RESERVED FOR REGISTRY USE

GRATUITY BROOK FARM ESTATES

DEFINITIVE SUBDIVISION

63 GRATUITY ROAD
GROTON, MA

PLAN NOTES:

1. BOUNDARY AND PLANOMETRIC INFORMATION SHOWN HEREON IS COMPILED FROM AN INSTRUMENT SURVEY BY DAVIS E. ROSS ASSOCIATES, INC.
2. FLAGGED WETLAND AND BANK LOCATIONS SHOWN ON THIS MAP WERE PROVIDED BY A FIELD STUDY CONDUCTED BY CREATIVE LAND & WATER ENGINEERING, LLC. IN DECEMBER 2018 AND FEBRUARY 2019.. WETLAND FLAG WERE LOCATED USING SURVEY GRADE GPS EQUIPMENT CAPABLE OF SUB-METER ACCURACY, APPROVED BY THE PEPPERELL CONSERVATION COMMISSION ON OCTOBER 18, 2022, MASSDEP FILE NO. 259-0822.
3. A PORTION OF THE PROPERTY IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN AS DEFINED ON THE FEMA FLOOD INSURANCE RATE MAPS, PENDING PANEL No.'S 25017C0201F AND 25017C0202F, EFFECTIVE DATE JULY 8, 2025.
4. SITE IS NOT LOCATED WITHIN A NATURAL HERITAGE ENDANGERED SPECIES PROGRAM (NHESP) PRIORITY HABITAT OF RARE SPECIES AS SHOWN ON THE MASSGIS ONLINE MAPPING PROGRAM (OLIVER).
5. THE SITE IS LOCATED WITHIN AN AREA OF CRITICAL ENVIRONMENTAL CONCERN.
6. THIS PARCEL IS LOCATED IN RESIDENTIAL AGRICULTURAL (RA) ZONING DISTRICT.

ZONING DISTRICT:	RESIDENTIAL AGRICULTURAL
MINIMUM LOT AREA:	80,000 S.F.
MINIMUM LOT FRONTAGE:	225 FEET
MINIMUM BUILDING SETBACKS:	
FRONT	50'
SIDE	15'
REAR	15'

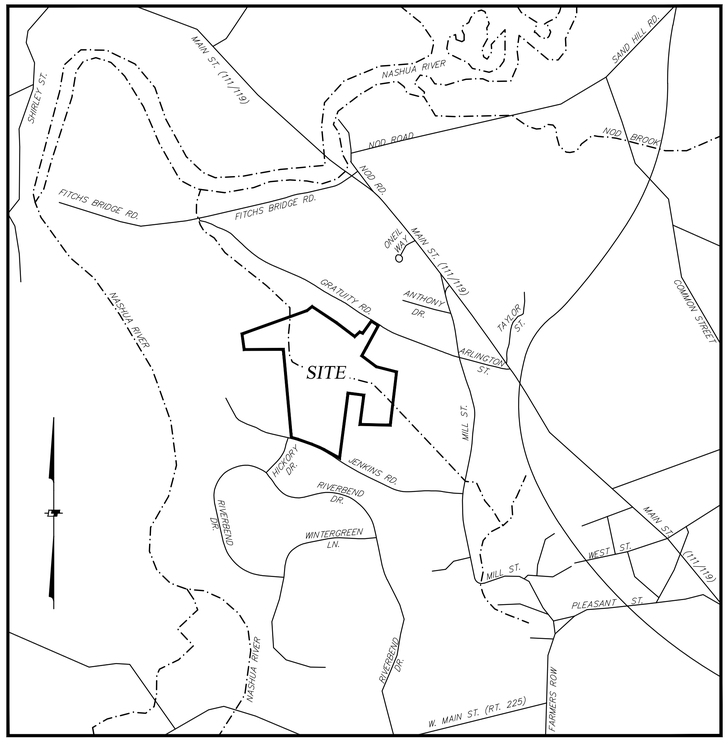
PERMITS

THE FOLLOWING PERMITS ARE REQUESTED WITH SUBMISSION OF THERE MATERIALS:

1. DEFINITIVE SUBDIVISION APPROVAL UNDER SECTION 381-8 OF THE SUBDIVISION RULES AND REGULATIONS, CHAPTER 381 FROM THE CODE OF THE TOWN OF GROTON.
2. SPECIAL PERMIT FOR A MAJOR RESIDENTIAL DEVELOPMENT IN ACCORDANCE WITH SECTION 218-9.2 OF THE TOWN OF GROTON ZONING BYLAW.
3. SPECIAL PERMIT FOR A MAJOR SITE PLAN REVIEW IN ACCORDANCE WITH SECTION 218-2.5C(2) OF THE TOWN OF GROTON ZONING BYLAW.
4. STORMWATER MANAGEMENT PERMIT PER CHAPTER 198 FROM THE CODE OF THE TOWN OF GROTON

WAIVERS

- SECTION 381-10 (D)(5) - STREETS - GRADES
  TO REDUCE THE REQUIREMENT THAT PROPOSED GRADES SHALL NOT BE MORE THAN SEVEN (7) FEET ABOVE OR BELOW THE EXISTING GRADE. DESIGN INCLUDES A PROPOSED GRADE THAT IS EIGHT (8) FEET ABOVE THE EXISTING GRADE, STA 2+00 TO STA 3+25+/- AND STA 8+15 TO STA 8+60 +/-, THERESE LANE.
- SECTION 381-11 (C)(1) - STORMWATER MANAGEMENT - STORM SEWERS
  TO REDUCE THE REQUIREMENT FOR THREE (3) FEET OF COVER OVER DRAIN-PIPES TO TWO (2) FEET AT EACH CATCH BASIN (TOTAL OF 8)



LOCUS MAP
SCALE: 1"=1,000'

PLAN INDEX

SHEET NAME	SHEET NUMBER
1. TITLE SHEET	C-0
2. EXISTING CONDITIONS PLAN 1	EX-1
3. EXISTING CONDITIONS PLAN 2	EX-2
4. EXISTING CONDITIONS PLAN 3	EX-3
5. EXISTING CONDITIONS PLAN 4	EX-4
6. OVERALL PLAN OF LAND	C-1
7. PLAN OF LAND 1	C-2
8. PLAN OF LAND 2	C-3
9. PLAN OF LAND 3	C-4
10. PROPERTY RIGHTS PLAN 1	C-5
11. PROPERTY RIGHTS PLAN 2	C-6
12. PROPERTY RIGHTS PLAN 3	C-7
13. OVERALL OPEN SPACE PLAN	C-8
14. OPEN SPACE PLAN 1	C-9
15. OPEN SPACE PLAN 2	C-10
16. OPEN SPACE PLAN 3	C-11
17. OVERALL SITE PLAN	C-12
18. SITE PLAN 1	C-13
19. SITE PLAN 2	C-14
20. EROSION CONTROL PLAN	C-15
21. GRADING, DRAINAGE, & UTILITIES 1	C-16
22. GRADING, DRAINAGE, & UTILITIES 2	C-17
23. PLAN & PROFILE 1	C-18
24. PLAN & PROFILE 2	C-19
25. LANDSCAPING PLAN 1	C-20
26. LANDSCAPING PLAN 2	C-21
27. LIGHTING PLAN	C-22
28. DETAILS & SECTIONS 1	D-1
29. DETAILS & SECTIONS 2	D-2
30. DETAILS & SECTIONS 3	D-3
31. DETAILS & SECTIONS 4	D-4

CONSULTANTS:

CIVIL ENGINEER
LANDTECH CONSULTANTS
515 GROTON ROAD
WESTFORD, MA 01886
978.692.6100

ASSESSOR'S REFERENCES

TAX MAP 216, PARCEL 47

DEED REFERENCES

M.S.D.R.D. DEED BOOK 71686, PAGE 81

RECORD OWNER

ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

PLAN REFERENCES

PLAN 896 OF 1948
PLAN 1548OF 1972
PLAN 478 OF 1974
PLAN 978 OF 1975
PLAN 56A OF 1966
PLAN 1335 OF 1976
PLAN 1205 OF 1981
PLAN 848 OF 1998
PLAN 1303 OF 1998
PLAN 1239 OF 1999
PLAN 91 OF 2002
PLAN 684 OF 2009
PLAN 383 OF 2015

COMMONWEALTH OF MASSACHUSETTS
MATTHEW A. WATERMAN
CIVIL
No. 45666
REGISTERED PROFESSIONAL ENGINEER

ISSUE DATE: AUGUST 12, 2024
REVISED: *DECEMBER 10, 2024*
JANUARY 13, 2025
APRIL 15, 2025

TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____ DATE

_____

_____

_____

_____

_____

_____

ENDORSED: _____ DATE

I, _____, CLEARK OF THE TOWN OF GROTON, MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE GROTON PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THE OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

_____ TOWN CLERK

_____ DATE

LandTech Consultants

515 Groton Road • Westford, MA 01886 • (978) 692-6100 • www.landtechinc.com

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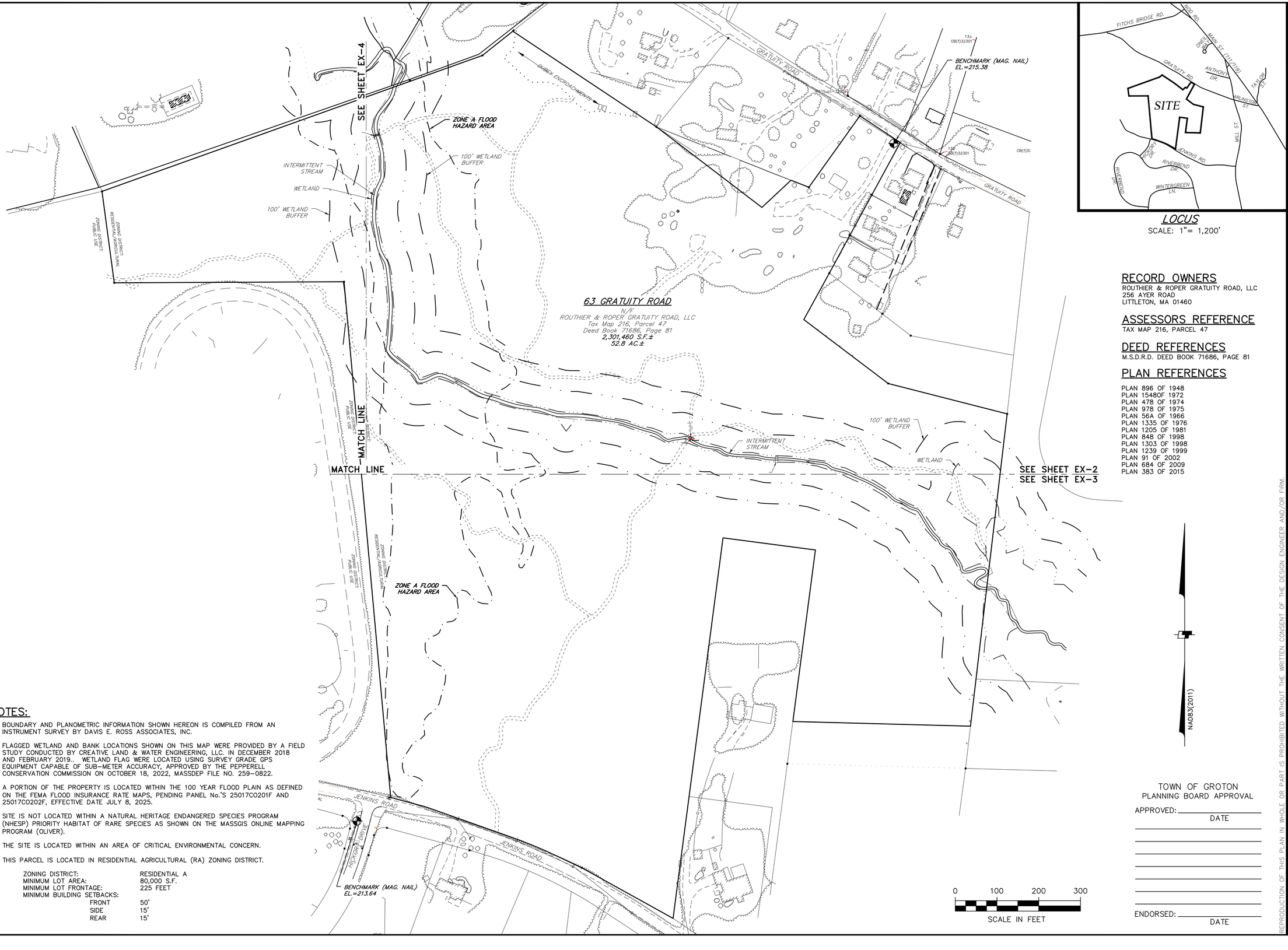
JOB No. 22-243 DRAWING No. 11142

CERTIFICATION

THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS. HOWEVER IT IS NOT A CERTIFICATION TO THE TITLE OR OWNERSHIP OF THE PROPERTY SHOWN, OR AS TO THE EXISTENCE OF UNRECORDED EASEMENTS.

_____ 8/12/24
MASSACHUSETTS REGISTERED PROFESSIONAL ENGINEER DATE
REGISTRATION No. 45666
(FOR LANDTECH CONSULTANTS, INC.)



LOCUS
SCALE: 1"= 1,200'

RECORD OWNERS
ROUTHIER & ROPER GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

ASSESSORS REFERENCE
TAX MAP 216, PARCEL 47

DEED REFERENCES
M.S.D.R.D. DEED BOOK 71686, PAGE 81

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PLAN 848 OF 1998
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NOTES:
1. BOUNDARY AND PLANOMETRIC INFORMATION SHOWN HEREON IS COMPILED FROM AN INSTRUMENT SURVEY BY DAVIS E. ROSS ASSOCIATES, INC.
2. FLAGGED WETLAND AND BANK LOCATIONS SHOWN ON THIS MAP WERE PROVIDED BY A FIELD STUDY CONDUCTED BY CREATIVE LAND & WATER ENGINEERING, LLC. IN DECEMBER 2018 AND FEBRUARY 2019.. WETLAND FLAG WERE LOCATED USING SURVEY GRADE GPS EQUIPMENT CAPABLE OF SUB-METER ACCURACY, APPROVED BY THE PEPPERELL CONSERVATION COMMISSION ON OCTOBER 18, 2022, MASSDEP FILE NO. 259-0822.
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5. THE SITE IS LOCATED WITHIN AN AREA OF CRITICAL ENVIRONMENTAL CONCERN.
6. THIS PARCEL IS LOCATED IN RESIDENTIAL AGRICULTURAL (RA) ZONING DISTRICT.

ZONING DISTRICT:	RESIDENTIAL A
MINIMUM LOT AREA:	80,000 S.F.
MINIMUM LOT FRONTAGE:	225 FEET
MINIMUM BUILDING SETBACKS:	
FRONT	50'
SIDE	15'
REAR	15'

TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____ DATE

_____

_____

_____

_____

_____

_____

ENDORSED: _____ DATE

BY	REVISION	DATE
MAW	PEER REVIEW COMMENTS	4/15/25
MJS	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	1/13/25

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
EXISTING CONDITIONS PLAN
63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024

SCALE: 1"= 100'

Landtech Consultants
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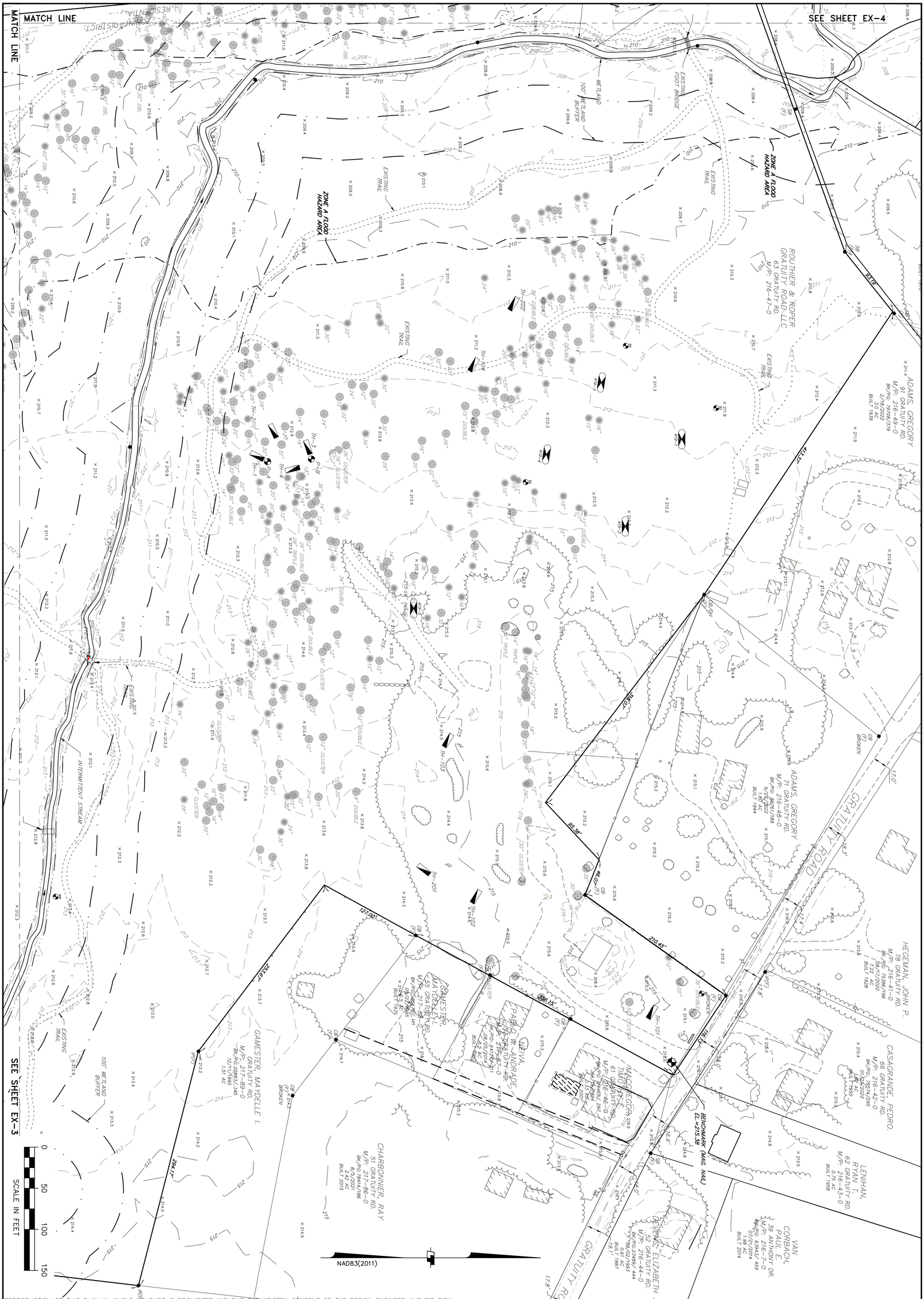
JOB NO.	DWG. NO.	SHEET
22-243	11142	EX-1



REPRODUCTION OF THIS PLAN IN WHOLE OR PART IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE DESIGN ENGINEER AND/OR FIRM.

JOB NO. 22-243	LandTech Consultants	GRATUITY BROOK FARM ESTATES EXISTING CONDITIONS PLAN 63 GRATUITY ROAD GROTON, MA	PREPARED FOR: ROUTHIER & ROPER GRATUITY ROAD, LLC 256 AYER ROAD LITTLETON, MA 01460		
DWG. NO. 11142	515 Groton Road • Westford, MA 01886 • (978) 692-6100 • www.landtechinc.com				
SHEET EX-2	Copyright © 2023	SCALE: 1"= 50' AUGUST 12, 2024	DESIGN MJS / DRAFT MJS / CHECK MAW		

DATE	REVISION	BY
4/15/25	PEER REVIEW COMMENTS	MAW
1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	MJS

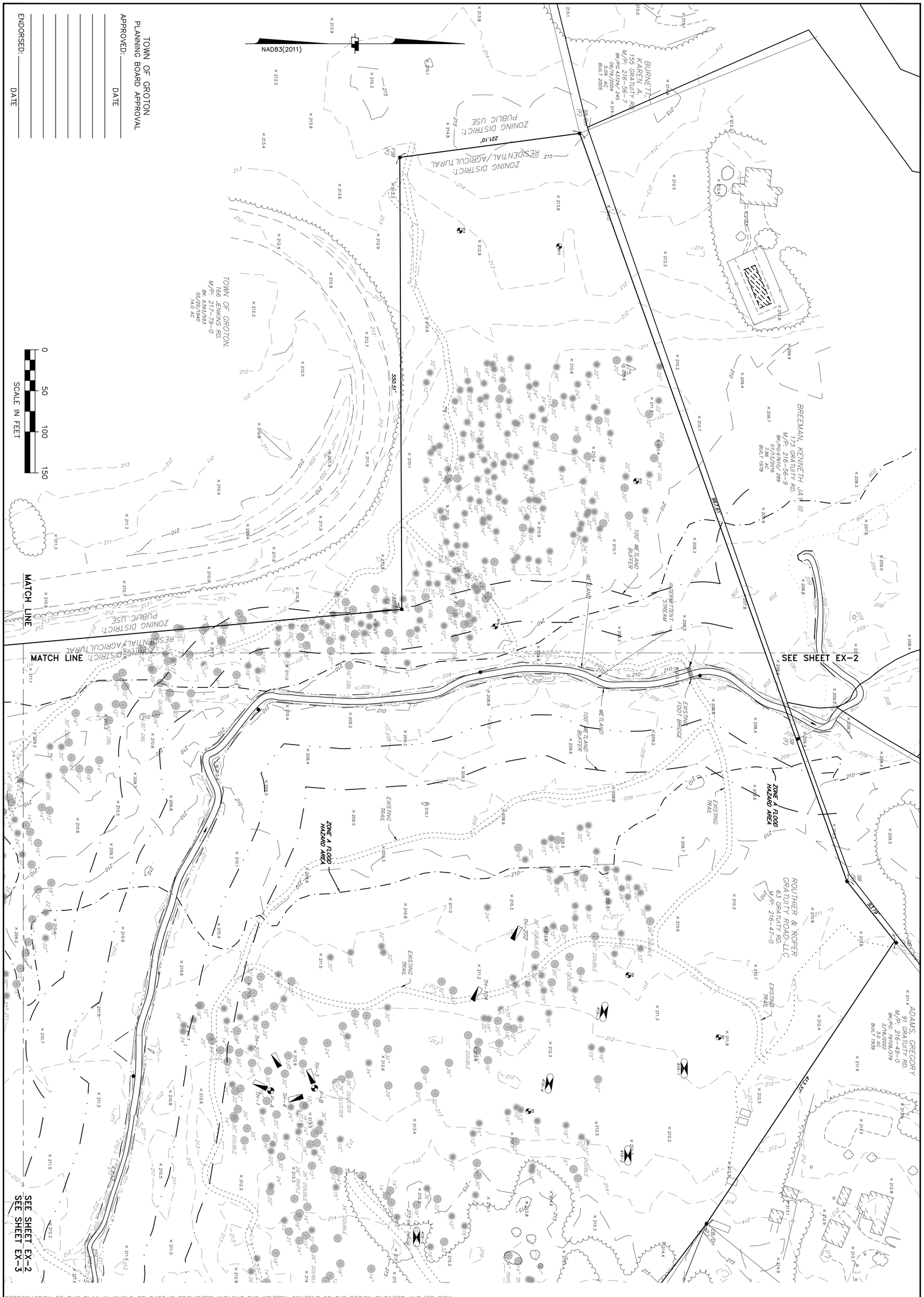


JOB NO. 22-243	LandTech Consultants	GRATUITY BROOK FARM ESTATES
DWG. NO. 11142	515 Groton Road • Westford, MA 01886 • (978) 692-6100 • www.landtechinc.com	EXISTING CONDITIONS PLAN
SHEET EX-3	Copyright © 2023	63 GRATUITY ROAD
		GROTON, MA
		SCALE: 1"= 50' AUGUST 12, 2024

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

DATE	REVISION	BY
4/15/25	PEER REVIEW COMMENTS	MAW
1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	MJS



REPRODUCTION OF THIS PLAN IN WHOLE OR PART IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE DESIGN ENGINEER AND/OR FIRM.

JOB NO. 22-243	LandTech Consultants	GRATUITY BROOK FARM ESTATES	PREPARED FOR:
DWG. NO. 11142	515 Groton Road • Westford, MA 01886 • (978) 692-6100 • www.landtechinc.com	EXISTING CONDITIONS PLAN	ROUTHIER & ROPER GRATUITY ROAD, LLC 256 AYER ROAD LITTLETON, MA 01460
SHEET EX-4	Copyright © 2023	63 GRATUITY ROAD GROTON, MA	DESIGN MJS · DRAFT MJS · CHECK MAW
		SCALE: 1"= 50' AUGUST 12, 2024	

DATE	REVISION	BY
4/15/25	PEER REVIEW COMMENTS	MAW
1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	MJS

RESERVED FOR REGISTRY USE

TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____ DATE

_____

_____

_____

_____

_____

_____

_____

ENDORSED: _____ DATE

ZONING:

1. THIS PARCEL IS LOCATED IN RESIDENTIAL AGRICULTURAL (RA) ZONING DISTRICT.

ZONING DISTRICT:	RESIDENTIAL A
MINIMUM LOT AREA:	80,000 S.F.
MINIMUM LOT FRONTAGE:	225 FEET
MINIMUM BUILDING SETBACKS:	
FRONT:	50'
SIDE:	15'
REAR:	15'

2. ALL LOTS MEET GROTON ZONING FRONTAGE REQUIREMENTS.
   2.1. THE FRONTAGE REQUIREMENT (225') SHALL BE MAINTAINED FOR 50 FEET MEASURED PERPENDICULAR TO A STRAIGHT LINE CONNECTING THE TWO FRONT LOT CORNERS, AND AT NO POINT WITHIN THE AREA FROM THE FRONT YARD DEPTH TO THE PRINCIPAL DWELLING SHALL THE DISTANCE BETWEEN THE SIDE LOT LINES BE LESS THAN 75% OF THE MINIMUM REQUIRED FRONTAGE.
3. ALL LOTS HAVE PRACTICAL ACCESS THROUGH THEIR OWN FRONTAGE.
4. LOT AREA CALCULATIONS: MINIMUM 80,000 CONTIGUOUS SQUARE FEET EXCLUSIVE OF WETLANDS AND FLOOD HAZARD AREAS.
5. EACH LOT SHALL BE CAPABLE OF CONTAINING A 150' DIAMETER CIRCLE WITHIN WHICH THERE IS NO AREA SUBJECT TO PROTECTION UNDER THE WETLANDS PROTECTION ACT AND WITHIN WHICH ANY PRINCIPAL BUILDING SHALL BE LOCATED.

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO CREATE THREE (3) LOTS (LOTS 1 & 2 AND PARCEL A) AND ASSOCIATED ACCESS, DRAINAGE, AND UTILITY EASEMENTS.
2. BOUNDARY AND PLANOMETRIC INFORMATION SHOWN HEREON IS COMPILED FROM AN INSTRUMENT SURVEY BY DAVIS E. ROSS ASSOCIATES, INC.
3. FLAGGED WETLAND AND BANK LOCATIONS SHOWN ON THIS MAP WERE PROVIDED BY A FIELD STUDY CONDUCTED BY CREATIVE LAND & WATER ENGINEERING, LLC. IN DECEMBER 2018 AND FEBRUARY 2019. WETLAND FLAG WERE LOCATED LOCATED DURING AN INSTRUMENT SURVEY BY DAVID E. ROSS ASSOCIATED, INC, APPROVED BY THE GROTON CONSERVATION COMMISSION ON NOVEMBER 12, 2019, MASSDEP FILE NO. 169–1190.
4. A PORTION OF THE PROPERTY IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN AS DEFINED ON THE FEMA FLOOD INSURANCE RATE MAPS, PENDING PANEL No.'S 25017C0201F AND 25017C0202F, EFFECTIVE DATE JULY 8, 2025.
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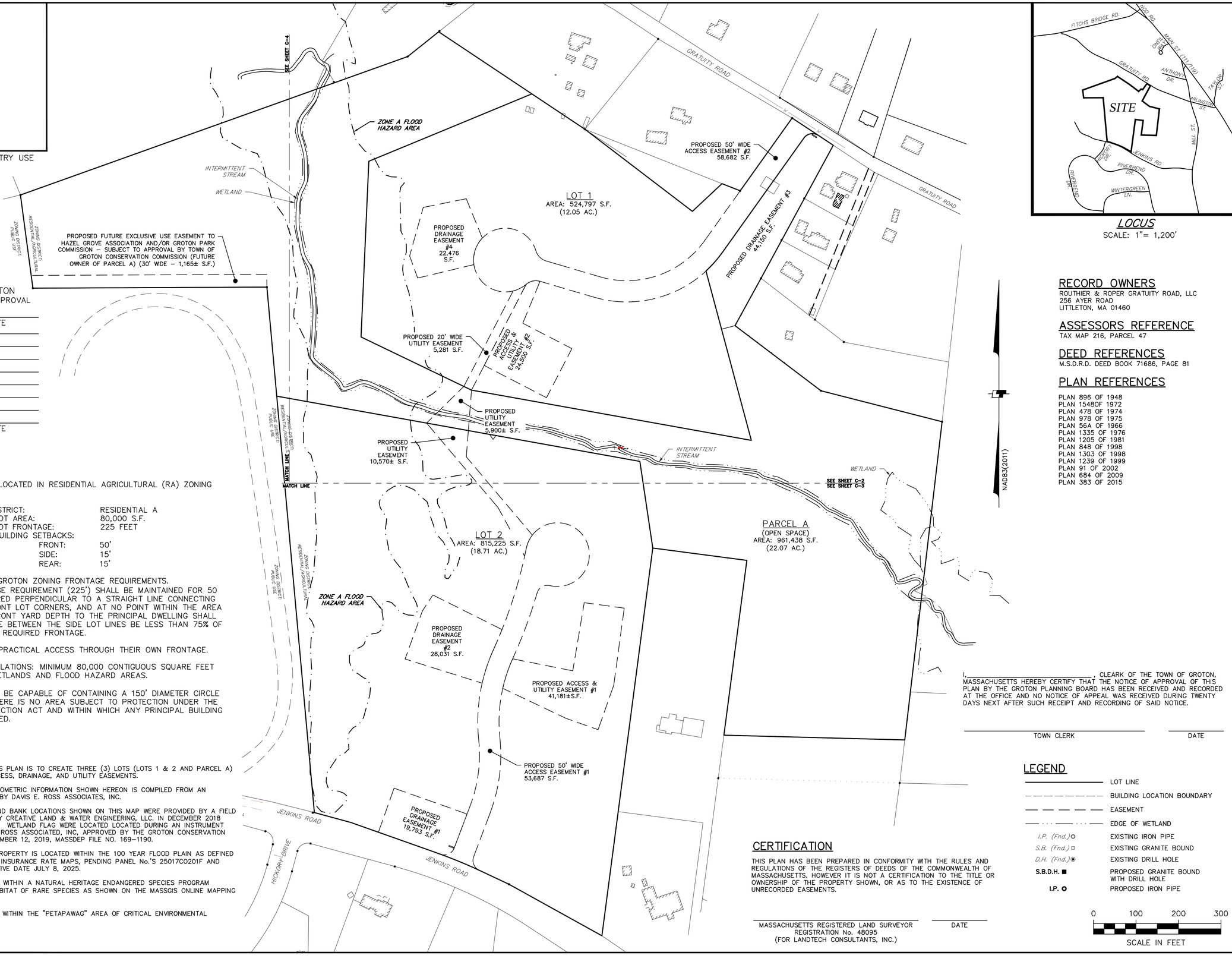

LOCUS
SCALE: 1"= 1,200'

RECORD OWNERS
ROUTHIER & ROPER GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

ASSESSORS REFERENCE
TAX MAP 216, PARCEL 47

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M.S.D.R.D. DEED BOOK 71686, PAGE 81

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I, _____, CLEARK OF THE TOWN OF GROTON, MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE GROTON PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THE OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

_____ TOWN CLERK _____ DATE

LEGEND

———	LOT LINE
— — — — — —	BUILDING LOCATION BOUNDARY
— — — — — —	EASEMENT
—·—·—·—	EDGE OF WETLAND
I.P. (Fnd.) ○	EXISTING IRON PIPE
S.B. (Fnd.) ⧈	EXISTING GRANITE BOUND
D.H. (Fnd.) ◉	EXISTING DRILL HOLE
S.B.D.H. ■	PROPOSED GRANITE BOUND WITH DRILL HOLE
I.P. ○	PROPOSED IRON PIPE

CERTIFICATION

THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS. HOWEVER IT IS NOT A CERTIFICATION TO THE TITLE OR OWNERSHIP OF THE PROPERTY SHOWN, OR AS TO THE EXISTENCE OF UNRECORDED EASEMENTS.

_____ MASSACHUSETTS REGISTERED LAND SURVEYOR
REGISTRATION No. 48095
(FOR LANDTECH CONSULTANTS, INC.)

_____ DATE

0 100 200 300
SCALE IN FEET

BY	REVISION	DATE
MJS	PEER REVIEW COMMENTS	4/15/25
MJS	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	1/13/25
MJS	PEER REVIEW COMMENTS	12/10/24

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN MJS | DRAFT MJS | CHECK MAW

GRATUITY BROOK FARM ESTATES
PLAN OF LAND
63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024

SCALE: 1"= 100'

Landtech Consultants
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JOB NO. 22-243 | DWG. NO. 11142 | SHEET C-1

SEE SHEET C-4

ADAMS, GREGORY
91 GRATUITY RD.
M/P: 216-49-0
BK/PG: 79708/379
2/18/2022
3.0 AC
BUILT 1939

ROUTHIER & ROPER
GRATUITY ROAD LLC
63 GRATUITY RD.
M/P: 216-47-0

ADAMS, GREGORY
71 GRATUITY RD.
M/P: 216-48-0
BK/PG: 80761/189
9/27/2022
1.80 AC
BUILT 1944

HEGEMAN, JOHN P.
78 GRATUITY RD.
M/P: 216-41-0
BK./PG: 75386/196
08/17/2020
7.22 AC
BUILT 1928

CASAGRA
66 GR
M/P: 21
BK/PG: 7
01/21
1.42
BUILT

GRATUITY ROAD

RESERVED FOR REGISTRY USE

TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____ DATE

ENDORSED: _____ DATE

BY	DATE	REVISION
MAW	4/15/25	PEER REVIEW COMMENTS
MJS	1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS
MJS	12/10/24	PEER REVIEW COMMENTS

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
PLAN OF LAND
63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024

SCALE: 1" = 50'

NAD83(2011)

ZONE A FLOOD HAZARD AREA

TOP OF BANK (DENOTE LOD)

EXISTING TRAIL

EXISTING FOOT BRIDGE

WETLAND

DUBEY ENCROACHMENTS

STORAGE CONTAINERS

S.B.D.H.

I.P.

CB (F)

CB (F) BROKEN

SB (F)

SIGN

CB/DH (F)

IP(F)

S51°27'22"W 193.19'

N56°19'44"W 283.32'

413.37'

N56°19'44"W 150.05'

N67°32'29"E 236.29'

N67°32'29"E 178.71'

N52°37'54"W 318.07'

N56°29'41"W 6.11'

N56°29'41"W 74.18'

N56°29'41"W 41.95'

S35°29'55"W 210.45'

50.0'

R=25.00'
L=38.40'
Δ=88°00'24"

#63 RECESSED

N68°21'54"W 46.07'

S46°54'55"W 95.38'

S35°29'55"W 143.66'

S35°29'55"W 311.70'

S35°29'55"W 141.98'

N75°00'45"E 32.77'

N28°30'19"E 356.15'

N25°50'17"W 253.67'

N75°39'00"W 294.17'

N06°41'29"E 753.53'

MACGREGOR, TIMOTHY E.
61 GRATUITY RD.
M/P: 216-46-0
BK/PG: 32465/ 297
AKA 19/1394
0.33 AC
BUILT 2001

NEIVA, PABLO W. ANDRADE.
57 GRATUITY RD.
M/P: 217-87-0
BK/PG: 64124/ 311
08/25/2014
0.5 AC
BUILT 1965

GAMESTER, MAYDELLE I.
55 GRATUITY RD.
M/P: 217-88-0
BK/PG: 25679/ 111
09/22/1995
0.5 AC
BUILT 1931

GAMESTER, MAYDELLE I.
GRATUITY RD.
M/P: 217-89-0
BK/PG: 25883/ 145
12/11/1996
1.51 AC

12" WOOD POST

N12°12'00"W 'N62W28°49'53"E

LOT 1
AREA: 524,797 S.F.
(12.05 AC.)

PROPOSED DRAINAGE EASEMENT #3
44,150 S.F.

PROPOSED DRAINAGE EASEMENT #4
22,476 S.F.

S78°34'07"W 103.11'

N22°15'57"W 100.01'

S13°41'57"W 118.44'

S19°44'55"E 136.07'

N76°33'35"E

D=119°47'12"
R=75.00'
L=156.80'

R=35.00'
L=34.79'
Δ=56°56'39"

N73°35'31"W 33.44'

N73°35'31"W 98.57'

D=70°54'34"
R=225.00'
L=278.46'

R=75.00'
L=227.90'
D=174°06'07"

34.80'

S73°35'31"E 131.99'

R=275.00'
L=58.23'
D=12°07'54"

R=275.00'
L=225.00'
D=46°53'42"

PROPOSED 50' WIDE ACCESS EASEMENT #2
58,682 S.F.

R=275.00'
L=57.71'
D=11°53'58"

106.57'
N22°21'41"E

215.00'
N27°19'01"E

S27°19'01"W 252.62'

N62°40'59"W 130.00'

130.00'
N27°19'01"E

165.00'
S62°40'59"E

65.15'
N27°19'01"E

PROPOSED 20' WIDE UTILITY EASEMENT
5,281 S.F.

PROPOSED ACCESS & UTILITY EASEMENT #2
24,300 S.F.

PROPOSED UTILITY EASEMENT
5,900± S.F.

PROPOSED UTILITY EASEMENT
10,570± S.F.

N64°18'46"W 288.45'

20.01'

S45°28'43"W 22.85'

95.48'
N04°27'50"E

62.08'
N04°27'50"E

99.83'

N79°48'55"W 376.09'

N79°48'55"W 292.70'

S79°48'55"E 868.09'

S08°28'18"E 206.10'

S40°12'27"E 260.64'

INTERMITTENT STREAM

FLOW

BANK

EXISTING TRAIL

PARCEL A
(OPEN SPACE)
AREA: 961,438 S.F.
(22.07 AC.)

LOT 2
AREA: 815,225 S.F.
(18.71 AC.)

ZONING DISTRICT: RESIDENTIAL

MATCH LINE

SEE SHEET C-3

0 50 100 150
SCALE IN FEET

JOB NO.	DWG. NO.	SHEET
22-243	11142	C-2

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MATCH LINE

SEE SHEET C-2

BY	REVISION	DATE
MJS	PEER REVIEW COMMENTS	4/15/25
MJS	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	1/13/25
MJS	PEER REVIEW COMMENTS	12/10/24

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
PLAN OF LAND
63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024

SCALE: 1" = 50'

LOT 2
AREA: 815,225 S.F.
(18.71 AC.)

PARCEL A
(OPEN SPACE)
AREA: 961,438 S.F.
(22.07 AC.)

ZONE A FLOOD HAZARD AREA

PROPOSED UTILITY EASEMENT 9,371 S.F.

PROPOSED DRAINAGE EASEMENT #2 28,031 S.F.

PROPOSED ACCESS & UTILITY EASEMENT #1 41,181±S.F.

PROPOSED 50' WIDE ACCESS EASEMENT #1 53,687 S.F.

PROPOSED DRAINAGE EASEMENT #1 19,793 S.F.

ZONING DISTRICT: RESIDENTIAL/AGRICULTURAL

ZONING DISTRICT: PUBLIC USE

EXISTING TRAIL

FOOT BRIDGE

INTERMITTENT STREAM

WETLAND

FLOW

FOUNDATION

S.B.D.H.

JENKINS ROAD

HICKORY DRIVE

ROUTHIER & ROPER GRATUITY ROAD LLC
63 GRATUITY RD.
M/P: 216-47-0

STAKEM, JAMES T.
199 MILL ST.
M/P: 110-25-2
BK/PG: 47827/ 18
07/19/2006
6.0 AC
ZONE RA
BUILT 2000

THOMAS, MATTHEW
167 MILL
M/P: 110-19
BK/PG: 69940/
09/15/2017
5.0 AC
BUILT 2016

LEBLANC, ARTHUR W.
90 JENKINS RD.
M/P: 217-80-2
BK/PG 80835/370
12/24/2022
3.4 AC
BUILT 2022

SNYDEMAN, WILLIAM J.
74 JENKINS RD.
M/P: 217-82-0
BK/PG: 31800/ 461
09/08/2000
5.0 AC
BUILT 2000

TAISEY FAMILY NOMINEE TRUST.
OFF RIVERBEND DR.
M/P: 217-6-0
BK./PG: 17844/ 582
02/05/1987
1.84 AC
VACANT LAND

HILBRUNNER, WILLIAM H.
17 HICKORY DR.
M/P: 217-4-0
BK/PG: 21494/ 177

YEVSIKOV, BORIS
117 JENKINS RD.
M/P: 217-3-0

MARTIN, PAULA DH

SCHULER, DANIEL E.

TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____ DATE

ENDORSED: _____ DATE

RESERVED FOR REGISTRY USE

0 50 100 150
SCALE IN FEET

NAD83(2011)

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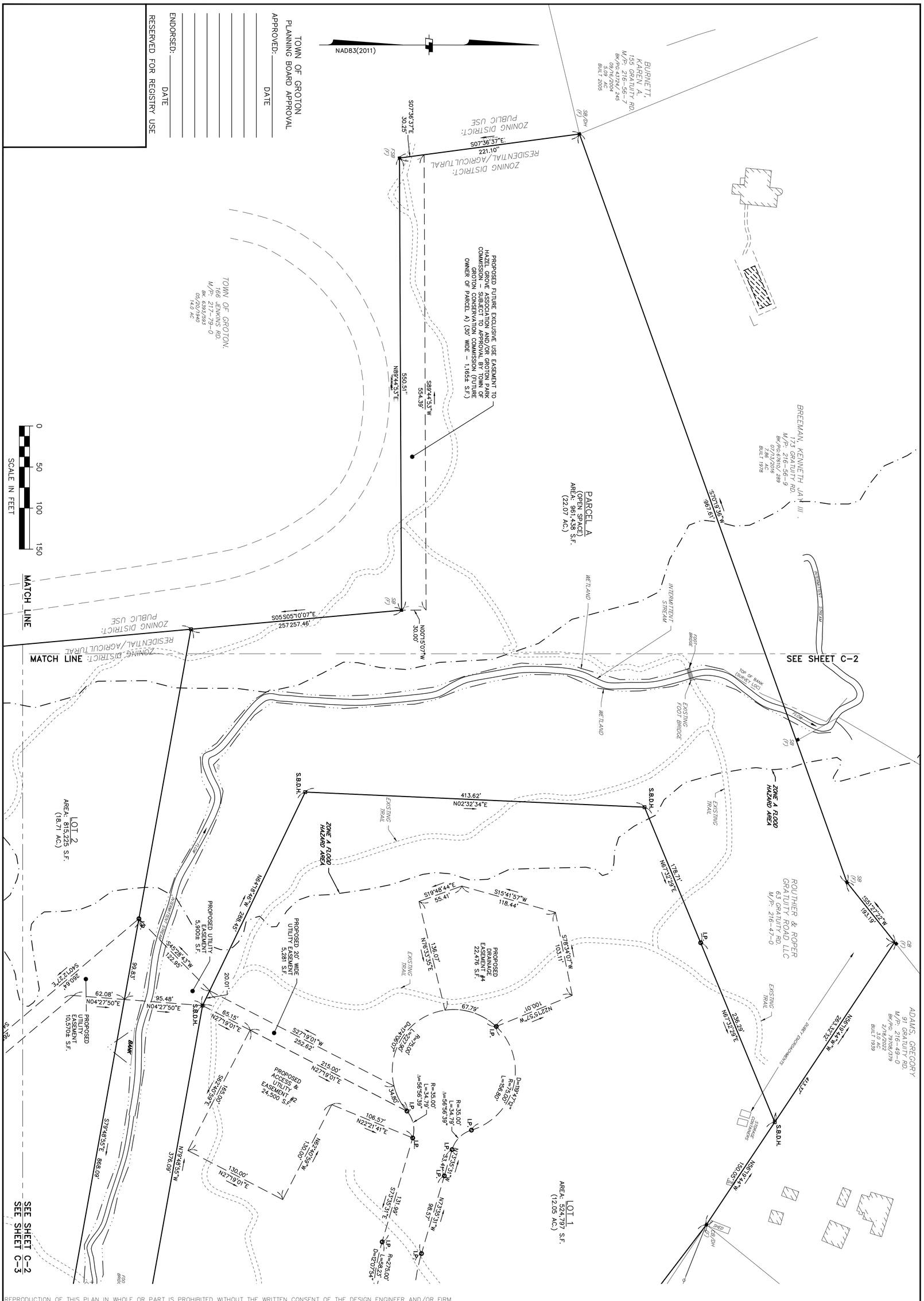
JOB NO.	DWG. NO.	SHEET
22-243	11142	C-3



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JOB NO. 22-243	LandTech Consultants	GRATUITY BROOK FARM ESTATES PLAN OF LAND	PREPARED FOR: ROUTHIER & ROPER GRATUITY ROAD, LLC 256 AYER ROAD LITTLETON, MA 01460		
DWG. NO. 11142	515 Groton Road • Westford, MA 01886 • (978) 692-6100 • www.landtechinc.com	63 GRATUITY ROAD GROTON, MA	DESIGN MJS	DRAFT MJS	CHECK MAW
SHEET C-4	Copyright © 2023	SCALE: 1"= 50' AUGUST 12, 2024			

DATE	REVISION	BY
4/15/25	PEER REVIEW COMMENTS	MAW
1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	MJS
12/10/24	PEER REVIEW COMMENTS	MJS

SEE SHEET C-7

ADAMS, GREGORY
91 GRATUITY RD.
M/P: 216-49-0
BK/PG: 79708/379
2/18/2022
3.0 AC
BUILT 1939

ROUTHIER & ROPER
GRATUITY ROAD LLC
63 GRATUITY RD.
M/P: 216-47-0

ADAMS, GREGORY
71 GRATUITY RD.
M/P: 216-48-0
BK/PG: 80761/189
9/27/2022
1.80 AC
BUILT 1944

HEGEMAN, JOHN P.
78 GRATUITY RD.
M/P: 216-41-0
BK./PG: 75386/196
08/17/2020
7.22 AC
BUILT 1928

CASAGRA
66 GR
M/P: 21
BK/PG: 7
01/21
1.42
BUILT

GRATUITY ROAD

NAD83(2011)

ZONE A FLOOD HAZARD AREA

EXISTING TRAIL

EXISTING FOOT BRIDGE

WETLAND

TOP OF BANK (DENOTES LOD)

DUBEY ENCROACHMENTS

STORAGE CONTAINERS

S51°27'22"W 93.19'

N56°19'44"W 283.32'

413.37'

S.B.D.H.

N56°19'44"W 150.00'

S67°32'29"W 236.29'

S67°32'29"W 178.71'

I.P.

S.B.D.H.

UNIT 10
AREA: 140,498 S.F.
(3.23 AC.)
DRY UPLAND AREA: 97,450 S.F.
FRONTAGE: 227.90 FT.
R=0.82

UNIT 11
AREA: 84,3807 S.F.
(1.94 AC.)
FRONTAGE: 225.00 FT.
R=0.93

N22°15'51"W 268.07'

ø150.0'

15.0' (SETBACK DISTANCES TYPICAL FOR ALL UNITS)

15.0'

50.0'

BUILDING SETBACK LINE

S02°27'24"W 413.62'

R=75.00'
L=156.80'
D=119°47'12"

I.P.

LOT 1
AREA: 524,797 S.F.
(12.05 AC.)

PROPOSED DRAINAGE EASEMENT #4
22,476 S.F.

I.P.

R=35.00'
L=34.79'
Δ=56°56'39"

I.P.

I.P.

R=35.00'
L=34.79'
Δ=56°56'39"

S73°35'31"E 33.41'

98.57'
S73°35'31"E

I.P.

R=225.00'
L=278.46'
D=70°54'34"

R=75.00'
L=72.80'
D=71°08'07"

EXISTING TRAIL

I.P.

N73°35'31"W 131.99'

I.P.

D=12°07'54"
R=275.00'
L=58.23'

I.P.

D=46°52'42"
R=275.00'
L=225.00

PROPOSED 50' WIDE ACCESS EASEMENT #2
58,682 S.F.

15.0'

S27°19'07"W 280.15'

PROPOSED ACCESS UTILITY & DRAINAGE EASEMENT #2
24,500 S.F.

ZONE A FLOOD HAZARD AREA

15.0'

S.B.D.H.

PROPOSED 20' WIDE UTILITY EASEMENT
5,281 S.F.

288.45'
S64°18'46"E

PROPOSED UTILITY EASEMENT
5,900± S.F.

S.B.D.H.

UNIT 9
AREA: 80,603 S.F.
(1.85 AC.)
FRONTAGE: 225.00 FT.
R=0.96

UNIT 8
80,551 S.F.
(1.87 AC.)
FRONTAGE: 225.00 FT.
R=0.89

S05°14'17"E 275.82'

N41°45'43"W 412.26'

S.B.D.H.

376.09'
S79°48'55"E

292.70'
S79°48'55"E

S.B.D.H.

N79°48'55"W 358.20'

N79°48'55"W 509.90'

PROPOSED UTILITY EASEMENT
10,570± S.F.

N40°12'27"W 260.64'

S.B.D.H.

S35°18'28"W 135.14'

INTERMITTENT STREAM

BANK

FOOT BRIDGE

EXISTING TRAIL

FLOW

ø150.0'

RESIDENTIAL ZONING DISTRICT

MATCH LINE

SEE SHEET C-6

I.P.

S.B.D.H.

N68°21'54"W 46.07'

S46°54'55"W 95.38'

N32°37'54"W 318.07'

324.68'
N10°32'26"E

CB (F) BROKEN

I.P.(F)

N56°29'41"W 6.11'

S.B.D.H.

N56°29'41"W 41.95'

CB (F) BROK. 74.18'

S.B.D.H.

R=25.00'
L=38.40'
Δ=88°00'24"

S35°29'35"W 210.45'

#63 RAISED

GERARD WAY

143.66'
N35°29'35"E

S35°29'35"W 33.70'

PROPOSED DRAINAGE EASEMENT #3
44,150 S.F.

I.P.

S.B.D.H.

R=275.00'
L=57.70'
D=11°58'38"

S.B.D.H.

MACGREGOR, TIMOTHY E.
61 GRATUITY RD.
M/P: 216-46-0
BK/PG: 32465/ 297
AKA TS 21394
0.33 AC
BUILT 2001

356.15'
N28°30'19"E

NEIVA, PABLO W. ANDRADE.
57 GRATUITY RD.
M/P: 217-87-0
BK/PG: 64122/ 311
08/25/2014
0.5 AC
BUILT 1965

CB (F)

GAMESTER, MAYDELLE I.
55 GRATUITY RD.
M/P: 217-88-0
BK/PG: 25676/ 111
09/22/1995
0.5 AC
BUILT 1931

CB (F)

127.00'
N28°49'53"E

12" WOOD POST

12" WOOD POST

12" WOOD POST

12" WOOD POST

12" WOOD POST

CB (F)

CB (F) BROKEN

GAMESTER, MAYDELLE I.
GRATUITY RD.
M/P: 217-89-0
BK/PG: 25883/ 145
12/11/1995
1.51 AC

N52°30'17"W 253.67'

I.P.(F)

N75°39'00"W 294.17'

I.P.(F)

753.53'
N06°41'29"E

PARCEL A
(OPEN SPACE)
AREA: 961,438 S.F.
(22.07 AC.)

0 50 100 150
SCALE IN FEET

SEE SHEET C-6

LOCUS MAP
SCALE: 1"= 1,200'

FITCHS BRIDGE RD.
HOW RD.
GREEN ACRES
MAIN ST. (Rte 119)
GRATUITY RD.
ANTHON DR.
TAYLOR ST.
SITE
ARLINGTON ST.
MILL ST.
JENKINS RD.
RIVERBEND DR.
RIVERBEND DR.
WINTERGREEN LN.

RESERVED FOR REGISTRY USE

TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____ DATE

ENDORSED: _____ DATE

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW SUBDIVISION LAYOUT WITH CONVENTIONAL LOTS MEETING DIMENSIONAL REQUIREMENTS FOR RA ZONING DISTRICT.
2. SEE PLAN OF LAND (SHEETS C-1 THROUGH C-4) FOR BEARINGS AND DISTANCES FOR ALL EASEMENTS SHOWN ON THIS PLAN.

BY	REVISION	DATE
MAW	PEER REVIEW COMMENTS	4/15/25
MJS	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	1/13/25
MJS	PEER REVIEW COMMENTS	12/10/24

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
PROPERTY RIGHTS PLAN
63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024

SCALE: 1" = 50'

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JOB NO.	DWG. NO.	SHEET
22-243	11142	C-5

MATCH LINE

SEE SHEET C-5

UNIT 3
AREA: 197,733 S.F.
(4.54 AC.)
(84,413 S.F. CONTIGUOUS DRY)
FRONTAGE: 225.00 FT.
R=0.84

UNIT 4
AREA: 81,701
(1.88 AC.)
(81,498 S.F. CONTIGUOUS DRY)
FRONTAGE: 231.42 FT.
R=0.64

UNIT 5
AREA: 90,122 S.F.
(2.07 AC.)
FRONTAGE: 347.83 FT.
R=0.83

UNIT 2
AREA: 145,039 S.F.
(3.33 AC.)
(80,124 S.F. CONTIGUOUS DRY)
FRONTAGE: 225.00 FT.
R=1.01

LOT 2
AREA: 815,225 S.F.
(18.71 AC.)

UNIT 1
AREA: 96,970 S.F.
(2.23 AC.)
(81,030 S.F. CONTIGUOUS DRY)
FRONTAGE: 615.84 FT.
R=0.98

UNIT 6
AREA: 80,194 S.F.
(1.84 AC.)
FRONTAGE: 283.48 FT.
R=1.01

UNIT 7
AREA: 80,012 S.F.
(1.84 AC.)
FRONTAGE: 562.15 FT.
R=0.96

PARCEL A
(OPEN SPACE)
AREA: 961,438 S.F.
(22.07 AC.)

ZONE A FLOOD HAZARD AREA

ZONING DISTRICT: RESIDENTIAL/AGRICULTURAL

ZONING DISTRICT: PUBLIC USE

EXISTING TRAIL

PROPOSED UTILITY EASEMENT 9,371 S.F.

PROPOSED DRAINAGE EASEMENT #2 28,031 S.F.

PROPOSED 50' WIDE ACCESS EASEMENT #1 53,687 S.F.

PROPOSED ACCESS & UTILITY EASEMENT #1 41,181±S.F.

PROPOSED DRAINAGE EASEMENT #1 19,793 S.F.

BUILDING SETBACK LINE

15.0' (SETBACK DISTANCES TYPICAL FOR ALL UNITS)

50.0'

THERESE LANE

JENKINS ROAD

HICKORY DRIVE

FOOT BRIDGE

INTERMITTENT STREAM

WETLAND

FLOW

FOUNDATION

ROUTHIER & ROPER GRATUITY ROAD LLC
63 GRATUITY RD.
M/P: 216-47-0

STAKEM, JAMES T.
199 MILL ST.
M/P: 110-25-2
BK/PG 47827/ 18
07/19/2006
6.0 AC
ZONE RA
BUILT 2000

THOMAS, MATTHEW
167 MILL
M/P: 110-19
BK/PG: 69940/
09/15/2017
5.0 AC
BUILT 2016

LEBLANC, ARTHUR W.
90 JENKINS RD.
M/P: 217-80-2
BK/PG 80835/370
12/24/2022
3.4 AC
BUILT 2022

SNYDEMAN, WILLIAM J.
74 JENKINS RD.
M/P: 217-82-0
BK/PG: 31800/ 461
09/08/2000
5.0 AC
BUILT 2000

TAISEY FAMILY NOMINEE TRUST.
OFF RIVERBEND DR.
M/P: 217-6-0
BK/PG: 17844/ 582
02/05/1987
1.84 AC
VACANT LAND

HILBRUNNER, WILLIAM H.
17 HICKORY DR.
M/P: 217-4-0
BK/PG:21494/ 377

YEVSIKOV, BORIS
117 JENKINS RD.
M/P: 217-3-0

MARTIN, PAULA DH

SCHULER, DANIEL E.

TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____ DATE

ENDORSED: _____ DATE

RESERVED FOR REGISTRY USE

NAD83(2011)

0 50 100 150
SCALE IN FEET

DATE	REVISION	BY
4/15/25	PEER REVIEW COMMENTS	MAW
1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	MJS
12/10/24	PEER REVIEW COMMENTS	MJS

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
PROPERTY RIGHTS PLAN
63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024

SCALE: 1" = 50'

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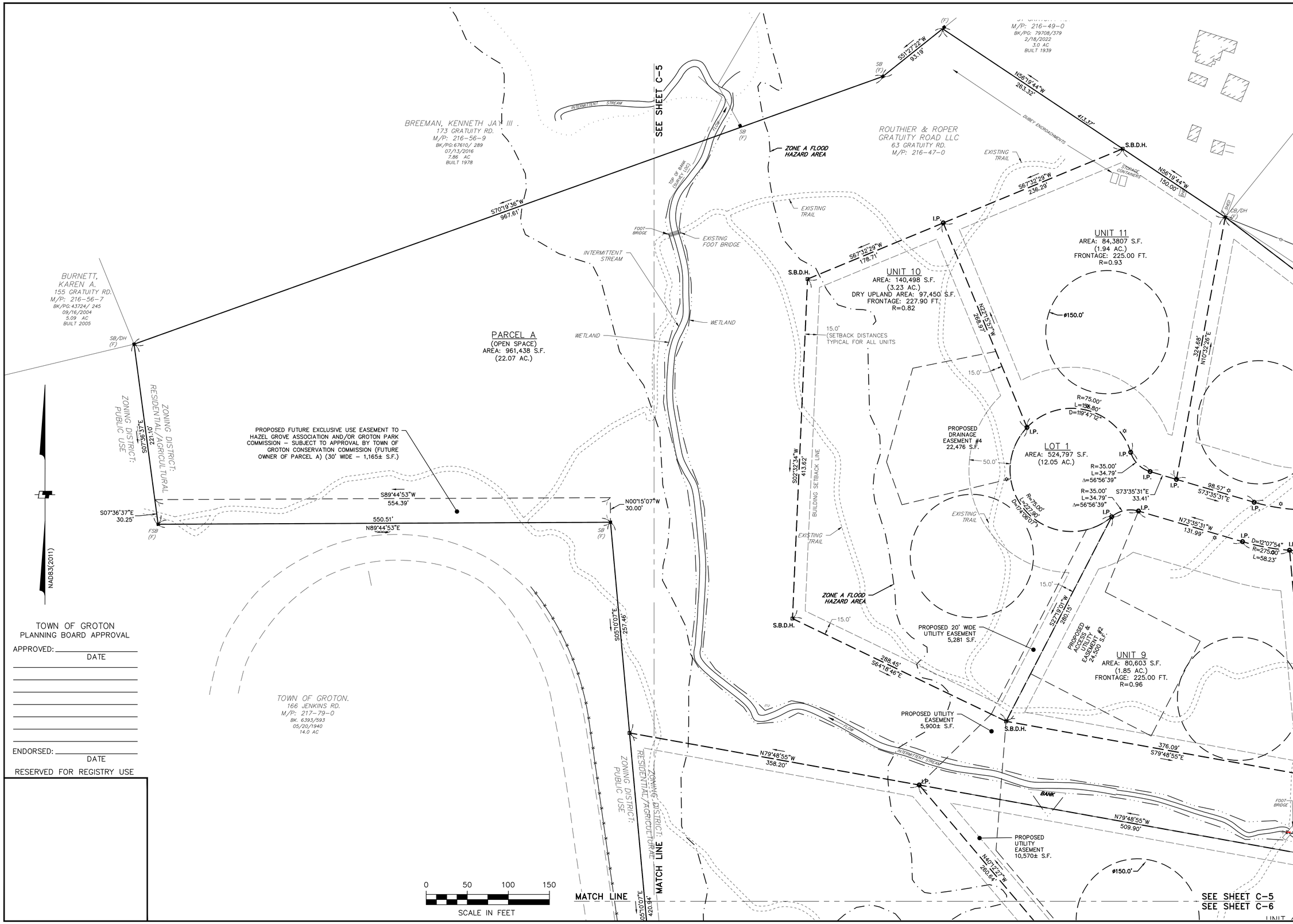
JOB NO.	DWG. NO.	SHEET
22-243	11142	C-6



TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____
DATE

ENDORSED: _____
DATE

RESERVED FOR REGISTRY USE

DATE	REVISION	BY
4/15/25	PEER REVIEW COMMENTS	MAW
1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	MJS
12/10/24	PEER REVIEW COMMENTS	MJS

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN MJS | DRAFT MJS | CHECK MAW

GRATUITY BROOK FARM ESTATES
PROPERTY RIGHTS PLAN

63 GRATUITY ROAD
GROTON, MA

SCALE: 1"= 50'

AUGUST 12, 2024

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JOB NO. 22-243
DWG. NO. 11142
SHEET C-7

RESERVED FOR REGISTRY USE

NAD83(2011)

SEE SHEET C-11

ZONE A FLOOD HAZARD AREA

INTERMITTENT STREAM

WETLAND

PARCEL A
OPEN SPACE
AREA: 961,438 S.F.
(22.07 AC.)

PROPOSED FUTURE EXCLUSIVE USE EASEMENT TO HAZEL GROVE ASSOCIATION AND/OR GROTON PARK COMMISSION – SUBJECT TO APPROVAL BY TOWN OF GROTON CONSERVATION COMMISSION (FUTURE OWNER OF PARCEL A) (30' WIDE – 1,165± S.F.)

ZONING DISTRICT: RESIDENTIAL/AGRICULTURAL

ZONING DISTRICT: PUBLIC USE

GRATUITY ROAD

UNIT 11 RESTRICTED USE AREA 53,062± S.F.

PROPOSED 50' WIDE ACCESS EASEMENT #2 58,682 S.F.

UNIT 10 RESTRICTED USE AREA 99,069± S.F.

UNIT 11 UNRESTRICTED USE AREA 31,318± S.F.

UNIT 12 RESTRICTED USE AREA 56,326± S.F.

PROPOSED DRAINAGE EASEMENT #4 22,476 S.F.

LOT 1
AREA: 524,797 S.F.
(12.05 AC.)

UNIT 12 UNRESTRICTED USE AREA 23,740± S.F.

PROPOSED DRAINAGE EASEMENT #3 44,150 S.F.

UNIT 10 UNRESTRICTED USE AREA 17,864± S.F.

UNIT 9 UNRESTRICTED USE AREA 28,789± S.F.

UNIT 8 UNRESTRICTED USE AREA 29,608± S.F.

PROPOSED 20' WIDE UTILITY EASEMENT 5,281 S.F.

PROPOSED ACCESS & UTILITY EASEMENT #2 24,500 S.F.

UNIT 9 RESTRICTED USE AREA 27,314± S.F.

UNIT 8 RESTRICTED USE AREA 49,208± S.F.

PROPOSED UTILITY EASEMENT 5,900± S.F.

PROPOSED UTILITY EASEMENT 10,570± S.F.

MATCH LINE

UNIT 4 RESTRICTED USE AREA 50,900± S.F.

UNIT 4 UNRESTRICTED USE AREA 21,431± S.F.

SEE SHEET C-9
SEE SHEET C-10

UNIT 3 RESTRICTED USE AREA 161,320± S.F.

LOT 2
AREA: 815,225 S.F.
(18.71 AC.)

UNIT 3 UNRESTRICTED USE AREA 32,393± S.F.

UNIT 5 RESTRICTED USE AREA 38,721± S.F.

UNIT 2 RESTRICTED USE AREA 98,241± S.F.

PROPOSED DRAINAGE EASEMENT #2 28,031 S.F.

UNIT 5 UNRESTRICTED USE AREA 20,964± S.F.

PROPOSED ACCESS & UTILITY EASEMENT #1 41,181±S.F.

UNIT 2 UNRESTRICTED USE AREA 22,787± S.F.

UNIT 6 UNRESTRICTED USE AREA 28,850± S.F.

UNIT 6 RESTRICTED USE AREA 30,378± S.F.

UNIT 1 RESTRICTED USE AREA 50,486± S.F.

UNIT 1 UNRESTRICTED USE AREA 26,691± S.F.

PROPOSED 50' WIDE ACCESS EASEMENT #1 53,687 S.F.

PROPOSED DRAINAGE EASEMENT #1 19,793 S.F.

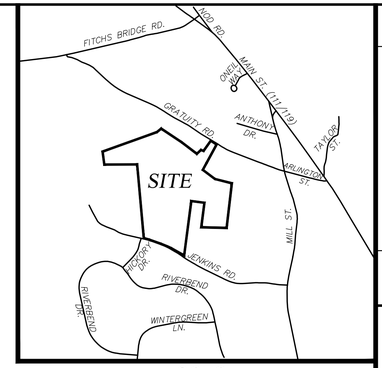
UNIT 7 UNRESTRICTED USE AREA 22,458± S.F.

UNIT 7 RESTRICTED USE AREA 57,554± S.F.

PARCEL A
OPEN SPACE
AREA: 961,438 S.F.
(22.07 AC.)

JENKINS ROAD

DRIVE



LOCUS
SCALE: 1"= 1,200'

RECORD OWNERS
ROUTHIER & ROPER GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

ASSESSORS REFERENCE
TAX MAP 216, PARCEL 47

DEED REFERENCES
M.S.D.R.D. DEED BOOK 71686, PAGE 81

NOTES:
1. THE PURPOSE OF THIS PLAN IS TO SHOW LAYOUT DESIGNED IN ACCORDANCE WITH RULES AND REGULATIONS ASSOCIATED WITH THE SPECIAL PERMIT APPLICATION FOR A MAJOR RESIDENTIAL DEVELOPMENT.
2. SEE PLAN OF LAND (SHEETS C-1 THROUGH C-4) AND PROPERTY RIGHTS PLAN (SHEETS C-5 THROUGH C-7) FOR BEARINGS AND DISTANCES FOR ALL UNITS AND EASEMENTS SHOWN ON THIS PLAN.

OPEN SPACE

TOTAL LOT AREA:	2,301,460 S.F.
OPEN SPACE AREAS:	961,438 S.F. (PARCEL A)
	+772,579 S.F. (RESTRICTED USE AREAS)
	1,734,017 S.F. (75% OF TOTAL LOT AREA)
LESS WETLAND AND DRAINAGE EASEMENT #3 AREAS:	
	−50,618 S.F. (WETLAND)
	−44,150 S.F. (DRAINAGE EASEMENT #3)
TOTAL OPEN SPACE AREA:	1,639,249 S.F. (71% OF LOT AREA)

TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____ DATE

ENDORSED: _____ DATE

I, _____, CLEARK OF THE TOWN OF GROTON, MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE GROTON PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THE OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN CLERK _____ DATE

0 100 200 300
SCALE IN FEET

BY	REVISION	DATE
MJS	PEER REVIEW COMMENTS	12/10/24
MJS	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	1/13/25
MAW	PEER REVIEW COMMENTS	4/15/25

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
OVERALL OPEN SPACE PLAN
63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024

SCALE: 1" = 100'

Landtech Consultants
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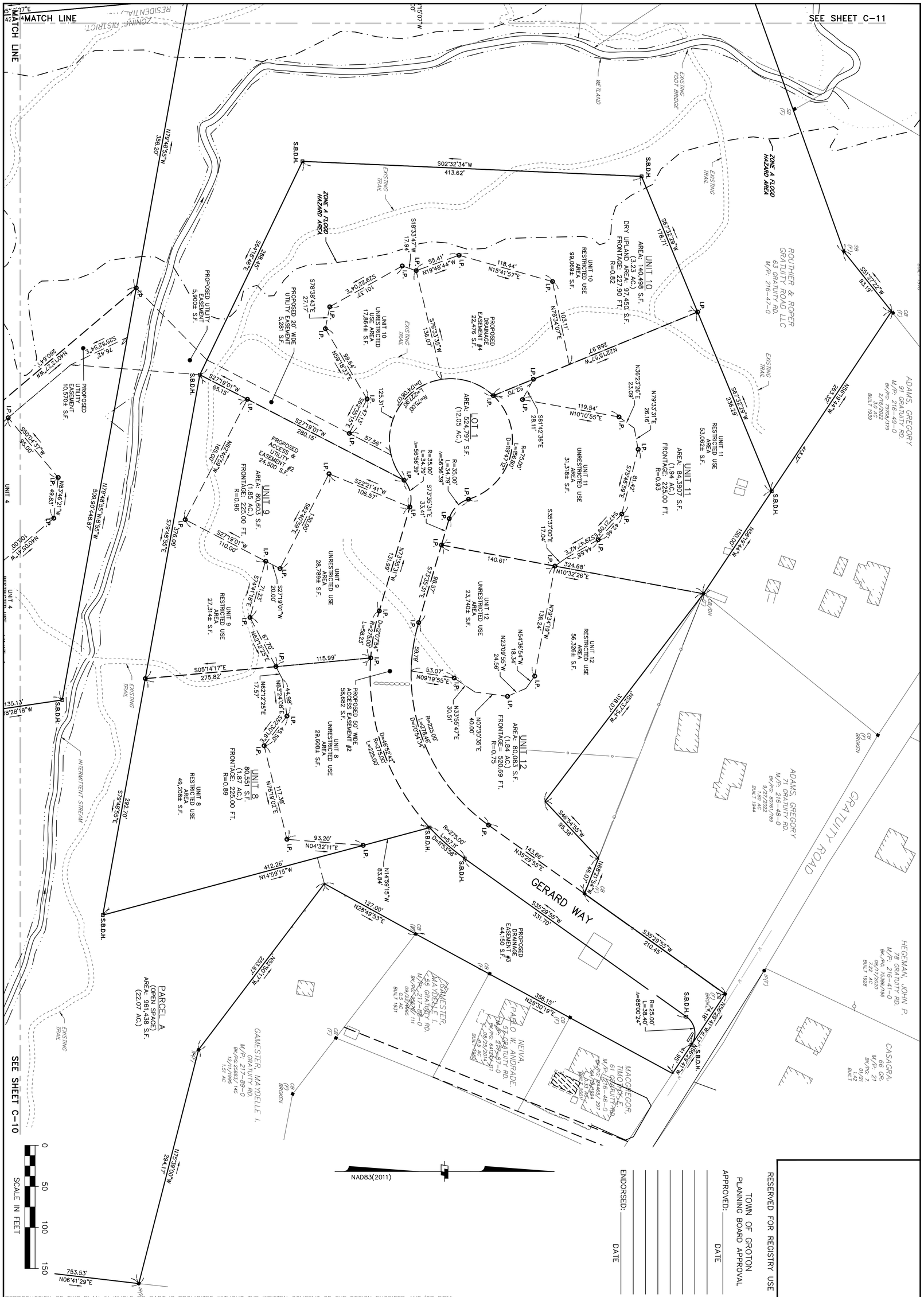
JOB NO.	DWG. NO.	SHEET
22-243	11142	C-8


MATCH LINE
SEE SHEET C-11
SEE SHEET C-10
ZONE A FLOOD HAZARD AREA
EXISTING TRAIL
WETLAND
EXISTING FOOT BRIDGE
INTERMITTENT STREAM
S.B.D.H.
S02°32'34"W 413.62'
S87°32'29"W 178.71'
S87°32'29"W 238.29'
S02°27'28"W 93.16'
N29°48'55"W 358.20'
N29°48'55"W 508.90'
S27°19'01"W 65.15'
S27°19'01"W 280.15'
S27°19'01"W 110.00'
S22°21'41"W 106.57'
S05°14'17"E 275.82'
S79°48'55"E 292.70'
N14°59'15"W 412.26'
N04°32'11"E 93.20'
N28°49'33"E 127.00'
N28°49'33"E 253.67'
N29°39'30"W 284.17'
N06°41'29"E 753.53'
S35°29'55"W 331.70'
S35°29'55"W 210.45'
N35°29'55"E 143.66'
N54°30'05"W 80.38'
N54°30'05"W 318.07'
N10°32'26"E 324.68'
N10°19'44"W 150.00'
N10°10'55"E 119.54'
N79°33'31"E 26.16'
N38°23'26"E 23.09'
N27°19'57"W 268.97'
N83°46'21"W 49.83'
N83°46'21"W 95.00'
N83°46'21"W 168.00'
N79°48'55"W 376.09'
N79°48'55"W 135.13'
N68°28'18"W 135.13'
N69°41'25"E 67.70'
N62°12'25"E 17.57'
N83°24'08"E 44.98'
N79°19'02"E 117.38'
N14°59'15"W 83.84'
N35°30'19"E 356.15'
N79°34'07"E 193.11'
N59°16'35"E 99.64'
S78°38'43"E 21.17'
S29°22'04"E 101.37'
S76°33'51"W 136.07'
S73°35'31"E 33.41'
S79°46'59"E 81.42'
S53°37'00"E 77.04'
S58°14'26"E 28.17'
S18°33'47"W 17.94'
N19°48'44"W 55.41'
N15°41'57"E 118.44'
S73°35'31"E 98.97'
N79°23'47"W 136.24'
N54°36'54"W 18.34'
N23°09'55"W 24.56'
N09°19'55"E 53.07'
N33°55'47"E 30.51'
N07°30'35"E 46.00'
N65°42'02"E 81.41'
N65°42'02"E 80.38'
S46°54'05"E 80.38'
S35°29'55"W 81.41'
S35°29'55"W 38.15'
S35°29'55"W 81.41'
S35°29'55"W 80.38

MATCH LINE

SEE SHEET C-9

UNIT 3
AREA: 197,733 S.F.
(4.54 AC.)
(84,413 S.F. CONTIGUOUS DRY)
FRONTAGE: 225.00 FT.
R=0.84

UNIT 4
AREA: 81,701
(1.88 AC.)
(81,498 S.F. CONTIGUOUS DRY)
FRONTAGE: 231.42 FT.
R=0.64

UNIT 5
AREA: 90,122 S.F.
(2.07 AC.)
FRONTAGE: 347.83 FT.
R=0.83

UNIT 2
AREA: 145,039 S.F.
(3.33 AC.)
(80,124 S.F. CONTIGUOUS DRY)
FRONTAGE: 225.00 FT.
R=1.01

LOT 2
AREA: 815,225 S.F.
(18.71 AC.)

UNIT 1
AREA: 96,970 S.F.
(2.23 AC.)
(81,030 S.F. CONTIGUOUS DRY)
FRONTAGE: 615.84 FT.
R=0.98

UNIT 6
AREA: 80,194 S.F.
(1.84 AC.)
FRONTAGE: 283.48 FT.
R=1.01

UNIT 7
AREA: 80,012 S.F.
(1.84 AC.)
FRONTAGE: 562.15 FT.
R=0.96

PARCEL A
OPEN SPACE
AREA: 961,438 S.F.
(22.07 AC.)

THERESE LANE

JENKINS ROAD

HICKORY DRIVE

ZONING DISTRICT: RESIDENTIAL/AGRICULTURAL

ZONING DISTRICT: PUBLIC USE

ZONE A FLOOD HAZARD AREA

EXISTING TRAIL

PROPOSED UTILITY EASEMENT 9,371 S.F.

PROPOSED DRAINAGE EASEMENT #2 28,031 S.F.

PROPOSED ACCESS & UTILITY EASEMENT #1 41,181±S.F.

PROPOSED 50' WIDE ACCESS EASEMENT #1 53,687 S.F.

PROPOSED DRAINAGE EASEMENT #1 19,793 S.F.

WETLAND

INTERMITTENT STREAM

ROUTHIER & ROPER GRATUITY ROAD LLC
63 GRATUITY RD.
M/P: 216-47-0

STAKEM, JAMES T.
199 MILL ST.
M/P: 110-25-2
BK/PG 47827/ 18
07/19/2006
6.0 AC
ZONE RA
BUILT 2000

THOMAS, MATTHEW
167 MILL ...
M/P: 110-19...
BK/PG: 69940/ ...
09/15/2017
5.0 AC
BUILT 2016

LEBLANC, ARTHUR W.
90 JENKINS RD.
M/P: 217-80-2
BK/PG 80835/370
12/24/2022
3.4 AC
BUILT 2022

SNYDEMAN, WILLIAM J.
74 JENKINS RD.
M/P: 217-82-0
BK/PG: 31800/ 461
09/08/2000
6.0 AC
BUILT 2000

TAISEY FAMILY NOMINEE TRUST.
OFF RIVERBEND DR.
M/P: 217-6-0
BK./PG: 17844/ 582
02/05/1987
1.84 AC
VACANT LAND

HILBRUNNER, WILLIAM H.
17 HICKORY DR.
M/P: 217-4-0
BK/PG:21494/ 377

YEVSIKOV, BORIS
117 JENKINS RD.
M/P: 217-3-0

MARTIN, PAULA DH

SCHULER, DANIEL E.

TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____ DATE

ENDORSED: _____ DATE

RESERVED FOR REGISTRY USE

0 50 100 150
SCALE IN FEET

NAD83(2011)

DATE	REVISION	BY
12/10/24	PEER REVIEW COMMENTS	MJS
1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	MJS
4/15/25	PEER REVIEW COMMENTS	MAW

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
OPEN SPACE PLAN
63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024

SCALE: 1" = 50'

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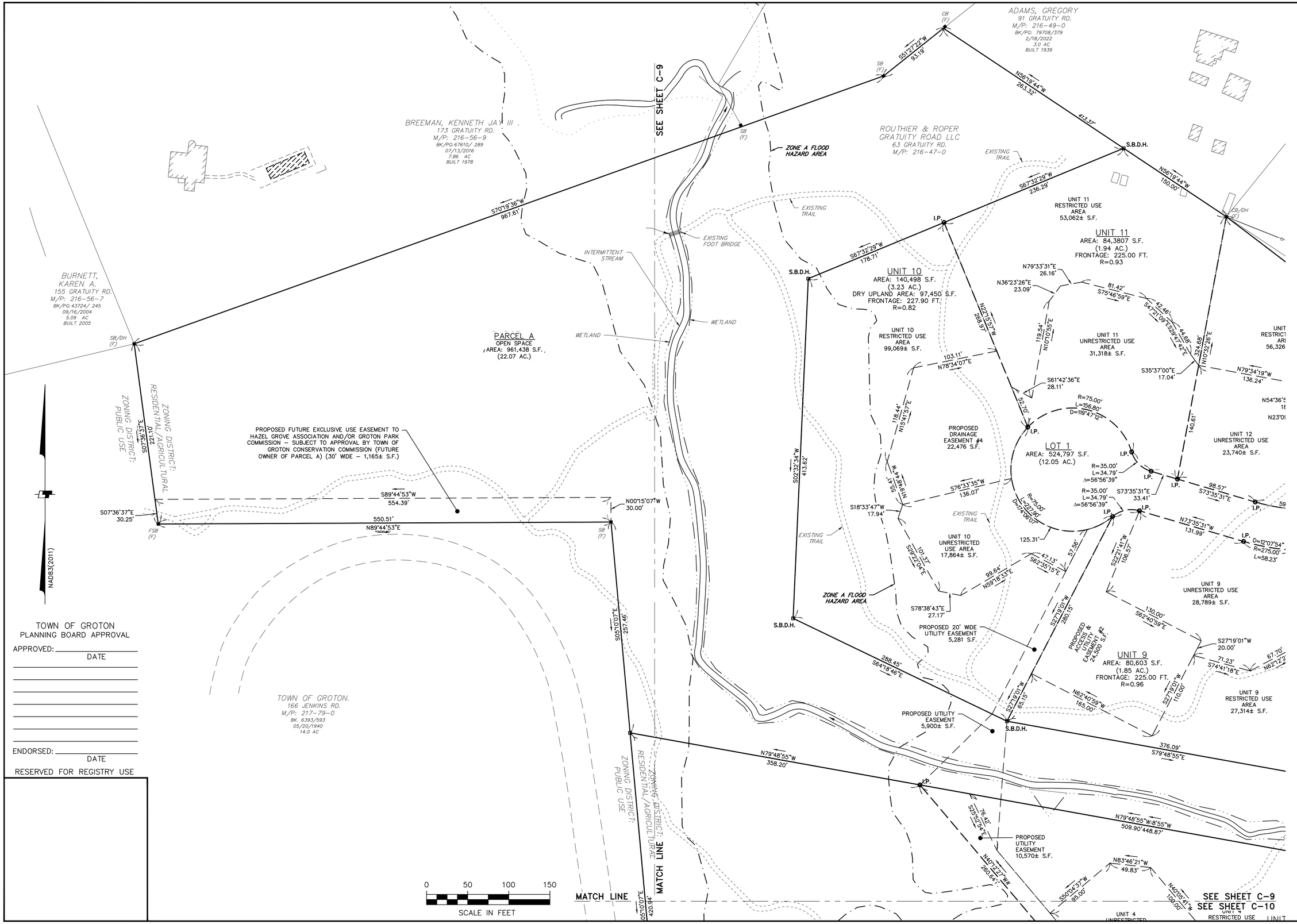
JOB NO.	DWG. NO.	SHEET
22-243	11142	C-10



TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____ DATE

ENDORSED: _____ DATE

RESERVED FOR REGISTRY USE

BY	REVISION	DATE
MJS	PEER REVIEW COMMENTS	4/15/25
MAW	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	1/13/25
MJS	PEER REVIEW COMMENTS	12/10/24

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
OPEN SPACE PLAN
63 GRATUITY ROAD
GROTON, MA

SCALE: 1" = 50'

AUGUST 12, 2024

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JOB NO.	DWG. NO.	SHEET
22-243	11142	C-11

RESERVED FOR REGISTRY USE

TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____ DATE

_____

_____

_____

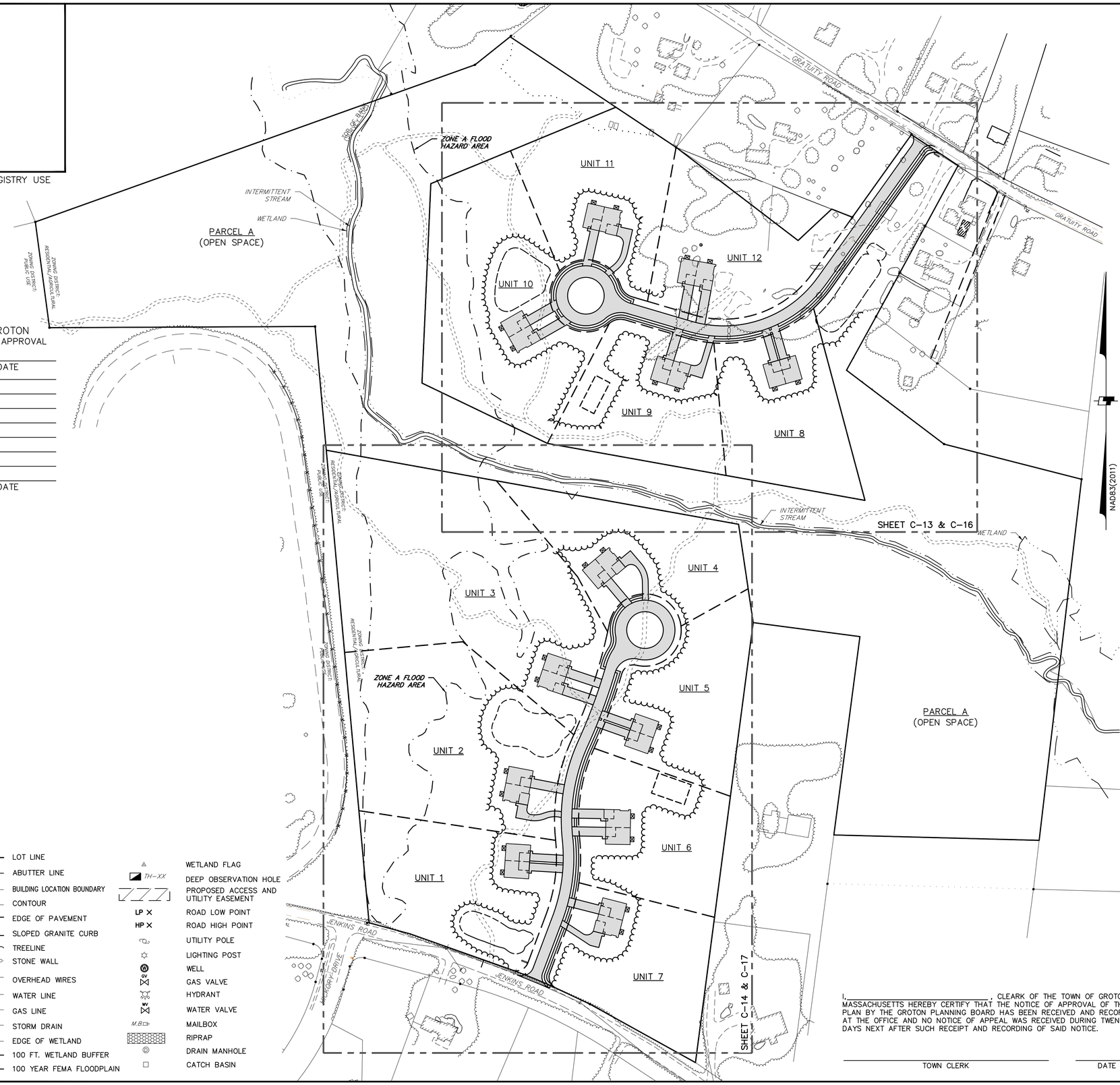
_____

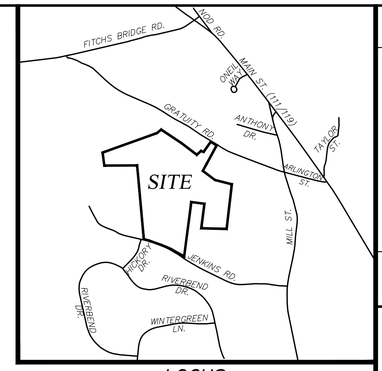
_____

_____

_____

ENDORSED: _____ DATE





LOCUS
SCALE: 1"= 1,200'

NOTES

1. DRIVEWAY WIDTHS SHALL BE NO LESS THAN TWELVE (12) FEET AND NO GREATER THAN THIRTY-SIX (36) FEET AT THE CURB OPENING.
2. ALL PLANT STOCK SHALL CONFORM TO ANSI Z260.1 – NURSERY STOCK, LATEST EDITION (AMERICAN ASSOCIATION OF NURSERYMEN, INC.).
3. NO TREES OR SHRUBS SHALL BE PLANTED AT THE STREET INTERSECTION WHERE THEY COULD BECOME A TRAFFIC HAZARD BY OBSTRUCTING VISION.
4. ALL TREES SHALL BE GUARANTEED BY THE DEVELOPER FOR THEIR ERECTNESS AND GOOD HEALTH FOR TWO (2) YEARS AFTER PLANTING.
5. THE LANDSCAPING SHOWN ON THE FINAL APPROVED PLAN SHALL BE MAINTAINED IN PERPETUITY BY THE FUTURE HOME-OWNERS ASSOCIATION. ANY DEAD VEGETATION SHALL BE REMOVED IMMEDIATELY AND REPLACED IN ACCORDANCE WITH THE SPECIFICATION ON PLAN.
6. ALL BOULDERS REMOVED FROM ANY EXISTING STONE WALLS ARE TO BE REUSED ON SITE AS LANDSCAPE FEATURES.
7. LAWN SEED MIX SHALL INCLUDE A MIXTURE OF 30% PERENNIAL RYEGRASS, 30% TALL FESCUE AND 40% KENTUCKY BLUEGRASS APPLIED AT A RATE OF 1.0 LBS/500 SF
8. SNOW STORAGE AREAS SHALL BE AS SHOWN ON THIS PLAN. ALL SNOW STORAGE SHALL REMAIN ADJACENT TO PAVED SURFACES. ALL DEBRIS WILL BE CLEARED FROM THE SNOW STORAGE AREAS AND PROPERLY DISPOSED OF AT THE END OF THE SNOW SEASON AND NO LATER THAN MAY 15.
9. OWNER SHALL MAINTAIN LANDSCAPE PLANTINGS TO ENSURE THE AESTHETIC APPEARANCE AND OVERALL PLANT HEALTHINESS IS RETAINED. THIS INCLUDES INSPECTING AND REPLACING PLANTINGS AS NECESSARY, WEEKLY MOWING AND MULCHING.
10. EXISTING TREE LINE TO BE RETAINED TO THE MAXIMUM EXTENT POSSIBLE.
11. UNLESS OTHERWISE NOTED, ALL OPEN AREAS ARE ASSUMED TO BE SEEDED WITH GRASS.
12. PROPOSED TREE TYPES AND SIZES ARE TO BE APPROVED BY THE GROTON PLANNING BOARD.
13. NO INVASIVE SPECIES ARE TO BE PLACED ON SITE.

THE LIMIT OF WORK SHOWN ON THIS PLAN INCLUDES AREAS UP TO THE LIMIT OF CLEARING (PROPOSED TREE LINES). THE LIMIT OF WORK SHOWN DOES NOT INCLUDE AREAS OF MINOR BRUSH CLEARING NECESSARY FOR THE INSTALLATION OF THE PROPOSED TRAIL CONNECTIONS.

I, _____, CLEARK OF THE TOWN OF GROTON, MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE GROTON PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THE OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN CLERK _____ DATE _____

LEGEND

- LOT LINE
- ABUTTER LINE
- BUILDING LOCATION BOUNDARY
- 232 CONTOUR
- EDGE OF PAVEMENT
- SGC SLOPED GRANITE CURB
- TREELINE
- STONE WALL
- OHW OVERHEAD WIRES
- W WATER LINE
- G GAS LINE
- D STORM DRAIN
- EDGE OF WETLAND
- 100 FT. WETLAND BUFFER
- 100 YEAR FEMA FLOODPLAIN
- WETLAND FLAG
- TH-XX DEEP OBSERVATION HOLE
- PROPOSED ACCESS AND UTILITY EASEMENT
- LP ROAD LOW POINT
- HP ROAD HIGH POINT
- UTILITY POLE
- LIGHTING POST
- W WELL
- GV GAS VALVE
- HYDRANT
- WV WATER VALVE
- M.B. MAILBOX
- RIPRAP
- DRAIN MANHOLE
- CATCH BASIN

0 100 200 300
SCALE IN FEET

BY	DATE	REVISION
MJS	12/10/24	PEER REVIEW COMMENTS
MJS	1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS
MAW	4/15/25	PEER REVIEW COMMENTS

COMMONWEALTH OF MASSACHUSETTS
MATTHEW A. WHITMAN
No. 49,868
REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN MJS | DRAFT MJS | CHECK MAW

GRATUITY BROOK FARM ESTATES
OVERALL SITE PLAN
63 GRATUITY ROAD
GROTON, MA

SCALE: 1"= 100'
AUGUST 12, 2024

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JOB NO. 22-243 | DWG. NO. 11142 | SHEET C-12

PLANTING KEY

PLANT CODE
PLANT QUANTITY (A / B)

PLANTING SCHEDULE

CODE	COMMON NAME (BOTANICAL NAME)	QUANTITY	ITEM	CALIPER	HEIGHT	SPREAD (PLANTING)	SPREAD (MATURE)
A	RED MAPLE (ACER RUBRUM)	6		3"	8'–10'	4'–6'	30'–50'
B	SWAMP WHITE OAK (QUERCUS BICOLOR)	5		3"	8'–10'	4'–6'	40'–60'

PARCEL A
(OPEN SPACE)
AREA: 961,438 S.F.
(22.07 AC.)

UNIT 11
AREA: 84,3807 S.F.
(1.94 AC.)
FRONTAGE: 225.00 FT.
R=0.93

UNIT 10
AREA: 140,498 S.F.
(3.23 AC.)
DRY UPLAND AREA: 97,450 S.F.
FRONTAGE: 227.90 FT.
R=0.82

LOT 1
AREA: 524,797 S.F.
(12.05 AC.)

UNIT 12
AREA: 80,083 S.F.
(1.84 AC.)
FRONTAGE= 520.69 FT.
R=0.75

UNIT 9
AREA: 80,603 S.F.
(1.85 AC.)
FRONTAGE: 225.00 FT.
R=0.96

UNIT 8
80,551 S.F.
(1.87 AC.)
FRONTAGE: 225.00 FT.
R=0.89

UNIT 4
AREA: 81,701
(1.88 AC.)
(CONTIGUOUS DRY)
AGE: 231.42 FT.
R=0.84

GERARD WAY

NATIVE MEADOW PLANTING AREA 38,000 S.F.±

NATIVE MEADOW PLANTING AREA 18,650 S.F.±

22.0' WIDE ROADWAY SURFACE

12' ENTRANCE ORNAMENTAL STONE WALL (SEE LANDSCAPE PLAN FOR PLANTING DESIGN)

STREET & STOP SIGNS

PROPOSED TRAIL CONNECTION

SEE LANDSCAPE PLAN FOR TYPICAL CUL–DE–SAC PLANTING PLAN

INFILTRATION BASIN

FIRE HYDRANT

CATCH BASIN (TYP.)

DRAIN MANHOLE (TYP.)

FLARED END SECTION (TYP.)

5' WIDE BITUMINOUS CONCRETE SIDEWALK

PROPOSED POST LIGHT (TYP. AT EACH DRIVEWAY)

PROPOSED 2,500 GALLON MONOLITIC SEPTIC TANK

PROPOSED PUMP CHAMBER

PROPOSED PRESBY ENVIRO–SEPTIC LEACH FIELD

PROPOSED 1,500 GALLON MONOLITIC SEPTIC TANK (TYPICAL AT EACH DUPLEX)

PROPOSED TRAIL CONNECTION

ZONE A FLOOD HAZARD AREA

100' WETLAND BUFFER

INTERMITTENT STREAM

WETLAND

BANK

FOOT BRIDGE

EXISTING TRAIL

STORAGE CONTAINERS

63 GRATUITY RD.
M/P: 216–47–0

MACGREGOR, TIMOTHY E.
61 GRATUITY RD.
M/P: 216–46–0
BK/PG: 24465/ 297
04/19/1994
0.38 AC
BUILT 2001

NEIVA, PABLO W. ANDRADE
57 GRATUITY RD.
M/P: 216–57–0
BK/PG: 64124/ 311
08/25/2014
0.5 AC
BUILT 1950

GAMESTER, MAYDELLE I.
55 GRATUITY RD.
M/P: 217–88–0
BK/PG: 25676/ 111
06/22/1995
0.5 AC
BUILT 1931

GAMESTER, MAYDELLE I.
GRATUITY RD.
M/P: 217–89–0
BK/PG: 25883/ 145
12/11/1995
1.51 AC

TH–101 TH–102 TH–103 TH–104 TH–201 TH–202 TH–1 TH–2 TH–3 TH–4

P–A P–B

MATCH LINE — SEE SHEET C–14

NOTES:

1. SEE MEADOW PLANTING DETAIL ON SHEET D–4 FOR NATIVE MEADOW PLANTING SEED MIX AND NOTES.

NAD83(2011)

0 40 80 120
SCALE IN FEET

RESERVED FOR REGISTRY USE

TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____ DATE

ENDORSED: _____ DATE

BY	REVISION	DATE
MJS	PEER REVIEW COMMENTS	4/15/25
MAW	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	1/13/25
MJS	PEER REVIEW COMMENTS	12/10/24

COMMONWEALTH OF MASSACHUSETTS — MATTHEW A. WERNER — No. 39218 — CIVIL — REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN MJS | DRAFT MJS | CHECK MAW

GRATUITY BROOK FARM ESTATES
SITE PLAN
63 GRATUITY ROAD
GROTON, MA

SCALE: 1" = 40' — AUGUST 12, 2024

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JOB NO. 22–243 | DWG. NO. 11142 | SHEET C–13

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PROPOSED 4' TALL BLACK VINYL COATED CHAIN LINK FENCE, L=1,000' (COORDINATE FINAL LOCATION WITH HAZEL GROVE AGRICULTURAL ASSOCIATION / GROTON PARK COMMISSION (PROVIDE 4" GAP AT BOTTOM TO ALLOW FOR WILDLIFE PASSAGE)

NAD83(2011)

HICKORY DRIVE

JENKINS ROAD

THERESE LANE

MATCH LINE

SEE SHEET C-13

ZONE A FLOOD HAZARD AREA

100' WETLAND BUFFER

EXISTING TRAIL

LOT 2
AREA: 815,225 S.F.
(18.71 AC.)

UNIT 1
AREA: 96,970 S.F.
(2.23 AC.)
(81,030 S.F. CONTIGUOUS DRY)
FRONTAGE: 615.84 FT.
R=0.98

UNIT 2
AREA: 145,039 S.F.
(3.33 AC.)
(80,124 S.F. CONTIGUOUS DRY)
FRONTAGE: 225.00 FT.
R=1.01

UNIT 3
AREA: 197,733 S.F.
(4.54 AC.)
(84,413 S.F. CONTIGUOUS DRY)
FRONTAGE: 225.00 FT.
R=0.84

UNIT 4
AREA: 81,701
(1.88 AC.)
(81,498 S.F. CONTIGUOUS DRY)
FRONTAGE: 231.42 FT.
R=0.64

UNIT 5
AREA: 90,122 S.F.
(2.07 AC.)
FRONTAGE: 347.83 FT.
R=0.83

UNIT 6
AREA: 80,194 S.F.
FRONTAGE: 283.48 FT.
R=1.01

UNIT 7
AREA: 80,012 S.F.
(1.84 AC.)
FRONTAGE: 562.15 FT.
R=0.96

ROUTHIER & ROPER GRATUITY ROAD LLC
63 GRATUITY RD.
M/P: 216-47-0

TAISEY FAMILY NOMINEE TRUST
OFF: RIVERBEND DR.
M/P: 217-6-0
BK./PG: 17844/ 582
02/05/1987
21.74 AC.
VACANT LAND

PROPOSED FIRE HYDRANT

12' ENTRANCE ORNAMENTAL STONE WALL (SEE LANDSCAPE PLAN FOR PLANTING DESIGN)

RAIN GUARDIAN TURRET PRETREATMENT UNIT

STREET & STOP SIGNS

FLARED END SECTION (TYP.)

CATCH BASIN (TYP.)

DRAIN MANHOLE (TYP.)

INFILTRATION BASIN

DRIVEWAY

5' WIDE BITUMINOUS CONCRETE SIDEWALK

PROPOSED 2,500 GALLON MONOLITIC SEPTIC TANK

PROPOSED PUMP CHAMBER

PROPOSED 2,000 GALLON MONOLITIC SEPTIC TANK

PROPOSED PRESBY ENVIRO-SEPTIC LEACH FIELD

SEE LANDSCAPE PLAN FOR TYPICAL CUL-DE-SAC PLANTING PLAN

PROPOSED TRAIL CONNECTION

PROPOSED POST LIGHT (TYP. AT EACH DRIVEWAY)

FIRE HYDRANT

PROPOSED 1,500 GALLON MONOLITIC SEPTIC TANK (TYPICAL AT EACH DUPLEX)

INTERMITTENT STREAM

WETLAND

BANK

FOOT BRIDGE

PLANTING SCHEDULE

CODE	COMMON NAME (BOTANICAL NAME)	QUANTITY	ITEM	CALIPER	HEIGHT	SPREAD (PLANTING)	SPREAD (MATURE)
A	RED MAPLE (ACER RUBRUM)	5	6	3"	8'-10'	4'-6'	30'-50'
B	SWAMP WHITE OAK (QUERCUS BICOLOR)	4	4	3"	8'-10'	4'-6'	40'-60'

PLANTING KEY
PLANT CODE
PLANT QUANTITY (A/7)

SCALE IN FEET: 0, 40, 80, 120

BY	REVISION	DATE
MJS	PEER REVIEW COMMENTS	12/10/24
MJS	PB/PEER REVIEW COMMENTS & UPDATE FLOODPLAIN	1/13/25
MAW	PEER REVIEW COMMENTS	4/15/25

MATTHEW A. WHITMAN No. 49,868 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN MJS | DRAFT MJS | CHECK MAW

GRATUITY BROOK FARM ESTATES
SITE PLAN
63 GRATUITY ROAD
GROTON, MA

SCALE: 1" = 40' | AUGUST 12, 2024

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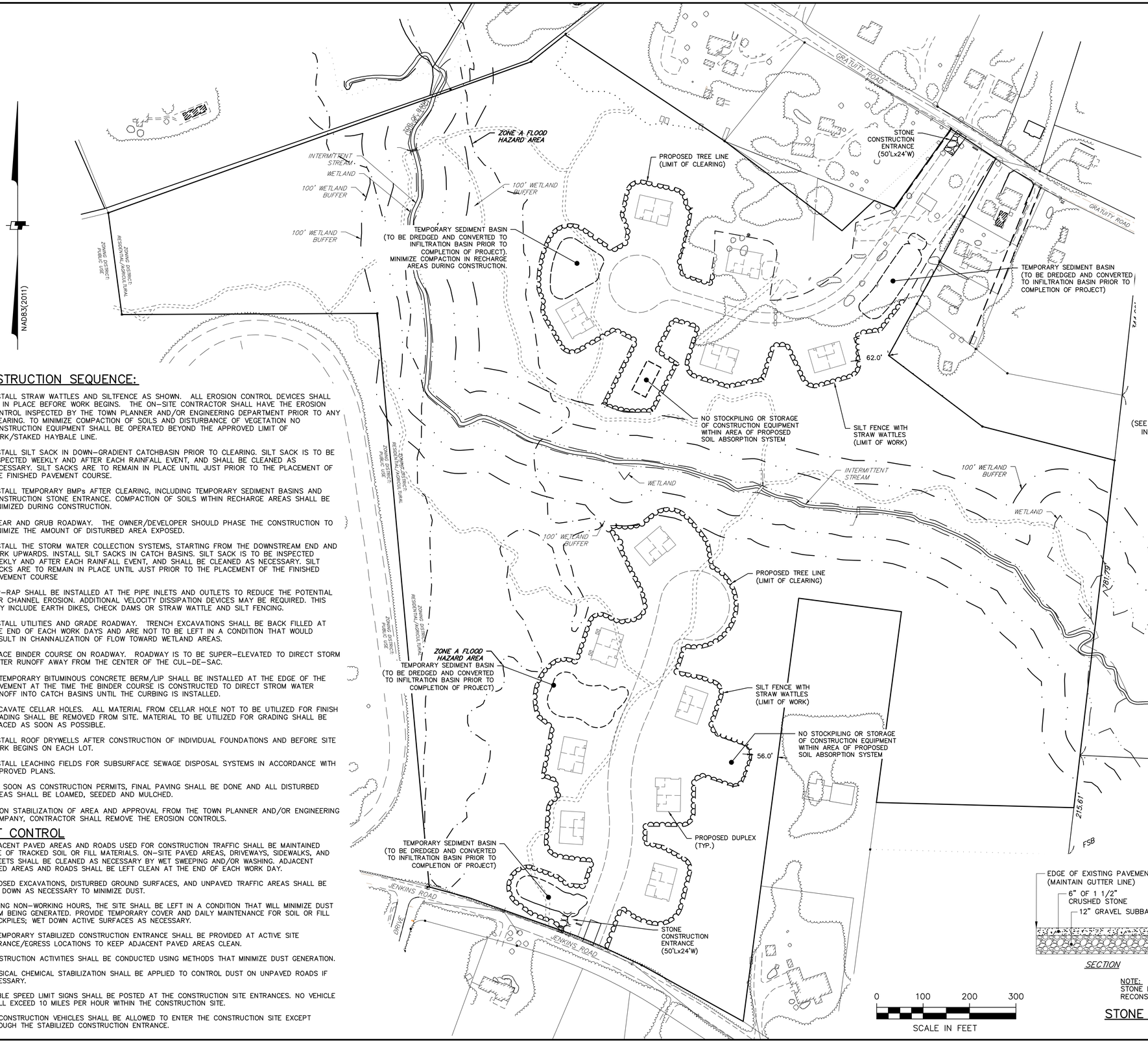
JOB NO. 22-243 | DWG. NO. 11142 | SHEET C-14

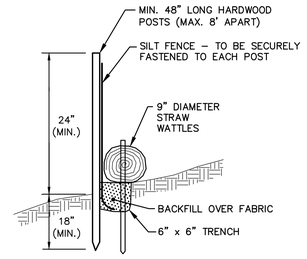


CONSTRUCTION SEQUENCE:

1. INSTALL STRAW WATTLES AND SILTFENCE AS SHOWN. ALL EROSION CONTROL DEVICES SHALL BE IN PLACE BEFORE WORK BEGINS. THE ON-SITE CONTRACTOR SHALL HAVE THE EROSION CONTROL INSPECTED BY THE TOWN PLANNER AND/OR ENGINEERING DEPARTMENT PRIOR TO ANY CLEARING. TO MINIMIZE COMPACTION OF SOILS AND DISTURBANCE OF VEGETATION NO CONSTRUCTION EQUIPMENT SHALL BE OPERATED BEYOND THE APPROVED LIMIT OF WORK/STAKED HAYBALE LINE.
2. INSTALL SILT SACK IN DOWN-GRADIENT CATCHBASIN PRIOR TO CLEARING. SILT SACK IS TO BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT, AND SHALL BE CLEANED AS NECESSARY. SILT SACKS ARE TO REMAIN IN PLACE UNTIL JUST PRIOR TO THE PLACEMENT OF THE FINISHED PAVEMENT COURSE.
3. INSTALL TEMPORARY BMPs AFTER CLEARING, INCLUDING TEMPORARY SEDIMENT BASINS AND CONSTRUCTION STONE ENTRANCE. COMPACTION OF SOILS WITHIN RECHARGE AREAS SHALL BE MINIMIZED DURING CONSTRUCTION.
4. CLEAR AND GRUB ROADWAY. THE OWNER/DEVELOPER SHOULD PHASE THE CONSTRUCTION TO MINIMIZE THE AMOUNT OF DISTURBED AREA EXPOSED.
5. INSTALL THE STORM WATER COLLECTION SYSTEMS, STARTING FROM THE DOWNSTREAM END AND WORK UPWARDS. INSTALL SILT SACKS IN CATCH BASINS. SILT SACK IS TO BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT, AND SHALL BE CLEANED AS NECESSARY. SILT SACKS ARE TO REMAIN IN PLACE UNTIL JUST PRIOR TO THE PLACEMENT OF THE FINISHED PAVEMENT COURSE
6. RIP-RAP SHALL BE INSTALLED AT THE PIPE INLETS AND OUTLETS TO REDUCE THE POTENTIAL FOR CHANNEL EROSION. ADDITIONAL VELOCITY DISSIPATION DEVICES MAY BE REQUIRED. THIS MAY INCLUDE EARTH DIKES, CHECK DAMS OR STRAW WATTLE AND SILT FENCING.
7. INSTALL UTILITIES AND GRADE ROADWAY. TRENCH EXCAVATIONS SHALL BE BACK FILLED AT THE END OF EACH WORK DAYS AND ARE NOT TO BE LEFT IN A CONDITION THAT WOULD RESULT IN CHANNALIZATION OF FLOW TOWARD WETLAND AREAS.
8. PLACE BINDER COURSE ON ROADWAY. ROADWAY IS TO BE SUPER-ELEVATED TO DIRECT STORM WATER RUNOFF AWAY FROM THE CENTER OF THE CUL-DE-SAC.
9. A TEMPORARY BITUMINOUS CONCRETE BERM/LIP SHALL BE INSTALLED AT THE EDGE OF THE PAVEMENT AT THE TIME THE BINDER COURSE IS CONSTRUCTED TO DIRECT STROM WATER RUNOFF INTO CATCH BASINS UNTIL THE CURBING IS INSTALLED.
10. EXCAVATE CELLAR HOLES. ALL MATERIAL FROM CELLAR HOLE NOT TO BE UTILIZED FOR FINISH GRADING SHALL BE REMOVED FROM SITE. MATERIAL TO BE UTILIZED FOR GRADING SHALL BE PLACED AS SOON AS POSSIBLE.
11. INSTALL ROOF DRYWELLS AFTER CONSTRUCTION OF INDIVIDUAL FOUNDATIONS AND BEFORE SITE WORK BEGINS ON EACH LOT.
12. INSTALL LEACHING FIELDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS IN ACCORDANCE WITH APPROVED PLANS.
13. AS SOON AS CONSTRUCTION PERMITS, FINAL PAVING SHALL BE DONE AND ALL DISTURBED AREAS SHALL BE LOAMED, SEEDED AND MULCHED.
14. UPON STABILIZATION OF AREA AND APPROVAL FROM THE TOWN PLANNER AND/OR ENGINEERING COMPANY, CONTRACTOR SHALL REMOVE THE EROSION CONTROLS.

DUST CONTROL

1. ADJACENT PAVED AREAS AND ROADS USED FOR CONSTRUCTION TRAFFIC SHALL BE MAINTAINED FREE OF TRACKED SOIL OR FILL MATERIALS. ON-SITE PAVED AREAS, DRIVEWAYS, SIDEWALKS, AND STREETS SHALL BE CLEANED AS NECESSARY BY WET SWEEPING AND/OR WASHING. ADJACENT PAVED AREAS AND ROADS SHALL BE LEFT CLEAN AT THE END OF EACH WORK DAY.
2. EXPOSED EXCAVATIONS, DISTURBED GROUND SURFACES, AND UNPAVED TRAFFIC AREAS SHALL BE WET DOWN AS NECESSARY TO MINIMIZE DUST.
3. DURING NON-WORKING HOURS, THE SITE SHALL BE LEFT IN A CONDITION THAT WILL MINIMIZE DUST FROM BEING GENERATED. PROVIDE TEMPORARY COVER AND DAILY MAINTENANCE FOR SOIL OR FILL STOCKPILES; WET DOWN ACTIVE SURFACES AS NECESSARY.
4. A TEMPORARY STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROVIDED AT ACTIVE SITE ENTRANCE/EGRESS LOCATIONS TO KEEP ADJACENT PAVED AREAS CLEAN.
5. CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED USING METHODS THAT MINIMIZE DUST GENERATION.
6. PHYSICAL CHEMICAL STABILIZATION SHALL BE APPLIED TO CONTROL DUST ON UNPAVED ROADS IF NECESSARY.
7. VISIBLE SPEED LIMIT SIGNS SHALL BE POSTED AT THE CONSTRUCTION SITE ENTRANCES. NO VEHICLE SHALL EXCEED 10 MILES PER HOUR WITHIN THE CONSTRUCTION SITE.
8. NO CONSTRUCTION VEHICLES SHALL BE ALLOWED TO ENTER THE CONSTRUCTION SITE EXCEPT THROUGH THE STABILIZED CONSTRUCTION ENTRANCE.

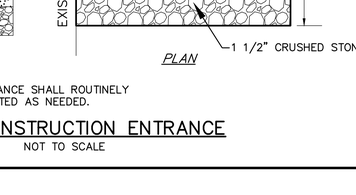


NOTE:
WATTLES SHALL BE STAKED A MINIMUM OF 24 INCHES INTO THE GROUND WITH 2 INCHES OR LESS OF STAKE EXPOSED ABOVE WATTLE. STAKE SHALL BE A MAXIMUM OF 4 FEET APART AND WITHIN 2 FEET OF END OF WATTLE SECTIONS.

1. THE STRAW WATTLES CAN BE ORDERED ONLINE AT: WWW.NEWP.COM. THE COMPANY CAN BE REACHED AT:
   NEW ENGLAND WETLAND PLANTS, INC.
   820 WEST STREET
   AMHERST, MA 01002
   TEL: 1-413-548-8000
   FAX: 1-413-549-4000

SILT FENCE & STRAW WATTLES

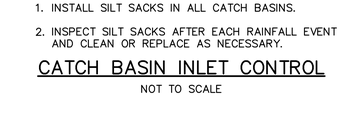
NOT TO SCALE



STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET.
STOCKPILE SLOPES MUST BE 3:1 OR FLATTER.

STOCKPILE DETAIL

NOT TO SCALE



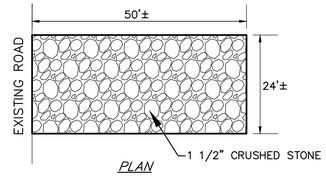
SECTION

1. INSTALL SILT SACKS IN ALL CATCH BASINS.
2. INSPECT SILT SACKS AFTER EACH RAINFALL EVENT AND CLEAN OR REPLACE AS NECESSARY.

CATCH BASIN INLET CONTROL

NOT TO SCALE

SECTION



PLAN

NOTE:
STONE ENTRANCE SHALL ROUTINELY RECONSTRUCTED AS NEEDED.

STONE CONSTRUCTION ENTRANCE

NOT TO SCALE

BY	DATE	REVISION
MAW	4/15/25	PEER REVIEW COMMENTS

MATTHEW A. WHELAN
No. 49284
CIVIL
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
EROSION CONTROL PLAN
63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024

SCALE: 1" = 100'

LandTech Consultants
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JOB NO.	DWG. NO.	SHEET
22-243	11142	C-15

RESERVED FOR REGISTRY USE

TOWN OF GROTON
PLANNING BOARD APPROVAL

APPROVED: _____ DATE

_____

_____

_____

_____

_____

_____

_____

ENDORSED: _____ DATE

BY	DATE	REVISION
MJS	12/10/24	PEER REVIEW COMMENTS
MAW	4/15/25	PEER REVIEW COMMENTS
MJS	1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS

COMMONWEALTH OF MASSACHUSETTS — MATTHEW A. WOLFSON — No. 38187 — REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN MJS | DRAFT MJS | CHECK MAW

GRATUITY BROOK FARM ESTATES
GRADING AND DRAINAGE PLAN
63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024

SCALE: 1" = 40'

PARCEL A
(OPEN SPACE)
AREA: 961,438 S.F.
(22.07 AC.)

UNIT 10
AREA: 140,498 S.F.
(3.23 AC.)
DRY UPLAND AREA: 97,450 S.F.
FRONTAGE: 227.90 FT.
R=0.82

LOT 1
AREA: 524,797 S.F.
(12.05 AC.)

UNIT 11
AREA: 84,3807 S.F.
(1.94 AC.)
FRONTAGE: 225.00 FT.
R=0.93

UNIT 12
AREA: 80,083 S.F.
(1.84 AC.)
FRONTAGE: 520.69 FT.
R=0.75

UNIT 9
AREA: 80,603 S.F.
(1.85 AC.)
FRONTAGE: 225.00 FT.
R=0.96

UNIT 8
80,551 S.F.
(1.87 AC.)
FRONTAGE: 225.00 FT.
R=0.89

UNIT 4
AREA: 81,701
(1.88 AC.)
C. CONTIGUOUS DRY)
AGE: 231.42 FT.
R=0.64

63 GRATUITY RD.
M/P: 216-47-0

M/P: 216-48-0
BK/PG: 80761/189
9/20/2022
1.80 AC
BUILT 1944

MACGREGOR, TIMOTHY E.
61 GRATUITY RD.
M/P: 216-46-0
BK/PG: 24465/ 297
04/19/1994
0.38 AC
BUILT 2001

NEIVA, PABLO W. ANDRADE
57 GRATUITY RD.
M/P: 216-57-0
BK/PG: 64124/ 331
08/25/2014
0.5 AC
BUILT 1950

GAMESTER, MAYDELLE
55 GRATUITY RD.
M/P: 217-88-0
BK/PG: 25676/ 111
09/22/1988
0.5 AC
BUILT 1931

PERIMETER DRAIN 120'Lx3'Wx2'D

PERIMETER DRAIN 130'Lx3'Wx2'D

PERIMETER DRAIN 102'Lx3'Wx2'D

PERIMETER DRAIN 130'Lx3'Wx2'D

FF=221.0 TOF=219.5 BS=211.8 GS=218.0

FF=221.5 TOF=220.0 BS=212.3 GS=218.5

FF=224.5 TOF=223.0 BS=215.3 GS=221.5

FF=224.5 TOF=223.0 BS=215.3 GS=221.5

FF=223.5 TOF=222.0 BS=214.3 GS=221.5

SEDIMENT FOREBAY #4
TOP=214.00
BOTTOM=211.50
OVERFLOW WEIR=213.00

INFILTRATION BASIN #4
TOP=214.00
BOTTOM=211.50

CB-8
(CDS SEPARATOR WITH GRATE INLET)
RIM=215.50
INV.=212.50

CB-7
(CDS SEPARATOR WITH GRATE INLET)
RIM=215.50
INV.=212.50

WICKING TRENCH

FES
INV=211.70

OVERFLOW WEIR
ELEV.=213.00

12" RCP
L=60'
S=1.3%

15" RCP
L=80'
S=1.0%

4" PVC
L=176'
S=1.0%

1,500 GAL. SEPTIC TANK
INV.IN=215.21
INV.OUT=214.96

2,500 GAL. MONOLITHIC SEPTIC TANK
INV.IN=212.60
INV.OUT=212.35

PUMP CHAMBER
INV.IN=212.25
INV.OUT=212.00

1,500 GAL. SEPTIC TANK
INV.IN=215.23
INV.OUT=214.98

4" PVC
L=148', S=1.2%

1,500 GAL. SEPTIC TANK
INV.IN=217.50
INV.OUT=217.25

1,500 GAL. SEPTIC TANK
INV.IN=217.50
INV.OUT=217.25

1,500 GAL. SEPTIC TANK
INV.IN=217.50
INV.OUT=217.25

PROPOSED ENVIRO-SEPTIC LEACH FIELD
3 SECTIONS, 7 LINES PER SECTION

WATER VALVE (TYP.)

SMH-3
RIM=217.75
INV=213.20
INV=213.20

SMH-2
RIM=219.42
INV=214.36
INV=214.36

SMH-1
RIM=220.23
INV=215.20

4" PVC
L=65'
S=4.2%

4" PVC
L=63'
S=4.9%

4" PVC
L=103'
S=2.0%

8" PVC 117'@1.0%

8" PVC 85'@1.0%

8" PVC 80'@1.0%

PROPOSED 8" DI WATER MAIN

PROPOSED 8" DI WATER MAIN TO BE CONNECTED TO EXISTING WATER MAIN IN GRATUITY ROAD (SEE NOTE #2)

PROPOSED 8" DI WATER MAIN

PROPOSED 8" SDR-11 WATER MAIN

SEE DIRECTIONAL DRILLING PLAN PREPARED UNDER A SEPARATE COVER (SEE NOTE 1)

PROPOSED UNDERGROUND ELECTRIC, TELEPHONE, & CABLE LINES

CB-6
RIM=217.60
INV.=214.60
12" RCP, L=8', S=1.0%

DMH-3
RIM=217.70
INV.IN(2)=214.50
INV.OUT=214.40

CB-5
RIM=217.60
INV.=214.60
15" RCP, L=20', S=1.0%

CDS SEPARATOR #3
RIM=218.10
INV.IN=214.20
INV.OUT=214.10
15" RCP, L=15', S=1.0%

FES
INV.=213.95

SEDIMENT FOREBAY #3
TOP=215.50
BOTTOM=213.50
OVERFLOW WEIR=214.50

INFILTRATION BASIN #3
TOP=215.50
BOTTOM=213.50

WICKING TRENCH

OVERFLOW WEIR
ELEV.=214.50

BENCHMARK (MAG. NAIL)
EL.=215.38

GERARD WAY

JENKINS ROAD

TH-101 TH-102 TH-104 TH-201 TH-202

100' WETLAND BUFFER

WETLAND

BANK

INTERMITTENT STREAM

EXISTING TRAIL

FOOT BRIDGE

DEBRIS

STORAGE CONTAINERS

12" WOOD POST

NOTES

1. THE CONTRACTOR SHALL SUBMIT TO THE TOWN FOR APPROVAL SHOP DRAWINGS AND WATERLINE CONNECTION PLAN DETAILING DIRECTIONAL DRILLING AND WATERLINE CONNECTIONS IN JENKINS ROAD AND GRATUITY ROAD PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO VERIFY LOCATION OF WATER MAINS IN GRATUITY ROAD AND HICKORY DRIVE PRIOR TO SUBMITTING WATERLINE CONNECTION PLANS.

FILL MATERIAL NOTES

1. GRANULAR FILL SHALL BE USE BELOW BASE COURSE UNDER PAVEMENT AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	PERCENT FINER BY WEIGHT
3 Inch	100
No. 10	30–95
No. 40	10–70
No. 200	0–8

2. COMMON FILL MAY BE USED IN AREAS OUTSIDE OF ROADWAY AND SHALL BE COMPRISED OF CLEAN SANDS AND GRAVELS FREE OF SILT, CLAY, LOAM, FRIABLE OR SOLUBLE MATERIALS, FROZEN MATERIALS, AND STONES LARGER THAN 6 INCH MAXIMUM DIMENSION, AND SHALL CONFORM TO THE FOLLOWING GRADATION REQUIREMENTS:
   a. IT SHALL BE OF SUCH NATURE AND CHARACTER THAT IT CAN BE PLACED IN EMBANKMENTS AND COMPACTED TO THE SPECIFIED DENSITY IN A REASONABLE LENGTH OF TIME.
   b. IT SHALL BE FREE FROM HIGHLY PLASTIC CLAYS, FROM ALL MATERIALS SUBJECT TO DECAY, DECOMPOSITION, OR DISSOLUTION AND FROM CINDERS OR OTHER MATERIALS WHICH WILL CORRODE PIPING OR OTHER METALS.
   c. IT SHALL HAVE A MAXIMUM DRY DENSITY OF NOT LESS THAN 100 LBS. PER CUBIC FOOT.
   d. MATERIAL FROM EXCAVATION ON THE SITE MAY BE USED AS COMMON FILL IF IT MEETS THE ABOVE REQUIREMENTS, CAN BE COMPACTED TO THE SPECIFIED DENSITIES, AND IS APPROVED BY THE ENGINEER.
3. PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED COMPACTION EQUIPMENT.
4. PERCENTAGE OF MAXIMUM DRY DENSITY REQUIREMENTS: COMPACT SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D1557:
   a. UNDER PAVEMENTS AND PARKING AREAS: COMPACT THE TOP 12 INCHES BELOW EXCAVATED SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL TO 95 PERCENT MAXIMUM DRY DENSITY.
   b. UNDER LAWN OR UNPAVED AREAS, COMPACT THE TOP 6 INCHES BELOW SUBGRADE AND EACH LAYER OF BACKFILL OR FILL MATERIAL AT 90 PERCENT MAXIMUM DRY DENSITY.

NAD83(2011)

0 40 80 120
SCALE IN FEET

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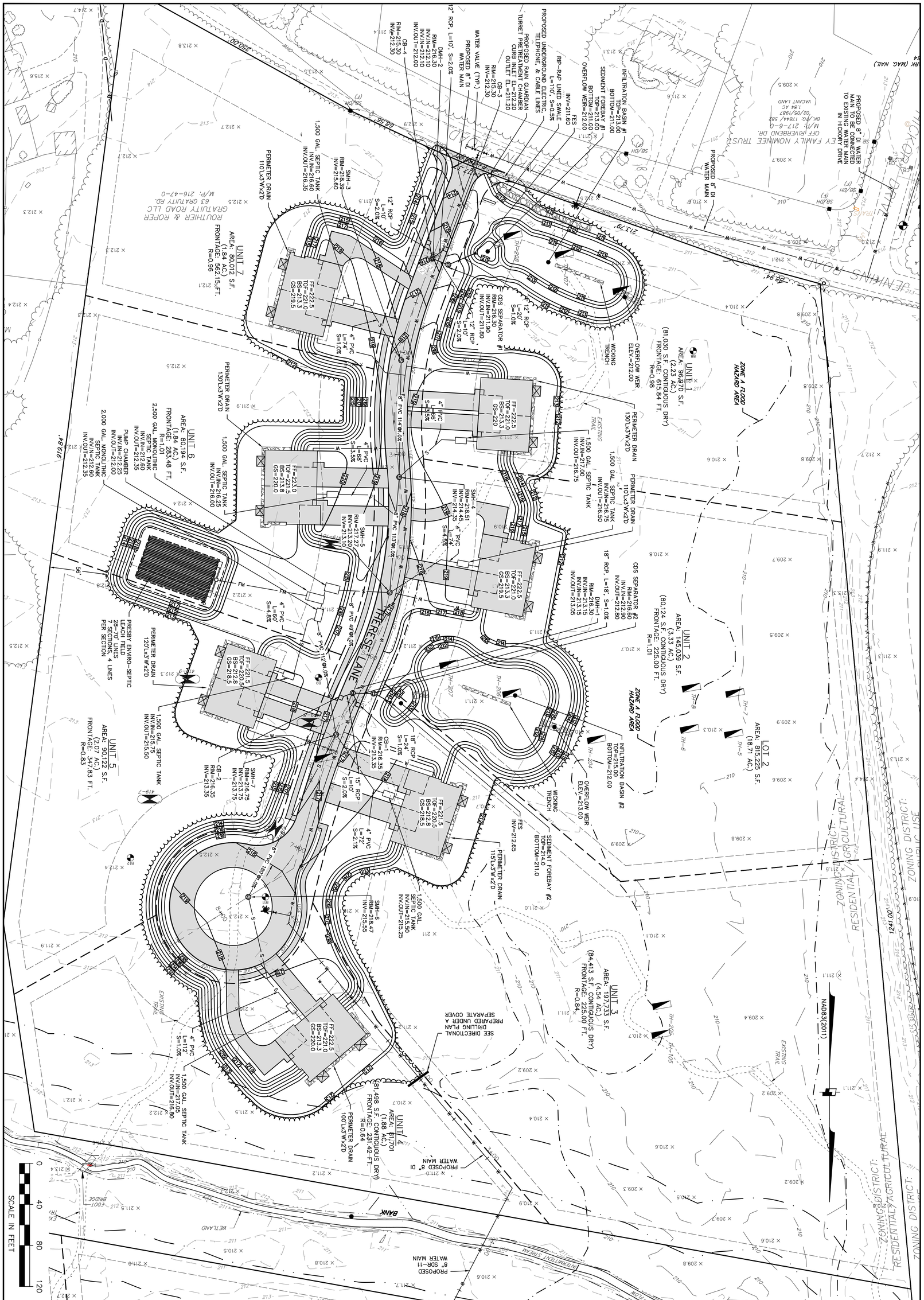
GRATUITY BROOK FARM ESTATES
GRADING AND DRAINAGE PLAN
63 GRATUITY ROAD
GROTON, MA
SCALE: 1"= 40'
AUGUST 12, 2024
PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460
DESIGN MJS
DRAFT MJS
CHECK MAW
JOB NO. 22-243
DWG. NO. 11142
SHEET C-17
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4/15/25 PEER REVIEW COMMENTS MAW
1/13/25 UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS MJS
12/10/24 PEER REVIEW COMMENTS MJS
DATE REVISION BY
MATTHEW A. WATERMAN CIVIL No. 55666
SCALE IN FEET
0 40 80 120
UNIT 1 AREA: 96,970 S.F. (2.23 AC.) (81,030 S.F. CONTIGUOUS DRY) FRONTAGE: 615.84 FT. R=0.98
UNIT 2 AREA: 145,039 S.F. (3.33 AC.) (80,124 S.F. CONTIGUOUS DRY) FRONTAGE: 225.00 FT. R=1.01
UNIT 3 AREA: 197,733 S.F. (4.54 AC.) (84,413 S.F. CONTIGUOUS DRY) FRONTAGE: 225.00 FT. R=0.84
UNIT 4 AREA: 87,701 S.F. (2.01 AC.) (81,498 S.F. CONTIGUOUS DRY) FRONTAGE: 231.42 FT. R=0.64
UNIT 5 AREA: 90,122 S.F. (2.07 AC.) FRONTAGE: 347.83 FT. R=0.83
UNIT 6 AREA: 80,194 S.F. (1.84 AC.) FRONTAGE: 283.48 FT. R=1.01
UNIT 7 AREA: 80,012 S.F. (1.84 AC.) FRONTAGE: 562.15 FT. R=0.96
LOT 2 AREA: 815,225 S.F. (18.71 AC.)
ZONE A FLOOD HAZARD AREA
ZONING DISTRICT: RESIDENTIAL/AGRICULTURAL
THERESE LANE
GRATUITY ROAD
JENNINGS ROAD
HICKORY DRIVE
PROPOSED 8" DI WATER MAIN TO BE CONNECTED TO EXISTING WATER MAIN IN HICKORY DRIVE
SEE DIRECTIONAL DRILLING PLAN PREPARED UNDER A SEPARATE COVER
PROPOSED 8" DI WATER MAIN
PROPOSED 8" SDR-11 WATER MAIN
NAD83(2011)
1241.00' M
BANK
WETLAND
INTERMITTENT STREAM
EXISTING TRAIL
PERIMETER DRAIN 110'Lx3'Wx2'D
PERIMETER DRAIN 130'Lx3'Wx2'D
PERIMETER DRAIN 120'Lx3'Wx2'D
PERIMETER DRAIN 115'Lx3'Wx2'D
PERIMETER DRAIN 100'Lx3'Wx2'D
1,500 GAL SEPTIC TANK
2,000 GAL MONOLITHIC SEPTIC TANK
PUMP CHAMBER
PRESBY ENVIRO-SEPTIC LEACH FIELD 28-70' LINES PER SECTION + LINES
WICKING TRENCH
OVERFLOW WEIR
SEDIMENT FOREBAY #1
SEDIMENT FOREBAY #2
INFILTRATION BASIN #1
INFILTRATION BASIN #2
CDS SEPARATOR #1
CDS SEPARATOR #2
RIP-RAP UNDER DRAIN OUTLET
PROPOSED RAIN GUARDIAN TURRET PRETREATMENT CHAMBER
PROPOSED UNDERGROUND ELECTRIC, TELEPHONE, & CABLE LINES
WATER VALVE (TYP.)
PROPOSED 8" DI WATER MAIN
12" RCP, L=10', S=2.0%
DMH-2
CB-3
CB-4
FES
SMH-3
SMH-4
SMH-5
SMH-6
SMH-7
CB-1
CB-2
DMH-1
18" RCP, L=24', S=1.0%
18" RCP, L=18', S=1.0%
15" RCP, L=10', S=2.0%
12" RCP, L=20', S=1.0%
12" RCP, L=10', S=2.0%
8" PVC, L=119', S=1.0%
8" PVC, L=49', S=1.0%
8" PVC, L=137', S=1.0%
4" PVC, L=74', S=1.0%
4" PVC, L=68', S=3.5%
4" PVC, L=166', S=4.5%
4" PVC, L=72', S=4.5%
4" PVC, L=60', S=4.5%
4" PVC, L=72', S=2.1%
4" PVC, L=112', S=1.0%
TH-1
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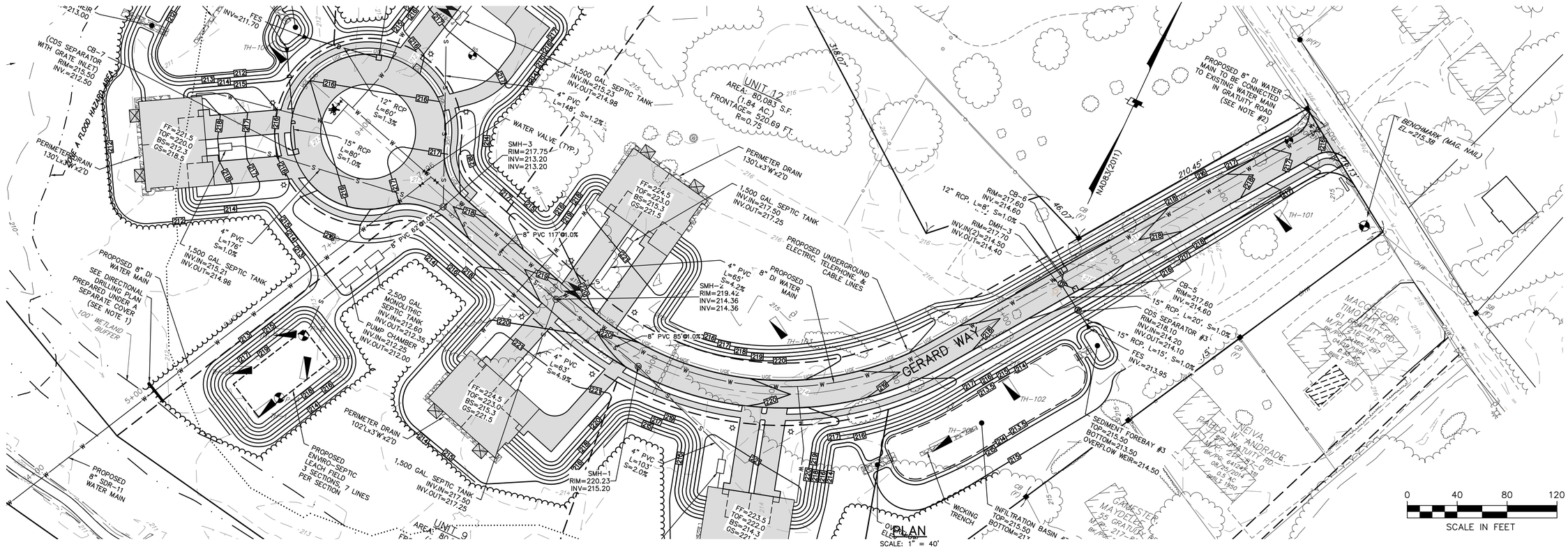
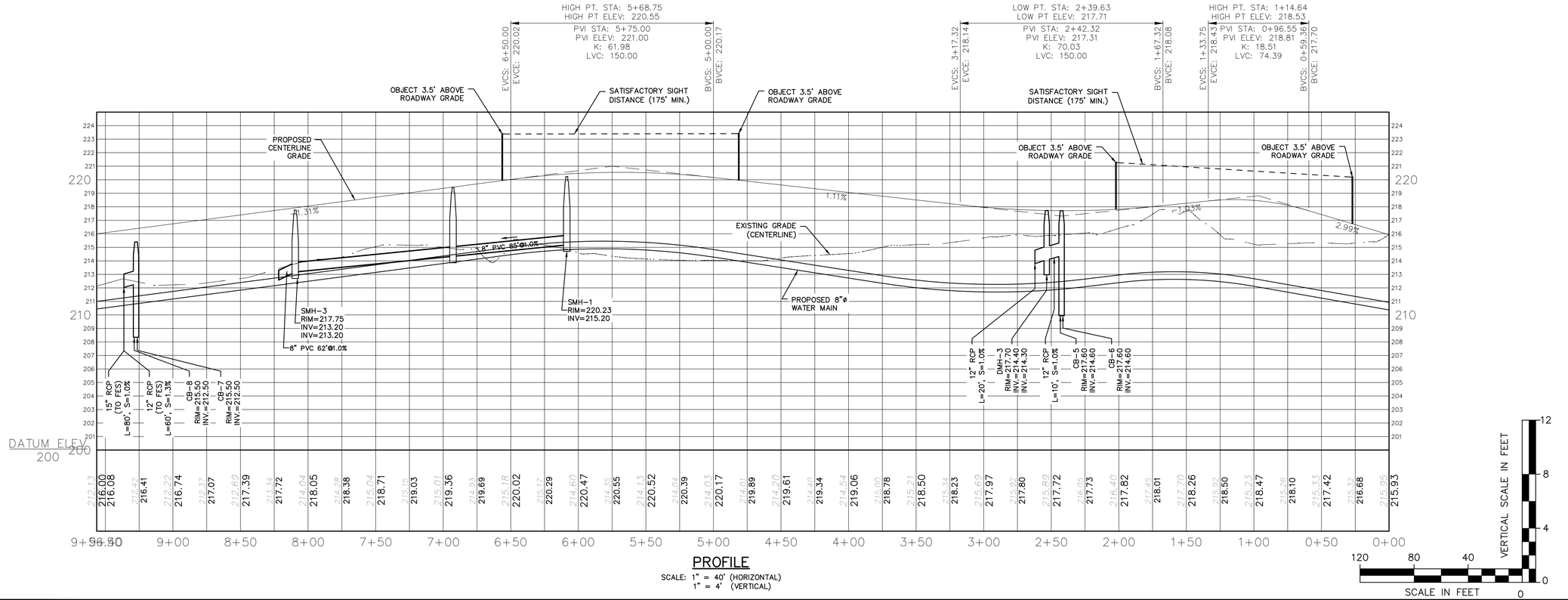


PLAN
SCALE: 1" = 40'



PROFILE
SCALE: 1" = 40' (HORIZONTAL)
1" = 4' (VERTICAL)

BY	DATE	REVISION
MJS	12/10/24	PEER REVIEW COMMENTS
MJS	1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS
MAW	4/15/25	PEER REVIEW COMMENTS

COMMONWEALTH OF MASSACHUSETTS
MATTHEW A. WOLFSON
No. 60,888
REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

AUGUST 12, 2024

GRATUITY BROOK FARM ESTATES
PLAN + PROFILE
63 GRATUITY ROAD
GROTON, MA

SCALE: 1" = 40'

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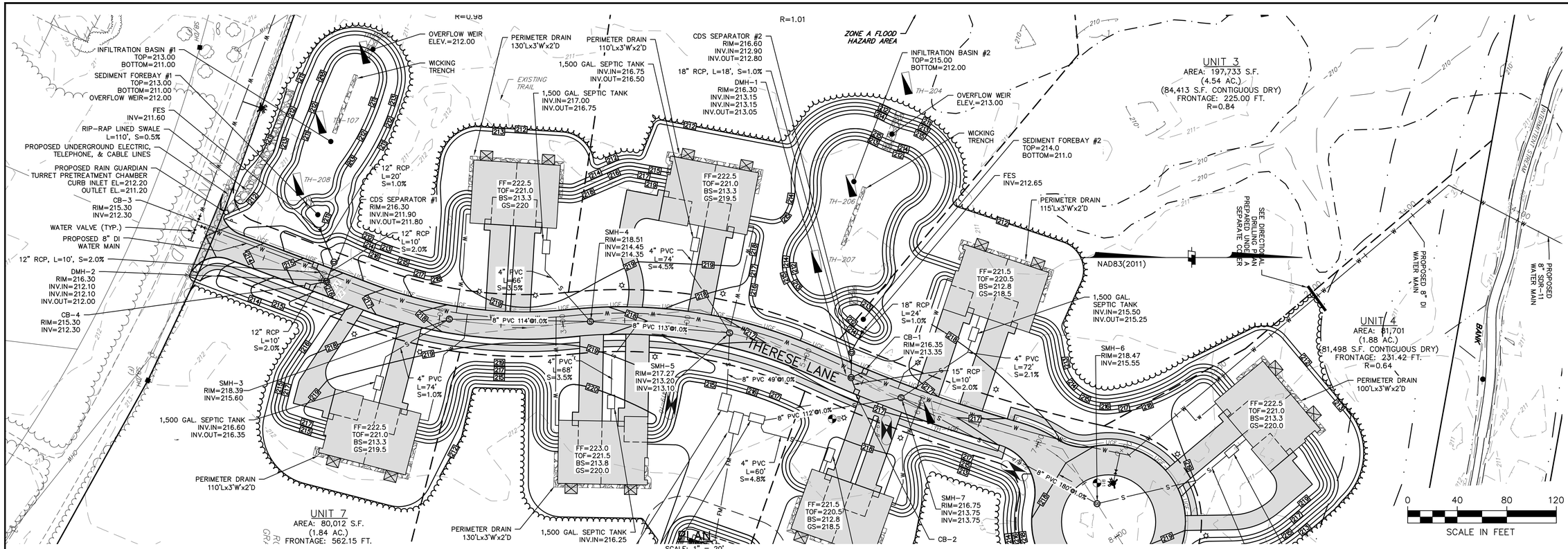
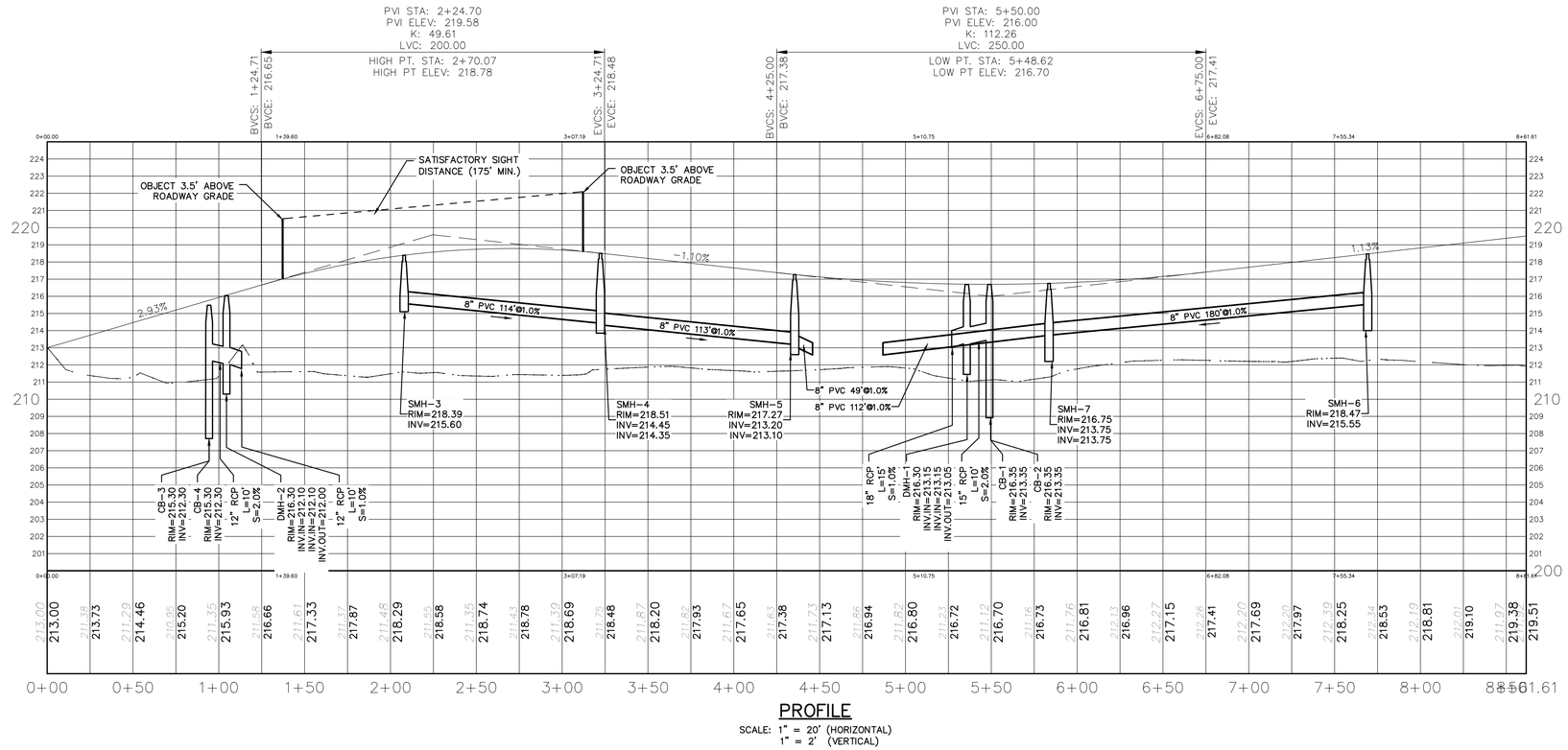
JOB NO.	DWG. NO.	SHEET
22-243	11142	C-118





PROFILE

SCALE: 1" = 20' (HORIZONTAL)
1" = 2' (VERTICAL)

DATE	REVISION	BY
12/10/24	PEER REVIEW COMMENTS	MJS
1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	MJS
4/15/25	PEER REVIEW COMMENTS	MAW

COMMONWEALTH OF MASSACHUSETTS
MATTHEW A. WOLOHOJIAN
No. 52161
REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
PLAN + PROFILE
63 GRATUITY ROAD
GROTON, MA

SCALE: 1" = 40'

AUGUST 12, 2024

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JOB NO.	DWG. NO.	SHEET
22-243	11142	C-19



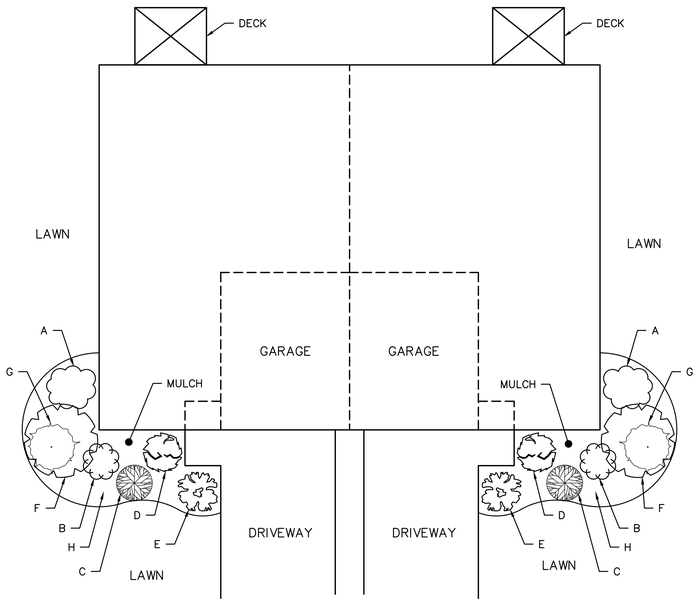
BIRCH MODEL – RENDERING



HEMLOCK MODEL – RENDERING

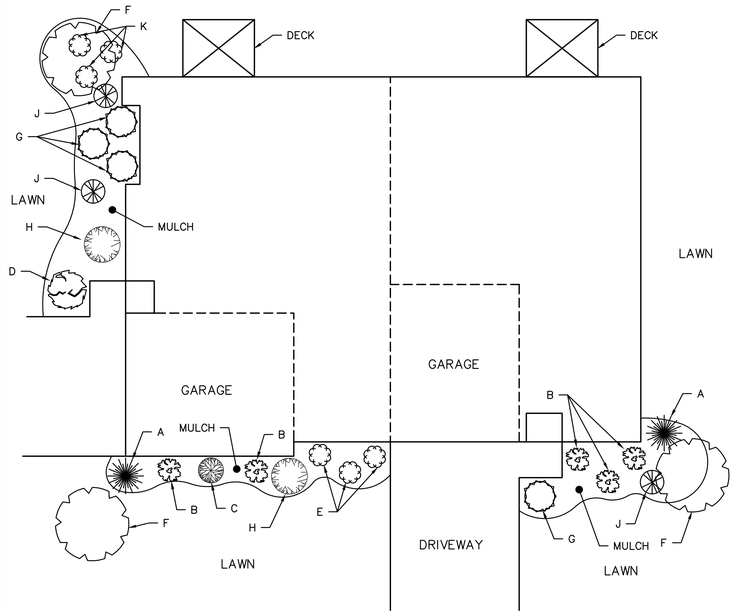


HICKORY MODEL – RENDERING



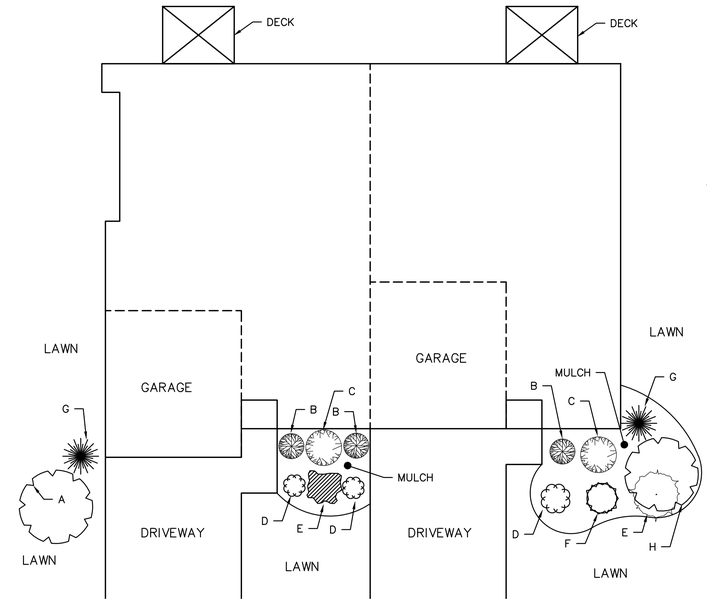
BIRCH MODEL – TYPICAL PLANTING
UNITS 1/5/8
SCALE: 1"= 10'

CODE	AMOUNT	PLANT MATERIAL
A	2	ALBERTA SPRUCE (PICEA GLAUCA)
B	2	PJM RHODODENDRON (RHODODENDRON ARBOREUM)
C	2	ENDLESS SUMMER HYDRANGEA (HYDRANGEA MACROPHYLLA)
D	2	BLUE PRINCESS HOLLY (ILEX X MESERVEAE)
E	2	DWF PINK SPIREA (SPIRAEA JAPONICA)
F	2	DWF FLOWERING CRABAPPLE (MALUS MICROMALUS)
G	6	EUORYMUS (EUONYMUS ALATUS)



HEMLOCK MODEL – TYPICAL PLANTING
UNITS 2/4/9/11
SCALE: 1"= 10'

CODE	AMOUNT	PLANT MATERIAL
A	2	EM GREEN ARBORVITAE (THUJA OCCIDENTALIS)
B	5	ANDROMEDA (PIERIS JAPONICA)
C	1	FALL HYDRANGEA (HYDRANGEA PANICULATA)
D	1	AZALEA (RHODODENDRON AZALEA)
E	3	PJM RHODODENDRON (RHODODENDRON ARBOREUM)
F	3	ORNAMENTAL CRABAPPLE (MALUS MICROMALUS)
G	4	DWF RED SPIRIEA (SPIRAEA JAPONICA)
H	2	BLUE PRINCESS HOLLY (ILEX X MESERVEAE)
I	1	BWE HYDRANGEA (HYDRANGEA MACROPHYLLA)
J	3	GOLD MOP CYPRESS (CHAMAECYPARIS PISIFERA)
K	3	EUONYMUS GAIETY (EUONYMUS FORTUNEI)



HICKORY MODEL – TYPICAL PLANTING
UNITS 3/6/10/12
SCALE: 1"= 10'

CODE	AMOUNT	PLANT MATERIAL
A	1	ORNAMENTAL CRABAPPLE (MALUS MICROMALUS)
B	3	BLUE PRINCESS HOLLY (ILEX X MESERVEAE)
C	2	HYDRANGEA (HYDRANGEA PANICULATA)
D	3	COMPACT AZALEA (RHODODENDRON 'GUMPO')
E	6	ANGELINA SEDUM (SEDUM RUPESTRE)
F	1	COMPACT JUNIPER (JUNIPERUS HORIZONTALIS)
G	2	EM GREEN ARBORVITAE (THUJA OCCIDENTALIS)
H	1	ORNAMENTAL CHERRY (PRUNUS SERRULATA)

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SCALE IN FEET

4/15/25	PEER REVIEW COMMENTS	MAW
1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	MJS
12/10/24	PEER REVIEW COMMENTS	MJS
DATE	REVISION	BY

COMMONWEALTH OF MASSACHUSETTS
MATTHEW A. WHITMAN
No. 49881
REGISTERED LANDSCAPE ARCHITECT

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
TYPICAL UNIT LANDSCAPING PLAN
63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024
SCALE: 1"= 10'

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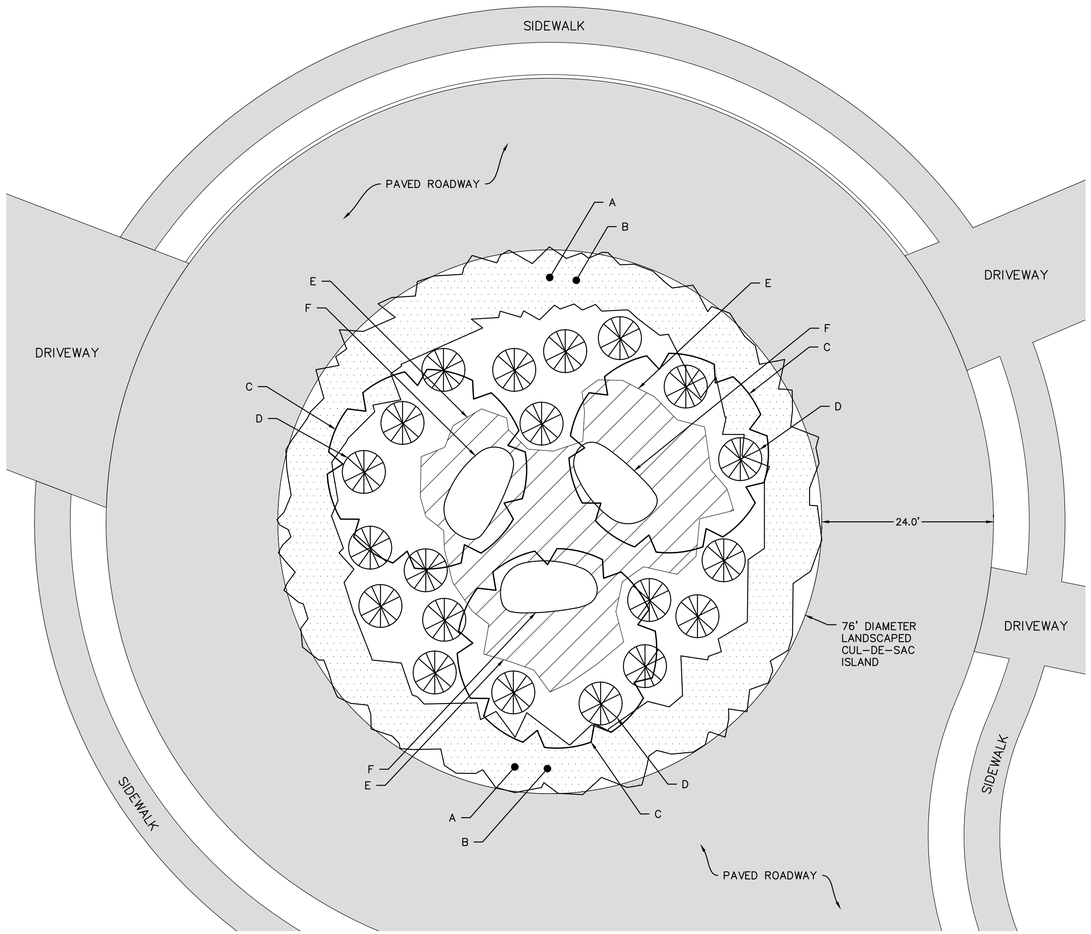
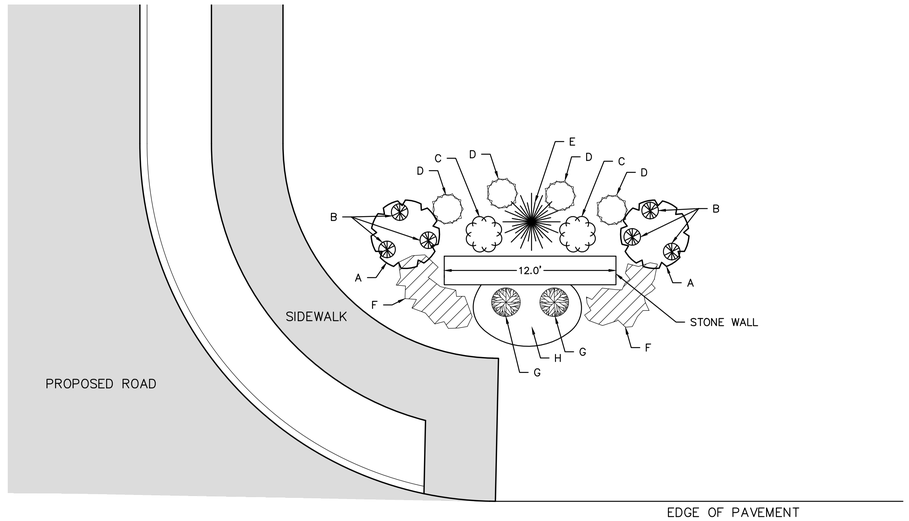


TYPICAL CUL-DE-SAC PLANTING

SCALE: 1"= 10'

CODE	AMOUNT	PLANT MATERIAL
A	–	DWF FOUNTAIN GRASS (PENNISETUM ALOPECUROIDES)
B	–	AUTUMN SEDUM (SEDUM X ADOLPHI)
C	3	RIVER BIRCH CLUMP (BETULA NIGRA)
D	20	LOW SPREADING JUNIPER (JUNIPERUS HORIZONTALIS)
E	–	DAY LILY (HEMEROCALLIS FULVA)
F	3	ORNAMENTAL BOULDER



TYPICAL 12' STONEWALL ENTRANCE PLANTING

SCALE: 1"= 5'

CODE	AMOUNT	PLANT MATERIAL
A	2	BIRCH CLUMP (BETULA NIGRA)
B	6	LOW SPREADING JUNIPER (JUNIPERUS HORIZONTALIS)
C	2	PINK RHODODENDRON (RHODODENDRON 'ROSEUM ELEGANS')
D	4	PJM RHODODENDRON (RHODODENDRON ARBOREUM)
E	1	EVERGREEN – SPRUCE (PICEA ABIES) OR HEMLOCK (TSUGA CANADENSIS)
F	16	DAY LILY (HEMEROCALLIS FULVA)
G	3	WINTERBERRY (ILEX VERTICILLATA)
H	–	SEASONAL ANNUALS

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SCALE IN FEET

DATE	REVISION	BY
12/10/24	PEER REVIEW COMMENTS	MJS
1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	MJS
4/15/25	PEER REVIEW COMMENTS	MAW

COMMONWEALTH OF MASSACHUSETTS — MATTHEW A. WATSON — No. 49884 — REGISTERED LANDSCAPE ARCHITECT

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
LANDSCAPING PLAN
63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024

SCALE: 1"= 100'

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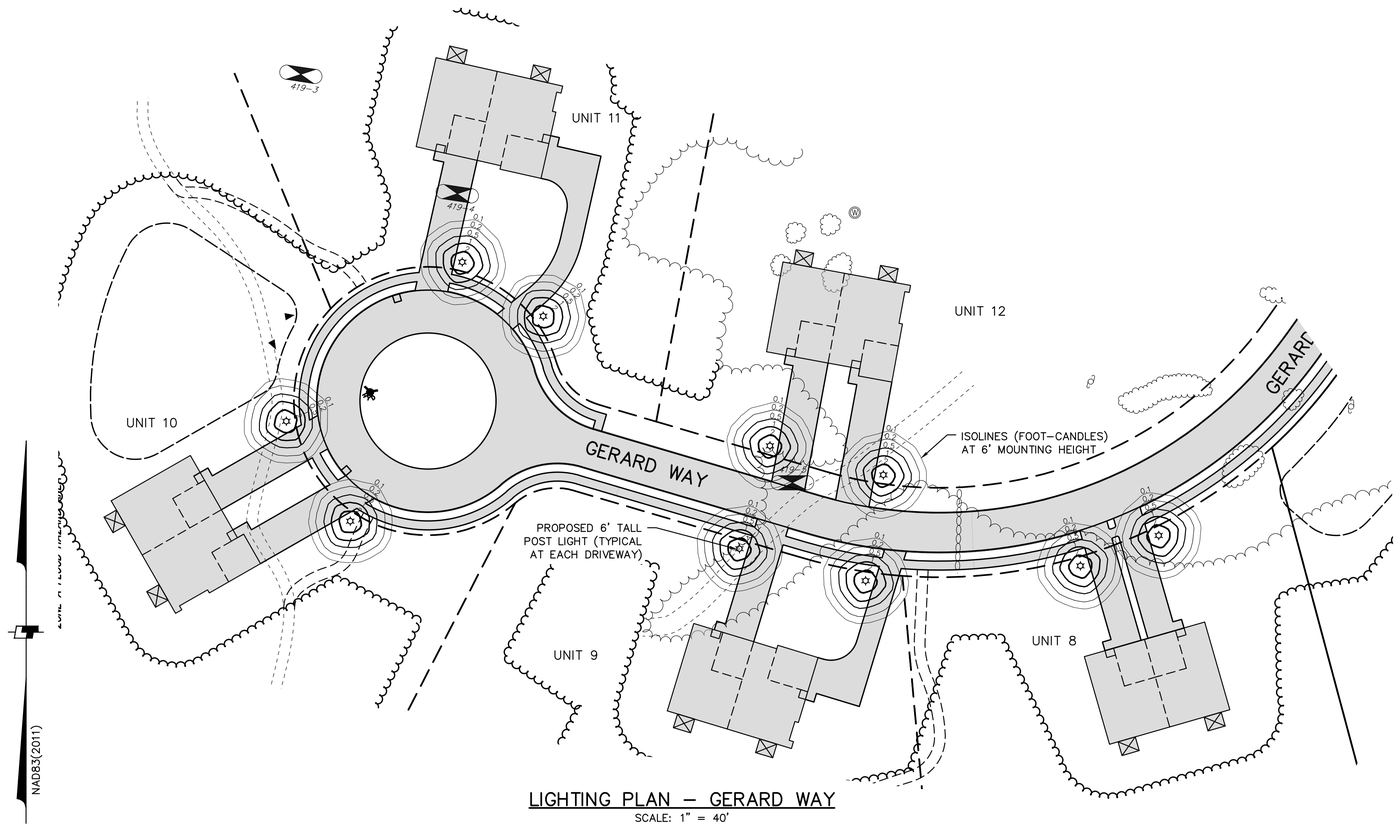


LIGHTING PLAN – GERARD WAY

SCALE: 1" = 40'

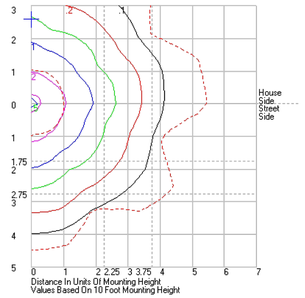


POST MOUNTED LIGHT

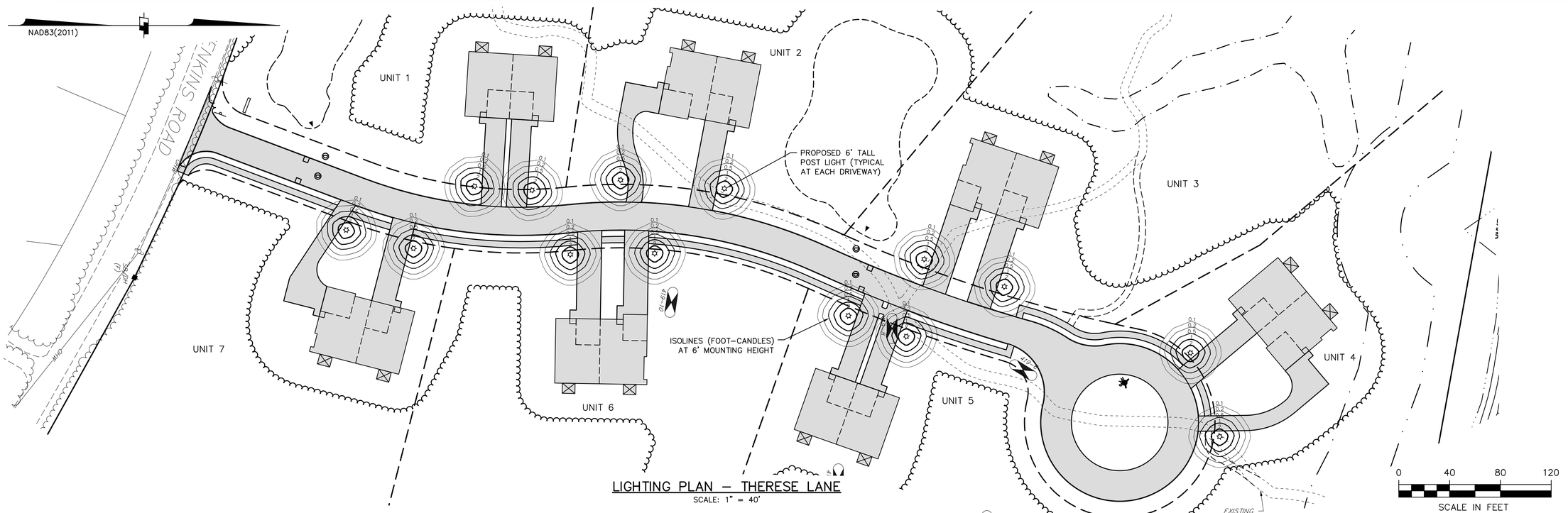
GENERATION LIGHTING KENT TRADITIONAL
1–LIGHT EXTERIOR POST LANTERN
OR APPROVED EQUIVALENT

NOTES:

1. POST MOUNTED LIGHT TO BE SHEILDED, DARK SKY FRIENDLY, BULB COLOR TEMPERATURE TO BE LESS THAN 3000K, WITH PHOTOMETRIC ISOLINES SIMILAR TO THOSE SHOWN ON THIS PLAN.
2. ONE POST LIGHT IS TO BE INSTALLED AT THE DRIVEWAY FOR EACH DWELLING UNIT.
3. OPERATION OF EACH POST LIGHT SHALL BE CONTROLLED BY THE RESIDENCE WHERE LIGHT IS INSTALLED.



ISOLINES



LIGHTING PLAN – THERESE LANE

SCALE: 1" = 40'

BY	REVISION	DATE
MJS	PEER REVIEW COMMENTS	12/10/24
	PB/PEER REVIEW COMMENTS & UPDATE FLOODPLAIN	1/13/25
MAW	PEER REVIEW COMMENTS	4/15/25

MATTHEW A. WARDWELL
No. 49,884
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
LIGHTING PLAN
63 GRATUITY ROAD
GROTON, MA

SCALE: 1" = 40'

AUGUST 12, 2024

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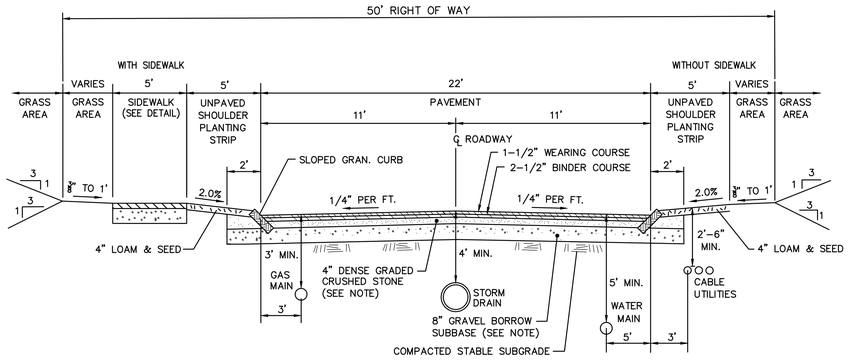
JOB NO.	DWG. NO.	SHEET
22-243	11142	C-22

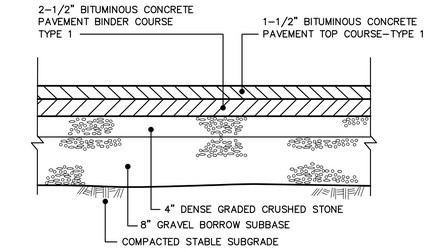


TYPICAL ROADWAY CROSS SECTION

NOT TO SCALE

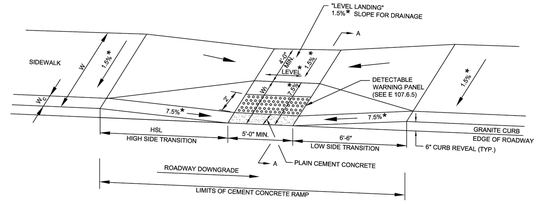
ROADWAY NOTES:

1. GRAVEL BORROW SUBBASE SHALL CONFORM TO SECTION M1.03.0 TYPE B, THREE INCHES LARGEST DIMENSION OF THE THE ALTEST EDITION OF THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES (STANDARD SPECIFICATIONS).
2. DENSE GRADED CRUSHED STONE SHALL CONFORM TO SECTION M1.03.0 OF THE THE ALTEST EDITION OF THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES (STANDARD SPECIFICATIONS).
3. GRAVEL BORROW SUBBASE SHAL BE COMPACTED TO NOT LESS THAN 95 PERCENT OF MAXIMUM DRY DENSITY OF THE MATERIAL AS DETERMINED BY THE STANDARD AASHTO TEST DESIGNATION 799 COMPACTION TEST METHOD C AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE ENGINEER.
4. "TAC COAT" AS SPECIFIED IN SECTION 218-16 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED BY "TAC TRUCK" BETWEEN ASPHALT LAYERS OR AS DIRECTED BY THE ENGINEER.
5. SOILS TESTING INCLUDING SIEVE ANALYSIS, PROCTOR TESTING AND COMPACTION TESTING SHALL BE PERFORMED ONCE EVERY 100 FEET OF PAVED ROADWAY ALONG THE CENTERLINE OF THE ROADWAY OR AS DIRECTED BY ENGINEER.
6. SIDEWALK RAMPS MUST MEET CURRENT ADA/AAB STANDARDS.



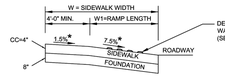
TYPICAL PAVEMENT DETAIL

NOT TO SCALE

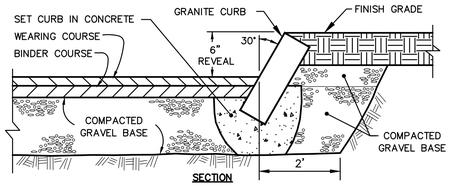


LEGEND

HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0)
W = SIDEWALK WIDTH
W_C = CURB WIDTH
W_1 = PERPENDICULAR RAMP LENGTH
CC = CEMENT CONCRETE
* = TOLERANCE FOR CONSTRUCTION ±0.5%
USABLE SIDEWALK WIDTH PER AAB = W-Wc
RAMP LENGTH, W1 = W-4'-0" Min

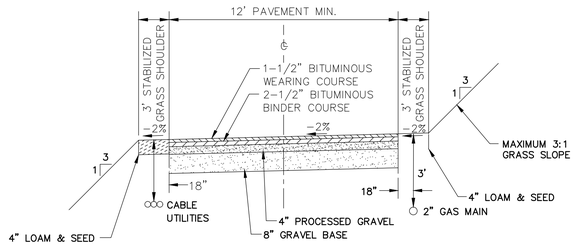


MassDOT CONSTRUCTION STANDARD DETAIL DWG. NO. 107.2.0



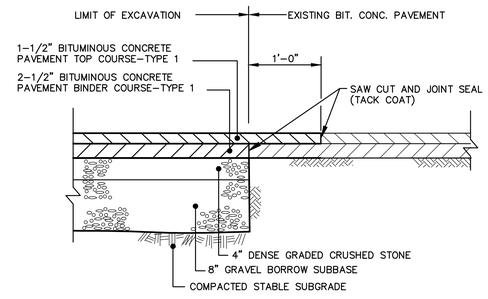
SLOPED GRANITE CURB

NOT TO SCALE



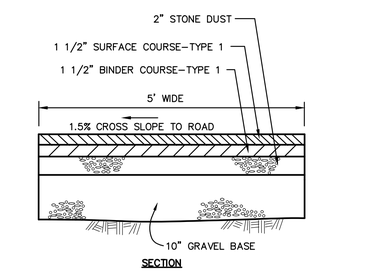
DRIVEWAY CROSS SECTION

N.T.S.



PAVEMENT MATCHING DETAIL

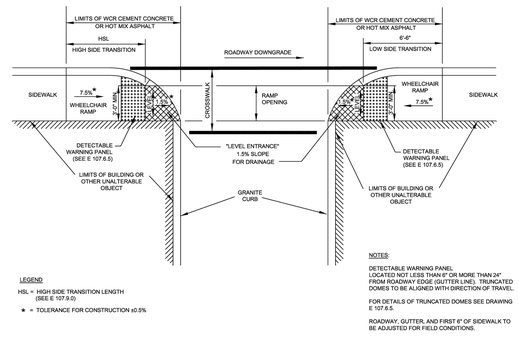
NOT TO SCALE



NOTE: MAINTAIN 1.5% CROSS SLOPE ACROSS ALL DRIVEWAY CROSSING

BITUMINOUS SIDEWALK

NOT TO SCALE



LEGEND

HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0)
* = TOLERANCE FOR CONSTRUCTION ±0.5%

NOTES:

DETECTABLE WARNING PANEL LOCATED NOT LESS THAN 6" OR MORE THAN 24" FROM ROADWAY EDGE (GUTTER LINE). TRUNCATED DOMES TO BE ALIGNED WITH DIRECTION OF TRAVEL.

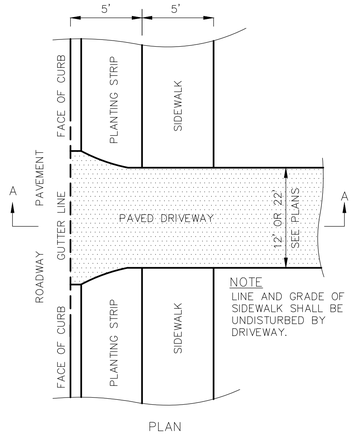
FOR DETAILS OF TRUNCATED DOMES SEE DRAWING E 107.6.5.

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

MassDOT CONSTRUCTION STANDARD DETAIL DWG. NO. 107.6.0

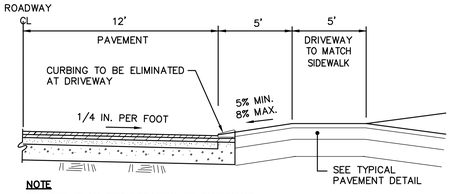
WHEELCHAIR RAMP

NOT TO SCALE



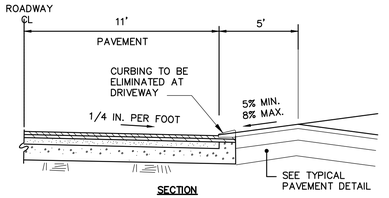
TYPICAL DRIVEWAY

NOT TO SCALE



TYPICAL DRIVEWAY PROFILE AT SIDEWALK

NOT TO SCALE



TYPICAL DRIVEWAY PROFILE – NO SIDEWALK

BY	DATE	REVISION
MJS	12/10/24	PEER REVIEW COMMENTS
MJS	1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS
MAW	4/15/25	PEER REVIEW COMMENTS

COMMONWEALTH OF MASSACHUSETTS — MATTHEW A. WHELDON — No. 60161 — REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN MJS | DRAFT MJS | CHECK MAW

GRATUITY BROOK FARM ESTATES
DETAILS AND SECTIONS

63 GRATUITY ROAD
GROTON, MA

SCALE: 1" = 100'

AUGUST 12, 2024

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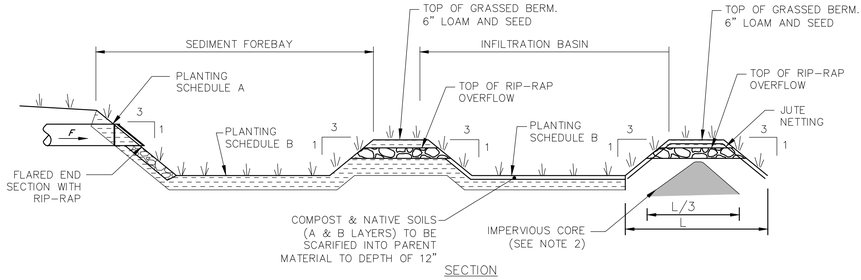
JOB NO. 22-243 | DWG. NO. 11142 | SHEET D-1

PLANTING SCHEDULES

PLANTING SCHEDULE A:
REED CANARY GRASS
PERENNIAL RYE GRASS
CROWN VETCH

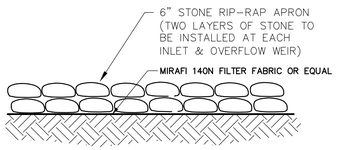
PLANTING SCHEDULE B:
RIVERBANK WILD RYE
CREEPING RED FESCUE



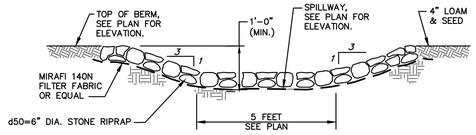
SECTION

NOTES
1. SEE PLANS FOR ADDITIONAL DETAILS.
2. IMPERVIOUS CORE SHALL BE MADE OF SILT LOAM WITH A PERCOLATION RATE OF >120 MINUTES/ INCH

SEDIMENT FOREBAY & INFILTRATION BASIN
NOT TO SCALE

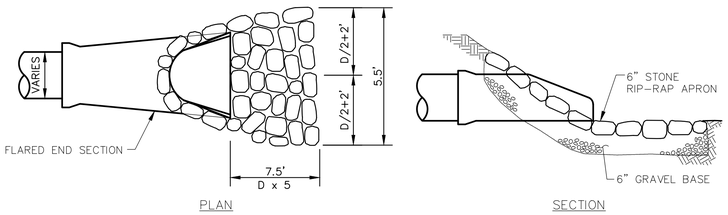


RIP-RAP OVERFLOW PLACEMENT
NOT TO SCALE



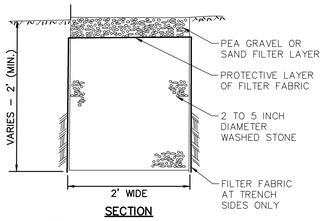
SECTION

SPILLWAY
NOT TO SCALE



PLAN SECTION

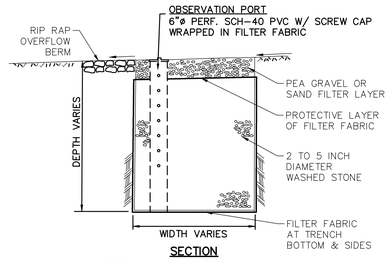
FLARED END SECTION RIP-RAP
NOT TO SCALE



SECTION

NOTE
SEE PLAN VIEW FOR LOCATIONS
(2'Wx50'Lx2'H)

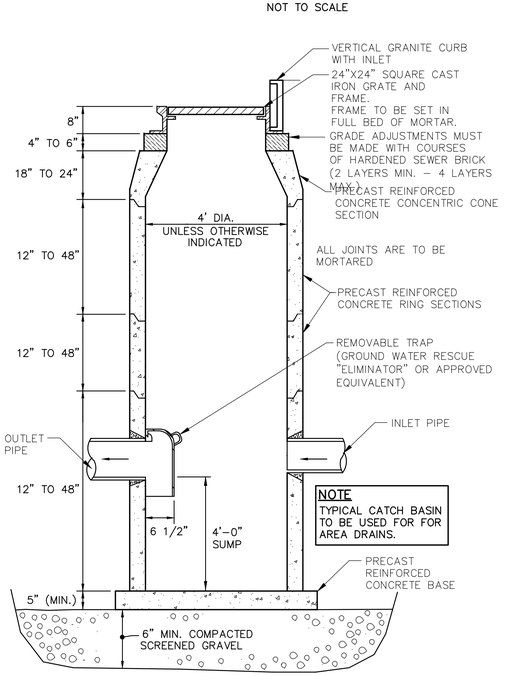
WICKING TRENCH
NOT TO SCALE



SECTION

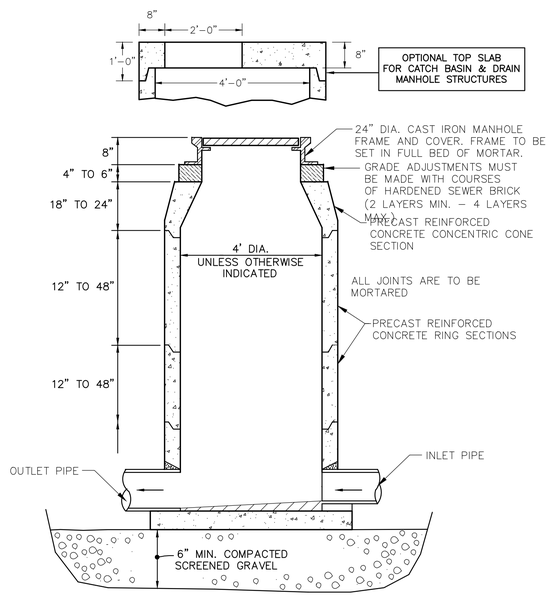
NOTE
SEE PLAN VIEW FOR LOCATIONS, SIZING
AND INVERT INFORMATION.

INFILTRATION TRENCH/ PERIMETER DRAIN
NOT TO SCALE



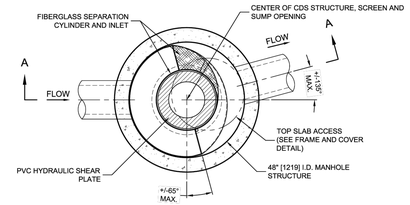
SECTION

TYPICAL CATCH BASIN
NOT TO SCALE

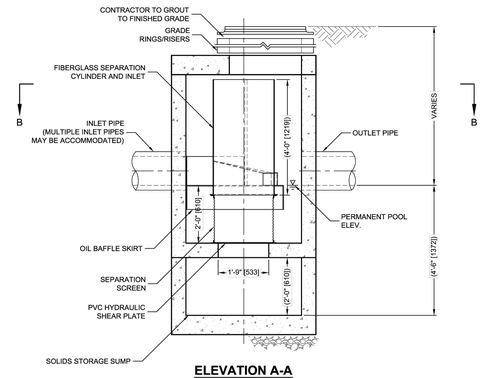


SECTION

TYPICAL DRAIN MANHOLE
NOT TO SCALE



PLAN VIEW B-B
N.T.S.



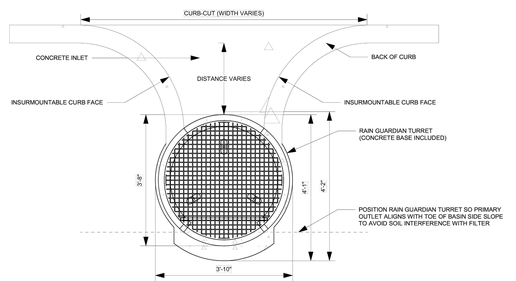
ELEVATION A-A
N.T.S.

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE www.contechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATIO AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

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

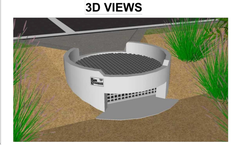
CONTECH CDS HYDRODYNAMIC SEPARATOR (MODEL 2025-4C)
NOT TO SCALE

PLAN VIEW



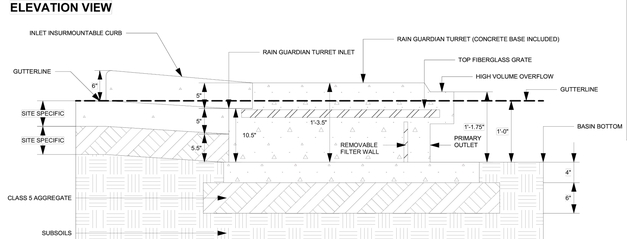
PLAN VIEW NOTES
1. INLET WIDTH AND DISTANCE BETWEEN BACK OF CURB AND RAIN GUARDIAN TURRET MAY VARY WITH SITE CONDITIONS.
2. CONCRETE BASE EXTENDS BEYOND THE FILTER WALL OF THE RAIN GUARDIAN TURRET TO SERVE AS A SPLASH DISSIPATOR.

3D VIEWS





ELEVATION VIEW



ELEVATION VIEW NOTES
1. THE TOP OF THE CLASS 5 BASE (COMPACTED TO 95% STANDARD PROCTOR) IS PRECISELY 1' 4" BELOW THE GUTTERLINE ELEVATION.

RAIN GUARDIAN TURRET PRETREATMENT CHAMBER
NOT TO SCALE

BY	REVISION	DATE
MJS	PEER REVIEW COMMENTS	4/15/25
MJS	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	1/13/25
MJS	PEER REVIEW COMMENTS	12/10/24

COMMONWEALTH OF MASSACHUSETTS — MATTHEW A. WALSH — CIVIL — No. 59268 — REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
DETAILS AND SECTIONS
63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024

SCALE: 1" = 100'

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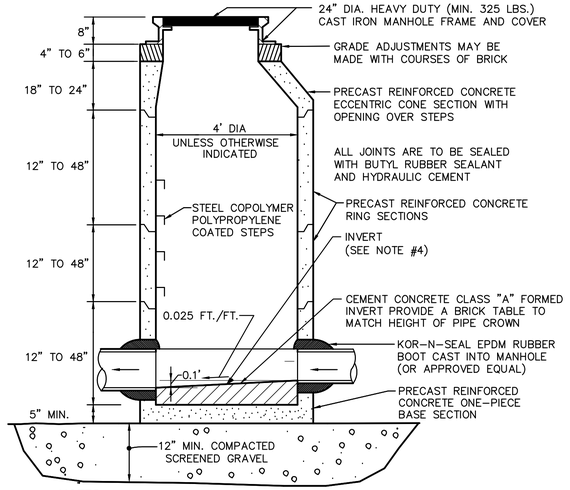
JOB NO.	DWG. NO.	SHEET
22-243	11142	D-2

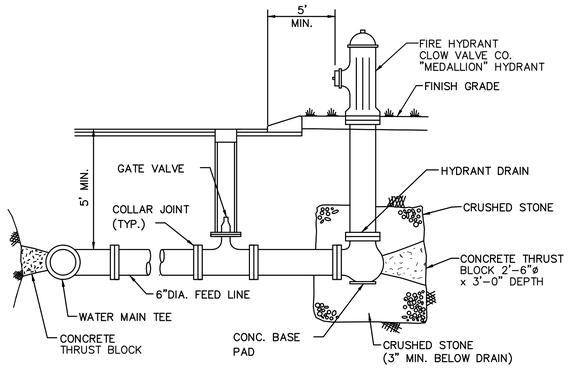


NOTES:

1. CAST IRON COVER SHALL BE LABELED SEWER.
2. SEAL ALL PINHOLES WITH HYDRAULIC CEMENT AND APPLY 2 COATS OF BITUMASTIC.
3. FORCEMAIN INLETS SHALL BE FITTED WITH SCH-40 PVC TEES TO DIRECT EFFLUENT TO DOWN TO TROUGH.
4. ALL SEWER SLOPES CALCULATED BY REFERENCING THE CENTERLINE INVERT ELEVATION AT THE CENTER OF EACH MANHOLE. ALL CALCULATED INVERTS ENTERING OR LEAVING REFERENCE THE MANHOLE CENTER. MANHOLES SHALL BE MANUFACTURED WITH A MINIMUM OF 0.1 FT. BETWEEN THE INVERT IN AND THE INVERT OUT.

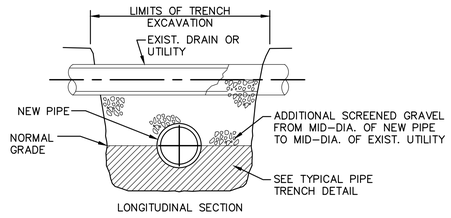
TYPICAL SEWER MANHOLE

NOT TO SCALE

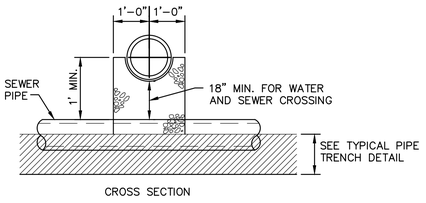


FIRE HYDRANT DETAIL

NOT TO SCALE



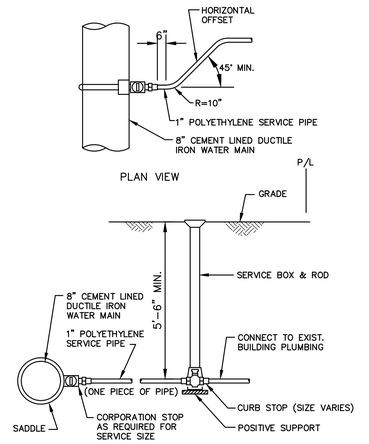
LONGITUDINAL SECTION



CROSS SECTION

TYPICAL PIPE CROSSING

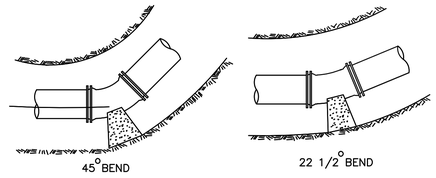
NOT TO SCALE

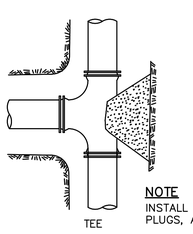


SECTION VIEW

STANDARD WATER SERVICE DETAIL

NOT TO SCALE



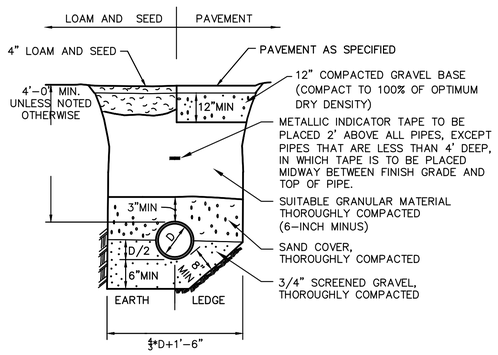


PIPE SIZE	MIN. SURFACE AREA (S.F.) OF CONC. AGAINST UNDISTURBED EARTH		
	22 1/2°	45°	TEE
6"	3.0	3.0	3.0
8"	3.0	3.0	3.0
12"	7.0	7.0	7.0

NOTE
INSTALL THRUST BLOCKS AT ALL BENDS, TEES, PLUGS, AND HYDRANTS.

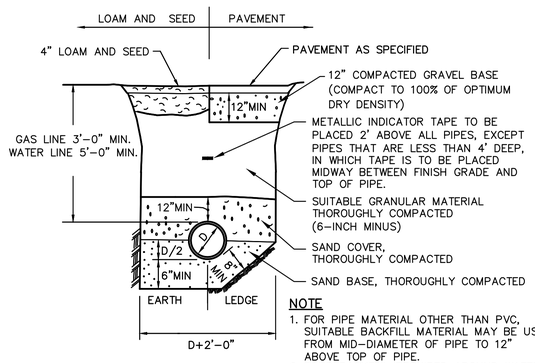
WATER MAIN THRUST BLOCK DETAILS

NOT TO SCALE



TYPICAL DRAIN TRENCH DETAIL

NOT TO SCALE

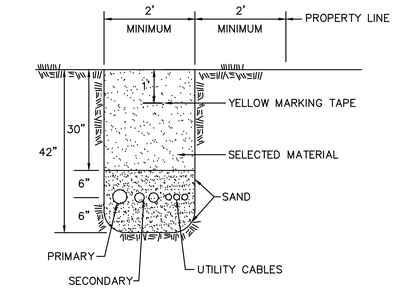


NOTE

1. FOR PIPE MATERIAL OTHER THAN PVC, SUITABLE BACKFILL MATERIAL MAY BE USED FROM MID-DIAMETER OF PIPE TO 12" ABOVE TOP OF PIPE.
2. SAND BACKFILL REQUIRED AROUND WATER MAINS.

TYPICAL TRENCH DETAIL

NOT TO SCALE



UNDERGROUND ELECTRICAL TRENCH

NOT TO SCALE

DATE	REVISION	BY
12/10/24	PEER REVIEW COMMENTS	MJS
1/13/25	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	MJS
4/15/25	PEER REVIEW COMMENTS	MAW

COMMONWEALTH OF MASSACHUSETTS — MATTHEW A. WERNING — No. 49884 — REGISTERED PROFESSIONAL ENGINEER — CIVIL

PREPARED FOR:
ROUTHIER & ROPER
GRATUITY ROAD, LLC
256 AYER ROAD
LITTLETON, MA 01460

DESIGN	DRAFT	CHECK
MJS	MJS	MAW

GRATUITY BROOK FARM ESTATES
DETAILS AND SECTIONS

63 GRATUITY ROAD
GROTON, MA

AUGUST 12, 2024

SCALE: 1" = 100'

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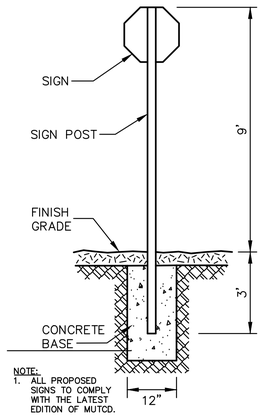
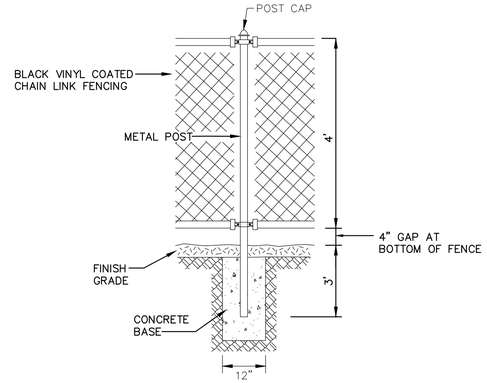


SIGN DETAIL
NOT TO SCALE

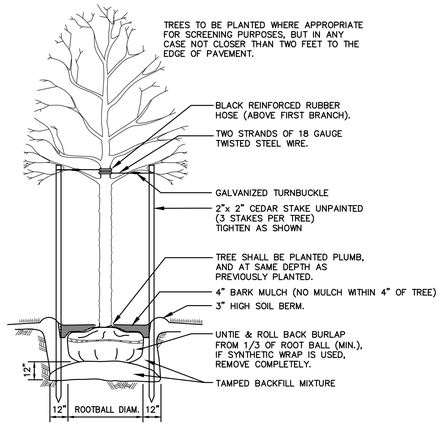
STREET SIGN
NOT TO SCALE
(WHITE LETTERING ON GREEN BACKGROUND)



STOP SIGN
NOT TO SCALE
(WHITE LETTERING ON RED BACKGROUND)

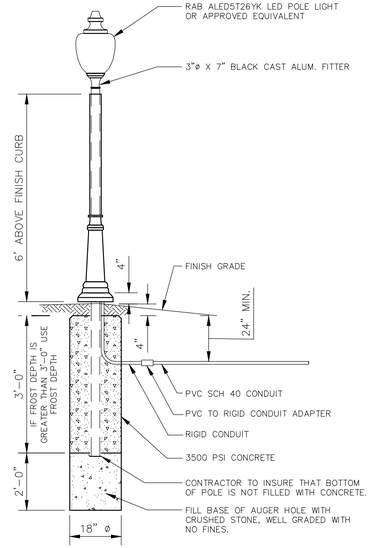


CHAIN LINK FENCE DETAIL
NOT TO SCALE
(SEE PLAN FOR LOCATION)



TREE PLANTING
NOT TO SCALE

NOTE: SEE SITE PLAN FOR TREE LOCATIONS AND TYPES



LIGHT POLE & LANTERN DETAIL
NOT TO SCALE

NOTE: SEE SITE PLAN FOR POST LOCATIONS.

Common Name	Scientific Name	Percentage of Mix	Seed Geographic Origin	MA Status	Approx. Bloom Period	Soil Requirements	Specialist Bee Host?	Rare Lepidoptera Host?
yarrow	*Achillea millefolium*	2.09	Midwest	fairly widespread	July-Oct	medium, moist	N/A	N/A
upland bent grass	*Agrostis perennans*	2.09	New York	widespread	N/A	medium, moist, dry	N/A	Yes****
broomsedge bluestem	*Andropogon virginicus*	2.04	Wisconsin	fairly widespread	N/A	dry, medium	N/A	Yes
pussytoes	*Antennaria plantaginifolia*	4.10	Minnesota	widespread	April-June	dry, medium	N/A	N/A
butterfly weed	*Asclepias tuberosa*	2.04	Upper Midwest	fairly widespread	June-Aug	dry	N/A	N/A
yellow wild indigo	*Baptisia tinctoria*	2.00	West Virginia	widespread	June-Aug	dry	N/A	Yes
plains oval sedge	*Carex brevior*	2.02	Minnesota	widespread	N/A	dry, medium, moist	N/A	N/A
partridge sensitive-pea	*Chamaecrista fasciculata*	2.00	Minnesota/Iowa	fairly widespread	June-Aug	dry, medium	N/A	Yes*****
prairie cinquefoil	*Drymocallis (Potentilla) arguta*	2.01	Iowa	fairly widespread	June-Sept	medium, dry	Yes*	N/A
poverty oat grass	*Danthonia spicata*	2.63	Minnesota	widespread	N/A	medium, dry	N/A	Yes******
purple lovegrass	*Eragrostis spectabilis*	2.02	Illinois	widespread	N/A	dry	N/A	N/A
spotted St. John's-wort	*Hypericum punctatum*	7.62	Illinois	widespread	July-Aug	medium, dry	N/A	N/A
slender bush-clover	*Lespedeza virginica*	3.15	Illinois	fairly widespread	Aug	dry	N/A	Yes*******
bladder-pod lobelia	*Lobelia inflata*	4.36	Wisconsin	widespread	July-Oct	medium	N/A	N/A
foxglove beardtongue	*Penstemon digitalis*	6.50	Wisconsin	widespread	April-June	medium, dry	N/A	N/A
slender mountain mint	*Pycnanthemum tenuifolium*	5.98	Illinois	fairly widespread	July-Sept	dry	N/A	N/A
Virginia mountain mint	*Pycnanthemum virginianum*	5.50	Illinois	fairly widespread	July-Aug	medium, dry	N/A	N/A
black-eyed Susan	*Rudbeckia hirta*	8.73	Iowa	widespread	June-Sept	medium, dry	N/A	N/A
little bluestem	*Schizachyrium scoparium*	12.62	Wisconsin	widespread	N/A	dry	N/A	Yes
early goldenrod	*Solidago juncea*	1.00	Wisconsin	widespread	July-Sept	medium	Yes**	N/A
gray goldenrod	*Solidago nemoralis*	6.31	Iowa	widespread	Aug-Oct	medium	Yes**	N/A
sweet goldenrod	*Solidago odora*	1.04	Wisconsin	widespread	Aug-Oct	medium	Yes**	N/A
heath American-aster	*Symphyotrichum ericoides*	2.12	Wisconsin	widespread	Sept-Oct	dry	Yes***	N/A
calico American-aster	*Symphyotrichum lateriflorum*	4.49	Minnesota	widespread	Aug-Sept	medium, dry	Yes***	N/A
Ohio spiderwort	*Tradescantia ohiensis*	2.09	Illinois	fairly widespread	July-Sept	medium, dry	N/A	N/A
golden Alexanders	*Zizia aurea*	3.47	Illinois	widespread	May-July	dry, medium	Yes	N/A
		100						

NATIVE MEADOW SEED MIX TABLE
NOT TO SCALE

SEED MIX NAME: POLLINATOR SUN MIX
LOCATION: DESIGNATED NATIVE MEADOW AREA (SEE SHEET C-13)
SEEDING AREA: 52,750 S.F. (1.2 ACRES)
SEEDING RATE: 110 PLS/SF

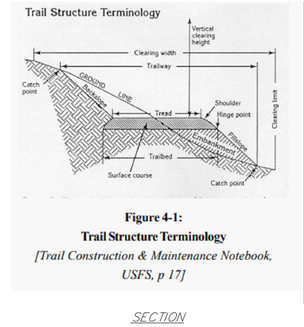


Figure 4-1:
Trail Structure Terminology
[Trail Construction & Maintenance Notebook, USFS, p 17]

SECTION

TYPICAL TRAIL DETAIL
NOT TO SCALE

NOTES:
- PRIOR TO CONSTRUCTION, THE LOCATION OF THE TRAIL SHALL BE FLAGGED BY SITE CONTRACTOR.
- TRAIL SHALL BE LAID OUT AS TO AVOID THE REMOVAL OF LARGE VEGETATION OR EXTENSIVE EARTH WORK.
- TRAIL CONSTRUCTION SHALL CONSIST OF CLEARING BRANCHES AND SMALL TREES.
- TREAD SHALL BE 5' WIDE
- TRAILWAY SHALL BE 8' WIDE
- CLEARING WIDTH 10' WIDE
- VERTICAL CLEARANCE SHALL BE 9' HEIGHT
- TREAD SHALL BE RAKED OUT REMOVING FALLEN LOGS AND ROCK TO EXPOSE THE NATURAL SURFACE..
- TREAD SHALL PROVIDE POSITIVE DRAINAGE (CROSS SLOPE SHALL BE A MINIMUM OF 1% AND A MAXIMUM OF 2%).

BY	REVISION	DATE
MJS	PEER REVIEW COMMENTS	4/15/25
MAW	UPDATE FLOODPLAIN & PB/PEER REVIEW COMMENTS	1/13/25
MJS	PEER REVIEW COMMENTS	12/10/24

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