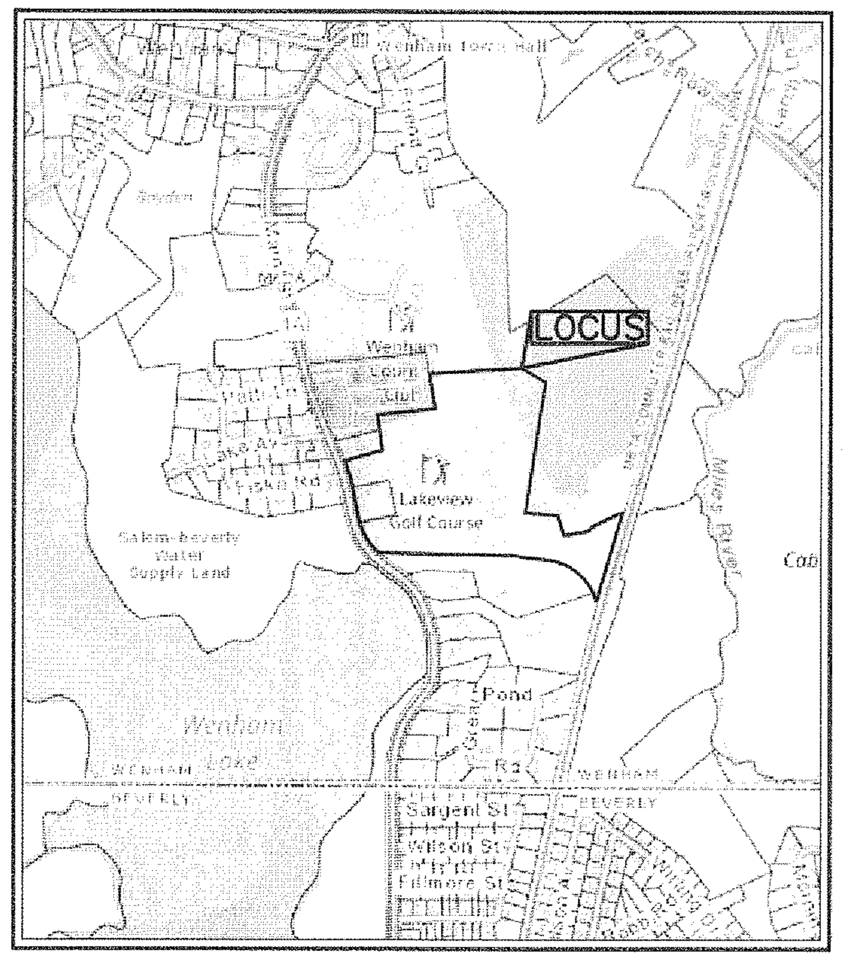
PERMIT SITE PLAN
FLEXIBLE DEVELOPMENT

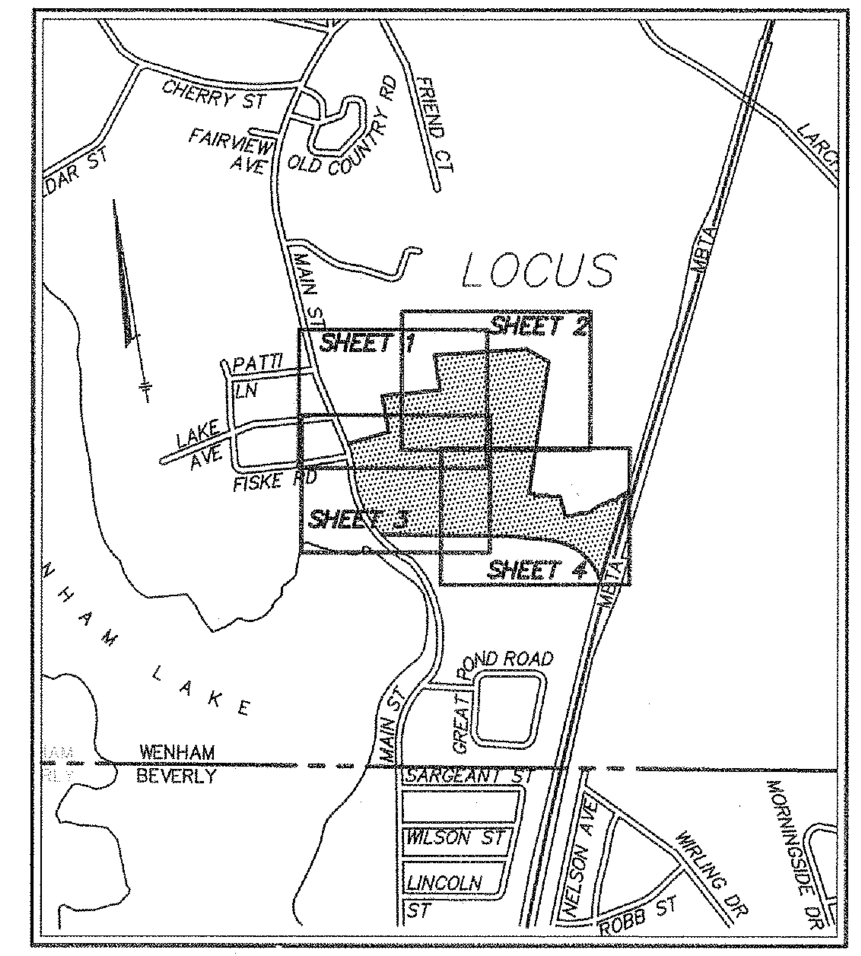


Wenham Pines

56/60 MAIN STREET
WENHAM, MASSACHUSETTS 01984

FOR

WENHAM PINES LLC



LOCATION MAP
SCALE: 1"=1000'

LOCUS MAP
SCALE: 1"=1000'

OWNER:

ESTATE OF WILLIAM J. FLYNN
5 BARKER ROAD
BOXFORD, MASSACHUSETTS 01921

APPLICANT:

WENHAM PINES LLC
6 KIMBALL LANE
LYNNFIELD, MASSACHUSETTS 01940

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HANCOCK ASSOCIATES
(CIVIL ENGINEER & LAND SURVEYOR)

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SHEET 7.. YIELD PLAN
SHEET 8.. MASTER PLAN
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(LANDSCAPE ARCHITECT)

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L–1.1.. SITE PLAN
L–1.2.. SITE PLAN
L–1.3.. SITE PLAN
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L–5.0.. IRRIGATION PLAN
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(ARCHITECT)

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A–2.. TYPE B FLOOR PLANS
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A–4.. TYPICAL SIDE ELEVATION
A–5.. TYPICAL REAR ELEVATION
A–6.. POSTAL STRUCTURE

H–E1.. EXISTING FLOOR PLANS
H–E2.. EXISTING FLOOR PLANS
H–E3.. EXISTING ELEVATIONS
H–E4.. EXISTING ELEVATIONS
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GENERAL NOTES

1. LOCATIONS OF EXISTING UNDERGROUND UTILITIES/OBSTRUCTIONS/SYSTEMS SHOWN HEREON ARE APPROXIMATE ONLY. ALL UTILITIES/OBSTRUCTIONS/SYSTEMS MAY NOT BE SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES/OBSTRUCTIONS/ SYSTEMS, WHETHER OR NOT SHOWN HEREON.
2. UNLESS OTHERWISE SHOWN, ALL NEW UTILITIES SHALL BE UNDERGROUND.
3. SAFETY MEASURES, CONSTRUCTION METHODS AND CONTROL OF WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND/OR REPLACEMENT OF ANY EXISTING IMPROVEMENTS DAMAGED DURING CONSTRUCTION THAT ARE NOT DESIGNATED FOR DEMOLITION AND/OR REMOVAL HEREON. DAMAGED IMPROVEMENTS SHALL BE REPAIRED TO THE SATISFACTION OF THEIR RESPECTIVE OWNERS.
5. ANY INTENDED REVISION OF THE HORIZONTAL AND/OR VERTICAL LOCATION OF IMPROVEMENTS TO BE CONSTRUCTED AS SHOWN HEREON SHALL BE REVIEWED AND APPROVED BY ENGINEER PRIOR TO IMPLEMENTATION.
6. RIM ELEVATIONS SHOWN FOR NEW STRUCTURES ARE APPROXIMATE AND ARE PROVIDED TO ASSIST CONTRACTOR WITH MATERIAL TAKEOFFS. FINISH RIM ELEVATIONS SHOULD MATCH PAVEMENT, GRADING, OR LANDSCAPING, UNLESS SPECIFICALLY INDICATED OTHERWISE.
7. WHERE EXISTING UTILITY LINES/STRUCTURES ARE TO BE CUT/BROKEN DOWN/ABANDONED, LINES/STRUCTURES SHALL BE PLUGGED/CAPPED/FILLED, IN ACCORDANCE WITH OWNER REQUIREMENTS.
8. IN CERTAIN INSTANCES, IN ORDER TO DESIGN GRAVITY FLOW IMPROVEMENTS, ENGINEER MUST RELY ON PIPE INVERT ELEVATIONS OBTAINED AT ACCESSIBLE STRUCTURES AND/OR RECORD PIPE SLOPE DATA OBTAINED FROM LOCAL AUTHORITIES. PRIOR TO COMMENCEMENT OF CONSTRUCTION, CONTRACTOR SHALL VERIFY GRADES (VIA POTHOLING OR OTHER METHODS) OF EXISTING GRAVITY FLOW UTILITIES INTENDED TO SERVE SITE AND BUILDINGS, INCLUDING SANITARY SEWER AND STORM DRAINS. THIS WORK IS NECESSARY TO ENSURE THAT ADEQUATE SLOPE EXISTS TO ALLOW FLOW OF SEWER SERVICES AND DRAINAGE SYSTEMS TO EXISTING UTILITY MAINS OR TO THEIR FINAL RUNOFF DESTINATION. SHOULD SITE CONDITIONS DIFFER FROM DESIGN ELEVATIONS SHOWN HEREON, CONTRACTOR SHALL SEEK DIRECTION FROM ENGINEER PRIOR TO PROCEEDING WITH WORK.
9. A GEOTECHNICAL REPORT SPECIFIC TO THIS DEVELOPMENT HAS NOT BEEN PREPARED. CONTRACTOR SHALL CONSULT WITH OWNER REGARDING SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION.
10. ALL SUBSURFACE CABLE CONDUIT SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH REQUIREMENTS AND/OR RECOMMENDATIONS OF THE APPROPRIATE UTILITY COMPANY AND THE TOWN OF WENHAM DEPARTMENT OF PUBLIC WORKS.
11. ELEVATIONS SHOWN HEREON REFER TO THE NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929 (MEAN SEA LEVEL OF 1929).
12. CONTRACTOR SHALL NOTIFY TOWN OF WENHAM WATER DEPARTMENT AS TO CONSTRUCTION SCHEDULE FOR VERIFICATIONS OF WATER MAIN LOCATIONS ALONG MAIN STREET.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR THE STAKING OF PROPERTY LINES IN VICINITY OF PROPOSED WORK.
14. PAVEMENT ON MAIN STREET SHALL BE SAW-CUT AND NEATLY JOINTED TO NEW PAVEMENT. MAIN STREET SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS OR BETTER.
15. BLOW-OFF FOR HYDRANTS FROM 8" WATER MAIN WILL CONSIST OF AN 8"X6" REDUCER TO A 6" GATE VALVE TO HYDRANT.
16. UNDERGROUND UTILITIES SHOWN HEREON ARE COMPILED FROM FIELD LOCATIONS OF STRUCTURES AND FROM AVAILABLE RECORD INFORMATION ON FILE AT THE TOWN ENGINEERING OFFICES. OTHER UNDER-GROUND UTILITIES MAY EXIST. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION, SIZE, AND ELEVATION OF ALL UTILITIES WITHIN THE AREA OF PROPOSED WORK, AND TO CONTACT "DIG-SAFE" AT 811 AT LEAST 72 HOURS PRIOR TO EXCAVATION, DEMOLITION, OR CONSTRUCTION
17. TEST PITS SHALL BE EXCAVATED AT ANY LOCATION WHERE THERE IS AN EXISTING UTILITY THAT IS BEING CROSSED BY ANY PROPOSED UTILITY, TO DETERMINE ACTUAL ELEVATIONS AND ADJUST TO MATCH EXISTING. THE CONTRACTOR/DEVELOPER WILL HAVE ALL FIELD REVISIONS APPROVED BY THE APPROPRIATE REPRESENTATIVE FROM THE TOWN OF WENHAM.
18. INDIVIDUAL UTILITY CONNECTIONS SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY. FINAL LOCATIONS SHALL BE ADJUSTED FOR ACTUAL HOUSE DESIGN AND LAYOUT.
19. ANY AND ALL TRENCH WORK PERFORMED IN MAIN STREET SHALL COMPLY WITH THE FINAL MASSACHUSETTS DOT HIGHWAY DIVISION ACCESS PERMIT.
20. THE CONTRACTOR SHALL VERIFY THE LOCATION AND RELATIVE ELEVATION OF BENCH MARKS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.
21. CONTRACTOR SHALL FURNISH CONSTRUCTION LAYOUT OF BUILDING AND SUBDIVISION IMPROVEMENTS. THIS WORK SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR.
22. THIS PLAN IS NOT INTENDED TO SHOW AN ENGINEERED BUILDING FOUNDATION DESIGN, WHICH WOULD INCLUDE DETAILS AND FINAL ELEVATIONS OF FOOTINGS, WALLS AND SUBSURFACE DRAINAGE TO PREVENT INTERIOR FLOODING. SEE ARCHITECTURAL AND/OR STRUCTURAL DRAWINGS.
23. PROPOSED BUILDING FOUNDATION CONFIGURATION AND LOCATION ON THE LOT AS SHOWN ARE CONCEPTUAL AND SHALL BE VERIFIED AS TO CONFORMANCE WITH FINAL ARCHITECTURAL PLANS AND ZONING ORDINANCES PRIOR TO CONSTRUCTION.
24. ANY SILT FENCE AND/OR HAYBALES SHOWN HEREON SHALL BE INSTALLED BEFORE EARTH DISTURBANCE OCCURS WITHIN THE BUFFER ZONE, AND SHALL SERVE AS THE LIMIT OF WORK.
25. CONTRACTOR SHALL LOCATE THE EXISTING WATER MAIN AND GAS MAIN IN MAIN STREET PRIOR TO INSTALLATION OF THE PROPOSED WATER AND GAS CONNECTIONS.
26. ALL DRAINAGE PIPE SHALL BE CLASS $\underline{V}$ REINFORCED CONCRETE PIPE UNLESS SPECIFIED OTHERWISE. ALL PIPE 24" IN DIAMETER OR LESS SHALL BE BELL AND SPIGOT TYPE.
27. UNLESS OTHERWISE STATED, ALL WATER WORKS SHALL MEET THE MINIMUM REQUIREMENTS OF THE MOST RECENT EDITION OF THE "UNIFORM STATE PLUMBING CODE." CONTRACTOR SHALL NOTIFY DESIGN ENGINEER OF ANY SUCH CONFLICTS IMMEDIATELY.
28. SIDEWALK RAMPS SHALL BE INSTALLED ACCORDING TO THE RULES AND REGULATIONS OF THE ARCHITECTURAL BARRIERS BOARD, COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC SAFETY AT ALL CROSSINGS AND DRIVEWAY ENTRANCES.
29. STRUCTURE DETAILS FROM INDEPENDENT VENDORS ARE CONSTANTLY CHANGING. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT DETAILS SHOWN MATCH CURRENT DETAILS AND SPECIFICATIONS FROM VENDORS.
30. A SUFFICIENT NUMBER OF FIRE ALARM TELEGRAPH BOXES SHALL BE INSTALLED BY THE CONTRACTOR. THE TYPE, NUMBER AND LOCATION TO BE DETERMINED IN WRITING BY THE CHIEF OF THE FIRE DEPARTMENT.
31. SOIL CONDITIONS HAVE BEEN EVALUATED AND DETERMINED TO BE SUITABLE FOR ROAD CONSTRUCTION.
32. ALL UNITS SHALL BE SERVED BY A SUBSURFACE SEWAGE DISPOSAL SYSTEM APPROVED BY THE WENHAM BOARD OF HEALTH.
33. ELECTRIC SYSTEM SHALL BE DESIGNED BY WENHAM ELECTRIC DEPARTMENT ONCE THE SUBDIVISION IS APPROVED.
34. THE SIGHT DISTANCE ALONG MAIN STREET EXCEEDS 500' IN BOTH DIRECTIONS.
35. ALL WATER MAINS, WATER SERVICES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE WENHAM WATER DEPARTMENT'S "STANDARD SPECIFICATIONS FOR WATER MAIN EXTENSIONS"' DATED DECEMBER 8, 2004.
36. EACH "UNIT" SHALL HAVE A SEPARATE WATER MAIN CONNECTION, SEPARATE SPRINKLER CONNECTION, CURB STOP AND METER.
37. ALL WATER LINES SHALL BE A MINIMUM OF EIGHTEEN INCHES OF VERTICAL SEPARATION ABOVE SEWER LINES AT ALL AREAS WHERE WATER AND SEWER CROSS. THERE SHALL BE A MINIMUM OF TEN FEET HORIZONTAL SEPARATION BETWEEN WATER AND SEWER LINES IN ALL AREAS.
38. ALL LANDSCAPE IRRIGATION SHALL BE PROVIDED BY A SEPARATE, PRIVATE WELL ONSITE. ALL LANDSCAPING SHALL BE INSTALLED AND MAINTAINED IN STRICT ACCORDANCE WITH MASSACHUSETTS WATER RESOURCES COMMISSION'S "GUIDE TO LAWN AND LANDSCAPE WATER CONSERVATION", MAY 2002
39. RETAINING WALLS ABOVE 4' TALL WILL BE DESIGNED BY A REGISTERED STRUCTURAL ENGINEER AND APPROVED BY THE WENHAM BUILDING DEPARTMENT.
40. CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS AS APPROVED BY THE ENGINEER.
41. ALL POINTS OF CONSTRUCTION EGRESS OR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADS
42. EACH OF THE NEWLY PROPOSED TOWNHOUSE UNITS WILL HAVE AN AREA THAT IS LARGE ENOUGH TO ACCOMMODATE 6 CARS, I.E. 2 IN THE GARAGE AND 4 IN THE DRIVEWAY
43. SUBSURFACE SEWAGE DISPOSAL SYSTEM SHALL BE CONSTRUCTED PER PLANS TITLED: "SUBSURFACE SEWAGE DISPOSAL SYSTEM DESIGN, WENHAM PINES" DATED 8/17/2016 REVISED THROUGH 6/20/2016.

LEGEND

EXISTING		PROPOSED
	DRAINLINE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION, CATCH BASIN MANHOLE & FLARED END	SD DMH
	WATER MAIN AND VALVE	W
	NATURAL GAS LINE AND VALVE	G
	PROPERTY LINE	
	EASEMENT LINE	
55.36' N120°46'23"E	BEARING & DISTANCE ALONG BOUNDARY	55.36' N120°46'23"E
<< 249.56' >>	TOTALED BOUNDARY FRONTAGE	<< 249.56' >>
#2	ELEVATION BENCH MARK	
	STONE WALL	
	RETAINING WALL	
	WOOD FENCE	
	EDGE OF GRAVEL OR DIRT ROAD	
	EDGE OF PAVEMENT	
	CURB	
	SPOT ELEVATION	93.3 F.G.
	ELEVATION CONTOUR	92
WFA9	LIMIT OF BORDERING VEGETATED WETLAND (WITH FLAG NUMBER)	
	LIMIT OF 100-FOOT WETLAND BUFFER ZONE	
	EDGE OF WOODS OR BRUSH (DRIP LINE)	
	FIRE HYDRANT	HYD
	PROMINENT DECIDUOUS TREE WITH SIZE AND SPECIES	
	PROMINENT CONIFEROUS TREE WITH SIZE AND SPECIES	
	SILT FENCE	
	TEST PIT WITH ELEVATION	
	PERCOLATION TEST	
	GUARDRAIL	
	TO BE REMOVED	(TBR)
	STORMWATER ROOF INFILTRATION	
	FOUNDATION DRAIN	FD
	LIMIT OF WORK	
	TREES TO BE REMOVED	X
	FLOOD PLAIN REPLICATION AREA	

OPERATION AND MAINTENANCE (O & M) PLAN:

AS REQUIRED, THE O & M PLAN TYPICALLY HAS PROCEDURES TO MINIMIZE STORMWATER POLLUTION FROM HIGH IMPACT ACTIVITY AND INCLUDES THE FOLLOWING:

1. PROVIDE GOOD HOUSE KEEPING PROCEDURES IN AND AROUND THE PROPOSED DRAINS, THE EXISTING WETLAND AREAS AND THE PROPOSED DETENTION BASINS.

2. DO A VISUAL INSPECTION PERIODICALLY AT EACH OF THESE STORMWATER COLLECTION POINTS.

3. MOST CATCH BASINS HAVE A STORAGE AREA AT THE BOTTOM TO TRAP SEDIMENT AND DEBRIS. ONCE THE BASIN IS HALF FULL OF SEDIMENT IT MUST BE CLEANED AND THE SEDIMENT REMOVED FROM THE STRUCTURE EITHER BY VACUUM EQUIPMENT OR MANUAL LABOR.

4. AN OPERATION AND MAINTENANCE PLAN ENTITLED "HANCOCK ASSOCIATES OPERATION AND MAINTENANCE PLAN DATED DECEMBER 5, 2016" IS HEREBY INCORPORATED INTO THESE PLANS.

PROJECT NAME:

WENHAM PINES

56 & 60 Main Street
Wenham, MA 01984

APPLICANT:

WENHAM PINES LLC.

6 Kimball Lane
Lynnfield, MA 01940

OWNER:

ESTATE OF WILLIAM J. FLYNN

5 Barker Road
Boxford, MA 01921

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

COMMONWEALTH OF MASSACHUSETTS
VACLAV V. TALACKO
CIVIL
No. 34026
REGISTERED PROFESSIONAL ENGINEER
1/23/17

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
3	JPC	RAT	1/9/17	FINAL C.C. PLANS
2	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	RD
APPRVD. BY:	VVT	CHECK BY:	RAT

NOTES, REFERENCES, AND LEGEND

PLOT DATE: Jan 20, 2017 3:47 pm
PATH: F:\Civil 3D Projects\19400 - Tambone - Wenham\DWG\

DWG: 19400C1 170103.dwg

LAYOUT: NOTES

PROJECT NO.: 19400

ASSESSORS:

MAP 27, LOTS 36 & 44

REFERENCES:

DEED BOOK 5892, PAGE 439
DEED BOOK 5892, PAGE 444
DEED BOOK 5892, PAGE 445
DEED BOOK 5982, PAGE 446
PLAN BOOK 139, PLAN 79
PLAN BOOK 123, PLAN 28
PLAN BOOK 141, PLAN 20
PLAN BOOK 1457, PLAN 201
PLAN BOOK 1352, PLAN 363
PLAN BOOK 820, PLAN 16
PLAN BOOK 375, PLAN 13
PLAN BOOK 376, PLAN 44
PLAN BOOK 376, PLAN 45
PLAN BOOK 1980, PLAN 16
1897 STATE HIGHWAY LAYOUT (LAYOUT NO. 232)
1932 STATE HIGHWAY LAYOUT ALTERATION (LAYOUT NO. 2950)
PLAN ENTITLED "TOPOGRAPHIC SITE PLAN, LAKEVIEW GOLF CLUB, 56 & 60 MAIN STREET, WENHAM, MA," BY DONOHOE AND PARKHURST, INC., AND DATED AUGUST 4, 2008.

RECORD OWNER:

WILLIAM J. FLYNN

LEGEND

234	SURFACE CONTOUR
	STONE WALL
	METAL GUARDRAIL
	EDGE OF PAVEMENT
	CHAIN LINK FENCE
	WOOD FENCE
26.75 / 26.25	CURB WITH TOP AND BOTTOM CURB ELEVATION
	EDGE OF WOODED AREA
WV W 6"CI	WATER MANHOLE, WATER MAIN WITH SIZE, TEE, GATE VALVE & FIRE HYDRANT
GV G 10"DI	GAS MAIN WITH SIZE & GATE VALVE
#181 OHW	EXISTING UTILITY POLE WITH DESIGNATION OVERHEAD WIRES AND GUY POLE
	RETAINING WALL
	STONE RETAINING WALL
	HEDGE LINE
208.8 WFA2	LIMIT OF BORDERING VEGETATED WETLAND WITH FLAG NUMBER AND ELEVATION
	LIMIT OF 100-FOOT WETLAND BUFFER ZONE
	LIMIT OF 200-FOOT RIVER FRONT BUFFER ZONE
	LIMIT OF 400-FOOT "ZONE A" FROM 310 CMR 22.00
	LIMIT OF 100-YEAR FLOOD PLAIN
	EDGE OF GRAVEL ROAD
	OBSERVED HIGH WATER
	EDGE OF WATER
× 232.6	SPOT ELEVATION
12"M	PROMINENT DECIDUOUS TREE
18"P	PROMINENT CONIFEROUS TREE
	LIGHT POLE
	TYPICAL SHRUB
205.24	MONITORING WELL WITH TOP METAL CASING EL.
RCP	REINFORCED CONCRETE PIPE
CI	CAST IRON
CMP	CORRUGATED METAL PIPE
ASB.	ASBESTOS PIPE
VC	VITRIFIED CLAY
PVC	POLYVINYL CHLORIDE
SMH	SEWER MANHOLE
DMH	DRAIN MANHOLE
CB	CATCH BASIN
	BOLLARD
	SIGN
	MANHOLE (UNKNOWN UTILITY)
(2L)	TWO LIMBED
(R)	RECORD
(C)	CALCULATED
(R/H)	RECORD AND HELD
(M)	FIELD MEASURED
DH	DRILL HOLE
DHCB	DRILL HOLE IN CONCRETE BOUND
DHSB	DRILL HOLE IN STONE BOUND
I.PIPE	IRON PIPE
SB	STONE BOUND
I.ROD	IRON ROD
MHB	MASS HIGHWAY BOUND
EPLP	ESCUTCHEON PIN IN A LEAD PLUG
ECSB	ESSEX COUNTY STONE BOUND
CTR. BK.	CENTER BACK

TREE ABBREVIATIONS

M	MAPLE
O	OAK
P	PINE
C	CEDAR
LIN	LINDEN
CH	CHERRY
E	ELM
S	SPRUCE
HIC	HICKORY
SYC	SYCAMORE

NOTES:

1) UNDERGROUND UTILITIES ARE SHOWN HEREON FROM FIELD LOCATIONS OF SURFACE VISIBLE STRUCTURES AND FROM AVAILABLE RECORD INFORMATION AND PRIVATE UTILITY COMPANIES. OTHER UNDERGROUND UTILITIES MAY EXIST. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION, SIZE & ELEVATION OF ALL UTILITIES WITHIN THE AREA OF PROPOSED WORK AND TO CONTACT "DIG-SAFE" AT 811 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION OR CONSTRUCTION.

2) THE ELEVATIONS SHOWN HERON ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).

3) THIS PLAN IS PREPARED FROM INFORMATION PROVIDED BY DONOHOE AND PARKHURST, INC. AND VERIFIED AND SUPPLEMENTED VIA FIELD SURVEY PERFORMED BY HANCOCK ASSOCIATES.

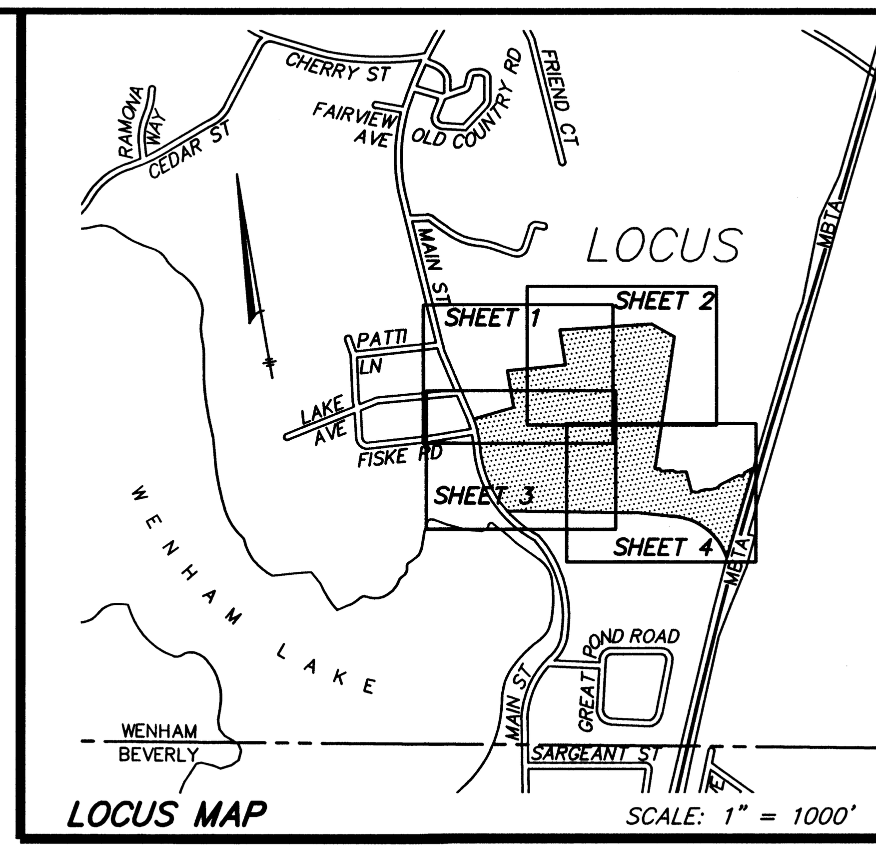
4) 36" WATER MAIN SHOWN HEREON FROM PLAN BOOK 136, PLAN 79.

5) LOCATION OF WENHAM LAKE SHOWN HEREON FROM PLAN ENTITLED "SALEM-BEVERLY WATER SUPPLY BOARD, NO. 5, ANNOTATED BY T. KNOWLTON, P.E".

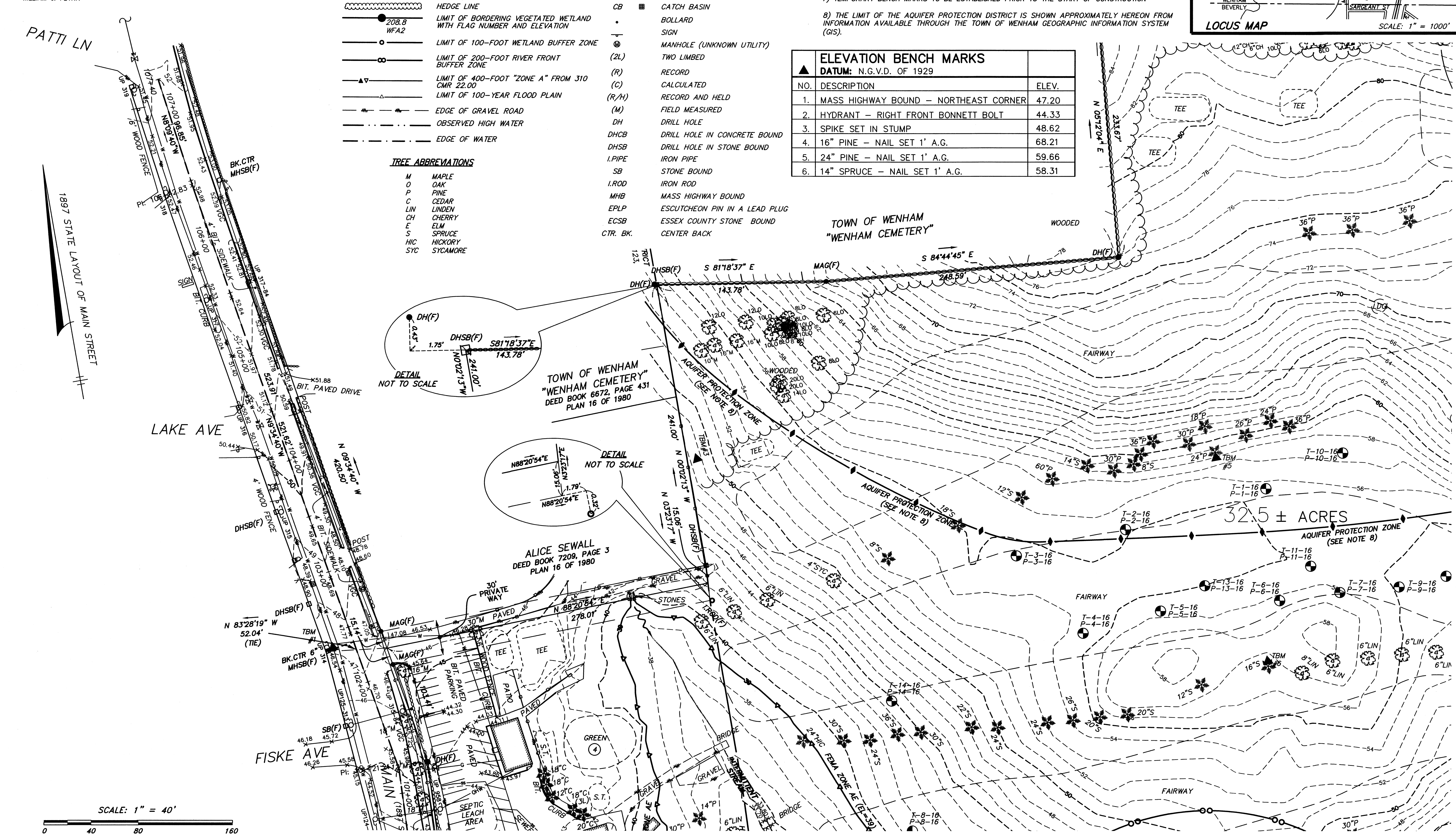
6) THE LOCATION OF THE 400 FOOT ZONE A FROM THE BANK OF THE WENHAM LAKE RESERVOIR AS DEPICTED ON THIS PLAN IS DETERMINED BY FIELD SURVEY. THE LOCATION WAS DETERMINED FROM OBSERVED TOP OF DAM ELEVATION OF 34.65' (NGVD29) AND TOPOGRAPHY AT RESERVOIRS BANK.

7) TEMPORARY BENCH MARKS TO BE ESTABLISHED PRIOR TO THE START OF CONSTRUCTION

8) THE LIMIT OF THE AQUIFER PROTECTION DISTRICT IS SHOWN APPROXIMATELY HEREON FROM INFORMATION AVAILABLE THROUGH THE TOWN OF WENHAM GEOGRAPHIC INFORMATION SYSTEM (GIS).



▲	ELEVATION BENCH MARKS DATUM: N.G.V.D. OF 1929	
NO.	DESCRIPTION	ELEV.
1.	MASS HIGHWAY BOUND - NORTHEAST CORNER	47.20
2.	HYDRANT - RIGHT FRONT BONNETT BOLT	44.33
3.	SPIKE SET IN STUMP	48.62
4.	16" PINE - NAIL SET 1' A.G.	68.21
5.	24" PINE - NAIL SET 1' A.G.	59.66
6.	14" SPRUCE - NAIL SET 1' A.G.	58.31



WENHAM PINES

PROJECT NAME:

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APPLICANT:

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SCOTT R. JALBERT
12/20/16

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	SRJ	RAT	12/2/16	WETFLAGS
1	SRJ	RAT	10/6/16	ADDITIONAL TREE LOCATIONS

DATE:	7/19/2016	DESIGN BY:	
SCALE:	1" = 40'	DRAWN BY:	NCO
APPRVD. BY:		CHECK BY:	GGG

EXISTING CONDITIONS

PLOT DATE: Dec 14, 2016 3:08 pm
PATH: F:\Civil 3D Projects\19400 - Tambone - Wenham\DWG\

DWG: 19400ec(2).dwg
LAYOUT: EC
SHEET: 3 OF 38

EC-1

PROJECT NO.: 19400

▲	ELEVATION BENCH MARKS DATUM: N.G.V.D. OF 1929	
NO.	DESCRIPTION	ELEV.
1.	MASS HIGHWAY BOUND – NORTHEAST CORNER	47.20
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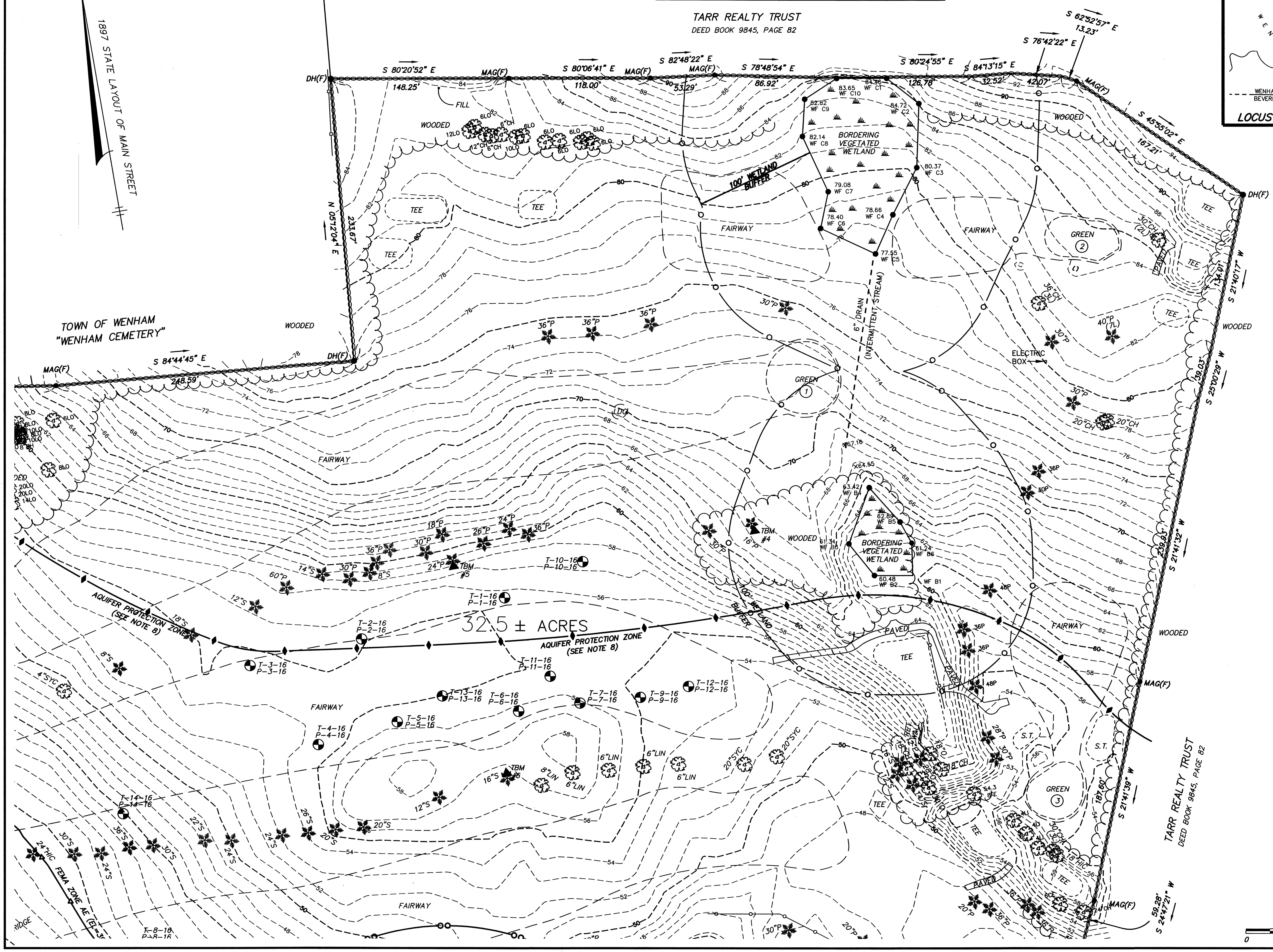
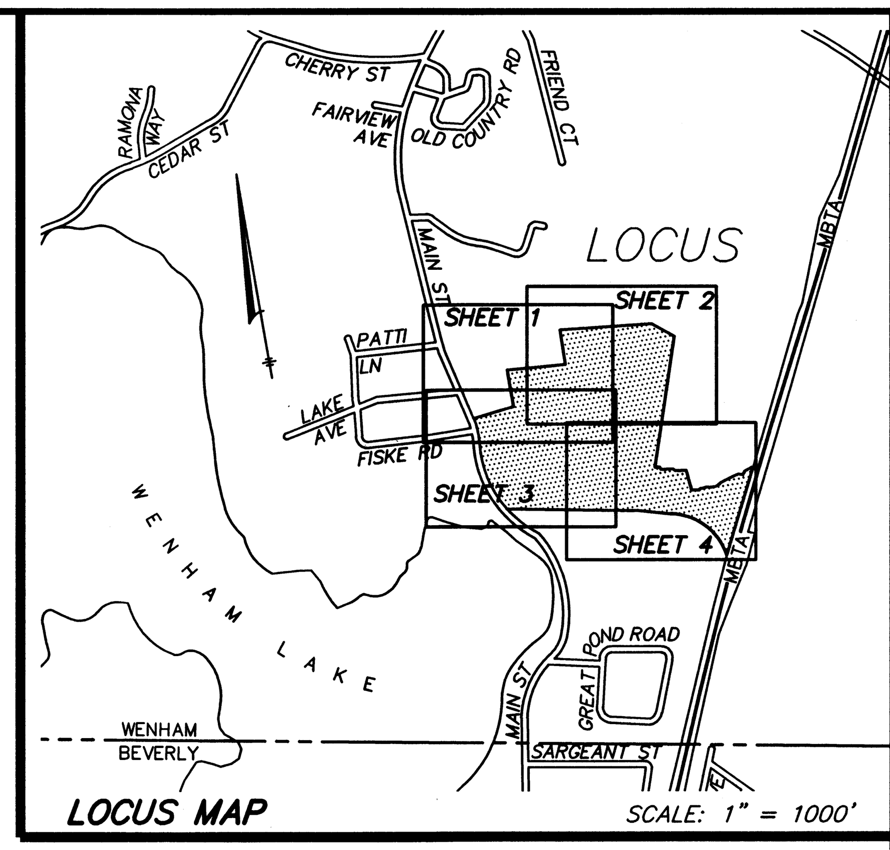
NOTE:

1) FOR LEGEND, NOTES & REFERENCES, SEE SHEET 1 OF 4.





SCALE: 1" = 40'

0 40 80 160

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12/20/16

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	SRJ	RAT	12/2/16	WETFLAGS
1	SRJ	RAT	10/6/16	ADDITIONAL TREE LOCATIONS

DATE:	7/19/2016	DESIGN BY:	
SCALE:	1" = 40'	DRAWN BY:	NCO
APPRVD. BY:		CHECK BY:	GGG

EXISTING CONDITIONS

PLOT DATE: Dec 14, 2016 3:09 pm
PATH: F:\Civil 3D Projects\19400 – Tambone – Wenham\DWG\

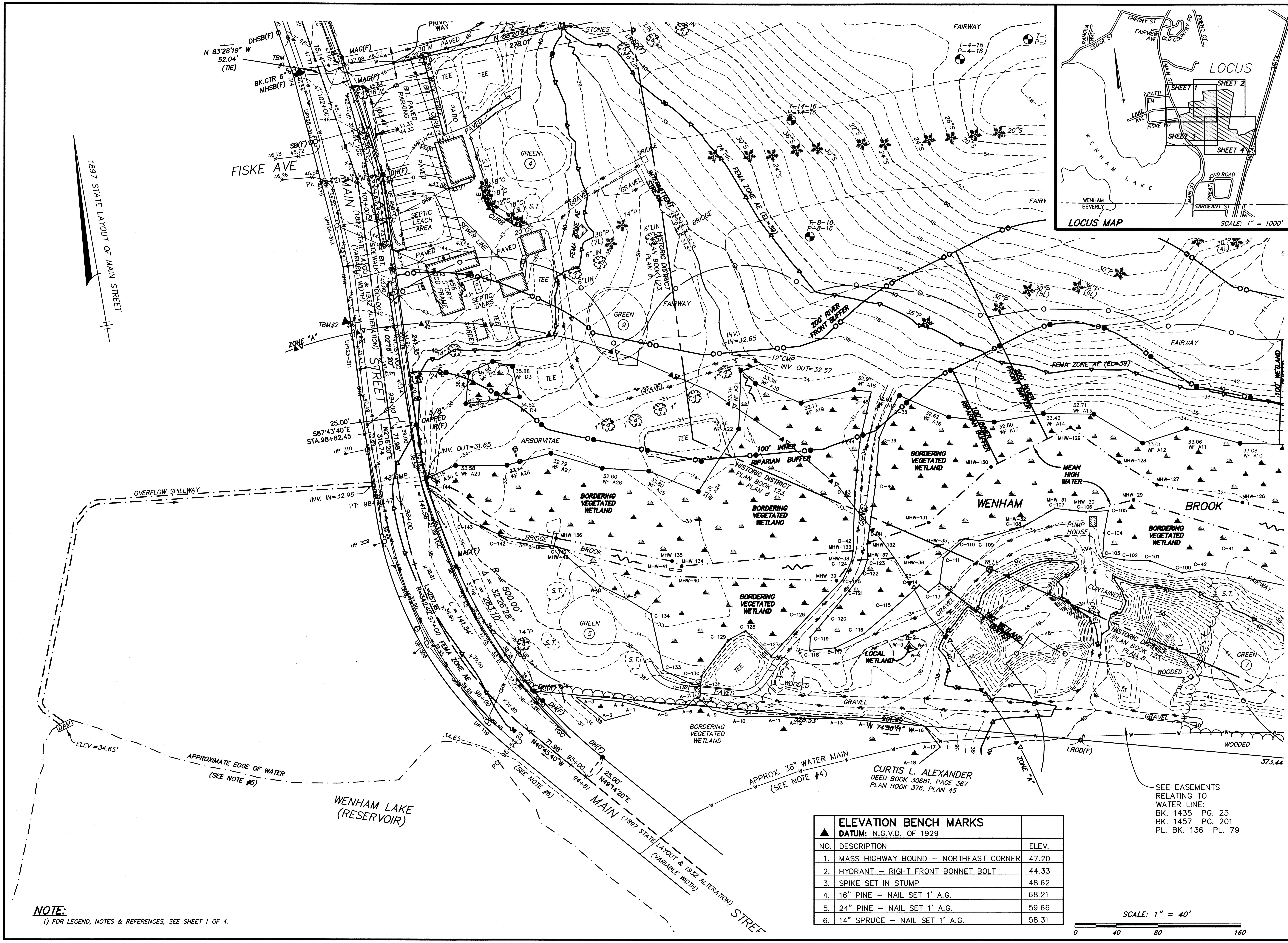
DWG: 19400ec(2).dwg

LAYOUT: EC

SHEET: 4 OF 38

EC-2

PROJECT NO.: 19400



▲	ELEVATION BENCH MARKS DATUM: N.G.V.D. OF 1929	
NO.	DESCRIPTION	ELEV.
1.	MASS HIGHWAY BOUND – NORTHEAST CORNER	47.20
2.	HYDRANT – RIGHT FRONT BONNET BOLT	44.33
3.	SPIKE SET IN STUMP	48.62
4.	16" PINE – NAIL SET 1' A.G.	68.21
5.	24" PINE – NAIL SET 1' A.G.	59.66
6.	14" SPRUCE – NAIL SET 1' A.G.	58.31

NOTE:
1) FOR LEGEND, NOTES & REFERENCES, SEE SHEET 1 OF 4.

PROJECT NAME:
WENHAM PINES
56 & 60 Main Street
Wenham, MA 01984

APPLICANT:
WENHAM PINES LLC.
6 Kimball Lane
Lynnfield, MA 01940

OWNER:
ESTATE OF WILLIAM J. FLYNN
5 Barker Road
Boxford, MA 01921

HANCOCK ASSOCIATES
Civil Engineers
Land Surveyors
Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM

SCOTT R. JALBERT No. 40727 PROFESSIONAL LAND SURVEYOR
12/20/16

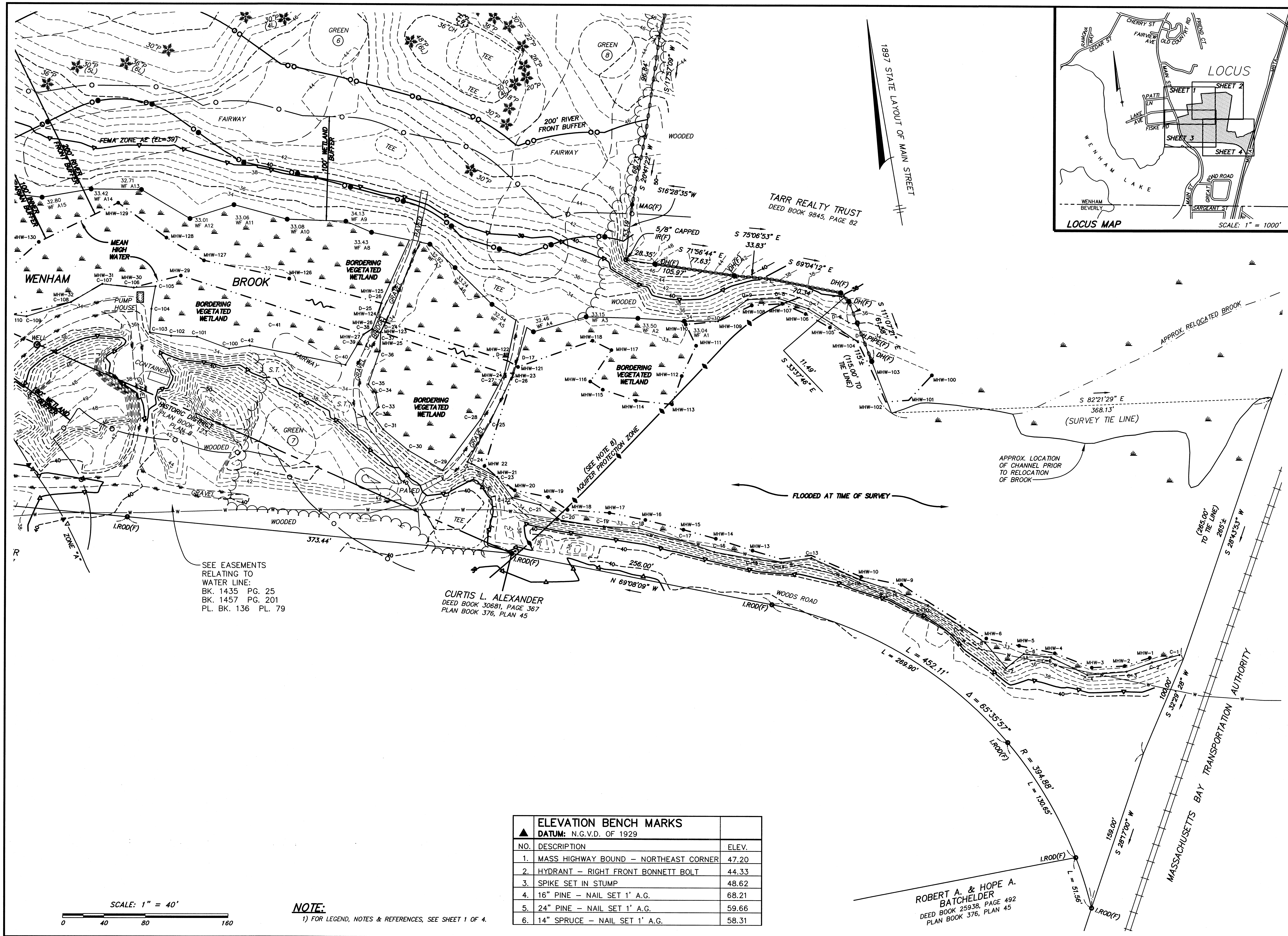
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	SRJ	RAT	12/2/16	WETFLAGS
1	SRJ	RAT	10/6/16	ADDITIONAL TREE LOCATIONS

DATE: 7/19/2016		DESIGN BY:	
SCALE: 1" = 40'		DRAWN BY:	NCO
APPRVD. BY:		CHECK BY:	GGG

EXISTING CONDITIONS

PLOT DATE: Dec 14, 2016 3:15 pm
PATH: F:\Civil 3D Projects\19400 - Tambone - Wenham\DWG\

DWG: 19400ec(2).dwg
LAYOUT: EC
SHEET: 5 OF 38
EC-3
PROJECT NO.: 19400



ELEVATION BENCH MARKS DATUM: N.G.V.D. OF 1929		
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6.	14" SPRUCE – NAIL SET 1' A.G.	58.31

SCALE: 1" = 40'

0 40 80 160

NOTE:

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NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
2	SRJ	RAT	12/2/16	WETFLAGS
1	SRJ	RAT	10/6/16	ADDITIONAL TREE LOCATIONS

DATE:	7/19/2016	DESIGN BY:	
SCALE:	1" = 40'	DRAWN BY:	NCO
APPRVD. BY:		CHECK BY:	GGG

EXISTING CONDITIONS

PLOT DATE: Dec 14, 2016 3:18 pm

DWG: 19400ec(2).dwg

LAYOUT: EC

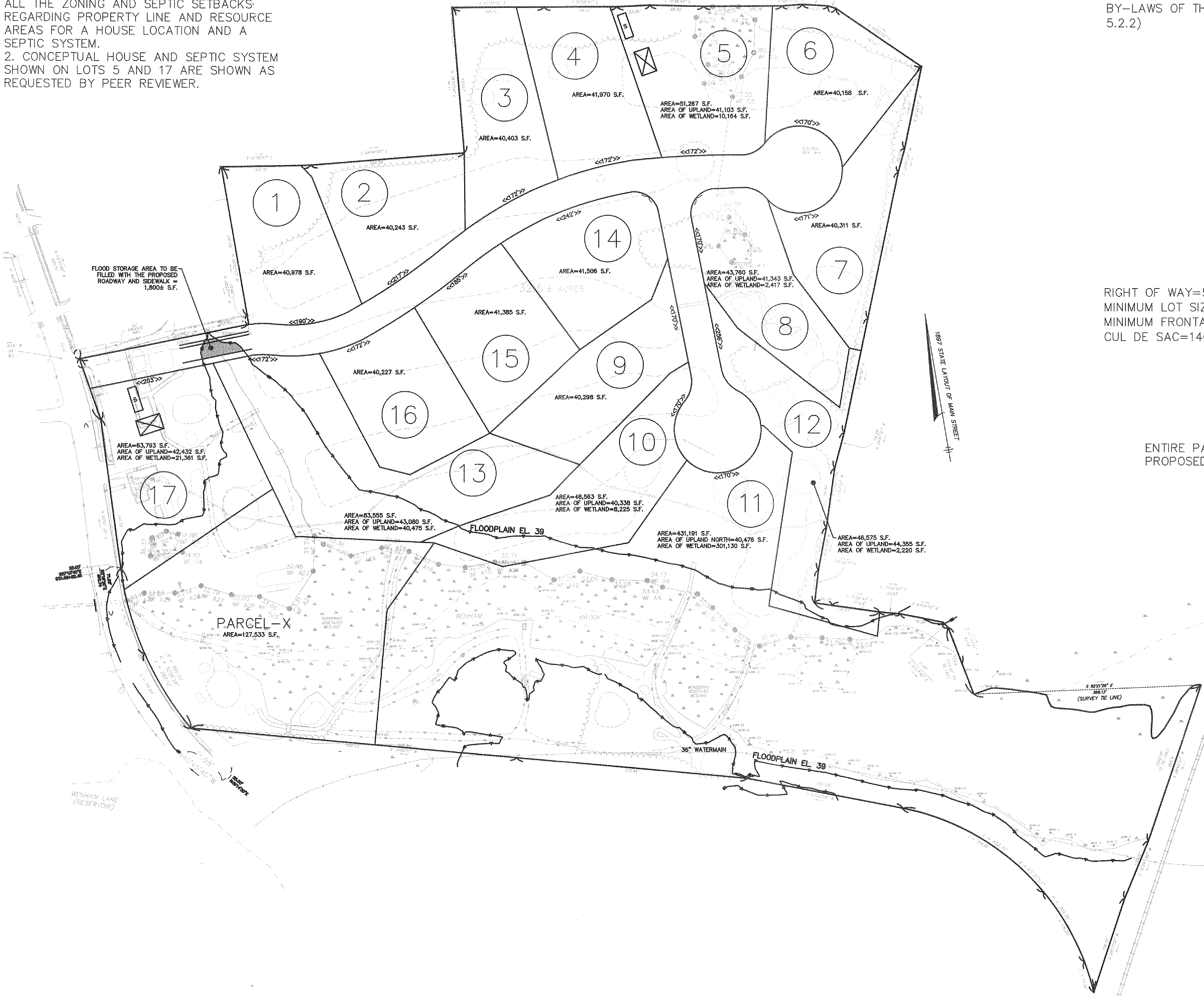
SHEET: 6 OF 38

EC-4

PROJECT NO.: 19400

NOTES:
1. LOTS 5, 16, 18, 13, 12 AND 11 SATISFY ALL THE ZONING AND SEPTIC SETBACKS REGARDING PROPERTY LINE AND RESOURCE AREAS FOR A HOUSE LOCATION AND A SEPTIC SYSTEM.
2. CONCEPTUAL HOUSE AND SEPTIC SYSTEM SHOWN ON LOTS 5 AND 17 ARE SHOWN AS REQUESTED BY PEER REVIEWER.

NOTE:
UPLAND AREA CALCULATED AS TOTAL LOT AREA MINUS AREA OF LOT BELOW FLOODPLAIN ELEVATION (ELEV. 39) (ZONING BY-LAWS OF THE TOWN OF WENHAM SECTION 5.2.2)



RIGHT OF WAY=50'
MINIMUM LOT SIZE (UPLAND AREA)=40,000 S.F.
MINIMUM FRONTAGE=170'
CUL DE SAC=140' DIAMETER

ENTIRE PARCEL: 32.5± ACRES
PROPOSED LOTS: 17

GRAPHIC SCALE: 1 INCH = 80 FEET
0 40 80 160 320

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NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
9	JPC	RAT	1/9/17	FINAL C.C. PLANS
8	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
7	JPC	RAT	11/8/16	PLANNING BOARD COMMENTS
6	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS
5	JTL	RAT	9/28/16	LOT MODIFICATION
4	JPC	RAT	9/12/16	LOT MODIFICATION
3	TRD	RAT	7/8/16	LOT MODIFICATION
2	TRD	RAT	5/26/16	LOT MODIFICATION
1	JPC	RAT	3/14/16	PER PB COMMENTS

YIELD PLAN

PLOT DATE: Jan 20, 2017 3:55 pm
PATH: F:\Civil 3D Projects\19400 - Tambone - Wenham\DWG\

DWG: 19400 YIELD PLAN 161107.dwg
LAYOUT: YIELD PLAN
SHEET: 7 OF 38
C-1
PROJECT NO.: 19400

PROJECT NAME:

WENHAM PINES

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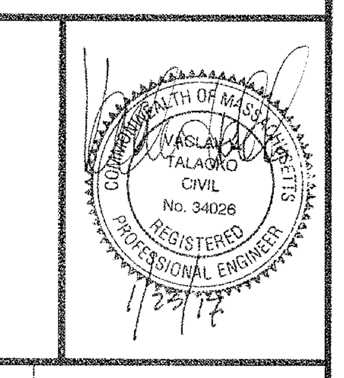


NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
4	JPC	RAT	1/9/17	FINAL C.C. PLANS
3	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
2	JPC	RAT	11/8/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JPC
APPRVD. BY:	VVT	CHECK BY:	RAT

MASTER PLAN

PLOT DATE: Jan 20, 2017 2:53 pm
PATH: F:\Civil 3D Projects\19400 – Tambone – Wenham\DWG\

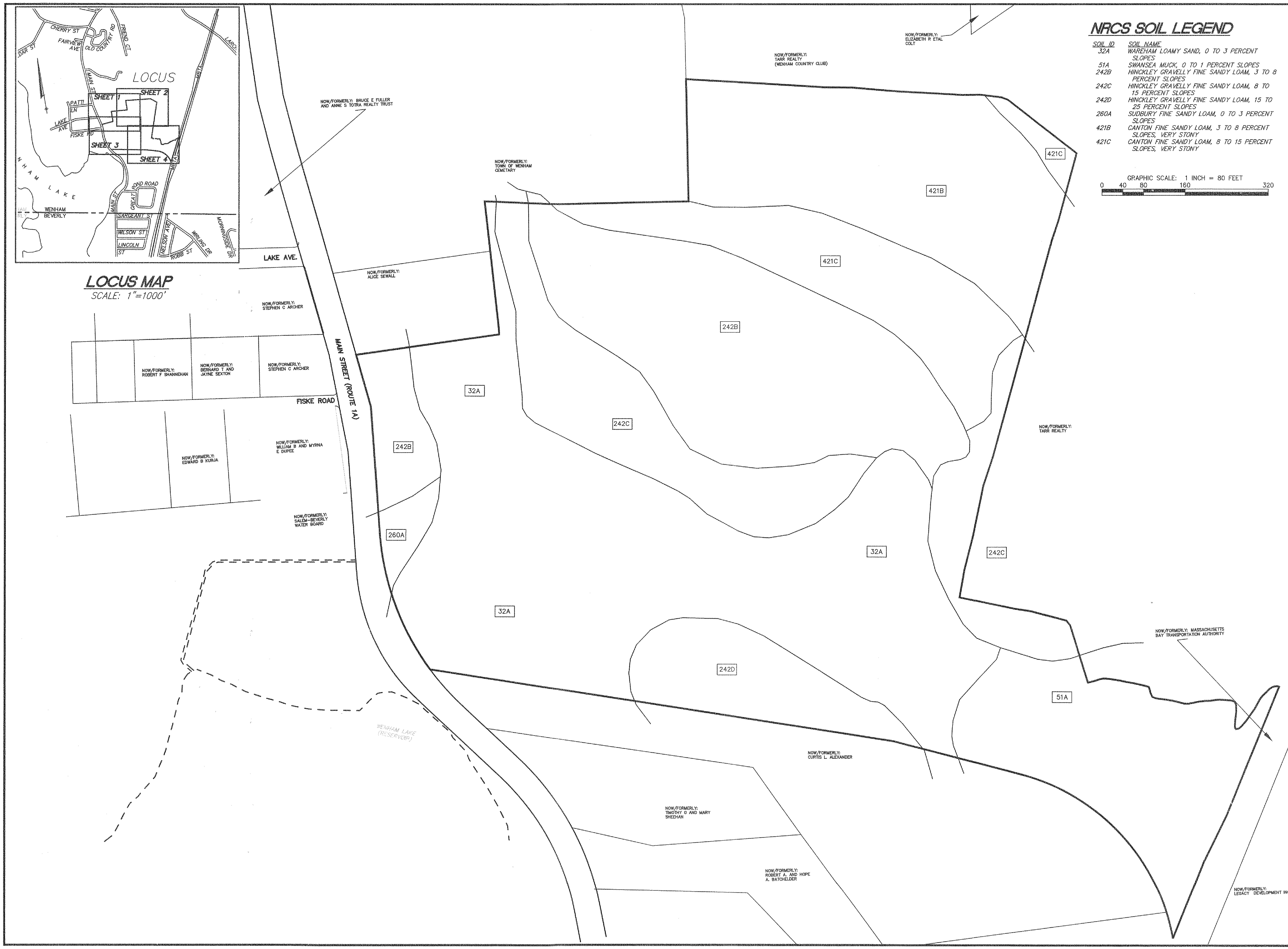
DWG: 19400C1 170103.dwg

LAYOUT: MP

SHEET: 8 OF 38

MP

PROJECT NO.: 19400



NRCS SOIL LEGEND

SOIL ID	SOIL NAME
32A	WAREHAM LOAMY SAND, 0 TO 3 PERCENT SLOPES
51A	SWANSEA MUCK, 0 TO 1 PERCENT SLOPES
242B	HINCKLEY GRAVELLY FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES
242C	HINCKLEY GRAVELLY FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES
242D	HINCKLEY GRAVELLY FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES
260A	SUDBURY FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES
421B	CANTON FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES, VERY STONY
421C	CANTON FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES, VERY STONY

GRAPHIC SCALE: 1 INCH = 80 FEET

0 40 80 160 320

PROJECT NAME:

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COMMONWEALTH OF MASSACHUSETTS
TALACKO
CIVIL
No. 34026
REGISTERED PROFESSIONAL ENGINEER
1/23/17

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
3	JPC	RAT	1/9/17	FINAL C.C. PLANS
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1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JPC
APPRVD. BY:	VVT	CHECK BY:	RAT

SOILS AND ABUTTERS MAP

PLOT DATE: Jan 20, 2017 1:55 pm
PATH: F:\Civil 3D Projects\19400 - Tambone - Wenham\DWG\

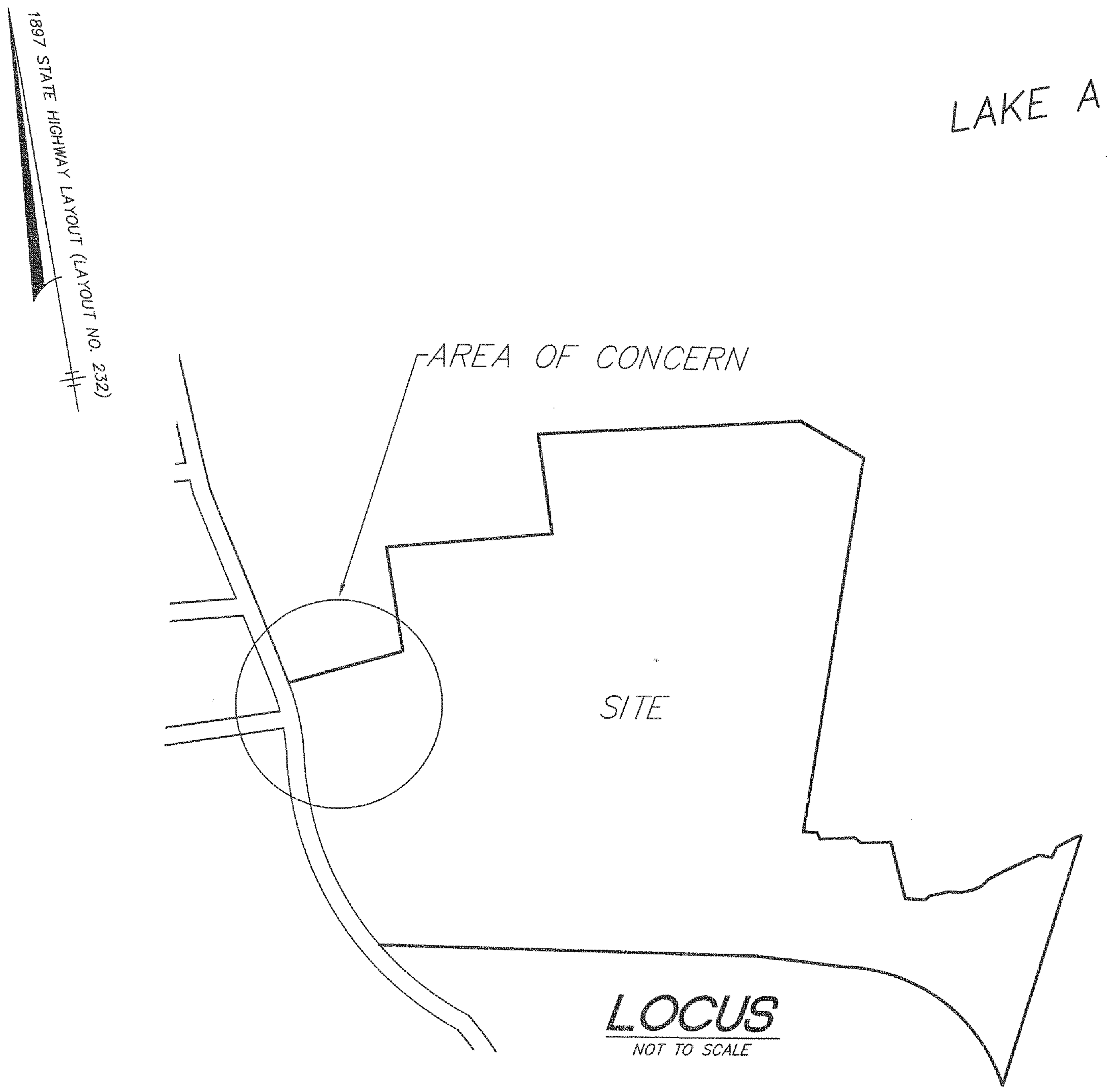
DWG: 19400C1 170103.dwg

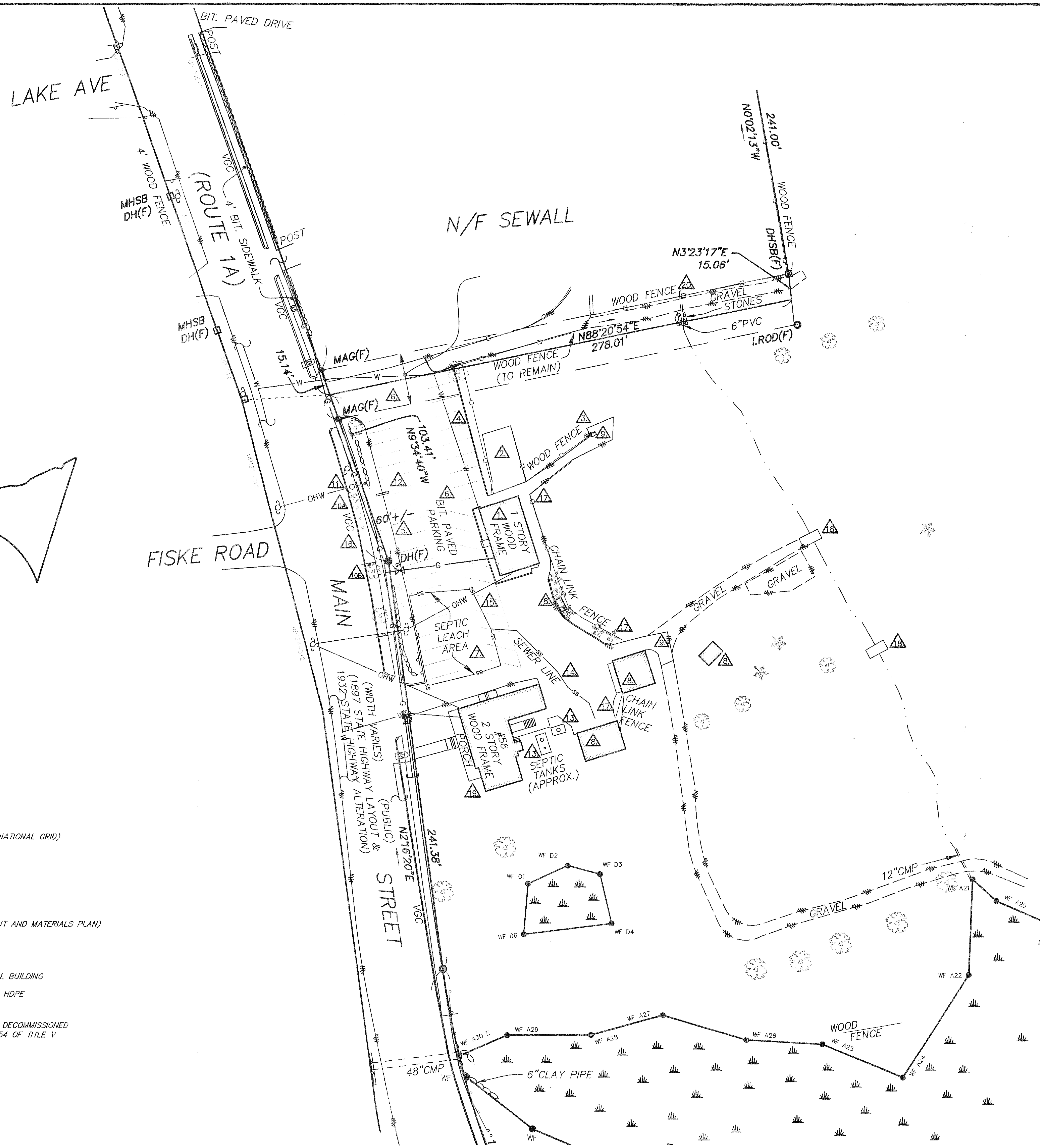
LAYOUT: SOILS

SHEET: 9 OF 38

S/A

PROJECT NO.: 19400





TO BE REMOVED

1. CLUBHOUSE
2. PATIO
3. 6' WOODEN FENCE
4. BITUMINOUS CONCRETE CURB
5. FIELDSTONE WALL (60' TO BE STACKED)
6. BITUMINOUS CONCRETE PARKING LOT
7. SEPTIC LEACH AREA*
8. 4 SMALL BUILDINGS
9. PAVED WALKWAY
10A. 18" MAPLE
10B. 12" MAPLE
11. POLE W/GUY WIRE TO BE RELOCATED (BY NATIONAL GRID)
12. SIGN
13. (2) SEPTIC TANKS*
14. SEWER LINE
15. OVERHEAD WIRES
16. VERTICAL GRANITE CURB (96' – SEE LAYOUT AND MATERIALS PLAN)
17. CHAIN LINK FENCE
18. SMALL WOODEN BRIDGE
19. EXISTING LANDSCAPING AROUND RESIDENTIAL BUILDING
20. 12" PLASTIC PIPE AND REPLACED WITH 24" HDPE

* EXISTING SEPTIC SYSTEM COMPONENTS TO BE DECOMMISSIONED IN ACCORDANCE WITH SECTION 310 CMR 15.354 OF TITLE V

GRAPHIC SCALE: 1 INCH = 30 FEET
0 15 30 60 120

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COMMONWEALTH OF MASSACHUSETTS VACLAV V. TALACKO CIVIL No. 34026 REGISTERED PROFESSIONAL ENGINEER
1/23/17

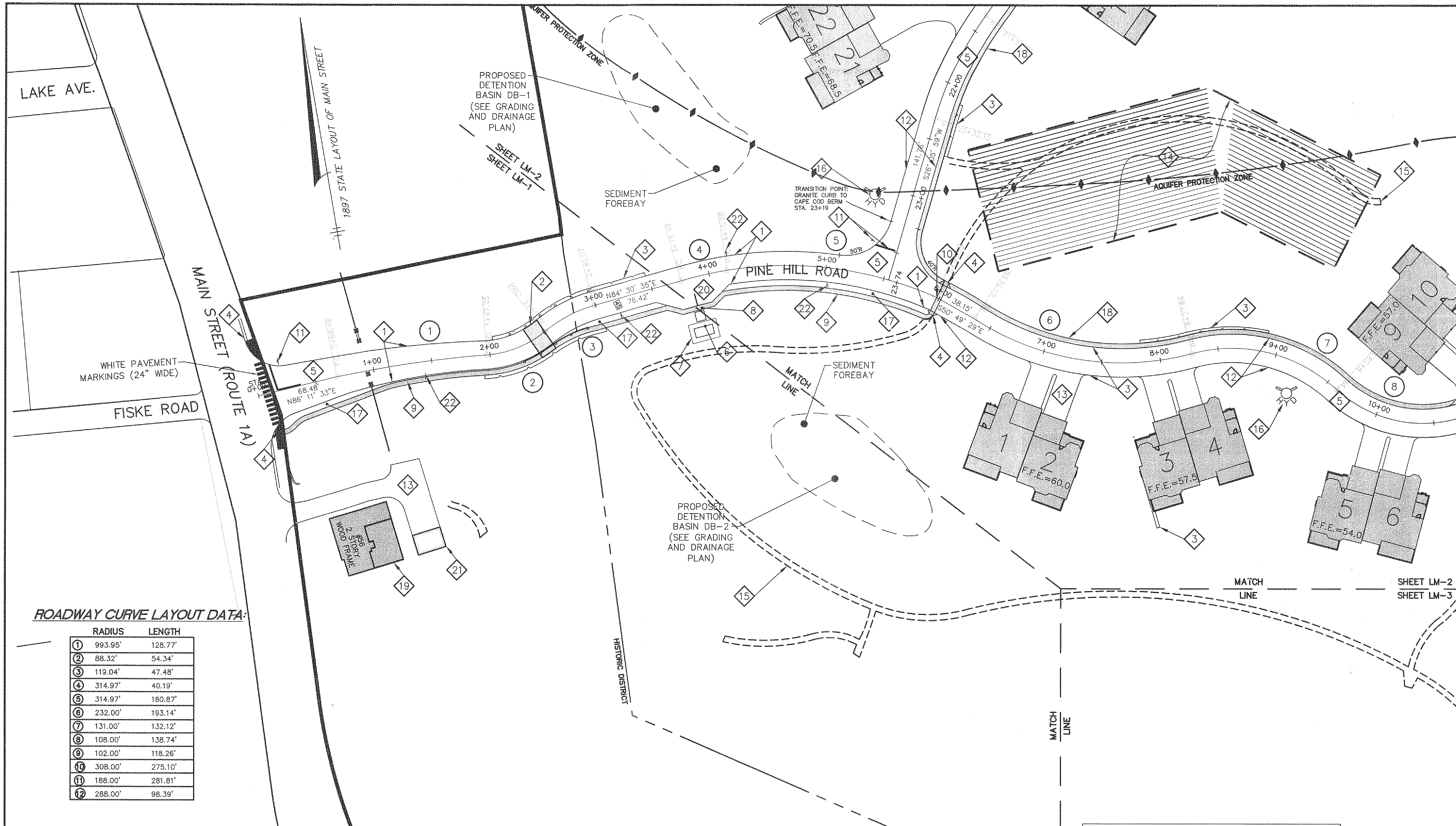
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
3	JPC	RAT	1/9/17	FINAL C.C. PLANS
2	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JPC
APPRVD. BY:	VVT	CHECK BY:	RAT

DEMOLITION PLAN

PLOT DATE: Jan 20, 2017 3:56 pm
PATH: F:\Civil 3D Projects\19400 – Tambone – Wenham\DWG\

DWG: 19400 demo.dwg
LAYOUT: DEMO
SHEET: 10 OF 38
D-1
PROJECT NO.: 19400



ROADWAY CURVE LAYOUT DATA:

	RADIUS	LENGTH
1	993.95'	128.77'
2	88.32'	54.34'
3	119.04'	47.48'
4	314.97'	40.19'
5	314.97'	180.87'
6	232.00'	193.14'
7	131.00'	132.12'
8	108.00'	138.74'
9	102.00'	118.26'
10	308.00'	275.10'
11	188.00'	281.81'
12	288.00'	98.39'

CONSTRUCTION KEY NOTES:
(NOT NECESSARILY A CONSTRUCTION SEQUENCE)

1. INSTALL VERTICAL GRANITE CURB (TYPICAL)
2. INSTALL PRECAST CONCRETE BRIDGE
3. INSTALL RETAINING WALL
4. INSTALL HANDICAP CURB RAMP (TYPICAL)
5. INSTALL BITUMINOUS PAVEMENT
6. INSTALL NEW CONCRETE PAD FOR EMERGENCY GENERATOR
7. INSTALL 6 FT. STOCKADE FENCE AROUND GENERATOR
8. INSTALL ROTARY MAILBOX ON CONCRETE PAD WITH ATTACHED ROOF
9. INSTALL 5 FT. WIDE CONCRETE SIDEWALK (TYPICAL)
10. CROSS WALK PAVEMENT MARKINGS (TYPICAL) – SEE DETAIL
11. INSTALL STOP SIGN (R1-1) AND PAVEMENT MARKINGS
12. INSTALL BITUMINOUS CAPE COD BERM CURBING
13. INSTALL BITUMINOUS CONCRETE DRIVEWAY (TYPICAL)
14. INSTALL SEPTIC FIELD
15. MOWED WALKING PATH
16. FIRE HYDRANT
17. INSTALL WIDE LAWN STRIP (WIDTH VARIES 1' TO 5')
18. INSTALL 4.5 FT. WIDE BITUMINOUS SIDEWALK
19. AREA OF RESIDENTIAL BUILDING RENOVATION AFFORDABLE UNITS (23 & 24) (SEE ARCHITECTURAL PLANS)
20. TWO PULL-OFF SPACES FOR U.S. MAIL CENTER
21. PROPOSED GARAGE FOR 56/60 MAIN STREET
22. INSTALL "NO PARKING – FIRE LANE" SIGNS (4 TOTAL)

NOTE:
REFER TO LANDSCAPE PLANS PREPARED BY RYAN ASSOCIATES FOR MORE INFORMATION AND DETAILS OF THE FOLLOWING ITEMS:

1. LAYOUT OF SPRINKLER IRRIGATION SYSTEM W/PUMPS AND CONTROLS
2. STREET LIGHT POLES AND INDIVIDUAL LAMP POSTS
3. MOWED WALKING PATH
4. PERMANENT SIGN AND FENCE AT ENTRANCE
5. DETAILS OF WALKWAY MATERIALS AND DRIVEWAY MATERIALS PLUS VARIOUS TYPES OF WALLS

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COMMONWEALTH OF MASSACHUSETTS
VACLAV V. TALACKO
CIVIL
No. 34096
REGISTERED PROFESSIONAL ENGINEER
1/23/17

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
4	JPC	RAT	1/9/17	FINAL C.C. PLANS
3	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
2	JPC	RAT	11/8/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JPC
APPRVD. BY:	VVT	CHECK BY:	DID/RAT

LAYOUT AND MATERIALS

PLOT DATE: Jan 20, 2017 4:02 pm
PATH: F:\Civil 3D Projects\19400 – Tambone – Wenham\DWG\

DWG: 19400C1 170106 construction drawings.dwg
LAYOUT: LM-1
SHEET: 11 OF 26
LM-1
PROJECT NO.: 19400

CONSTRUCTION KEY NOTES:
(NOT NECESSARILY A CONSTRUCTION SEQUENCE)

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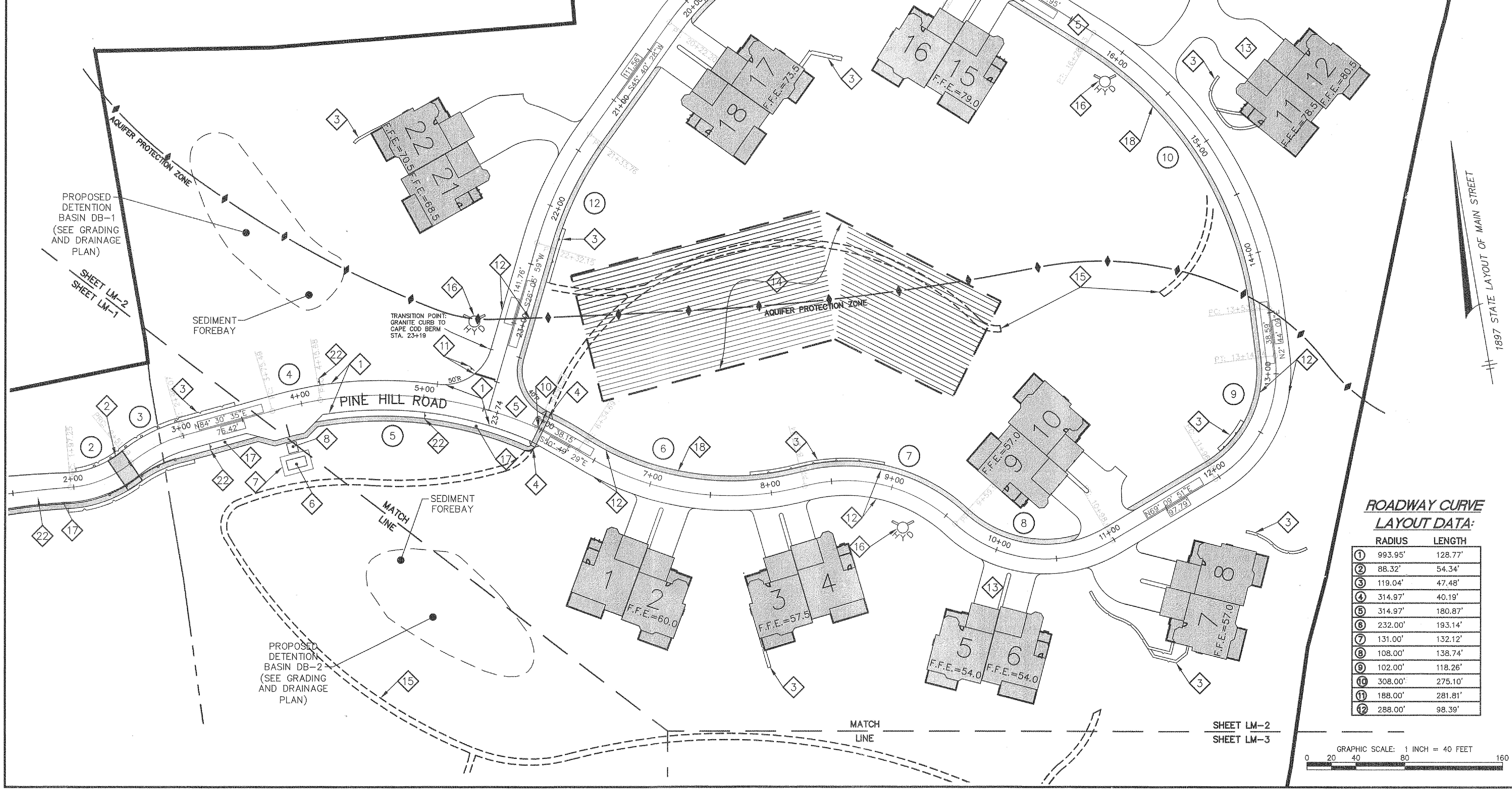
4. INSTALL HANDICAP CURB RAMP (TYPICAL)
5. INSTALL BITUMINOUS PAVEMENT
6. INSTALL NEW CONCRETE PAD FOR EMERGENCY DIESEL GENERATOR
7. INSTALL 6 FT. STOCKADE FENCE AROUND GENERATOR
8. INSTALL ROTARY MAILBOX ON CONCRETE PAD WITH ATTACHED ROOF
9. INSTALL 5 FT. WIDE CONCRETE SIDEWALK (TYPICAL)
10. CROSS WALK PAVEMENT MARKINGS (TYPICAL) – SEE DETAIL
11. INSTALL STOP SIGN (R1–1)
12. INSTALL BITUMINOUS CAPE COD BERM CURBING
13. INSTALL BITUMINOUS CONCRETE DRIVEWAY (TYPICAL)
14. INSTALL SEPTIC FIELD
15. MOWED WALKING PATH
16. FIRE HYDRANT
17. INSTALL 5 FT. WIDE LAWN STRIP
18. INSTALL 4.5 FT. WIDE BITUMINOUS SIDEWALK
19. AREA OF RESIDENTIAL BUILDING RENOVATION AFFORDABLE UNITS (24 & 25) (SEE ARCHITECTURAL PLANS)
20. TWO PULL–OFF SPACES FOR U.S. MAIL CENTER
21. PROPOSED GARAGE FOR 56/60 MAIN STREET
22. INSTALL "NO PARKING – FIRE LANE" SIGNS (4 TOTAL)



ROADWAY CURVE LAYOUT DATA:

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4	JPC	RAT	1/9/17	FINAL C.C. PLANS
3	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
2	JPC	RAT	11/8/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JPC
APPRVD. BY:	VVT	CHECK BY:	DID/RAT

LAYOUT AND MATERIALS

PLOT DATE: Jan 20, 2017 3:57 pm
PATH: F:\Civil 3D Projects\19400 – Tambone – Wenham\DWG\

DWG: 19400C1 170103.dwg
LAYOUT: LM–2
SHEET: 12 OF 38
LM–2
PROJECT NO.: 19400

CONSTRUCTION KEY NOTES:

(NOT NECESSARILY A CONSTRUCTION SEQUENCE)

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11. INSTALL STOP SIGN (R1-1)
12. INSTALL BITUMINOUS CAPE COD BERM CURBING
13. INSTALL BITUMINOUS CONCRETE DRIVEWAY (TYPICAL)
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20. TWO PULL-OFF SPACES FOR U.S. MAIL CENTER
21. PROPOSED GARAGE FOR 56/60 MAIN STREET
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TALACKO
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4	JPC	RAT	1/9/17	FINAL C.C. PLANS
3	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
2	JPC	RAT	11/8/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JPC
APPRVD. BY:	VVT	CHECK BY:	DID/RAT

LAYOUT AND MATERIALS

PLOT DATE: Jan 20, 2017 3:58 pm
PATH: F:\Civil 3D Projects\19400 – Tambone – Wenham\DWG\

DWG: 19400C1 170103.dwg
LAYOUT: LM-3
SHEET: 13 OF 38

LM-3

PROJECT NO.: 19400

DRAINAGE DATA:

STRUCTURE	RIM	INV. IN	INV. OUT	PIPE SIZE (IN.)
DMH #1	54.0	49.7	49.6	12
DMH #2	54.3	50.3	50.2	12
DMH #3	67.7	63.6	63.5	12
DMH #5	47.5	44.0	43.9	18
DMH #6	50.7	45.8	45.7	18
DMH #7	56.6	52.4	52.3	12
DMH #8	63.7	59.5	59.4	12
DMH #9	42.8	38.5	38.4	12
DMH #10	75.8	72.8	70.5	6
VORT. #1	42.5	38.3	38.2	12
CB #1	54.5	–	50.4	12
CB #2	54.8	–	50.9	12
CB #3	54.8	–	50.9	12
CB #4	68.9	–	64.6	12
CB #5	68.9	–	64.6	12
CB #6	49.8	–	46.0	12
CB #7	49.8	–	46.0	12
CB #8	56.8	–	52.7	12
CB #9	56.8	–	52.7	12
CB #10	64.9	–	60.8	12
CB #11	64.9	–	60.8	12
CB #12	43.9	–	38.8	12
CB #13	41.9	–	38.8	12
CB #14	48.9	–	45.2	12
LI #1	53.6	–	49.3	10
LI #2	50.8		49.6	10
OCS #1	51.5	48.1	–	12
OCS #2	–	46.0	–	12
FES #1	–	49.4	–	12
FES #2A	–	45.0	–	12
FES #2B	–	44.0	–	12
FES #2C	–	43.9	–	18
LEVEL SPREADER	–	38.0	–	12
FES #4	–	38.0	–	12

NOTE:

1. CATCH BASIN RIMS AND DRAIN MANHOLE GRATES SHOULD BE INSTALLED .125' BELOW THE ESTABLISHED ELEVATION SHOWN ON THE GRADING AND DRAINAGE PLANS DUE TO THE LAPS IN TIME BETWEEN THE BINDER COURSE BEING INSTALLED AND THE FINAL TOP COURSE OF PAVEMENT BEING INSTALLED.

2. FOR A COMPLETE OVERVIEW OF THE ENTIRE PATH NETWORK, FOR MATERIALS AND WIDTH OF PATHS, REFER TO SHEET L-4.0 (MANAGEMENT PLAN) PREPARED BY RYAN ASSOCIATES.

PROJECT NAME:

WENHAM PINES

56 & 60 Main Street
Wenham, MA 01984

APPLICANT:

WENHAM PINES LLC.

6 Kimball Lane
Lynnfield, MA 01940

OWNER:

ESTATE OF WILLIAM J. FLYNN

5 Barker Road
Boxford, MA 01921

HANCOCK ASSOCIATES

Civil Engineers

Land Surveyors

Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
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VACLAV V. TALACKO
No. 34026
REGISTERED PROFESSIONAL ENGINEER

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
5	JPC	RAT	4/10/17	REV. FLOOD STORAGE
4	JPC	RAT	1/9/17	FINAL C.C. PLANS
3	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
2	JPC	RAT	11/8/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JPC
APPRVD. BY:	VVT	CHECK BY:	DID/RAT

GRADING AND DRAINAGE OVERALL PLAN

PLOT DATE: Jun 13, 2017 2:00 pm
PATH: F:\Civil 3D Projects\19400 – Tambone – Wenham\DWG\

DWG: 19400C1 170103.dwg

LAYOUT: GD

GD

SHEET: 14 OF 38

PROJECT NO.: 19400

DRAINAGE DATA:

STRUCTURE	RIM	INV. IN	INV. OUT	PIPE SIZE (IN.)
DMH #1	54.0	49.7	49.6	12
DMH #2	54.3	50.3	50.2	12
DMH #3	67.7	63.6	63.5	12
DMH #5	47.5	44.0	43.9	18
DMH #6	50.7	45.8	45.7	18
DMH #7	56.6	52.4	52.3	12
DMH #8	63.7	59.5	59.4	12
DMH #9	42.8	38.5	38.4	12
DMH #10	75.8	72.8	70.5	6
VORT. #1	42.5	38.3	38.2	12
CB #1	54.5	–	50.4	12
CB #2	54.8	–	50.9	12
CB #3	54.8	–	50.9	12
CB #4	68.9	–	64.6	12
CB #5	68.9	–	64.6	12
CB #6	49.8	–	46.0	12
CB #7	49.8	–	46.0	12
CB #8	56.8	–	52.7	12
CB #9	56.8	–	52.7	12
CB #10	64.9	–	60.8	12
CB #11	64.9	–	60.8	12
CB #12	43.9	–	38.8	12
CB #13	41.9	–	38.8	12
CB #14	48.9	–	45.2	12
LI #1	53.6	–	49.3	10
LI #2	50.8		49.6	10
OCS #1	51.5	48.1	–	12
OCS #2	–	46.0	–	12
FES #1	–	49.4	–	12
FES #2A	–	45.0	–	12
FES #2B	–	44.0	–	12
FES #2C	–	43.9	–	18
LEVEL SPREADER	–	38.0	–	12
FES #4	–	38.0	–	12

NOTE:
CATCH BASIN RIMS AND DRAIN MANHOLE GRATES SHOULD BE INSTALLED .125' BELOW THE ESTABLISHED ELEVATION SHOWN ON THE GRADING AND DRAINAGE PLANS DUE TO THE LAPSE IN TIME BETWEEN THE BINDER COURSE BEING INSTALLED AND THE FINAL TOP COURSE OF PAVEMENT BEING INSTALLED.

CONSTRUCTION KEY NOTES:
(NOT NECESSARILY A CONSTRUCTION SEQUENCE)

1. INSTALL DRAIN MANHOLE (TYPICAL)
2. INSTALL CATCH BASIN (TYPICAL)
3. FLOOD PLAIN REPLICATION AREA
4. INSTALL ROOF INFILTRATION CHAMBERS (TYPICAL)
5. INSTALL LAWN INLET (12" x 12")

NOTE:
ALL DRAIN PIPES ARE 12 INCH REINFORCED CONCRETE PIPE UNLESS OTHERWISE NOTED

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OWNER:
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HANCOCK ASSOCIATES
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Land Surveyors
Wetland Scientists

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5	JPC	RAT	4/10/17	REV. FLOOD STORAGE
4	JPC	RAT	12/5/16	CON. COMM. COMMENTS
3	JPC	RAT	11/25/16	CON. COMM. COMMENTS
2	JPC	RAT	11/8/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JPC
APPRVD. BY:	VVT	CHECK BY:	RAT

GRADING AND DRAINAGE (W/TREES TO BE REMOVED)

PLOT DATE: Jun 13, 2017 2:01 pm
PATH: F:\Civil 3D Projects\19400 - Tombone - Wenham\DWG\

DWG: 19400C1 170106.dwg
LAYOUT: GD-1
SHEET: 15 OF 38
GD-1
PROJECT NO.: 19400

DRAINAGE DATA:

STRUCTURE	RIM	INV. IN	INV. OUT	PIPE SIZE (IN.)
DMH #1	54.0	49.7	49.6	12
DMH #2	54.3	50.3	50.2	12
DMH #3	67.7	63.6	63.5	12
DMH #5	47.5	44.0	43.9	18
DMH #6	50.7	45.8	45.7	18
DMH #7	56.6	52.4	52.3	12
DMH #8	63.7	59.5	59.4	12
DMH #9	42.8	38.5	38.4	12
DMH #10	75.8	72.8	70.5	6
VORT. #1	42.5	38.3	38.2	12
CB #1	54.5	–	50.4	12
CB #2	54.8	–	50.9	12
CB #3	54.8	–	50.9	12
CB #4	68.9	–	64.6	12
CB #5	68.9	–	64.6	12
CB #6	49.8	–	46.0	12
CB #7	49.8	–	46.0	12
CB #8	56.8	–	52.7	12
CB #9	56.8	–	52.7	12
CB #10	64.9	–	60.8	12
CB #11	64.9	–	60.8	12
CB #12	43.9	–	38.8	12
CB #13	41.9	–	38.8	12
CB #14	48.9	–	45.2	12
LI #1	53.6	–	49.3	10
LI #2	50.8		49.6	10
OCS #1	51.5	48.1	–	12
OCS #2	–	46.0	–	12
FES #1	–	49.4	–	12
FES #2A	–	45.0	–	12
FES #2B	–	44.0	–	12
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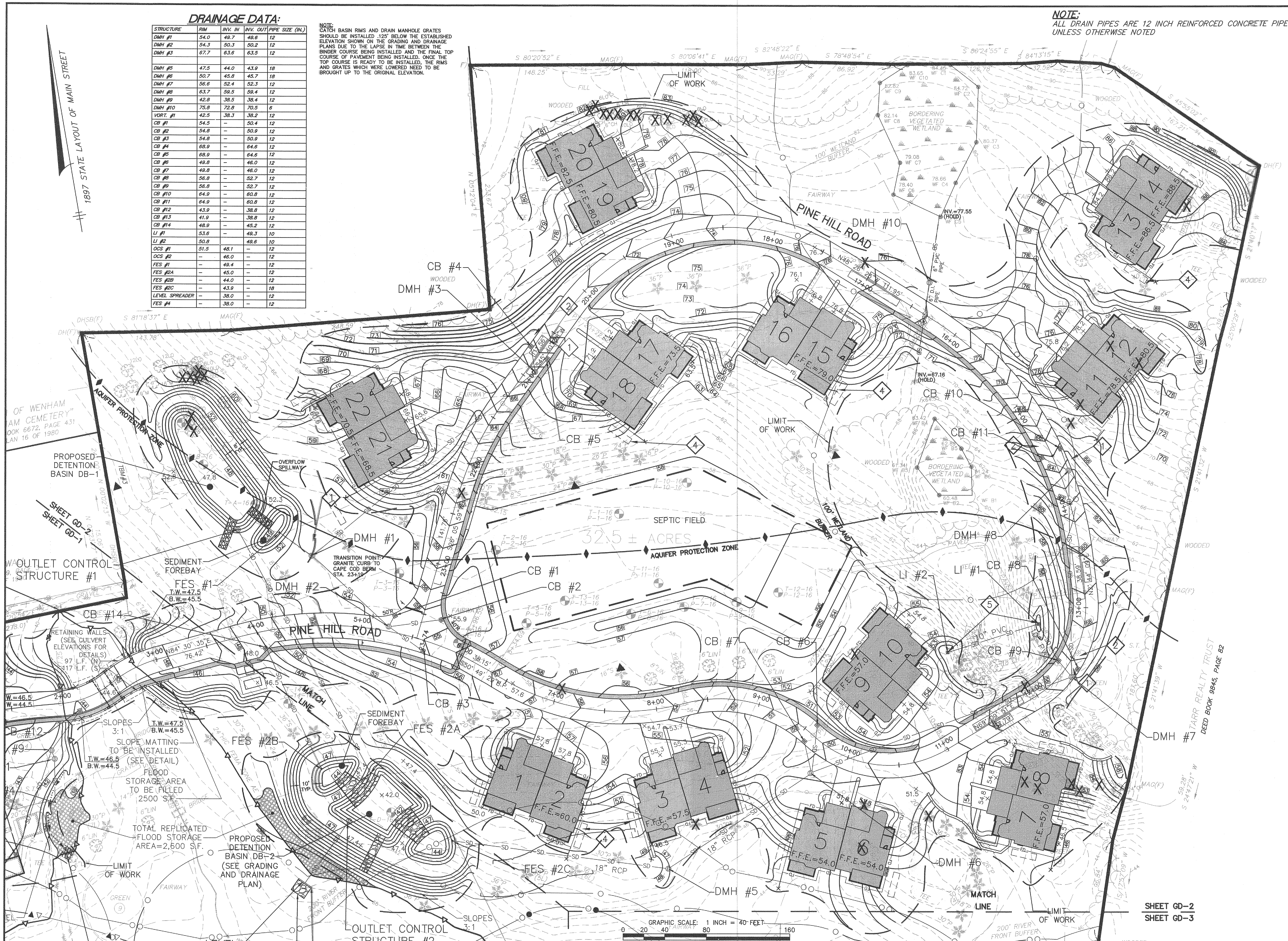
FES #4	–	38.0	–	12

NOTE:
CATCH BASIN RIMS AND DRAIN MANHOLE GRATES SHOULD BE INSTALLED .125' BELOW THE ESTABLISHED ELEVATION SHOWN ON THE GRADING AND DRAINAGE PLANS DUE TO THE LAPSE IN TIME BETWEEN THE BINDER COURSE BEING INSTALLED AND THE FINAL TOP COURSE OF PAVEMENT BEING INSTALLED. ONCE THE TOP COURSE IS READY TO BE INSTALLED, THE RIMS AND GRATES WHICH WERE LOWERED NEED TO BE BROUGHT UP TO THE ORIGINAL ELEVATION.

NOTE:
ALL DRAIN PIPES ARE 12 INCH REINFORCED CONCRETE PIPE UNLESS OTHERWISE NOTED



PROJECT NAME:
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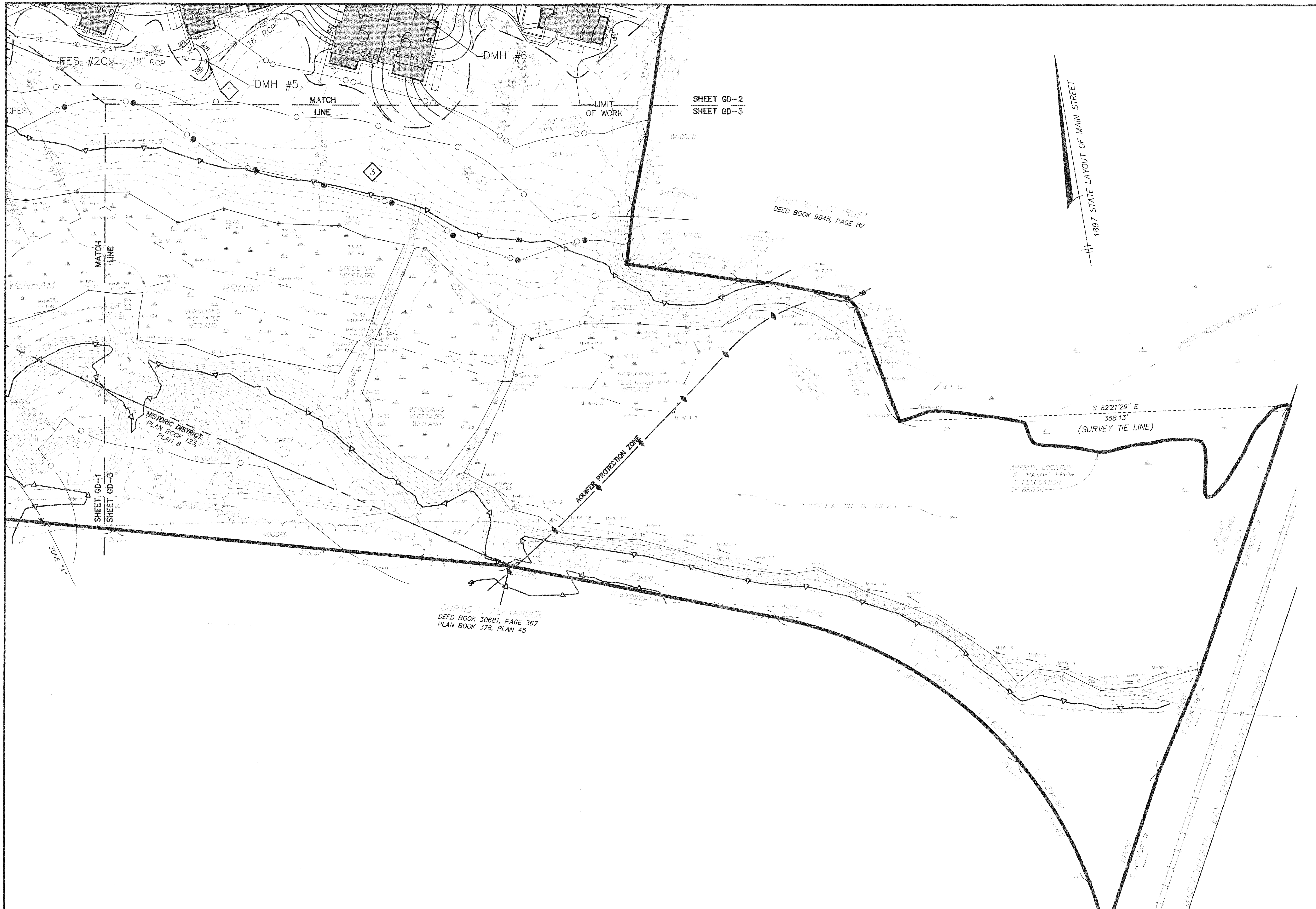
5	JPC	RAT	1/9/17	FINAL C.C. PLANS
4	JPC	RAT	12/5/16	CON. COMM. COMMENTS
3	JPC	RAT	11/25/16	CON. COMM. COMMENTS
2	JPC	RAT	11/8/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JPC
APPRVD. BY:	VVT	CHECK BY:	RAT

GRADING AND DRAINAGE (W/TREES TO BE REMOVED)

PLOT DATE: Jun 13, 2017 1:45 pm
PATH: F:\Civil 3D Projects\19400 - Tambone - Wenham\DWG\

DWG: 19400C1 170106.dwg
LAYOUT: GD-2
SHEET: 16 OF 38
GD-2
PROJECT NO.: 19400



NOTE:
ALL DRAIN PIPES ARE 12 INCH REINFORCED CONCRETE PIPE UNLESS OTHERWISE NOTED

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56 & 60 Main Street
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NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
4	JPC	RAT	1/9/17	FINAL C.C. PLANS
3	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
2	JPC	RAT	11/8/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JPC
APPRVD. BY:	VVT	CHECK BY:	RAT

GRADING AND DRAINAGE (W/TREES TO BE REMOVED)

PLOT DATE: Jan 20, 2017 4:05 pm
PATH: F:\Civil 3D Projects\19400 - Tambone - Wenham\DWG\

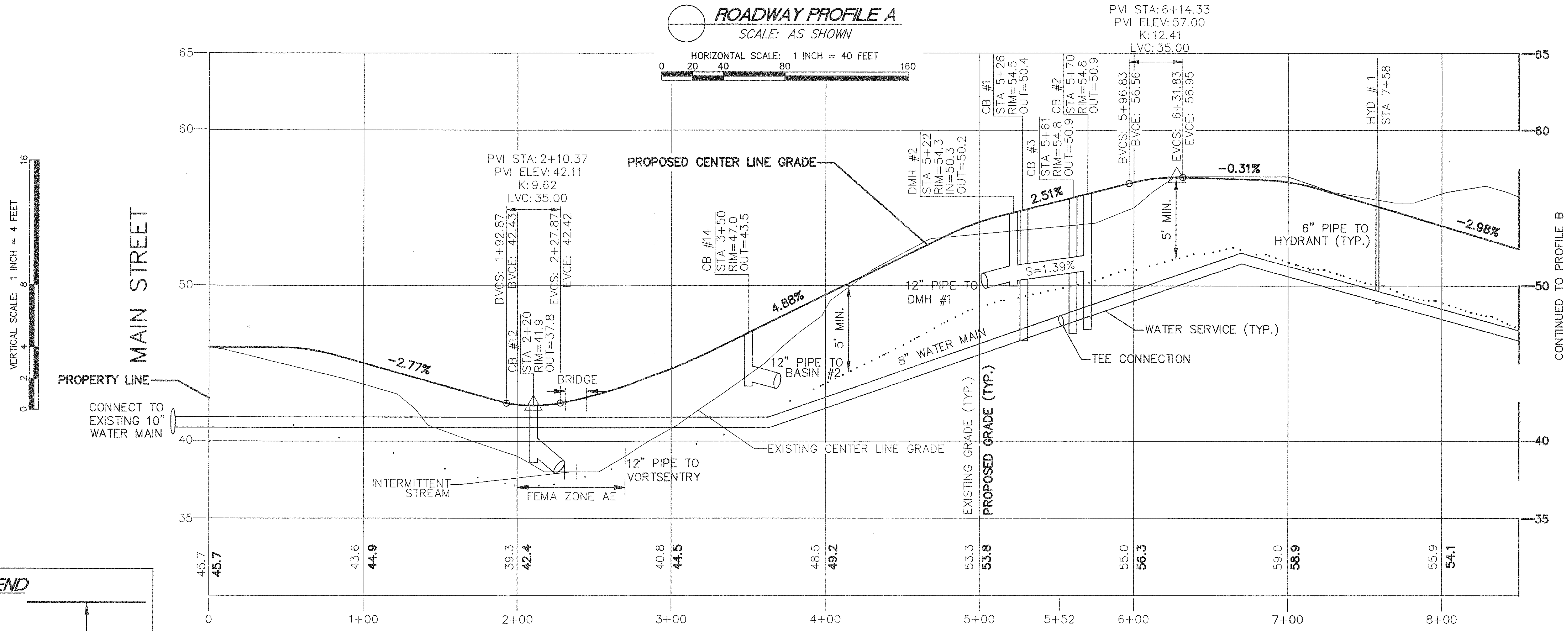
DWG: 19400C1 170105.dwg
LAYOUT: GD-3
SHEET: 17 OF 38

GD-3

PROJECT NO.: 19400

ROADWAY PROFILE A

SCALE: AS SHOWN



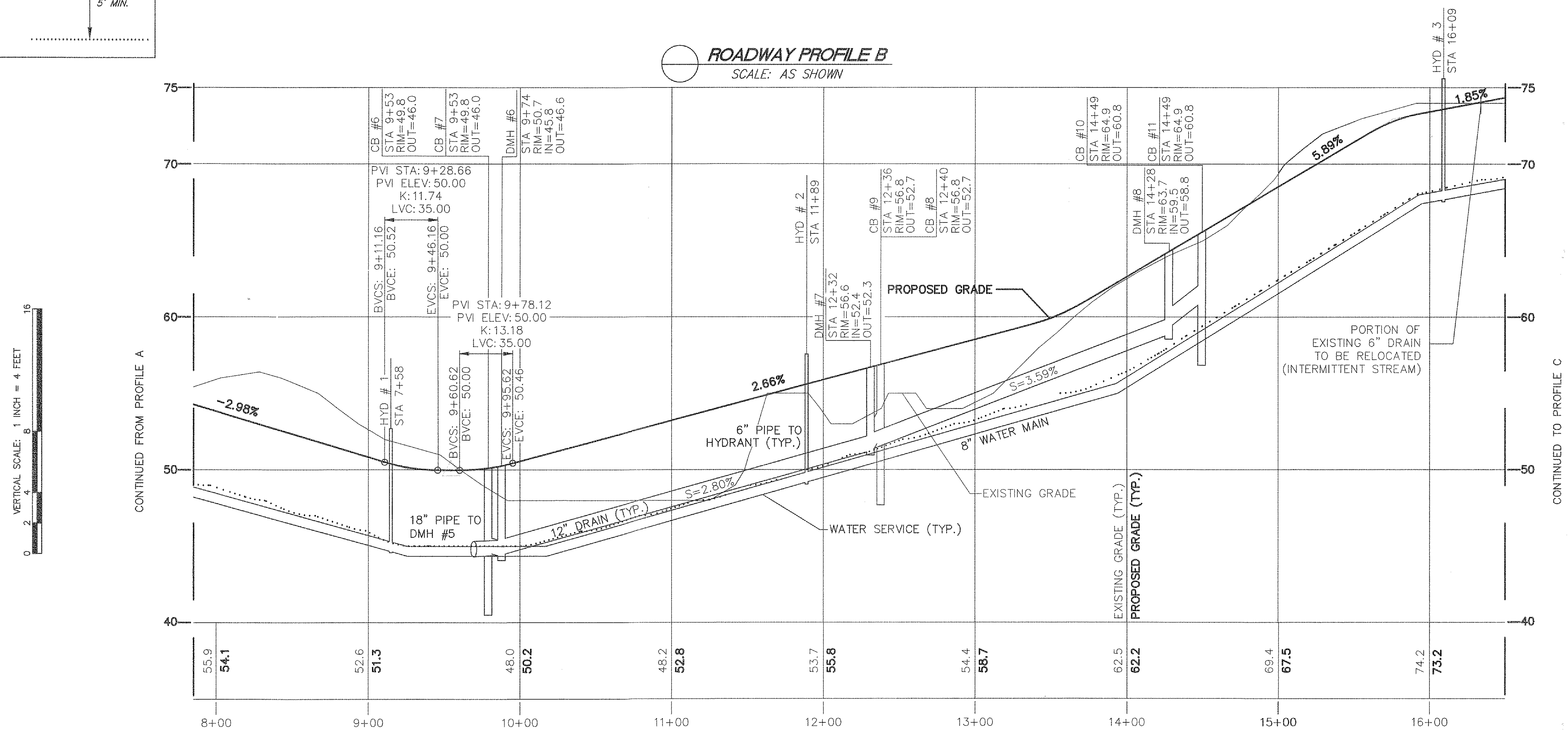
LEGEND

GROUNDCOVER:
5' MIN. FROM FINISHED GRADE

5' MIN.

ROADWAY PROFILE B

SCALE: AS SHOWN



PROJECT NAME:

WENHAM PINES

56-60 Main Street
Wenham, Massachusetts 01984

APPLICANT:

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OWNER:

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3	JPC	RAT	1/9/17	FINAL C.C. PLANS
2	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JJP
APPRVD. BY:	VVT	CHECK BY:	RAT

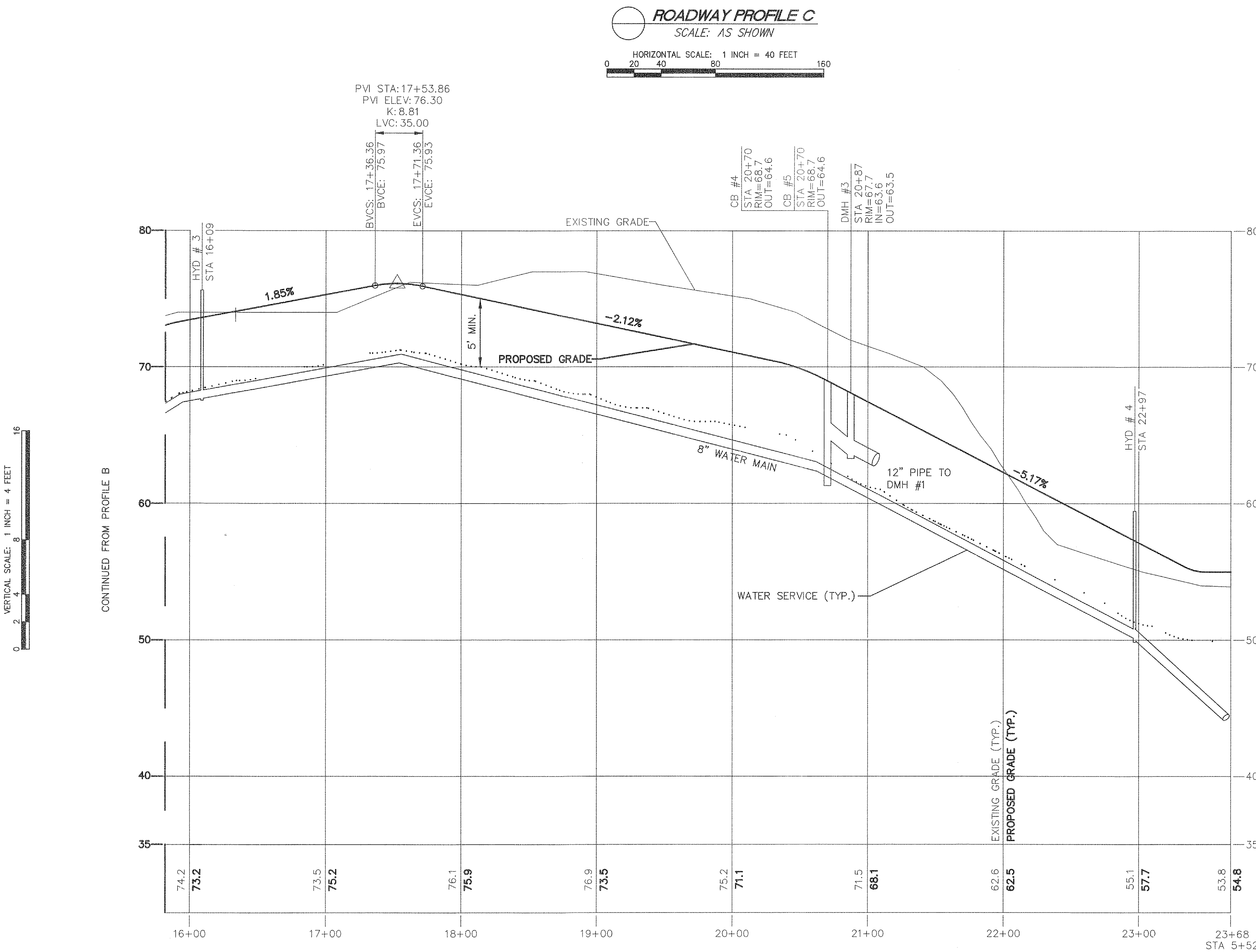
PINE HILL ROADWAY AND UTILITY PROFILE

PLOT DATE: Jan 20, 2017 4:06 pm
PATH: F:\Civil 3D Projects\19400 - Tambone - Wenham\DWG\

DWG: 19400 Road Profile 7-716.dwg
LAYOUT: PROFILE
SHEET: 18 OF 38

PR-1

PROJECT NO.: 19400



PROJECT NAME:

WENHAM PINES

56-60 Main Street
Wenham, Massachusetts 01984

APPLICANT:

WENHAM PINES LLC

6 Kimball Lane
Lynnfield, Massachusetts 01940

OWNER:

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3	JPC	RAT	1/9/17	FINAL C.C. PLANS
2	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JJP
APPRVD. BY:	VVT	CHECK BY:	RAT

PINE HILL ROADWAY AND UTILITY PROFILE

PLOT DATE: Jan 20, 2017 4:07 pm
PATH: F:\Civil 3D Projects\19400 - Tambone - Wenham\DWG\

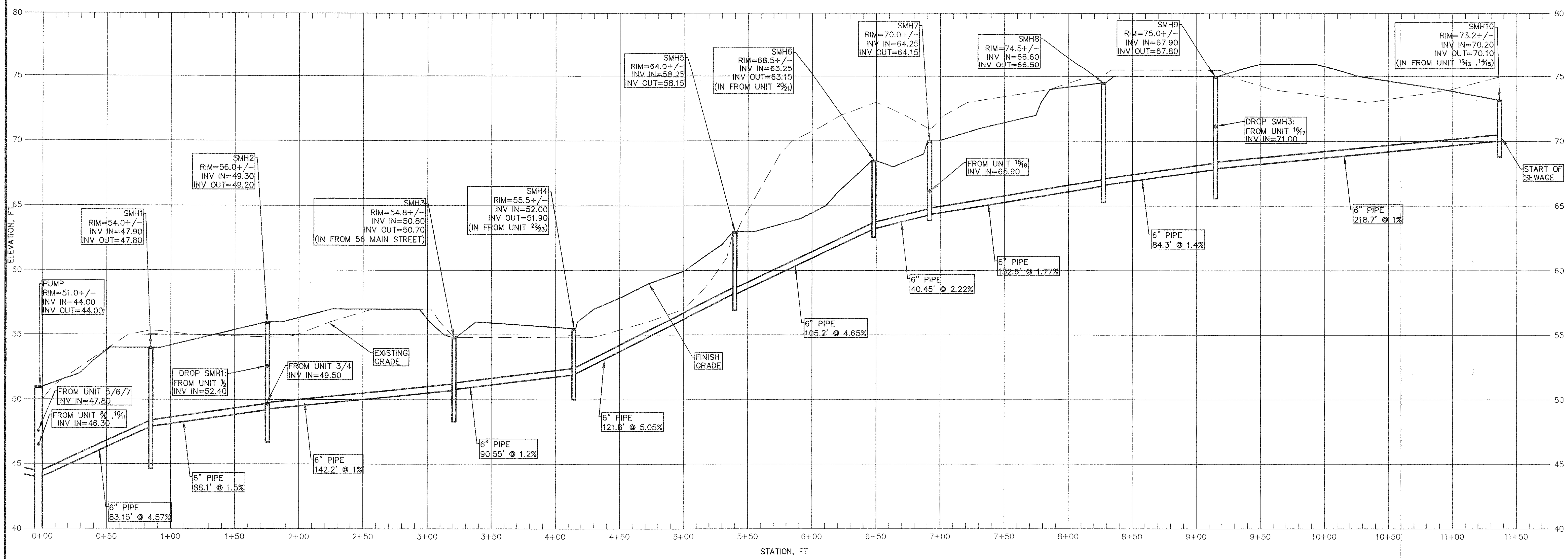
DWG: 19400 Road Profile 7-716.dwg

LAYOUT: PROFILE

SHEET: 19 OF 38

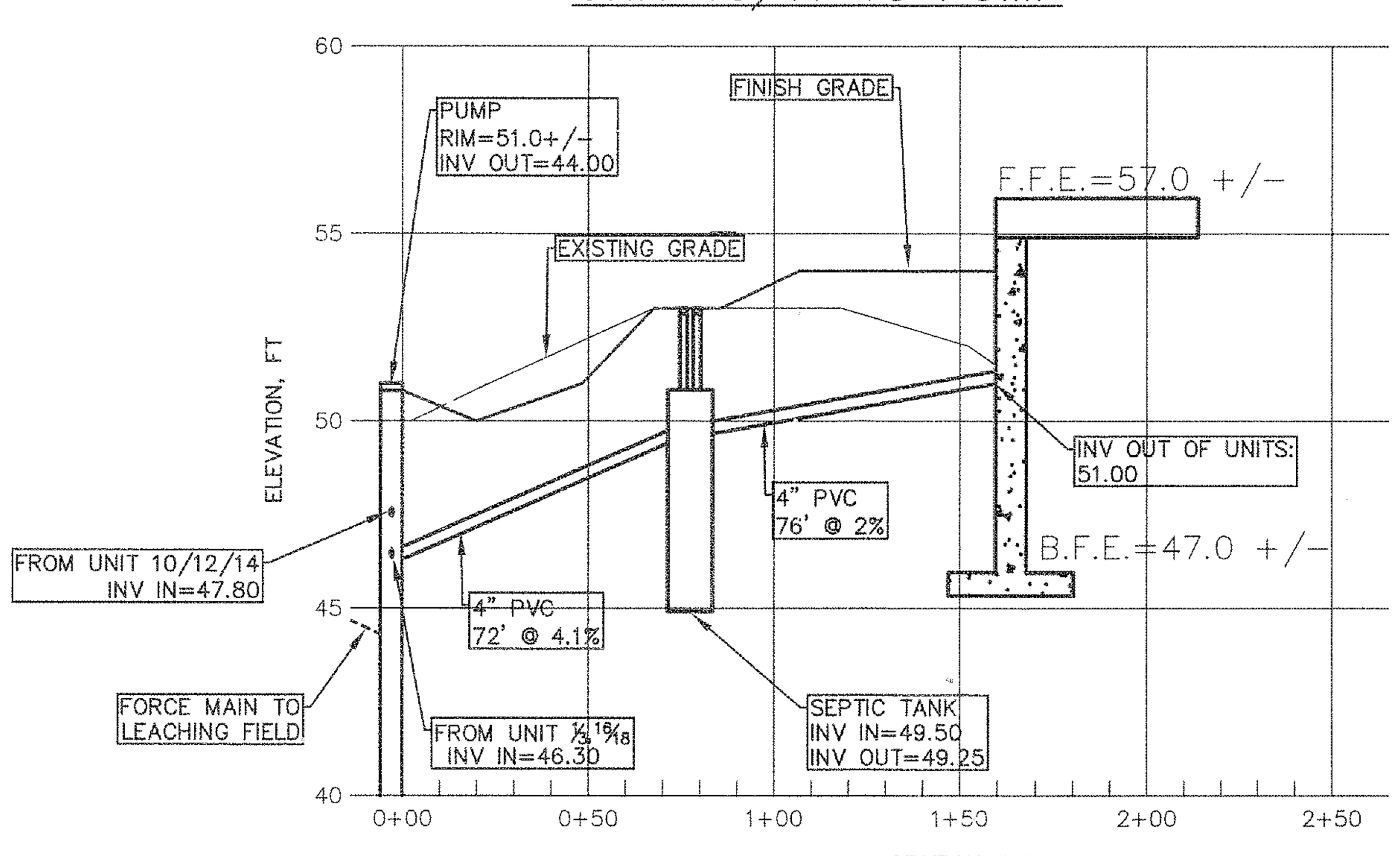
PR-2

PROJECT NO.: 19400

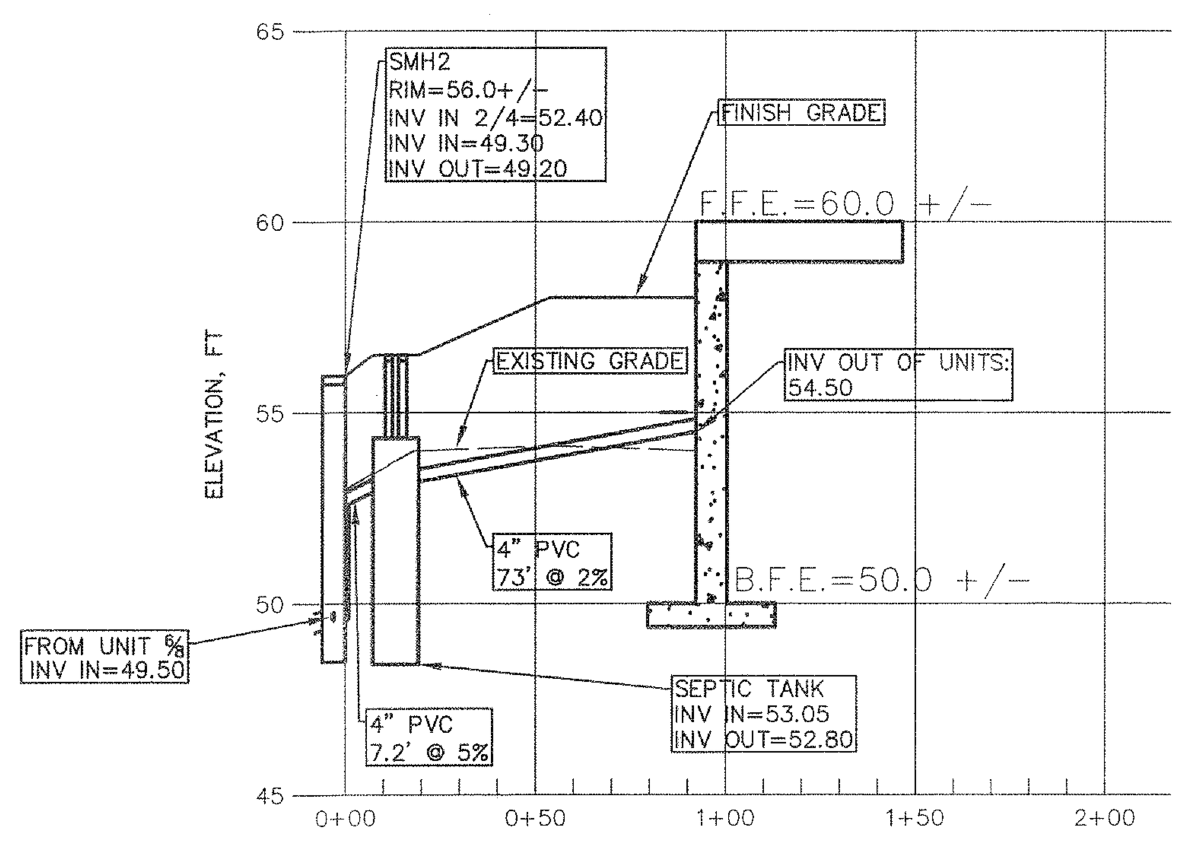


SEWER AND SEPTIC SYSTEM PROFILE
SCALE: 1"=40' HORZ
1"=4' VERT

UNIT 10/11 TO PUMP

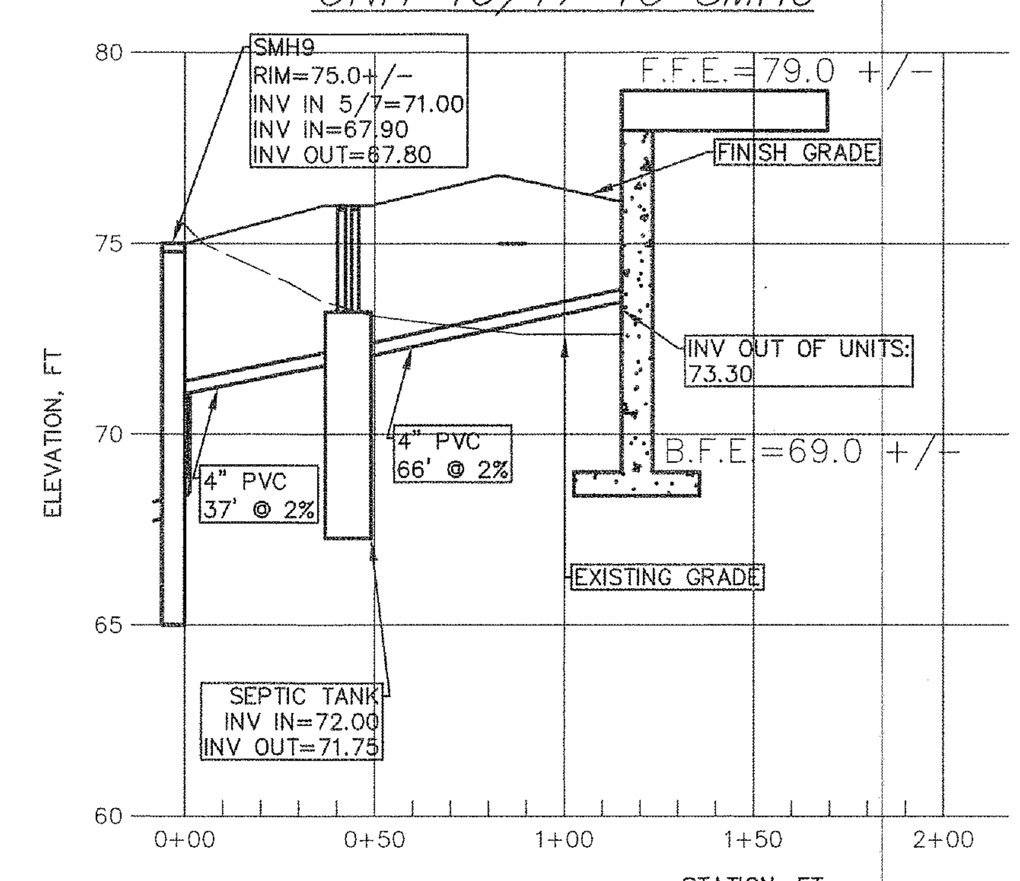


UNIT 1/2 TO SMH2



SEWER AND SEPTIC SYSTEM PROFILE
SCALE: 1"=40' HORZ
1"=4' VERT

UNIT 16/17 TO SMH9



FOR FINAL CONSTRUCTION DRAWINGS OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEM FOR ALL THE DWELLINGS SEE SEWAGE DISPOSAL SYSTEM DESIGN, WENHAM PINES DATED 8/17/2016, REVISED THROUGH 10/20/2016.

GRAPHIC SCALE: 1 INCH = 40 FEET
0 20 40 80 160

NOTE:
****REFER TO 'COMBINED UTILITIES' FOR HORIZONTAL LOCATION OF MANHOLES AND PUMP****

PROJECT NAME:
WENHAM PINES
56 & 60 Main Street
Wenham, MA 01984

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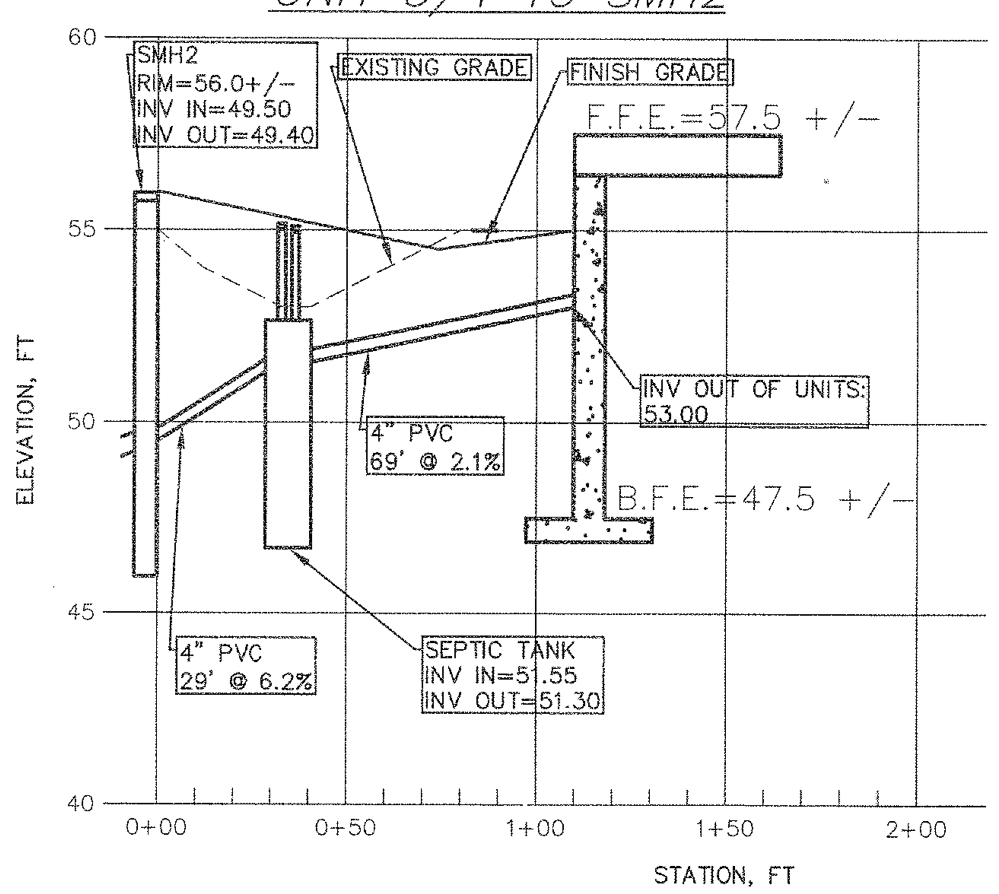
3	JPC	RAT	1/9/17	FINAL C.C. PLANS
2	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE: 7/19/2016 DESIGN BY: VVT
SCALE: AS SHOWN DRAWN BY: TRD
APPRVD. BY: RAT CHECK BY:

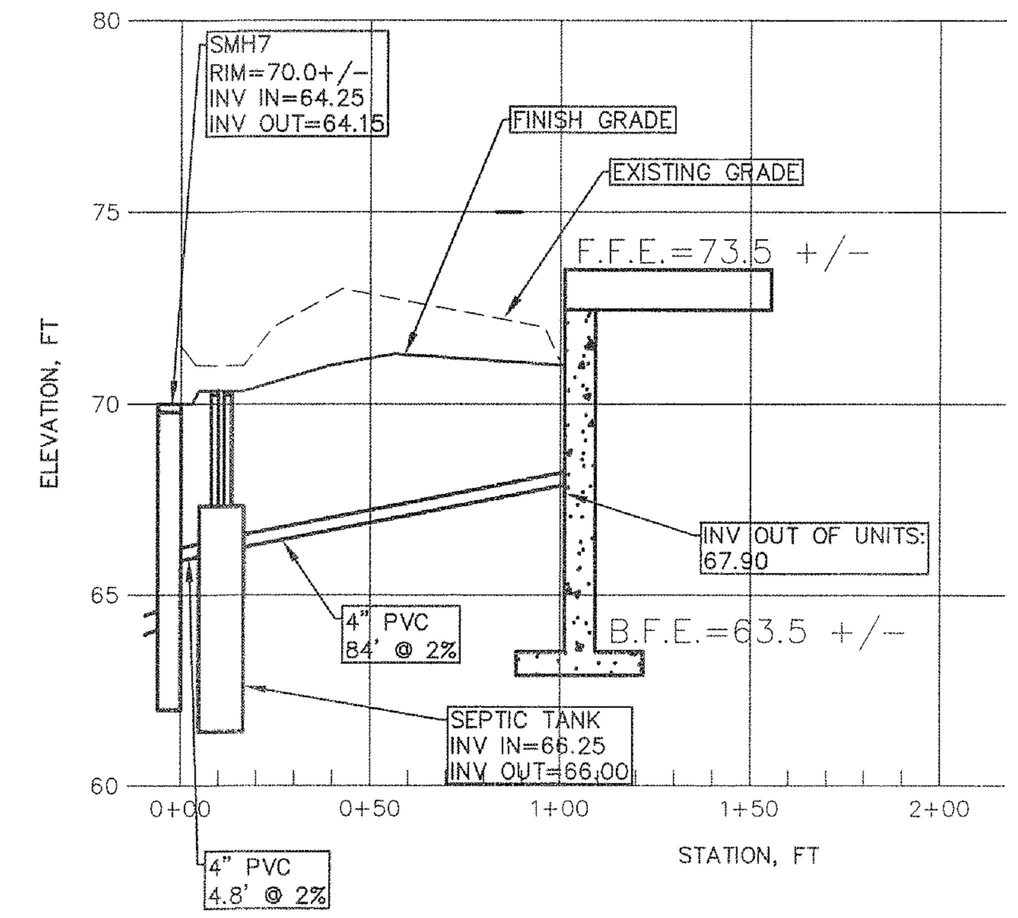
SEWAGE PROFILE 1

DWG: 19400C1 170105.dwg
LAYOUT: PRO-1
SHEET: 20 OF 38
PROJECT NO.: 19400

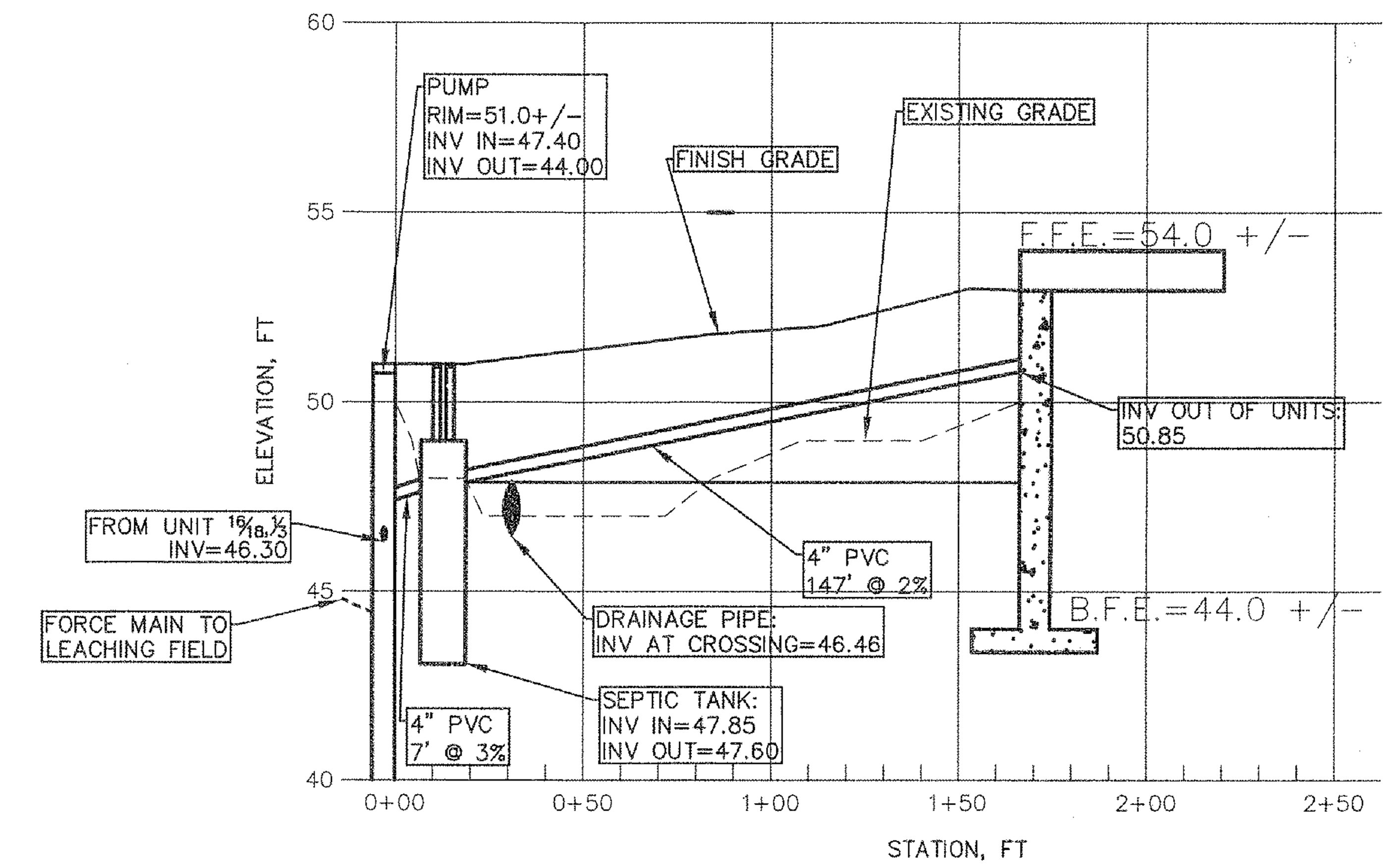
UNIT 3/4 TO SMH2



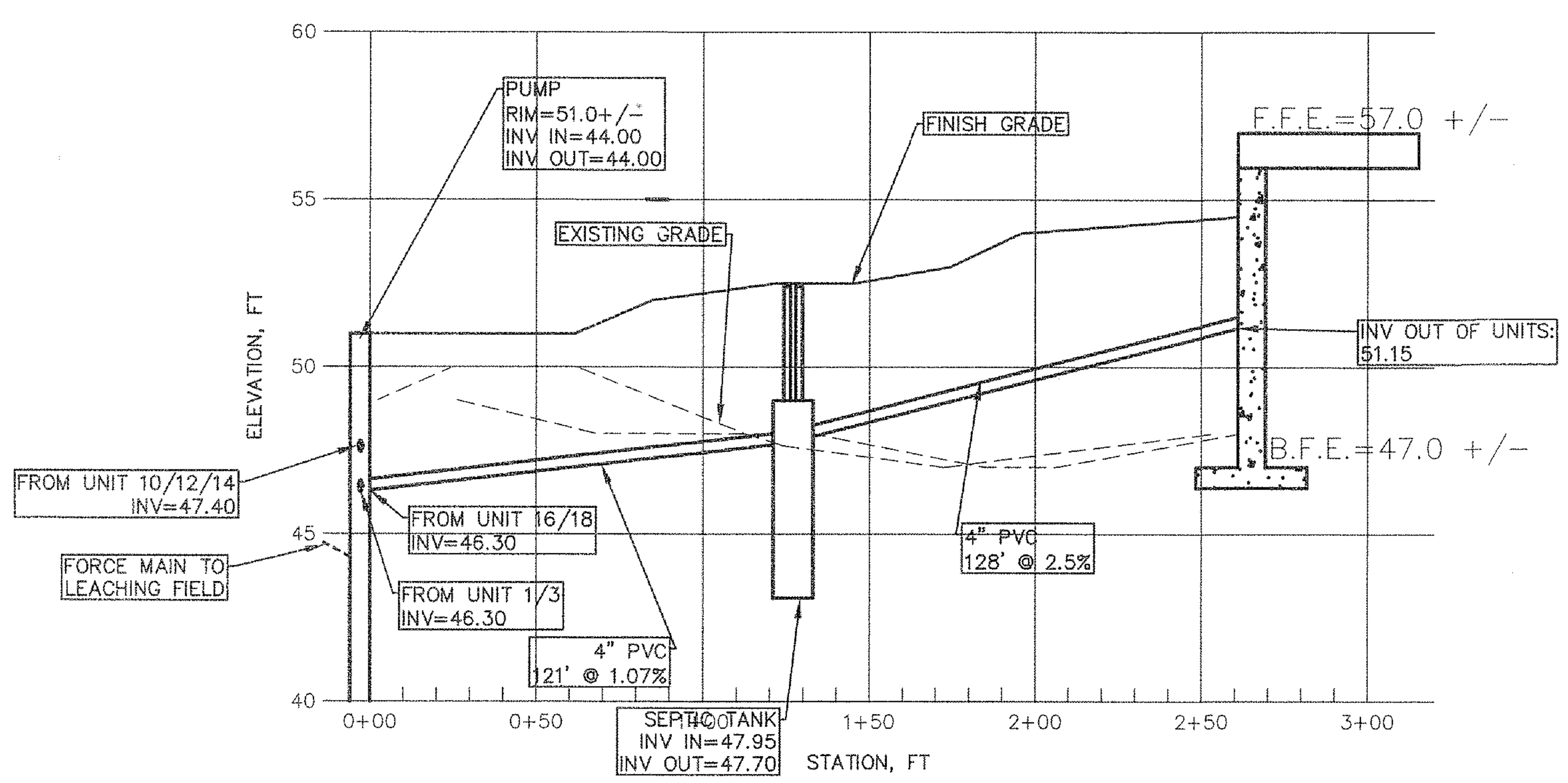
UNIT 18/19 TO SMH7



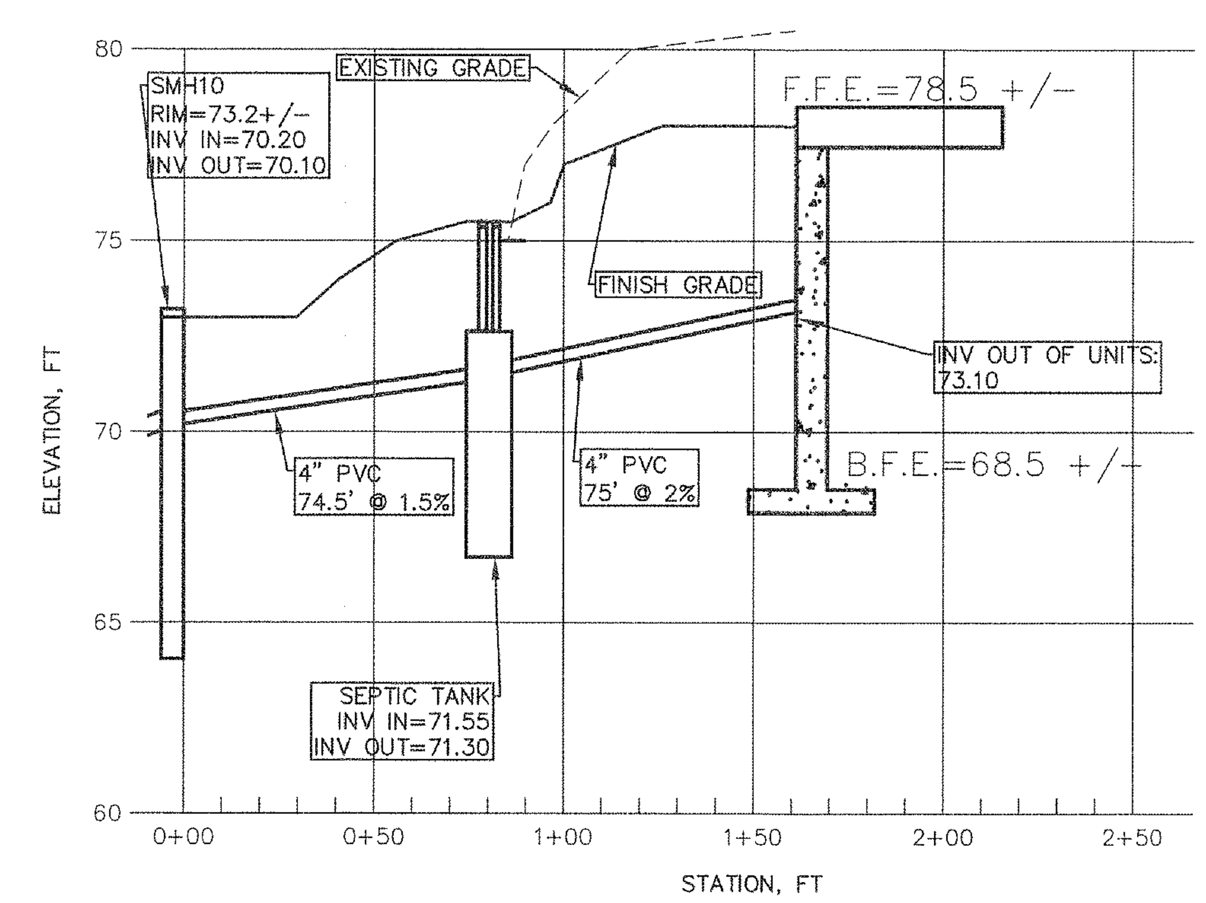
UNIT 5/6/7 TO PUMP



UNIT 8/9 TO PUMP



UNIT 12/13 TO SMH10



SEWER AND SEPTIC SYSTEM PROFILES

SCALE: 1"=40' HORZ
1"=4' VERT

FOR FINAL CONSTRUCTION DRAWINGS OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEM FOR ALL THE DWELLINGS SEE SEWAGE DISPOSAL SYSTEM DESIGN, WENHAM PINES DATED 8/17/2016, REVISED THROUGH 10/20/2016.

NOTE:
****REFER TO 'COMBINED UTILITIES' FOR LOCATION OF MANHOLES AND PUMP****

GRAPHIC SCALE: 1 INCH = 40 FEET
0 20 40 80 160

PROJECT NAME:
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COMMONWEALTH OF MASSACHUSETTS
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1/20/17

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
3	JPC	RAT	1/9/17	FINAL C.C. PLANS
2	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

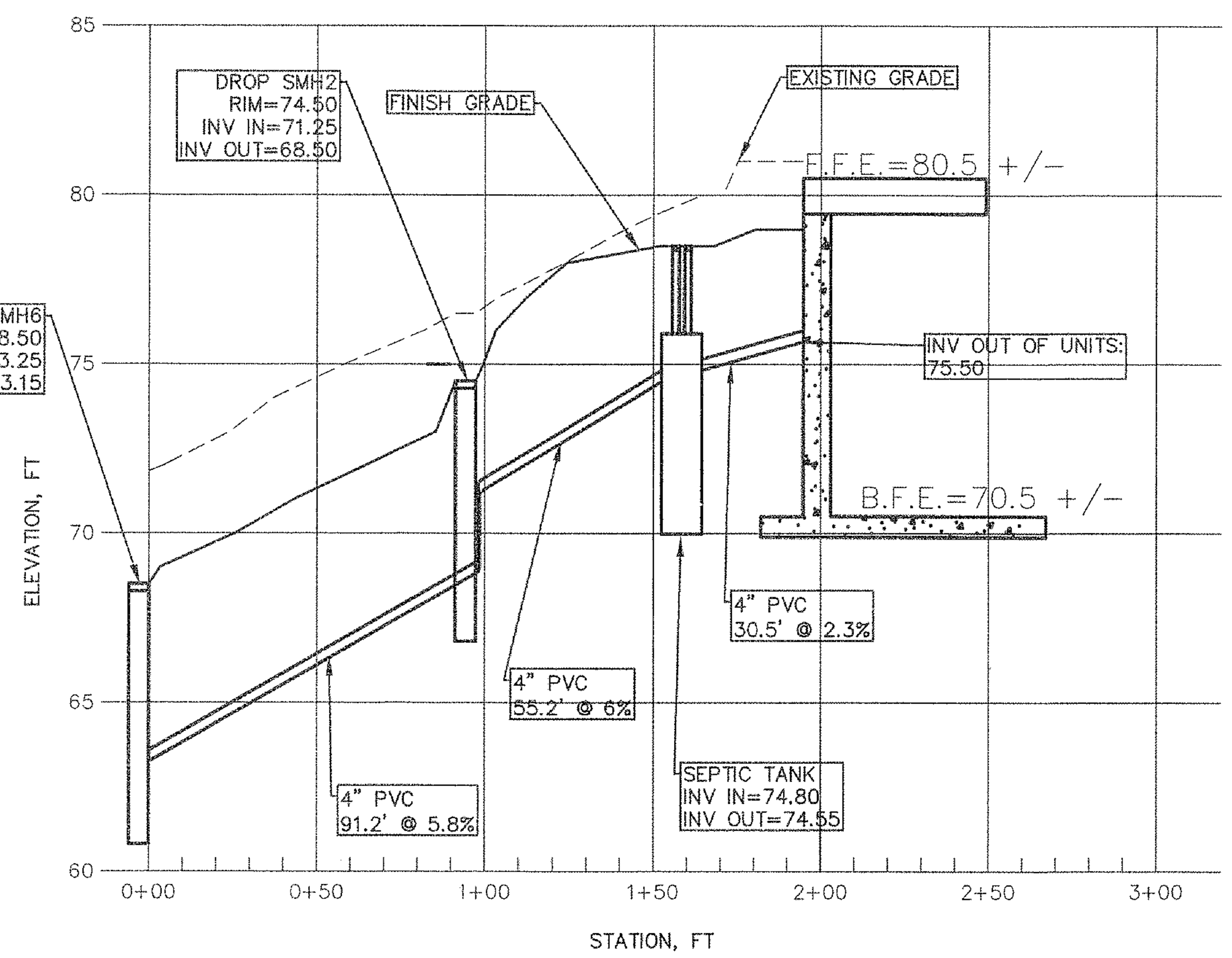
DATE: 7/19/2016	DESIGN BY: VVT
SCALE: AS SHOWN	DRAWN BY: TRD
APPRVD. BY: RAT	CHECK BY:

SEWAGE PROFILE 2

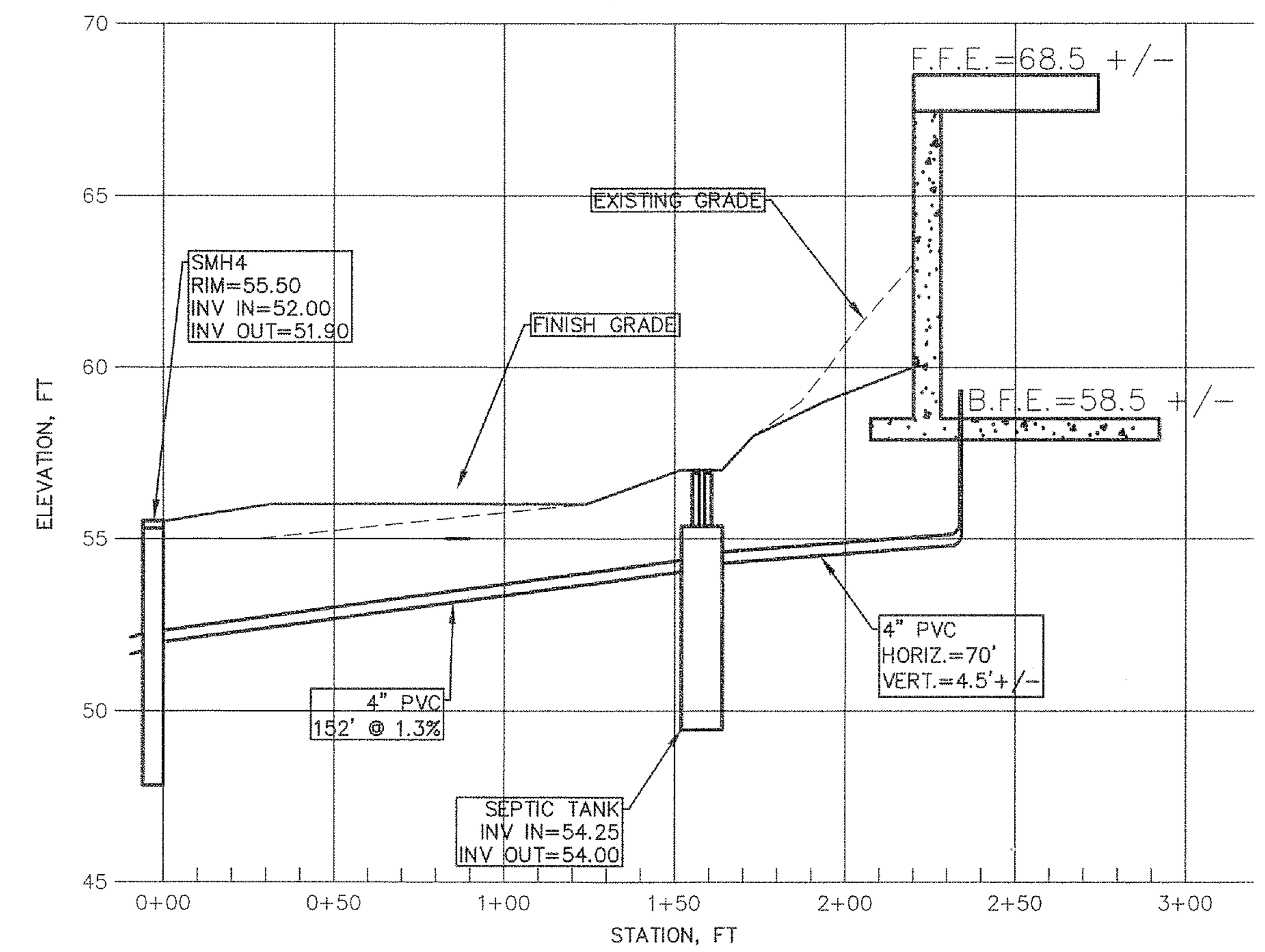
PLOT DATE: Jan 20, 2017 4:08 pm
PATH: F:\Civil 3D Projects\19400 - Tombone - Wenham\DWG\

DWG: 19400C1 170105.dwg
LAYOUT: PRO-2
SHEET: 21 OF 38
PROJECT NO.: 19400

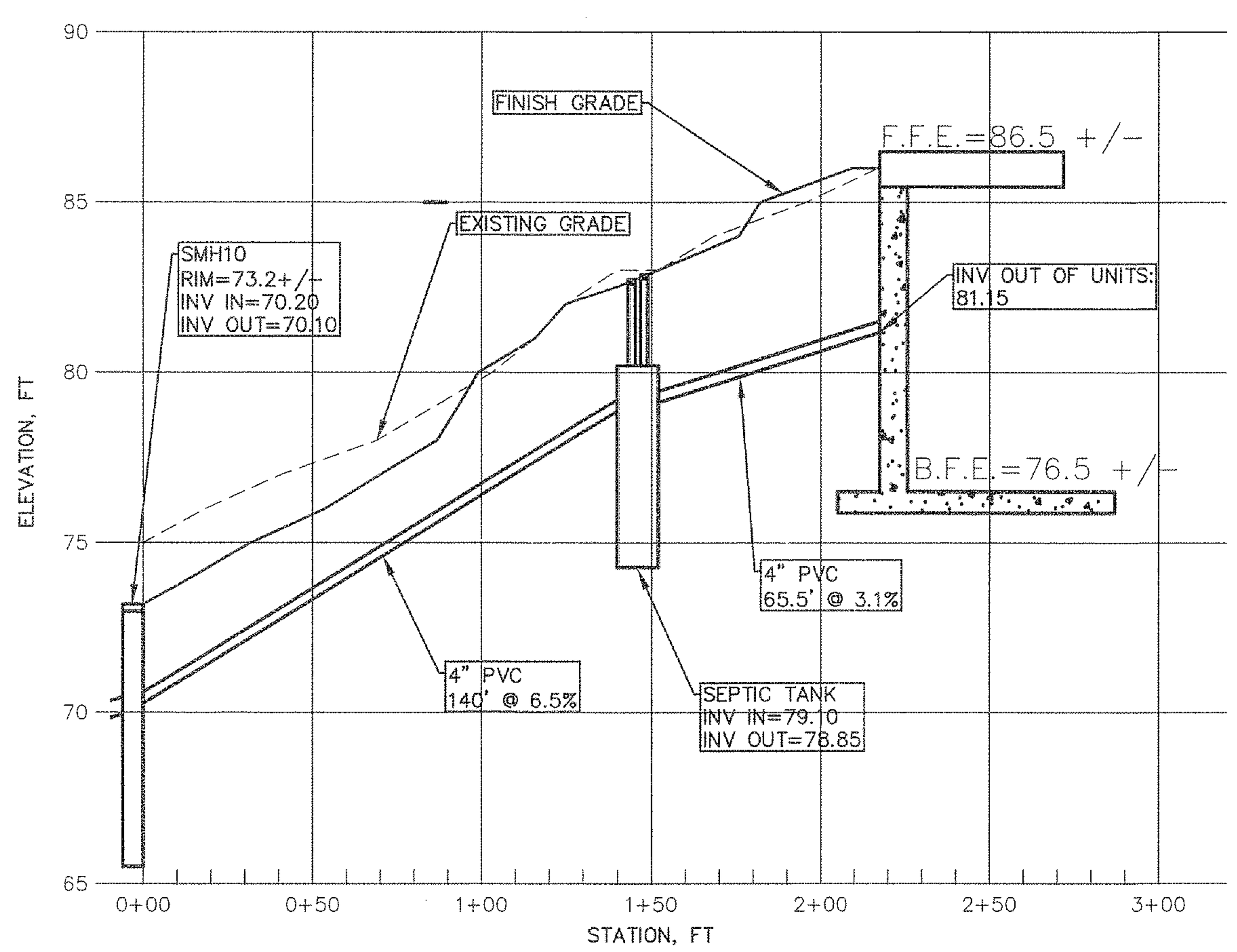
UNIT 20/21 TO SMH6



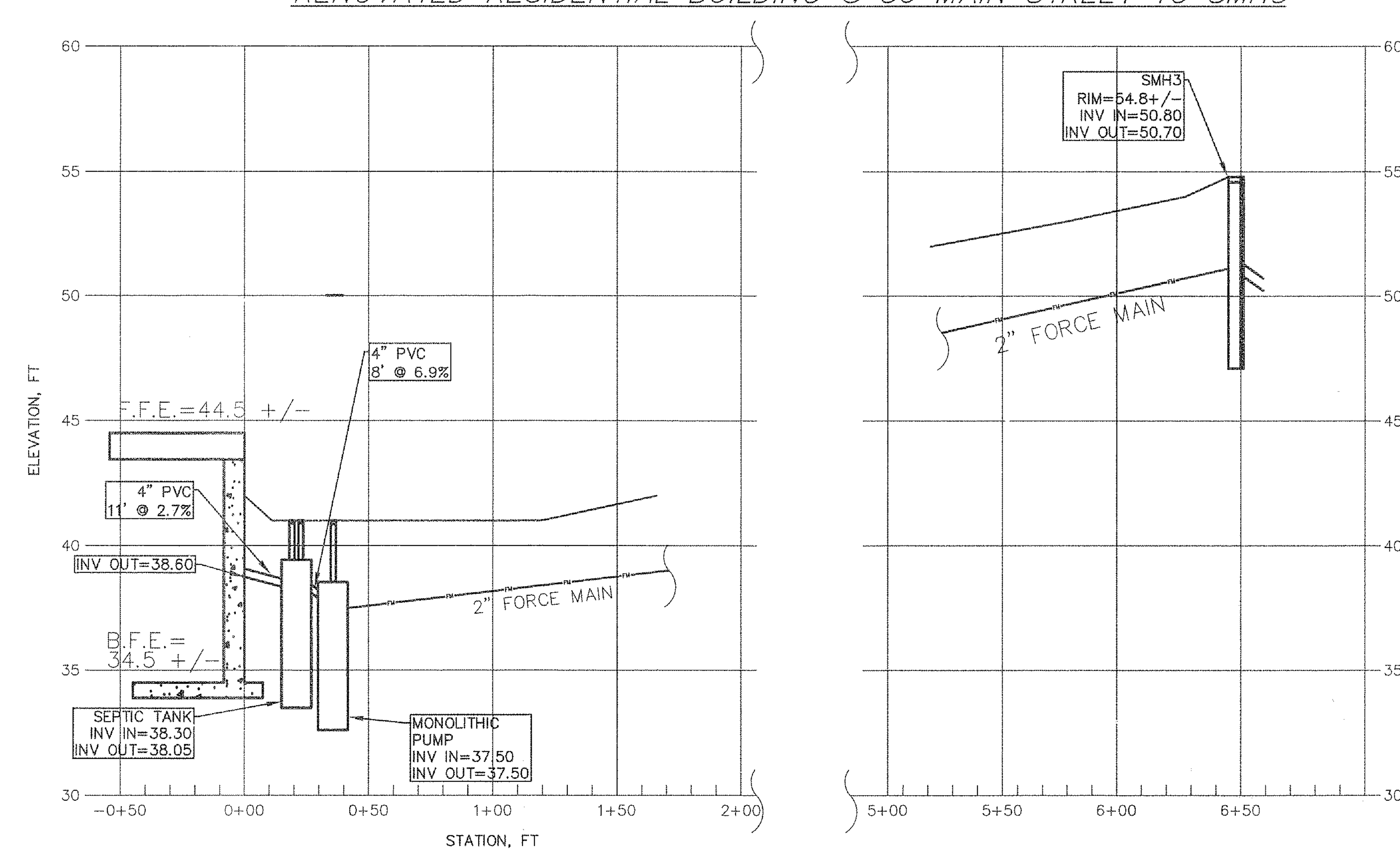
UNIT 22/23 TO SMH4



UNIT 14/15 TO SMH10



RENOVATED RESIDENTIAL BUILDING @ 56 MAIN STREET TO SMH3



FOR FINAL CONSTRUCTION DRAWINGS OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEM FOR ALL THE DWELLINGS SEE SEWAGE DISPOSAL SYSTEM DESIGN, WENHAM PINES DATED 8/17/2016, REVISED THROUGH 10/20/2016.

NOTE:
****REFER TO 'COMBINED UTILITIES' FOR LOCATION OF MANHOLES AND PUMP****

SEWER AND SEPTIC SYSTEM PROFILES

SCALE: 1"=40' HORZ
1"=4' VERT

GRAPHIC SCALE: 1 INCH = 40 FEET
0 20 40 80 160

PROJECT NAME:
WENHAM PINES
56 & 60 Main Street
Wenham, MA 01984

APPLICANT:
WENHAM PINES LLC.
6 Kimball Lane
Lynnfield, MA 01940

OWNER:
ESTATE OF WILLIAM J. FLYNN
5 Barker Road
Boxford, MA 01921

HANCOCK ASSOCIATES
Civil Engineers
Land Surveyors
Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
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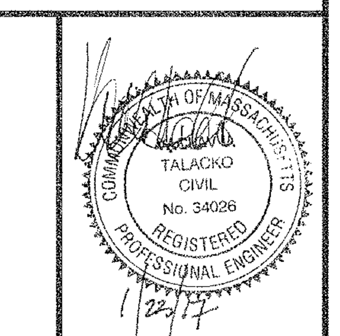


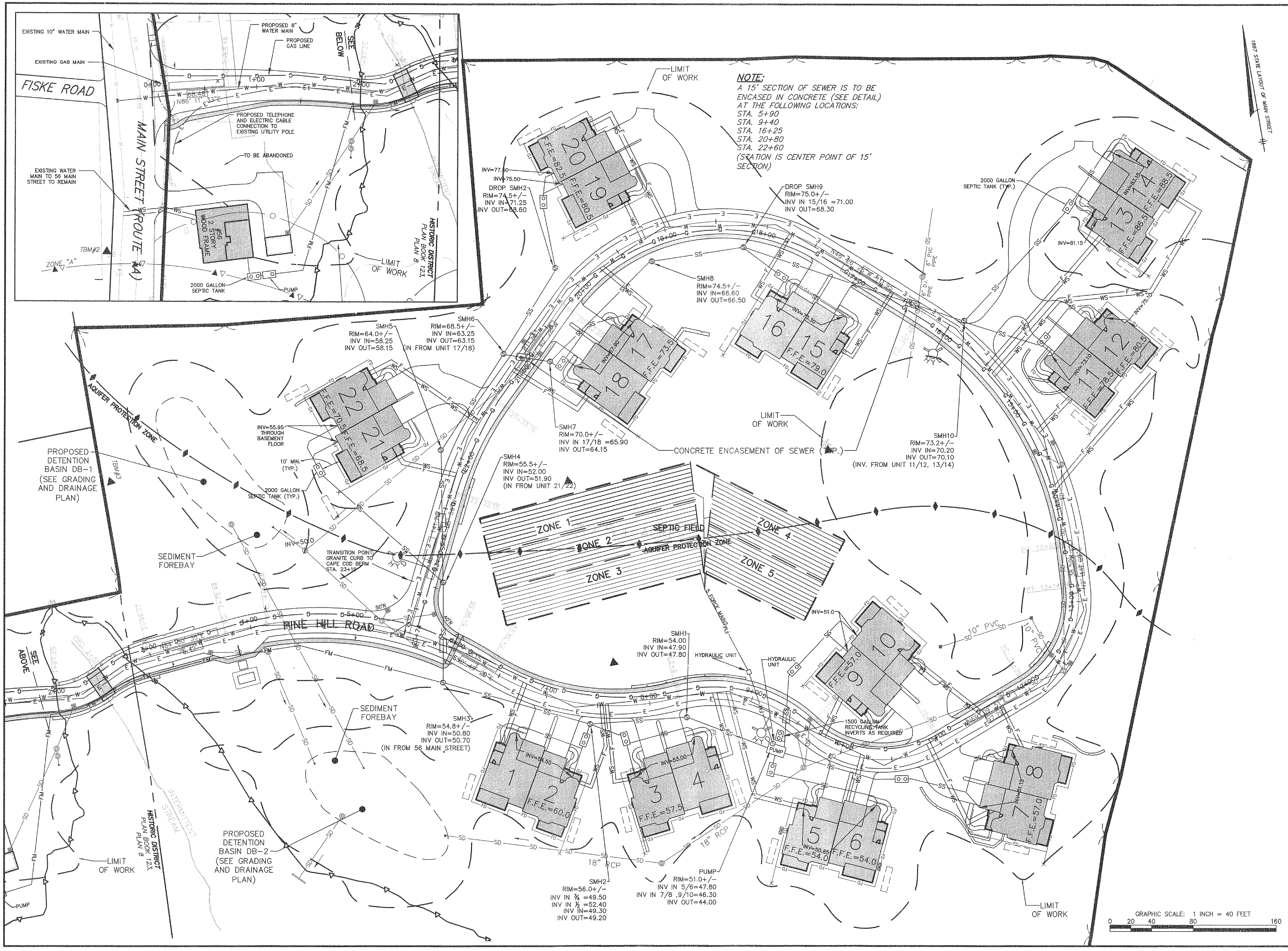
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
3	JPC	RAT	1/9/17	FINAL C.C. PLANS
2	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	VVT
SCALE:	AS SHOWN	DRAWN BY:	TRD
APPRVD. BY:	RAT	CHECK BY:	

SEWAGE PROFILE 3

PLOT DATE: Jan 20, 2017 4:09 pm
PATH: F:\Civil 3D Projects\19400 – Tambone – Wenham\DWG\

DWG: 19400C1 170103.dwg
LAYOUT: PRO-3
SHEET: 22 OF 38
PROJECT NO.: 19400



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COMMONWEALTH OF MASSACHUSETTS
TAMBORO
CIVIL
No. 34026
REGISTERED PROFESSIONAL ENGINEER
1/9/17

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
4	JPC	RAT	1/9/17	FINAL C.C. PLANS
3	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
2	JPC	RAT	11/8/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JPC
APPRVD. BY:	VVT	CHECK BY:	RAT

COMBINED UTILITIES

PLOT DATE: Jun 20, 2017 4:09 pm
PATH: F:\Civil 3D Projects\19400 - Tambone - Wenham\DWG\

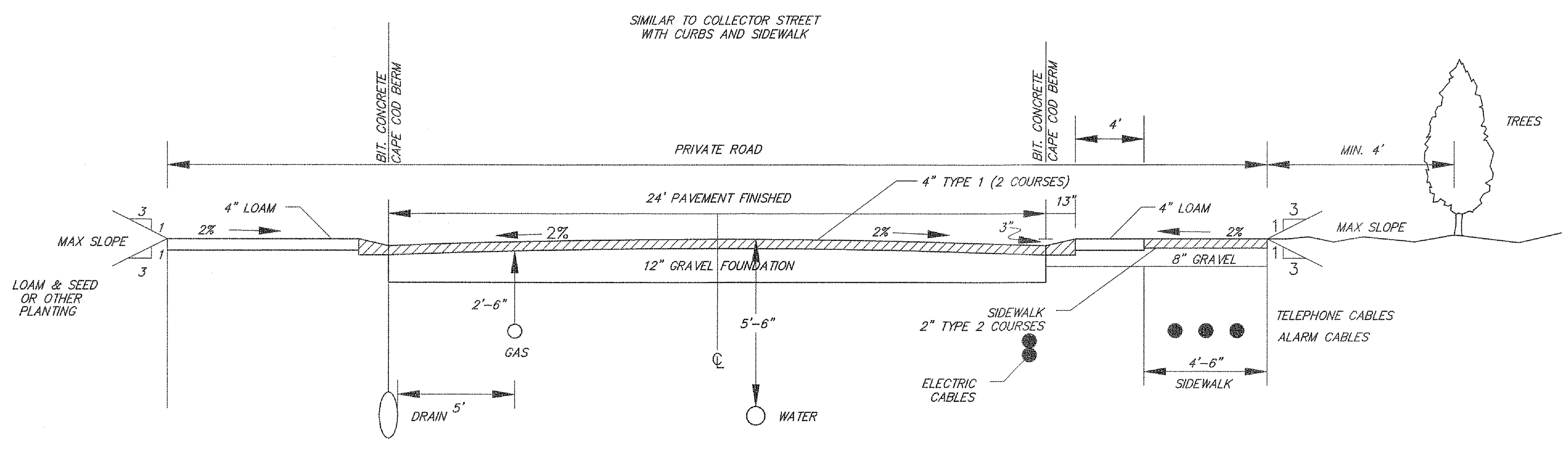
DWG: 19400C1 170108.dwg

LAYOUT: UTILITIES

SHEET: 23 OF 38

CU

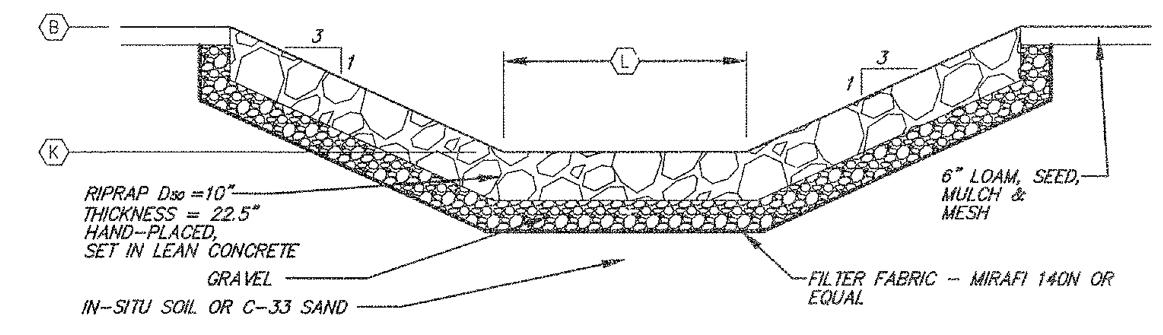
PROJECT NO.: 19400



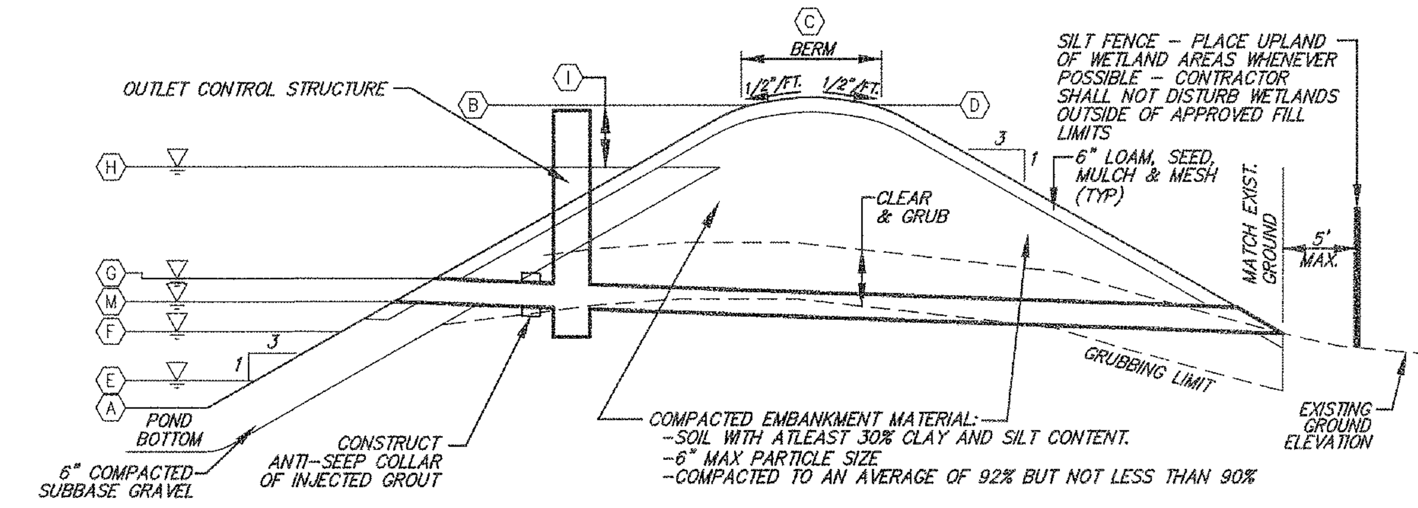
PINE HILL ROAD (PRIVATE ROAD)

TYPICAL CROSS SECTION (EXACT UTILITY LOCATIONS DO VARY FROM TYPICAL CROSS SECTION)
NOT TO SCALE

NOTE:
SECTION OF NEW ROADWAY WHICH CONNECTS TO MAIN STREET (STA 0+00 TO STA 5+90) WILL HAVE VERTICAL GRANITE CURB (6" REVEAL) ON BOTH SIDES INSTEAD OF BITUMINOUS CAPE COD BERM WHICH WILL BE INSTALLED ON THE REMAINDER OF THE ROADWAY SYSTEM.



CROSS-SECTION – EMERGENCY SPILLWAY THROUGH BERM
SEE SCHEDULE B



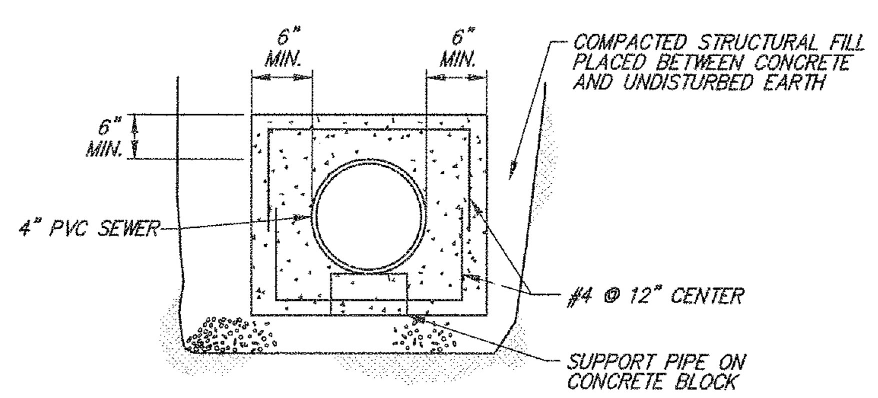
SECTION THROUGH RETENTION/DETENTION FACILITY
SEE SCHEDULE B

SCHEDULE B – EMBANKMENT STRUCTURE	DIMENSION / ELEVATION BASIN #1	DIMENSION / ELEVATION BASIN #2
(A) POND BASE ELEVATION	47.8	42.0
(B) TOP OF BASIN AT INSIDE OF BERM ELEVATION	52.8	47.0
(C) WIDTH OF BERM	5' MIN. AND 10' FOR ACCESS TO THE OUTLET STRUCTURE	5' MIN. AND 10' FOR ACCESS TO THE OUTLET STRUCTURE
(D) TOP OF BASIN AT OUTSIDE OF BERM ELEVATION	52.8	47.0
(E) 2-YEAR STAGE ELEVATION	48.0	42.0
(F) 10-YEAR STAGE ELEVATION	48.5	43.1
(G) 25-YEAR STAGE ELEVATION	49.1	44.0
(H) 100-YEAR STAGE ELEVATION	50.6	45.5
(I) FREEBOARD (100-YR. STORM)	1.7'	1.9'
(K) CREST OF SPILLWAY ELEVATION	52.3	47.4
(L) WIDTH OF SPILLWAY	10'	10'
(M) BASIN OUTLET PIPE	48.1	46.0

NOTES:
1. BOTTOM OF DETENTION BASINS TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION OF FILTER FABRIC.
2. SILT LOAM LAYER FOUND IN TEST PITS AT DETENTION POND 2 SHALL BE REMOVED AND REPLACED WITH C-33 SAND.

DETENTION BASIN

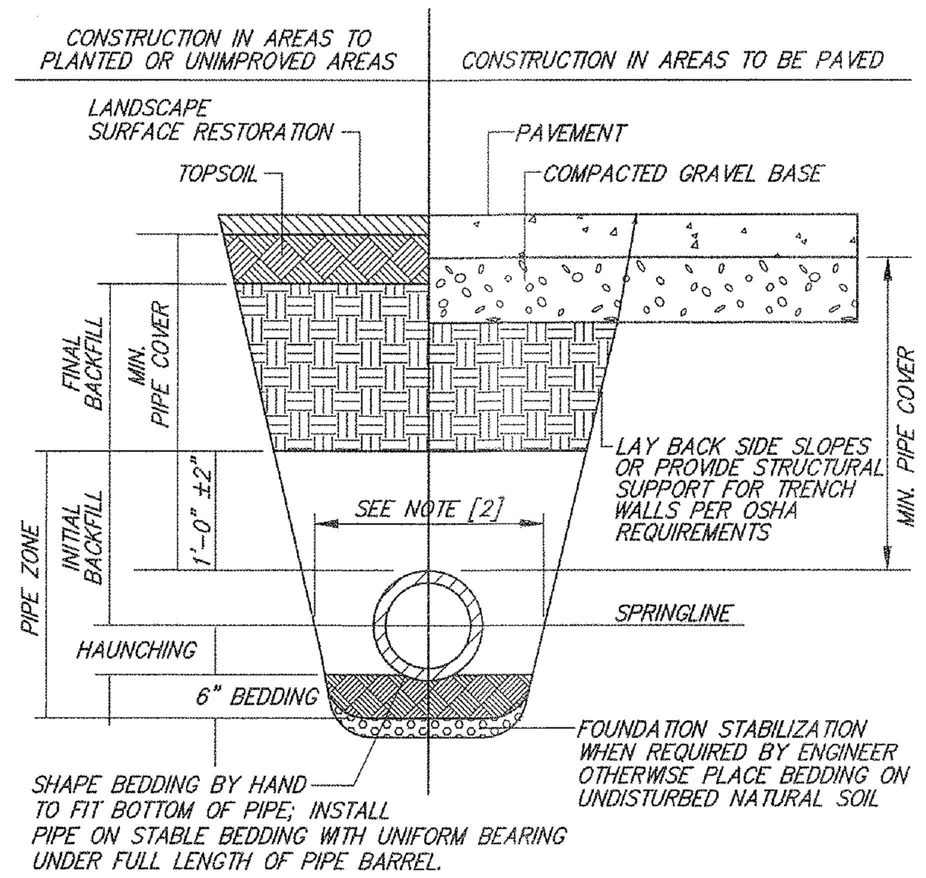
TYPICAL CROSS SECTION
NOT TO SCALE



NOTE: REINFORCING STEEL TO BE USED ONLY WHEN DEPTH OF COVER TO TOP OF SURFACE OF CONCRETE IS 5'-0" OR LESS

CONCRETE ENCASEMENT FOR PIPE

TYPICAL CROSS SECTION
NOT TO SCALE



FOUNDATION, BEDDING, & BACKFILL MATERIALS		
PIPE MATERIAL	HDP, PVC	RC, DI
FOUNDATION STABILIZATION	[6]	[6]
BEDDING	[1]	[1]
HAUNCHING	[1]	[1]
INITIAL BACKFILL	[1]	[1]
FINAL BACKFILL	[4]	[4]
MIN. PIPE COVER	[5]	[5]

NOTES:
[1] PLACE 3/4"± GRADED GRANULAR BACKFILL AT OPTIMUM MOISTURE IN HORIZONTAL, 8"-DEEP, LOOSE LAYERS; COMPACT TO 95% PER ASTM D-1557.
[2] MINIMUM WIDTH OF TRENCH MEASURED AT THE SPRINGLINE OF THE PIPE, INCLUDING ANY NECESSARY SHEATHING:

PIPE I.D.	WIDTH
LESS THAN 21"	O.D. + 12"
21" TO 42"	O.D. + 24"
GREATER THAN 42"	O.D. + 30"

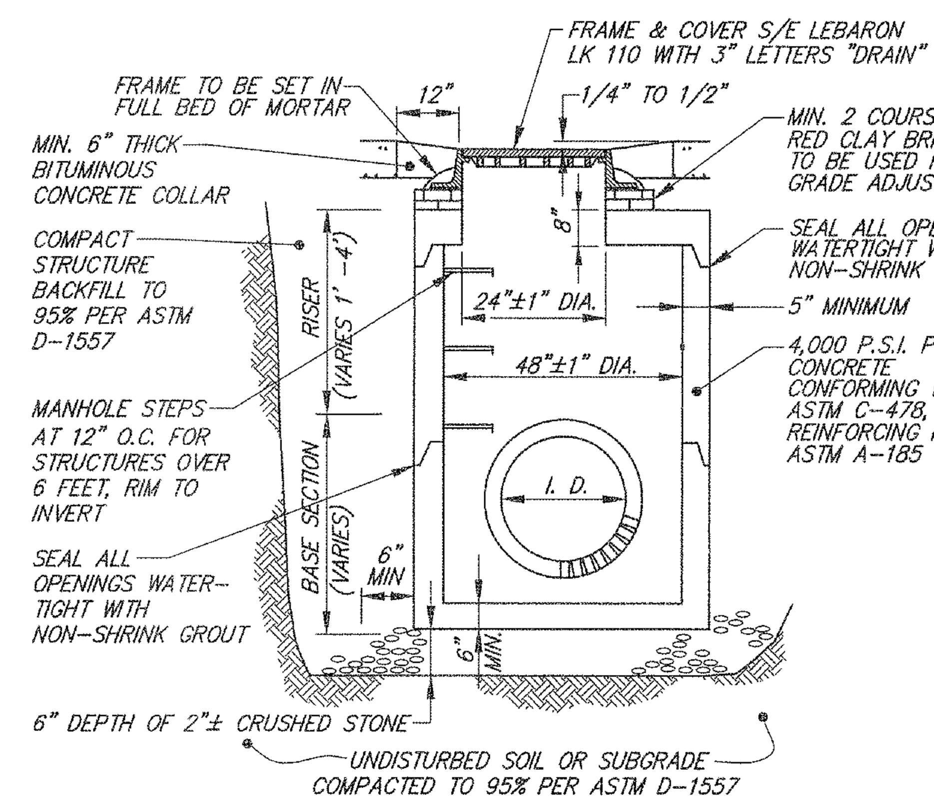
[3] INSTALL PIPE IN CENTER OF TRENCH.
[4] IN PLANTED OR UNIMPROVED AREAS, USE ON-SITE EXCAVATED MATERIAL FOR FINAL BACKFILL. COMPACT TO 95% PER ASTM D-1557. IN PAVED AREAS, OBTAIN ENGINEER APROVAL OF ON-SITE EXCAVATED MATERIALS FOR USE AS FINAL BACKFILL.
[5] MINIMUM COVER OVER TOP OF PIPE:

PIPE MATERIAL	HDP, PVC	RC, DI
WATER	5'-0"	5'-0"
SEWER	4'-0"	4'-0"
DRAIN	1'-6"	1'-0"

[6] FOR FOUNDATION STABILIZATION, USE 2"± CRUSHED STONE.

PIPE TRENCH

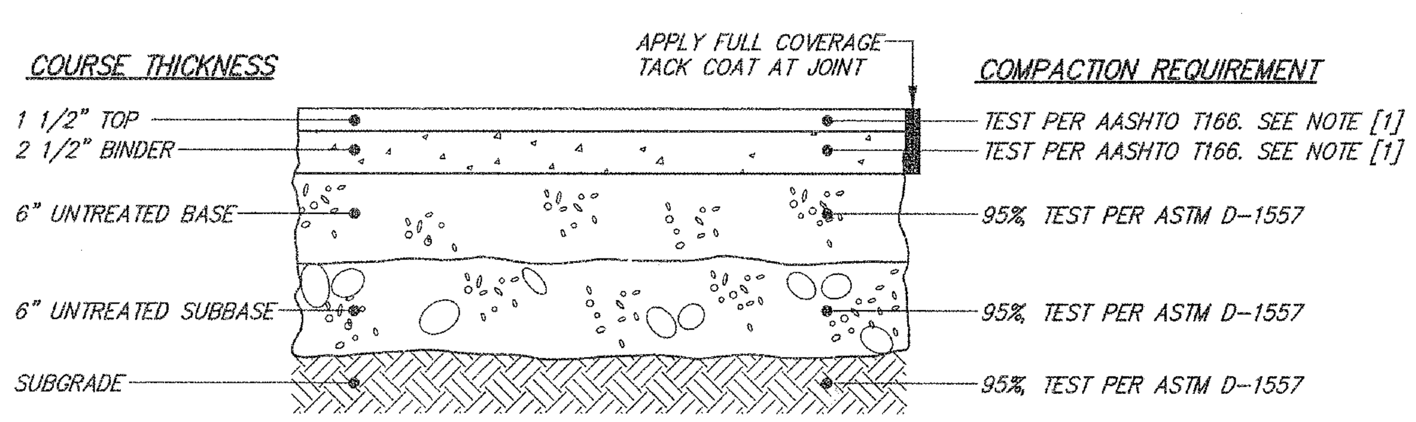
TYPICAL CROSS SECTION
NOT TO SCALE



NOTE: CONICAL TOP MAY ALSO BE USED

DRAIN MANHOLE

TYPICAL CROSS SECTION
NOT TO SCALE

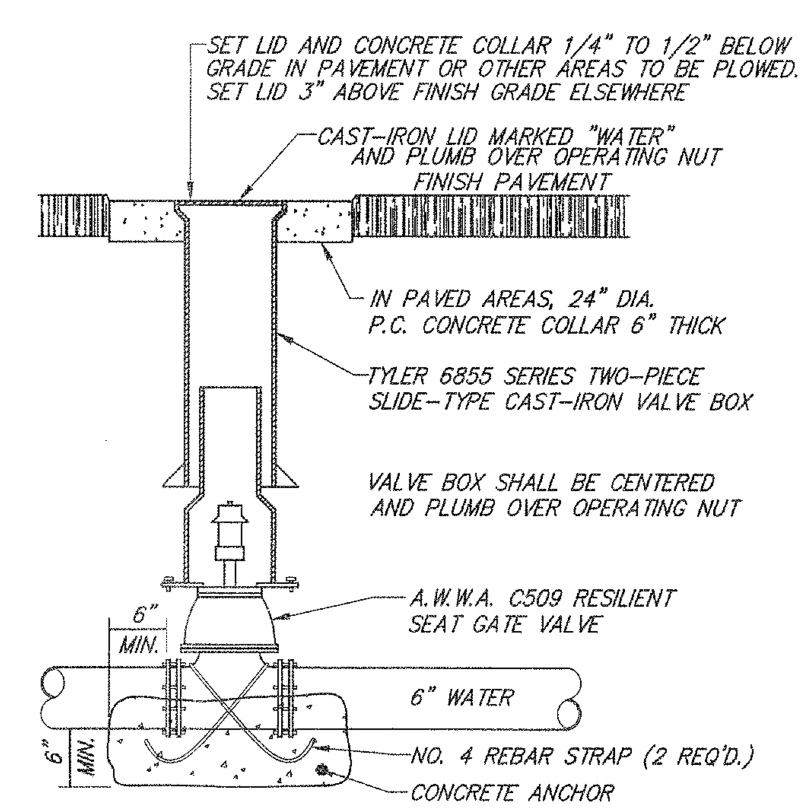


NOTES:
[1] COMPACT TO TEST AVERAGE OF 96%, NO TEST LOWER THAN 94%

MATERIAL	SPECIFICATION	MAXIMUM AGGREGATE OR PARTICLE SIZE (IN.)
TOP – BITUMINOUS CONCRETE	MDOT M3.11.03 CLASS I, TYPE I-1	1/2
BINDER– BITUMINOUS CONCRETE	MDOT M3.11.03 CLASS I, TYPE I-1	1
BASE – PROCESSED GRAVEL	MDOT M1.03.1	3
SUBBASE	MDOT M1.03.1	3
UNSUITABLE SUBGRADE – ORDINARY BORROW	MDOT M1.01.0	12

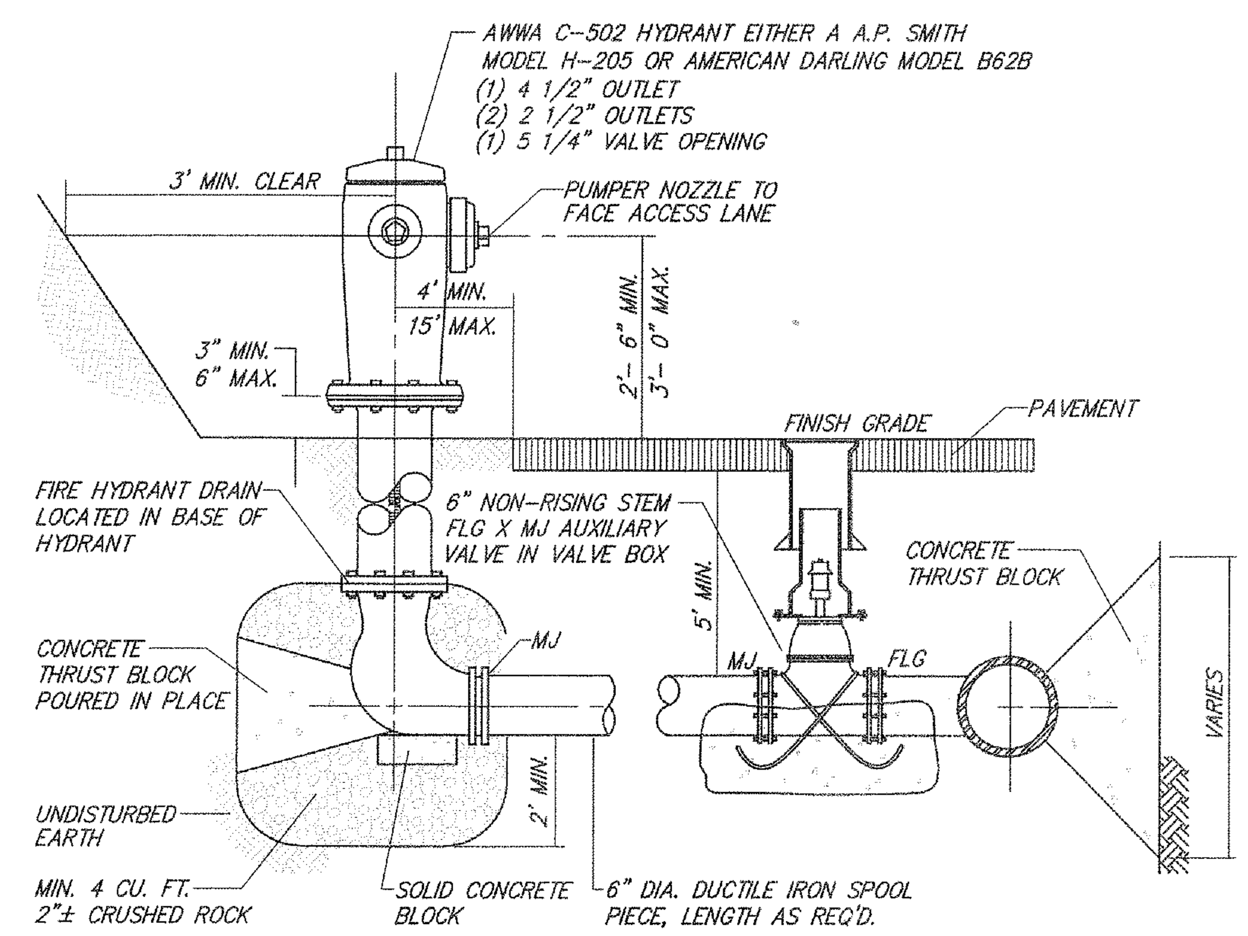
BITUMINOUS CONCRETE PAVEMENT

TYPICAL CROSS SECTION
NOT TO SCALE



VALVE BOX

TYPICAL CROSS SECTION



FIRE HYDRANT ASSEMBLY

TYPICAL CROSS SECTION
NOT TO SCALE

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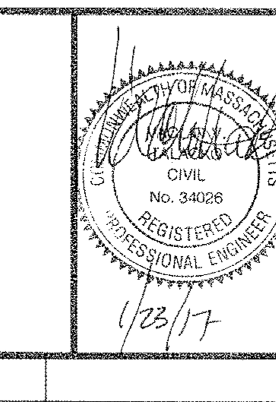

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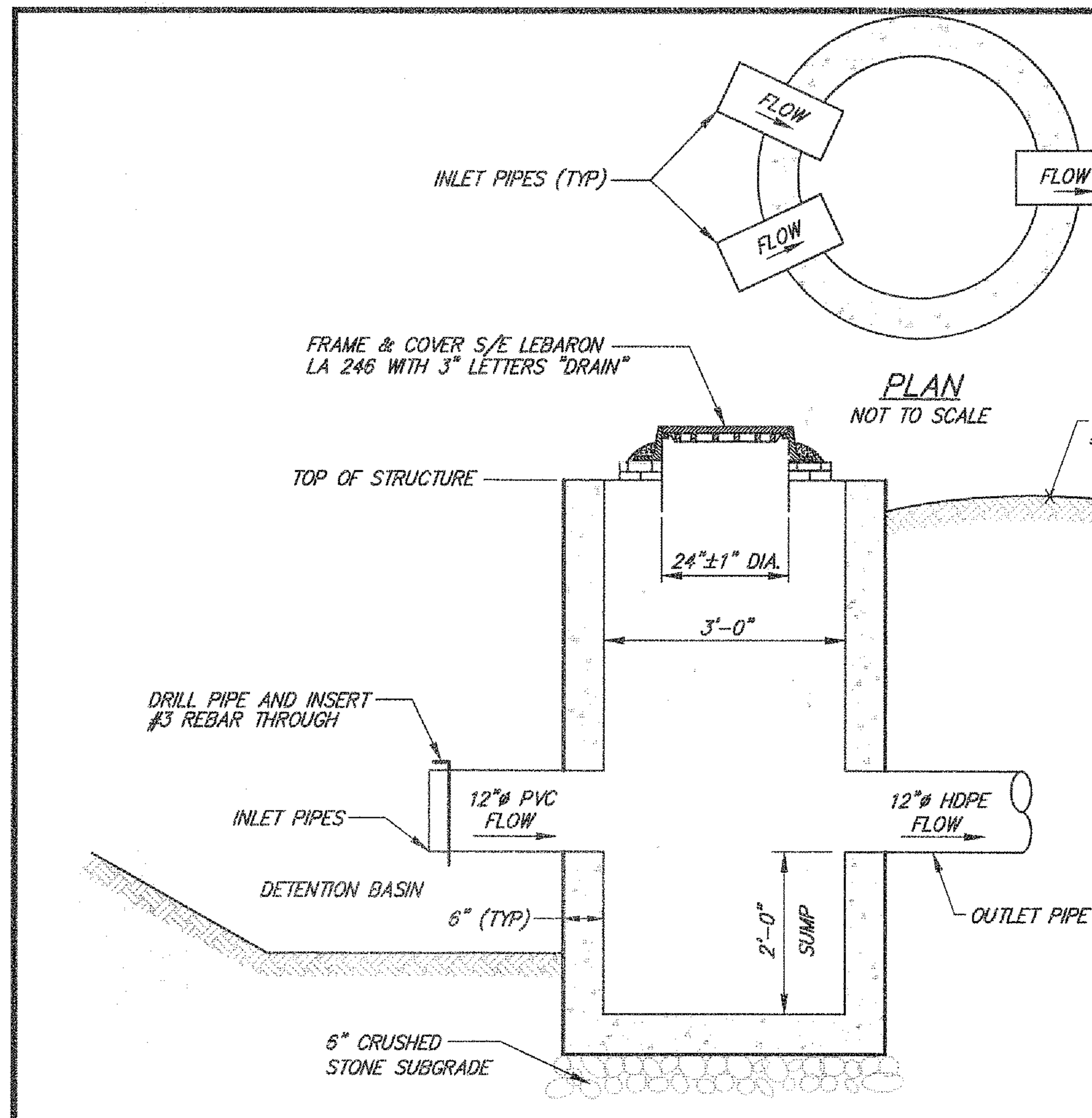
DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	RD
APPRVD. BY:	WT	CHECK BY:	RAT

SITE DETAILS 1

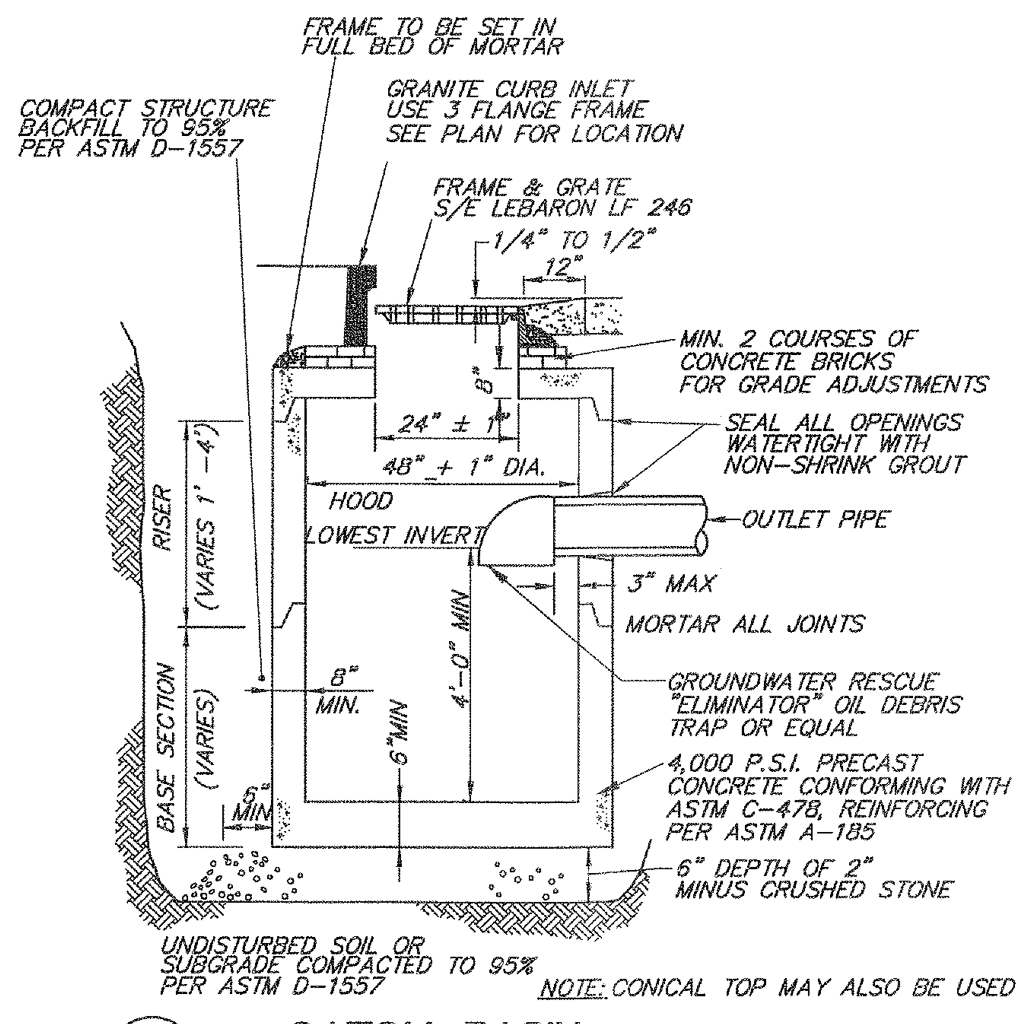
PLOT DATE: Jan 20, 2017 2:35 pm
PATH: F:\Civil 3D Projects\19400 – Tambone – Wenham\DWG\

DWG: 19400C1 170105.dwg
LAYOUT: DETAILS1
SHEET: 24 OF 38
SD-1
PROJECT NO.: 19400



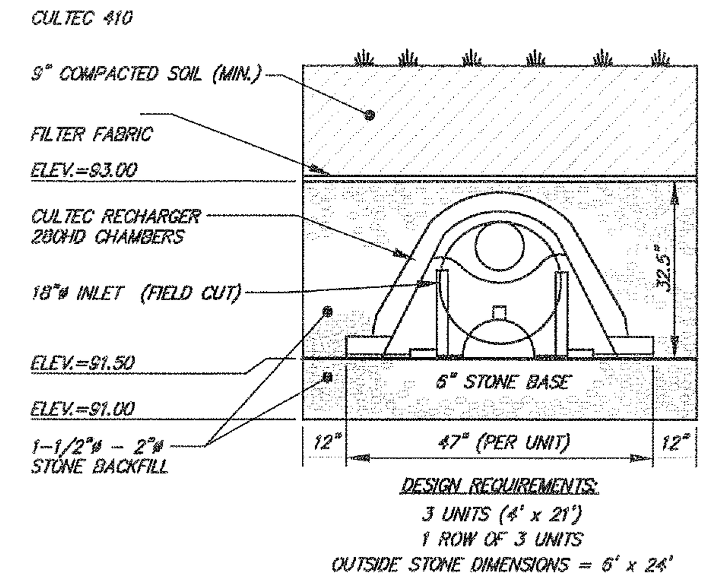
OUTLET CONTROL STRUCTURE

NOT TO SCALE



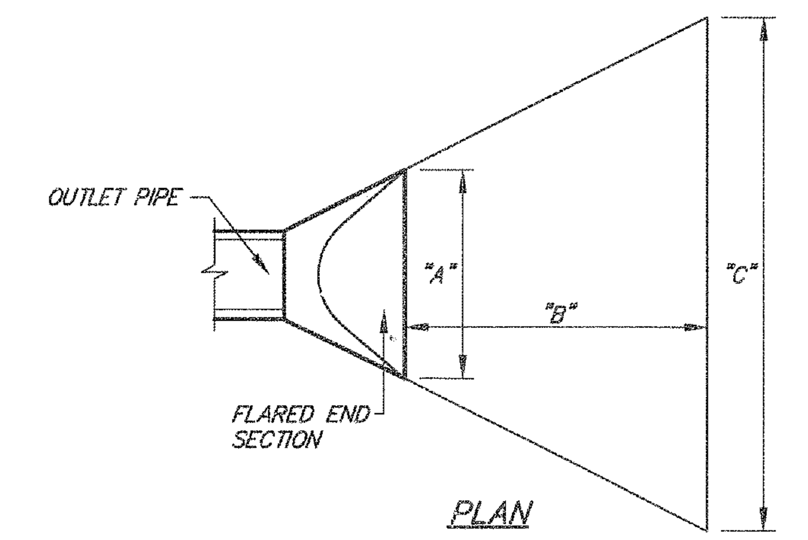
CATCH BASIN

TYPICAL CROSS SECTION
NOT TO SCALE

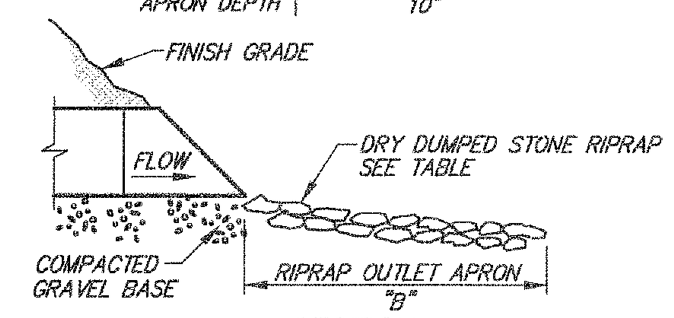


ROOF DRAIN INFILTRATION SYSTEM

NOT TO SCALE

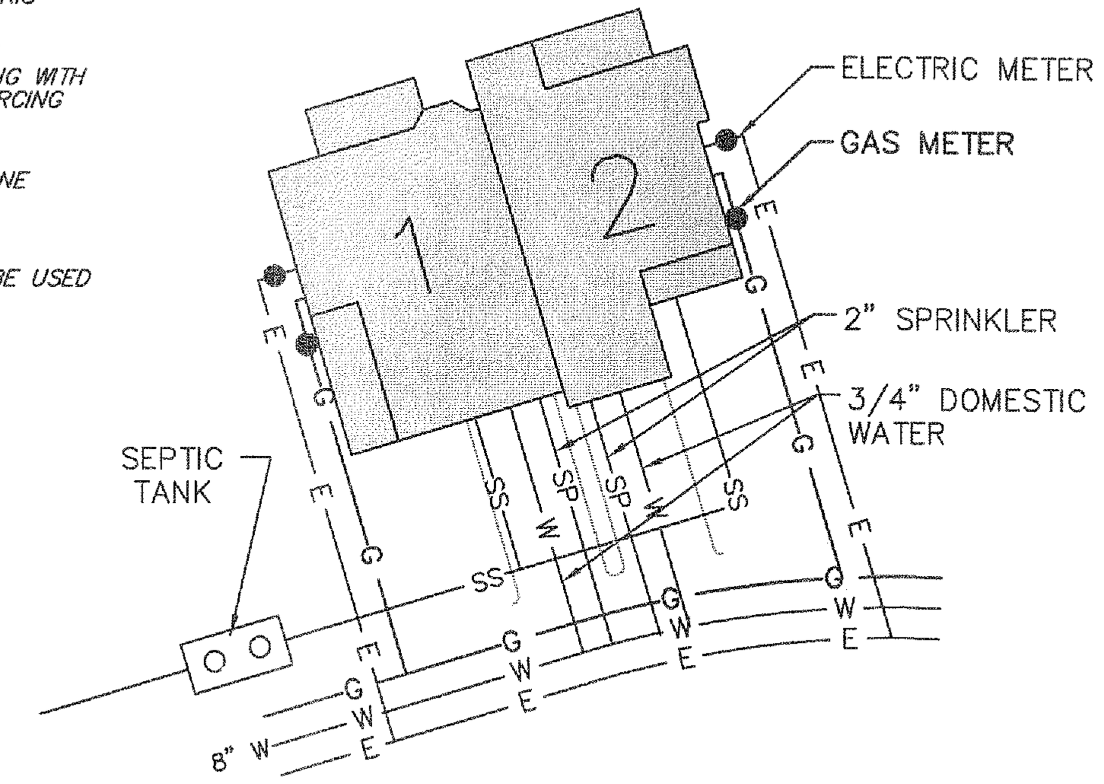


DIMENSION	12" D-BASIN INLET
"A"	36"
"B"	14'
"C"	15'
LARGEST STONE	5"
APRON DEPTH	10"



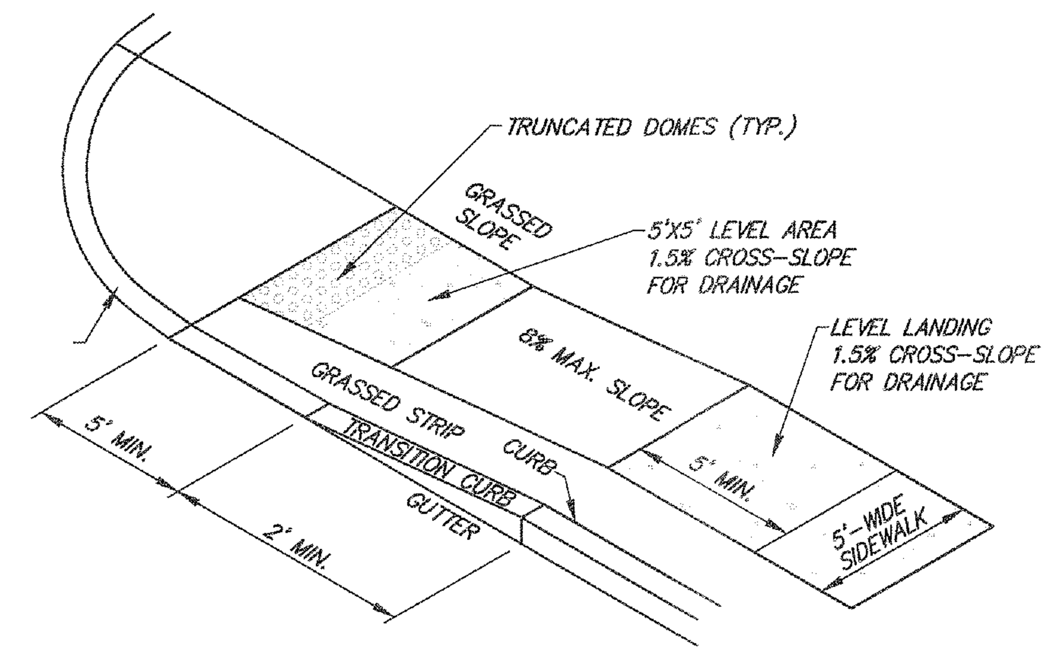
DRAIN OUTLET AND APRON

TYPICAL CROSS SECTION
NOT TO SCALE



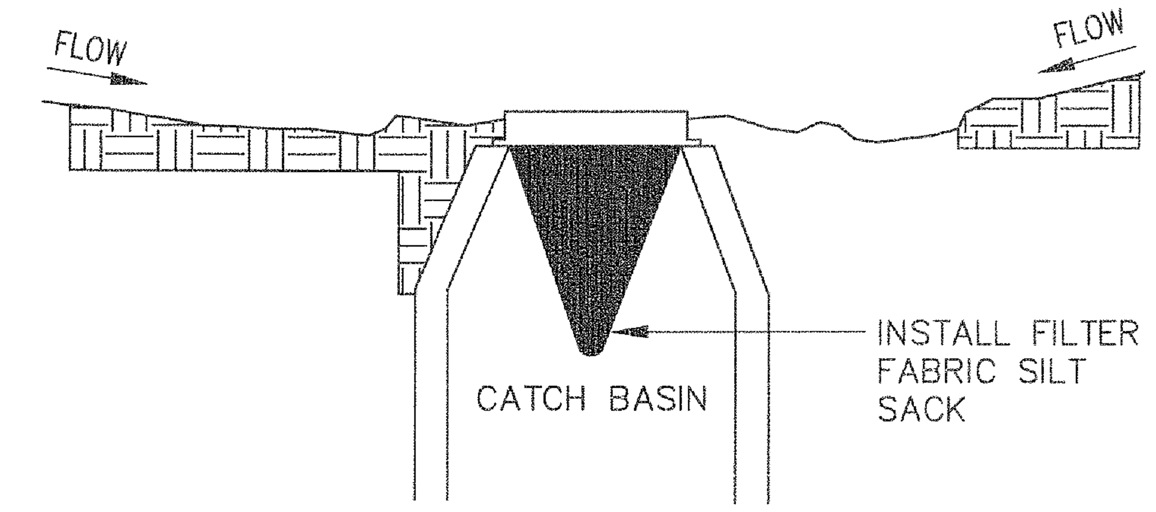
TYPICAL UNIT- UTILITYCONNECTIONS AND PROPOSED UTILITIES IN ROADWAY

NOT TO SCALE



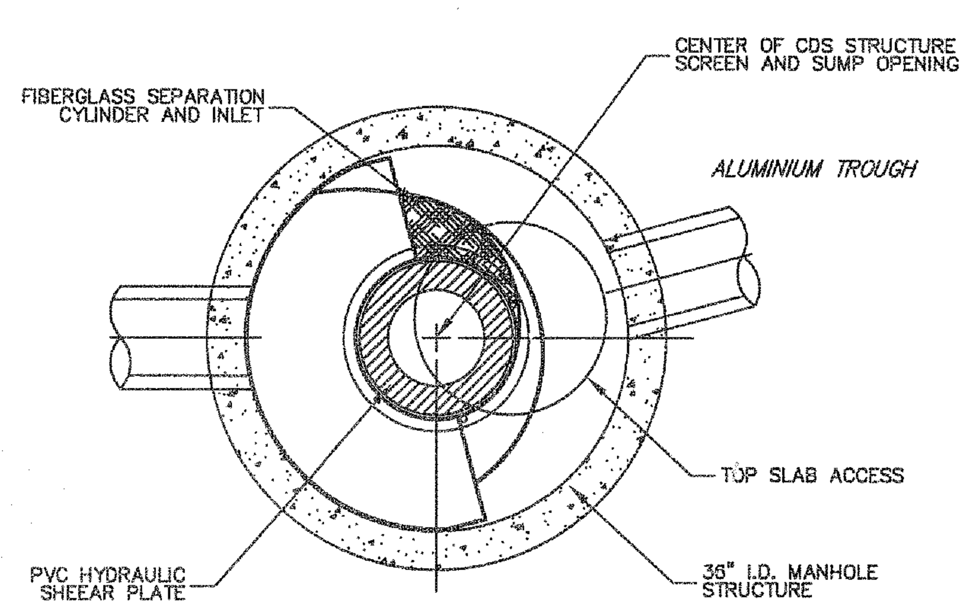
HANDICAP RAMP ISOMETRIC VIEW

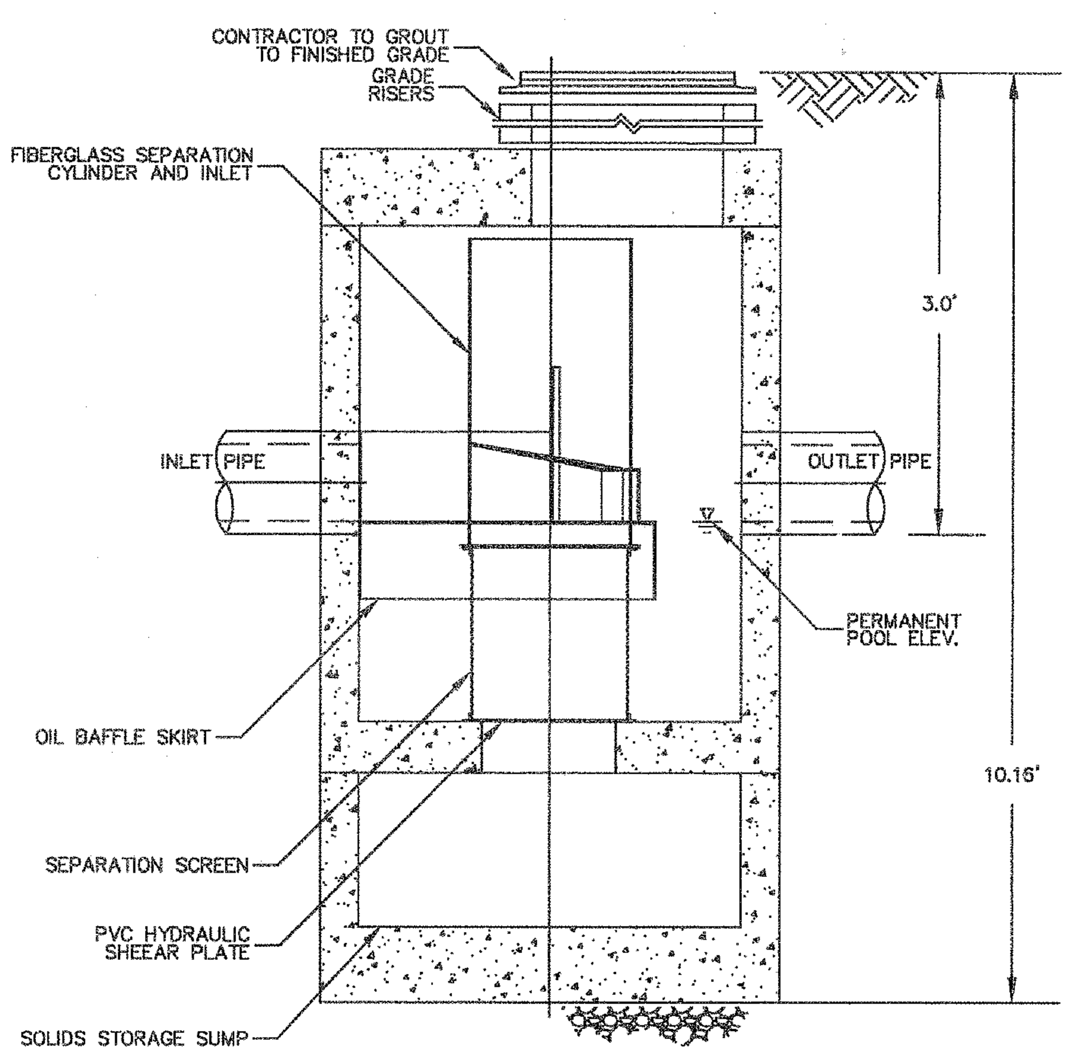
NOT TO SCALE



CATCHBASIN WITH PROTECTION

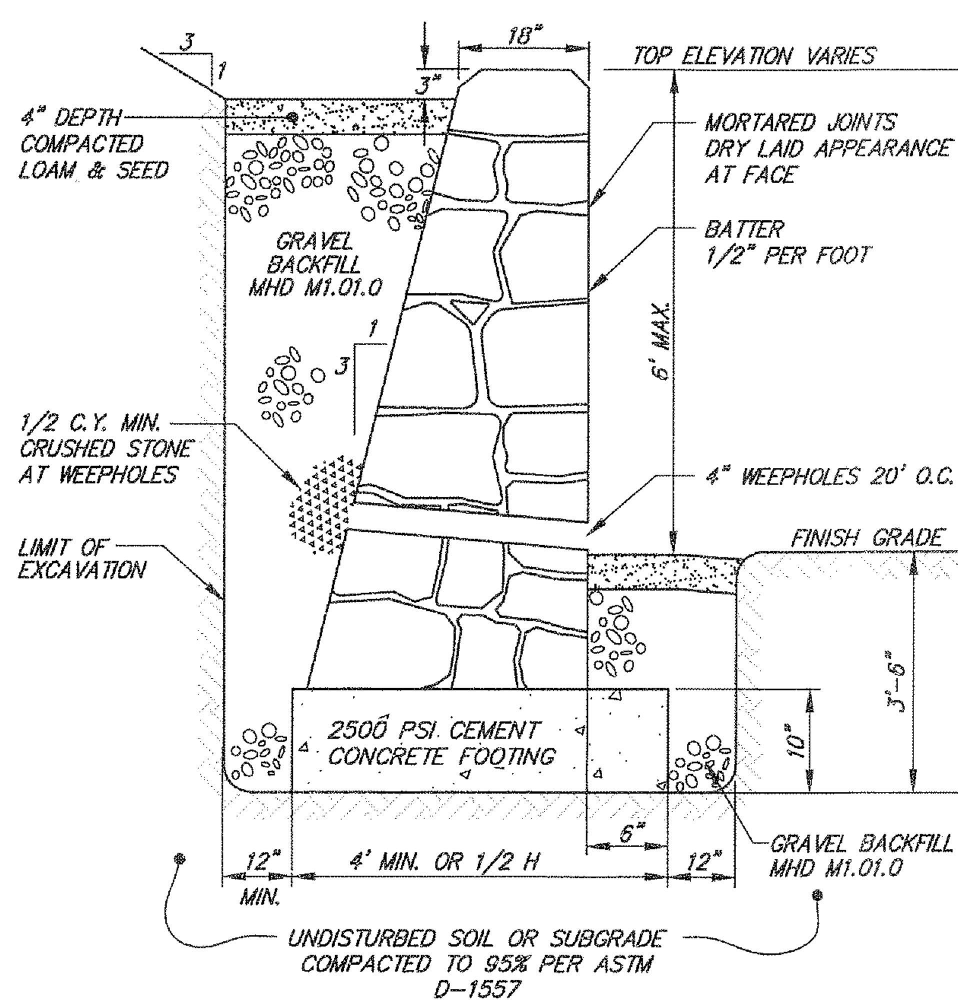
CROSS SECTION
NOT TO SCALE





CONTECH/STORMWATER SOLUTIONS

NOT TO SCALE



FIELDSTONE RETAINING WALL

CROSS SECTION
NOT TO SCALE

COIR FIBER WATTLE BARRIER DETAIL

PROJECT REFERENCE NO.	SHEET NO.
X-XXXX	EC-2H
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTES:

USE MINIMUM 18 IN. NOMINAL DIAMETER COIR FIBER (COCONUT) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 2 TO 3 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLES ON TOE OF SLOPE.

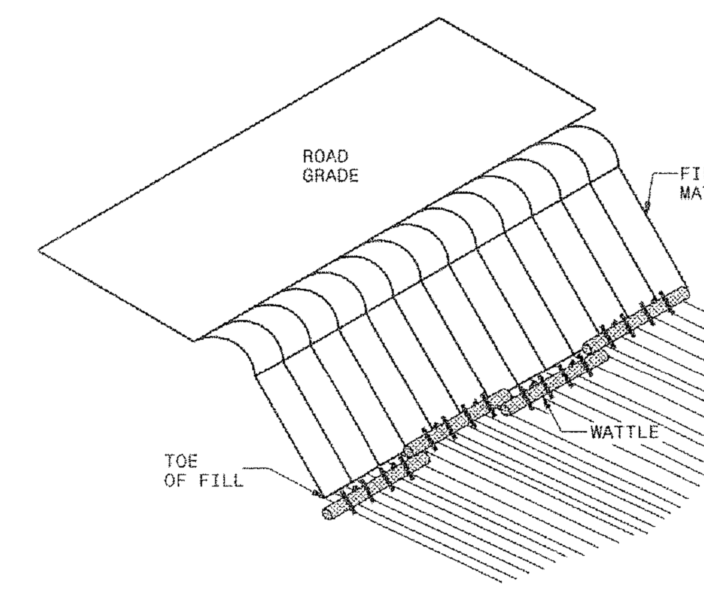
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

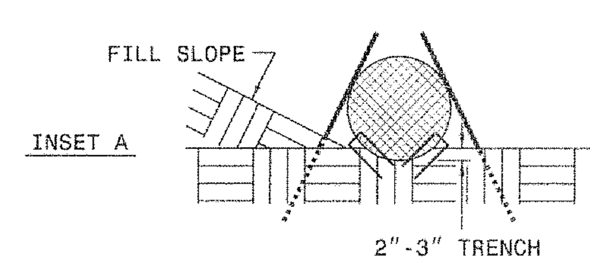
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

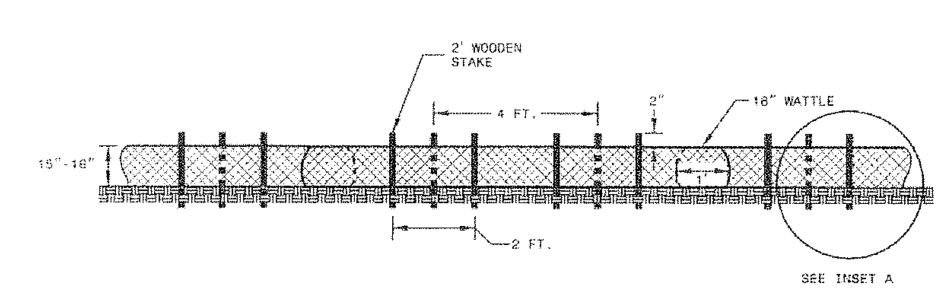
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

FOR BREAKS ALONG LARGE SLOPES, USE MAXIMUM SPACING OF 25 FT.

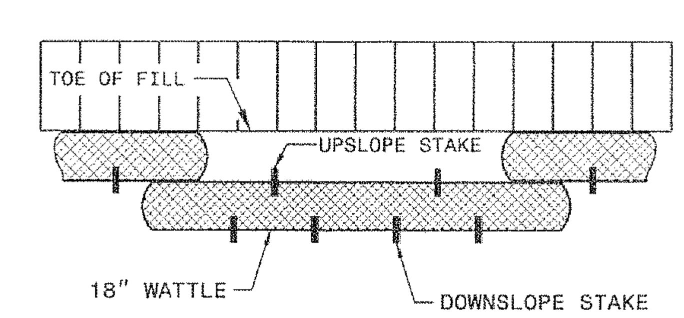


ISOMETRIC VIEW





FRONT VIEW



TOP VIEW

PROJECT NAME:

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TALACKO CIVIL No. 34026 REGISTERED PROFESSIONAL ENGINEER
1/23/17

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
5	JPC	RAT	1/9/17	FINAL C.C. PLANS
4	JPC	RAT	12/5/16	CON. COMM. COMMENTS
3	JPC	RAT	11/25/16	CON. COMM. COMMENTS
2	JPC	RAT	11/8/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	RD
APPRVD. BY:	VVT	CHECK BY:	RAT

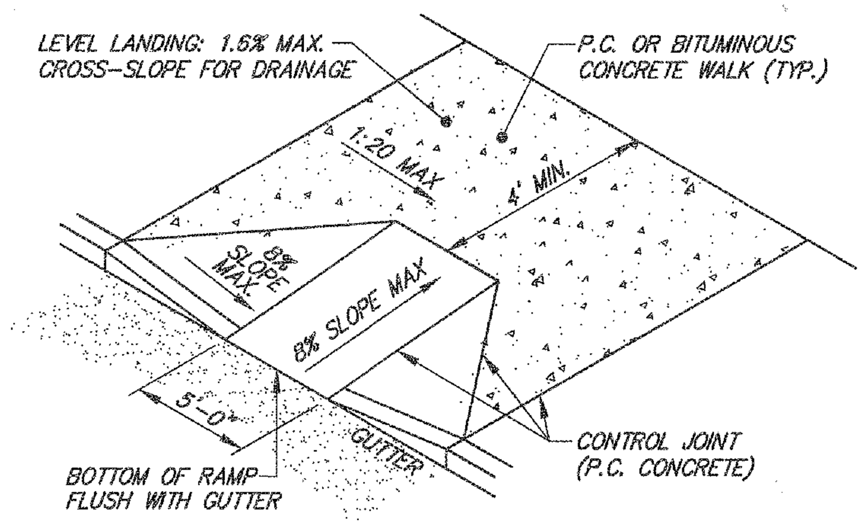
SITE DETAILS 2

PLOT DATE: Jan 20, 2017 2:37 pm
PATH: F:\Civil 3D Projects\19400 – Tambone – Wenham\DWG\

DWG: 19400C1 170106.dwg
LAYOUT: DETAILS2
SHEET: 25 OF 38

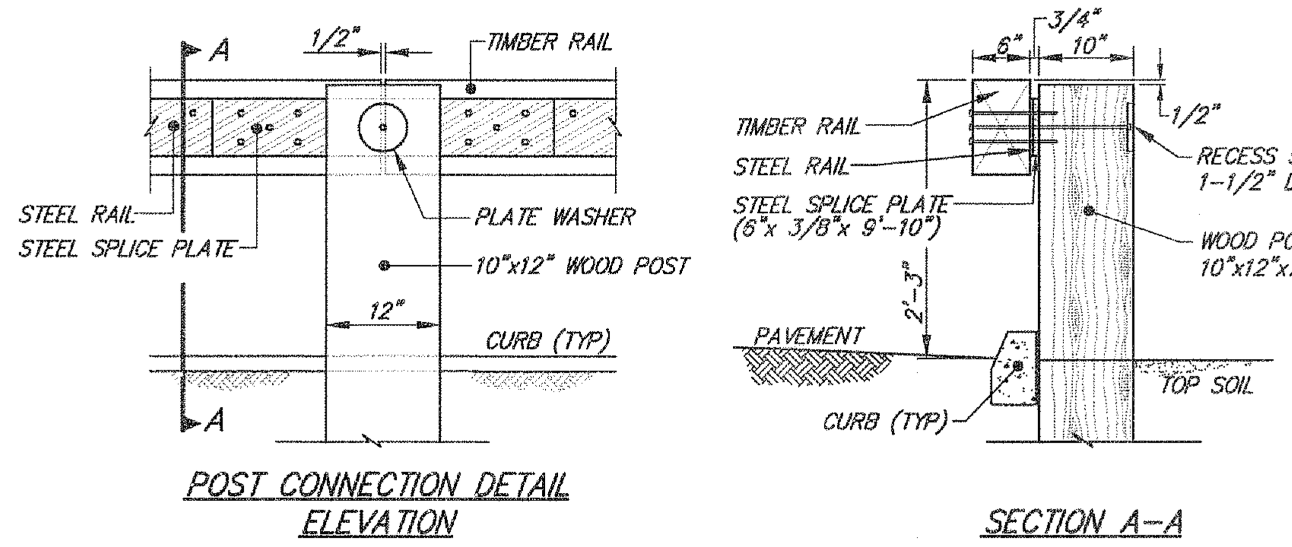
SD-2

PROJECT NO.: 19400

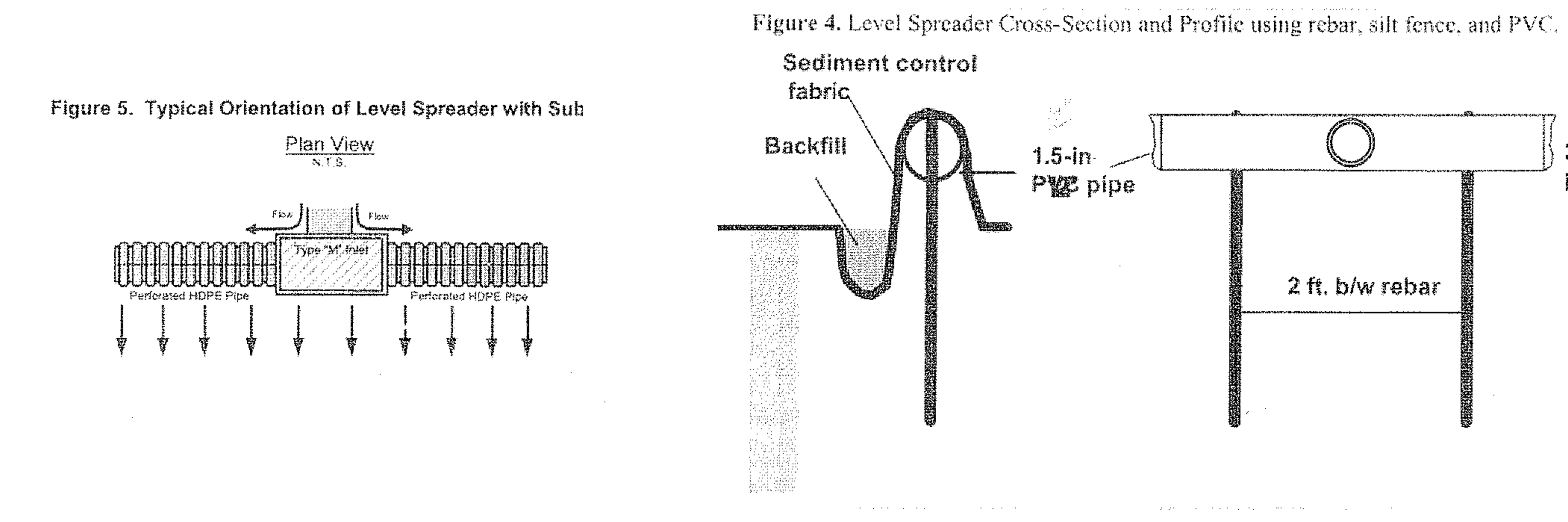


NOTE:
SIDEWALK RAMPS MUST COMPLY WITH THE AMERICANS WITH DISABILITIES ACT AND THE MASSACHUSETTS HIGHWAY DEPARTMENT WHEELCHAIR RAMP STANDARDS (REV. OCT. 8, 1997).

HANDICAP RAMP
ISOMETRIC VIEW
NOT TO SCALE

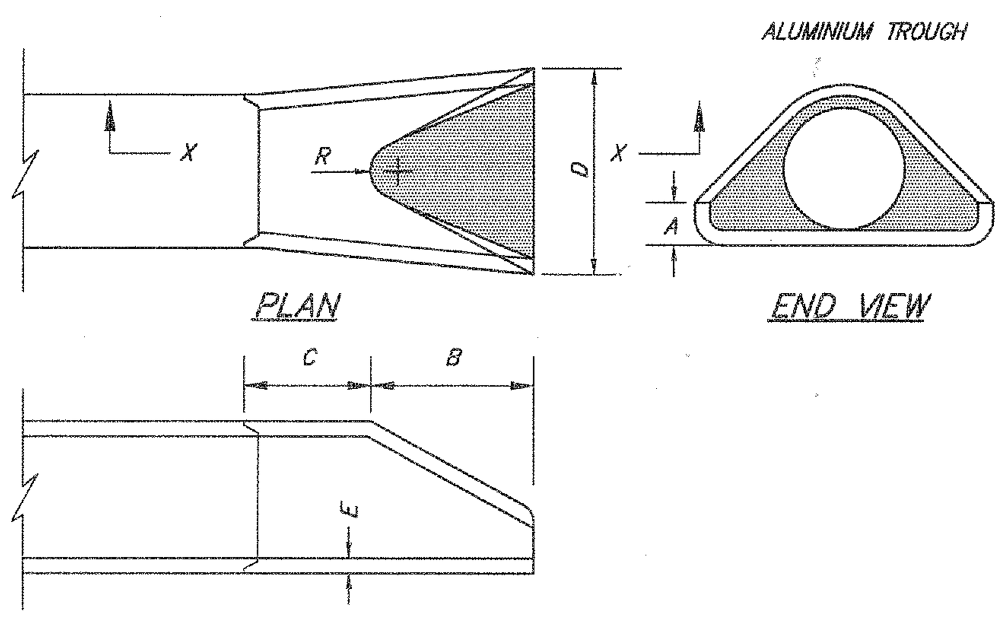


STEEL-BACKED GUARDRAIL w/WOOD POST
TYPICAL CROSS SECTION
NOT TO SCALE

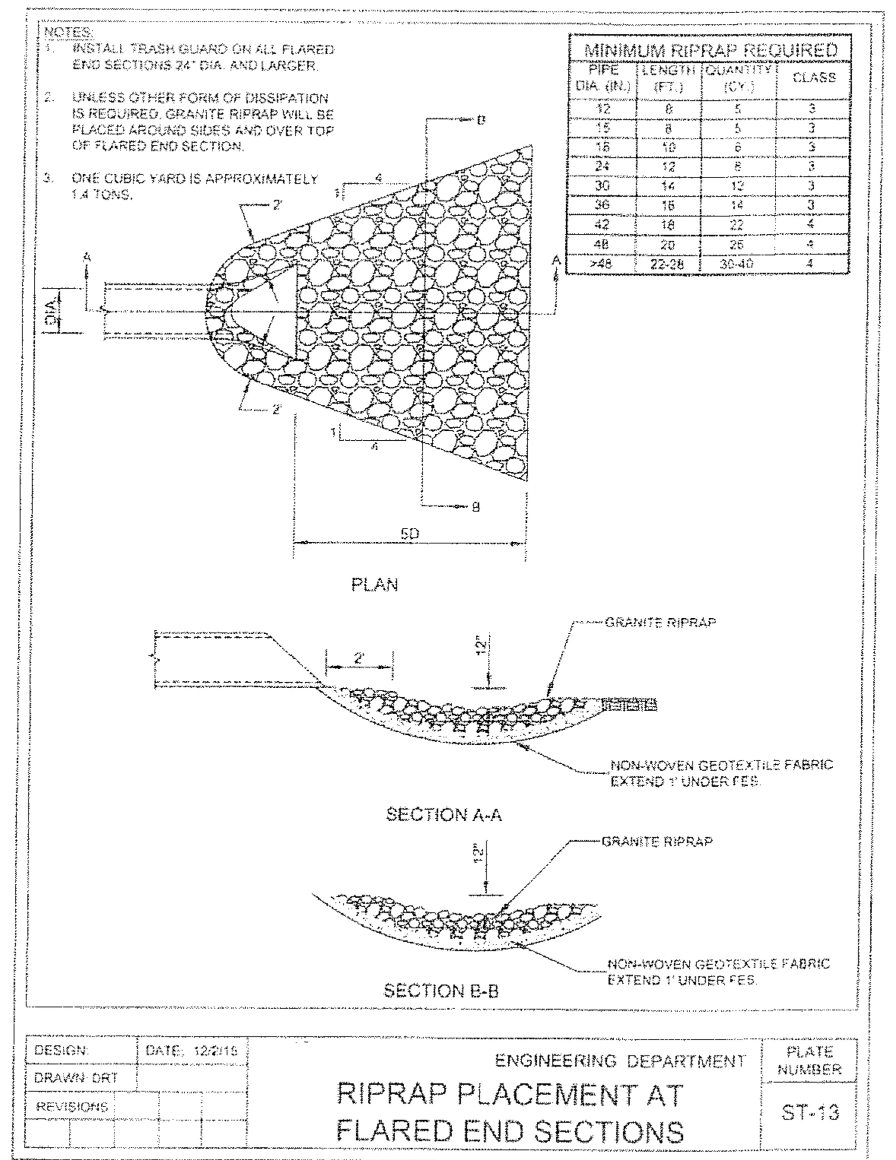


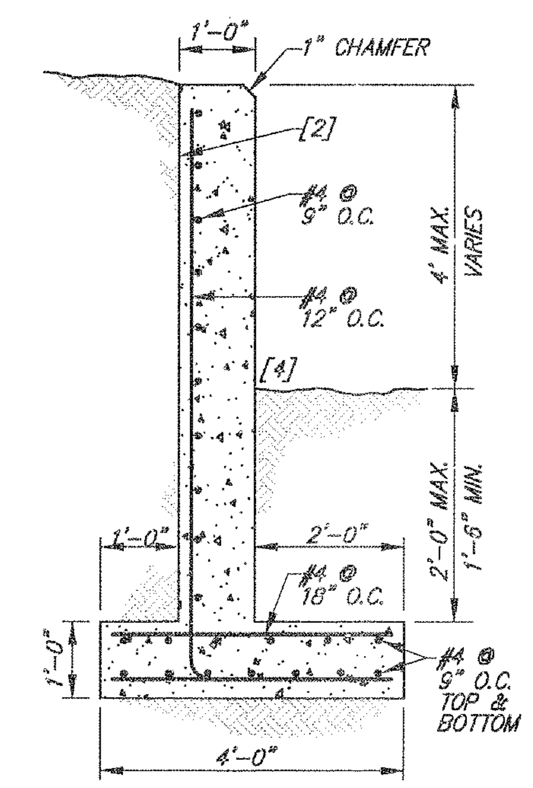
LEVEL SPREADER DETAIL
NOT TO SCALE

DIA.	A	B	C	D	E	R
12"	4"	2'-0"	4'-0.07"	2'-0"	2"	9"
15"	6"	2'-3"	3'-10"	2'-6"	2.25"	11"
18"	9"	2'-3"	3'-10"	3'-0"	2.5"	12"



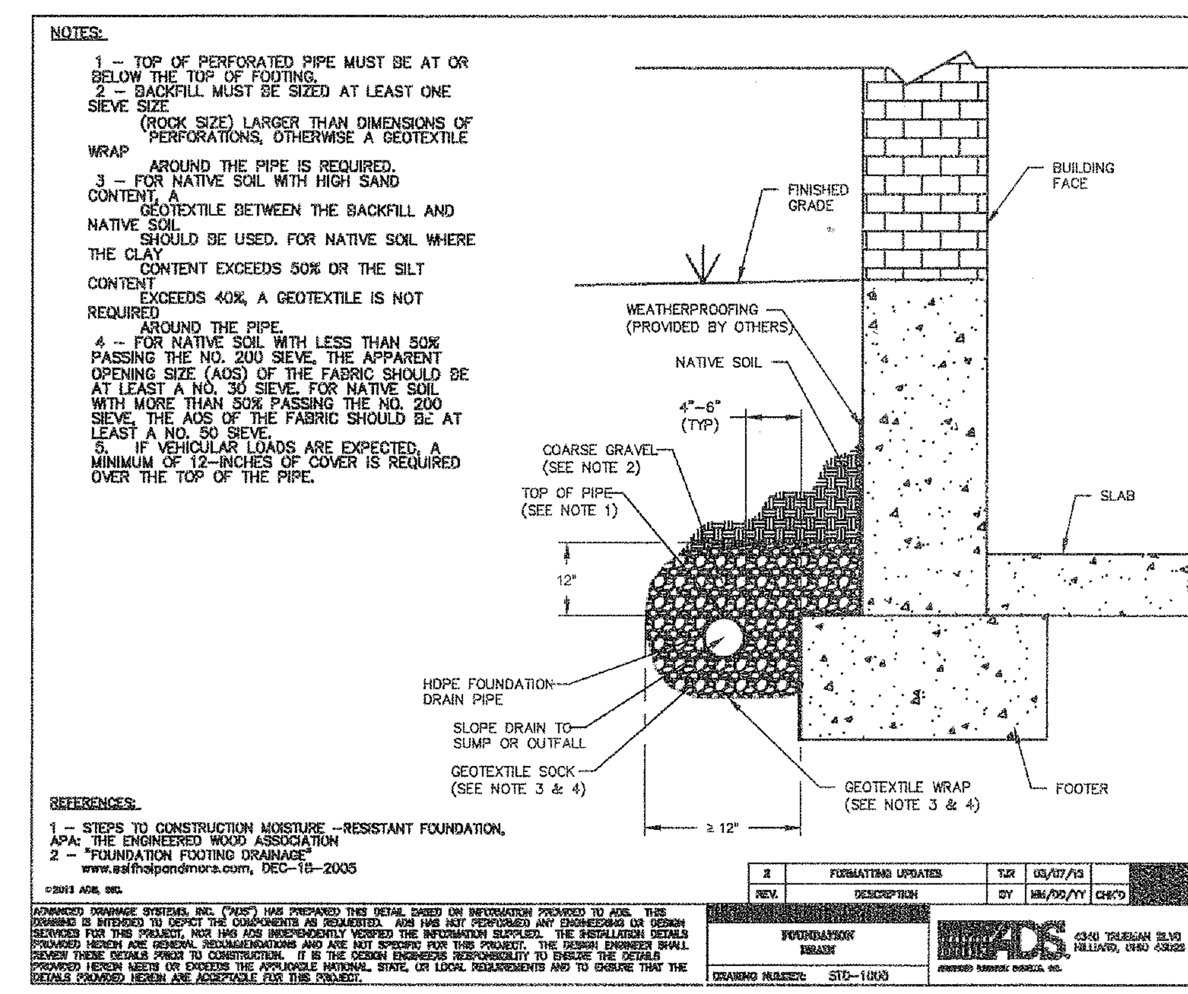
PRECAST REINFORCED CONCRETE END SECTION
NOT TO SCALE

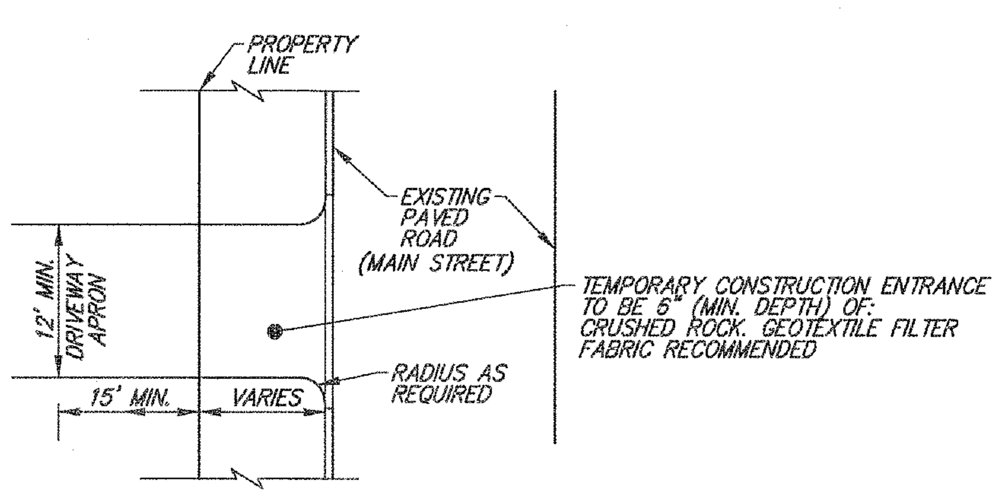




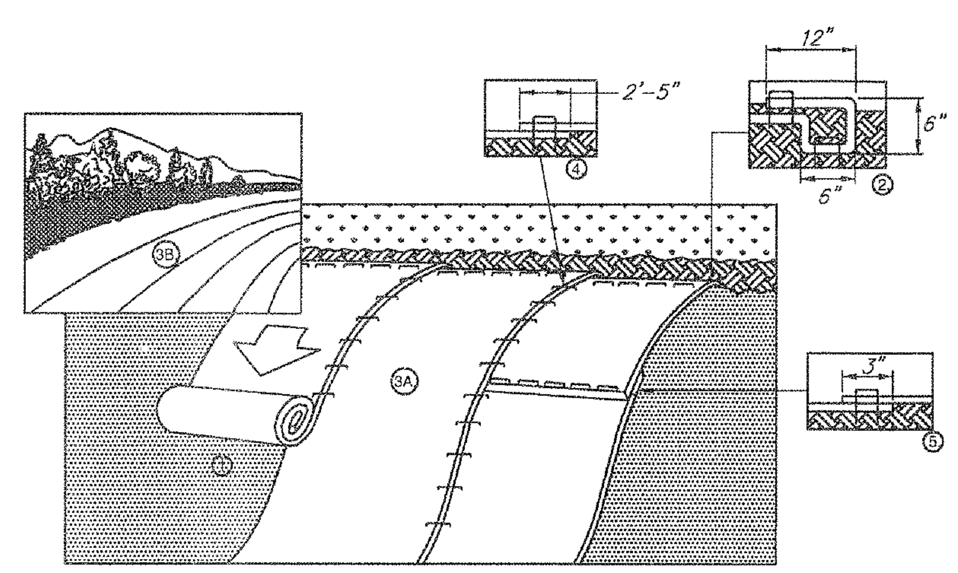
NOTES:
[1] ALL REBAR SHALL HAVE 3" MINIMUM CONCRETE COVER.
[2] THE UPHILL SIDE OF THE WALL SHALL BE COVERED BY 2 COATS OF BITUMINOUS WATERPROOFING PAINT.
[3] CONCRETE SHALL BE 3000 PSI STRENGTH AT 28 DAYS.
[4] THERE SHALL BE NO WEEP HOLES IN THE WALL.
[5] CONSTRUCTION OF THE RETAINING WALL SHALL BE SUPERVISED BY DESIGN ENGINEER.
[6] AN AS-BUILT PLAN SHALL BE PREPARED AND CERTIFIED BY THE DESIGN ENGINEER.
[7] UNDISTURBED NATURAL SOIL, OR SUBGRADE COMPACTED TO 95% PER ASTM D-1557.
[8] A BUILDING PERMIT IS REQUIRED FOR CONSTRUCTION OF WALLS GREATER THAN 4 FEET HIGH.
[9] RETAINING WALL SHALL BE LOCATED BY A REGISTERED LAND SURVEYOR AND CERTIFIED ON AS-BUILT PLAN.
[10] FINAL DESIGN MAY BE REVISED BY STRUCTURAL ENGINEER.

CONCRETE RETAINING WALL
NOT TO SCALE





TEMPORARY CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



INSTALLATION NOTES:
1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED.

2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP'S BACK OVER THE SEED AND COMPACTED SOIL. SECURE THE RECP'S OVER THE COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE ENTIRE WIDTH OF THE RECP'S.

3. ROLL THE RECP'S (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.

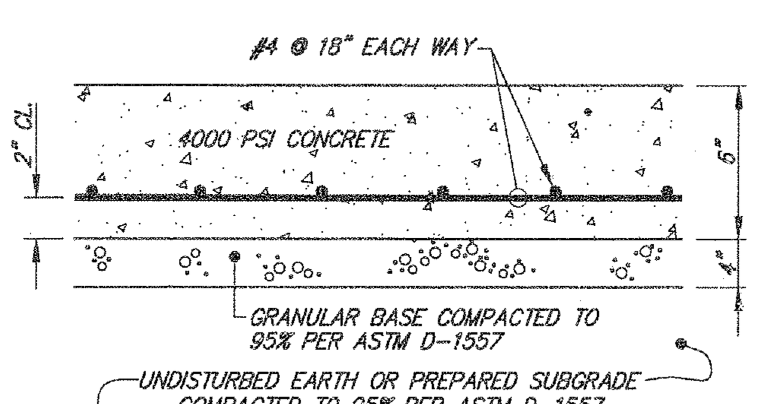
4. THE EDGES OF PARALLES RECP'S MUST BE STAPLED WITH APPROXIMATELY 2"-5" OF OVERLAP DEPENDING ON THE RECP'S TYPE.

5. CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS THE ENTIRE RECP'S WIDTH. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

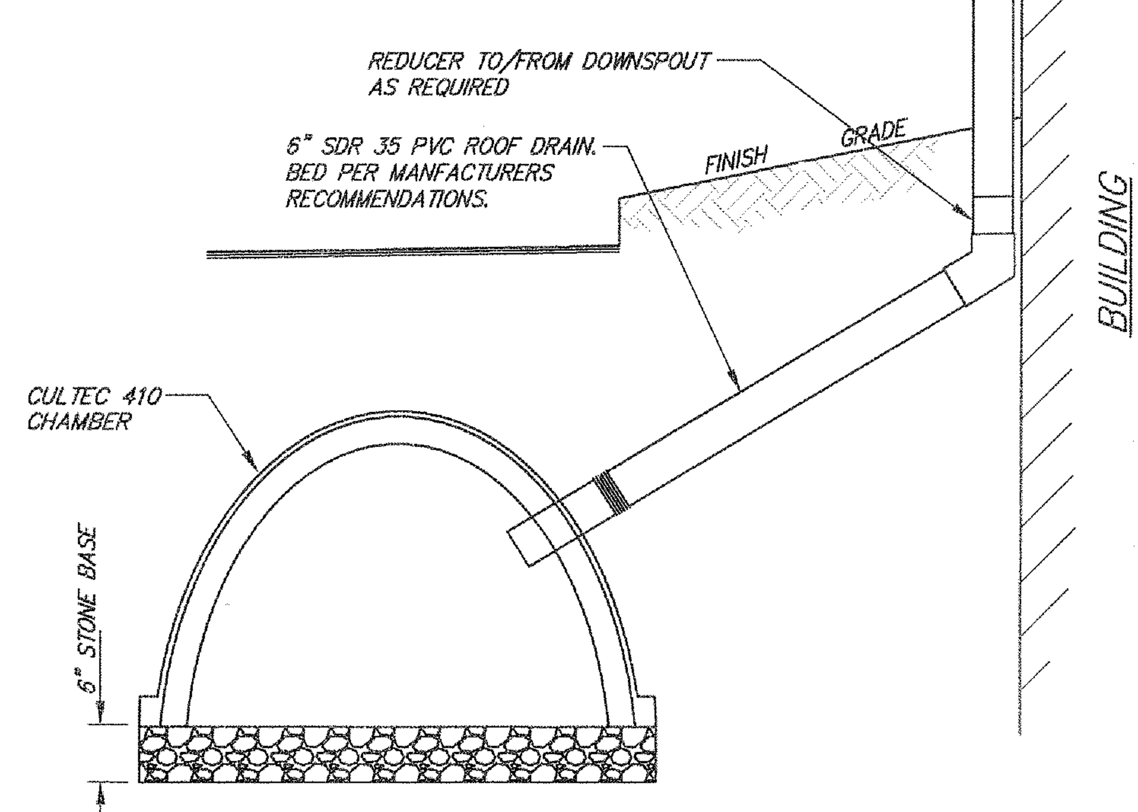
GENERAL NOTES:
1. THE ABOVE DETAIL IS PROVIDED BY NORTH AMERICAN GREEN. ALL SLOPE STABILIZATION PRODUCTS SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION GUIDELINES.

2. ROLLED EROSION CONTROL PRODUCT TO BE SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL.

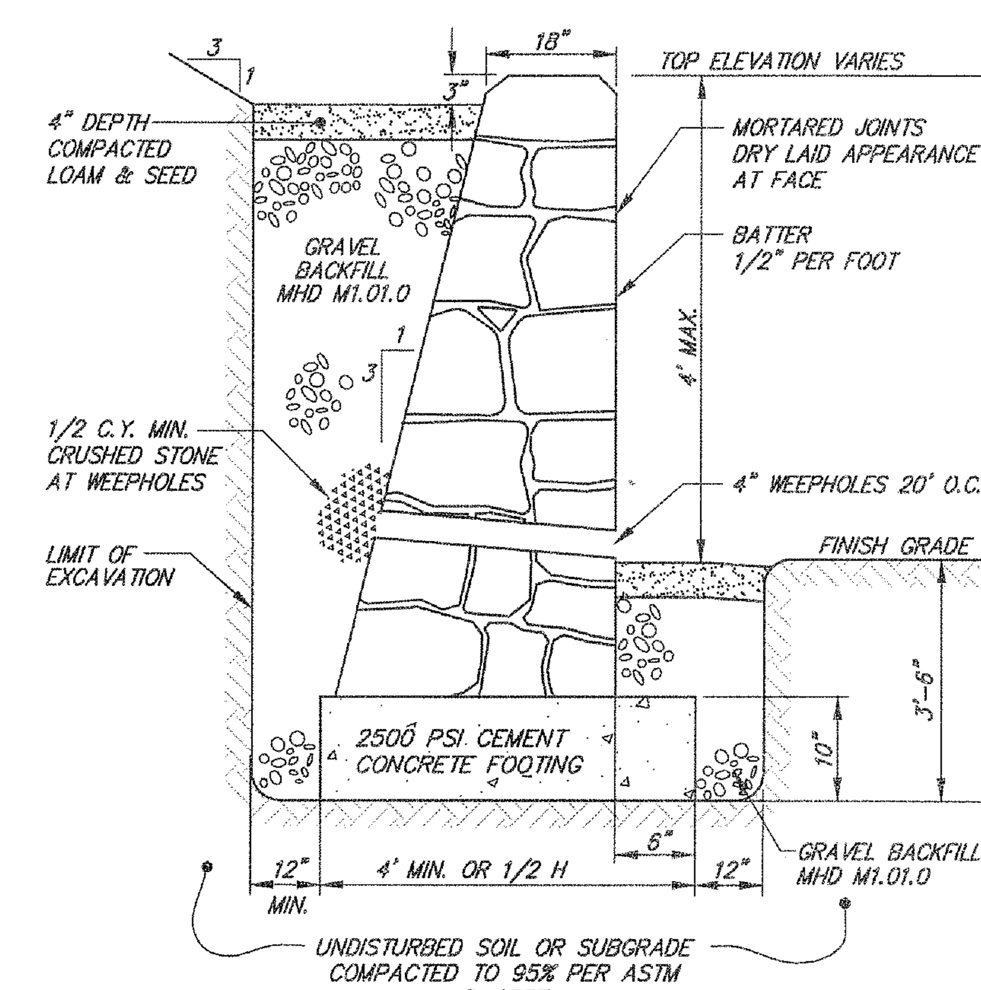
SLOPE STABILIZATION
ISOMETRIC VIEW
NOT TO SCALE



CONCRETE PAD
TYPICAL CROSS SECTION
NOT TO SCALE



ROOF DRAIN CONNECTION INTO INFILTRATION UNIT
NOT TO SCALE



FIELDSTONE RETAINING WALL
CROSS SECTION
NOT TO SCALE

PROJECT NAME:
WENHAM PINES
56 & 60 Main Street
Wenham, MA 01984

APPLICANT:
WENHAM PINES LLC.
6 Kimball Lane
Lynnfield, MA 01940

OWNER:
ESTATE OF WILLIAM J. FLYNN
5 Barker Road
Boxford, MA 01921

HANCOCK ASSOCIATES
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Land Surveyors
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185 CENTRE STREET, DANVERS, MA 01923
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VACLAV V. TALACKO CIVIL No. 34026 REGISTERED PROFESSIONAL ENGINEER
1/23/17

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2	JPC	RAT	11/8/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	RD
APPRVD. BY:	VVT	CHECK BY:	RAT

SITE DETAILS 3

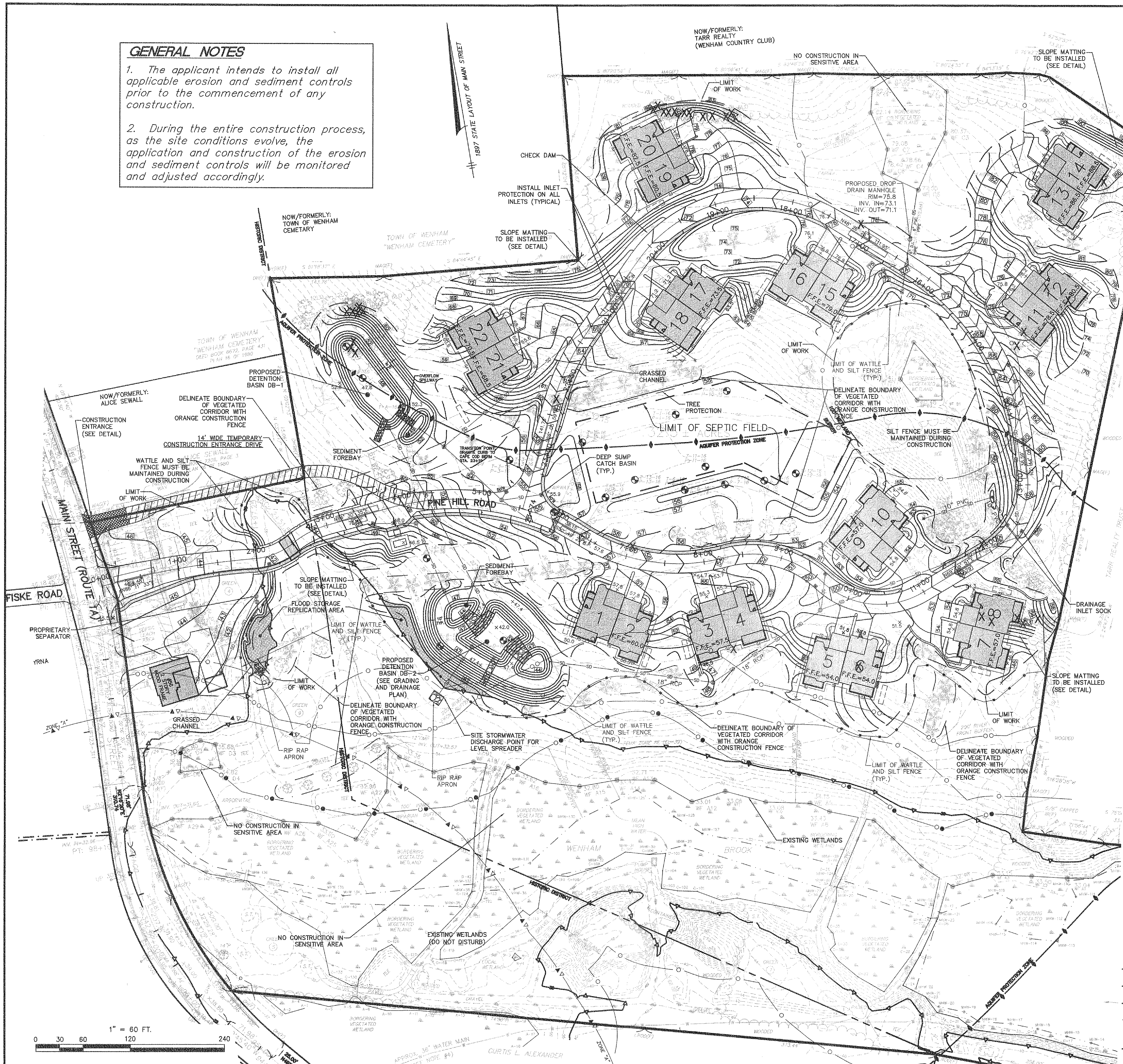
PLOT DATE: Jan 20, 2017 2:38 pm
PATH: F:\Civil 3D Projects\19400 - Tombone - Wenham\DWG\

DWG: 19400C1 170103.dwg
LAYOUT: DETAILS3
SHEET: 26 OF 38
SD-3
PROJECT NO.: 19400

GENERAL NOTES

1. The applicant intends to install all applicable erosion and sediment controls prior to the commencement of any construction.

2. During the entire construction process, as the site conditions evolve, the application and construction of the erosion and sediment controls will be monitored and adjusted accordingly.



GRADING AND UTILITY: EROSION AND SEDIMENT CONSTRUCTION NOTES:

1. SLOPE TO RECEIVE TEMPORARY OR PERMANENT SEEDING SHALL HAVE THE SURFACE ROUGHENED BY MEANS OF TRACK-WALKING OR THE USE OF OTHER APPROVED IMPLEMENTS. SURFACE ROUGHENING IMPROVES SEED BEDDING AND REDUCES RUN-OFF VELOCITY.
2. TEMPORARY SLOPE STABILIZATION MEASURES SHALL INCLUDE: COVERING EXPOSED SOIL WITH PLASTIC SHEETING, STRAW MULCHING, WOOD CHIPS, OR OTHER APPROVED MEASURES.
3. STOCKPILED SOIL OR STRIPPINGS SHALL BE PLACED IN A STABLE LOCATION AND CONFIGURATION. DURING "WET WEATHER" PERIODS, STOCKPILES SHALL BE COVERED WITH PLASTIC SHEETING OR STRAW MULCH. SEDIMENT FENCE IS REQUIRED AROUND THE PERIMETER OF THE STOCKPILE.
4. EXPOSED CUT OR FILL AREAS SHALL BE STABILIZED WITHIN 15 DAYS OF GRADING COMMENCEMENT THROUGH THE USE OF TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS OR MATS, MID-SLOPE SEDIMENT FENCES OR WATTLES, OR OTHER APPROPRIATE MEASURES. SLOPES EXCEEDING 25% MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES.
5. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, TIRE WASHES, STREET SWEEPING, AND VACUUMING MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
6. USE BMPs SUCH AS CHECK-DAMS, BERMS, AND INLET PROTECTION TO PREVENT RUN-OFF FROM REACHING DISCHARGE POINTS.
7. ALL CATCH BASINS AND DRAIN PIPES SHALL BE PROTECTED UNLESS NOTED OTHERWISE.
8. COVER CATCH BASINS, MANHOLES, AND OTHER DISCHARGE POINTS WHEN APPLYING SEAL COAT, TACK COAT, ETC. TO PREVENT INTRODUCING THESE MATERIALS TO THE STORM WATER SYSTEM.

EROSION AND SEDIMENT CONTROL BMP IMPLEMENTATION:

1. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES, AND CONSTANTLY MAINTAINED DURING THE LIFE OF THE PROJECT.
2. TREE PROTECTION SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL INSPECTION IN SCHEDULED.
3. ALL "SEDIMENT BARRIERS (TO BE INSTALLED AFTER GRADING)" SHALL BE INSTALLED IMMEDIATELY FOLLOWING ESTABLISHMENT OF FINISHED GRADE.
4. LONG TERM SLOPE STABILIZATION MEASURES "INCLUDING MATTING" SHALL BE IN PLACE OVER ALL EXPOSED SOILS BY OCTOBER 1.
5. THE STORM WATER BASIN SHALL BE CONSTRUCTED AND LANDSCAPED PRIOR TO THE STORM WATER SYSTEM FUNCTIONING AND SITE PAVING.
6. INLET PROTECTION SHALL BE IN-PLACE IMMEDIATELY FOLLOWING PAVING ACTIVITIES.
7. SEE "NOTICE OF INTENT" FOR A COMPLETE LIST OF BMP's AND HOW SPECIFIC STANDARDS ARE MET.

LEGEND

EXISTING		PROPOSED
12" RCP	DRAINLINE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION, CATCH BASIN MANHOLE & FLARED END	SD DMH
	PROPERTY LINE	
55.36' N120°46'23"E	BEARING & DISTANCE ALONG BOUNDARY	55.36' N120°46'23"E
<< 249.56' >>	TOTALED BOUNDARY FRONTAGE	<< 249.56' >>
#2	ELEVATION BENCH MARK	
	RETAINING WALL	
	WOOD FENCE	
	EDGE OF GRAVEL OR DIRT ROAD	
	EDGE OF PAVEMENT	
× 92.6	SPOT ELEVATION	× 76.1
92	ELEVATION CONTOUR	92
WFA9	LIMIT OF BORDERING VEGETATED WETLAND (WITH FLAG NUMBER)	
	LIMIT OF 100-FOOT WETLAND BUFFER ZONE	
	EDGE OF WOODS OR BRUSH (DRIP LINE)	
HYD	FIRE HYDRANT	HYD
12"M	PROMINENT DECIDUOUS TREE WITH SIZE AND SPECIES	
18"P	PROMINENT CONIFEROUS TREE WITH SIZE AND SPECIES	
	SILT FENCE	
TP-1 95.2	TEST PIT WITH ELEVATION	
PT6	PERCOLATION TEST	
	GUARDRAIL	
	TREE TO BE REMOVED	X
	LIMIT OF 200-FOOT RIVER FRONT BUFFER ZONE	
	LIMIT OF 100-FOOT RIVER FRONT BUFFER ZONE	
	LIMIT OF 400-FOOT "ZONE A" FROM 310 CMR 22.00	
	LIMIT OF 100-YEAR FLOOD PLAIN	
	FLOW PATH	
	AQUIFER PROTECTION DISTRICT	

PROJECT NAME:

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COMMONWEALTH OF MASSACHUSETTS
VACLAV V. TALACKO
CIVIL
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DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	AS SHOWN	DRAWN BY:	JPC
APPRVD. BY:	VVT	CHECK BY:	DID/RAT

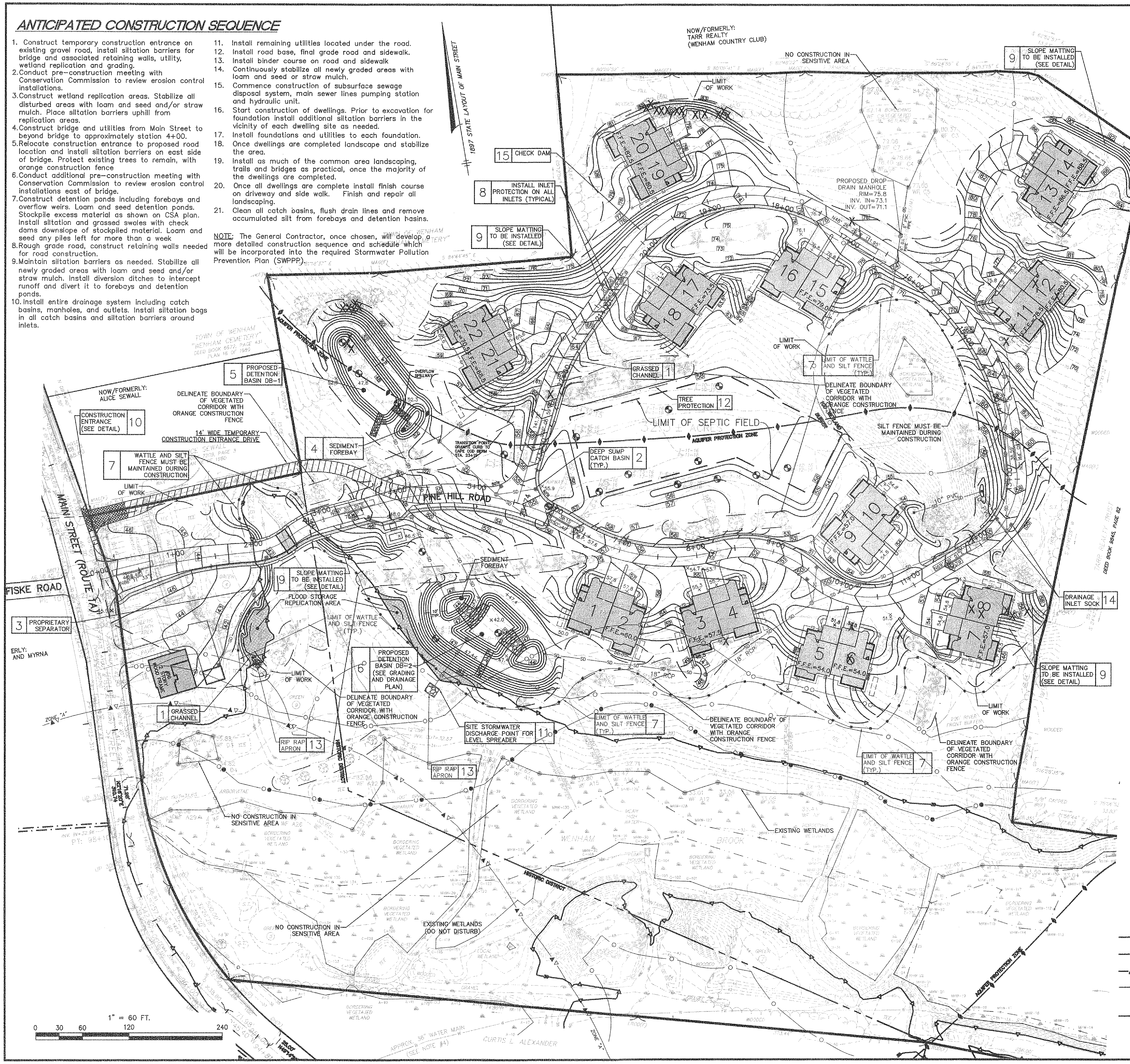
EROSION AND SEDIMENTATION CONTROL PLAN

PLOT DATE: Jan 20, 2017 4:14 pm
PATH: F:\Civil 3D Projects\19400 - Tambone - Wenham\DWG\

DWG: 19400C1 170103.dwg
LAYOUT: ESC-1
SHEET: 27 OF 38

ESC-1

PROJECT NO.: 19400



ANTICIPATED CONSTRUCTION SEQUENCE

1. Construct temporary construction entrance on existing gravel road, install siltation barriers for bridge and associated retaining walls, utility, wetland replication and grading.
2. Conduct pre-construction meeting with Conservation Commission to review erosion control installations.
3. Construct wetland replication areas. Stabilize all disturbed areas with loam and seed and/or straw mulch. Place siltation barriers uphill from replication areas.
4. Construct bridge and utilities from Main Street to beyond bridge to approximately station 4+00.
5. Relocate construction entrance to proposed road location and install siltation barriers on east side of bridge. Protect existing trees to remain, with orange construction fence
6. Conduct additional pre-construction meeting with Conservation Commission to review erosion control installations east of bridge.
7. Construct detention ponds including forebays and overflow weirs. Loam and seed detention ponds. Stockpile excess material as shown on CSA plan. Install siltation and grassed swales with check dams downslope of stockpiled material. Loam and seed any piles left for more than a week
8. Rough grade road, construct retaining walls needed for road construction.
9. Maintain siltation barriers as needed. Stabilize all newly graded areas with loam and seed and/or straw mulch. Install diversion ditches to intercept runoff and divert it to forebays and detention ponds.
10. Install entire drainage system including catch basins, manholes, and outlets. Install siltation bags in all catch basins and siltation barriers around inlets.
11. Install remaining utilities located under the road.
12. Install road base, final grade road and sidewalk.
13. Install binder course on road and sidewalk
14. Continuously stabilize all newly graded areas with loam and seed or straw mulch.
15. Commence construction of subsurface sewage disposal system, main sewer lines pumping station and hydraulic unit.
16. Start construction of dwellings. Prior to excavation for foundation install additional siltation barriers in the vicinity of each dwelling site as needed.
17. Install foundations and utilities to each foundation.
18. Once dwellings are completed landscape and stabilize the area.
19. Install as much of the common area landscaping, trails and bridges as practical, once the majority of the dwellings are completed.
20. Once all dwellings are complete install finish course on driveway and side walk. Finish and repair all landscaping.
21. Clean all catch basins, flush drain lines and remove accumulated silt from forebays and detention basins.

NOTE: The General Contractor, once chosen, will develop a more detailed construction sequence and schedule which will be incorporated into the required Stormwater Pollution Prevention Plan (SWPPP).

LIST OF BEST MANAGEMENT PRACTICES (BMP's):

1. GRASSED CHANNEL/DIVERSION SWALES
2. DEEP SUMP CATCH BASINS
3. PROPRIETARY SEPARATOR
4. SEDIMENT FOREBAYS
5. EXTENDED DRY DETENTION BASINS
6. INFILTRATION BASIN
7. WATTLES AND SILT FENCES
8. SILT FENCE INLET PROTECTION
9. SLOPE MATTING
10. TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
11. LEVEL SPREADER
12. TREE PROTECTION
13. RIP RAP APRON
14. DRAINAGE INLET/SOCK
15. CHECK DAM

LEGEND

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12"RCP	DRAINLINE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION, CATCH BASIN MANHOLE & FLARED END	SD DMH
	PROPERTY LINE	
55.36' N120°46'23"E	BEARING & DISTANCE ALONG BOUNDARY	55.36' N120°46'23"E
<< 249.56' >>	TOTALED BOUNDARY FRONTAGE	<< 249.56' >>
#2	ELEVATION BENCH MARK	
	RETAINING WALL	
	WOOD FENCE	
	EDGE OF GRAVEL OR DIRT ROAD	
	EDGE OF PAVEMENT	
× 92.6	SPOT ELEVATION	×76.1
92	ELEVATION CONTOUR	92
WFA9	LIMIT OF BORDERING VEGETATED WETLAND (WITH FLAG NUMBER)	
	LIMIT OF 100-FOOT WETLAND BUFFER ZONE	
	EDGE OF WOODS OR BRUSH (DRIP LINE)	
	FIRE HYDRANT	HYD
12"M	PROMINENT DECIDUOUS TREE WITH SIZE AND SPECIES	
18"P	PROMINENT CONIFEROUS TREE WITH SIZE AND SPECIES	
	SILT FENCE	
TP-1 95.2	TEST PIT WITH ELEVATION	
PT6	PERCOLATION TEST	
	GUARDRAIL	
	TREE TO BE REMOVED	X
	LIMIT OF 200-FOOT RIVER FRONT BUFFER ZONE	
	LIMIT OF 100-FOOT RIVER FRONT BUFFER ZONE	
	LIMIT OF 400-FOOT "ZONE A" FROM 310 CMR 22.00	
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	FLOW PATH	
	AQUIFER PROTECTION DISTRICT	
	BEST MANAGEMENT PRACTICE	8

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SCALE:	AS SHOWN	DRAWN BY:	JPC
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EROSION AND SEDIMENTATION CONTROL PLAN

PLOT DATE: Jan 20, 2017 4:15 pm
PATH: F:\Civil 3D Projects\19400 - Tambone - Wenham\DWG\

DWG: 19400C1 170103.dwg
LAYOUT: ESC-2
SHEET: 28 OF 38

ESC-2

PROJECT NO.: 19400

LIST OF BEST MANAGEMENT PRACTICES (BMP's):

1. GRASSED CHANNEL/DIVERSION SWALES
2. DEEP SUMP CATCH BASINS
3. PROPRIETARY SEPARATOR
4. SEDIMENT FOREBAYS
5. EXTENDED DRY DETENTION BASINS
6. INFILTRATION BASIN
7. WATTLES AND SILT FENCES
8. SILT FENCE INLET PROTECTION
9. SLOPE MATTING
10. TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
11. LEVEL SPREADER
12. TREE PROTECTION
13. RIP RAP APRON
14. DRAINAGE INLET/SOCK
15. CHECK DAM

NOTE:
COLLECTION SWALES WILL SURROUND ALL STOCKPILE AREAS AND EVENTUALLY DRAIN INTO THE INFILTRATION AREAS.

LEGEND

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EROSION AND SEDIMENTATION CONTROL PLAN

PLOT DATE: Jan 20, 2017 4:16 pm
PATH: F:\Civil 3D Projects\19400 - Tambone - Wenham\DWG\

DWG: 19400C1 17010[illegible].dwg
LAYOUT: ESC-3
SHEET: 29 OF 38
ESC-3
PROJECT NO.: 19400

SOIL TEST DATA

PERC TEST	DEPTH BELOW GRADE @ 12" LEVEL (IN.)	EL. @ 12" LEVEL	FIELD RATE (MIN/IN.)	DATE
P-1-16	27"	52.95	1.67	5-4-16
P-2-16	48"	51.80	N/A	5-4-16
P-3-16	24"	53.00	N/A	5-4-16
P-5-16	24"	54.00	1.33	5-4-16
P-10-16	36"	54.30	1.67	5-4-16
P-11-16	24"	53.00	0.67	5-4-16
P-12-16	42"	51.00	0.33	5-4-16
P-13-16	29"	52.60	<2	5-4-16

EVALUATOR: VACLAV V. TALACKO
WITNESS: GREG BERNARD BOH

DEEP SOIL OBS. HOLE	T-1-16	T-2-16	T-3-16	T-4-16	T-5-16	T-6-16	T-7-16
DATE	5/4/16	5/4/16	5/4/16	5/4/16	5/4/16	5/4/16	5/4/16
GRADE EL.	55.2	55.8	55.0	54.9	56.0	56.3	56.0
ESHGW EL.	49.2	47.0	47.5	44.9	46.0	46.3	46.0
OBS. GW EL.	–	48.0	45.0	–	–	–	–
BOTTOM EL.	44.7	44.9	42.3	42.4	43.2	43.2	43.1

DEEP SOIL OBS. HOLE	T-8-16	T-9-16	T-10-16	T-11-16	T-12-16	T-13-16	T-14-16
DATE	5/4/16	5/4/16	5/4/16	5/4/16	5/4/16	5/4/16	5/4/16
GRADE EL.	41.3	54.9	57.3	55.0	54.5	55.0	44.8
ESHGW EL.	31.2	46.3	49.3	47.2	46.9	49.1	34.7
OBS. GW EL.	–	44.7	–	–	46.2	–	–
BOTTOM EL.	31.3	44.7	46.1	44.3	43.3	45.0	34.6

T-1-16

0-12"	A	SANDY LOAM	10YR3/3	FRIABLE, LOOSE
12-24"	Bw	LOAMY SAND	10YR5/6	FRIABLE, LOOSE
24-36"	C1	M-FLS	10Y6/6	MASSIVE, LOOSE
36-126"	C2	M-FS	10Y5/6	MASSIVE, LOOSE

OBSERVED GROUNDWATER @ 80"
NO REFUSAL

T-2-16

0-16"	A	SANDY LOAM	10YR3/3	FRIABLE
16-30"	Bw	SANDY LOAM	10YR5/6	FRIABLE
30-42"	C1	M-FS	10Y5/6	MASSIVE, LOOSE
42-47"	C2	FINE LOAMY SAND	10Y5/3	MASSIVE, LOOSE
47-92"	C3	MFS	10Y5/6	MASSIVE, LOOSE
92-130"	C4	MS	2.5Y	MASSIVE, LOOSE, COBBLES

MOTTLING @ 77" 10YR6/8, 5Y7/1
OBSERVED GROUNDWATER @ 92"
NO REFUSAL

T-3-16

0-12"	A	LOAMY SAND	10YR3/3	FRIABLE, LOOSE
12-20"	Bw	GRAVELLY LOAMY SAND	10YR5/6	FRIABLE, LOOSE
20-91"	C1	FMS	10Y4/6	MASSIVE, LOOSE
91-153"	C2	FMS	10Y5/4	MASSIVE, LOOSE
153"	C3	M-CS	COARSE	MASSIVE, LOOSE, COBBLES

MOTTLING @ 90" 10YR6/8, 5Y7/1
OBSERVED GROUNDWATER @ 116"
NO REFUSAL

T-4-16

0-11"	A	LOAMY SAND	10YR3/3	FRIABLE
11-20"	Bw	LOAMY SAND	10YR5/6	FRIABLE
20-90"	C1	M-FS	7.5Y5/6	LOOSE, COBBLES
90-150'	C2	M-FLS	10YR6/3	MASSIVE, LOOSE

MOTTLING @ 120" 10YR6/8, 5Y7/2
OBSERVED GROUNDWATER @ 148"
WEEPING @ 135"
NO REFUSAL

T-5-16

0-10"	A	SANDY LOAM	10YR3/4	FRIABLE, LOOSE
10-19"	Bw	LOAMY SAND	10YR6/6	FRIABLE
19-70"	C1	GRAVELLY LOAMY SAND	10Y4/4	MASSIVE, LOOSE
70-154"	C2	LOAMY SAND	10Y6/3	MASSIVE, LOOSE

OBSERVED GROUNDWATER @ 145"
WEEPING @ 135"
DEPTH ADJ. SEASONAL GROUNDWATER @ 120"

T-6-16

0-9"	A	SANDY LOAM	10YR3/4	FRIABLE
9-20"	Bw	LOAMY SAND	10YR6/6	FRIABLE
20-95"	C1	M-FS	10Y4/4	MASSIVE, LOOSE
95-157"	C2	M-FS	10Y6/6	MASSIVE, LOOSE

OBSERVED GROUNDWATER @ 152"
WEEPING @ 124"
DEPTH ADJ. SEASONAL GROUNDWATER @ 120"

T-7-16

0-9"	A	SANDY LOAM	10YR3/4	FRIABLE, LOOSE
9-20"	Bw	SANDY LOAM	10YR6/6	FRIABLE, LOOSE
20-30"	C1	FINE SANDY LOAM	10Y5/6	MASSIVE
30-90"	C2	LMS	10Y5/4	MASSIVE, FIRM
90-155"	C3	M-FLS	10Y6/3	MASSIVE

MOTTLING @ 120" 10YR6/8, 5Y7/1
OBSERVED GROUNDWATER @ 148"
WEEPING @ 138"

T-8-16

0-12"	A	SANDY LOAM	10YR3/4	FRIABLE
12-20"	Bw	LOAMY SAND	10YR6/5	FRIABLE
20-96"	C1	F-MS	10Y5/4	MASSIVE, LOOSE
96-120"	C2	SANDY LOAM	10Y6/3	

OBSERVED GROUNDWATER @ 90"
NO REFUSAL

T-9-16

0-10"	A	SANDY LOAM	10YR3/3	FRIABLE
10-20"	Bw	SANDY LOAM	10YR5/6	FRIABLE
20-40"	C1	LOAMY SAND	10Y5/6	MASSIVE, LOOSE
40-95"	C2	FINE LOAMY SAND	7Y5/6	MASSIVE
95-122"	C3	F-MS	7Y5/6	MASSIVE, LOOSE

MOTTLING @ 103" 10YR6/8, 5Y7/1
OBSERVED GROUNDWATER @ 107"
WEEPING @ 103"

T-10-16

0-8"	A	LOAMY SAND	10YR3/4	FRIABLE
8-26"	Bw	LOAMY SAND	10YR6/8	FRIABLE
26-134"	C1	FMS	10Y4/4	MASSIVE, LOOSE

MOTTLING @ 96" 10YR6/8, 5Y7/1
OBSERVED GROUNDWATER @ 96"
WEEPING @ 112"

T-11-16

0-12"	A	LOAM	10YR3/4	FRIABLE
12-28"	Bw	LOAMY SAND	10YR6/8	FRIABLE
28-94"	C1	F-MS	2.5Y6/4	LOOSE
94-128"	C2	F-MS	10YR4/4	COBBLES

MOTTLING @ 94" 10YR6/8, 5Y7/2
OBSERVED GROUNDWATER @ 94"
WEEPING @ 94"

T-12-16

0-10"	A	SANDY LOAM	10YR3/4	FRIABLE
20-110"	Bw	SANDY LOAM	10YR6/6	FRIABLE
110-134"	C1	F-MS	2.5Y6/4	MASSIVE, LOOSE, COBBLES

MOTTLING @ 91" 10YR6/8, 5Y7/2
OBSERVED GROUNDWATER @ 100"
WEEPING @ 110"

T-13-16

0-8"	A	LOAM	10YR3/4	FRIABLE
8-24"	Bw	LOAMY SAND	10YR6/6	FRIABLE
24-43"	C1	FMS	10Y5/6	LOOSE, MASSIVE
43-70"	C2	FMS	10Y6/6	LOOSE, MASSIVE
70-120"	C3	SANDY LOAM	10Y5/4	FIRM, COBBLES

MOTTLING @ 70" 10YR6/8, 5Y7/1
NO OBSERVED GROUNDWATER
NO REFUSAL

T-14-16

0-8"	A	SANDY LOAM	10YR3/4	FRIABLE
8-28"	Bw	SANDY LOAM	10YR6/6	FRIABLE
28-60"	C1	F-MS	10Y4/4	FRIABLE, LOOSE
60-122"	C2	GRAVELLY FINE SAND	10Y4/4	LOOSE, COBBLES

OBSERVED GROUNDWATER @ 121"
NO REFUSAL

DETENTION BASIN TEST PITS

CONDUCTED ON 9/23/2016

T-A-16

0-8"	A	LOAM	10YR4/4	
8-20"	Bw	LOAMY SAND	10YR5/6	
20-65"	C1	M SAND	10YR5/4	LOOSE, COBBLES
65-132"	C2	M LOAMY SAND	10YR5/4	COBBLES

NO OBSERVED GROUNDWATER
NO REFUSAL

T-B-16

0-12"	A	LOAM AND FILL	10YR5/3	
12-31"	Bw	LOAMY SAND	10YR6/6	
31-85"	C1	M SAND	10YR5/4	LOOSE, COBBLES
85-138"	C2	M SAND	10YR6/6	COBBLES

NO OBSERVED GROUNDWATER
NO REFUSAL

T-C-16

0-10"	A	LOAM	10YR5/3	
10-32"	Bw	LOAMY SAND	10YR6/8	
32-65"	C1	M SAND	10YR6/6	LOOSE, COBBLES
65-120"	C2	LOAMY SAND	10YR6/6	COBBLES

NO OBSERVED GROUNDWATER
NO REFUSAL

T-D-16

0-10"	A	LOAM	10YR5/3	
10-20"	Bw	LOAMY SAND	10YR6/6	
20-60"	C1	M SAND	10YR5/6	LOOSE, COBBLES
60-73"	C2	SILT LOAM	2.5Y5/4	FIRM IN PLACE
73-128"	C3	M SAND	10YR5/4	LOOSE

NO OBSERVED GROUNDWATER
NO REFUSAL

PROJECT NAME:
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56 & 60 Main Street
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APPLICANT:
WENHAM PINES LLC.
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Lynnfield, MA 01940

OWNER:
ESTATE OF WILLIAM J. FLYNN
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Boxford, MA 01921

HANCOCK ASSOCIATES
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COMMONWEALTH OF MASSACHUSETTS
TALACKO
CIVIL
No. 34026
REGISTERED PROFESSIONAL ENGINEER
1/23/17

NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
3	JPC	RAT	1/9/17	FINAL C.C. PLANS
2	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE: 7/19/2016	DESIGN BY: VVT
SCALE:	DRAWN BY: TRD
APPRVD. BY: RAT	CHECK BY: VVT

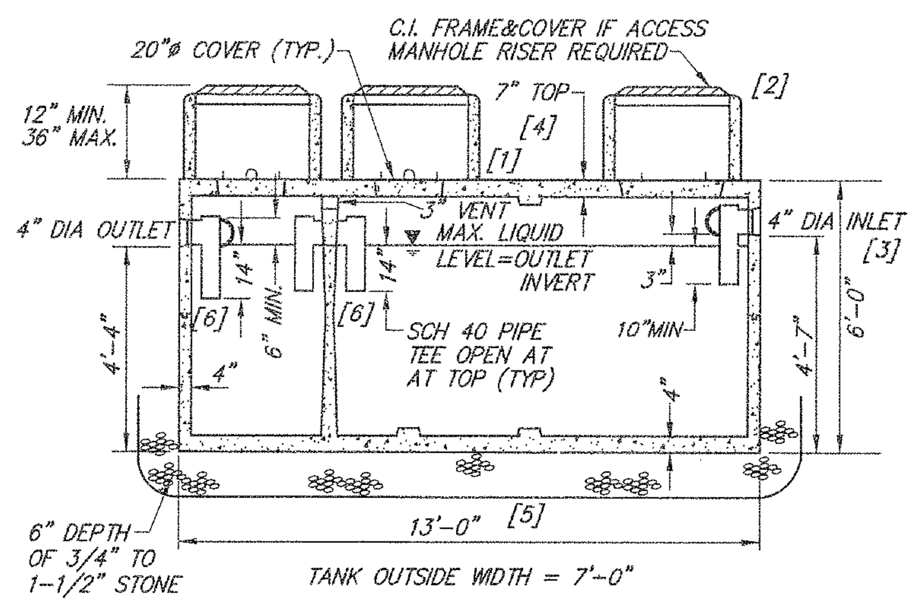
TEST PIT LOG

PLOT DATE: Jan 20, 2017 4:16 pm
PATH: F:\Civil 3D Projects\19400 – Tambone – Wenham\DWG\

DWG: 19400C1 170103.dwg
LAYOUT: TEST PIT LOG
SHEET: 30 OF 38

TP-1

PROJECT NO.: 19400



[1] PRECAST REINFORCED CONCRETE CONSTRUCTION, LOAD RATING: H10 FULLY DAMP-PROOFED EXTERIOR, ALL OPENINGS SEALED WATERTIGHT. AS MANUFACTURED BY E.F. SHEA OF WILMINGTON, MA., OR EQUAL.

[2] MANHOLE RISER REQUIRED: YES NO
IF YES, APPROX. DEPTH OF COVER OVER RISER RIM: 0 INCHES

[3] IF SIDE INLET OF SEPTIC TANK IS USED, EXTEND INLET PIPE TO CENTER OF TANK.

[4] WHERE UNDER OR ADJACENT TO AREA TO BE PAVED, COMPACT BACKFILL TO 95% PER ASTM D-1557.

[5] UNDISTURBED SOIL OR SUBGRADE COMPACTED TO 95% PER ASTM D-1557.

[6] OUTLET TEES SHALL BE EQUIPPED WITH A CORROSION-RESISTANT GAS DEFLECTOR.

[7] INSTALL EFFLUENT FILTER A-1800 OR EQUAL. MANHOLE OVER FILTER SHALL BE BE LABELED "FILTER".

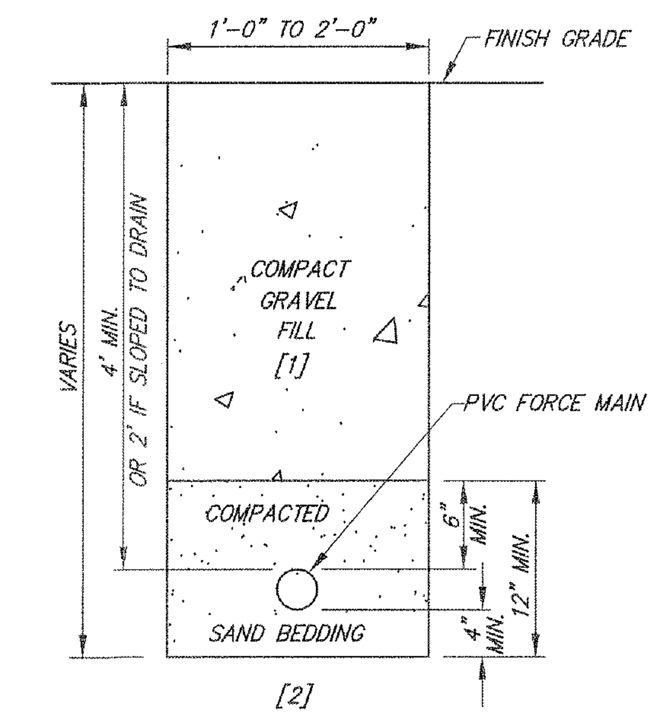
1340/660 GAL. MONOLITHIC SEPTIC TANK

(310 CMR 15.223 – 15.227)
TYPICAL CROSS SECTION
NOT TO SCALE

1. FIRST COMPARTMENT : 200% DAILY FLOW = 1340 GAL.
2. SECOND COMPARTMENT : 100% DAILY FLOW = 660 GAL.
3. REQUIRED: 1340/660 GAL., 2 COMPARTMENT TANK

SEPTIC TANK COMPUTATIONS

(310 CMR 15.223)

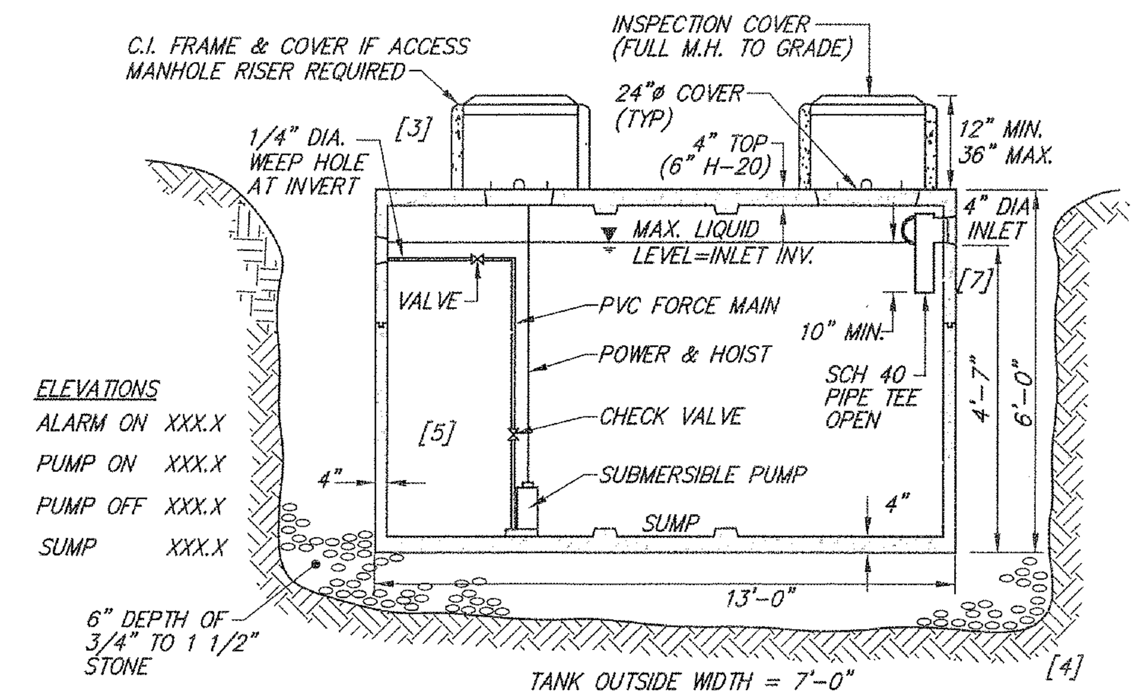


[1] WHERE UNDER OR ADJACENT AREA TO BE PAVED, COMPACT BACKFILL TO 95% PER ASTM D-1557.

[2] UNDISTURBED SOIL OR SUBGRADE COMPACTED TO 95% PER ASTM D-1557.

FORCE MAIN TRENCH

TYPICAL CROSS SECTION
NOT TO SCALE



[1] PRECAST REINFORCED CONCRETE CONSTRUCTION, LOAD RATING: H10 H20 FULLY DAMP-PROOFED EXTERIOR, ALL OPENINGS SEALED WATERTIGHT, AS MANUFACTURED BY E.F. SHEA OF WILMINGTON, MA., OR EQUAL.

[2] MANHOLE RISER REQUIRED: YES NO
IF YES, APPROX. DEPTH OF COVER OVER RISER RIM: __X__ INCHES

[3] WHERE UNDER OR ADJACENT AREA TO BE PAVED, COMPACT BACKFILL TO 95% PER ASTM D-1557.

[4] UNDISTURBED SOIL OR SUBGRADE COMPACTED TO 95% PER ASTM D-1557.

[5] INSTALL SEPARATE RISER FOR FLOATS (REMOVABLE FOR INSPECTION & SERVICE).

[6] FLOAT CONTROLS SHALL BE SUSPENDED FROM A STAINLESS STEEL FLOAT RACK.

[7] IF SIDE INLET OF SEPTIC TANK IS USED, EXTEND INLET PIPE TO CENTER OF MANHOLE.

2000-GALLON MONOLITHIC DOSING CHAMBER

(310 CMR 15.231)
TYPICAL CROSS SECTION
NOT TO SCALE

FOR FINAL CONSTRUCTION DRAWINGS OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEM FOR ALL THE DWELLINGS SEE SEWAGE DISPOSAL SYSTEM DESIGN, WENHAM PINES DATED 8/17/2016, REVISED THROUGH 10/20/2016.

PROJECT NAME:
WENHAM PINES
56 & 60 Main Street
Wenham, MA 01984

APPLICANT:
WENHAM PINES LLC.
6 Kimball Lane
Lynnfield, MA 01940

OWNER:
ESTATE OF WILLIAM J. FLYNN
5 Barker Road
Boxford, MA 01921

HANCOCK ASSOCIATES
Civil Engineers
Land Surveyors
Wetland Scientists

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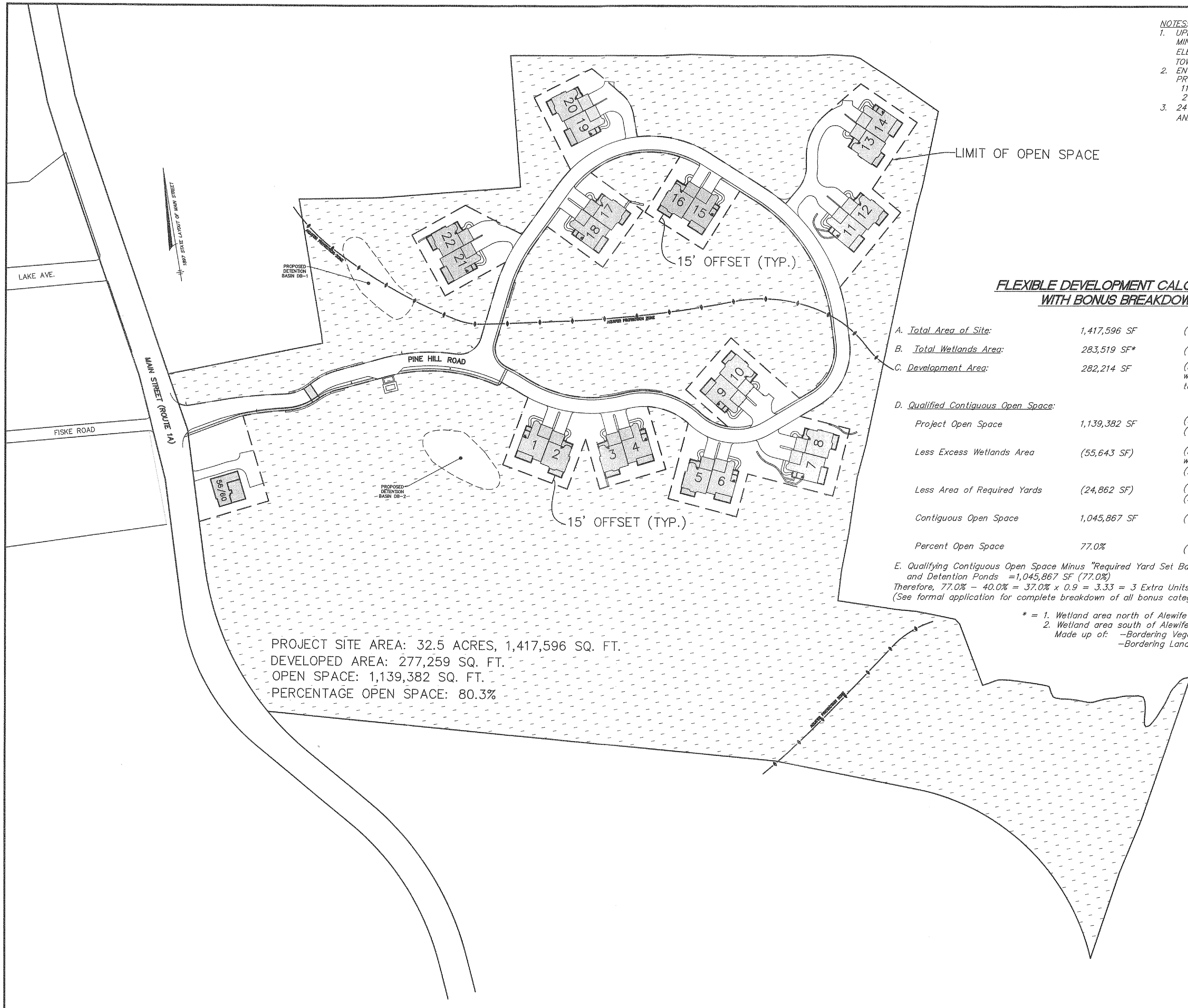
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
3	JPC	RAT	1/9/17	FINAL C.C. PLANS
2	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE: 6/29/2016	DESIGN BY: VVT
SCALE: NONE	DRAWN BY: TRD
APPRVD. BY: RAT	CHECK BY:

SEWER AND SEPTIC DETAILS

PLOT DATE: Jan 20, 2017 4:17 pm
PATH: F:\Civil 3D Projects\19400 – Tambone – Wenham\DWG\

DWG: 19400C1 170105.dwg
LAYOUT:DETAILS-SEP
S+SD
SHEET: 31 OF 38
PROJECT NO.: 19400



NOTES:
1. UPLAND AREA CALCULATED AS TOTAL LOT AREA MINUS AREA OF LOT BELOW FLOODPLAIN ELEVATION (ELEV. 39) (ZONING BY-LAWS OF THE TOWN OF WENHAM §5.2.2)
2. ENTIRE PARCEL: 32.5± ACRES
   PROPOSED UNITS: 22+2 AFFORDABLE UNITS=24
   11 NEWLY CONSTRUCTED BUILDINGS,
   2 UNITS IN EACH BUILDING.
3. 24' ROADWAY W/ CAPE COD BERM AND 4.5' BITUMINOUS CONCRETE SIDEWALK

FLEXIBLE DEVELOPMENT CALCULATION WITH BONUS BREAKDOWN

A. Total Area of Site:	1,417,596 SF	(= 32.4 acres)
B. Total Wetlands Area:	283,519 SF*	(= 20% of Total Area)
C. Development Area:	282,214 SF	(Includes calculated area of land to be developed with roadway, driveways, buildings and areas to be maintained as exclusive use yards)
D. Qualified Contiguous Open Space:		
Project Open Space	1,139,382 SF	(Site Area – Development Area) (= 80% of site or about 26 acres)
Less Excess Wetlands Area	(55,643 SF)	(Difference between total site wetlands and 20% wetland area allowed (227,076 SF) – see Section 11.1.5.1)
Less Area of Required Yards	(24,862 SF)	(Calculated area of land within required yards) (See Section 11.1.2)
Contiguous Open Space	1,045,867 SF	(1,139,382 SF – 55,643 SF – 24,862 SF – 2 Detention Basins: 13,010 SF)
Percent Open Space	77.0%	(1,139,382/1,417,596)

E. Qualifying Contiguous Open Space Minus "Required Yard Set Backs"(24,864 SF) and Excess Wetlands and Detention Ponds =1,045,867 SF (77.0%)
Therefore, 77.0% – 40.0% = 37.0% x 0.9 = 3.33 = 3 Extra Units
(See formal application for complete breakdown of all bonus categories)

* = 1. Wetland area north of Alewife Brook = 157,077 S.F.
2. Wetland area south of Alewife Brook = 126,442 S.F.
Made up of: –Bordering Vegetated Wetland = 42,409 S.F.
–Bordering Land Subject to Flooding = 84,033 S.F.

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REGISTERED PROFESSIONAL ENGINEER CIVIL No. 34026
1/20/17

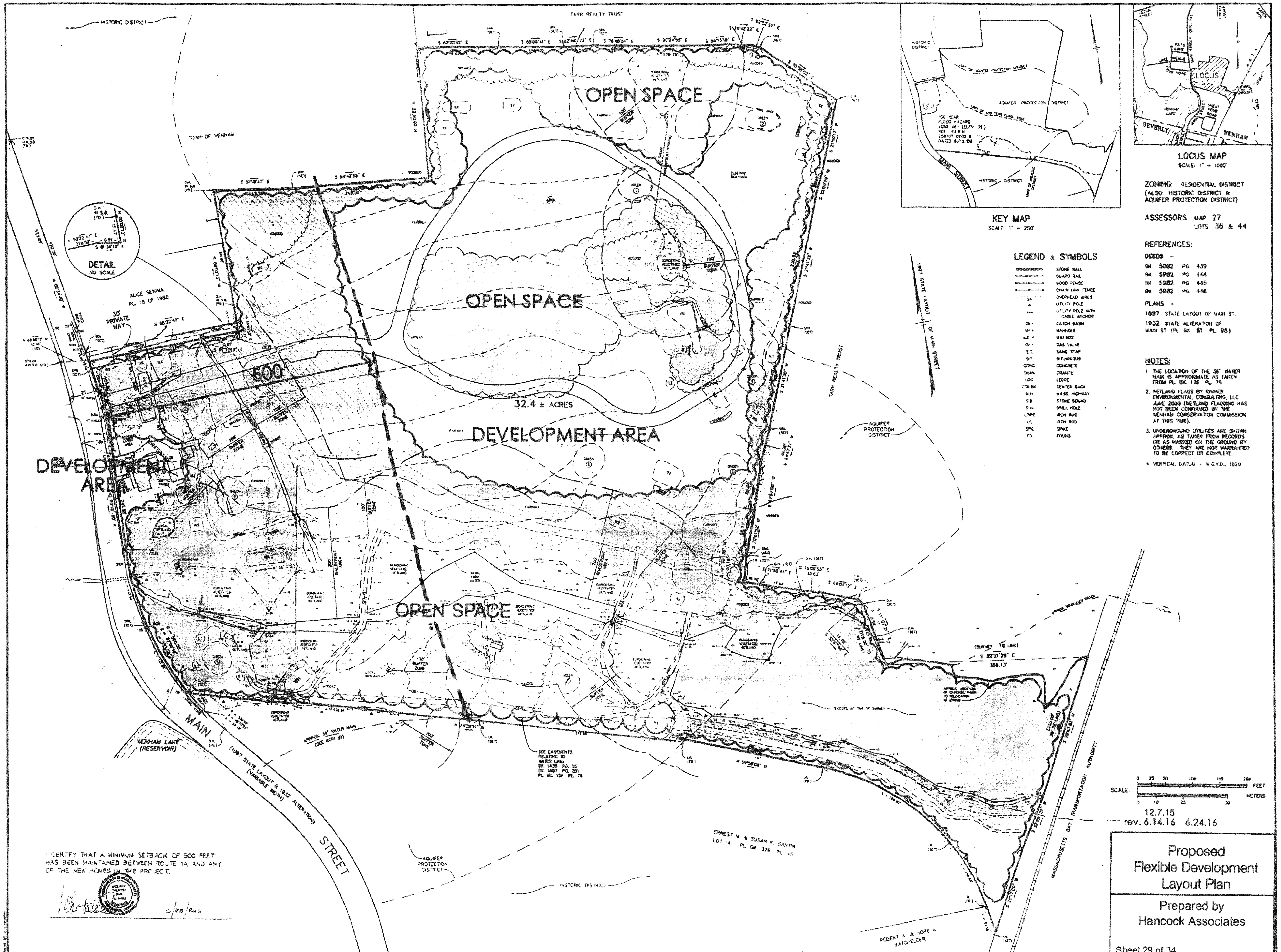
NO.	BY	APP	DATE	ISSUE/REVISION DESCRIPTION
4	JPC	RAT	1/9/17	FINAL C.C. PLANS
3	JPC	RAT	12/5/16	PLANNING BOARD COMMENTS
2	JPC	RAT	11/8/16	PLANNING BOARD COMMENTS
1	JPC	RAT	10/5/16	PLANNING BOARD COMMENTS

DATE:	7/19/2016	DESIGN BY:	RAT
SCALE:	1"=80'	DRAWN BY:	JPC
APPRVD. BY:	VVT	CHECK BY:	RAT

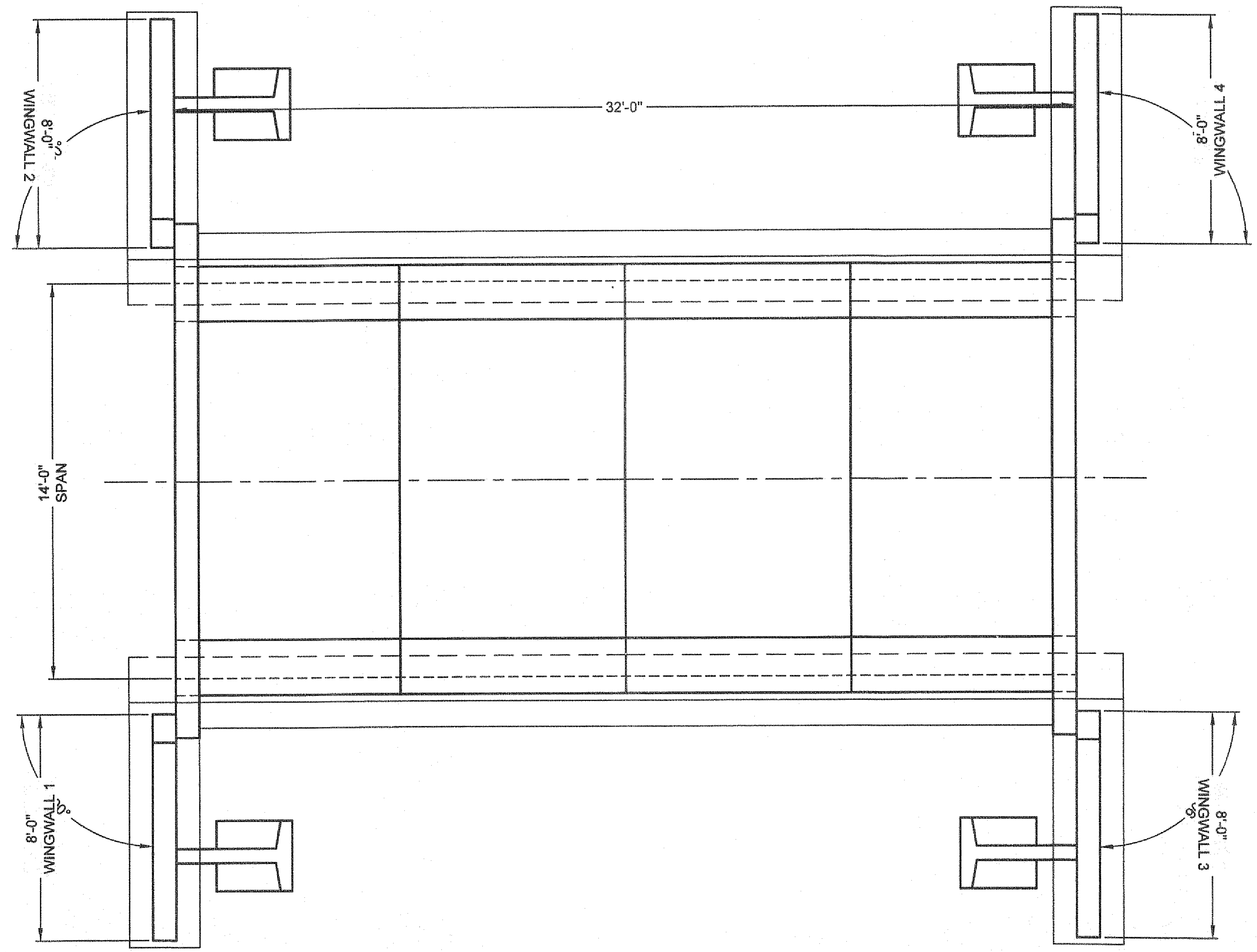
OPEN SPACE PLAN

PLOT DATE: Jan 20, 2017 4:18 pm
PATH: F:\Civil 3D Projects\19400 – Tambone – Wenham\DWG\

DWG: 19400C1 Open Space Calcs.dwg
LAYOUT: OPEN SPACE
SHEET: 32 OF 38
OS
PROJECT NO.: 19400


OPEN SPACE
OPEN SPACE
OPEN SPACE
DEVELOPMENT AREA
DEVELOPMENT AREA
32.4 ± ACRES
500
DETAIL
NO SCALE
30' PRIVATE WAY
ALICE SEWALL
PL. 16 OF 1980
TARR REALTY TRUST
TOWN OF WENHAM
HISTORIC DISTRICT
AQUIFER PROTECTION DISTRICT
WENHAM LAKE (RESERVOIR)
MAIN STREET
(1897 STATE LAYOUT & 1932 ALTERATION) (VARIABLE WIDTH)
1897 STATE LAYOUT OF MAIN STREET
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
ERNEST M. & SUSAN K. SANTIN
ROBERT A. & HOPE A. BATCHELDER
S 82°21'29" E
388.13'
KEY MAP
SCALE: 1" = 250'
LOCUS MAP
SCALE: 1" = 1000'
LOCUS
BEVERLY
WENHAM
ZONING: RESIDENTIAL DISTRICT
(ALSO: HISTORIC DISTRICT & AQUIFER PROTECTION DISTRICT)
ASSESSORS MAP 27
LOTS 36 & 44
REFERENCES:
DEEDS -
BK 5982 PG 439
BK 5982 PG 444
BK 5982 PG 445
BK 5982 PG 446
PLANS -
1897 STATE LAYOUT OF MAIN ST
1932 STATE ALTERATION OF MAIN ST. (PL. BK 81 PL. 96)
LEGEND & SYMBOLS
STONE WALL
GUARD RAIL
WOOD FENCE
CHAIN LINK FENCE
OVERHEAD WIRES
UTILITY POLE
UTILITY POLE WITH CABLE ANCHOR
CB - CATCH BASIN
MH - MANHOLE
MB - MAILBOX
GV - GAS VALVE
S.T. - SAND TRAP
BIT - BITUMINOUS
CONC. - CONCRETE
GRAN - GRANITE
LDG - LEDGE
CTR BK - CENTER BACK
M.H. - MASS. HIGHWAY
S.B. - STONE BOUND
D.H. - DRILL HOLE
I.PIPE - IRON PIPE
I.R. - IRON ROD
SPK. - SPIKE
FD. - FOUND
NOTES:
1. THE LOCATION OF THE 36" WATER MAIN IS APPROXIMATE AS TAKEN FROM PL. BK. 136 PL. 79
2. WETLAND FLAGS BY RIMMER ENVIRONMENTAL CONSULTING, LLC JUNE 2008 (WETLAND FLAGGING HAS NOT BEEN CONFIRMED BY THE WENHAM CONSERVATION COMMISSION AT THIS TIME).
3. UNDERGROUND UTILITIES ARE SHOWN APPROX. AS TAKEN FROM RECORDS OR AS MARKED ON THE GROUND BY OTHERS. THEY ARE NOT WARRANTED TO BE CORRECT OR COMPLETE.
4. VERTICAL DATUM - N.G.V.D., 1929
SCALE: 0 25 50 100 150 200 FEET
0 10 25 50 METERS
12.7.15
rev. 6.14.16 6.24.16
I CERTIFY THAT A MINIMUM SETBACK OF 500 FEET HAS BEEN MAINTAINED BETWEEN ROUTE 1A AND ANY OF THE NEW HOMES IN THE PROJECT.
6/23/2016
Proposed
Flexible Development
Layout Plan
Prepared by
Hancock Associates
Sheet 29 of 34

UPSTREAM



DOWNSTREAM

BRIDGE PLAN

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CON/SPAN. O-SERIES.

CONTECH
DYOB
DRAWING

Weham Pines
CON/SPAN O-Series O114 14'-0" Span x 4'-1 1/4" Rise
1 Cell - 32' Long
Wenham, Massachusetts

PROJECT No.:	SEQ. No.:	DATE:
210231		12/5/2016
DESIGNED: DYOB		DRAWN: DYOB
CHECKED: DYOB		APPROVED: DYOB
SHEET NO.: 1 OF 5		

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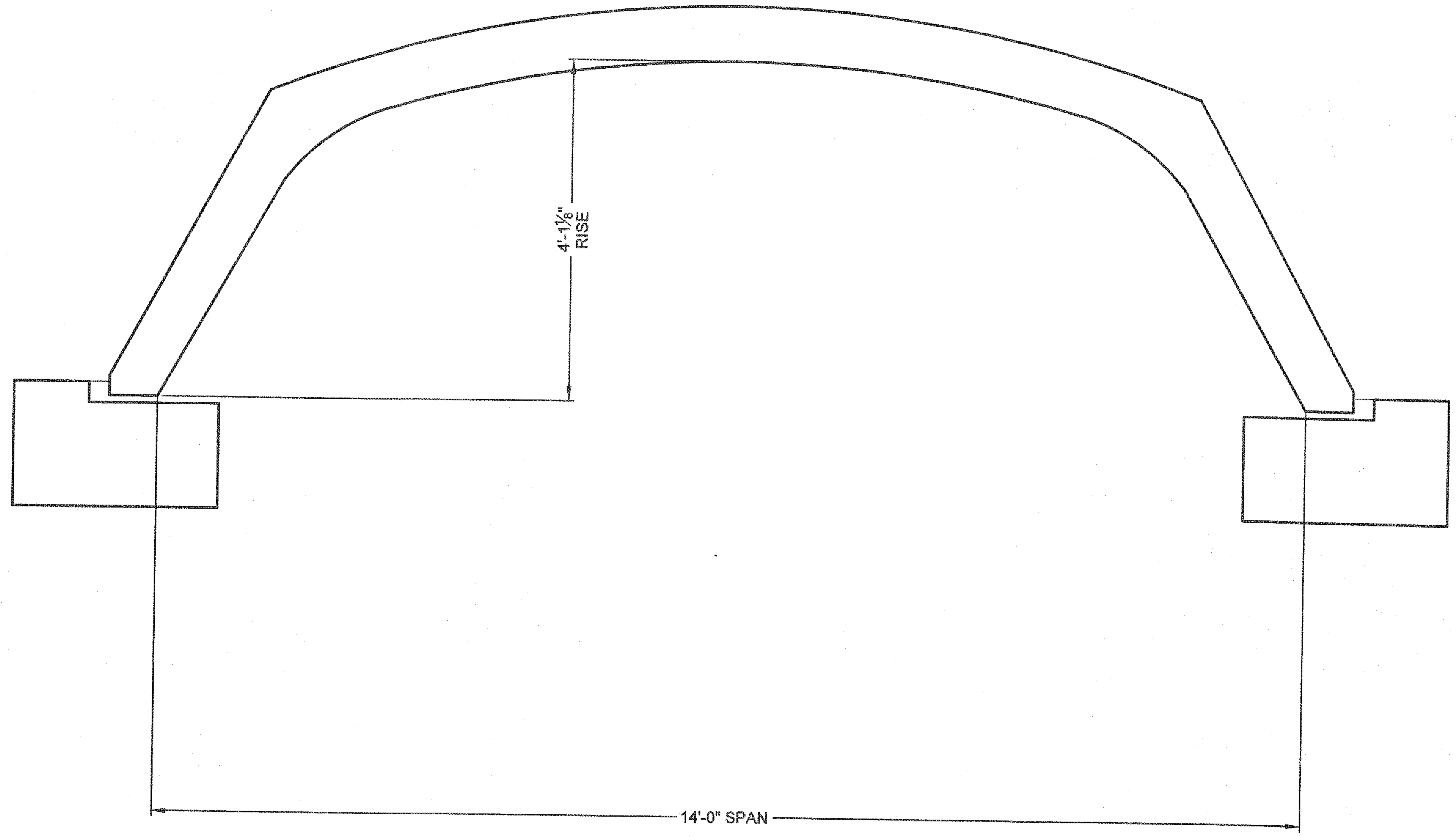

CROSS SECTION

DRAWING2.DWG 12/5/2016 8:41 AM

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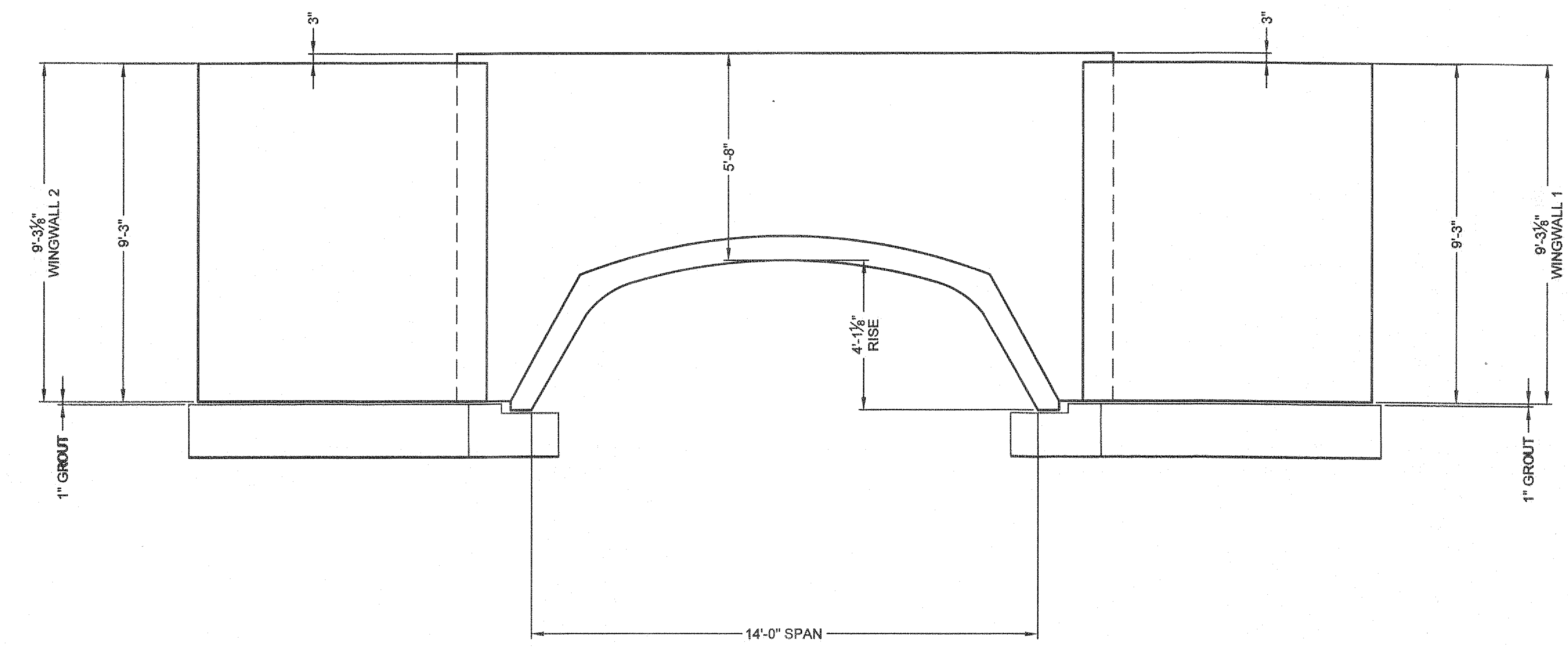
CON/SPAN. O-SERIES

CONTECH
DYOB
DRAWING

Weham Pines
CON/SPAN O-Series O114 14'-0" Span x 4'-1 1/4" Rise
1 Cell - 32' Long
Wenham, Massachusetts

PROJECT No.: 210231	SEQ. No.:	DATE: 12/5/2016
DESIGNED: DYOB		DRAWN: DYOB
CHECKED: DYOB		APPROVED: DYOB
SHEET NO.: 2 OF 5		



UPSTREAM END ELEVATION

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CON/SPAN O-Series O114 14'-0" Span x 4'-1 1/4" Rise
1 Cell - 32' Long
Wenham, Massachusetts

PROJECT No.:	SEQ. No.:	DATE:
210231		12/5/2016
DESIGNED: DYOB		DRAWN: DYOB
CHECKED: DYOB		APPROVED: DYOB
SHEET NO.: 3 OF 5		

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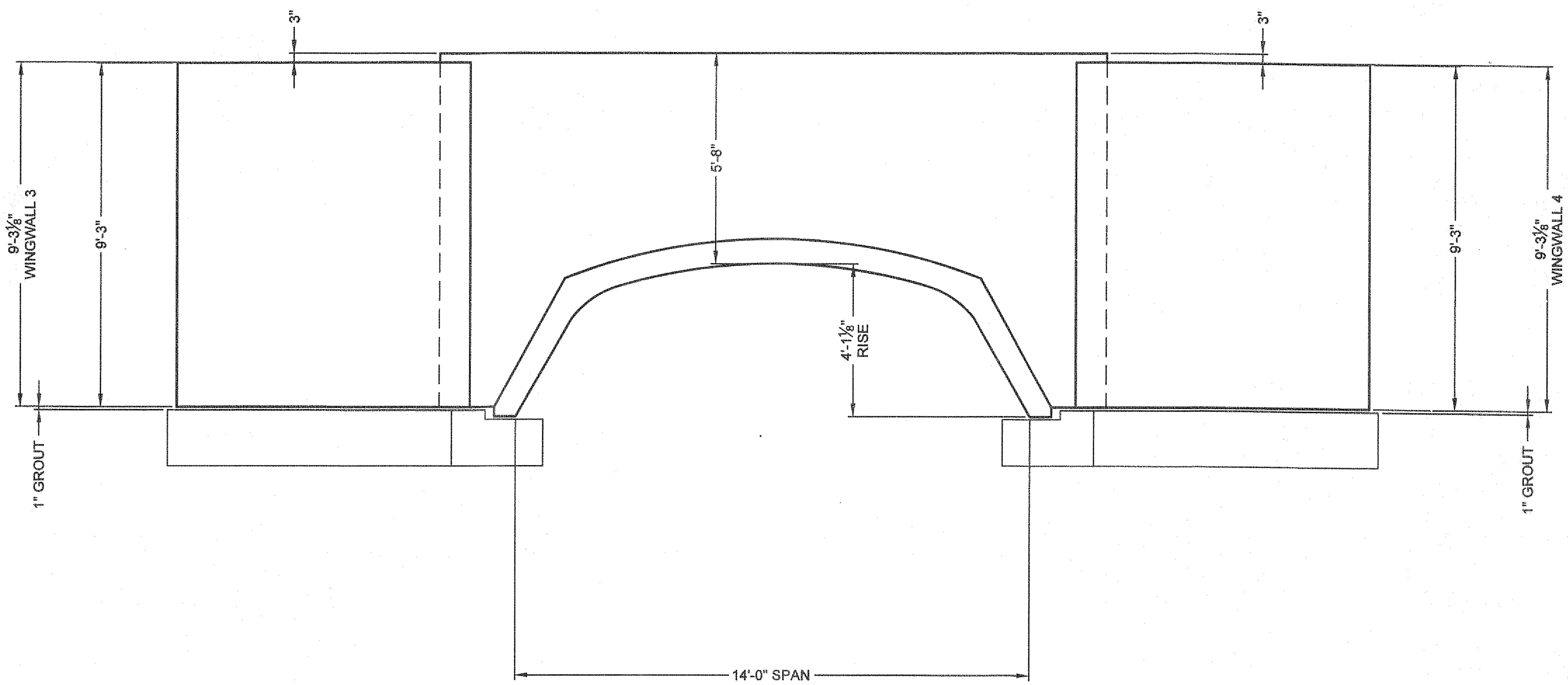

DOWNSTREAM END ELEVATION

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PROJECT No.: 210231	SEQ. No.:	DATE: 12/5/2016
DESIGNED: DYOB		DRAWN: DYOB
CHECKED: DYOB		APPROVED: DYOB
SHEET NO.: 4 OF 5		

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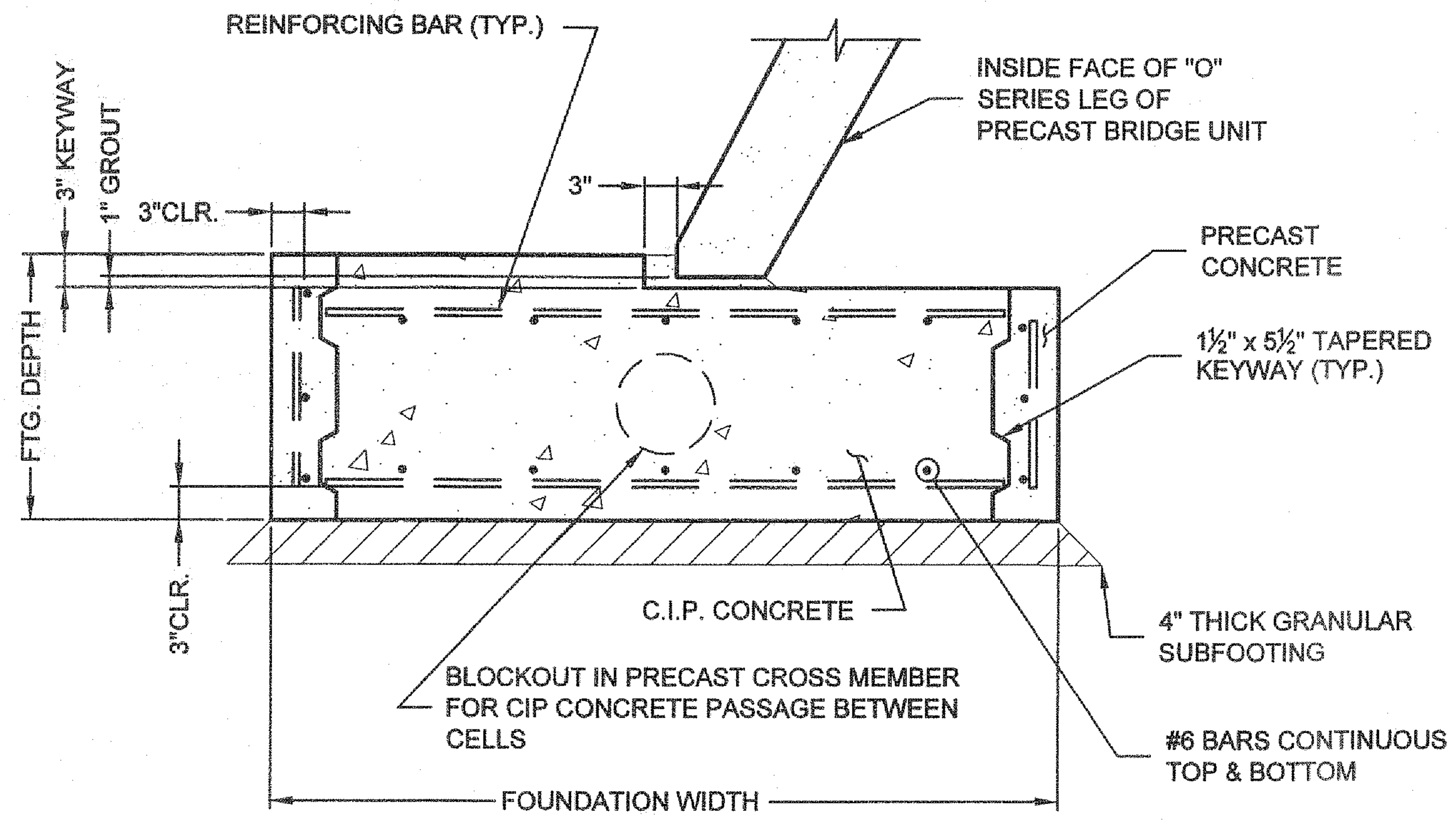
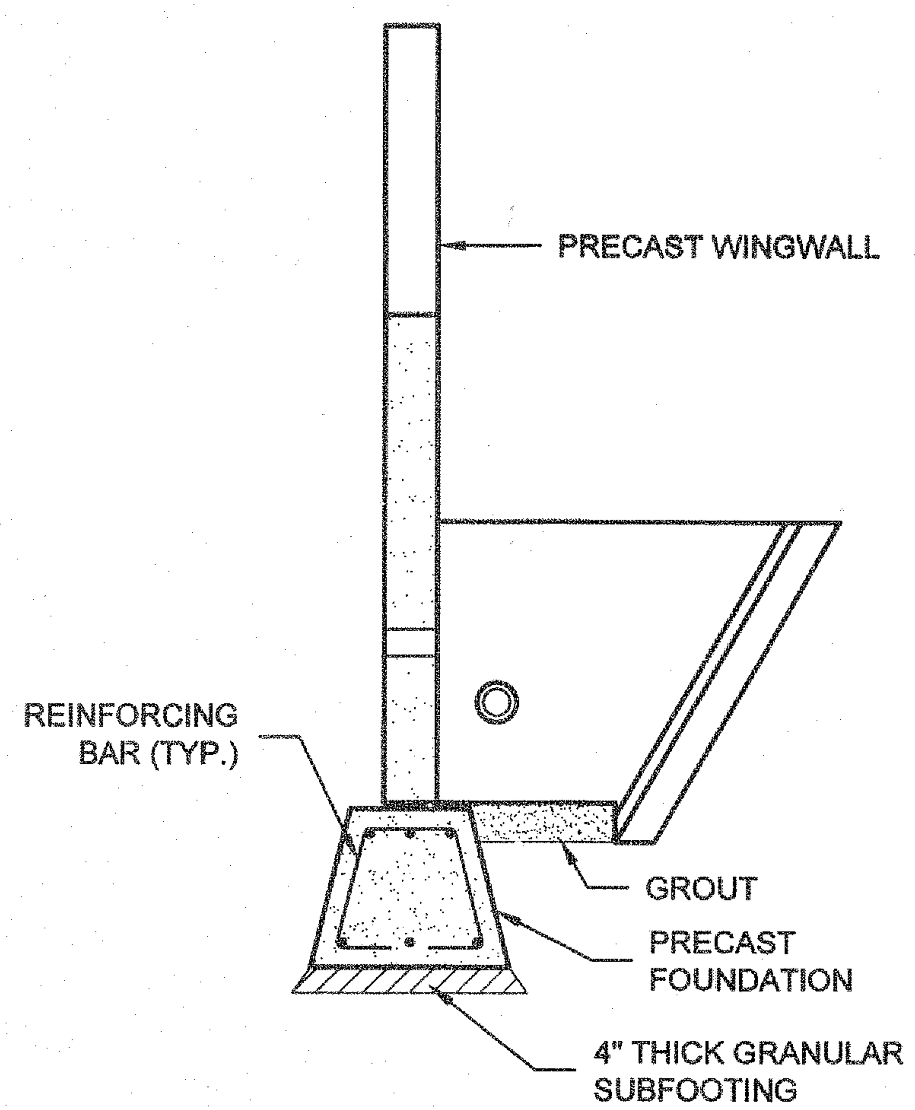
EXPRESS FOUNDATIONS

SAMPLE DRAWING ONLY



SECTION A
(NOT PROJECT SPECIFIC)



SECTION B
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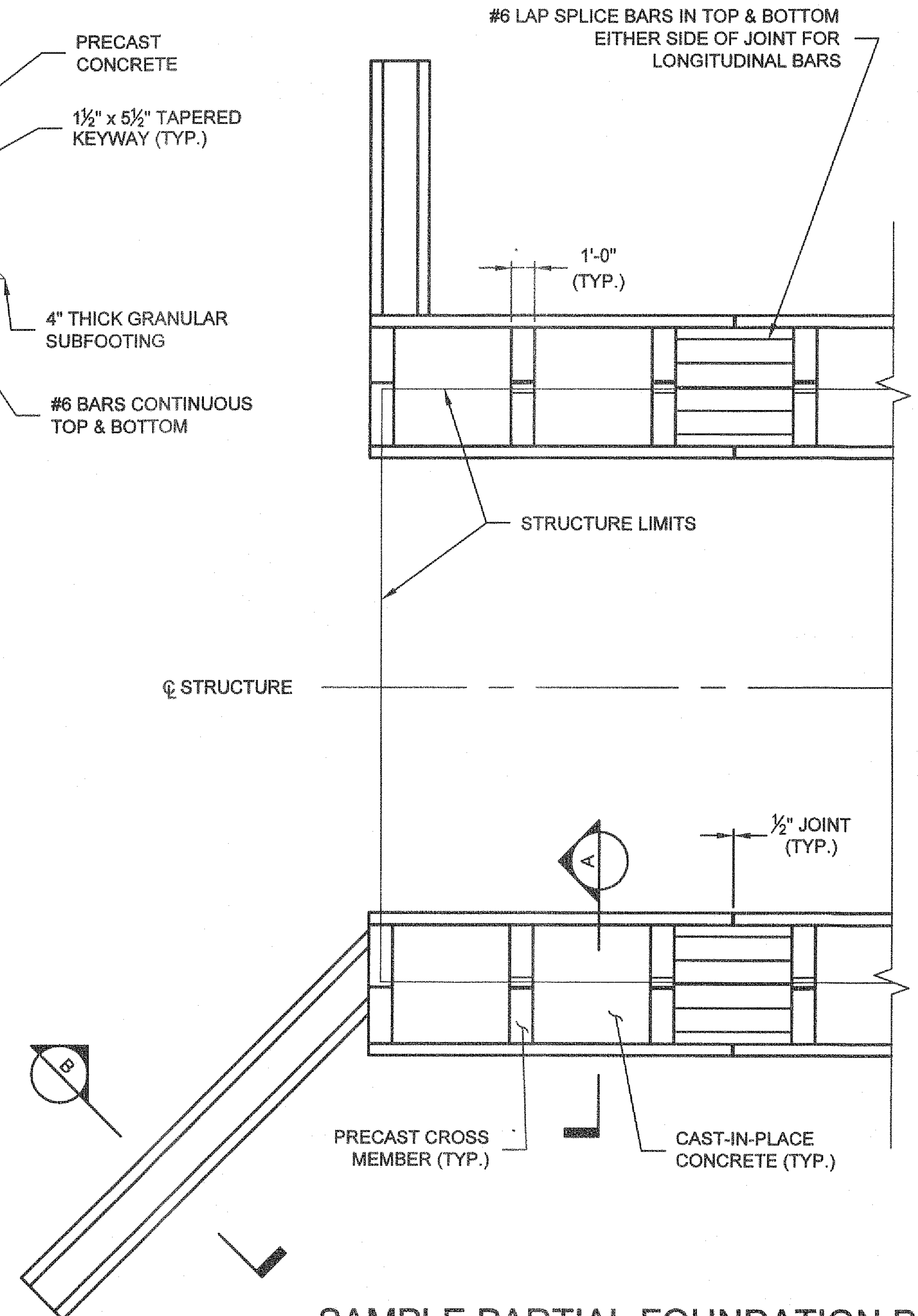
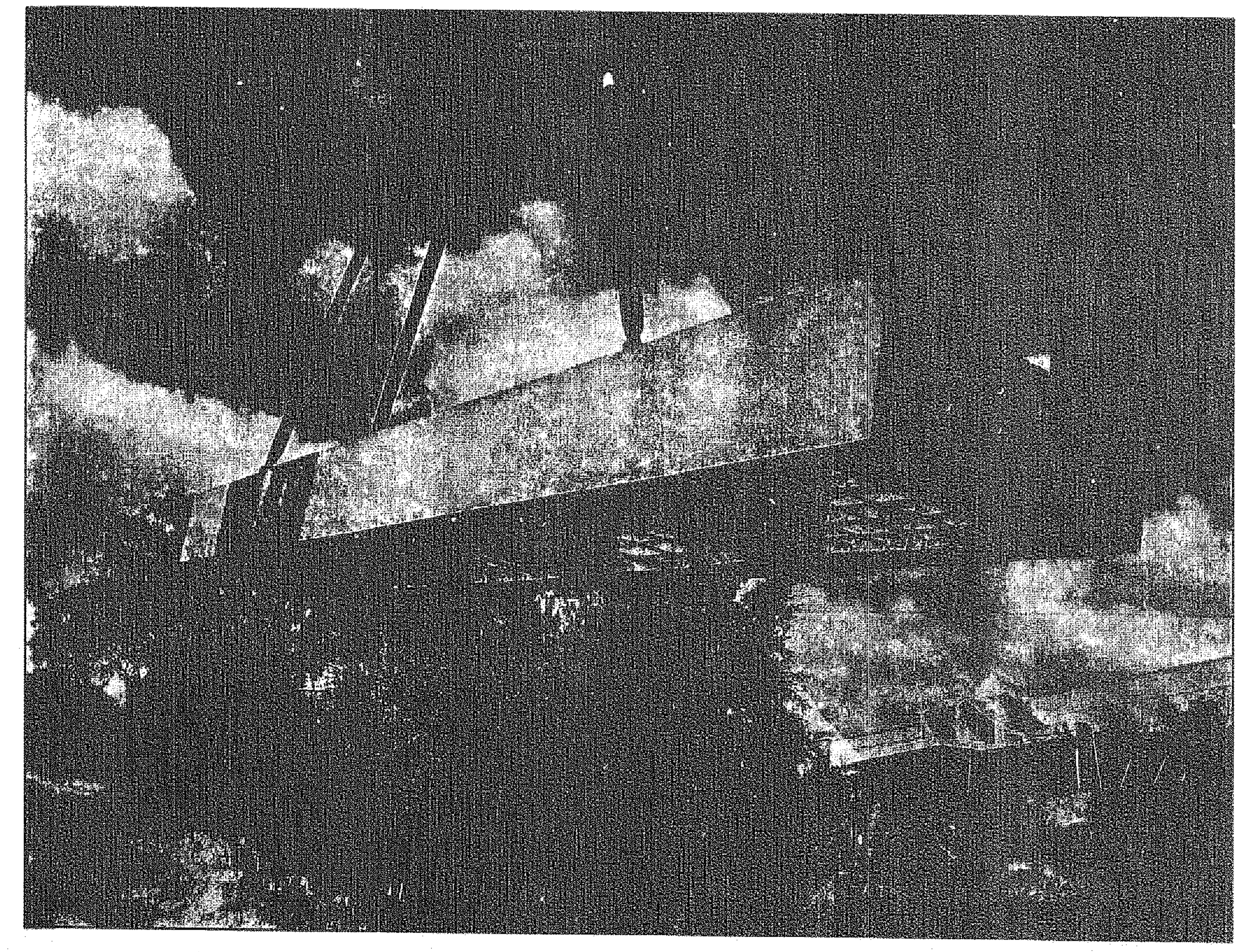
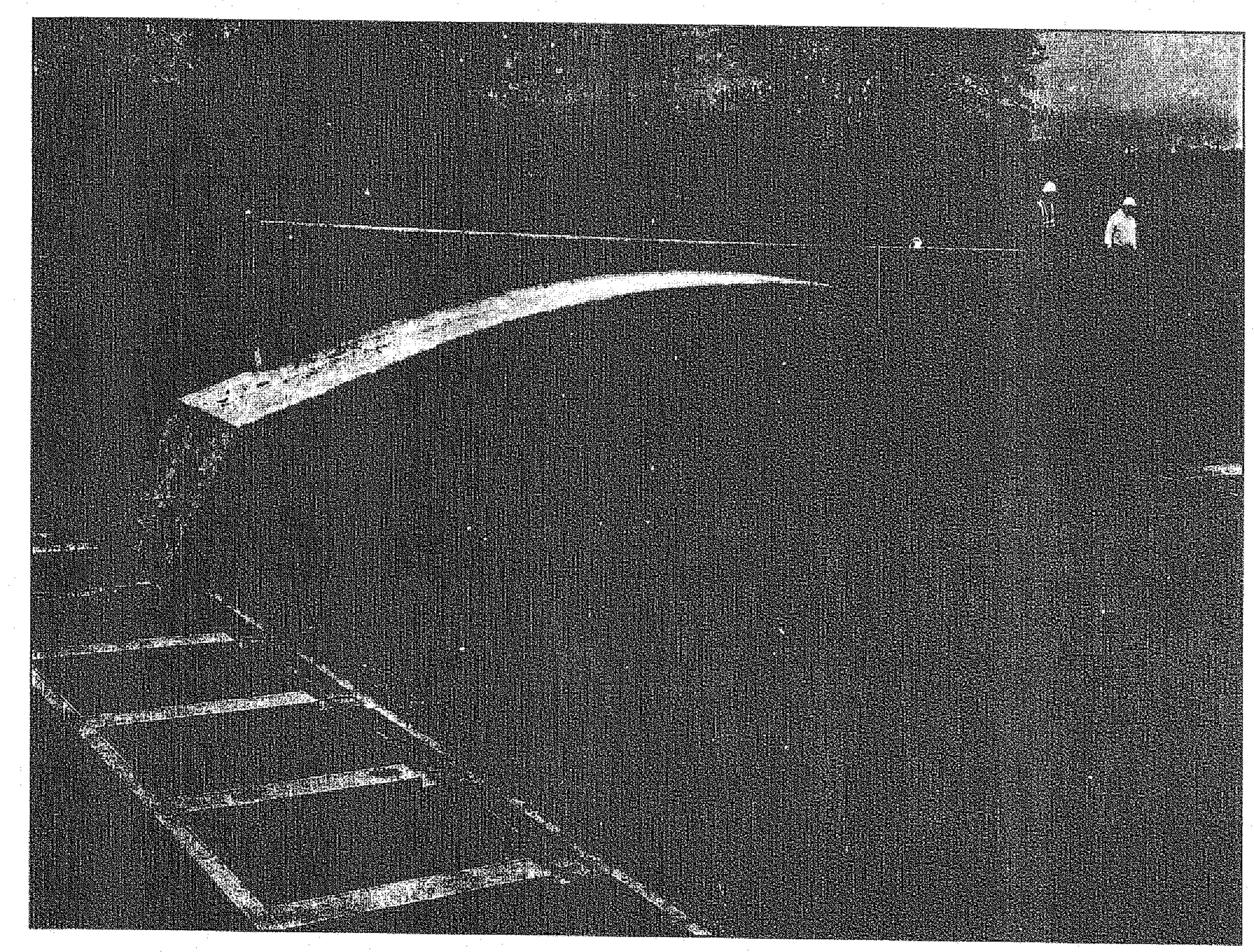


SAMPLE PARTIAL FOUNDATION PLAN
(NOT PROJECT SPECIFIC)

EXPRESS FOUNDATIONS





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PROJECT No.: 210231	SEQ. No.:	DATE: 12/5/2016
DESIGNED: DYOB		DRAWN: DYOB
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SHEET NO.: 5 OF 5		

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