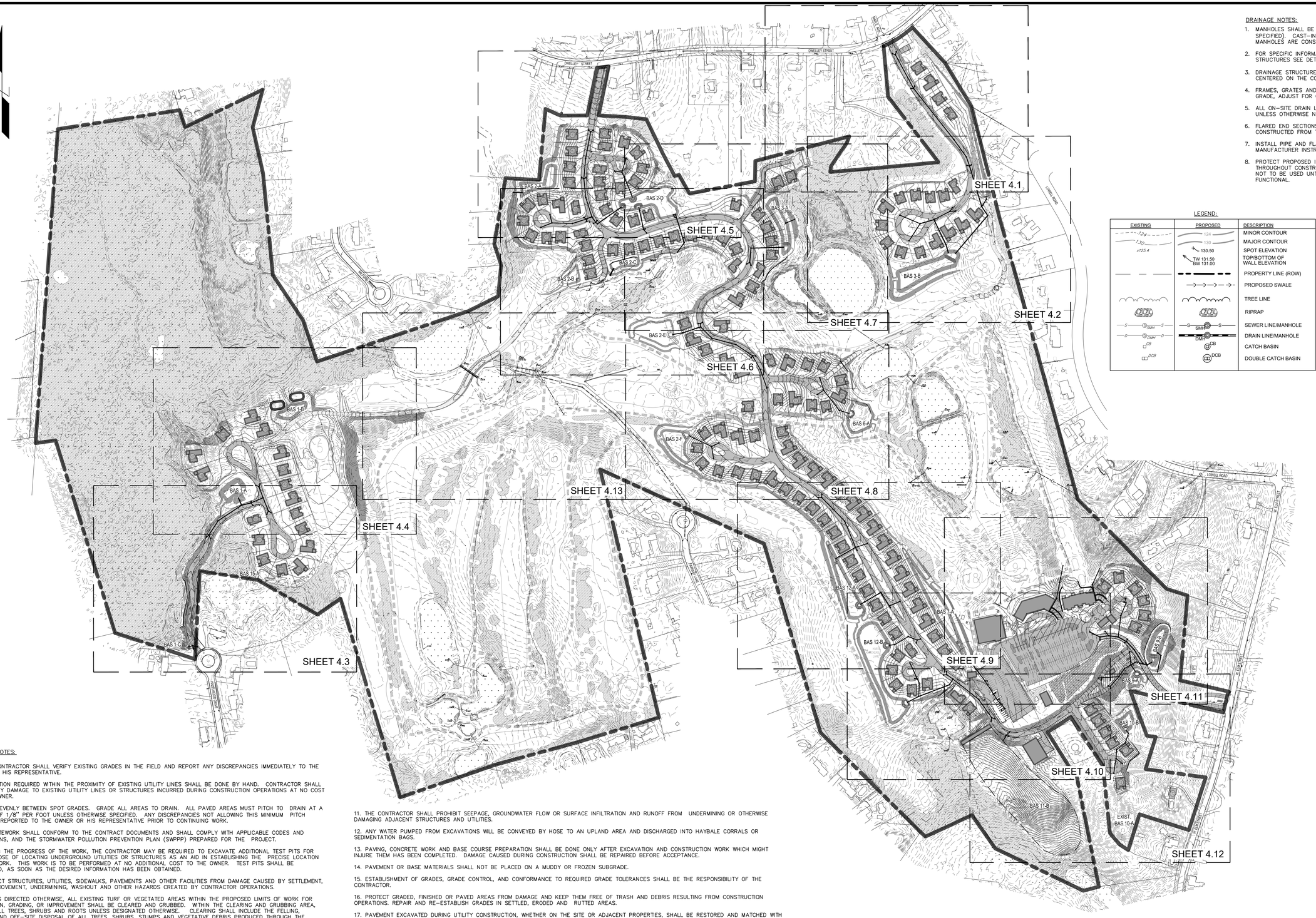

DRAINAGE NOTES:

1. MANHOLES SHALL BE 48–INCH DIAMETER (UNLESS OTHERWISE SPECIFIED). CAST–IN–PLACE BASES SHALL BE USED WHERE MANHOLES ARE CONSTRUCTED OVER EXISTING PIPES.
2. FOR SPECIFIC INFORMATION OF FRAMES AND COVER FOR DRAINAGE STRUCTURES SEE DETAIL SHEET
3. DRAINAGE STRUCTURE COVERS SHALL HAVE THE WORD "DRAIN" CENTERED ON THE COVER IN 3–INCH HIGH LETTERS.
4. FRAMES, GRATES AND COVERS SHALL BE SET FIRM AND TRUE TO GRADE, ADJUST FOR GRADE WITH BRICK MASONRY.
5. ALL ON–SITE DRAIN LINES SHALL BE SMOOTH INT. WALLED CPE PIPE UNLESS OTHERWISE NOTED.
6. FLARED END SECTIONS SHALL BE PIPE MANUFACTURER STANDARD CONSTRUCTED FROM THE SAME MATERIAL AS THE PIPE.
7. INSTALL PIPE AND FLARED ENDS IN STRICT ACCORDANCE WITH PIPE MANUFACTURER INSTRUCTIONS.
8. PROTECT PROPOSED INFILTRATION BASINS FROM SEDIMENTATION THROUGHOUT CONSTRUCTION OPERATIONS. INFILTRATION BASINS ARE NOT TO BE USED UNTIL DRAINAGE SYSTEM IS INSTALLED AN FUNCTIONAL.

LEGEND:

EXISTING	PROPOSED	DESCRIPTION
124	124	MINOR CONTOUR
130	130	MAJOR CONTOUR
x125.4	130.50	SPOT ELEVATION
	TW 131.50 BW 131.00	TOP/BOTTOM OF WALL ELEVATION
		PROPERTY LINE (ROW)
		PROPOSED SWALE
		TREE LINE
		RIPRAP
SMH	SMH	SEWER LINE/MANHOLE
DMH	DMH	DRAIN LINE/MANHOLE
CB	CB	CATCH BASIN
DCB	DCB	DOUBLE CATCH BASIN

FOR REGISTRY USE ONLY

GRADING NOTES:

1. THE CONTRACTOR SHALL VERIFY EXISTING GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER OR HIS REPRESENTATIVE.
2. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
3. PITCH EVENLY BETWEEN SPOT GRADES. GRADE ALL AREAS TO DRAIN. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM OF 1/8" PER FOOT UNLESS OTHERWISE SPECIFIED. ANY DISCREPANCIES NOT ALLOWING THIS MINIMUM PITCH SHALL BE REPORTED TO THE OWNER OR HIS REPRESENTATIVE PRIOR TO CONTINUING WORK.
4. ALL SITEWORK SHALL CONFORM TO THE CONTRACT DOCUMENTS AND SHALL COMPLY WITH APPLICABLE CODES AND REGULATIONS, AND THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THE PROJECT.
5. DURING THE PROGRESS OF THE WORK, THE CONTRACTOR MAY BE REQUIRED TO EXCAVATE ADDITIONAL TEST PITS FOR THE PURPOSE OF LOCATING UNDERGROUND UTILITIES OR STRUCTURES AS AN AID IN ESTABLISHING THE PRECISE LOCATION OF NEW WORK. THIS WORK IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER. TEST PITS SHALL BE BACKFILLED, AS SOON AS THE DESIRED INFORMATION HAS BEEN OBTAINED.
6. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS CREATED BY CONTRACTOR OPERATIONS.
7. UNLESS DIRECTED OTHERWISE, ALL EXISTING TURF OR VEGETATED AREAS WITHIN THE PROPOSED LIMITS OF WORK FOR EXCAVATION, GRADING, OR IMPROVEMENT SHALL BE CLEARED AND GRUBBED. WITHIN THE CLEARING AND GRUBBING AREA, REMOVE ALL TREES, SHRUBS AND ROOTS UNLESS DESIGNATED OTHERWISE. CLEARING SHALL INCLUDE THE FELLING, CUTTING AND OFF–SITE DISPOSAL OF ALL TREES, SHRUBS, STUMPS AND VEGETATIVE DEBRIS PRODUCED THROUGH THE CLEARING OPERATIONS.
8. FILL DEPRESSIONS CAUSED BY TEST PITS AND CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY SOIL MATERIAL UNLESS FURTHER EXCAVATION OR EARTHWORK IS INDICATED.
9. THE CONTRACTOR SHALL PREVENT SURFACE WATER AND SUBSURFACE OR GROUNDWATER FROM FLOWING INTO EXCAVATIONS OR EARTHWORK AREAS WHICH WOULD CAUSE FLOODING OF THE PROJECT SITE AND SURROUNDING AREA, OR SOFTENING OR LOOSENING OF THE SOIL AT EXCAVATION OR EARTHWORK SUB–GRADES.
10. THE CONTRACTOR SHALL PROVIDE, INSTALL, OPERATE, MAINTAIN AND REMOVE ADEQUATE AND SATISFACTORY DEWATERING SYSTEMS AND DRAINAGE OF EXCAVATIONS TO PERMIT CONSTRUCTION TO PROCEED "IN THE DRY". THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR THE ADEQUACY OF THE METHODS, MATERIALS AND EQUIPMENT EMPLOYED. THE CONTRACTOR SHALL BEAR THE FULL COST OF PROVIDING ALL NECESSARY DEWATERING.
11. THE CONTRACTOR SHALL PROHIBIT SEEPAGE, GROUNDWATER FLOW OR SURFACE INFILTRATION AND RUNOFF FROM UNDERMINING OR OTHERWISE DAMAGING ADJACENT STRUCTURES AND UTILITIES.
12. ANY WATER PUMPED FROM EXCAVATIONS WILL BE CONVEYED BY HOSE TO AN UPLAND AREA AND DISCHARGED INTO HAYBALE CORRALS OR SEDIMENTATION BAGS.
13. PAVING, CONCRETE WORK AND BASE COURSE PREPARATION SHALL BE DONE ONLY AFTER EXCAVATION AND CONSTRUCTION WORK WHICH MIGHT INJURE THEM HAS BEEN COMPLETED. DAMAGE CAUSED DURING CONSTRUCTION SHALL BE REPAIRED BEFORE ACCEPTANCE.
14. PAVEMENT OR BASE MATERIALS SHALL NOT BE PLACED ON A MUDDY OR FROZEN SUBGRADE.
15. ESTABLISHMENT OF GRADES, GRADE CONTROL, AND CONFORMANCE TO REQUIRED GRADE TOLERANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
16. PROTECT GRADED, FINISHED OR PAVED AREAS FROM DAMAGE AND KEEP THEM FREE OF TRASH AND DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS. REPAIR AND RE–ESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS.
17. PAVEMENT EXCAVATED DURING UTILITY CONSTRUCTION, WHETHER ON THE SITE OR ADJACENT PROPERTIES, SHALL BE RESTORED AND MATCHED WITH EXACTLY THE SAME MATERIALS AND TOLERANCES AS PRIOR TO DISRUPTION, AT NO ADDITIONAL COST TO THE OWNER, OR ADJACENT PROPERTY OWNERS.
18. STONE USED FOR MACHINE PLACED RIP–RAP SHALL BE REASONABLY WELL GRADED, HARD, DURABLE, ANGULAR IN SHAPE, RESISTANT TO WEATHERING AND FREE FROM ORGANIC MATERIAL. ROUNDED STONES OR BOULDERS ARE NOT ACCEPTABLE. THE MINIMUM WEIGHT OF THE STONE SHALL BE 155 POUNDS PER CUBIC FOOT. STONE SHALL BE PLACED IN CONFORMANCE WITH THE LINES, GRADES AND THICKNESSES SHOWN ON THE DRAWINGS.
19. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT, CURBS AND EARTHWORK SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
20. ALL RIP RAP STONE SHALL BE HAND CHINKED AND SHALL CONFORM TO MASSACHUSETTS HIGHWAY DEPARTMENT STANDARDS.

200' 100' 0 200' 400'
1"=200'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER
12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781–919–0808

Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
GRADING & DRAINAGE KEY PLAN

Project No.	100-064
Date	08 / 08 / 2023
Scale	
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-4.0

C:\CDG\Crocker Design Group, LLC\Gabriel Crocker - Projects\100-064 Pembroke - Country Club\dwg\Plot Sheets\Site Plan Application\C-4.0 GRADING & DRAINAGE KEY PLAN.dwg, Dec 13, 2023, 10:25

FOR REGISTRY USE ONLY

40' 20' 0 40' 80'
1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
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P: 781-919-0808

Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
GRADING & DRAINAGE PLAN 1

Project No.	100-064
Date	08 / 08 / 2023
Scale	AS NOTED
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-4.1

C:\CDG\Crocker Design Group, LLC\Crocker - Projects\100-064 Pembroke - Country Club\dwg\Plot Sheets\Site Plan Application_C4.1GRAD PLAN.dwg, C-4.1 GRADING & DRAINAGE PLAN 1, Dec 13, 2023 10:27

SEE SHEET 4.1 FOR CONTINUATION

SEE SHEET 4.7 FOR CONTINUATION

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40' 20' 0 40' 80'
1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1
	Revisions	

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Project
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PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

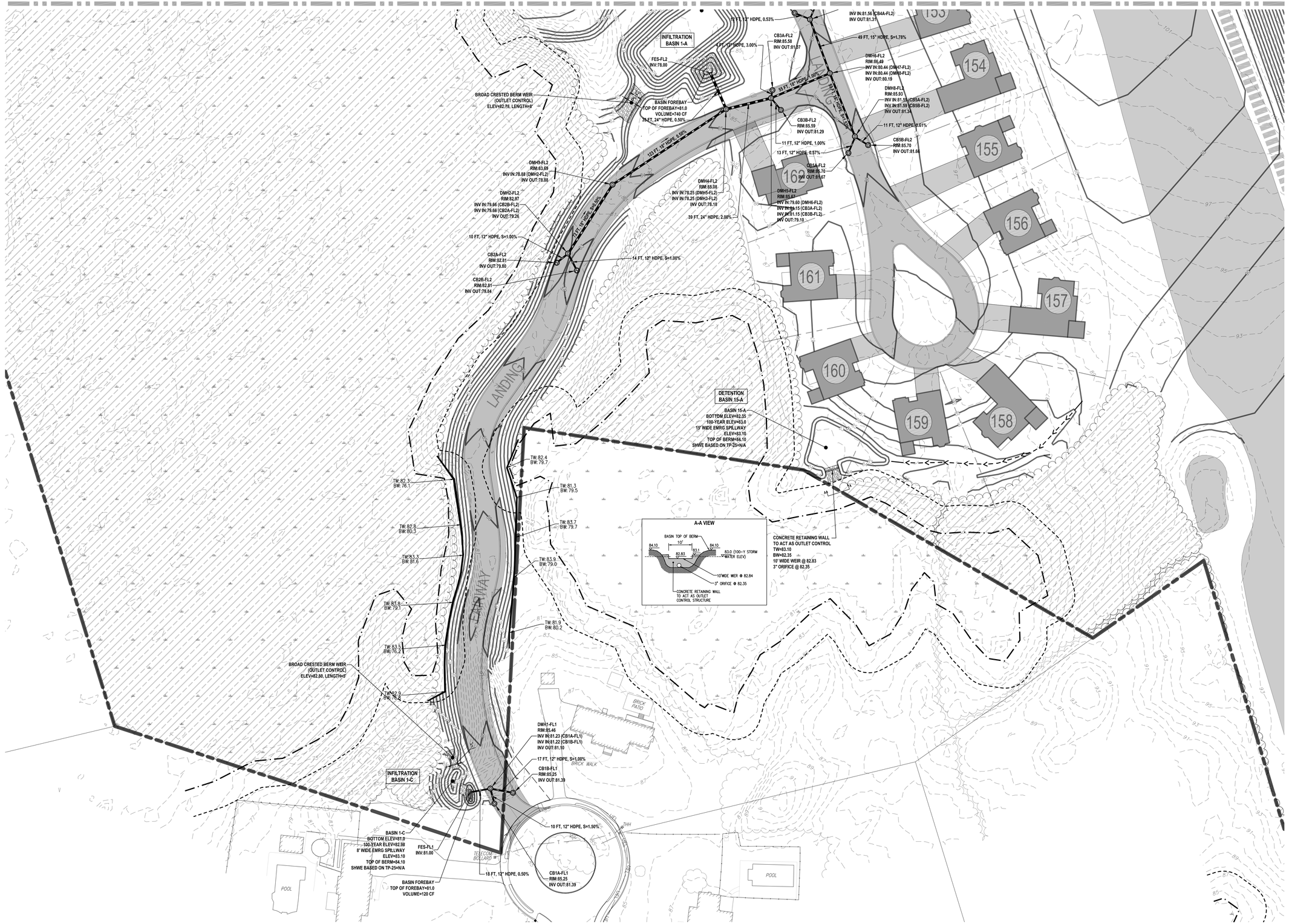
Drawing Title
GRADING & DRAINAGE PLAN 2

Project No.	100-064
Date	08 / 08 / 2023
Scale	
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-4.2

C:\CDG\Crocker Design Group, LLC\Gabriel Crocker - Projects\100-064 Pembroke - Country Club\dwg\Plot Sheets\Site Plan Application_C4-GRADING & DRAINAGE PLAN 2, Dec 12, 2023 16:22

SEE SHEET 4.4 FOR CONTINUATION



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40' 20' 0 40' 80'
1"=40'

12/11/23	PEER REVIEW UPDATES	1
Date	Description	No.
Revisions		

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
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12-11-2023

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Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
GRADING & DRAINAGE PLAN 3

Project No. 100-064	Drawing No. C-4.3
Date 08 / 08 / 2023	
Scale	
Drawn By ASZ, JPM	
Approved By TC	

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SEE SHEET 4.3 FOR CONTINUATION

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40' 20' 0 40' 80'

1"=40'

No.	Description	Date
1	PEER REVIEW UPDATES	12/11/23

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
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No. 47917
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12-11-2023

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Project
AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE &
WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
GRADING & DRAINAGE PLAN 4

Project No.	100-064
Date	08 / 08 / 2023
Scale	
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-4.4

C:\CDG\Crocker Design Group, LLC\Gabriel Crocker - Projects\100-064 Pembroke - Country Club\dwg\Plot Sheets\Site Plan Application_04 GRAD PLAN.dwg, C-4.4 GRADING & DRAINAGE PLAN 4, Dec 12, 2023 16:23

DWELLEY STREET

WEATHERVANE DRIVE

EAGLE WAY

POOL

9 FT, 12" HDPE, 0.93%
DMH1-W1A
RIM:122.65
INV IN:118.50 (CB1B-W1A)
INV IN:118.50 (CB1A-W1A)
INV OUT:118.40
CB1A-W1A
RIM:122.72
INV OUT:118.82
CB1B-W1A
RIM:122.76
INV OUT:118.62
9 FT, 12" HDPE, 1.02%
PROP. 2 FT WIDE BOTTOM AND 3:1 SIDES SWALE
PROP. 2 FT WIDE BOTTOM AND 3:1 SIDES SWALE
DMH2-W1A
RIM:117.80
INV IN:113.50 (DMH1-W1A)
INV OUT:113.40
111 FT, 12" HDPE, 1.00%
CB2A-W1A
RIM:115.89
INV OUT:111.84
7 FT, 12" HDPE, 1.00%
CB2B-W1A
RIM:115.89
INV OUT:111.84
DMH3-W1A
RIM:111.93
INV IN:111.73 (DMH2-W1A)
INV IN:111.73 (CB2B-W1A)
INV IN:111.73 (CB2A-W1A)
INV OUT:111.63
92 FT, 12" HDPE, 1.65%
DMH4-W1A
RIM:114.62
INV IN:110.22 (DMH3-W1A)
INV OUT:110.12
DMH5-W1A
RIM:113.14
INV IN:109.04 (DMH5-WL)
INV IN:109.04 (DMH4-W1A)
INV OUT:108.75
DMH5-WL
RIM:113.11
INV IN:109.61 (DMH4-WL)
INV IN:109.61 (CB2A-WL)
INV IN:109.51 (CB2B-WL)
INV OUT:109.01
7 FT, 12" RCP, S=0.50%
CB1B-WL
RIM:114.30
INV OUT:110.98
DMH2-WL
RIM:113.74
INV IN:110.33 (DMH1-WL)
INV OUT:110.33
CB2B-WL
RIM:112.37
INV OUT:109.87
33 FT, 12" RCP, S=0.50%
49 FT, 12" RCP, S=0.50%
39 FT, 12" HDPE, 0.50%
6 FT, 12" RCP, S=0.50%
CB1A-WL
RIM:114.32
INV OUT:111.05
DMH1-WL
RIM:114.66
INV IN:110.79 (CB1B-WL)
INV IN:110.79 (CB1A-WL)
INV OUT:110.79
CB2A-WL
RIM:112.92
INV OUT:109.66
24 FT, 12" RCP, S=1.82%
CB3A-W1A
RIM:112.47
INV OUT:108.38
7 FT, 12" HDPE, 2.00%
DMH6-W1A
RIM:112.71
INV IN:108.42 (DMH5-W1A)
INV IN:108.17 (CB3B-W1A)
INV IN:108.17 (CB3A-W1A)
INV OUT:108.17
CB3B-W1A
RIM:112.47
INV OUT:108.38
27 FT, 15" RCP, S=1.23%
12" FT, 18" RCP, S=1.39%
7 FT, 12" HDPE, 2.00%
CB4A-W1B
RIM:114.71
INV OUT:106.93
17 FT, 12" RCP, S=0.50%
CB4B-W1B
RIM:114.71
INV OUT:106.93
69 FT, 12" RCP, S=0.50%
CB1-EW
RIM:113.83
INV OUT:109.58
60 FT, 12" HDPE, 2.50%
DMH1-EW
RIM:114.13
INV IN:109.28 (CB1-EW)
INV IN:109.28 (CB2-EW)
INV OUT:109.18
24 FT, 12" HDPE, 1.17%
CB2-EW
RIM:113.93
INV OUT:109.86
84 FT, 12" HDPE, 1.00%
DMH2-EW
RIM:110.81
INV IN:107.22 (DMH1-EW)
INV OUT:107.12
42 FT, 12" HDPE, 0.50%
FES-EW
INV:107.00
BASIN FOREBAY
TOP OF FOREBAY=108
VOLUME=150 CF
STONE DAM WITH 2:1 SIDES. (TYP. FOR FOREBAYS)
PROP. SWALE (TYP.)
FES-W1A
INV:107.00
FES-W1B
INV:106.41
BASIN FOREBAY
TOP OF FOREBAY=108
VOLUME=300 CF
BASIN FOREBAY
TOP OF FOREBAY=108
VOLUME=350 CF
3 FT, 12" RCP, S=0.50%
INFILTRATION BASIN 2-D
BASIN 2-D
BOTTOM ELEV=106
100-YEAR ELEV=108.96
TOP OF BERM=109.10
SHWE BASED ON TP 23-16=102.0
OCS 2-D
RIM=108.60
12" INV OUT =106.0
OCS 2-DD
RIM=108.70
12" INV OUT =105.0
TO ACT AS EMERGENCY SPILLWAY
PROP. 2 FT WIDE BOTTOM AND 3:1 SIDES SWALE
PROP. 2FT WIDE BOTTOM AND 3:1 SIDES SWALE
BASIN 2-A
BOTTOM ELEV=102.8
100-YEAR ELEV=105.71
15' WIDE EMRG SPILLWAY ELEV=106.10
TOP OF BERM=107.10
SHWE BASED ON TP-33=102.8
OCS 2-A
RIM=105.90
2.5" ORIFICE @ 102.8
12" INV OUT =102.8
TW: 110.4
BW: 108.0
CBdh (Tmd) (typ.)
10'
DETENTION BASIN 2-A
RIP-RAP (TYP.)
15' WIDE EMERGENCY SPILLWAY @106.10
FES-DB2A
INV:101.00
PVC PLUNGE POOL
41 FT, 12" HDPE, 4.21%
15.6'
15' ACCESS
10'
PROP. 2 FT WIDE TOP OF BERM, 1FT HIGHER THAN BOTTOM OF SWALE
PROP. 2 FT WIDE BOTTOM AND 3:1 SIDES SWALE
SEE SHEET 4.7 FOR CONTINUATION
SEE SHEET 4.6 FOR CONTINUATION

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40' 20' 0 40' 80'
1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1
	Revisions	

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER
12-11-2023
GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
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Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
GRADING & DRAINAGE PLAN 5

Project No.	100-064
Date	08 / 08 / 2023
Scale	
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-4.5

C:\CDG\Crocker Design Group, LLC\Current Crocker - Projects\100-064 Pembroke - Country Club\dwg\Plot Sheets\Site Plan Application - C4.5\R00 PLAN.dwg, C-4.5 GRADING & DRAINAGE PLAN 5, Dec 12, 2023 16:24

SEE SHEET 4.5 FOR CONTINUATION

SEE SHEET 4.7 FOR CONTINUATION

SEE SHEET 4.8 FOR CONTINUATION

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SEE SHEET 4.5 FOR CONTINUATION

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40' 20' 0 40' 80'

1"=40'

12/11/23	PEER REVIEW UPDATES	1
Date	Description	No.
	Revisions	

COMMONWEALTH OF MASSACHUSETTS
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CIVIL
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12-11-2023

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Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
GRADING & DRAINAGE PLAN 7

Project No.	100-064
Date	08 / 08 / 2023
Scale	
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-4.7

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SEE SHEET 4.8 FOR CONTINUATION

SEE SHEET 4.9 FOR CONTINUATION

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40' 20' 0 40' 80'
1"=40'

No.	Description	Date
1	PEER REVIEW UPDATES	12/11/23

Revisions

COMMONWEALTH OF MASSACHUSETTS
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REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
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Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
GRADING & DRAINAGE PLAN 8

Project No. 100-064	Drawing No. C-4.8
Date 08 / 08 / 2023	
Scale	
Drawn By ASZ, JPM	
Approved By TC	

C:\CDG\Crocker Design Group, LLC\Gabriel Crocker - Projects\100-064 Pembroke - Country Club\dwg\Plot Sheets\Site Plan Application_C-4.8 GRADING & DRAINAGE PLAN 8, Dec 12, 2023 16:25

SEE SHEET 4.8 FOR CONTINUATION

SEE SHEET 4.11 FOR CONTINUATION

SEE SHEET 4.10 FOR CONTINUATION

PROP. HIGH POINT: 107.50

PROP. 2 FT WIDE BOTTOM AND 3:1 SIDES SWALE

DMH1-W4
RIM:110.81
INV IN:106.47 (CB1A-W4)
INV IN:106.47 (CB1B-W4)
INV OUT:106.35

CB1B-W4
RIM:110.06
INV OUT:106.61

11 FT, 12" HDPE, 1.00%

CB1A-W4
RIM:109.79
INV OUT:106.23

12 FT, 12" HDPE, 1.00%

WEATHERVANE DRIVE

DMH2-W4
RIM:106.25
INV IN:101.89 (DMH1-W4)
INV OUT:101.79

123 FT, 12" HDPE, 2.1%

DMH3-W4
RIM:107.46
INV IN:101.24 (CB2A-W4)
INV IN:101.24 (CB2B-W4)
INV IN:101.24 (DMH2-W4)
INV OUT:100.74

CB2B-W4
RIM:107.33
INV OUT:101.80

52 FT, 12" HDPE, 1.00%

11 FT, 12" HDPE, 2.00%

CB2A-W4
RIM:107.29
INV OUT:101.53

DMH4-W4
RIM:97.51
INV IN:94.19 (DMH3-W4)
INV OUT:94.04

16 FT, 18" HDPE, 4.00%

FES-W4
INV:94.00

BASIN FOREBAY
TOP OF FOREBAY=950
VOLUME=1,200 CF

STONE DAM WITH 2:1 SIDES (TYP. FOR FOREBAYS)

BASIN 12-A
BOTTOM ELEV=90.0
100-YEAR ELEV=95.97
15' WIDE EMRG SPILLWAY ELEV=96.10
TOP OF BERM=97.10
SHWE BASED ON TP-44=90.0

INFILTRATION BASIN 12-A

20 FT, 18" HDPE, 4.54%

BASIN FOREBAY
TOP OF FOREBAY=950
VOLUME=500 CF

FES-W5
INV:93.00

DMH2-W5
RIM:105.05
INV IN:93.26 (DMH1-W5)
INV OUT:93.16

45 FT, 18" HDPE, 4.00%

DMH3-W5
RIM:9.73
INV IN:93.22 (DMH2-W5)
INV OUT:93.12

45 FT, 12" HDPE, 4.50%

DMH1-W5
RIM:104.38
INV IN:99.27 (CB1A-W5)
INV IN:99.61 (CB1B-W5)
INV OUT:99.51

45 FT, 12" HDPE, 1.00%

CB1B-W5
RIM:104.17
INV OUT:100.22

5 FT, 12" HDPE, 2.00%

CB1A-W5
RIM:104.29
INV OUT:99.88

RIP-RAP (TYP.)

BROAD CRESTED BERM WEIR (OUTLET CONTROL) ELEV=95.45, LENGTH=10'

BASIN 12-B
BOTTOM ELEV=91.0
100-YEAR ELEV=93.91
20' WIDE EMRG SPILLWAY ELEV=94.10
TOP OF BERM=95.10
SHWE BASED ON TP-45=87.06
SHWE BASED ON TP-46=88.50

STONE DAM WITH 2:1 SIDES (TYP. FOR FOREBAYS)

24 FT, 12" HDPE, 0.54%

BASIN FOREBAY
TOP OF FOREBAY=93.0
VOLUME=600 CF

FES-W6
INV:92.00

KNEE KNOCKERS LANE

INFILTRATION BASIN 12-B

DMH2-W6
RIM:103.47
INV IN:97.99 (DMH1-W6)
INV OUT:97.89

47 FT, 12" HDPE, 1.00%

39 FT, 12" HDPE, 0.50%

10 FT, 12" HDPE, 1.50%

CB1B-W6
RIM:102.58
INV OUT:98.44

DMH3-W6
RIM:96.46
INV IN:92.24 (DMH2-W6)
INV OUT:92.14

CB2-KKL
RIM:99.72
INV OUT:96.46

46 FT, 12" HDPE, 1.00%

PROP. 2 FT WIDE BOTTOM AND 3:1 SIDES SWALE

BROAD CRESTED BERM WEIR (OUTLET CONTROL) ELEV=93.87, LENGTH=20'

RIP-RAP (TYP.)

12 FT, 12" HDPE, 1.00%

CB1B-W6
RIM:102.51
INV OUT:98.46

DMH1-W6
RIM:102.85
INV IN:98.30 (CB1A-W6)
INV IN:98.30 (CB1B-W6)
INV OUT:98.20

INFILTRATION BASIN 7-A

BASIN 7-A
BOTTOM ELEV=91.0
100-YEAR ELEV=93.93
25' WIDE EMRG SPILLWAY ELEV=94.10
TOP OF BERM=95.10
SHWE BASED ON TP-47=85.5

FOREBAY
TOP OF FOREBAY=93.0
VOLUME=1,200 CF

FES-W7
INV:93.00

TW: 99.2
BW: 94.2

CB1B-W7
RIM:100.64
INV OUT:96.89

14 FT, 12" HDPE, 1.00%

FOR REGISTRY USE ONLY

40' 20' 0 40' 80'
1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No.47917
REGISTERED PROFESSIONAL ENGINEER
12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
GRADING & DRAINAGE PLAN 9

Project No.	100-064
Date	08 / 08 / 2023
Scale	
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-4.9

C:\2020\Crocker Design Group, LLC\Gabriel Crocker - Projects\100-064 Pembroke - Country Club\dwg\Plot Sheets\Site Plan Application_C4.9PAD PLAN.dwg, C-4.9 GRADING & DRAINAGE PLAN 9, Dec 12, 2023 16:26

SEE SHEET 4.9 FOR CONTINUATION

SEE SHEET 4.11 FOR CONTINUATION

SEE SHEET 4.12 FOR CONTINUATION

INFILTRATION BASIN 12-A

20 FT, 18" HDPE, 0.54%

49 FT, 18" HDPE, 0.50%

45 FT, 12" HDPE, 4.89%

45 FT, 12" HDPE, 1.99%

CB1B-W5
RIM:104.37
INV OUT:100.22

5 FT, 12" HDPE, 2.00%

CB1A-W5
RIM:104.29
INV OUT:99.88

DMH1-W5
RIM:104.39
INV IN:99.71 (CB1A-W5)
INV IN:99.71 (CB1B-W5)
INV OUT:99.61

DMH3-W5
RIM:103.73
INV IN:93.22 (DMH2-W5)
INV OUT:93.12

FES-W5
INV:93.00

RIP-RAP (TYP.)

BROAD CRESTED BERM WEIR (OUTLET CONTROL)
ELEV=95.45, LENGTH=10'

BASIN 12-B
BOTTOM ELEV=91.0
100-YEAR ELEV=93.91
20' WIDE EMRG SPILLWAY
ELEV=94.10
TOP OF BERM=95.10
SHWE BASED ON TP-45=87.06
SHWE BASED ON TP-46=88.50

STONE DAM WITH 2:1 SIDES (TYP. FOR FOREBAYS)

24 FT, 12" HDPE, 0.54%

BASIN FOREBAY
TOP OF FOREBAY=93.0
VOLUME=600 CF

FES-W6
INV:92.00

DMH2-W6
RIM:103.47
INV IN:97.90 (DMH1-W6)
INV OUT:97.52

67 FT, 12" HDPE, 2.99%

30 FT, 12" HDPE, 0.50%

10 FT, 12" HDPE, 1.00%

CB1B-W6
RIM:102.51
INV OUT:98.46

DMH1-W6
RIM:102.85
INV IN:98.30 (CB1A-W6)
INV IN:98.30 (CB1B-W6)
INV OUT:98.20

CB1A-W6
RIM:103.56
INV OUT:99.44

DMH3-W6
RIM:96.49
INV IN:92.24 (DMH2-W6)
INV OUT:92.14

KNEE KNOCKERS LANE

INFILTRATION BASIN 12-B

CB2-KKL
RIM:99.72
INV OUT:96.46

75 FT, 12" RCP, S=6.56%

CB1-KKL
RIM:99.72
INV OUT:96.46

DMH1-KKL
RIM:100.26
INV IN:96.49 (CB1-KKL)
INV IN:96.06 (CB2-KKL)
INV OUT:96.06

8 FT, 12" RCP, S=4.50%

16 FT, 12" HDPE, 0.50%

DMH2-KKL
RIM:100.55
INV IN:95.96 (DMH1-KKL)
INV OUT:95.87

DMH4-W7
RIM:99.59
INV IN:91.39 (DMH3-W7)
INV IN:91.99 (DMH2-KKL)
INV OUT:91.29

55 FT, 6" HDPE, 6.54%

55 FT, 18" HDPE, 0.50%

STONE DAM WITH 2:1 SIDES (TYP. FOR FOREBAYS)

FES-W7
INV:91.30

BASIN FOREBAY
TOP OF FOREBAY=93.0
VOLUME=890 CF

EMERGENCY SPILLWAY
ELEV=94.10
LENGTH=20'

INFILTRATION BASIN 7-A

BASIN 7-A
BOTTOM ELEV=91.0
100-YEAR ELEV=93.93
25' WIDE EMRG SPILLWAY
ELEV=94.10
TOP OF BERM=95.10
SHWE BASED ON TP-47=85.5

12 FT, 12" HDPE, 1.00%

CB1B-W4
RIM:102.51
INV OUT:98.46

DMH1-W4
RIM:102.85
INV IN:98.30 (CB1A-W4)
INV IN:98.30 (CB1B-W4)
INV OUT:98.20

CB1A-W4
RIM:104.64
INV OUT:98.59

11 FT, 12" HDPE, 1.00%

DMH2-W4
RIM:100.38
INV IN:95.92 (DMH1-W4)
INV IN:92.42 (DMH7-W7)
INV OUT:92.32

TW: 98.2
BW: 92.2

143 FT, 18" HDPE, 0.49%

28 FT, 18" HDPE, 0.50%

DMH5-W7
RIM:99.90
INV IN:92.17 (DMH2-W7)
INV OUT:92.07

DMH6-W7
RIM:97.91
INV IN:93.66 (DMH7-W7)
INV IN:93.66 (DMH8-W7)
INV OUT:93.76

11 FT, 12" RCP, S=1.00%

CB2B-W7
RIM:97.50
INV OUT:94.01

CB1A-W7
RIM:97.50
INV OUT:94.91

CULVERT
EL=82.87

PROP. 2 FT WIDE TOP OF BERM, 1FT HIGHER THAN BOTTOM OF SWALE

4" PVC
INV=83.76

POND

INV EL=81.50

INV EL=80.42

PROP. 6" WIDE CLAY BARRIER INSTALLED IN THE 3" STONE LAYER OF THE SUBSURFACE INFILTRATION SPORTSEDGE. THE CLAY BARRIER TO BE INSTALLED FLAT AT EVERY 140 FT MAX INTERVALS (TYP.).

UNDERGROUND STONE INFILTRATION BASIN 11-B

SPORTSEDGE ARTIFICIAL TURF OVER A LAYER OF 6" OF DRAINAGE STONE (NE CLEAN WASHED STONE)

WEATHERVANE DRIVE

PUTTERS RUN

FOREBAY WALL

BASIN FOREBAY
TOP OF FOREBAY=93.0
VOLUME=1,200 CF

FES-PKG
INV:93.00

TW: 96.2
BW: 91.5

CB1B-W7
RIM:100.64
INV OUT:96.59

11 FT, 12" HDPE, 1.00%

DMH1-W7
RIM:100.74
INV IN:96.45 (CB1A-W7)
INV IN:96.45 (CB1B-W7)
INV OUT:96.35

31 FT, 12" HDPE, 1.27%

DMH3-PKG
RIM:100.24
INV IN:95.68 (DMH3-PKG)
INV IN:95.68 (CB4-PKG)
INV OUT:95.58

CB4-PKG
RIM:100.14
INV OUT:95.87

6 FT, 12" HDPE, 2.00%

6 FT, 12" RCP, S=4.00%

7 FT, 12" HDPE, 4.54%

CB3-PKG
RIM:100.62
INV OUT:96.53

DMH7-W7
RIM:98.86
INV IN:93.25 (DMH6-W7)
INV OUT:93.15

26 FT, 12" HDPE, 1.02%

4 FT, 12" HDPE, 4.71%

CB2-PKG
RIM:100.90
INV OUT:97.77

DMH2-PKG
RIM:100.21
INV IN:98.12 (DMH1-PKG)
INV IN:98.24 (CB3-PKG)
INV OUT:98.04

DMH1-PKG
RIM:100.47
INV IN:97.03 (CB1-PKG)
INV IN:97.50 (CB2-PKG)
INV OUT:96.40

9

94 FT, 12" RCP, S=2.70%

CB1-PKG
RIM:101.46
INV OUT:98.36

11 FT, 12" RCP, S=1.00%

CB1B-OR
RIM:95.91
INV OUT:92.86

19 FT, 12" HDPE, 1.00%

DMH1-OR
RIM:95.52
INV IN:92.31 (CB1B-OR)
INV IN:92.63 (CB1A-OR)
INV OUT:92.53

WQU-OR
RIM:95.62
INV IN:91.00 (DMH1-OR)
INV OUT:91.00

16 FT, 12" HDPE, 5.32%

9'X9' PLUNGE POOL

FES-OR
INV:90.68

CB1A-OR
RIM:96.91
INV OUT:92.85

7 FT, 12" HDPE, 2.00%

9 FT, 12" HDPE, 6.69%

WQU-CH
RIM:102.57
INV IN:90.58 (TRENCH-CH)
INV OUT:90.58

TRENCH-CH
INV:90.82

TRENCH-MF
INV:91.36

CB1-ED
RIM:89.61
INV OUT:83.27

DMH2-ED
RIM:87.01
INV IN:80.71 (DMH1-ED)
INV IN:82.10 (CB3-ED)
INV OUT:80.61

CB3-ED
RIM:88.47
INV OUT:82.59

21 FT, 12" HDPE, 2.00%

47 FT, 18" HDPE, 1.00%

DMH1-ED
RIM:88.14
INV IN:82.77 (CB1-ED)
INV IN:83.71 (CB2-ED)
INV OUT:82.67

8 FT, 15" HDPE, S=2.00%

36 FT, 24" HDPE S=0.50%

CB2-ED
RIM:87.69
INV OUT:83.56

DMH-W8
RIM:85.35
INV IN:81.31 (CB1D-W8)
INV IN:81.31 (CB1C-W8)
INV OUT:81.21

8 FT, 12" HDPE, 1.00%

CB1D-W8
RIM:85.83
INV OUT:81.64

CB1C-W8
RIM:85.83
INV OUT:81.74

CB1B-W8
RIM:85.32
INV OUT:78.27

6 FT, 12" HDPE, 4.12%

6 FT, 12" HDPE, 4.76%

PROP. SWALE

7

8

9

CB1-PR
RIM:89.27
INV OUT:85.22

N

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40' 20' 0 40' 80'

1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

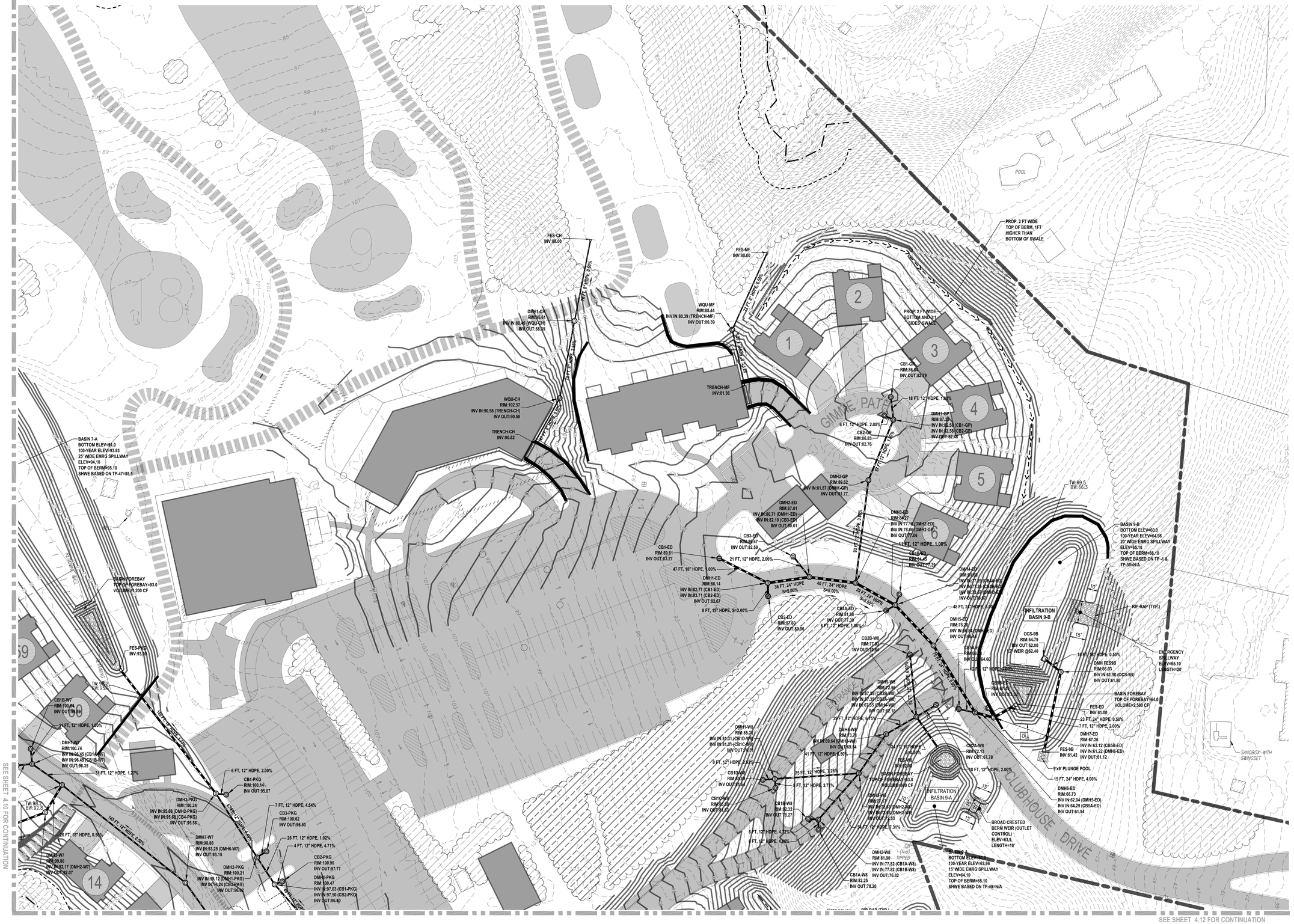
Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
GRADING & DRAINAGE PLAN 10

Project No.	100-064
Date	08 / 08 / 2023
Scale	
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-4.10

C:\2020 Crocker Design Group, LLC\Crocker Design Group - Projects\100-064 Pembroke - Country Club\dwg\Plot Sheets\Site Plan Application_C-4.10 GRADING & DRAINAGE PLAN 10.dwg, C-4.10 GRADING & DRAINAGE PLAN 10, Dec 12, 2023 16:27



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40' 20' 0 40' 80'

1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
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Crocker Design Group
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HINGHAM, MA 02043
P: 781-919-0808

Project

AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB

DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for

WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC

190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title

GRADING & DRAINAGE PLAN 11

Project No.	100-064
Date	08 / 08 / 2023
Scale	
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.

C-4.11

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SEE SHEET 4.11 FOR CONTINUATION

SEE SHEET 4.10 FOR CONTINUATION

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40' 20' 0 40' 80'
1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
No. 47917
REGISTERED PROFESSIONAL ENGINEER
12-11-2023
GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
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Project
AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE &
WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
GRADING & DRAINAGE PLAN 12

Project No. 100-064	Drawing No. C-4.12
Date 08 / 08 / 2023	
Scale	
Drawn By ASZ, JPM	
Approved By TC	

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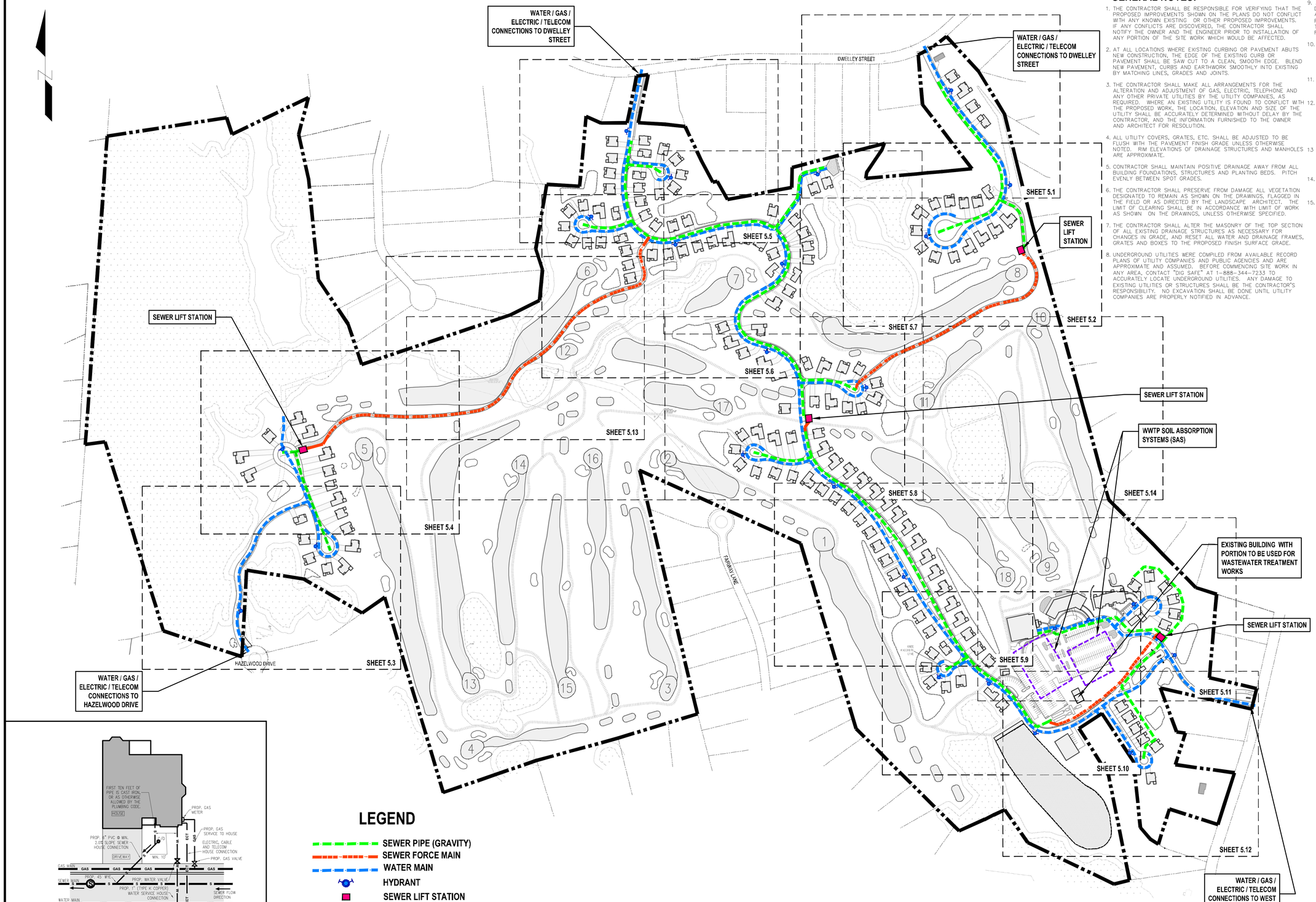
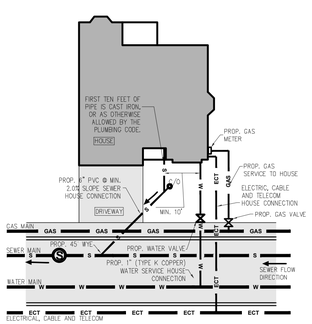


GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED.
2. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT, CURBS AND EARTHWORK SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
3. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE OWNER AND ARCHITECT FOR RESOLUTION.
4. ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE PAVEMENT FINISH GRADE UNLESS OTHERWISE NOTED. RIM ELEVATIONS OF DRAINAGE STRUCTURES AND MANHOLES ARE APPROXIMATE.
5. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS, STRUCTURES AND PLANTING BEDS. PITCH EVENLY BETWEEN SPOT GRADES.
6. THE CONTRACTOR SHALL PRESERVE FROM DAMAGE ALL VEGETATION DESIGNATED TO REMAIN AS SHOWN ON THE DRAWINGS, FLAGGED IN THE FIELD OR AS DIRECTED BY THE LANDSCAPE ARCHITECT. THE LIMIT OF CLEARING SHALL BE IN ACCORDANCE WITH LIMIT OF WORK AS SHOWN ON THE DRAWINGS, UNLESS OTHERWISE SPECIFIED.
7. THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE STRUCTURES AS NECESSARY FOR CHANGES IN GRADE, AND RESET ALL WATER AND DRAINAGE FRAMES, GRATES AND BOXES TO THE PROPOSED FINISH SURFACE GRADE.
8. UNDERGROUND UTILITIES WERE COMPILED FROM AVAILABLE RECORD PLANS OF UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE AND ASSUMED. BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIG SAFE" AT 1-888-344-7233 TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING UTILITIES OR STRUCTURES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. NO EXCAVATION SHALL BE DONE UNTIL UTILITY COMPANIES ARE PROPERLY NOTIFIED IN ADVANCE.
9. ALL SITEWORK SHALL CONFORM TO THE CONTRACT DOCUMENTS AND SHALL COMPLY WITH APPLICABLE CODES AND REGULATIONS, AND THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THE PROJECT. THE CONTRACTOR SHALL MAKE ALL NOTIFICATIONS REQUIRED FOR INSPECTIONS AND TESTING ASSOCIATED WITH SUCH.
10. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND CONSTRUCTION SHALL COMPLY WITH ALL TOWN OF PEMBROKE DEPARTMENT OF PUBLIC WORKS FOR PAVING, PAVEMENT CUTTING, EXCAVATION, UTILITY CONNECTIONS, BACKFILLING, AND PATCHING.
11. SIZES OF DOMESTIC AND FIRE WATER SERVICES TO BE DETERMINED BY PROJECT MEP ENGINEER AND FIRE PROTECTION ENGINEER.
12. CONTRACTOR IS CAUTIONED THAT NOT EVERY FITTING ON THE WATER AND FIRE SERVICE ARE LABELED. TYPICAL FITTINGS ARE LABELED FROM TIME TO TIME, HOWEVER THE INTENT OF THESE DRAWINGS IS THAT THE CONTRACTOR PROVIDE A COMPLETE WORKING SYSTEM, INCLUSIVE OF ALL COMPONENTS NECESSARY TO CONSTRUCT , OPERATE AND MAINTAIN BOTH THE FIRE AND WATER SYSTEMS.
13. LOCATION OF ELECTRICAL AND TELECOM SYSTEMS ARE APPROXIMATE. REFER TO FINAL ELECTRICAL SITE PLANS FOR DETAIL INFORMATION AND LOCATION OF ALL ELECTRIC, TELECOM, CABLE AND EQUIPMENTS.
14. THE SEWER SYSTEM AND ITS COMPONENTS CONFORM TO THE TOWN OF PEMBROKE STANDARDS, BOTH FOR MATERIALS AND FOR TESTING.
15. CONFORMANCE OF WATER TO DPW WATER SPECS.



TYPICAL HOUSE SERVICE CONNECTIONS
NOT TO SCALE

LEGEND

- SEWER PIPE (GRAVITY)
- SEWER FORCE MAIN
- WATER MAIN
- HYDRANT
- SEWER LIFT STATION
- PROPOSED AND EXISTING SOIL ABSORPTION SYSTEMS

FOR REGISTRY USE ONLY

200' 100' 0 200' 400'
1"=200'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No.47917
REGISTERED PROFESSIONAL ENGINEER
12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

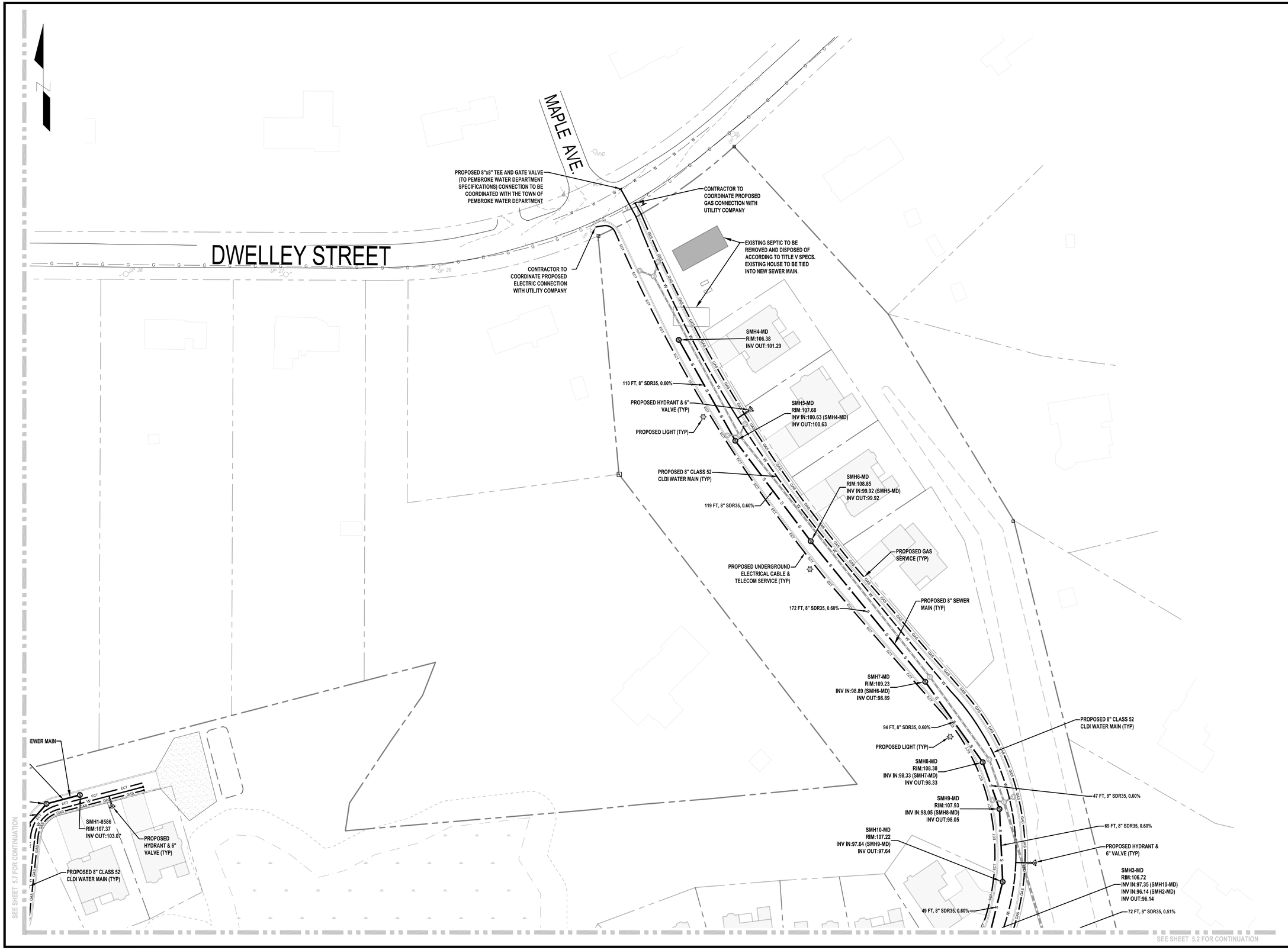
Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
UTILITY KEY PLAN

Project No.	100-064
Date	08 / 08 / 2023
Scale	1" = 200'
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-5.0

THESE PLANS ARE THE PROPERTY OF CROCKER DESIGN GROUP



FIRE HYDRANT LOCATION TO BE COORDINATED WITH AND APPROVED BY PEMBROKE FIRE DEPT PRIOR TO INSTALLATION.

CONTRACTOR TO CONSTRUCT WATER MAINS ACCORDING TO PIPE AND FITTING MANUFACTURER SPECS.

SEE TYPICAL HOUSE SERVICE DETAIL ON SHEET 5.0

FOR REGISTRY USE ONLY

40' 20' 0 40' 80'

1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1
	Revisions	

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
UTILITY PLAN 1

Project No.	100-064
Date	08 / 08 / 2023
Scale	1" = 40'
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-5.1

SEE SHEET 5.1 FOR CONTINUATION

SEE SHEET 5.7 FOR CONTINUATION

FIRE HYDRANT LOCATION TO BE COORDINATED WITH AND APPROVED BY PEMBROKE FIRE DEPT PRIOR TO INSTALLATION.

CONTRACTOR TO CONSTRUCT WATER MAINS ACCORDING TO PIPE AND FITTING MANUFACTURER SPECS.

SEE TYPICAL HOUSE SERVICE DETAIL ON SHEET 5.0

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1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

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CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project

AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for

WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title

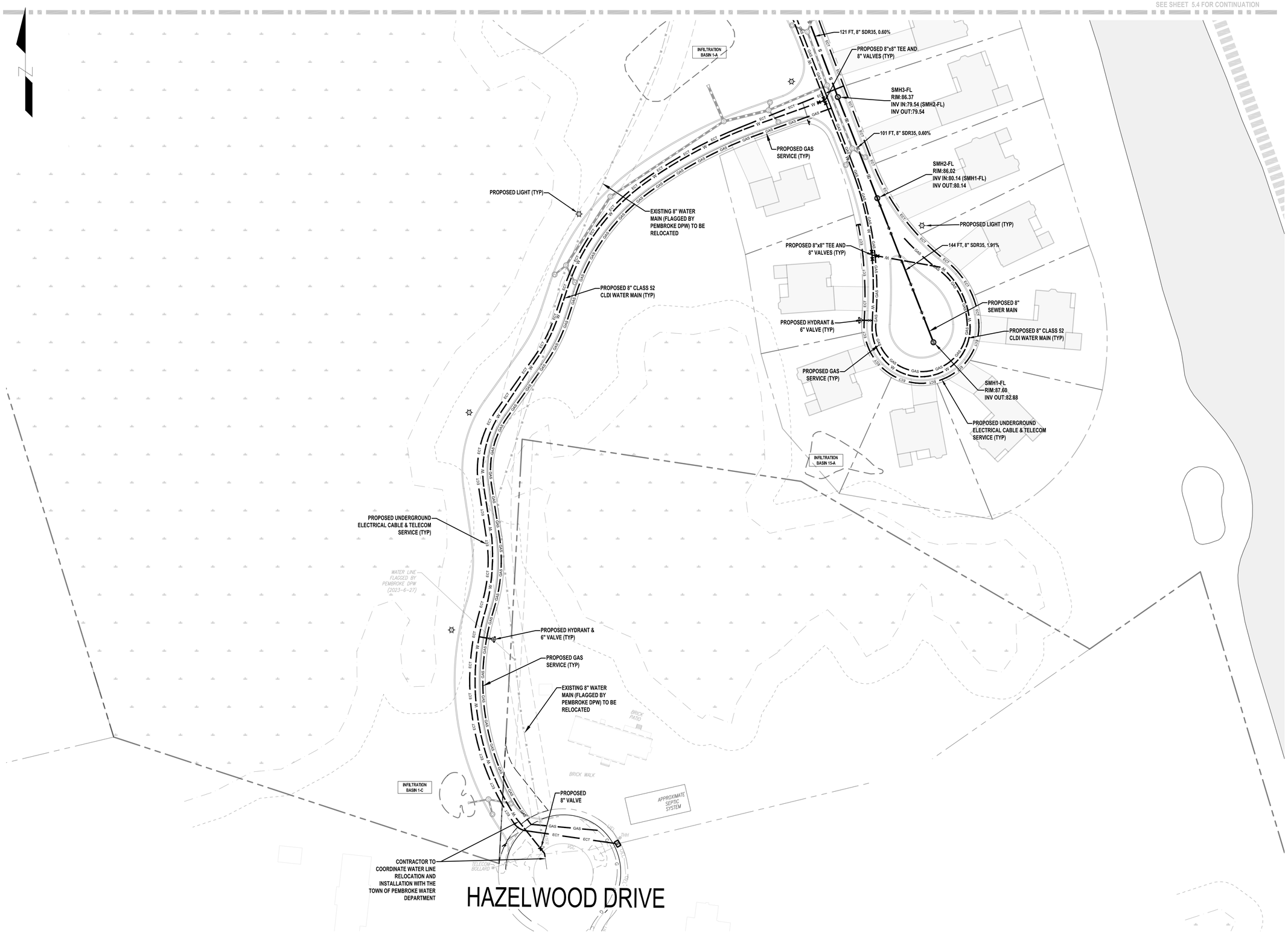
UTILITY PLAN 2

Project No.	100-064
Date	08 / 08 / 2023
Scale	1" = 40'
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.

C-5.2

SEE SHEET 5.4 FOR CONTINUATION



FIRE HYDRANT LOCATION TO BE COORDINATED WITH AND APPROVED BY PEMBROKE FIRE DEPT PRIOR TO INSTALLATION.

CONTRACTOR TO CONSTRUCT WATER MAINS ACCORDING TO PIPE AND FITTING MANUFACTURER SPECS.

SEE TYPICAL HOUSE SERVICE DETAIL ON SHEET 5.0

FOR REGISTRY USE ONLY

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1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

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GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
UTILITY PLAN 3

Project No.	100-064
Date	08 / 08 / 2023
Scale	1" = 40'
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-5.3

N

(2023-6-27)

WATER LINE FLAGGED BY PEMBROKE DPW (2023-6-27)

EXISTING 8" WATER MAIN (FLAGGED BY PEMBROKE DPW) TO REMAIN

PROPOSED WATER MAIN TIE-IN. CONTRACTOR TO COORDINATE INSTALLATION WITH THE TOWN OF PEMBROKE WATER DEPARTMENT

INFILTRATION BASIN 1-B

VENT-FL
RIM:98.97

PROPOSED MANHOLE FOR FORCE MAIN SEWER AIR PRESSURE RELEASE VALVE

WATER LINE FLAGGED BY PEMBROKE DPW (2023-6-27)

PROPOSED HYDRANT & 6" VALVE (TYP)

PROPOSED 8" VALVE

LIFT STATION 2
INV:77.99

PROPOSED FORCE MAIN SEWER

PROPOSED GAS SERVICE (TYP)

SMH6-FL
RIM:87.52
INV OUT:82.86

66 FT, 8" SDR35, 1.56%

PROPOSED VALVE CHAMBER

25 FT, 8" SDR35, 0.60%

SMH5-FL
RIM:86.36
INV IN:78.14 (SMH4-FL)
INV IN:81.93 (SMH6-FL)
INV OUT:78.14

PROPOSED UNDERGROUND ELECTRICAL CABLE & TELECOM SERVICE (TYP)

PROPOSED 8" SEWER MAIN

SMH4-FL
RIM:86.06
INV IN:78.82 (SMH3-FL)
INV OUT:78.82

PROPOSED 8" CLASS 52 CLDI WATER MAIN (TYP)

121 FT, 8" SDR35, 0.60%

INFILTRATION BASIN 1-A

PROPOSED 8"x8" TEE AND 8" VALVES (TYP)

SMH3-FL
RIM:86.37
INV IN:79.54 (SMH2-FL)
INV OUT:79.54

101 FT, 8" SDR35, 0.60%

PROPOSED GAS SERVICE (TYP)

SMH2-FL
RIM:86.02
INV IN:80.14 (SMH1-FL)
INV OUT:80.14

PROPOSED LIGHT (TYP)

EXISTING 8" WATER MAIN (FLAGGED BY PEMBROKE DPW) TO BE RELOCATED

PROPOSED LIGHT (TYP)

PROPOSED 8"x8" TEE AND 8" VALVES (TYP)

144 FT, 8" SDR35, 1.91%

SEE SHEET 5.3 FOR CONTINUATION

FIRE HYDRANT LOCATION TO BE COORDINATED WITH AND APPROVED BY PEMBROKE FIRE DEPT PRIOR TO INSTALLATION.

CONTRACTOR TO CONSTRUCT WATER MAINS ACCORDING TO PIPE AND FITTING MANUFACTURER SPECS.

SEE TYPICAL HOUSE SERVICE DETAIL ON SHEET 5.0

FOR REGISTRY USE ONLY

40' 20' 0 40' 80'
1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
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CIVIL
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REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

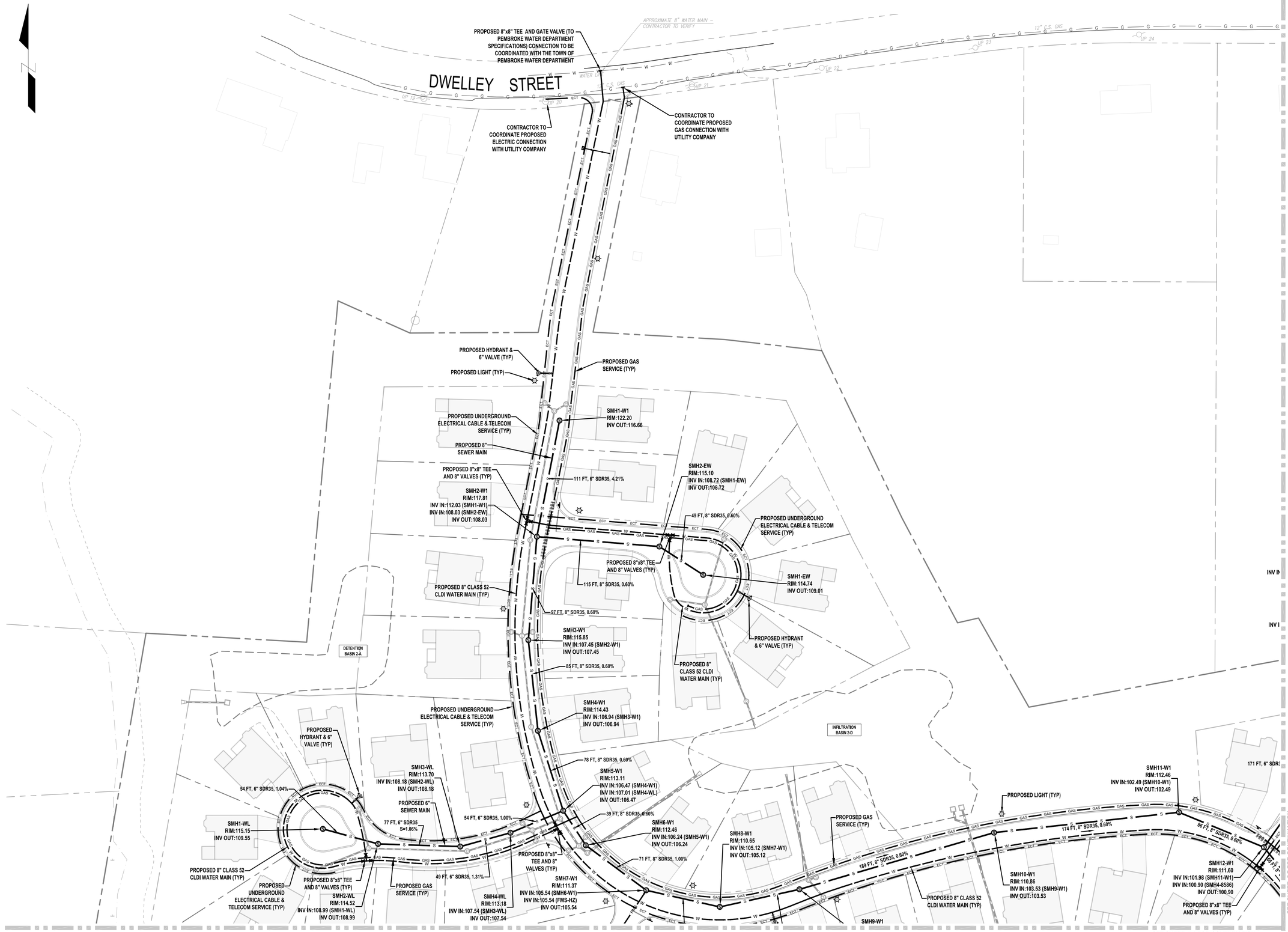
Project
AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
UTILITY PLAN 4

Project No.	100-064
Date	08 / 08 / 2023
Scale	1" = 40'
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-5.4



FIRE HYDRANT LOCATION TO BE COORDINATED WITH AND APPROVED BY PEMBROKE FIRE DEPT PRIOR TO INSTALLATION.

CONTRACTOR TO CONSTRUCT WATER MAINS ACCORDING TO PIPE AND FITTING MANUFACTURER SPECS.

SEE TYPICAL HOUSE SERVICE DETAIL ON SHEET 5.0

FOR REGISTRY USE ONLY

40' 20' 0 40' 80'

1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

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PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project

AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB

DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for

WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC

190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title

UTILITY PLAN 5

Project No.	100-064
Date	08 / 08 / 2023
Scale	1" = 40'
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.

C-5.5

SEE SHEET 5.6 FOR CONTINUATION

FIRE HYDRANT LOCATION TO BE COORDINATED WITH AND APPROVED BY PEMBROKE FIRE DEPT PRIOR TO INSTALLATION.

CONTRACTOR TO CONSTRUCT WATER MAINS ACCORDING TO PIPE AND FITTING MANUFACTURER SPECS.

SEE TYPICAL HOUSE SERVICE DETAIL ON SHEET 5.0

FOR REGISTRY USE ONLY

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1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1
Revisions		

GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
UTILITY PLAN 6

Project No.	100-064
Date	08 / 08 / 2023
Scale	1" = 40'
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-5.6

SEE SHEET 5.8 FOR CONTINUATION
SEE SHEET 5.9 FOR CONTINUATION

SEE SHEET 5.5 FOR CONTINUATION

N

PROPOSED 6" SEWER MAIN

33 FT, 6" SDR35, 1.00%

SMH2-8586
RIM:107.85
INV IN:102.74 (SMH1-8586)
INV OUT:102.74

27 FT, 6" SDR35, 1.00%

SMH3-8586
RIM:108.23
INV IN:102.47 (SMH2-8586)
INV OUT:102.47

91 FT, 6" SDR35, 0.60%

SMH4-8586
RIM:109.70
INV IN:101.92 (SMH3-8586)
INV OUT:101.92

171 FT, 6" SDR35, 0.60%

SMH1-8586
RIM:107.37
INV OUT:103.07

PROPOSED HYDRANT & 6" VALVE (TYP)

PROPOSED 8" CLASS 52 CLDI WATER MAIN (TYP)

PROPOSED GAS SERVICE (TYP)

INFILTRATION BASIN 2-D

INFILTRATION BASIN 3-A

SMH11-W1
RIM:112.46
INV IN:102.49 (SMH10-W1)
INV OUT:102.49

PROPOSED LIGHT (TYP)

PROPOSED GAS SERVICE (TYP)

SMH8-W1
RIM:110.65
INV IN:105.12 (SMH7-W1)
INV OUT:105.12

189 FT, 8" SDR35, 0.60%

174 FT, 8" SDR35, 0.60%

86 FT, 8" SDR35, 0.60%

SMH10-W1
RIM:110.86
INV IN:103.53 (SMH9-W1)
INV OUT:103.53

PROPOSED 8" CLASS 52 CLDI WATER MAIN (TYP)

SMH12-W1
RIM:111.60
INV IN:101.98 (SMH11-W1)
INV IN:100.90 (SMH4-8586)
INV OUT:100.90

PROPOSED 8"x8" TEE AND 8" VALVES (TYP)

PROPOSED 6" SEWER MAIN

PROPOSED GAS SERVICE (TYP)

SMH13-W1
RIM:110.78
INV IN:100.51 (SMH12-W1)
INV OUT:100.51

SMH9-W1
RIM:110.26
INV IN:104.66 (SMH8-W1)
INV OUT:104.66

76 FT, 8" SDR35, 0.60%

PROPOSED HYDRANT & 6" VALVE (TYP)

INFILTRATION BASIN 2-C

SMH1-MD
RIM:103.81
INV OUT:98.12

PROPOSED HYDRANT & 6" VALVE (TYP)

SMH14-W1
RIM:109.82
INV IN:100.08 (SMH13-W1)
INV OUT:100.08

74 FT, 8" SDR35, 0.60%

57 FT, 8" SDR35, 0.60%

PROPOSED HYDRANT & 6" VALVE (TYP)

SMH16-W1
RIM:109.48
INV IN:99.47 (SMH15-W1)
INV OUT:99.47

SMH15-W1
RIM:109.43
INV IN:99.74 (SMH14-W1)
INV OUT:99.74

46 FT, 8" SDR35, 0.60%

PROPOSED UNDERGROUND ELECTRICAL CABLE & TELECOM SERVICE (TYP)

PROPOSED 8" CLASS 52 CLDI WATER MAIN (TYP)

75 FT, 8" SDR35, 0.60%

SMH17-W1
RIM:110.23
INV IN:99.02 (SMH16-W1)
INV OUT:99.02

141 FT, 8" SDR35, 0.60%

SMH18-W1
RIM:110.37
INV IN:98.18 (SMH17-W1)
INV OUT:98.18

SMH19-W1
RIM:109.14
INV IN:97.89 (SMH18-W1)
INV OUT:97.89

PROPOSED GAS SERVICE (TYP)

49 FT, 8" SDR35, 0.60%

47 FT, 8" SDR35, 0.60%

SMH20-W1
RIM:108.34
INV IN:97.62 (SMH19-W1)
INV OUT:97.62

31 FT, 8" SDR35, 0.60%

SMH21-W1
RIM:108.27
INV IN:97.43 (SMH20-W1)
INV OUT:97.43

52 FT, 8" SDR35, 0.60%

INFILTRATION BASIN 2-E

WETLAND
UPLAND

SEE SHEET 5.8 FOR CONTINUATION

SEE SHEET 5.2 FOR CONTINUATION

FIRE HYDRANT LOCATION TO BE COORDINATED WITH AND APPROVED BY PEMBROKE FIRE DEPT PRIOR TO INSTALLATION.

CONTRACTOR TO CONSTRUCT WATER MAINS ACCORDING TO PIPE AND FITTING MANUFACTURER SPECS.

SEE TYPICAL HOUSE SERVICE DETAIL ON SHEET 5.0

FOR REGISTRY USE ONLY

40' 20' 0 40' 80'
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Date	Description	No.
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Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

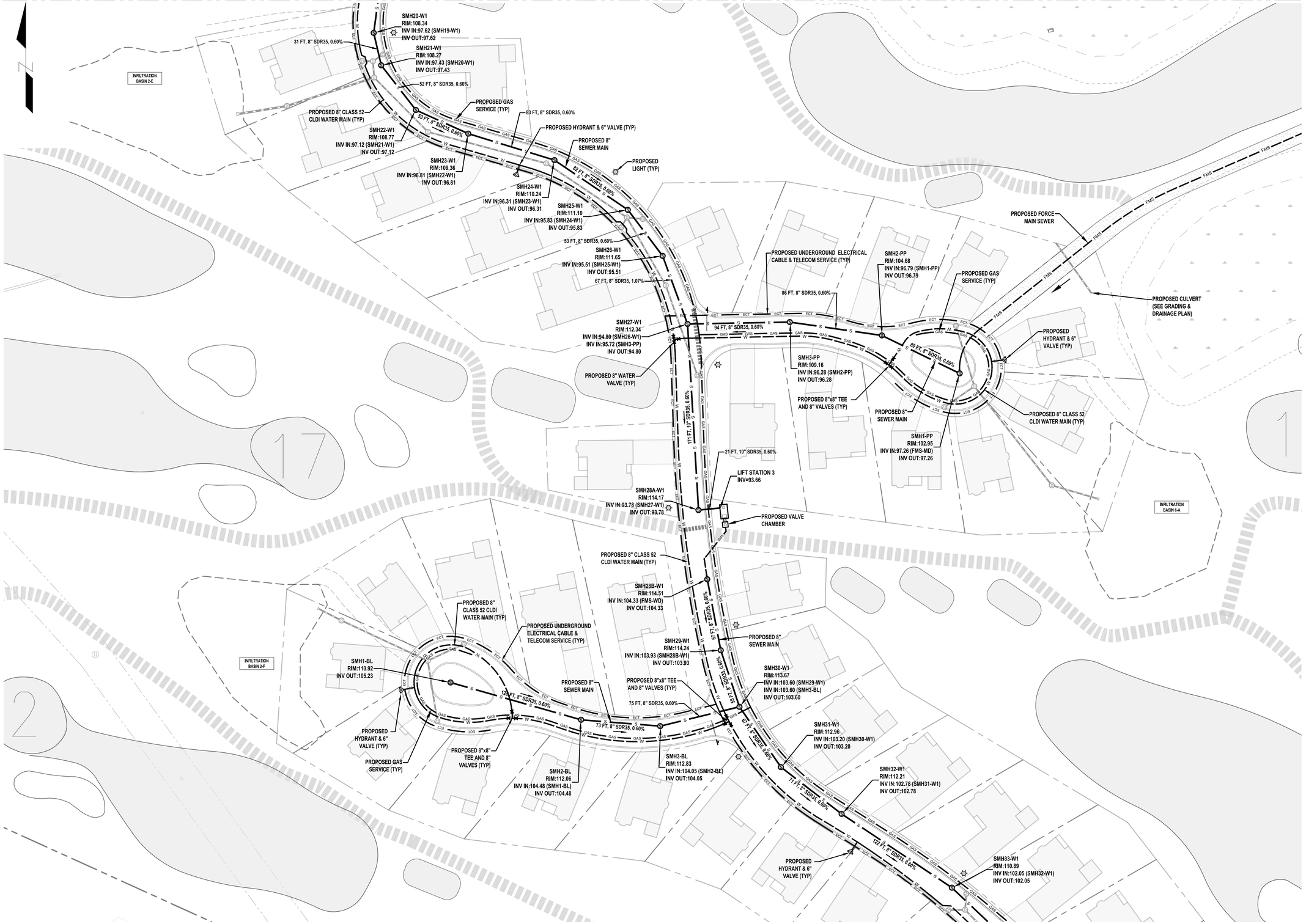
Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
UTILITY PLAN 7

Project No.	100-064
Date	08 / 08 / 2023
Scale	1" = 40'
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-5.7

SEE SHEET 5.6 FOR CONTINUATION



SEE SHEET 5.9 FOR CONTINUATION

FIRE HYDRANT LOCATION TO BE COORDINATED WITH AND APPROVED BY PEMBROKE FIRE DEPT PRIOR TO INSTALLATION.

CONTRACTOR TO CONSTRUCT WATER MAINS ACCORDING TO PIPE AND FITTING MANUFACTURER SPECS.

SEE TYPICAL HOUSE SERVICE DETAIL ON SHEET 5.0

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Date	Description	No.
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12-11-2023

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Project
AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
UTILITY PLAN 8

Project No.	100-064	Drawing No. C-5.8
Date	08 / 08 / 2023	
Scale	1" = 40'	
Drawn By	ASZ, JPM	
Approved By	TC	

SEE SHEET 5.8 FOR CONTINUATION

SEE SHEET 5.11 FOR CONTINUATION

FIRE HYDRANT LOCATION TO BE COORDINATED WITH AND APPROVED BY PEMBROKE FIRE DEPT PRIOR TO INSTALLATION.

CONTRACTOR TO CONSTRUCT WATER MAINS ACCORDING TO PIPE AND FITTING MANUFACTURER SPECS.

SEE TYPICAL HOUSE SERVICE DETAIL ON SHEET 5.0

PROPOSED HYDRANT & 6" VALVE (TYP)

122 FT, 8" SDR35, 0.60%

SMH33-W1
RIM:110.89
INV IN:102.05 (SMH32-W1)
INV OUT:102.05

PROPOSED 8" SEWER MAIN

SMH34-W1
RIM:109.26
INV IN:101.13 (SMH33-W1)
INV OUT:101.13

154 FT, 8" SDR35, 0.60%

PROPOSED 8" CLASS 52 CLDI WATER MAIN (TYP)

185 FT, 8" SDR35, 0.60%

PROPOSED GAS SERVICE (TYP)

SMH35-W1
RIM:107.21
INV IN:100.03 (SMH34-W1)
INV OUT:100.03

PROPOSED UNDERGROUND ELECTRICAL CABLE & TELECOM SERVICE (TYP)

PROPOSED LIGHT (TYP)

PROPOSED HYDRANT & 6" VALVE (TYP)

301 FT, 8" SDR35, 0.60%

INFILTRATION BASIN 12-A

SMH36-W1
RIM:104.14
INV IN:98.23 (SMH35-W1)
INV OUT:98.23

156 FT, 8" SDR35, 0.60%

PROPOSED LIGHT (TYP)

PROPOSED 8" SEWER MAIN

INFILTRATION BASIN 7-A

SMH37-W1
RIM:102.72
INV IN:97.02 (SMH36-W1)
INV OUT:97.02

PROPOSED GAS SERVICE (TYP)

PROPOSED 8" CLASS 52 CLDI WATER MAIN (TYP)

110 FT, 8" SDR35, 0.60%

SMH38-W1
RIM:101.55
INV IN:95.86 (SMH37-W1)
INV IN:93.93 (SMH1-KKL)
INV OUT:93.93

115 FT, 8" SDR35, 0.60%

PROPOSED 8"x8" TEE AND 8" VALVES (TYP)

PROPOSED UNDERGROUND ELECTRICAL CABLE & TELECOM SERVICE (TYP)

INFILTRATION BASIN 12-B

PROPOSED 8" SEWER MAIN

SMH39-W1
RIM:100.79
INV IN:93.49 (SMH38-W1)
INV OUT:93.49

SMH1-KKL
RIM:100.31

47 FT, 8" SDR35, 0.60%

EXISTING SOIL ABSORPTION SYSTEMS TO REMAIN. TO BE USED AS PART OF THE WASTEWATER TREATMENT PLAN TO BE DESIGNED BY OTHERS AS PART OF THE GROUND WATER DISCHARGE PERMIT PROCESS.

SEE SHEET 5.10 FOR CONTINUATION

FOR REGISTRY USE ONLY

40' 20' 0 40' 80'
1"=40'

Date	Description	No.
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Revisions

COMMONWEALTH OF MASSACHUSETTS
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CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

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PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
UTILITY PLAN 9

Project No.	100-064
Date	08 / 08 / 2023
Scale	1" = 40'
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-5.9

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SEE SHEET 5.09 FOR CONTINUATION

N

SMH36-W1
RIM:104.14
INV IN:98.23 (SMH35-W1)
INV OUT:98.23

INFILTRATION BASIN 7-A

PROPOSED LIGHT (TYP)

PROPOSED 8" SEWER MAIN

159 FT, 8" SDR35, 0.70%

SMH37-W1
RIM:102.72
INV IN:97.02 (SMH36-W1)
INV OUT:97.02

PROPOSED GAS SERVICE (TYP)

PROPOSED 8" CLASS 52 CLDI WATER MAIN (TYP)

109 FT, 8" SDR35, 0.60%

SMH38-W1
RIM:101.55
INV IN:95.86 (SMH37-W1)
INV IN:93.93 (SMH1-KKL)
INV OUT:93.93

INFILTRATION BASIN 12-B

PROPOSED UNDERGROUND ELECTRICAL CABLE & TELECOM SERVICE (TYP)

115 FT, 8" SDR35, 0.60%

PROPOSED 8" SEWER MAIN

PROPOSED 8"x8" TEE AND 8" VALVES (TYP)

SMH39-W1
RIM:100.79
INV IN:93.49 (SMH38-W1)
INV OUT:93.49

SMH1-KKL
RIM:100.31
INV OUT:94.62

PROPOSED 8"x8" TEE AND 8" VALVES (TYP)

PROPOSED 8" CLASS 52 CLDI WATER MAIN (TYP)

109 FT, 8" SDR35, 0.60%

PROPOSED HYDRANT & 6" VALVE (TYP)

PROPOSED GAS SERVICE (TYP)

81 FT, 8" SDR35, 0.60%

PROPOSED GAS SERVICE (TYP)

SMH40-W1
RIM:99.65
INV IN:92.84 (SMH39-W1)
INV OUT:92.84

PROPOSED LIGHT (TYP)

103 FT, 8" SDR35, 0.60%

SMH41-W1
RIM:98.83
INV IN:92.36 (SMH40-W1)
INV OUT:92.36

SMH42-W1
RIM:97.78
INV IN:91.75 (SMH41-W1)
INV OUT:91.75

PROPOSED 8" SEWER MAIN

50 FT, 8" SDR35, 0.60%

SMH43-W1
RIM:97.27
INV IN:91.45 (SMH42-W1)
INV OUT:91.45

39 FT, 8" SDR35, 0.60%

SMH44-W1
RIM:97.04
INV IN:91.22 (SMH43-W1)
INV OUT:91.22

PROPOSED HYDRANT & 6" VALVE (TYP)

SMH45-W1
RIM:101.56
INV IN:90.84 (SMH44-W1)
INV IN:90.84 (SMH47-W1)
INV OUT:90.84

41 FT, 8" SDR35, 1.12%

SMH47-W1
RIM:97.19
INV IN:91.29 (SMH46-W1)
INV OUT:91.29

SMH46-W1
RIM:97.99
INV OUT:92.30

EXISTING SOIL ABSORPTION SYSTEMS TO REMAIN. TO BE USED AS PART OF THE WASTEWATER TREATMENT PLAN TO BE DESIGNED BY OTHERS AS PART OF THE GROUND WATER DISCHARGE PERMIT PROCESS.

PROPOSED HOLDING TANK

PROPOSED GREASE TRAP

PROPOSED HOLDING TANK

PROPOSED GREASE TRAP

SMH2-CH
RIM:100.54
INV IN:93.10 (SMH1-CH)
INV IN:93.10 (HT2-CH)
INV OUT:93.10

182 FT, 8" SDR35, 3.69%

PROPOSED 8" SEWER MAIN

100 FT, 8" SDR35, 4.00%

SMH3-CH
RIM:92.10
INV IN:86.41 (SMH2-CH)
INV IN:86.41 (MFD1)
INV OUT:86.41

SMH1-CH
RIM:103.03
INV IN:97.06 (HT1-CH)
INV OUT:97.06

EXISTING SEPTIC TO BE REMOVED AND DISPOSED OF ACCORDING TO TITLE V SPECS.

PROPOSED HYDRANT & 6" VALVE (TYP)

91 FT, 8" SDR35, 4.15%

119 FT, 8" S

SMH4-CH
RIM:88.92
INV IN:82.63 (SMH3-CH)
INV OUT:81.63

7 FT, 12" SDI

SMH3-W2
RIM:78.61
INV IN:72.62 (SMH2-W2)
INV OUT:72.62

PROPOSED FORCE MAIN SEWER

SMH2-W2
RIM:82.53
INV IN:75.35 (SMH1-W2)
INV OUT:75.35

SMH1-W2
RIM:89.87
INV IN:75.33 (SMH4-PR)
INV OUT:76.05

PROPOSED 50,000 GAL WASTEWATER TREATMENT PLANT TO BE DESIGNED BY OTHERS AS PART OF GROUNDWATER DISCHARGE PERMIT PROCESS.

PROPOSED WASTEWATER BUILDING

PROPOSED DOMESTIC SERVICE TO WWTP BUILDING

PROPOSED 8"x8" TEE AND 8" VALVES (TYP)

PROPOSED AMPHIDROME SYSTEM TO BE DESIGNED BY OTHERS

AMPHIDROME
INV=90.74

11 FT, 8" SDR35, 1.00%

65 FT, 8" SDR35, 0.60%

84 FT, 8" SDR35, 1.21%

PROPOSED 8" WATER VALVE (TYP)

PROPOSED FORCE MAIN SEWER

PROPOSED 8" CLASS 52 CLDI WATER MAIN (TYP)

105 FT, 8" SDR35, 0.60%

PROPOSED UNDERGROUND ELECTRICAL CABLE & TELECOM SERVICE (TYP)

PROPOSED 8" STUB (TO BE COORDINATED WITH TOWN OF PEMBROKE WATER DEPARTMENT)

PROPOSED GAS SERVICE (TYP)

PROPOSED HYDRANT & 6" VALVE (TYP)

PROPOSED 8"x8" TEE AND 8" VALVES (TYP)

SMH1-PR
RIM:90.39
INV IN:85.00 (FMS)
INV OUT:84.70

SEE SHEET 5.12 FOR CONTINUATION

SEE SHEET 5.11 FOR CONTINUATION

FIRE HYDRANT LOCATION TO BE COORDINATED WITH AND APPROVED BY PEMBROKE FIRE DEPT PRIOR TO INSTALLATION.

CONTRACTOR TO CONSTRUCT WATER MAINS ACCORDING TO PIPE AND FITTING MANUFACTURER SPECS.

SEE TYPICAL HOUSE SERVICE DETAIL ON SHEET 5.0

FOR REGISTRY USE ONLY

40' 20' 0 40' 80'

1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1
	Revisions	

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
UTILITY PLAN 10

Project No.	100-064
Date	08 / 08 / 2023
Scale	1" = 40'
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-5.10

FIRE HYDRANT LOCATION TO BE COORDINATED WITH AND APPROVED BY PEMBROKE FIRE DEPT PRIOR TO INSTALLATION.

CONTRACTOR TO CONSTRUCT WATER MAINS ACCORDING TO PIPE AND FITTING MANUFACTURER SPECS.

SEE TYPICAL HOUSE SERVICE DETAIL ON SHEET 5.0

FOR REGISTRY USE ONLY

40' 20' 0 40' 80'
1"=40'

SMH12-GP
RIM:83.20
INV IN:77.51 (SMH11-GP)
INV OUT:77.51

SMH11-GP
RIM:84.44
INV OUT:78.75

65 FT, 8" SDR35, 5.91%

65 FT, 8" SDR35, 1.01%

141 FT, 8" SDR35, 1.50%

SMH14-GP
RIM:80.98
INV IN:74.76 (SMH13-GP)
INV OUT:74.76

PROPOSED 8"x8" TEE AND 8" VALVES (TYP)

PROPOSED UNDERGROUND ELECTRICAL CABLE & TELECOM SERVICE (TYP)

PROPOSED GAS SERVICE (TYP)

SMH15-GP
RIM:80.57
INV IN:74.39 (SMH14-GP)
INV OUT:74.39

68 FT, 8" SDR35, 0.88%

73 FT, 8" SDR35, 1.50%

SMH16-GP
RIM:79.00
INV IN:73.31 (SMH15-GP)
INV OUT:73.31

EXISTING SEPTIC TO BE REMOVED AND DISPOSED OF ACCORDING TO TITLE V SPECS.

PROPOSED HYDRANT & 6" VALVE (TYP)

SMH2-CH
RIM:100.54
INV IN:93.10 (SMH1-CH)
INV IN:93.18 (HT2-CH)
INV OUT:93.10

PROPOSED GREASE TRAP

PROPOSED HOLDING TANK

PROPOSED HOLDING TANK

182 FT, 8" SDR35, 3.69%

SMH3-CH
RIM:92.10
INV IN:86.41 (SMH2-CH)
INV IN:86.41 (MFD1)
INV OUT:86.41

PROPOSED 8" SEWER MAIN

91 FT, 8" SDR35, 4.15%

SMH5-CH
RIM:86.07
INV IN:75.72 (SMH4-CH)
INV OUT:75.72

PROPOSED GREASE TRAP

100 FT, 8" SDR35, 4.00%

SMH1-CH
RIM:103.03
INV IN:97.06 (HT1-CH)
INV OUT:97.06

EXISTING SOIL ABSORPTION SYSTEMS TO REMAIN. TO BE USED AS PART OF THE WASTEWATER TREATMENT PLAN TO BE DESIGNED BY OTHERS AS PART OF THE GROUND WATER DISCHARGE PERMIT PROCESS.

EXISTING SEPTIC TO BE REMOVED AND DISPOSED OF ACCORDING TO TITLE V SPECS.

SMH4-CH
RIM:88.92
INV IN:82.63 (SMH3-CH)
INV OUT:81.63

119 FT, 8" SDR35, 5.00%

50 FT, 8" SDR35, 2.37%

121 FT, 8" SDR35, 1.47%

SMH6-CH
RIM:81.16
INV IN:74.53 (SMH5-CH)
INV OUT:71.53

7 FT, 8" SDR35, 2.00%

LIFT STATION 4
INV:71.40

LIFT STATION 4
INV:71.40

7 FT, 12" SDR35, 2.00%

INFILTRATION BASIN 9-B

SMH4-W2
RIM:79.91
INV IN:71.54 (SMH3-W2)
INV IN:71.54 (SMH16-GP)
INV OUT:71.54

SMH3-W2
RIM:78.61
INV IN:72.62 (SMH2-W2)
INV OUT:72.62

76 FT, 8" SDR35, 1.58%

8-W1
01.55
:95.86 (SMH37-W1)
:93.93 (SMH1-KKL)
UT:93.93

PROPOSED 8"x8" TEE AND 8" VALVES (TYP)

SMH39-W1
RIM:100.79
INV IN:93.49 (SMH38-W1)
INV OUT:93.49

PROPOSED FORCE MAIN SEWER

PROPOSED HYDRANT & 6" VALVE (TYP)

SMH2-W2
RIM:82.53
INV IN:75.35 (SMH1-W2)
INV OUT:75.35

100 FT, 8" SDR35, 2.75%

15, 0.60%

81 FT, 8" SDR35, 0.60%

PROPOSED GAS SERVICE (TYP)

PROPOSED LIGHT (TYP)

SMH40-W1
RIM:99.65
INV IN:92.84 (SMH39-W1)
INV OUT:92.84

SMH1-W2
RIM:89.87
INV IN:75.33 (SMH4-PR)
INV OUT:76.05

INFILTRATION BASIN 9-A

PROPOSED 50,000 GAL WASTEWATER TREATMENT PLANT TO BE DESIGNED BY OTHERS AS PART OF GROUNDWATER DISCHARGE PERMIT PROCESS.

PROPOSED 8" CLASS 52 CLDI WATER MAIN (TYP)

PROPOSED WASTEWATER BUILDING

PROPOSED DOMESTIC SERVICE TO WWTP BUILDING

PROPOSED 8"x8" TEE AND 8" VALVES (TYP)

PROPOSED AMPHIDROME

110 FT, 8" SDR35, 0.80%

SEE SHEET 5.10 FOR CONTINUATION

SEE SHEET 5.12 FOR CONTINUATION

12/11/23	PEER REVIEW UPDATES	1
Date	Description	No.
Revisions		

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No.47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
UTILITY PLAN 11

Project No.	100-064
Date	08 / 08 / 2023
Scale	1" = 40'
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-5.11

SEE SHEET 5.10 FOR CONTINUATION

SEE SHEET 5.11 FOR CONTINUATION

N

iDR35, 0.60%

PROPOSED GAS SERVICE (TYP)

PROPOSED LIGHT (TYP)

PROPOSED 50,000 GAL WASTEWATER TREATMENT PLANT TO BE DESIGNED BY OTHERS AS PART OF GROUNDWATER DISCHARGE PERMIT PROCESS.

PROPOSED WASTEWATER BUILDING

PROPOSED DOMESTIC SERVICE TO WWTP BUILDING

PROPOSED 8"x8" TEE AND 8" VALVES (TYP)

PROPOSED AMPHIDROME SYSTEM TO BE DESIGNED BY OTHERS

SMH1-W2
RIM:89.87
INV IN:75.33 (SMH4-PR)
INV OUT:76.05

PROPOSED 8" CLASS 52 CLDI WATER MAIN (TYP)

INFILTRATION BASIN 9-A

CONTRACTOR TO COORDINATE PROPOSED ELECTRIC CONNECTION WITH UTILITY COMPANY

FIRE HYDRANT LOCATION TO BE COORDINATED WITH AND APPROVED BY PEMBROKE FIRE DEPT PRIOR TO INSTALLATION.

CONTRACTOR TO CONSTRUCT WATER MAINS ACCORDING TO PIPE AND FITTING MANUFACTURER SPECS.

SEE TYPICAL HOUSE SERVICE DETAIL ON SHEET 5.0

H41-W1
M:98.83
40-W1)
T:92.36

103 FT, 8" SDR35, 0.60%

SMH42-W1
RIM:97.78
INV IN:91.75 (SMH41-W1)
INV OUT:91.75

PROPOSED 8" SEWER MAIN

AMPHIDROME
INV=90.74

11 FT, 8" SDR35, 1.00%

50 FT, 8" SDR35, 0.60%

63 FT, 8" SDR35, 0.60%

SMH43-W1
RIM:97.37
INV IN:91.45 (SMH42-W1)
INV OUT:91.45

84 FT, 8" SDR35, 1.21%

39 FT, 8" SDR35, 0.60%

SMH44-W1
RIM:97.04
INV IN:91.22 (SMH43-W1)
INV OUT:91.22

PROPOSED HYDRANT & 6" VALVE (TYP)

SMH45-W1
RIM:101.56
INV IN:90.84 (SMH44-W1)
INV IN:90.84 (SMH47-W1)
INV OUT:90.84

SMH47-W1
RIM:97.19
INV IN:91.29 (SMH46-W1)
INV OUT:91.29

41 FT, 8" SDR35, 1.12%

SMH46-W1
RIM:97.99
INV OUT:92.30

PROPOSED FORCE MAIN SEWER

PROPOSED 8" CLASS 52 CLDI WATER MAIN (TYP)

PROPOSED 8" WATER VALVE (TYP)

PROPOSED UNDERGROUND ELECTRICAL CABLE & TELECOM SERVICE (TYP)

PROPOSED 8" STUB (TO BE COORDINATED WITH TOWN OF PEMBROKE WATER DEPARTMENT)

INFILTRATION BASIN 10-B

SMH4-PR
RIM:82.00
INV IN:76.72 (SMH3-PR)
INV OUT:76.31

PROPOSED 8" x 8" TEE AND GATE VALVE (TO PEMBROKE WATER DEPARTMENT SPECIFICATIONS) CONNECTION TO WEST ELM STREET. CONTRACTOR TO COORDINATE WITH PEMBROKE WATER DEPT.

CONTRACTOR TO COORDINATE PROPOSED GAS CONNECTION WITH UTILITY COMPANY

PROPOSED GAS SERVICE (TYP)

114 FT, 8" SDR35, 0.60%

SMH3-PR
RIM:83.81
INV IN:78.62 (SMH2-PR)
INV OUT:77.65

63 FT, 8" SDR35, 5.08%

SMH2-PR
RIM:90.71
INV IN:84.30 (SMH1-PR)
INV OUT:81.30

PROPOSED HYDRANT & 6" VALVE (TYP)

PROPOSED 8"x8" TEE AND 8" VALVES (TYP)

64 FT, 8" SDR35, 0.60%

SMH1-PR
RIM:90.39
INV IN:85.00 (FMS)
INV OUT:84.70

PROPOSED FORCE MAIN SEWER

EXISTING SEPTIC TO BE ABANDONED

PROP. "E-ONE" SEWER PUMP (TYP.)

W. ELM STREET

FOR REGISTRY USE ONLY

40' 20' 0 40' 80'
1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

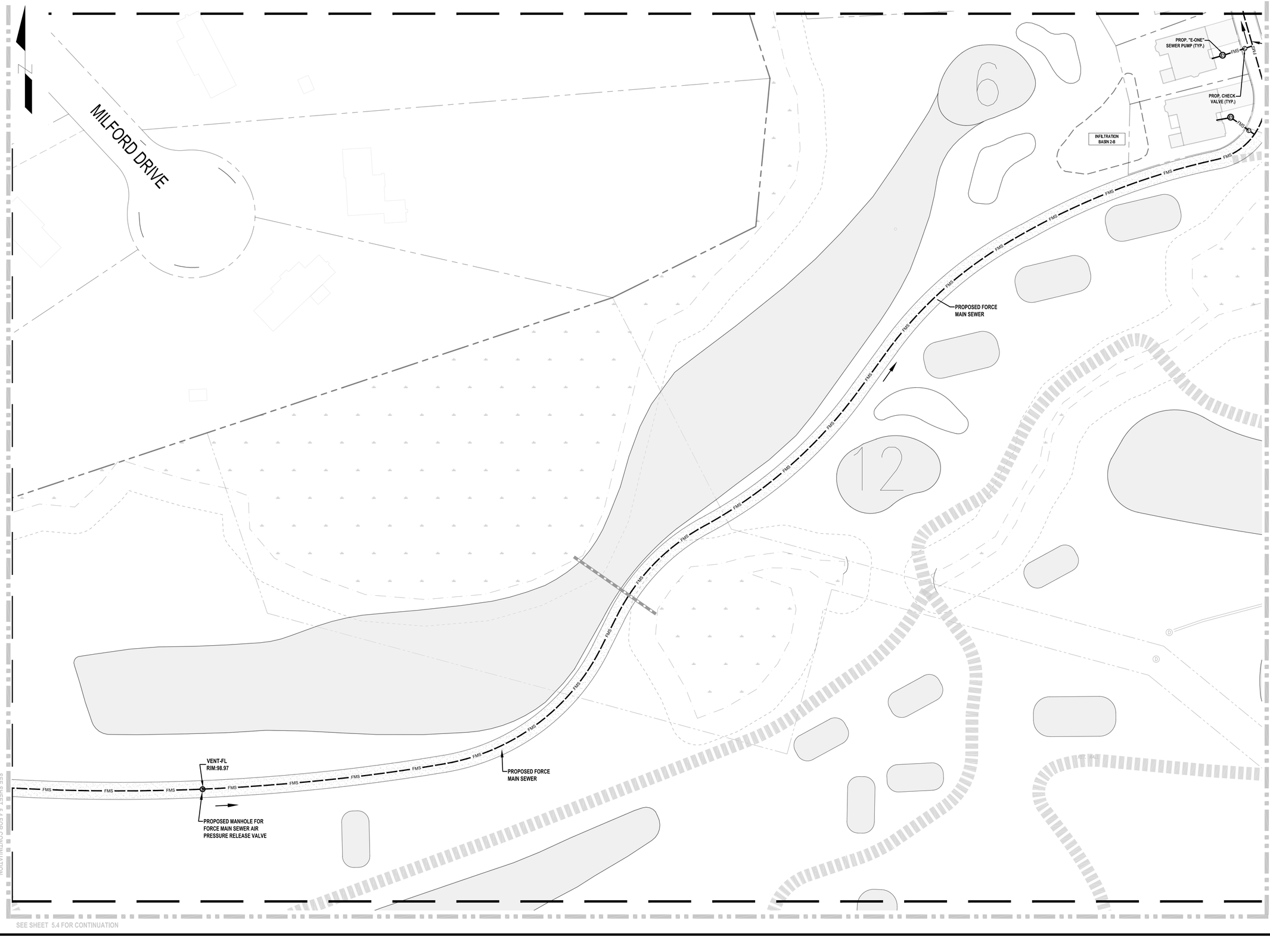
Project
AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
UTILITY PLAN 12

Project No.	100-064
Date	08 / 08 / 2023
Scale	1" = 40'
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-5.12



FIRE HYDRANT LOCATION TO BE COORDINATED WITH AND APPROVED BY PEMBROKE FIRE DEPT PRIOR TO INSTALLATION.

CONTRACTOR TO CONSTRUCT WATER MAINS ACCORDING TO PIPE AND FITTING MANUFACTURER SPECS.

SEE TYPICAL HOUSE SERVICE DETAIL ON SHEET 5.0

FOR REGISTRY USE ONLY

40' 20' 0 40' 80'

1"=40'

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project

AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for

WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title

UTILITY PLAN 13

Project No.	100-064
Date	08 / 08 / 2023
Scale	1" = 40'
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.

C-5.13

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FOR REGISTRY USE ONLY

200' 100' 0 200' 400'

1"=200'

12/11/23	PEER REVIEW UPDATES	1
Date	Description	No.

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project

AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE &
WEST ELM STREET
PEMBROKE, MA

Prepared for

WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title

TEST PIT PLAN

Project No.	100-064
Date	08 / 08 / 2023
Scale	
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.

C-7.1

G:\Jobs\Crocker Design Group, LLC\Weather Crocker - Projects\100-064 Pembroke - Country Club\dwg\Plot Sheets\Site Plan Application\ C7.1Test Pit Plan.dwg, C7.1Test Pit Plan, Dec 12, 2023 10:31

SOIL TEST DATA

SOIL TESTING AND EVALUATION BY: TAYLOR CORSANO S.E. #14263
SOIL TESTING WITNESSED BY: MARTHA SULLIVAN AND BRUCE BOUCK
DATE: JANUARY 30, 2020

TP#20-1 EL. 103.1 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 11" A HORIZON LOAM 7.5YR 2.5/2	102.2
11" TO 26" B HORIZON SANDY LOAM 7.5YR 5/8	100.9
26" TO 156" C LAYER LOAMY SAND 7.5YR 5/6 (PR =5 MIN/IN)	90.1
BOTTOM OF HOLE	

TP#20-2 EL. 95.9 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 2" O HORIZON LOAM 7.5YR 2.5/1	95.7
2" TO 6" A HORIZON LOAM 7.5YR 4/4	95.4
6" TO 14" B LAYER SANDY LOAM 7.5 Y 7/8	94.7
14" TO 72" C1 LAYER LOAMY SAND 7.5YR 4/3	89.9
72" TO 168" C2 LAYER SAND 7.5YR 5/4 (PR =2 MIN/IN)	81.9
BOTTOM OF HOLE	

TP#20-3 EL. 95.7 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 4" O HORIZON LOAM 7.5YR 2.5/1	95.3
4" TO 16" A HORIZON LOAM 7.5YR 3/3	94.3
16" TO 24" B LAYER SANDY LOAM 7.5 Y 4/6	93.7
24" TO 67" C1 LAYER LOAMY SAND 7.5 Y 4/6	90.1
67" TO 180" C2 LAYER SAND 7.5 Y 5/4	80.7
BOTTOM OF HOLE	

TP#20-4 EL. 101.2 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 8" A HORIZON LOAM 10YR 3/4	100.5
8" TO 24" BC HORIZON LOAMY SAND 10YR 4/6	99.2
24" TO 186" C LAYER LOAMY SAND 10YR 5/3 (PR =7 MIN/IN)	85.7
BOTTOM OF HOLE	

TP#20-5 EL. 99.3 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 6" A HORIZON LOAM 7.5 YR 3/1	98.8
6" TO 16" B HORIZON SANDY LOAM 7.5YR 4/6	97.9
16" TO 174" C LAYER LOAMY SAND 7.5 Y 4/3	84.8
BOTTOM OF HOLE	

TP#20-6 EL. 104.3 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 5" Ap LAYER LOAM 7.5 YR 3/1	103.9
5" TO 30" Bw LAYER SANDY LOAM 7.5 Y 4/6	101.8
30" TO 44" BC LAYER LOAMY SAND 7.5 Y 5/3	100.6
44" TO 147" C LAYER LOAMY SAND 7.5YR 4/4	92.0
BOTTOM OF HOLE	

TP#20-7 EL. 100.0 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 10" FILL	99.1
10" TO 162" C LAYER LOAMY SAND 7.5 YR 5/6	86.5
BOTTOM OF HOLE	

SOIL TEST DATA

SOIL TESTING AND EVALUATION BY: RAYMOND WILLIS S.E. #2612
SOIL TESTING WITNESSED BY: MARTHA SULLIVAN AND BRUCE BOUCK
DATE: OCTOBER 28, 2021

OSE-TP#1 EL. 100.1 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 70" FILL	94.3
70" TO 113" C1 LAYER COARSE SAND 2.5Y 5/4	90.7
113" TO 180" C2 LAYER SAND 2.5Y 7/2	85.1
BOTTOM OF HOLE	

OSE-TP#2 EL. 105.28 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 21" FILL	103.5
21" TO 64" C1 LAYER COARSE SAND 2.5Y 5/4	100.0
64" TO 174" C2 LAYER LOAMY SAND 2.5Y 6/3	90.8
BOTTOM OF HOLE	

OSE-TP#3 EL. 100.7 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 72" C1 LAYER LOAMY SAND 2.5Y 7/4	94.7
72" TO 162" C2 LAYER SAND 2.5Y 6/3	87.2
BOTTOM OF HOLE	

SOIL TEST DATA

SOIL TESTING AND EVALUATION BY: RAYMOND WILLIS S.E. #2612
SOIL TESTING WITNESSED BY: MARTHA SULLIVAN, BRUCE BOUCK, AND ROBERT GREEN
DATE: APRIL 7, 2022

TP#11 EL. 104.6 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 2" ASPHALT	104.5
2" TO 28" FILL	102.3
28" TO 32" A LAYER SANDY LOAM 10YR 3/2	102.0
32" TO 38" Bw LAYER SANDY LOAM 10YR 6/6	101.5
38" TO 122" C LAYER LOAMY SAND 2.5Y 6/4 (PR =12 MIN/IN)	94.5
BOTTOM OF HOLE	

TP#12 EL. 104.8 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 2" ASPHALT	104.6
2" TO 19" FILL	103.2
19" TO 126" C LAYER LOAMY SAND 2.5Y 6/4 (PR =9 MIN/IN)	94.2
BOTTOM OF HOLE	

TP#13 EL. 106.2 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 2" ASPHALT	106.1
2" TO 26" FILL	104.1
26" TO 29" A LAYER SANDY LOAM 10YR 3/2	103.8
29" TO 33" Bw LAYER SANDY LOAM 10YR 6/6	103.5
33" TO 108" C LAYER LOAMY SAND 2.5Y 6/4	97.2
108" TO 132" C2 LAYER LOAMY SAND 2.5Y 6/4	95.2
BOTTOM OF HOLE	

TP#14 EL. 94.6 — GROUNDWATER ENCOUNTERED AT 136"

0" TO 5" ASPHALT	94.2
5" TO 11" Bw LAYER	93.7
11" TO 56" C LAYER LOAMY SAND 2.5Y 6/4	89.9
56" TO 156" C2 LAYER LOAMY SAND 2.5Y 6/4 (PR =17 MIN/IN)	81.6
BOTTOM OF HOLE	

TP#15 EL. 94.08 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 2" ASPHALT	93.9
2" TO 46" FILL	90.2
46" TO 48" A LAYER SANDY LOAM 10YR 3/2	90.1
48" TO 55" Bw LAYER LOAMY SAND 10YR 6/6	89.5
55" TO 98" C LAYER LOAMY SAND 2.5Y 7/2	85.9
98" TO 120" C2 LAYER LOAMY SAND 2.5Y 5/4	84.1
BOTTOM OF HOLE	

TP#16 EL. 101.0 — GROUNDWATER ENCOUNTERED AT 136"

0" TO 4" A LAYER SANDY LOAM 10YR 3/2	100.7
4" TO 24" Bw LAYER LOAMY SAND 10YR 5/6	99.0
24" TO 152" C LAYER LOAMY SAND 2.5Y 6/4	88.3
BOTTOM OF HOLE	

TP#17 EL. 100 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 2" ASPHALT	99.8
2" TO 47" FILL	96.1
47" TO 56" A LAYER SANDY LOAM 10YR 3/2	95.3
56" TO 58" Bw LAYER SANDY LOAM 10YR 6/6	95.2
58" TO 124" C LAYER FINE SAND 2.5Y 7/2 (PR =4 MIN/IN)	89.7
BOTTOM OF HOLE	

SOIL TEST DATA

SOIL TESTING AND EVALUATION BY: TAYLOR CORSANO S.E. #14263
DATE: JANUARY 5, 2023

TP#1 EL. 65 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 5" FILL, LOAM	64.6
5" TO 24" B LAYER LOAMY SAND	63
24" TO 120" C LAYER SAND	55
BOTTOM OF HOLE	

TP#2 EL. 83 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 6" A HORIZON LOAM	82.5
6" TO 36" B HORIZON LOAMY SAND	80
36" TO 108" C LAYER SAND	74
BOTTOM OF HOLE	

TP#3 EL. 94 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 5" A HORIZON LOAM	93.6
5" TO 12" B HORIZON LOAMY SAND	93
12" TO 60" C1 LAYER COARSE SAND	89
60" TO 114" C2 LAYER FINE SAND	84.5
BOTTOM OF HOLE	

TP#4 EL. 98 — GROUNDWATER ENCOUNTERED AT ±126"

0" TO 3" A HORIZON LOAM	97.8
3" TO 42" B HORIZON LOAMY SAND	94.5
42" TO 114" C LAYER COARSE SAND	88.5
BOTTOM OF HOLE	

TP#5 EL. 103 — REDOX ENCOUNTERED AT 72"

0" TO 10" A LAYER LOAM	102.2
10" TO 24" B LAYER LOAMY SAND	101
24" TO 124" C LAYER FINE SAND	92.7
BOTTOM OF HOLE	

TP#6 EL. 102 — GROUNDWATER ENCOUNTERED AT ±102" REDOX ENCOUNTERED AT 48"

0" TO 12" A LAYER FILL	101
12" TO 24" B LAYER LOAMY SAND	100
24" TO 102" C LAYER COARSE SAND	93.5
BOTTOM OF HOLE	

TP#7 EL. 99 — GROUNDWATER ENCOUNTERED AT ±96" REDOX ENCOUNTERED AT 55"

0" TO 2" A LAYER LOAM	98.8
2" TO 18" B LAYER LOAMY SAND	97.5
18" TO 96" C1 LAYER LOAMY SAND	91
96" TO 97" C2 LAYER COARSE SAND	90.9
BOTTOM OF HOLE	

FOR REGISTRY USE ONLY

SOIL TEST DATA

SOIL TESTING AND EVALUATION BY: MATHEW COLLINS S.E. #14611
DATE: JULY 14, 2023

TP#25 EL. 86.8 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 6" Ap LAYER SANDY LOAM	86.3
6" TO 20" Bw LAYER SANDY LOAM	85.1
20" TO 120" C LAYER FINE SAND	76.8
BOTTOM OF HOLE	

TP#26 EL. 85.7 — REDOX ENCOUNTERED AT 114"

0" TO 3" Ap LAYER SANDY LOAM	85.4
3" TO 11" Bw LAYER SANDY LOAM	84.7
11" TO 126" C LAYER SAND	75.1
BOTTOM OF HOLE	

TP#27 EL. 85.3 — GROUNDWATER ENCOUNTERED AT 132"

0" TO 3" Ap LAYER SANDY LOAM	85.0
3" TO 12" Bw LAYER SANDY LOAM	84.2
12" TO 132" C LAYER SAND	74.2
BOTTOM OF HOLE	

TP#38-39 EL. 108.5 — REDOX ENCOUNTERED AT 102"

0" TO 2" O LAYER	100.0
2" TO 6" Ap LAYER SANDY LOAM	99.7
6" TO 22" Bw LAYER SANDY LOAM	98.4
22" TO 136" C LAYER LOAMY SAND	88.9
BOTTOM OF HOLE	

TP#38-39 EL. 108.5 — REDOX ENCOUNTERED AT 102"

0" TO 2" O LAYER	100.0
2" TO 6" Ap LAYER SANDY LOAM	99.7
6" TO 22" Bw LAYER SANDY LOAM	98.4
22" TO 136" C LAYER LOAMY SAND	88.9
BOTTOM OF HOLE	

TP#44 EL. 100.8 — REDOX ENCOUNTERED AT 90"

0" TO 5" Ap LAYER SANDY LOAM	100.4
5" TO 21" Bw LAYER SANDY LOAM	99.1
21" TO 31" FILL	98.3
31" TO 132" C LAYER FINE SAND	89.9
BOTTOM OF HOLE	

TP#45 EL. 97.4 — REDOX ENCOUNTERED AT 124"

0" TO 3" Ap LAYER LOAMY SAND	97.1
3" TO 35" C1 LAYER SAND	94.4
35" TO 144" C2 LAYER FINE SAND	85.3
BOTTOM OF HOLE	

TP#46 EL. 99.0 — REDOX ENCOUNTERED AT 126"

0" TO 10" A LAYER SANDY LOAM	98.2
10" TO 96" C1 LAYER SAND	91.0
96" TO 120" C2 LAYER LOAMY SAND	89.0
120" TO 144" C3 LAYER SAND	87.0
BOTTOM OF HOLE	

TP#47 EL. 92.6 — REDOX ENCOUNTERED AT 90"

0" TO 7" Ap LAYER SANDY LOAM	92.0
7" TO 36" Bw LAYER SANDY LOAM	89.6
36" TO 58" C1 LAYER LOAMY SAND	87.8
58" TO 108" C2 LAYER SAND	83.6
BOTTOM OF HOLE	

TP#48 EL. 96.7 — REDOX ENCOUNTERED AT 54"

0" TO 7" Ap LAYER SANDY LOAM	96.1
7" TO 36" Bw LAYER SANDY LOAM	93.7
36" TO 54" C1 LAYER LOAMY SAND	92.2
54" TO 108" C2 LAYER SAND	87.7
BOTTOM OF HOLE	

TP#49 EL. 66.0 — NO REDOX/GROUNWATER ENCOUNTERED

0" TO 24" FILL	64.0
24" TO 28" Ap LAYER SANDY LOAM	63.7
24" TO 32" Bw LAYER SANDY LOAM	63.0
32" TO 120" C LAYER SAND	55.7
BOTTOM OF HOLE	

TP#50 EL. 66.4 — NO REDOX/GROUNWATER ENCOUNTERED

0" TO 5" Ap LAYER SANDY LOAM	66.0
5" TO 12" Bw LAYER SANDY LOAM	65.4
12" TO 18" FILL	64.9
18" TO 126" C LAYER SAND	55.9
BOTTOM OF HOLE	

TP#51 EL. 58.9 — NO REDOX/GROUNWATER ENCOUNTERED

0" TO 4" Ap LAYER SANDY LOAM	58.6
4" TO 16" Bw LAYER SANDY LOAM	57.6
16" TO 24" FILL	56.9
24" TO 120" C LAYER SAND	48.9
BOTTOM OF HOLE	

SOIL TEST DATA

SOIL TESTING AND EVALUATION BY: DAVID NEWHALL S.E. #14226
DATE: JANUARY 5, 2023

TP#23-12 EL. 101.9 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 6" A LAYER LOAM	101.4
6" TO 24" B LAYER SANDY LOAM	99.9
24" TO 108" C LAYER LOAMY SAND	92.9
BOTTOM OF HOLE	

TP#23-13 EL. 86.9 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 5" LOAM	86.5
5" TO 19" B LAYER LOAMY SAND	85.3
19" TO 106" C LAYER COARSE SAND	78.0
106" TO 108" D LAYER FINE SAND	77.8
BOTTOM OF HOLE	

TP#23-14 EL. 98.9 — GROUNDWATER ENCOUNTERED AT 34"

0" TO 32" FILL	96.2
32" TO 44" AB LAYER LOAMY SAND 10YR 2/2	95.2
44" TO 70" C1 LAYER SAND 2.5Y 6/2	93.0
BOTTOM OF HOLE	

TP#23-15 EL. 100.3 — REDOX ENCOUNTERED AT 28"

0" TO 18" A LAYER LOAMY SAND 10YR 2/2	98.8
18" TO 30" B LAYER LOAMY SAND 10YR 5/6	97.8
30" TO 58" C1 LAYER LOAMY SAND 2.5Y 5/2	95.5
BOTTOM OF HOLE	

TP#23-16 EL. 105.1 — REDOX ENCOUNTERED AT 36"

0" TO 28" FILL	102.8
28" TO 38" B LAYER LOAMY SAND	102.0
38" TO 70" C1 LAYER LOAMY SAND	99.3
BOTTOM OF HOLE	

TP#23-17 EL. 111.1 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 6" A HORIZON LOAMY SAND 10YR 3/2	110.6
6" TO 16" B HORIZON LOAMY SAND 10YR 5/6	109.8
16" TO 120" C1 LAYER LOAMY SAND 2.5Y 5/2	101.1
BOTTOM OF HOLE	

TP#18-A EL. 106.0 — NO REDOX/GROUNDWATER ENCOUNTERED

0" TO 72" FILL	100.0
72" TO 94" B HORIZON LOAMY SAND	98.2
94" TO 108" C1 LAYER SAND	97.0
BOTTOM OF HOLE	

TP#23-18B EL. 106.0 — WEEPING/REDOX ENCOUNTERED AT ±88"

0" TO 48" FILL	102.0
48" TO 60" SAND	101.0
BOTTOM OF HOLE	

TP#23-19 EL. 120.4 — GROUNDWATER ENCOUNTERED AT ±62"

0" TO 12" A HORIZON LOAMY SAND 10YR 3/4	119.4
12" TO 28" B HORIZON LOAMY SAND 10YR 5/6	118.2
28" TO 68" C1 LAYER FINE SAND 2.5Y 5/4	114.9
BOTTOM OF HOLE	

TP#23-20 EL. 111.47 — GROUNDWATER ENCOUNTERED AT 78"

0" TO 8" A LAYER LOAM	110.8
8" TO 16" B LAYER LOAMY SAND	110.1
16" TO 110" C LAYER SAND	102.3
BOTTOM OF HOLE	

TP#23-21 EL. 97.1 — REDOX ENCOUNTERED AT 48"

0" TO 22" FILL	95.3
22" TO 30" AB LAYER LOAMY SAND 10YR 3/2	94.6
30" TO 42" B LAYER LOAMY SAND 10YR 5/6	93.6
42" TO 80" C1 LAYER LOAMY SAND 2.5Y 5/2	90.4
BOTTOM OF HOLE	

TP#23-22 EL. 99.0 — GROUNDWATER ENCOUNTERED AT 70"

0" TO 12" A LAYER LOAMY SAND 10YR 3/2	98.0
12" TO 38" B LAYER LOAMY SAND 10YR 5/8	95.9
38" TO 90" C1 LAYER SAND 2.5Y 5/4	91.5
BOTTOM OF HOLE	

TP#23-24 EL. 88.4 — GROUNDWATER ENCOUNTERED AT 100"

0" TO 8" A LAYER LOAMY	81.6
8" TO 26" B LAYER LOAMY SAND	81.6
26" TO 120" C LAYER SAND	81.6
BOTTOM OF HOLE	

SOIL TEST DATA

SOIL TESTING AND EVALUATION BY: DAVID NEWHALL S.E. #14226
DATE: JANUARY 6, 2023

TP#8 EL. 90.0 — GROUNDWATER ENCOUNTERED AT 120"

0" TO 7" Ap LAYER SANDY LOAM 10YR 3/2	89.4
7" TO 24" Bw LAYER SANDY LOAM 10YR 5/4	88.0
24" TO 73" C1 LAYER LOAMY SAND 2.5Y 6/3	83.9
73" TO 124" C2 LAYER SAND 2.5Y 6/3	79.7
BOTTOM OF HOLE	

TP#9 EL. 79.8 — GROUNDWATER ENCOUNTERED STANDING WATER AT 68" REDOX ENCOUNTERED AT 42"

0" TO 5" A LAYER SANDY LOAM 10YR 3/2	79.4
5" TO 80" C LAYER SAND 2.5Y 6/3	73.2
BOTTOM OF HOLE	

TP#10 EL. 84.4 — GROUNDWATER ENCOUNTERED STANDING WATER AT 110" REDOX ENCOUNTERED AT 90"

0" TO 6" Ap LAYER SANDY LOAM 10YR 3/2	83.9
6" TO 28" Bw LAYER SANDY LOAM 10YR 5/6	82.1
28" TO 112" C LAYER SAND 2.5Y 6/3	75.1
BOTTOM OF HOLE	

TP#11-A EL. 83.8 — GROUNDWATER ENCOUNTERED STANDING WATER AT 110"

0" TO 8" Ap LAYER SANDY LOAM 10YR 3/2	83.1
8" TO 24" Bw LAYER SANDY LOAM 10YR 5/4	81.8
24" TO 90" C1 LAYER LOAMY SAND 2.5Y 6/3	76.3
90" TO 112" C2 LAYER SAND 2.5Y 6/3	74.4
BOTTOM OF HOLE	

TP#11-B EL. 83.8 — GROUNDWATER ENCOUNTERED AT 106" REDOX ENCOUNTERED AT 82"

0" TO 6" Ap LAYER SANDY LOAM 10YR 3/2	83.3
6" TO 28" Bw LAYER SANDY LOAM 10YR 5/4	81.4
28" TO 96" C1 LAYER SANDY LOAM 2.5Y 6/3	75.8
96" TO 122" C2 LAYER SAND 2.5Y 6/3	73.6
BOTTOM OF HOLE	

No.	Description	Date
1	PEER REVIEW UPDATES	12/11/23

Revisions

GABRIEL R. CROCKER
CIVIL
No.47917
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

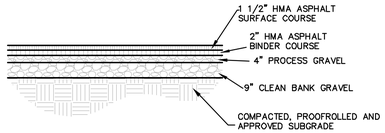
Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
TEST PIT NOTES

Project No.	100-064
Date	08 / 08 / 2023
Scale	
Drawn By	ASZ, JPM
Approved By	TC

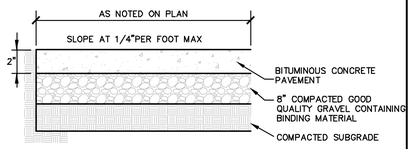
Drawing No. **C-7.2**

G:\100\Crocker Design Group, LLC\Gabriel Crocker - Projects\100-064 Pembroke - Country Club\dwg\Plot Sheets\Site Plan Application_C7.TEST PIT PLAN.dwg, C7.Test Pit Notes, Dec 12, 2023 10:31



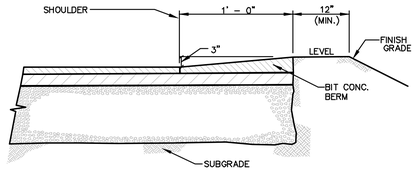
BITUMINOUS PAVEMENT

NOT TO SCALE



ASPHALT SIDEWALK

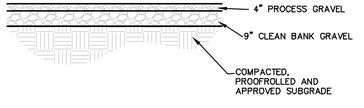
NOT TO SCALE



NOTE:
REFER TO BITUMINOUS PAVEMENT DETAIL FOR PAVEMENT COURSE INFORMATION.

CAPE COD BERM DETAIL

NOT TO SCALE



EMERGENCY ACCESS ROAD

NOT TO SCALE

NOTE:
WORDS CAN BE ARRANGED IN OTHER COMBINATIONS THAN THOSE ILLUSTRATED HERE TO ACHIEVE DESIRED RESULT. ALL PAINT TO BE THERMOPLASTIC.

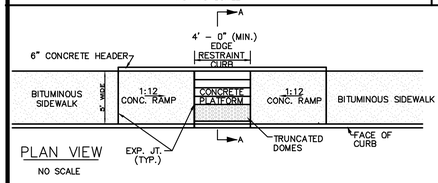
PAINTED MARKING DETAILS

NOT TO SCALE

STOP SIGN R1-1

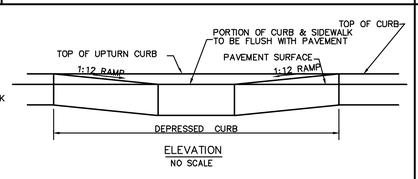
SIGN DETAILS

NOT TO SCALE



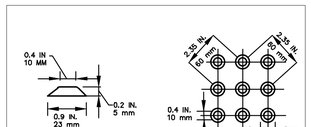
PLAN VIEW

NO SCALE



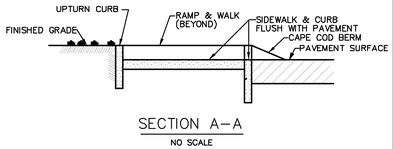
ELEVATION

NO SCALE



TRUNCATED DOME PATTERN

NOT TO SCALE

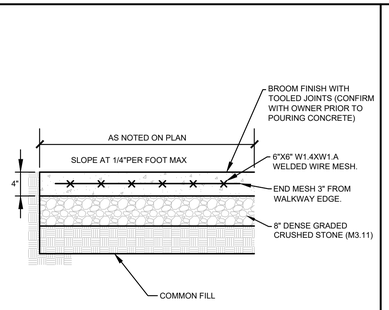


SECTION A-A

NO SCALE

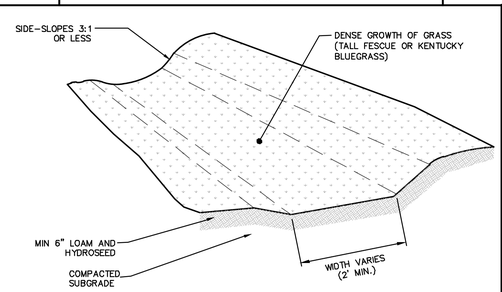
HANDICAP CONCRETE RAMP

NOT TO SCALE



CONCRETE SIDEWALK

NOT TO SCALE

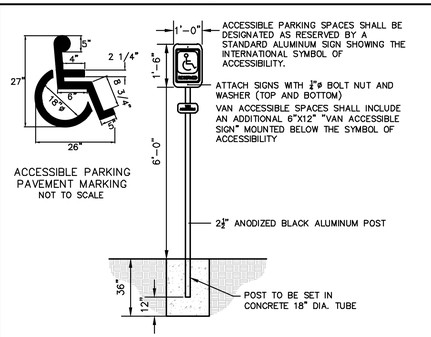


NOTES:

1. JUTE NETTING WILL BE REQUIRED TO PREVENT EROSION OF GRASSED SIDE SLOPES.

GRASSED SWALE

NOT TO SCALE



ACCESSIBLE PARKING SPACES SHALL BE DESIGNATED AS RESERVED BY A STANDARD ALUMINUM SIGN SHOWING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.

ATTACH SIGNS WITH ¼" ø BOLT NUT AND WASHER (TOP AND BOTTOM)

VAN ACCESSIBLE SPACES SHALL INCLUDE AN ADDITIONAL 6"X12" "VAN ACCESSIBLE SIGN" MOUNTED BELOW THE SYMBOL OF ACCESSIBILITY

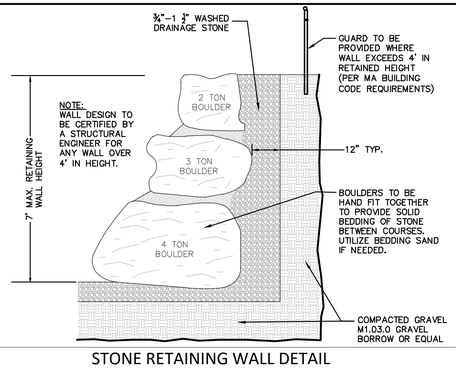
ACCESSIBLE PARKING PAVEMENT MARKING

NOT TO SCALE

ACCESSIBLE PARKING SIGN

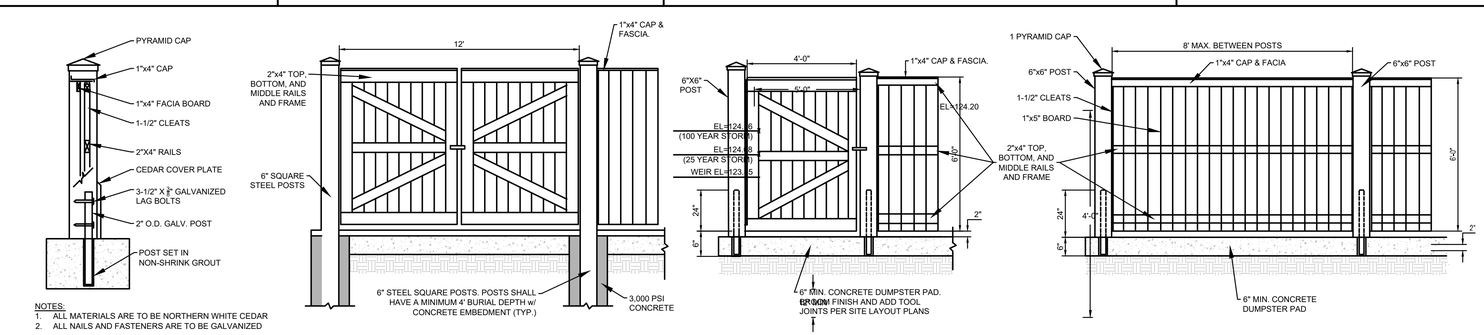
NOT TO SCALE

FOR REGISTRY USE ONLY



STONE RETAINING WALL DETAIL

NOT TO SCALE

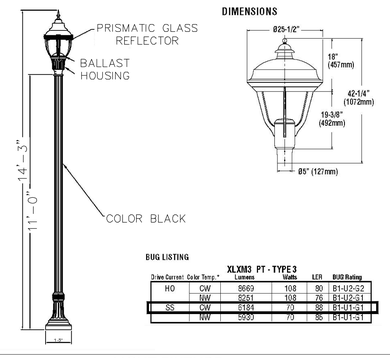


NOTES:

1. ALL MATERIALS ARE TO BE NORTHERN WHITE CEDAR
2. ALL NAILS AND FASTENERS ARE TO BE GALVANIZED

DUMPSTER ENCLOSURE DETAILS

NOT TO SCALE



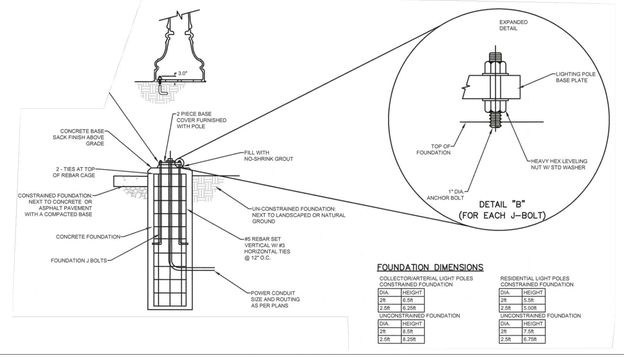
BUG LISTING

XLXM3 PT - TYPE 3

Drive Current	Color Temp.°	Lumens	Watts	LER	BUG Rating
HO	CW	9869	108	90	B1-U2-G2
	NW	8251	108	76	B1-U2-G1
SS	CW	6184	70	88	B1-U1-G1
	NW	5923	70	85	B1-U1-G1

LIGHT FIXTURE

NOT TO SCALE



FOUNDATION DIMENSIONS

COLLECTOR/ARTERIAL LIGHT POLES

CONSTRAINED FOUNDATION

DIA.	HEIGHT
2ft	6.5ft
2.5ft	6.25ft

UNCONSTRAINED FOUNDATION

DIA.	HEIGHT
2ft	8.5ft
2.5ft	8.25ft

RESIDENTIAL LIGHT POLES

CONSTRAINED FOUNDATION

DIA.	HEIGHT
2ft	5.5ft
2.5ft	5.00ft

UNCONSTRAINED FOUNDATION

DIA.	HEIGHT
2ft	7.5ft
2.5ft	6.75ft

LIGHT POLE BASE DETAIL

NOT TO SCALE

NOT TO SCALE

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

GABRIEL R. CROCKER CIVIL No.47917 REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project

AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB

DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for

WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC

190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title

DETAIL SHEET

Project No.	100-064
Date	08 / 08 / 2023
Scale	
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.

C-8.1

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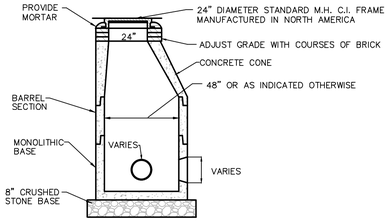
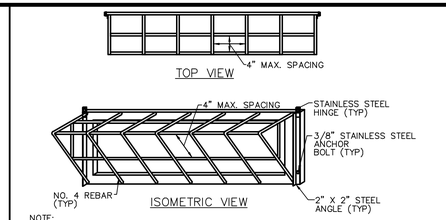


NOTES:
1. MANHOLE DESIGN SHALL CONFORM TO LATEST ASTM C478.
2. REINFORCING STEEL SHALL CONFORM TO LATEST ASTM A 185.
3. CONCRETE COMPRESSIVE STRENGTH – 4,000 PSI @ 28 DAYS.
4. ONE POUR MONOLITHIC BASE.
5. BITUMASTIC BUTYL RUBBER FOR JOINTS SHALL CONFORM TO LATEST ASTM C443 AND FED SS–S–201A SPEC.
6. COVERS TO BE STAMPED "DRAIN"

PRECAST CONCRETE DRAIN MANHOLE

NOT TO SCALE



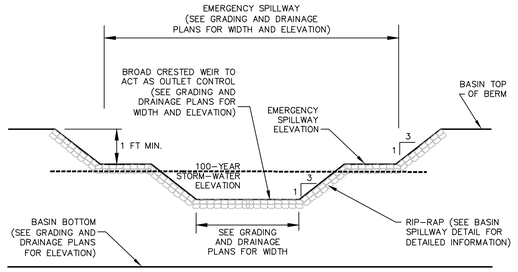
NOTE:
TRASH RACK TO BE COMPRISED OF GALVANIZED STEEL BARS 2" ON CENTER. FRAME TO BE WELDED TO 2" x 2" ANGLES.

AFTER RACK IS CONSTRUCTED (WELDED) THE ASSEMBLY SHALL BE PAINTED WITH A RUST PROOF COATING. TWO COATS SHALL BE APPLIED.

TRASH RACK TO BE INSTALLED OVER ORIFICE OPENING ON THE BASIN OUTLET STRUCTURE. ASSEMBLY TO BE BOLTED TO OUTLET STRUCTURE WITH STAINLESS STEEL HARDWARE.

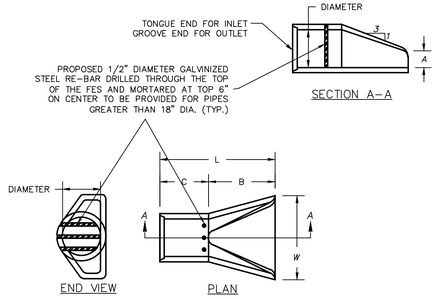
OUTLET STRUCTURE TRASH RACK

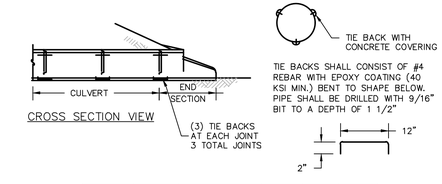
NOT TO SCALE



BROAD-CRESTED BASIN WEIR DETAIL

NOT TO SCALE



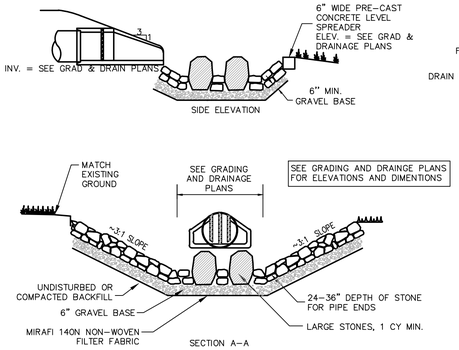


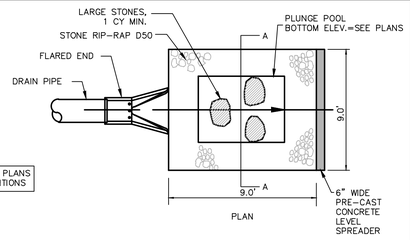
DIAMETER	WEIGHT	A	B	C	L	W
12"	340	4"	1'– 10"	2'– 0"	3'– 10"	2'– 0"
18"	670	9"	2'– 1"	2'– 1"	4'– 2"	3'– 0"
21"	1300	9 1/2"	3'– 6"	2'– 6"	6'– 0"	4'– 0"
24"	1300	9 1/2"	3'– 6"	2'– 6"	6'– 0"	4'– 0"
30"	1850	1'– 0"	4'– 5"	1'– 8"	6'– 1"	5'– 0"
36"	3500	1'– 3"	5'– 2"	2'– 11"	8'– 1"	6'– 0"
42"	4930	1'– 9"	5'– 3"	2'– 11"	8'– 2"	6'– 6"
48"	6700	2'– 0"	6'– 0"	2'– 2"	8'– 2"	7'– 0"
54"	7150	2'– 3"	5'– 6"	2'– 9"	8'– 3"	6'– 10"

NOTES:
1. CLASS AND TYPE OF CONCRETE SHALL BE AS SPECIFIED FOR REINFORCED CONCRETE PIPE.
2. STRUCTURAL DESIGN OF END SECTION SHALL CONFORM TO THAT OF STANDARD REINFORCED CONCRETE CULVERT PIPE.
3. LENGTH OF PIPE SHOWN ON THE PLANS DOES NOT INCLUDE CONNECTOR SECTION (LENGTH C).
4. SECURITY BARS REQUIRED FOR ALL DISCHARGE PIPES 18" IN DIAM. OR GREATER.

CONCRETE FLARED END SECTION WITH SECURITY BARS

NOT TO SCALE

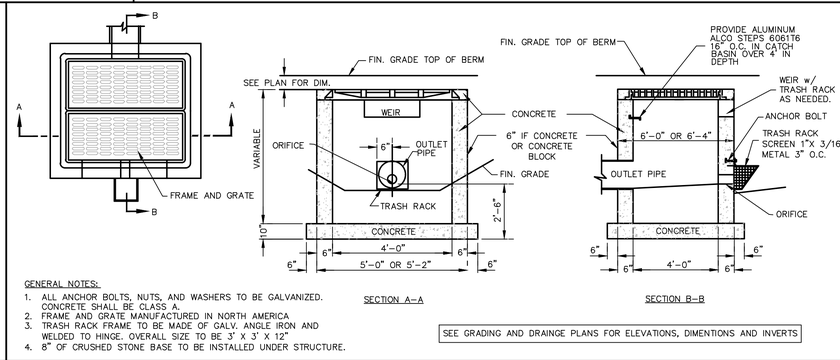




*DIMENSIONS PROVIDED ARE GREATER THAN THE MINIMUM INDICATED IN THE CALCULATION, HOWEVER FOR CONSTRUCTIBILITY PURPOSES WE HAVE PROVIDED A LARGER RIP–RAP APRON SIZE. SEE STORMWATER REPORT FOR DETAILED CALCULATION AND MINIMUM SIZING.

LEVEL SPREADER/PLUNGE POOL/ENERGY DISSIPATER

NOT TO SCALE

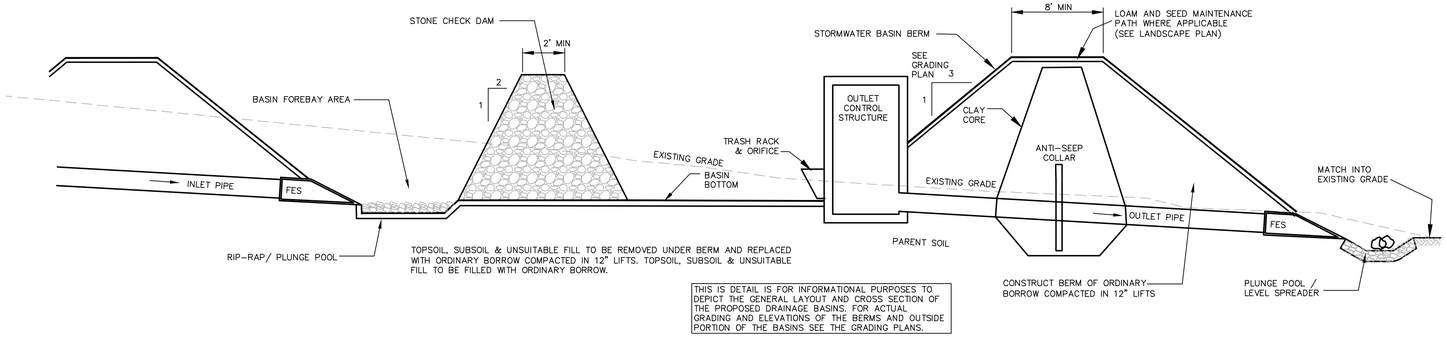


GENERAL NOTES:
1. ALL ANCHOR BOLTS, NUTS, AND WASHERS TO BE GALVANIZED. CONCRETE SHALL BE CLASS A.
2. FRAME AND GRATE MANUFACTURED IN NORTH AMERICA
3. TRASH RACK FRAME TO BE MADE OF GALV. ANGLE IRON AND WELDED TO HINGE. OVERALL SIZE TO BE 3' X 3' X 12"
4. 8" OF CRUSHED STONE BASE TO BE INSTALLED UNDER STRUCTURE.

SEE GRADING AND DRAINGE PLANS FOR ELEVATIONS, DIMENTIONS AND INVERTS

BASIN OUTLET STRUCTURE

NOT TO SCALE

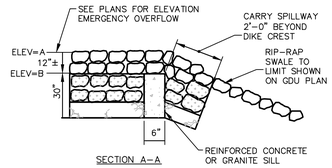


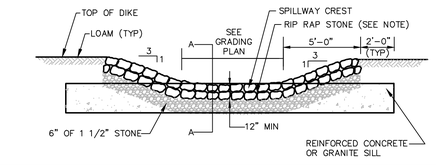
THIS IS DETAIL IS FOR INFORMATIONAL PURPOSES TO DEPICT THE GENERAL LAYOUT AND CROSS SECTION OF THE PROPOSED DRAINAGE BASINS. FOR ACTUAL GRADING AND ELEVATIONS OF THE BERMS AND OUTSIDE PORTION OF THE BASINS SEE THE GRADING PLANS.

TYPICAL STORMWATER BASIN BERM CROSS-SECTION

NOT TO SCALE

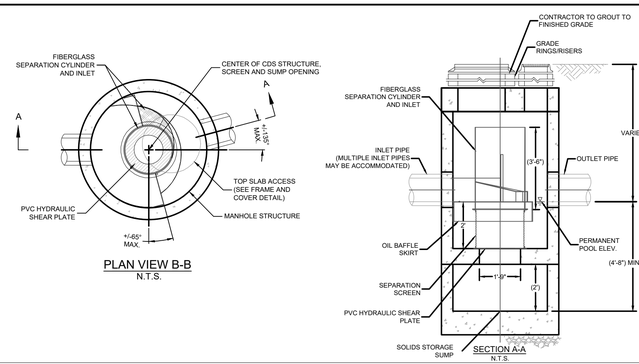
NOTE:
75% OF RIP–RAP STONE SHALL BE 70 TO 100 LBS. AND SHALL BE HAND CHINKED TO LEAVE A SMOOTH SURFACE ALONG THE TOP OF THE DIKE AND A ROUGH SURFACE ALONG DOWNSTREAM SURFACE AND TOE OF THE DIKE. ALL SILL JOINTS TO BE MORTARED TO PREVENT SEEPAGE.

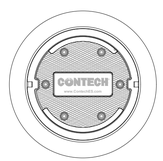




BASIN EMERGENCY SPILLWAY

NOT TO SCALE





FRAME AND COVER
(DIAMETER VARIES)
N.T.S.
MANUFACTURED IN NORTH AMERICA

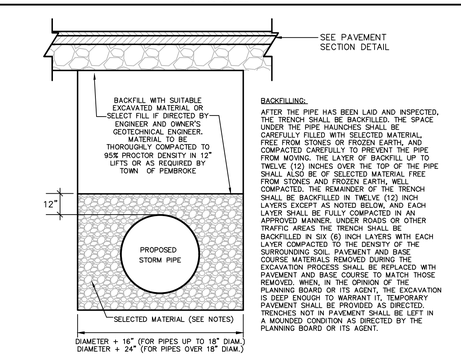
CDS2015-4 DESIGN NOTES	
CDS2015-4 RATED TREATMENT CAPACITY IS 0.7 CFS, OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 10.0 CFS. IF THE SITE CONDITIONS EXCEED 10.0 CFS, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED. THE STANDARD CDS2015-4 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.	
DESIGNATION (MODEL SUFFIX)	**CONFIGURATION DESCRIPTION**
G	GRATED INLET ONLY (NO INLET PIPE)
GP	GRATED INLET WITH INLET PIPE OR PIPES
K	CURB INLET ONLY (NO INLET PIPE)
KP	CURB INLET WITH INLET PIPE OR PIPES

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 STORMWATER SOLUTIONS REPRESENTATIVE. www.contechstormwater.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE AND CASTINGS SHALL MEET AASHTO HS20 LOAD RATING.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
2. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
3. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
4. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
5. 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.

CDS2015-4 WATER QUALITY STRUCTURE DETAIL

NOT TO SCALE



BACKFILLING:
AFTER THE PIPE HAS BEEN LAID AND INSPECTED, THE TRENCH SHALL BE BACKFILLED. THE SPACE UNDER THE PIPE HAUNCHES SHALL BE CAREFULLY FILLED WITH SELECTED MATERIAL, FREE FROM STONES OR FROZEN EARTH, AND COMPACTED CAREFULLY TO PREVENT THE PIPE FROM MOVING. THE LAYER OF BACKFILL UP TO TWELVE (12) INCHES OVER THE TOP OF THE PIPE SHALL ALSO BE OF SELECTED MATERIAL FREE FROM STONES AND FROZEN EARTH, WELL COMPACTED. THE REMAINDER OF THE TRENCH SHALL BE BACKFILLED IN TWELVE (12) INCH LAYERS EXCEPT AS NOTED BELOW, AND EACH LAYER SHALL BE FULLY COMPACTED IN AN APPROVED MANNER. UNDER ROADS OR OTHER TRAFFIC AREAS THE TRENCH SHALL BE BACKFILLED IN SIX (6) INCH LAYERS WITH EACH LAYER COMPACTED TO THE DENSITY OF THE SURROUNDING SOIL. PAVEMENT AND BASE COURSE MATERIALS REMOVED DURING THE EXCAVATION PROCESS SHALL BE REPLACED WITH PAVEMENT AND BASE COURSE TO MATCH THOSE REMOVED. WHEN, IN THE OPINION OF THE PLANNING BOARD OR ITS AGENT, THE EXCAVATION IS DEEP ENOUGH TO WARRANT IT, TEMPORARY PAVEMENT SHALL BE PROVIDED AS DIRECTED. TRENCHES NOT IN PAVEMENT SHALL BE LEFT IN A MOUNDED CONDITION AS DIRECTED BY THE PLANNING BOARD OR ITS AGENT.

STORM PIPE TRENCH

NOT TO SCALE

FOR REGISTRY USE ONLY

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COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
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AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
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PEMBROKE, MA

Prepared for
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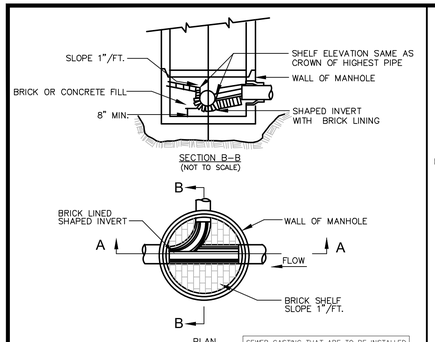
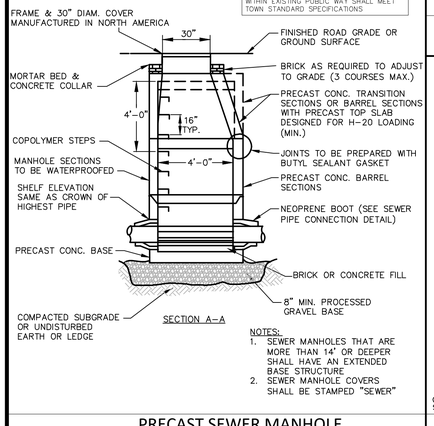
Approved By	TC

Drawing No.
C-8.2

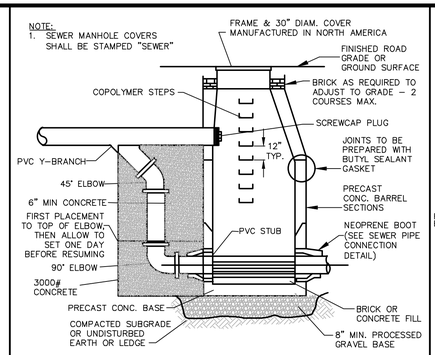




NOTES:
1. SEWER MANHOLES THAT ARE MORE THAN 14' OR DEEPER SHALL HAVE AN EXTENDED BASE STRUCTURE
2. SEWER MANHOLE COVERS SHALL BE STAMPED "SEWER"

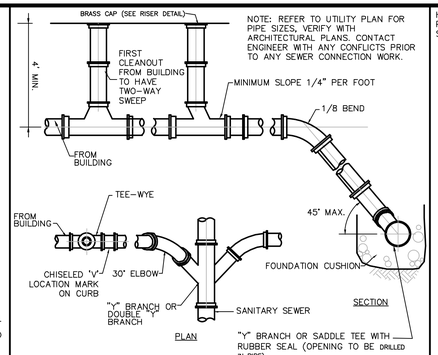
PRECAST SEWER MANHOLE

NOT TO SCALE



EXTERNAL DROP SEWER CONNECTION DETAIL

NOT TO SCALE



STANDARD SEWER CONNECTION DETAIL

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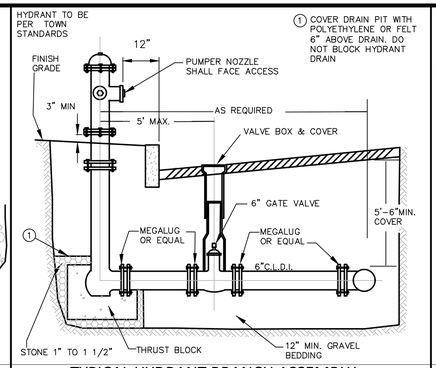
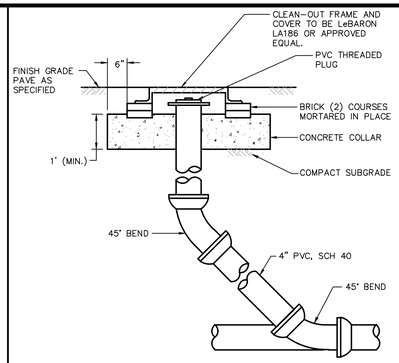


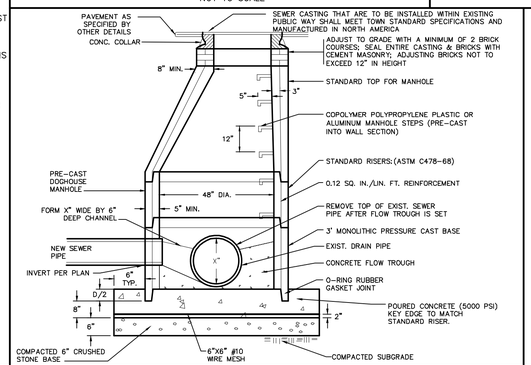
TYPICAL HYDRANT BRANCH ASSEMBLY

NOT TO SCALE



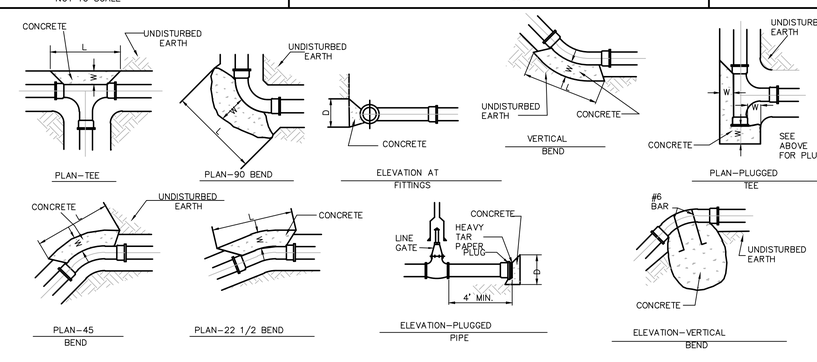
TYPICAL CLEAN-OUT DETAIL

NOT TO SCALE



SANITARY DOG HOUSE MANHOLE

NOT TO SCALE



THRUST BLOCK SCHEDULE									
PIPE SIZE	TEE		22 1/2		45		90		W
	L	D	L	D	L	D	L	D	
6"	18"	15"	15"	12"	15"	12"	15"	15"	21"
8"	2'	18"	18"	12"	18"	12"	2'	18"	2'
12"	3'	2'	2'	12"	2'	12"	3'	2'	28"
16"	4'	2.5'	2'	12"	2.33'	15"	4'	2.5'	31"
20"	5.25'	3'	2'	18"	3'	2'	5.25'	3'	33"
24"	7.5'	3'	3'	18"	4'	2.5'	7.5'	3'	3'

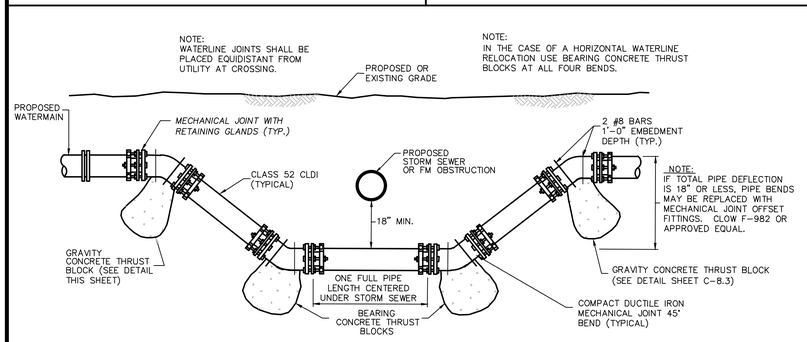
BASIS:
2,000 LB/SQ.FT. SOIL RESISTANCE 250 PSI WATER PRESSURE CORRECTION FACTORS FOR OTHER SOILS:

SOFT CLAY	4
SAND	2
SAND & GRAVEL	1.33
SHALE	0.4

NOTE:
1. IF SOFT MATERIALS ARE ENCOUNTERED, THE THRUST BLOCKS SIZES SHALL BE ADJUSTED ACCORDINGLY.
2. CONCRETE TO BE 3000 PSI.

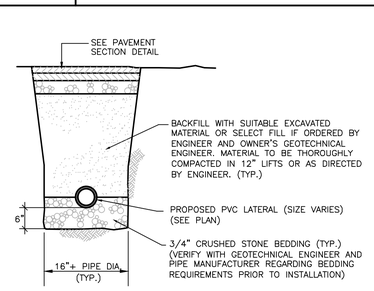
CONCRETE TRUST BLOCK

NOT TO SCALE



WATERLINE OBSTRUCTION DETAIL

NOT TO SCALE



NOTE: PAVEMENT SECTION TO MATCH, AT MINIMUM, ADJOINING PAVEMENT.

TYPICAL SANITARY SEWER TRENCH DETAIL

NOT TO SCALE

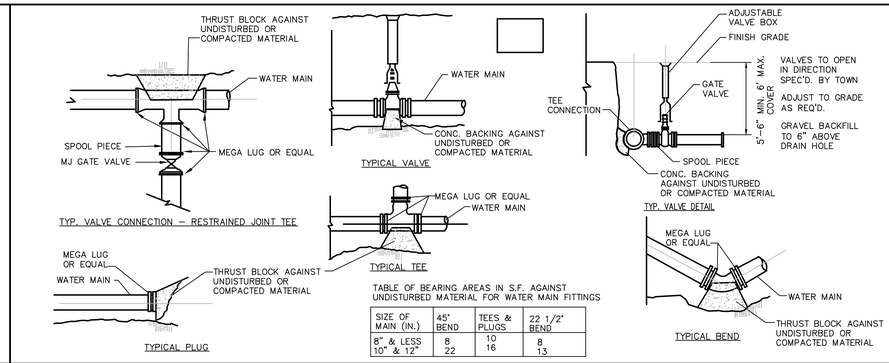
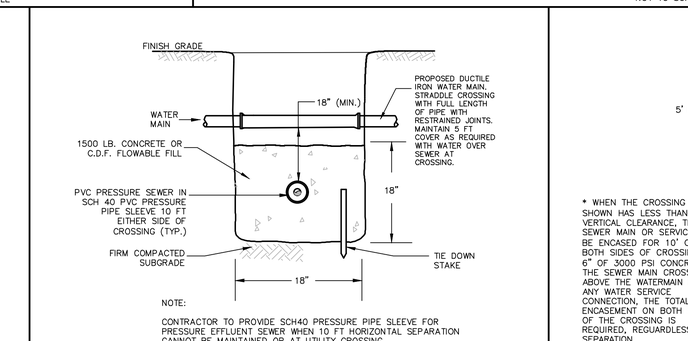


TABLE OF BEARING AREAS IN S.F. AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS

SIZE OF MAIN (IN.)	45° BEND	TEES & PLUGS	22 1/2° BEND
8" & LESS	8	10	8
10" & 12"	22	16	13

TYPICAL WATER MAIN SUPPLY CONNECTIONS

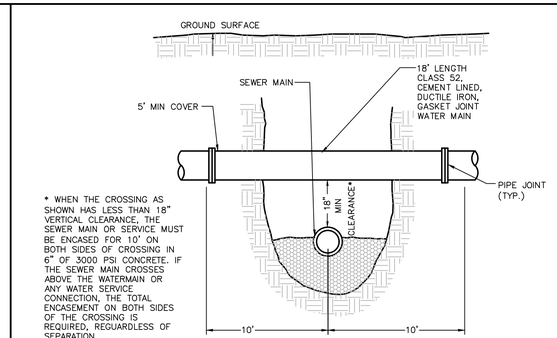
NOT TO SCALE



NOTE:
CONTRACTOR TO PROVIDE SCH40 PRESSURE PIPE SLEEVE FOR PRESSURE EFFLUENT SEWER WHEN 10 FT HORIZONTAL SEPARATION CANNOT BE MAINTAINED OR AT UTILITY CROSSING.

WATER MAIN/PRESSURE SEWER CROSSING SLEEVE

NOT TO SCALE



* WHEN THE CROSSING AS SHOWN HAS LESS THAN 18" VERTICAL CLEARANCE, THE SEWER MAIN OR SERVICE MUST BE ENCASED FOR 10' ON BOTH SIDES OF CROSSING IN 6" OF 3000 PSI CONCRETE. IF THE SEWER MAIN CROSSES ABOVE THE WATERMAIN OR ANY WATER SERVICE CONNECTION, THE TOTAL ENCASEMENT ON BOTH SIDES OF THE CROSSING IS REQUIRED, REGUARDLESS OF SEPARATION.

TYPICAL WATER CROSSING

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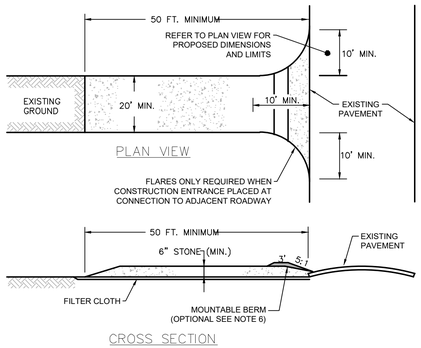
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
DETAIL SHEET

Project No.	100-064
Date	08 / 08 / 2023
Scale	
Drawn By	ASZ, JPM
Approved By	TC

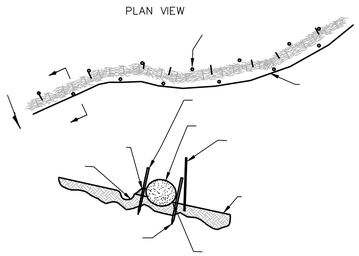
Drawing No.
C-8.3



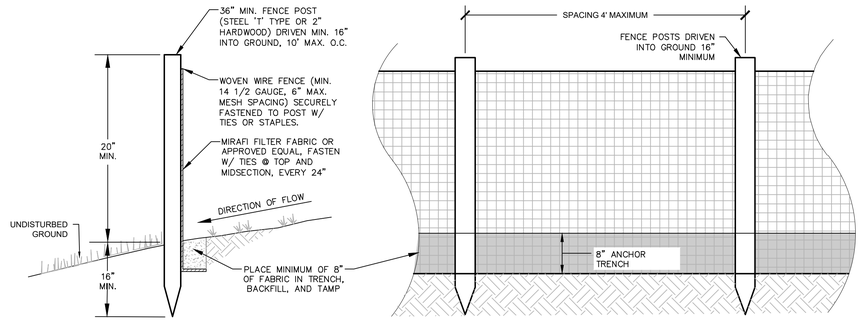
CONSTRUCTION SPECIFICATIONS:

1. STONE SIZE–USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH–RECOMMEND GREATER THAN OR EQUAL TO 50 FEET WHERE SOILS ARE SANDS AND GRAVELS AND 100 FEET IN SILTS AND CLAYS.
3. THICKNESS–NOT LESS THAN SIX (6) INCHES.
4. WIDTH–TWENTY (20') FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OF EGRESS OCCURS.
5. FILTER CLOTH–SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER–ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHALL BE INSTALLED.
7. MAINTENANCE– THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OF FLOWING SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
8. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED.
9. THIS DETAIL DEPICTS THE MINIMUM REQUIRED PER THE SWPPP. REFER TO PLAN VIEW FOR PROPOSED DIMENSIONS AND LIMITS WHERE GREATER THAN WHAT'S SHOWN.

CONSTRUCTION ENTRANCE
NOT TO SCALE



COMPOST SOCK / SILT FENCE DETAIL
NOT TO SCALE



WIRE BACKED SILT FENCE
NOT TO SCALE

NOTE:
STABILIZE STOCKPILE WITH ANNUAL RYEGRASS, MULCH OR EROSION CONTROL BLANKETS.

SOIL STOCKPILE
NOT TO SCALE

DRAIN INLET PROTECTION
NOT TO SCALE

NOTES:
1. POSTS SPACED 6'–3" CENTER TO CENTER.
2. PROVIDE TERMINAL SECTION AT ENDS.

WOOD POST GUARD RAIL
NOT TO SCALE

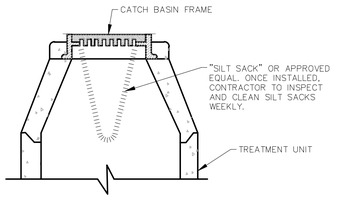
SUBSURFACE INFILTRATION SPORTSEDGE HQ PANEL DRAIN (OR APPROVED EQUAL)

SPORTSEDGE®HQ PANEL DRAINS ARE DESIGNED TO BE USED AS A SUBSURFACE DRAINAGE SYSTEM FOR SYNTHETIC AND NATURAL TURF SPORTS FIELDS.THIS TWO–PART PRE–FABRICATED SYSTEM CONSISTS OF A SOLID FORMED POLYSTYRENE PERFORATED CORE THAT IS FULLY WRAPPED WITH A NON–WOVEN SPUN–BOUND POLYPROPYLENE FILTER FABRIC. THIS HIGH STRENGTH FABRIC ALLOWS WATER TO PASS FREELY INTO THE CORE WHILE RESTRICTING ANY MOVEMENT OF RUBBER, SHARP STONE OR OTHER PARTICLES THAT MIGHT CLOG THE CORE. THE SPUNBOUND POLYPROPYLENE FILTER FABRIC ALLOWS THE VERY SMALLEST PARTICLES TO PASS INTO THE CORE TO FLOW OUT IN SOLUTION, LEAVING LARGER AGGREGATE TO STAGE WITH VOIDS FOR UNINTERRUPTED DRAINAGE. THE CORE ALLOWS WATER TO FLOW TO DESIGNATED DRAINAGE EXITS.

(TO BE USED AS BAS 11-B)

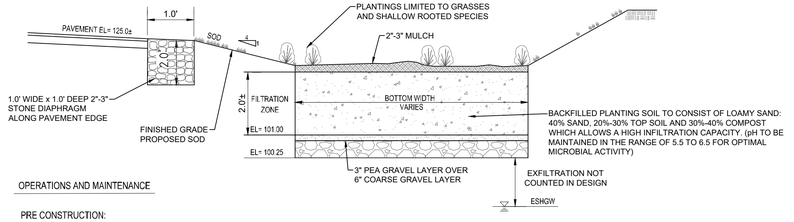
SUBSURFACE INFILTRATION SYSTEM FOR TURF SPORTS FIELD
NOT TO SCALE

DE-WATERING DETAIL
NOT TO SCALE



NOTES:
1. TO BE INSTALLED IN ALL GRATED TREATMENT UNITS AFTER INSTALLATION AND PROPERLY MAINTAINED UNTIL COMPLETION OF CONSTRUCTION. CONTRACTOR TO PROPERLY REMOVE AFTER SIGNOFF FROM TOWN AND DESIGN ENGINEER.
2. BOOT ADAPTER MAY BE TRIMMED TO SIZE.

CATCH BASIN EROSION CONTROL MEASURE
NOT TO SCALE



OPERATIONS AND MAINTENANCE

PRE CONSTRUCTION:

CONTRACTOR TO PREVENT SEDIMENT FROM CLOGGING ANY EXPOSED SUBGRADE TO MINIMIZE COMPACTION BY CONSTRUCTION VEHICLES IN AREA OF STORMWATER MANAGEMENT. NO DISCHARGE FROM DEWATERING ACTIVITIES SHALL ENTER STORMWATER MANAGEMENT AREAS. NO STORMWATER DISCHARGE SHALL BE DIRECTED ONTO INFILTRATIVE SURFACES UNTIL CONTRIBUTING AREAS ARE STABILIZED.

POST CONSTRUCTION:

UNTIL VEGETATION HAS BEEN ESTABLISHED, MONTHLY INSPECTIONS ARE RECOMMENDED. ONCE VEGETATION HAS BEEN ESTABLISHED, THE RAIN GARDEN BASE SHALL BE INSPECTED ON AN ANNUAL BASIS. MAINTENANCE SHOULD CONSIST NORMALLY OF REMOVAL OF DEBRIS (PRIMARILY AT THE INFLOW POINT) AND ACCUMULATED SEDIMENT. DURING THE GROWTH SEASON THE GRASS SIDE SLOPES SHALL BE MOWED AT LEAST ONCE A MONTH. OTHER MAINTENANCE TASKS INCLUDE REPLACEMENT OF DEAD VEGETATION, EROSION REPAIR AND pH REGULATION (USUALLY ADDING LIME).

RAIN GARDEN DETAIL
NOT TO SCALE

FOR REGISTRY USE ONLY

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12/11/23	PEER REVIEW UPDATES	1

Revisions

GABRIEL R. CROCKER
CIVIL
No.47917
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS
12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781–919–0808

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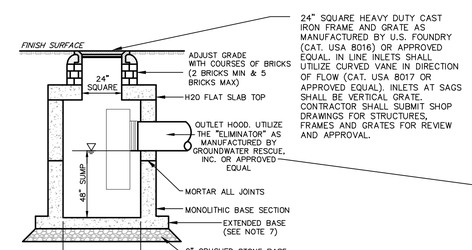
Approved By	TC

Drawing No.
C-8.4

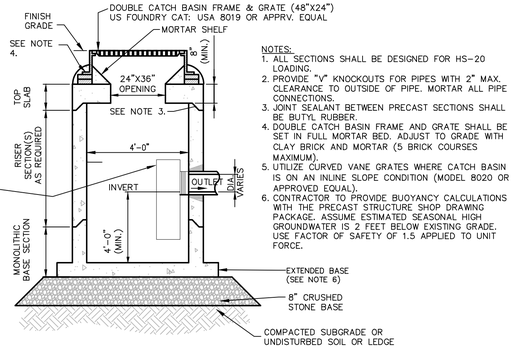


24" SQUARE HEAVY DUTY CAST IRON FRAME AND GRATE AS MANUFACTURED BY U.S. FOUNDRY (CAT. USA 8016) OR APPROVED EQUAL. IN LINE INLETS SHALL UTILIZE CURVED VANE IN DIRECTION OF FLOW (CAT. USA 8017 OR APPROVED EQUAL). INLETS AT SAGS SHALL BE VERTICAL GRATE. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR STRUCTURES, FRAMES AND GRATES FOR REVIEW AND APPROVAL.

NOTES:
1. STRUCTURE DESIGN TO LATEST ASTM C478.
2. REINFORCING STEEL CONFORMS TO LATEST ASTM A 185.
3. CONCRETE COMPRESSIVE STRENGTH – 4,000 PSI @ 28 DAYS.
4. LAT SLAB TOP AASHTO H–20
5. ONE POUR MONOLITHIC BASE.
6. UTILIZE CURVED VANE GRATES WHERE CATCH BASIN IS ON AN INLINE SLOPE CONDITION.
7. CONTRACTOR TO PROVIDE BUOYANCY CALCULATIONS WITH THE PRECAST STRUCTURE SHOP DRAWING PACKAGE. ASSUME ESTIMATED SEASONAL HIGH GROUNDWATER IS 2 FEET BELOW EXISTING GRADE. USE FACTOR OF SAFETY OF 1.5 APPLIED TO UNIT FORCE.

SINGLE GRATE CATCH BASIN

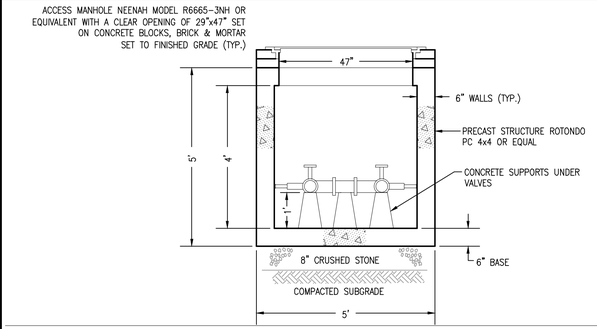
NOT TO SCALE

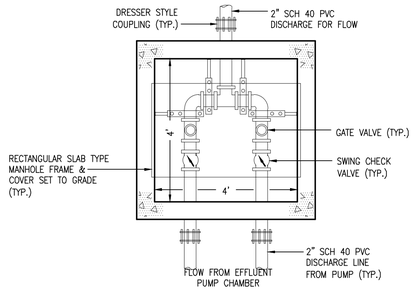


NOTES:
1. ALL SECTIONS SHALL BE DESIGNED FOR HS–20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
4. DOUBLE CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (5 BRICK COURSES MAXIMUM).
5. UTILIZE CURVED VANE GRATES WHERE CATCH BASIN IS ON AN INLINE SLOPE CONDITION (MODEL 8020 OR APPROVED EQUAL).
6. CONTRACTOR TO PROVIDE BUOYANCY CALCULATIONS WITH THE PRECAST STRUCTURE SHOP DRAWING PACKAGE. ASSUME ESTIMATED SEASONAL HIGH GROUNDWATER IS 2 FEET BELOW EXISTING GRADE. USE FACTOR OF SAFETY OF 1.5 APPLIED TO UNIT FORCE.

DOUBLE GRATE CATCH BASIN

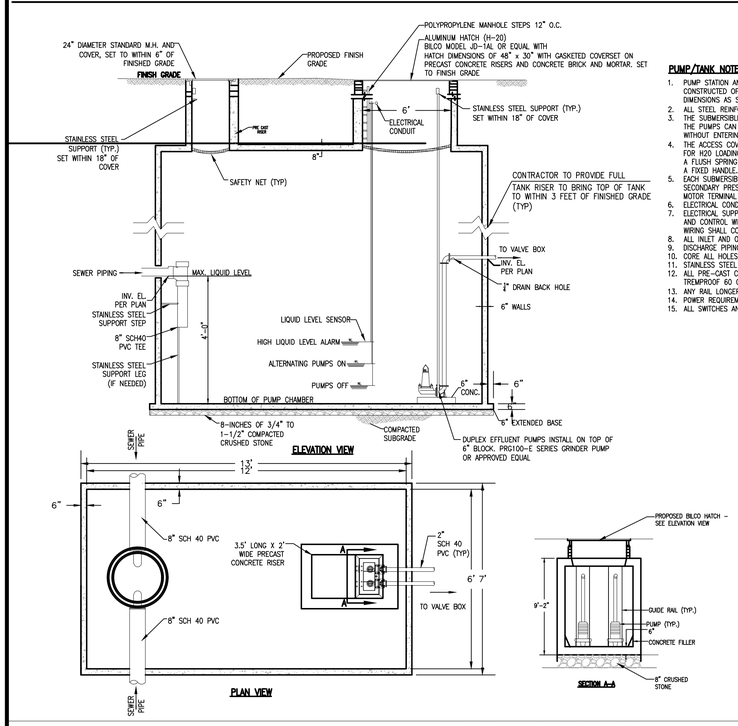
NOT TO SCALE





VALVE BOX DETAIL

NOT TO SCALE



PUMP/TANK NOTES:

1. PUMP STATION AND VALVE CHAMBERS SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE STANDARD H20 LOADING, CONSTRUCTED OF REINFORCED CONCRETE FOR COMPRESSIVE STRENGTH TO A MINIMUM OF 5,000 PSI AND TO THE DIMENSIONS AS SHOWN ON THE DETAILS AND MANUFACTURED BY SCITUATE RAY PRECAST, OR APPROVED EQUAL.
2. ALL STEEL REINFORCEMENT SHALL CONFORM TO ASTM A 615–75 GRADE 60 WITH 1" MINIMUM COVER.
3. THE SUBMERSIBLE PUMPS SHALL BE INSTALLED WITH A HYDRAULICALLY SEALED SLIDE COUPLING ARRANGEMENT SO THAT THE PUMPS CAN BE REMOVED FROM THE WET WELL FOR SERVICE AND INSPECTION AND THEN RETURNED TO SERVICE WITHOUT ENTERING THE WET WELL BASIN TO UNBOLT OR UNLOCK THE CONNECTION BETWEEN THE PUMP AND PIPING.
4. THE ACCESS COVERS SHALL BE 1/4" THICK ALUMINUM TO THE CLEAR DIMENSIONS AS SHOWN ON THE DETAILS SUITABLE FOR H20 LOADING. THE ACCESS COVERS SHALL HAVE HEAVY FORGED BRASS HINGES FITTED WITH STAINLESS STEEL PINS, A FLUSH SPRING LOADED SNAP LOCK OPERABLE FROM THE OUTSIDE BY A REMOVABLE HANDLE AND FROM THE INSIDE BY A FIXED HANDLE.
5. EACH SUBMERSIBLE PUMP SHALL BE EQUIPPED WITH SUFFICIENT POWER CABLE LENGTH WITH EPOXY SEALED HOUSING WITH SECONDARY PRESSURE GROMMET FOR SEALING AND STRAIN RELIEF. ALL INCOMING LEAD WIRES SHALL BE SPLICED IN THE MOTOR TERMINAL HOUSING. NO SPLICING SHALL OCCUR IN THE CHAMBER.
6. ELECTRICAL CONDUIT AND CABLES SHALL CONFORM TO MASSACHUSETTS ELECTRICAL CODE.
7. ELECTRICAL SUPPLY AND CONTROL CIRCUITS SHALL BE DESIGNED TO ALLOW DISCONNECTION AT JUNCTION BOX. SUPPLY AND CONTROL WIRING SHALL BE PLACED IN SEPARATE CONDUIT. ALL CONDUITS ARE TO BE SEALED. CONTROL AND ALARM WIRING SHALL CONNECT TO CONTROL PANEL.
8. ALL INLET AND OUTLET PIPING CONNECTIONS AT THE PUMP CHAMBER SHALL BE MADE WATERTIGHT.
9. DISCHARGE PIPING WITHIN THE PUMP CHAMBER SHALL BE PVC, SCHEDULE 40.
10. CORE ALL HOLES IN FIELD AND NOT LOCATED ON TANK JOINTS.
11. STAINLESS STEEL SHALL BE USED FOR BRACKETS, RAILS AND LIFTING CHAINS.
12. ALL PRE–CAST CONCRETE STRUCTURES TO BE WATERTIGHT, WATERPROOF, SEAL JOINTS WITH WATERPROOFING MEMBRANE – TREMPROOF 60 OR APPROVED EQUAL, AND INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
13. ANY RAIL LONGER THAN 10' SHOULD HAVE INTERMEDIATE GUIDE RAILS.
14. POWER REQUIREMENTS FOR THE PUMP SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO PLACING ORDER.
15. ALL SWITCHES AND BREAKERS WITHIN THE CONTROL PANEL ARE CLEARLY LABELED.

CONSTRUCTION & INSPECTION REQUIREMENTS FOR TANKS

PRECAST CONCRETE TANKS AND VAULTS:

1. THE BOTTOM EXCAVATION AND GRAVEL BASE MATERIAL IS AS PER THE DESIGN PLAN.
2. WEEP HOLES AND/OR OTHER PENETRATIONS FROM THE MANUFACTURER ARE SEALED.
3. SEAMS ARE SEALED.
4. A 24 HOUR EXFILTRATION HAS BEEN OBSERVED AND APPROVED.
5. A 24 HOUR INFILTRATION TEST HAS BEEN OBSERVED AND APPROVED (IF APPLICABLE).
6. ACCESS COVERS/HATCHES AND INVERTS ARE AS SHOWN ON THE APPROVED PLANS INCLUDING SIZE AND COVERS SET AT FINISH GRADE WHERE REQUIRED.
7. CONCRETE FOR COMPRESSIVE STRENGTH TO A MINIMUM OF 5,000 PSI AND TO THE DIMENSIONS AS SHOWN ON THE DETAILS AND MANUFACTURED BY SCITUATE RAY PRECAST, OR APPROVED EQUAL.
8. SAFETY NET IS INSTALLED WITH STAINLESS STEEL FASTENERS.
9. SYSTEM TO BE INSPECTED EVERY THREE YEARS IN ACCORDANCE WITH 310 CMR 15.254 AND MANUFACTURERS SPECIFICATIONS. SYSTEM OWNER SHALL SUBMIT RESULTS OF INSPECTIONS TO APPROVING AUTHORITY ANNUALLY BY JANUARY 31 OF EACH YEAR FOR THE PREVIOUS CALENDAR YEAR.

SEWER PUMP LIFT STATION

NOT TO SCALE

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Revisions

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GABRIEL R. CROCKER
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12-11-2023

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Crocker Design Group
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P: 781–919–0808

Project

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DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
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Prepared for

WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC

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Drawing Title

DETAIL SHEET

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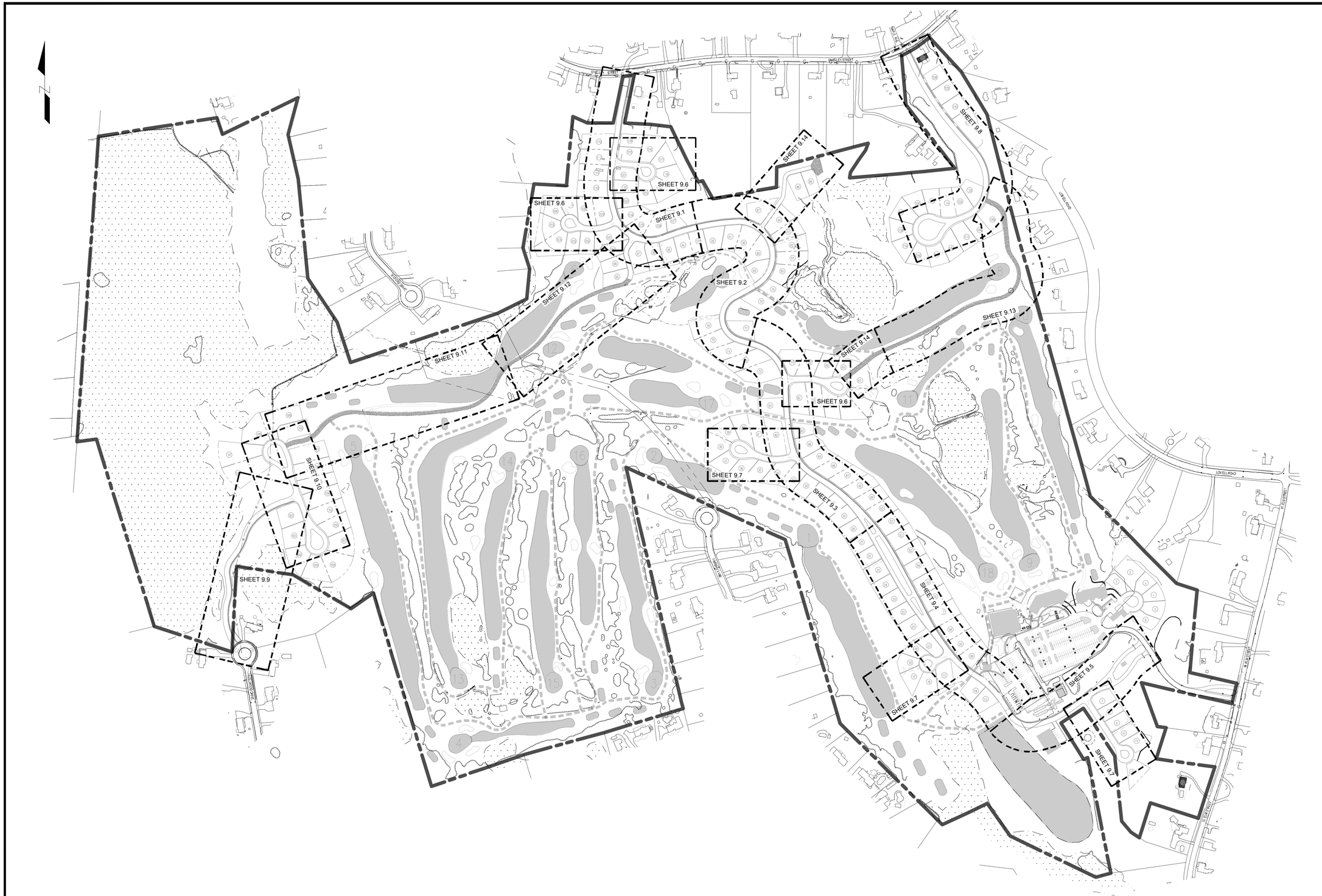
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.

C-8.5



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Drawing Title
ROAD PROFILE KEY PLAN

Project No. 100-064	Drawing No. C-9
Date 08 / 08 / 2023	
Scale	
Drawn By ASZ, JPM	
Approved By TC	

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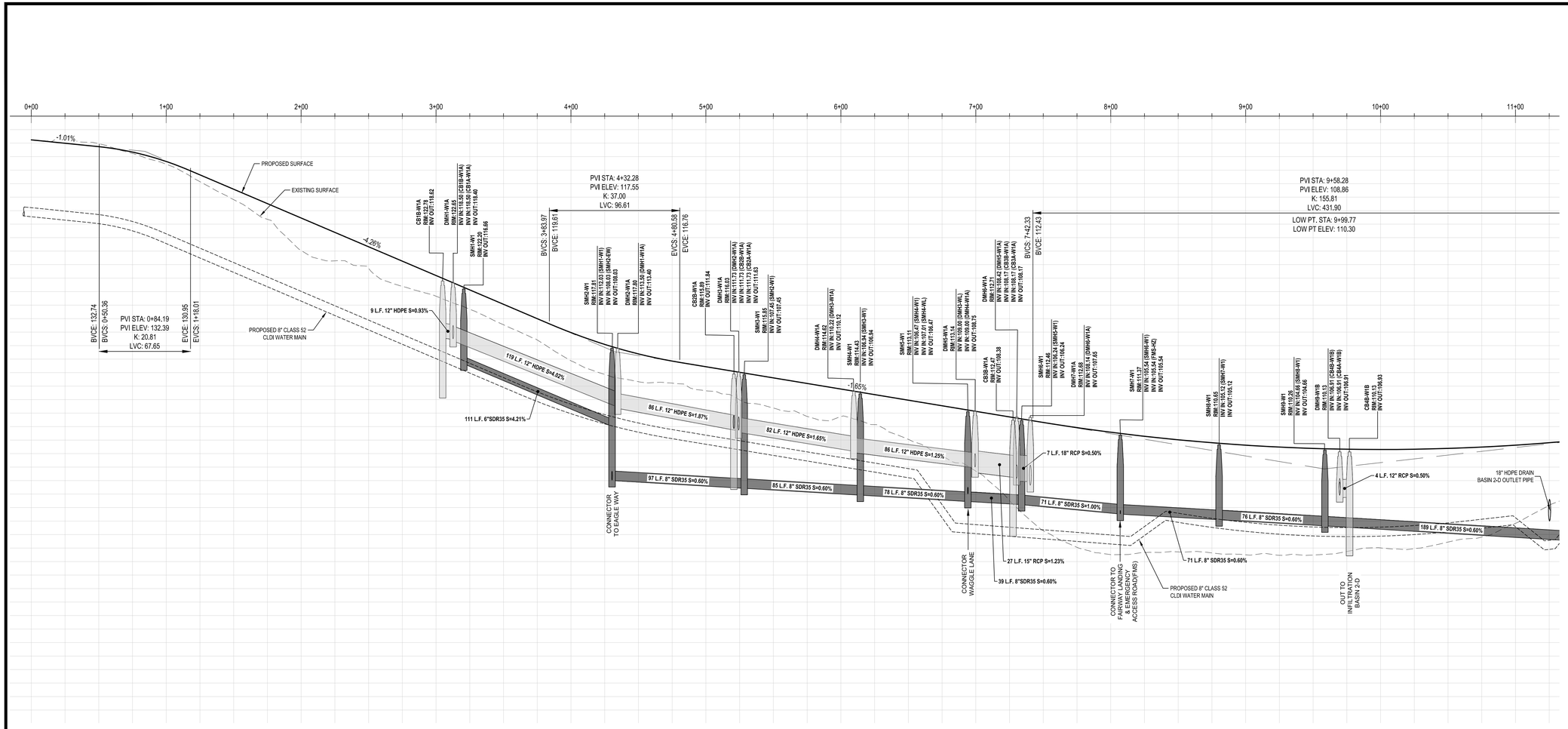


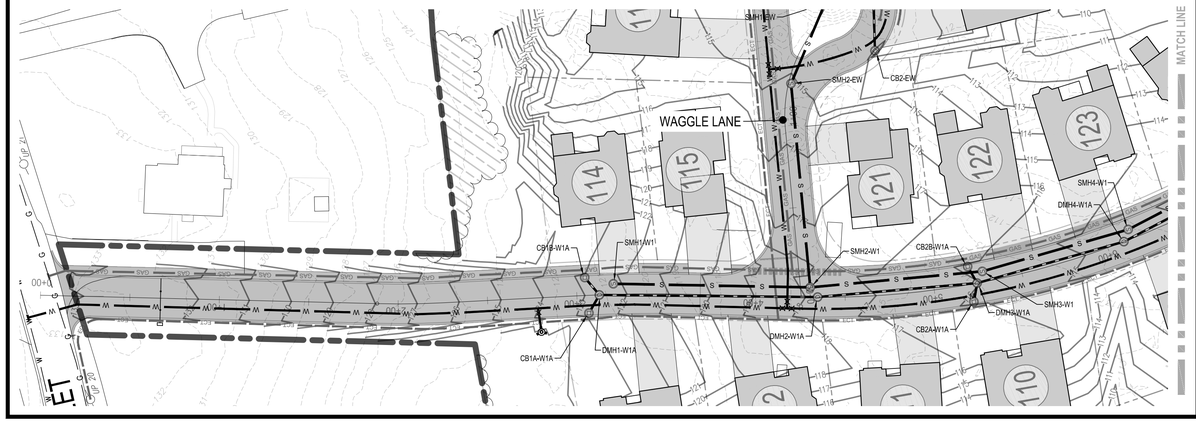
ROAD PROFILE "WEATHERVANE DRIVE"

HORIZONTAL SCALE 1"=40'

VERTICAL SCALE 1"=4'

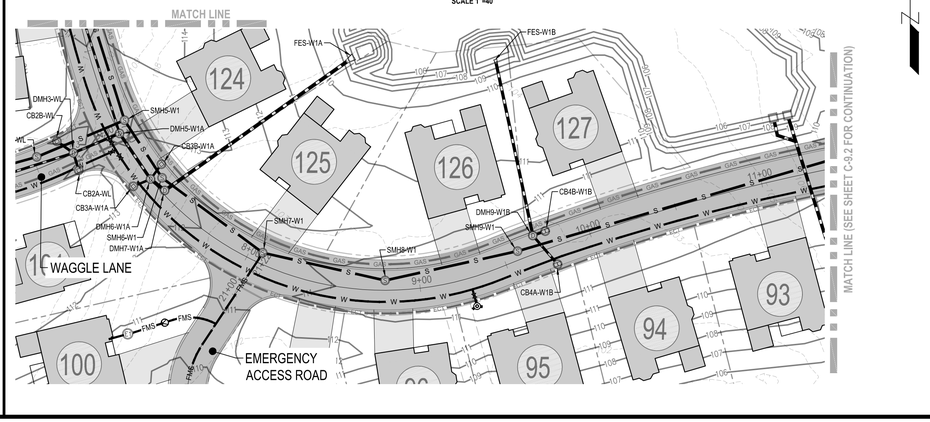
PLAN VIEW "WEATHERVANE DRIVE"

SCALE 1"=40'



PLAN VIEW "WEATHERVANE DRIVE"

SCALE 1"=40'



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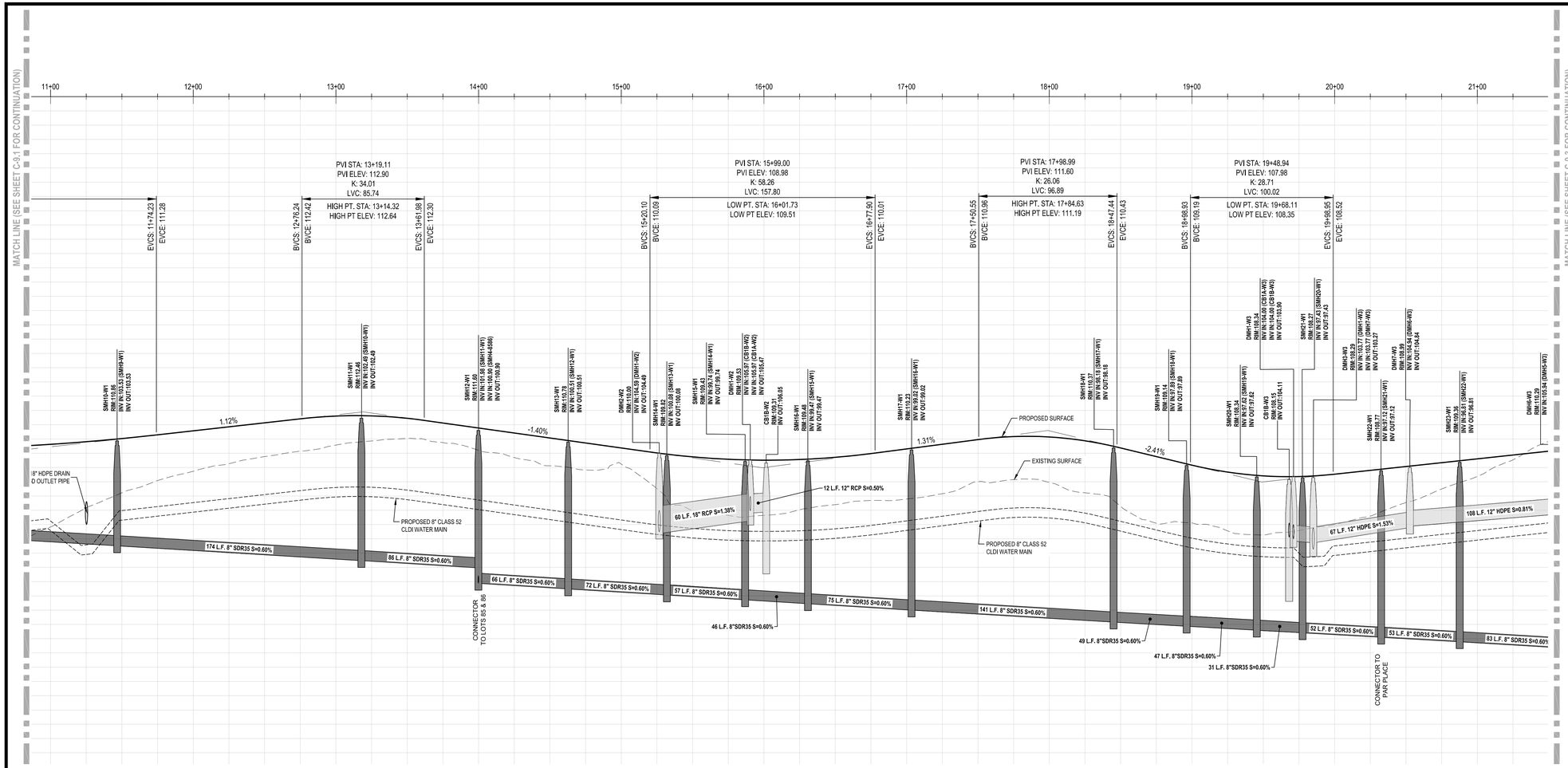

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PLAN VIEW "WEATHERVANE DRIVE"

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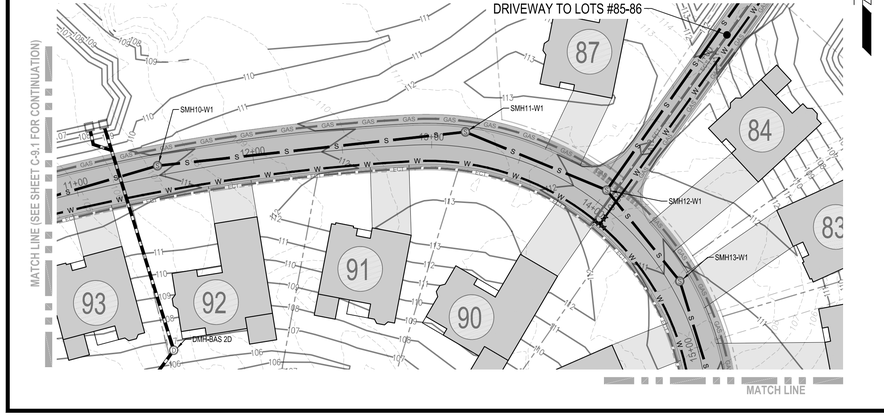

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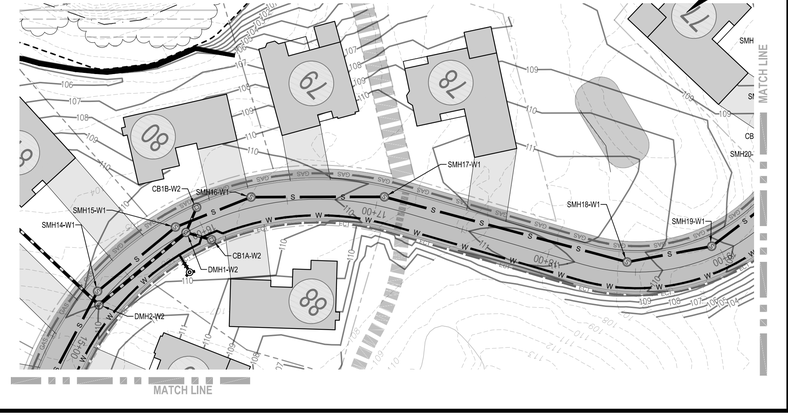

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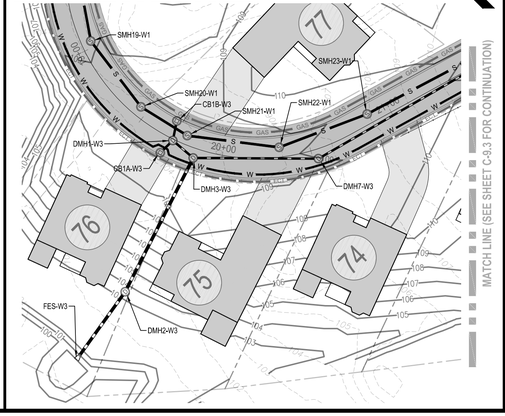

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Approved By	TC

Drawing No.

C-9.2

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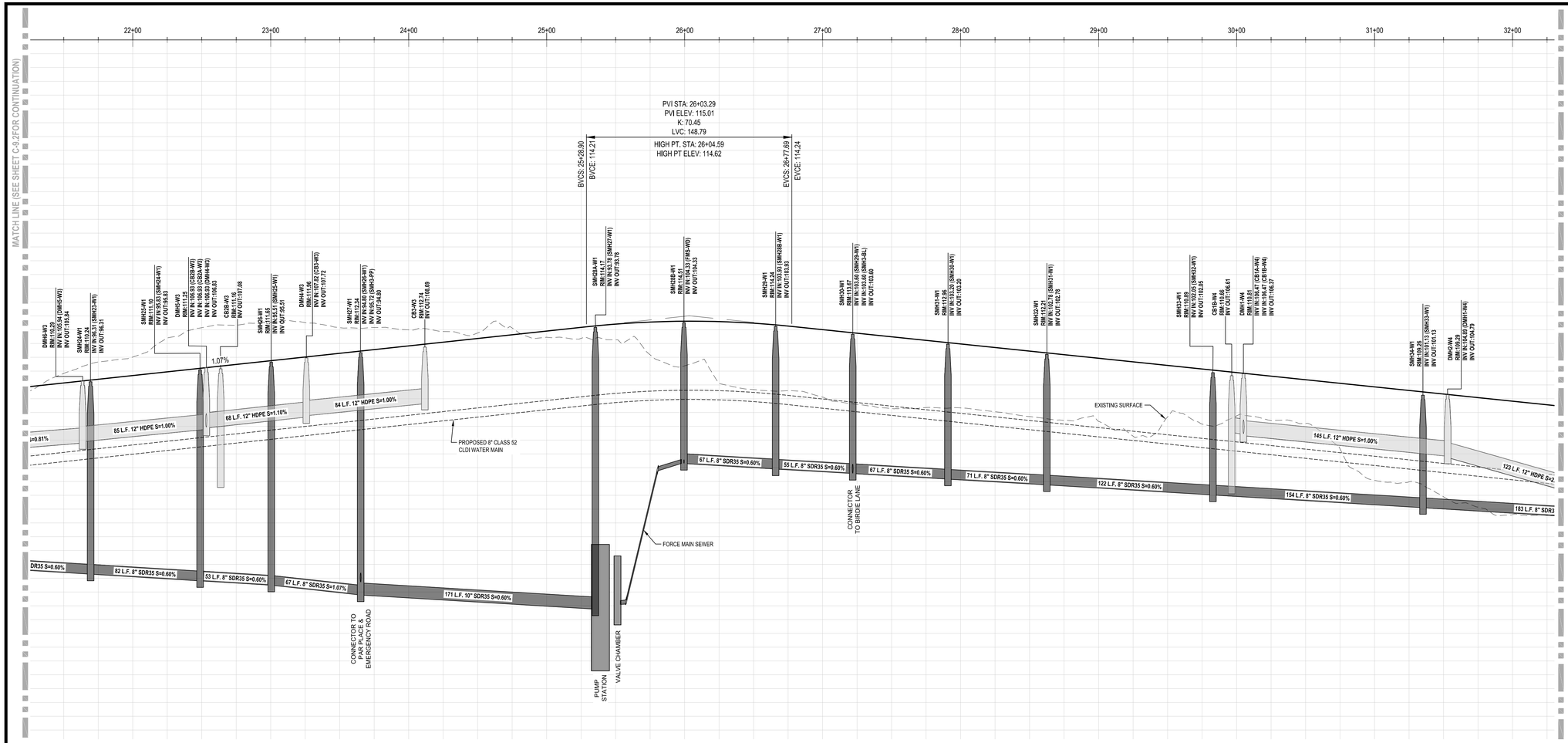
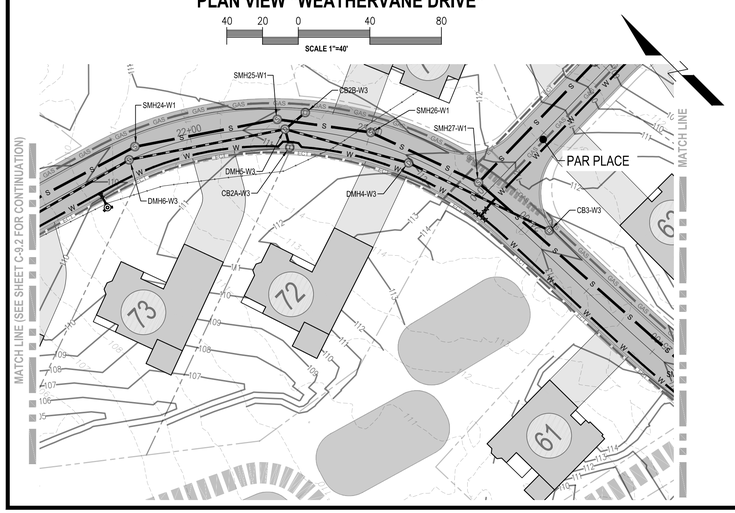


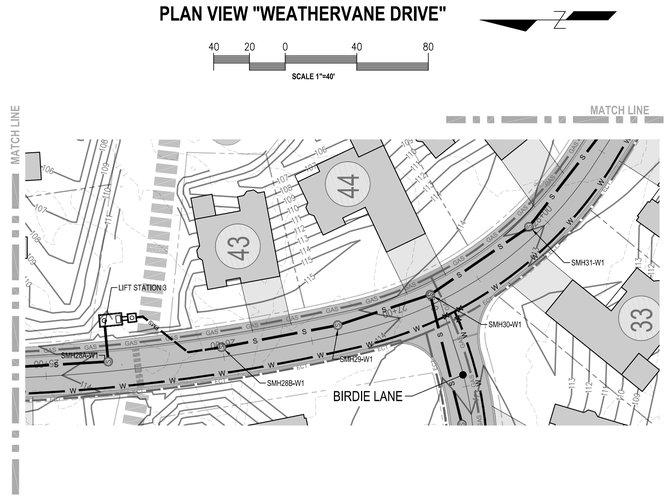
ROAD PROFILE "WEATHERVANE DRIVE"

HORIZONTAL SCALE 1"=40'
VERTICAL SCALE 1"=4'

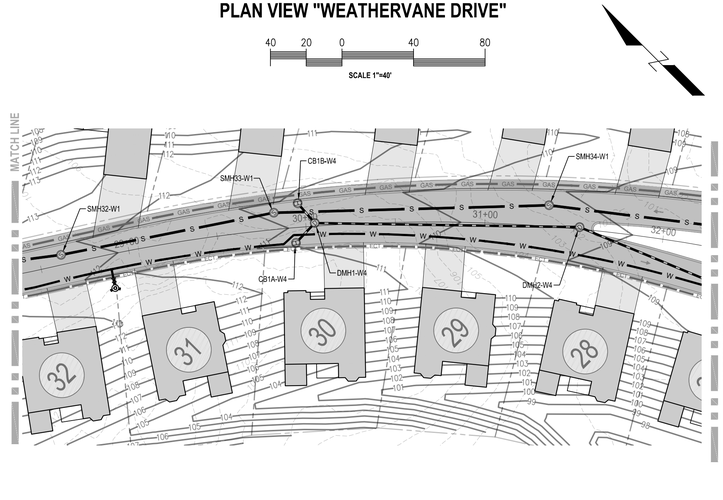
PLAN VIEW "WEATHERVANE DRIVE"



PLAN VIEW "WEATHERVANE DRIVE"



PLAN VIEW "WEATHERVANE DRIVE"



FOR REGISTRY USE ONLY

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER
12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
ROAD PROFILES

Project No.	100-064
Date	08 / 08 / 2023
Scale	AS NOTED
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-9.3

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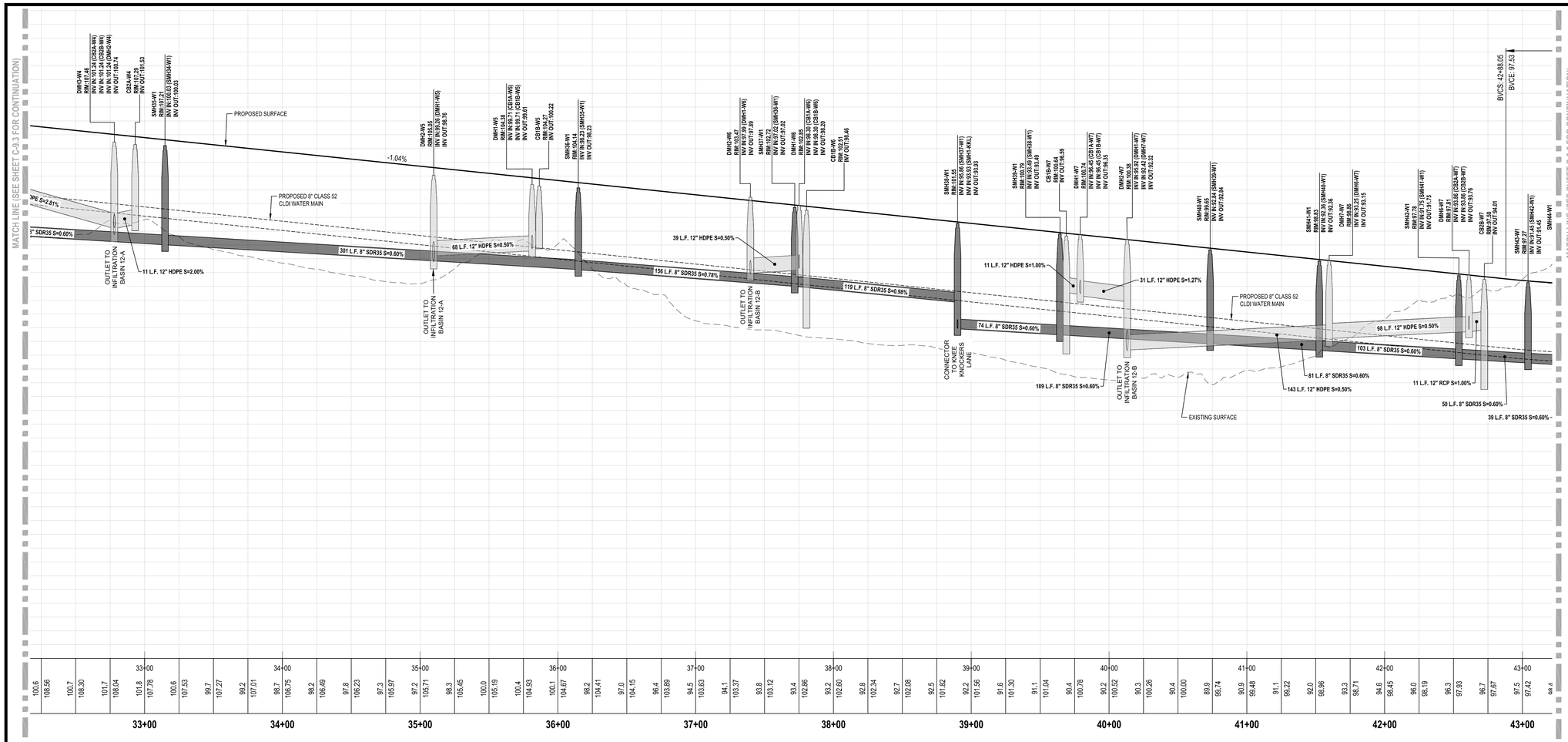


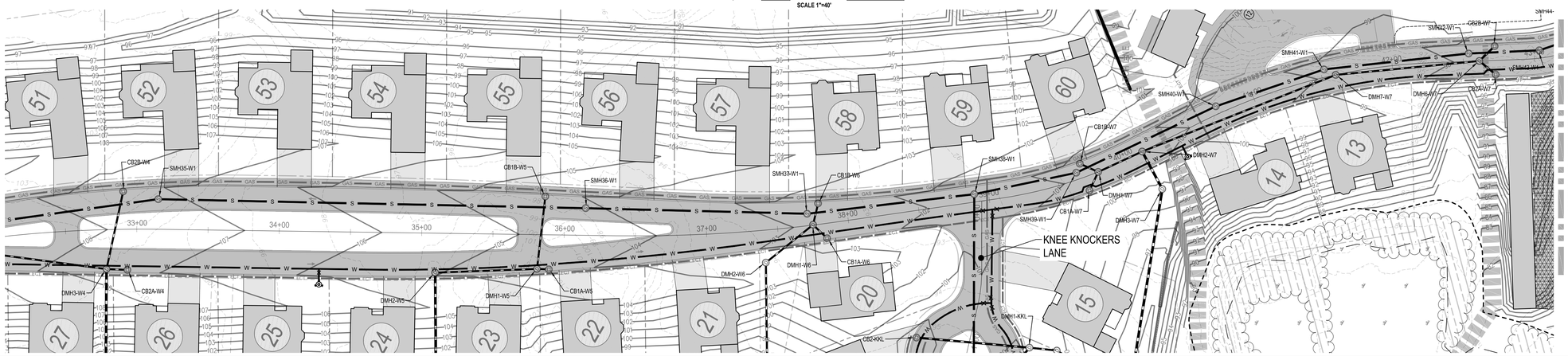
ROAD PROFILE "WEATHERVANE DRIVE"

HORIZONTAL SCALE 1"=40'

VERTICAL SCALE 1"=4'

PLAN VIEW "WEATHERVANE DRIVE"

SCALE 1"=40'



Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1
	Revisions	

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
ROAD PROFILES

Project No.	100-064
Date	08 / 08 / 2023
Scale	AS NOTED
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-9.4

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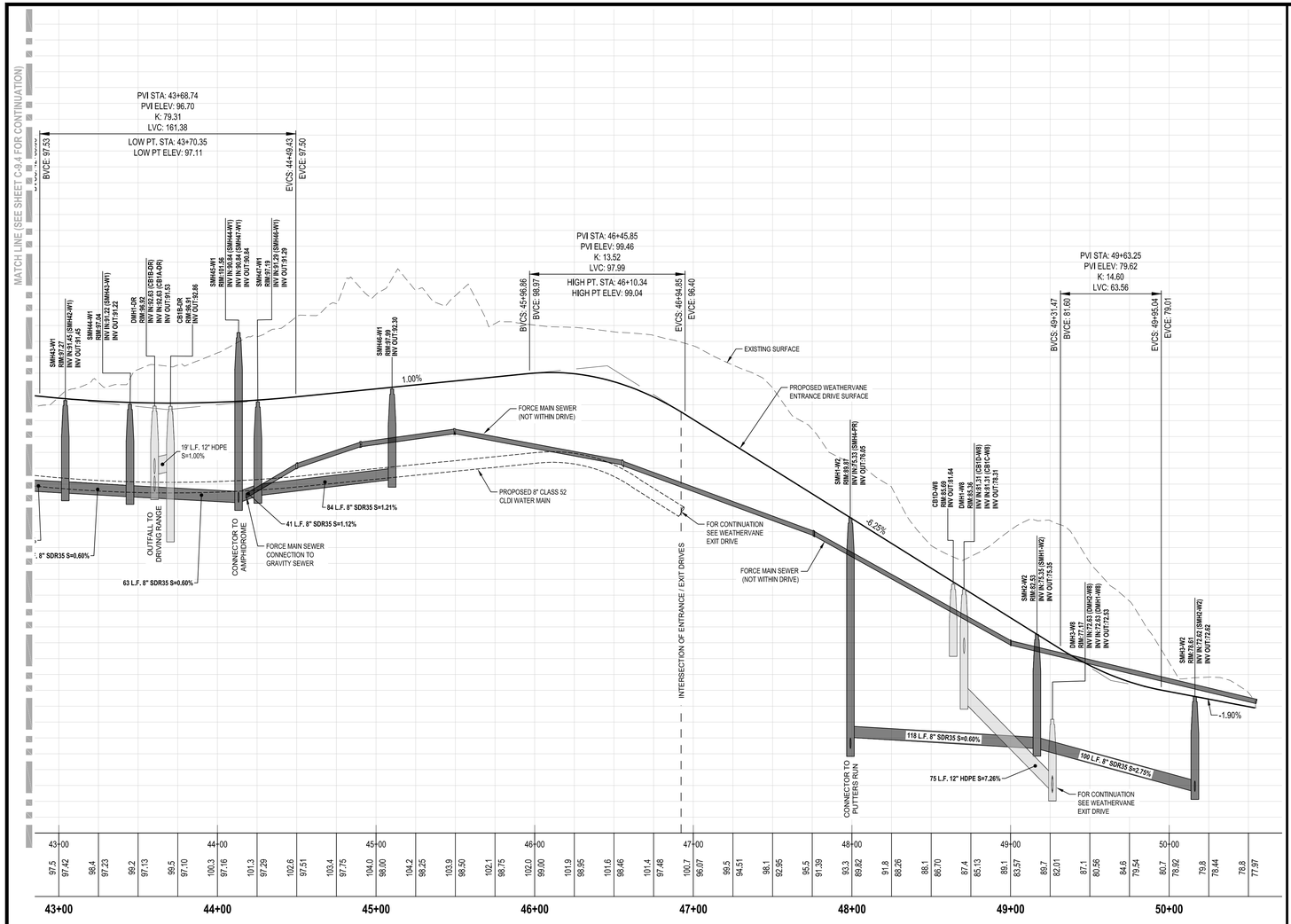
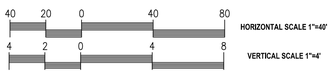
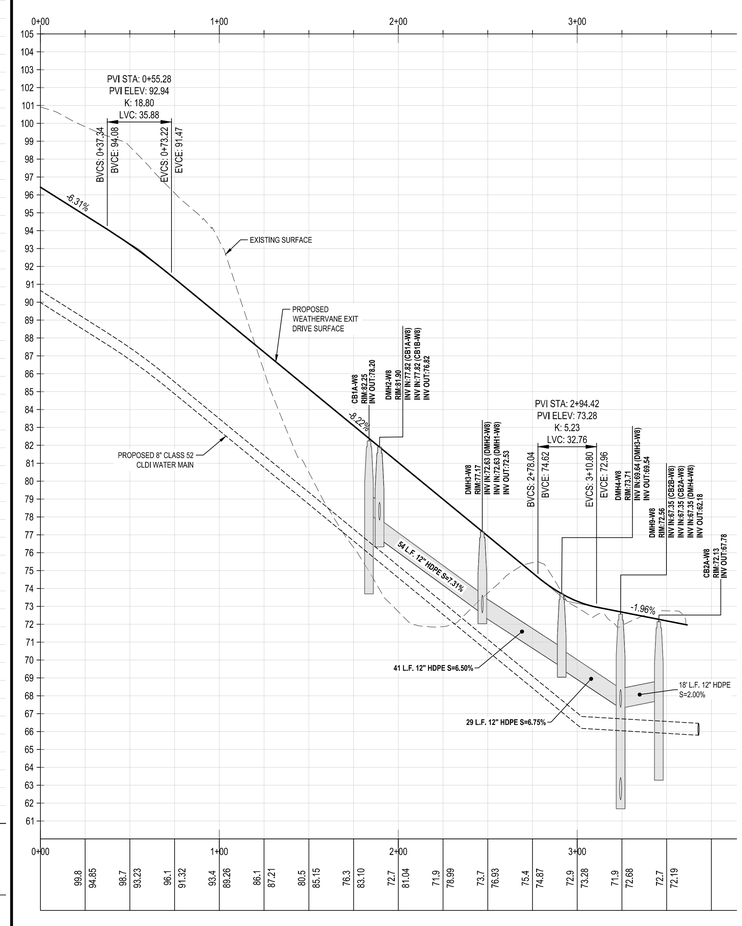


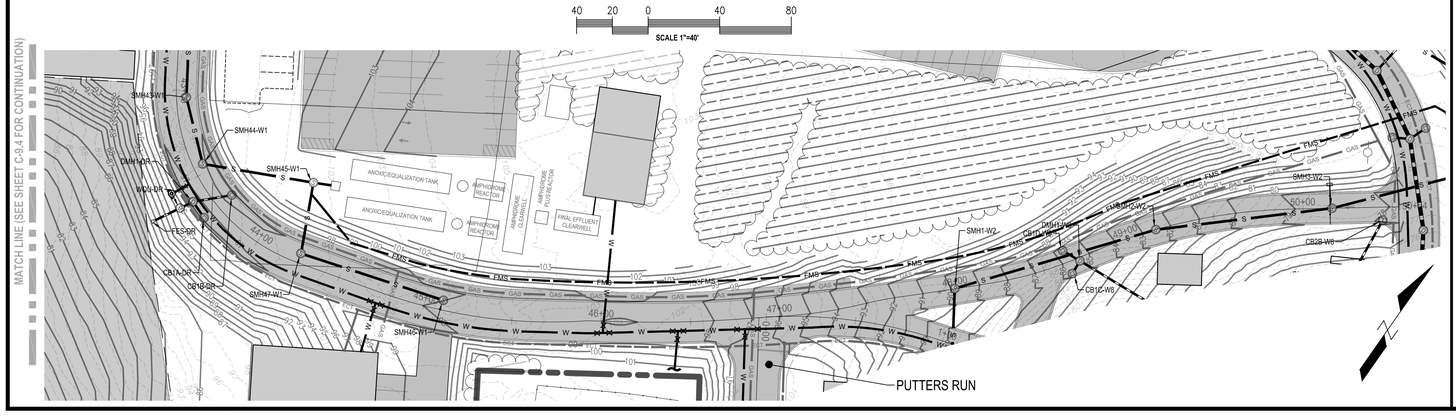
ROAD PROFILE "WEATHERVANE DRIVE"





ROAD PROFILE "WEATHERVANE DRIVE" (EXIT)

PLAN VIEW "WEATHERVANE DRIVE"



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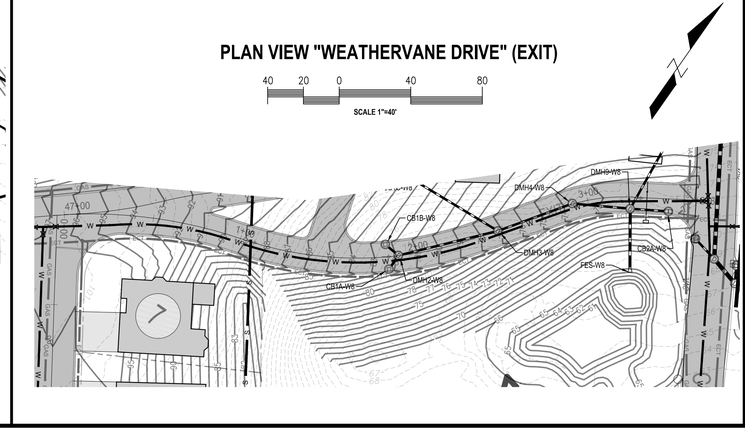

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Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

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COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER
12-11-2023
GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
ROAD PROFILES

Project No.	100-064
Date	08 / 08 / 2023
Scale	AS NOTED
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-9.5

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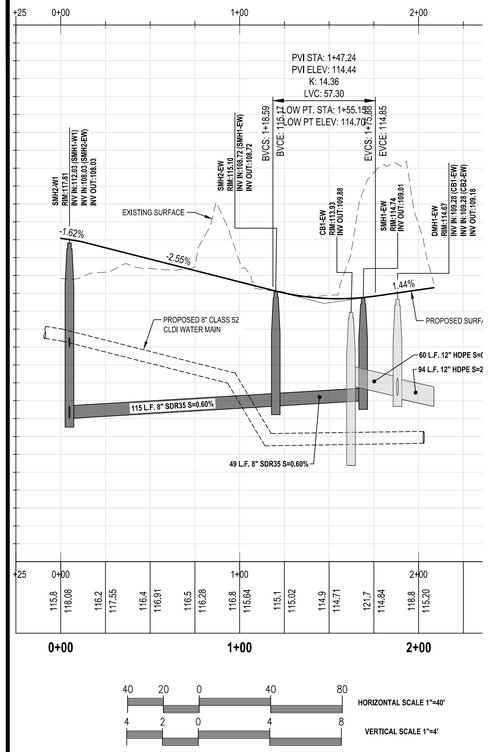
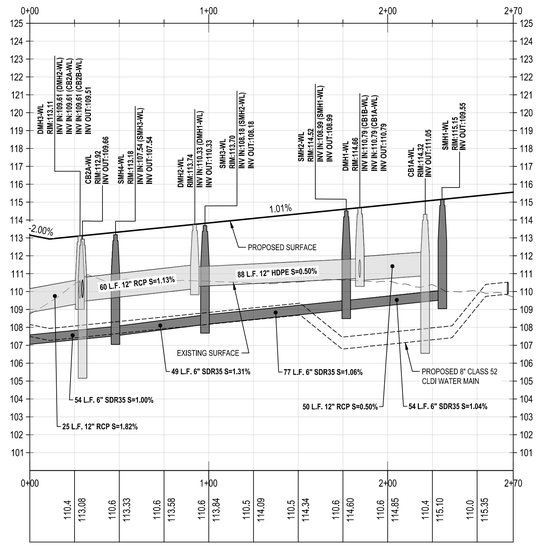
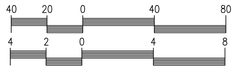


ROAD PROFILE "WAGGLE LANE"





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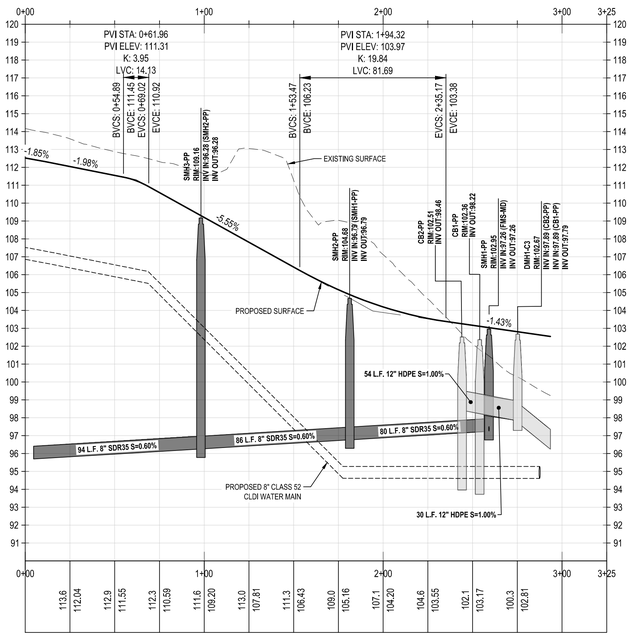
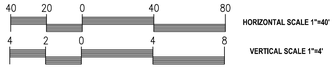
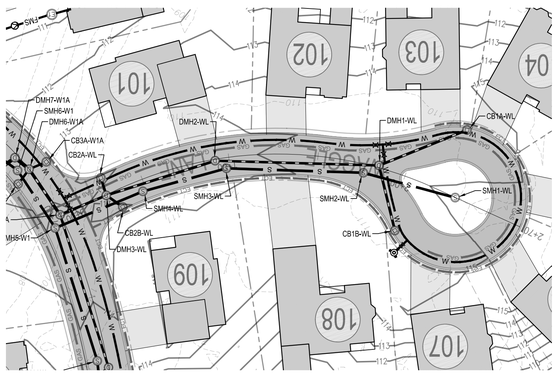




PLAN VIEW "EAGLE WAY"

PLAN VIEW "WAGGLE LANE"



PLAN VIEW "PAR PLACE"

FOR REGISTRY USE ONLY

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project

AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB

DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for

WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC

190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title

ROAD PROFILES

Project No.	100-064
Date	08 / 08 / 2023
Scale	AS NOTED
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.

C-9.6

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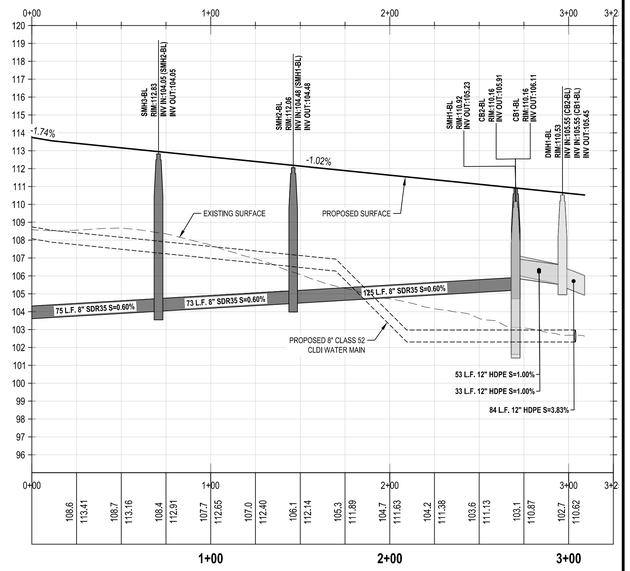

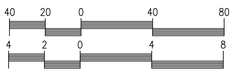

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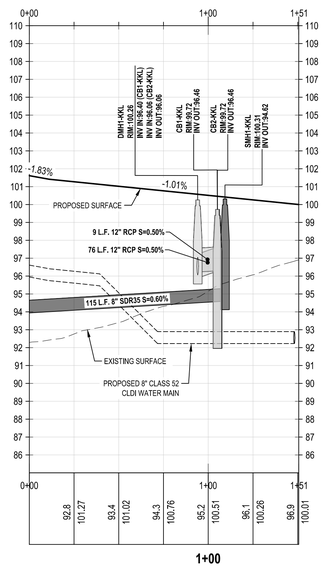

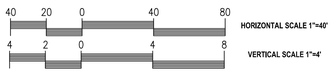

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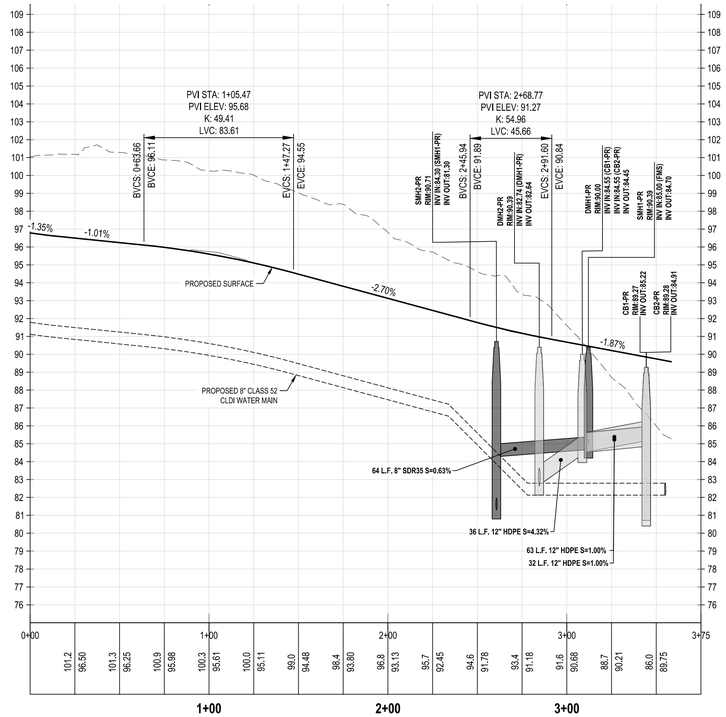
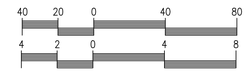
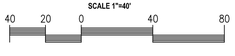


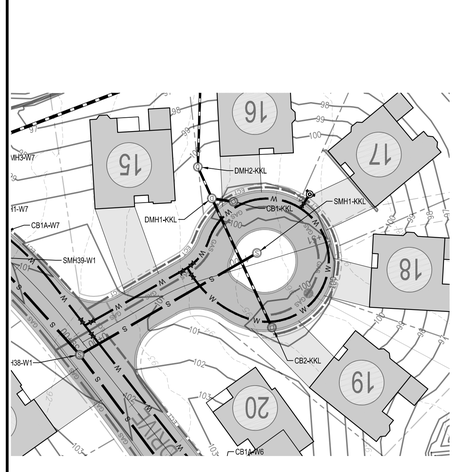


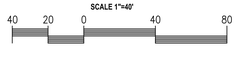
FOR REGISTRY USE ONLY

PLAN VIEW "BIRDIE LANE"

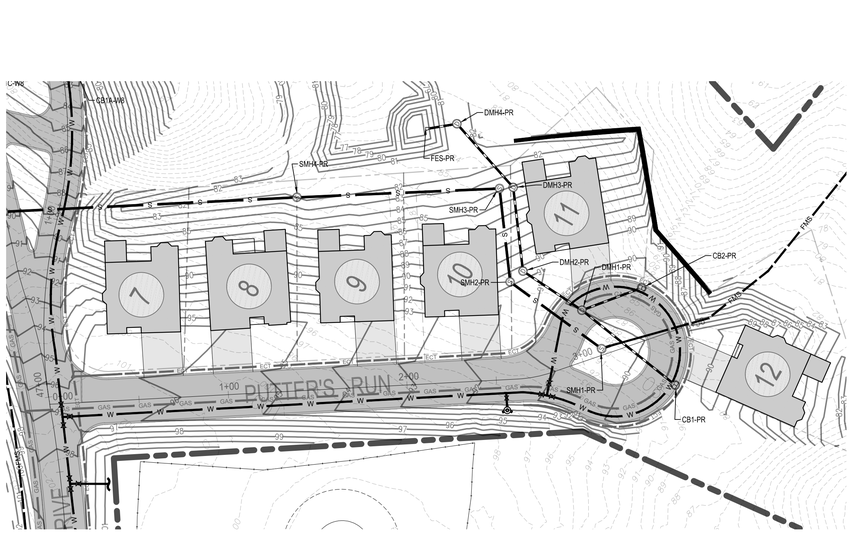


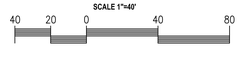
PLAN VIEW "KNEE KNOCKERS LANE"





PLAN VIEW "PUTTER'S RUN"





Date	Description	No.
	Revisions	
12/11/23	PEER REVIEW UPDATES	1

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER
12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
ROAD PROFILES

Project No.	100-064
Date	08 / 08 / 2023
Scale	AS NOTED
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-9.7

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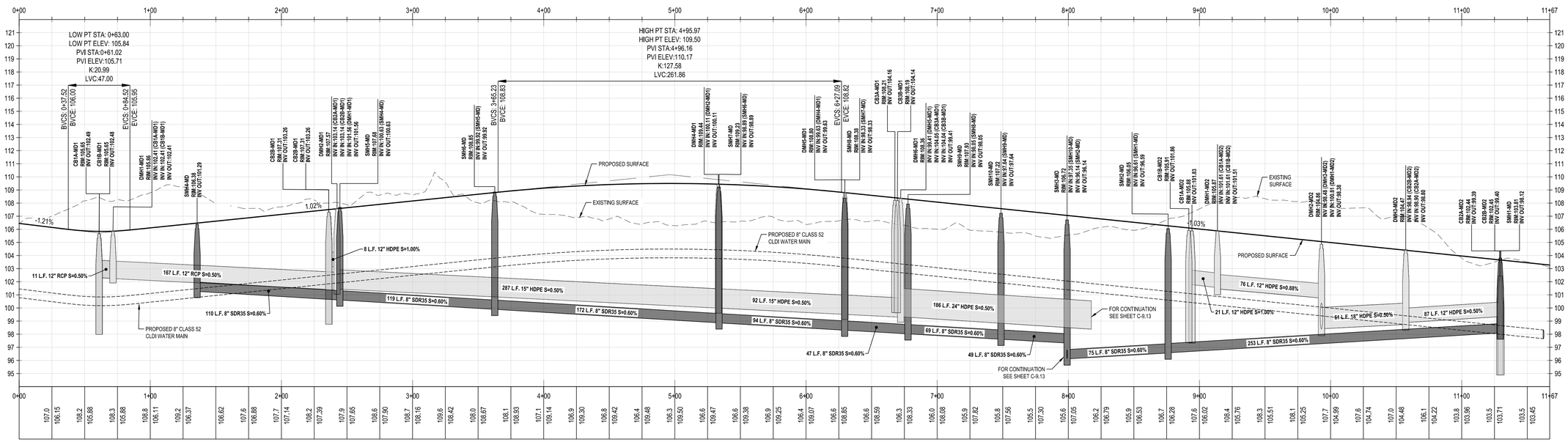
ROAD PROFILE "MULIGAN DRIVE"



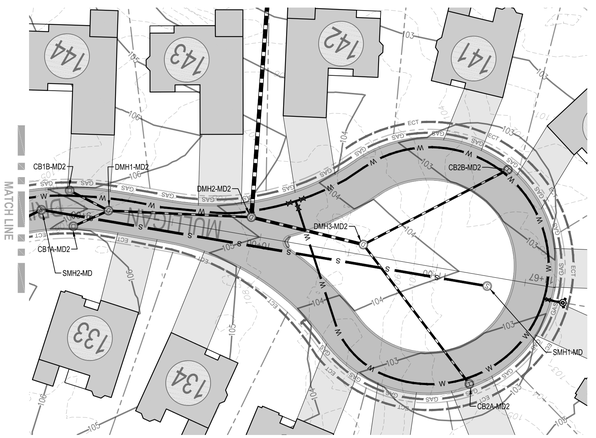
HORIZONTAL SCALE 1"=40'

VERTICAL SCALE 1"=4'

PLAN VIEW "MULIGAN DRIVE"

SCALE 1"=40'

PLAN VIEW "MULIGAN DRIVE"



SCALE 1"=40'

FOR REGISTRY USE ONLY

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project

AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB

DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for

WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC

190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title

ROAD PROFILES

Project No.	100-064
Date	08 / 08 / 2023
Scale	AS NOTED
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.

C-9.8

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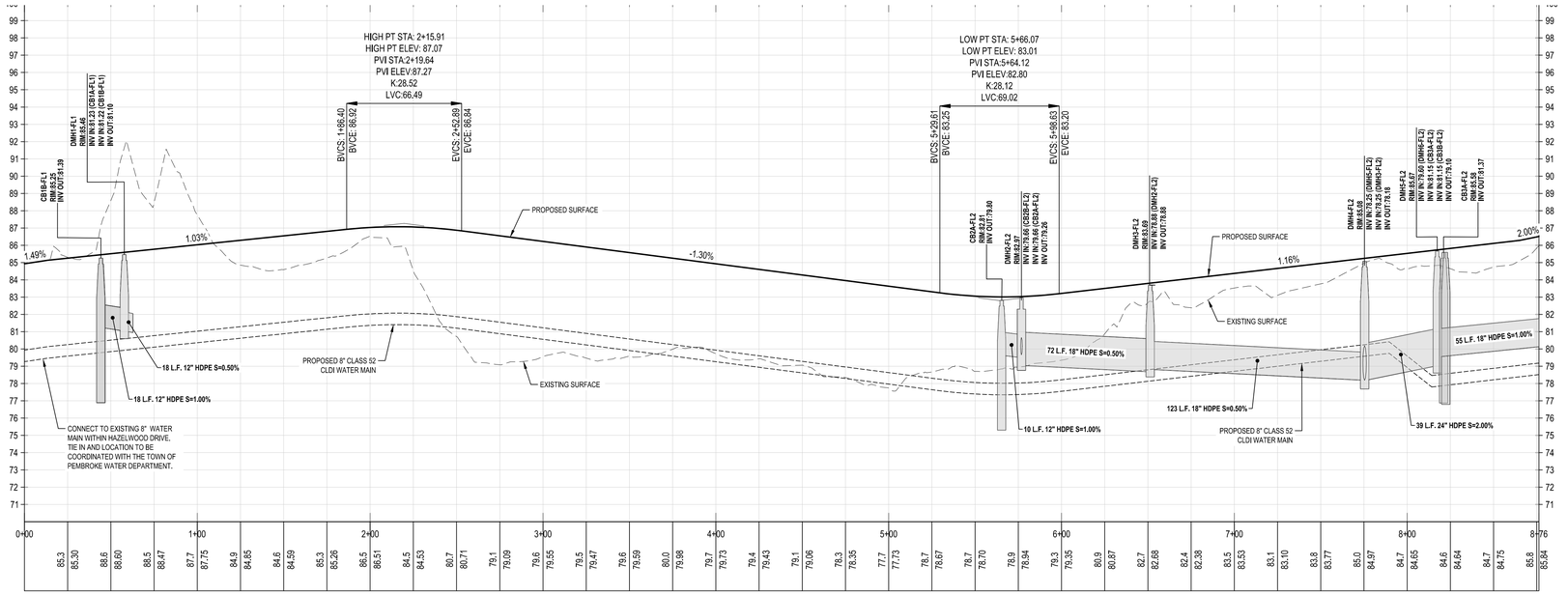
ROAD PROFILE "FAIRWAY LANDING"



PLAN VIEW "FAIRWAY LANDING"

FOR REGISTRY USE ONLY

No.	Description	Date
1	PEER REVIEW UPDATES	12/11/23

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project
AGE QUALIFIED VILLAGE
PEMBROKE COUNTRY CLUB
DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for
WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
ROAD PROFILES

Project No.	100-064
Date	08 / 08 / 2023
Scale	AS NOTED
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-9.9

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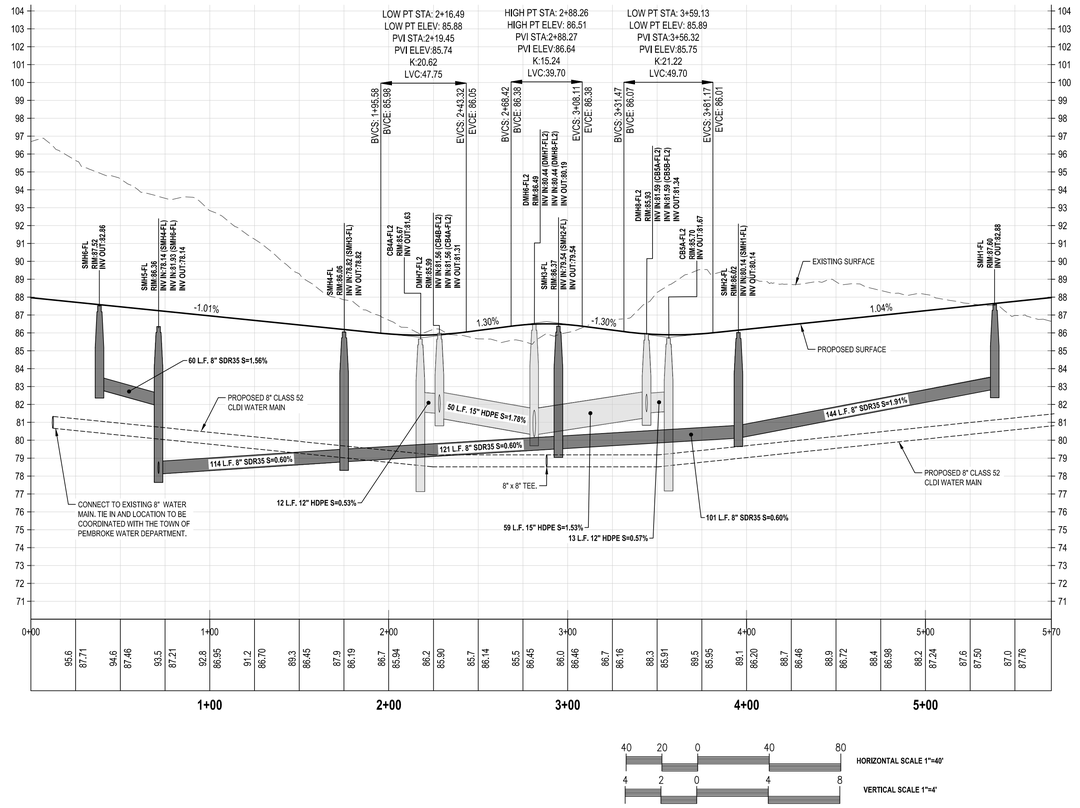
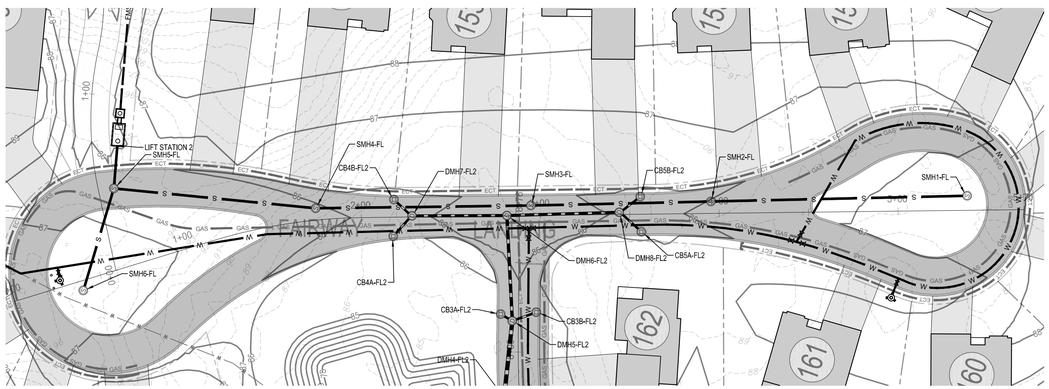
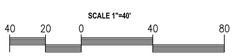


PLAN VIEW "FAIRWAY LANDING"





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12/11/23	PEER REVIEW UPDATES	1

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12-11-2023

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DWELLEY STREET, HAZELWOOD DRIVE &
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WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC
190 OLD DERBY STREET, SUITE 311
HINGHAM, MA 02043

Drawing Title
ROAD PROFILES

Project No.	100-064
Date	08 / 08 / 2023
Scale	AS NOTED
Drawn By	ASZ, JPM
Approved By	TC

Drawing No.
C-9.10

Dec 13, 2023 09:12
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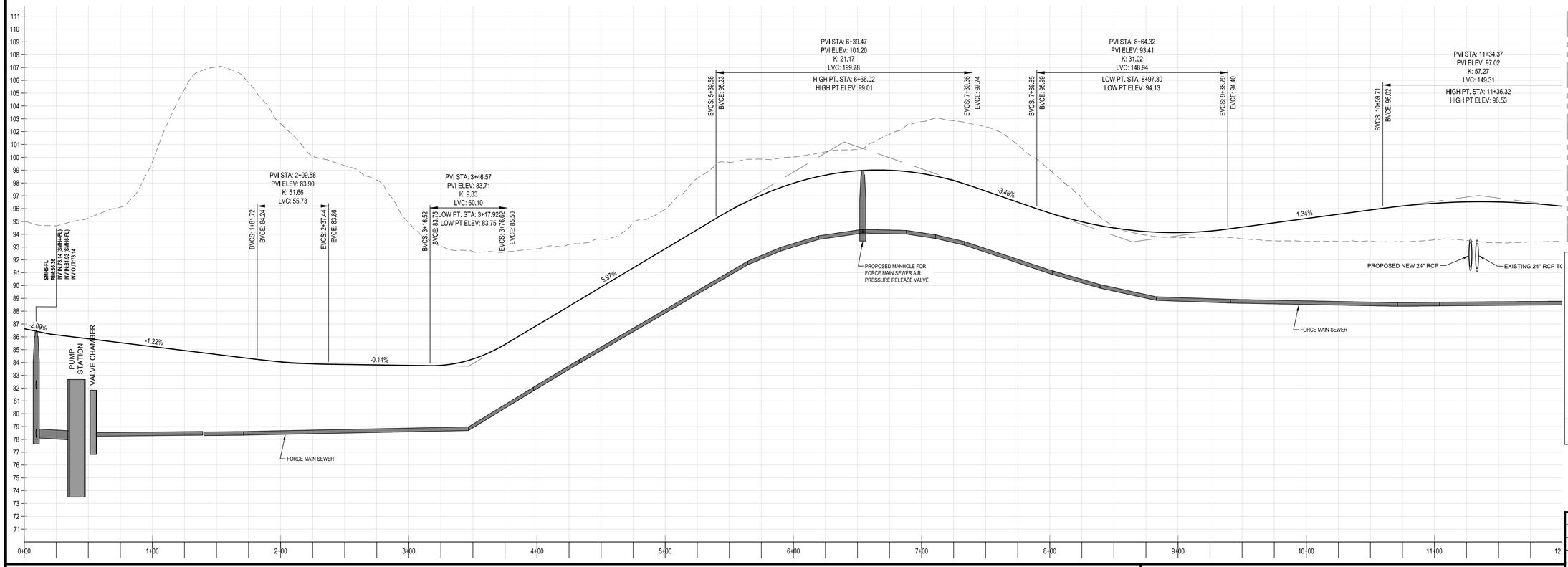
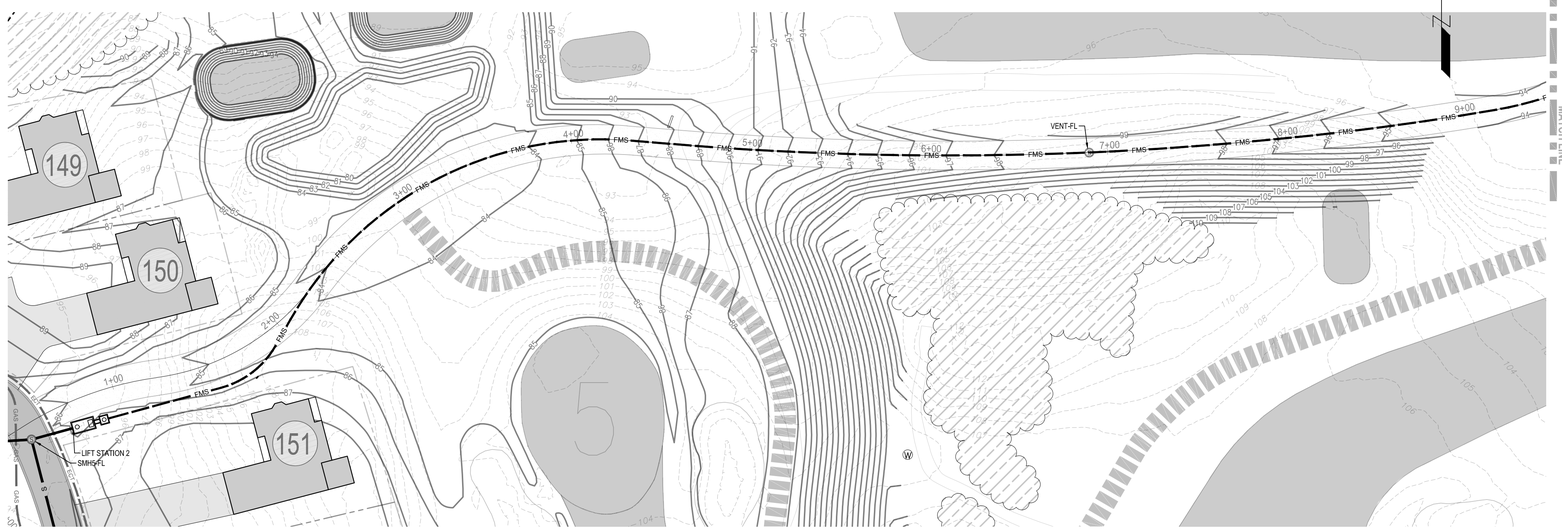
ROAD PROFILE "EMERGENCY ROAD" FROM FAIRWAY LANDING TO WEATHERVANE DRIVE



PLAN VIEW "EMERGENCY ROAD" FROM FAIRWAY LANDING TO WEATHERVANE DRIVE



PLAN VIEW "EMERGENCY ROAD" FROM FAIRWAY LANDING TO WEATHERVANE DRIVE

FOR REGISTRY USE ONLY

Date	Description	No.
12/11/23	PEER REVIEW UPDATES	1

Revisions

COMMONWEALTH OF MASSACHUSETTS
GABRIEL R. CROCKER
CIVIL
No. 47917
REGISTERED PROFESSIONAL ENGINEER

12-11-2023

GABRIEL R. CROCKER
PROFESSIONAL ENGINEER, MA REGISTRATION #47917

Crocker Design Group
2 SHARP STREET, UNIT A
HINGHAM, MA 02043
P: 781-919-0808

Project

AGE QUALIFIED VILLAGE PEMBROKE COUNTRY CLUB

DWELLEY STREET, HAZELWOOD DRIVE & WEST ELM STREET
PEMBROKE, MA

Prepared for

WEATHERVANE AT PEMBROKE COUNTRY CLUB, LLC

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Drawing No.

C-9.11

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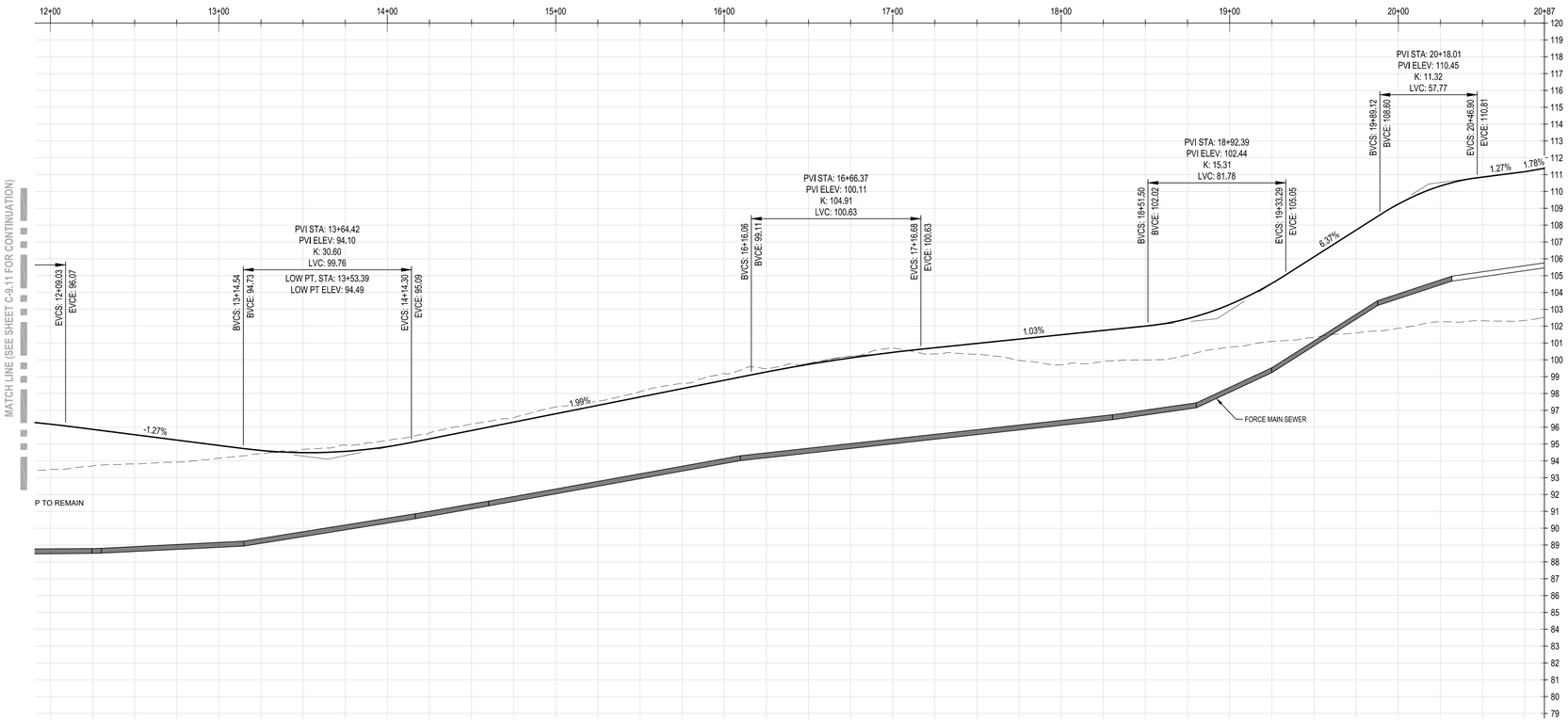


HORIZONTAL SCALE 1"=40'

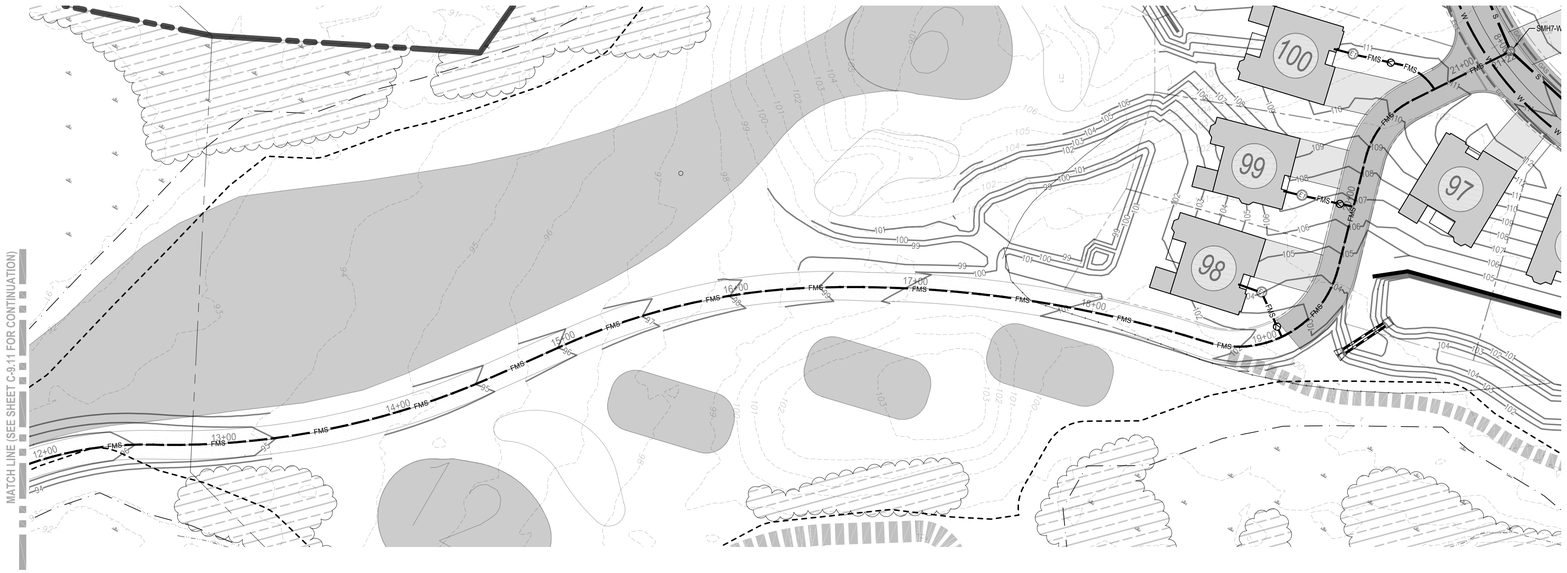
40 20 0 40 80

VERTICAL SCALE 1"=4'

4 2 0 4 8

FOR REGISTRY USE ONLY

PLAN VIEW "EMERGENCY ROAD" FROM FAIRWAY LANDING TO WEATHERVANE DRIVE



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Drawing No.

C-9.12

Dec 13, 2023 09:14

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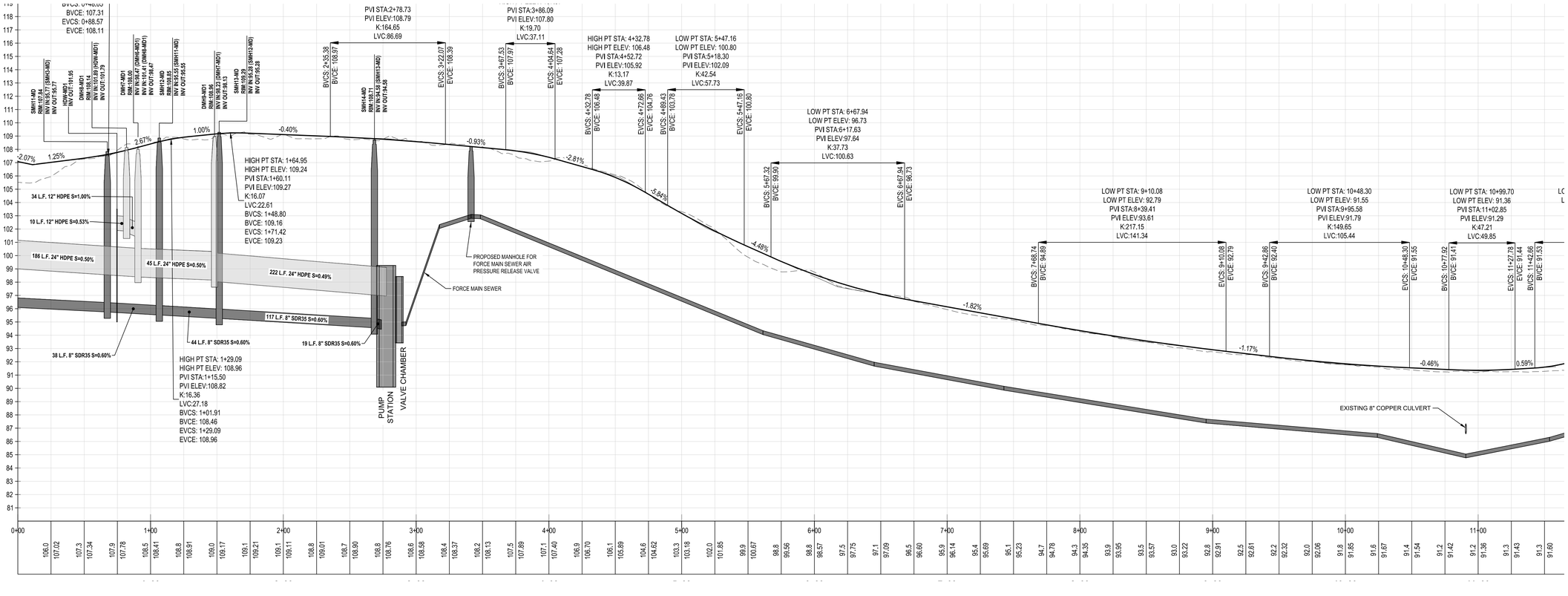
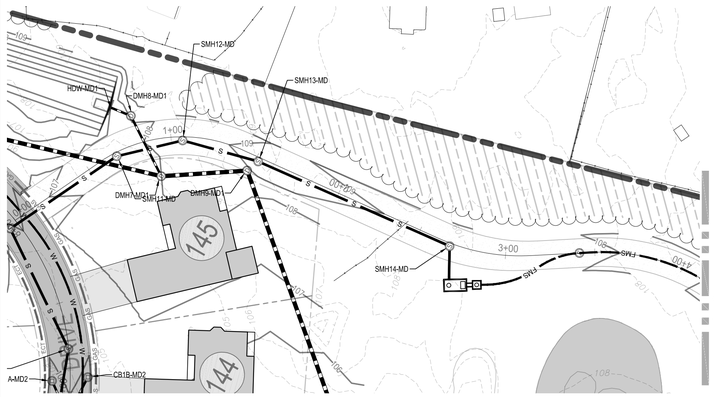
ROAD PROFILE "EMERGENCY ROAD" FROM MULLIGAN DRIVE TO PAR PLACE



PLAN VIEW "EMERGENCY ROAD" FROM MULLIGAN DRIVE TO PAR PLACE



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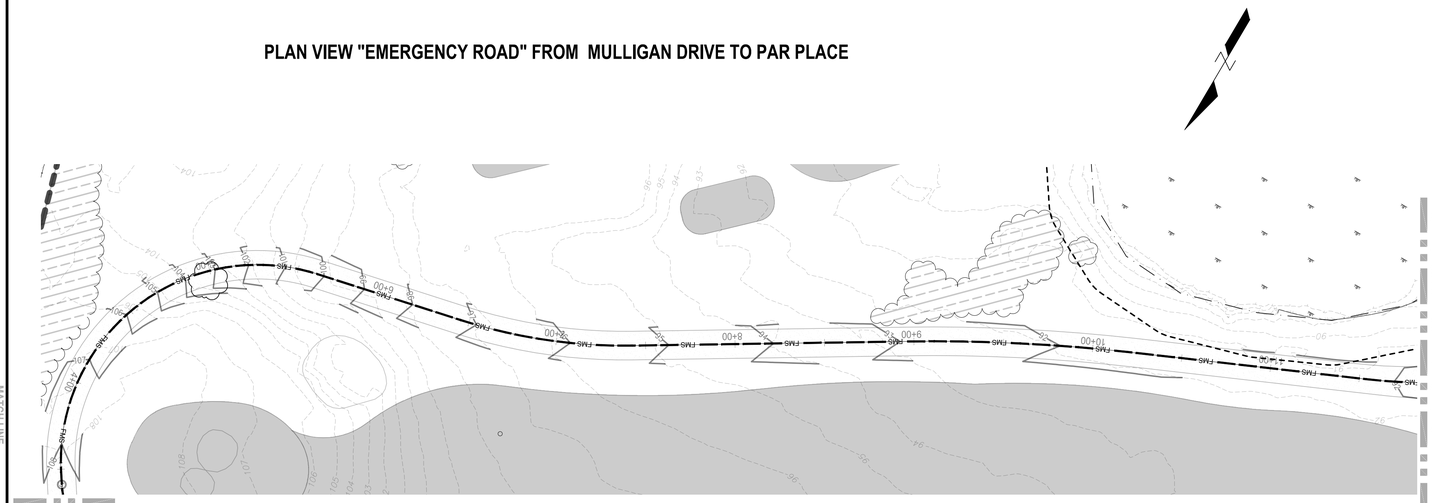

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Drawing No.
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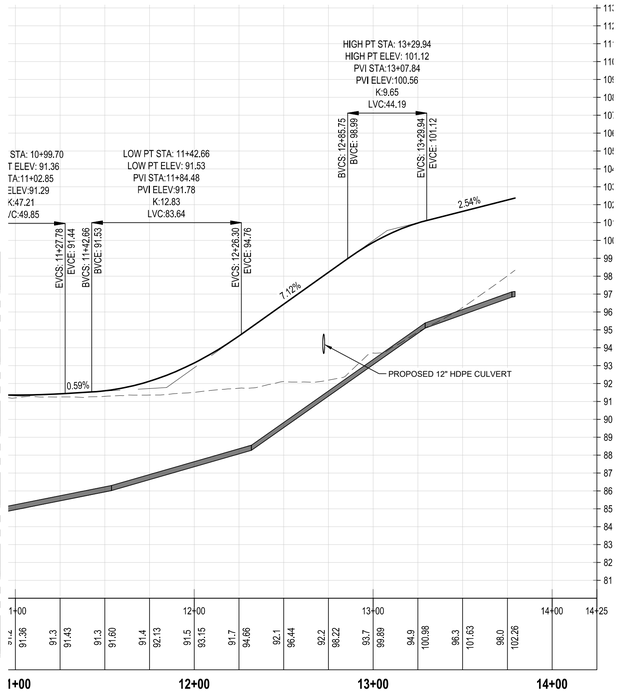

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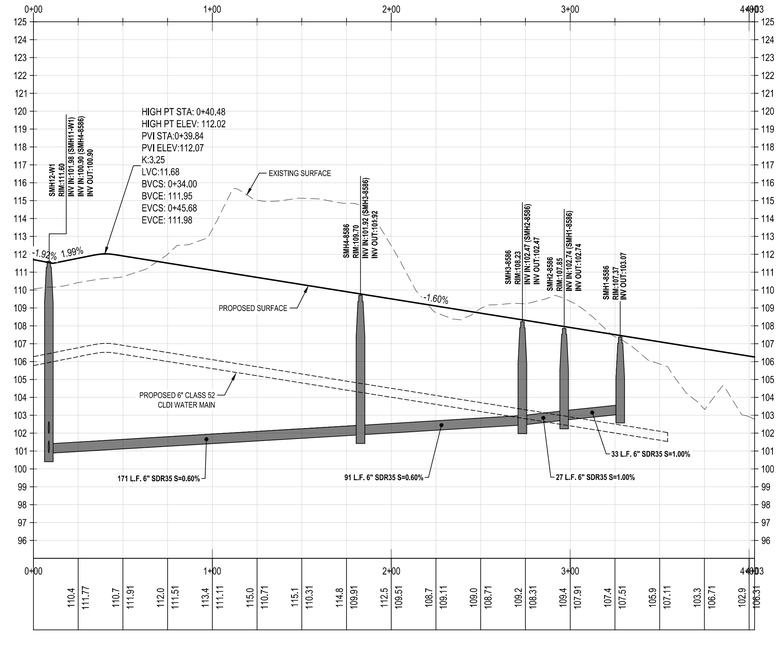
40 20 0 40 80

VERTICAL SCALE 1"=4'

4 2 0 4 8

ROAD PROFILE DRIVEWAY TO UNIT 85 AND 86



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VERTICAL SCALE 1"=4'

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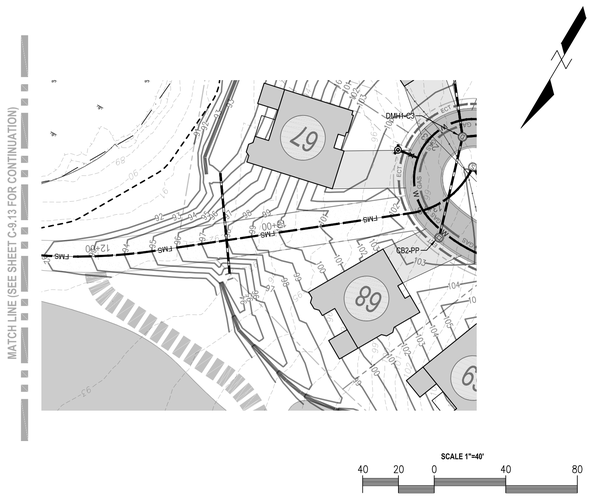

SCALE 1"=40'

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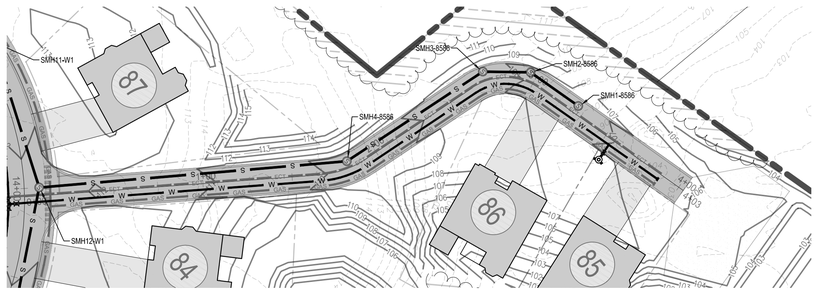
PLAN VIEW DRIVEWAY TO UNIT 85 AND 86



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