total costs of design professional and related services provided by ENGINEER and (on the basis of information furnished by OWNER) allowances for such other items as charges of all other professionals and consultants, for the cost of land and rights-of-way, for compensation for or damages to properties, for interest and financing charges and for other services to be provided by others to OWNER under Article 3.

♦ This provision is applicable for projects where ENGINEER provides Design, Bidding and/or Construction Phase Services.

6.12 Work - ♦

The entire construction or the various separately identifiable parts thereof required to be provided under the Construction Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Construction Contract Documents.

ARTICLE 7 – EXHIBITS AND SPECIAL PROVISIONS

7.1 This Agreement is subject to the provisions of the following Exhibits which are attached to and made a part of the Agreement:

Exhibit A - Engineer's Services, Owner's Responsibilities, Time for Performance, Method of Payment, and Special Provisions

Exhibit B - Duties, Responsibilities and Limitations of Authority of the Resident Project Representative

This Agreement (consisting of Pages 1 to 10 inclusive), and the Exhibits identified above constitute the entire agreement between OWNER and ENGINEER and supersede all prior written or oral understandings. This Agreement may only be amended, supplemented, modified, or canceled by a duly executed written instrument.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement to be effective as of the date first above written.

OWNER:

_____

By: Christopher Clark
Title: Town Administrator

Date: _____

Address for giving notices:

732 Main Street
Harwich, MA 02645

ENGINEER:

_____

By: David F. Young
Title: Vice President

Date: _____

Address for giving notices:

75 State Street, Suite 701
Boston, MA 02109

♦ This provision is applicable for projects where ENGINEER provides Design, Bidding and/or Construction Phase Services.

SEWER PROGRAM ENGINEERING COST COMPARISON
DECEMBER 2016

CLIENT	TOTAL CONSTRUCTION COST[1] (EXCLUDING POLICING)	NUMBER OFCONSTRUCTION CONTRACTS	DESIGN ENGINEERING[2]		CONSTRUCTION ENGINEERING (GS/RE)[3]		TOTAL ENGINEERING	
			COST	% CONSTRUCTION	COST	% CONSTRUCTION	COST	% CONSTRUCTION
ANDOVER, MA	$27,008,042	6	$2,676,600	9.9%	$4,523,500	16.7%	$7,200,100	26.7%
DRACUT, MA	$46,557,676	12	$5,806,346	12.5%	$6,785,566	14.6%	$12,591,912	27.0%
TEWKSBURY, MA[4]	$77,808,792	15	$6,054,850	7.8%	$8,762,565	11.3%	$14,817,415	19.0%
WAREHAM, MA	$18,494,889	5	$1,777,949	9.6%	$3,091,255	16.7%	$4,869,204	26.3%
Proposed Harwich Phase 2	$17,680,000	3	$1,994,000	11.3%	$2,241,000	12.7%	$4,235,000	24.0%

(1) Harwich construction cost is an estimate; other construction costs are actual completed construction costs.

(2) Design engineering includes aerial photography, topographic mapping, field survey, subsurface drilling and geotechnical analysis, preliminary and final design, permitting, cost estimating, project management and meetings.

(3) Construction engineering includes construction administration (bidding, pre-construction conference, monthly progress meetings, shop drawing and submittal review, review of contractor payment applications, material testing, preparation of change orders, development of record drawings, etc.) and resident inspection services (observation of contractor's work to ensure compliance with Contract Documents).

(4) Tewksbury design cost includes field survey only; it does not include town-wide aerial photography and mapping that was completed previously.

Revised

EXHIBIT A
TO AGREEMENT BETWEEN
OWNER AND ENGINEER
FOR
DESIGN, BIDDING AND CONSTRUCTION PHASE SERVICES

SCOPE OF WORK

This is an exhibit attached to and made a part of the Agreement dated , 2017, between the Town of Harwich, Massachusetts (OWNER) and CDM Smith Inc. (ENGINEER) for professional services.

1.0 ENGINEER'S SERVICES

1.1 Design Phase

1.1.1 Prepare for incorporation in the Contract Documents final Drawings showing the scope, extent and character of the work to be performed and furnished by Contractor and Specifications (which will be prepared, where appropriate, in general conformance with the standards of the Construction Specifications Institute).

1.1.2 Provide technical criteria, written descriptions and design data for OWNER's use in filing applications for permits with or obtaining approvals of such governmental authorities as have jurisdiction to review or approve the final design of the Project, and assist OWNER in consultations with appropriate authorities.

1.1.3 Advise OWNER of any adjustments to the opinion of probable Construction Cost and any adjustments to Total Project Costs known to ENGINEER as a result of changes in scope, extent or character or design requirements of the Project.

1.1.4 Prepare for review and approval by OWNER, its legal counsel and other advisors, contract agreement forms, general conditions and supplementary conditions, and (where appropriate) bid forms, invitations to bid and instructions to bidders, and assist in the preparation of other related documents.

1.1.5 Furnish five copies of the above documents, Drawings and Specifications to and review them with OWNER.

1.1.6 ENGINEER's services under the Design Phase will be considered complete at the earlier of (1) the date when the submittals have been accepted by OWNER or (2) sixty (60) days after the date when such submittals are delivered to OWNER for final acceptance, plus in each case such additional time as may be considered reasonable for obtaining approval of governmental authorities having jurisdiction to approve the portions of the Project designed or specified by ENGINEER, if such approval is to be obtained during the Design Phase.

The duties and responsibilities of ENGINEER during the Design Phase as set forth in this paragraph 1.1 are amended and supplemented as follows:

TASK 1: SURVEY

ENGINEER shall procure a subcontractor to develop an aerial and utility survey of the Phase 2 project area as well as appropriate portions of the Phase 3 and 8 areas and oversee and coordinate all aspects of the subcontractor's work. Specific tasks will include:

A. Ground Control and Aerial Photography

1. Select the location of approximately 20 ground control points and install a suitable marker and aerial target.
2. On the earliest day of suitable flying weather after the targets have been placed and when ground is free of adverse snow cover and the deciduous trees are clear of leaves, obtain low-level color photography from an altitude of approximately 3,000 feet above mean terrain (AMT). Prepare one set of color contract prints for ground control purposes, scan the film and provide the images in digital format.
3. Undertake research to obtain copies of benchmarks established by the Massachusetts Geodetic Survey (MGS) within, or immediately adjacent to, the project limits.
4. Perform GPS observations using Trimble R8 and/or R10 GNSS geodetic receivers. The horizontal datum will be the North American Datum of 1983 (NAD83) and the vertical datum will be the North American Vertical Datum of 1988 (NAVD88).
5. Following the successful acquisition of the aerial photography and ground control survey, remove the aerial targets.

B. Topographic Mapping

1. Undertake analytical aerial triangulation (AAT) to supplement the ground control survey.
2. Prepare topographic mapping at a scale of 1„=40' with 2-foot contours generated from a digital terrain model (DTM) of a 200-foot wide band centered on each street. The total distance to be mapped is approximately 60,000 linear feet. The details to be shown shall include roads, driveways, sidewalks, buildings, structures, bridges, fences, walls, mail boxes, visible utility structures, parking areas, road markings, signs, drainage features, isolated trees and wooded areas. Property lines will be obtained from assessor's maps and will be digitized into the mapping files.

C. Supplemental Field Surveys

1. Perform field surveys that will be based on the control network described in Task 1A using Trimble electronic total station instruments and/or GPS receivers to locate surface evidence of utility structures and features, including manholes, catch basins, culverts, in-line water and gas valves, rim elevations of drainage structures and to obtain sill elevations of buildings in the project area. Utility poles and other critical features not visible on the aerial photography will also be located. Generally, service valves for water and gas mains will not be located as part of this survey. In addition, invert elevations will be determined by direct field measurement for the drainage structures and pipelines. Temporary benchmarks will be established within the project limits at approximately 500-foot intervals.
2. Perform a field edit walk-through to identify pavement and curb types within the limits of the project and to annotate house numbers and type (whether house has walk out basement), fence and wall types, utility pole numbers and street signage information.
3. Undertake research to obtain information concerning the location, size and material of private and municipal utilities (including gas, electric, telephone, water and drain). Compile the location of underground utilities based on surface evidence and available record drawings.
4. Amend the topographic survey plan to depict the data collected in the Supplemental Field Survey and utility research.

TASK 2: PRELIMINARY DESIGN

ENGINEER shall complete Preliminary Design activities for Phase 2 of the OWNER's proposed Wastewater Collection System as presented in the Comprehensive Wastewater Master Plan (CWMP). The proposed Phase 2 collection system consists of approximately 48,000 linear feet of gravity sewers;

12,000 linear feet of force main; 3,200 linear feet of pressure sewers; and 6 pumping stations. The intent of the Preliminary Design activities is to further refine the conceptual Phase 2 collection system presented in the CWMP and to obtain approval of sewer system types and locations from OWNER and project stakeholders prior to proceeding with Final Design. Locating sewers in-street versus off-street shall be considered. Specific tasks will include:

A. Wastewater Collection System

1. Confirm wastewater flow estimates for the Phase 2 area and adjacent areas (Phase 3 and a portion of Phase 8) that will eventually flow into the Phase 2 area in the future. This will include confirming water use values utilized in the Massachusetts Estuaries Project (MEP) reports for existing and build-out conditions and reviewing with OWNER any modifications to the buildout condition based on recent/ongoing zoning changes and market analyses in those areas.
2. Estimate a flow component for infiltration and inflow (I/I) to include in the total flow collected in the sewer services areas. This estimate will take into account the type of sewer system being proposed in each area, known depth of groundwater and pipe material proposed.
3. Confirm conceptual pipe routes in the Phase 2 sewer service area for gravity sewers, pressure sewers and force mains presented in the CWMP based on topographic survey obtained in Task 1. This includes preparing up to two alternative sewer layouts to serve the East Harwich Village Commercial District (Route 137 and Route 39 intersection) to minimize disturbance to the roadway reconstruction work recently completed in this area. Using flow estimates that include zoning changes considered in long term planning developed in Task 2A.1 and estimates of future I/I developed in Task 2A.2, confirm conceptual pipe sizes for the Phase 2 sewer service area presented in the CWMP. This includes accounting for future connections of Phase 3 and a portion of Phase 8.
4. Using base mapping obtained in Task 1, develop preliminary plan view sewer design drawings in AutoCAD of the collection system (gravity, pressure and force mains) for the Phase 2 area at a scale of 1„=40'. Sewer profiles will not be prepared as part of this task. Potential easements will also be identified based on the preliminary plan.
5. Based on the preliminary layout developed, evaluate and make recommendations on whether Phase 2 should be bid as one construction contract or several contracts. If the recommendation is for multiple contracts, provide a delineation of the contracts.
6. Develop geotechnical program to determine the number and location of soil borings for the Phase 2 area. Proposed locations will be shown on the plan view drawings. Note that Massachusetts Department of Environmental Protection (MassDEP) State Revolving Fund (SRF) Loan program requires borings to be drilled every 300 feet along pipeline routes. The geotechnical program will be implemented under Task 3 after the proposed sewer profiles have been developed in order to determine appropriate drilling depths.
7. Review the proposed preliminary collection system layout to determine applicable permitting requirements for the Phase 2 area and develop a timeline for permit submissions. For natural resource permitting, the existing conditions mapping obtained under Task 1 will be used to identify any potential wetland resource areas located within close proximity of the proposed Phase 2 pipelines and pumping stations. A formal wetlands delineation will not be performed during this task; however, approximate wetland locations based on a review of available information and a site visit by a wetlands specialist will be evaluated and included in the permitting analysis. The permitting review will also include identification of any cultural permitting issues, including historical and archaeological requirements. Permits to be considered include, but are not limited to, Order of Conditions from the Harwich Conservation Commission; Project Notification Form to Massachusetts Historical Commission; Cape Cod Commission Development of Regional Impact conditions; and Massachusetts Department of Transportation Highway Division (MassDOT) Permit to Access State Highway. Additionally, SRF Project Evaluation Form (PEF) and Loan Application submittals which are required for the SRF

program will be included in the timeline.

8. Provide input as requested to the Town of Chatham pumping station (PS6) and force main designs being prepared by others so that appropriate information is provided to accommodate the OWNER's wastewater flows.

B. Wastewater Pumping Stations

1. Evaluate potential locations for Phase 2 pumping stations identified in the CWMP. Location siting criteria will include preference for Town-owned parcels, hydraulics, proximity to wetlands, flood vulnerability, ease of access for construction and for future maintenance, distance to nearest receptors and other pertinent criteria based on discussions with the OWNER. Identify easement requirements for Phase 2 pumping station sites on privately owned parcels, as necessary.
2. Once appropriate parcels are selected, each pumping station will be sized and preliminary plan view layouts will be developed based on estimated flows. Pumping stations will be submersible stations with above ground electrical controls and standby power. Depending on the size and location of each station, the above ground components may be enclosed in a small pre-engineered concrete structure based on discussions with the OWNER. Consideration will be given to utilizing pumping stations similar to those utilized in the Chatham sewer system to ease future maintenance requirements. Final decision will be made with OWNER once final locations are identified.
3. Develop geotechnical program for the selected Phase 2 pumping station sites. Proposed locations will be shown on the site layout drawings. The geotechnical program will be implemented under Task 3.
4. Pumping station structures, where determined to be appropriate, will be evaluated for structural, architectural, HVAC, electrical, instrumentation and control (I&C), degree of odor control, flood protection, maintenance and access requirements.

C. Technical Memorandum and Cost Estimate

1. Prepare a Technical Memorandum that summarizes the results of the activities performed under Tasks 2A and 2B and presents the layout and types of the recommended Phase 2 collection system pipelines and pumping stations.
2. Prepare updated cost estimate for Phase 2 construction based on the preliminary layout of the collection system. The opinion of probable construction cost estimate will be developed based on comparable publicly bid projects and will include provisions for site-specific issues as well as appropriate contingencies.

D Project Management and Meetings

1. Provide overall management of all aspects of the Preliminary Design to maintain scope, schedule, budget, staffing, quality assurance, invoicing, etc.
2. Conduct periodic coordination meetings with the OWNER to review project status and obtain input and feedback as necessary. Prepare and distribute agenda and meeting minutes to document issues discussed and decisions made during the meetings.
3. Conduct site visits with OWNER to evaluate and finalize locations for pumping stations and cross country sewer routes, as necessary.
4. Conduct a community meeting to present the recommended preliminary design and receive feedback on that proposed plan as well as educate the residents on the program.

TASK 3: FINAL DESIGN

ENGINEER shall complete the Final Design for Phase 2 of the OWNER's proposed Wastewater Collection System based on the Preliminary Design prepared under Task 2, as approved by the OWNER. It is assumed that the Phase 2 collection system will consist of approximately 48,000 linear feet of

gravity sewers; 12,000 linear feet of force main; 3,200 linear feet of pressure sewers; and 6 pumping stations. The intent of the Final Design is to prepare final plans and specifications suitable for bidding and construction of the Phase 2 collection system. Specific tasks will include:

A. Subsurface Investigations

1. Implement subsurface investigation program consisting of borings along the proposed pipeline routes and at pumping station locations. ENGINEER will mark the borings in the field approximately every 300 linear feet along the pipeline routes. Two borings will also be located at each of the six (6) pumping station sites. One groundwater monitoring well will be installed at each proposed pumping station location.
2. Procure a qualified subcontractor to perform the drilling. Subcontractor will obtain all required permits (with the exception of the MassDOT permit, as discussed in Task 3B below) and notify DIGSAFE prior to drilling. Approximately one-third of the pipeline borings will be advanced using casing; two-thirds will utilize high-speed augers. All of the borings at the pumping station locations will utilize casing. Split spoon samples will be collected at 5-foot intervals, with representative soil samples from each split spoon collected for subsequent review and laboratory testing, as appropriate.
3. Provide part-time inspection of the pipeline drilling program, as necessary. An allowance for one day of inspection per week of drilling pipeline borings has been included in this Task. ENGINEER shall provide full-time inspection during drilling of the pumping station borings.
4. Perform appropriate laboratory testing of soil samples collected during the drilling program to determine physical soil characteristics. Testing will include grain size analyses, Atterberg Limits and organic content. The purpose of this testing is to assist with soil classification, to assign soil parameters for use in engineering analyses and to assess the reuse potential of the soils to be excavated. Environmental sampling/testing is not included in this Agreement.
5. Review soil samples, boring logs and laboratory testing results and provide geotechnical recommendations related to pipeline and pumping station design and construction. Issues to be evaluated include pumping station foundations, pipeline subgrade and bedding, backfill materials, excavation support systems, dewatering and protection of adjacent structures.
6. Costs for police details required during performance of the drilling program shall be paid directly by the OWNER and are not part of this Agreement.

B. Permitting/SRF Submittals

ENGINEER shall prepare and submit the following permit applications for the Phase 2 collection system, as appropriate:

1. Wetlands Protection Act, Notice of Intent, to the Harwich Conservation Commission. Work shall include field delineation of state wetland resource areas in the vicinity of the pipelines and pumping stations, field location of wetland flags by either field survey or GPS coordinates, notification of abutters and attendance at up to two Conservation Commission public hearings or meetings with the Conservation Agent for each construction contract. Based on the conceptual layout of the Phase 2 collection system presented in the CWMP, it is anticipated that pipeline and pumping station construction will not occur in wetland resource areas and will be limited to buffer zones.
2. Application for Permit to Access State Highway to MassDOT for the proposed boring program and pipeline construction in Routes 39 and 137. Prepare separate permit applications for borings and sewer construction, including traffic management plans as required and attend up to two meetings with MassDOT District 5 representatives. An allowance for preparation of three typical cross sections of the impacted roadways showing existing grades and utilities along the proposed pipeline route has been included in this

Task. This Agreement does not include preparation of cross sections at 50-foot intervals along the pipeline route in State Highway.

3. Coordination with Massachusetts Historical Commission (MHC) regarding proposed locations of pumping stations and pipeline routes. Archaeological investigations (test pits) are not included as part of this Agreement as it is assumed that all pipelines will be within roadways.
4. SRF Project Evaluation Form (PEF) and Application for Financial Assistance through the Clean Water SRF Program with DEP. It is anticipated that one combined application will be submitted for the Phase 2 collection system. Additionally, ENGINEER shall submit 90 percent complete plans and specifications to DEP for review prior to bidding. ENGINEER will also provide information to Town of Chatham representatives for their SRF PEF and application for the common pumping station (PS6) and force main.
5. Massachusetts Environmental Policy Act (MEPA) approval has already been obtained for the overall sewer program as part of the CWMP process.
6. Based on the conceptual layout presented in the CWMP, it is assumed that Chapter 401 Water Quality Certification and US Army Corps of Engineers Section 404 Permits are not required for the Phase 2 collection system and have not been included in this Agreement. Sewer Extension Permits are also not required assuming that Phase 2 proceeds under the SRF program, which provides for a waiver of Sewer Extension Permits based on DEP review of the proposed plans and specifications.
7. Submit the preliminary design to the Cape Cod Commission per the Development of Regional Impact Record of Decision (8-18-16) Condition C5 to receive a Certificate of Compliance for the Phase 2 program. Address any comments received in consultation with the OWNER prior to Final Design.

C. Final Plans and Specifications

1. Prepare final design drawings in electronic format using AutoCAD Civil 3D 2015. Plans and profiles will be prepared for all the proposed pipelines at a scale of 1„=40' horizontal and 1„=4' vertical. Plans and profiles will include unique numbering for each manhole along with pipe sizes and materials. Profiles will include pipe sizes, materials, slope and length of each segment of pipeline. It is anticipated that approximately 75 design sheets will be needed to depict the proposed pipelines in the Phase 2 collection system. The drawings will also include a cover sheet, locus plan, legend/general notes and details sheets for each individual construction contract in Phase 2.
2. Prepare final design drawings for the six (6) proposed pumping stations in Phase 2. The pumping stations will be submersible, prepackaged pumping stations consisting of precast concrete wet wells and valve vaults or as otherwise determined in Task 2. Depending on the size and final selected location, some of the stations may have pre-engineered, prefabricated superstructures/buildings on cast-in-place slabs on grade to house the electrical equipment and controls, emergency generator, HVAC equipment and odor control system. The superstructures/buildings will have vinyl or wood shingle exterior siding, sloped roofs with asphalt shingle roofing and will be landscaped to blend in to the surrounding area. Design of the pumping stations will include:
    a. Mechanical
        i. Design pumping systems incorporating future projected flow rates, force main flow and head conditions, pump efficiency and pump cycle times.
        ii. Design layout of precast concrete wet well and valve vaults.
        iii. Perform detailed hydraulic analysis of pumping stations and force mains to determine if anticipated pressure surges will require protection in the future and design appropriate surge protection measures, if required.
        iv. Determine required capacity of standby emergency generators and transfer switches.

b. Civil/Site
    i. Design temporary construction measures to control erosion and sedimentation.
    ii. Design site grading and improvements, including drainage, pavement, driveways and parking, landscaping features, fencing and site lighting.
c. Structural
d. Architectural
    i. Prepare specifications for pre-engineered concrete superstructures, if required.
e. Electrical
    i. Define electrical power requirements to provide reliable service for each pumping station.
    ii. Design of all required electrical equipment including variable frequency drives and/or reduced voltage starters, if required.
f. Instrumentation and Controls (I&C)
    i. Define pump controls, instrumentation, monitoring and alarm requirements for each pumping station
    ii. Conduct radio survey to assist in design of I&C system to allow monitoring of the pumping stations from a central location.
g. Heating, Ventilation and Air Conditioning (HVAC)
h. Odor Control
    i. Design of carbon odor control systems for each pumping station, as necessary.

3. Prepare technical specifications and contract documents suitable for bidding the construction contracts for installation of the Phase 2 collection system. Construction Specifications Institute (CSI) 16 Division Format specification system will be used. Contract documents will include requirements necessary for SRF projects.
4. Prepare easement plans suitable for filing at the Registry of Deeds for up to six (6) pumping station sites only. Preparation of easement plans for pipelines are not included in this Agreement. It is assumed that all pipelines will be within Town rights-of-way or on Town-owned property. Preparation of easement plans for pipelines, if needed, would be the subject of a future amendment to this Agreement.

D. Construction Cost Estimate

1. Prepare a final opinion of probable construction costs for each of the construction contracts prior to bidding. Construction cost estimates will be based on comparable publicly bid projects and will include provisions for site specific issues as required by permits, subsurface conditions and any extraordinary construction requirements identified during Final Design.

E. Project Management and Meetings

1. Provide overall project management of all aspects of Final Design of the Phase 2 system on a daily basis to maintain project scope, schedule, budget, staffing, quality assurance, etc.
2. Implement ENGINEER's quality assurance/quality control program on all aspects of the Phase 2 design to ensure appropriate internal review of project deliverables.
3. Prepare monthly project invoices and appropriate supporting documentation.
4. Schedule and attend up to twelve (12) regular monthly design progress meetings with OWNER to discuss Phase 2 design status, issues and milestones. Prepare and distribute agenda and meeting minutes to document issues discussed and decisions made during the progress meetings.
5. Assist the OWNER with public relations coordination for the project and attend up to two

(2) public meetings for Phase 2, as necessary.

6. Prepare a project schedule for OWNER to post on town website.

1.2 Bidding Phase **(To Be Authorized)**

After acceptance by OWNER of the ENGINEER's Drawings, Specifications and other Design Phase documentation (including the most recent opinion of probable Construction Cost), and upon written authorization to proceed, ENGINEER shall:

1.2.1 Assist OWNER in advertising for and obtaining bids or negotiating proposals for the contract for construction, materials, equipment and services; and, where applicable, maintain a record of prospective bidders to whom Bidding Documents have been issued, attend pre-bid conferences, if any, and receive and process deposits for Bidding Documents.

1.2.2 Issue Addenda as appropriate to clarify, correct, or change the Bidding Documents.

1.2.3 Consult with OWNER as to the acceptability of subcontractors, suppliers and other persons and entities proposed by Contractor for those portions of the work as to which such acceptability is required by the Bidding Documents.

1.2.4 Attend the bid opening, prepare bid tabulation and assist OWNER in evaluating bids and in assembling and awarding contracts for construction, materials, equipment and services.

1.2.5 The Bidding Phase will terminate and the Services to be performed or furnished thereunder will be considered complete upon commencement of the Construction Phase or upon cessation of negotiations with prospective Contractors.

The duties and responsibilities of ENGINEER during the Bidding Phase as set forth in this paragraph 1.2 are amended and supplemented as follows:

Bidding Phase (Paragraph 1.2) – Work under this Paragraph 1.2 shall require an amendment to fund this effort and a Notice to Proceed to begin the Work.

TASK 4: BIDDING

ENGINEER shall perform all work described in Paragraph 1.2, print all required plans and specifications and manage the distribution to prospective bidders for all Phase 2 construction contracts. ENGINEER will provide up to 30 sets of plans and specifications for each contract.

1.3 Construction Phase **(To Be Authorized)**

During the Construction Phase:

1.3.1 General Administration of Construction Contract.

ENGINEER shall consult with and advise OWNER and act as OWNER's representative as provided in the Standard General Conditions. The extent and limitations of the duties, responsibilities and authority of ENGINEER as assigned in said Standard General Conditions shall not be modified, except to the extent provided herein. All of OWNER's instructions to Contractor will be issued through ENGINEER who shall have authority to act on behalf of OWNER in dealings with Contractor to the extent provided in this Agreement and said Standard General Conditions except as otherwise provided in writing.

1.3.2 Visits to Site and Observation of Construction.

In connection with observations of the work of Contractor while in progress:

1.3.2.1 ENGINEER shall make visits to the site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an

experienced and qualified design professional the progress and quality of the various aspects of Contractor's work. In addition, ENGINEER shall provide the services of a Resident Project Representative at the site to assist ENGINEER and to provide more continuous observations of such work. The furnishing of such Resident Project Representative services will not extend ENGINEER's responsibilities or authority beyond the specific limits set forth elsewhere in this paragraph 1.3. Such visits and observations by ENGINEER and the Resident Project Representative are not intended to be exhaustive or to extend to every aspect of the work in progress, or to involve detailed inspections of the work beyond the responsibilities specifically assigned to ENGINEER in this Agreement and the Contract Documents, but rather are to be limited to spot checking, selective sampling and similar methods of general observation of the work based on ENGINEER's exercise of professional judgment as assisted by the Resident Project Representative. Based on information obtained during such visits and such observations, ENGINEER shall endeavor to determine in general if such work is proceeding in accordance with the Contract Documents and ENGINEER shall keep OWNER informed of the progress of the work. The responsibilities of ENGINEER contained in this paragraph are expressly subject to the limitations set forth in paragraph 1.3.2.2 and other express or general limitations in this Agreement and elsewhere.

1.3.2.2 The purpose of ENGINEER's visits to and representation by the Resident Project Representative at the site will be to enable ENGINEER to better carry out the duties and responsibilities assigned to and undertaken by ENGINEER during the Construction Phase, and, in addition, by the exercise of ENGINEER's efforts as an experienced and qualified design professional, to provide for OWNER a greater degree of confidence that the completed work of Contractor will conform in general to the Contract Documents and that the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents has been implemented and preserved by Contractor. On the other hand, ENGINEER shall not, during such visits or as a result of such observations of Contractor's work in progress, supervise, direct or have control over Contractor's work nor shall ENGINEER have authority over or responsibility for the means, methods, techniques, sequences or procedures of construction selected by Contractor, for safety precautions and programs incident to the work of Contractor or for any failure of Contractor to comply with laws, rules, regulations, ordinances, codes or orders applicable to Contractor's furnishing and performing the work. Accordingly, ENGINEER neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure to furnish and perform its work in accordance with the Contract Documents.

1.3.2.3 Duties, Responsibilities and Authority of the Resident Project Representative are set forth in Exhibit B.

1.3.3 Defective Work.

During such visits and on the basis of such observations, ENGINEER shall have authority to disapprove of or reject Contractor's work while it is in progress if ENGINEER believes that such work will not produce a completed Project that conforms generally to the Contract Documents or that it will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents.

1.3.4 Clarifications and Interpretations; Field Orders.

ENGINEER shall issue necessary clarifications and interpretations of the Contract Documents as appropriate to the orderly completion of the work. Such clarifications and interpretations will be consistent with the intent of and reasonably inferable from the Contract Documents.

ENGINEER may issue Field Orders authorizing minor variations from the requirements of the Contract Documents.

1.3.5 Change Orders and Work Change Directives.
ENGINEER shall recommend Change Orders and Work Change Directives to OWNER as appropriate, and shall prepare Change Orders and Work Change Directives as required.

1.3.6 Shop Drawings
ENGINEER shall review and approve (or take other appropriate action in respect of) Shop Drawings and Samples and other data which Contractor is required to submit, but only for conformance with the information given in the Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated in the Contract Documents. Such reviews and approvals or other action will not extend to means, methods, techniques, sequences or procedures of construction or to safety precautions and programs incident thereto.

1.3.7 Substitutes
ENGINEER shall evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by Contractor. However, services in making revisions to Drawings and Specifications occasioned by the acceptance of substitute materials or equipment other than "or-equal,, items; and services after the award of the construction contract in evaluating and determining the acceptability of a substitute which is appropriate for the Project or an excessive number of substitutes will only be performed pursuant to an amendment to this Agreement for additional compensation.

1.3.8 Inspections and Tests.
ENGINEER may require special inspections or tests of the work, and shall receive and review all certificates of inspections, tests and approvals required by laws, rules, regulations, ordinances, codes, orders or the Contract Documents. ENGINEER's review of such certificates will be for the purpose of determining that the results certified indicate compliance with the Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests or approvals comply with the requirements of the Contract Documents. ENGINEER shall be entitled to rely on the results of such tests.

1.3.9 Disagreements between OWNER and Contractor
ENGINEER shall render the initial decisions on all claims of OWNER and Contractor relating to the acceptability of the work or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of the work. In rendering such decisions, ENGINEER shall be fair and not show partiality to OWNER or Contractor and shall not be liable in connection with any decision rendered in good faith in such capacity.

1.3.10 Applications for Payment.
Based on ENGINEER's on-site observations as an experienced and qualified design professional and on review of Applications for Payment and the accompanying data and schedules:

1.3.10.1 ENGINEER shall determine the amounts that ENGINEER recommends Contractor be paid. Such recommendations of payment will be in writing and will constitute ENGINEER's representation to OWNER, based on such observations and review, that, to the best of ENGINEER's knowledge, information and belief, the work has progressed to the point indicated, the quality of such work is generally in accordance with the Contract Documents (subject to an evaluation of such work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents and to any other qualifications stated in the recommendation), and the conditions precedent to

Contractor's being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER's responsibility to observe the work. In the case of unit price work, ENGINEER's recommendations of payment will include final determinations of quantities and classifications of such work (subject to any subsequent adjustments allowed by the Contract Documents). The responsibilities of ENGINEER contained in paragraph 1.3.10.1 are expressly subject to the limitations set forth in paragraph 1.3.10.2 and other express or general limitations in this Agreement and elsewhere.

1.3.10.2 By recommending any payment ENGINEER shall not thereby be deemed to have represented that on-site observations made by ENGINEER to check the quality or quantity of Contractor's work as it is performed and furnished have been exhaustive, extended to every aspect of the work in progress, or involved detailed inspections of the work beyond the responsibilities specifically assigned to ENGINEER in this Agreement and the Contract Documents. Neither ENGINEER's review of Contractor's work for the purposes of recommending payments nor ENGINEER's recommendation of any payment (including final payment) will impose on ENGINEER responsibility to supervise, direct or control such work or for the means, methods, techniques, sequences or procedures of construction or safety precautions or programs incident thereto, or Contractor's compliance with laws, rules, regulations, ordinances, codes or orders applicable to Contractor's furnishing and performing the work. It will also not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or to determine that title to any of the work, materials or equipment has passed to OWNER free and clear of any liens, claims, security interests or encumbrances, or that there may not be other matters at issue between OWNER and Contractor that might affect the amount that should be paid.

1.3.11 Contractor's Completion Documents.
ENGINEER shall receive, review and transmit to OWNER with written comments maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance required by the Contract Documents, certificates of inspection, tests and approvals, and marked-up record documents (including Shop Drawings, Samples and other data approved as provided under paragraph 1.3.6 and marked-up record Drawings) which are to be assembled by Contractor in accordance with the Contract Documents to obtain final payment. ENGINEER's review of such documents will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

1.3.12 Substantial Completion
Following notice from Contractor that Contractor considers the entire work ready for its intended use, ENGINEER and OWNER, accompanied by Contractor, shall conduct an inspection to determine if the work is substantially complete. If after considering any objections of OWNER, ENGINEER considers the work substantially complete, ENGINEER shall deliver a certificate of Substantial Completion to OWNER and Contractor.

1.3.13 Final Notice of Acceptability of the Work.
ENGINEER shall conduct a final inspection to determine if the completed work of Contractor is acceptable so that ENGINEER may recommend, in writing, final payment to Contractor. Accompanying the recommendation for final payment, ENGINEER shall indicate that the work is acceptable (subject to the provisions of paragraph 1.3.10.2) to the best of ENGINEER's knowledge, information and belief and based on the extent of the services performed and furnished by ENGINEER under this Agreement.

1.3.14 Limitation of Responsibilities.
ENGINEER shall not be responsible for the acts or omissions of any Contractor, or of any subcontractor, any supplier, or of any other person or organization performing or furnishing any of the work. ENGINEER shall not be responsible for Contractor's failure to perform or furnish the work in accordance with the Contract Documents.

1.3.15. Duration of Construction Phase.
The Construction Phase will commence with the execution of the construction contract for the Project or any part thereof and will terminate upon written recommendation by ENGINEER of final payment.

The duties and responsibilities of ENGINEER during the Construction Phase as set forth in this paragraph 1.3 are amended and supplemented as follows:

Construction Phase (Paragraph 1.3) – Work under this Paragraph 1.3 shall require an amendment to fund this effort and a Notice to Proceed to begin the Work.

TASK 5: CONSTRUCTION ADMINISTRATION

ENGINEER shall perform Construction Administration duties for the duration of the construction phase of the Phase 2 collection system as specified in Paragraph 1.3 and as follows:

A. *Pre-construction Conference* – ENGINEER will attend one pre-construction conference meeting with the OWNER and the Contractor for each Phase 2 construction contract.

B. *Monthly Progress Meetings* – ENGINEER will attend monthly construction progress meetings with the OWNER and the Contractor to review the construction schedule and update the OWNER on the status of the project.

C. *Shop Drawing and Submittal Review and Approval* – ENGINEER will review all submittals and shop drawings and respond to Requests for Information as needed. It is anticipated that shop drawings will be reviewed a maximum of two times.

D. *Review of Payment Applications* – ENGINEER will review Contractor payment applications for accuracy, correctness as compared to the Contract Documents and consistency with work actually completed and accepted to date.

E. *Prepare Change Orders* – ENGINEER will prepare change orders as needed throughout the construction phase of the project.

F. *Develop Record Drawings* – ENGINEER will prepare and submit to the OWNER, one complete set of record drawings documenting the actual location of constructed facilities. The ENGINEER will submit both hard copy and electronic versions of the record drawings.

TASK 6: RESIDENT INSPECTION

ENGINEER shall provide one Resident Project Representative for the duration of the construction phase of the Phase 2 collection system in accordance with Exhibit B to this Agreement. These services will terminate on the construction contract completion date.

2.0 OWNER'S RESPONSIBILITIES

2.1 Furnish to ENGINEER, as requested by ENGINEER for performance of Services as required by the Contract Documents, the following:

2.1.1 Data prepared by or services of others, including without limitation explorations and tests of subsurface conditions at or contiguous to the site, drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site, or hydrographic surveys;

2.1.2 The services of an independent testing laboratory to perform all inspections, tests and approvals of samples, materials and equipment;

2.1.3 Appropriate professional interpretation of all of the foregoing;

2.1.4 Environmental assessments, audits, investigations and impact statements, and other relevant environmental or cultural studies as to the Project, the site and adjacent areas;

2.1.5 Field surveys for design purposes and property, boundary, easement, right-of-way, topographic and utility surveys or data, including relevant reference points;

2.1.6 Property descriptions;

2.1.7 Zoning, deed and other land use restrictions; and

2.1.8 Other special data or consultations not covered in Article 2.

OWNER shall be responsible for, and ENGINEER may rely upon, the accuracy and completeness of all reports, data and other information furnished pursuant to this paragraph. ENGINEER may use such reports, data and information in performing or furnishing services under this Agreement.

2.2 Provide, as required by the Contract Documents, engineering surveys and staking to enable Contractor to proceed with the layout of the work, and other special field surveys.

2.3 Provide access to and make all provisions for ENGINEER to enter upon public and private property as required for ENGINEER to perform services under this Agreement.

2.4 Examine all alternate solutions, studies, reports, sketches, Drawings, Specifications, proposals and other documents presented by ENGINEER (including obtaining advice of an attorney, insurance counselor and other consultants as OWNER deems appropriate with respect to such examination) and render in writing decisions pertaining thereto.

2.5 Provide, as may be required for the Project:

2.5.1 Accounting, bond and financial advisory, independent cost estimating and insurance counseling services;

2.5.2 Such legal services as OWNER may require or ENGINEER may reasonably request with regard to legal issues pertaining to the Project, including any that may be raised by Contractor; and

2.5.3 Such auditing services as OWNER may require to ascertain how or for what purpose Contractor has used the moneys paid on account of the Contract Price.

2.6 Provide such inspection or monitoring services by an individual or entity other than ENGINEER as OWNER may desire to verify:

2.6.1 That Contractor is complying with any law, rule, regulation, ordinance, code or order applicable to Contractor's performing and furnishing the work; or

2.6.2 That Contractor is taking all necessary precautions for safety of persons or property and

complying with any special provisions of the Contract Documents applicable to safety.

ENGINEER does not undertake in this Agreement to perform the services referred to in 2.6.1 and 2.6.2 above. The identity of any individual or entity employed to perform such services and the scope of such services will be disclosed to ENGINEER.

2.7 Advise ENGINEER of the identity and scope of services of any independent consultants employed by OWNER to perform or furnish services in regard to the Project, including, but not limited to, Construction Management, Cost Estimating, Project Peer Review, Value Engineering, and Constructability Review. If OWNER designates a person or entity other than, or in addition to, ENGINEER to represent OWNER at the site, OWNER shall define and set forth in an exhibit that is to be mutually agreed upon and attached to and made a part of this Agreement before such services begin, the duties, responsibilities and limitations of authority of such other party and the relation thereof to the duties, responsibilities and authority of ENGINEER.

2.8 If more than one prime contract is to be awarded for work designed or specified by ENGINEER, designate a person or entity to have authority and responsibility for coordinating the activities among the various prime contractors, and define and set forth the duties, responsibilities and limitations of authority of such person or entity and the relation thereof to the duties, responsibilities and authority of ENGINEER in an exhibit that is to be mutually agreed upon and attached to and made a part of this Agreement before such services begin.

2.9 Furnish to ENGINEER data or estimated figures as to OWNER's anticipated costs for services to be provided by others for OWNER and other costs so that ENGINEER may make the necessary calculations to develop and periodically adjust ENGINEER's opinion of Total Project Costs.

2.10 Attend the pre-bid conference, bid opening, pre-construction conferences, construction progress and other job-related meetings and Substantial Completion and final payment inspections.

2.11 Provide labor and safety equipment to open and protect manholes and/or to operate valves and hydrants as required by the ENGINEER.

2.12 Bear all costs incident to compliance with the requirements of the OWNER's Responsibilities.

2.13 Identify in writing to ENGINEER the name of OWNER representative that is authorized to provide day-to-day direction to ENGINEER during the project on behalf of the OWNER.

3.0 TIME PERIOD FOR PERFORMANCE

The time periods for the performance of ENGINEER's services as set forth in Article 2 of said Agreement are as follows:

ENGINEER shall proceed with performance of the services described herein immediately upon authorization from OWNER and will complete the services for Tasks 1, 2 and 3 within 24 months unless extended by agreement between OWNER and ENGINEER.

Tasks 4, 5 and 6 shall be authorized in writing by OWNER after scope and budget have been confirmed based on completion of above tasks.

4.0 METHOD OF PAYMENT

The method of payment for Services rendered by ENGINEER shall be as set forth below:

For services performed under Article 1 and described in Paragraph 1.0, Tasks 1 through 3, OWNER agrees to pay ENGINEER an amount not to exceed $1,994,000.

The OWNER agrees to pay the ENGINEER for work done by its personnel on the basis of direct labor cost times a factor of 2.95. Direct labor cost is defined as chargeable salaries without fringe benefits as incurred by ENGINEER's personnel for the time directly utilized on the work covered by this Agreement.

The OWNER also agrees to pay the ENGINEER for actual out-of-pocket expense costs other than direct labor costs that are incurred during the progress of the work. Actual out-of-pocket costs include: automobile rental if required, mileage charges, parking, tolls, taxi, meals, lodging, telephone, printing and reproduction costs and other miscellaneous costs incurred specifically for this project. The charges for rental of field equipment will be at the ENGINEER's regular rates.

For work done by subcontract or consultants, the OWNER agrees to pay the ENGINEER the actual cost to the ENGINEER of such services plus 5 percent of the cost of such services.

Tasks 4, 5 and 6 are not authorized at this time and will be added by written Amendment at a future date.

The project budget for services described in Paragraph 1.0 are provided herein for informational purposes only and are as follows:

Professional Design, Bidding and Construction Phase Services

Authorized:	
Task 1 – Survey	$204,000
Task 2 – Preliminary Design	$198,000
Task 3 – Final Design	$1,592,000
Subtotal	$1,994,000
Not Authorized:	
Task 4 – Bidding	TBD
Task 5 – Construction Administration	TBD
Task 6 – Resident Inspection	TBD
Subtotal	TBD
TOTAL:	$1,994,000

TBD = To Be Determined

ENGINEER will submit to OWNER for approval a proposed payment schedule to be used by OWNER for borrowing purposes.

The ENGINEER is not responsible to provide services, the cost of which if filled in accordance with the terms of this Agreement would exceed the upper limit, unless authorized by the OWNER in writing and an increase in funds is made available. In no event shall ENGINEER bill in excess of the above figure without written authorization from the OWNER.

If any changes to the scope of work for this project occur or are requested by OWNER or result from regulatory agency comments or actions, ENGINEER will immediately notify OWNER. Any such changes that would require additional funds shall not be conducted until OWNER and ENGINEER have agreed to an

Amendment to this Agreement.

5.0 SPECIAL PROVISIONS

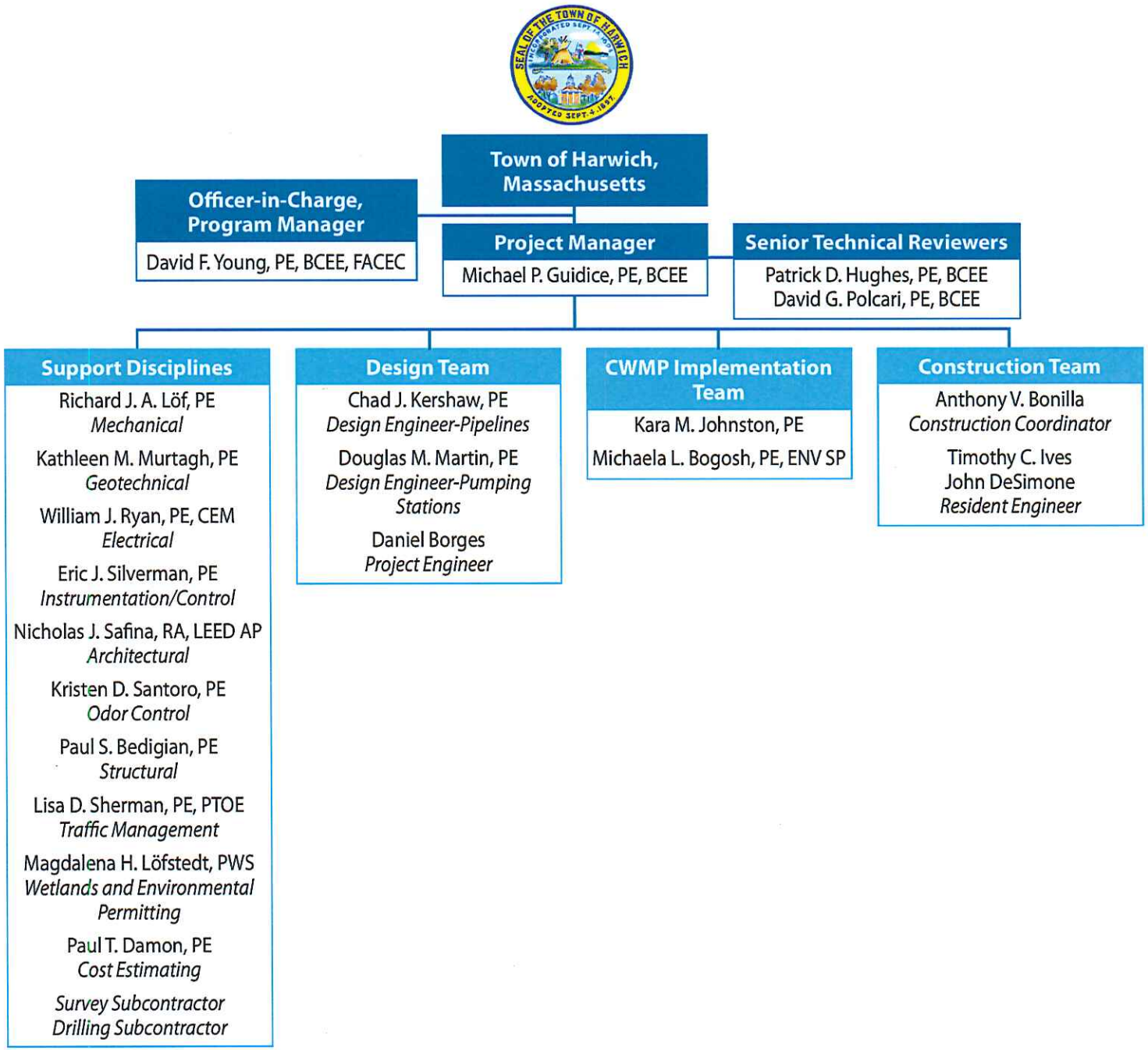
OWNER has established the following special provisions and/or other considerations or requirements in respect of the Assignment:

None

HARWICH, MA
PHASE 2 DESIGN CONTRACT COST BREAKDOWN

TASK/DESCRIPTION	HOURS	RAW LABOR	OUTSIDE PROFESSIONALS [1]	EXPENSES	TOTAL COST
Task 1: Survey					
Subtasks 1A + 1B: Aerial Photography + Topographic Mapping	0	$0	$39,900	$0	$39,900
Subtask 1C: Supplemental Field Surveys	24	$1,169	$160,650	$0	$164,100
Task 1 Subtotal	**24**	**$1,169**	**$200,550**	**$0**	**$204,000**
Task 2: Preliminary Design					
Subtask 2A: Wastewater Collection System	1,065	$37,512	$0	$200	$110,860
Subtask 2B: Wastewater Pumping Stations	145	$6,475	$0	$0	$19,100
Subtask 2C: Technical Memorandum and Cost Estimate	250	$11,593	$0	$0	$34,200
Subtask 2D: Project Management and Meetings	160	$11,200	$0	$800	$33,840
Task 2 Subtotal	**1,620**	**$66,780**	**$0**	**$1,000**	**$198,000**
Task 3: Final Design					
Subtask 3A: Subsurface Investigations	500	$17,525	$161,700	$5,300	$218,700
Subtask 3B: Permitting/SRF Submittals	634	$25,119	$2,100	$2,500	$78,700
Subtask 3C: Final Plans and Specifications	9,446	$366,102	$25,200	$8,000	$1,113,200
Subtask 3D: Construction Cost Estimate	163	$8,983	$0	$0	$26,500
Subtask 3E: Project Management and Meetings	782	$50,813	$0	$5,000	$154,900
Task 3 Subtotal	**11,525**	**$468,542**	**$189,000**	**$20,800**	**$1,592,000**
PROJECT TOTALS	**13,169**	**$536,491**	**$389,550**	**$21,800**	**$1,994,000**

Notes:
(1) Includes 5 percent markup for CDM Smith costs.



CDM Smith has full In-house design/support services as listed. We also provide financial rate analysis and cost recovery program development along with many other support services.

HARWICH, MA
PHASE 2 CONSTRUCTION COST ESTIMATE SUMMARY

SEWER TYPE/SIZE/LOCATION	PIPE LENGTH (LINEAR FEET)	UNIT PRICE ($/LF)	CONSTRUCTION COST
2" Pressure Sewer	3,137	75	$235,275
4" Force Main	1,945	75	$145,875
8" Force Main	2,365	110	$260,150
10" Force Main	4,694	120	$563,280
8" Gravity Sewer	35,344	130	$4,594,720
8" Gravity Sewer In State Road	4,876	300	$1,462,800
10" Gravity Sewer In State Road	3,304	400	$1,321,600
12" Gravity Sewer In State Road	3,440	500	$1,720,000
18" Gravity Sewer In State Road	1,011	700	$707,700
6" Force Main In State Road	1,551	170	$263,670
10" Force Main In State Road	1,270	190	$241,300
SUBTOTAL PIPELINE	**62,937**		**$11,516,370**
PUMPING STATION TYPE/CAPACITY	**NUMBER OF PUMPING STATIONS**	**UNIT PRICE (EACH)**	**CONSTRUCTION COST**
Sub. Pump Station With Generator (less than 1 MGD)	5	$500,000	$2,500,000
Sub. Pump Station With Generator (2 MGD)	1	$1,500,000	$1,500,000
EXTRA Sub. Pump Station With Generator	1	$700,000	$700,000
SUBTOTAL PUMPING STATIONS	**7**		**$4,700,000**
TOTAL			**$16,216,370**
CONTINGENCY			**$1,463,630**
TOTAL ESTIMATED CONSTRUCTION COST			**$17,680,000**

OFFICE OF THE TOWN ADMINISTRATOR

Phone (508) 430-7513
Fax (508) 432-5039

Christopher Clark, *Town Administrator*
Charleen Greenhalgh, *Assistant Town Administrator*

732 MAIN STREET, HARWICH, MA

To: Board of Selectmen

From: Christopher Clark, Town Administrator

RE: Proposed Phase 2 Wastewater Program – Engineering Agreement

Cc: Robert Cafarelli, Town Engineer
Daniel Pelletier, Water/Wastewater Superintendent

Date: January 12, 2017

Administration has been working in close cooperation with the Town Engineer and the Water/Wastewater Superintendent in a review of the process of completing the Phase 2 Harwich wastewater program pursuant to awarding an engineering agreement to CDM Smith Incorporated consistent with their standard form of agreement entitled Phase 2 (Pleasant Bay – South). The Comprehensive Wastewater Management Plan has been a document that has been years in the making and has been intimately designed and crafted for the Town of Harwich by CDM Smith. Town Administration has requested the Board of Selectmen to pursue placing this plan on the May 2017 Election Ballot as a debt exclusion in excess of $30 million and to also request Town Meeting approved the same. A plan of this complexity and scope needs to have engineering services to design out the actual system which consists of approximately 12 miles of pipe with numerous pump stations. The engineering contract will require two key elements the first would be the design and regulatory approval of the system and then secondarily will be the construction oversight of the project itself. This includes facilitating the documents necessary to fill out the state revolving loan funds necessary to complete this project. Attached please find a detailed memo dated December 20, 2016 on the summary of the scope of work and total estimated costs for Phase 2. Administration strongly believes that it, along with the assistance of the Town Engineer and the Water/Wastewater Superintendent, can oversee this project provided that the scope and responsibilities of the CDM Smith contract be adopted.

One early question that came up in our discussions was in regards to the bidding process for this work. Please see below the conclusion that the Town Engineer has rendered on this topic. I am in agreement with him on this determination. Municipal public works design contracts are not subject to state procurement laws.

Per your request, I am forwarding you my prior assessment of the Professional Exemption provisions of the State Procurement law. Back in 2011, I asked Jim Merriam to vet my opinion with Town Counsel. As you can see below, John Giorgio agreed with my assessment as long as there were no Grant provisions for public bidding. To date, I have come across no grant provisions that contradict Mass Procurement Law. In essence, municipal public works design contracts for non-vertical construction (projects not involving a building) with architects, engineers and related professionals are not subject to State procurement laws regardless of the amount.

My conclusion regarding continuing with CDM Smith as the consultant to move forward with the Town's wastewater projects is the same as my conclusion regarding Horsley and Witten for the ARRA Red River Salt Marsh Restoration project. I see no benefit to the Town to put this out to bid, or even get quotes from other engineers. The projected design engineering and construction supervision costs from CDM Smith seem reasonable and within accepted industry standards. By continuing with them for the continuing wastewater efforts, we have the benefit of their prior knowledge of the wastewater efforts of Harwich, not to mention surrounding Cape Cod Towns. It is my opinion that as of now, continuing with CDM Smith for this project is in the best interest of the Town, and I believe that the Wastewater Implementation Committee agrees with this assessment. I discussed this with the Committee at our December 14 meeting and the entire Committee appears to be satisfied with CDM Smith's past performance.

You can see from some of the information presented that we have requested comparison information to make sure that the value of the contract is reasonable under the circumstances. If the Board so desires, we can also have a peer review done of the contract to ensure again that the numbers presented are reasonable. Due to the volume of information, I will be presenting the attached materials at the Tuesday, January 17 meeting of the Board of Selectmen and would ask for a vote to award the contract as timely as possible afterwards. The contract will be contingent upon the successful votes at the May Annual Town Meeting and debt exclusion vote at the Annual Town Election.

Water Quality Harwich

Town of Harwich

Protecting our Water Resources

Wastewater Education Handbook

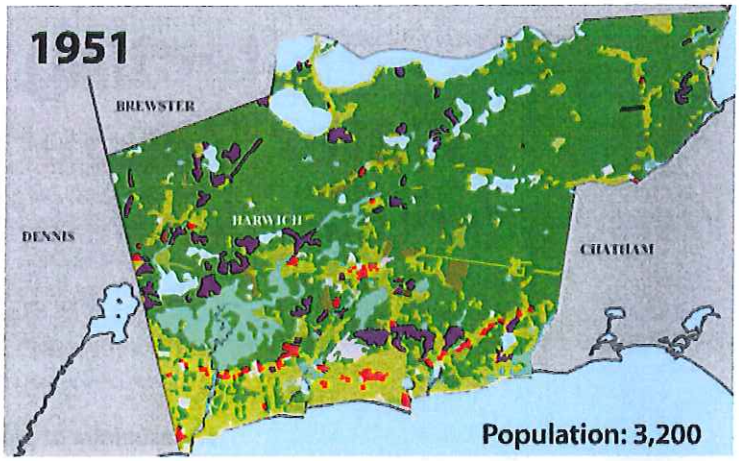
February 2017

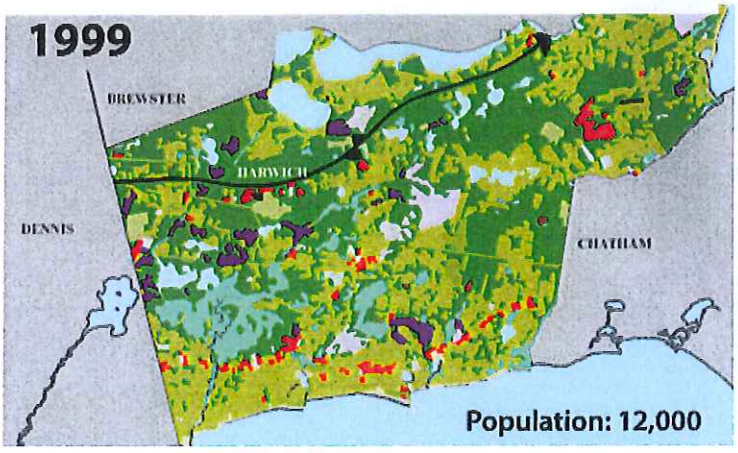
Herring River at Route 28

Introduction

The Town of Harwich has undergone significant growth over the past 50 plus years.

Our population has increased over 400 percent since 1951. That growth has resulted in various water quality issues that now must be addressed. Historically, Harwich has dealt with wastewater by installing Title 5 septic systems on each individual property. These systems were designed to remove solids and pathogens and do a very good job at it. However, they do very little to reduce nutrients in the liquid waste. The nitrogen level in the liquid waste which infiltrates into the ground and eventually flows through our watersheds and into the saltwater estuaries is over fertilizing these water bodies resulting in negative impacts. In addition, phosphorus in the liquid waste, if not absorbed in the surrounding soils, can cause water quality issues in our freshwater ponds and streams.





In the past few years, the negative impact of excess nitrogen has become the driving force for Cape Cod towns to begin implementing wastewater programs. Harwich has developed a town-wide comprehensive plan to address the wastewater management needs to protect our drinking water sources and restore our freshwater ponds and saltwater estuaries. Protection and restoration of these valuable water resources is extremely important to maintain the quality of life and economic vitality of the Town. Since 2007, these efforts have been coordinated predominantly by the Wastewater Implementation Committee (WIC) and the Board of Selectmen (BOS). The Wastewater Implementation Committee, consulting with CDM Smith, has spent approximately $1.2 million to sample and summarize our water resources and has recommended a program to address Harwich's wastewater issues with phased implementation over the next 40 years. Our Comprehensive Wastewater Management Plan (CWMP) calls for a conventional wastewater collection and treatment system connecting approximately 50% of the properties (5,000 lots) in Harwich. The total Capital Cost is estimated to be between $180M and $230M, spread over the 40 year implementation period..

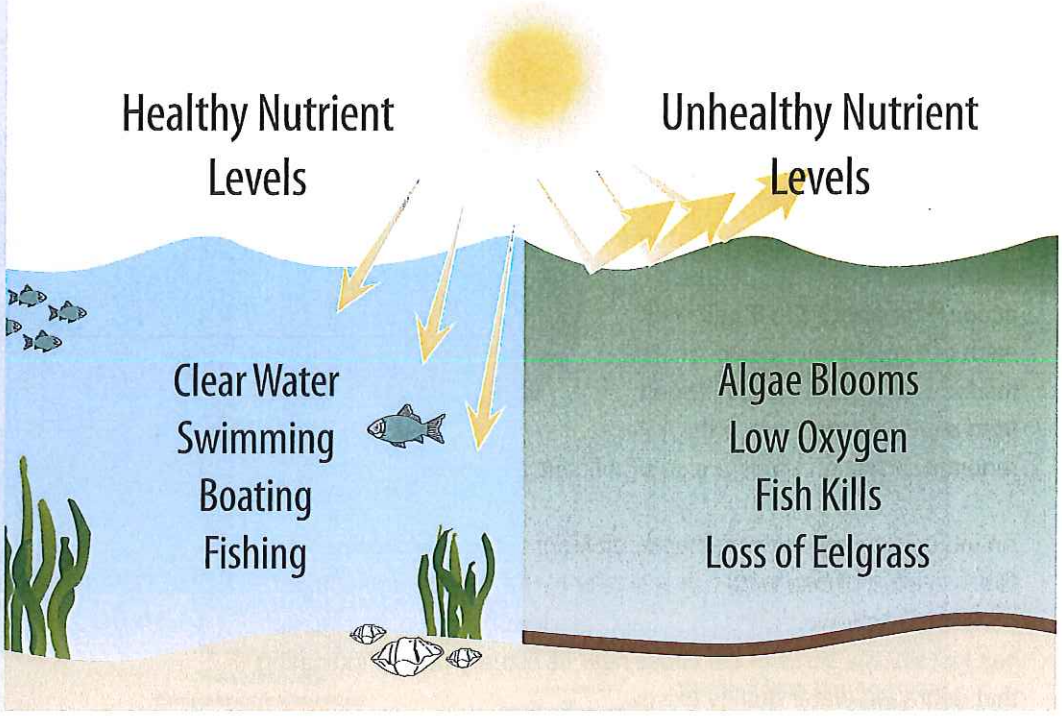
In 2013, the Massachusetts Department of Environmental Protection (MassDEP) designated the Cape Cod Commission

(CCC) to prepare an update to the 1978 Water Quality Management Plan (WQMP) for Cape Cod to address the degradation of Cape Cod's water resources from excessive nutrients, with a primary focus on nitrogen. The Massachusetts Water Pollution Abatement Trust committed to the CCC $3.35 million to fund an update to the 1978 plan in accordance with Section 208 of the Federal Clean Water Act, referred to as the 208 Plan. This Plan is a resource to the Cape's communities to better understand how to manage the Total Maximum Daily Load (TMDL) thresholds established by the Massachusetts Estuary Project (MEP) reports. The TMDL is the amount of nutrients that can enter a body of water and still maintain a healthy environment in a specific pond or estuary (http://bit.ly/MEPTMDLs).

The Harwich CWMP received regulatory approval from The Commonwealth of Massachusetts Environmental Policy Act (MEPA) Office and the CCC on May 13, 2016 and Aug, 18, 2016 respectively, and is in full compliance with the 208 Plan. The wastewater management program put forth in the CWMP is a guide for the Town to follow based on current conditions and regulations. Should the Town desire to make changes to the program in the future, based on water quality monitoring feedback, changing community interests, growth or other pertinent factors, it may do so by revising the CWMP using the appropriate regulatory review procedures.

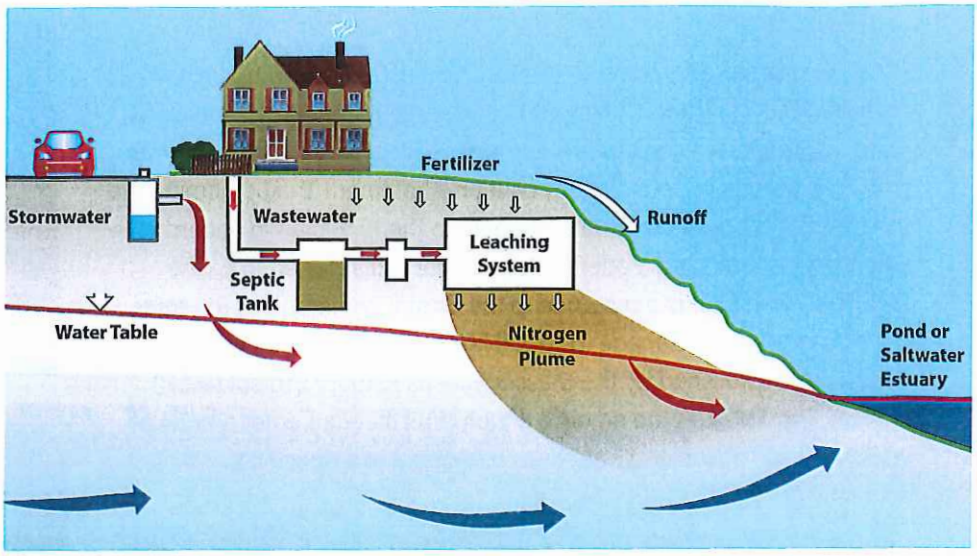
The approved CWMP is available on the Town website at: http://bit.ly/HarwichCWMP

Beaches, rivers and harbors are severely impacted by nitrogen pollution. Too much nitrogen from septic systems allows algae to flourish. The algae clouds the water and blocks sunlight, causing aquatic grasses and other plant life to die. As the algae uses all available nutrients and dies, decomposing algae (and dead grasses) depletes dissolved oxygen in the water which results in further loss of fish and bay organisms and an unhealthy environment.



Key Factors

Most homes in Harwich rely on traditional Title 5 on-site septic systems for wastewater management. Title 5 septic systems are not effective at reducing the level of nitrogen in the wastewater. The liquid or effluent exiting the septic system leaching field contains high concentrations of nitrogen. This liquid eventually flows in the groundwater to our estuaries and results in over-fertilized / unhealthy conditions. It doesn't matter whether a home is located next to the estuary or two miles inland since the groundwater collects and conveys the nitrogen to the watershed outlet or in this case the saltwater estuary/harbor.



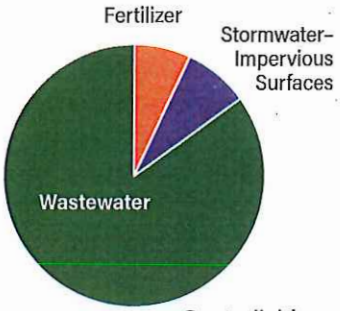
Nutrient Sources and Wastewater Flow to Receiving Waters

Since 2002, the MEP has developed and published a series of reports that assess the nature and extent of nutrient influence within saltwater estuaries and embayments. Reports are available at: www.oceanscience.net/estuaries

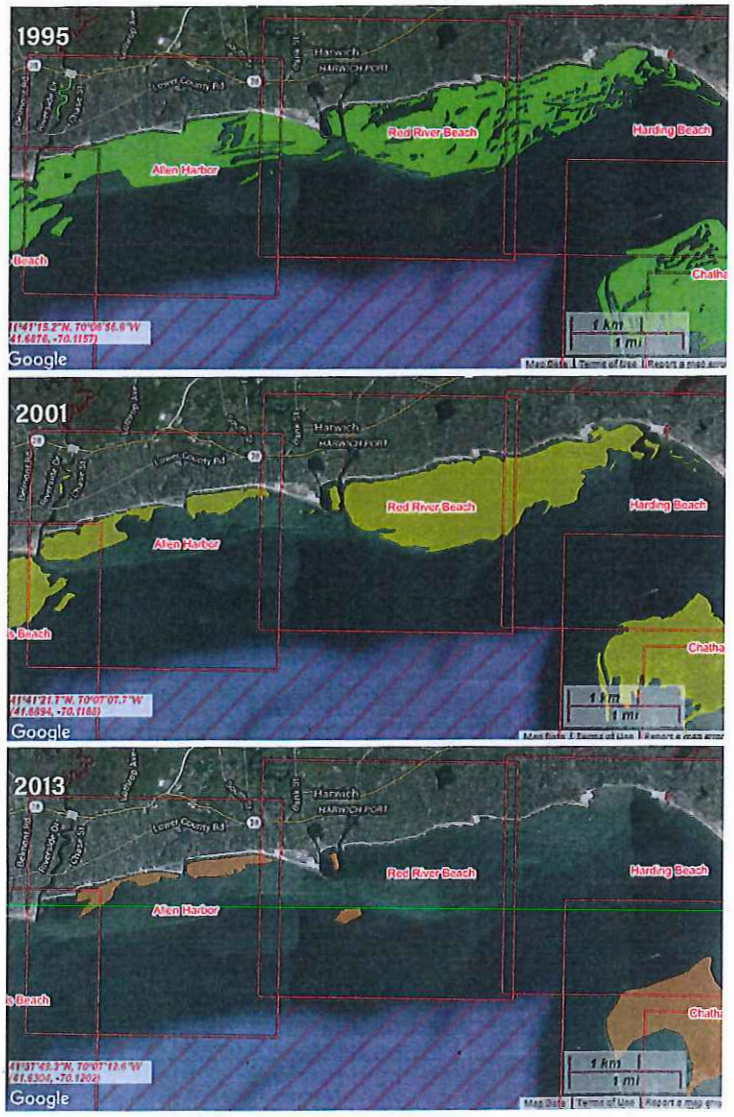
The Town of Harwich has 5 watersheds that terminate in estuaries which require nitrogen (N) reduction to maintain or restore acceptable water quality. These levels of remediation have been determined through an extensive and longterm water sampling program and computer water quality modeling of the watersheds. These results are documented in the MEP reports.

- **Allen Harbor –** 78% Reduction in Septic Nitrogen
- **Wychmere Harbor –** 100% Reduction in Septic Nitrogen
- **Saquatucket Harbor –** 58% Reduction in Septic Nitrogen
- **Pleasant Bay –** 65% Reduction in Septic Nitrogen
- **Herring River –** 58% Reduction in Septic Nitrogen

Approximately 85 percent of the controllable nitrogen in a given watershed comes from septic systems. Stormwater run-off and fertilizer account for about 7 to 8 percent each of the remaining sources. Thus, the focus is on removing nitrogen from septic systems, since the required reduction levels are so significant.



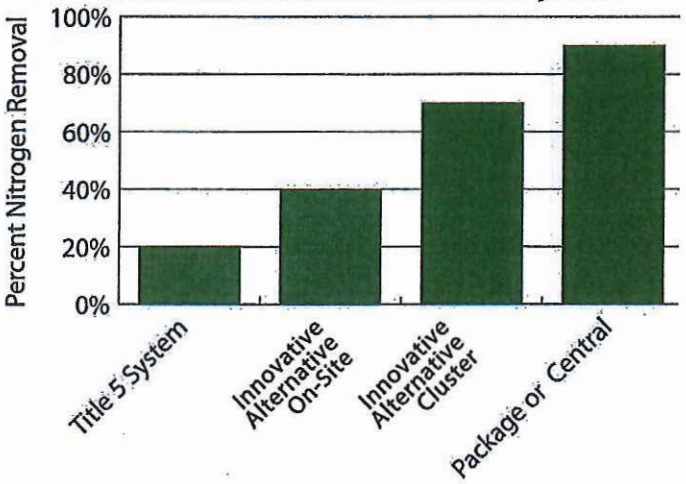
An indicator of a healthy saltwater environment is whether Eel Grass exists in those waters. It is similar to the "canary in the mine" concept. As shown on the DEP Eel Grass Mapping photos, Harwich has lost several acres of Eel Grass near its estuary outlets indicating that degraded water quality exists.



MassDEP Eel Grass Mapping (from top, 1995, 2001 and 2013).

The Town evaluated several options presented in the 208 plan in order to meet the necessary nitrogen removal requirements. However, either insufficient treatment levels as shown in the Effectiveness of Wastewater Treatment Systems figure or cost analyses as documented in the CWMP resulted in a core recommendation plan that utilizes sewer collection systems flowing to centralized treatment facilities.

Effectiveness of Wastewater Treatment Systems

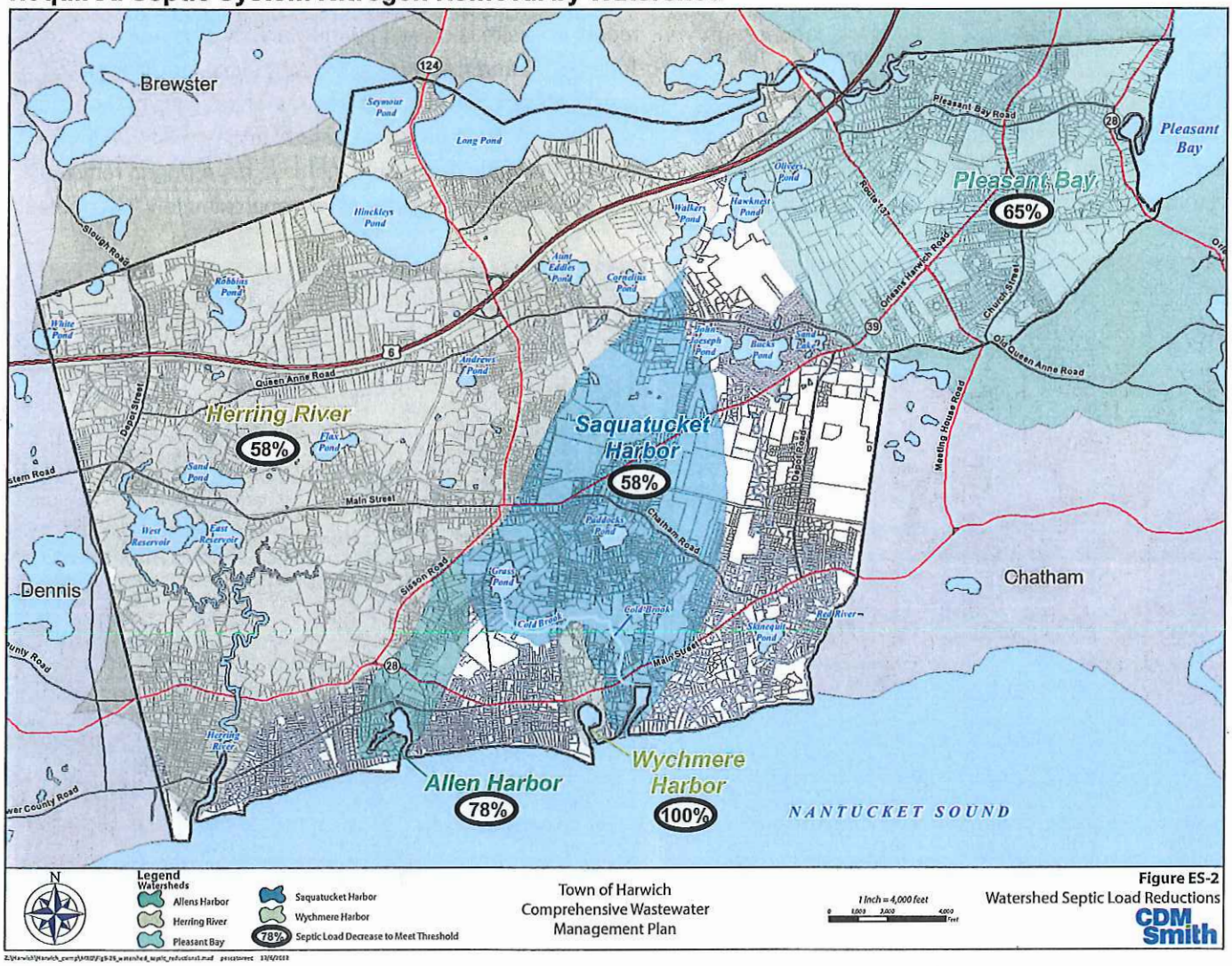


Drinking Water

Municipal drinking water supply is generally available throughout the Town using water from 14 gravel-packed groundwater supply wells. These wellfields draw water from the Monomoy Lens Aquifer. All of Harwich's residents and businesses are reliant on the groundwater supply for drinking water, whether through public or private sources of the supply.

While the locations of public water supply wells in Harwich do not drive a specific need for sewering in any particular area of the Town, a few wells in the Pleasant Bay Watershed have shown nitrogen levels above background concentrations as a result of development in the area. Therefore, a reduction in on-site septic system inputs into the groundwater, especially in well zones of contribution, will result in a beneficial reduction in potential contaminants to the aquifer. These include nutrients like nitrogen and phosphorus, bacterial and viral constituents and potential contaminants of emerging concern (CECs).

Required Septic System Nitrogen Removal by Watershed



Freshwater Ponds

In freshwater ponds, the overabundance of phosphorus (P) is the main concern. Phosphorus is typically a nutrient in limited supply. Therefore an increase in phosphorus waste can result in significant plant and algae growth which can cause a shift in the health status of a pond from healthy to fairly healthy, to degraded.

Long Pond clear, algae bloom in Hinckleys Pond, June, 2009.

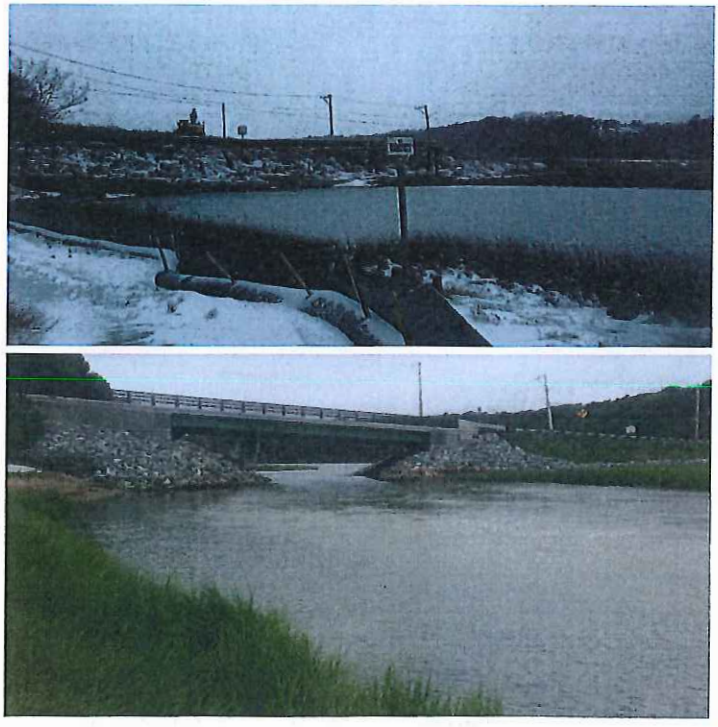
Four ponds in Harwich which were identified as degraded, or at risk of moving toward degraded, are the primary potential cause for concern: Hinckleys, Seymour, Buck, John Joseph.

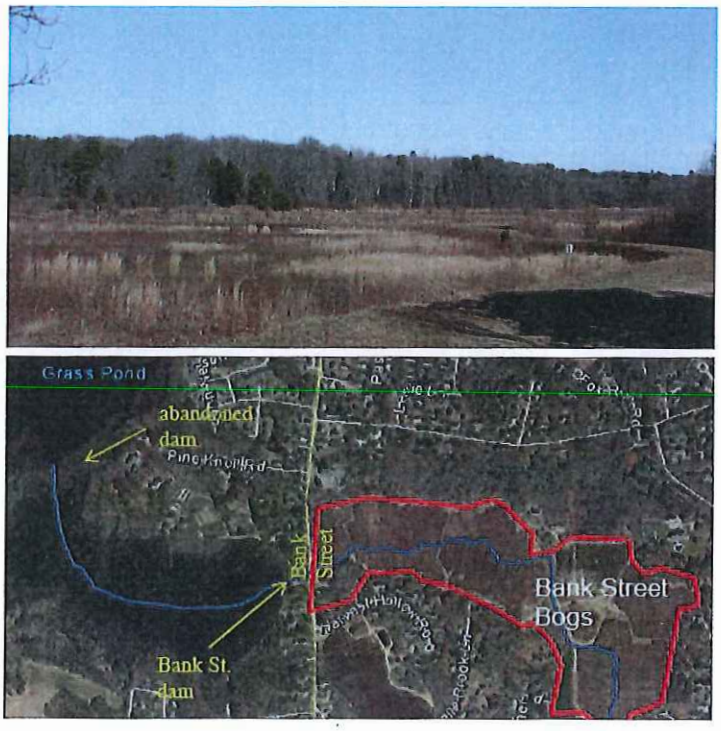
In 2008 the towns of Brewster and Harwich jointly implemented a successful alum treatment program to restore and improve water quality in Long Pond. That same treatment is recommended for Hinckleys Pond in the near-term plan.

Natural Nitrogen Attenuation

Natural attenuation occurs to some degree in the watersheds. However this has been accounted for in the results of the MEP nitrogen models and therefore further work is required to meet the TMDLs. A cooperative endeavor between Harwich and Chatham to widen the Muddy Creek inlet and increase flushing to improve the estuary habitat and decrease nitrogen levels was completed and opened for traffic in May 2016. This project results in an offset for Harwich of not having to sewer approximately 230 homes. The total project cost was approximately $6.3 million with the state of Massachusetts contributing $4.6 million and the Towns of Harwich and Chatham equally sharing the remaining balance.

The Town in FY15 and FY16 funded a study entitled "Bank Street Bogs at Cold Brook – Evaluation of Natural Nitrogen Attenuation/ Baseline Assessment" dated September, 2016. (http://bit.ly/BankStBogs) This study collected additional field data on groundwater flow and nitrogen concentrations and several other parameters over a one year period to help supplement information gathered during the earlier MEP report. This site is owned by the Harwich Conservation Trust (HCT) and they are developing plans for the area to restore it back to natural conditions. The results of the study indicate that there are some natural nitrogen attenuation options available that would increase the nitrogen removal and help offset the need to sewer approximately 240 homes


Before (top) and After (bottom) Muddy Creek Inlet Widening.

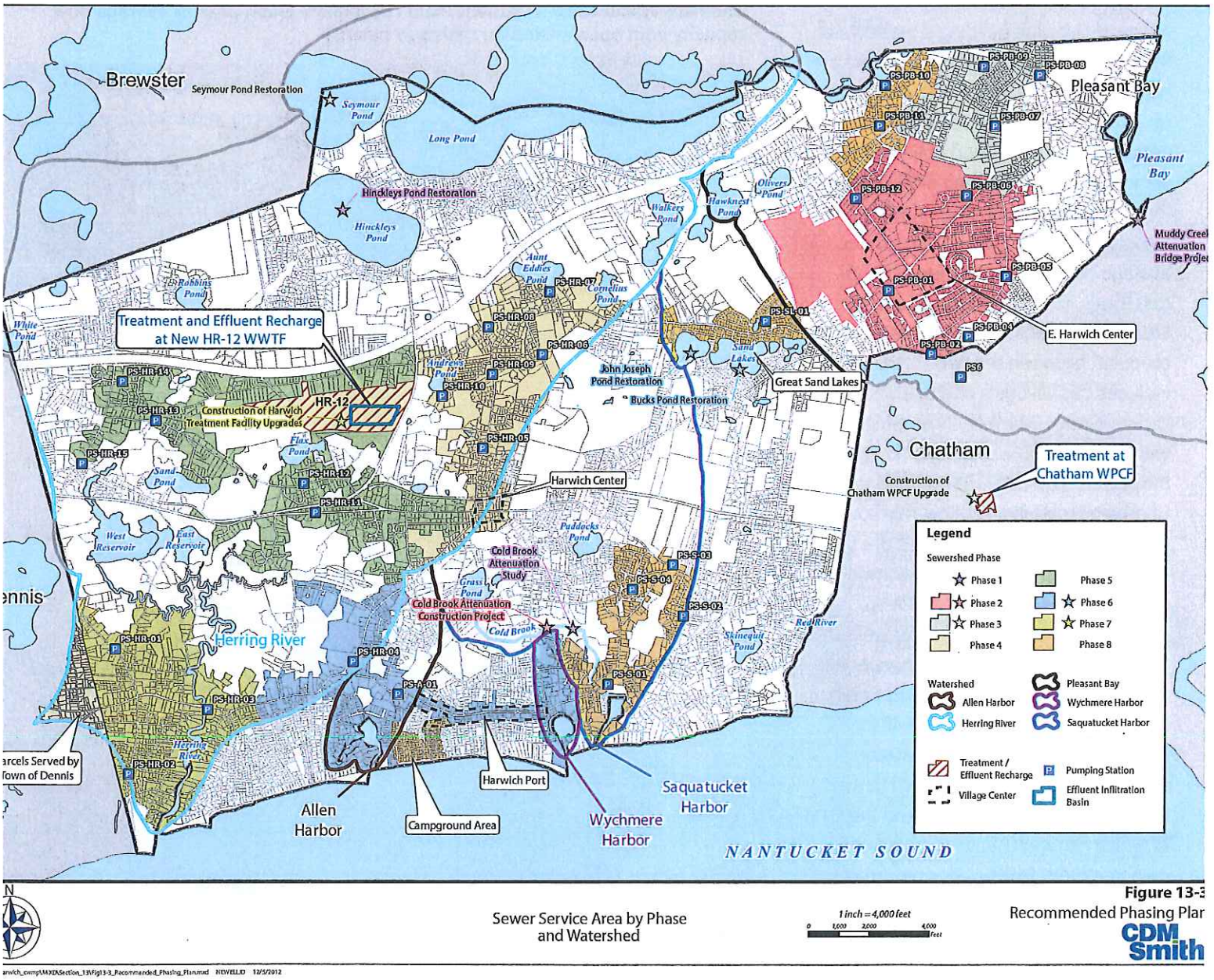


Nitrogen Reduction by Natural Attenuation in Cold Brook at Bank Street bogs – Existing conditions.

in the Saquatucket Harbor Watershed. These opportunities are being discussed with HCT representatives to develop the best approach which meets the goals of both the Town and the HCT.

Wastewater Implementation Strategy

Since everyone in the Town of Harwich contributes to the nitrogen problem, we all need to contribute to the solution. It is anticipated that real estate taxes will be the source of funding for the design and construction of the system and user fees will eventually support the operation and maintenance costs. Our wastewater consulting firm, CDM Smith, was hired by the Town of Harwich to help with the development of the program to address these issues. The CWMP is proposed to be implemented in 8 phases over 40 years. Many variables will change over this timeframe. This program is very similar to our municipal water system which was built over 40 years and is valued at approximately $225 Million.



Sewer Service Area by Phase and Watershed

1 inch = 4,000 feet

Figure 13-3
Recommended Phasing Plan

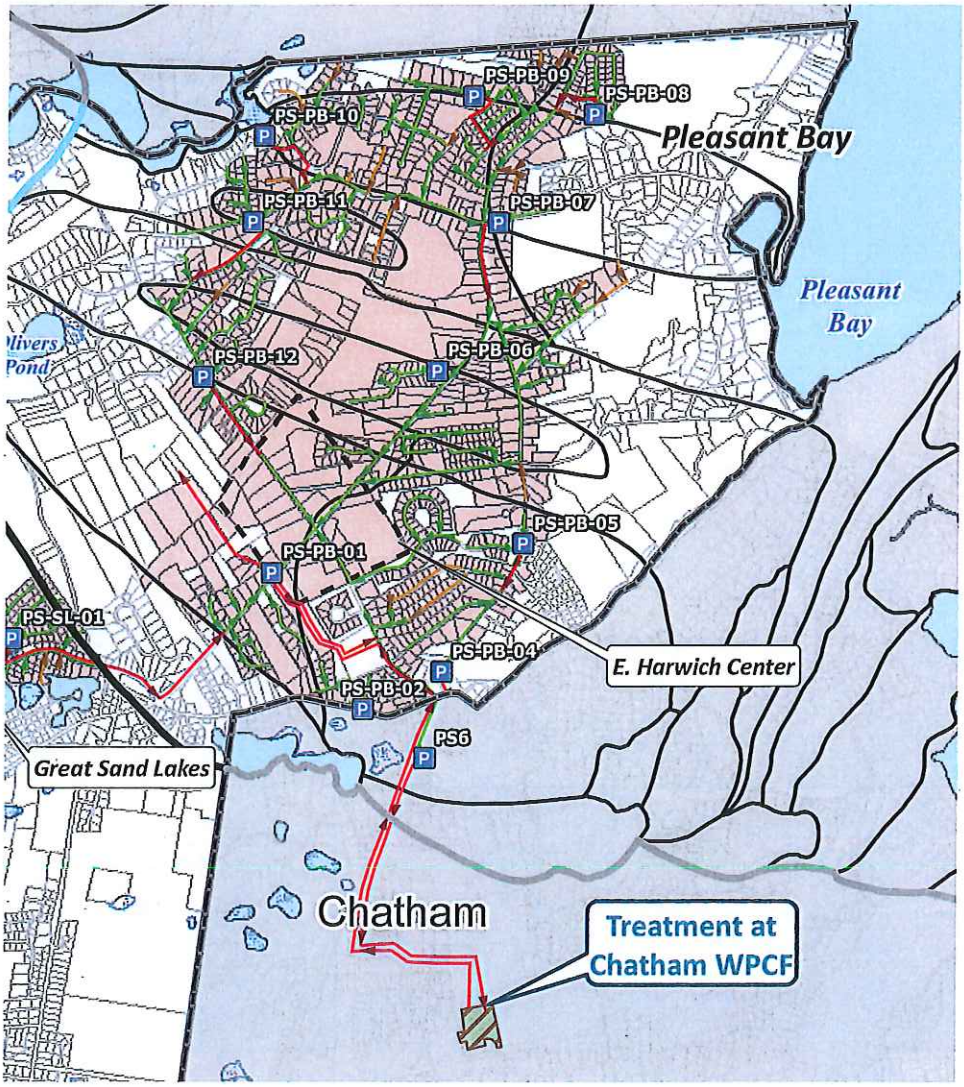
CDM Smith

CWMP Overview

The recommended plan includes the use of two treatment facilities: one located at the Harwich public works facility near the landfill site, and the other one being the existing Chatham Water Pollution Control Facility (WPCF) which has excess capacity.

The initial focus of the Harwich CWMP seeks to solve the nitrogen loading in the Pleasant Bay (PB) Watershed. Harwich is one of the four towns that contributes nitrogen to the Pleasant Bay Watershed. In lieu of Harwich building a wastewater treatment facility in East Harwich, we are negotiating with Chatham to purchase up to 300,000 gals/day of wastewater capacity in order to send collected wastewater from the PB watershed to Chatham for treatment. The Chatham facility has a design capacity to handle an annual average daily flow of 1.3 mgd (million/gals/day). To accomplish this, an Inter-Municipal Agreement (IMA) needs to be executed between the two Towns which includes capital costs and operation and maintenance (O&M) costs associated with the Harwich wastewater flow from the sewered areas of PB pumped to the Chatham Treatment Facility. This flow is projected to be sufficient to restore the water quality in PB and meet Harwich's share of the TMDL. It will also help protect Harwich drinking water wells in the area and allow for desired economic growth. If we are able to use the Chatham facility, our short term efforts will focus on the wastewater collection system and associated interconnection to the Chatham facility. This will extend the time at which Harwich needs to construct its own treatment facility by approximately 10 years. Current plans identify 2021 as the initiation of wastewater flow from Harwich to Chatham.

Chatham Wastewater Treatment Plant (1.3 million gallon per day average flow capacity with open infiltration recharge basins)

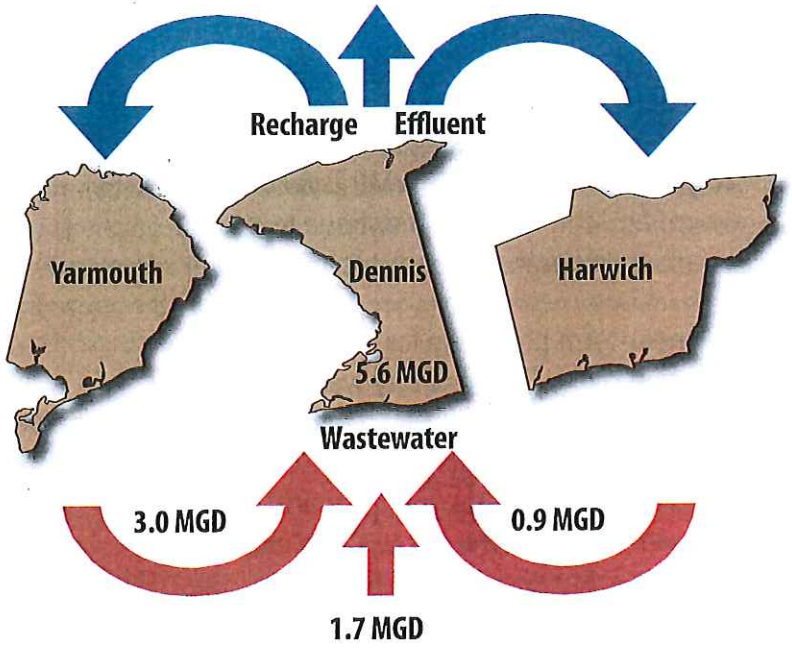


Sewer Collection System Concept for the Pleasant Bay Watershed

Regional Opportunities

Harwich is also participating in discussions with the Towns of Dennis and Yarmouth to consider the potential of a single wastewater treatment facility to be located in Dennis. This would eliminate the need for a treatment facility to be constructed at the existing Harwich public works facility site near the landfill. These discussions are ongoing, and Harwich has several years before it would need to decide whether to construct its' own facility or join in the regional solution.

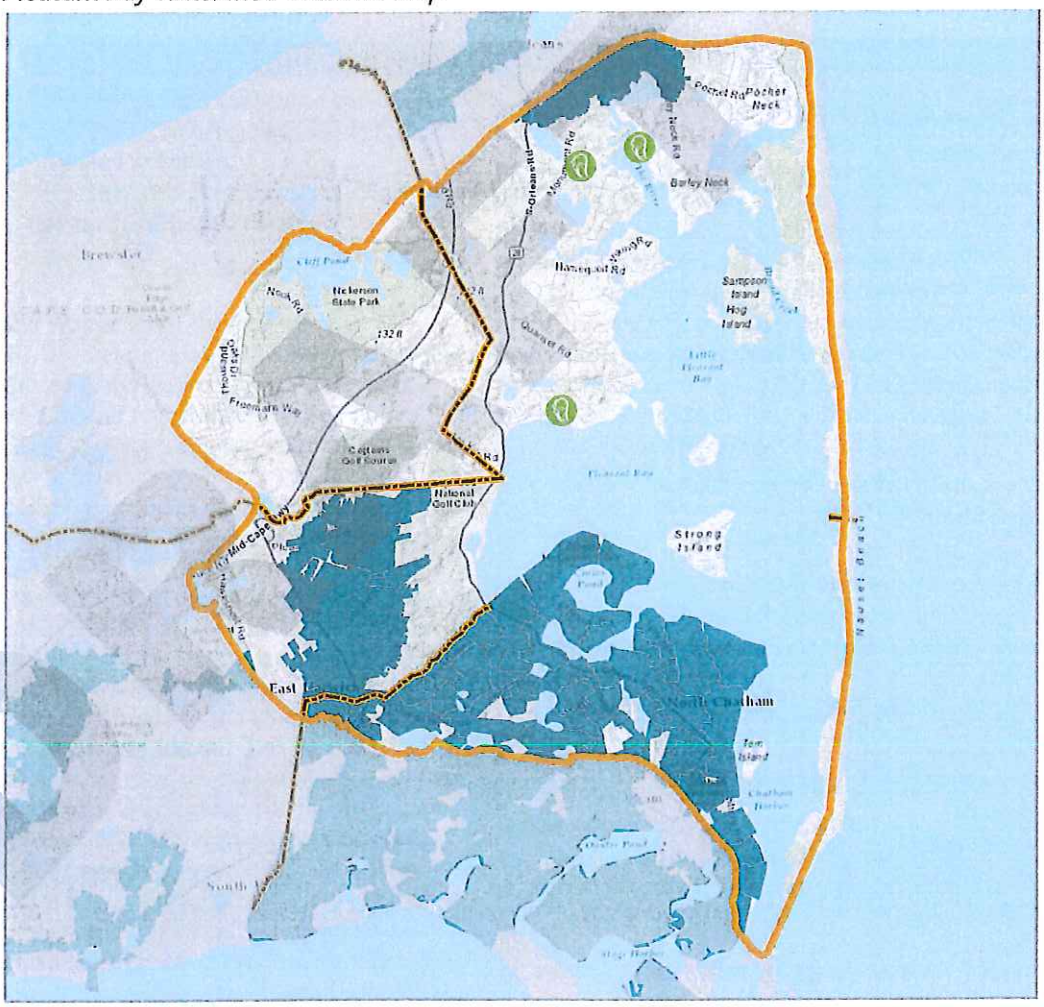
Community Partnership – Dennis, Harwich, and Yarmouth



MGD – million gallons per day

Chatham, Harwich, Orleans and Brewster Proposed Restoration Program

Pleasant Bay Watershed Scenario Map



Legend

Aquaculture

Embayment Watersheds

Proposed Sewershed

Source: Cape Cod Commission

GLOSSARY

CCC-Cape Cod Commission

CWMP-Comprehensive Wastewater Management Plan

Embayment-a recess in a coast line or an indentation off of a shore line that forms a bay

IMA-Inter-municipal Agreement

MassDEP – Massachusetts DEP (Department of Environmental Protection)

MEP-Massachusetts Estuaries Project

Natural Attenuation-The process by which the concentration of nitrogen in a water body or groundwater is reduced by conversion to nitrogen gas, sediment absorption, and other biological processes when nitrogen-innundated water passes through natural systems such as streams, rivers and ponds

TMDL-Total Maximum Daily Load for estuaries

UMASS – University of Mass/Dartmouth SMAST (School of Marine Science and Technology

Watershed-an area or ridge of land that separates waters flowing to different rivers, basins or seas

WIC-Wastewater Implementation Committee

Financial Impacts

The 40-year Plan will be constructed in phases with each phase between $1.0 to $47.2 million. This results in a total cost of $230 million over 40 years. However, the CWMP is a living document and the Town will continue to pursue means to lower that overall cost.

The near-term plan calls for design and construction of the Pleasant Bay watershed sewer collection system such that initial flow to the Chatham facility will start in 2021. Since near term needs are capital only, property taxes will be used to service the debt. Once customers are connected and utilizing the system, they will be charged for a portion of the system operation and maintenance costs.

Typical Cost to Homeowner

The average tax increase for a resident in a $350,000 assessed value home to fund the Phase 2 amount is about $150 annually assuming all construction costs are recovered via general property tax. The average annual tax increase for the whole 40-year wastewater program is about $400. Those connected to a sewer would also pay a portion of the operation and maintenance costs and the initial hook-up cost to connect their home to the pipe in the street. It is assumed that the Town would utilize the State Revolving Fund (SRF) loan program at 0 to 2 percent interest over a 30 year bond to fund this program.

You can also go to the Town website at **http://bit.ly/HarwichWWCalc** to calculate your specific tax increase.

Capital Outlay Committee Requirements for CWMP (updated 2017)			
2013 Funding (completed): Phase 1			**Total = $1,000,000**
✓	n/a	For Recharge Facility Land Purchase	
✓	$100,000	For Cold Brook Attenuation Study	
✓	$6,300,000	For Muddy Creek Attenuation Bridge Project (after $4.6 million grant and Chatham share of cost, Harwich paid $900,000)	
2017 Funding (pending): Phase 2			**Total = $34,165,000**
1	$6,765,000	Capacity Purchase at Chatham WPCF	
2	$2,400,000	Tie-in Costs to Pipes and Pump Station	
3	$150,000	CWMP Implementation Services	
4	$22,300,000	Design and Construction of Pleasant Bay (PB) Collection System: South (600 households)	
5	$2,000,000	Design and Construction Cold Brook	
6	$550,000	Restoration of Hinckleys Pond	
2021 Funding (projected): Phase 3			**Total = $12,900,000**
1	$12,600,000	For Construction of Pleasant Bay Collection System: North (440 households)	
2	$300,000	For Seymour Pond Restoration	
2026 Funding (projected): Phase 4A			**Total = $34,400,000**
1	$34,400,000	For Design and Construction of Harwich Treatment Facility HR-12	
2029 Funding (projected): Phase 4B			**Total = $22,300,000**
1	$22,300,000	Design and Construction of Herring River Collection System: Northeast (700 households)	
2033 Funding (projected): Phase 5			**Total = $23,200,000**
1	$23,200,000	For Design and Construction of Herring River Collection System: Northwest (730 households)	
2038 Funding (projected): Phase 6			**Total = $21,200,000**
1	$20,700,000	For Design and Construction of AWS and Herring River (SE) Collection Systems (640 households)	
2	$250,000	For Bucks Pond Restoration	
3	$250,000	For John Joseph Pond Restoration	
2043 Funding (projected): Phase 7			**Total = $47,200,000**
1	$26,500,000	For Design of Harwich WWTF Upgrade and Design and Construction of Herring River Collection System: Southwest (760 households)	
2	$20,700,000	For Construction of Harwich Treatment Facility Upgrade	
2048 Funding (projected): Phase 8			**Total = $33,900,000**
1	$33,900,000	For Design and Construction of Campground Area, GSL and Final PB Area to Meet TMDL (1076 households)	
Total Funding (projected): Phases 1-8			**Total= $230,000,000 (Rounded)**

Frequently Asked Questions - Update January 26, 2017

The Town of Harwich (the Town) has developed a town-wide Comprehensive Wastewater Management Plan (CWMP) to address long-term wastewater needs and restore and maintain the quality of all of the town's water resources. The CWMP will provide the flexibility to create a lasting solution by addressing the existing sources of pollution within a given watershed as well as potential sources of pollution posed by changing development patterns. The CWMP seeks to balance water quality needs with the ability to finance necessary improvements. Priorities will be set and an implementation schedule established to maximize the effect of any public improvements within a watershed and between watersheds. The State and County approved CWMP is currently available and posted on the Town's website.

Q1. What is the purpose of this project?
A1. The CWMP is an integral part of the planning process to address Harwich's long-term wastewater and water resource needs over the next 40 years. These critical needs include:

- Addressing existing nitrogen issues that are degrading the water quality of the saltwater harbors and estuaries along the Harwich shore;
- Maintaining the excellent drinking water quality in the Town's 14 municipal groundwater supply wells;
- Preserving and restoring the valuable fresh water pond resources in town;
- Providing future utilities for Harwich to implement smart growth via its Village Centers Initiatives;
- Meeting state Total Maximum Daily Load (TMDL) requirements for impaired watersheds.

Q2. Who is involved in this Project?
A2. Several groups are involved at both the local and the state level. Locally, the Wastewater Implementation Committee (WIC), the Board of Selectmen (BOS), Town Administrator's office, several town staff, consultants and many other stakeholders. At the state level the Massachusetts Department of Environmental Protection (MassDEP) is overseeing the Massachusetts Estuaries Project (MEP), which was prepared by the School for Marine Science and Technology (SMAST), the Cape Cod Commission (CCC), the United States Geological Survey (USGS), and several other advisory or peer review groups. The WIC is the lead advisory group for the Town, and it contracted with engineering consultant CDM Smith for technical guidance during this process. Coordination among all the groups was crucial to developing an implementable program that meets Harwich's needs now and into the future. The WIC has been working on this project since 2007.

Q3. What is the MEP?
A3. The MEP is a tool to quantify and evaluate nitrogen entering the embayment from the associated watershed and develop nitrogen thresholds for each embayment that will restore or maintain healthy water quality. Ultimately, the MEP is utilized to develop an acceptable Total Maximum Daily Load (TMDL) for nitrogen that can enter each of the embayments. Under the Federal Clean Water Act, the EPA and MassDEP have the authority to require communities contributing nitrogen to the particular embayment to meet the TMDL.

Q4. Why is nitrogen an issue?
A4. Nitrogen deposited in an estuary or embayment acts as a fertilizer and stimulates the over production of algae in the salt water. The algae can become so dense that desirable eel grass beds, shellfish resources, and overall water quality (as well as boating, swimming and overall aesthetics) are negatively affected. Also, reduced light penetration affects healthy plant growth, and decaying plants and algae settle to the bottom, using up oxygen in the water, often resulting in fish kills and odors. If nitrogen is allowed to continue to flow to the embayments at excessive levels, the embayments will become severely degraded.

A standard Title 5 septic system is designed to remove solids and pathogens and only removes about 10 to 20 percent of the nitrogen entering it while more sophisticated on-site nutrient removal systems can remove up to about 50 percent nitrogen. Studies on the Cape have shown that nitrogen entering the embayments from septic systems account for 75 to 85 percent of the controllable source while fertilizers and stormwater run-off each account for about 7 to 8 percent.

Q5. Will this plan result in sewers for the entire Town of Harwich?
A5. No. Based on the MEP report results sewers are recommended as part of the overall strategy to address nitrogen impacts to our estuaries. Approximately 50 percent of the Town will be sewered. The areas selected were determined to be the most cost effective way of nitrogen removal.

Q6. We pump our home septic system as required and never have problems. Why can't we just leave things as they are? Aren't our beaches and harbors pretty good as is?
A6. Pumping a septic system removes the solids and should be done approximately every 3 years to keep it in good working order. However the nitrogen is mainly contained in the liquid that leaves the system daily and exists in groundwater ultimately surfacing in our estuaries and harbors which continue to show signs of degradation.

Q7. Why does Harwich have to do this?
A7. The Town is moving forward now with the CWMP so it can implement the plan on its own timeline rather than on a MassDEP mandated schedule. The abutting towns of Chatham, Orleans, Brewster and Dennis are all in various stages of completing CWMPs and implementing them to address the nitrogen issues in their communities. All the other Cape Cod communities are doing similar CWMPs. Some watersheds are shared by communities such as Pleasant Bay and will require a joint effort to meet the TMDL for that embayment.

Q8. We've heard solving our wastewater problem will cost tens of millions of dollars. Is that true? Who will pay for this? How will they pay?
A8. The overall cost of the Harwich recommended wastewater program is estimated to be in the $180 to $230 Million range implemented over a 40 year period. The BOS has adopted a policy of using property taxes, and user fees to pay for the program. This overall program is very similar in cost and implementation timeframe to our current municipal water system which was also implemented over 40 years.

Q9. If impacts are affecting estuaries, are our groundwater wells protected?
A9. Fresh water bodies and groundwater supply wells are more resilient to nitrogen impacts than salt water estuaries. Salt water is much more sensitive to elevated nitrogen levels, since the recommended limits to the estuaries are less than 1.0 mg/L, and limits for drinking water are 10 mg/L. There is an order-of-magnitude higher sensitivity to estuary systems.

Q10. What is the timeline of the Project?
A10. Development of the CWMP began in earnest in August, 2007. Water quality sampling for the MEP began a few years before. The CWMP was approved in 2016 by state and county regulators. The plan includes eight phases over 40 years. The Town has already implemented components of Phase 1 (Muddy Creek inlet widening, etc.) and is seeking funding for Phase 2 at Spring 2017 Town meeting.

Q11. As a Harwich property owner, will my property values be decreased?
A11. Projects in other communities have demonstrated that sewers and/or enhanced wastewater management actually may increase property values. Improving wastewater management procedures will restore water quality in the embayments and protect the other water resources so that the tourist economy continues to flourish and the quality of life is maintained. All these factors combine to preserve property values. If nothing is done, property values will decrease.

Q12. Isn't wastewater a single Cape-wide problem which requires a single Cape-wide solution?
A12. Wastewater Management is an issue being addressed by every town on Cape Cod. The nitrogen in groundwater flows by watersheds, not town boundaries. Thus communities are evaluating regional solutions and the County is assisting in that process. Whether a local or regional solution, each town will want to implement an environmentally sound solution for the least cost. Harwich has been working with Chatham to implement the restoration of the Pleasant Bay Watershed and has initiated discussions with Dennis and Yarmouth for a regional treatment facility. It is conceivable that Harwich may export its wastewater to adjacent treatment facilities which means we would only need pipes, pumps and valves in Harwich

Q13. As a Harwich resident, what can I do to reduce my nitrogen contribution?
A13. While septic systems contribute 75 to 85 percent of the controllable nitrogen, residents can minimize the remaining contribution sources. Education on the use and types of fertilizers can help. Using slow release fertilizers and not applying commercial fertilizers before a rainstorm (where it can run-off) would help. Also, using alternative landscapes that do not require as much fertilizer would have a positive impact. Channeling run-off from paved surfaces or roofs onto grasses for nitrogen uptake will help compared with direct discharge into a surface water or coarse sand where it enters the groundwater table. The run-off from these areas or stormwater contains the nitrogen from atmospheric deposition. Although these actions alone will not meet the nitrogen removal recommended in the MEP reports for embayments in Harwich, they will potentially help reduce the amount of sewering required.

Q14. Can the wastewater just be piped out into the ocean like in Boston?
A14. Recent changes to the Ocean Sanctuaries Act allow for greater flexibility in permitting open water discharges. The new standards, however, are still very stringent and require a thorough impact analaysis prior to any approvals. Cost analyses have not proven them to be cost-effective.

Q15. What are we doing to minimize the cost of this project?
A15. Multiple cost recovery options are being evaluated now with the goal that no single group is significantly impacted. Several entities are also pursuing potential outside funding sources and Harwich will do everything it can to make sure it qualifies for those funding sources should they become available. This is in part also why a 40 year implementation timeframe has been recommended.

Q16. Will wastewater treatment lead to explosive growth and development, including condominium developments, large apartment complexes, strip malls, and such. What will happen to the "villages" of Harwich?
A16. The plan addresses existing needs and future desired needs. Future flows are based on what could be built based on existing zoning. Land use controls and zoning may be evaluated and revised accordingly if the Town decides to encourage smart growth in some village center or commercial areas.

Q17. What will happen if the Town decides not to fund implementation of this wastewater program?
A.17 Harwich has five estuaries that have Total Maximum Daily Loads (TMDLs) established that must be met to restore their water quality. The Massachusetts Department of Environmental Protection (MassDEP) will require the municipality to implement a nitrogen removal system or each individual Title 5 septic system be upgraded to an expensive nitrogen removal system in order to meet the TMDL. This may be done under an Administrative Order which would disqualify Harwich from receiving zero percent interest State Revolving Fund loans. MassDEP could also mandate the creation of a Water Pollution Abatement District for the watershed which would be tasked with meeting the water quality requirements.

This could also leave the Town susceptible to third party lawsuits from groups like the Conservation Law Foundation requiring the Town to implement the recommended wastewater program under a more aggressive timeline than the currently approved 40-year plan.

Lastly, the value of every home in Harwich will start to decline as water quality continues to decline.

For additional information go to:

- http://www.harwich-ma.gov
- http://bit.ly/HarwichCWMP
- http://bit.ly/HarwichWIC

Restore Harwich Water Quality for generations to come

Water Quality Harwich

ARTICLE 12: To see if the Town will vote to enact a Sewer Use General By-Law, governing the establishment, construction and operation of a wastewater collection and treatment system, a copy of which will be on file with the Office of the Town Clerk prior to Town Meeting, and to act fully thereon. By request of the Board of Selectmen.

Explanation: The Town's Inter-Municipal Agreement with Chatham calls for Harwich to promulgate and utilize Sewer Use Regulations that are compatible with the regulations in place in the Town of Chatham. The Massachusetts Department of Environmental Protection calls for these regulations to be in place as part of the functioning of the wastewater treatment facility. The Sewer Use Regulations are designed to be dynamic in the sense that general elements will be included in the regulations with discretion given to the governing body to create or modify regulations on more specific detailed interconnection activities such as pipe size and design elements to facilitate compatibility with the existing technology of the current Chatham facility.

Chairman Hughes explained that this item is back again as the abutter notification was not done properly. Ms. Cebula read the hearing notice and Chairman Hughes opened the hearing. Mr. Ralph Schwartz, abutter, commented that on the last license at this location it was stipulated that outdoor service and entertainment would cease at 10:00 p.m. and he asked for the same for this license. Chairman Hughes closed the hearing. He stated that time limits are enforced on entertainment licenses and when he applies for entertainment they will deal with the time.

Mr. MacAskill moved approval of the All Alcohol Beverages License for MT Group LLC d/b/a Mad Minnow Bar & Kitchen as proposed. Ms. Cebula seconded the motion and the motion carried unanimously on a roll call vote.

B. Public Hearing – Proposed Sewer Regulations
   1. By-Law
   2. Associated Regulations

Ms. Cebula read the hearing notice and Chairman Hughes opened the hearing. Mr. MacAskill reviewed the draft proposal and noted that they were attempting to make the by-law portion of this into articles and the design specs and other minutia into appendixes. He stated that Mr. Clark has gotten an opinion from Attorney Giorgio. He explained that if we enter into an Inter-Municipal Agreement with Chatham we will have to draft sewer regulations consistent with Chatham's. Mr. Clark noted that it is also required by the DEP to have similar operating standards and most towns do this by regulation, not a by-law, because any time you want to change it you have to go back to Town Meeting which is cumbersome and doesn't allow flexibility for change. He proposed having the first 1 ½ pages (Purpose) go to Town Meeting and the rest should be referred to as Rules and Regulations as allowed under the statute. He stated that all regulations would have to be published and public hearings held. Mr. Clark and Mr. MacAskill also suggested another option of having the first 11 sections (18 pages) go to Town Meeting but not the minute detail of how the system operates. Mr. Clark said he will ask Kopelman and Paige what the standard practice is. The Board took comments from Anne Stewart and Chairman Hughes closed the hearing. It was agreed that Mr. MacAskill and Mr. Clark would come back in 1-2 weeks as to how they want to format this. Mr. MacAskill noted that they are waiting for some more input from Bob Duncanson. Mr. Clark noted that there is a placeholder in for the Annual Town Meeting.

OLD BUSINESS

A. Route 28, West Harwich Road Improvements – *discussion*

Ms. Cebula suggested putting the stakes in the ground now for this project so people understand where the lines are and she recommended that the Board direct the Town Administrator to do so. Mr. Clark explained that right now we have only contracted for VHB to design concepts and once that is done and brought to the public, then we can do the stakes. He noted that we also have to decide about pursuing State money if we like the plans. Mr. Hooper stated that what we have done is a very conceptual plan of what the State typically accepts. He said the starting point should be a meeting with VHB and staff on how to approach the State and then come back to the Board. He cautioned that we are a long way off from doing this project.

Town of Harwich, Massachusetts
Sewer Use Bylaw - March, 2016

The Town of Harwich hereby establishes the following sewer use bylaw (Bylaw) governing the use of the wastewater collection system in Harwich, County of Barnstable, Commonwealth of Massachusetts.

While this Bylaw will apply to the wastewater collection system throughout the town it has been specifically developed herein for the wastewater collection system to be implemented in the Pleasant Bay Watershed area of Harwich. Wastewater collected in this area will be conveyed to the Town of Chatham wastewater treatment facility. As part of this Bylaw, the sewer governance board shall establish Rules and Regulations and from time to time modify said Rules and Regulations as required by Massachusetts General Laws Chapter 83, Section 10.

Purpose: The purpose of this Bylaw, and the subsequent Rules and Regulations, is:

a) To establish the technical and administrative procedures for making connections to the sanitary sewer system including standards of materials and design;
b) To establish requirements, restrictions, and controls on the quantities and quality of what may be discharged to the sanitary sewer system; such as discharges that may:
    1. Interfere with the operation of the sewer system, pumping station or publicly owned treatment works (POTW) in any way;
    2. Pass through the POTW, to the groundwaters, inadequately treated effluent that may cause contravention of standards for these waters or surface waters or cause violation of the POTW's Groundwater Discharge Permit (GWDP) or negatively impact the watershed into which treated effluent is discharged;
    3. Reduce the opportunity to reclaim or recycle treated wastewater and/or sludge from the system;
    4. Increase the cost or otherwise hamper or limit the disposal of sludges and other residuals;
    5. Endanger municipal employees or the public;
    6. Cause, directly or indirectly, any public nuisance conditions;
c) To prevent new sources of inflow and infiltration (I/I) and eliminate private source inflow;
d) To provide for equitable distribution to all uses of the POTW, all costs associated with the collection, transmission, treatment, and residuals disposal, and to provide for the collection of such costs: and
e) To provide for the orderly planning of sewer systems' and treatment systems' components to improve the health and environmental quality of the Town of Harwich and its people and resources while discharging wastewater in the Chatham Sewer System.

The established Rules and Regulations will be part of the contract with every person who discharges wastewater into the Town of Chatham Sewer System from the East Harwich area, and governs the relationship between the Town of Harwich and its consumers, contractors and/or developers, and all other persons who install sewers, discharges wastewater, is connected into the sewer system or applies for a connection to the sewer system.

Print

PART I ADMINISTRATION OF THE GOVERNMENT
TITLE XIV PUBLIC WAYS AND WORKS
CHAPTER 83 SEWERS, DRAINS AND SIDEWALKS
Section 10 Rules and regulations regarding use and connections

Section 10. A city, town or sewer district may, from time to time, prescribe rules and regulations regarding the use of common sewers to prevent the entrance or discharge therein of any substance which may tend to interfere with the flow of sewage or the proper operation of the sewerage system and the treatment and disposal works, for the connection of estates and buildings with sewers, for the construction, alteration, and use of all connections entering into such sewers, and for the inspection of all materials used therein; and may prescribe civil penalties, not exceeding five thousand dollars for each day of violation of any such rule or regulation. A city, town, sewer district, or a district established for the purpose of managing stormwater, pursuant to section 1A of chapter 40, may from time to time prescribe rules and regulations for the use of main drains and the management of stormwater to prevent the discharge of sediment and pollutants therein which may tend to degrade wetlands, streams, other surface water bodies, and groundwater and to inspect the facilities for the collection and infiltration of stormwater in order to reduce flooding and improve the quality of and decrease the quantity of stormwater runoff; for the connection of estates and buildings with main drains; for the construction, alteration, and use of all connections entering into such main drains; and for the inspection of all materials used therein; and may prescribe civil penalties, not exceeding $5,000 for each day of violation of a rule or regulation. Such rules and regulations shall be published once in a newspaper published in the city or town, if there be any, and if not, then in a newspaper published in the county, and shall include a notice that said rules and regulations shall be available for inspection by the public, and shall not take effect until such publication has been made.

Town Of Harwich, Massachusetts
SEWER USE RULES AND REGULATIONS
December, 2015

Pursuant to provisions of Massachusetts General Laws Chapter 83, Section 10, the Town of Harwich hereby establishes the following sewer use rules and regulations (Regulations) governing the use of the wastewater collection system in Harwich, County of Barnstable, Commonwealth of Massachusetts.

While these Regulations will apply to the wastewater collection system throughout the town they have been specifically developed herein for the wastewater collection system to be implemented in the Pleasant Bay Watershed area of Harwich. Wastewater collected in this area will be conveyed to the Town of Chatham wastewater treatment facility. It is anticipated that these Regulations will be modified accordingly for systems to be implemented in other watersheds.

Purpose

The purpose of these Rules and Regulations are:

a) To establish the technical and administrative procedures for making connections to the sanitary sewer system including standards of materials and design;
b) To establish requirements, restrictions, and controls on the quantities and quality of what may be discharged to the sanitary sewer system; such as discharges that may:

    1. Interfere with the operation of the sewer system, pumping station or publicly owned treatment works (POTW) in any way;
    2. Pass through the POTW, to the groundwaters, inadequately treated effluent that may cause contravention of standards for these waters or surface waters or cause violation of the POTW's Groundwater Discharge Permit (GWDP) or negatively impact the watershed into which treated effluent is discharged;
    3. Reduce the opportunity to reclaim or recycle treated wastewater and/or sludge from the system;
    4. Increase the cost or otherwise hamper or limit the disposal of sludges and other residuals;
    5. Endanger municipal employees or the public;
    6. Cause, directly or indirectly, any public nuisance condition;

c) To prevent new sources of inflow and infiltration (I/I) and eliminate private source inflow;
d) To provide for equitable distribution to all users of the POTW, all costs associated with the collection, transmission, treatment, and residuals disposal, and to provide for the collection of such costs; and
e) To provide for the orderly planning of sewer systems' and treatment systems'

components to improve the health and environmental quality of the Town of Harwich and its people and resources while discharging wastewater into the Chatham Sewer System.

The following rules and regulations are a part of the contract with every person who discharges wastewater into the Town of Chatham Sewer System from the East Harwich area, and governs the relationship between the Town of Harwich and its consumers, contractors and/or developers, and all other persons who install sewers, discharges wastewater, is connected into the sewer system or applies for a connection to the sewer system.

Modifications

Modifications, additions to or rescinding of these Rules and Regulations may take place from time to time as authorized by a Town Meeting as required by Massachusetts General Laws, Chapter 83, Section 10.

Notwithstanding anything to the contrary which may be contained therein, all amendments, changes, modifications, revisions, additions, or rescission of Articles I to XX of the Rules and Regulations shall not be valid without the approval and authorization of a majority vote of Town Meeting.
For items contained in the Appendix, modifications will be authorized by actions of the Harwich Wastewater Commissioners.

TOWN OF HARWICH
SEWER USE RULES AND REGULATIONS

TABLE OF CONTENTS

ARTICLE I
DEFINITIONS

Unless the context specifically indicates otherwise, the meaning of terms used in this ordinance shall be as follows:

Section 1. Act" or "the "Act" shall mean the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. 1251, et seq, and the regulations promulgated thereunder, as amended from time to time.

Section 2. "Board" shall mean the Board of Wastewater Commissioners of the Town of Harwich.

Section 3. "BOD" (Biochemical Oxygen Demand) shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedures in five (5) days at 20 degrees centigrade, expressed in milligrams per liter (mg/l).

Section 4. "Building Drain" shall mean that part of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste, and other drainage pipes inside the walls of the building and conveys it to the building sewer. The building drain ends at the building sewer which begins five (5) feet or (1.5) meters outside the inner face of the building's wall.

Section 5. "Building Sewer" shall mean the extension from the building drain, five feet (5') or one and one half (1.5) meters outside the inner face of the building's wall, to the public sewer or other place of disposal.

Section 6. "Combined Sewer" shall mean a sewer receiving both surface runoff water and sanitary sewage.

Section 7. "Department of Environmental Protection", or "DEP" shall mean the Massachusetts Department of Environmental Protection, established pursuant to M.G.L. Chapter 21, Section 26 or, where appropriate, the Administrator, Director or other duly authorized official of said agency.

Section 8. "Director" (or Superintendent) shall mean the person appointed by the Town of Harwich as the Superintendent of the Wastewater (or Sewer) Department of the Town of Harwich, who is vested with the authority and responsibility for the implementation and enforcement of these rules and regulations or his authorized deputy, agent, or representative.

Section 9. "Environmental Protection Agency", or "EPA" shall mean the United States Environmental Protection Agency, or, where appropriate, the Administrator or other duly authorized official of said Agency.

Section 10. "Garbage" shall mean solid wastes from the domestic or commercial handling, storage, preparation, cooking, and dispensing or sale of produce.

Section 11. "Industrial Wastes" shall mean any water carried or liquid wastes resulting from any process or industrial manufacturing processes, trade, business, or activity listed in 310 CMR 15.004.

Section 12. "Licensed Utility Installer" or "L.U.I." shall mean a person, as defined in Section 15, who upon submitting a License and Permit Bond, Certificate of Insurance, and pays the Utility Installer's License fee, all of which are approved by the Director of the Sewer Department, is permitted to perform the installation of sanitary sewers or building sewers.

Section 13. "Natural Outlet" shall mean any outlet into a watercourse, pond, lake, or other body of surface ground water.

Section 14. "NPDES" shall mean National Pollutant Discharge Elimination System.

Section 15. "Person" shall mean any individual, partnership, co-partnership, firm, company, corporation, association, joint venture, joint stock company, trust, estate, governmental entity, or their legal representatives, agents or assigns. The masculine gender shall include the feminine, the singular shall include the plural where indicated by the context.

Section 16. "pH" shall mean the logarithm (base 10) of the reciprocal of the concentration of hydrogen ions expressed in grams per liter of solution.

Section 17. "Private Wastewater Collection, Treatment, and Disposal Facilities" shall mean any system, not owned and/or controlled by a municipal (town) sewer department, used for the collection, treatment, and disposal of wastewater from one or more properties.

Section 18. "Properly Shredded Garbage" shall mean the wastes from the preparation, cooking, and dispensing and sale of food that has been shredded to such a degree that all particles will be carried freely under the conditions normally prevailing in public sewers, with no particle greater than one-half (1/2) inch (1.27 centimeters) in any dimension.

Section 19. "Public property" shall mean land, right-of way, or easement owned or controlled by the Town, or other Town, the Commonwealth of Massachusetts, United States government, or any department, political subdivision, or governmental entity.

Section 20. "Public Sewer" shall mean a sewer in which all owners of abutting properties have equal rights and is controlled by a municipal sewer department.

Section 21. "Sanitary Sewer" shall mean a sewer which carries wastewater from residential dwellings or commercial facilities without industrial waters or waste and to which stormwaters, surface waters, and groundwaters are not intentionally admitted.

Section 22. "Sewage" shall mean a combination of the water-carrying wastes from residences, business buildings, institutions, and industrial establishments, together with such materials, surface waters, and storm waters as may be present. The preferred term is wastewater.

Section 23. "Sewage Treatment Facility" shall mean any arrangement of devices and structures used for treating wastewater. The preferred phrase is wastewater treatment facility.

Section 24. "Sewage Works" shall mean all facilities for collecting, pumping, treating, and disposing of wastewater. The preferred phrase is wastewater facilities.

Section 25. "Sewer" shall mean a pipe or conduit for carrying wastewater.

Section 26. "Sewer Department" shall mean the Town of Harwich's wastewater collection, treatment, and disposal system(s) owned and operated by the Town of Harwich.

Section 27. "Shall" is mandatory; "May" is permissive.

Section 28. "Slug" shall mean any discharge of water, sewage, or industrial waste which in concentration of any given constituent or in quantity of flow exceeds, for any period of duration, longer than fifteen (15) minutes, more than five (5) times the average twenty-four (24) hour concentration or flows during normal operation.

Section 29. "Storm Drain" (sometimes termed "Storm Sewer") shall mean a sewer which carries storm, surface, and drainage waters, but excludes wastewater and industrial wastes, other than unpolluted cooling water.

Section 30. "Suspended Solids" shall mean solids that either float on the surface of, or are in suspension in water, wastewater, or other liquids, and which are removable by laboratory filtering.

Section 31. "Town" shall mean the Town of Harwich, Massachusetts or its legal representative, agent, or assign.

Section 32. "Town Administrator" shall mean the Town of Harwich Board of Selectmen's appointed Town Administrator.

Section 33. "Watercourse" shall mean a channel in which a flow of water occurs, either continuously or intermittently.

Section 34. "Wastewater" shall mean the liquid and water-carried industrial, non-domestic or domestic wastes, including sewage, industrial wastes, other wastes, or any combination thereof,

from dwellings, commercial buildings, industrial facilities, and institutions, together with any groundwater, surface water and stormwater that may be present.

Section 34. Abbreviations:

ANSI	American National Standards Institute
ASTM	American Society for testing and Materials
AWWA	American Water Works Association
BOD	Biochemical Oxygen Demand
CFR	Code of Federal Regulations
COD	Carbonaceous Oxygen Demand
EPA	Environmental Protection Agency
TSS	Total Suspended Solids

ARTICLE II
REGULATION OF SEWER FLOW

Section 1. Existing Structures.

Any structure in existence on July 1, 2016, regardless of its flow, may maintain that flow. No person shall modify an existing structure or change its use so as to increase its wastewater flow. Design criteria contained in 310 CMR 15.203, and any Board of Health Regulation modifying such, shall be used to determine whether a proposed modification or change in use shall constitute an increase in wastewater flow. Expansion or modification of existing structures, which may result in increased flow, shall not be allowed unless the increase is in compliance with the Board of Health's Regulations in effect on July 1, 2016.

Section 2. Determination of Present Wastewater Flow.

Wastewater flow to the municipal sewer shall be determined using provisions set forth in 310 CMR 15.203: System Sewage Flow Design Criteria, and any local Board of Health Regulation modifying such in effect on July 1, 2016. The owner of any property shall, upon reasonable notice and request, allow an inspection of a property for a determination of flow by an agent of the Board of Health, except that in lieu of this inspection, the owner of the property may submit a floor plan with sufficient detail to account for all outside structure dimensions. This floor plan must bear the signature of approval of a Certified Septic System Inspector.

Section 3. Undeveloped Parcels.

For the purpose of determining wastewater flow, any existing lot, otherwise qualified, may be permitted for that wastewater flow as determined under the Board of Health's Regulations in effect on July 1, 2016, or 310 CMR 15,000 et. Seq, whichever is less.

Section 4. Rebuilding because of fire, flood, storm or other acts of nature.

A property owner may rebuild a structure destroyed by fire, flood, storm or other acts of nature as a matter of right provided that the new structure does not exceed the wastewater flow of the structure being replaced.

Section 5. Variances.

In the case of unusual and substantial hardship, not the result of acts or omissions of the landowner, the Board of Wastewater Commissioners, after a public hearing of which notice has been given by publication and posting for a minimum of two weeks, may grant a variance to this part of the regulation, provided that sufficient capacity exists and such relief may be granted without substantially derogating from the intent or purpose of this regulation or the latest version of the Town of Harwich Comprehensive Wastewater Management Plan (CWMP).

ARTICLE III
BUILDING SEWERS AND CONNECTIONS

Section 1. No unauthorized person shall uncover, make any connections with or opening into, use, alter or disturb any public sewer or appurtenance thereof without first obtaining a written permit from the Superintendent. Any person proposing a new discharge into the system or a substantial change in the volume or character of pollutants that are being discharged into the /system shall notify the Superintendent in writing, and receive the Superintendents' written approval at least ninety (90) days prior to the proposed change in discharge or sewer connection.

No person shall construct, uncover, make any connections with or opening into, use, alter or disturb any public wastewater collection, treatment, and disposal facilities or appurtenance thereof without first obtaining a written permit from the Superintendent working on behalf of the Wastewater Commission.

Section 2. There shall be two (2) classes of building sewer permits for: (a) residential and commercial service and (b) service to establishments producing industrial wastes. In either case, the owner or his agent shall make application on a special form furnished by the Town of Harwich. The permit application shall be supplemented by any plans, specifications, or other information considered pertinent in the judgment of the Superintendent and Director of the Health Department. A permit and inspection fees connection charges, and inspection fee shall be paid at the time the application is filed.

Section 3. All costs and expenses incident to the installation and connection of the building sewer to the sewer works shall be borne by the owner. The owner shall indemnify the Town from any loss or damage that may occur either directly or indirectly or occasioned by the installation or repair of the building sewer. Construction of all building sewers shall be performed only by a Licensed Utility Installer.

Section 4. A separate and independent building sewer shall be provided for every building; except where one building stands at the rear of another on an interior lot and no private or public sewer is available or can be constructed to the rear building through either: an adjoining alley,

courtyard, driveway, or easement. If these conditions exist, the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer.

Section 5. Old building sewers may be used to connect new buildings only when they are found, on examination and test, to meet all requirements of these rules and regulations and are approved by the Superintendent.

Properties with building sewers that will be connected to the sewer system from a septic system, a portion of the existing pipe may be used as part of the building lateral to a public sewer or to a pumping system only if it meets the requirements in the previous paragraph.

Section 6. A property that is generating wastewater, where a common sewer is available for connection, shall be connected to the common sewer, within one year (365) days of written notification from the Board of Health, unless the Board determines a different connection schedule following a public hearing. For new construction, connection to the common sewer, where a common sewer is available for connection, shall be completed prior to the issuance of a Certificate of Occupancy.

In the case of construction of new common sewers, or extensions of existing common sewers, said Board of Health written notification shall follow notice from the Board of Water & Sewer Commissioners that said common sewer(s) are complete.

ARTICLE IV
USE OF THE PUBLIC SEWER

Section 1. No person shall discharge or cause to be discharged any stormwater, surface water, ground water, roof runoff water, subsurface drainage water, uncontaminated cooling water or unpolluted industrial waters to any sanitary sewer.

Section 2. Stormwater and all other unpolluted drainage waters shall be discharged to such systems as are specifically designated as storm sewers or to a natural outlet as approved by the Town Conservation Commission, Town Surveyor of Highways (or equivalent), and/or the Commonwealth of Massachusetts DEP or EPA. Any such discharge may be subject also to an NPDES permit. It shall be the responsibility of the originator of the discharge to obtain all required permits.

Section 3. Cleaning, maintaining, and repairing of building sewers, from the building to the property line at the street, shall be done at the expense of the owner, provided there is a manhole or cleanout at the property line. If there is no manhole or cleanout at the property line, the owner shall be responsible for the building sewer from the building to the public sewer.

Section 4. No person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewer or wastewater works.

A. Any liquids, solids or gases which, by reason of their nature or quantity, are or may

be sufficient, either alone or by interaction with other substances, to cause fire or an explosion or be injurious, in any way to the sewage works, or to the operation of the sewage works, or to the safety and welfare of the workers and the public at large shall be prohibited from discharge to the wastewater works. Prohibited materials include, but are not limited to, gasoline, kerosene, naptha, benzene, toluene, xylene, ethers, alcohols, carbides, hydrides, and sulfides, and any other substance which the Director, the Town of Chatham (for Harwich wastewater collected and treated in Chatham), the State, or EPA has determined to be a fire hazard to the sewer works.

B. Any waters or wastes containing toxic or poisonous solids, liquids or gases in sufficient quantity, either singly or by interaction with other wastes, to injure or interfere with any sewage collection or treatment process, constitute a hazard to humans or animals and/or create a public hazard in the receiving waters of the sewage treatment facility.

C. Any water or wastes having a pH less than 5.5 or greater than 9.5 or having any other corrosive property capable of causing damage or hazard to structure, equipment, and/or personnel of the sewage works.

D. Solid or viscous substances in quantities or of such size capable of causing obstruction to the flow in sewers, or other interference with the proper operation of the sewage works, such as, but not limited to: fish scales, fish gurry, ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, diapers, feathers, plastics, wood, unground garbage, whole blood, paunch manure, hair and fleshings, entrails, and paper dishes, towels, cups, milk containers, and etc. .

E. Due to the special nature and environmental needs of the Town and the surface and groundwaters of the Town, no person shall discharge or cause to be discharged wastewater containing nitrogen and/or phosphorus compounds in a concentration greater than 50mg/L. Any non-domestic discharges having concentration greater than 50mg/L shall require a special permit from the Director. Said permit may include sampling, flow measurement, pretreatment, and/or special fees as a condition of permit issuance.

Any non-domestic discharge having a BOD or TSS concentration greater than 300 mg/L shall require a special permit from the Director. Said permit may include sampling, flow measurement, pretreatment, and/or special fees as a condition of permit issuance.

F. Any wastewater which will cause interference or pass through.

Section 5. No person shall discharge or cause to be discharged the following described substances, materials, water, or waste if it appears likely in the opinion of the **Director** that such waste can harm the wastewater treatment process, or equipment, have an adverse effect on the receiving stream or can otherwise endanger life, limb, public or private property or cause a nuisance.

Informing his opinion as to the acceptability of these substances, the Director will give consideration to such factors as: the quantities of subject substance in relation to flows and

velocities in the sewers; material use in the construction of the wastewater collection and treatment facilities; nature of the wastewater treatment process; capacity of the wastewater collection and treatment facilities; and other factors which in his judgment are pertinent.

The limitations on wastewater strength or mass discharge contained herein may be supplemented with more stringent limitations when, in the opinion of the Director they are warranted:

(1) The limitations in this set of regulations are not sufficient to protect the POTW and the sewage works;
(2) The limitations herein are not sufficient to enable the POTW to comply with applicable water quality standards, the effluent limitations specified in the POTW's groundwater discharge permit, or effluent reuse;
(3) The POTW sludge or other residuals will be rendered unacceptable for disposal or reuse at the Town of Chatham treatment facility desires as the result of discharge of wastewaters at the above prescribed limitations;
(4) Municipal employees or the public will be endangered or otherwise affected by nuisance conditions;or
(5) Air or ground water impacts will be caused.

The restricted substances are as follows:

A. Any solid, liquid, vapor, or gas having temperature higher than 65 degrees C (150)degrees F): however, such materials shall not cause the POTW influent temperature to be greater than 40 degrees C (104 degrees F). The Director reserves the right to prohibit or limit the discharge of wastes whose maximum temperatures are lower than 65 degrees C.

B. Any water or waste containing fats, wax, grease or oils, whether emulsified or not, in excess of one hundred (100) mg/l or containing substances which may solidify or become viscous at temperatures between thirty two (32) and one hundred and four (104) degrees F (0 and 40 degrees C).

C. Any garbage that has not been properly shredded to a maximum of one half of an inch (1/2"), 1.27 centimeters, in any dimension. The installation and operation of any garbage grinder equipped with a motor of three-fourths (3/4) horsepower (0.76 hp metric) or greater shall be subject to the review and approval of the Director.

D. Any waters or wastes containing strong acid iron pickling wastes, or concentrated plating solutions whether neutralized or not.

E. Any waters or wastes containing iron chromium, copper, zinc, and similar objectionable or toxic substances; or wastes exerting an excessive chlorine requirement, to such degree that any such material received in the composite sewage at the sewage works exceeds any limits established by EPA or DEP for such material.

F. Any waters or wastes containing phenols or other taste or odor producing substances in concentration exceeding limits, established by the Director, as necessary, after treatment of the composite sewage to meet the requirements of the State, Federal, or other public agencies having jurisdiction over sewage treatment facilities' discharge to receiving waters.

G. Any radioactive wastes or isotopes of such half-life or in concentration as may exceed limits, established by the Director and not in compliance with applicable State or Federal regulations.

H. Any water or wastes having a ph in excess of 9.5.

I. Materials which exert or cause:

1. Unusual concentrations of inert suspended solids, such as, but not limited to: fullers earth, lime slurries, and lime residues or of dissolved solids, such as, but not limited to: sodium chloride and sodium sulphate.

2. Excessive discoloration (such as, but not limited to: dye wastes and vegetable-tanning solutions).

3. Unusual BOD, chemical oxygen demand, or chlorine requirements in such quantities as to constitute a significant load on the sewage works.

4. Unusual volume of flow or concentration of wastes constituting "slugs" as defined herein under Article 1, Definitions.

J. Waters or wastes containing substances which are not amenable to treatment or reduction by the sewage treatment processes employed, or are amenable to treatment only to such degree that the sewage treatment facilities' effluent cannot meet the requirements of other agencies having jurisdiction over discharge to the receiving waters.

K. Concentration and/or mass-based limits-No person shall discharge, directly or indirectly, into the sewer works, wastewater containing any of the following substances in concentrations exceeding those specified below on either a daily basis or an instantaneous basis, except by permit. Limits are applicable at the point of exit from a property to the public sewer.

POLLUTANT	CONCENTRATION: PARTS PER MILLION (mg/L
Arsenic as As	0.05
Barium as Ba	5.0
Boron as B	5.0
Cyanides as Cn (amenable)	0.1
Fluroide as F	20
Chromium (total)	1.0

Chromium (Cr+6)	0.1
Magnesium as Mg	100
Manganese as Mn	5.0
Copper as Cu	1.0
Zinc as Zn	1.0
Cadmium	0.07
Lead	0.1
Tin	2.0
Silver	0.1
Mercury	0.01
Nickel	1.0

Note: All metals are to be measured as total metals.

Section 6. If any waters or wastes are discharged, or are proposed to be discharged to the public sewers, which contain the substances or posses the characteristics enumerated in Section 5 of this Article, and which in the judgment of the Director may have a deleterious effect upon the sewage works, processes, equipment, or receiving waters or which otherwise create a hazard to life or constitute a public nuisance, the Director may:

A. Reject the wastes.

B. Require pretreatment to an acceptable condition before discharge to the public sewers.

C. Require control over the quantities and rates of discharge and/or

D. Require payment to cover the added cost of handling and treating the wastes not covered by existing taxes or sewer charges.

If the Director permits the pretreatment or equalization of waste flows, the design and installation of the pretreatment facility and equipment shall be subject to the review and approval of the Director and subject to the requirements of all applicable codes, ordinances, and laws.

Section 7. Grease, oil, and sand interceptors shall be provided when, in the opinion of the Director they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand, or other harmful ingredients; Except such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of the type and capacity approved by the Director, and shall be located as to be readily and easily accessible for cleaning and inspection. MDC Grease Interceptors shall be installed in the building sewer serving restaurants or hotels, boarding houses that prepare and serve food or business of a similar nature. Maintenance, operation, and repair of all installed interceptors shall be at the expense of the owner and subject to the inspection by the Director or his authorized representative.

1. Grease traps shall be inspected monthly, for the months in use, by a duly appointed representative of the Town and shall be cleaned by a licensed septage

hauler whenever the level of grease is 25% of the effective depth of the trap or at least every three months whichever is sooner. Facility owners/operators shall be responsible for notifying the Wastewater Department of extended periods of time (one [1] month or more) when the grease trap is not in use (i.e. the facility will be closed) to avoid being inspected and billed for those months.

2. Following pumping of a grease trap the grease trap shall be filled with treated water from the WPCF to a point above the discharge pipe.

Section 8. The owner of any property serviced by a building sewer carrying industrial wastes shall install a suitable control manhole together with such necessary meters and other appurtenances, as determined by the Director, in the building sewer to facilitate observation, sampling, and measurement of wastes. Such manhole shall be accessible and safely located, and shall be constructed in accordance with plans approved by the Director. The manhole shall be installed by the owner at the owner's expense and shall be maintained by owner so as to be safe and accessible at all times.

Section 9. All measurements, tests, and analyses of the characteristics of waters and wastes to which reference is made in this ordinance shall be determined in accordance with the latest edition of " Standard Methods for the Examination of Water and Wastewater", published by the American Public Health Association and 40CFR, Part 136, and shall be determined from suitable samples taken at the control manholes provided. In the event that no special manhole has been provided, the control manhole shall be determined by the Director. (Normally the control manhole will be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected). Sampling shall be carried out by customarily accepted methods to reflect the effect of constituents upon the sewer works and to determine the existence of hazards to life, limb, and property. (The particular analyses involved will determine whether a twenty-four (24) hour composite of all outfalls of a premise is appropriate or whether a grab sample for samples should be taken. Normally, but not always, BOD and suspended solids analyses are obtained from 24 hour composites of all outfalls, whereas pH's are determined from periodic grab samples or continuous monitors).

Section 10. No statement contained in this Article shall be construed as preventing any special agreement or arrangement between the Town and any industrial concern whereby any waste of unusual strength or character may be accepted by the Town for treatment, subject to payment therefore, provided that such agreements do not contravene any requirements of existing federal, state, or local laws and are compatible with any user charge and industrial cost recovery system in effect.

ARTICLE V
PROTECTION FROM DAMAGE

Section 1. No person shall maliciously, willfully or negligently break damage, destroy, uncover, deface, or tamper with any structure, appurtenance or equipment which is a part of the

sewage works. Any person violating this provision shall be subject to immediate arrest under charge of disorderly conduct.

ARTICLE VI
POWER AND AUTHORITY OF INSPECTION

Section 1. The Director and other duly authorized employees of the Town of Harwich Wastewater Department, bearing proper credentials and identification, shall be permitted to enter all properties for the purpose of inspection, observation, measuring, sampling, and testing in accordance with the provisions of this ordinance. The Director, or his representatives, shall have no authority to inquire into any processes including metallurgical, chemical, oil refining, ceramic, paper, or other industries beyond that point having a direct bearing on the kind and source of discharge to the sewers or waterways or facilities for wastes treatment.

Section 2. While performing the necessary work on private properties, referred to in Article VII, Section 1., above, the Director, or duly authorized representative of the Director shall observe all safety rules applicable to the premises established by the owner or occupant person and the owner and/or occupant person shall be held harmless for injury or death to the Director's representative and the Town shall indemnify the owner and/or occupant person against loss or damage to its property by Director's representatives and against liability claims and demands for personal injury or property damage asserted against the and owner /or occupant person and growing out of the gauging and sampling operation, except as such may be caused by negligence or failure of the owner and/or occupant person to maintain safe conditions as required in Article V Section 9.

Section 3. The Director, and other duly authorized representative of the Wastewater Department, bearing proper credentials and identification shall be permitted to enter all private properties through which the Town holds a duly negotiated easement for the purpose of, but not limited to: operation, inspection, observation, measuring, sampling, repairing, and maintenance of any portion of the sewage works lying within said easement. All entry and subsequent work, if any in said easement, shall be done in full accordance with the terms of the duly negotiated easement pertaining to the private property involved.

ARTICLE VII
PENALTIES

Section 1. Any person found to be violating any provisions of these Rules and Regulations except Article IV shall be served by the Town with written notice stating the nature of violation and the offender shall permanently cease all violations. The Director may immediately halt or prevent any discharge of pollutants which reasonably appears to present an imminent endangerment to the health or welfare of persons. In the event that the Director determines that a discharge of pollutants reasonably appears to present an imminent endangerment to the health or

welfare of persons, the Director may provide informal (oral or written) notice of such determination to the discharger. The offender shall, within the period of time stated in such notice, permanently cease all violations by immediately stopping or eliminating such discharge and shall submit written proof of the elimination of the discharge to the Director within forty-eight (48) hours of receipt of notice of the Director's determination. If said person fails to voluntary halt such discharge, the Director will take such actions as deems necessary to prevent or minimize endangerment to the health or welfare of persons. Such actions may include, but are not limited to: seeking temporary injunctive relief, entry onto private property to halt such discharge, severance of the sewer connection, suspension of wastewater disposal service, suspension or revocation of a discharge permit, and/or implementation of legal action. After such discharge has been halted, the Director may take such other and further actions as may be necessary to ensure elimination of said discharge and to ensure compliance with the terms of these Rules and Regulation and any discharge permits issued hereunder.

Section 2. Any person who shall continue any violation beyond the time limit provided for in Article VIII, Section1 shall be guilty of a misdemeanor, and on conviction thereof, shall be fined an amount not exceeding five thousand dollars ($5,000) for each day for each violation of any provisions of these Rules and Regulations. Each day in which any such violation shall continue shall be deemed a separate offense. These penalties are stated in the Massachusetts General Laws, Chapter 83, as amended by Chapter 174 of the Acts of 1987. Enforcement action shall be considered to begin immediately upon discovery of the violation for the purpose of calculating penalties, etc.

Section 3. Any person violating any of the provisions of this ordinance shall become liable to the Town for any expense, loss or damage occasioned by the Town by reason of such violation.

Section 4. Neither the Town nor any of its employees shall be liable for damages arising out of a malfunction of the system including, but not limited to, backups.

ARTICLE VIII
VALIDITY

Section 1. All ordinances or parts of ordinances in conflict with these Rules and Regulations of the Sewer Department are hereby repealed.

Section 2. The invalidity of any section, clause, sentence, or provision of this ordinance shall not affect the validity determined by the Board as to which of any other part of this ordinance which can be given effect without such invalid part or parts.

ARTICLE IX
COLLECTION OF SEWER AND SERVICE CHARGES:

Sewer bills are due payable within thirty (30) days from the date of issuance. All sewer bills that are outstanding after 30 days will be mailed a demand notice which shall be due within fourteen (14) days. The demand notice shall include a demand charge and interest on the outstanding balance. Interest shall accrue at the statutory rate applicable to property taxes as stated in Massachusetts General Law Chapter 59, Section 57. If the charges are still unpaid after the due date of the demand notice, a hand delivered notice will be posted on the premises being served one week before sewer service is turned off or plugged. In order to turn off or plug a sewer service without causing a health problem the water service shall also be turned off. If the water service shall be turned off for non-payment of the sewer service charges, the water service will not be turned on until all past charges are paid in full, including all expenses associated with collection of such sewer charges and the shut off of water service. Such shut off of water charges shall be as approved by the Water Commissioners as water rates and charges of the Water Department.

ARTICLE X
GRIEVANCE AND VARIANCE PROCEDURE:

A person who seeks a variance or feels aggravated due to the interpretation of these Rules and Regulations as it affects them shall have recourse, without prejudice or retribution, to seek a response to the alleged situation, condition, problem or misunderstanding in the following manner:

Step 1. The person shall present the issue to the Director in writing using the forms available at the Wastewater Departments' office, documenting the time and/or dates of the circumstances and reasons for a variance request or said grievance. The person may expect a reply to the request for variance or grievance within thirty (30) days from the date of filing with the Director.

Step 2. Should the issue not be resolved with the response from the Director or not received within thirty (30) days, the person may take the issue to the Wastewater Commission. Such submission shall include copies of all written documentation of the variance request or said grievance, with all sequence of actions or inactions taken to date.

The Wastewater Commission will use its best effort to hold a hearing within forty-five (45) days of receipt of an application for a abatement, variance or grievance request, and shall render a decision within forty-five (45) days after holding such hearing on the application for a abatement, variance or grievance request.

Step 3. Should the issue not be resolved with the response from the Wastewater Commission or not received within forty-five (45) days after the Wastewater Commission closes the hearing on a person's application for abatement, variance or grievance request, the person may take the issue to the Board of Selectmen. Such submission shall include copies of all written documentation of the variance request or said grievance, with all sequence of actions or inactions taken to date. The Board of Selectmen will use their best effort to hold a hearing within sixty (60) days of receipt of an application for an abatement, variance or grievance request and shall render a decision within forty-five (45) days from date of the hearing.

ARTICLE XI
ORDINANCE IN FORCE

Section 1. This ordinance shall be in full force and effect from and after its passage, approval, recording, and publication as provided by law.

APPENDICES

Appendix A: Design of Sewers
Appendix B: Construction Technical Specifications

APPENDIX A
DESIGN OF SEWERS

Section 1. General

Wastewater collection systems shall be designed separately from stormwater systems. Wastewater collection systems shall not allow for the introduction of rain water, noncontract cooling water, and groundwater from foundation drains, sump pumps, surface drainage or any other source of inflow. Overflows from wastewater collection systems shall also not be permitted.

New sanitary sewers and all extensions to sanitary sewers owned and operated by the Town of Harwich shall be either gravity sewers or low pressure sewers in accordance with the Town's approved wastewater treatment facility plan, and shall be designed by a professional engineer licensed to practice in the Commonwealth of Massachusetts, in accordance with the Guides for the Design of Wastewater Treatment Works (TR-16), and in strict accordance with appropriate Massachusetts codes and the Town of Chatham Rules and Regulations of the Sewer Department. Plans and specifications shall be submitted to and approved by the Director before initiating any construction. The design shall anticipate and allow for flows from all possible future extensions or development within the immediate drainage area in conformance with Town planning documents.

Section 2. Building sewers shall be constructed of such materials and shall be a minimum four (4") inch diameter pipe for single family residential connections and six (6") inch diameter pipe for multi-family, commercial or industrial connections or as the Superintendent may determine. Sewer pipe shall be made from: ductile iron with the outside coated with extra heavy bituminous coating approved for buried utilities and the inside cement lined, minimum schedule 35 P.V.C. or acceptable substitute approved by the Superintendent. The building sewer shall be laid straight in line and grade.

Single family residential building sewers must have watertight wye cleanouts, with H-20 rated valve frame and cover box, with the word "SEWER" in raised lettering, at all locations where pipe size, slope or direction changes and at the property line. Additional cleanouts may be required for runs of 100 feet or more, or at the discretion of the Director. The cleanout shall be brought to within four (4") inches below final grade, except for paved surfaces, (bituminous concrete, concrete, paving blocks, etc.) the cover shall be flush with the finished surface. Cleanouts in pressure sewers shall be located and constructed per the manufacturer's recommendation.

For multi-family, commercial or industrial sewer connections manholes shall be used at all locations where pipe size, slope or directions changes. Commercial or industrial sewer connections shall include a sampling station, to be used for discharge sampling, located in the road layout at the property line. The sampling station shall consist of a precast manhole with approved frame & cover.

Pressure Sewer Laterals:

If building is to be connected to a low pressure sewer or requires a pump to lift sewage to a gravity sewer, the gravity portion of the installation shall meet the requirements of the previous paragraph. The pressure pipe shall be minimum 1-1/4 inch diameter if a grinder pump is used and 2-inch diameter if a grinder pump is not used or other such larger size if the sewage flow and characteristics differ from a single-family residence.

Materials

Polyethylene for 1-1/4 –inch pipe through 4 inch pressure pipe with material conforming to ASTM D3350, Type PE-4710 HDPE pressure Class PC 200, SDR-11. Fittings for use with polyethylene pipe and tubing shall be manufactured and furnished by the pipe supplier and in conformance with AWWA C901 requirements. Joints for polyethylene pipe shall be jointed by the butt fusion method in a manner recommended by the pipe manufacturer.

Polyvinyl Chloride (PVC) Pipe- ASTM D2241 PVC pressure pipe material conforming to ASTM D1784, minimum class SDR 21 for pipe 1-1/4-inch through 4-inch, push-on joint conforming to ASTM D3139 with flexible elastomeric gaskets conforming to ASTM F477.

A ball valve with curb stop and check valve shall be installed on all low pressure and force mains, as close as feasible to a property line. Ball valves for low pressure sewers shall be true union type constructed from PVC Type I cell classification with EPDM O-rings. All valve components shall be replaceable. Ball valves 2 inch and smaller shall be pressure rated to 235 psi, while valves larger than 2 inches shall be rated to 150 psi. Ball valves shall have a Safe-T-Block seal carrier to stop flow in either direction, allowing safe removal of the downstream union nut for system service or modification. Ball valves shall be true union ball valves as manufactured by Spears Manufacturing Company, or equal. Check valves for low pressure sewer laterals shall be made of stainless steel or fabric-reinforced synthetic elastomer to allow for a positive seal with minimum backpressure. Check valves shall be true union ball check valves.

Curb stop valves shall be of brass or bronze construction and two rubberized O-ring seals to provide pressure-tight seal. Curb stop valves shall be figure H-15204 as manufactured by Mueller-Oriseal, B22 as manufactured by Ford Meter Box Company, Hayes, Nueseal, or equal. Curb boxes shall be 2-1/2 inch shaft size two-piece screw type. They shall be adjustable from 48-inch to 72-inch. Curb boxes shall be constructed of cast iron and thoroughly coated with two coats of asphaltum varnish. Curb box shall be stainless steel supplied with a hole in the "U" portion for the insertion of a stainless steel pin. Pins shall be supplied and shall be made of stainless steel. Curb boxes shall be as manufactured by Ford Meter Box Company, Mueller Company, or equal.

Gravity or low pressure pipe shall have magnetic marking tape 2 inches wide with the words "SANITARY SEWER BELOW," installed not more than two (2') feet below finished grade on all mainline and service laterals.

Section 3. Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. All buildings in which any building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such building drain shall be lifted by an approved means and discharged to the building sewer or public sanitary sewer, as specified by the Director.

Low Pressure Grinder Pumps or Lift Pumps:

Each property serviced by a low pressure sewer shall have a dedicated pre-manufactured pump station suitable for the flow, pressure and other conditions defined by the property and the public sanitary sewer. The station shall include an in-ground self contained unit with submersible motor, level controls, sensors, alarms, and an emergency generator pulg-in connection. Properties whose sewage quantities and characteristics are equivalent to four or more families shall install a duplex pump. Refer to further requirements in Article IV-Design of Sewers, Section 11- Grinder Pump Systems.

Section 4. No person shall make connection of roof downspouts, exterior foundation drains, areaway drains, or other sources of surface runoff or ground water to a building sewer or building drain which is connected directly or indirectly to a public sanitary sewer.

Section 5. Exhaust from engines, blowoff from boilers, drainage of gasoline or any explosive liquor, liquids, or other flammable substances shall not be permitted to be discharged into any building sewer which is connected directly or indirectly to a public sanitary sewer. At the time a connection is made to the Town's sanitary sewer system, the interior plumbing shall be inspected to ensure that no connections to roof drains, yard drains, foundation drains, sump pumps, or other sources of drainage water is connected to the sanitary sewer.

Section 6. The connection of the building drain into the building sewer shall conform to the requirements of the building and plumbing code or other applicable rules and regulations of the Town.

Section 7. The Licensed Utility Installer, listed on the approved sewer connection permit, shall notify the Water and Sewer Departments, a minimum of 72 hours, before the building sewer will be ready for connection to the public sewer. The Director will schedule the time and date when he or his representative will be available to perform an inspection of the building sewer's connection to the public sewer, connection shall be made only under the supervision of the Director or his representative.

Section 8. All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways, and other public property and/or private property disturbed in the course of the work shall be restored in a manner satisfactory to the Director.

Section 9a. Plumbers and private contractors, of established reputation and experience, who have paid the required filing fees, as stated in Section 13b, and have provided the required license and permit bonds, as stated in Section 13c, and have submitted a Certificate of Insurance with required coverage, as stated in Section 13d, may be approved by the Director as a Licensed Utility Installer (L.U.I.).

Applicants for licenses for installing sewer main and sewer services shall attend a training seminar on the installation of low pressure pumps that is conducted by the manufacturer, and the applicant shall show evidence of course completion.

Note: The installation of grinder pumps may require other permits such as, but not limited to: electrical and plumbing.

Section 9b. Applicants for licenses as sewer main and sewer service installers (Licensed Utility Installer) are required to pay a filing fee. As set by the Board (see rates and fees schedule).

Section 9c. Applicants for licenses as sanitary sewer and building sewer installers (Licensed Utility Installer) shall obtain a License and Permit Bond in the amount of Five Thousand ($5,000.00) Dollars or an amount equal to
100% of the construction cost of any proposed sewer connection located within or on public property or an amount approved by the Director, whichever is greater. Said license and permit bond shall remain in full force and effect for a period of one (1) year from date of acceptance by the Town of the L.U.I.'s last sewer connection. This bond will guarantee that the Licensed Utility Installers (L.U.I.) will comply with the statutes, regulations, or ordinances of the Town of Chatham. The license and permit bond shall be duly executed by the Principal of the L.U.I. and by a Surety Company qualified to do business under the laws of the Commonwealth of Massachusetts and satisfactory to the Director.

Section 9d. Before any Licensed Utility Installer performs any work in, on, under or around streets, sidewalks and property belonging to the Town of Chatham, it will be necessary for him to furnish, simultaneously with the submittal of the License and Permit Bond, a Certificate of Insurance showing that the contractor has the following coverage:

1.	General Liability -	$500,000 $500,000-$1,000,000	Property Damage Bodily Injury
2.	Automotive Liability-	$500,000 $500,000-$1,000,000	Property Damage Bodily Injury

3. Workmen's Compensation and Employer's Liability as required under Massachusetts General Laws.

4. Insurance shall include coverage for collapse of underground structures.

5. Insurance shall include coverage for projects completed operations.

All above insurance coverage shall remain in full force and effect for a period of at least one (1) year from the date of acceptance by the Town of the last sewer connection installed by the L.U.I. The L.U.I. shall take all responsibility for the work, and take all precaution for preventing injuries to persons and property in or about the work.

Section 9e. The L.U.I. shall pay all debts for labor and materials contracted for or by him on account of the work and shall assume the defense of and indemnify and save harmless the Town of Chatham and its Officers and Agents from all claims relating to labor and or alleged infringement of inventions, patents, or from injuries to any person or corporation caused by the acts of negligence of the L.U.I. any of his agents or employees, or any subcontractor, in doing the work or in consequence of any improper materials, implements, or labor used therein.

Section 9f. Before the L.U.I.'s License and Permit Bond or any coverage listed in the L.U.I.'s Certificate of Insurance expires, the L.U.I.'s shall send a revised License and Permit Bond or Certificate of Insurance to the Water and Sewer Department showing that the bond or insurance coverage, is still in place. The Licensed Utility Installer shall NOT perform any work in, on, under or around streets, sidewalks and property belonging to the Town of Chatham or any other public property if their License and Permit Bond or any coverage listed in their Certificate of Insurance has elapsed.

Section 9g. Approved Licensed Utility Installers will renew their Utility Installers Licenses by submitting a revised License and Permit Bond, Certificate of Insurance, and License Fee by January 1st of each year. All Utility Installers' Licenses expire at Midnight, December 31st of each year.

Section 10. All sanitary sewer extensions shall require inspection by a qualified inspector or the Director may determine that a building sewer installation or repair will require full time inspection by a qualified inspector. In either case the Director will designate a private inspector as Town Inspector who shall represent the interest of the Town of Chatham during construction of any sanitary sewer extension or building sewer installation or repair, and will monitor and inspect the ongoing progress of the work, full-time observation is required. The costs for the

services performed by said Town Inspector shall be paid by the developer or owner, through the Water and Sewer Departments. Flows will not be permitted to be discharged from any service connection until a Certificate of Compliance is submitted by the Town Inspector and the report is approved by the Director.

Section 11. After the completion of any building sewer's repairs or connection to the municipal sewer, the L.U.I. shall fill out a sewer connection tie card, on the forms provided at the Water and Sewer Departments' office, for each building sewer the L.U.I. has performed work on. The tie-card shall be completed before the inspection of the L.U.I.'s work, and before the L.U.I. backfills the building sewer and connection to the municipal sewer.

Section 12. After completion and before the final inspection of any sanitary sewer connection or building sewer connection for residential dwellings with four (4) or more dwelling units, industrial connections, commercial connections with five (5) or more water closets, commercial connection with industrial water or waste, connections of private sewer system or whenever the Director requires, the Licensed Utility Installer, developer or owner will furnish a reproducible mylar "as-built" drawing (1" = 20') to the Director. The as-built drawing(s) shall contain a plot plan(s) with building(s) and highway layouts, sewer layouts with profiles, force mains, force main gates, pump station(s), pump station(s) details, and descriptions of each building sewer showing the depth of all connections, pipes, and manholes, using buildings or other permanent markers as reference points. The as-built drawing (s) shall contain any other information deemed necessary by the Director.

Section 13. Alternative Sewer Collection Systems:

Sewer collection systems not stated in these Rules and Regulations of the Sewer Department shall only be permitted with the Director's conditional approval.

Section 14. Design Capacity and Design Flow

Design Factors:

- ☐ Peak hourly sewage flow
- ☐ Additional peak flows of industrial and commercial wastes
- ☐ Maximum groundwater infiltration
- ☐ Topography of the immediate area
- ☐ Difficulty of installation

Design Period:

Sewage collection systems shall be designed for a life span

of 50 years, and interceptor sewers shall be designed to handle the maximum capacity of uses in the drainage area as determined by the Director.

Design Flow:

Submit a detailed description of the procedures used for calculating sewer design flow to the Director.

The Massachusetts 310 CMR 15.000, the State Environmental Code, Title 5, shall be used for calculating the design flow for sewers. If the Massachusetts 310 CMR 15.000, the State Environmental Code, Title 5, does not have a flow rate for the proposed use, the following methods may be used with the approval of the Director:

Flow Related to Water Consumption;

When available, use existing sewage flow and/or consumption data as a basis for sewer design. If such data are not available, using flow data from a similar community or users;

Per Capita Flow;

Where actual flow data cannot be obtained, base residential flows from new collection systems on an average daily per capita flow of not less than 70 gallons per day (0.27 m3/day). Add an appropriate allowance for infiltration to this flow;

In all cases, add a minimum allowance of 250-500 gpd/in. diam/mile of sewer (0.24-0.48 m3/cm of pipe diam/km/day) for infiltration to the water consumption, per capita flow or any other calculation method required by the Director.

Section 15. Details of Gravity Sewer Pipe Design and Construction

Minimum Sewer Pipe Size:

No gravity sewer shall be less than 8 inches in diameter (20 cm).

Depth:

In general, sewers shall be deep enough to drain basement fixtures
and to prevent freezing. Water tight insulation shall be provided for sewers that cannot be placed deep enough to prevent freezing.
For house connections chimneys (vertical pipe) preformed block units shall be used when the sewer main is greater than or equal to 12 feet deep.

Buoyancy:

Where high groundwater conditions are anticipated, the buoyancy of sewers shall be considered, and the floatation of pipe shall be prevented with appropriate design and construction of the sewer.

Slope:

Minimum Slopes:

All sewers shall be designed and constructed to give a velocity (when flowing full) of not less than 2.0 feet per second (0.61 m/s) based on Manning's formula using an "n" value of 0.013. The Director may permit the use of other "n" values if deemed justified on the basis of research or field data. The following minimum slopes shall only be used if absolutely necessary because of grade restrictions; however, greater slopes are desirable.

Sewer Size	Minimum Slope in Feet per 100 Feet (m/100m)
8 inches (203 mm)	0.40
10 inches (254 mm)	0.28
12 inches (305 mm)	0.22
14 inches (356 mm)	0.17
15 inches (381 mm)	0.15
16 inches (406 mm)	0.14
18 inches (457 mm)	0.12
21 inches (533 mm)	0.10
24 inches (610 mm)	0.08
27 inches (686 mm)	0.067
30 inches (762 mm)	0.058
36 inches (914 mm)	0.046
42 inches (1067 mm)	0.037

The use of oversized sewers in order to justify flatter slopes is not permitted.

Slope Between Manholes:

Sewers shall be laid out with uniform slope between manholes.

High Velocity Protection:

Velocities greater than 12 feet per second (3.7 m/s) shall not be permitted under any flow conditions, unless the Director approves special provisions that will protect against pipe erosion and impact.

Steep Slope Protection:

Securely anchor sewers on 15 percent slopes, or greater, to prevent displacement.

Impervious Dams:

Impervious dams shall be installed every 300 feet to control the flow of groundwater within the pipe bedding material, when:

- ☐ The surrounding native material is considerably less impervious than the pipe bedding material;
- ☐ The pipe bedding could produce a hydraulic head of 25 feet on the pipe gaskets and joints during periods of high groundwater flow; and/or
- ☐ The sewer is constructed downstream of a waterway or wetland crossings.

Alignment:

Sewers shall be laid out in a straight line and alignment, and shall be checked with a laser beam.

Sewer Pipe Material:

Sewer pipe material shall be as specified in Article V, Construction Technical Specifications, Section 12:

Sewer Pipe Inspection and Testing:

The specifications shall include deflection and leakage testing of sewer pipes, as stated in Article V, Construction Technical Specifications, Sections 17. and 18

Section 15. Details of Sewer Manhole and Cleanout Design and Construction

Manholes and cleanouts shall be as specified in Article V, Construction, Technical Specifications, Section 13:

Manhole Inspection And Testing:

The specifications shall include a requirement for the inspection and testing of manholes for leaks or damage as specified in Article V, Construction Technical Specifications, Section 21.

Section 16. Inverted Siphons (Depressed Sewers)

Inverted siphons shall only be allowed if there is no other option and it is approved by the Director. Depressed sewers shall have no less than two barrels with a minimum pipe size of 6 inches (15 cm) and shall be provided with necessary appurtenances for convenient flushing and maintenance. Manholes shall have adequate clearances for cleaning equipment and for inspection and flushing. The design shall provide for sufficient heads and pipe sizes to secure velocities of at least 3.0 feet per second (0.92 m/s) for average flows under initial conditions. The inlet and outlet details shall be arranged so that the normal flow is diverted to one barrel and so that either barrel may be taken out of service for maintenance. A hose connection shall be provided to the siphon for flushing purposes.

Section 17. Aerial Crossings

Aerial crossings shall only be allowed if there is no other option, and it is approved by the Director. All aerial crossings shall provide appropriate support for all joints and pipes used for aerial crossing. The supports shall withstand frost heaves as well as overturning, settlement, flooding, thermal expansion, vibrations, and other loads that may act against the piping. Precautions against freezing shall be provided (e.g., insulation and increased slope). Expansion joints between above-ground and below-ground sewers shall be provided. Where buried sewers change to aerial sewers, special construction techniques to minimize damage from frost heaves shall be used. Ductile iron pipe with restrained mechanical joints are required. The bottom of the pipe shall be no lower than one (1') foot above the 100 year flood elevation level.

Section 18. Location of Sewers in Streams

Sewers shall be designed to minimize the number of stream crossings.

Cover Depth:

The top of all sewers entering or crossing a stream shall be sufficiently below the natural bottom of the stream bed to protect the sewer line. The following cover requirements shall be met:

- 1 foot (305 mm) of cover where the sewer is located in rock.
- 3 feet (914 mm) of cover in other material. In major streams, more than 3 feet (914 mm) of cover shall be required.
- In paved stream channels, the top of the sewer line shall be at least 1 foot (305 mm) below the channel pavement.

Horizontal Location:

Sewers located along streams shall be located sufficiently outside of the stream bed to allow for stream widening in the future and for the prevention of siltation during construction.

Structures:

Locate sewer manholes or other structures outside of streams whenever possible. Where structures must be located in a stream, they shall not interfere with the free discharge of flood flows or navigation in the stream. The manholes' covers shall be no lower than one (1') above the 100 year flood elevation level.

Alignment:

Sewers shall cross streams perpendicular to the flow without a change in grade.

Materials:

Sewers entering or crossing streams shall be watertight and free from changes in alignment or grade. Joints shall be restrained in order to prevent movement from stream forces. Ball-and-socket or restrained joints designed for hard service applications shall be provided.

Backfill materials shall be stone, coarse aggregate, washed gravel, or other materials that will not readily erode, cause siltation, damage pipe during backfill, or corrode the pipe and shall be approved by the Director. In large stream crossings, where required by the Director, place riprap over the sewer pipe for stability and to prevent erosion.

Siltation and Erosion:

The design engineer or L.U.I. shall include construction methods that will minimize siltation and erosion in the project specifications the construction methods for sewers in or near streams. Such methods shall control siltation and erosion by limiting unnecessary excavation, including disturbing or uprooting of trees and vegetation, dumping of soil or debris, or pumping silt-laden water into the stream. Specifications shall require cleanup, grading, planting, and restoration of all work areas to begin immediately.

Section 19. Protection of Water Supplies

Cross Connections:

No physical connection shall exist between a public or private potable water supply system and a sewer or any appurtenance that would permit the passage of wastewater or polluted water into the potable supply. No sewer shall come into contact with a water pipe and no water pipe shall pass through any part of a sewer manhole or any part of the sewer system.

Relation To Water Works Structures:

Sewers shall be located as far as possible from public water supply wells or other potable water supply sources and structures.

Engineering plans shall show all existing waterworks units, such as treatment facilities, basins, pipes, wells, or other waterworks units that are within 50 feet of the proposed sewer or to within the minimum distances required by the Director.

Water Mains' Relation:

Horizontal Separation:

Whenever possible, lay out sewers at least 10 feet (3.0 m) from any existing or proposed water main. If local conditions prevent a lateral Separation of 10 feet, the Director may make an exception on a case-by-case basis when supported by data from the design engineer. Such an exception may allow the sewer to be installed closer than 10 feet to a water main, provided that it is laid out in a separate trench with the top (crown) of the sewer at least 18 inches (46 cm) below the bottom (invert) of the water main or is encased in a water tight sleeve.

Vertical Separation:

Whenever sewers must cross water mains, lay out the sewer so that the top of the sewer is at least 18 inches (46 cm) below the bottom of the water main. The sewer joints should be equidistant and located as far away as possible from the water main joints. When the sewer cannot meet the above requirements, relocate the water main to provide for this separation or reconstruct it with mechanical-joint pipe for a distance of 10 feet (3.0 m) on each side of the sewer. One full-length (twenty feet) water main pipe shall be centered over the sewer so that both joints will be as far from the sewer as possible.

Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade.

When it is impossible to achieve horizontal and/or vertical separation as stipulated above, both the water main and sewer shall be constructed of mechanical-joint cement-lined ductile iron pipe or another equivalent that is watertight and structurally sound. Both pipes shall be pressure tested to 150 psi to ensure that they are watertight, and one of the pipes shall be installed in a water tight sleeve for a horizontal perpendicular distance of 10 feet (3.0) on each side of the other pipe. Any joints in the watertight sleeve shall be as far as possible from the water main's intersection with the sewer.

Section 20. Details of Low Pressure Sewer Design and Construction

Layout: The branched configuration of a pressure sewer is required. Looped piping shall not be permitted. Pipe routing shall include long radius sweeps no less than those recommended by the pipe manufacturer.

Pressure pipes shall be designed and installed so that a minimum of five (5) feet of cover material exists over the crown of the pipe at all times. Appurtenances such as isolation valves, air release valves, and clean-outs shall be provided as required by the Director.

Pipe Size: The diameter of the pressure sewer shall be calculated so that it provides a cleansing velocity based on the average daily flow of the system. Force Mains shall have a minimum velocity of three feet per second, 3ft/sec.

Minimum low pressure sewer pipe sizes shall be as follows (unless there is a significant change in grade):

NUMBER OF HOMES OR EQUIVALENT	MINIMUM PIPE SIZE
1-3	1.5
4-9	2
10-18	2.5
19-30	3 (model recommended)
>30	Must be modeled

Isolation Valves:

Isolation valves shall be required to allow isolation of individual girder units, system expansion, and at key locations such as at the property line.

Ball valves for low pressure sewer manholes shall be true union type constructed from PVC Type I cell CLASSIFICATION WITH EPDM O-RINGS. All valve components shall be replaceable. Ball valves 2 inches and smaller shall be pressure rated to 235 psi, while valves larger than 2 inches shall be rated to 150 psi. Ball valves shall have a Safe-T-Block seal carrier to stop flow in either direction, allowing safe removal of the downstream union nut for system service or modification. Ball valve ends shall be as needed to connect to Schedule 430 PVC pipe in low pressure sewer manholes. Ball valves shall be true union ball valves as manufactured by Spears Manufacturing.

Curb Stop Valve:

Curb stop valves shall be located at the property line of the street or easement of the sewer main. Curb stop valves shall be of brass or bronze construction and two rubberized O-ring seals to provide pressure-tight seal. Curb stop valves shall be figure H-15204 as manufactured by Mueller-Oriseal, B22 as manufactured by Ford Meter Box Company, Hayes, Nuseal, or equal. Curb boxes shall be 2-1/2-inch shaft size two-piece screw type. They shall be adjustable from 48-inch to 72-inch. Curb boxes shall be constructed of cast
iron and thoroughly coated with two coats of asphaltum varnish. Curb box rods shall be stainless steel supplied with a hole in the "U" portion for the insertion of a stainless steel pin. Pins shall be supplied and shall be made of stainless steel. Curb boxes shall be as manufactured by Ford Meter Box Company, Mueller Company, or equal.

Air Release Valves:

Air and vacuum valves shall be installed on low pressure mains. The air and vacuum valves shall be designed to release air from the main when the main is being filled and/or air becomes entrapped in the main, and to admit air into the sewer main when pumps are stopped and the main is being drained by gravity. The body and cover of air and vacuum valve shall be cast iron, floats of stainless steel, protective hood of steel, seats of Buna-N, and miscellaneous internal parts of stainless steel, Manufacturer-Crispin, or equal. Air and vacuum valves shall be located in a manhole or structure with a diameter of 60 inches to allow access for repairs and maintenance.

Cleanout Connections:

Cleanouts shall be installed on the pressure mains at sags and other locations where debris can accumulate and clog the lines, and proper valving to conduct required maintenance shall be provided.

Miscellaneous.

Magnetic marking tape two (2) inches wide with the words "SANITARY SEWER BELOW," shall be installed not more than 2 feet below finished grade on all mainline and service laterals.

Section 21. Force Mains

Minimum Size:

Force mains shall have a minimum velocity of three feet per second, 3ft/sec.

Force Main Pipe Material:

Force main pipe material shall as specified in Article IV, Construction Technical Specification, Section 14:

Velocity:

At design average flow, velocity in excess of 3 feet per second (0.91m/s) shall be maintained.

When the daily average design detention time, in the force main, exceeds 20 minutes, the manhole and sewer line receiving the force main discharge or the sewage shall be treated so that corrosion of the manhole and the exiting line are prevented. The corrosion is caused by sulfuric acid biochemically produced from hydrogen sulfide anaerobically produced in the force main.

Variable Terrain:

As far as possible, the alignment and depth of a force main should provide a constant upgrade profile. All force mains shall be designed and installed so that a minimum of five (5') feet of cover material is over the crown (top) of the pipe at all times.

Air Relief Valve:

An automatic air relief valve shall be placed at all relative high points in the force main and at 400 feet intervals on level force main runs. All air relief valves shall be protected from freezing.

Drain Valves:

Drain valves at all relative low points in the force main shall be provided. These valves shall be connected to gravity sewers or provided with connections for vacuum pumper trucks. All drain valves shall be protected from freezing.

Termination:

Force mains shall enter the gravity sewer at a point not more than 2 feet (0.61 m) above the flow line of the receiving manhole.

Testing:

Leakage Testing shall be as specified in Article V, Construction Technical Specifications, Sections 17 and 18:

Section 22. Grinder Pump Systems:

Pumping equipment shall include an integral grinder capable of handling a reasonable quantity of foreign objects that may find their way into a building's sewerage system. The grinder pump shall be capable of processing foreign objects without jamming, stalling, or overloading, and without making undue noise. The grinder shall provide a positive flow of solids into the grinding zone. Grinder pump stations shall be of the wetwell type.

A list of suitable manufacturers will be available from the Director. Properties whose sewage quantities and characteristics are equivalent to four or more dwelling units shall install a duplex pump.

Design of Pump Station:

Access: Outside installation shall be designed with the service manhole constructed of the same material, and at least as thick as the tank. The manhole shall have an opening at the surface with a minimum inside diameter of 30 inches (76 cm); its cover shall be securely lockable. The size of the manhole shall allow for the performance of maintenance and repair functions.

Tank: Construct each tank of concrete or custom-molded, fiberglass reinforced polyester resin using a filament wound process, layup and spray technique, or other approved process that will ensure a smooth and resin rich interior surface that is designed for two times the maximum loading.

The basin shall be concrete, fiberglass-reinforced polyester resin, or other material meeting the minimum strength specifications herein. The basin shall be furnished with one PVC closet flange or one flexible inlet flange suitable for connection to the household gravity line. At a minimum, the basin wall and bottom shall withstand two times the anticipated maximum pressure exerted on the basin, either from soil loadings or buoyancy forces. All station components must function normally when exposed to these loadings. All seals and joints shall pass factory tests to ensure that they are water tight.

Electrical Equipment: Wiring and electrical connections shall be NEMA rated for the environment in which they are to be placed. System shall include an emergency generator plug-in connection.

Pumps:

Pump Removal: The grinder pump shall be readily removable without the need for manual disconnection of piping.

Grinder: The grinder shall be positioned immediately below the pumping elements, securely fastened to the pump motor shaft, and driven directly by the same motor. The grinder shall be a rotating type with a stationary hardened and ground stainless steel shredding ring that carries stainless steel cutter bars. This assembly shall be dynamically balanced and run without objectionable noises or vibrations over the entire range of recommended operating pressures.

Pump Opening: The grinder shall be capable of reducing all components in normal domestic sewage or the sewage to be discharged from the building drain, including a reasonable amount of foreign objects (e.g., paper, wood, plastic, glass, and rubber). Objects shall be reduced to finely divided particles that will pass through the passages of the pump and a minimum 1.25 inch (3.2 cm) diameter discharging pipe.

Intake: The grinder shall be positioned so that solids are fed into it from the bottom in an upward flow, reducing the possibility of overloading or jamming. In addition, sufficient turbulence shall be created to keep the tank bottom free of permanent deposits or sludge banks.

Check Valve:

The grinder pump shall be equipped with a check valve that is installed in a horizontal position on the discharge pipe. This valve shall provide a full- ported passageway when open.

Ventilation:

Adequate ventilation shall be provided in accordance with local and national codes.

Controls:

Sensing devices to detect wastewater levels for initiating pump operation and to detect high water levels shall be installed. Level sensing devices shall only be used and shall not be located near flows entering the well.

Section 23. Pumping Station:

Design Capacity:

A sewage pumping station shall handle the projected peak sewage flows of its tributary sewer collection system. As recommended by TR-16, Guides for the Design of Wastewater Treatment Works (Technical Report #16) and the Hydraulic Institute's Recommended Standards for Pumping Stations. This information may be included in the Comprehensive Management Plan or other engineering report and any applicable updates or amendments. Pumping stations shall accommodate future expansion, when in the opinion of the Director it is appropriate.

Site Layout:

Stations shall be readily accessible to personnel and service vehicles during all weather conditions.

Flood Protection:

Wastewater pumping stations shall be protected from physical damage by the 100-year flood elevation and shall remain fully operational and accessible during the 100-year flood. All entrances and/or unsealable openings of the station shall be a minimum of one (1') foot above the 100-year flood elevation. These flood elevations shall be determined from the Federal Emergency Management Agency, and U.S. Army Corps of Engineers, and from the local regulations and ordinances.

Environmental Considerations:

Wastewater pumping stations shall be sensitive to the environmental conditions of the site. Visual impacts, architectural style, security, noise levels, odor control, and landscaping shall be considered carefully in station design and shall be reviewed and approved by the Director.

Types of Stations:

Wastewater pumping stations fall into three categories: wetwell/drywell, submersible, or suction lift. The preferred type of station is the Suction Lift type. The Director may approve other types under certain circumstances.

Structural Design:

Earthquake Loads and Uplift Forces:

Stations shall withstand earthquake loads and uplift forces from high groundwater conditions.

Separation:

Wet and drywells, including their superstructure, shall be completely separated. Common walls shall be sealed against gas leaks.

Equipment Removal;

Provisions shall be made for removing all equipment (i.e., pumps, motors, mechanical screens, motor control centers, etc.) from the station. Access openings, hatches, and/or skylights shall be sized accordingly. Permanent hoisting devices shall be provided as necessary.

Substructure:

Station substructures shall be constructed of reinforced concrete, either cast-inplace or precast. Small, prefabricated stations may be constructed of steel plate or fiberglass with the approval of the Director.

Access:

The designer shall minimize the confined spaces and shall indicate which spaces meet the definition of confined space on the drawings. Suitable, safe, and separate means of access shall be provided for dry and wetwells. Stairways and/or steps are required for drywells and wetwells containing either bar screens or mechanical equipment that requires inspection or maintenance. A landing with railings shall be provided for stairways or ladders for every 10 vertical feet. Local, state and federal safety codes shall govern in all cases.

Pumps:

Number of Pumps:

As a minimum, two pumps shall be provided, with each pump being capable of handling peak design flows. Where three or more pumps are provided, the overall station capacity shall be capable of handling peak design flow when any one pump is out of service.

Design:

Pumps shall be designed specifically for wastewater use and shall be non-clogging and as allowed by the Director.

Incoming Wastewater and Rate Discharge:

Pumping stations shall balance the rate of incoming wastewater with the rate discharged.

Each pump shall have an individual intake valve.

Pump suction and discharge openings shall be a minimum of 4 inches in diameter.

Centrifugal Pumps:

Centrifugal pumps shall be used in the drywell/wetwell pumping stations. The pump casing and suction elbow shall be provided with a clean-out access port. Impellers shall be enclosed or semi-open. To ensure primed pump conditions, the wetwell level shall not drop below the centerline of the pump impeller under normal operating conditions.

Submersible Pumps:

Submersible pumping stations may be used when, in the opinion of the Director, circumstances warrant. It shall be possible to remove and replace the submersible pumps without dewatering the wetwell or disconnecting the piping. Pumps shall be of the pull-up design, using a lifting cable and guides for pump removal. The pump shall be connected to the fixed discharge piping with a self-locking coupling. Shaft seal failure or potential seal failure detection alarms shall be provided. Submersible pumps may also be used in a wetwell/drywell configuration, with the Director's approval.

Suction Lift Pumps:

Suction pumps shall be self- or vacuum-priming.

Location: The pump equipment compartment shall be above grade or offset, and shall be isolated from the wetwell to prevent humid and
corrosive sewer atmospheres form entering the equipment
compartment. Access to the wetwell shall not be located in the equipment compartment. Valves shall not be located in the wetwell.

Self-priming Pumps: Self –priming pumps shall be capable of rapid priming at the lead pump-on elevation. Such self-priming and repriming shall be accomplished automatically under design operating conditions. Suction piping shall not exceed the size of the pump suction and shall not exceed 25 feet (7.6 meters) in total length. Priming lift at the lead pump on elevation shall include a safety factor of at least 4 feet (1.2 meters) from the maximum allowable priming lift for the specific equipment at design operating conditions. The combined total of dynamic suction lift at the pump-off elevation and

required net positive suction head at design operating conditions shall not exceed 22 feet (6.7meters).

Vacuum-priming Pumps: Vacuum-priming pump stations shall be equipped with dual vacuum pumps capable of automatically removing all air from the suction lift pump. The vacuum pumps shall be adequately protected from sewage damage. The combined total of dynamic suction lift at the pump-off elevation and required net positive suction head at design operating conditions shall not exceed 22 feet (6.7 meters).

Wetwells:

Divided Wells:

The wetwell shall be divided into two sections that are properly interconnected and gated to facilitate repair and cleaning.

Storage Capacity:

The effective storage capacity of the wetwell shall be based upon the recommended number of pump starts per hour and the design filling time. The effective volume of the wetwell shall be based on a filling time of 30 minutes under design average-daily-flow rates. To determine the frequency of starts used for design, refer to the pump manufacturer's warranty.

Where tributary wastewater flows are anticipated to be significantly less than the design average flow, provisions should be made so that the filling time under initial conditions does not exceed 30 minutes
(i.e., providing a divided wetwell or shortening the wetwell operation range) and the duration of storage in the pump station and force main does not result in septic conditions in the system or the release of objectionable odors to the environment.

Pump Protection:

Pumps shall be protected from large solids by readily accessible mechanically cleaned bar racks (screen) or combination device located at the wetwell influent. Bar racks should have clear opening not exceeding 1.25 inches (3.1 cm) unless pneumatic ejectors are used or special devices are installed to protect the pumps from clogging or damage.

Floor Slope:

The wetwell floor shall have a minimum slope of 1-to-1 to the hopper bottom. The horizontal area of the hopper bottom shall be no greater than is needed for proper installation and function of the wetwell inlet.

Vortexes:

The wetwell and suction inlets of dry-pit pumps shall eliminate the possibility of vortexes. The required submergence of the intake valves shall be determined for the day-pit pump's location. Intake valves should be flared, with the inlet opening facing down. Every effort shall be made to minimize flow rotation in the wetwell.

Sewage Channels:

Sewage channels located in wetwells shall be covered with nonskid, corrosion-resistant grating. They shall be installed flush with a floor, and capable of supporting anticipated loads. All channels shall be drained when not in use. Where the side meets the floor of the channel, fillets shall be provided.

Inlet Sewers:

Sewer piping entering the wetwell shall not have air in the pump suction line.

Drywells:

Automatic heating and dehumidification equipment shall be provided in all drywells. The electrical requirements shall meet those outlined in subsequent paragraphs of this section.

A sump pump shall be provided in the drywell to remove extraneous water. The discharge pipe of the sump pump shall be equipped with dual check valves and shall be pumped from the drywell into the wetwell above the high water level. Water ejectors connected to a potable water supply shall not be permitted. All floor and walkway surfaces shall slope to a point of drainage. Pump seal leakage shall be piped or channeled directly to the sump.

Valves:

Suitable shutoff valves shall be placed on the suction lines and on the discharge lines of each pump (except on submersible and vacuum-primed pumps). A suitable check valve shall be placed on a horizontal section of each discharge line between the shutoff valve and the pump.

Unless adequate space is available in a dry pit pump room, valves on the discharge piping (including flow meters, if required) shall be in a separate underground precast concrete vault.;

Every pump station shall include appropriate valves and quick disconnects to allow the Town to bypass the existing pumping equipment and valves. The piping shall allow the Town to install temporary piping into the wet well, and discharge to a location downstream of the check and shutoff valves.

Valves shall not be located in wetwells.

Section 24. Controls:

All pump stations, grinder pump stations, vacuum sewer stations, and other sewer handling facilities required by the Director shall be connected to the Water and Sewer Departments' Supervisory Control and Data Acquisition (SCADA) System.

All sensing, alarm, and SCADA system devices shall be of the same type, configuration, and function as that used by the Water and Sewer Departments. Each pumping station shall have its own screen display, processor logic controller (PLC), and communications equipment for the SCADA system and shall also display the required monitoring controls and alarm on the all SCADA system screens of the water and/or sewer systems.

Level Sensing Devices:

Level sensing devices shall not be affected by flows entering the wetwell or by the suction of the pumps. All wall penetrations between the wet and drywells shall withstand gas leaks and be located as high as possible to prevent overflow from the wetwell to the drywell. The pumps shall be automatically alternated. Running-time meters shall be installed at all pumping stations for each pump.

Alarm Systems:

Alarm systems shall be provided for all pumping stations. At a minimum, the alarm system shall be activated in any one of the following cases:

* High water in the wetwell;
* Low water in the wetwell;
* Loss of one or more phases of power supply;
* High water level in the pump room sump;
* Loss of the alarm transmission or communications;
* Loss of air pressure in the bubbler tube system/level sensing trouble or failure;
* Standby power failure or malfunction of the pump;
* Flooding of building or drywell;

* Smoke/fire alarms;
* Low temperature;
* Surge suppressor failure;
* PLC processor failed;
* PLC low battery;
* Intrusion; and
* Three spare connections

Section 25. Pump Station Ventilation

General:

Adequate ventilation shall be provided for all pumping stations. Where the pump pit is below the ground surface, mechanical ventilation is required, especially when screens or mechanical equipment requiring maintenance or inspection are located in the wetwell. The wet and dry well ventilation systems shall not be connected. In pits more than 15 feet (4.6 m) deep, multiple inlets and outlets shall be installed. Switches for the operation of ventilation equipment shall be marked and located conveniently. If odors are a problem, an odor control system shall be installed.

Wetwells:

Ventilation may be either continuous or intermittent. For continuous ventilation, at least 12 air changes per hour shall be provided. For intermittent ventilation, at least 30 air changed per hour shall be provided. Heating shall be installed where needed.

Drywells:

Ventilation shall be continuous. Heating and dehumidification is required. At least 6 complete air changes per hour shall be provided.

Section 26. Flow Measurement:

Suitable devices, as approved by the director, for measuring wastewater flow and power consumption shall be installed in all pump stations.

Section 27. Pump Station Water Supply:

Water under pressure shall be provided for cleanup at the pumping station. If a public water supply is used, a Reduced Pressure Zone (RPZ) backflow preventer or other approved device shall be installed on the water service entering the station. No other potable water supply and other piping systems or fixtures shall be connected to the systems supplied by the public water supply.

Section 28. Electrical:

Electric Equipment

Electrical systems shall be designed and installed in strict conformance with the latest edition of the National Electrical Code. Electrical equipment in enclosed places where gas may accumulate shall be noncorrosive and in compliance with the National Electrical Code requirements for Class I Group D, Division I locations.

Submersible Pump Motors

Electrical supply and control circuits shall allow disconnection at a junction box located at or accessible from outside the wetwell. Terminals and connectors shall have watertight seals located outside of the wetwell and shall be protected by separate strain relief.

The motor control center shall be located outside of the wetwell and protected by a conduit seal or other appropriate sealing method meeting the requirements of the National Electrical Code for Class 1. Division 2 locations.

The pump motor shall meet the requirements or the National Electrical Code for Class 1. Division 2 locations.

Submersible pump motors that are totally submerged during the pumping cycle are not required to protect against explosions.

Power cords for pump motor shall be flexible and serviceable under conditions of extra hard use. Ground fault interruption protection shall deenergize the circuit in the event of any failure in the electrical integrity of the cable.

Power cord terminal fittings shall be provided with strain relief appurtenances, and shall facilitate field connecting.

Section 29. Emergency Operations:

When the Director deems it is necessary, an independent natural gas or propane engine-generator type source of electric power shall be provided for electrically driven pumps. This source shall be automatically activated when or if any phase of the power supply fails or upon any fluctuation in voltage. Installation shall comply with all applicable requirements of the National Electrical Code.

Small Pumping Stations: When the Director agrees that a small pump station does not require a permanent alternative power supply, electrical connections for portable standby generator or pneumatic connection for portable air compressor shall be installed as approved by the Director.

Controls:

Provisions shall be made for automatic and manual startup and cut-in. The controls shall be such that upon automatic startup under emergency conditions, shutdown can be accomplished only manually, except in conditions that would damage the generator or engine.

Size:

Unit size shall be sufficient to start up and run all pumps needed to handle peak flows as well as lighting, ventilation, pump controls, and the sump pump.

Exerciser:

The engine controls shall be equipped with an automatic exerciser that may be set on any selected schedule to start the generator, to run it under no-load conditions, and to shut it off without activating the alarm system.

Noise Attenuation:

Noise attenuation components must be incorporated in the design to produce no more than 60 decibles (db) of noise at the property line.

Section 30. Safety

Adequate provisions shall be made to protect the operator and visitors from hazards. The design and construction of pumping stations shall meet all prescribed local, state, and federal safety laws and codes. Safety provisions shall include the following:

- Handrails at openings, stairways, and other hazardous areas;
- Guards around the belt drives, gears, rotating shafts, and moving equipment;
- Warning signs as appropriate;
- Provisions for power lockout controls at all pumps and equipment;
- Eye wash stations where chemicals are used;
- Adequate lighting in all areas of the pumping station;

- Provisions for confined space entry in accordance with OSHA and regulatory agency requirements;
- First aid equipment; and
- Fire extinguisher.

Section 31. Overflows and Bypasses

Overflows and bypasses shall not be allowed on pumping stations serving sanitary sewage collection systems.

Section 32. Site Protection and Aesthetics:

The Director will review the design and location of the pump stations and may determine that fencing, aesthetics vegetation plantings, intrusion alarms, and aesthetics superstructures style or any other site conditions may warrant site protection and/or aesthetics.

Section 33. Odor Control:

Odor control equipment may be required by the Director, depending on the sitting of the pumping station and force main discharge point.

Appendix B
CONSTRUCTION TECHNICAL SPECIFICATIONS

The owner of the property, the developer, and/or Licensed Utility Installer, shall construct and install all sanitary sewers and all building sewers in accordance with the following rules and regulations:

Section 1. The owner, developer, or LUI shall submit to the Director (for his approval) plans and profiles of the proposed public sewer extensions and/or building sewer connections.

Section 2. The owner, developer or L.U.I. of a subdivision shall submit to the Director, a subdivision plan approved by the Chatham Planning Board along with the plans and profiles of the proposed public sewer extension.

Section 3. The Contractor doing all the work shall be approved by the Director as a Licensed Utility Installer (L.U.I.) as described in Article II-Building Sewers and Connections, Sections 13a through 13g.

Section 4. All materials, including pipe and manhole structures, shall be of the same make and quality used by the Chatham Sewer Department and approved by the Director.

Section 5. Public sewers and building sewers shall be laid using a transit or laser level. All sewer pipes shall be laid on a bed of crushed stone of at least six inches (6") in depth under the pipe and crushed stone shall extend at least halfway up the side of the pipe. Approved gravel, with no stones larger than two inches (2") in any dimension, shall be used to cover pipe to one foot above pipe. The rest of the backfill material must be approved by the Director, Massachusetts Highway Department or Town of Chatham Surveyor of Highways. The approved backfill material shall be placed in mechanically compacted lifts of no more than six inches (6") deep or as specified by the Chatham Surveyor of Highways, Massachusetts Highway Department, or other specifications more stringent than the above. The approved backfill material above the gravel shall contain no stones greater than 6 inches in any dimension.

Section 6. Impervious dams shall be considered every 300 feet to control the flow of groundwater within the pipe bedding material when:

- The surrounding native material is considerably less impervious than the pipe bedding material;
- The pipe bedding could produce a hydraulic head of 25 feet on the pipe gaskets and joints during periods of high groundwater flow; and/or
- The sewer being constructed is downstream of any waterway and wetland crossings.

Section 7. Sewers may be deep enough to drain basement fixtures, and shall be deep enough to prevent freezing. Watertight insulation shall be provided for sewers that cannot be placed deep enough to prevent freezing.

House connections chimneys (vertical pipe) preformed block shall be used when the sewer main is greater than or equal to 12 feet deep.

Section 8. Where high groundwater conditions are anticipated, the buoyancy of sewers shall be considered, and the floatation pipe of pipe shall be prevented with appropriate design and construction of the sewer.

Section 9. No mud, gravel or debris shall be allowed to enter the sewer pipes at any time. All pipes shall be capped at end of day's laying and water shall be pumped out of excavation prior to removing the cap.

Section 10. Building sewer connection to the public sewer shall have a wye branch fitting, as approved by the Director, made of the same type of materials as the sewer main being tapped.

Section 11. Minimum size of gravity public sewer pipe diameter shall be eight (8") inches and building sewer pipes shall not be less than four (4") inches in diameter. Minimum sizes of low pressure sewer mains shall be in accordance with Article IV-Design of Sewers, Section 9. Details of Low Pressure Sewer Design and Construction.

Section 12. Sewer pipe and building sewer pipe material shall be:

(a) Reinforced Concrete Pipe shall meet the following specification:

Portland cement shall conform to ASTM C-150 Type II;
The pipe and its appurtenances shall conform to ASTM Specification C-76;
The reinforcing wire cage shall conform to ASTM Specification A 15, A 82, or A 185, as appropriate;
Entrained air shall be 5.0% to 9.0% by ASTM C-890;
Water absorption and three-edge bearing tests shall conform to ASTM Specification C-497; and
Gaskets shall conform to Sections 3.3 and 3.4 of AWWA Specification C-302.

Note: non-reinforced concrete pipe shall not be used.

(b) Extra Heavy Cast Iron Pipe shall meet the following specifications:

Pipe, fittings, and appurtenances shall conform to the requirements of ASTM Specification A-74 or ANSI A-21.11 and gaskets shall conform to ASTM Specification C-564.

(c) Heavy Wall Polyvinyl Chloride (PVC) Pipe shall meet the following specifications:

Pipe shall be made from Class 12454-B materials or better in accordance with ANSI/ASTM Specification D-1784, and shall ultraviolet light (UV) protected.

The pipe and accessories shall conform to the requirements of the following, with a minimum pipe stiffness of 46 PSI at a maximum deflection of five percent (5%):

ANSI/ASTM	**D 3034**	**(4" – 15")**
ASTM	**F 679 Type I**	**(18" – 27").**

(d) Ductile Iron Pipe shall meet the following specifications:

Pipe, fittings, and appurtenances shall be manufactured in accordance with ASTM Specification A-746;
Pipe shall have a minimum thickness of Class 50;
Fittings shall conform to ANSI Specification A-21.11 and have a minimum pressure class rating of 150 PSI;

All pipe and fittings shall be cement mortar lined in accordance with ANSI Specification A-21.4 at twice the specified thickness, and have an internal and

external bituminous seal coating and closure pieces shall be jointed by means of a mechanical coupling of the cast sleeve type.

(e) Extra Strength Vitrified Clay Pipe shall meet the following specifications:

Pipe shall conform to the current requirements of NCPI Specification ER 3300 – 67 and meet the requirements of ASTM Specification C 700.

Note: standard strength vitrified clay pipe shall not be used).

(f) Acrylonitrile – Butadiene – Styrnee (ABS) Pipe shall meet the following specifications:

Pipe and fittings shall conform to the requirements of ASTM Specification D 2661.

(g) Plastic Pipe, sizes 4 inches through 12 inches, shall be ANSI/ASTM D3034, SDR-35 Type PSM Poly (Vinyl Chloride) (PVC) material; minimum pipe stiffness (F/^Y) is 46 psi; bell and spigot style and rubber gasket conforming to ASTM F477.

(h) Low Pressure Mains and Services for 1-1/4-inch pipe through 4-inch pressure pipe shall be polyethylene pipe with material conforming to ASTM D3350, Type PE-3408 pressure Class PC 160, SDR-11. Fittings for use with polyethylene pipe and tubing shall be manufactured and furnished by the pipe supplier and in conformance with AWWA C901 requirements. Joints for polyethylene pipe shall be jointed by the butt fusion method in a manner recommended by the pipe manufacturer.

Pipe sizes 1-1/4 inches through 4 inches shall be Polyvinyl Chloride (PVC) pipe ASTM D2241 PVC pressure pipe material conforming to ASTM D1784, minimum class SDR 21 for pipe 1-1/4-inch, push-on joint conforming to ASTM D3139 with flexible elastomeric gaskets conforming to ASTM F477.

Fittings for use on PVC pressure pipe of 4-inch nominal inside diameter or greater shall be ductile iron with mechanical joints as described in ANSI 21.10/AWWAC110. The coatings and linings of the fittings shall be as specified for ductile iron pipe.

(i) Other pipe materials:

Other pipe materials shall requires prior written approval of the Director before being installed.

Materials for sewer construction shall be appropriate for local conditions, including the character of industrial wastes, septicity, soil characteristics, external loadings, and problems such as abrasion and corrosion.
All sewers shall be able to withstand damage from superimposed loads. Proper allowances for soil and potential groundwater conditions, as well as the width and depth of the trench shall be used. Where necessary, special bedding, haunching and initial backfill, concrete cradles, or other special construction elements shall be used.

The minimum internal pipe diameter shall be eight (8) inches for gravity sewers.

Joints for the selected pipe shall be designed and manufactured such that "O" ring gaskets of the "snap-on" type are used.

Gaskets shall be continuous, solid, natural or synthetic rubber, and shall provide a positive compression seal in the assembled joint.

Joint preparation and assembly shall be in accordance with the manufacturer's recommendations.

Wye branch fittings, as approved by the Director, shall be installed for connection of laterals.

Bedding, Haunching, and Initial Backfill:

Based on the bedding support of the type of soil and potential groundwater conditions, use the following for the anticipated loads:

- ☐ Bedding classes A, B, and C, or crushed stone as described in the American Society of Testing Materials standard ASTM C 12, should be used for all rigid pipe, or

- ☐ Materials for bedding, haunching, and initial backfill, or classes I, II, or III as described in ASTM D 2321, should be used for all flexible pipe.

Safety and Load Factors:

Selection of pipe class shall be predicated on the following criteria:

Safety factor	-	1.5
Load factor	-	1.7
Weight of soil	-	120 lbs/cu.ft.
Wheel loading	-	H-20

Section 13. Manholes and Cleanouts:

Manhole and Cleanout Size:

Cleanouts. Cleanouts shall be constructed of the same material as the building sewer. The size of the cleanout shall be the same size as the building sewer up to six (6") inches in diameter, for building sewers larger than six (6") inches in diameter manholes shall be used. Cleanouts shall be sealed with removable, re-useable threaded screw-in plug or screw-on cap.

Manholes. Manholes shall be minimum of four (4') feet in diameter with a minimum access diameter of 30 inches (76 cm). Larger diameter manholes may be required by the Director. A minimum drop of 0.10 foot shall be used between entrance and exit inverts.

Location:

Manholes and cleanouts shall be installed at the end of each line; at all changes in grade, size, or alignment; and at all intersections. Distances shall not be greater than 300 feet for sewers measuring 15 inches (38 cm) or less in diameter, or 400 feet for sewers 18-30 inches (46-76 cm) in diameter. Greater distances may be permitted for larger sewers or for those carrying a settled effluent, but only with prior approval of the Director. The top of the manhole cover shall be no lower than one (1') foot above the 100 year flood elevation level. Junction manholes on low pressure sewers shall be installed at all intersections

Drop Type:

A drop pipe for a sewer pipe with an invert entering a manhole of more than 24 inches (61 cm) above the manhole invert shall be provided. Where the difference in elevation between the incoming sewer and the manhole invert is less than 24 inches (61 cm), the invert shall be filleted to prevent solids deposition.

Drop manholes shall be constructed with an outside drop connection. Outside drop connections shall be encased in concrete, and shall provide access for cleaning as the sewer enters the manhole at the top of the drop connection.

Inside drop connections may be used provided the manhole has the area to facilitate safe access into the manhole with the inside drop in place, and shall be approved by the Director. The inside drop connection shall be secured to the interior wall of the manhole, and shall provide access for cleaning as it enters the manhole at the top. Internal drop pipes and fittings shall be PVC plastic sewer pipe in compliance with ASTM D2241. Corrosion resistant anchors shall be used to attach the drop pipe to the inside surface of the manhole barrel.

Structural Base:

Manhole bases shall be constructed or placed on a minimum of twelve (12) inches of crusher run with a maximum stone diameter in all directions of one half ½ inch and free of organic materials.

Diameter:

The manhole's minimum diameter shall be 48 inches (122 cm) for standard manholes and 60 inches (153 cm) for inside drop manholes. A minimum access diameter of 30 inches (76 cm) shall be provided. Larger openings shall be provided for manholes that house equipment, as specified by the Director.

Materials:

Manholes shall be precast concrete with barrel sections, cones, and bases, manufactured in compliance with ASTM C 478, and shall have an O-ring or bituminous-based gasketed joints. "Precast concrete walls shall be made up using straight, circular barrel sections and eccentric cone sections if manhole steps are required, and concentric cone sections where no steps are require. Manholes can also be poured-in-place concrete. Other types are allowed subject to the approval of the Director.

All tongue-and-grove (or male and female joints in the precast wall, including the joint at the top of the base, shall be made up using the "Snap-On" type O-ring gasket, and shall conform to ASTM C443; except that joint taper shall not exceed 3-1/2 degrees. The precast sections shall be provided with a special groove (cast into the male end) to receive and hold the gasket in position during joint assembly. After joint assembly, the gap between sections shall be packed on the inside and outside with Anti-Hydro "Azpandcretes," Masterflow 713 by Master Builders; or Five Star Grout by U.S. Grout Corp., and shall be troweled smooth so that no projections remain on the inside.

Manhole bases shall be constructed of 4,000 psi (28 day) concrete 8 inches thick, or shall be precast bases properly bedded in the excavation. Field constructed bases shall be monolithic, properly reinforced, and extend at least 6 inches beyond the outside walls of lower manhole sections. Precast manhole bases shall extend at least 6 inches beyond the outside walls of lower manhole sections.

Manholes shall be constructed using minimum 4 foot diameter, precast concrete manhole barrel sections, and an eccentric top section, conforming to ASTM Specification C-478, with the following exceptions on wall thickness:

Manhole Diameter Feet	Wall Thickness Inches
4	5
5	6
6	7
6-1/2	7-1/2
7.	8
8.	9

All Sections shall be cast solid, without lifting holes. Flat top slabs shall be a minimum of 8 inches thick and shall be capable of supporting a H-20 wheel loading.

All joints between sections shall be sealed with "O" ring rubber gasket, meeting the same specifications as pipe joint gaskets, or butyl joint sealant completely filling the joint.

All joints shall be sealed against infiltration. All metal parts shall be thickly coated with bitumastic or elastomeric compound to prevent corrosion.

No holes shall be cut into the manhole sections closer than 6 inches from joint surfaces.

Manholes which extend above grade shall not have an eccentric top section. The top plate shall be large enough to accommodate the cover lifting device and the cover.

Manhole Covers:

The elevation of the top section shall be such that the cover frame top elevation is one (1) foot above the 100-year flood elevation (in a field), 0.5 foot above a lawn elevation, or at finished road or sidewalk grade.

When located in a traveled area (road or sidewalk), the manhole frame and cover shall be heavy duty cast iron. When located in a lawn or in a field, the manhole frame and cover may be light duty cast iron. The cover shall provide a minimum access diameter of 30 inches (76 cm). The mating surfaces shall be machined, and painted with tar pitch varnish. The cover shall not rock in the frame. Infiltration between the cover and frame shall be prevented by proper design and construction. Covers shall have "Sewer" cast into them. Covers shall be designed so that infiltration is prevented.

Manhole frames, installed at grade, shall be set in a full bed of mortar with no less than two nor more than four courses of brick underneath to allow for later elevation adjustment. In lieu of brick, grade rings may be used for elevation adjustment. Grade rings shall not exceed 6 inches in depth. The total number of grade rings shall not exceed 12 inches in height, however, in no event shall more than 3 grade rings be used.

Manholes which extend above grade, shall have the frames cast into the manhole top plate. The top plate shall be securely anchored to the manhole barrel, by a minimum of six, ½ inch diameter, corrosion resistant anchor bolts, to prevent overturning when the cover is removed. The anchor bolts shall be electrically isolated from the manhole frame and cover.

Ladders:

Manhole steps are to be provided in manholes. Steps are to be cast in or grouted solid into the precast units at intervals of 12 inches. Steps shall be in conformance with OSHA requirements having drop front or equivalent. Bolted-on type is not acceptable. Manhole steps to be M.A. Industries, Inc. copylymer polypropylene reinforced with ½-inch steel rod or equal.

Flow Channel or Invert:

The flow channel through the manholes shall conform in shape and slope to that of the sewers entering and leaving the manholes. Construct the top of the flow channel so that the flow will remain in the channel under peak conditions. Form or shape the channel walls to the full height of the crown of the outlet sewer and so as not to obstruct maintenance, inspection, or flow in the sewers. When curved flow channels are required, including branch inlets, increase minimum slopes to maintain acceptable velocities. Provide a minimum 0.1-foot drop through the manhole.

Bench or Shelf:

Provide a bench on each side of every manhole channel. The bench should have a slope of no less than 0.1 inch per foot or no greater than 0.5 inch per foot. No lateral sewer, service connection, or drop manhole pipe should discharge onto the surface of the bench.

Manhole Inverts:

Manhole inverts shall be constructed by laying sewer bricks on their long side with their water structured face up, in straight line or sweeping arch to from the bottom of the invert, from pipe to pipe. Additional sewer bricks will fan out with their water structure facing towards the center of the invert from the invert brick. The invert's width will be the same diameter of the effluent pipe of the manhole. The minimum height of the shelf shall be equal to the crown of the manhole's effluent pipe and it shall be constructed from sewer brick with their water structured face up.

Buoyancy:

Where high groundwater conditions are anticipated, the manholes shall be designed and constructed to prevent floatation.

Watertightness:

Solid or watertight manhole covers shall be used in areas subject to flooding. All manhole lift holes and grade adjustment rings shall be sealed with a nonshrinking mortar or other material approved by the Director. A bituminous coating shall also be used on the exterior. Inlet and outlet pipes shall be joined to the manhole with a gasketed, flexible watertight connection or with another watertight connection arrangement that allows for differential settlement of the pipe and the manhole.

The Contractor shall furnish manholes waterproofed over the entire exterior surface that will be below finished grade. The water proofing shall not mar or interfere with the specified exterior finish for these structures. Waterproofing shall be accomplished prior to structure installation for precast sections, and shall be applied to dry surfaces under proper weather conditions.

Waterproofing shall consist of a two-coat application of coal tar compound as manufactured by Koppers Bitumastic Super Service Black; Tnemec Heavy Duty Black 46-449; Preco Nitroproof

600; or equal, and shall be applied according to manufacturer's specification. Total thickness of the two-coat application shall no be less than 16 mils.

Pipe Connections:

Pipes being connected to new manholes shall be connected to the manhole with cast-in-place rubber boot with clamp around gasket. Pipes being connected to existing manholes shall be core drill opening and seal with link seal water stop between pipe and manhole wall.

Section 14. Force main pipe shall be either:

(a) Ductile Iron Pipe:

Pipe shall conform to ANSI A21.51;
The minimum wall thickness shall be Class 52 (ANSI A21.50);
The pipe shall be clearly marked with either "D" or "DUCTILE";
Fittings shall conform to ANSI A21.10;
Pipe shall be furnished with push-on joints and fittings shall be furnished with mechanical joints. Both conforming to ANSI A21.11; and
Pipe and fittings shall be cement mortar lined and have an internal and external bituminous seal coating.

(b) Polyvinyl Chloride (PVC) Plastic Pipe:

Pipe shall conform to ASTM D2241;
Materials used in the manufacturer of PVC pipe shall meet ASTM C1784; and be ultraviolet light (UV) protected;
The minimum wall thickness shall be SDR-21;
Fittings shall conform to ASTM D2241; and
Joints and gaskets shall conform to ASTM D2241, D1869, and F477.

(c) Other pipe materials:

Other pipe materials shall require prior written approval of the Director before being installed.

Trenching, bedding, and backfilling shall be as approved by the authority having jurisdiction over the property, such as but not limited to: the Massachusetts Highway Department, Town of Chatham Surveyor of Highways or Harwich Wastewater Superintendent.

Joint preparation and assembly shall be in accordance with the manufacturer's written instructions.

Anchorages, concrete blocking, and/or mechanical restraint shall be provided when there is a change of direction of 7-1/2 degrees or greater.

When the daily average design detention time, in the force main, exceeds 20 minutes, the manhole and sewer line receiving the force main discharge or the sewage shall be treated so that corrosion of the manhole and the exiting line are prevented. The corrosion is caused by sulfuric acid biochemically produced from hydrogen sulfide anaerobically produced in the force main.

The force main shall terminate, in the receiving manhole, at a PVC plastic sewer pipe "T". The vertical arms of the "T" shall be twice the diameter of the force main. The upper arm shall be at least 4 feet long; the lower arm shall terminate in a PVC plastic sewer pipe 90 degree elbow in a flow channel directed to the manhole exit pipe. The "T" and its arms shall be securely fastened to the inside surface of the manhole wall using corrosion resistant anchors.

Force mains shall have a minimum velocity of three feet per second, 3ft/Sec.

Section 15. No sanitary sewer pipe shall be left open into an unfinished house or cellar hole. All pipes must be capped to prevent the flow of surface water or debris from entering the sanitary sewer.

Section 16. All sewer works located in the flood plain district area, established under the zoning by-law, shall require that new and replacement sewer works be designed and constructed to minimize or eliminate infiltration of flood waters into the system or discharge sewerage from the system into the floodwater.

Section 17. Sewer Pipe Testing:

A. General

The L.U.I. shall test the first section of pipeline as soon as it is installed to demonstrate that the work conforms to these specifications. The initial section shall not be less than five hundred (500) feet and not more than one thousand (1000) feet of pipeline. Testing of pipe shall closely follow pipe laying.

For all sewer pipe tests, the L.U.I. shall furnish an air or water test pump, an air or water meter, and suitable pressure gauge. The L.U.I. shall also furnish all labor and materials required to install suitable temporary testing plugs or caps for the pipeline and perform the test. The meter and gauge shall be installed by the L.U.I. in such a manner that all air or water entering the section under the test will be measured and the pressure in the section indicated and they shall be kept in use throughout all tests.

The scheduling of deflection and pressure and leakage tests shall be as approved and attended by the Town of Chatham's Sewer Department or Town Inspector.

Before accepting any sewer segment, the L.U.I. shall provide a television tape of the entire sewer including point of connection an existing sewer or pumping station. Television inspection shall be performed by a firm specializing in this work and shall produce the following information:

2. A continuous videotape recording of the entire length of pipe being inspected. The tape shall include location of each section, direction of camera travel, a commentary of the pipe's condition, and various irregularities found and lateral connections.

3. The section of pipe being televised shall be identified at least once every 50 ft.

4. Documentation on television logs and voice recorded on tape shall consist of the following information:

    a. Distance from the numbered manhole point of beginning on each sewer section to the location of the specific condition being inspected.
    b. Angular orientation of all above conditions inside pipe (i.e., leak at 10:00, service connection at 3:00).
    c. Sewer size, material, and joint spacing.

B. Deflection

Deflection tests shall be performed on all flexible pipes. The tests shall be conducted after the final backfill has been in place at least 30 days to permit stabilization of the pipe system.

No pipe shall exceed a deflection of 5 percent. If deflection exceeds 5 percent , the pipe shall be replaced.

The rigid ball or mandrel used for the deflection test shall have a diameter of not less than 95 percent of the base inside diameter or the average inside diameter of the pipe as specified by ASTM D 2122 Standard Test Method of Determining Dimensions of Thermoplastic Pipe and Fittings. The tests shall be performed without mechanical pulling devices.

C. Air Testing:

The Town requires air testing in lieu of the exfiltration or infiltration tests. The L.U.I. shall submit his proposed method of air testing to the Director for approval. All air testing shall be performed in accordance with the procedures described in ASTM C828-86 for Clay Pipe or ASTM C924 for or Concrete Pipe or those procedures approved by the Director, and shall be specifically designed and manufactured for testing pipelines with low-pressure air and shall be provided with an air regulator valve or air safety valve set to prevent the air pressure in the pipeline from exceeding ten (10) psi. If the results of the air test are unsatisfactory, the L.U.I. shall repair the sewer pipe and perform the air tests until the sewer pipe passes the air test. If site conditions are not conducive to air test, as determined by the Director, the L.U.I. will be required to perform an exfiltration and/or an infiltration test as outlined below.

Low pressure air tests shall conform to ASTM Specification C 828. All sections to be tested shall be cleaned and flushed, and shall have been backfilled, prior to testing.

Air shall be added until the internal pressure of the test section is raised to approximately 4.0 PSIG. The air pressure test shall be based on the time, measured in seconds, for the air pressure to drop from 3.5 PSIG. Acceptance is based on limits tabulated in the "Specification Time Required for a 1.0 PSIG Pressure Drop" in the Uni-Bell PVC Pipe Association "Recommended Practice For Low-Pressure Air Testing of Installed Sewer Pipe".

Before pressure is applied to the line all connections shall be firmly plugged. Before the test period starts, the air shall be given sufficient time to cool to ambient temperature in the test section.

If the test section is below groundwater, the test pressure shall be increased by an amount sufficient to compensate for groundwater hydrostatic pressure, however, the test pressure shall not exceed 10 PSI.

The pressure test gauge shall have been recently calibrated, and a copy of the calibration results shall be made available to the Director prior to testing.

Exfiltration Test:

If for any reason, approved by the Director, air testing cannot be performed, the Director shall require exfiltration testing. Leakage tests by exfiltration shall be made before or after backfilling at the discretion and under the supervision of the Town Inspector. The length of pipe to be tested shall not exceed 1,000 feet and be such that the head over the crown at the upstream pipe is not less than two (2) feet and the head over the downstream pipe crown is not more than six (6) feet. The pipe shall be plugged, by pneumatic bags or mechanical plugs, in such a manner that the air can be released from the pipe while it is being filled with water. Before any measurements are made, the pipe shall be kept full of water long enough to allow absorption of water and the escape of any trapped air. Following this, a test period of at least two hours shall begin. Provisions shall be made for measuring the amount of water required to maintain the water at a constant level during the minimum two (2) hours test period. If any joint shows an appreciable amount of leakage, the joining material shall be removed and replaced. If the water required to maintain a constant level in the pipe does not exceed twenty-five (25) gallons per nominal diameter, in inches, per 24 hours per mile of pipe and if all leakage is not confined to a few joints, workmanship shall be considered satisfactory. If the amount of leakage indicates defective joints or broken pipes, they shall be corrected or replaced.

Infiltration Test:

If for any reason, approved by the Director, air testing and exfiltration testing cannot be performed, the Director shall require infiltration testing be performed. Pipe shall be tested for infiltration after backfill has been placed and the ground water allowed to return to normal elevation. Infiltration tests shall be made only under the supervision of the Town Inspector, and the length of line to be tested shall be not less

than the length between adjacent manholes and not more than the total length or each size pipe and shall not exceed 1000 feet. The allowable infiltration shall be twenty-five (25) gallons per nominal diameter, in inches, per 24 hours per mile of pipe in each section tested as determined by means of V-Notch weirs, pipe spigots, or by plugs in the end of the pipe to be furnished and installed by the L.U.I., in an approved manner, and at such times and locations as may be directed by the Town Inspector.

There shall be no gushing or spurting leaks. If an inspection of the completed sewer or any part thereof shows pipes or joints which allow noticeable infiltration of water, the defective work or material shall be replaced or repaired.

Section 18. Sewer Force Main Testing:

The sewer force main pipe shall be given pressure and leakage tests in sections of approved length as approved by the Director. For these tests, the L.U.I. shall furnish a water test pump, water meter, and a pressure gauge. The L.U.I. shall also furnish all labor and equipment to install suitable temporary testing plugs or caps for the pipeline and to perform the tests. The meter and gauge shall be installed by the L.U.I. in such a manner that all water entering the section under the test will be measured and the pressure in the section indicated and they shall be kept in use throughout all tests.

The scheduling of pressure and leakage tests shall be as approved and attended by the Town Inspector.

The section of pipe to be tested shall be filled with water by pumping water into it and opening the air release valves and expelling all air from the pipe. If air release assemblies are not available at high points for releasing air, the L.U.I. shall perform: all excavation(s); make the necessary tap(s) at such highpoint(s); plug said holes of the tapping saddles after completion of the test with brass or bronze plug(s); and backfill the excavation(s).

The L.U.I. shall make a leakage test by metering the flow of water into the pipe while maintaining (in the section being tested) a pressure equal to 1.5 times the highest pressure to which the pipe will be subjected under normal conditions of service or 150 psi, whichever is greater. This shall be done by placing the section under pressure by pumping.

The lengths of joint to be used in determining the allowable leakage shall be based on the nominal diameter of the pipe. The allowable leakage shall be less than 11.65 gallons per inch diameter per day per mile of force main tested, maintaining a pressure within 5 psi for a minimum of two (2) hours duration. If the section shall fail to pass the pressure test, the L.U.I. shall locate and repair or replace the defective pipe, fitting, or joint, at the L.U.i.'s own expense.

If, in the judgment of the Director, it is impracticable to follow the foregoing procedure exactly, modifications in the procedures may be made if approved by the Director, but in any event the L.U.I. shall be responsible for the ultimate tightness of the line within the above leakage requirements with no allowances for leakage from valves.

Section 19. Low Pressure Sewer Testing:

The sewer low pressure pipe shall be given pressure and leakage tests in sections of approved length as approved by the Director. For these tests, the L.U.I. shall furnish a water test pump, water meter, and suitable pressure gage. The L.U.I. shall also furnish all labor and equipment required to install suitable temporary testing plugs or caps for the pipeline and perform the test. The meter and gage shall be installed by the L.U.I. in such a manner that all water entering the section under the test will be measured and the pressure in the section indicated and they shall be kept in use throughout all tests.

The scheduling of pressure and leakage tests shall be as approved and attended by the Town Inspector.

The section of pipe to be tested shall be filled with water by pumping water into it and opening the air release valves and expelling all air from the pipe. If air release assemblies are not available at high points for releasing air, the L.U.I. shall perform: all excavation(s); make necessary tap(s) at such highpoint(s); plug said holes of the tapping saddles after completion of the test with brass or bronze plug(s); and backfill the excavation(s).

The L.U.I. shall make a leakage test by metering the flow of water into the pipe while maintaining (in the section being tested) a pressure equal to 1.5 times the highest pressure to which the pipe will be subjected under normal conditions of service or 150 psi whichever is greater. This shall be done by placing the section under pressure by pumping.

The lengths of joint to be used in determining the allowable leakage shall be based on the nominal diameter or the pipe. The allowable leakage shall be less than 11.65 gallons per inch diameter per day per mile of pipe tested, maintaining a pressure within 5 psi for a minimum of two (2) hours duration. If the section shall fail to pass the pressure test, the L.U.I. shall locate and repair or replace the defective pipe, fitting, or joint at the L.U.I.'s own expense.

If, in the judgment of the Director, it is impracticable to follow the foregoing procedure exactly, modifications in the procedures may be made if approved by the Director, but in any event the L.U.I. shall be responsible for the ultimate tightness of the line within the above leakage requirements with no allowances for leakage from valves.

Section 20. Cleaning Sewer Lines:

At the conclusion of the work, the L.U.I. shall thoroughly clean all pipelines by washing with water or other means to remove all dirt, stones, pieces of wood, or other material which may have entered the pipes during the construction period. Debris cleaned from the lines shall be removed from the low end of the pipeline by installing a screening device that will prevent any debris from entering the public sewer system or a section of the sewer works already approved. If after this cleaning, obstructions remain, they shall be removed. After the pipelines are cleaned and if the groundwater level is above the pipe or following a heavy rain, the Town Inspector will examine the pipes for leaks. If any defective pipes or joints are discovered, they shall be repaired or replaced as directed by the Town Inspector.

Section 21. Sewer Manhole Leakage Tests:

Leakage tests shall be made and observed by the Town Inspector on each manhole. The test shall be the exfiltration test or vacuum test as described below:

For these tests, the L.U.I. shall furnish an air or water test pump, an air or water meter, and suitable pressure gage. The L.U.I. shall also furnish all labor and materials required to install suitable temporary testing plugs or caps for the pipeline, and perform the test. The meter and gage shall be installed by the L.U.I. in such a manner that all air or water entering the manhole under the test will be measured and the pressure in the manhole indicated and they shall be kept in use throughout all tests.

After the manhole has been assembled in place, all lifting holes and exterior joints surface shall be filled and pointed with an approved non-shrinking mortar. The test shall be made prior to placing the shelf and invert and before filling and pointing the interior horizontal joints. If the groundwater table has been allowed to rise above the bottom of the manhole, it shall be lowered for the duration of the test. All pipes and other openings into the manhole shall be suitable plugged and the plugs braced to prevent blow out.

Exfiltration Testing:

The manhole shall then be filled with water to the top of the cone section. If the excavation has not been backfilled and observation indicates no visible leakage that is, no water visible moving down the outside surface of the manhole, the manhole may be considered to be satisfactory water-tight. If the test, as described is unsatisfactory, as determined by the Town Inspector or if the manhole excavation has been backfilled, the test shall be continued. A period of time may be permitted, if the Contractor so wishes, to allow for absorption. At the end of this period the manhole shall be refilled to the top of the cone and the measuring time of at least two (2) hours shall begin. This amount shall be extrapolated to a 24 hour rate and the leakage determined on the basis of depth. The leakage for each manhole shall not exceed one (1) gallon per vertical foot per day, a twenty-four (24) hour period shall equal one day. If the manhole fails this requirement, but the leakage does not exceed three (3) gallons per vertical foot per day, repairs by approved methods may be directed by the Town Inspector to bring the leakage within the allowable rate of one (1) gallon per foot per day. Leakage due to a defective section or joint or exceeding the three (3) gallon vertical foot per day, shall be the cause for the rejection of the manhole. It shall be the L.U.I.'s responsibility to uncover the manhole, as necessary, and to disassemble, reconstruct, or replace it as directed by the Town Inspector. The manhole shall then be retested and, if satisfactory, interior joints shall be filled and pointed and the invert constructed.

No adjustment in the leakage allowance will be made for unknown causes such as leaking plugs, absorptions, etc., it will be assumed that all loss of water during the test is a result of leaks through the joints or through the concrete. Furthermore, the L.U.I. shall take any steps necessary to assure the Town Inspector that the water table is below the bottom of the manhole throughout the test.

If the groundwater table is above the highest joint in the manhole, and there is no leakage into the manhole, as determined by the Town Inspector, such a test can be used to evaluate the water-tightness of the manhole. However, if the Town Inspector is not satisfied, the Contractor shall lower the water table and carry out the test as described hereinbefore.

Vacuum Testing:

The vacuum test shall be based on the time, measured in seconds, for the vacuum to decrease from 10 inches of mercury to 9 inches of mercury for manholes.

Acceptance of manholes is based on the following:

Manhole	Manhole Diameter	Time to Drop 1" Hg (10" to 9")
10 ft or less	4 ft	120 seconds
10 ft to 15 ft	4 ft	150 seconds
15 ft to 25 ft	4 ft	180 seconds

NOTE: For 5 ft diameter manholes, add 30 seconds to the times above.
For 6ft diameter manholes, add 60 seconds to the times above.

The vacuum test gauge shall have been recently calibrated, and a copy of the calibration results shall be made available to the Director prior to testing.

If the test on the manhole fails (the allowable gallons or the time is less than that tabulated above), necessary repairs shall be made and the vacuum test repeated, until the manhole passes the test.

Section 22. Manhole Cleaning

All new manholes shall be thoroughly cleaned of all silt, debris and foreign matter of any kind, prior to final inspection.

F. Submission of Special Town Meeting Articles – *discussion and possible vote to open*

Ms. Cebula moved to open the Special Town Meeting warrant as of Tuesday, March 15 at 8:30 in the morning and we will close it on Friday, March 18th at noon. Mr. MacAskill seconded the motion and the motion carried unanimously on a roll call vote.

G. Wastewater Governance Model – *discussion and possible vote to approve*

Mr. MacAskill read the document and noted that it would become part of the Comprehensive Wastewater Management Plan after Town Council reviews it. Mr. Carreiro said he agrees with the proposal and the Water Commissioners are all on board. Ms. Cebula said we need an article to change the name of the Enterprise Fund to Water and Wastewater at some point in time. Mr. LaMantia discussed starting with separate funds. Mr. MacAskill moved to approve the concept of the Harwich Wastewater Governance as read. Ms. Cebula seconded the motion and the motion carried unanimously on a roll call vote.

TOWN ADMINISTRATOR'S REPORT

A. Plymouth County OPEB Trust (PCOT)

Mr. Clark explained that Other Post Employment Benefits (OPEB) has a significant liability and we are looking at different ways to try to fund that liability. He explained that we have a funding plan in which the past 2-3 years of budgets we have put in $100,000 into the fund and last year created an OPEB Trust Fund which has created a discount rate of up to 5.75% earned on the money we have and by doing that our liability has been reduced down to about just under $43 million. He said they have met with the Plymouth County Trust Fund and they are having people pool their money and invest it. He noted that they have selected a firm that specializes in OPEB to actively manage the funds and our discounted rate, or the amount of return on those dollars, would go potentially from 5.75% to 7 ½% and that would reduce the liability from $43 million to $34 million. He said he would get the materials and bring to the Board.

B. Free Cash Policy

Mr. Clark briefly discussed projected receipts in relation to the FY17 budget. No action was taken.

Ms. Greenhalgh gave details of the upcoming Wastewater Summit.

ADJOURNMENT

Respectfully submitted,

Ann Steidel
Recording Secretary

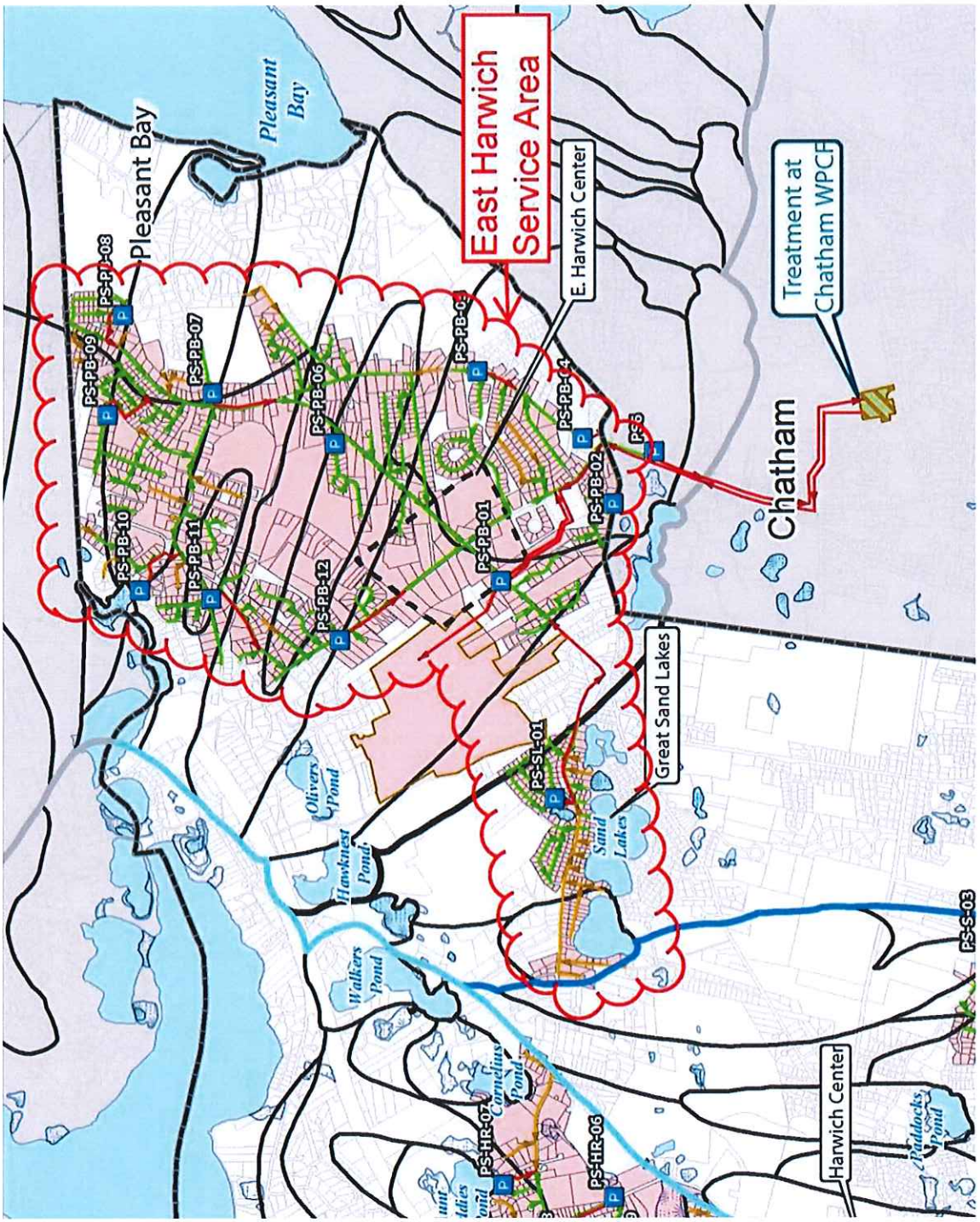
Harwich Wastewater Governance

The Harwich Comprehensive Wastewater Management Plan (CWMP) identifies several phases of wastewater infrastructure implementation throughout the town spanning a 40 year time frame. The Harwich Board of Selectmen will oversee and manage the design and construction of each phase of the wastewater program. As individual segments of the wastewater infrastructure are completed and activated , the operation and maintenance of the physical wastewater infrastructure will be turned over to the Harwich Board of Water Commissioners .

For instance in the East Harwich / Pleasant Bay area the BOS will manage all aspects of the wastewater system until such time as the initiation of flow to the Chatham Treatment Facility. At that time the Board of Water Commissioners will assume responsibility for the operation and maintenance of this segment of the Harwich Wastewater System.

COMPREHENSIVE WASTEWATER MANAGEMENT PLAN – PHASE 2

ARTICLE 11: To see if the Town will vote to raise and appropriate, transfer from available funds, or borrow a sum of money to implement Phase 2 of the Town of Harwich Comprehensive Wastewater Management Plan, approved by the Massachusetts Secretary of Energy and Environmental Affairs in a Massachusetts Environmental Policy Act Certificate dated May 13, 2016, including the following: the design and installation of sewers in the Pleasant Bay watershed, the payment to the Town of Chatham of the capacity purchase fee pursuant to the inter-municipal agreement between the Town of Harwich and the Town of Chatham dated _____ which permits the Town of Harwich to deliver wastewater to the Chatham Water Pollution Control Facility for treatment and disposal, for the implementation of the Cold Brook project and for the remediation of Hinckley Pond, all as more fully described in said Comprehensive Wastewater Management Plan, including any land acquisition costs and all other costs incidental and related thereto; provided that any borrowing authorized hereunder shall be contingent on the passage of a Proposition 2 and ½ debt exclusion vote, and provided further that the payment of said amount and the issuance of debt therefor shall be in accordance with the schedule of payments anticipated to be set forth in the inter-municipal agreement, a copy of which will be on file with the Office of the Town Clerk prior to Town Meeting; and to act fully thereon. By request of the Board of Selectmen



ENACT A SEWER USE GENERAL BY-LAW

Christopher Clark

From: John Giorgio <JGiorgio@k-plaw.com>
Sent: Monday, November 14, 2016 2:46 PM
To: Christopher Clark
Cc: Sandy Robinson; Ann Steidel
Subject: Wastewater Article

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Chris:

As you requested please find a warrant article, motion, and ballot question to appropriate the funds required to implement Phase 2 of the CWMP:

Warrant Article:

To see if the Town will vote to raise and appropriate, transfer from available funds, or borrow a sum of money to implement Phase 2 of the Town of Harwich Comprehensive Wastewater Management Plan, approved by the Massachusetts Secretary of Energy and Environmental Affairs in a Massachusetts Environmental Policy Act Certificate dated May 13, 2016, including the following: the design and installation of sewers in the Pleasant Bay watershed, the payment to the Town of Chatham of the capacity purchase fee pursuant to the intermunicipal agreement between the Town of Harwich and the Town of Chatham dated _____ which permits the Town of Harwich to deliver wastewater to the Chatham Water Pollution Control Facility for treatment and disposal, and for the implementation of the Cold Brook project, all as more fully described in said Comprehensive Wastewater Management Plan, including any land acquisition costs and all other costs incidental and related thereto; provided that any borrowing authorized hereunder shall be contingent on the passage of a Proposition 2 and ½ debt exclusion vote, and provided further that the payment of said amount and the issuance of debt therefor shall be in accordance with the schedule of payments anticipated to be set forth in the intermunicipal agreement, a copy of which will be on file with the Office of the Town Clerk prior to Town Meeting; and to act fully thereon.

Motion:

I move that the Town vote to appropriate the sum of $_____ to implement Phase 2 of the Town of Harwich Comprehensive Wastewater Management Plan, approved by the Massachusetts Secretary of Energy and Environmental Affairs in a Massachusetts Environmental Policy Act Certificate dated May 13, 2016, including the following: the design and installation of sewers in the Pleasant Bay watershed, the payment to the Town of Chatham of the capacity purchase fee pursuant to the intermunicipal agreement between the Town of Harwich and the Town of Chatham dated _____ which permits the Town of Harwich to deliver wastewater to the Chatham Water Pollution Control Facility for treatment and disposal, and for the implementation of the Cold Brook project, all as more fully described in said Comprehensive Wastewater Management Plan, including any land acquisition costs and all other costs incidental and related thereto; including acquisition of any interests in land as may be necessary or appropriate, and the payment of all other costs incidental and related thereto; that to meet said appropriation the Treasurer, with the approval of the Board of Selectmen, is hereby authorized to borrow the sum of _____ pursuant to General Laws Chapter 44, Sections 7 or 8 and Chapter 29C, or any other enabling authority, and to issue bonds and notes of the Town therefor; provided, however, that any borrowing authorized hereunder shall be contingent on the passage of a Proposition 2 and ½ debt exclusion vote. Any premium received by the Town upon the sale of any bonds or notes approved by this vote, less any

such premium applied to the payment of the costs of issuance of such bonds or notes, may be applied to the payment of costs approved by this vote in accordance with Chapter 44, Section 20 of the General Laws, thereby reducing the amount authorized to be borrowed to pay such costs by a like amount.

Ballot Question:

Shall the Town of Harwich be allowed to exempt form the provisions of Proposition two and one-half, so-called, the amounts required to pay for the bond issued in order to pay the costs to implement Phase 2 of the Town of Harwich Comprehensive Wastewater Management Plan, approved by the Massachusetts Secretary of Energy and Environmental Affairs in a Massachusetts Environmental Policy Act Certificate dated May 13, 2016, including the following: the design and installation of sewers in the Pleasant Bay watershed, the payment to the Town of Chatham of the capacity purchase fee pursuant to the intermunicipal agreement between the Town of Harwich and the Town of Chatham dated _____ which permits the Town of Harwich to deliver wastewater to the Chatham Water Pollution Control Facility for treatment and disposal, and for the implementation of the Cold Brook project, all as more fully described in said Comprehensive Wastewater Management Plan, including any land acquisition costs and all other costs incidental and related thereto?

Please let me know if you have any questions or whether you need anything further.

John

Kopelman and Paige is now KP | LAW

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HARWICH BOS/TA ACTION ITEMS REPORT 02/13/17 New Updates highlighted in YELLOW

Item Number	*Action Item*	Criticality (1, 2 or 3)	Lead Responsibility	Date Assigned	Due Date	Status	Comments
16-001	*Disability Access to Brook Park Bandstand*			7/11/2016		Referred to Recreation for inclusion in the next phase of Brooks Park Improvements.	No funding available at this time to cover cost of ramp.
16-002	*Lighting at Brook Park Bandstand/Parking*		TA, ATA, Town Eng., Rec. Dir.	7/11/2016		Spoke with Town Engineer. Came up with concept for 2 lights in keeping with the Historic Dist. Cost $2500/ea. **Status Complete**	No funding available at this time to cover costs of lights. Path behind ballfield fence is not formal to make more accessible & add lighting would require a fence along the bank, t-base walkway 5' wide, electricity, etc.
16-003	*West Harwich Plume*		TA, ATA, Health Dir.	7/11/2016		Paula completed review week of August 15; meeting with Chair, TA and Asst. TA on 8/24/16. Paula made presentation to the BoS on 9/26/16 - **Status Complete**	Paula Champagne asked to research all applicable reports and to report back her findings/recommendations/plan.
16-004	*Committees: Vacancies; Charge Updates: Members being Sworn-in.*		Selectmen	7/25/2016		On-going	
16-005	*Track Additional Costs at Middle School*		Selectman LaMantia, TA	7/25/2016		On-going	
16-006	*Embers: Outside Bar Status*		ATA	8/8/2016		Completed 8/10/16- **Status Complete**	Consulted Licensing Secretary; Building Comm; Health Agent. Mr. Nickerson contacted.
16-007	*Dedicated Turn Signal North on Rte 124 at Queen Anne Road*		DPW Director	8/8/2016		Completed 8/10/16- **Status Complete**	DPW Director contacted consulting Engineer. The trip counts do not warrant a dedicated signal. Mr. Nickerson Contacted.
16-008	*Perk - Public Hearing for Entertainment License potential violation(s)*		TA; Licensing Secretary	8/22/2016		Hearing to be scheduled for 9/19/16 - **Status Complete**	
16-009	*Waterways - Slip Regulations*		TA; Harbormaster; Waterways Committee	10/17/2016			
16-010	*Entertainment Licenses (Rte 28 HP) - Public Hearing for uniform hours*		TA	10/17/2016		Public Hearing Schedule for November 14, 2016 - **Status Complete** -- Licensees (Rt 28 HP) to be notified	Advertising and posting on Website completed. Licensees to be notifed.
Goal 1. Financial Leadership and Stability - Provide financial leadership and stability to all Town departments and Town sanctioned boards and committees. (Primary responsibility is with TA although the Finance Team, Capital Outlay Committee and the Finance Committee provide significant input)							
	Objective A: Develop FY2018 budget within the limits of Proposition 2 1/2 that minimizes the use of capital exclusions.						
16-011	*G1-A(1) Provide Seven Year Capital Plan, 2018-2024*		TA	7/25/2016		**Status Complete**	
16-012	*G1-A(2) Report: Estimated Free Cash*		Town Accountant	7/25/2016		**Status Complete**	
16-013	*G1-A(3) Report: FY2018 TA Budget Message*		TA	7/25/2016		**Status Complete**	
16-014	*G1-A(4) Provide Initial Budget & additional updates as needed*		TA	7/25/2016		Initial Budget to be presented 2/13/17. Budget hearing scheduled for Sat. March 4th	
	Objective B: Provide transparency in town finances.						
16-015	*G1-B(1) Provide quarterly expense & revenue reports for each Town department.*		Town Accountant & TA	7/25/2016		**Status Complete** - Provided Monthly	
16-016	*G1-B(2) Provide revenue sources & expenses for each department.*		Town Accountant & TA	7/25/2016		**Status Complete** - Provided Monthly	
16-017	*G1-B(3) Further implement the visual software package to better inform the taxpayers where their tax dollar is being spent.*		Town Accountant & TA & Selectmen	7/25/2016		On-going	
16-018	*Examine 1-3 years of auditors' reports & document how Finance Dept. has resolved auditor's suggestions/recommendations.*		Town Accountant & TA	7/25/2016		Pending	

HARWICH BOS/TA ACTION ITEMS REPORT 02/13/17 New Updates highlighted in YELLOW

Item Number	*Action Item*	Criticality (1, 2 or 3)	Lead Responsibility	Date Assigned	Due Date	Status	Comments
16-019	*G1-B(5) Evaluate the need to form an insurance advisory committee to work with the TA to identify, develop options & implement town insurance matters*		LaMantia, Finance, TA	7/25/2016			
	Objective C: Develop specific financial strategies to increase S&P Bond rating						
16-020	*G1-C(1) Provide memo identifying potential savings that could result over the next 5-10 years of planned borrowing if Harwich rating was increased.*		MacAskill, TA, Finance	7/25/2016			
16-021	*G1-C(2) Identify specific, sustainable revenue sources to fund annual contributions to Other Post Employment Benefits (OPEB).*		MacAskill, TA, Finance	7/25/2016			
Goal 2. Goverance - Communicat and conduct Town government business in an efficient, effective, transpartent and responsive manner.							
	Objective A: Conduct Town government business in an efficient and effective manner						
16-022	*G2-A(1) Implement Accela*		TA	7/25/2016		**Status Complete**	
16-023	*G2-A(2) Request Charter Review Committee to assess Charter to identify needed changes/improvement.*		LaMantia & MacAskill	7/25/2016		On-going	
16-024	*G2-A(3) Direct Town boards & committees to review Charges for appropriateness or modifications.*		LaMantia & MacAskill	7/25/2016			
16-025	*G2-A(4) Ensure Town boards & committees conduct meetings/public hearings in accordance with Charter, Regulations & MGL.*		LaMantia & MacAskill	7/25/2016			
16-026	*G2-A(5) Assess document storage needs.*		TA	7/25/2016		Funding Deny by CPC	Staff is seeking other options for funding.
16-027	*G2-A(6) Review & reevaluate BOS policies.*		LaMantia & MacAskill	7/25/2016			
	Objective B: Conduct Town government business in a transparent manner						
16-028	*G2-B(1) Develop & implement informational meetings ("pre-annual town meetings) to improve understanding & assess potential impacts of the Harwich budget & selected warrant articles.*		BoS	7/25/2016		Voter Information Committee has scheduled a series of voter information work shops: 4/11: Finance, 4/25: Warrants Articles, 5/9: Candidates	
16-029	*G2-B(2) Public Awareness & Outreach: improve awareness & understanding of the BOS, other Town-sanctioned groups, & Town departments.*		TA w/Voter Info Comm., BoS	7/25/2016		Voter Information Committee holding a Town Committee Volunteer Recruitment Fair 1/28/17	Fair held 1/28/17
16-030	*G2-B(2)(a)Two memos, co-authored by Administration & Dept. Head selected to participate in outreach activity describing activities planned, resources & schedules required to achieve this objective.*		LaMantia, MacAskill, TA, Finance	7/25/2016			
16-031	*G2-B(2)(b) Periodic status reports on media projects, site visits, & initial feedback from residents/visitors.*		LaMantia, MacAskill, TA, Finance	7/25/2016			
16-032	*G2-B(3)(c) End-of-year report on lessons learned.*		LaMantia, MacAskill, TA, Finance	7/25/2016			
	Objective C: Conduct Town government business in a responsive manner						
16-033	*G2-C(1) Establish Harwich-specific email addresses (4 memos).*		Brown, IT, TA	7/25/2016			
16-034	*G2-C(2) Reevaluate Town Hall hours: 8 PM on Monday & noon on Friday.*		Brown, BoS, TA	7/25/2016			

HARWICH BOS/TA ACTION ITEMS REPORT 02/13/17 New Updates highlighted in YELLOW

Item Number	*Action Item*	Criticality (1, 2 or 3)	Lead Responsibility	Date Assigned	Due Date	Status	Comments
16-035	*G2-C(3) Evaluate improvements to Griffin Room audio reception, recording & broadcasting.*		Brown, IT, TA, Cable	7/25/2016		On-going; Ms. Goodwin has made many updates to the system.	
16-036	*G2-C(4) Develop agreement for classroom use at MRHS & Harwich Elementary (fee/no fee) for Town-sanctioned groups meetings.*		Brown, BoS	7/25/2016			
Goal 3: Infrastructure - Work with and support the design, construction and renovation activities of the Harbormaster, Department of Public Works, Board of Water Commissioners, Library and other departments conducting major projects							
16-037	***G3 Objective A:*** *Support and report periodically on the water side rebuilding project at Saquatucket Harbor.*		MacAskill, TA, Harbor	7/25/2016			No Action Items or Deliverables Provided
16-038	***G3 Objective B:*** *Support and report on the land side design project*		Harbor & Conservation	7/25/2016			No Action Items or Deliverables Provided
16-039	***G3 Objective C:*** *Investigate renovation project proposed for Lower County Road.*		Hughes, TA, DPW, Highway & Engineering	7/25/2016			No Action Items or Deliverables Provided
16-040	***G3 Objective D:*** *Determine appropriate distribution of CVEC energy savings*		MacAskill, TA, BoS	7/25/2016			
Goal 4: Natural Resources - Continue to implement the Comprehensive Wastewater Management Plan							
	Objective A: Wastewater planning and implementation						
16-041	*G4-A(1) Attempt to finalize IMA negotiations with Chatham BOS*		Hughes, LaMantia, TA	7/25/2016		**Staff has completed in responsiblities.**	
16-042	*G4-A(2) Convene preliminary discussions with Dennis & Yarmouth*		Hughes, LaMantia, TA	7/25/2016		**Status Complete**	Initial Meeting held, discussions continuing
16-043	*G4-A(3) Document results of Muddy Creek projects & support Cold Brook mitigation planning & implementation*		Hughes, LaMantia, TA	7/25/2016			
16-044	*G4-A(4) Continue ongoing pollution mitigation efforts & implementation of new technologies.*		Hughes, LaMantia, TA	7/25/2016			
	Objective B: Wastewater Education and Outreach			7/25/2016			
16-045	*G4-B(1) Using available information develop guidelines for environmentally-appropriate fertilization of lawns &gardens*		BoS, TA, WIC, IT, Nat'l Resources, Health/Conservation	7/25/2016			
16-046	*G4-B(2) Plan & implement wastewater education program for residents & nonresidents to explain the need for the project, the process & next activities planned*		BoS, TA, WIC, IT, Nat'l Resources, CDM Smith	7/25/2016		On-Going	
Goal 5: Planning and Economic Development - Actively participate in development of housing, business, transportation and historic and cultural enhancements. Establish working relationships with officials of nearby towns, Barnstable County, State and Federal agencies, as appropriate.							
	Objective A: Investigate improved utilization, sale or lease of several properties in Town.						
16-047	*G5-A(1) Develop plans on how to use, sell or lease the Albro House, Bank Street Fire Station, Old Recreation Building, West Harwich Schoolhouse & Harwich Middle School.*		TA	7/25/2016		On-going	
16-048	*G5-A(2) Support community involvement, State compliance, planning, & public information activities in the Rt. 28 reconstruction project from Herring River to the Dennis line*		TA	7/25/2016		On-going	
16-049	*G5-A(3) Support community involvement in the HECH/Chase House historic preservation & Chapter 40B development at 93 & 97 Rt. 28*		TA	7/25/2016		On-going	

HARWICH BOS/TA ACTION ITEMS REPORT 02/13/17 New Updates highlighted in YELLOW

Item Number	*Action Item*	Criticality (1, 2 or 3)	Lead Responsibility	Date Assigned	Due Date	Status	Comments
	Objective B: Create and maintain a strong business and job growth environment						
16-050	*G5-B(1) Explore creation of an economic development committee*		Brown, MacAskill, BoS	7/25/2016			
16-051	*G5-B(2) Create & maintain positive Town & business relationships*		Brown, MacAskill, BoS	7/25/2016			TA meets monthly with Chamber Director.
16-052	*G5-B(3) Assist Town departments & Town sanctioned groups with grants & pursue funding opportunities in support of town priorities & policy goals*		Brown, MacAskill, BoS	7/25/2016			
16-053	*G5-B(4) Develop educational program agreements with MRSD & CCTech whereby special projects can be conducted coincident with major capital projects in Town*		Brown, MacAskill, BoS	7/25/2016			
16-054	*G5-B(5) Investigate novel ideas to promote Harwich & attract tourists, such as painting/decorating fire hydrants*		Brown, MacAskill, BoS, TA, Chamber	7/25/2016			
16-055	*G5-B(6) Explore affordable & senior housing options where the Town may retain the property*		Brown, MacAskill, BoS	7/25/2016			
16-056	*G5-B(6)(a) Memorandum #1: TA shall outline a plan to identify proven & novel approaches to develop Affordable housing in Harwich.*		Brown, MacAskill, BoS	7/25/2016			
Goal 6: Quality of Life and Public Safety - Develop and support programs that improve quality of life for Harwich residents and visitors. (Public Safety Departments have the primary responsibility for progress and accomplishments. TA has coordination, support and reporting responsibility)							
	Objective A: Provide high quality, cost-effective public safety services to residents and visitors.						
16-057	*G6-A(1) Assess public safety signage throughout the Town for adequacy & consistency*		Kavanagh, TA, Highway	7/25/2016			
16-058	*G6-A(2) Investigate options, including increased police surveillance, low cost, automatic speed detection systems, raised crosswalks or speed bumps to lower vehicle speed on town streets.*		Kavanagh, TA, Highway, CCC	7/25/2016			
16-059	*G6-A(2)(a) Memorandum #1: Define near-term options that could be implemented in 30 days or less*		Kavanagh, TA, Highway, CCC	7/25/2016			
16-060	*G6-A(2)(b) Memorandum #2: Identify steps & resources needed to develop a comprehensive safety improvement plan for Harwich*		Kavenagh, TA	7/25/2016			1) AASHTO: Intersection: Sight Triangle: Review Bylaw 2) High Accident Data: Steve Tupper (CCC), Jerry Beltis & Traffic Study Committee 3) Line Painting: Practice/Timing One area every three years (crosswalks) 4) Signage Practices (street and traffic signage) (*South/Sisson Street: signage improvements) 5) Culverts: Town Engineer MS4. (excluded)
	Objective B: Support the Fire Station #2 Renovation Project.						
16-061	*G6-B(1) Apply Town resources (Planning, Engineering, etc.) to support conduct & documentation of needs assessment, preliminary design & alternatives development, cost estimation & preparation of periodic presentations & open meetings & final recommendations to the Selectmen & Town voters*		Brown, TA, Station 2 Comm.	7/25/2016		**Status Complete: Station 2 Committee made presentation to BoS on 1/17/17.**	

HARWICH BOS/TA ACTION ITEMS REPORT 02/13/17 New Updates highlighted in YELLOW

Item Number	*Action Item*	Criticality (1, 2 or 3)	Lead Responsibility	Date Assigned	Due Date	Status	Comments
16-062	*G6-B(1)(a) Station Needs Assessment - provide operational requirements that drive the need and design of enhancements and expansions*		Brown, TA, Station 2 Comm.	7/25/2016		**Status Complete: Station 2 Committee made presentation to BoS on 1/17/17.**	
16-063	*G6-B(1)(b) Alternatives analysis and preliminary design*		Brown, TA, Station 2 Comm.	7/25/2016			
16-064	*G6-B(1)(c) Cost Estimates*		Brown, TA, Station 2 Comm.	7/25/2016			
16-065	*G6-B(1)(d) Final Recommendations*		Brown, TA, Station 2 Comm.	7/25/2016			

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COMMONWEALTH OF MASSACHUSETTS
TOWN OF HARWICH
ANNUAL TOWN MEETING
May 1, 2017

BARNSTABLE, ss:

To either of the Constables of the Town of Harwich in said county,

Greetings:

In the name of the Commonwealth of Massachusetts you are hereby directed to notify and warn the inhabitants of said Town qualified to vote in elections and Town affairs to meet in the Community Center Gymnasium, 100 Oak Street in said Town on May 1, 2017 at 7:00 P.M., then and there to act on the following articles:

ARTICLES

TOWN OFFICERS AND COMMITTEES

ARTICLE 1 To choose various Town Officers and Committees. Customary Article

REPORTS OF TOWN OFFICERS AND COMMITTEES

ARTICLE 2 To hear reports of all Town Officers and Committees for the year 2017. Customary Article

ELECTED OFFICIALS SALARIES

ARTICLE 3 To see if the Town will vote to fix the salaries of the elected officials of the Town for fiscal year commencing July 1, 2017 and ending June 30, 2018 as follows and to act fully thereon. Estimated cost: $86,205

Selectmen (5)	$1,500 (each)
Moderator	$300
Town Clerk	$76,905
Water Commissioners (3)	$500 (each)

TOWN OPERATING BUDGET

ARTICLE 4: To see if the Town will vote to raise and appropriate and/or transfer from available funds such sums of money as may be required to defray Town charges for Fiscal Year 2018, and to act fully thereon. (BUDGET – SEE APPENDIX B).
Estimated cost: $33,300,000.

MONOMOY REGIONAL SCHOOL DISTRICT BUDGET

ARTICLE 5: To see if the Town will vote to raise and appropriate and/or transfer from available funds such sums of money as may be required to pay for the Monomoy Regional School District Assessment for Fiscal Year 2018. The appropriation authorized by this vote shall not take effect until the Town votes to exempt from the limitation on total taxes imposed by M.G.L. Chapter 59, Section 21C (Proposition 2 ½) the amounts required to pay the Capital Exclusion portion of said appropriation under this article, and to act fully thereon. By request of the Monomoy Regional School Committee and Superintendent. Estimated cost: $24,787,671.

CAPE COD REGIONAL TECHNICAL SCHOOL DISTRICT BUDGET

ARTICLE 6: To see if the Town will vote to raise and appropriate and/or transfer from available funds a sufficient sum of money as may be required to pay for the Cape Cod Regional Technical High School District Assessment for Fiscal Year 2018, and to act fully thereon. By request of the Cape Cod Regional Technical High School District. Estimated cost: $1,487,362.

WATER BUDGET

ARTICLE 7: To see if the Town will vote to raise and appropriate and/or transfer from available funds such sums of money as may be required to defray Water Department Operating Budget for Fiscal Year 2018, and to act fully thereon. By request of the Water Commissioners and Superintendent. Estimated cost: $4,126,594.

ADOPT THE CAPITAL PLAN

ARTICLE 8: To see if the Town will vote to adopt the Capital Plan for the ensuing seven year period as adopted last year by the Town Meeting with new fiscal year 2024 as proposed by the Board of Selectmen and set forth below or as amended by vote of the Town Meeting, and to act fully thereon. By request of the Board of Selectmen.

CAPITAL ITEMS FUNDED FROM FREE CASH – ITEMS UNDER $50,000

ARTICLE 9: To see if the Town will vote to raise and appropriate and/or transfer from available funds a sufficient sum of money to fund the items in the table below, and further to authorize the Selectmen to accept grant monies related to these items and chest compression equipment, and to act fully thereon. By request of the Board of Selectmen. Estimated cost: $116,819.

1.	Fire – Gas Metering Detection Devices	$24,779
2.	Police - Bullet Proof Vests (town portion)	$22,000
3.	Police - Ballistic Helmets	$10,220
	Police - Electronic Sign Board	$17,820
4.	DPW - Fuel Management System	$42,000
	TOTAL	$116,819

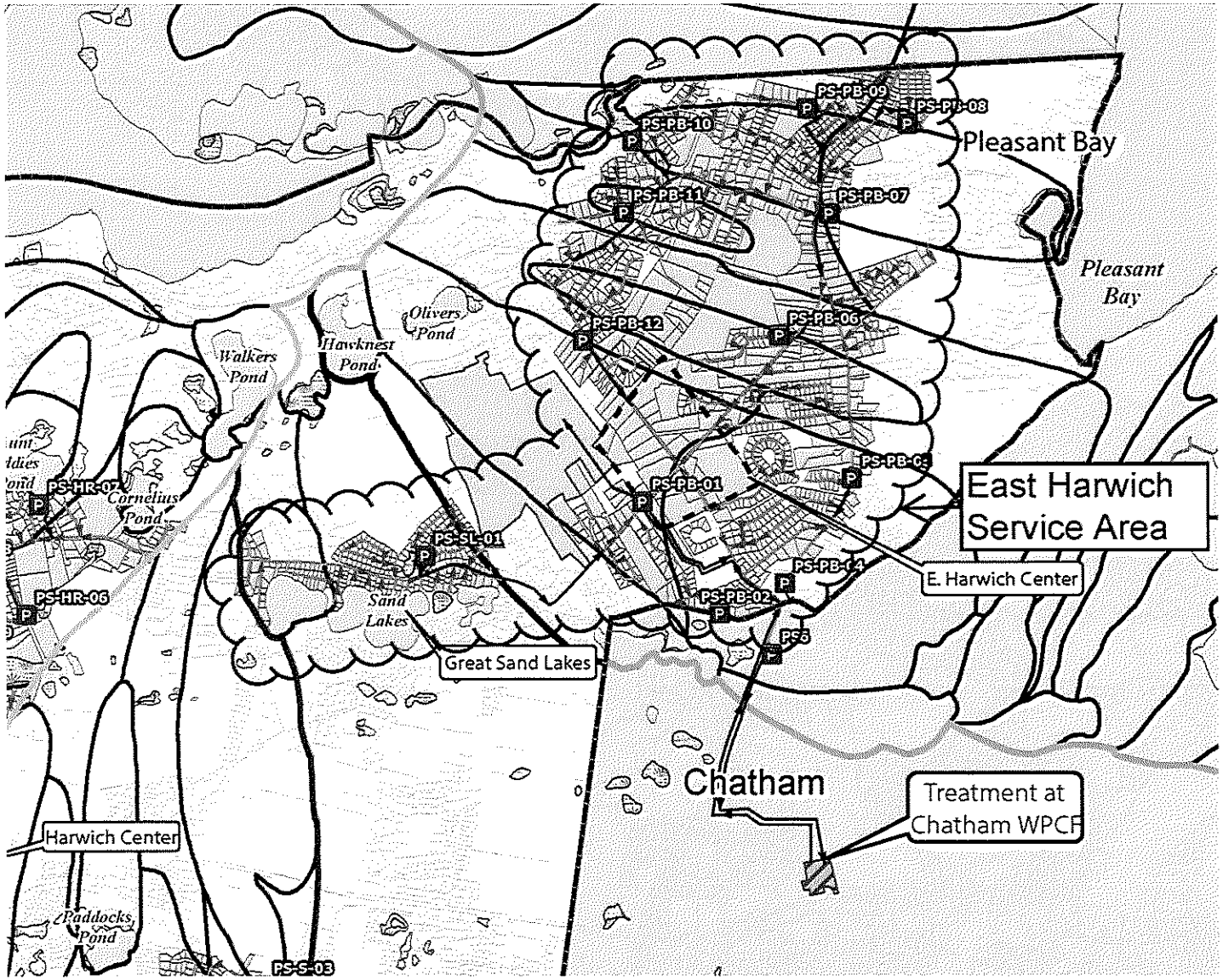
FACILITY MAINTENANCE AND REPAIR FUND

ARTICLE 10: To see if the Town will vote to raise and appropriate and/or transfer from available funds a sufficient sum of money as may be required to defray costs related to Facility Maintenance and Repair for FY 18, and to act fully thereon. By request of the Board of Selectmen. Estimated cost $808,086.

1.	Community Center Gym Floor Resurfacing	$57,724
2.	Town Wide Radio System (Town)	$102,643
	Town Wide Radio System (Water portion)	$33,930
3.	Brooks Library Generator & Install	$110,000
4.	Police - Public Safety Complex Security System Replacement	$153,789
5.	Recreation - Red River Beach Parking Lot Paving/Overlay	$225,000
6.	DPW - Middle School Operations	$125,000
	TOTAL	$808,086

COMPREHENSIVE WASTEWATER MANAGEMENT PLAN – PHASE 2

ARTICLE 11: To see if the Town will vote to raise and appropriate, transfer from available funds, or borrow a sum of money to implement Phase 2 of the Town of Harwich Comprehensive Wastewater Management Plan, approved by the Massachusetts Secretary of Energy and Environmental Affairs in a Massachusetts Environmental Policy Act Certificate dated May 13, 2016, including the following: the design and installation of sewers in the Pleasant Bay watershed, the payment to the Town of Chatham of the capacity purchase fee pursuant to the inter-municipal agreement between the Town of Harwich and the Town of Chatham dated _____ which permits the Town of Harwich to deliver wastewater to the Chatham Water Pollution Control Facility for treatment and disposal, for the implementation of the Cold Brook project and for the remediation of Hinckley Pond, all as more fully described in said Comprehensive Wastewater Management Plan, including any land acquisition costs and all other costs incidental and related thereto; provided that any borrowing authorized hereunder shall be contingent on the passage of a Proposition 2 and ½ debt exclusion vote, and provided further that the payment of said amount and the issuance of debt therefor shall be in accordance with the schedule of payments anticipated to be set forth in the inter-municipal agreement, a copy of which will be on file with the Office of the Town Clerk prior to Town Meeting; and to act fully thereon. By request of the Board of Selectmen


PS-PB-09
PS-PB-08
PS-PB-10
Pleasant Bay
PS-PB-11
PS-PB-07
Pleasant Bay
Olivers Pond
PS-PB-12
PS-PB-06
Walkers Pond
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PS-3
Great Sand Lakes
Chatham
Treatment at Chatham WPCF
Harwich Center
Paddocks Pond
PS-S-03

ENACT A SEWER USE GENERAL BY-LAW

ARTICLE 12: To see if the Town will vote to enact a Sewer Use General By-Law, governing the establishment, construction and operation of a wastewater collection and treatment system, a copy of which will be on file with the Office of the Town Clerk prior to Town Meeting, and to act fully thereon. By request of the Board of Selectmen.

Explanation: The Town's Inter-Municipal Agreement with Chatham calls for Harwich to promulgate and utilize Sewer Use Regulations that are compatible with the regulations in place in the Town of Chatham. The Massachusetts Department of Environmental Protection calls for these regulations to be in place as part of the functioning of the wastewater treatment facility. The Sewer Use Regulations are designed to be dynamic in the sense that general elements will be included in the regulations with discretion given to the governing body to create or modify regulations on more specific detailed interconnection activities such as pipe size and design elements to facilitate compatibility with the existing technology of the current Chatham facility.

FUND REPLACING FIRE DEPARTMENT PUMPER

ARTICLE 13: To see if the Town will vote to raise and appropriate, transfer from available funds or borrow a sufficient sum of money to purchase or lease one pumper for the Fire Department, and further to authorized the trade-in or sale of the 1985 Pierce pumper. The appropriation authorized by this vote shall not take effect until the Town votes to exempt from the limitation on total taxes imposed by M.G.L. Chapter 59, Section 21C (Proposition 2 ½) the amounts required to pay the Capital Exclusion portion of said appropriation on any borrowing authorized under this article, and to act fully thereon. By request of the Fire Chief. Estimated cost: $420,000

FUND PLANS AND BID DOCUMENTS FOR STATION 2

ARTICLE 14: To see if the Town will vote to raise and appropriate, transfer from available funds or borrow a sufficient sum of money to hire an architectural firm to develop construction plans and bid documents for construction/renovation of Fire Station 2 at 149 Route 137. The appropriation authorized by this vote shall not take effect until the Town votes to exempt from the limitation on total taxes imposed by M.G.L. Chapter 59, Section 21C (Proposition 2 ½) the amounts required to pay the principal of any interest on any borrowing authorized under this article, and to act fully thereon. By request of the Fire Chief. Estimated cost: $310,000

LANDSCAPE RECLAMATION AND MAJOR TREE REMOVAL

ARTICLE 15: To see if the Town will vote to transfer $43,000 from the Golf Improvement fund to continue landscape reclamation and tree removal specifically hole numbers 3, 5, and 6, but not restricted to other areas that the Golf Director and the Golf Committee deem necessary, and to act fully thereon. By request of the Director of Golf and the Golf Committee.

Explanation: The golf course continues to improve turf conditions throughout its existing fairways. Removal of growth that restricts both air and light enhances the playability of these fairways as recognized by consultation with the USGA, and with the endorsement of the Golf Committee, the Director, and the Supt. of the Green.

IRRIGATION UPGRADE AND SYSTEM REBUILD

ARTICLE 16: To see if the Town will vote to transfer the sum of $39, 000 from the Golf Improvement fund to replace the "master controller" for the CVGC irrigation system, and to act fully thereon. By request of the Director of Golf and the Golf Committee

Explanation: This is the necessary first step in rebuilding the irrigation infrastructure for the CVGC operation. This methodical step by step approach completely funded by the Golf Improvement Fund will save taxpayers substantially and will be completed within 5 years.

RECONSTRUCTION OF MAINTENANCE AND OPERATIONS INFRASTRUCTURE AT CRANBERRY VALLEY GOLF COURSE (CVGC)

ARTICLE 17 : To see if the Town will vote to raise and appropriate, transfer from available funds or borrow a sufficient sum of money to fund the reconstruction of the CVGC Cart Barn with a new facility - Solar capable, with the ability to house a state of the art electric golf car fleet, re-skin and re- roof the major existing maintenance "storage" facility, provide environmental upgrades, and reconfigure the existing car parking lot and lanes and access to the Club House and Pro Shop facilities with appropriate enhancements, and to act fully thereon. The appropriation authorized by this vote shall not take effect until the Town votes to exempt from the limitation on total taxes imposed by M.G.L. Chapter 59, Section 21C (Proposition 2 ½) the amounts required to pay the principal of any interest on any borrowing authorized under this article, and to act fully thereon. By request of the Director of Golf and the Golf Committee. Estimated cost $1,200,000.

Explanation: Last year the Town voted to approve the establishment of a "Infrastructure Revitalization Fund" for golf operations. The monies now accrued in this fund will give the Town's golf department the maximum amount of money to self fund this obligation. The benefit derived from this investment will address long standing needs to maintain the competitiveness of the CVGC operation now and in the future.

FUND THE REPLACEMENT OF THE ROUND COVE BOAT RAMP

ARTICLE 18: To see if the Town will vote to transfer from available funds the remaining balance of funds contained in the following articles funded by Free Cash: Article 23 of 2010 Annual Town Meeting ($7,600), Article 14 of 2014 Annual Town Meeting ($159,812.01), and Article 33 of 2014 Annual Town Meeting ($9,658.24). Said transfer of funds to be used for the replacement of the Round Cove boat ramp, and to act fully thereon. By request of the Harbormaster. Estimated cost: $177,070.25

Explanation: *The existing public boat ramp at Round Cove landing is poorly constructed and in very poor condition. Every year several boat trailers get hung-up on the leading edge of the ramp because it is too short and not properly pitched, causing significant damage to trailers. With close to 180 permitted moorings in Round Cove and Pleasant Bay, the ramp is heavily used throughout the boating season. Construction costs above the $177,070.25 will be requested to be paid for out of the department's Mooring Account (fund #1621); Town Administrator is the approving authority.*

FUND THE CONSTRUCTION OF THE SAQUATUCKET HARBOR LANDSIDE RENOVATIONS

ARTICLE 19: To see if the Town will vote to raise and appropriate, transfer from available funds or borrow a sufficient sum of money to fund the construction of Saquatucket Harbor landside renovations, to include a new Harbormaster Office building, a leased waterfront Café restaurant, six leased seasonal vendor shacks, a boardwalk with viewing areas that overlook the marina, and a consolidated passenger boat ticket office building and a Harbormaster Department maintenance facility building on the former Downey Property, and to act fully thereon. The appropriation authorized by this vote shall not take effect until the Town votes to exempt from the limitation on total taxes imposed by M.G.L. Chapter 59, Section 21C (Proposition 2 ½) the amounts required to pay the principal of any interest on any borrowing authorized under this article, and further authorize the Board of Selectmen to accept any State, Federal or private grant monies available for this purpose, and to act fully thereon. By request of the Harbormaster. Estimated cost: $3,000,000

Explanation: *In October 2014, the Board of Selectmen established the Saquatucket Development Committee with a charge to develop a conceptual site plan that integrated the newly purchased 2.2 acre Downey property with the 5.2 acre Saquatucket Harbor property for the purpose of supporting the expansion of the municipal marina, encouraging the restoration of degraded wetland and river frontage and providing options for increased economic development. Seeking input from all interested citizens and groups at numerous public meetings, the resulting proposed plan improves the safety of public access, improves the efficiency of harbor operations, and enhances the character, beauty, and attractiveness of the harbor for boaters and non-boaters alike. Also included in the plan are a new facility septic system, creative landscaping, and the addition of much needed vehicle parking spaces (approx. 80).*

PURCHASE AND EQUIP VEHICLES FOR THE DPW

ARTICLE 20: To see if the Town will vote to raise and appropriate a sufficient sum of money to purchase and equip the following vehicles:

Volvo Loader (Disposal)	$ 200,000
John Deere Tractor (Highway)	$ 115,000
C&D Trailer (Disposal)	$ 75,000

and to further authorize the trade-in or sale of the 1996 Volvo Loader toward the purchase price, where the Board of Selectmen find that the vehicle cannot be utilized elsewhere in Town, and to act fully thereon. By request of the DPW Director. Estimated cost: $390,000.

Explanation:
***Volvo Loader** - The current loader has over 33,000 hours on it, which is the equivalent of approximately 1,650,000 road miles.*
***John Deere Tractor** - The current 1996 Ford Tractor is rusting apart from its many years of pulling the Surf Rake on the beaches. With a swing-arm mower attachment, the new tractor would also be utilized during the off season for roadside mowing.*
***C&D Trailer** - This new trailer would augment the two existing trailers and improve operational efficiency. A third C&D trailer would alleviate the need to haul a full trailer immediately and allow more flexibility in managing the Town's C&D waste.*

ROAD MAINTENANCE PROGRAM

ARTICLE 21: To see if the Town will vote to raise and appropriate and/or transfer from available funds in accordance with Ch.44 of the M.G.L., or any other authorizing authority, the sum of $700,000 to fund the Road Maintenance Program as requested in the Capital Plan for FY18. The appropriation authorized by this vote shall not take effect until the Town votes to exempt from the limitation on total taxes imposed by M.G.L. c.59 § 21c (Proposition 2 $^1/_2$) the amounts required to pay the principal of and the interest on any borrowing authorized under this article, and to act fully thereon. By request of the DPW Director. Estimated cost: $700,000

Explanation: The capital request for road maintenance is for $700k for FY 18, which we anticipate being augmented by approximately $700k in Chapter 90 funds. The capital project request form lists 5 years of our road maintenance plan with cash flows of approximately $1.4M each year and has our 5 year Road Maintenance Plan attached.

FUND THE PURCHASE OF VEHICLES FOR THE WATER DEPARTMENT

ARTICLE 22: To see if the Town will vote to raise and appropriate, or transfer from available funds, a sufficient sum of money for the purchase of a 2017 Ford Super Duty F-350 SRW (X3B) XL 4WD SuperCab 6.75' Box and a 2017 Ford Super Duty F-350 SRW (F3B) XL 4WD Reg Cab 8' Box. These vehicles are to replace a 2004 F-150 and 2007 Ford Ranger, and to act fully thereon. By request of the Board of Water Commissioners and the Superintendent. Estimated cost: $107,855.50
Explanation: The two trucks being replaced are very undersized for the work they perform on a daily basis resulting in many expensive repairs. The new trucks have been sized appropriately, and will also be able to provide support with snow removal efforts.

FUND THE REPLACEMENT OF HDPE PIPE ALONG NATIONAL GRID PROJECT ROUTE

ARTICLE 23: To see if the Town will vote to appropriate $400,000 to replace the old metal water services with HDPE pipe from the water main to the curb stop along the National Grid project route (Great Western, Queen Anne Road, Route 39, Main Street, Depot Street, Depot Road) and for the payment of all other costs incidental and related thereto, and to determine whether this amount shall be raised by taxation, transfer from available funds, or borrowing or otherwise provided, and to act fully thereon. By request of the Board of Water Commissioners and the Superintendent. Estimated cost: $400,000

Explanation: This work is to be completed as part of the department's preventative maintenance program in advance of the curb to curb repaving, and will ensure the road will not need to be cut for repairs during the Road Cut Moratorium. The labor and construction components will be put out to bid. Supplies will be provided by Water Department.

RESERVE FOR FUTURE APPROPRIATION AMOUNTS FROM FY 2017 COMMUNITY PRESERVATION FUND ESTIMATED ANNUAL REVENUES

ARTICLE 24: To see if the Town will vote to reserve for future appropriations amounts from the FY 2017 Community Preservation Act Fund estimated annual revenues as recommended by the Community Preservation Committee as follows:

- A sum of money for the acquisition, creation and preservation of open space;
- A sum of money for the acquisition, preservation, restoration and rehabilitation of historic resources;
- A sum of money for the acquisition, creation, preservation and support of community housing; and
- A sum of money for the Community Preservation Act Fund FY 2017 Undesignated Reserve; and to act fully thereon. By request of the Community Preservation Committee.

FUND LAND BANK DEBT SERVICE

ARTICLE 25: To see if the Town will vote to appropriate from Community Preservation Act Funds-Undesignated Fund Balance, $610,000 to fund the Debt Service on the outstanding Land Bank Debt. Any funds left unspent from this Article are to be returned to the Community Preservation Act Funds-Undesignated Fund Balance, and to act fully thereon. By request of the Community Preservation Committee and the Town Administrator. Estimated Cost: $610,000.

RESTORATION OF THE CHASE LIBRARY CHIMNEY

ARTICLE 26: To see if the Town will vote to appropriate from Community Preservation Act Funds-Historic Fund Balance, $5,100 to fund the restoration of the chimney at the

Chase Library and to authorize the Board of Selectmen to enter into a grant agreement with the Chase Library. Any funds left unspent from this Article are to be returned to the Community Preservation Act Funds-Historic Reserve, and to act fully thereon. By request of the Community Preservation Committee and the Chase Library Trustees.
Estimated Cost: $5,100

WHITEHOUSE FIELD IRRIGATION SYSTEM REPLACEMENT

ARTICLE 27: To see if the Town will vote to appropriate from Community Preservation Act Funds-Undesignated Fund Balance, $28,500 to replace the irrigation system at Whitehouse Field. Any funds left unspent from this Article are to be returned to the Community Preservation Act Funds-Undesignated Fund Balance, and to act fully thereon. By request of the Community Preservation Committee and the Harwich Recreation and Youth Commission. Estimated Cost: $28,500.

BROOKS PARK EXPANSION/IMPROVEMENT PHASE 4

ARTICLE 28: To see if the Town will vote to appropriate from Community Preservation Act Funds-Undesignated Fund Balance, $167,900 to replace the playground equipment, add a restroom and provide other park amenities at Brooks Park. Any funds left unspent from this Article are to be returned to the Community Preservation Act Funds-Undesignated Fund Balance, and to act fully thereon. By request of the Community Preservation Committee and the Harwich Recreation and Youth Commission. Estimated Cost: $167,900.

VETERANS MEMORIAL FIELD FITNESS STATIONS

ARTICLE 29: To see if the Town will vote to appropriate from Community Preservation Act Funds-Undesignated Fund Balance, $13,800 to add a series of 20 fitness apparatus stations around the Veterans Memorial Field track. Any funds left unspent from this Article are to be returned to the Community Preservation Act Funds-Undesignated Fund Balance, and to act fully thereon. By request of the Community Preservation Committee and the Harwich Recreation and Youth Commission. Estimated Cost: $13,800.

RESTORATION OF FENCE RAILS AT EVERGREEN CEMETERY

ARTICLE 30: To see if the Town will vote to appropriate from Community Preservation Act Funds-Historic Fund Balance, $39,000 to use for restoration of the fence rails at Evergreen Cemetery. Any funds left unspent from this Article are to be returned to the Community Preservation Act Funds-Historic Fund Balance, and to act fully thereon. By request of the Community Preservation Committee and the Harwich Cemetery Department and Commission. Estimated Cost: $39,000.

REIMBURSE THE HARWICH CONSERVATON TRUST

ARTICLE 31: To see if the Town will vote to raise and appropriate, transfer from available funds or borrow a sufficient sum of money to reimburse the Harwich Conservation Trust for overpayment of the purchase of property for Conservation purposes know as Sutphin Property, and to act fully thereon. The Harwich Conservation Trust overpayment was in the amount of $73,000. By request of the Board of Selectmen. Estimated cost: $73,000

Explanation: At the May 6, 2014 Special Town Meeting, appropriation was made towards the purchase of two parcels of Sutphin property for conservation purposes. The funding source identified in the article is twofold, the first $220,000 from Community Preservation Act funding with $73,000 coming from the Harwich Conservation Trust (HCT). The HCT provided the funds to the Town in October 2014 and a check was prepared in the same month assuming that a closing would occur timely. Due to issues on the Sutphin side, the closing has been delayed for an extended period and is only now coming to fruition. Our Finance Director has indicated that the $73,000 from the HCT that should have been put into a gift account was left in the General Fund. At the conclusion of FY15, the $73,000 was converted to free cash. The Town has an obligation to replace the $73,000 from HCT. Due to the length of time related to the closing and a desire to complete the Sutphin acquisition, HCT has agreed to come up with $73,000 towards the Sutphin closing and is willing to wait for reimbursement of the original $73,000.

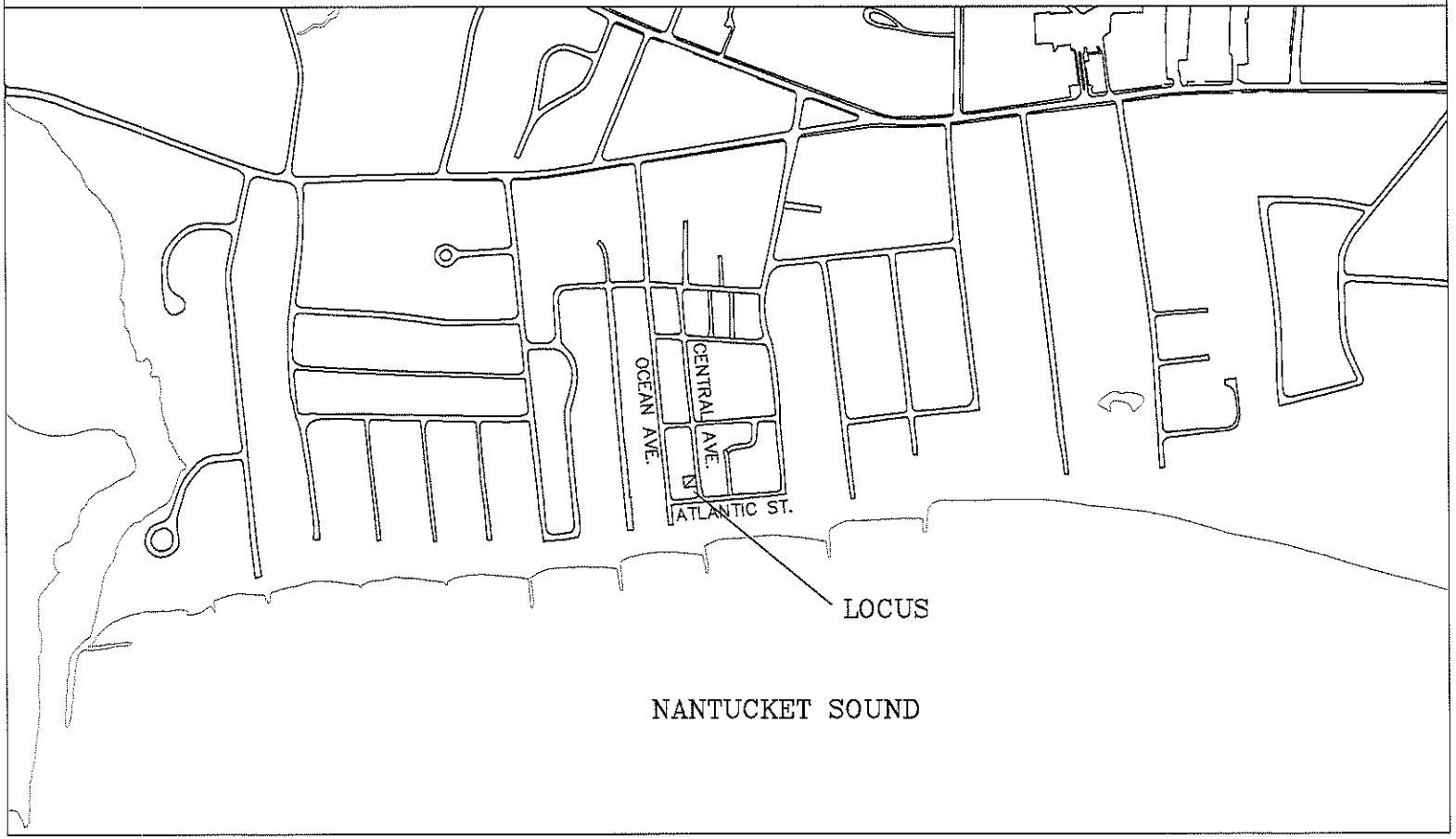
SALE OF TOWN-OWNED LAND – 4 CENTRAL AVENUE

ARTICLE 32: To see if the Town will vote to authorize the Board of Selectmen to sell 4 Central Avenue as surplus property. The parcel is identified on Assessor's Map 6B, Parcel L134 and is approximately 0.04 of an acre, and to act fully thereon. By request of the Board of Selectmen.

Explanation: Real Estate and Open Space has identified this tiny parcel as one for sale. No Town Departments requested this parcel for municipal use. The Board of Selectmen has declared it as surplus. The parcel will be offered for sale. The Board of Selectmen will enter into a Purchase and Sale and sell the parcel.

ARTICLE:

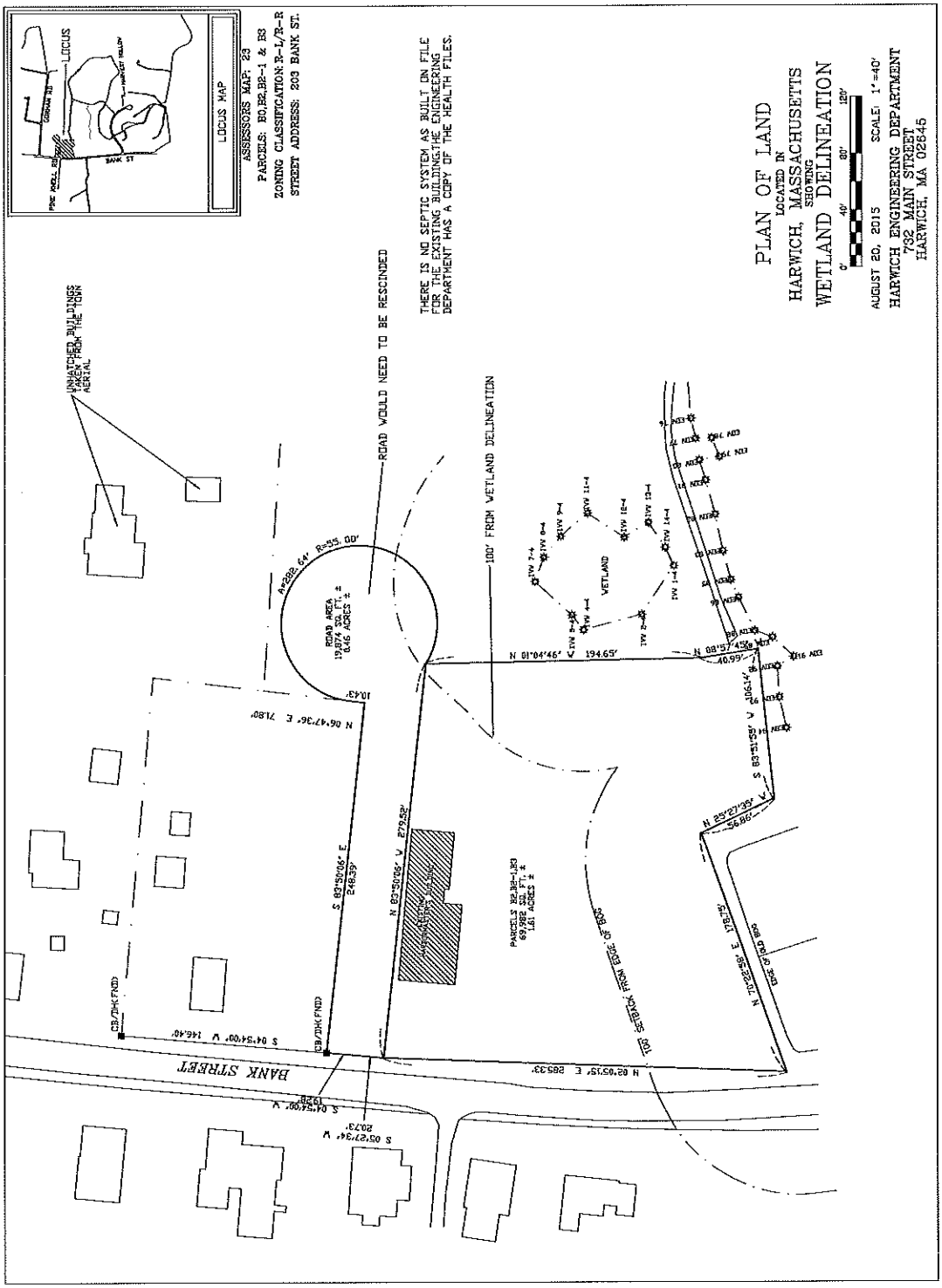
ASSESSORS MAP: 6B PARCEL: L134
ADDRESS: 4 CENTRAL AVENUE



SALE OF TOWN-OWNED LAND – 203 BANK STREET

ARTICLE 33: To see if the Town will vote to authorize the Board of Selectmen to sell 203 Bank Street as surplus property. The current Harbormaster's Maintenance Facility will be relocated. The parcel contains approximately 2.07 acres identified on Assessor's Map 23, Parcels B-2, B-3, and B2-1. Proceeds of the sale are to be used to offset capital costs to construct the Harbormaster's Maintenance Facility at Saquatucket Harbor, and to act fully thereon. By request of the Board of Selectmen.

Explanation: The Board of Selectmen anticipates a relocation of the Harbormaster's maintenance facility area from Bank Street to Saquatucket Harbor. Proceeds from the sale of this property will be used to offset construction costs of the new facility. The building and land will be used for private purposes.



Article 33 - 203 Bank Street

PEG ACCESS AND CABLE RELATED FUND ACCEPTANCE

ARTICLE 34: To see if the Town will vote to accept General Laws Chapter 44, Section 53F$^{3}/_{4}$, which establishes a special revenue fund known as the PEG Access and Cable Related Fund, to reserve cable franchise fees and other cable-related revenues for appropriation to support PEG access services and oversight and renewal of the cable franchise agreement, the fund to begin operation for fiscal year 2018, which begins on July 1, 2017, and to act fully thereon. By request of the Board of Selectmen.

AMEND THE TOWN ZONING BY-LAWS TO INCLUDE NEW SECTION – "TEMPORARY MORATORIA"

ARTICLE 35: To see if the Town will vote to amend the Town's Zoning By-laws by adding the following new section:

10.0 "TEMPORARY MORATORIA" and further to amend the Table of Contents to add Section 10.0. "Temporary Moratoria" and the ensuing parts as proposed herein.
10.1. Temporary Moratorium on the Sale and Distribution of Recreational Marijuana

10.1.1 Purpose:
By vote at the State election on November 8, 2016, the voters of the Commonwealth approved a law regulating the cultivation, distribution, possession and use of marijuana fox recreational purposes. The law provides that it is effective on December 15, 2016 and the Cannabis Advisory Board is required to issue regulations regarding implementation by September 15, 2017.
Currently under the Zoning Bylaw, Recreational Marijuana Establishments and Marijuana Retailers are not a permitted use in the Town and any regulations promulgated by the State Cannabis Advisory Board are expected to provide guidance to the Town in regulating Recreational Marijuana Establishments and Marijuana Retailers. Further, the ballot measure establishes two important provisions that require ballot action by the Town prior to the adoption of zoning. First, the Town must, by ballot, determine whether it will issue licenses for Recreational Marijuana Establishments and Marijuana Retailers and second, by ballot that cannot occur prior to November 6, 2018, the next biennial state election, on whether to allow on consumption of marijuana products should the Town decide to allow licenses for such facilities.
The regulation of Recreational Marijuana Establishments and Marijuana Retailers raise novel and complex legal, planning, and public safety issues and the Town needs time to study and consider the regulation of Recreational Marijuana Establishments and Marijuana Retailers and address such novel and complex issues, as well as to address the potential impact of the State regulations on local zoning and to undertake a planning process to consider amending the Zoning Bylaw regarding regulation of Recreational Marijuana Establishments and Marijuana Retailers and other uses related to the regulation of recreational marijuana. The Town intends to adopt a temporary moratorium on the use of land and structures in the Town for Recreational Marijuana Establishments and Marijuana Retailers so as to allow the Town sufficient time to engage in a planning process to address the effects of such structures and uses in the Town and to adopt provisions of the Zoning Bylaw in a manner consistent with sound land use planning goals and objectives.

10.1.2 Definitions:
"Manufacture", to compound, blend, extract, infuse or otherwise make or prepare a marijuana product.
"Marijuana accessories", equipment, products, devices or materials of any kind that are intended or designed for use in planting, propagating, cultivating, growing, harvesting, manufacturing, compounding, converting, producing, processing, preparing, testing, analyzing, packaging, repackaging, storing, containing, ingesting, inhaling or otherwise introducing marijuana into the human body.
"Marijuana cultivator", an entity licensed to cultivate, process and package marijuana, to deliver marijuana to marijuana establishments and to transfer marijuana to other marijuana establishments, but not to consumers,
"Marijuana establishment", a marijuana cultivator, marijuana testing facility, marijuana product manufacturer, marijuana retailer or any other type of licensed marijuana-related business. (k)
"Marijuana product manufacturer", an entity licensed to obtain, manufacture, process and package marijuana and marijuana products, to deliver marijuana and marijuana products to marijuana establishments and to transfer marijuana and marijuana products to other marijuana establishments, but not to consumers.
"Marijuana products", products that have been manufactured and contain marijuana or an extract from marijuana, including concentrated forms of marijuana and products composed of marijuana and other ingredients that are intended for use or consumption, including edible products, beverages, topical products, ointments, oils and tinctures.
"Marijuana testing facility", an entity licensed to test marijuana and marijuana products, including certification for potency and the presence of contaminants.
"Marijuana retailer", an entity licensed to purchase and deliver marijuana and marijuana products from marijuana establishments and to deliver, sell or otherwise transfer marijuana and marijuana products to marijuana establishments and to consumers.

10.1.3 Temporary Moratorium.
For the reasons set forth above and notwithstanding any other provision of the Zoning Bylaw to the contrary, the Town hereby adopts a temporary moratorium on the use of land or structures for Recreational Marijuana Establishments and Marijuana Retailers. The moratorium shall be in effect through June 30, 2018. During the moratorium period, the Town shall undertake a planning process to address the potential impacts of recreational marijuana in the Town, consider the Cannabis Advisory Board regulations regarding Recreational Marijuana Establishments and Marijuana Retailers and related uses, determine whether the town shall restrict any, or all, licenses for Recreational Marijuana Establishments and Marijuana Retailers, determine whether the town will prohibit on-site consumption at Recreational Marijuana Establishments and Marijuana Retailers and shall consider adopting new provisions of the Zoning Bylaw to address the impact and operation of Recreational Marijuana Establishments and Marijuana Retailers and related uses.
10.1.5. Severability.
The provisions of this by-law are severable. If any provision, paragraph, sentence, or clause of this By-law or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this bylaw."

And to act fully thereon. By request of the Board of Selectmen.

VARIOUS AMENDMENTS TO THE HARWICH HOME RULE CHARTER

ARTICLE 36: To see if the Town will vote to propose the following amendments to the Harwich Home Rule Charter, to be approved by the voters at the next annual Town election as follows, and to act fully thereon. (Deletions shown in strike through and new text shown as underlined):

Amend Chapter 3 subsection 3-7-3, Prohibitions, as follows:
Members of the board of selectmen shall be eligible to serve~~, to the extent permitted by law, as ex officio members of~~ as liaisons to appointed and elected town agencies. A liaison for any elected town agency or committee shall be appointed by a majority vote of the entire board of selectmen and shall be for the sole purpose of efficient communication between the board of selectmen and the affected appointed and/or elected town agency.

Amend Chapter 3 subsection 3-6-1, Powers of Appointment, as follows:
3-6-1 Except as may otherwise be provided by General Laws, this charter, or the personnel by-law, the board of selectmen shall have the power to appoint and remove: a) a town administrator as provided in chapter 4; b) a town counsel; c) ~~a town accountant~~ a finance director; d) a police chief; e) a fire chief; f) 3 assessors for overlapping 3-year terms; g) 3 members of a board of registrars of voters for overlapping 3-year terms; h) election officers; and i) 1 or more constables.

Amend Chapter 7 subsection 7-1-2, Advertising of Vacancies and Appointing Town Agencies, as follows: 7-1-2 To further promote a maximum level of qualified, active, and interested citizen participation on appointed town agencies, the board of selectmen shall advertise all vacancies and impending appointments. This advertising shall enumerate the vacancies that are to be filled and shall solicit the submission of a citizen activity record form from persons willing and able to serve. The advertisements shall be posted in a manner consistent with open meeting law postings (including on the Town's web site) and may be published in a newspaper of general circulation in the town. ~~and shall be made once a week for a minimum of two weeks after the vacancy arises~~ Vacancies shall remain posted/advertised a minimum of two weeks prior to an appointment by the board of selectmen.

Amend Chapter 7 subsection 7-2-2, General Provisions, as follows:
7-2-2 All town agencies ~~of the town~~ shall; a) organize annually at the first meeting after the beginning of the town's fiscal year (July 1 - June 30); b) elect ~~necessary officers~~ a chair, a vice-chair and a clerk; c) adopt rules of procedure and voting; d) maintain minutes and records of attendance, copies of which shall be a public record and regularly filed with the town clerk; and e) nominate prospective employees of their choice, who shall be considered for appointment by the town administrator, as provided in clause 4-4-2.

Amend Chapter 7 subsection 7-4-1, Board of Health, as follows:
7-4-1 A board of health ~~of 5 members~~ shall be appointed in such numbers as outlined in chapter 7, Article III, Boards and Committees, of the Town's by-laws by the board of

selectmen for 3-year overlapping terms. One member, at least, shall be a doctor of medicine, or a person with significant experience in public health.

Amend Chapter 7 subsection 7-5-1, Planning Board, as follows:
7-5-1 A planning board ~~of 9 members and 2 alternate members~~ shall be appointed in such numbers as outlined in chapter 7, Article III, Boards and Committees, of the Town's by-laws by the board of selectmen for 3-year overlapping terms.

Amend Chapter 7 subsection 7-6-1, Board of Assessors, as follows:
7-6-1 A board of assessors ~~of 3 members~~ shall be appointed in such numbers as outlined in chapter 7, Article III, Boards and Committees, of the Town's by-laws by the board of selectmen for 3-year overlapping terms. One member, at least, shall be professionally qualified for the duties of the office.

Amend Chapter 7 subsection 7-7-1, Conservation Commission, as follows:
7-7-1 A conservation commission ~~of 7 members and 2 alternate members~~ shall be appointed in such numbers as outlined in chapter 7, Article III, Boards and Committees, of the Town's by-laws by the board of selectmen for 3-year overlapping terms.

Amend Chapter 7 subsection 7-8-1, Council on Aging, as follows:
7-8-1 A council on aging ~~of 9 members~~ shall be appointed in such numbers as outlined in chapter 7, Article III, Boards and Committees, of the Town's by-laws by the board of selectmen for 3-year overlapping terms.
Amend Chapter 7 subsection 7-9-1, Historic District and Historical Commission, as follows:
7-8-1 A historic district and historical commission shall be appointed ~~by the Board of Selectmen in accordance with the provisions of this charter and the General Laws as outlined in Article V of the By-laws~~ in such numbers as outlined in chapter 7, Article III, Boards and Committees, of the Town's by-laws by the board of selectmen for 3-year overlapping terms.

Amend Chapter 7 subsection 7-10-1, Recreation and Youth Commission, as follows:
7-10-1 A recreation and youth commission ~~of 7 members~~ shall be appointed in such numbers as outlined in chapter 7, Article III, Boards and Committees, of the Town's by-laws by the board of selectmen for 3-year overlapping terms.

Amend Chapter 7 subsection 7-11-1, Cultural Council, as follows:
A cultural council ~~of 5 members~~ shall be appointed in such numbers as outlined in chapter 7, Article III, Boards and Committees, of the Town's by-laws by the board of selectmen for 3-year overlapping terms in accordance with the General Laws of the Commonwealth of Massachusetts. Members shall not be eligible to serve more than 2 consecutive terms.

Amend Chapter 7 subsection 7-12-1, Zoning Board of Appeals, as follows:
A zoning board of appeals ~~of 5 members and 5 associate members~~ shall be appointed in such numbers as outlined in chapter 7, Article III, Boards and Committees, of the Town's by-laws by the board of selectmen for 3-year overlapping terms.

Amend Chapter 7 section 7-13, Golf Committee, as follows:
7-13-1 A golf committee ~~of 7 members~~ shall be appointed in such numbers as outlined in chapter 7, Article III, Boards and Committees, of the Town's by-laws by the board of selectmen for 3-year overlapping terms.

7-13-2 The committee shall ~~have full power and responsibility for~~ recommend governing policies relating to the maintenance and operation of the municipal golf course for consideration by the board of selectmen.

Amend Chapter 7 subsection 7-14-1, Waterways committee, as follows:
7-14-1 waterways committee ~~of 7 members and 2 alternate members~~ shall be appointed in such numbers as outlined in chapter 7, Article III, Boards and Committees, of the Town's by-laws by the board of selectmen for 3-year overlapping terms and shall be advisory to that board.

Amend Chapter 7 subsection 7-15-1, Cemetery Commission, as follows:
A cemetery commission ~~of 3 members~~ shall be appointed in such numbers as outlined in chapter 7, Article III, Boards and Committees, of the Town's by-laws by the board of selectmen for 3-year overlapping terms.

Amend Chapter 7 subsection 7-16-1, By-law/Charter Review Committee, as follows:
A by-law/Charter Review Committee ~~of 5 members~~ shall be appointed in such numbers as outlined in chapter 7, Article III, Boards and Committees, of the Town's by-laws by the board of selectmen for 3-year overlapping terms. The committee shall regularly review the by-laws of the town and submit proposed revisions to the town meeting at least once every 5 years. In addition, the committee shall regularly review the charter and submit proposed amendments to it to the board of selectmen under section 2 of chapter 10 of this charter.

DEFRAY THE EXPENSES OF THE CHASE LIBRARY AND HARWICH PORT LIBRARY

ARTICLE 37: To see if the Town will vote to raise and appropriate or transfer from available funds the sum of $20,000 to help defray the expenses of the Chase Library and the Harwich Port Library; said funds to be expended under the direction of the Chase Library and Harwich Port Library Trustees, and to act fully thereon. By Petition. Estimated cost: $20,000.

Explanation: Chase Library and Harwich Port Library are free, publicly supported libraries. Town funds have been appropriated either through the general budget or by articles since 1911 (Chase) and 1926 (Harwich Port). These funds are essential for continued operation and for the customary State reimbursements.

PROMOTE THE TOWN OF HARWICH

ARTICLE 38: To see if the Town will vote to: raise and appropriate a sufficient sum of money for the Harwich Chamber of Commerce to promote the Town and its businesses and to advance economic development initiatives for and with the Town of Harwich. Said monies to be used to manage and fulfill year-round visitor/resident/business information services, to promote and market the Town, to generate and initiate materials and activities that encourage the establishment, growth and sustainability of businesses in Harwich, and to implement economic development objectives and activities in partnership with the Town, and to act fully thereon. By petition. Estimated cost: $35,000

Explanation: For more than 58 years, Harwich Chamber of Commerce (HCC) has worked in the best interest of Harwich and for the people living in, working in and visiting the Town of Harwich. Since 1995, the citizens of Harwich, through the annual Town Meeting, have voted to fund warrant articles submitted by the Harwich Chamber of Commerce in support of its work promoting the community, providing needed informational services, and developing and advancing economic sustainability and development strategies. We are again requesting the Town's support for the Chamber's efforts in:
(a) providing year-round informational services to visitors, residents, second homeowners, and businesses (over 74,000 visits to our Information Center in 2016)
(b) promoting the Town of Harwich and its new brand: The Warm Side of the Cape, thereby bringing much needed income into the community.
(c) Support of the Chamber's efforts, in partnership with the Town of Harwich, to develop and implement economic development initiatives to benefit the Town as defined by objectives in the Town's Local Comprehensive Plan.

(a) ***Year-Round Information Services:*** *Harwich's Information Center is open 52 weeks a year. Combining this valuable resource with the Chamber's internet/website portals, as well as telephone and mail inquiries, Harwich Chamber annually provides more than 320,000 instances of contact with visitors, seasonal and year-round homeowners and residents, organizations and businesses. These connections offer the opportunity to market and promote the Town utilizing our new brand "The Warm Side of the Cape." By being available to meet the needs of our "customers" we are able to encourage patronage of our local amenities and businesses and to connect individuals and businesses with the appropriate Town offices and officials 12 months a year in a friendly, warm and upbeat fashion.*

(b) ***Promoting the Town of Harwich:*** *The Harwich Chamber continues to be the lead force in promoting the Town of Harwich. By utilizing a multi-faceted approach, HCC strives to position Harwich as a premier destination for local, regional, national and international individuals and families. The marketing strategies are aimed at encouraging residents, second homeowners (current and potential), and visitors to avail themselves of Harwich's recreational amenities, as well as for shopping, dining, vacations, day trips, events and festivals. The plan, which positions Harwich as a desired vacation destination and an outstanding place in which to live and work, includes:*

1. The Harwich Magazine, the Town's primary comprehensive printed and online resource for attracting tourists and visitors to Harwich, and for our residents, second home-owners and

businesses.
2. The HCC website's robust content complements the Magazine and links to a wide range of Town resources.
3. Ancillary printed and on-line pieces, including specialized maps (cranberry bogs, lodging locator, dining locator, beaches, bike trail) that target market segments and interests.
4. Media placements in local, regional and national publications.
5. Online targeted ads geared towards establishing new residents, building our workforce and bringing in tax revenues for the town.

Special events and festivals are about more than attracting people to town to enjoyable experiences. They are about defining key elements of Harwich's brand and about parlaying those assets into support for our businesses, non-profit organizations, and the community. For example, Fall for Harwich provided the umbrella under which thousands of people were invited to participate in a robust array of more than 30 events, including the half-marathon road race, music festival, bog walks, concerts, teas, arts & crafts, our first sidewalk sale and more. Fall for Harwich and Christmas in Harwich also provide opportunities for our local non-profits to raise badly needed funds and increase their visibility. In addition, the Chamber continues to actively engage in creating and implementing new events as well as expanding existing events. In 2016, the Chamber coordinated eight Port Summer Night Musical Strolls in Harwich Port, several musical concerts that combined opportunities with restaurants to increase meals off season with a night out and a show. We look forward to continue to expand these offerings in 2017.

Economic Development: *HCC will continue to collaborate with the Town on economic development strategies and initiatives. Over this past year, HCC has worked tirelessly on behalf of the Town and its businesses and continues to do so. HCC has advocated for a strengthened technology infrastructure and better health insurance rates for small businesses. The Chamber has also provided training, counsel and support to dozens of small businesses struggling to survive in the current economic climate, and has met with several individuals considering locating their business in Harwich.*

HCC continues to strengthen its collaboration with other local chambers of commerce through the Local Cape Chambers Collaborative (LC3) and the Lower Cape Chambers group. Among the many activities currently underway are:

- *With LC3: meeting with the Economic Development Council on regional economic development priorities, identified by local chambers in consultation with town officials*
- *With LC3: continued advocacy on transportation issues, including real time information, bridge issues, issues relating to drug use, attracting more traffic to the Regional Airport and more.*
- *With Lower Cape Chambers: hosting the Annual Lower Cape Home & Garden Expo this year again to be held at the Cape Cod Tech, trainings (WISP and Roundtable Workshops), inter-chamber networking (giving greater business-to- business opportunities)*
- *Parking and Connectivity: Explore opportunities for remote parking lots and transit service for harbors, beaches and other sites with high seasonal demand*

The Chamber is honored to partner with the Town on building a better community, but the Chamber relies on the Town's support to help achieve its goals. Without this support, the

Chamber's marketing activities will be significantly reduced. We appreciate the past support of the Town of Harwich and request funding for these important, revenue-generating initiatives. Thank you for your consideration.

SUPPLEMENT ANNUAL ALLOCATION OF MASS CULTURAL COUNCIL FOR LOCAL CULTURAL COUNCIL GRANTS

ARTICLE 39: To see if the Town will vote to raise and appropriate and/or transfer from available funds a sufficient sum of money to supplement the Massachusetts Cultural Council annual allocation for grant awards to artists, performers and interpretive scientists who bring events to local venues which enhance the cultural experience of Harwich citizens of all ages, and to act fully thereon. By request of the Harwich Cultural Council. Estimated Cost: $3000

ENFORCE THE CURRENT IMMIGRATION LAWS

ARTICLE 40: To see if the Town will vote to request the Harwich Board of Selectmen to protect the civil liberties and human rights of all Harwich residents and visitors regardless of race, ethnicity, religion, ability, sexual and gender identity, national origin, or citizenship and immigration status, and to act fully thereon. By Petition.

Explanation: This Article seeks to reaffirm the Town's commitment to the values of freedom, justice and equality for all Harwich residents and visitors to lead lives of peace and dignity free from fear, harassment and violence.

PROHIBIT THE DEMOLITION OF THE WEST HARWICH SCHOOL

ARTICLE 41: To see if the Town will vote to protect the historic and cultural resource of the town owned West Harwich Schoolhouse by prohibiting demolition and/or dismantling and/or moving of the building to another part of town, to any other town or to any other state, and to act fully thereon. By Petition.

Explanation: The West Harwich Schoolhouse was built in 1871 and has been used for many purposes including a Veteran's Affairs office and a Youth Recreation center. It is a well built and highly adaptable building. As Captains' Row evolves into a walkable and vibrant neighborhood accenting our collective heritage ad with plans for an improved Rt. 28 with design enhancements including lamp posts or benches or a pocket park and gently sidewalks the use of the schoolhouse could be invaluable. With 7 villages of Harwich each with its own distinct character, for the West Harwich village the civic building of the quintessential schoolhouse is our historic resource that should not be destroyed or taken from us. The building needs to be rehabilitated at its original site and the wishes of the community respected. There is easy access from Rt. 28 and plenty of parking. Because the schoolhouse lies in close proximity to the Historic Baptist Cemetery, the Bike Trail, Bells Neck Conservation land, Home of the Harwich Junior Theater, and the Herring River it holds the potential for multiple community oriented uses

PURCHASE AND INSTALL HISTORCALLY ACCURATE WINDOWS IN THE WEST HARWICH SCHOOLHOUSE

ARTICLE 42: To see if the Town will vote to direct town administration to complete the wishes of the voters as expressed at the 2007 town meeting to use the existing C P C funding to purchase and install historically accurate windows in the West Harwich Schoolhouse, and to act fully thereon. By Petition

Explanation: At the 2007 town meeting actions under article 42 voted in the affirmative to fund a CPC article dedicating $84,000 for installation of historically appropriate windows in the Sisson Road Recreation building and the West Harwich schoolhouse. The Sisson Road building received its windows but the West Harwich Schoolhouse windows were never installed and $32,000 remains to complete the project. Enacting only part of the vote that was approved by town meeting and not completing the other part is a precedent that should not be tolerated. Essentially this undermines the power of town meeting and the vote. The town has the responsibility to enact what the voters approved in town meeting and a yes vote on this article assures that the citizens' vote is honored. The town has already invested $28,000 appropriated in 2008 for repair of the foundation on this building. This continues the process that has already been started.

USE OF THE HARWICH MIDDLE SCHOOL FOR TOWN OWNED HOUSING

ARTICLE 43: To see if the Town will vote to raise and appropriate, transfer from available funds, free cash flow or borrow a sufficient sum of money to fund architectural and engineering plans to retain the Harwich Middle school for development as a town owned affordable and/or senior housing facility managed either internally or by an outside agency, and to act fully thereon. The appropriation authorized by this vote shall not take effect until the town is exempt from the limitation on the total taxes imposed by M.G.L. Chapeter59, Section 21C (proposition 2 ½) the amounts required to pay the principal and any interest on any borrowing authorized under this article and further authorize the board of selectmen to accept any State, Federal or private grant monies for this purpose. By Petition. Estimated cost: $65,000

Explanation: With the formation of the Monomoy Regional School District the Harwich Middle School became an unwanted and unused building which was transferred to the Town of Harwich. At least two Board of Selectmen Repurpose Committees have struggled with the future of this facility. On May 17, 2016 a non-binding ballot question with four specific options attempted to provide a clear direction for the future use of this property. Option #3 received the most votes. This option called for the sale of the property to an outside developer for affordable or senior housing purposes. The Board of Selectmen has chosen to ignore the results of the question and seeks to rent space for non-profit activities The recently updated Harwich Housing Plan identifies the need for 277 additional affordable housing units in the Town of Harwich to bring the town in line with the State of MA goal of 10% affordable housing stock in each community. Multi-unit affordable housing developments are typically undertaken by private developers under a process known as "40B ". The process circumvents local zoning and often results in the town having little or no say as to who gets to reside in these affordable housing units. The

affected communities and neighborhoods often resist such developments due to the loss of local control and "not in my backyard" objections

In Harwich we have a real and urgent need for affordable housing for seniors, veterans, work force, individuals and small families. Many of our recently graduated college professionals are burdened with student debt and need an affordable housing solution to begin their careers here in Harwich

This article seeks to evaluate the potential and associated renovation / operating costs associated with a Town owned conversion of the Middle School to affordable housing units. As taxpayers we would invest in the conversion and utilize the existing Harwich Housing Authority to manage the ongoing operation of this facility

By funding, owning and operating this affordable housing complex we will be better able to set the rules and provide occupancy preferences based upon connections to the Town of Harwich. This is an important opportunity for us to stand up for our seniors, veterans, work force, individuals and small families while making a very significant addition to our affordable housing stock

By funding the conversion study the consultant will develop floor plans to identify the number and size of individual housing units as well as defining the features of common areas and site features. Most importantly the costs of converting and operating the facility will be estimated and identified.

Based upon the successful outcome of the study an article and associated ballot question will be provided for inclusion in the 2018 Annual Town Meeting for the Town to decide if it wants to support this project.

LEASE OF THE DOWNEY PROPERTY

ARTICLE 44: To see if the Town will vote to authorize the Board of Selectmen to lease on such terms and conditions as the Board of Selectmen deem in the best interests of the Town all or a portion of the so-called Downey property, as shown on a sketch plan entitled _____, for boat storage and retail/restaurant-related purposes, for a term not to exceed 10 years, including all extension and renewal options; said property having been acquired for general municipal purposes; and to act fully thereon. By request of the Harbormaster and Town Administrator

MEMORIAL TREE AND LANDSCAPING FUND FOR CEMETERY DEPARTMENT

ARTICLE 45: To see if the Town will vote to raise and appropriate a sufficient sum of money to fund the Memorial Tree and Landscape Fund, a program to plant at any of the Town owned Cemeteries in Harwich, and to act fully thereon. By request of the Cemetery Commission. Estimated cost: $30,000.00.

DEPARTMENTAL REVOLVING FUNDS AUTHORIZATION

ARTICLE 46: To see if the Town will vote to authorize revolving funds for certain town departments under M.G.L. Ch. 44, § 53E ½ for the Fiscal Year beginning July 1, 2016; and to act fully thereon. By request of the Board of Selectmen

Revolving Fund	Authorize to Spend Fund	Revenue Source	Use of Fund	FY 17 Spending Limit	Disposition of FY16 Fund balance
Golf	Director, Golf Committee & ATA	Golf Lessons and Pro Shop Sales	Pro Shop expenses, clubhouse and kitchen maintenance, modernization, and lessons instructor	$250,000	Available for expenditure
Golf Infrastructure fund	Director, Golf Committee	New surcharge on all green fees and cart fees	CVGC Infrastructure including Club House facilities, maintenance facilities	$50,000	
Council on Aging	Director & Council on Aging	Fees from health, recreation, nutrition and education programs	Health, recreation, nutrition and education programs	$125,000	Available for expenditure
Cemetery	Administrator & Cemetery Commission	90% of Lot Sales, 100 % of all Cemetery Services and Fees	Maintenance of town cemeteries	$50,000	Available for expenditure
Community Center	Director & Facilities Committee	Fees from use of the weight room	Weight Room Equipment (and repair)	$50,000	Available for expenditure
Recreation	Director & Rec & Youth Commission	Fees from recreation and youth programs	Recreation and youth programs	$120,000	Available for expenditure
Albro House	Town Planner & Historic District/Hist. Commission	Fees from receipts of lease or fees for short term rooms use and rental	Restorations, maintenance, care and support of town-owned property	$10,000	Available for expenditure
ADA	Town Administrator	Receipts of parking penalty fees	Interpreter services or accommodations required under ADA	$2,500	Available for expenditure
Wetlands	Conservation Commission	Notice of Intent filing fees	Consultants and wetland and buffer zone management and restoration projects	$6,000	Available for expenditure

ESTABLISH ANNUAL REVOLVING FUND FOR THE CARE AND MAINTENANCE

OF THE FORMER HARWICH MIDDLE SCHOOL

ARTICLE 47: To see if the Town will vote to authorize the creation and establishment of a revolving fund as authorized under M.G.L. Ch. 44, § 53E ½ for the Community Center Director and Facilities Manager, for the purpose of funding continuing period appropriate restorations, maintenance, care, and support of town-owned property, not to exceed $100,000 annually with funds generated from receipt of lease or fees collected for short term, year-round, temporary or otherwise, room(s) use and rental, and to act fully thereon. By request of the Community Center Director and Town Administrator.

ESTABLISH ANNUAL SIDEWALK REVOLVING FUND

ARTICLE 48: To see if the Town will vote to establish a revolving fund, effective FY 2018 under M.G.L. Chapter 44, Section 53E ½ for the purpose of accepting monies generated from receipts paid to the Town in lieu of sidewalks required to be installed in new subdivisions, credited to the revolving fund, expenditures for sidewalk improvements including consulting services and construction approved by the Town Planner and the Planning Board in an amount not to exceed fifty thousand dollars ($50,000), and to act fully thereon. By request of the Planning Board.
Explanation: While this Revolving Fund was properly established under M.G.L., Chapter 44, Section 53E ½ at the May 2004 Special Town Meeting, Article 9, it has not been reauthorized annually by Town Meeting as required by the statute. This article is intended to correct this oversight.

STABILIZATION FUND

ARTICLE 49: To see if the Town will vote to raise and appropriate or transfer from surplus revenue or available funds a sufficient sum of money to be added to the Stabilization Fund, and act fully thereon. By the request of the Board of Selectmen. Estimated cost: $ Pending

OPEB TRUST FUND

ARTICLE 50: To see if the Town will vote to raise and appropriate or transfer from surplus revenue or available funds a sufficient sum of money to be added to the OPEB Trust Fund, and act fully thereon. By the request of the Board of Selectmen.

FUND PRIOR YEAR'S UNPAID BILLS

ARTICLE 51: To see if the Town will vote to raise and appropriate or transfer from available funds a sufficient sum of money to pay unpaid bills of prior years as provided for in M.G.L. Ch. 44, Section 64, and to act fully thereon. By request of the Finance Director/Accountant. Estimated cost: $2,877.87

Explanation:

Planning - copier contract (Axion) un-invoiced bill *$678.07*
BBE Corporation – FY 16 ..... *$225.00*
Siemens Industry – FY 16 ..... *$930.00*
Police – T-Mobile – FY 16 ..... *$700.00*
Police – Moore Medical – FY 16 ..... *$344.80*
$2,877.87

COMPENSATING BALANCE AGREEMENT

ARTICL 52: To see if the Town will vote to authorize its Treasurer to enter into a compensating balance agreement or agreements with banking institutions for Fiscal Year 2017 pursuant to Chapter 44, § 53F of the General Laws and to act fully thereon. Customary Article.

LIABILITY TIDAL/NON-TIDAL RIVERS

ARTICLE 53: To see if the Town will assume the liability in the manner provided by § 29 of Chapter 91 of the General Laws as amended by Chapter 516 and 524, Acts of 1950, for all damages that may be incurred by work to be performed by the Department of Public Works of Massachusetts, for improvement, development, maintenance and protection of tidal and non-tidal rivers, streams, harbors, tide waters, foreshore and shores along a public beach outside of Boston Harbor, including the Merrimack and Connecticut Rivers in accordance with § 11 of Chapter 91 of the General Laws and to authorize the Selectmen to execute and deliver a bond of indemnity to the Commonwealth and to act fully thereon. Customary Article.

HERRING FISHERIES

ARTICLE 54: To see what action the Town will take in regard to the Herring Fisheries and to act fully thereon. Customary Article.

COMMONWEALTH OF MASSACHUSETTS
TOWN OF HARWICH
SPECIAL TOWN MEETING
MAY 2, 2017

BARNSTABLE, ss:

To either of the Constables of the Town of Harwich in said county,

Greetings:

In the name of the Commonwealth of Massachusetts you are hereby directed to notify and warn the inhabitants of said Town qualified to vote in elections and Town affairs to meet in the Community Center Gymnasium, 100 Oak Street in said Town on Tuesday, May 2, 2017 at 8:00 P.M., then and there to act on the following articles:

ARTICLES

FUND THE SNOW AND ICE DEFICIT

ARTICLE 1: To see if the Town will vote to transfer from available funds a sufficient sum of money to fund the Fiscal Year 2017 Snow and Ice Deficit Account, and to act fully thereon. By request of the Board of Selectmen. Estimated cost $ Pending.

FUND SHORTFALLS IN BUDGET TRANSFERS

ARTICLE 2: To see if the Town will vote to raise and appropriate or transfer from available funds a sufficient sum of money to fund shortfalls in various budget transfers, and to act fully thereon. By request of the Town Administrator and Town Accountant. Estimated cost: $ Pending

SAMPLE
COMMONWEALTH OF MASSACHUSETTS
TOWN OF HARWICH
ANNUAL ELECTION BALLOT
MAY 17, 2016

BARNSTABLE, ss:

To either of the Constables of the Town of Harwich in said County,

Greetings:

In the name of the Commonwealth of Massachusetts you are hereby directed to notify and warn the inhabitants of said Town qualified to vote in elections and Town affairs to meet in the Community Center Gymnasium, 100 Oak Street, in said Town on Tuesday, May 17, 2016, then and there to act on the following ballot:

POLLS WILL BE OPEN AT 7:00 A.M. and CLOSE AT 8:00 P.M.

To choose on one (1) ballot the following Town Officers and Committees: two (2) Selectmen for three (3) years; one (1) Housing Authority Member for five (5) years; one (1) Housing Authority Member to fill a four (4) year unexpired term; one (1) Town Clerk for three (3) years; one (1) Monomoy Regional School Committee Member for three (3) years; two (2) Library Trustees for three (3) years; one (1) Water Commissioner for three (3) years.

BALLOT QUESTIONS

New Business

Ann Steidel

2/13/17

From: Karen <ksunnarborg@msn.com>
Sent: Thursday, February 02, 2017 1:10 PM
To: Ann Steidel
Cc: Charleen Greenhalgh
Subject: Fw: AADU bylaw
Attachments: CCC ADU Bylaw.pdf

Ann, here's the draft Accessory Apartment Bylaw that I referred to during the recent meeting.

Karen

Karen Sunnarborg
Housing and Planning Consultant
3 Parkside Drive
Jamaica Plain, MA 02130
617-983-9883 Phone
617-983-4991

From: Heather Harper <heather.harper@capecodcommission.org>
Sent: Thursday, February 2, 2017 12:59 PM
To: Karen
Subject: RE: AADU bylaw

Hi Karen,

Here you go. It is difficult for communities to let go of the permit process and the deed rider, but the likelihood of actually creating an affordable unit ia stronger if it's by right. Let me know if you need anything further.
I look forward to meeting you some time – I've been reading a lot of your reports!

Heather

Heather B. Harper
Community Design/Affordable Housing Specialist
Cape Cod Commission
Heather.Harper@capecodcommission.org
Tel. 508-744-1225

From: Karen [mailto:ksunnarborg@msn.com]
Sent: Thursday, February 2, 2017 11:40 AM

To: Heather Harper <heather.harper@capecodcommission.org>
Subject: AADU bylaw

Hi Heather!

I understand that the Cape Cod Commission has prepared a model Accessory Apartment Dwelling Unit bylaw that you are hoping to have approved by all Cape communities. I am currently working with 4 such communities on housing activities/plans and in fact mentioned it at a joint hearing of Harwich's Board of Selectmen and Planning Board this past Monday. Could you send me a copy? From what I know, it appears that your bylaw has many of the provisions for which I have been advocating.

Your help would be greatly appreciated.

Karen

Karen Sunnarborg
Housing and Planning Consultant
3 Parkside Drive
Jamaica Plain, MA 02130
617-983-9883 Phone
617-983-4991

CAPE COD COMMISSION
MODEL ZONING PROVISIONS FOR ACCESSORY DWELLING UNITS (ADUs)

Introduction

All 15 Cape towns have adopted zoning that allows for the creation of dwelling units accessory to principal single family dwellings (e.g. accessory dwelling units, accessory apartments, affordable accessory dwelling units or family apartments). The primary purpose of these zoning bylaws and ordinances is to permit the creation of a greater number and variety of housing units, in terms of size and price, which can be integrated into single family residential properties with little or no negative impact on the character of their surrounding neighborhoods.

Current zoning bylaws and ordinances include various restrictions intended to mitigate potential negative impacts of accessory units. Town planners across the Cape report that some of these restrictions have discouraged the creation of new accessory units. This model limits zoning restrictions to encourage the creation of more accessory units, while including those limitations (primarily regarding site and building design) necessary to protect community character.

This model proposes that accessory dwelling units (ADUs) should be allowed as a "by right,, accessory use to a principal single family dwelling use. It proposes that dimensional considerations for ADUs should be addressed by general standards required of all buildings and uses contained in the zoning.

This model does not include an owner occupancy requirement for either the principal or accessory dwelling unit, and it therefore allows for the rental of both or either of the units, so long as the ownership of the units is not severed into legally separate units. Owner occupancy can be difficult to enforce, and the literature does not necessarily support the proposition that owner occupancy is necessary to protect neighborhood character.

The italicized comments appearing throughout are not intended to be part of the draft model, and are provided for the reader's consideration.

MODEL ZONING – Accessory Dwelling Units (ADUs)

A. Purpose and Intent.

The intent of permitting Accessory Dwelling Units is to:

a. Add moderately priced rental units to the housing stock to meet the needs of smaller households and make housing units available to moderate income households who might otherwise have difficulty finding housing;

b. Develop housing units on single-family residential properties that are appropriate for households at a variety of stages in their life cycle;

c. Increase the number of small dwelling units available for rent in Town, and increase the range of choice of housing accommodations;

d. Encourage greater diversity of population with particular attention to young adults and senior citizens; and

e. Encourage a more economic and energy-efficient use of the Town's housing supply while maintaining the appearance and character of the Town's single-family neighborhoods; and

f. Provide homeowners with a means of obtaining rental income to defray housing costs.

B. Definitions.

The following definitions shall be applicable to this section:

Accessory Dwelling Unit (ADU) An Accessory Dwelling Unit is a Dwelling Unit incorporated within a lawful principal single-family dwelling or within a detached building accessory to and on the same lot as a lawful principal single-family dwelling use, which ADU shall be clearly subordinate in design to that principal single-family dwelling use to which it is accessory.

Dwelling Unit: One or more rooms designed, occupied or intended for occupancy as separate living quarters, with cooking, sleeping and sanitary facilities provided within the dwelling unit for the exclusive use of a single family maintaining a household. This definition does not include a mobile home trailer, however mounted.

COMMENT: Having fewer or no restrictions on accessory dwelling unit tenants gives greater control over the unit to the homeowner while offering more diverse housing opportunities, and eases burdens of local administration and enforcement.

Note, that the definition of "Dwelling Unit" limits use to a 'household' unit, which would help maintain the single family residential use of the property.

COMMENT: A Town may want to ensure that its general zoning contains clear definitions for terms used herein such as "building" and/or " structure," "attached building/ structure," "detached building/ structure," "single family dwelling," "accessory use" and "principal use."

C. Procedural Requirements/ Administration and Enforcement:

a. An ADU shall be permitted as a "By Right,, use accessory to a lawful single family dwelling use.

b. The Building Commissioner/ Chief Zoning Officer shall administer and enforce the provisions of this section.

c. ADUs shall not be eligible for zoning use variances, or for zoning dimensional variance relief proposing to increase the allowable number of ADUs on a lot.

d. The construction of any accessory dwelling unit must be in conformity with the State Building Code, Title V of the State Sanitary Code and lawful under all other provisions of applicable town health, building, zoning and other local laws and regulations.

e. Prior to issuance of a building permit for an ADU, site plans, floor plans and elevations shall be submitted showing the proposed interior and exterior changes to existing

buildings or new building and improvements on a lot associated with a proposed ADU.

COMMENT: Permitting and review could also be through Special Permit; Conditional Use; Site Plan Review; or Design Review processes, or some combination thereof to the extent they exist or may be created under zoning.

D. Use and Dimensional Requirements:

The Building Commissioner may issue a Building Permit authorizing the installation and use of an Accessory Dwelling Unit within a lawful existing or new single-family dwelling to which the ADU is accessory, or in a new or existing detached building accessory to and on the same lot as the principal dwelling subject to the following:

COMMENT: This provision allows accessory dwelling units accessory to any lawful new or existing principal single-family dwelling, regardless of whether the principal single family property is conforming or nonconforming. There may be situations where the Zoning Board of Appeals has Special Permit jurisdiction over construction of an ADU because of the non-conforming nature of the residential property on which it is proposed.

a. The ADU shall be a complete, separate housekeeping unit containing both kitchen and bath.

b. No more than one (1) Accessory Dwelling Unit may be created per lot.

c. If the primary entrance of an ADU is not proposed to be shared with that of the principal dwelling, such entrance shall be less visible from the street view of the principal dwelling than the main entrance of the principal dwelling.

COMMENT: A town could require that any new separate outside entrance serving an accessory dwelling unit shall be located on the side or in the rear of the building.

d. An ADU shall be clearly subordinate in use, size and design to the principal single family dwelling. An ADU shall be designed so that, to the maximum extent practical, the appearance of the property on which it is to be located remains that of a single-family residential property and the privacy of abutting properties is maintained, considering the following: building architectural details, roof design, building spacing and orientation, building screening, door and window location, and building materials.

e. The ADU shall contain no more two bedrooms and no greater than a maximum habitable floor area of 50% of the habitable floor area of the principal single family dwelling unit, but in no event greater than 1000 square feet. Garages, unfinished attics and basements, common entries, porches and decks shall not be included in the floor area calculations. Once an ADU has been added to a single-family dwelling or lot, the accessory dwelling unit shall not be enlarged beyond the square footage allowed by this section.

Comment: A town could require that the owner execute/ record a deed rider or restriction limiting the number of bedrooms in and size of an ADU.

f. At least one (1) off street parking space in addition to that required for the principal single family dwelling is required for an ADU.

g. The Board of Health must have documented to the Building Commissioner that sewage disposal will be satisfactorily provided for in accordance with the provisions of Title 5 and local Board of Health regulations, including provisions for an appropriate reserve area on the site. The principal dwelling unit and accessory apartment shall meet all wastewater requirements for the combined number of bedrooms/ wastewater flow on the lot.

h. An ADU is not intended for sale. The principal dwelling and ADU and lot on which they are located shall remain in common or single ownership, and shall not be severed in ownership, including that the lot or buildings thereon shall not be placed in a condominium form of ownership.

i. An ADU shall not be used for boarding and lodging, or other commercial use. An ADU and principal dwelling to which it is accessory may be rented for periods not shorter than one month at a time, and are prohibited from any use as rental units on a weekly or daily basis.

j. An ADU and principal dwelling shall share common septic/ wastewater and water service facilities.

Sandy Robinson

From: Rhoads, Stephen <SRhoads@VHB.com>
Sent: Thursday, February 09, 2017 4:00 PM
To: Christopher Clark
Cc: Tom Andrade; Link Hooper; Sandy Robinson; Ann Steidel; Domigan, Patricia; Castelli, Laura
Subject: Main Street, Dennis & West Harwich - Project Initiation Form
Attachments: PIF cover letter.doc; Main Street - Upper County Road to Herring River - PIF.pdf

Hi Chris,

We are pleased to submit for your review the attached project initiation form for the Main Street (Route 28) roadway improvement project. I have also attached a cover letter that the Towns may submit to MassDOT when you are both ready to submit the PIF.

I have an email in to MassDOT inquiring about the date of the pre-meeting of the project review committee. DOT has requested the PIF be submitted to them in advance of this pre meeting. The PRC meeting is scheduled for March 23rd.

Please contact us with any questions or if you would like to discuss the attached documents in more detail.

Thanks,
Steve

Stephen J. Rhoads, PE*
Senior Project Engineer

*licensed in MA

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Watertown, MA 02472
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srhoads@vhb.com

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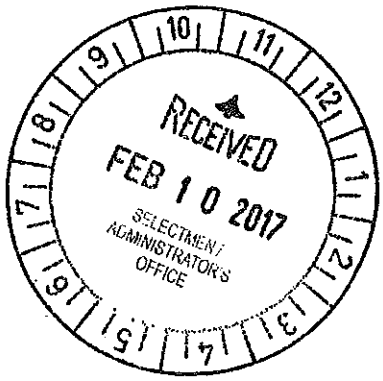
www.vhb.com



OFFICE OF THE TOWN ADMINISTRATOR

Phone (508) 430-7513
Fax (508) 432-5039

Christopher Clark, *Town Administrator*
Charleen Greenhalgh, *Assistant Town Administrator*

732 MAIN STREET, HARWICH, MA

February 17, 2017

Mary-Joe Perry
District Highway Director
MassDOT – Highway Division
1000 County St.
Taunton, MA 02780

Re: Main Street (Route 28)
Project Initiation Form – Dennis and Harwich, MA

Dear Ms. Perry:

On behalf of the Towns of Dennis and Harwich, I am submitting the attached Project Initiation Form for your review and consideration for roadway and traffic signal improvements on Main Street (Route 28). The PIF has been drafted based on the recommendation letter that the Towns received from MassDOT District 5 on October 18, 2016.

The Towns of Harwich & Dennis, acting through their respective Town Administrator's Offices are in the planning stages to rehabilitate the existing Route 28 corridor and implement pedestrian improvements, with new sidewalks, and bicycle accommodations, with share the road and 5' shoulder facilities between the Upper County Road and Route 28 (Main Street) intersection to the east to the Herring River Bridge approach. The total length of the transportation improvement project is 0.7 miles. The section of Route 28 in West Harwich is known as Captain's Row as it contains a number of former historic Sea Captain's home along the roadway.

This section of Route 28 is a heavily traveled roadway that is impacted significantly by seasonal tourist and visitor travel. Route 28 serves as the main east/west connection along Nantucket Sound, with Route 6 and 6A being the other two main east/west connectors in the Dennis/Harwich/Brewster Area. The existing 20- to 24-foot wide, two-lane roadway section along the project corridor includes varying shoulder widths, degrading bituminous sidewalk sections on the north side of the street, fragmented sidewalk sections on the south side of the street, substandard accessible sidewalks, substandard or lack of ADA/AAB curb ramps, traffic signal equipment that does not meet current standards and no clear bicycle accommodations.

The goal of the Towns is to create pedestrian connectivity, develop a consistent roadway cross-section, and provide ADA/AAB accessibility and bicycle accommodations. The goal of the

project is also to continue the improvements currently under design on Route 28 in Dennis Port and extend it into West Harwich.

A construction cost estimate has been developed as requested in the October 18th,2016 letter. The anticipated construction cost including contingencies is $5,567,800.

The enclosed PIF is herewith submitted to request funding from MassDOT through the State and Federal Transportation Improvement Programs. We hope you agree that the Route 28 Improvement project is a viable project, with regional significance. Both the Towns of Harwich and Dennis are excited to advance the project and be part of the regional collaboration to create a complete streets corridor for all to enjoy.

If you have any questions, please contact me at (508) 430-7513 at your convenience. Thank you for your consideration.

Very truly yours,

Town of Harwich

Christopher Clark
Town Administrator

Town of Dennis

Elizabeth Sullivan
Interim Town Administrator

Attachment: (MassDOT PIF)

Cc: Glenn Cannon, Director of Technical Services, Cape Cod Commission
Tom Andrade, Dennis Town Engineer
Lincoln Hooper, Director, Harwich DPW

Project Initiation Form (PIF)

Dennis Port / West Harwich Main Street - Roadway Improvement Project

Main Street (Route 28) at Upper County Road Intersection to the Herring River Bridge Approach

Dennis & Harwich, Massachusetts

Prepared for **Towns of Dennis & Harwich**

Prepared by **VHB, Watertown, Massachusetts**

February 8, 2017

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MASSDOT - HIGHWAY DIVISION
Project Initiation Form

Proponent: Christopher Clark

Title: Town Administrator

Municipality/Organization: Town of Harwich

Phone: 508-430-7513

Email: cclark@town.harwich.ma.us

Proponent: Elizabeth Sullivan

Title: Interim Town Administrator

Municipality/Organization: Town of Dennis

Phone: 508-760-6148

Email: esullivan@town.dennis.ma.us

Date: February 8, 2017

PNF completed by: Stephen Rhoads, P.E.

Title: Project Manager

Phone: 617-924-1770

Email: srhoads@vhb.com

Part I – General Information

Project Location: Route 28 (Main Street), Towns of Harwich and Dennis

Project Need: Briefly restate the primary project need or goal as developed in the Project Need Form (e.g. rehabilitate a roadway, improve safety at an intersection, reduce corridor congestion, improve pedestrian facilities, or provide bike accommodation).

The Towns of Harwich & Dennis, acting through their respective Town Administrator's Offices are in the planning stages to rehabilitate the Route 28 corridor to include new sidewalks and bicycle accommodations, with share the road markings/signage and 5' shoulder facilities between the Upper County Road and Route 28 (Main Street) intersection and the Herring River Bridge. The total length of the project is 0.7 miles. The section of Route 28 in West Harwich is known as Captain's Row as it contains a number of former historic Sea Captain's home along the roadway.

Route 28 is a heavily traveled roadway that encounters significant seasonal fluctuations in both traffic volume and travel speeds/congestion. Route 28 serves as the main east/west connection along Nantucket Sound, with Route 6 and 6A being the other two main east/west connectors in the Dennis/Harwich/Brewster Area. The existing 20- to 24-foot wide, two-lane roadway section along the project corridor includes varying shoulder widths, degrading bituminous sidewalk sections on the north side of the street, fragmented sidewalk sections on the south side of the street, substandard sidewalks, substandard or no ADA/AAB curb ramps, antiquated traffic signal equipment no clear bicycle accommodations, and poor drainage

The goal of the Towns is to create pedestrian connectivity, develop a consistent roadway cross-section, and provide ADA/AAB accessibility and bicycle accommodations. The goal of the project is also to continue the improvements currently under design on Route 28 in Dennis Port and extend it into West Harwich.

Regional Benefit: Describe any regional benefits that would be realized should the Project Need be met.

The enhanced sidewalks and addition of bike accommodations will create pedestrian and bicyclist connectivity along the Route 28 corridor. Route 28 serves as the primary east-west connection along the Nantucket Sound from Hyannis to Chatham. These multimodal connections also offer active transportation alternatives through the corridor and would achieve the states goals under the Healthy Transportation Compact.

Part II – Project Costs and Responsibilities

Estimated Costs: Provide available cost estimates or estimated cost ranges in current-year dollars and attach any cost estimate work sheets or summaries.

Estimated Construction Costs:		Estimated Other Costs:	
Construction Items:	$4,640,000	Planning/Design:	$375,000
Contingencies (10%):	$463,900	Right-of-way:	$400,000
Other Constr. Costs (10%):	$463,900	Environmental Mitigation:	N/A
Total Construction Cost:	$5,567,800	**Total Other Costs:**	$775,000

Anticipated Funding Program:
Indicate all potential sources of funding that may apply to the project

STP		CMAQ		HSIP	
TAP		NHPP		HPP	
NFA		Other			

Project Responsibilities:	**MassDOT**	**Community**	**Other (specify)**
Project Management	X		
Design		X	
Permitting		X	
Right of Way	X		

Part III: Project Description

A. Proposed Improvements to Facility

1. Scope of Work: Describe the proposed improvements including limits of work, length of the project, major improvements, proposed cross-section, improvements to secondary assets, and related work. The description of proposed improvements to secondary assets should include improvements to curbing, sidewalks, traffic signals, signs, lighting, landscaping, drainage, walls, etc. The scope of work for a multi-use path should also identify at-grade crossing treatments.

The limits of work are on the Route 28 corridor between Upper Country Road and the Herring River Bridge, which is approximately 0.7 miles. The project scope is centered around providing multimodal access to historic infrastructure along the route as well as to various commercial destinations, including local businesses, restaurants, recreation, and institutional functions. This includes constructing new sidewalks, providing ADA compliant wheelchair ramps and widening the road to provide 5' shoulders for bikes. The project should continue improvements already under design on Route 28 in Dennis Port. Another important aspect of design is to preserve the character of the village center.

2. Proposed pavement rehabilitation: Describe the proposed rehabilitation methods that are being considered. Keep in mind that the final pavement improvements will be identified through the development of a pavement design submitted as part of the project design process.

The pavement rehabilitation will consist of milling the existing surface and installing a new top course or reclaiming the existing pavement structure and sub-base and rebuilding the entire pavement structure. Box pavement widening is also planned for the roadway as needed to accommodate the proposed widened shoulders.

3. Pedestrian Accommodations: Describe how the improvements are addressing pedestrian accommodation according to ADA/AAB requirements, through improving existing facilities, improving safety and traffic calming, as well as proposing new or expanded facilities.

New or reconstructed ADA compliant sidewalks are proposed along both sides of Route 28. These sidewalks are to be 5.5' wide with ADA accessible curb ramps. Pedestrian activated push buttons will also be implemented at signalized intersections to improve mobility and accessibility for pedestrians along the corridor.

4. Bicycle Accommodations: Describe how the improvements are addressing bicycle accommodation through improving existing facilities, as well as proposing new or expanded facilities.

Route 28 is proposed to be widened to provide minimum 5' shoulders to serve as bike lanes in both the eastbound and westbound directions. As regional bicycle connectivity improves, the inclusion of bike lanes along the corridor may, over time, encourage visitation to this commercial and historic district by users of the Cape Cod Rail Trail, located less than two miles to the north.

5. Design Exceptions: Identify whether any exceptions to MassDOT design criteria are anticipated.

Depending on the design development exceptions may be sought for lane width and shoulder width.

6. Alternatives Analysis: Identify any alternatives that have been considered. Attach any pertinent information related to that analysis.

In addition to the preferred alternative, the project team considered the possibility of a shared-use path for pedestrians and cyclists. The primary issue regarding a shared-use path is the limited ROW along

the corridor and the presence of historic structures in proximity to the ROW. The historic character of the area, and historic structures themselves should not be impacted by the project and this alternative was therefore dismissed.

An additional alternative considered realigning Upper County Road to meet with Main Street as a T-intersection. This would require the taking of the gas station on the corner of Upper County Road and Main Street.

7. Retention of Existing Infrastructure: Identify efforts to retain/preserve existing Infrastructure, e.g. reuse of curbing, sidewalk, minimized/targeted vertical or horizontal geometric changes, etc. ● GreenDOT

The existing pavement structure will be used in some manner for the proposed condition once the pavement design is finalized between mill & overlay or reclamation.

8. Potential Impacts to Utilities: Identify any anticipated impacts or complications the proposed improvements will have on utilities.

There are 37 utility poles within project limits. It is anticipated that 20 of them may need to be relocated as part of the proposed conditions.

B. Mobility Improvements

1. Describe how the proposed improvements will impact mobility. Include any traffic analysis, including LOS (Level of Service) data, if available. ● GreenDOT

The focus of these improvements are not vehicular and as such there are no wholesale operational improvements realized by the proposed improvements. However, there are small changes that are expected to improve overall access and mobility for all users.

2. Identify whether the proposed improvements will impact connectivity or access along the corridor or to facilities. If this is a new connections, include existing and proposed travel times. ● GreenDOT

The proposed changes focus on the ability to achieve active transportation options along the corridor. Implementing wider shoulders to serve as bike lanes will improve cyclist mobility through the corridor, while new or reconstructed sidewalks will improve pedestrian mobility through the corridor. These proposed projects will improve non-motorized connectivity along the corridor, however no changes in vehicle travel times are anticipated.

3. Identify how the project will impact mobility for pedestrians, bicyclists and transit users. ● GreenDOT

Mobility for pedestrians and cyclists will be improved. Widened shoulders and improved sidewalk connectivity will provide access for both cyclists and pedestrians through the Route 28 corridor. There is a transit line called H2O, that is run by the Cape Cod Regional Transit Authority (CCRTA), through the area which is to remain unchanged. However, the proposed improvements may attract additional ridership as they provide improved non-motorized connectivity across Route 28.

C. Safety and Security Improvements

1. Describe any improvements that are expected to reduce the crash potential. Provide any highway safety analysis that has been completed.

The inclusion of pedestrian accommodations at traffic signals, wider shoulders, and improved sidewalks and crosswalks are anticipated to reduce the crash potential among various modes along the corridor by providing dedicated spaces and reducing conflicts. Improved lighting, the creation of high-visibility crosswalks at locations where demands warrant them, and an exclusive accommodation for bicycles allows for better delineation of all users within the ROW. A rapid rectangular flashing beacon installation at the mid-block crossing to the east of Belmont Road will be evaluated through design development.

2. Describe any improvements that are expected to improve safety for other multi-modal users such as pedestrians, bicyclists, persons with disabilities, transit riders, trucks, school children, etc. ● GreenDOT

Pedestrian accommodations at traffic signals in addition to improved sidewalk connectivity and ADA accessibility is anticipated to enhance safety for pedestrians while widened shoulders would enhance safety for bicyclists.

3. If the project is on a designated evacuation route or NHS corridor, how will the project impact the route?

According to information available through the Cape Cod Commission, there are no identified evacuation routes within the study limits.

D. Economic Development - Problem, Need, or Opportunity

1. Describe any improvements that improve a business district, business related elements or support proposed economic development opportunities.

The Town of Harwich adopted a Local Comprehensive Plan in 2011. The local plan targets the continued accommodation of commercial and industrial uses within the project area due to the high traffic volumes, good visibility and easy access to major highways. Improvements to the roadway facility would support the local plan by providing a safer means of travel for all modes through the area.

The Town of Dennis adopted a Local Comprehensive Plan in 2002. One of the goals of the plan is to preserve the character of Dennis' unique village centers, with Dennis Port being one of these village centers. To achieve this the Town of Dennis town policies encourages redevelopment over new development of village amenities such as walkways. The plan further encourages alternate transportation modes to village centers. The proposed project is very much in line with the goals and policies identified in the Economic Development section of the Comprehensive Plan.

2. Identify improved access to services, industry clusters or job creation in the project area. Include the number of jobs to be created, if available. ● GreenDOT

The proposed project creates multi modal connectivity and healthy transportation commuting options for potential employees of surrounding communities. These features increase connectivity to an area targeted for economic growth and may open opportunities for localized job creation.

3. Identify how the improvements reflect Smart Growth Development and Sustainable Development Principles. ● GreenDOT

Proposed improvements along the corridor provide healthy transportation options, such as widened shoulders that may be used as bike lanes and improved sidewalk connectivity.

E. Environmental Impacts and Improvements

Describe any improvements or impacts to the resources. Consider any storm water improvements and changes in impervious area. Identify any anticipated permitting that could be problematic.

1. Wetland(s):

N/A

2. Water Supply Watershed(s):

N/A

3. Storm Water Improvements/Impaired Waterbodies:

The Herring River which is adjacent to the limits of the project (the Herring River bridge approach is the limit) is impaired for fecal coliform on the Final Massachusetts Year 2014 Integrated List of Waters. There is also a draft TMDL for Total Nitrogen for the Herring River Estuarine System which was released in 2015. As part of the design of the stormwater management system for the proposed project, any areas that drain to the Herring River will need to be designed with the appropriate stormwater BMPs for water quality treatment to address the final and draft TMDLs associated with the Herring River.

4. Priority Habitat(s):

N/A

5. Historic/Cultural/Scenic Resource(s):

Based on the Massachusetts Historical Commission MACRIS web site, there are a number of listed or inventoried historic resources including the West Harwich Historic District along the project limits in the Town of Harwich.

6. Air Quality and Greenhouse Gases: Will the improvements impact greenhouse gases through construction methods, operational modifications, and changes in connectivity, access, or travel behavior.
● GreenDOT

The proposed project will improve the safety and access by filling gaps where there is a lack of connectivity for pedestrians and bicyclists. The enhancement and availability of these pedestrian and bicycle facilities will help to promote alternative means of travel within the area in lieu of motor vehicles.

7. Hazardous Materials: Is it anticipated that the proposed work will involve handling hazardous materials within the project limits or on any adjacent properties?

A former Mobile gas station property in Dennis located between Upper County Road and Main Street has a history of remedy operations and groundwater monitoring. It is anticipated that contaminated soils may be encountered and require handling adjacent to this property. This possibility will be investigated through design development.

F. Community Effects

1. Identify how much right of way is anticipated to complete the project, including fee takings, permanent and temporary easements.

It is anticipated that strip takings will be required along the corridor to construct the proposed cross section.

2. Describe how the project will improve/impact the neighborhood with respect to access to services, jobs, and public transit.

Connected sidewalks and the implementation of bicycle accommodations will provide residents in the area with means of active transportation to commercial areas located at the western portion of the corridor. Residents that work or seek services within the commercial area at Division Street or in Dennis would have improved access to these destinations.

3. Describe any effect the improvements will have on the existing housing stock or potential for new housing development.

N/A

4. Identify any improvements that involve community planning and equitable sharing of benefits/burden or are particularly targeted within an Environmental Justice area.

The proposed project extends non-motorized transit connections in the east and west directions along Nantucket sound and repairs sidewalks that do not currently meet ADA/AAB standards. The Commonwealth has identified income-based Environmental Justice areas approximately one-third of a mile south of the project limits in Dennis that may benefit from the changes.

G. Transportation Enhancements

1. Identify any transportation enhancements, such as pedestrians, bicyclists and transit accommodations, education; landscaping; scenic/historic acquisition, beautification, preservation, programs, or facilities; outdoor advertising management; archeological planning and research; environmental mitigation or wildlife mortality reduction efforts.

Within the project limits there are gaps of sidewalk connectivity and a lack of defined bicycle accommodations. The proposed project will extend the pedestrian and bicycle routes under design as part of the Dennis Port Transportation Improvement Project that terminate at the intersection of Upper County Road and Route 28. The sidewalk connections would continue along the north and south sides of Route 28. These enhancements will allow for continuous pedestrian and bicycle connectivity along the corridor.

The easterly bicycle route would connect the share the road route that terminates at Hall Street as part of the Route 28 Dennis Port project and extend it along Willow Street to the east and Belmont Road to the north. At the Belmont Road intersection with Route 28, there is a 5' bicycle shoulder proposed that would continue west to the Division Street intersection and to the eastern limit of the Project. The reason for providing the easterly bicycle alternative route outside of the Route 28 corridor is to avoid the densely developed downtown Dennis Port and West Harwich area between Hall Street and Belmont Road. It should also be noted that there are existing buildings that are proximate to the existing roadway between Division Street and Belmont Road. This is consistent with the in progress design of the Dennis Port transportation improvement project.

The westerly bicycle route proposed as part of this project would be provided with the construction of a consistent 5' wide shoulder along the westerly travel lane of Route 28 throughout the project limits.

2. Are the proposed enhancement elements supported by the MPO?

Yes.

H. Planning and Public Outreach and Support

1. Describe any additional Public Outreach that has occurred since the PNF was submitted. Include any public informational meetings, local mailings, workshops, planning documents, etc., where the proposed improvements were specifically presented to abutters, businesses and/or the general public. Include information on meeting dates, attendance, concerns, and support.

There has been no additional public outreach since the submission of the PNF. During early design development a minimum of 2 informational meetings will be planned between the Towns, the public and community groups. These meetings will re-introduce the public and community groups to the project and request their input for moving forward with the design.

As requested in an October 18th, 2016 letter from MassDOT District 5 responding to the site meeting held on October 14th, 2016 documentation of the public outreach effort conducted to date is attached.

2. Were there any special needs that needed to be accommodated to fully engage the public with respect to public outreach?

None requested.

I. Maintenance

1. Identify any improvements that involve particular long-term or ongoing maintenance implications.

As with all roadway and public realm enhancement projects, there will be a need for regular maintenance of sidewalks, pavement striping, traffic signal equipment, and landscaping. It should be noted that with the construction of concrete sidewalks in portions of the corridor the need for maintenance would be streamlined and less of a burden for the State.

2. Identify any improvements that will improve the environmental sustainability of the facility related to operation and maintenance.

N/A

Thank you for completing this form. Please submit the PIF to the Regional MPO/RPA and the MassDOT Highway Division District office.

Meeting Notes

Place: Main Street (Route 28), Harwich

Date: September 23, 2015 Notes Taken by: P. Domigan, G. Morrison-Logan, G. Ryder, S. Rhoads

Project #: 13137.00 Re: Roadway Corridor Walk & Discussion

ATTENDEES

See attached list

The meeting was held to kick-off the Main Street (Route 28) corridor study project. Attendees met at 9:30 AM at the intersection of Division Street and Main Street which marks the west end of the project.

Attendees included representatives from the Towns of Harwich and Dennis, representatives from VHB, area residents and a representative from the local media. Please see attached list for a full list of attendees.

Christopher Clark (Town of Harwich, Town Administrator) began the meeting by welcoming the residents in attendance and introducing the project visioning team. Trish Domigan (VHB) described the current status of the potential project and the adjacent project in the design stage for Route 28 in Dennisport, noting that it is years from construction if it were to proceed. Trish stated that there will be many opportunities for the public to provide input on the project and this input would be considered during the design of the project.

Attendees then reviewed an aerial plan of the project area prepared by VHB. After this review and orientation with the project limits the attendees began to walk the roadway corridor from the Harwich/Dennis Town line to the east, towards the Herring River which marks the east limit of work.

The following is a summary of the walk of the roadway and major points discussed:

- The transition from Dennisport to the west end of the project within Harwich features an urban feel, however it transitions to a more residential area fairly quickly. In Dennisport there are wide sidewalks, storefronts, gas stations and large "box" retail stores and associated parking lots. Once the Town line is crossed into Harwich there are a handful of smaller scale commercial properties then the residential neighborhood begins. It was noted that pedestrian access needed to be addressed from Dennis to Harwich.
- There was a question on the use of granite curbing along the edge of roadway. There was a concern that curbing would bring an urban hardness to the corridor that isn't there now.
- Mass transit authority has bus stops along the corridor. Locations of the stops need to be reviewed as part of the design process.
- It was noted that the design of the roadway improvements should highlight the historic significance of the corridor.
- Gateway considerations should be made between the commercial areas and the residential/historic areas, and the adjacent land use will influence the design of the roadway corridor (use of granite curb and concrete sidewalks in commercial areas, berm and bituminous sidewalks in residential areas)

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- West Harwich is in process of becoming a historic district, and there are two properties on the national historic register. There are two properties on the NHR, one being 37 Main St, and the other is Chase Library (7 Main Street)
    - There are several historic Captain's houses throughout the corridor.
    - One of the residents indicated that there are 35 houses on the 0.6 mi stretch that would qualify for the national register
- It was noted that traffic calming techniques could be evaluated for travelling along Main St.
- There is a facebook page called Historic West Harwich/captains row that has a lot of historic pictures
- The close proximity of houses to the roadway was noted by all.
- Traveling east, the roadway features more commercial properties in addition to historic buildings at the intersection of Main Street and Belmont Road/Depot Road West. The church at the NE corner of Main Street and Depot Road West was built in 1755. Additionally, a historic schoolhouse is located a short distance to the north on Depot Road West. Between the church and the schoolhouse is the church's cemetery. The historical nature of this area leads it to be considered a focal point of West Harwich.
    - The church was identified as being the oldest Church on the cape and it is a focal point of West Harwich.
    - Along Main Street in this area there is a very wide pavement surface which provides opportunities for traffic calming and landscaping elements to be incorporated into the project. a protected cross walk with either RRFB or HAWK signals may be appropriate at this location, along with pedestrian lighting.
- To the east of the Main Street and Mansion Road intersection the roadway corridor becomes predominantly residential. The right-of-way appears to have sufficient width in this general location to provide more flexibility with the types of improvements made.
- Proceeding east along Main Street to the Herring River the corridor maintains a residential feel. Some commercial uses are introduced into the corridor prior to the eastern limit of the project, defined by the Main Street bridge spanning the Herring River.
- At the eastern project limit meeting attendees gathered in the Cape Cod Irish Pub parking lot to conclude the meeting. it was noted that Bell's Neck should be a noted vista along the corridor.
- Attendees were given the opportunity to voice any thoughts that came to mind during the walk of the roadway. The following items of note were discussed:

- Street signing – the possibility for special signing designating the West Harwich limits at the Town line with Dennis and to the east of the projects limits was discussed.
- Common village elements – the opportunity to introduce a common, coordinated type of fencing, signage and lighting was discussed.
- Roadway edge treatment – some residents noted concerns over the appearance of vertical granite curb and how it would affect the feel of the corridor. It was noted that there are many types of edge treatment that can be proposed and these can be varied throughout the corridor to better match the context of the surrounding area.
- There should be more green space in the residential areas, change with the commercial and retail areas
- Have gateway entrances at West Harwich Historic District
- There are bushes that are encroaching on the existing roadway layout.

![vhb logo]

Meeting Notes

Project#:

Date: Notes Taken by:

Re: Place/Location:

ATTENDEES

NAME	E-MAIL
Dan Tworek	dtworek@comcast.net
Nancy Pollard	nancypollard@comcast.net
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DUNCAN BERRY	[illegible]
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SAlly Urbano	UrbanoSally@yahoo.Com
Lincoln Hooper	highway@cape.com
TOM Andrade	tandrade@town.dennis.ma.us
GEORGENE RIEDL	riedlgeorgene@gmail.com

Meeting Notes

Place: Harwich Town Hall Griffin Room

Date: October 27, 2015 Notes Taken by: Stephen Rhoads

Project #: 13137.00 Re: Main Street, West Harwich - Brainstorming Session

ATTENDEES

See attached list

The meeting was held to continue the gather the public's thoughts and comments on the Main Street (Route 28) corridor study project.

Trish Domigan (VHB) began the meeting with an overview of the current status of the project. Trish noted that the session is intended to be a continuation of the process to facilitate comments on the roadway corridor that started with the walk of the roadway on 9/23/15.

Geoffrey Morrison-Logan (VHB) reviewed the three main sections of the roadway: commercial (west side), historical Baptist church/schoolhouse (middle of project), and the West Harwich community gateway (east side of the project). Geoffrey noted the goal is to gather thoughts and see what is important to the area residents. With these thoughts in mind VHB will make a concept plan for review.

Geoffrey began a review of the 3 boards VHB prepared for the meeting. Each of the three main sections of the project mentioned above have their own board. Following are comments noted on each board:

Board 1 – Commercial section (Division Street to Silver Street)

- One attendee noted granite curb is not desired
- Attendees noted concern over selection of surface materials
    - Concrete and asphalt "too hard" in appearance
- Attendees noted they don't want the streetscape features present in the Dennisport commercial area
- Some attendees said they are in agreement with vertical granite curb and grass strip transitioning to HMA berm and a grass strip
- Bike accommodations
    - One attendee requested bike accommodations to be designed as small as possible
    - Some attendees preferred an off-roadway multiuse path design
- A common theme of the attendees is to transition to a softer feel as soon as possible
- Once east of Silver Street (entering residential area) introduce street lighting (pedestrian level light poles)
    - Lighting in selective locations for place making

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Board 2 - Baptist church and surrounding area

- The wider roadway right-of-way in this area presents the possibility for a multiuse path and narrower overall roadway pavement width
- Attendees discussed a seating/gathering area in front of the Baptist church
- There was discussion of focusing on a wider grass strip on north side of the roadway with seating areas centered around the mid-block crossing in front of the church
- Lighting can become more focused in this area
- Transit stop: propose moving it east of church
    - Attendees think it's located at the NW corner of Depot Road and Main Street intersection
- Depot Road and Main Street intersection is very important to residents
    - Narrowing the intersection is a possibility
- Trees
    - Proposed street trees at focal areas - selective usage (not too many) to match historic feel of the openness of the area
    - Work with residents on new trees - planting location either on the resident's properties or within the public right-of-way

Board 3 - East End/Community Gateway

- Attendees noted the importance of roadside fencing and lighting in this area
    - VHB noted the state will be limited in what they can do
    - Attendees noted different types of existing fences provide an individual feeling to the area
- Attendees commented that this section has the most historic homes
- Gateway transition is from the Cape Cod Irish Pub driveway toward Riverside Drive

Wrap up and miscellaneous notes:

- VHB to develop design plan and present at Board of Selectmen meeting
- Drainage
    - Low Impact Development (LID) Drainage Design – direct run off to grass swales/ retention area versus leaching basing

  - Can explore using this method along the roadway
- Dennisport Main Street project design
  - The Dennis project has a higher level of design complexity due to the higher density commercial at the east end of the project (where it meets the West Harwich Main Street corridor)
  - Cross sectional standards must be met in this area
- One attendee asked for samples of the options for edge treatments
- One attendee expressed concern over maintenance of the corridor – noted weeds often come up in new and old construction
  - VHB responded that the state will be responsible for maintenance

Main Street, West Harwich
Brainstorming Session

TUESDAY, OCTOBER 27, 2015

SIGN-IN LIST

	NAME	EMAIL ADDRESS
1.	Gail McAleer	gamcaleer@gmail.com
2.	Ralph Diamond	ralph.diamond@comcast.net
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4.	Sally Urbano	urbanosally@yahoo.com
5.	Anne Stewart	stewsanne@gmail.com
6.	Nancy Pollard	nancypollard@comcast.net
7.	DUNCAN BERRY	DUNCAN.BERRY@COMCAST.NET
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11.	michael MacAskill	michael.D.macaskill@gmail.com
12.		
13.		
14.		
15.		
16.		
17.		

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This estimate is based on conceptual design plans prepared by VHB, Inc., dated May 2016 and titled "Main Street (Route 28) Conceptual Vision Plan". Prices were determined from the MassDOT weighted average bid prices web site from the range of January 2016 to January 2017.

This estimate does not consider any Property acquisitions, Temporary or Permanent Easements.

Assumptions

This estimate assumes the following:

Pavement

Assume full depth pavement widening along Main Street to create a 32' cross section, and assume full depth pavement construction at the intersection of Upper County Road. Assume full depth pavement reclamation on the remainder of the existing pavement within project limits.

Sidewalk

Assume a 5.5' hot mix asphalt sidewalk will be constructed along both sides of Main Street. Cement concrete sidewalks and wheelchair ramps will be constructed from Upper County Road to the intersection of Main Street/Silver Street.

Curbing

Assume granite curbing will be installed along both sides of Main Street from Upper County Road to Silver Street and from 500' west of North Road to the eastern project limit. Assume HMA berm will be installed on one side and granite curb on the other from Silver Street to the 500' west of North Road. Assume existing granite curb within the project limits will be removed and reset with 80% suitable for re-use.

Loam & Seed

Assume 4" of loam & seed 5 feet beyond the back of walk and a 5' wide grass buffer behind HMA berm.

Drainage Modifications

Assume 150' spacing of inlets due to gutter spread requirements.

Prepared by: D. Kardosz
Checked by: S. Rhoads
Date: 1/30/2017

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CONCEPTUAL COST ESTIMATE
Main Street, Dennis & Harwich, MA

Description	Unit Price	Quantity	Total Cost
Full Depth Pavement - Widening	$112.00 /SY	3,292 SY	$368,691.80
Full Depth Pavement - Reclaim	$85.00 /SY	10,360 SY	$880,608.21
Pavement Milling & Overlay	$22.00 /SY	781 SY	$17,172.22
Hot Mix Asphalt Sidewalk	$63.50 /SY	3,289 SY	$208,844.44
Cement Concrete Sidewalk	$89.50 /SY	861 SY	$77,069.44
Hot Mix Asphalt Driveway - Commercial	$75.00 /SY	2,216 SY	$166,174.43
Hot Mix Asphalt Driveway - Residential	$64.00 /SY	512 SY	$32,793.78
Granite Curb	$36.00 /FT	4,983 FT	$179,388.00
Granite Curb Removed & Reset	$20.00 /FT	504 FT	$10,080.00
Hot Mix Asphalt Berm	$6.00 /FT	2,145 FT	$12,870.00
Steel Guardrail	$23.00 /FT	600 FT	$13,800.00
Clearing & Grubbing	$25,000.00 /A	0.3 A	$6,897.81
Loam and Seed	$8.00 /SY	5,342 SY	$42,733.33
Rectangular Rapid Flashing Beacon	$50,000.00 /LS	1 LS	$50,000.00
Traffic Signal	$313,550.00 /LS	1 LS	$313,550.00
Signs	$15,000.00 /LS	1 LS	$15,000.00
Pavement Markings	$17,700.00 /LS	1 LS	$17,700.00
Drainage Modifications	$625,700.00 /LS	1 LS	$625,700.00
Lighting	$192,700.00 /LS	1 LS	$192,700.00
Streetscape Elements (Fence, Landscaping)	$30,000.00 /LS	1 LS	$30,000.00
		SUBTOTAL:	$3,261,773.48
		Construction Staking (3%)	$97,853.20
		Police Detail (5%)	$163,088.67
		Mobilization (3%)	$97,853.20
		Construction Traffic Management (3%)	$97,853.20
		Contingencies (25%)	$815,443.37
		Utility Pole Relocations	
		20 poles to be R&R at $10,000 per pole = $200,000	
		50% of total cost to be paid by DOT:	$100,000.00
		TOTAL:	$4,633,865.13
		SAY:	**$4,640,000**

This estimate does not consider any Property acquisitions, temporary or permanent easements.

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Full Depth Pavement - Widening

			Left			
Segment	Length		Width		Area	
START TO STA. 11+50	215	FT	1	FT	215	SF
STA. 11+50 TO STA. 17+00	560	FT	3	FT	1785	SF
STA. 17+00 TO STA. 24+00	715	FT	6	FT	4585	SF
STA. 24+00 TO STA. 29+00	500	FT	0	FT	0	SF
STA. 29+00 TO STA. 32+00	300	FT	1	FT	300	SF
STA. 32+00 TO STA. 38+00	615	FT	4	FT	2659	SF
STA. 38+00 TO STA. 46+00	815	FT	4	FT	3347	SF

			Right			
Segment	Length		Width		Area	
START TO STA. 11+50	215	FT	1	FT	215	SF
STA. 11+50 TO STA. 17+00	560	FT	7	FT	3718	SF
STA. 17+00 TO STA. 24+00	715	FT	5	FT	3227	SF
STA. 24+00 TO STA. 29+00	500	FT	0	FT	0	SF
STA. 29+00 TO STA. 32+00	300	FT	6	FT	1800	SF
STA. 32+00 TO STA. 38+00	615	FT	6	FT	3702	SF
STA. 38+00 TO STA. 46+00	815	FT	5	FT	4075	SF
				TOTAL:	29627	SF
					3291.9	**SY**

* ASSUMING PAVEMENT NARROWING FROM ~24+00 TO ~29+00

Full Depth Pavement - Reclaim

Segment	Length		Width		Area	
START TO STA. 11+50	230	FT	46.5	FT	10695	SF
STA. 11+50 TO STA. 17+00	560	FT	22	FT	12040	SF
STA. 17+00 TO STA. 24+00	715	FT	21	FT	14860	SF
STA. 24+00 TO STA. 29+00	500	FT	32	FT	16000	SF
STA. 29+00 TO STA. 32+00	300	FT	25	FT	7500	SF
STA. 32+00 TO STA. 38+00	615	FT	22	FT	13648	SF
STA. 38+00 TO STA. 46+00	815	FT	23	FT	18497	SF
					93241	SF
					10360.1	**SY**

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Pavement Milling & Overlay

Segment

assume at limits of work for width of pavement by 25' length and side streets

	Length		Width		Area	
START TO STA. 11+50						
Upper County Rd	25	FT	24	FT	600	SF
Main Street	25	FT	33	FT	825	SF
Division Street (north)	25	FT	22	FT	550	SF
Division Street (south)	25	FT	22	FT	550	SF
STA. 11+50 TO STA. 17+00	25	FT	24	FT	600	SF
STA. 17+00 TO STA. 25+00						
Depot Road West	25	FT	26	FT	650	SF
Belmont Road	25	FT	24	FT	600	SF
STA. 25+00 TO STA. 32+00	25	FT	24	FT	600	SF
STA. 32+00 TO STA. 38+00					0	SF
STA. 38+00 TO STA. 46+00						
North Road	25	FT	24	FT	600	SF
Riverside Drive	25	FT	26	FT	650	SF
Limit of Work	25	FT	32	FT	800	SF
					7025	SF
					780.6	**SY**

Hot Mix Asphalt Walk

Segment	Length		Width		Area*		* x2 for both sid
START TO STA. 11+50	0	FT	5	FT	0	SF	
STA. 11+50 TO STA. 17+00	0	FT	5	FT	0	SF	
STA. 17+00 TO STA. 24+00	715	FT	5	FT	7150	SF	
STA. 24+00 TO STA. 32+00	815	FT	5	FT	8150	SF	
STA. 32+00 TO STA. 38+00	615	FT	5	FT	6150	SF	
STA. 38+00 TO STA. 46+00	815	FT	5	FT	8150	SF	
					29600	SF	
					3288.9	**SY**	

Cement Concrete Walk

Segment	Length		Width		Area*		*x2 for both sid
START TO STA. 11+50	215	FT	5	FT	2150	SF	
STA. 11+50 TO STA. 17+00	560	FT	5	FT	5600	SF	
STA. 17+00 TO STA. 24+00	0	FT	5	FT	0	SF	
STA. 24+00 TO STA. 32+00	0	FT	5	FT	0	SF	
STA. 32+00 TO STA. 38+00	0	FT	5	FT	0	SF	
STA. 38+00 TO STA. 46+00	0	FT	5	FT	0	SF	
					7750	SF	
					861.1	**SY**	

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Hot Mix Asphalt Drive - Commercial

Number of driveways	#	Average depth		Commercial Average Width		Area	
START TO STA. 11+50	1	25	FT	20	FT	500	SF
STA. 11+50 TO STA. 17+00	7	25	FT	34	FT	5997	SF
STA. 17+00 TO STA. 24+00	2	25	FT	26	FT	1280	SF
STA. 24+00 TO STA. 32+00	9	25	FT	25	FT	5730	SF
STA. 32+00 TO STA. 38+00	4	25	FT	25	FT	2500	SF
STA. 38+00 TO STA. 46+00	4	25	FT	39	FT	3935	SF
						19940.93	SF
						2215.7	**SY**

Hot Mix Asphalt Drive - Residential

Number of driveways	#	Average depth		Average Width		Area	
START TO STA. 11+50	0	15	FT	0	FT	0	SF
STA. 11+50 TO STA. 17+00	1	15	FT	12	FT	180	SF
STA. 17+00 TO STA. 24+00	9	15	FT	15	FT	2037	SF
STA. 24+00 TO STA. 32+00	2	15	FT	12	FT	360	SF
STA. 32+00 TO STA. 38+00	7	15	FT	17	FT	1769	SF
STA. 38+00 TO STA. 46+00	1	15	FT	18	FT	265	SF
						4612	SF
						512.4	**SY**

Loam Borrow and Seed

Segment	Length		Width		Area*		*x2 for both sid
START TO STA. 11+50	215	FT	5	FT	2150	SF	
STA. 11+50 TO STA. 17+00	560	FT	5	FT	5600	SF	
STA. 17+00 TO STA. 24+00	715	FT	5	FT	7150	SF	
STA. 24+00 TO STA. 32+00	815	FT	5	FT	8150	SF	
STA. 32+00 TO STA. 38+00	615	FT	5	FT	6150	SF	
STA. 38+00 TO STA. 46+00	815	FT	5	FT	8150	SF	

Segment	Length		Width		Area	
START TO STA. 11+50	0	FT	5	FT	0	SF
STA. 11+50 TO STA. 17+00	0	FT	5	FT	0	SF
STA. 17+00 TO STA. 24+00	715	FT	5	FT	3575	SF
STA. 24+00 TO STA. 32+00	815	FT	5	FT	4075	SF
STA. 32+00 TO STA. 38+00	615	FT	5	FT	3075	SF
STA. 38+00 TO STA. 46+00	0	FT	5	FT	0	SF
					48075.00	SF
					5341.7	**SY**

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Clearing and Grubbing

Assume 1/4th of area to be loam and seed requires clearing and grubbing.

12018.8	SF
0.3	**AC**

Granite Curb Required

Segment		Length
START TO STA. 11+50	484	FT
STA. 11+50 TO STA. 17+00	1120	FT
STA. 17+00 TO STA. 24+00	790	FT
STA. 24+00 TO STA. 32+00	564	FT
STA. 32+00 TO STA. 38+00	899	FT
STA. 38+00 TO STA. 46+00	1630	FT
less assumed available for R&R	-504	FT
Total:	**4983**	**FT**

Granite Curb Removed and Reset

		Length
Existing Curb Segments	430	FT
START TO STA. 11+50	200	FT
STA. 11+50 TO STA. 17+00	0	FT
STA. 17+00 TO STA. 24+00	0	FT
STA. 24+00 TO STA. 32+00	0	FT
STA. 32+00 TO STA. 38+00	0	FT
STA. 38+00 TO STA. 46+00	0	FT
Subtotal:	630	FT
assume 80% can be re-used	504	FT
Total:	**504**	**FT**

Hot Mix Asphalt Berm

Segment		Length
START TO STA. 11+50	0	FT
STA. 11+50 TO STA. 17+00	0	FT
STA. 17+00 TO STA. 24+00	715	FT
STA. 24+00 TO STA. 32+00	815	FT
STA. 32+00 TO STA. 38+00	615	FT
STA. 38+00 TO STA. 46+00	0	FT
Total:	**2145**	**FT**

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R&R Utility Poles

Segment	Quantity (Existing)		Retain
START TO STA. 11+50	3	EA	3
STA. 11+50 TO STA. 17+00	4	EA	0
STA. 17+00 TO STA. 24+00	7	EA	0
STA. 24+00 TO STA. 32+00	9	EA	8
STA. 32+00 TO STA. 38+00	6	EA	3
STA. 38+00 TO STA. 46+00	8	EA	3
Subtotal:	37	EA	
poles to be RET	17	EA	
Total to be R&R:	20	EA	

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Full Depth Pavement - Widening

	Depth (in)	Conversion	Unit Cost	
HMA Top Course (SSC-9.5)	1.5	0.0560 Ton/SY*in	$140.00 /Ton	$11.76
HMA Binder Course (SIC-12.5)	2	0.0560 Ton/SY*in	$122.00 /Ton	$13.66
HMA Base Course (SBC-37.5)	4	0.0560 Ton/SY*in	$150.00 /Ton	$33.60
Dense Graded Crushed Stone	4	0.0278 Yd/in	$70.00 /CY	$7.78
Gravel Borrow	8	0.0278 Yd/in	$45.00 /CY	$10.01
Unclassified Excavation	26	0.0278 Yd/in	$40.00 /CY	$28.91
Fine Grading and Compacting	N/A	N/A	$6.00 /SY	$6.00
			per SY Total=	$111.73

Full Depth Pavement - Widening COST PER SY= $112.00

Full Depth Pavement - Reclaim

	Depth (in)	Conversion	Unit Cost	
HMA Top Course (SSC-9.5)	1.5	0.0560 Ton/SY*in	$140.00 /Ton	$11.76
HMA Binder Course (SIC-12.5)	2	0.0560 Ton/SY*in	$122.00 /Ton	$13.66
HMA Base Course (SBC-37.5)	4	0.0560 Ton/SY*in	$150.00 /Ton	$33.60
Reclaimed sub-base (item 403)	N/A	N/A	$6.50 /SY	$6.50
Stone for blending (item 403.1)	4	0.0560 Ton/SY*in	$30.00 /Ton	$6.72
Unclassified Excavation	6	0.0278 Yd/in	$40.00 /CY	$6.67
Fine Grading and Compacting	N/A	N/A	$6.00 /SY	$6.00
			per SY Total=	$84.92

Full Depth Pavement - Reclaim COST PER SY= $85.00

Pavement Milling & Overlay

	Depth (in)	Conversion	Unit Cost	
HMA Top Course (SSC-9.5)	2	0.0560 Ton/SY*in	$140.00 /Ton	$15.68
Pavement Milling	N/A	N/A	$6.00 /SY	$6.00
			per SY Total=	$21.68

Pavement Milling & Overlay COST PER SY= $22.00

Hot Mix Asphalt Walk

	Depth (in)	Conversion	Unit Cost	
HMA Top Course (Item 702)	3.5	0.0560 Ton/SY*in	$175.00 /Ton	$34.30
Gravel Borrow (Item 151)	8.0	0.0278 Yd/in	$45.00 /CY	$10.01
Unclassified Excavation (Item 120.1)	11.5	0.0278 Yd/in	$40.00 /CY	$12.79
Fine Grading and Compacting (Item 170)	N/A	N/A	$6.00 /SY	$6.00
			per SY Total=	$63.10

Hot Mix Asphalt Walk COST PER SY= $63.50

101 Walnut Street
Post Office Box 9151
Watertown
Massachusetts 02471
617 924 1770

Cement Concrete Walk

	Depth (in)	Conversion	Unit Cost	
Cement Concrete Sidewalk (Item 701)	N/A	N/A	$60.00 /SY	$60.00
Gravel Borrow (Item 151)	8.0	0.0278 Yd/in	$45.00 /CY	$10.01
Unclassified Excavation (Item 120.1)	12.0	0.0278 Yd/in	$40.00 /CY	$13.34
Fine Grading and Compacting (Item 170)	N/A	N/A	$6.00 /SY	$6.00
			per SY Total=	$89.35
		Hot Mix Asphalt Walk COST PER SY=		**$89.50**

Hot Mix Asphalt Drive - Commercial

	Depth (in)	Conversion	Unit Cost	
HMA Top Course (Item 703)	4.5	0.0560 Ton/SY*in	$177.50 /Ton	$44.73
Gravel Borrow (Item 151)	8.0	0.0278 Yd/in	$45.00 /CY	$10.01
Unclassified Excavation (Item 120.1)	12.5	0.0278 Yd/in	$40.00 /CY	$13.90
Fine Grading and Compacting (Item 170)	N/A	N/A	$6.00 /SY	$6.00
			per SY Total=	$74.64
		Hot Mix Asphalt Drive - Commercial COST PER SY=		**$75.00**

Hot Mix Asphalt Drive - Residential

	Depth (in)	Conversion	Unit Cost	
HMA Top Course (Item 703)	3.5	0.0560 Ton/SY*in	$177.50 /Ton	$34.79
Gravel Borrow (Item 151)	8.0	0.0278 Yd/in	$45.00 /CY	$10.01
Unclassified Excavation (Item 120.1)	11.5	0.0278 Yd/in	$40.00 /CY	$12.79
Fine Grading and Compacting (Item 170)	N/A	N/A	$6.00 /SY	$6.00
			per SY Total=	$63.59
		Hot Mix Asphalt Drive - Residential COST PER SY=		**$64.00**

Loam Borrow and Seed

	Depth (in)	Conversion	Unit Cost	
Loam Borrow (Item 751)	4.0	0.0278 Yd/in	$50.00 /CY	$5.56
Seed (Item 765)			$2.00 /SY	$2.00
			per SY Total=	$7.56
		Loam Borrow and Seed COST PER SY=		**$8.00**

101 Walnut Stree
Post Office Box 9151
Watertowr
Massachusetts 02471
617 924 177C

Main Street

Drainage Modifications			
12" Reinforced Concrete Pipe (Item 241.12)	$85.00 /FT	1440 FT	$122,400.00
Catch Basin (Item 201)	$2,500.00 /EA	58 EA	$145,000.00
5 low points (natural and graded in flat areas)	4 EA per low point	20 EA	
19 inlet locations based on 150' spacing	2 EA per inlet loc.	38 EA	
Manhole (Item 202)	$3,000.00 /EA	24 EA	$72,000.00
12 Inch Hood	$350.00 /EA	58 EA	$20,300.00
Leaching Basin (Item 205)	$3,400.00 /EA	56 EA	$190,400.00
Drainage Structure Adjusted (Item 220)	$300.00 /EA	10 EA	$3,000.00
Frame and Grate (Or Cover) Municipal Standard (Item 222.3)	$800.00 /EA	82 EA	$65,600.00
Drainage Structure Abandoned	$350.00 /EA	20 EA	$7,000.00
		Total Drainage Modifications =	$625,700.00
Pavement Markings			
6" Reflectorized Yellow Line (Thermoplastic) (867.106)	$1.00 /FT	7200 FT	$7,200.00
6" Reflectorized White Line (Thermoplastic) (866.106)	$1.00 /FT	7200 FT	$7,200.00
12 Inch Refl. White (Thermoplastic) (866.112)	$3.00 /FT	700 FT	$2,100.00
Pavement Arrows and Legends Refl. White (Thermoplastic) (864.04)	$6.00 /SF	200 SF	$1,200.00
		Total Pavement Markings =	$17,700.00
Lighting			
Wire	$2.00 /FT	4800 FT	$9,600.00
3" electrical conduit	$40.00 /FT	1200 FT	$48,000.00
Ornamental light pole	$2,800.00 /EA	15 EA	$42,000.00
Ornamental post top luminaire	$1,500.00 /EA	15 EA	$22,500.00
Light standard foundation precast (Item 812.09)	$2,000.00 /EA	15 EA	$30,000.00
Electric handhole	$1,100.00 /EA	6 EA	$6,600.00
Highway lighting load center	$12,000.00 /EA	2 EA	$24,000.00
Service connection (underground)		1 LS	$10,000.00
		Total Lighting =	$192,700.00

101 Walnut Stree
Post Office Box 9151
Watertowr
Massachusetts 02471
617 924 177C

Main Street

Item 816.01 - Upper County Road/Division Street at Main Street (Route 28)

Item	Unit Price	Quantity	
TS 2 Type 1 Controller w/Type 6 Cabinet	$15,000.00 /EA	1 EA	$15,000.00
Controller Foundation with/without Concrete Pad	$1,500.00 /LS	1 EA	$1,500.00
Detection Rack	$200.00 /EA	1 EA	$200.00
Loop Detector Amplifier	$500.00 /EA	7 EA	$3,500.00
Wire Loop Detector	$1,000.00 /EA	14 EA	$14,000.00
Emergency Vehicle Pre-emption System	$35,000.00 /LS	1 LS	$35,000.00
30' Mast Arm	$15,000.00 /EA	6 EA	$90,000.00
Mast Arm Foundation	$10,000.00 /EA	6 EA	$60,000.00
8' TS Post w/Foundation	$1,000.00 /EA	12 EA	$12,000.00
10' TS Post w/Foundation	$1,000.00 /EA	1 EA	$1,000.00
TS Post Foundation	$500.00 /EA	15 EA	$7,500.00
12" 3-Section Signal Head, L.E.D.	$1,000.00 /EA	16 EA	$16,000.00
Pedestrian Signal Head w/Countdown Timer	$1,000.00 /EA	12 EA	$12,000.00
Pedestrian Push Button wR10-3f & Saddle	$800.00 /EA	12 EA	$9,600.00
Pull Boxes 12"x12"	$300.00 /EA	20 EA	$6,000.00
Signal Cable	$5,000.00 /LS	1 LS	$5,000.00
3" Conduit	$35.00 /FT	650 FT	$22,750.00
Maintain Existing Signal	$2,500.00 /LS	1 LS	$2,500.00
		Total Signal =	$313,550.00

Charleen

BUILDING DEPARTMENT • 732 Main Street, Harwich, MA 02645

ph: 508-430-7506 fax: 508-430-4703

SENT VIA CERTIFIED MAIL
AND REGULAR POSTAL SERVICE

7015 0920 0000 9751 6824

Trailride LLC
Mr. William Marsh, Trustee
155 Crowell Road
Chatham, MA 02633

February 14, 2017

RECEIVED
FEB 15 2017
SELECTMEN / ADMINISTRATOR'S OFFICE

Re: NOTICE OF ZONING VIOLATION
1 Auston Road, East Harwich
Assessors Map 97, Parcel R4-1A: CH-2 Zoning District

Dear Mr. Marsh;

Please be informed it has come to our attention the property located at 1 Auston Road, East Harwich (Map 97, Parcel R4-1A) is being used for outside storage of construction materials. The storage of construction materials outside in Zoning District CH-2 is prohibited without a Special Permit from the Zoning Board of Appeals per **§ Table 1 Use Regulations, Paragraph II, Line 3**.

As we discussed today a Special Permit is required from the Zoning Board of Appeals in order to abate this violation notice and to continue outside storage of materials to be used in the National Grid Gas Pipe Line Project. You may apply to the Zoning Board of Appeals for the above noted relief within thirty (30) days of receipt of this letter.

Respectfully,

Raymond G. Chesley
Building Commissioner

Cc: File

Habitat for Humanity of Cape Cod

411 Main Street Suite 6 • Yarmouthport, MA 02675 • 508-362-3559

www.habitatcapecod.org

Feb 10, 2017

Dear West Harwich Neighbor:

As you may have already heard, Habitat for Humanity of Cape Cod, with a generous land acquisition grant through the Town of Harwich Affordable Housing Fund, will be purchasing a portion of the property at 93 and 97 Main Street, West Harwich.

The proposal for this project is to build six new single-family homes in the back portion of the two lots.

Habitat for Humanity of Cape Cod will use our tried-and-true "sweat-equity" model to build the homes. With this model, our selected families partner with Habitat and devote 250 to 500 hours of work (250 for a single-adult family; 500 for a two-adult family). A family will work on their own home, and may also work on other Habitat homes. Not only does this promote a homeowner who is well educated on building and maintenance, but it fosters pride in home ownership and a true sense of community. Habitat works closely with our buyers, through our rigorous application process and throughout the build period. We provide significant homebuyer education and counseling, and work hand-in-hand with each family during the mortgage and closing process. This is a critical element of our partnership, as education has proven to be key to successful homeownership.

Habitat also partners with our communities, seeking donations of materials, professional services, and labor. We strive to make our homes welcome in a neighborhood and to be good neighbors. Habitat works to create a collaborative spirit where a whole community can be actively involved in helping to address the affordable housing crisis.

Habitat is seeking to use Mass General Law Chapter 40B permitting to allow for the subdivision and development. All six new Habitat homes will be affordable in perpetuity. Affordability will be protected by a Department of Housing and Community Development (DHCD) Local Initiative Program (LIP) Deed Rider and the homes will count on Harwich's DHCD Subsidized Housing Inventory. Home sale price will be at or around $131,750 for a 2-bedroom and $147,500 for a 3-bedroom (prices may be adjusted slightly higher based on incomes and calculations at time of marketing)

We have submitted our application to the Zoning Board of Appeals. The ZBA is opening the hearing on March 8, however, there will be no presentation or testimony taken at this meeting. The hearing will be opened and will be immediately continued to a date and time certain, to be announced at this meeting. Please check the Town website for the meeting agenda. We are hoping for a late March or early April meeting for presentation and testimony.

We have included a draft site plan with this mailing as well as an info sheet. Please feel free to contact us. We are happy to discuss our plans, answer questions, and keep you updated on our timelines.

Sincerely,

Leedara

Leedara Zola; Land Acquisition and Permitting, lzola@habitatcapecod.org; 508-280-6144

HABITAT FOR HUMANITY – 93 & 97 MAIN ST, W. HARWICH

Proposal:

Habitat for Humanity proposes to develop the back portion of the properties at 93 and 97 Main Street, West Harwich. Habitat is proposing six affordable homes and a cul-de-sac access road to come off of the north-west corner of the lot. The new subdivision would create smaller lots for the existing structures on 93 and 97 Main Street. Please see attached concept sketch

Community Housing:

Habitat for Humanity will use our tried-and-true sweaty equity model, where buyers build their homes alongside community volunteers. All six homes will be deed restricted and affordable to low-to-moderate income households. Buyers qualify for the homes through a rigorous application process that includes income eligibility, credit review, and a willingness to partner in the Habitat program. Habitat works closely with our buyers, offering education and support throughout the building and mortgage process.

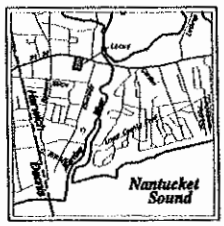
HECH:

HECH, the local Harwich non-profit, currently owns the property. Originally their intent was a twenty-unit rental development. HECH and Habitat have a development agreement where Habitat will subdivide the property, purchase the rear portion and cul-de-sac area, and HECH maintains ownership of the front structures (now on smaller lots). These front lots will not have affordable deed restrictions. HECH has issued an RFP (request for proposal) for a buyer for the home on 97 Main Street (the historic Chase home), and a RFP requirement included the historic preservation of the front exterior façade. HECH might sell or might retain the home on 93 Main Street. A portion of that home will need to be demolished in order to build the cul-de-sac.

Process:

Habitat will be Developer and is taking lead on the permitting. Permitting will be under Massachusetts General Law Chapter 40B (affordable housing permitting). Habitat will apply as a "Local Initiative Program". The permitting goes through the Zoning Board of Appeals (ZBA), which holds a public hearing. The permitting assures that the affordable homes are deed restricted and stay affordable in perpetuity. Habitat anticipates ZBA meetings in the early 2017.

For More Information:
Please contact Leedara Zola, Habitat for Humanity, 508-280-6144 or lzola@habitatcapecod.org



LOCUS MAP

SCALE 1"=2000'±

ASSESSORS MAP 10 PARCEL W5 & W5-8

LOCUS IS WITHIN FEMA FLOOD ZONE AE (EL 11) & X AS SHOWN ON COMMUNITY PANEL #25001C0611J DATED 7/16/2014

ZONING SUMMARY

ZONING DISTRICT: CH1 / RH1 DISTRICT

MIN. LOT SIZE	40,000 S.F.
MIN. LOT FRONTAGE	150'
MIN. FRONT SETBACK	25'
MIN. SIDE SETBACK	20'
MIN. REAR SETBACK	20'
MAX. BUILDING HEIGHT	30'

(ZONING RELIEF UNDER COMPREHENSIVE PERMIT REQUESTED AS REQUIRED)

OWNER OF RECORD

HARWICH ECUMENICAL COUNCIL FOR THE HOMELESS INC.
PO BOX 638
WEST HARWICH, MA 02671

REFERENCES

DEED BOOK 21083 PAGE 20
DEED BOOK 21083 PAGE 22

LAND USE PERCENTAGES:

ROAD LAYOUT:	17,450 SF	0.400 AC.	16.3%
LOTS:	89,964 SF	2.065 AC.	83.7%
TOTAL TRACT:	107,414 SF	2.466 AC.	100%
BUILDINGS:	10,676 SF	0.245 AC.	9.94%
PAVEMENT:	19,783 SF	0.454 AC.	18.42%
OPEN AREAS:	76,955 SF	1.768 AC.	71.64%
TOTAL:	107,414 SF	2.466 AC.	100%

LEGEND

EXISTING CONTOUR
EXIST. SPOT ELEV.
PROPOSED CONTOUR
PROPOSED SPOT EL.
TEST HOLE
SLOPE OF GROUND
UTILITY POLE
FIRE HYDRANT
WATER LINE
GAS LINE
U.G. ELEC.
OVERHEAD ELEC.
EXIST. CATCH BASIN
PROP. CATCH BASIN
PROP. MANHOLE
CEMENT BOUND

NOTES:

1. THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN IS APPROXIMATE. PRIOR TO ANY EXCAVATION ON THIS SITE, THE EXCAVATING CONTRACTOR SHALL MAKE DIG REQUEST TO DIGSAFE (1-888-344-7233) AND ANY OTHER UTILITIES WHICH MAY HAVE CABLE, PIPE OR EQUIPMENT IN THE CONSTRUCTION AREA FOR VERIFICATION OF LOCATIONS.
2. ALL CONSTRUCTION MATERIALS, COMPONENTS, AND METHODS EMPLOYED ON THIS PROJECT SHALL STRICTLY CONFORM TO ALL APPLICABLE STATE AND LOCAL SPECIFICATIONS FOR BRIDGES AND HIGHWAYS AS AMENDED TO PRESENT. ALL SEPTIC WORK AND MATERIALS TO CONFORM TO 310 CMR 15.000 TITLE 5, AND HARWICH HEALTH REGULATIONS.
3. VERTICAL DATUM IS NAVD88 HORIZONTAL DATUM: MASSGRID. WATER IS AVAILABLE.
4. DESIGN LOADING FOR ALL PRECAST UNITS TO BE H-10/HS-20 UNLESS NOTED.
5. THIS PLAN IS FOR PROPOSED WORK ONLY AND IS NOT TO BE USED FOR PROPERTY LINE STAKING, FENCING, ETC.
6. 4" LOAM AND SEED ALL DISTURBED AREAS NOT PAVED, MULCH SEED OR STABILIZE WITH WOOD CHIPS, BARK MULCH, OR SIMILAR.
7. ALL SEPTIC PIPING 4"ø SCH-40 PVC AT 1/8 BARK UNLESS NOTED.
8. COMPONENTS NOT TO BE BACKFILLED OR CONCEALED WITHOUT INSPECTION BY BOARD OF HEALTH AND PERMISSION OBTAINED FROM BOARD OF HEALTH.
9. SEPTIC PIPE TO FRONT OF EACH BUILDING STUBBED THROUGH FOUNDATION FOR POTENTIAL FUTURE SEWER HOOKUP REQUIRED CMP BOTH ENDS.
10. NO IRRIGATION WELLS OR POTABLE WELLS ARE ALLOWED IN THIS SUBDIVISION.
11. ELECTRIC HEAT PUMPS PROPOSED FOR NEW DWELLINGS, NO GAS SERVICE PROVIDED HOMES TO BE ALIGNED WITH SOUTH FACING ROOFS FOR SOLAR.

SITE PLAN
OF
#93 & #97 MAIN STREET
WEST HARWICH, MA

PREPARED FOR

HABITAT FOR HUMANITY

DATE: 1-31-2017

Scale: 1" = 20'

DANIEL A. OJALA, P.E., P.L.S. — DATE 1-31-2017

PERMIT SET, NOT FOR CONSTRUCTION

dowa cape engineering, inc.
civil engineers
land surveyors
838 Main Street (Rte 6A)
YARMOUTHPORT MA 02675
ph 508-362-4521
fax 508-362-5880

DCE #16-168

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

February 21, 2017

Mr. Christopher Clark, Town Administrator
Town Hall
732 Main Street
Harwich, Massachusetts 02645

Dear Mr. Clark:

I am writing in response to your letter dated January 12, 2017 regarding the steps the Department may take if Cape Cod communities fail to take timely action to address impaired estuarine systems on Cape Cod. Your letter followed a meeting on October 27, 2016 that I participated in with you, Elizabeth Sullivan, Dennis Interim Town Administrator, and Jeff Colby, Yarmouth Director of Department of Public Works, regarding the Towns' efforts to address water quality issues on Cape Cod.

The work of the Massachusetts Estuaries Project (MEP) has clearly demonstrated that many of Cape Cod's waters are impaired due to excessive nitrogen originating from a range of sources, primarily septic systems. MassDEP has proceeded to develop Total Maximum Daily Loads (TMDLs) based on the MEP Reports. A TMDL is a watershed plan that includes a pollution budget for a specific waterbody. While the TMDL is not an enforceable document by itself, MassDEP must utilize the TMDL in making decisions, such as setting permit limits for wastewater discharges. The TMDL is also used in developing our regulatory, policy and compliance and enforcement strategies to ensure water quality is restored and protected.

Over the years MassDEP has primarily focused on providing the scientific information and technical assistance to communities to aid them in understanding and addressing the water quality problems stemming from excessive nutrients. This has included the MEP and, more recently, the 208 Plan Update. Based on the MEP studies conducted to date, it has become increasingly clear to MassDEP that the most effective and affordable approach to solving Cape Cod's water quality problems is through a regional, watershed-based management approach. To facilitate such an approach, in 2013 MassDEP directed the Commission to prepare an update

to the 1978 Water Quality Management (WQM) Plan for Cape Cod in accordance with §208 of the Federal Clean Water Act ("CWA" or the "Act").

On June 10, 2015, Governor Charles D. Baker certified the Plan Update pursuant to §208(b)(3) of the Federal Clean Water Act and submitted the plan to EPA. The Plan Update examines the causes of water quality issues on Cape Cod and provides options for communities to consider, including new planning tools to use in making local decisions about potential solutions. The Plan Update also offers greater flexibility and discusses financing and funding options to help implement those solutions. In addition, it offers details on the following:

- Opportunities for communities to share systems to reduce costs;
- Analysis and planning tools, such as GIS mapping, to further understand if alternatives to large sewer systems and sewage treatment plants can work in certain locations and circumstances;
- The potential use of enhanced septic technologies; and
- Natural solutions in areas near the water's edge, such as the creation of wetlands, to help absorb nitrogen.

In submitting the Plan Update, Governor Baker also affirmed that the local communities identified as the designated management agencies ("DMAs") under the 1978 WQM Plan will continue as the DMAs for the purposes of the new Plan Update. EPA approved on September 15, 2015.

We believe that these efforts provide a unique opportunity to empower the Cape communities to develop and implement the most affordable and effective solutions to the water quality problems facing Cape Cod, and MassDEP is committed to working with you to develop and implement these solutions.

However, with the scientific understanding and the tools in place to help develop the most effective solutions, the Department also has the responsibility to ensure that timely actions are taken to address the ongoing degradation of these water resources and the environment, particularly in those areas where significant ongoing discharges of pollutants creates serious impairments. The Plan Update discusses several existing authorities that are available to MassDEP and could be used if such action is not taken, including the following:

1. Designation of Nitrogen Sensitive Areas ("NSAs")

   MassDEP is authorized by Title 5 to identify certain areas as particularly sensitive to pollution from on-site wastewater systems and designate them as NSAs. MassDEP may consider watersheds to embayments on Cape Cod that exceed their critical load to be "nitrogen sensitive," and it could proceed to designate, as needed, watersheds as NSAs if needed to meet water quality goals as identified in the TMDLs and the Surface Water Quality regulations (314 CMR 4.00). Currently Title 5 limits nitrogen loading in NSAs to 440 gallons per day (GPD)/acre. However, it is likely that in designating future NSAs, the Department would consider additional enhanced requirements under the NSA that specifically address circumstances for nitrogen

impaired water bodies, such as requirements for installation and operation of enhanced treatment on septic systems.

2. Changes to Ground Discharge Permits and Regulations:

MassDEP regulates discharges of pollutants to the ground waters of the Commonwealth through Massachusetts' Groundwater Discharge Permit Program, issuing permits for facilities discharging over 10,000 gallons per day. MassDEP could take the following actions related to this permitting program:

- Tighten Current Permit Limits: Most of the groundwater discharge permits for Cape Cod require an effluent treatment level of at least 10 milligrams per liter of nitrate, which, while about a two-thirds reduction in the amount of nitrogen leaving a septic system, is not necessarily low enough to achieve or maintain water quality in some impaired watersheds. MassDEP may lower current permit limits on these systems, which would likely require additional treatment. However, given the limited number of treatment plants on the Cape, both public and private, this alone will not be sufficient to reduce nitrogen loads to achieve TMDL compliance.

- Remove Title 5 Exemption: Currently, the Groundwater Discharge regulations exempt on-site septic systems less than 10,000 gallons per day provided they comply with Title 5 regulations, based on a presumption that compliant Title 5 systems meet water quality standards. In light of the demonstrated impact from these systems impacts to Cape Cod's waterbodies, MassDEP could adopt revisions to Title 5 and groundwater discharge regulations for septic systems in certain areas, where there is sufficient evidence to demonstrate that septic systems are a significant contributor to nonattainment. Such changes would likely require the installation and operation of enhanced treatment on septic systems.

  As we discussed in our meeting on October 27, 2017, during our regulatory review efforts under Executive Order 562, a number of stakeholders asked MassDEP to consider changes to the Title 5 regulations (310 CMR 15.00) and related changes to the Groundwater Discharge Permitting regulations (314 CMR 5.00). Later this month, MassDEP will be convening an external stakeholder group representing a variety of interests and viewpoints to help us consider potential regulatory changes. These discussions will present an opportunity to discuss potential regulatory changes to address water resources significantly impacted by nitrogen discharges.

3. Formation of Water Pollution Abatement Districts ("WPADs")

Under state law, MassDEP is authorized to form WPADs consisting of one or more cities or towns, or designated parts, or require the enlargement or consolidation of a district, if necessary "for the prompt and efficient abatement of water pollution." After formation, the district would be an independent legal entity administered by a

"district commission," and it would be responsible for developing watershed plans, applying for the requisite permits, and constructing and operating the treatment works necessary to meet permitting requirements. The establishment of districts for those watersheds remains a tool available for consideration in situations where quality problems are clearly going unaddressed.

MassDEP recognizes the challenges Cape Cod communities face in developing and implementing the most effective and affordable solutions to the Cape's water quality problems. We also recognize the important and commendable work that communities have already done to advance such solutions. MassDEP hopes to continue to work with you to ensure progress in achieving our shared goal of protecting the Cape's water resources and water quality.

If you have any further questions or require additional information, please feel free to contact Gary Moran, Deputy Commissioner of Operations and Environmental Compliance at 617-292-5775.

Sincerely,

Martin Suuberg
Commissioner

cc: Liz Sullivan, Town of Dennis
Bob Lawton, Town of Yarmouth
Ed Senteio, Town of Yarmouth

PIERCE LAW

Michael D. Pierce, Esq.
540 Main Street, Suite 8, Hyannis, MA 02601
Phone: (508) 386-9777 - Fax: (888) 958-5720
Michael@mdpiercelaw.com - Mdpiercelaw.com

February 14, 2017

VIA REGULAR MAIL

Mr. Raymond Chesley
Building Commissioner
Town of Harwich
732 Main Street
Harwich, MA 02645

Re: Jay Z Drive, Harwich, MA

Dear Mr. Chesley:

My office represents Joseph and Jeff Rego regarding the installation of the metal gate to the north of Jay Z Drive. I am in receipt of your office's cease and desist order, dated February 3, 2017. This correspondence confirms that the Regos are investigating your concerns relative to the erection of the gate. I will be out of the office from February 16 through 23. I think it would be beneficial to schedule a time after I return for myself and the Regos to meet you to further discuss the gate.

Please contact my office at your earliest convenience so that we can set up a meeting. I look forward to speaking with you.

Very truly yours,

Michael D. Pierce