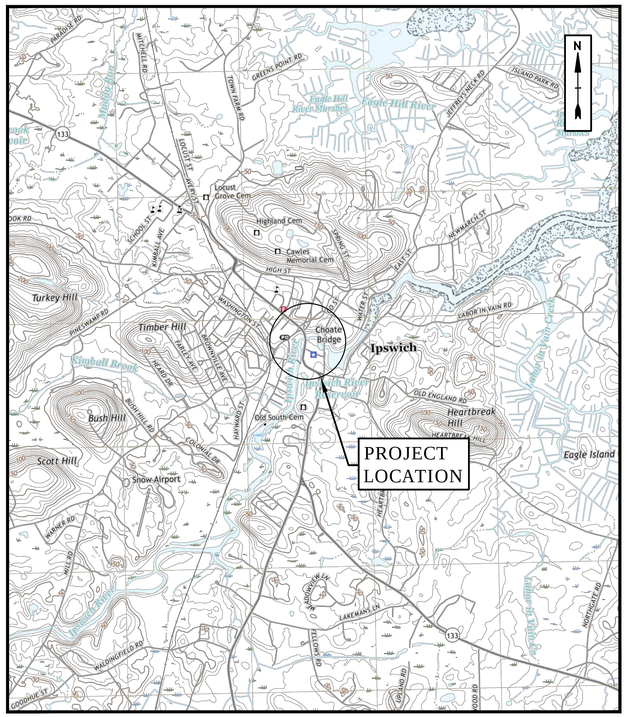
TOWN OF IPSWICH, MASSACHUSETTS

SEWER INTERCEPTOR REHABILITATION AND SIPHON REPLACEMENT

FEBRUARY 2020

LIST OF DRAWINGS	
SHEET NO.	SHEET TITLE
	COVER
G-002	LEGEND, ABBREVIATIONS, AND GENERAL NOTES
C-101	EXISTING CONDITIONS PLAN
C-102	INTERCEPTOR REHABILITATION CONCEPTS - SITE PLAN (1)
C-103	INTERCEPTOR REHABILITATION CONCEPTS - SITE PLAN (2)
C-104	INTERCEPTOR REHABILITATION - DETAILS 1
C-105	INTERCEPTOR REHABILITATION - DETAILS 2
C-106	EXISTING SIPHON SECTIONS
C-107	PROPOSED SIPHON SECTIONS
C-108	DETAILS
C-109	DOWNSTREAM REVETMENT DETAILS
C-110	PLANTING PLAN - SITE PLAN (1)
C-111	PLANTING PLAN - SITE PLAN (2)



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PREPARED BY:
Tighe&Bond
www.tighebond.com

STEPHEN E. SEIGAL, PE

IAN MEAD, PE, BCEE

PREPARED FOR:
TOWN OF IPSWICH
WATER & WASTEWATER DIRECTOR, VICKI HALMEN
TOWN MANAGER, ANTHONY MARINO

COMPLETE SET 13 SHEETS

Last Saved: 2/10/2020
Plotted: Feb 10, 2020–9:41am By: SAT
Tighe & Bond J:\110\066 Ipswich WWTP\10-Siphon Eval and Repair\Drawings, Figures\AutoCAD\Sheet\10066-Task10-G-001.dwg

LEGEND

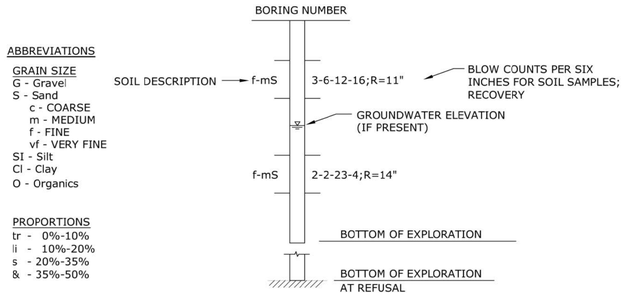
- DRAIN MANHOLE
- CATCH BASIN
- SANITARY MANHOLE
- INDIVIDUAL DECIDUOUS TREES
- INDIVIDUAL SHRUBS
- TRAFFIC PEDESTRIAN POST
- TRAFFIC CONTROL BOX
- TELECOMM MANHOLE
- TELECOMM POST
- ELECTRIC MANHOLE
- ELECTRIC TRANSFORMER
- UTILITY POLE
- LIGHTPOST
- GAS GATE
- WATER GATE
- HYDRANT
- WATER MANHOLE
- SIGN
- MAILBOX
- FLAGPOLE
- TREE STUMP
- PW — PUBLIC WATER LINE
- SS — SANITARY SEWER LINE
- G — GAS LINE
- T — BURIED TELEPHONE LINE
- E — BURIED ELECTRICAL LINE
- SD — STORM DRAIN LINE
- PL — PROPERTY LINE
- EL — EASEMENT LINE
- EDGE OF BITUMINOUS PAVEMENT (UNLESS OTHERWISE NOTED)
- EDGE OF UNPAVED DRIVE
- 102 — 2' INTERMEDIATE CONTOUR
- 100 — 10' INDEX CONTOUR
- RETAINING WALL
- WIRE GUARDRAIL
- METAL GUARDRAIL
- RIPRAP SLOPE
- RAILROAD TRACKS
- STONE WALL
- EDGE OF WOODED AREA
- HEDGES
- WIRE, METAL OR CHAIN LINK FENCE
- WOOD FENCE
- GUY WIRE
- CURBING
- B– BORE HOLE
- TOP OF COASTAL BANK
- MEAN ANNUAL HIGH WATER (MAHW)
- LAND SUBJECT TO FLOODING (BLSF, ILSF)
- 100-FOOT BUFFER ZONE
- 2OO-FOOT RIVERFRONT AREA
- NO DISTURBANCE ZONE
- NO BUILD ZONE
- EROSION & SEDIMENT CONTROLS
- COFFER DAM
- TURBIDITY CURTAIN / SILT FENCE

ABBREVIATIONS

ASBESTOS CEMENT	AC	HOUSE SERVICE	HS
BITUMINOUS CONCRETE	BIT CONC	IN FRONT OF	IFO
BITUMINOUS CURB	BC	INVERT	INV
BORDERING LAND SUBJECT TO FLOODING	BLSF	INTERIOR	INT
BOTTOM OF EXPLORATION	BOE	IRON PIPE OR IRON PIN	IP
BORDERING VEGETATED WETLANDS	BVW	IRON PIPE SIZE	IPS
BURIED CABLE TV LINE	CTV	MAIL BOX	MB
BURIED ELECTRICAL LINE	E	MANHOLE	MH
BURIED TELEPHONE LINE	T	NO CURB	NC
CAST IRON	CI	NOT FOUND	NF
CATCH BASIN	CB	NATIONAL HERITAGE AND ENDANGERED SPECIES PROGRAM	NHESP
CATCH BASIN DROP INLET	CB DI		
CHAIN LINK FENCE	C/L FEN	NOT IN THIS CONTRACT	NITC
CHIMNEY	CHIM	NOT TO SCALE	NTS
CLASS OF PIPE	CL	OUTLET CONTROL STRUCTURE	OCS
CLEANOUT	CO	POLYETHYLENE	PE
CONCRETE	CONC	POLYVINYL CHLORIDE	PVC
CONCRETE CURB	CC	PUBLIC WATER	PW
CONCRETE WALK	CW	REINFORCED CONCRETE PIPE	RCP
CORRUGATED METAL PIPE	CMP	REMOVE AND DISPOSE	R&D
CUT SPIKE	CS	SANITARY MANHOLE	SMH
DEBRIS	DB	SANITARY SEWER	S
DIRT PILE	DP	STATION	STA
DRAIN MANHOLE	DMH	STONE BOUND	SB
DRILL HOLE	DH	STRUCTURE	STR
DUCTILE IRON	DI	TEMPORARY BENCH MARK	TBM
ELEVATION	EL	TELEPHONE POLE	TP
FIRE HYDRANT	FH	TRAFFIC CONTROL	TC
FOUND	FD	UNDERGROUND	U/G
FORCE MAIN	FM	UTILITY POLE	UP
GAS MAIN	G	UNDELINEATED WETLAND AREA	UWA
GAS GATE	GG	VITRIFIED CLAY	VC
GATE VALVE	GV	WATER GATE	WG
GRANITE CURB	GC	WATER TIGHT COVER	WTC
GUY WIRE	GUY WIRE	WATER MAIN OR SERVICE	W
GUY POLE	GP	WELDED WIRE FABRIC	WWF
HARDWOOD	H/W		
HOUSE	HSE		
HYDRANT	HYD		

BORING LOG PROFILE LEGEND

PREDOMINANT GRAIN SIZE FROM BORING LOGS. REFER TO SOIL BORING LOGS CONTAINED IN THE BIDDING DOCUMENTS FOR ADDITIONAL DETAILS.



ABBREVIATIONS

GRAIN SIZE
G - Gravel
S - Sand
c - COARSE
m - MEDIUM
f - FINE
vf - VERY FINE
SI - Silt
Cl - Clay
O - Organics

PROPORTIONS
tr - 0%-10%
li - 10%-20%
s - 20%-35%
& - 35%-50%

GENERAL NOTES

1. BOLD TEXT AND LINES INDICATE PROPOSED WORK. LIGHT TEXT AND LINES INDICATE APPROXIMATE EXISTING CONDITIONS.
2. THE EXISTING CONDITIONS INFORMATION SHOWN ON THE DRAWINGS ARE APPROXIMATE AND BASED ON THE FOLLOWING SOURCES:
   A. A SURVEY PLAN TITLED "SANITARY SEWER PLAN VICINITY OF SOUTH MAIN STREET TO COUNTY STREET" BY GRAHAM ASSOCIATES, INC., DATED MATCH 14, 2018 AND REVISED PLAN RELATIVE TO NAVD88. IN RIVER BATHMETRY NOT PROVIDED AND WATER LEVELS NOT GIVEN.
   B. FIELD INVESTIGATIONS PERFORMED BY TIGHE & BOND.
   C. ADDITIONAL PLAN TITLED "PLAN ACCOMPANYING PETITION OF TOWN OF IPSWICH TO REPLACE FILL AND SEWER PIPELINE WITH CROSSING IN THE IPSWICH RIVER, IPSWICH, MASS" DATED 4/27/1959.
   D. "CHAPTER 91 JURISDICTION" DEVELOPED FROM MASS GIS OLIVER SYSTEM.
2. HORIZONTAL DATUM IS NAD83. VERTICAL DATUM IS NAVD88.
3. PROPERTY LINES SHOWN ARE BASED ON ASSESSOR'S DATA, A LIMITED REVIEW OF AVAILABLE PLANS, AND VISIBLE FIELD MONUMENTATION SURVEYED IN THE PROJECT AREA, AND ARE NOT THE RESULT OF PROPERTY LINE SURVEYS.
4. WHEREVER POSSIBLE, CONSTRUCT SANITARY SEWERS AT LEAST 10 FEET HORIZONTALLY AND 18 INCHES VERTICALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.
5. SANITARY BYPASS PUMPING, IF REQUIRED, SHALL BE PROVIDED BY THE CONTRACTOR AND INCLUDED IN APPROPRIATE BID ITEMS.
6. EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND BASED ON AVAILABLE INFORMATION. DETERMINE THE EXACT LOCATION OF UTILITIES BY TEST PIT OR OTHER METHODS AS NECESSARY. COMPLETE TEST PIT WORK PRIOR TO COMMENCING SEWER CONSTRUCTION WORK IN THIS CONTRACT. THE ENGINEER SHALL USE TEST PIT INFORMATION TO DIRECT THE CONTRACTOR IN THE EVENT OF A CONFLICT BETWEEN A PROPOSED UTILITY LOCATION/ELEVATION AND AN EXISTING UTILITY LOCATION AND/OR ELEVATION.
7. DRIVEWAYS AND DRIVEWAY APRONS ARE BITUMINOUS CONCRETE, UNLESS NOTED OTHERWISE.
8. BORING LOCATIONS SHOWN ARE APPROXIMATE AND BORING INFORMATION IS NOT GUARANTEED IN ANY WAY TO REPRESENT THE EXISTING CONDITIONS. BORING LOGS ARE INCLUDED IN THE BIDDING DOCUMENTS.
9. MANHOLES SHALL BE 48" DIAMETER, UNLESS NOTED OTHERWISE.
10. MAINTAIN EMERGENCY ACCESS TO ALL PROPERTIES WITHIN THE PROJECT AREA AT ALL TIMES.
11. PROTECTION OF THIRD PARTY UNDERGROUND UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR. PROPER REPAIRS OF DAMAGED UTILITIES SHALL BE MADE BY THE CONTRACTOR OR UTILITY COMPANY, AS ARRANGED BY THE CONTRACTOR, AND AS ACCEPTABLE TO THE ENGINEER. NO ADDITIONAL COMPENSATION WILL BE PROVIDED UNDER THIS CONTRACT FOR THE REPAIR OF THIRD-PARTY UTILITIES IN THE PROJECT AREA.
12. SLOPES OF EXISTING AND PROPOSED PIPES ARE BASED ON DISTANCES FROM CENTERLINE TO CENTERLINE OF STRUCTURES.
13. OVERHEAD WIRES ARE NOT SHOWN ON THE DRAWINGS, FOR CLARITY.
14. NOTIFY DIGSAFE AT 1-888-344-7233 AND ALL UTILITY OWNERS IN THE AREA NOT ON THE DIGSAFE LIST AT LEAST 72 HOURS PRIOR TO ANY DIGGING, TRENCHING, ROCK REMOVAL, DEMOLITION, BORING, BACKFILLING, GRADING, LANDSCAPING, OR ANY OTHER EARTH MOVING OPERATIONS

EROSION AND SEDIMENTATION CONTROL NOTES

1. ALL EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS, SPECIFIED AND/OR REQUIRED SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION OR IMMEDIATELY UPON REQUEST. THE CONTRACTOR SHALL MAINTAIN ALL SUCH CONTROL MEASURES UNTIL FINAL SURFACE TREATMENTS ARE IN PLACE AND/OR UNTIL PERMANENT VEGETATION IS ESTABLISHED.
2. PRIOR TO STARTING WORK, CLEARLY STAKE WORK LIMIT LINE(S). DO NOT DISTURB VEGETATION AND TOPSOIL BEYOND THE PROPOSED LIMIT LINE. THE CONTRACTOR SHALL ALSO COORDINATE WITH THE ENGINEER THE LOCATIONS FOR THE TEMPORARY STOCKPILING OF TOPSOIL DURING CONSTRUCTION.
3. SIDE SLOPES, SHOULDER AREAS AND DISTURBED VEGETATED AREAS SHALL BE COMPACTED, STABILIZED, AND LOAMED AND SEEDED AS SHOWN ON THE DRAWINGS AND/OR AS SPECIFIED.
4. SILT TRAPPED AT BARRIERS SHALL BE REMOVED AND PROPERLY DISPOSED OF IN UPLAND AREAS OUTSIDE BUFFER ZONES. MATERIALS DEPOSITED IN ANY TEMPORARY SETTLING BASIN SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION.
5. ALL SILT-LADEN WATER MUST BE SETTLED OR FILTERED TO REMOVE SEDIMENT PRIOR TO RELEASE USING A SEDIMENTATION OR FILTER BAG LOCATED DOWNGRADIENT OF THE DEWATERED AREA.
6. CONTRACTOR SHALL DEWATER AS NECESSARY TO KEEP CONSTRUCTION AREAS FREE OF WATER. CONTRACTOR SHALL DISCHARGE WATER FROM DEWATERING WITHOUT SEDIMENTATION.
7. ANY SEDIMENT TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE SWEPT AWAY AT THE END OF EACH DAY.
8. EROSION AND SEDIMENTATION CONTROL REQUIREMENTS ARE INCLUDED IN THE MASSACHUSETTS WETLAND PROTECTION ACT NOTICE OF INTENT (NOI) AND THE ORDER OF CONDITIONS ISSUED BY THE IPSWICH CONSERVATION COMMISSION, INCLUDED IN SECTION 00800 OF THE PROJECT MANUAL, AND ARE ILLUSTRATED ON THESE DRAWINGS.

Tighe&Bond
Engineers | Environmental Specialists

PERMIT SET
Not For Construction

Sewer Interceptor Rehabilitation and Siphon Replacement

Town of Ipswich

Ipswich, Massachusetts

MARK	DATE	DESCRIPTION
A	8/8/2019	NOI SUBMITTAL

PROJECT NO:	I0066-10
DATE:	12/20/19
FILE:	I0066-Task10-G-002.dwg
DRAWN BY:	CFY
CHECKED:	DOR, DPR
APPROVED:	SES, IM

LEGEND, ABBREVIATIONS, AND GENERAL NOTES

SCALE: NO SCALE

G-002
SHEET 2 OF 13

Last Saved: 8/28/2019
Last Saved By: CFY on 8/28/2019 9:21am By: SAT
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the line should be scale to plot as a 2 in Model Space.

GREEN STREET

NORTH MAIN STREET

NORTH MAIN STREET

200-FOOT RIVERFRONT AREA

100-FOOT BUFFER ZONE

NO BUILD ZONE

NO DISTURBANCE ZONE

LAND SUBJECT TO COASTAL STORM FLOWAGE

TOP OF COASTAL BANK

MEAN HIGH TIDE (MHT)

200-FOOT RIVERFRONT AREA

100-FOOT BUFFER ZONE

NO BUILD ZONE

NO DISTURBANCE ZONE

TOP OF COASTAL BANK

MEAN HIGH TIDE (MHT)

LAND SUBJECT TO COASTAL STORM FLOWAGE

IPSWICH RIVER

TURKEY SHORE ROAD

TURK

N

SCALE IN FEET
0 60' 120'
GRAPHIC SCALE

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FILE:	I0066-Task10-C-101.dwg
DRAWN BY:	CFY
CHECKED:	DOR, DPR
APPROVED:	SES, IM

EXISTING CONDITIONS PLAN

SCALE: 1"=60'

C-101
SHEET 3 OF 13

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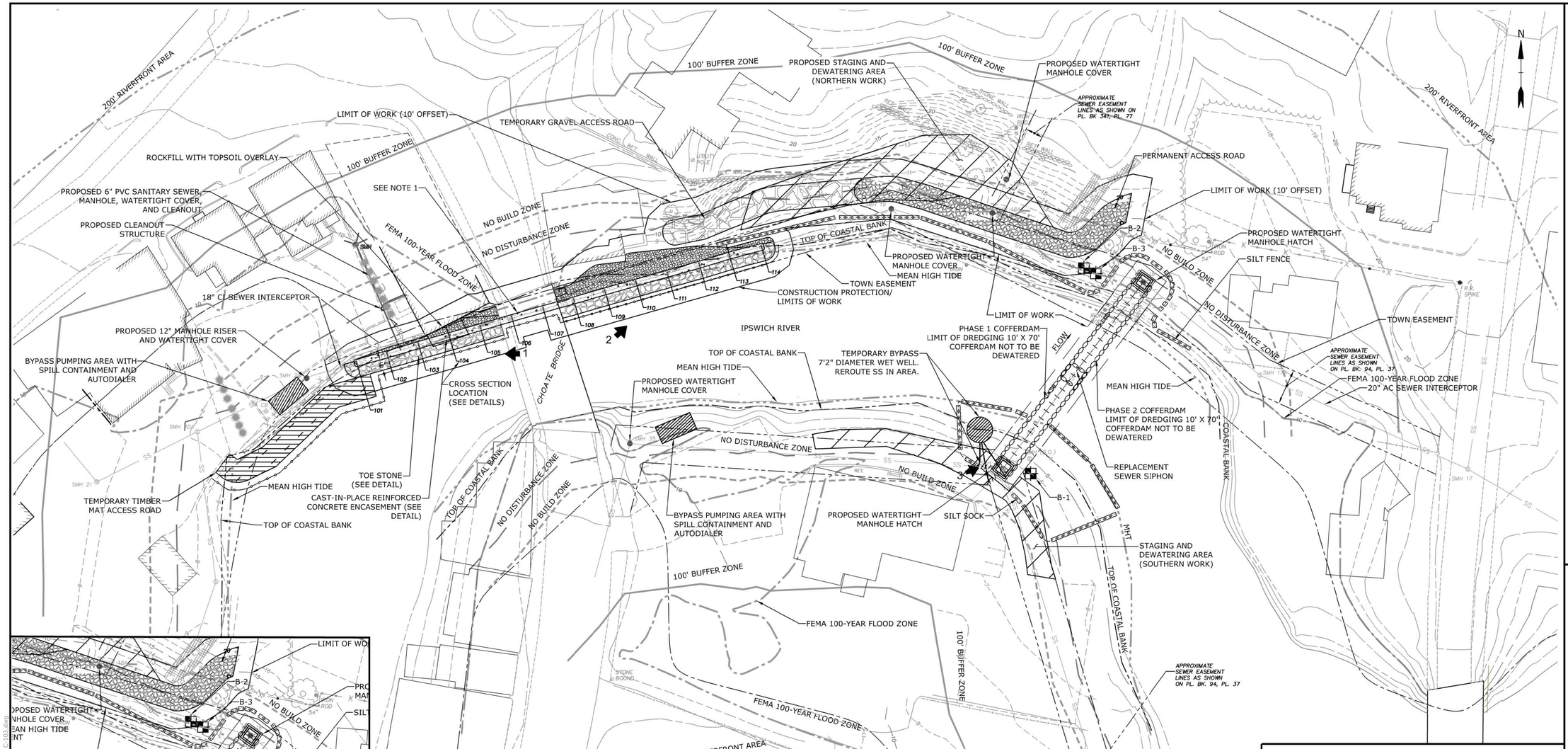

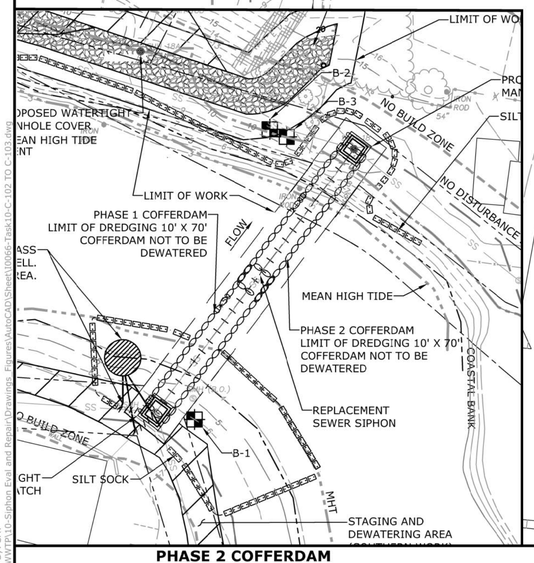

PHASE 2 COFFERDAM

LEGEND

- EXISTING SEWER
- PROPOSED STAGING AND DEWATERING AREA
- PROPOSED GRAVEL ACCESS ROAD
- TEMPORARY GRAVEL ACCESS ROAD
- TEMPORARY TIMBER MAT ACCESS
- PROPOSED ROCKFILL
- PROPOSED RIPRAP
- PROPOSED SEWER
- 1 EXTERIOR PHOTOGRAPH (SHEET 8)

NOTE:
1. OMIT SHEET PILE UNDER BRIDGE DUE TO OVERHEAD SPACE CONSTRAINT
2. SEE SHEET 8 FOR EXTERIOR PHOTOGRAPHS

REFERENCE PLANS:
1. "SANITARY SEWER PLAN VICINITY OF SOUTH MAIN STREET TO COUNTY STREET" DATED 3/14/2018 REVISED 5/29/2018 IN FEET RELATIVE TO NAVD88. IN RIVER BATHYMETRY NOT PROVIDED AND WATER LEVELS NOT GIVEN.
2. "PLAN ACCOMPANYING PETITION OF TOWN OF IPSWICH TO REPLACE FILL AND SEWER PIPELINE WITH CROSSING IN THE IPSWICH RIVER, IPSWICH, MASS" DATED 4/27/1959.

SCALE IN FEET
0 30' 60'
GRAPHIC SCALE

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Town of Ipswich

Ipswich, Massachusetts

MARK	DATE	DESCRIPTION
A	8/8/2019	NOI SUBMITTAL

PROJECT NO:	I0066-10
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FILE:	I0066-Task10-C-102 TO C-103.dwg
DRAWN BY:	LPT/JAK
CHECKED:	DOR, DPR
APPROVED:	SES, IM

INTERCEPTOR REHABILITATION SITE PLAN (1)

SCALE: 1"=30'

C-102
SHEET 4 OF 13

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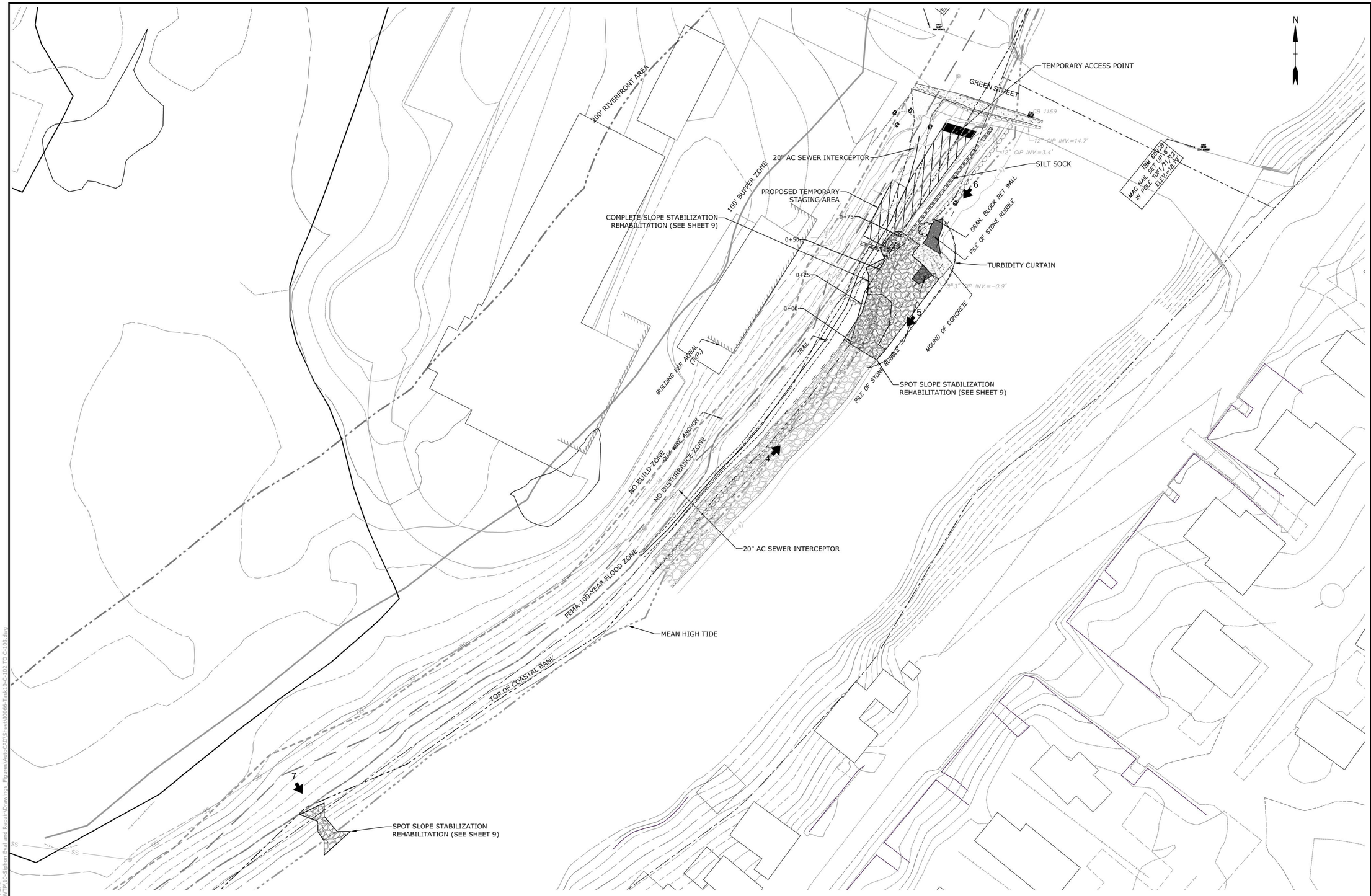

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SCALE IN FEET
0 30' 60'
GRAPHIC SCALE

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Sewer Interceptor Rehabilitation and Siphon Replacement

Town of Ipswich

Ipswich, Massachusetts

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PROJECT NO:	I0066-10
DATE:	12/20/19
FILE:	I0066-Task10-C-102 TO C-103.dwg
DRAWN BY:	SAT
CHECKED:	DOR, DPR
APPROVED:	SES, IM

INTERCEPTOR REHABILITATION SITE PLAN (2)

SCALE: 1"=30'

C-103
SHEET 5 OF 13

Last Saved: 2/7/2020
Plotted On:Feb 10, 2020-9:59am By: SAT
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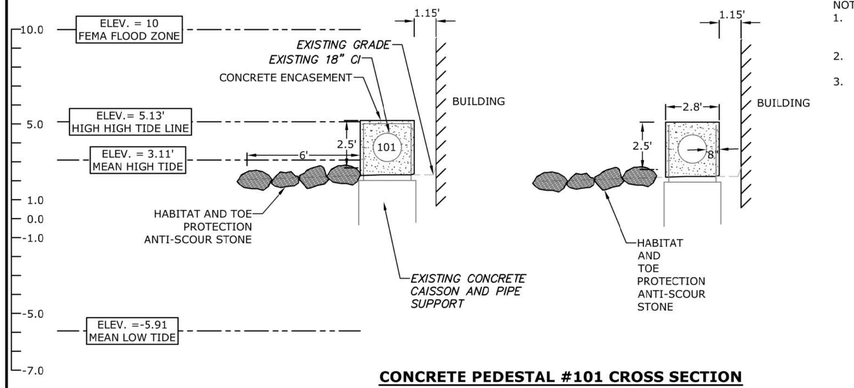
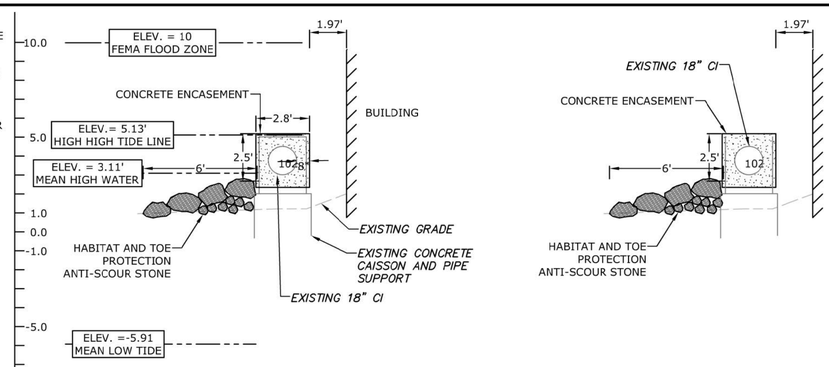


CONCRETE PEDESTAL #101 CROSS SECTION

NOTES:
1. ELEVATIONS AND SLOPES ARE APPROXIMATE BASED ON TOWN PROVIDED SURVEY AND LIMITED TAPE MEASUREMENTS ALONG PIPE.
2. CONTRACTOR AND OWNER TO COORDINATE ON FINAL RESTORATION PLAN
3. TOPSOIL AND ROCKFILL RESTORATION TO EXTEND 5 FEET PAST VERTICAL FACE OF CAISSON OPPOSITE OF RIVER. CONTRACTOR TO MATCH EXISTING GRADE AT LIMITS OF WORK.



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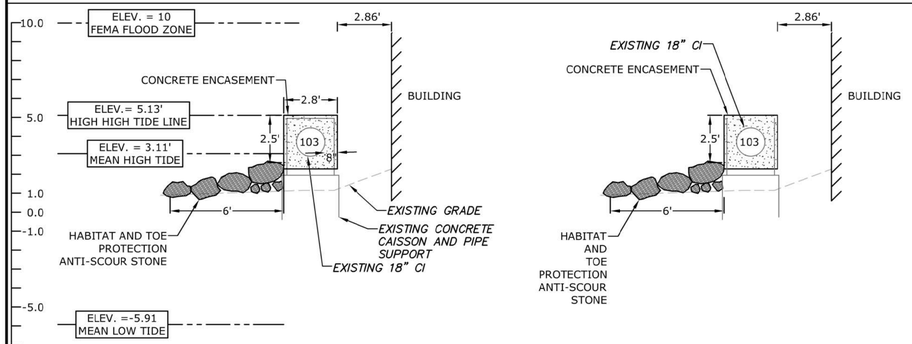

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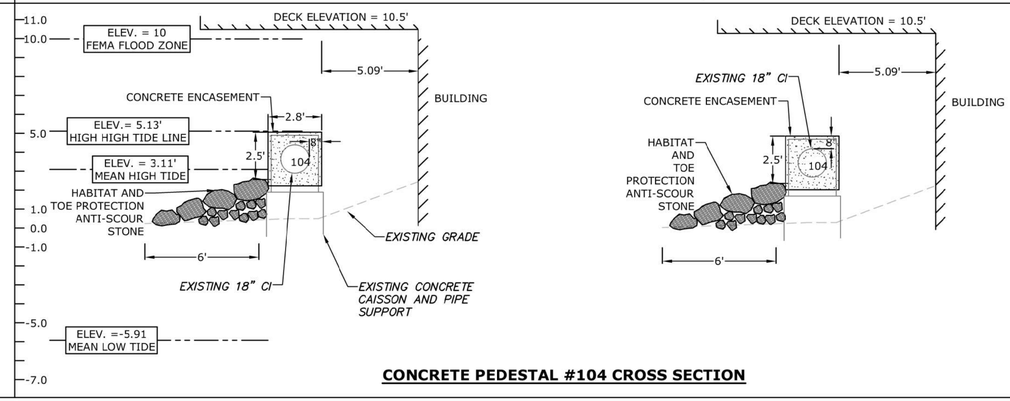

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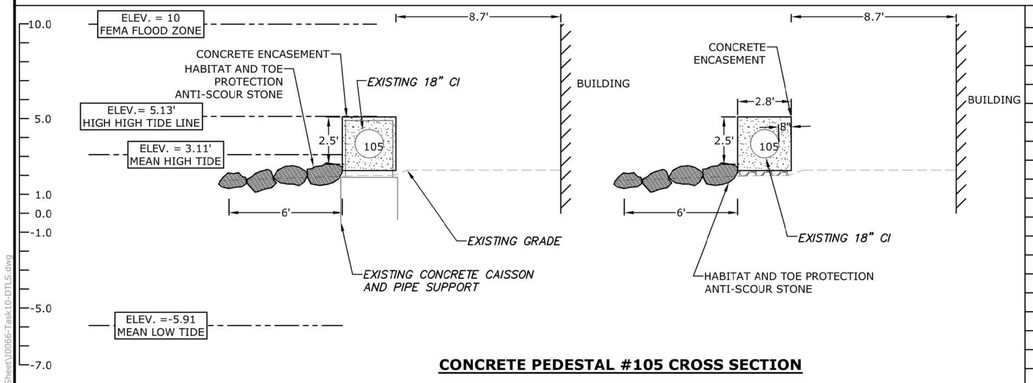

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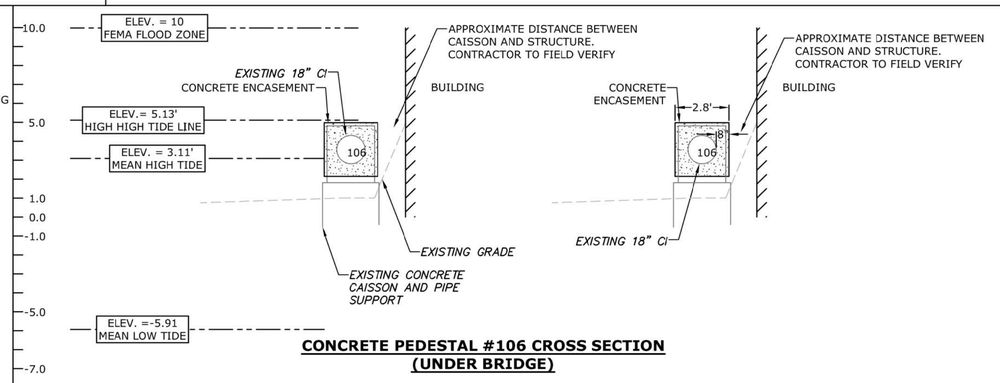

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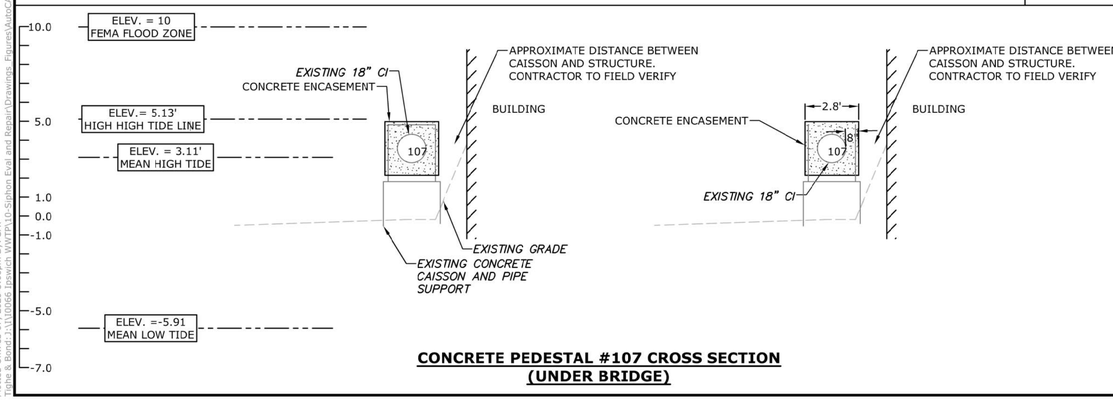

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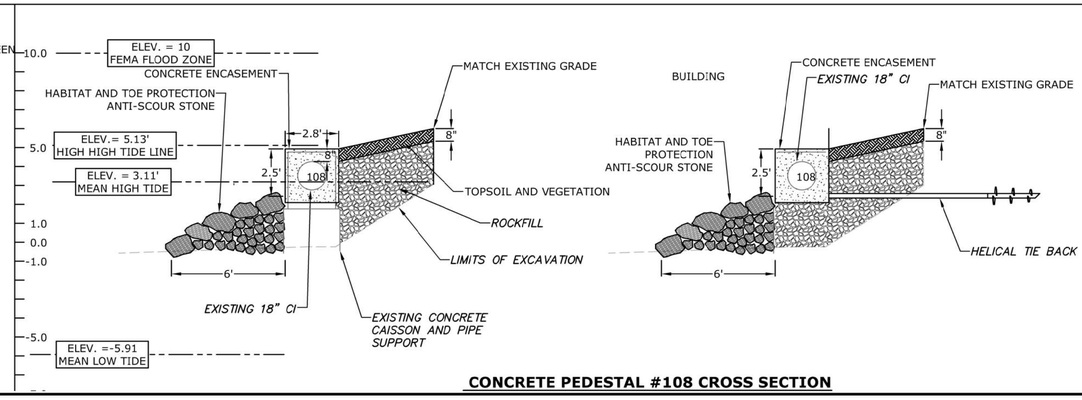

CONCRETE PEDESTAL #108 CROSS SECTION

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Sewer Interceptor Rehabilitation and Siphon Replacement

Town of Ipswich

Ipswich, Massachusetts

MARK	DATE	DESCRIPTION
A	8/8/2019	NOI SUBMITTAL

PROJECT NO:	I0066-10
DATE:	12/20/19
FILE:	I0066-Task10-DTLS.dwg
DRAWN BY:	JAK, SAT
CHECKED:	DOR, DPR
APPROVED:	SES, IM

INTERCEPTOR REHABILITATION - DETAILS 1

SCALE: 1"=4'

C-104
SHEET 6 OF 13

Last Saved 2/5/2020
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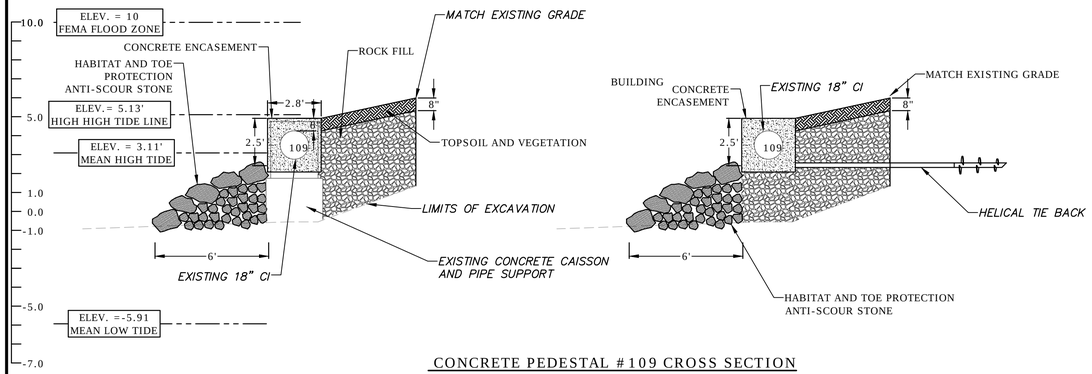
Tighe & Bond J:\I\I0066 Ipswich WWTP\10-Siphon Eval and Repair\Drawings Figures\AutoCAD\Sheet\I0066-Task10-DTLS.dwg



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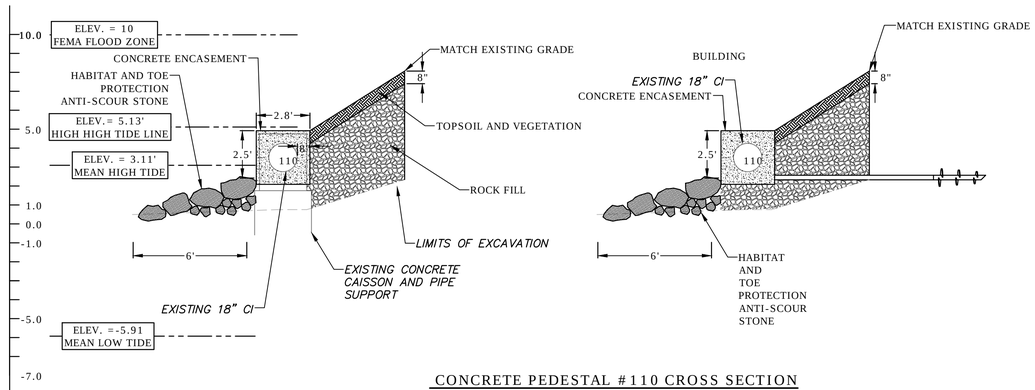

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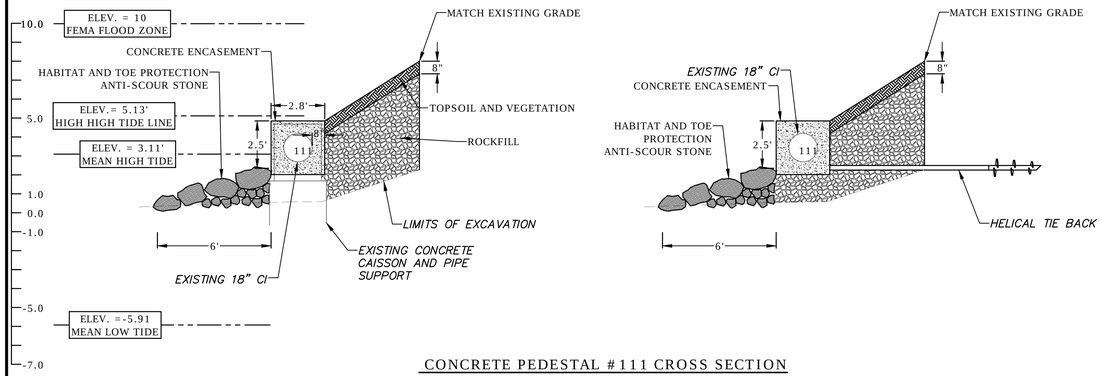
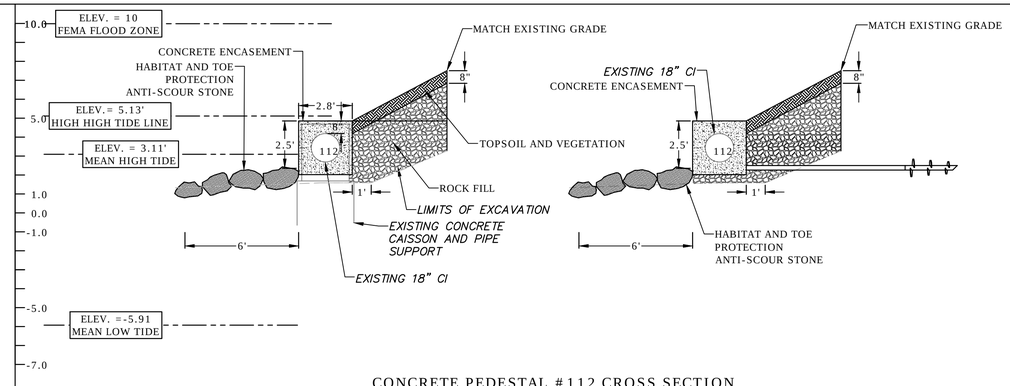
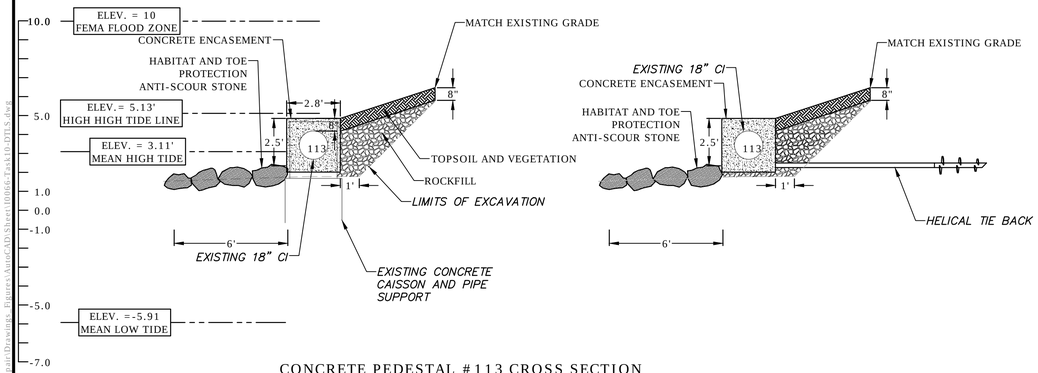


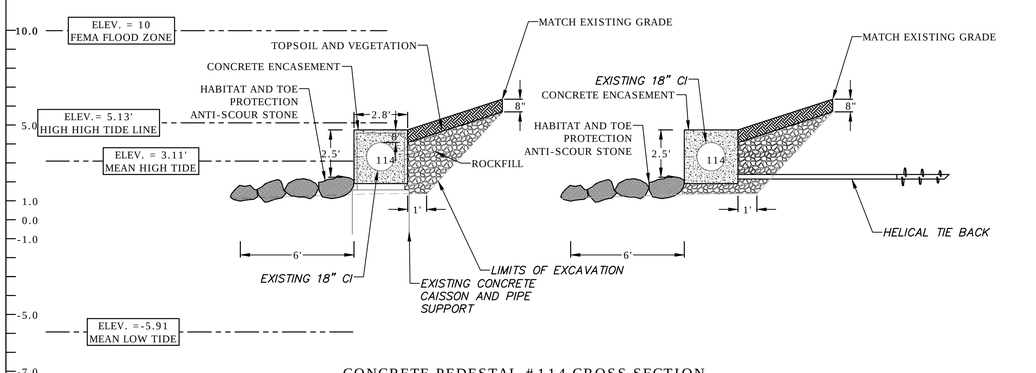
CONCRETE PEDESTAL #111 CROSS SECTION



CONCRETE PEDESTAL #112 CROSS SECTION



CONCRETE PEDESTAL #113 CROSS SECTION



CONCRETE PEDESTAL #114 CROSS SECTION

NOTES:
1. ELEVATIONS AND SLOPES ARE APPROXIMATE BASED ON TOWN PROVIDED SURVEY AND LIMITED TAPE MEASUREMENTS ALONG PIPE.
2. CONTRACTOR AND OWNER TO COORDINATE ON FINAL RESTORATION PLAN.
3. TOPSOIL AND ROCKFILL RESTORATION TO EXTEND 5 FEET PAST VERTICAL FACE OF CAISSON OPPOSITE OF RIVER. CONTRACTOR TO MATCH EXISTING GRADE AT LIMITS OF WORK.

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Sewer Interceptor Rehabilitation and Siphon Replacement

Town of Ipswich

Ipswich, Massachusetts

MARK	DATE	DESCRIPTION
A	8/8/2019	NOI SUBMITTAL

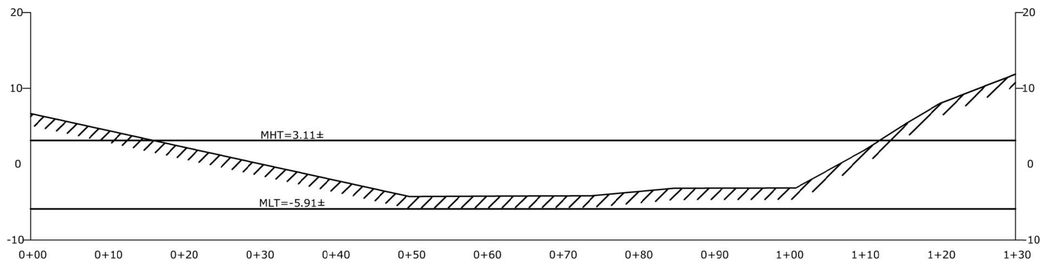
PROJECT NO:	I0066-10
DATE:	12/20/19
FILE:	I0066-Task10-DTLS.dwg
DRAWN BY:	JAK, SAT
CHECKED:	DOR, DPR
APPROVED:	SES, IM

INTERCEPTOR REHABILITATION - DETAILS 2

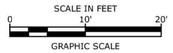
SCALE: 1"=4'

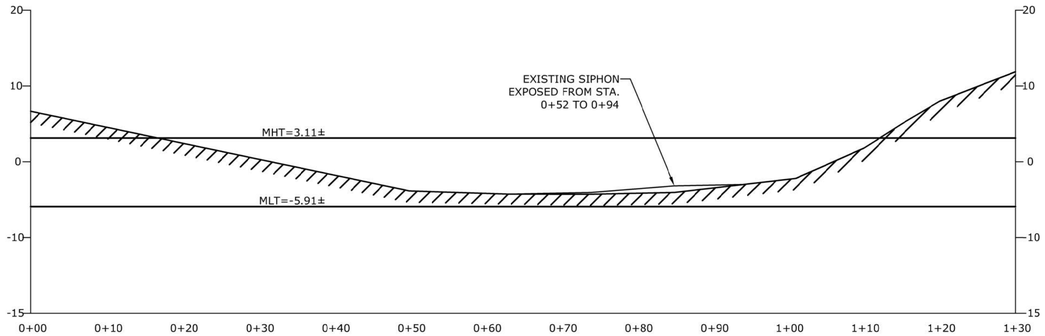
C-105
SHEET 7 OF 13

Last Saved: 2/5/2020
Plot Date: Feb 05, 2020 - 1:13pm By: SAT
Tighe & Bond 2 \\10066 Ipswich WWTP\10-Siphon Eval and Repair\Drawings, Figures\AutoCAD Sheet\I0066-Task10-DTLS.dwg

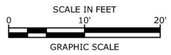


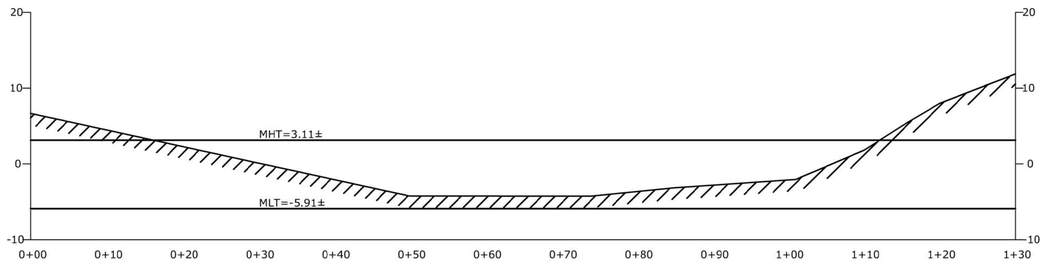
RIVER SECTION 10' UP RIVER OF SIPHON



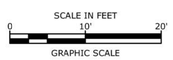


RIVER SECTION AT SIPHON





RIVER SECTION 10' DOWN RIVER OF SIPHON



NOTES:
1. STATIONING AND ELEVATIONS IN FEET WITH STA. 0+00 AT CENTER OF SMH 34 COVER.
2. ELEVATIONS TAKEN BY AUTO LEVEL, ROD AND STATIONING BY TAPE. VERTICAL DATUM BASED ON RIM ELEVATION OF SMH 34 ARCHIVE DATA IN NAVD88.
3. WATER ELEVATIONS VARY WITH RIVER FLOW AND TIDES.
4. TIDE ELEVATIONS ACCORDING TO PLUM ISLAND SOUTH TIDE GAGE SEPTEMBER 2017-SEPTEMBER 2018.

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Town of Ipswich

Ipswich, Massachusetts

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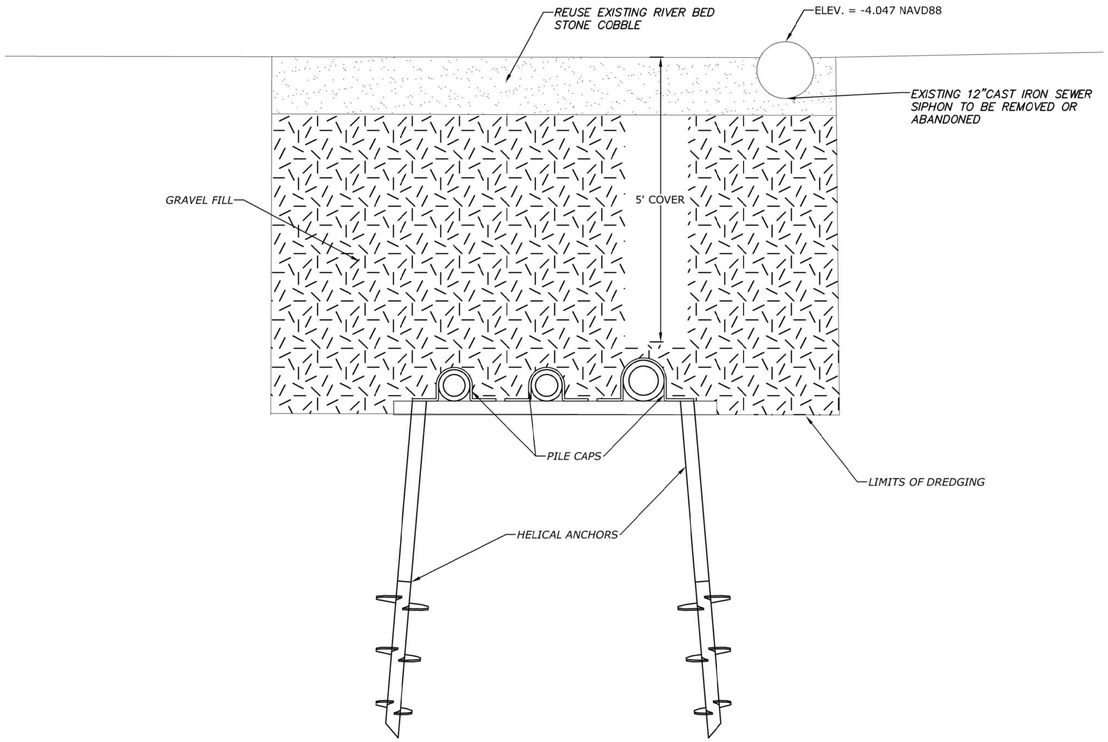
FILE:	I0066-Task10-DTLS.dwg
DRAWN BY:	JAK
CHECKED:	DOR, DPR
APPROVED:	SES, IM

EXISTING SIPHON SECTIONS

SCALE: AS SHOWN

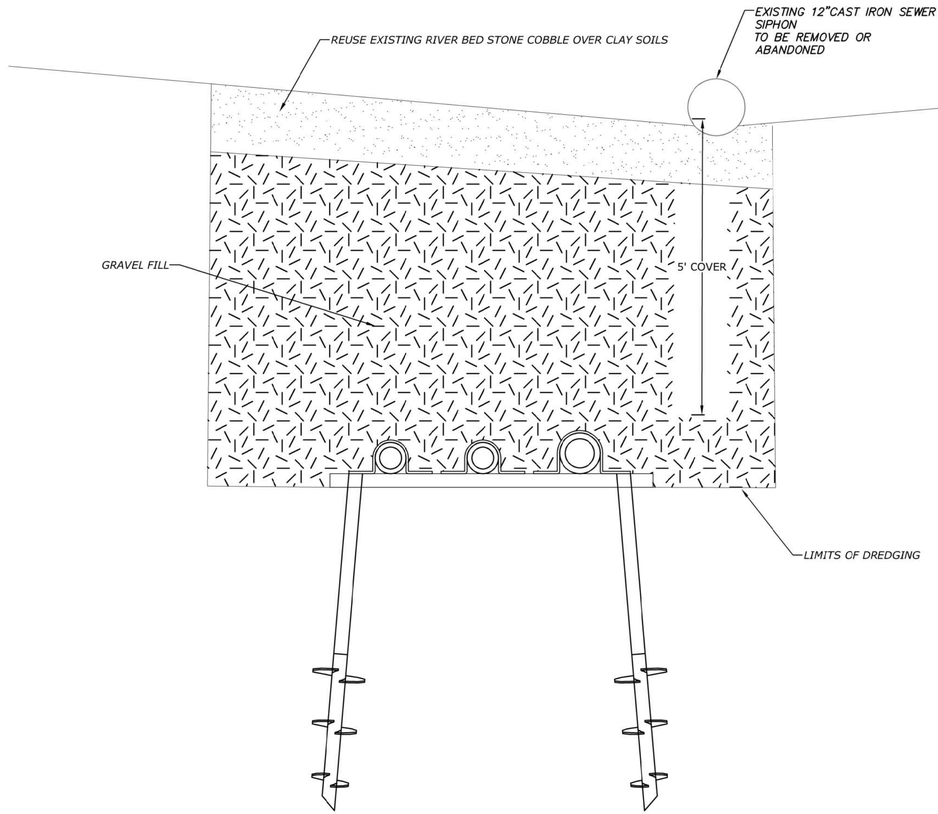
C-106
SHEET 8 OF 13

Last Saved: 2/7/2020
Printed: 2/7/2020 9:36am By: EAT
Tighe & Bond: J:\I0066 Ipswich WWTP\10-Siphon Eval and Repair\Drawings_Figures\AutoCAD\Sheet\I0066-Task10-DTLS.dwg



SIPHON CROSS SECTION A-A STA. 0+74.00

0 1' 2' 3'
3/4"=1'



SIPHON CROSS SECTION B-B STA. 0+85.00

0 1' 2' 3'
3/4"=1'

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Town of Ipswich

Ipswich, Massachusetts

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FILE:	I0066-Task10-DTLS.dwg
DRAWN BY:	JAK
CHECKED:	DOR, DPR
APPROVED:	SES, IM

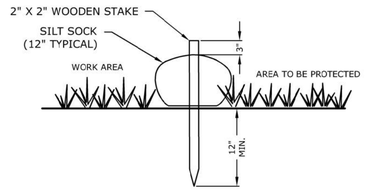
PROPOSED SIPHON SECTIONS

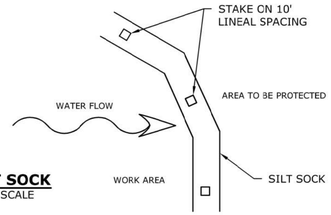
SCALE: AS SHOWN

C-107
SHEET 9 OF 13

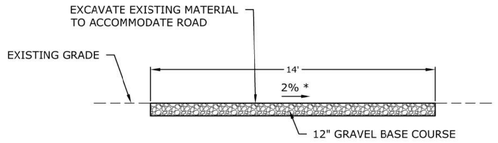
Last Saved: 2/7/2020
Plotted: Dec 19, 2020 - 9:37am By: SAT
Tighe & Bond: J:\I0066 Ipswich WWTP\10-Siphon Eval and Repair\Drawings, Figures\AutoCAD\Sheet\I0066-Task10-DTLS.dwg

NOTES:
1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR APPROVED EQUAL.
2. SILT SOCK SHALL BE FILLED WITH FILTERMEDIA BY FILTREXX OR APPROVED EQUAL.
3. WHERE TWO SILT SOCKS ARE JOINED, A MINIMUM OF 2 FEET OF OVERLAP SHALL BE MAINTAINED.
4. SILT SOCKS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
5. CONTRACTOR TO INSTALL SILT SOCK IN J-HOOK OR SMILE CONFIGURATION TO LIMIT CONCENTRATION OF STORMWATER RUNOFF AT A SINGLE DISHCARGE POINT.



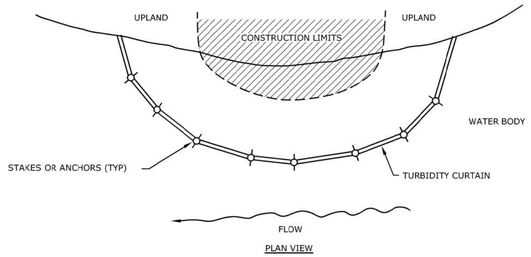


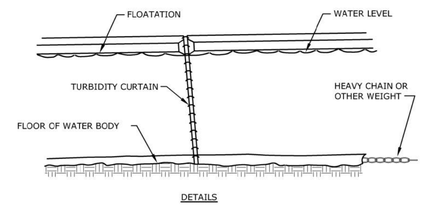
SILT SOCK
NO SCALE



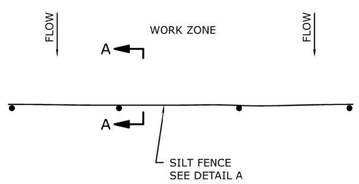
* SLOPE AS REQUIRED FOR DRAINAGE (2% MAX)

TYPICAL ACCESS ROAD SECTION
NO SCALE

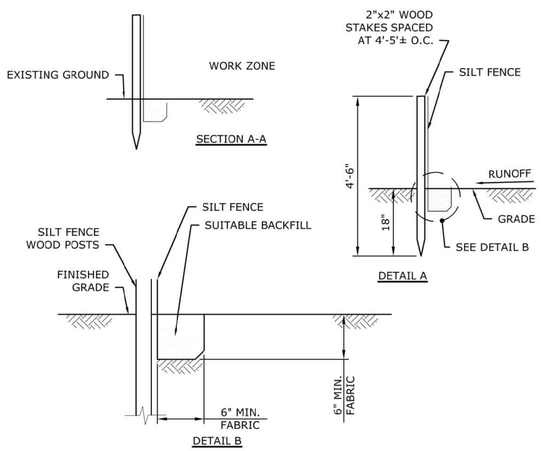




TURBIDITY CURTAIN DETAILS
NO SCALE



PLAN

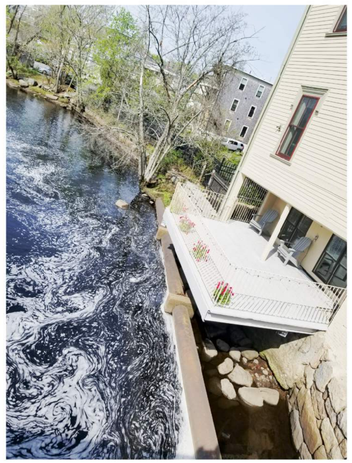


SECTION A-A

DETAIL A

DETAIL B

SILTATION FENCE
NO SCALE



1
C-102

2
C-102

3
C-102

4
C-103

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PERMIT SET Not For Construction

Sewer Interceptor Rehabilitation and Siphon Replacement

Town of Ipswich

Ipswich, Massachusetts

MARK	DATE	DESCRIPTION
A	8/8/2019	NOI SUBMITTAL

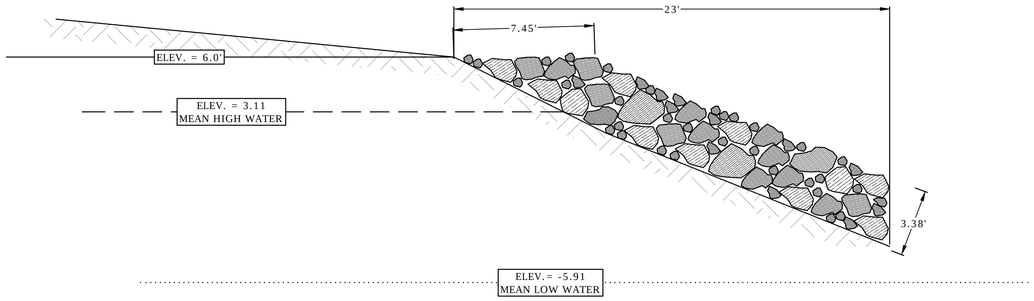
PROJECT NO:	I0066-10
DATE:	12/20/19
FILE:	I0066-Task10-DTLS.dwg
DRAWN BY:	JAK
CHECKED:	DOR, DPR
APPROVED:	SES, IM

DETAILS

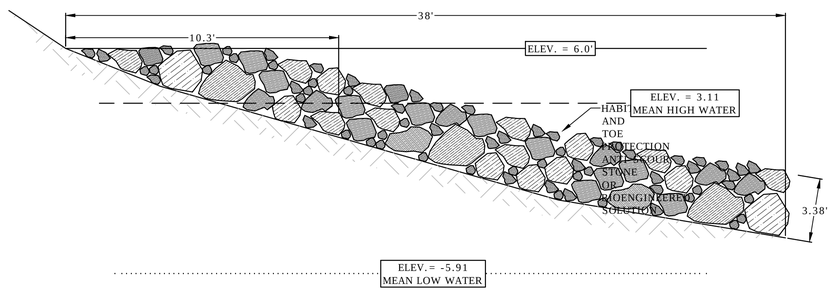
SCALE: AS SHOWN

C-108
SHEET 10 OF 13

Last Saved: 2/7/2020
Plotted On:Feb 10, 2020-9:38am By: SAT
Tighe & Bond:J:\I\I0066 Ipswich WWTP\10-Siphon Eval and Repair\Drawings_Figures\AutoCAD\Sheet\I0066-Task10-DTLS.dwg



DOWNSTREAM REVETMENT
STA 0+00



DOWNSTREAM REVETMENT
STA 0+75

5
SHEET 3

6
SHEET 3

7
SHEET 3

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Sewer
Interceptor
Rehabilitation
and Siphon
Replacement

Town of Ipswich

Ipswich,
Massachusetts

MARK	DATE	DESCRIPTION
A	8/8/2019	NOI SUBMITTAL

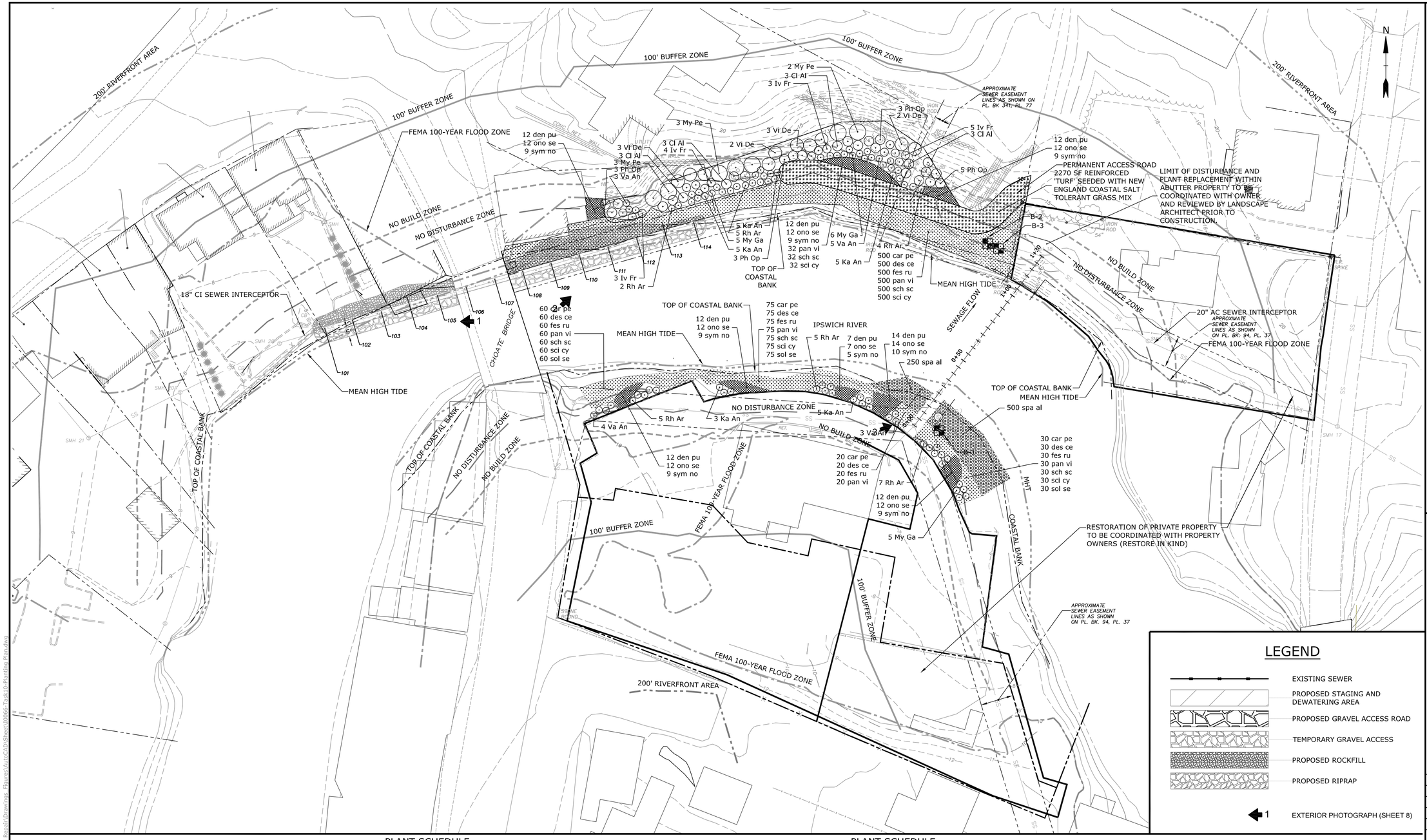
PROJECT NO:	10066-10
DATE:	12/20/19
FILE:	10066-Task10-DTLS.dwg
DRAWN BY:	SAT
CHECKED:	DOR, DPR
APPROVED:	SES, IM

DOWNSTREAM REVETMENT
DETAILS

SCALE: 1"=4'

C-109
SHEET 11 OF 13

Last Saved: 2/7/2020
Plotted On:Feb 10, 2020-9:40am By: SAT
Tighe & Bond:J:\110066 Ipswich WWTP\10-Siphon Eval and Repair\Drawings_Figures\AutoCAD\Sheet\10066-Task10-DTLS.dwg



PHASE 2 COFFERDAM

REFERENCE PLANS:
1. "SANITARY SEWER PLAN VICINITY OF SOUTH MAIN STREET TO COUNTY STREET" DATED 3/14/2018 REVISED 5/29/2018 IN FEET RELATIVE TO NAVD88. IN RIVER BATHYMETRY NOT PROVIDED AND WATER LEVELS NOT GIVEN.
2. "PLAN ACCOMPANYING PETITION OF TOWN OF IPSWICH TO REPLACE FILL AND SEWER PIPELINE WITH CROSSING IN THE IPSWICH RIVER, IPSWICH, MASS" DATED 4/27/1959.

NOTE:
1. OMIT SHEET PILE UNDER BRIDGE DUE TO OVERHEAD SPACE CONSTRAINT
2. SEE SHEET 8 FOR EXTERIOR PHOTOGRAPHS

PLANT SCHEDULE

SHRUBS						
Tag	Qty	Scientific Name	Common Name	Size	Spacing	Comments
Cl Al	12	Clethra alnifolia	Sweet Pepperbush	3'-4' HT	5' O.C.	
Iv Fr	15	Iva frutescens	Marsh Elder	3'-4' HT	6' O.C.	
Ka An	23	Kalmia angustifolium	Sheep Laurel	2'-3' HT	4' O.C.	
My Ga	16	Myrica gale	Sweetgale	2'-3' HT	4' O.C.	
My Pe	7	Myrica pensylvanica	Northern Bayberry	3'-4' HT	10' O.C.	
Ph Op	14	Physocarpus opulifolius	Eastern Ninebark	3'-4' HT	5' O.C.	
Rh Ar	29	Rhus aromatica 'Gro Low'	Fragrant Sumac	2'-3' HT	4' O.C.	
Va An	15	Vaccinium angustifolium	Low Bush Blueberry	2'-3' HT	4' O.C.	
Vi De	10	Viburnum dentatum	Arrowwood Viburnum	3'-4' HT	8' O.C	
GRASSES/HERBACEOUS PERENNIALS/FERNS						
car pe	685	Carex pensylvanica	Pennsylvania Sedge	plug	15" O.C.	

PLANT SCHEDULE

den pu	93	Dennstaedtia punctilobula	Hay Scented Fern	1 GAL	24" O.C.
des ce	685	Deschampsia cespitosa	Tufted Hairgrass	plug	15" O.C.
fes ru	685	Festuca rubra	Red Fescue	plug	15" O.C.
ono se	93	Onoclea sensibilis	Sensitive Fern	1 GAL	24" O.C.
pan vi	717	Panicum virgatum	Switchgrass	plug	15" O.C.
sch sc	697	Schizachyrium scoparium	Little Bluestem	plug	15" O.C.
sci cy	697	Scirpus cyperinus	Wool Grass	plug	15" O.C.
sol se	165	Solidago sempervirens	Seaside Goldenrod	plug	15" O.C.
spa al	750	Spartina alterniflora	Smooth Cordgrass	plug	15" O.C.
sym no	69	Symphyotrichum novae-angliae	New England Aster	1 GAL	30" O.C.
	2270 SF	New England Coastal Salt Tolerant Grass Mix			

LEGEND

- EXISTING SEWER
- PROPOSED STAGING AND DEWATERING AREA
- PROPOSED GRAVEL ACCESS ROAD
- TEMPORARY GRAVEL ACCESS
- PROPOSED ROCKFILL
- PROPOSED RIPRAP
- 1 EXTERIOR PHOTOGRAPH (SHEET 8)

SCALE IN FEET
0 30' 60'
GRAPHIC SCALE

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Not For Construction

Sewer Interceptor Rehabilitation and Siphon Replacement

Town of Ipswich

Ipswich, Massachusetts

MARK	DATE	DESCRIPTION
A	8/8/2019	NOI SUBMITTAL

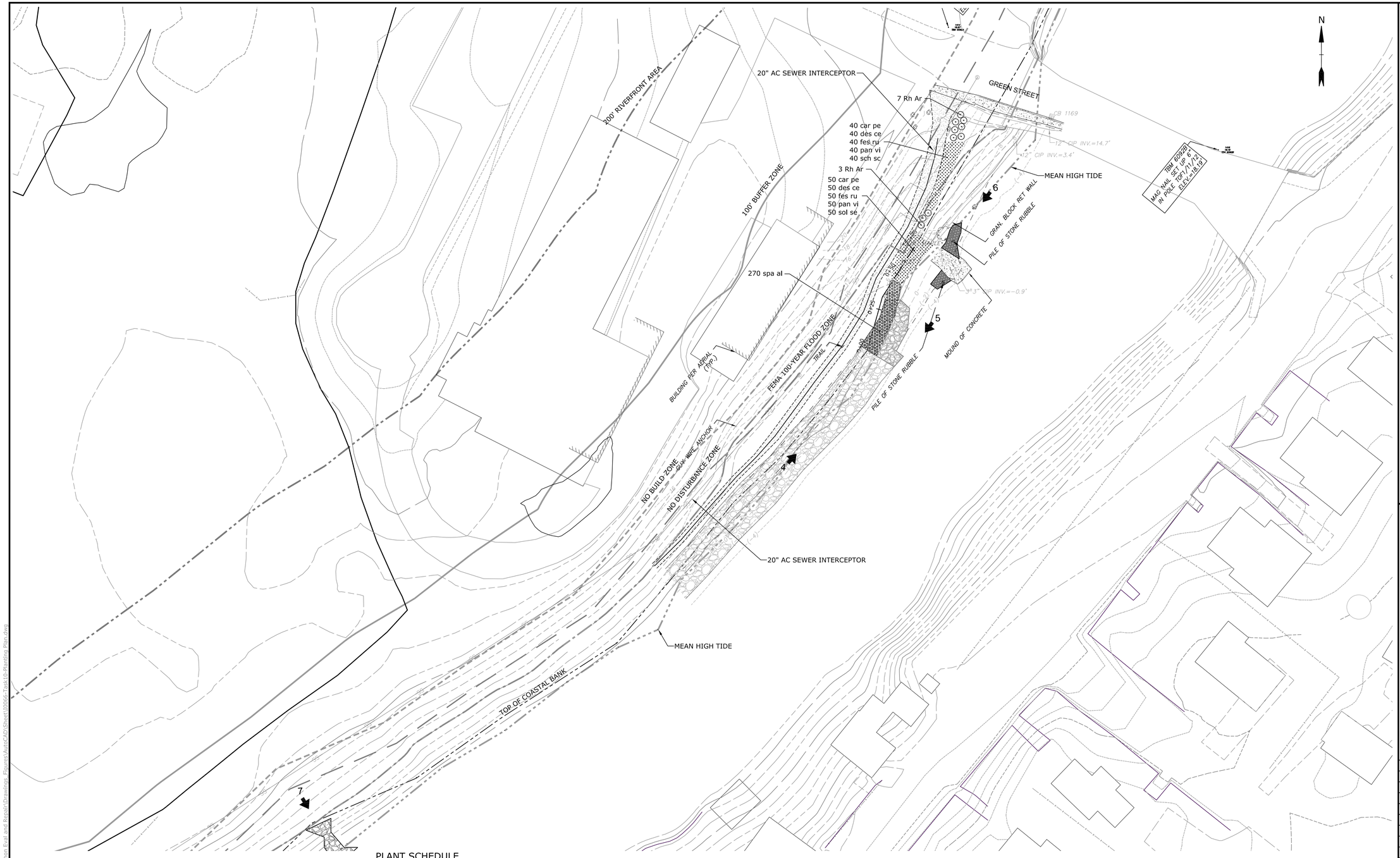
PROJECT NO:	I0066-10
DATE:	12/20/19
FILE:	I0066-Task10-Planting Plan.dwg
DRAWN BY:	LPT/JAK
CHECKED:	DOR, DPR
APPROVED:	SES, IM

INTERCEPTOR REHABILITATION PLANTING PLAN (1)

SCALE: 1"=30'

C-110
SHEET 12 OF 13

Last Saved: 2/11/2020
Plotted On: Feb 11, 2020-4:37pm By: Slaine
I:\tighe & Bond\Projects\I0066 Ipswich WWTP\10-Siphon Eval and Repair\Drawings_Figures\AutoCAD\Sheet\I0066-Task10-Planting Plan.dwg



PLANT SCHEDULE

Tag	Qty	Scientific Name	Common Name	Size	Spacing	Comments
SHRUBS						
Rh Ar	10	Rhus aromatica 'Gro Low'	Fragrant Sumac	2'-3' HT	4' O.C.	
GRASSES/HERBACEOUS PERENNIALS/FERNS						
car pe	90	Carex pensylvanica	Pennsylvania Sedge	plug	15" O.C.	
des ce	90	Deschampsia cespitosa	Tufted Hairgrass	plug	15" O.C.	
fes ru	90	Festuca rubra	Red Fescue	plug	15" O.C.	
pan vi	90	Panicum virgatum	Switchgrass	plug	15" O.C.	
sch sc	40	Schizachyrium scoparium	Little Bluestem	plug	15" O.C.	
sol se	50	Solidago sempervirens	Seaside Goldenrod	plug	15" O.C.	
spa al	270	Spartina alterniflora	Smooth Cordgrass	plug	15" O.C.	

REFERENCE PLANS:

1. "SANITARY SEWER PLAN VICINITY OF SOUTH MAIN STREET TO COUNTY STREET" DATED 3/14/2018 REVISED 5/29/2018 IN FEET RELATIVE TO NAVD88. IN RIVER BATHYMETRY NOT PROVIDED AND WATER LEVELS NOT GIVEN.
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SCALE IN FEET
0 30' 60'
GRAPHIC SCALE

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Town of Ipswich

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DATE:	12/20/19
FILE:	I0066-Task10-Planting Plan.dwg
DRAWN BY:	SAT
CHECKED:	DOR, DPR
APPROVED:	SES, IM

INTERCEPTOR REHABILITATION PLANTING PLAN (2)

SCALE: 1"=30'

C-111
SHEET 13 OF 13

Last Saved: 2/11/2020
Plotted On:Feb 11, 2020-4:38pm By: SLane
Tighe & Bond:F:\Projects\I\I0066 Ipswich WWTP\10-Siphon Eval and Repair\Drawings_Figures\AutoCAD\Sheet\I0066-Task10-Planting Plan.dwg