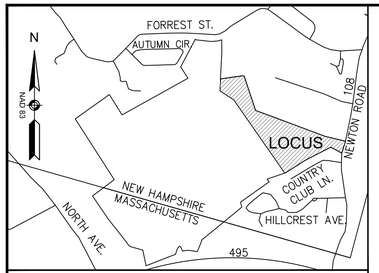
NEWTON ROAD ESTATES
PLAISTOW, NEW HAMPSHIRE



TOWN OF PLAISTOW, NEW HAMPSHIRE
N.T.S.

N
NAD 83

INDEX

LEGEND

N/F	NOW OR FORMERLY
	WETLAND FEATURE
	BOUND TO BE SET
	IRON ROD TO BE SET
SBDH FND	BOUND FOUND
IRF	IRON ROD FOUND
IPF	IRON PIPE FOUND
DHS/DHF	DRILL HOLE FOUND OR SET
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×135.4	EXISTING GROUND ELEVATION
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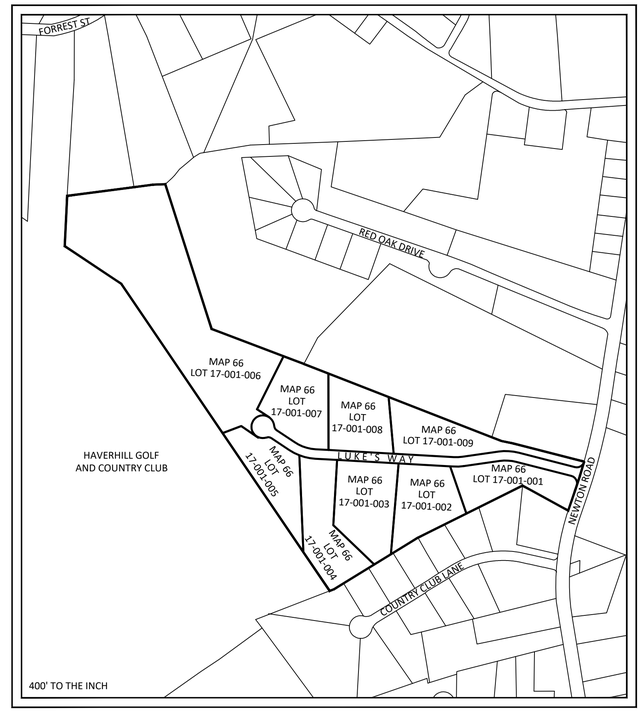

NOTES

1. THE PURPOSE OF THIS PLAN IS TO SHOW A SUBDIVISION OF MAP 66, BLOCK 17 LOT 0, DEED BOOK 1202, PAGE 101, INTO 9 PARCELS AND A ROAD.

2. THE EXISTING PROPERTY LINES AND IMPROVEMENTS SHOWN HEREON ARE THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY WHICH OCCURRED IN NOVEMBER AND DECEMBER OF 2023.

3. HORIZONTAL AND VERTICAL DATUM ARE RELATED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND ARE THE RESULT OF JG LAND SERVICES GPS OBSERVATIONS, TOTAL STATION NETWORK TRAVERSING AND DIFFERENTIAL LEVELING RELATIVE TO THE SMART NET NETWORK OF GPS CORS STATIONS.

6. LINES SHOWING DIVISION OF PRIVATE OWNERSHIP OF ABUTTING PROPERTIES ARE RELATIVE TO TOWN ASSESSOR'S RECORDS AND THEIR LOCATIONS ARE CONSIDERED TO BE APPROXIMATE.

7. NO UNDERGROUND UTILITIES ARE SHOWN ON THIS SURVEY.

8. CONTOURS SHOWN HEREON ARE GENERATED FROM PUBLIC USE LiDAR DATA FROM 2021 PROVIDED BY GRANITE LiDAR DISTRIBUTION AND ARE SUPPLEMENTED WITH ON-THE-GROUND INSTRUMENT SURVEY AT ROADWAY AND SELECT LOCATIONS.

9. FLOOD ZONE LIMITS SHOWN HEREON ARE GLEANED FROM THE FLOOD INSURANCE RATE MAP 33015C0590E OF 2005. COMMUNITY PANEL NO. 33018 0590 E, EFFECTIVE DATE: MAY 17, 2005.

10. PROPOSED IMPROVEMENTS ON LOT 6 ARE GREATER THAN 2,000 FEET FROM GAS TRANSMISSION LINES, THEREFOR NO NOTIFICATION IS REQUIRED.

11. CHANGE OF USE REQUIRES REVIEW AND/OR APPROVAL OF THE PLANNING BOARD.

12. SUBJECT PROPERTY IS NOT LOCATED WITHIN AN AQUIFER PROTECTION DISTRICT.

SOIL MAPPING CERTIFICATION STATEMENT

THE SOILS ON THIS PROPERTY WERE MAPPED TO THE STANDARDS SET FORTH IN THE SSSNNE PUBLICATION NO. 1 HIGH INTENSITY SOIL MAPS FOR NEW HAMPSHIRE (12/17). FIELDWORK WAS CONDUCTED IN JULY AND AUGUST 2023 BY BAG LAND CONSULTANTS, 43 ROCKINGHAM STREET, CONCORD, NH (603) 228-5775.

WETLAND CERTIFICATION

THE WETLANDS ON THIS PROJECT WERE DELINEATED BY BAG LAND CONSULTANTS – 43 ROCKINGHAM STREET; CONCORD NH 03301 (BRUCE GILDAY, CWS #88) IN SPRING 2023.

WETLAND BOUNDARIES WERE PREPARED UTILIZING THE FOLLOWING STANDARDS AND METHODOLOGIES:
- CORPS OF ENGINEERS WETLAND DELLNEATON MANUAL;
- REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0 (JANUARY 2012)
- NORTHCENTRAL - NORTHEAST REGIONAL WETLAND PLANT LIST PUBLISHED BY THE USACE;
- FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8.2 PUBLISHED BY THE USDA NRCS;
- FIELD INDICATORS FOR IDENTIFYING HYDRIC SOLS IN NEW ENGLAND, VERSION 4 PUBLISHED BY THE NEWPCC;

ABUTTERS LIST

BRIAN & ANASTASIA SHEEHAN 8 HOYT FARM ROAD PLAISTOW, NH 03865
PARCEL ID 48-033-022

WALTER & JUNE KOSCIEWICZ 11 COUNTRY CLUB LANE PLAISTOW, NH 03865
PARCEL ID 58-009-000

AARON TILTON
1 COUNTRY CLUB LANE PLAISTOW, NH 03865
PARCEL ID 66-015-000

BRIANA PAIGE CONNOR 5 COUNTRY CLUB LANE PLAISTOW, NH 03865
PARCEL ID 66-014-000

KRISTOPHER & OLIVIA LIEN 32 NEWTON ROAD
PLAISTOW, NH 03865
PARCEL ID 66-018-000

DEBRA MITCHELL & RICHARD SPEAR 99 FORREST STREET
PLAISTOW, NH 03865
PARCEL ID 60-056-000

GRANITE STATE GAS TRANS 6 LIBERTY LANE WEST HAMPTON, NH 03842
PARCEL ID 60-066-000

LISA HENNESSEY 13 AUTUMN CIRCLE
PLAISTOW, NH 03865
PARCEL ID 59-007-000

JAMES & BEVERLY COOMBS 19 AUTUMN CIRCLE
PLAISTOW, NH 03865
PARCEL ID 59-006-000

PETER LESICZKA
49 CORLISS HILL ROAD HAVERHILL, MA 01830
PARCEL ID 48-026-000

TODD & KIMBERLY RANDALL 9 COUNTRY CLUB LANE PLAISTOW, NH 03865
PARCEL ID 58-010-000

PYNN REALTY LLC 29 NEWTON ROAD
PLAISTOW, NH 03865
PARCEL ID 66-020-000

KRISTEN BEECHER
P.O. BOX 8 PLAISTOW, NH 03865 PARCEL ID 60-064-000

GRANITE STATE GAS
6 LIBERTY LANE WEST
HAMPTON, NH 03842
PARCEL ID 60-065-000

THERESA BEAULIE
15 COUNTRY CLUB LANE PLAISTOW, NH 03865
PARCEL ID 58-007-000

ERNEST & DEBRA WINTER 92 FORREST STREET
PLAISTOW, NH 03865
PARCEL ID 60-067-000

DAVID & KRISTINA HOYT 63 FORREST STREET
PLAISTOW, NH 03865
PARCEL ID 48-032-000

THE RESERVE HILLCREST AVE 34 CONDO UNITS
118 ROCKY ROAD
P.O. BOX 376 RINDGE, NH 03461
PARCEL ID 58-006-000

EDWARD & SHERRIE PETERSON
87 FOREST STREET
PLAISTOW, NH 03865
PARCEL ID 60-050-000

JAMES AND DORIS HOW 13 COUNTRY CLUB LANE PLAISTOW, NH 03865
PARCEL ID 58-008-000

JASON & PERLA BURGESS 28 NEWTON ROAD
PLAISTOW, NH 03865
PARCEL ID 66-016-000

SCOTT & KEENAN HEBERT 7 COUNTRY CLUB LANE PLAISTOW, NH 03865
PARCEL ID 66-013-000

JAMES & BARBARA CAMPBELL 12 AUTUMN CIRCLE
PLAISTOW, NH 03865
PARCEL ID 59-002-000

GEORGE ZAPSALIS 10 AUTUMN CIRCLE
PLAISTOW, NH 03865
PARCEL ID 59-001-000

ADAM & LIANNA GREEN 16 COUNTRY CLUB LANE PLAISTOW, NH 03865
PARCEL ID 58-005-000

JARED M. DELUCIA 43 FOREST STREET
PLAISTOW, NH 03865
PARCEL ID 48-040-000

KEVIN & JANICE MURPHY 97 FORREST STREET
PLAISTOW, NH 03865
PARCEL ID 60-057-000

ABBY ROAD REALTY TRUST 82 SEVEN SISTER ROAD HAVERHILL, MA 01830
PARCEL ID 47-003-008

ASHLEY & DAVID HOYT 55 FORREST STREET
PLAISTOW, NH 03865
PARCEL ID 48-032-000

NORTH AVE DEVELOPMENT LLC 9 BOBCAT WAY, UNIT 2
SANDOWN, NH 03873
PARCEL ID 47-003-006
PARCEL ID 47-003-007
PARCEL ID 47-003-009
PARCEL ID 47-003-010

ALBERT COUILLARD
82 SEVEN SISTER ROAD
HAVERHILL, MA 01830

MARION SARACUSA 4 HOYT FARM ROAD
PLAISTOW, NH 03865
PARCEL ID 48-033-000

MERARI PELLOT 75 ABBY ROAD
PLAISTOW, NH 03865
PARCEL ID 47-003-011

ERIC & CHRIS PAQUETTE 34 NEWTON ROAD
PLAISTOW, NH 03865
PARCEL ID 67-001-000

ZONING SUMMARY					
	REQUIRED	REQUIRED	EXISTING	EXISTING	EXISTING
CRITERIA	LDR	ICR	66/017-001	66/017-002	REMAINING PARCEL
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ID	ELEVATION	DESCRIPTION
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GRAPHIC SCALE

50 25 0 50 100 150

SCALE: 1"=50'

APPROVED BY THE TOWN OF PLAISTOW PLANNING BOARD
CHAIRMAN:
DATE:

I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY SUPERVISION AND FALL UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION WITH A PRECISION GREATER THAN 1:15,000.

JAMIE G. GAYTON L.L.S No. 1022

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PGC Engineering PLLC
Civil and Environmental Engineering
10 Chase Street West Newbury MA 01985
978-994-4550 philchristiansen.pe@gmail.com

PREPARED BY:
JG Land Services LLC
Professional Land Surveyors
20 Washington Street
Haverhill, MA 01832

REVISIONS

REV.	COMMENTS	DATE

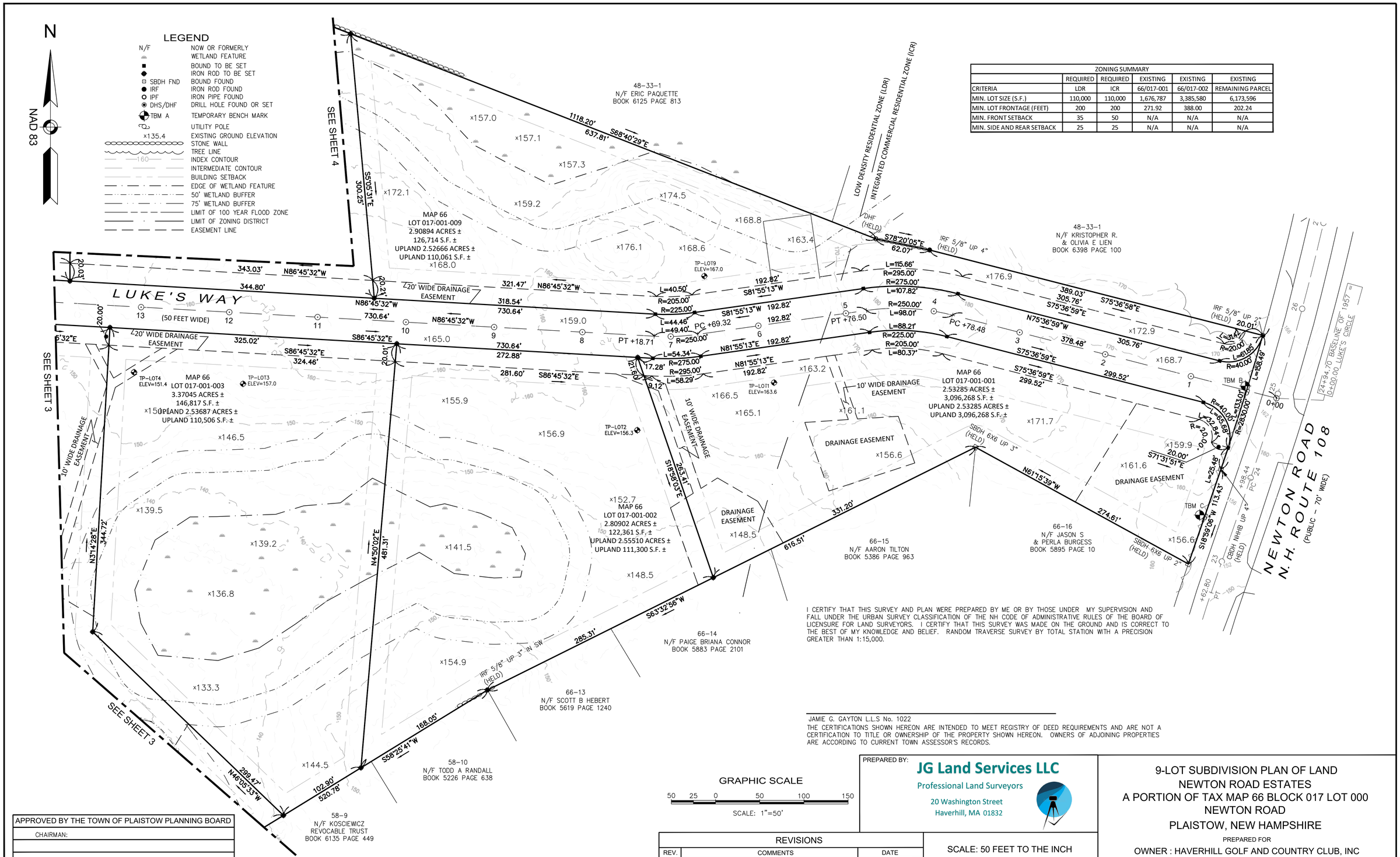
SCALE: 50 FEET TO THE INCH

FILE NAME: 5209-HCC-SUB2.dwg	
FIELD BOOK. NO: 5300	
DRAWN BY: JGG	CHECKED BY: JGG
FIELD CHIEF: JGG	PROJECT NO: 5209

9-LOT SUBDIVISION PLAN OF LAND
NEWTON ROAD ESTATES
A PORTION OF TAX MAP 66 BLOCK 017 LOT 000
NEWTON ROAD
PLAISTOW, NEW HAMPSHIRE

PREPARED FOR
OWNER : HAVERHILL GOLF AND COUNTRY CLUB, INC
58 BRICKETT LANE, HAVERHILL, MASSACHUSETTS 01830
APPLICANT : ALBERT COUILLARD
82 SEVEN SISTERS ROAD, HAVERHILL, MASSACHUSETTS 01830

DATE: FEBRUARY 25, 2024



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PREPARED FOR

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58 BRICKETT LANE, HAVERHILL, MASSACHUSETTS 01830

APPLICANT : ALBERT COUILLARD

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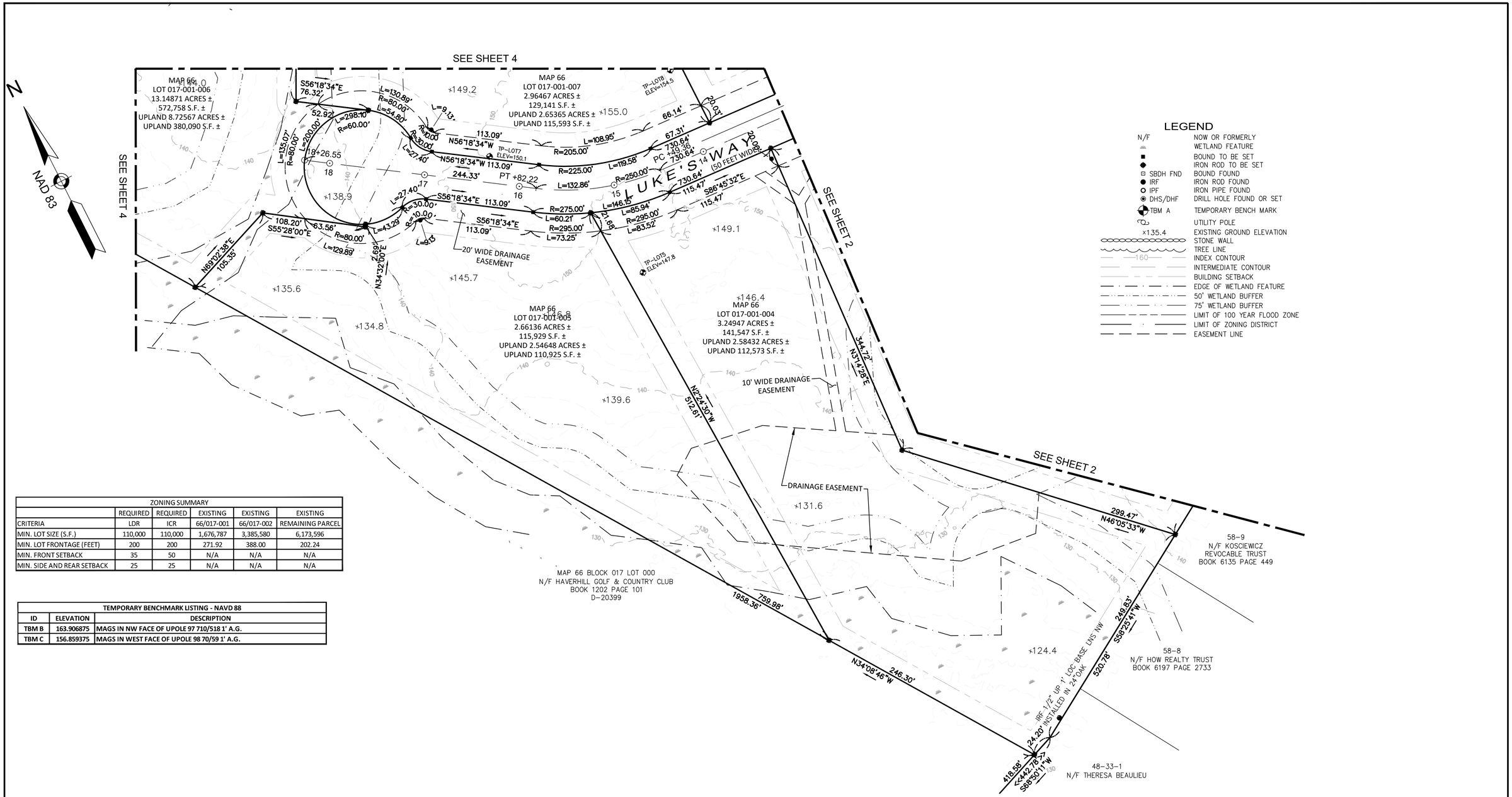
DATE: FEBRUARY 26, 2024



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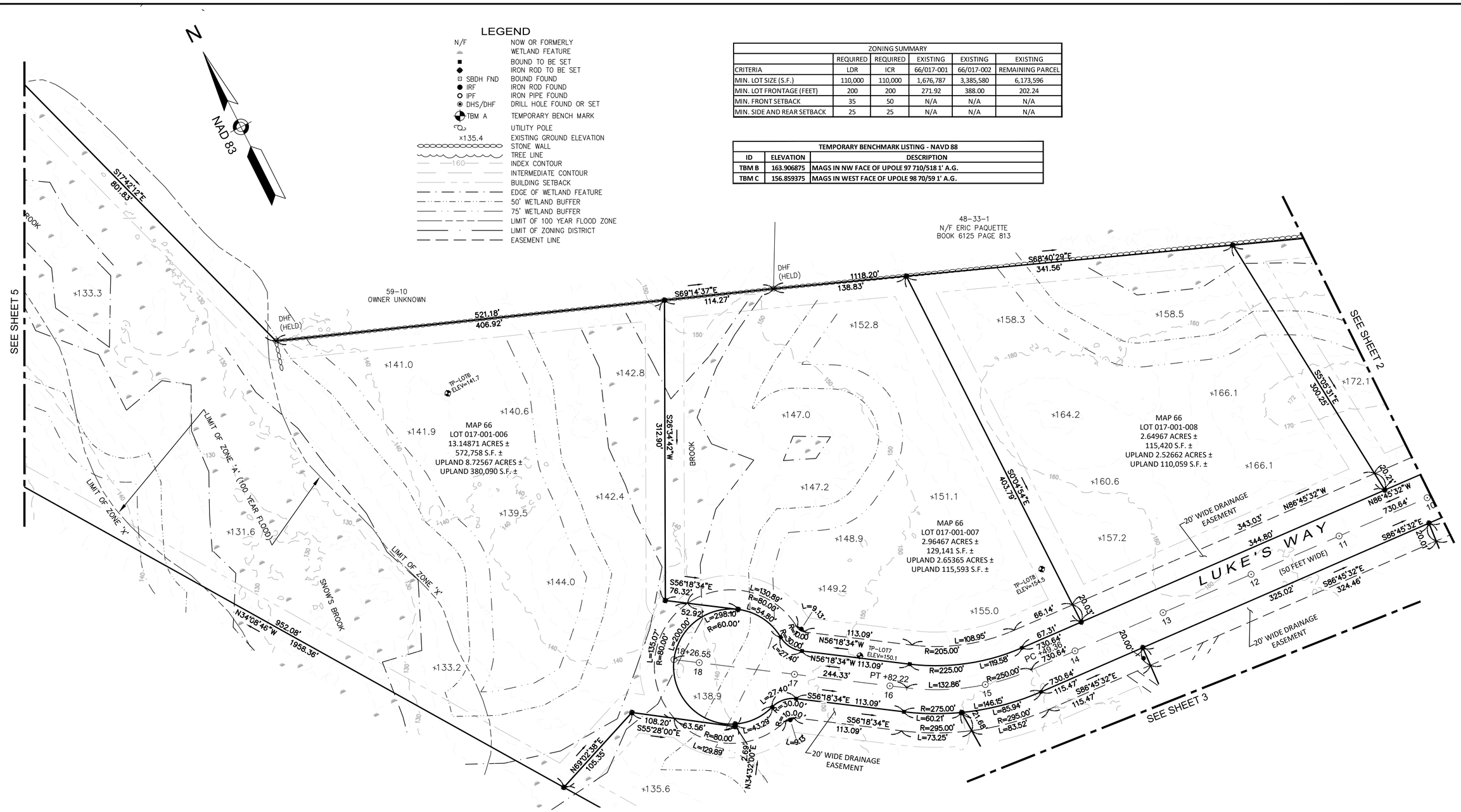

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PLAISTOW, NEW HAMPSHIRE

PREPARED FOR

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58 BRICKETT LANE, HAVERHILL, MASSACHUSETTS 01830

APPLICANT : ALBERT COUILLARD
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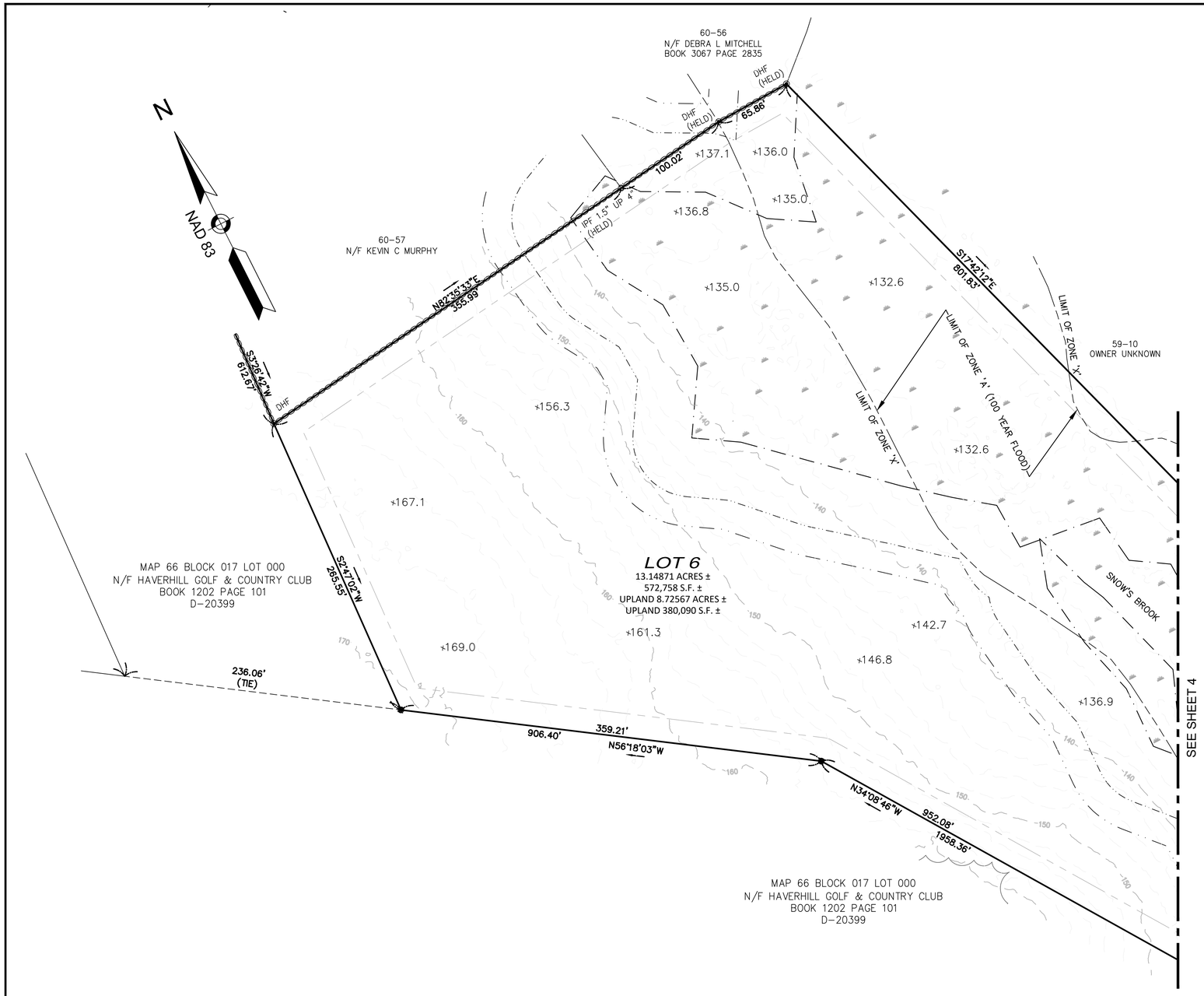
DATE: FEBRUARY 25, 2024



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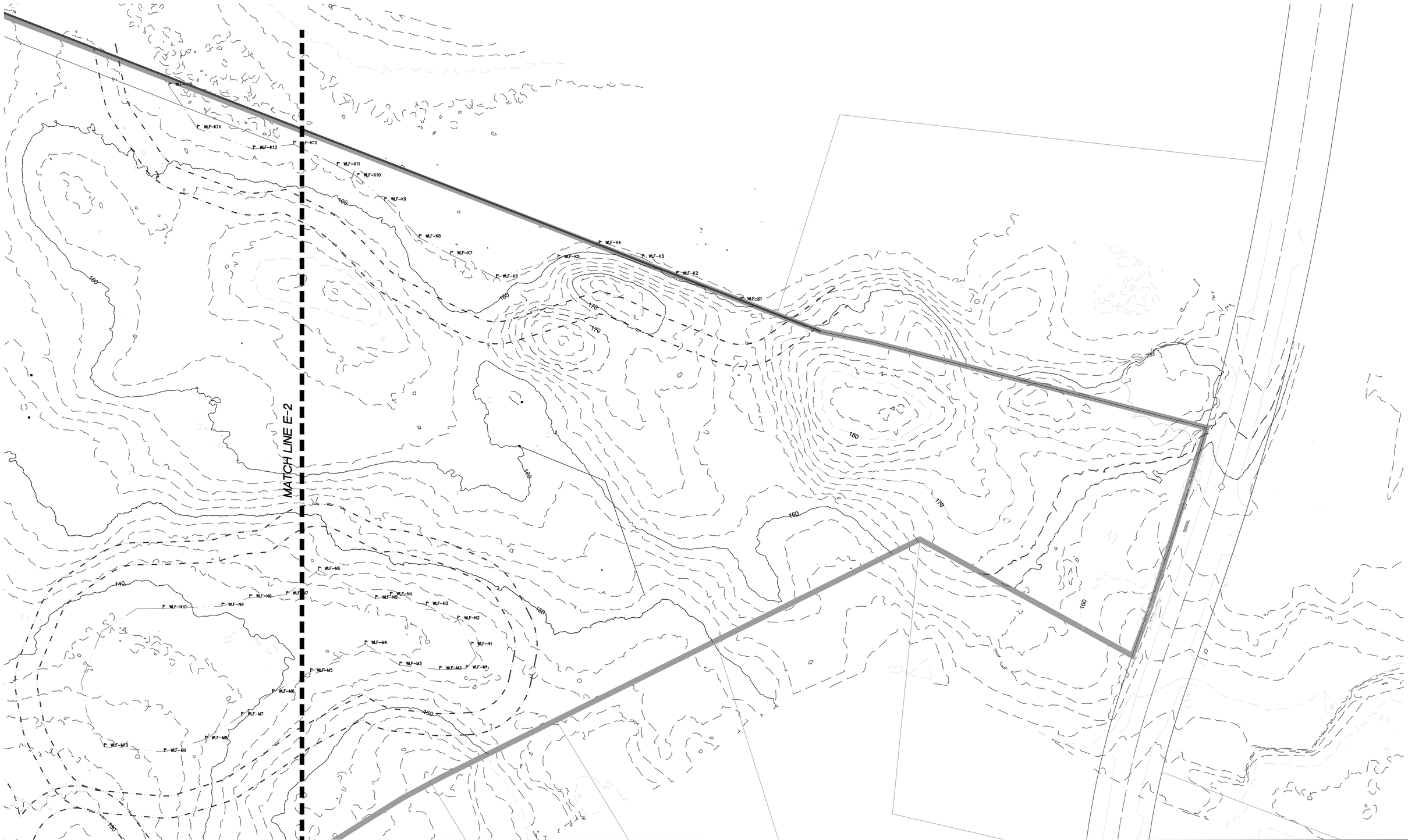
DATE: FEBRUARY 28, 2024



NEWTON ROAD ESTATES

REVISIONS		
NO.	DESCRIPTIONS	DATE
1	ADDITION OF DRAINAGE SHEETS	3/14/24

DEFINITIVE PLAN
FOR
HAVERHILL COUNTRY CLUB LAND

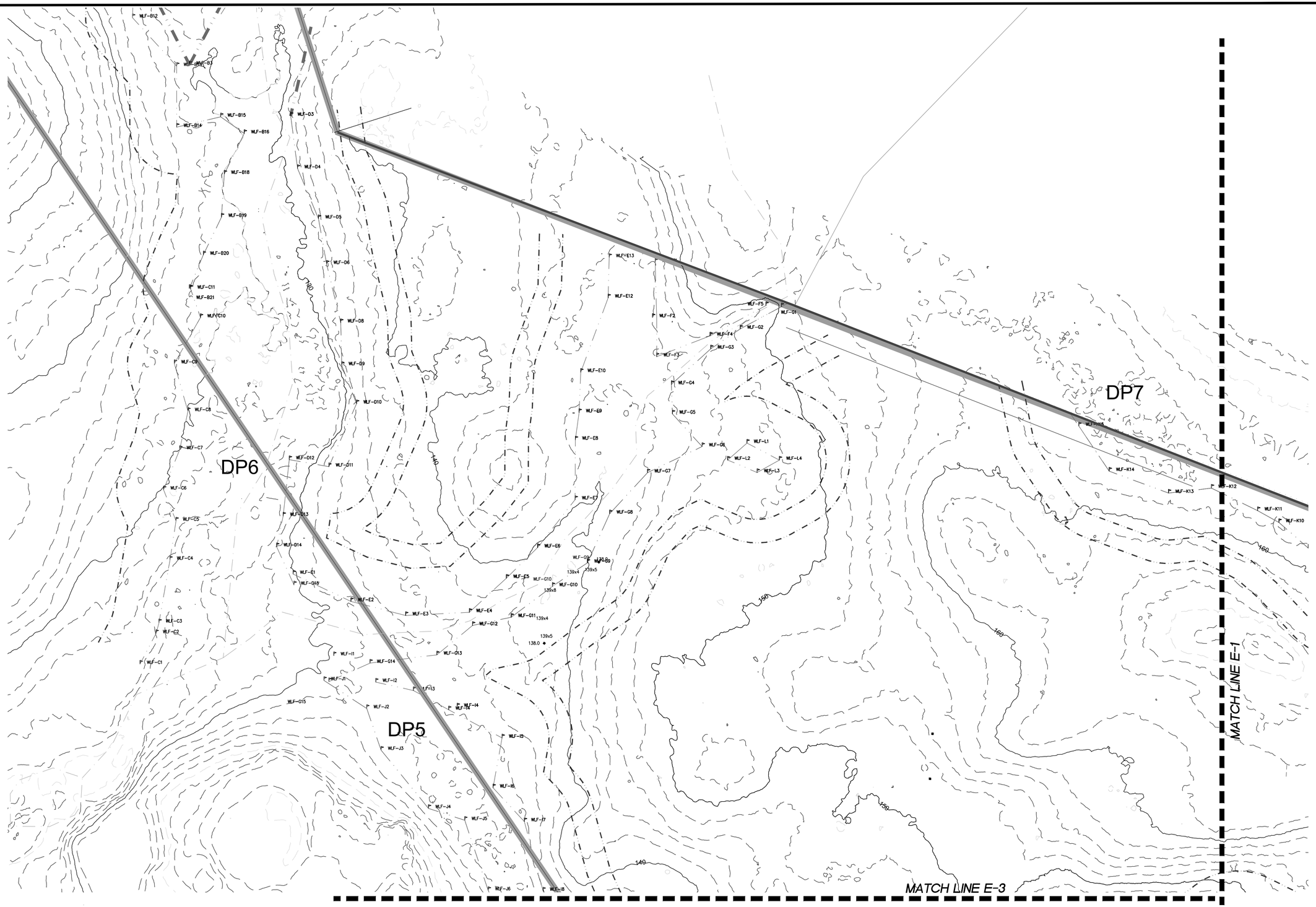
DESIGNED BY PGC
CHECKED BY PGC

DATE FEB 24, 2023

PGC Engineering PLLC
Civil and Environmental Engineering
10 Chase Street West Newbury MA 01985
978-994-4550 philchristiansen.pe@gmail.com

EXISTING CONDITIONS
SHEET E-1
SHEET 6 OF 20

JOB NUMBER
2312022



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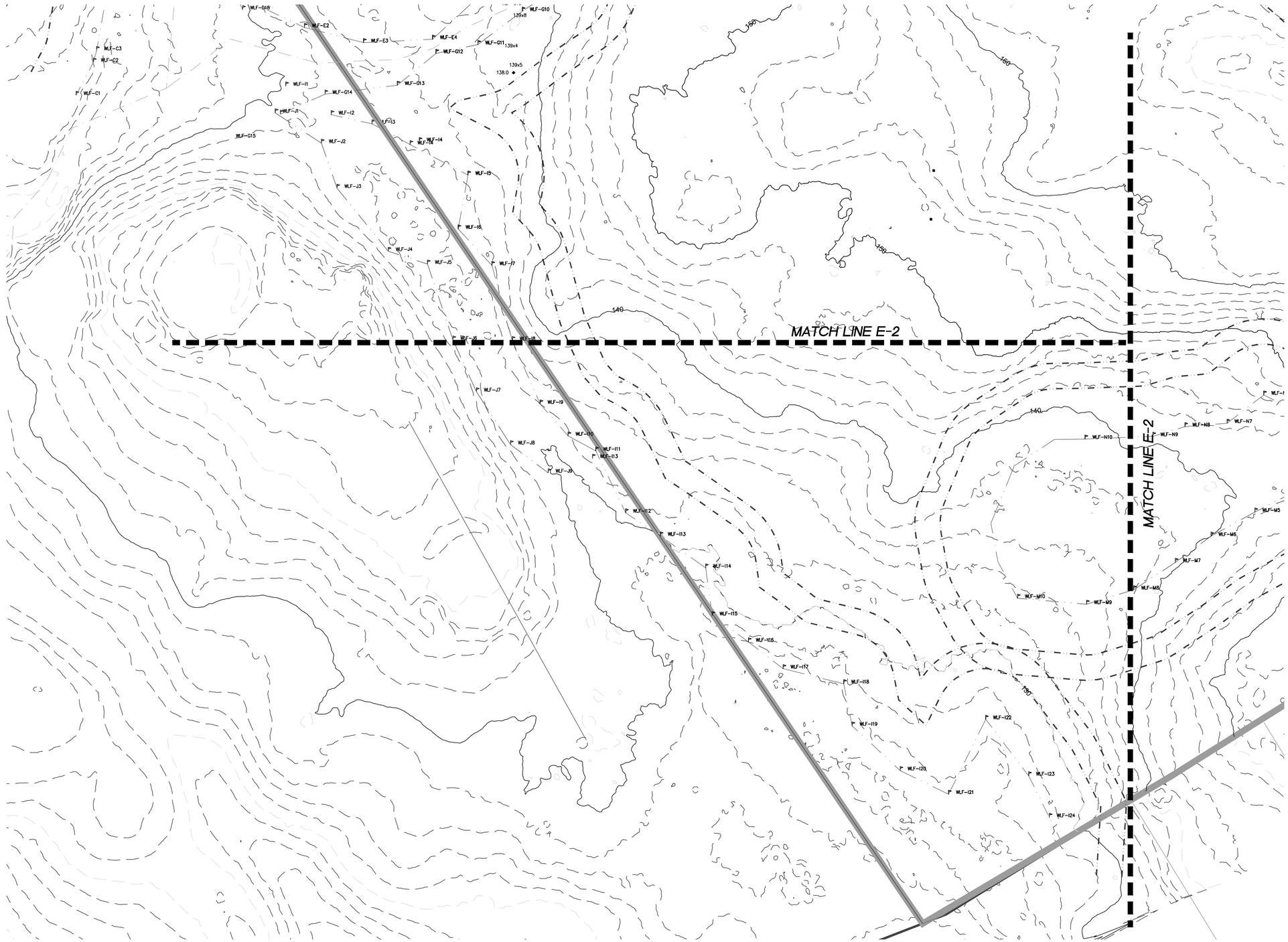
EXISTING CONDITIONS
SHEET E-2
SHEET 7 OF 20

JOB NUMBER
2312022



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EXISTING CONDITIONS
SHEET E-3
SHEET 8 OF 20

JOB NUMBER
2312022

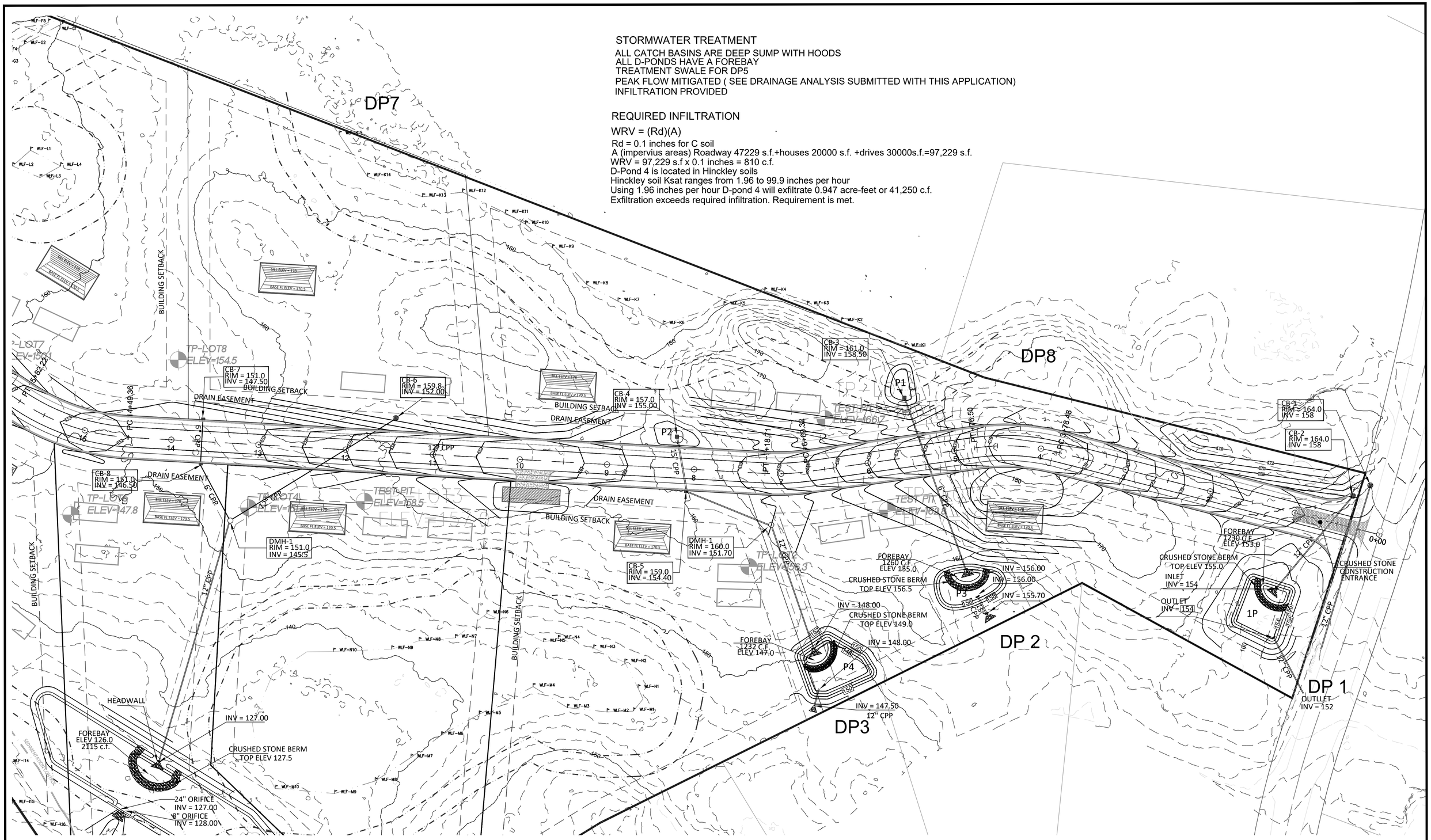
STORMWATER TREATMENT

ALL CATCH BASINS ARE DEEP SUMP WITH HOODS
ALL D-PONDS HAVE A FOREBAY
TREATMENT SWALE FOR DP5
PEAK FLOW MITIGATED (SEE DRAINAGE ANALYSIS SUBMITTED WITH THIS APPLICATION)
INFILTRATION PROVIDED

REQUIRED INFILTRATION

WRV = (Rd)(A)

Rd = 0.1 inches for C soil
A (impervius areas) Roadway 47229 s.f.+houses 20000 s.f. +drives 30000s.f.=97,229 s.f.
WRV = 97,229 s.f x 0.1 inches = 810 c.f.
D-Pond 4 is located in Hinckley soils
Hinckley soil Ksat ranges from 1.96 to 99.9 inches per hour
Using 1.96 inches per hour D-pond 4 will exfiltrate 0.947 acre-feet or 41,250 c.f.
Exfiltration exceeds required infiltration. Requirement is met.



NEWTON ROAD ESTATES	REVISIONS NO. / DESCRIPTIONS / DATE	DEFINITIVE PLAN FOR HAVERHILL COUNTRY CLUB LAND	DESIGNED BY PGC CHECKED BY PGC DATE MAR 6, 2024		PGC Engineering PLLC Civil and Environmental Engineering 10 Chase Street West Newbury MA 01985 978-994-4550 philchristiansen.pe@gmail.com	DRAINAGE PLAN SHEET GP-1 SHEET 9 OF 20 JOB NUMBER 2312022

CONSTRUCTION SEQUENCE

1.SAKE OUT ROADWAY CENTERLINE AND LIMIT OF WORK
2. INSTALL CB1 AND PIPING IN NEWTON ROAD DRAINAGE SWALE
3. CLEAR AND GRUB ROADWAY ENTRANCE ADEQUATELY TO INSTALL CRUSHED STONE CONSTRUCTION ENTRANCE. APPROXIMATELY 50 FEET
4. INSTALL CRUSHED STONE CONSTRUCTION ENTRANCE
5. CUT AND REMOVE TREES WITHIN THE ROADWAY AND LIMIT OF WORK
6. INSTALL SEDIMENTATION CONTROL AT END OF THE CUL-DE-SAC
7. CLEAR AND GRUB ENTIRE AREA WITHIN THE LIMIT OF WORK
8. EXCAVATE AND FILL ROADWAY AND ADJOINING AREAS ADEQUATELY TO CONSTRUCT THE ROADWAY AND SWALES
9. COMPACT SUBGRADE
10. INSTALL AND COMPACT 15" GRAVEL BASE COURSE
11. SHAPE SWALES
12. INSTALL 6" CRUSHED GRAVEL COURSE
13. INSTALL CATCH BASINS AND PIPING ASSOCIATED WITH ROADWAY
14. LOAM AND SEED SWALES
15. INSTALL SILT SACKS IN CATCH BASINS
16.INSTALL SEDIMENTSTION CONTROL ADJACENT TO D-PONDS AND SWALE
17. CUT TREES IN DRAIN EASEMENTS
18. GRUB DRAIN EASEMENTS
19. COMPLETE DRAINAGE PIPING
20. CONSTRUCT FOREBAYS D-PONDS AND TRESTMENT SWALES
21. LOAM AND SEED DISTURBED AREAS
22. INSTALL BINDER COURSE OF ASPHALT
23. AFTER SITE STABILIZATION REMOVE SEDIMENTATION CONTROL
24. INSTALL TOP COURSE OF ASPHALT AFTER ONE YEAR.

FOREBAY SIZING

WQV = (P)(Rv)(A)
Rv = 0.05+0.9(I)
I-PERCENT OF IMPERVIOUS COVER IN DECIMAL
A=TOTAL SITE AREA DRAINING TO THE POINT

DP1
P=1 inch rainfall = .08 FT
A=62113
Rv= 0.05+0.9(.1618)=0.0645
WQV = .08(.0645)(62113) = 320 CU.FT
REQUIRED VOLUME 10% OF WQV = 32 C.F.
PROVIDED 1250 C.F.

DP2
P=1 inch rainfall = .08 FT
A=95488
Rv= 0.05+0.9(.0933)=0.133
WQV = .08(0.133)(95488) = 1,015 CU.FT
REQUIRED VOLUME 10% 0F WQV = 102 C.F.
PROVIDED 1260 C.F.

DP3
P=1 inch rainfall = .08 FT
A=89633 S.F.
Rv= 0.05+0.9(.069)=0.056
WQV = .08(0.056)(89633) = 410 CU.FT
REQUIRED VOLUME 10% 0F WQV = 41 C.F.
PROVIDED 1232 C.F.

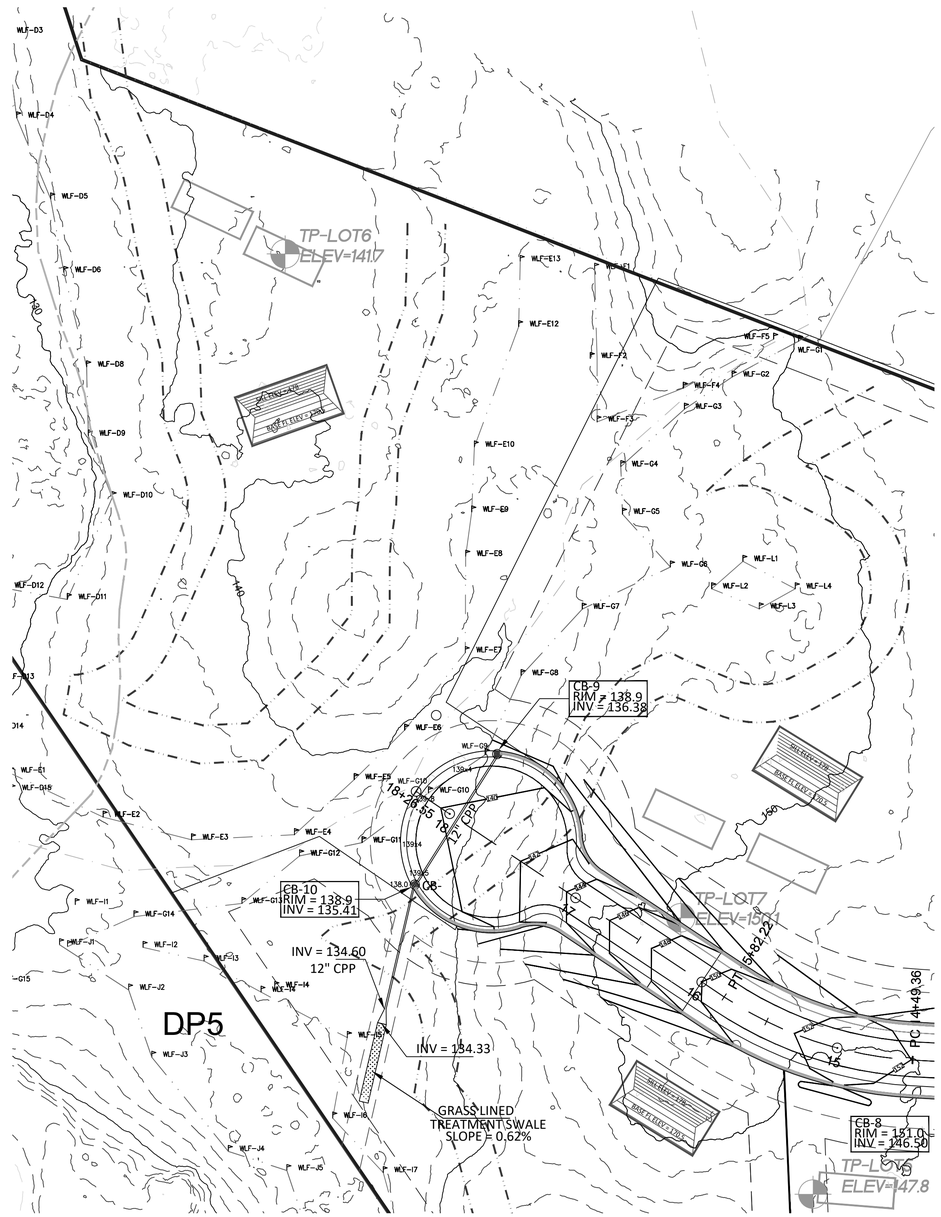
DP4
P=1 inch rainfall = .08 FT
A=486,600 S.F.
Rv= 0.05+0.9(.0056)=0.050
WQV = .08(0.050)(489,600) = 1958 CU.FT
REQUIRED VOLUME 10% OF WQV = 196 C.F.
PROVIDED 2115 C.F.

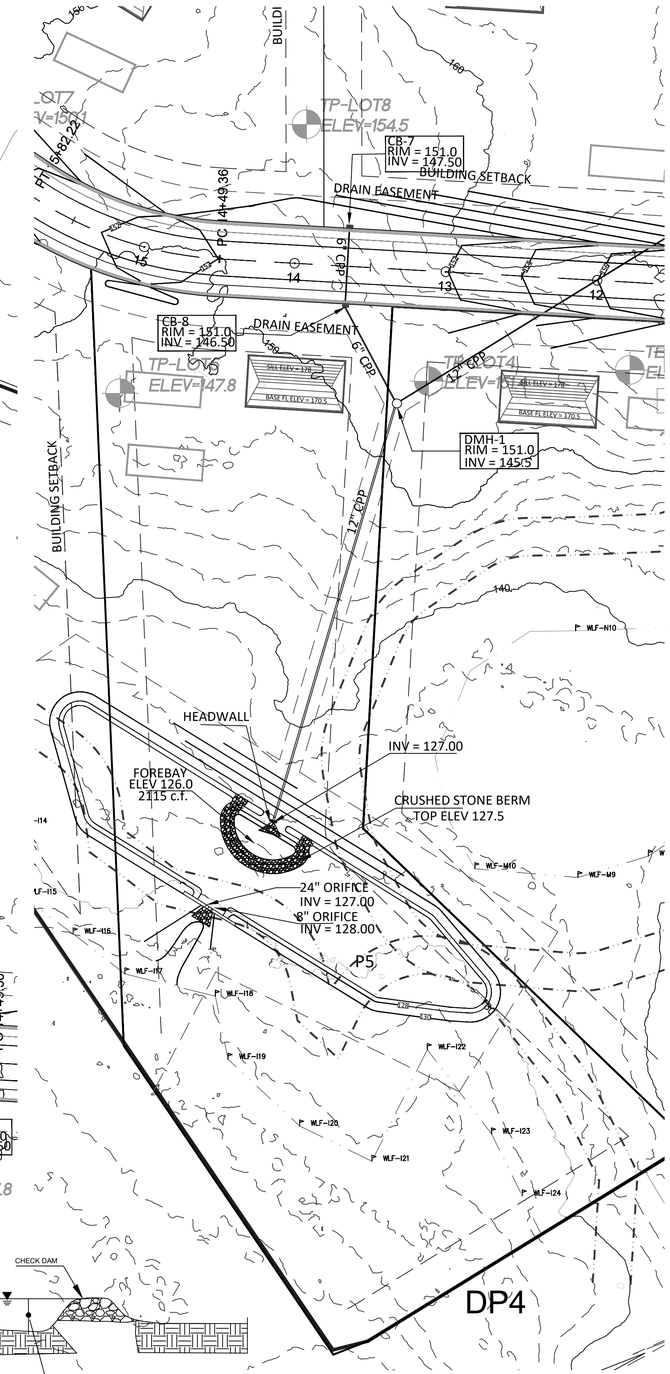
DP5
P=1 inch rainfall = .08 FT
A=301,627 S.F.
Rv= 0.05+0.9(.0411)=0.086
WQV = .08(0.086)(301,627) = 2075CU.FT
REQUIRED VOLUME 10% OF WQV = 208 C.F.
SEE TREATMENT SWALE

DP6
P=1 inch rainfall = .08 FT
A=151,281 S.F.
Rv= 0.05+0.9(.014)=0.0626
WQV = .08(0.0626)(151,281) = 757 CU.FT
NONE CU. FT. PROVIDED: OK

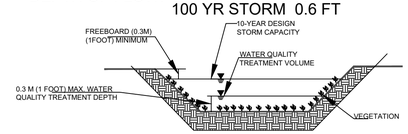
DP7
P=1 inch rainfall = .08 FT
A=103,711 S.F.
Rv= 0.05+0.9(.0167)=0.065
WQV = .08(0.065)(103,711) = 539 CU.FT
NONE PROVIDED

DP8
AREA REMAINS NATURAL
NO IMPERVIOUS SURFACES
NO WQV REQUIRED

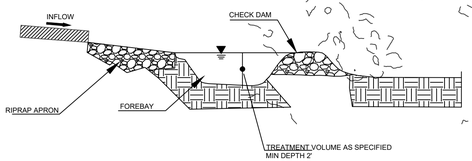




TREATMENT SWALE FOR DP5 SET AT 0.006 FT/FT
DEPTH OF FLOW: 2 YR STORM 0.15 FT
100 YR STORM 0.6 FT



TREATMENT SWALE



FOREBAY DETAIL

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DRAINAGE PLAN
SHEET GP-2
SHEET 10 OF 20
JOB NUMBER
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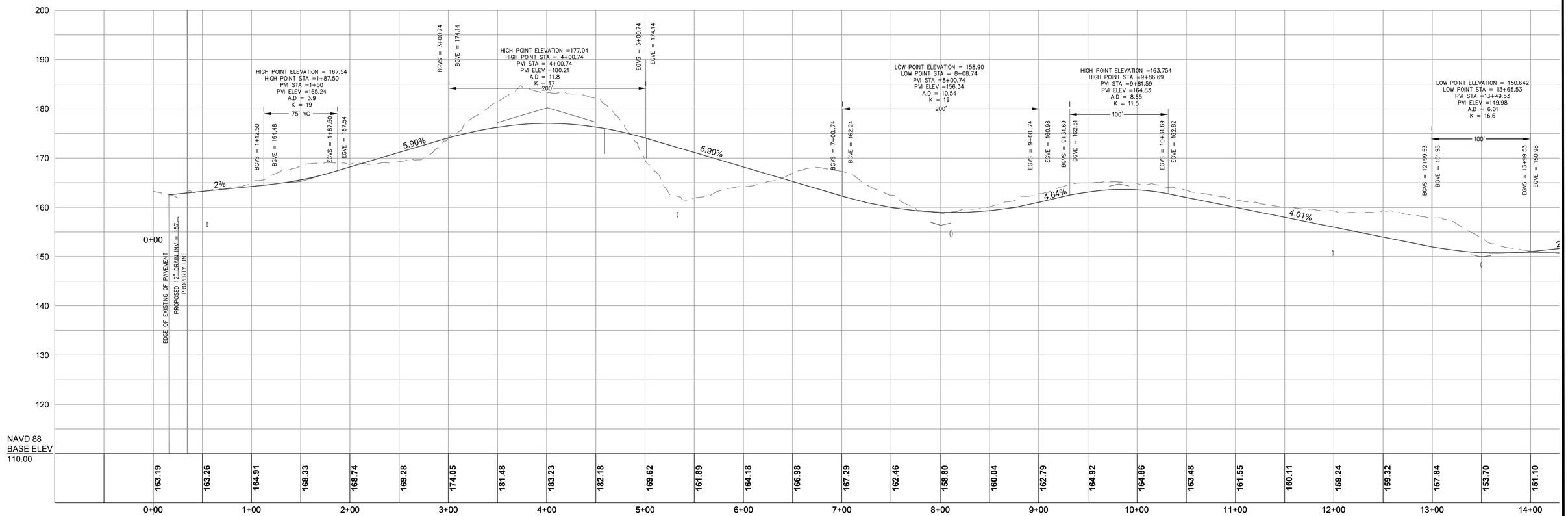

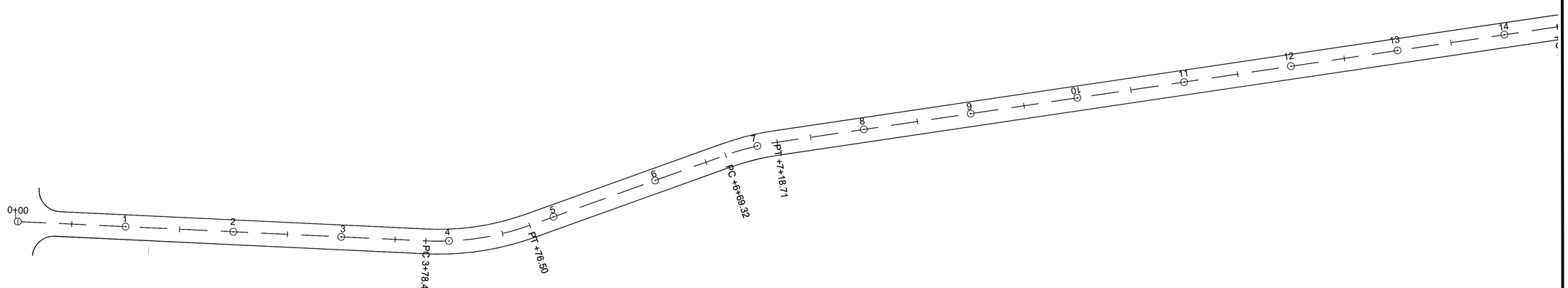

NEWTON ROAD ESTATES	REVISIONS			DEFINITIVE PLAN FOR HAVERHILL COUNTRY CLUB LAND	DESIGNED BY PGC CHECKED BY PGC DATE FEB 24, 2023		PGC Engineering PLLC Civil and Environmental Engineering 10 Chase Street West Newbury MA 01985 978-994-4550 philchristiansen.pe2gmail.om	ROADWAY PROFILE SHEET P-1 SHEET 11 OF 20 JOB NUMBER 2312022
	NO.	DESCRIPTIONS	DATE					
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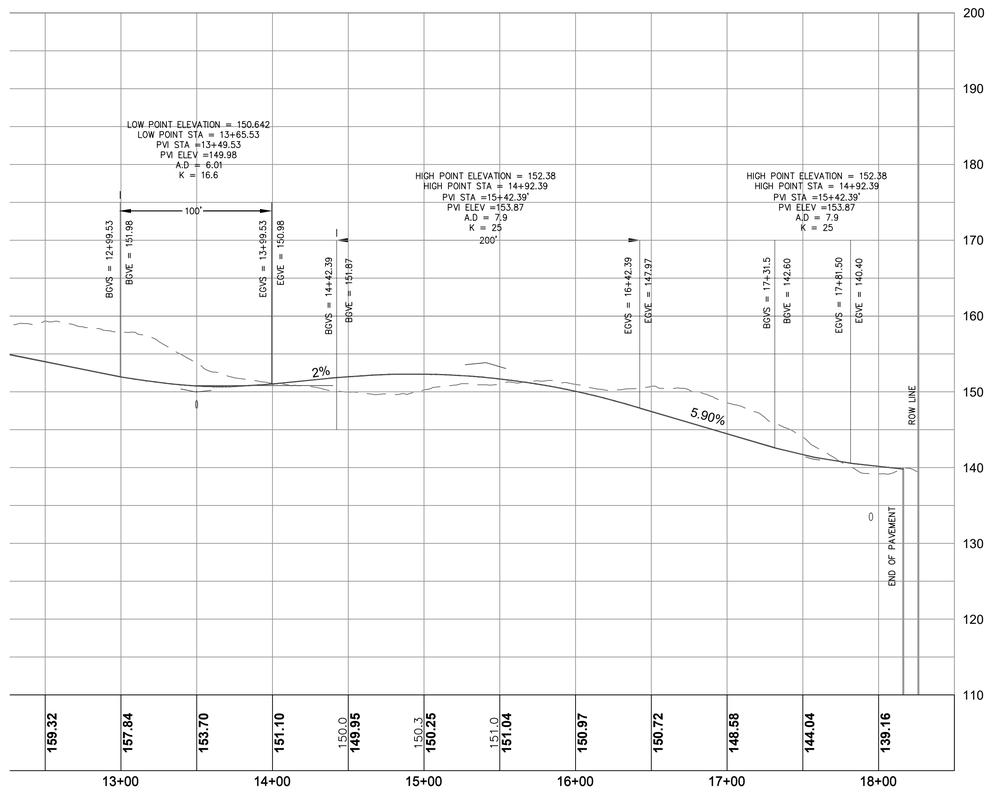

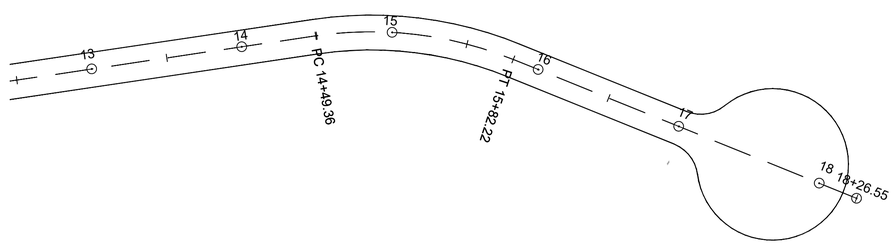

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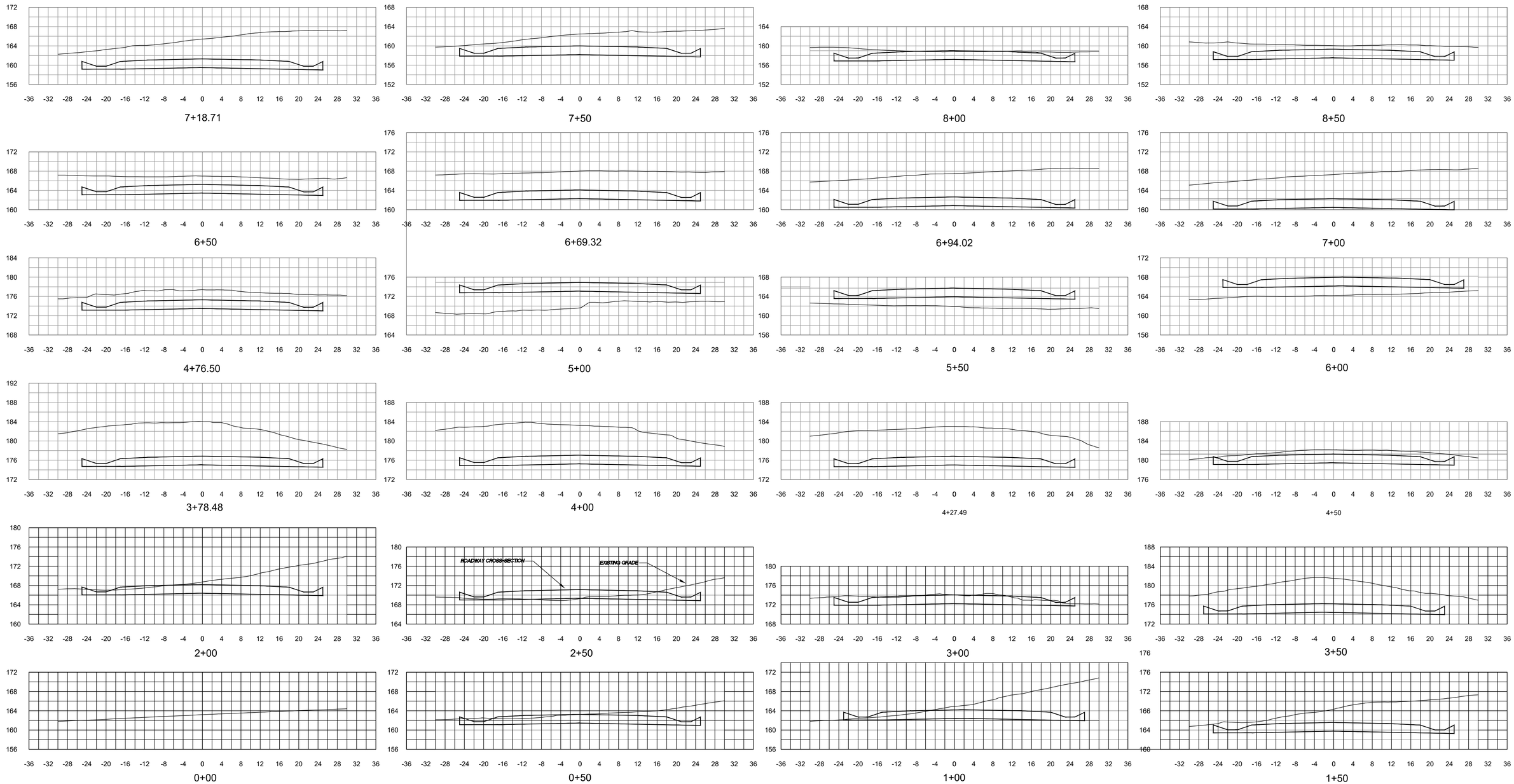
ROADWAY PROFILE
SHEET P-2
SHEET 12 OF 20

JOB NUMBER
2312022



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ROADWAY
CROSS-SECTIONS
SHEET CS-1
SHEET 13 OF 20

JOB NUMBER
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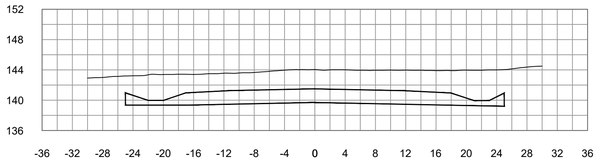

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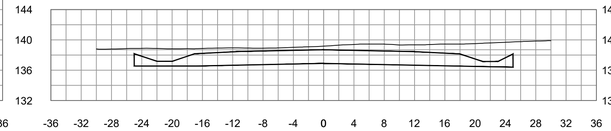

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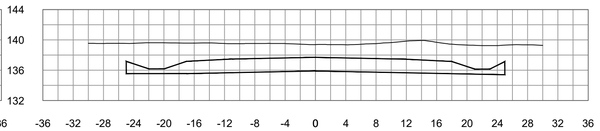

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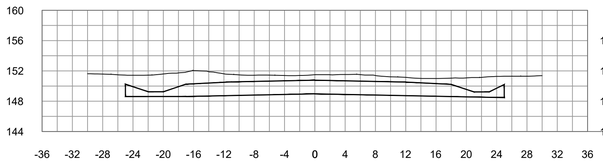

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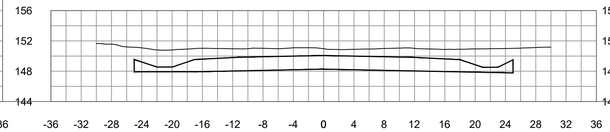

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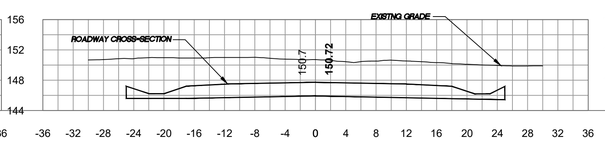

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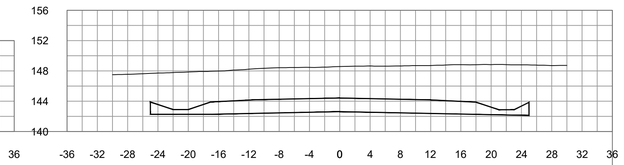

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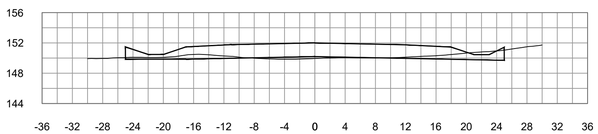

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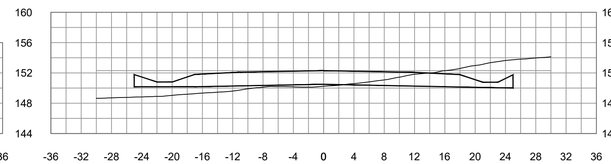

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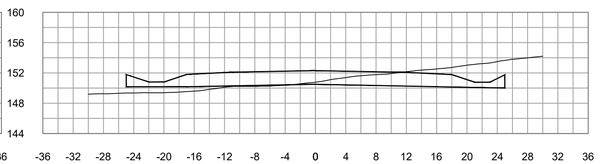

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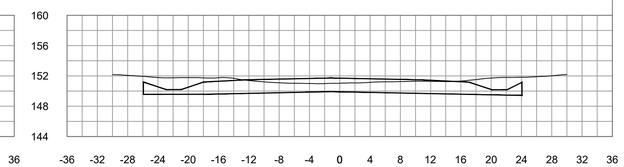

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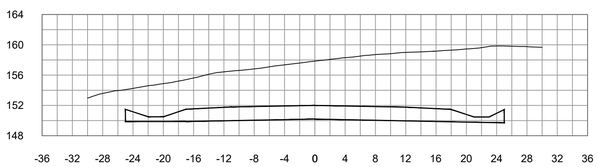

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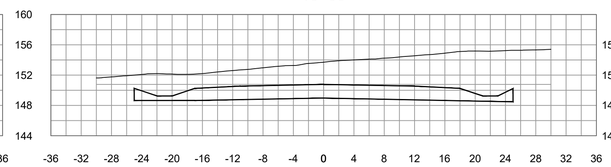

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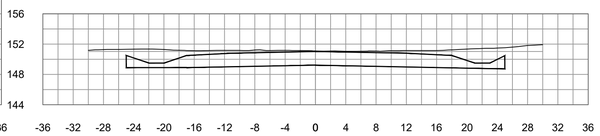

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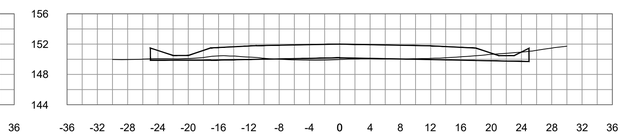

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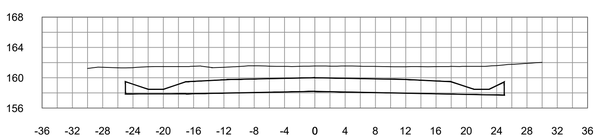

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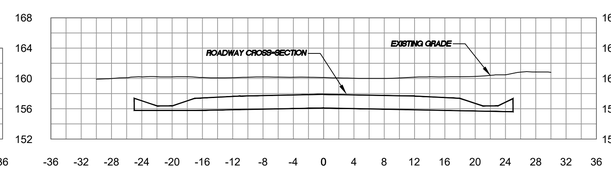

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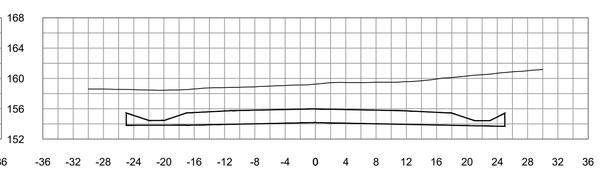

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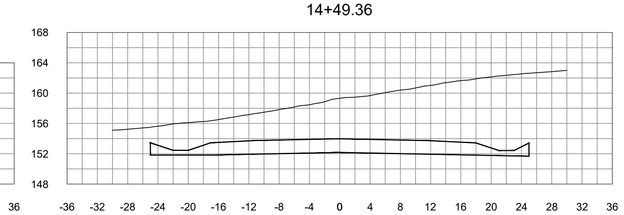

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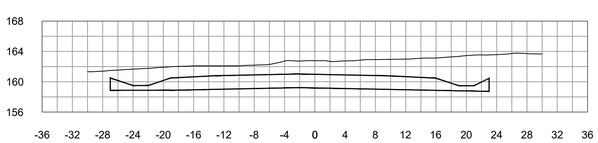

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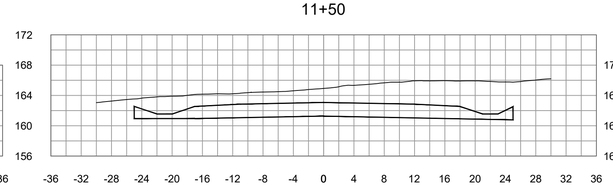

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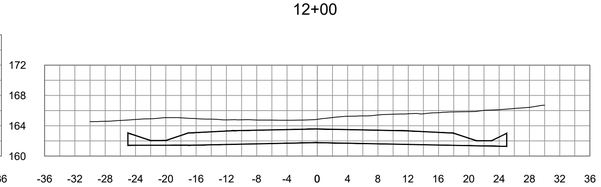

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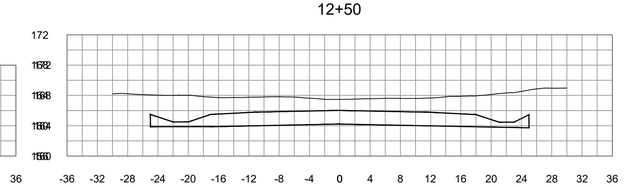

10+50

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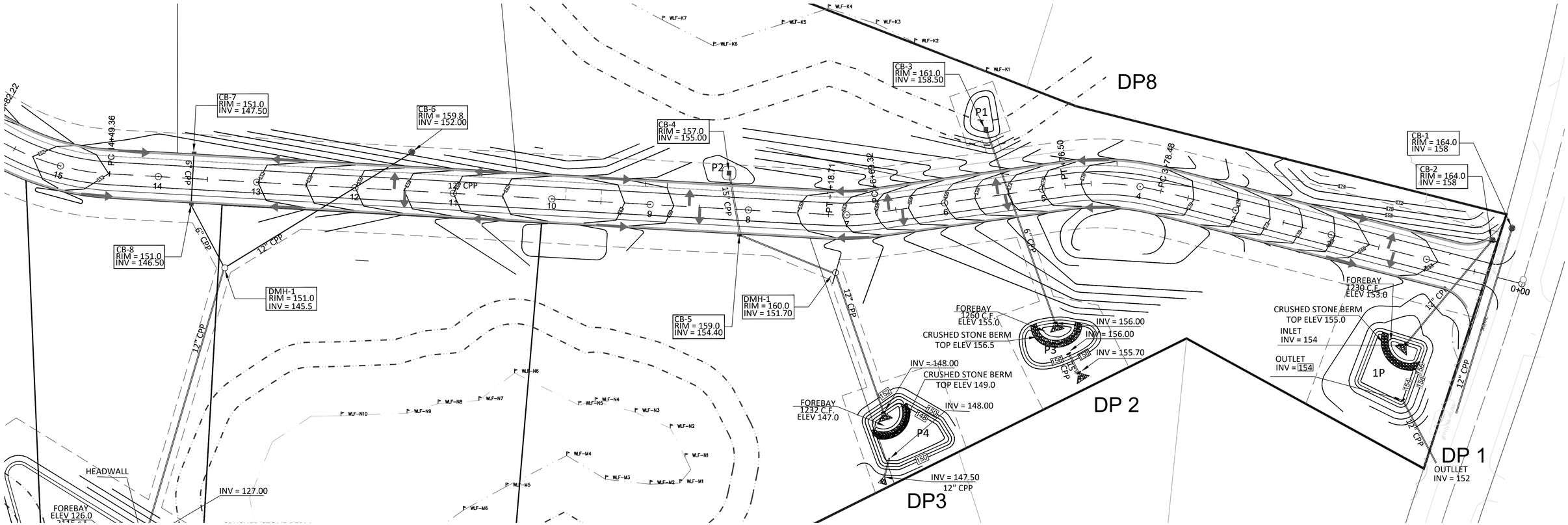
ROADWAY
CROSS-SECTIONS
SHEET CS-2
SHEET 14 OF 20

JOB NUMBER
2312022



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REQUIRED VOLUME 10% 0F WQV = 41 C.F.
PROVIDED 1232 C.F.

DP4
P=1 inch rainfall = .08 FT
A=486,600 S.F.
Rv= 0.05+0.9(.0056)=0.050
WQV = .08(0.050)(489,600) = 1958 CU.FT
REQUIRED VOLUME 10% OF WQV = 196 C.F.
PROVIDED 2115 C.F.

DP5
P=1 inch rainfall = .08 FT
A=301,627 S.F.
Rv= 0.05+0.9(.0411)=0.086
WQV = .08(0.086)(301,627) = 2075CU.FT
REQUIRED VOLUME 10% OF WQV = 208 C.F.
SEE TREATMENT SWALE

DP6
P=1 inch rainfall = .08 FT
A=151,281 S.F.
Rv= 0.05+0.9(.014)=0.0626
WQV = .08(0.0626)(151,281) = 757 CU.FT
NONE CU. FT. PROVIDED: OK

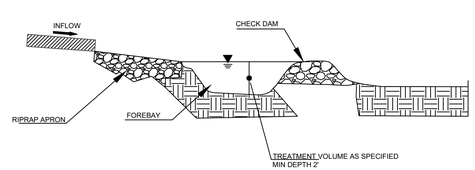
DP7
P=1 inch rainfall = .08 FT
A=103,711 S.F.
Rv= 0.05+0.9(.0167)=0.065
WQV = .08(0.065)(103,711) = 539 CU.FT
NONE PROVIDED

DP8
AREA REMAINS NATURAL
NO IMPERVIOUS SURFACES
NO WQV REQUIRED

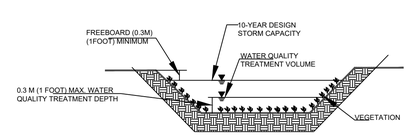
REQUIRED INFILTRATION

WRV = (Rd)(A)
Rd = 0.1 inches for C soil
A (impervius areas) Roadway 47229 s.f.+houses 20000 s.f. +drives 30000s.f.=97,229 s.f.
WRV = 97,229 s.f x 0.1 inches = 810 c.f.
D-Pond 4 is located in Hinckley soils
Hinckley soil Ksat ranges from 1.96 to 99.9 inches per hour
Using 1.96 inches per hour D-pond 4 will exfiltrate 0.947 acre-feet or 41,250 c.f.
Exfiltration exceeds required infiltration. Requirement is met.

TREATMENT SWALE FOR DP5 SET AT 0.006 FT/FT
DEPTH OF FLOW: 2 YR STORM 0.15 FT
100 YR STORM 0.6 FT



FOREBAY DETAIL



TREATMENT SWALE

NEWTON ROAD ESTATES

REVISIONS		
NO.	DESCRIPTIONS	DATE
1	ADDITION OF DRAINAGE SHEETS	3/14/24

DEFINITIVE PLAN
FOR
HAVERHILL COUNTRY CLUB LAND

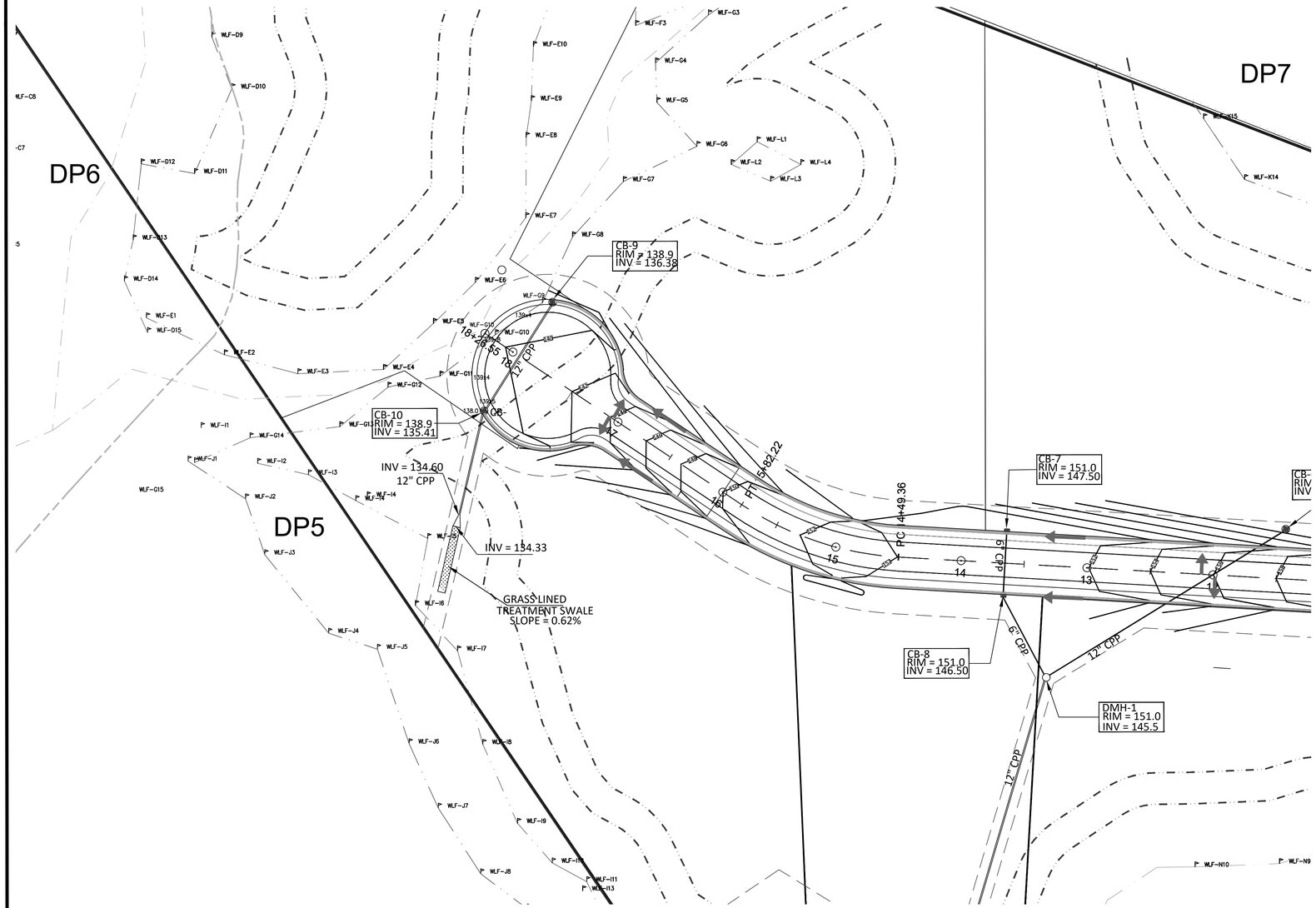
DESIGNED BY PGC
CHECKED BY PGC
DATE MAR 6, 2024

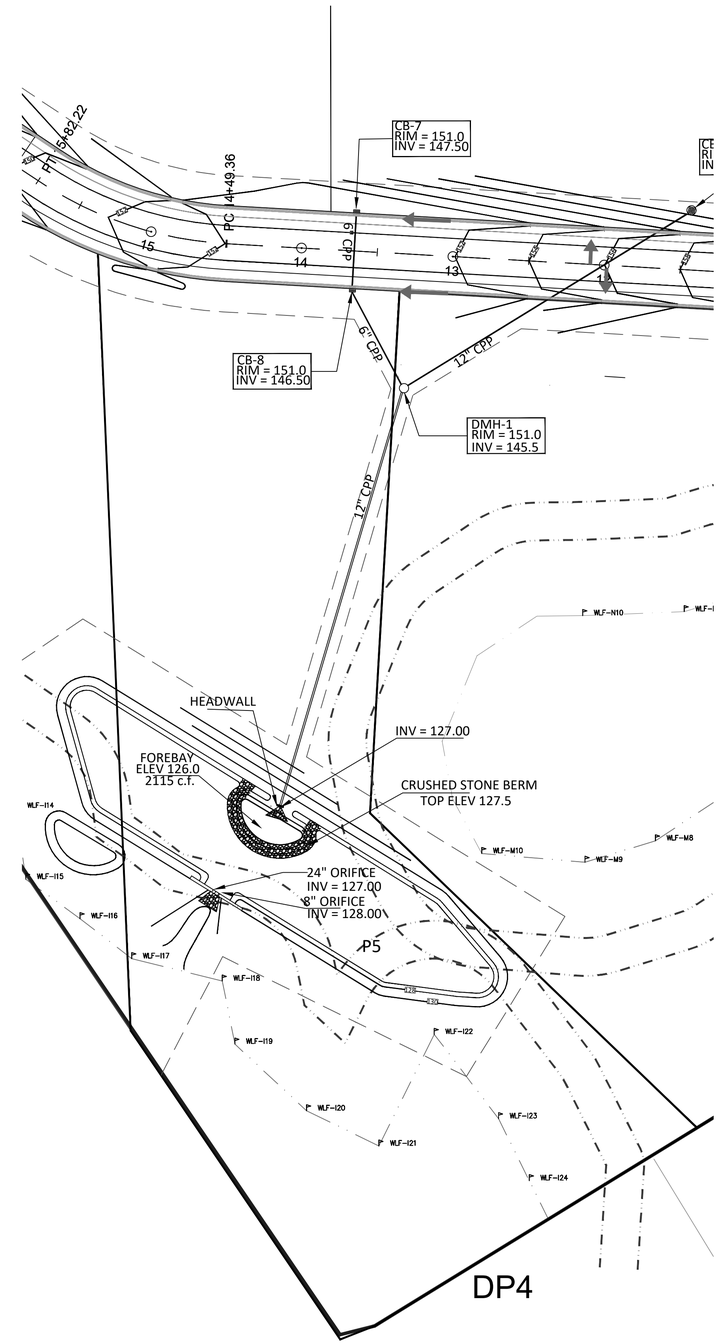
STATE OF NEW HAMPSHIRE
PHILIP G. CHRISTIANSEN
No. 5712
LICENSED
PROFESSIONAL ENGINEER

PGC Engineering PLLC
Civil and Environmental Engineering
10 Chase Street West Newbury MA 01985
978-994-4550 philchristiansen.pe@gmail.com

DRAINAGE PLAN
SHEET DP-1
SHEET 15 OF 20

JOB NUMBER
2312022





NEWTON ROAD ESTATES

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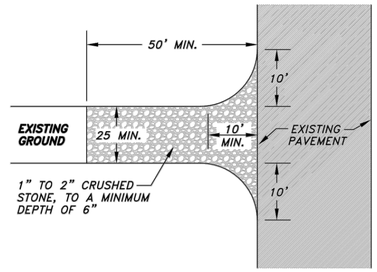
DRAINAGE PLAN
SHEET DP-2
SHEET 16 OF 20

JOB NUMBER
2312022

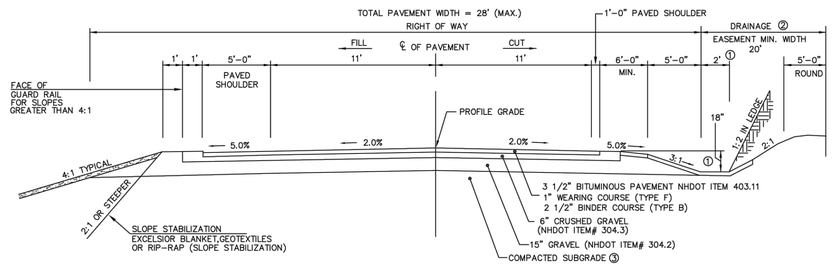
EXHIBIT A
TOWN OF PLAISTOW
Typical Cross Section
[Approved 3-11-2003 ATM by Art. P-23]



CRUSHED STONE CONSTRUCTION ENTRANCE

NOT TO SCALE

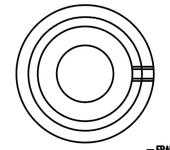
THE CRUSHED STONE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE ADJACENT ROADWAY.



NOT TO SCALE

NOTES:

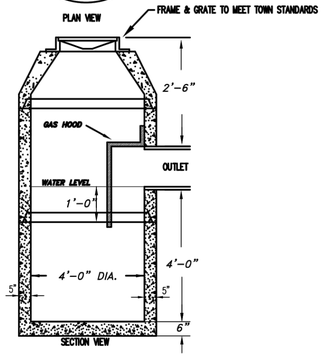
1. DESIGN OF DITCHES MAY VARY DEPENDING UPON DRAINAGE DESIGN. ROADSIDE DITCHES SHALL BE DESIGNED FOR 10 YR. STORMS. USE 6" CLASS "C" STONE NHDOT ITEM 585.3 ON 3" GRANULAR BEDDING OR NON-WOVEN GEOTEXTILE WHERE EROSOVE VELOCITIES EXIST.
2. DRAINAGE DITCHES WHICH LIE OUTSIDE THE RIGHT OF WAY SHALL BE CONTAINED WITHIN A DRAINAGE EASEMENT.
3. SUBGRADE SHALL BE NATIVE GRANULAR MATERIAL OR SAND FILL. ALL ORGANIC, HUMUS MATERIAL SHALL BE REMOVED PRIOR TO PLACEMENT OF GRAVEL SAND AND GRAVEL BURROW SHALL BE PLACED, COMPACTED AND TESTED IN ACCORDANCE WITH NHDOT
4. EMBANKMENTS AND ALL DISTURBED AREAS TO BE LOAMED (4" DEPTH) SEEDED & MULCHED.
5. STRIPING:
   CENTERLINE – SOLID DOUBLE YELLOW 4" LINES (IF REQUIRED)
   SHOULDERS – SOLID SINGLE WHITE 4" LINES (EACH SIDE)
   CONTACT PLAISTOW HIGHWAY DEPARTMENT TO DETERMINE LIMITS OF CENTERLINE STRIPING.
6. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS.



PLAN VIEW

NOTES:

1. CONCRETE: 4,000 PSI AFTER 28 DAYS.
2. REINFORCING: H-20 LOADING, 4 X 4/4 X 4 W.W.M.
3. SHIPLAP JOINTS SEALED WITH 1 STRIP OF 1" BUTYL RUBBER SEALANT.
4. EACH CASTING TO HAVE LIFTING HOLES CAST IN.

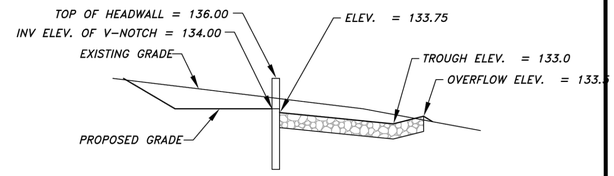


CATCH BASIN

NOT TO SCALE

NOTES:

1. CAST IRON FRAME AND GRATE ARE TO MEET TOWN STANDARDS.

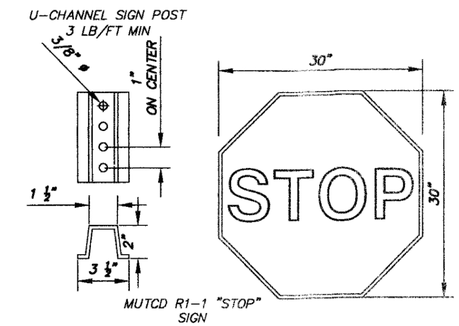


SECTION A–A

HORIZONTAL SCALE: 1" = 10'±
VERTICAL SCALE: 1" = 5'±

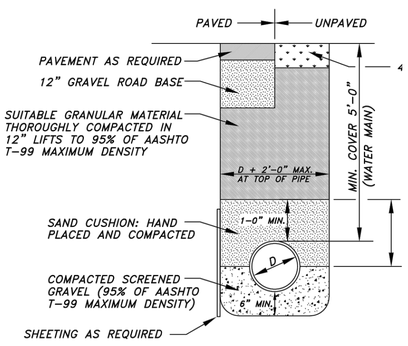
RIP-RAP LEVEL SPREADER

NOT TO SCALE



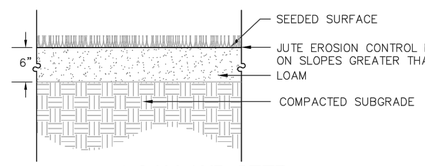
SITE SIGNAGE DETAIL

NOT TO SCALE

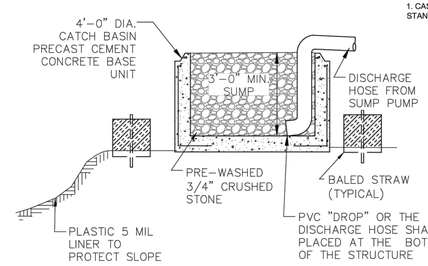


TYPICAL TRENCH

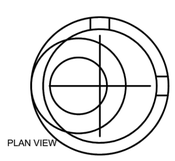
NOT TO SCALE



LOAM AND SEED



DEWATERING SUMP



PLAN VIEW

NOTES:

1. CONCRETE: 4,000 PSI AFTER 28 DAYS.
2. REINFORCING: H-20 LOADING 4 X 4/4 X 4 W.W.M.

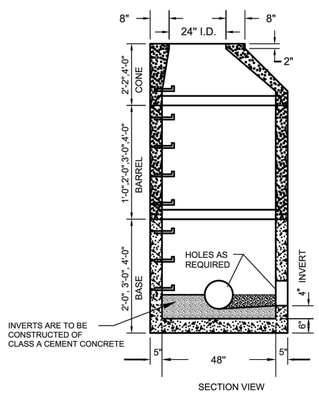
1" DIA. BUTYL RUBBER SEALANT.

4. EACH CASTING TO HAVE LIFTING HOLES CAST IN.

6. MANHOLE STEPS @ 12" O.C. #PS2-PF-SL.
7. PIPE OPENINGS CAST IN AS REQUIRED.
8. 8" SLAB TOP AVAILABLE.

3. SHIPLAP JOINTS SEALED WITH 1 STRIP OF

5. EACH SECTION TO BE LABELED AS NOTED.



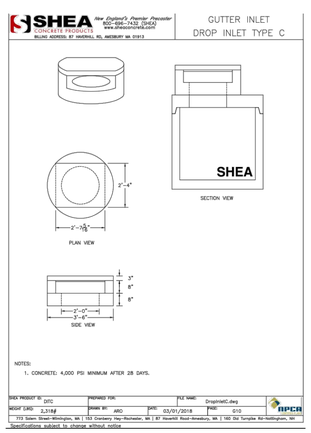
SECTION VIEW

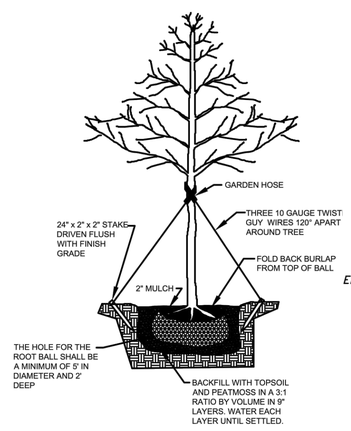
DRAIN MANHOLE

NOT TO SCALE

NOTES:

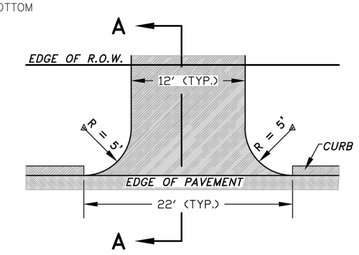
1. CAST IRON FRAME AND GRATE ARE TO MEET TOWN STANDARDS.



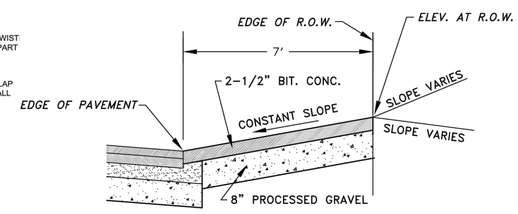


TREE PLANTING DETAIL

NOT TO SCALE



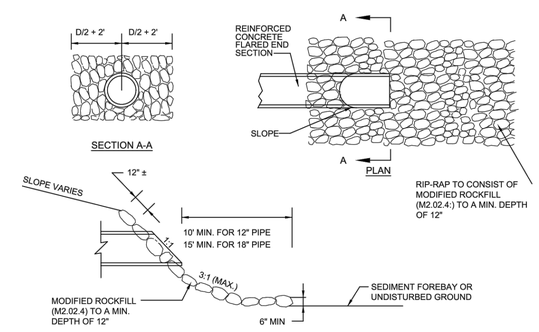
PLAN



SECTION A–A

TYPICAL DRIVEWAY DETAIL

NOT TO SCALE



* SAME DETAIL APPLIES FOR AN OUTLET WITH A HEADWALL

STONE FOR PIPE ENDS

NOT TO SCALE

MODIFIED ROCKFILL SHALL CONSIST OF HARD, DURABLE ANGULAR SHAPED STONES WHICH ARE THE PRIMARY PRODUCT OF A STONE CRUSHER. ROUNDED STONE, BOULDERS, SANDSTONE AND SIMILAR SOFT STONE OR RELATIVELY THIN SLABS ARE NOT ACCEPTABLE. THE STONE SHALL BE FREE FROM OVERBURDEN, SPOIL, SHALE, AND ORGANIC MATTER AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIZE OF STONE	PERCENT PASSING
8 IN.	95–100
4 IN.	0–25
2-1/2	0–5

NEWTON ROAD ESTATES

REVISIONS

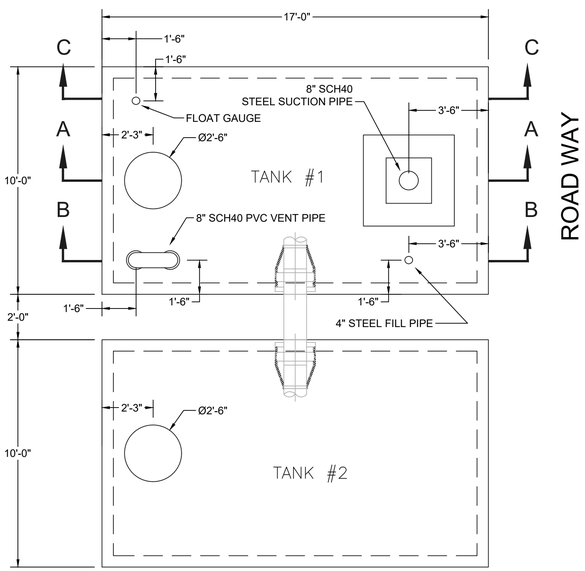
NO.	DESCRIPTIONS	DATE
1	ADDITION OF DRAINAGE SHEETS	3/14/24

DEFINITIVE PLAN
FOR
HAVERHILL COUNTRY CLUB LAND

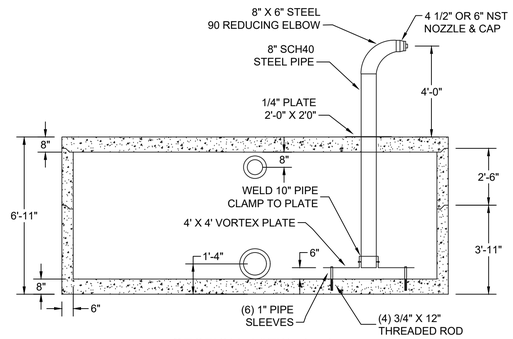
DESIGNED BY PGC
CHECKED BY PGC
DATE FEB 24, 2023

PGC Engineering PLLC
Civil and Environmental Engineering
10 Chase Street West Newbury MA 01985
978-994-4550 philchristiansen.pe@gmail.com

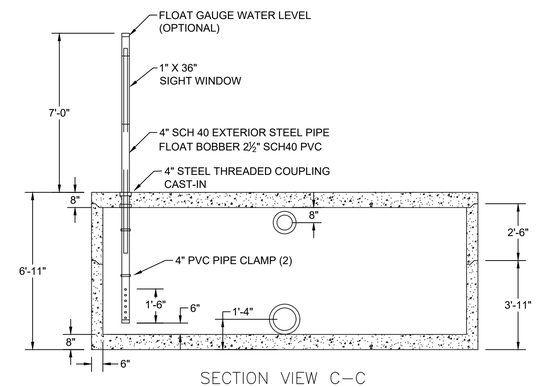
DETAILS
SHEET D-1
SHEET 17 OF 20
JOB NUMBER
2312022



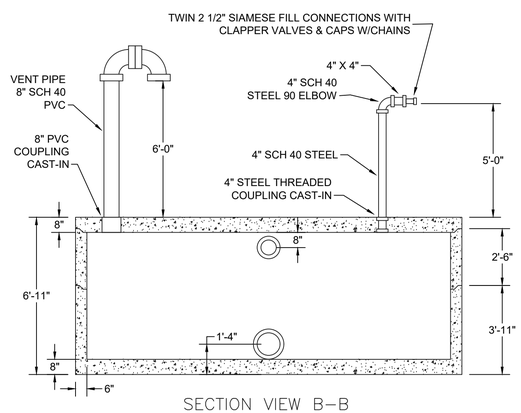
PLAN VIEW



SECTION VIEW A–A



SECTION VIEW C–C



SECTION VIEW B–B

WEIGHTS:
47" BOTTOM 31,500LBS
30" CENTER 11,300LBS
8" TOP 16,800LBS

10,000 GALLON FIRE CISTERN SHOWN

BACKFILL NOTES:
1) FOUNDATION MATERIAL SHALL BE ¾" CRUSHED STONE, MINIMUM 12" THICK.
2) BACKFILL MATERIAL SHALL BE NO GREATER THAN 1½" AND SHALL BE COMPACTED TO 95% PROCTOR. ALL COMPACTION TO BE DONE WITH HAND-OPERATED EQUIPMENT.
3) ALL AREAS BETWEEN TANKS SHALL BE FILLED TO A MINIMUM OF 12" ABOVE CROWN OF INTERCONNECTION PIPE WITH ¾" CRUSHED STONE.
4) ALL BACKFILL MATERIAL AROUND AND BETWEEN TANKS SHALL BE PLACED IN 12" LIFTS EVENLY ON ALL SIDES.
5) 2" INSULATION IS REQUIRED IF THE FILL OVER THE FIRE CISTERN IS LESS THAN 4 FEET. SUPPLIED BY OTHERS.

NOTES:
1) CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2) REINFORCING PER ASTM-615, GRADE 60 MINIMUM 1" COVER.
3) DESIGNED FOR AASHTO HS20-44 LOADING, COVER 1 TO 5 FEET.
4) TONGUE AND GROOVE JOINT SEALED WITH BUTYL RESIN PER ASTM C990. OVERALL HEIGHT MAY INCREASE SLIGHTLY DUE TO THE BUTYL RESIN USED.
5) EXTERIOR COATED.

SHEA CONCRETE PRODUCTS
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www.sheaconcrete.com

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Wilmington, MA 01887

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Amesbury, MA 01913

160 Old Turnpike Road
Nottingham, NH 03290

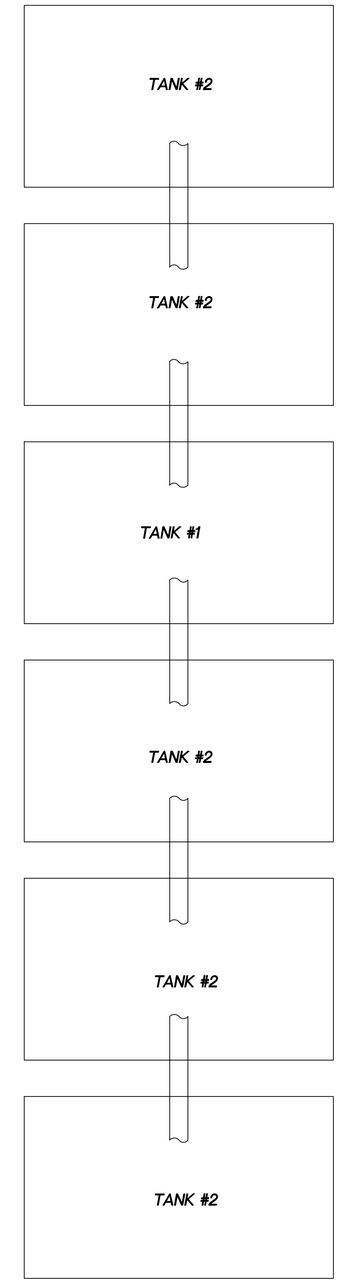
FIRE CISTERN

Page: 1 OF 1 6/17/2011

Firecistern 10000.dwg

NPCA CERTIFIED PLANT

THE CISTERN SHOWN ABOVE IS FOR A 10,000 GALLON CAPACITY. FOR THIS PROJECT 30,000 CAPACITY NEEDS TO BE INSTALLED
ADD FIVE #2 TANKS AS SHOWN IN THE INSTALLATION SKETCH



INSTALLATION SKETCH

NEWTON ROAD ESTATES

REVISIONS		
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DETAILS
SHEET D-2
SHEET 18 OF 20

JOB NUMBER
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GENERAL

THIS PLAN PROPOSES EROSION CONTROL MEASURES TO ADEQUATELY CONTROL ACCELERATED SEDIMENTATIO AND REDUCE THE DANGER FROM STORM WATER RUNOFF AT THE SITE. THE RUNOFF SHALL BE CONTROLLED BY THE INTERCEPTION, DIVERSION, AND SAFE DISPOSAL OF PRECIPITATION. RUNOFF SHALL ALSO BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY AND PRESERVING NATURAL VEGETATION WHEREVER POSSIBLE.

EXISTING VEGETATION SHALL BE PROTECTED AND ONLY THAT CLEARING AND GRUBBING ABSOLUTELY NECESSARY TO THE PROPOSED CONSTRUCTION SHALL BE PERFORMED. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR, UNLESS OTHERWISE INDICATED ON THE PLANS. THE CONTRACTOR SHALL TAKE SPECIAL CARE WITH HIS CONSTRUCTION METHODS AND SHALL COMPLY WITH THE FOLLOWING GUIDELINES:

SEDIMENTATION CONTROL

ALL AREAS SHALL BE PROTECTED FORM SEDIMENTATION DURING AND AFTER CONSTRUCTION, PARTICULARLY THE STORAGE OF EXCAVATED OR STOCKPILED MATERIAL. THE CONTRACTOR SHALL CAREFULLY STRIP ALL TOPSOIL, LOAM, OR ORGANIC MATTER PRIOR TO THE TRENCHING OR OTHER OPERATIONS AND SHALL STORE THEM SEPARATELY FROM ALL OTHER MATERIALS DURING EXCAVATION. EACH STOCKPILE MUST BE ADEQUATELY RINGED WITH SEDIMENT CONTROL MATERIAL (i.e. HAY BALES AND/OR FILTER FIBER ROLL).

DEBRIS AND OTHER WASTE RESULTING FROM EQUIPMENT MAINTENANCE AND CONSTRUCTION WILL NOT BE DISCARDED ON SITE.

EROSION AND SEDIMENTATION CONTROL PLAN

SEDIMENTATION CONTROL SYSTEM – THE SEDIMENTATION CONTROL SYSTEM SHALL CONSIST OF FILTER FABRIC BARRIER FENCE & HAYBALES. THE SEDIMENTATION CONTROL SYSTEM SHALL BE INSTALLED IMMEDIATELY AFTER A CUT SLOPE HAS BEEN GRADED, BEFORE A FILL SLOPE HAS BEEN CREATED, AND AS INDICATED ON THE PLANS. THE SYSTEM DESIGNED TO INTERCEPT SILT AND SEDIMENT BEFORE IT REACHES THE WETLANDS OR WATERCOURSES. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FOR THE UPSTREAM SIDE OF THE FENCE. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. THE SEDIMENTATION CONTROL SYSTEM IS TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE SYSTEM ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

STACKED HAY BALES – HAY OR STRAW BALES USED FOR EROSION CONTROL SHALL BE STACKED AT CATCH BASINS WHERE SEDIMENT MAY ENTER THE CATCH BASIN OR AS DIRECTED BY THE RESIDENT ENGINEER. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE EROSION CHECKS. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. HAY OR STRAW BALES ARE TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE EROSION CHECKS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

EROSION CONTROL MATTING – MATTING SHALL BE USED FOR EROSION CONTROL ON SLOPES GREATER THAN 3:1. SOIL ON SLOPES SHALL BE PREPARED BEFORE INSTALLING MATTING, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER AND SEED. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT EROSION CONTROL UNTIL VEGETATION HAS ESTABLISHED.

IN ALL AREAS, REMOVAL OF TREES, BUSHES, AND OTHER VEGETATION, AND DISTURBANCE TO THE SOIL, IS TO BE KEPT TO AN ABSOLUTE MINIMUM WHILE ALLOWING PROPER DEVELOPMENT OF THE SITE.

EROSION AND SEDIMENT CONTROL MAINTENANCE PROCEDURES

DURING CONSTRUCTION, AS SMALL AN AREA OF SOIL AS POSSIBLE SHOULD BE EXPOSED OR AS SHORT A TIME AS POSSIBLE. AFTER CONSTRUCTION, GRADE, RESPREAD TOPSOIL, AND STABILIZE SOIL BY SEEDING AND MULCHING AS TO PREVENT EROSION.

ALL SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION ON A DAILY BASIS AND FOLLOWING ALL STORMS BY THE RESIDENT ENGINEER. THE CONTRACTOR SHALL MAINTAI AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUESTED BY THE RESIDENT ENGINEER. THIS WORK SHA BE PERFORMED WITHIN 24 HOURS OF REQUEST.

THE CONTRACTOR SHALL CLEAN SEDIMENT AND DEBRIS FROM ALL DRAINAGE STRUCTURES, AND PIPES AT THE COMPLETION ON CONSTRUCTION, THE CONTRACTOR SHALL REPAIR ALL ERODED AREAS AND ENSURE A GOOD STAND OF TURF IS ESTABLISHED THROUGHOUT. THE CONTRACTOR SHALL REPAIR ALL ERODED OR DISPLACED RIPRAP, AND CLEAN SEDIMENT COVERED STONES.

CONSTRUCTION PROCEDURES:

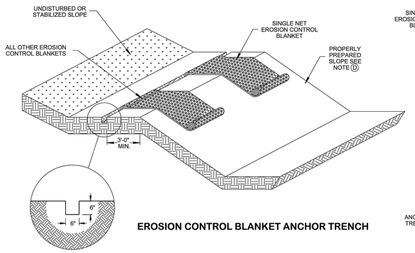
1. HAY BALES SHALL BE PLACED AROUND EXISTING CATCH BASINS AND DROP INLETS TO PREVENT SEDIMENTATION AND OTHER DEBRIS FROM ACCUMULATING ON THE GRATE OR IN THE SUMP. HAY BALES SHOULD BE KEPT CLEAN AND FREE OF DEBRIS TO FACILITATE FLOW.

2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4 INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.

3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR OR REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.

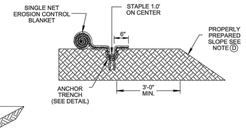
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

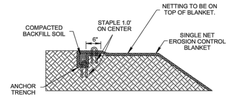
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.



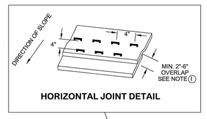
TRENCH DETAIL

EROSION CONTROL BLANKET ANCHOR TRENCH

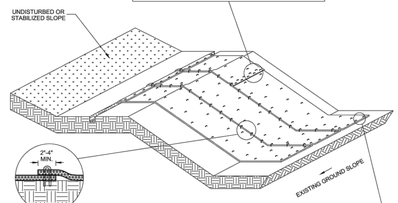




ANCHOR TRENCH DETAILS
SINGLE NET EROSION CONTROL BLANKETS

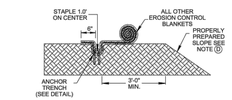


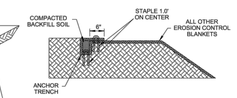
HORIZONTAL JOINT DETAIL



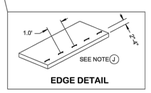
LONGITUDINAL JOINT DETAIL
(SEE NOTE ③)

EROSION CONTROL BLANKET STAPLE DETAILS
(USE MANUFACTURER'S RECOMMENDED STAPLE PATTERN)





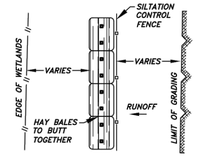
ANCHOR TRENCH DETAILS
ALL OTHER EROSION CONTROL BLANKETS



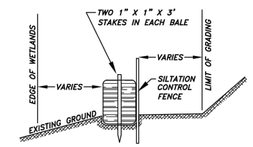
EDGE DETAIL

EROSION CONTROL PLAN LEGEND: EROSION CONTROL BLANKET

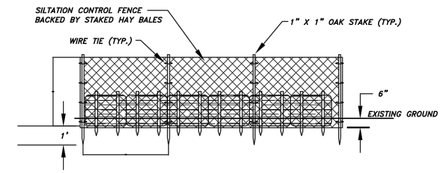
NOT TO SCALE



PLAN



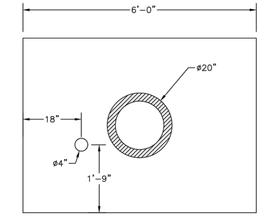
SECTION



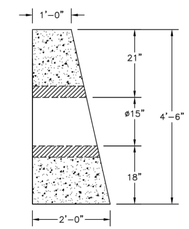
PROFILE

SEDIMENTATION CONTROL DETAIL

NOT TO SCALE



FRONT VIEW

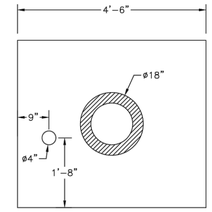


SIDE VIEW

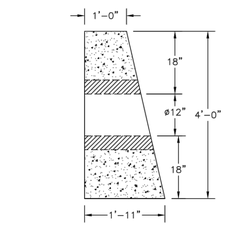
NOTES
1. CONCRETE: FC = 4,000 PSI @ 28 DAYS MIN
2. REINFORCING STEEL: ASTM A615 GRADE #60

N.H. DOT
15" PIPE HEADWALL

SHEA CONCRETE PRODUCTS — New England's Premier Precaster — 800-696-7432 (SHEA) — www.sheaconcrete.com
BILLING ADDRESS: 87 HAVERHILL RD, AMESBURY MA 01913



FRONT VIEW

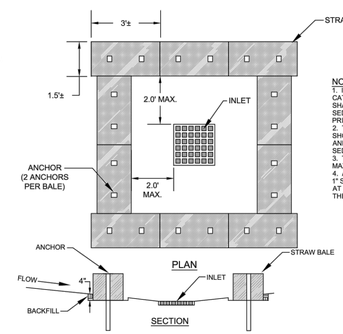


SIDE VIEW

NOTES
1. CONCRETE: FC = 4,000 PSI @ 28 DAYS MIN
2. REINFORCING STEEL: ASTM A615 GRADE #60

N.H. DOT
12" PIPE HEADWALL

SHEA CONCRETE PRODUCTS — New England's Premier Precaster — 800-696-7432 (SHEA) — www.sheaconcrete.com
BILLING ADDRESS: 87 HAVERHILL RD, AMESBURY MA 01913

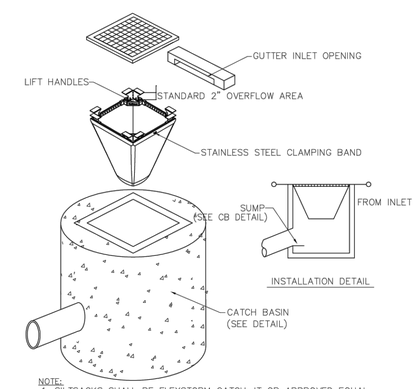


NOTES:
1. IMMEDIATELY AFTER THE INSTALLATION OF ANY CATCH BASIN OR STORM DRAIN, STAKED STRAW BALES SHALL BE SET AROUND THE INLET TO PREVENT SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM PRIOR TO PAVING.
2. THE IMMEDIATE LAND AREA AROUND THE INLET SHOULD BE RELATIVELY FLAT (LESS THAN 1% SLOPE) AND BE LOCATED SUCH THAT THE ACCUMULATED SEDIMENT CAN BE EASILY REMOVED.
3. THE INSIDE EDGE OF THE BALES SHALL BE A MAXIMUM OF 2 FEET FROM THE EDGE OF THE INLET.
4. ANCHORS SHALL BE REBAR, STEEL PICKETS, OR 1" X 1" STAKES, AND SHALL BE LONG ENOUGH TO EXTEND AT LEAST 1.5 TO 2.0 FEET INTO THE GROUND WHEN THE TOP IS FLUSH WITH THE BALE.

INVERTS ARE TO BE CONSTRUCTED OF CLASS A CEMENT C

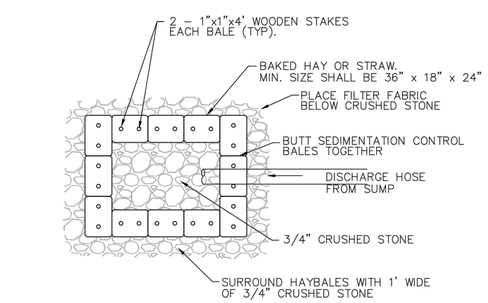
CATCH BASIN INLET PROTECTION

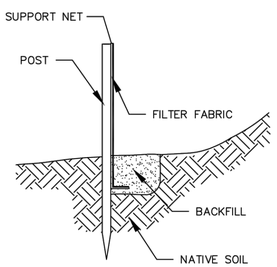
NOT TO SCALE



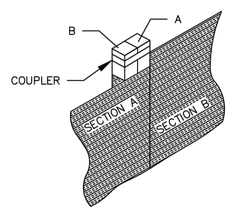
NOTE:
1. SILTSACKS SHALL BE FLEXSTORM CATCH-IT OR APPROVED EQUAL
2. SILTSACKS SHALL BE INSTALLED IN ALL CATCH BASIN UNTIL DRAINAGE ARE BEEN FULLY STABILIZED.

SILT SACK





PROFILE

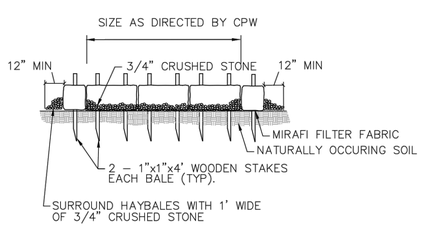


JOINING SECTION OF SILTATION FENCE

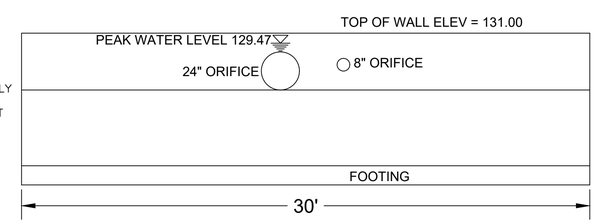
CONSTRUCTION NOTES

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POST WITH WIRE TIES OR STAPLES.
2. FILTER FABRIC TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
5. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

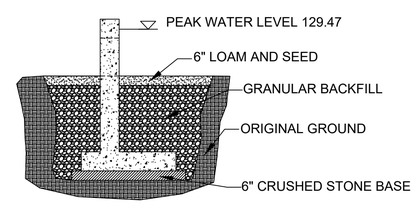
SILT FENCE



DEWATERING BASIN



ELEVATION



CROSS-SECTION

REINFORCED CONCRETE OUTLET WALL

WALL TO BE DESIGNED BY LICENSED STRUCTURAL ENGINEER

DATE

REVISIONS		
NO.	DESCRIPTIONS	DATE
1	ADDITION OF DRAINAGE SHEETS	3/14/24

NEWTON ROAD ESTATES

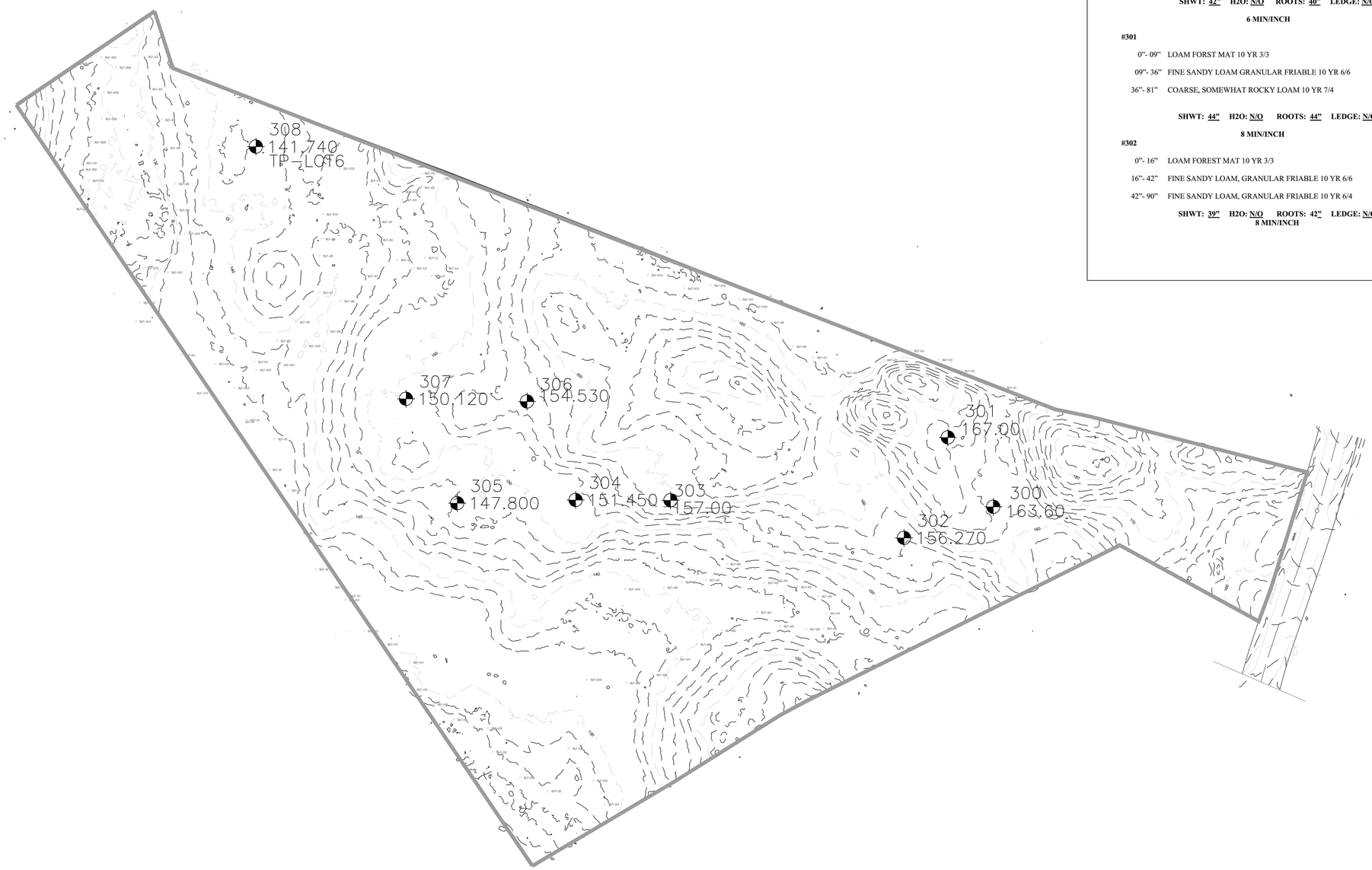
DEFINITIVE PLAN
FOR
HAVERHILL COUNTRY CLUB LAND

DESIGNED BY PGC
CHECKED BY PGC
DATE FEB 24, 2023

PGC Engineering PLLC
Civil and Environmental Engineering
10 Chase Street West Newbury MA 01985
978-994-4550 philchristiansen.pe@gmail.com

DETAILS
SHEET D-3
SHEET 19 OF 20

JOB NUMBER
2312022



James M. Lavelle Associates
LICENSED LAND SURVEYORS
2 STARWOOD DRIVE
HAMPSTEAD, NH 03841
603-329-6851

TEST PIT DATA
ROUTE 108
PLAISTOW, N.H.
11/29/23 & 12/5/23
AL COUILLARD

#300

0"- 09" LOAM FOREST MAT 10 YR 3/3

09"- 35" FINE SANDY LOAM, GRAMULAR FRIABLE 10 YR 6/6

35"- 84" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 6/4

SHWT: 42" H2O: N/O ROOTS: 40" LEDGE: N/O

6 MIN/INCH

#301

0"- 09" LOAM FORST MAT 10 YR 3/3

09"- 36" FINE SANDY LOAM GRANULAR FRIABLE 10 YR 6/6

36"- 81" COARSE, SOMEWHAT ROCKY LOAM 10 YR 7/4

SHWT: 44" H2O: N/O ROOTS: 44" LEDGE: N/O

8 MIN/INCH

#302

0"- 16" LOAM FOREST MAT 10 YR 3/3

16"- 42" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 6/6

42"- 90" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 6/4

SHWT: 39" H2O: N/O ROOTS: 42" LEDGE: N/O
8 MIN/INCH

James M. Lavelle Associates
LICENSED LAND SURVEYORS
2 STARWOOD DRIVE
HAMPSTEAD, NH 03841
603-329-6851

#303

0"- 08" LOAM FOREST MAT 10 YR 3/3

08"- 22" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 6/8

22"- 31" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 6/6

31"- 84" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 6/4

SHWT: 42" H2O: N/O ROOTS: 40" LEDGE: N/O

8 MIN/INCH

#304

0"- 12" LOAM FOREST MAT 10 YR 3/3

12"- 38" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 6/6

38"- 92" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 6/4

SHWT: 56" H2O: N/O ROOTS: 44" LEDGE: N/O

8 MIN/INCH

#305

0"- 12" LOAM FOREST MAT 10 YR 3/3

12"- 46" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 6/8

46"- 80" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 6/6

SHWT: 60" H2O: N/O ROOTS: 58" LEDGE: N/O

6 MIN/INCH

James M. Lavelle Associates
LICENSED LAND SURVEYORS
2 STARWOOD DRIVE
HAMPSTEAD, NH 03841
603-329-6851

#306

0"- 12" LOAM FOREST MAT 10 YR 3/3

12"- 38" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 6/6

38"- 92" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 6/4

SHWT: 56" H2O: N/O ROOTS: 44" LEDGE: N/O

8 MIN/INCH

#307

0"- 21" LOAM FOREST MAT 10 YR 3/4

21"- 56" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 5/6

56"- 90" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 6/4

SHWT: 60" H2O: N/O ROOTS: 60" LEDGE: N/O

6 MIN/INCH

#308

0"- 12" LOAM FOREST MAT 10 YR 3/4

12"- 43" FINE SANDY LOAM, GRANULAR FRIABLE 10 YR 7/8

43"- 73" FINE SANDY LOAM, BLOCKY 10 YR 5/4

73"-90" COARSE GRAVEL WITH WATER FLOWING THROUGH

SHWT: 55" H2O: 73" ROOTS: 50" LEDGE: N/O

6 MIN/INCH

NEWTON ROAD ESTATES

REVISIONS

NO.	DESCRIPTIONS	DATE
1	ADDITION OF DRAINAGE SHEETS	3/14/24

DEFINITIVE PLAN
FOR
HAVERHILL COUNTRY CLUB LAND

DESIGNED BY PGC
CHECKED BY PGC
DATE FEB 24, 2023

PGC Engineering PLLC
Civil and Environmental Engineering
10 Chase Street West Newbury MA 01985
978-994-4550 philchristiansen.pe2gmail.om

TEST PIT DATA
SHEET S-1
SHEET 20 OF 20
JOB NUMBER
2312022