

dan@legacy-ce.com 508-376-8883(o) 508-868-8353(c) 730 Main Street Suite 2C Millis, MA 02054

September 30, 2020

Conservation Commission Town Offices 900 Main Street Millis, MA 02054

Ref: Emerson Place Subdivision

Notice of Intent

DEP File No. CE225-0426

Dear Members of the Commission:

As discussed with the Commission at the last hearing, please find enclosed two copies of a revised subdivision plan reflecting the addition of the riverfront area for the off-site portions of Stream 1. While the basis for the riverfront analysis provided by Goddard Consultants in their report dated August 28, 2020 remains the same, the additional riverfront area created by the off-site portions of Stream 1 change the riverfront area quantities and impact areas as follows:

Stream 3 Impacts:

- ✓ Total Additional Riverfront Area: 236,653 s.f.
 - o Additional Inner Riparian Zone (RZ): 97,715 s.f.
 - o Additional Outer Riparian Zone (RZ): 138,938 s.f.
- ✓ Non-Exempt Proposed Construction of Road Crossing: 17,355 s.f.
 - o Inner RZ work: 7,425 s.f.
 - o Outer RZ: 9,930 s.f.
- ✓ Exempt BVW Replication Area (Stream 1/2 crossing): 2,048 s.f. (all in Outer RZ)

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730 Main Street Suite 2C Millis, MA 02054

With these new values added to the Stream 1 values reported by Goddard Consulting, the new total impact figures are as follows (for the entire site):

- ✓ Total Riverfront Area: 678,574 s.f.
 - o Inner RZ: 313,787 s.f.
 - o Outer RZ: 364,787 s.f.
- ✓ Non-Exempt Work: 57,663 s.f. (total) = 8.50% of total RA
 - o Roadway Construction: 54,376 s.f.
 - Inner RZ: 21,846 s.f.
 - Outer RZ: 32,530 s.f.
 - o Lot 1 Backyard: 3,287 s.f. (Outer RZ only)
- ✓ Exempt Work: 34,117 s.f.
 - o Outer RZ BVW Replication Areas:
 - Stream 1/2 crossing: 2,048 s.f.
 - Stream 3 crossing: 2,714 s.f.
 - o Drainage Infrastructure: 29,355 s.f. (all at Stream 3 crossing)
 - Inner RZ: 1,889 s.f.
 - Outer RZ: 27,466 s.f.

Do not hesitate to contact me should you have any questions or comments.

Yours Truly,

LEGACY ENGINEERING LLC

Daniel J. Merrikin, P.E.

President

cc: File



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September 30, 2020

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Ref: Emerson Place Subdivision

Notice of Intent

DEP File No. CE225-0426

Dear Members of the Commission:

Please find enclosed and updated Form 3 with the final resource area impacts updated per the peer review process. Do not hesitate to contact me should you have any questions or comments.

Yours Truly,

LEGACY ENGINEERING LLC

Daniel J. Merrikin, P.E. President

cc: File

MassDEP Central Region, 8 New Bond Street, Worcester, MA 01606



WPA Form 3 - Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

)	Provided by MassDEP:					
	MassDEP File Number					
	Document Transaction Number					
	Millis					

City/Town

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A.	Genera	I Information
Л.	General	ı ııııdı illalıdı

Ridge Street		Millis	02054		
a. Street Address		b. City/Town	c. Zip Code		
Latitude and Lone	iitudo:	42.1735	71.3684		
Latitude and Long		d. Latitude	e. Longitude		
	ached Supplemental	- D1/1-1	Newstran		
Information		g. Parcel /Lot	Number		
. Applicant:					
a. First Name		b. Last Na	me		
TD Development	LLC				
c. Organization					
38 Benjamin's Ga	te				
d. Street Address					
Plymouth		MA	02360		
e. City/Town	. /-	f. State	g. Zip Code		
617-212-0725 h. Phone Number	n/a i. Fax Number	bobfoxden@gn i. Email Address	naii.com		
n. Phone Number	i. Fax Number	j. Emaii Address			
a. First Name TD Development	LLC	b. Last Na	me		
c. Organization					
38 Benjamins's G	ate				
d. Street Address					
Plymouth e. City/Town		MA f. State	02360		
617-212-0725	n/a		g. Zip Code		
h. Phone Number	i. Fax Number	bobfoxden@gn j. Email address	naii.com		
. Representative (if	Representative (if any):				
Daniel		Merrikin			
a. First Name		b. Last Na			
Legacy Engrineer	Legacy Engrineering LLC				
c. Company					
730 Main Street, S	Suite 2C				
d. Street Address					
Millis		<u>MA</u>	02054		
e. City/Town	N1/A	f. State	g. Zip Code		
508-376-8883 h. Phone Number	N/A i. Fax Number	dan@legacy-ce	e.com		
n. Fhone Number	i. Fax Number	j. ⊏maii address			
. Total WPA Fee Pa	Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):				
\$5,400.00	Ç	\$2,687.50	\$2,712.50		
a. Total Fee Paid		o. State Fee Paid	c. City/Town Fee Paid		



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rovided by MassDEP:			
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A. General Information (continued)

6.	General Project Description: Construction of infrastructure for a 43-lot single-family Open Space Development.		
7a.	Project Type Checklist: (Limited Project Types see	Section A. 7b.)	
	4. South Fault Hans		
	1. Single Family Home	2. Residential Subdivision	
	3. Commercial/Industrial	4. Dock/Pier	
	5. Utilities	6. Coastal engineering Structure	
	7. Agriculture (e.g., cranberries, forestry)	8. Transportation	
	9. Other		
7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecolo Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)? 1. Yes No If yes, describe which limited project applies to this project. (See 310 10.24 and 10.53 for a complete list and description of limited project to Roadway crossing per 310 CMR 10.53(3)e		0.24 (coastal) or 310 CMR 10.53 (inland)? ed project applies to this project. (See 310 CMR	
8.	2. Limited Project Type If the proposed activity is eligible to be treated as at CMR10.24(8), 310 CMR 10.53(4)), complete and at Project Checklist and Signed Certification. Property recorded at the Registry of Deeds for:		
	Norfolk		
	a. County Multiple - See Attached Supplemental Info.	b. Certificate # (if registered land)	
	c. Book	d. Page Number	
В.	Buffer Zone & Resource Area Impa	acts (temporary & permanent)	
1. 2.	 Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area. Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas). 		
	Check all that apply below. Attach narrative and any project will meet all performance standards for each		

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standards requiring consideration of alternative project design or location.



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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Resource Area Size of Proposed Alteration Proposed Replacement (if any) 125 а. 🖂 Bank 1. linear feet 2. linear feet b. 🖂 **Bordering Vegetated** 3,976 permanent, 1,020 temp. 1,020 temp alt. & 6,710 new Wetland 1. square feet 2. square feet 425 425 c. 🛛 Land Under 1. square feet 2. square feet Waterbodies and Waterways 3. cubic yards dredged Resource Area Size of Proposed Alteration Proposed Replacement (if any) d. 🛛 **Bordering Land** 100 1. square feet 2. square feet Subject to Flooding 3. cubic feet of flood storage lost 4. cubic feet replaced Isolated Land е. 1. square feet Subject to Flooding 2. cubic feet of flood storage lost 3. cubic feet replaced Unamed streams f. Riverfront Area 1. Name of Waterway (if available) - specify coastal or inland Width of Riverfront Area (check one): 25 ft. - Designated Densely Developed Areas only ☐ 100 ft. - New agricultural projects only 200 ft. - All other projects 678,574 3. Total area of Riverfront Area on the site of the proposed project: square feet 4. Proposed alteration of the Riverfront Area: 57,663 21.846 35.817 a. total square feet b. square feet within 100 ft. c. square feet between 100 ft. and 200 ft. 5. Has an alternatives analysis been done and is it attached to this NOI? ⊠ Yes □ No 6. Was the lot where the activity is proposed created prior to August 1, 1996? 3. Coastal Resource Areas: (See 310 CMR 10.25-10.35)

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Note: for coastal riverfront areas, please complete Section B.2.f. above.



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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:
Include your
document
transaction
number
(provided on your
receipt page)
with all
supplementary
information you
submit to the
Department.

4.

5.

Resource Area		Size of Proposed Alter	ation Proposed Replacement (if any)	
а. 🗌	Designated Port Areas	Indicate size under La	and Under the Ocean, below	
b. 🗌	Land Under the Ocean	square feet cubic yards dredged		
с. 🗌	Barrier Beach		astal Beaches and/or Coastal Dunes below	
d. 🗌	Coastal Beaches	1. square feet	2. cubic yards beach nourishment	
е. 🗌	Coastal Dunes	1. square feet	2. cubic yards dune nourishment	
		Size of Proposed Alter	ation Proposed Replacement (if any)	
f g	Coastal Banks Rocky Intertidal	linear feet square feet		
h.	Shores Salt Marshes Land Under Salt Ponds	square feet square feet square feet	2. sq ft restoration, rehab., creation	
j. 🔲	Land Containing Shellfish	cubic yards dredged square feet		
k. 🗌	Fish Runs	Indicate size under Co	astal Banks, inland Bank, Land Under the and Under Waterbodies and Waterways,	
If the p			wetland resource area in addition to the 3.3.h above, please enter the additional	
	amount here.			
a. square feet of BVW			are feet of Salt Marsh	
⊠ Pro	oject Involves Stream Cros	sings 3		
a. number of new stream crossings			nber of replacement stream crossings	

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Ma	assachusetts Wetlands Protection Act M.G.	.L. c. 131, §40	Millis City/Town
C.	. Other Applicable Standards and F	Requirements	}
	This is a proposal for an Ecological Restoration complete Appendix A: Ecological Restoration 10.11).		
Stı	reamlined Massachusetts Endangered Spec	cies Act/Wetlands	Protection Act Review
1.	Is any portion of the proposed project located in Ethe most recent Estimated Habitat Map of State-Li Natural Heritage and Endangered Species Progra Massachusetts Natural Heritage Atlas or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/v	sted Rare Wetland \ m (NHESP)? To vie	Wildlife published by the
	a. Yes No If yes, include proof of n	nailing or hand del	ivery of NOI to:
	Natural Heritage and E Division of Fisheries a 1 Rabbit Hill Road Westborough, MA 015	nd Wildlife	Program
	If yes, the project is also subject to Massachusetts CMR 10.18). To qualify for a streamlined, 30-day, complete Section C.1.c, and include requested macomplete Section C.1.f, if applicable. If MESA supby completing Section 1 of this form, the NHESP was to 90 days to review (unless noted exceptions).	MESA/Wetlands Protection of the Medical Methods with this Notical Information of the Medical M	otection Act review, please ice of Intent (NOI); OR on is not included with the NOI, te MESA filing which may take
	c. Submit Supplemental Information for Endangere	ed Species Review*	
	1. Percentage/acreage of property to be	altered:	
	(a) within wetland Resource Area	percentage/acreage	
	(b) outside Resource Area	percentage/acreage	
	2. Assessor's Map or right-of-way plan of	f site	
2.	☐ Project plans for entire project site, including wetlands jurisdiction, showing existing and propos tree/vegetation clearing line, and clearly demarcate	ed conditions, existi	
	(a) Project description (including description buffer zone)	on of impacts outsic	de of wetland resource area &

Photographs representative of the site

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^{*} Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

^{**} MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

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C. Other Applicable Standards and Requirements (cont'd)

	Make o	MESA filing fee (fee information availab www.mass.gov/dfwele/dfw/nhesp/regulate check payable to "Commonwealth of Mas address	ory_review/mesa/mesa_fe		
	Project	s altering 10 or more acres of land, also sub	mit:		
	(d)	Vegetation cover type map of site			
	(e)	Project plans showing Priority & Estima	ated Habitat boundaries		
	(f) OF	R Check One of the Following			
	1. 🗌	Project is exempt from MESA review. Attach applicant letter indicating which http://www.mass.gov/dfwele/dfw/nhesp the NOI must still be sent to NHESP if 310 CMR 10.37 and 10.59.)	/regulatory review/mesa/	mesa exemptions.htm;	
	2. 🗌	Separate MESA review ongoing.	a. NHESP Tracking #	b. Date submitted to NHESP	
	3.	Separate MESA review completed. Include copy of NHESP "no Take" dete Permit with approved plan.	rmination or valid Conser	vation & Management	
3.	For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?				
	a. Not applicable – project is in inland resource area only b. Yes No				
	If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:				
	South Shore - Cohasset to Rhode Island border, and the Cape & Islands:				
	Division of Marine Fisheries - Southeast Marine Fisheries Station Attn: Environmental Reviewer 1213 Purchase Street – 3rd Floor New Bedford, MA 02740-6694 Email: Division of Marine Fisheries - North Shore Office Attn: Environmental Reviewer 30 Emerson Avenue Gloucester, MA 01930 Email: DMF.EnvReview-North@state.ma.us				

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.

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C. Other Applicable Standards and Requirements (cont'd)

	4.	Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?
Online Users: Include your document		a. \square Yes \boxtimes No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). Note: electronic filers click on Website.
transaction number		b. ACEC
(provided on your receipt page) with all	5.	Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
supplementary information you		a. 🗌 Yes 🖾 No
submit to the Department.	6.	Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?
		a. 🛛 Yes 🗌 No
	7.	Is this project subject to provisions of the MassDEP Stormwater Management Standards?
		 a. Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if: 1. Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)
		2. A portion of the site constitutes redevelopment
		3. Proprietary BMPs are included in the Stormwater Management System.
		b. No. Check why the project is exempt:
		1. Single-family house
		2. Emergency road repair
		3. Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.
	D.	Additional Information
		This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).
		Applicants must include the following with this Notice of Intent (NOI). See instructions for details.
		Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.
		1. Substituting Sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)

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to the boundaries of each affected resource area.

Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative

2.



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D.

D.	Add	itional Information (cont'd)		
	3. 🛚	Identify the method for BVW and other resormed Data Form(s), Determination of Applicand attach documentation of the metho	cability, Order of Resource	
	4.	List the titles and dates for all plans and others	ner materials submitted with	n this NOI.
		erson Place lan Title		
			Daniel J. Merrikin P.E.	
	h P	gacy Engineering LLC repared By	c. Signed and Stamped by	
		oruary 12, 2020	1" = 40'	
		inal Revision Date	e. Scale	
		rmwater Report for Emerson Place	o. Coalo	February 12, 2020
		dditional Plan or Document Title		g. Date
	5. 🗵	If there is more than one property owner, placed on this form.	ease attach a list of these p	· ·
	6.	Attach proof of mailing for Natural Heritage	and Endangered Species I	Program, if needed.
	7.	Attach proof of mailing for Massachusetts D	Division of Marine Fisheries	, if needed.
	8. 🔀	Attach NOI Wetland Fee Transmittal Form		
	9. 🛛	Attach Stormwater Report, if needed.		
E.	Fees			
	1.	Fee Exempt: No filing fee shall be assessed of the Commonwealth, federally recognized authority, or the Massachusetts Bay Transp	I Indian tribe housing autho	
		nts must submit the following information (in	addition to pages 1 and 2	of the NOI Wetland

1247 2/7/2020 2. Municipal Check Number 3. Check date 2332 2/17/2020 4. State Check Number 5. Check date TD Development LLC Acorn Millis Residential LLC 7. Payor name on check: Last Name 6. Payor name on check: First Name

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CERSON PLACE DEFINITIES SUBDIVISION

PREPARED BY:

LEGACY ENGINEERING LLC 730 MAIN STREET, SUITE 2C MILLIS, MA 02054

PLAN

FEBRUARY 12, 2020 Latest Revision: September 28, 2020 PREPARED FOR:

TD DEVELOPMENT LLC 38 BENJAMIN'S GATE PLYMOUTH MA, 02360

ZONING DISTRICTS RESIDENTIAL R-S SPECIAL FLOOD HAZARD (SFH) DISTRICT WATERSHED PROTECTION (WP) DISTRICT ASSESSORS PARCELS & OWNERS GJ&K LLC 107 GREAT PLAIN AVENUE WELLESLEY, MA 02481 Merrikin, P.E. Date: 2020.09.30 11:48:59 20-25 RIDGE STREET TRUST 21 PRENTISS PLACE MEDFIELD, MA 02052 20-26, 20-28 PETER HARCOVITZ 256 ORCHARD STREET MILLIS, MA 02054

A PORTION OF 23-04 JOSEPH FAWKES & AMY FURNIA 18A RIDGE STREET MILLIS, MA 02054

20-27 & A PORTION OF 20-53

TD DEVELOPMENT LLC 38 BENJAMIN'S GATE PLYMOUTH MA, 02360

APPLICANT TD DEVELOPMENT LLC 38 BENJAMIN'S GATE PLYMOUTH, MA 02360

I CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

I CERTIFY THAT THIS SURVEY AND PLAN CONFORMS TO THE ETHICAL, PROCEDURAL AND TECHNICAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS.

I CERTIFY THAT THE SURVEYS RELATED TO THIS PLAN CONFORM TO THE TECHNICAL STANDARDS FOR PROPERTY SURVEYS OF THE AMERICAN CONGRESS ON SURVEYING AND

PROFESSIONAL LAND SURVEYOR

■ INDICATES BOUND TO BE SET

THE LAND.

APPROVED BY VOTE ON JUNE 9, 2020 WITH A DECISION FILED WITH THE TOWN CLERK ON JUNE 17, 2020, SUBJECT TO COVENANT CONDITIONS SET FORTH IN A COVENANT EXECUTED BY TD DEVELOPMENT, LLC ET. AL., , AND RECORDED IN THE NORFOLK COUNTY REGISTRY OF DEEDS SIMULTANEOUSLY HEREWITH. THE REQUIREMENTS OF THE COVENANT RUN WITH

I CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE THE PLANNING BOARD APPROVAL AND NO APPEAL HAS BEEN FILED IN THIS OFFICE.

TOWN CLERK	DATE
DATE APPROVED:	
DATE ENDORSED:	

TOWN OF MILLIS PLANNING BOARD

730 MAIN STREET SUITE 2C **MILLIS, MA 02054** 508-376-8883(o) C-1



ROLLING MEADOWS DRIVE OPEN SPACE LOT #2 LOT #41 SPACE #7 #6 LOT #37 OPEN #12 SPACE LOT #36 #14 LOT LOT #35 #16 #17 LOT #34 #22 LOT LOT LOT #33 #20 #19 #18

LOT #32

LOT #31

LOT #30

#24

LOT

SPACE

#27

#28

#29

WAIVERS GRANTED:

1. TO REQUIRE A SIDEWALK ON ONLY ONE SIDE OF EACH PROPOSED ROADWAY (5.1.2, FIGURE 1-A, 5.4.2).

TO NOT REQUIRE FIRE ALARMS OR POLICE CALL

TO ALLOW LESS THAN 7.0 FEET OF COVER OVER A

SEWER LINE (5.12.1.b, FIGURE 1-A). TO ALLOW STORMWATER BASINS TO HAVE FLAT BOTTOMS AND NO LOW FLOW CHANNEL TO ENCOURAGE MAXIMUM INFILTRATION IN ACCORDANCE WITH STANDARD MASSDEP DESIGN

PRACTICES (5.12.2.2.c.5(c)). TO ALLOW STREET LIGHTS TO BE LOCATED AT INTERSECTIONS ONLY AS SHOWN, WITH EACH LOT REQUIRED TO PROVIDE A LIGHT POST WITHIN 10 FEET OF THE EDGE OF RIGHT-OF-WAY AND

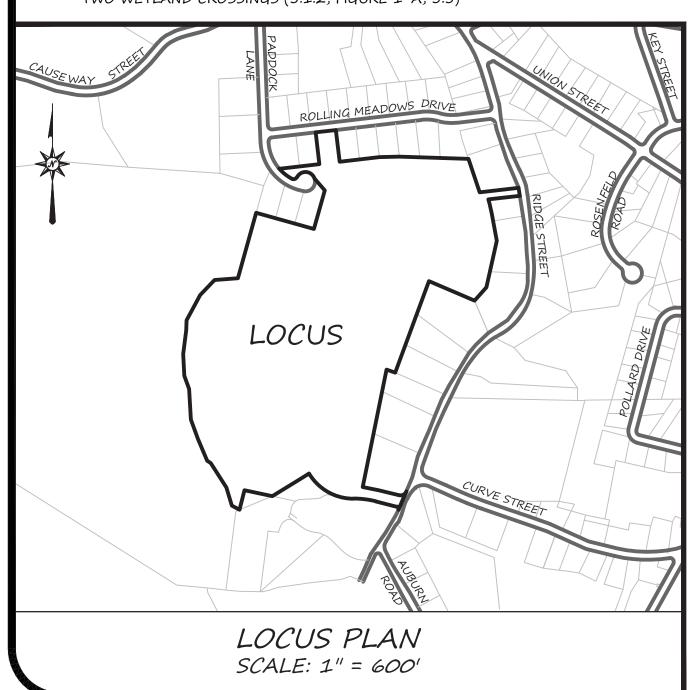
DRIVEWAY (5.10). TO ALLOW STORMWATER BASINS TO BE LOCATED ON MULTIPLE LOTS (5.12.2.2.c.2).

TO ALLOW STORMWATER PIPE TO BE HDPE INSTEAD OF CONCRETE OUTSIDE OF THE ROAD RIGHT OF WAY

TO ALLOW COVER OVER DRAIN PIPES TO BE LESS THAN 4.5' (5.12.2.2.D.1).

TO NOT REQUIRE CHANGES IN PIPE SIZE ACROSS DRAIN MANHOLES TO BE MATCHED IN ELEVATION AT THE CROWN OF THE PIPES.

10. TO REDUCE THE WIDTH OF GRASS STRIPS AT THE TWO WETLAND CROSSINGS (5.1.2, FIGURE 1-A, 5.5)



GENERAL NOTES

- DATUM: NGVD88
- PROPERTY LINE SURVEYED BY COLONIAL ENGINEERING, INC.
- EXISTING UTILITY INFORMATION BASED ON BEST AVAILABLE RECORDS AND VISIBLE SURFACE FEATURES SUCH AS MANHOLES, CATCH BASINS, UTILITY POLES, HYDRANTS, VALVE BOXES, ETC... EXISTING UTILITY INFORMATION DEPICTED ON THESE PLANS ARE NOT WARRANTED TO BE CORRECT AND THE CONTRACTOR SHALL

BE RESPONSIBLE FOR FIELD VERIFYING ALL LOCATIONS PRIOR TO COMMENCEMENT

- OF WORK. FEATURES OUTSIDE OF THE PROPERTY SUCH AS ADJACENT STRUCTURES ARE
- APPROXIMATE ONLY AND BASED ON AVAILABLE AERIAL PHOTOGRAPHY. PLAN REFERENCES:

PLAN YEAR 1957 NO. 339 PLAN YEAR 1989 NO. 363 PLAN BOOK 205 NO. 457 AND 458 PLAN BOOK 433 NO. 533 PLAN BOOK 677 NO. 42

6. DEED REFERENCES:

LAND COURT PLAN 15728M BOOK 5974 PAGE 244 (PARCELS 20-26&28) BOOK 15729 PAGE 230 (PARCEL 20-25) BOOK 24970 PAGE 572 (PORTION OF PARCEL 23-04) BOOK 37590 PAGE 91 (PARCEL 20-53) BOOK 37244 PAGE 254 (PARCEL 20-27) BOOK 37590 PAGE 91 (PORTION OF PARCEL 20-53) LAND COURT DOC. NO. 657487 (PARCEL 20-25) (CERTIFICATE NO, 139613) LAND COURT DOC. NO. 1362565 (PARCEL 15-66)

(CERTIFICATE NO, 194152)

CONSERVATION NOTES:

WETLANDS BOUNDARIES WERE DELINEATED BY GODDARD CONSULTING UNDER AN ORAD (SEE ANRAD NOTES) OPEN SPACE WILL BE LEFT IN A NATURALLY VEGETATED STATE UNLESS OTHERWISE APPROVED BY THE PLANNING BOARD AND IF WITHIN THE JURISDICTION OF THE CONSERVATION COMMISSION, FROM THE COMMISSION ALSO. THE HOMEOWNERS ASSOCIATION MAY CREATE WALKING/RIDING PATHS THROUGH THE AREA.

ORAD NOTES

- THE FOLLOWING RESOURCE AREAS WERE DELINEATED UNDER THE ORAD ON PORTIONS OF THE SITE:
- BORDERING VEGETATED WETLANDS REGULATED UNDER THE MILLIS BYLAW AND THE WETLANDS PROTECTION ACT. BORDERING VEGETATED WETLAND REGULATED UNDER THE MILLIS BYLAW ONLY, AND NOT THE WETLANDS PROTECTION
- 2. A SERIES OF "POTENTIAL VERNAL POOLS" HAVE BEEN DELINEATED ON THE SITE.
- MASSACHUSETTS DEP ONLY RECOGNIZES VERNAL POOLS THAT HAVE BEEN CERTIFIED BY THE MASSACHUSETTS
- THE TOWN OF MILLIS DOES NOT REQUIRE THAT VERNAL POOLS BE CERTIFIED BY THE MASSACHUSETTS DIVISION OF EXHIBIT VERNAL POOL PROPERTIES ARE LABELED AS "VERNAL POOLS" ON THE PLANS UNDER THE MILLIS BYLAW ONLY.
- GREAT BLACK SWAMP. ALTHOUGH A ZONE A, A FLOOD ELEVATION OF 142.9 IS CONSERVATIVELY ASSUMED.
- 100' BUFFER ZONE.

- DETAILS HAVE BEEN PROVIDED ON THE LAST SHEETS OF THIS PLAN SET. MOST OF THE DETAILS INCLUDED THEREIN ARE INTENDED TO MATCH THE REQUIREMENTS OF THE TOWN OF MILLIS LAND "SUBDIVISION RULES" AND REGULATIONS FOR ROADWAY AND UTILITY CONSTRUCTION. WHERE THE STANDARD DETAILS INCLUDED HEREIN DIFFER FROM THE SUBDIVISION RULES, THE SUBDIVISION RULES SHALL BE ADHERED TO UNLESS OTHERWISE AGREED BY THE MILLIS PLANNING BOARD.
- CURBS SHALL BE TYPE SB SLOPED GRANITE EDGING PER MASSDOT M.9.04.2, EXCEPT AS OTHERWISE NOTED.
- GRANITE THROAT STONES SHALL BE INSTALLED WITH ALL CATCH BASINS AGAINST A ROADWAY GUTTER/CURB LINE.
- BY THE PLANNING BOARD AGENT. TREES SHALL BE AT LEAST 12' IN HEIGHT AT THE TIME OF PLANTING AND SHALL BE OF A
- SPECIES APPROVED BY THE PLANNING BOARD AGENT. 12. PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS FOR THE FOLLOWING:
- EXCAVATED AREAS TO THE SATISFACTION OF THE BOARD OF HEALTH.
- 15. NO TREE STUMPS OR BOULDERS IN EXCESS OF 20 CUBIC FEET IN VOLUME ARE TO BE BURIED ON SITE.

- 1. ALL PIPELINE LINEAR FOOTAGES REFERENCED IN THESE PLANS ARE HORIZONTAL DISTANCES AND DO NOT REFLECT THE
- THE DEVELOPER SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL UNDERGROUND FIRE ALARM, GAS, ELECTRICAL, TELEPHONE, AND CABLE DISTRIBUTION SYSTEMS WITHIN THE ROADWAY RIGHT-OF-WAY. DESIGN SHALL INCLUDE THE APPROPRIATE CONDUIT RUNS AND JUNCTION BOX LOCATIONS. JUNCTION BOXES HAVE BEEN APPROXIMATELY SHOWN ON THE LOT CORNERS
- UNLESS OTHERWISE SPECIFIED, DRAIN PIPING SHALL BE CLASS III RCP. DRAIN PIPING LOCATED ENTIRELY OUTSIDE OF THE STREET RIGHT-OF-WAY MAY BE HDPE. DRAIN PIPING IN THE STREET WITH LESS THAN 3' COVER SHALL BE CLASS IV RCP.
- ALL SEWER SYSTEMS SHALL BE FURNISHED, INSTALLED AND TESTED IN ACCORDANCE WITH THE JULY 2007 TOWN OF MILLIS
- 10. ALL WATER SYSTEMS SHALL BE FURNISHED, INSTALLED AND TESTED IN ACCORDANCE WITH THE JULY 2007 TOWN OF MILLIS WATER MAIN CONSTRUCTION GUIDELINES.
- 11. EACH LOT SHALL PROVIDE A LAMP POST WITHIN 10 FEET OF THE EDGE OF THE ROADWAY RIGHT-OF-WAY AND THE EDGE OF
- APPROVED EQUAL. THESE ARE INTENDED TO BE CONSISTENT WITH LIGHT POLES IN DOWNTOWN MILLIS.

C-2: INDEX, NOTES, LEGEND, KEY

C-3: EXISTING CONDITIONS

C-5: LAYOUT PLAN 1 OF 6 C-6: LAYOUT PLAN 2 OF 6 C-7: LAYOUT PLAN 3 OF 6

C-12: EROSION CONTROL/PHASING PLAN 2 OF 6 C-13: EROSION CONTROL/PHASING PLAN 3 OF 6 C-14: EROSION CONTROL/PHASING PLAN 4 OF 6

C-18: GRADING PLAN 2 OF 6 C-19: GRADING PLAN 3 OF 6 C-20: GRADING PLAN 4 OF 6 C-21: GRADING PLAN 5 OF 6

C-30: DETAIL PLAN 1 OF 7 C-31: DETAIL PLAN 2 OF 7 C-32: DETAIL PLAN 3 OF 7 C-33: DETAIL PLAN 4 OF 7

C-35: DETAIL PLAN 6 OF 7

ACT (FLAGS 1-100 THROUGH 1-111). MAHW TO SOME OF THE VERNAL POOLS REGULATED UNDER THE MILLIS BYLAW AND THE WETLANDS PROTECTION ACT.

DIVISION OF FISHERIES AND WILDLIFE. THE VERNAL POOLS ON THIS SITE HAVE NOT BEEN SO CERTIFIED. FISHERIES AND WILDLIFE SO LONG AS THEY EXHIBIT VERNAL POOL PROPERTIES. AS SUCH, THE VERNAL POOLS THAT

THE SITE CONTAINS BORDERING LAND SUBJECT TO FLOODING BASED ON A FEMA ZONE A APPURTENANT TO THE ADJACENT

UNDER THE MILLIS WETLAND REGULATIONS, THE "ADJACENT UPLAND RESOURCE AREA" (AURA) IS COINCIDENTAL WITH THE

CONSTRUCTION NOTES:

- THE DEVELOPER SHALL OBTAIN A STREET OPENING PERMIT FROM THE TOWN OF MILLIS, IF REQUIRED, PRIOR TO THE CONSTRUCTION OF THE STREET OPENINGS ON RIDGE STREET AND ROLLING MEADOWS DRIVE.
- ROUNDED CURVE AND ALONG THE STREAM CROSSING RETAINING WALLS WHERE SHOWN.
- DESIGN SHALL BE BY A REGISTERED STRUCTURAL ENGINEER AND SHALL BE STAMPED ACCORDINGLY.
- 13. A REPRESENTATIVE OF THE TOWN IS TO OBSERVE THE SUBSOIL CONDITIONS PRIOR TO THE INSTALLATION OF ANY INFILTRATION BASIN.
- 16. ALL AREAS DISTURBED BY EXCAVATION ACTIVITIES ARE TO BE SURFACED WITH A MINIMUM OF 4 INCHES OF TOPSOIL AND SEEDED.

UTILITY NOTES:

- SLOPED DISTANCE OF THE PIPELINE.
- BUT SUCH LOCATIONS MAY BE CHANGED BY THE ELECTRIC COMPANY AT THE TIME OF CONSTRUCTION.
- BE LEAD FREE.
- GRAVITY SEWER MAINS AND SERVICES SHALL BE SDR35 PVC PIPE. 8. LOW-PRESSURE SEWER MAINS SHALL BE CLASS 200-SDR21 PVC PIPE.
- SEWER CONSTRUCTION GUIDELINES.
- ITS DRIVEWAY.

- C-4: LAYOUT OVERVIEW C-8: LAYOUT PLAN 4 OF 6
- C-9: LAYOUT PLAN 5 OF 6 C-10: LAYOUT PLAN 6 OF 6

C-15: EROSION CONTROL/PHASING PLAN 5 OF 6 C-16: EROSION CONTROL/PHASING PLAN 6 OF 6

C-17: GRADING PLAN 1 OF 6

C-22: GRADING PLAN 6 OF 6

C-26: APRIL WAY PROFILE PLAN C-27: JUNE WAY PROFILE PLAN C-28: DRAIN PROFILE PLAN 1 OF 2 C-29: DRAIN PROFILE PLAN 2 OF 2

C-34: DETAIL PLAN 5 OF 7

THESE VERNAL POOLS INCLUDE PVP 2, PVP 3, PVP Z AND PVP 500.

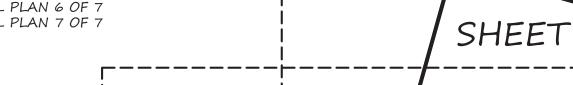
THE CONTRACTOR SHALL CONTACT DIGSAFE AT 811 PRIOR TO ANY EXCAVATION ACTIVITIES.

UNLESS OTHERWISE WAIVED, ALL CONSTRUCTION SHALL CONFORM TO THE SUBDIVISION REGULATIONS.

TYPE VB GRANITE CURB PER MASSDOT M.9.04.1 SHALL BE INSTALLED AT ALL INTERSECTIONS FOR THE FULL LENGTH OF THE

- WATER MAINS SHALL BE CLASS 52 CEMENT LINED DUCTILE IRON PIPE. ALL BRASS GOODS FOR POTABLE WATER SYSTEMS TO

- C-11: EROSION CONTROL/PHASING PLAN 1 OF 6



LOT

LOT

LOT LOT

15

LOT

20

LOT

27

LOT

LOT

LOT

28

LOT

LOT

17

LOT

29

LOT

37

LOT 36

LOT 35

LOT 34

LOT 33

LOT 32

LOT 31

OPEN SPACE

PARCEL A1

ROLLING MEADOWS DRIVE

SHEET 2 OPEN SPACE PARCEL A2 LOT 1

____+__

THE DEVELOPER SHALL BE RESPONSIBLE FOR PROVIDING THE REQUIRED STREET NAME AND STOP SIGNS.

SLOPED GRANITE EDGING. 10. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE DESIGN OF ANY STRUCTURAL RETAINING WALLS AND/OR HEADWALLS.

11. SHADE TREES SHALL BE PROVIDED WHERE SHOWN ON THE PLAN PER 5.5.3 OF THE SUBDIVISION REGULATIONS AS APPROVED

14. TRENCHES ARE NOT TO BE LEFT OPEN OVERNIGHT. ADEQUATE FENCING AND SIGNAGE ARE TO BE PROVIDED AROUND

2. THE PRE-CONSTRUCTION CONDITION OF RIDGE STREET AND ROLLING MEADOW DRIVE SHALL BE VIDEO TAPED PRIOR TO ANY CONSTRUCTION ACTIVITIES. COPIES OF THE VIDEO SHALL BE PROVIDED TO LEGACY ENGINEERING LLC AND THE MILLIS DPW PRIOR TO ANY CONSTRUCTION ACTIVITIES.

FIRE ALARM AND/OR POLICE BOXES ARE NOT TO BE PROVIDED. REFER TO THE SUBDIVISION DECISION.

12. STREET LIGHTS SHALL BE PHILIPS LUMEC L80-SE-SF80 (100 WATT MH) ON A 12' DECORATIVE POLE, OR MILLIS DPW

SHEET LEGEND

C-1: COVER SHEET

C-23: MAY ROAD PROFILE PLAN 1 OF 3 C-24: MAY ROAD PROFILE PLAN 2 OF 3 C-25: MAY ROAD PROFILE PLAN 3 OF 3

C-36: DETAIL PLAN 7 OF 7

LOT

11

12

LOT

23

24

22

LOT

LOT

26

GRANITE TRANSITION STONES SHALL BE PROVIDED BETWEEN ALL VERTICAL GRANITE (INCLUDING THROAT STONES) AND

SHEET BORDER

OPEN SPACE

PARCEL B1

REGISTERED LAND

OPEN SPACE

PARCEL B2

LOT 43

SHEET 5

MAY ROAD

| LOT 41

LOT

SHEET 6

ZONING DISTRICTS RESIDENTIAL R-S SPECIAL FLOOD HAZARD (SFH) DISTRICT ZONE C

WATERSHED PROTECTION (WP) DISTRICT

ASSESSORS PARCELS & OWNERS GJ&K LLC 107 GREAT PLAIN AVENUE

WELLESLEY, MA 02481 20-25 RIDGE STREET TRUST 21 PRENTISS PLACE

MEDFIELD, MA 02052

20-26, 20-28 PETER HARCOVITZ 256 ORCHARD STREET MILLIS, MA 02054

TD DEVELOPMENT LLC

38 BENJAMIN'S GATE

PLYMOUTH MA, 02360 A PORTION OF 23-04 JOSEPH FAWKES & AMY FURNIA 18A RIDGE STREET

20-27 & A PORTION OF 20-53

APPLICANT TD DEVELOPMENT LLC 38 BENJAMIN'S GATE

PLYMOUTH, MA 02360

MILLIS, MA 02054

I CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

I CERTIFY THAT THIS SURVEY AND PLAN

AND TECHNICAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS. I CERTIFY THAT THE SURVEYS RELATED TO THIS PLAN CONFORM TO THE TECHNICAL STANDARDS FOR PROPERTY SURVEYS OF THE AMERICAN CONGRESS ON SURVEYING AND

PROFESSIONAL LAND SURVEYOR

MAPPING

APPROVED BY VOTE ON JUNE 9, 2020 WITH A DECISION FILED WITH THE TOWN CLERK ON JUNE 17, 2020, SUBJECT TO COVENANT CONDITIONS SET FORTH IN A COVENANT EXECUTED BY TD DEVELOPMENT, LLC ET. AL., , AND RECORDED IN THE NORFOLK COUNTY REGISTRY OF DEEDS

I CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE THE PLANNING BOARD APPROVAL AND NO APPEAL HAS BEEN FILED IN THIS OFFICE.

— E — ELECTRIC CONDUIT ☆ L.P.: LIGHT POLE Ø U.P.: UTILITY POLE —<u>252</u> — EXISTING CONTOUR PROPOSED CONTOUR EDGE OF PAVEMENT INTEGRAL SLOPED BIT, BERM VERTICAL BITUMINOUS BERM

 G.Y.: GUY WIRE S.P.: TRAFFIC SIGNAL POLE C.C.B.SLOPED GRANITE CURB VERTICAL GRANITE CURB V.C.C. VERTICAL CONCRETE CURB E.C.S. EDGE CONCRETE SLAB GATE VALVE C.L.F. CHAIN LINK FENCE

> WOOD STOCKADE FENCE PVC PICKET FENCE

HANDICAP CURB CUT

GUARD RAIL

LEGEND &

ABBREVIATIONS

CB: SINGLE-GRATE CATCH BASIN

DMH: DRAIN MANHOLE

INFIL. TR.: INFILTRATION TRENCH

——X" D —— DRAIN PIPELINE

PVC: POLYVINYL CHLORIDE PIPE

RCP: REINFORCED CONCRETE PIPE

—X" S — SEWER PIPELINE

oC.O.: SEWER SERVICE CLEANOUT

• C.S.: WATER SERVICE CURB STOP

——X" W — WATER MAIN

X G.V.: WATER GATE VALVE

TR. DR.: TRENCH DRAIN

OSMH: SEWER MANHOLE

X HYD: HYDRANT

W.S.F

G.R.

CB: DOUBLE-GRATE CATCH BASIN

)PTU xxx: PROPRIETARY STORMWATER UNIT

o M.B.: WATER SERVICE METER BOX --- G --- GAS PIPELINE

730 MAIN STREET **MILLIS, MA 02054** 508-376-8883(o)

Digitally signed by Daniel . Merrikin, P.E. Date: 2020.09.30 11:57:43

DANIEL J.

CONFORMS TO THE ETHICAL, PROCEDURAL

■ INDICATES BOUND TO BE SET

SIMULTANEOUSLY HEREWITH. THE REQUIREMENTS OF THE COVENANT RUN WITH THE LAND.

WN CLERK	DATE
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TE ENDORSED:	

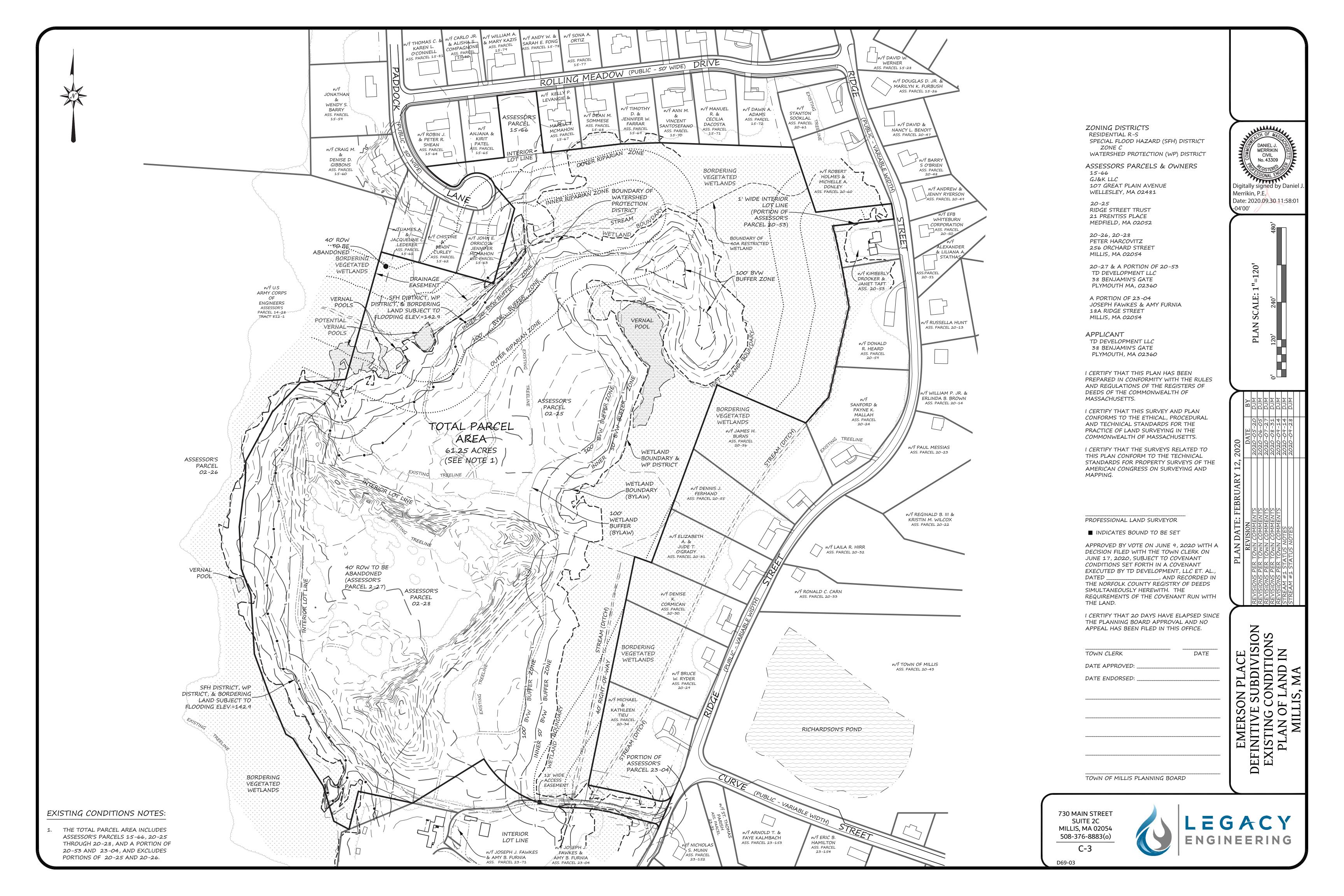
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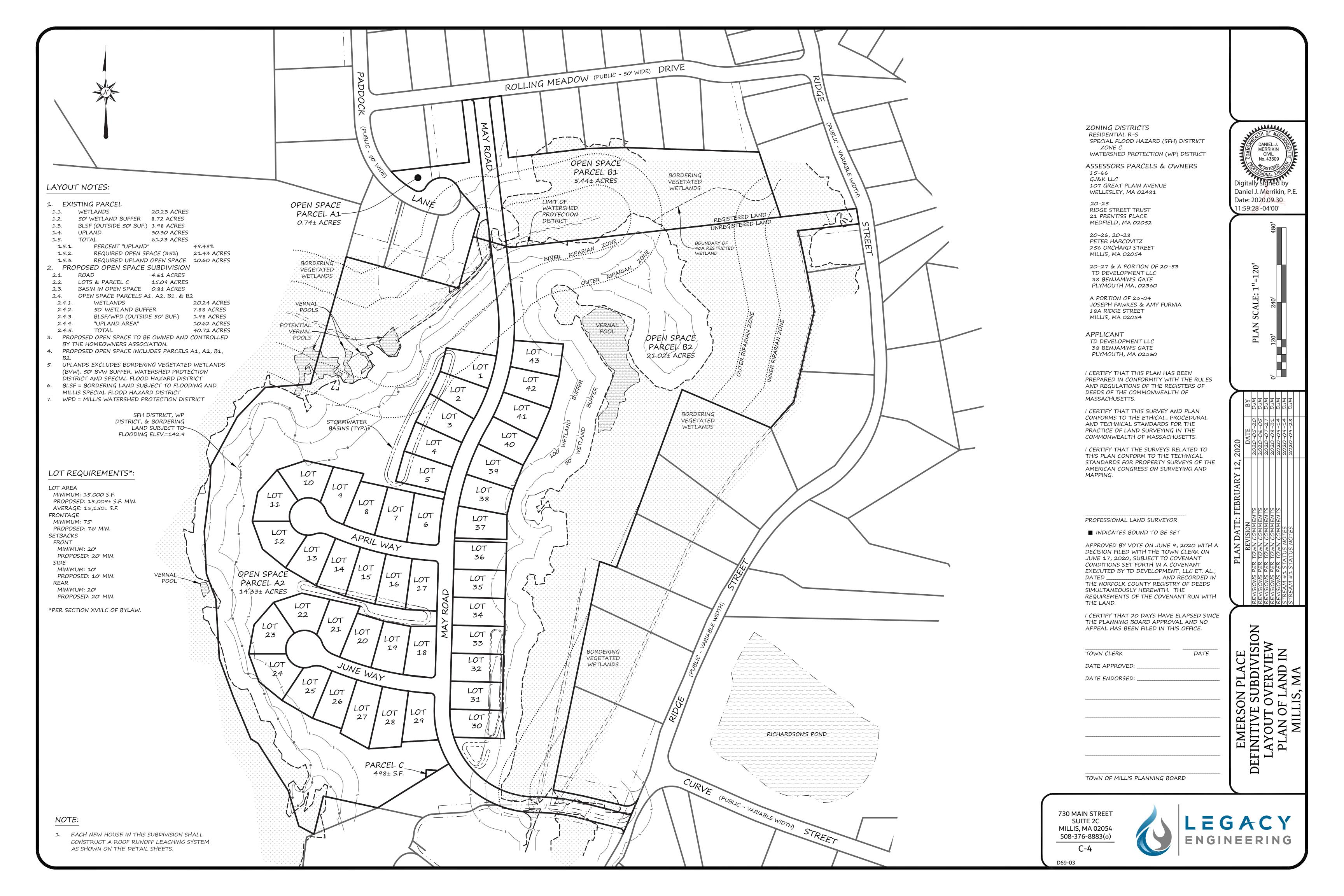
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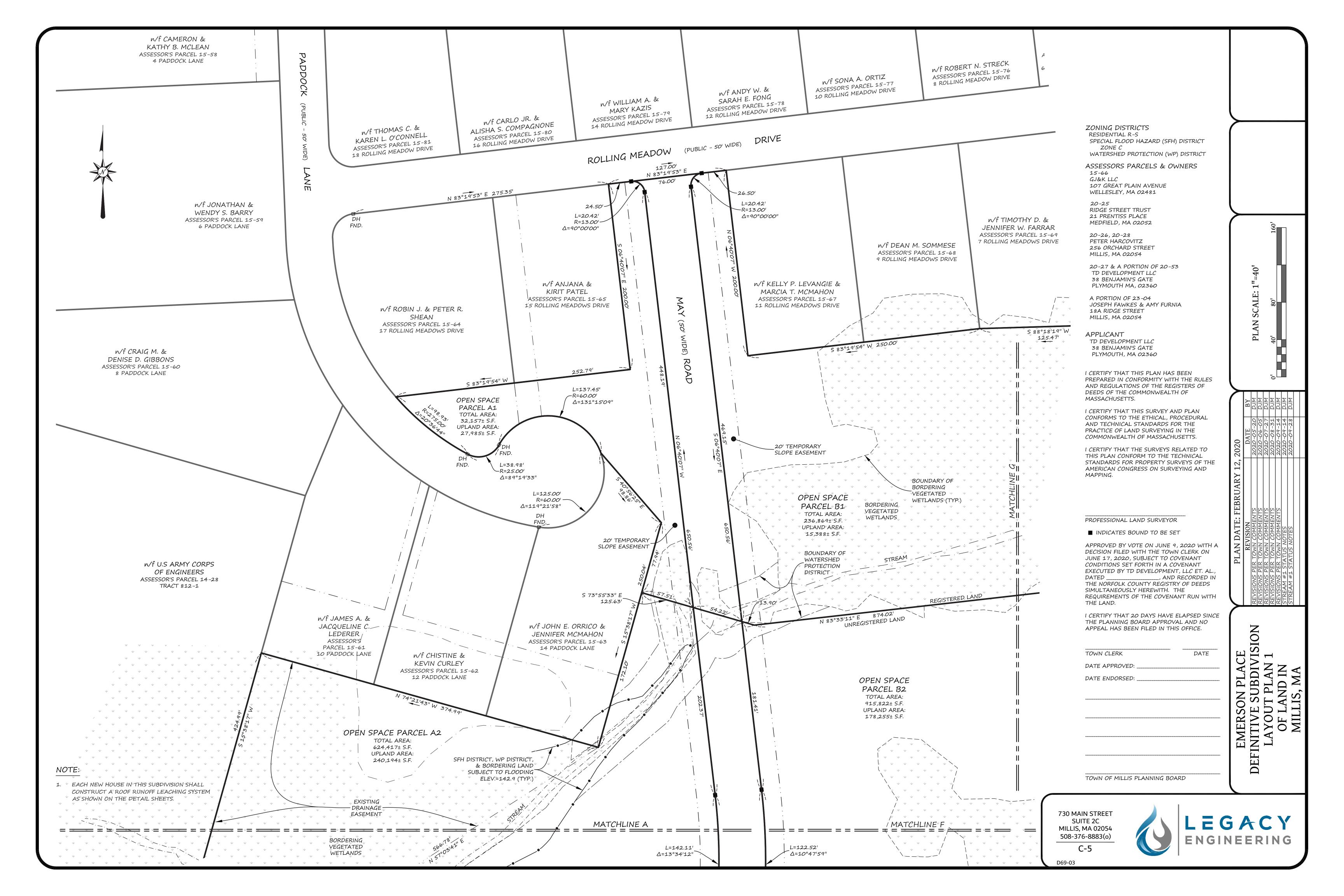
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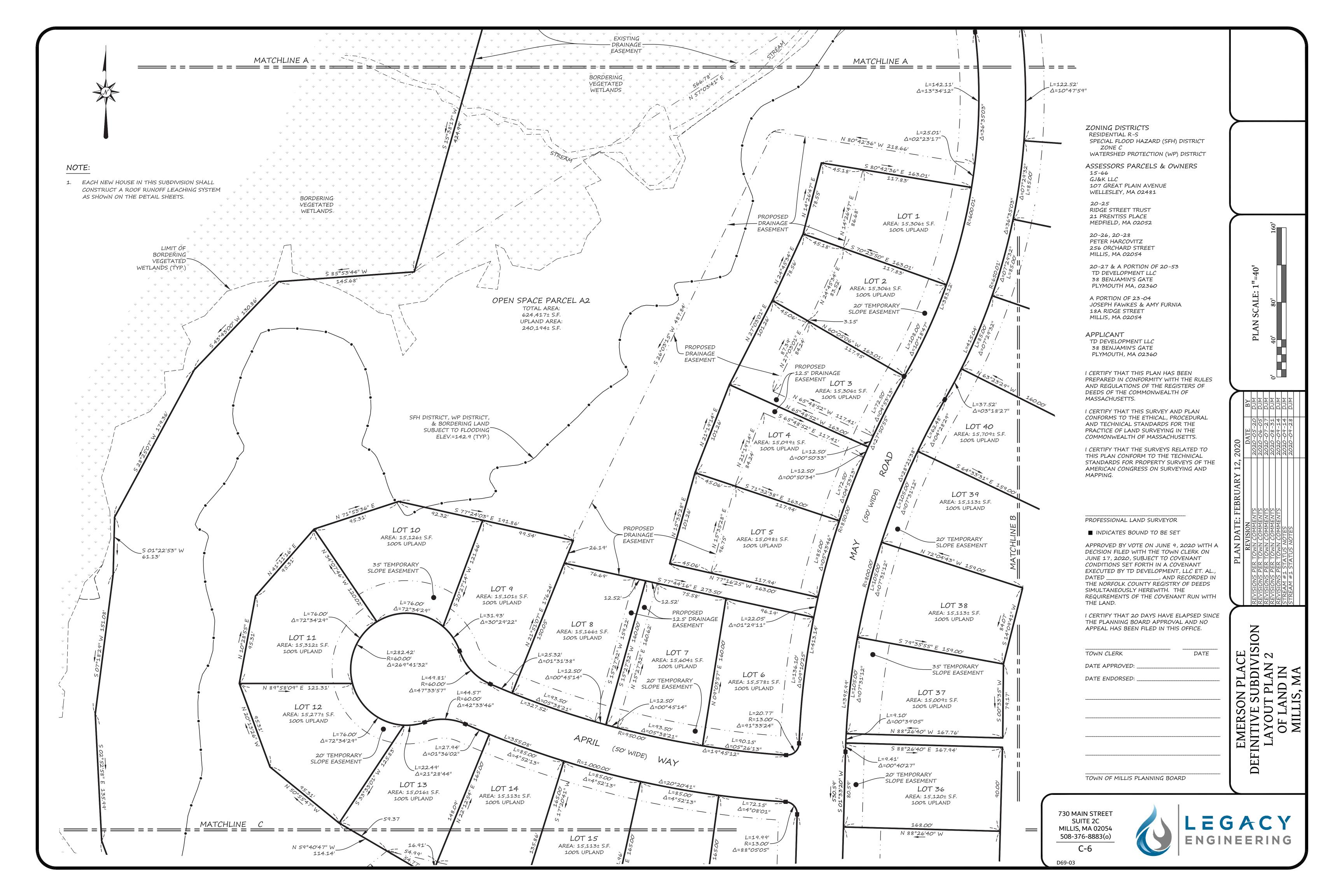
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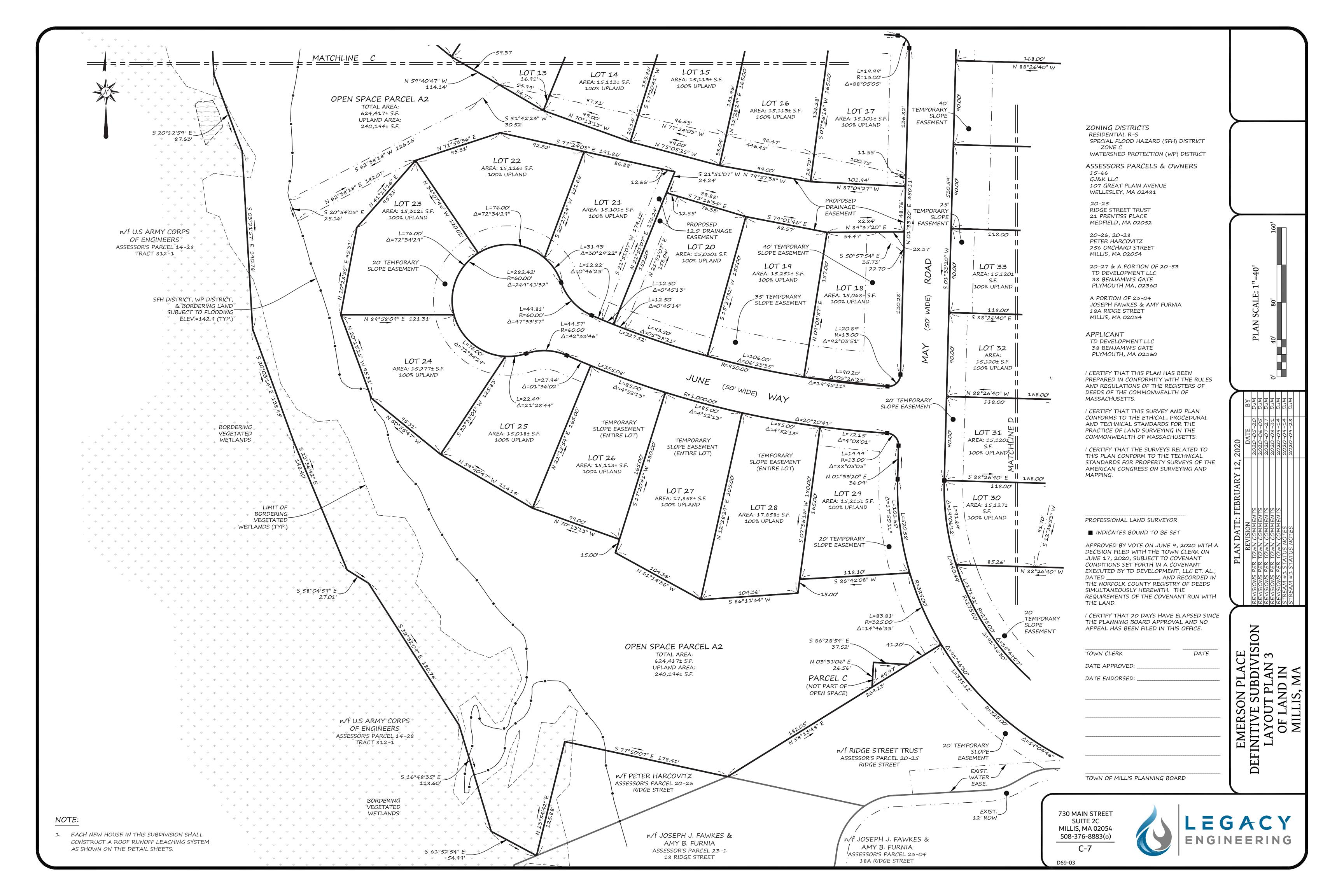
EMERSON PLACE
DEFINITIVE SUBDIVISION
IDEX, NOTES, LEGEND, KEY
PLAN OF LAND IN DEFINDE

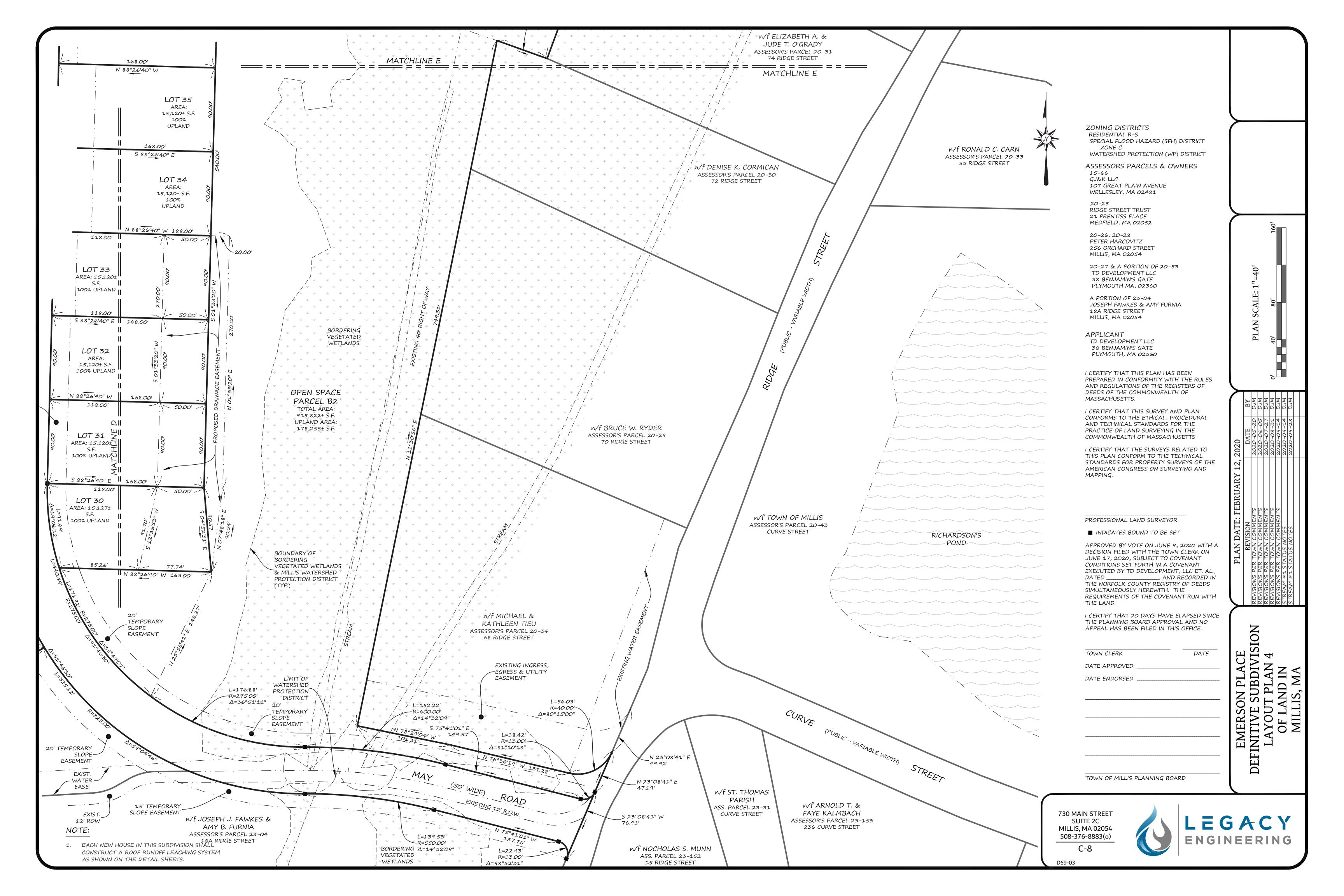


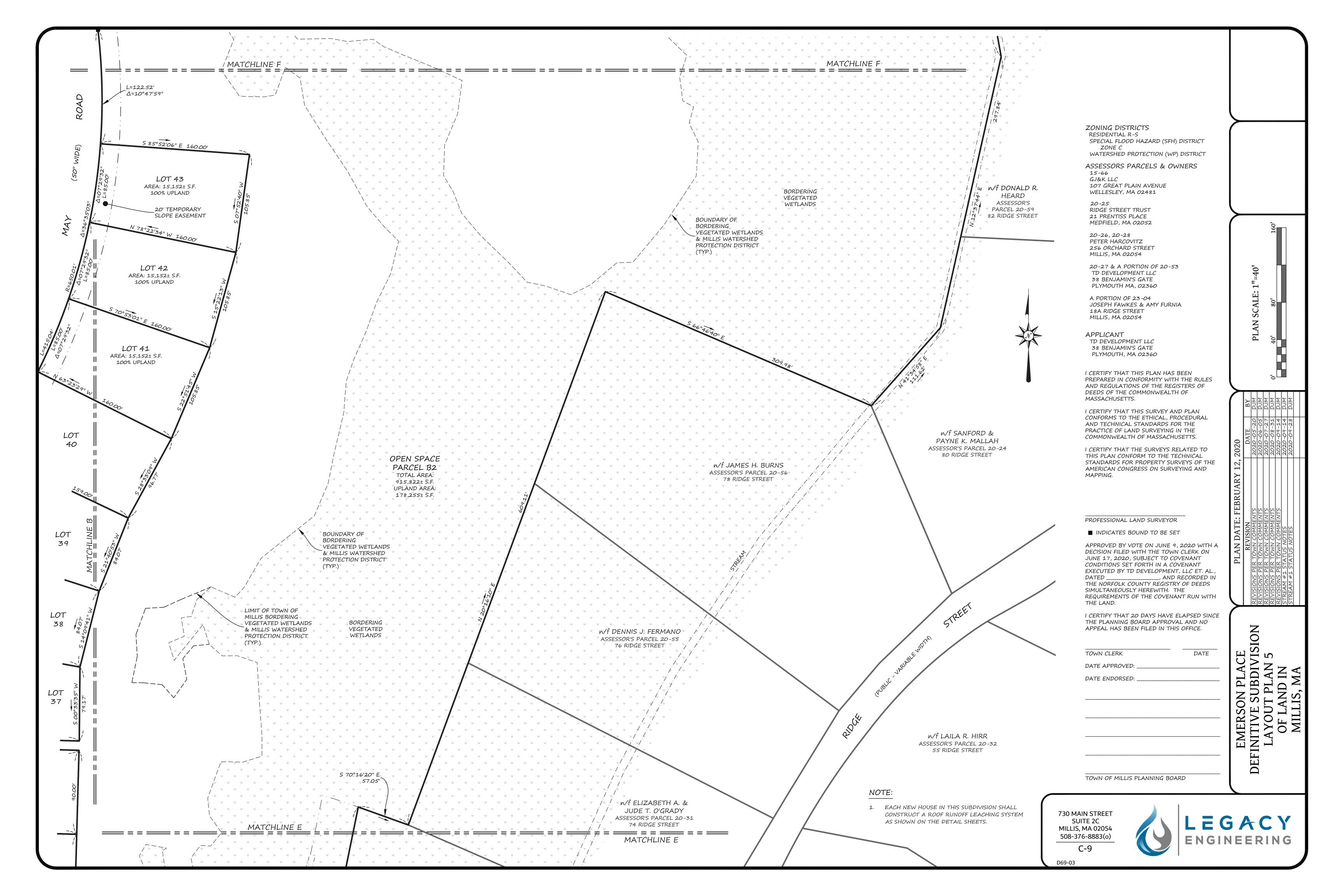


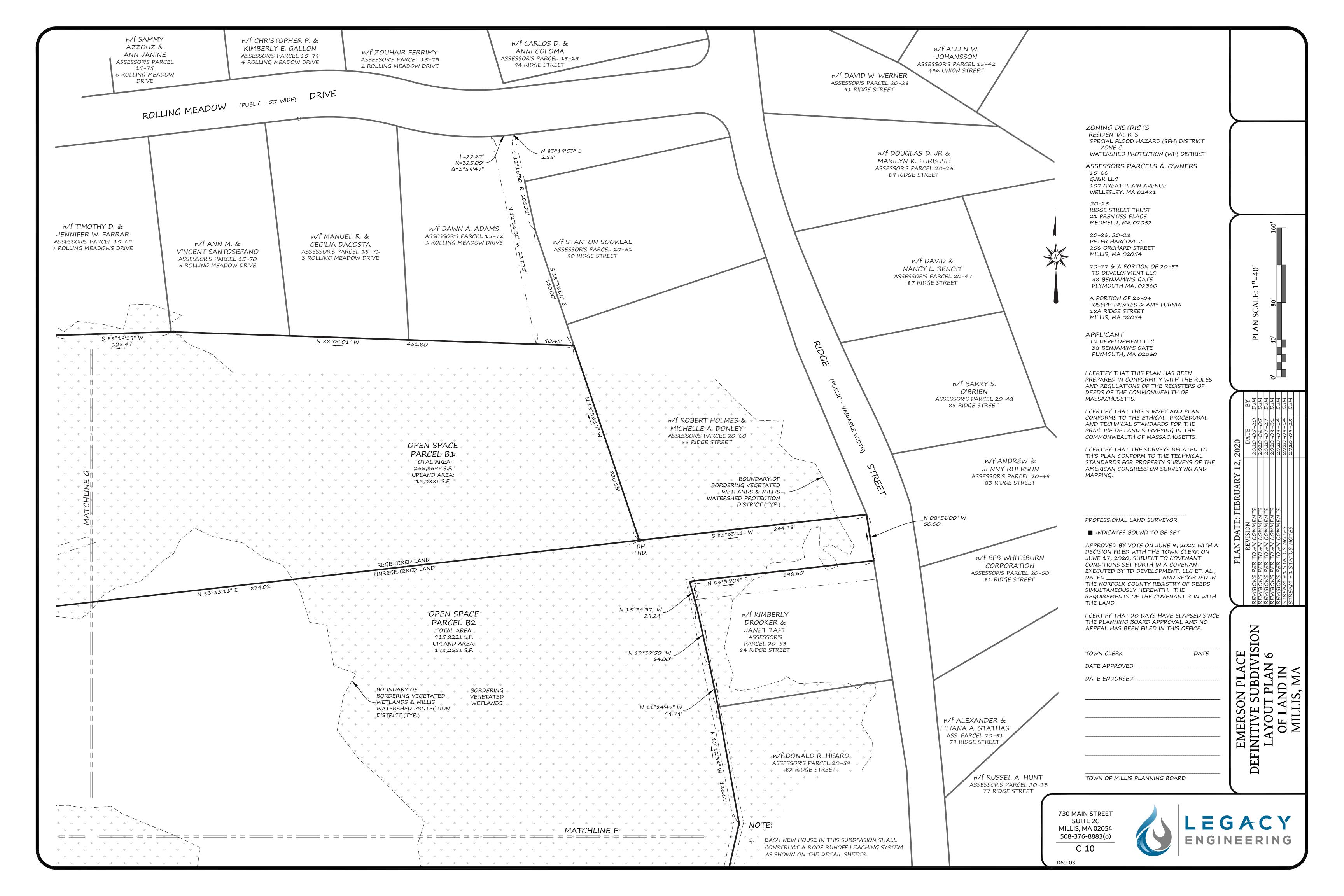


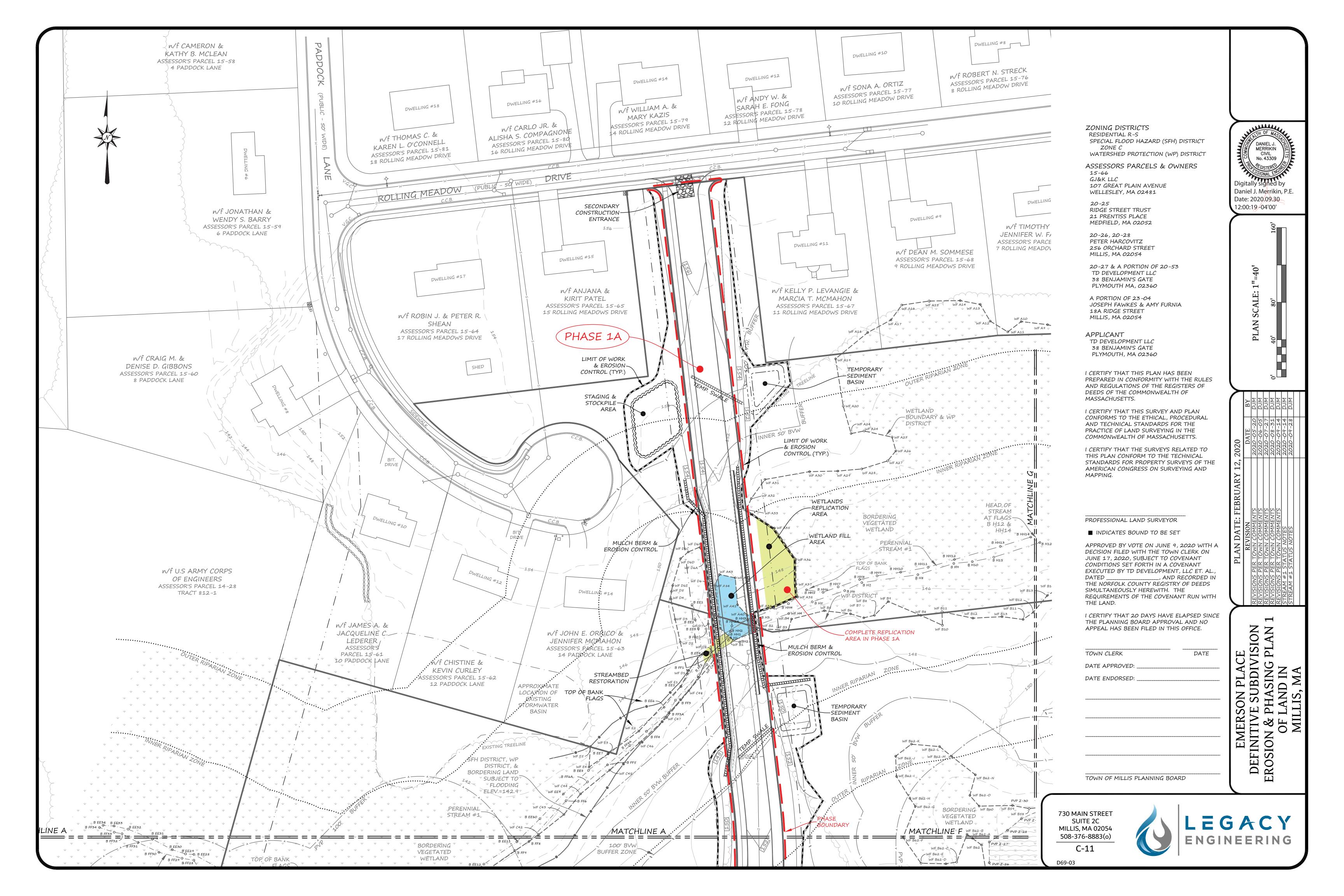


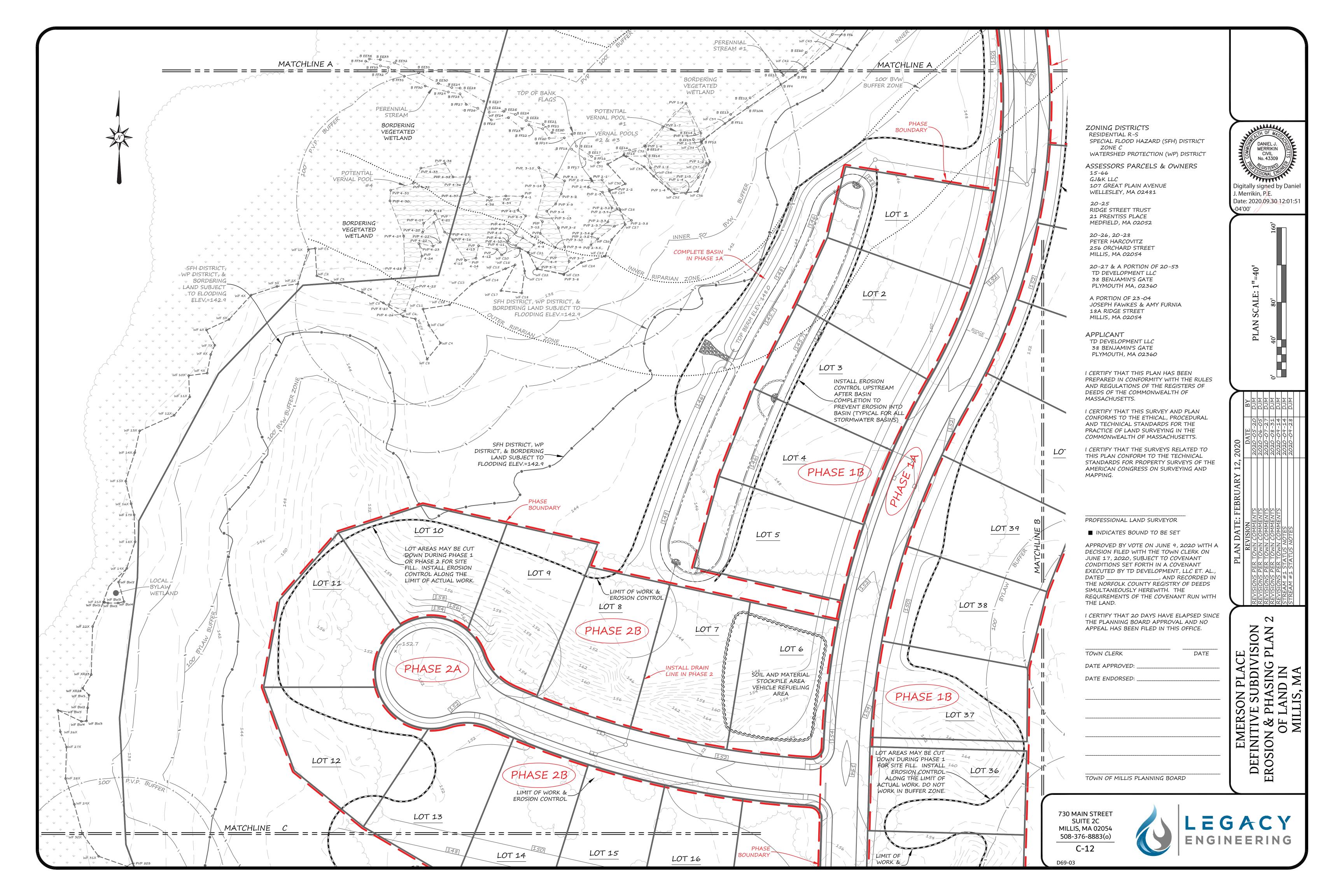


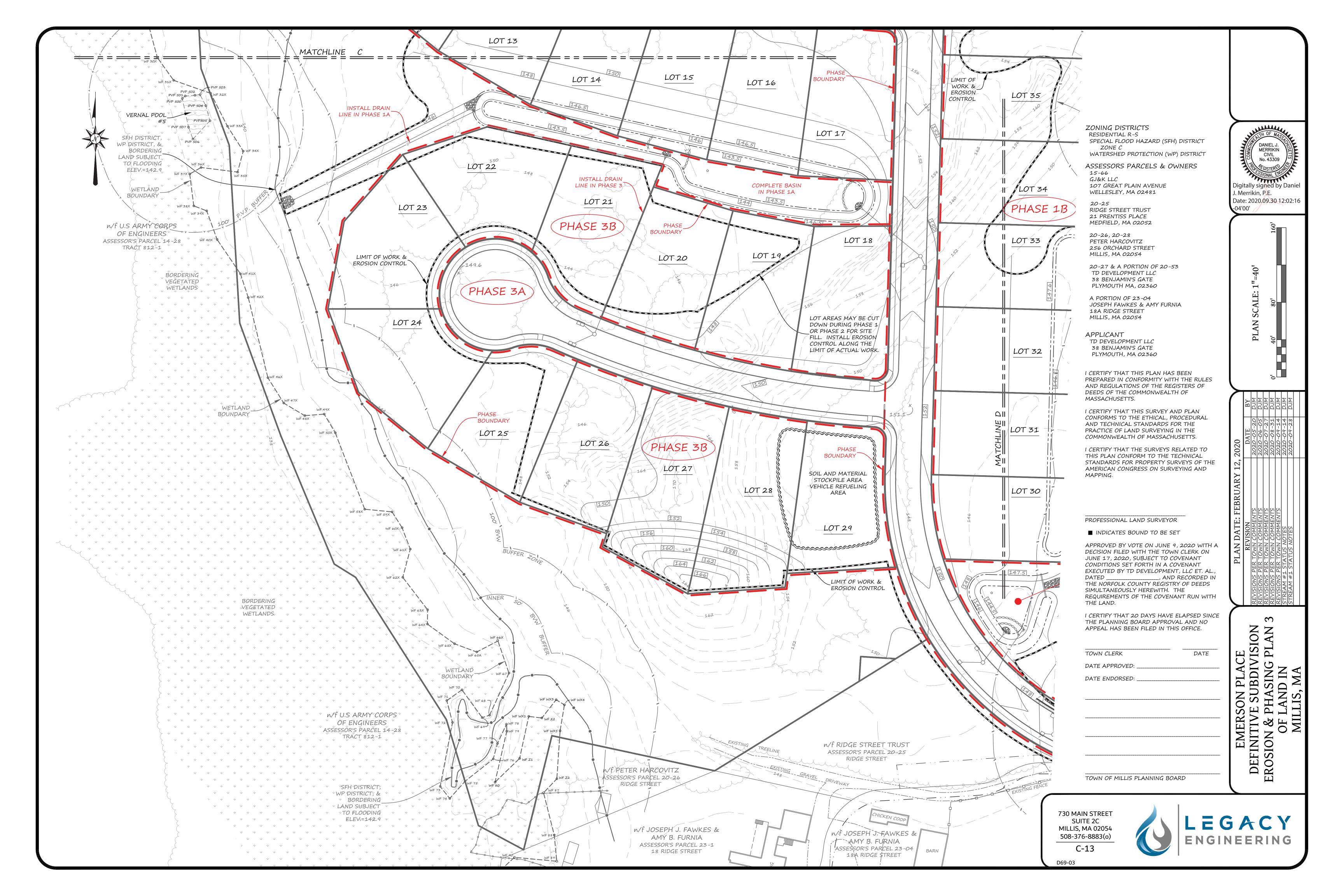


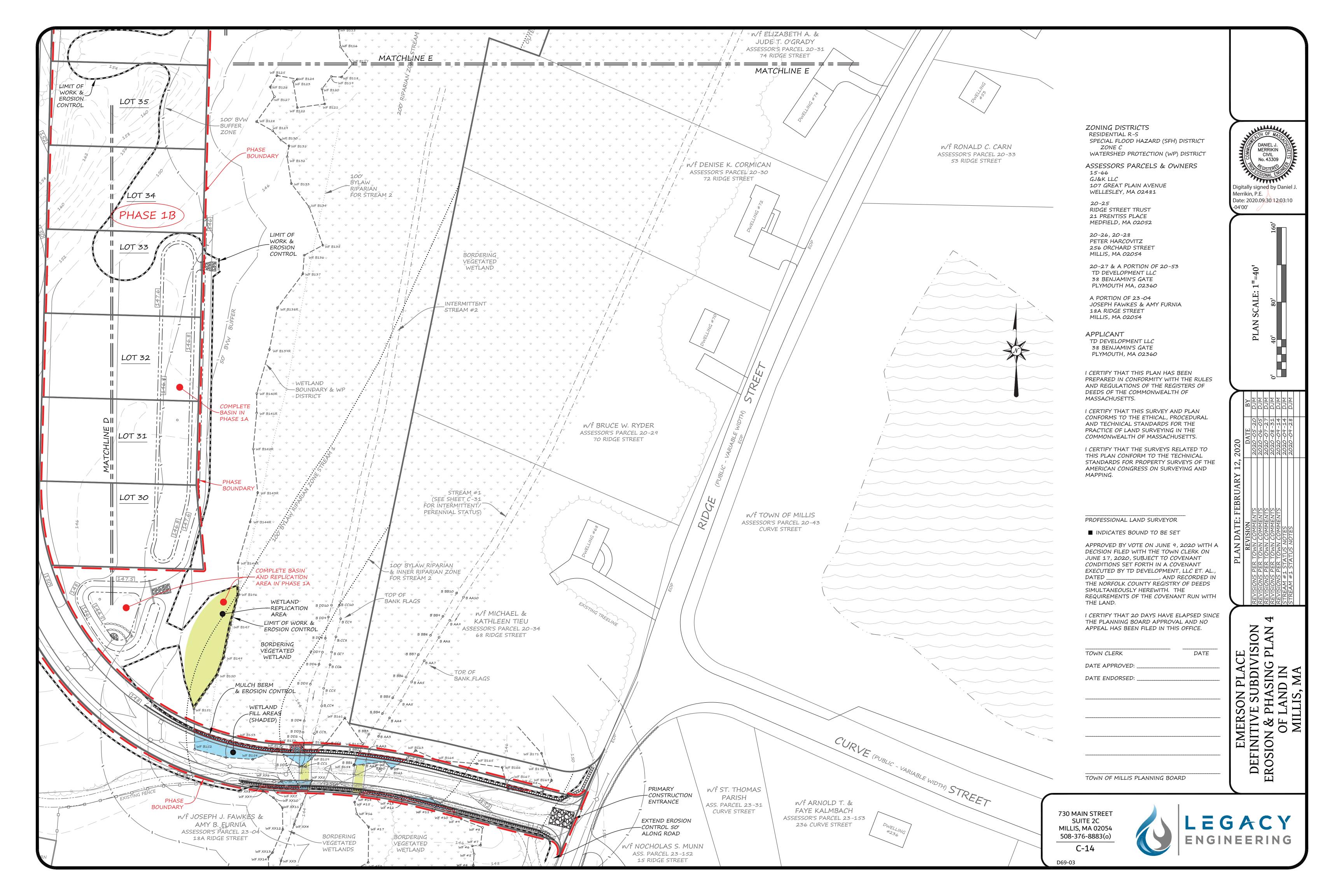


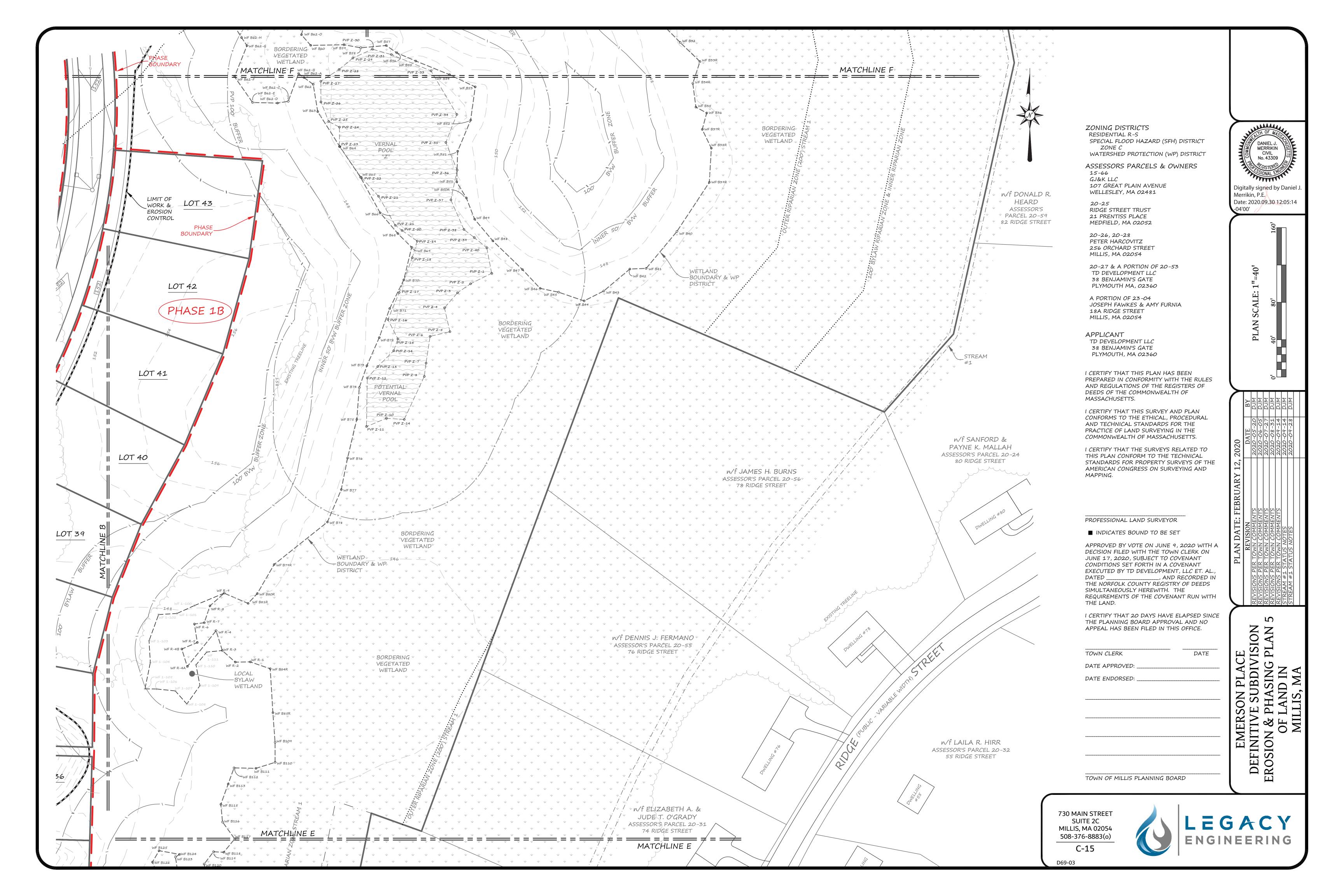


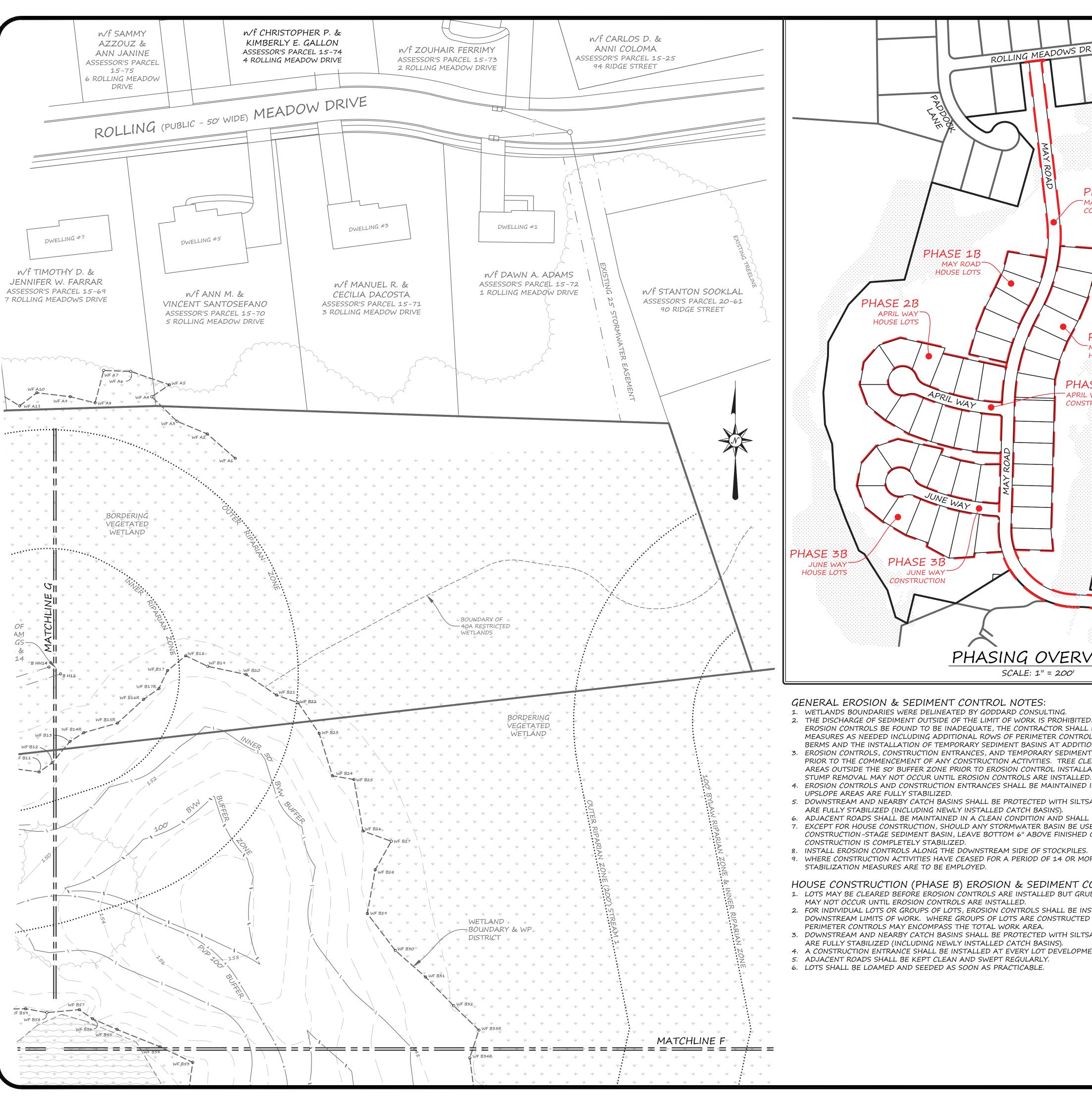


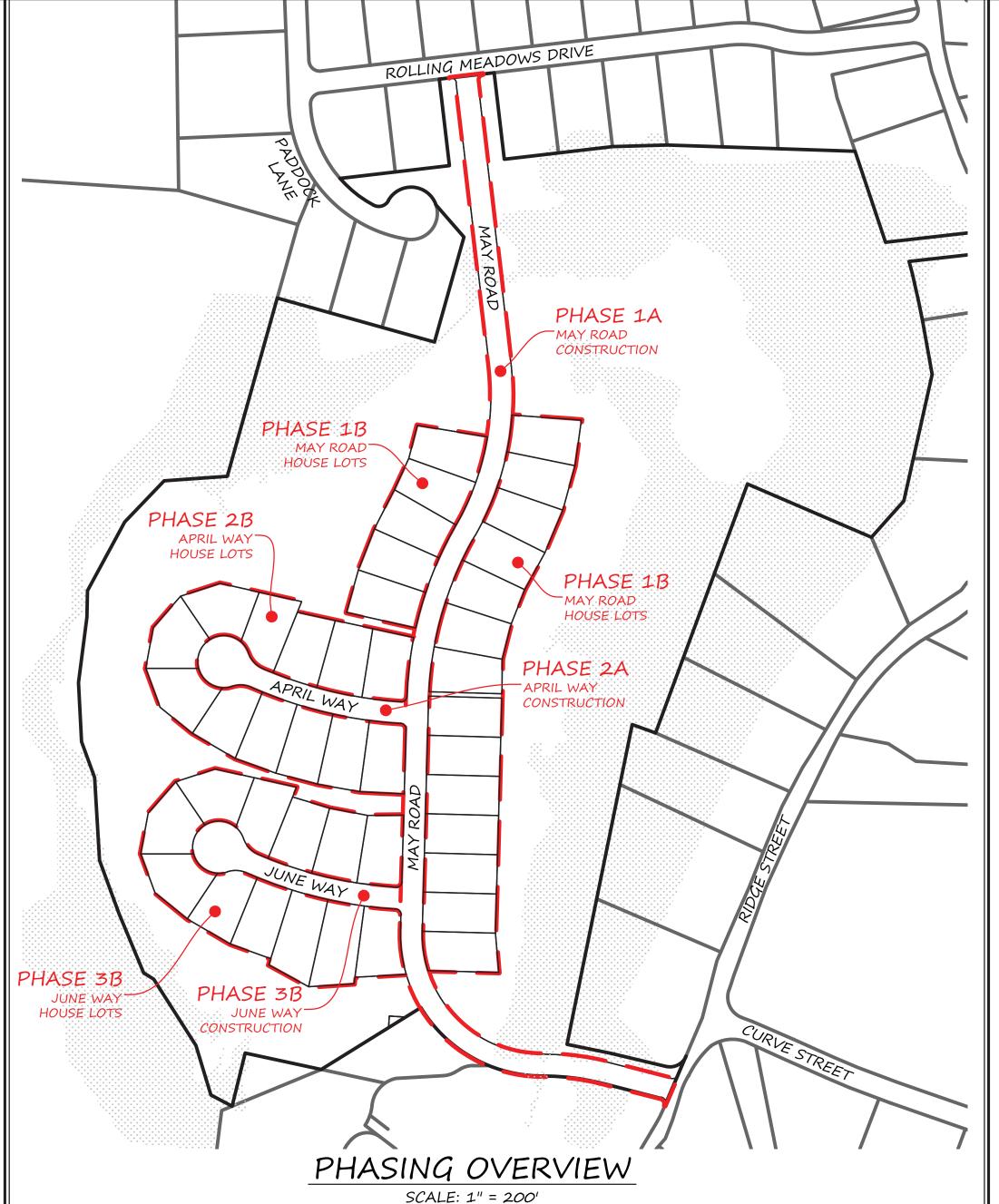












GENERAL EROSION & SEDIMENT CONTROL NOTES:

1. WETLANDS BOUNDARIES WERE DELINEATED BY GODDARD CONSULTING.

2. THE DISCHARGE OF SEDIMENT OUTSIDE OF THE LIMIT OF WORK IS PROHIBITED. SHOULD THE SPECIFIED EROSION CONTROLS BE FOUND TO BE INADEQUATE, THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL MEASURES AS NEEDED INCLUDING ADDITIONAL ROWS OF PERIMETER CONTROLS, INSTALLATION OF DIVERSION BERMS AND THE INSTALLATION OF TEMPORARY SEDIMENT BASINS AT ADDITIONAL LOCATIONS.

3. EROSION CONTROLS, CONSTRUCTION ENTRANCES, AND TEMPORARY SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. TREE CLEARING MAY COMMENCE IN AREAS OUTSIDE THE 50' BUFFER ZONE PRIOR TO EROSION CONTROL INSTALLATION BUT GRUBBING AND

4. EROSION CONTROLS AND CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN GOOD CONDITION UNTIL

5. DOWNSTREAM AND NEARBY CATCH BASINS SHALL BE PROTECTED WITH SILTSACS UNTIL UPSTREAM AREAS

6. ADJACENT ROADS SHALL BE MAINTAINED IN A CLEAN CONDITION AND SHALL BE SWEPT AS NEEDED.

7. EXCEPT FOR HOUSE CONSTRUCTION, SHOULD ANY STORMWATER BASIN BE USED AS A TEMPORARY CONSTRUCTION-STAGE SEDIMENT BASIN, LEAVE BOTTOM 6" ABOVE FINISHED GRADE UNTIL TRIBUTARY AREA CONSTRUCTION IS COMPLETELY STABILIZED.

8. INSTALL EROSION CONTROLS ALONG THE DOWNSTREAM SIDE OF STOCKPILES.

9. WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR A PERIOD OF 14 OR MORE DAYS, TEMPORARY SOIL STABILIZATION MEASURES ARE TO BE EMPLOYED.

HOUSE CONSTRUCTION (PHASE B) EROSION & SEDIMENT CONTROL NOTES: 1. LOTS MAY BE CLEARED BEFORE EROSION CONTROLS ARE INSTALLED BUT GRUBBING AND STUMP REMOVAL

- MAY NOT OCCUR UNTIL EROSION CONTROLS ARE INSTALLED.
- 2. FOR INDIVIDUAL LOTS OR GROUPS OF LOTS, EROSION CONTROLS SHALL BE INSTALLED ALONG ALL DOWNSTREAM LIMITS OF WORK. WHERE GROUPS OF LOTS ARE CONSTRUCTED CONTEMPORANEOUSLY, PERIMETER CONTROLS MAY ENCOMPASS THE TOTAL WORK AREA.
- 3. DOWNSTREAM AND NEARBY CATCH BASINS SHALL BE PROTECTED WITH SILTSACS UNTIL UPSTREAM AREAS ARE FULLY STABILIZED (INCLUDING NEWLY INSTALLED CATCH BASINS).
- 4. A CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT EVERY LOT DEVELOPMENT.
- 5. ADJACENT ROADS SHALL BE KEPT CLEAN AND SWEPT REGULARLY.

6. LOTS SHALL BE LOAMED AND SEEDED AS SOON AS PRACTICABLE.

ZONING DISTRICTS

RESIDENTIAL R-S SPECIAL FLOOD HAZARD (SFH) DISTRICT ZONE C

WATERSHED PROTECTION (WP) DISTRICT

DANIEL J.
MERRIKIN
CIVIL
No. 43309

Digitally signed by Daniel

Date: 2020.09.30 12:06:43

J. Merrikin, P.E.

-04'00'

ASSESSORS PARCELS & OWNERS 15-66

GJ&K LLC 107 GREAT PLAIN AVENUE WELLESLEY, MA 02481

20-25 RIDGE STREET TRUST 21 PRENTISS PLACE

MEDFIELD, MA 02052 20-26, 20-28 PETER HARCOVITZ

256 ORCHARD STREET

MILLIS, MA 02054

20-27 & A PORTION OF 20-53 TD DEVELOPMENT LLC 38 BENJAMIN'S GATE PLYMOUTH MA, 02360

A PORTION OF 23-04 JOSEPH FAWKES & AMY FURNIA 18A RIDGE STREET MILLIS, MA 02054

APPLICANT TD DEVELOPMENT LLC 38 BENJAMIN'S GATE PLYMOUTH, MA 02360

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I CERTIFY THAT THIS SURVEY AND PLAN CONFORMS TO THE ETHICAL, PROCEDURAL AND TECHNICAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS.

I CERTIFY THAT THE SURVEYS RELATED TO THIS PLAN CONFORM TO THE TECHNICAL STANDARDS FOR PROPERTY SURVEYS OF THE AMERICAN CONGRESS ON SURVEYING AND MAPPING.

PROFESSIONAL LAND SURVEYOR

■ INDICATES BOUND TO BE SET

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SIMULTANEOUSLY HEREWITH. THE REQUIREMENTS OF THE COVENANT RUN WITH THE LAND.

I CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE THE PLANNING BOARD APPROVAL AND NO APPEAL HAS BEEN FILED IN THIS OFFICE.

TOWN CLERK	DATE
DATE APPROVED:	
DATE ENDORSED:	

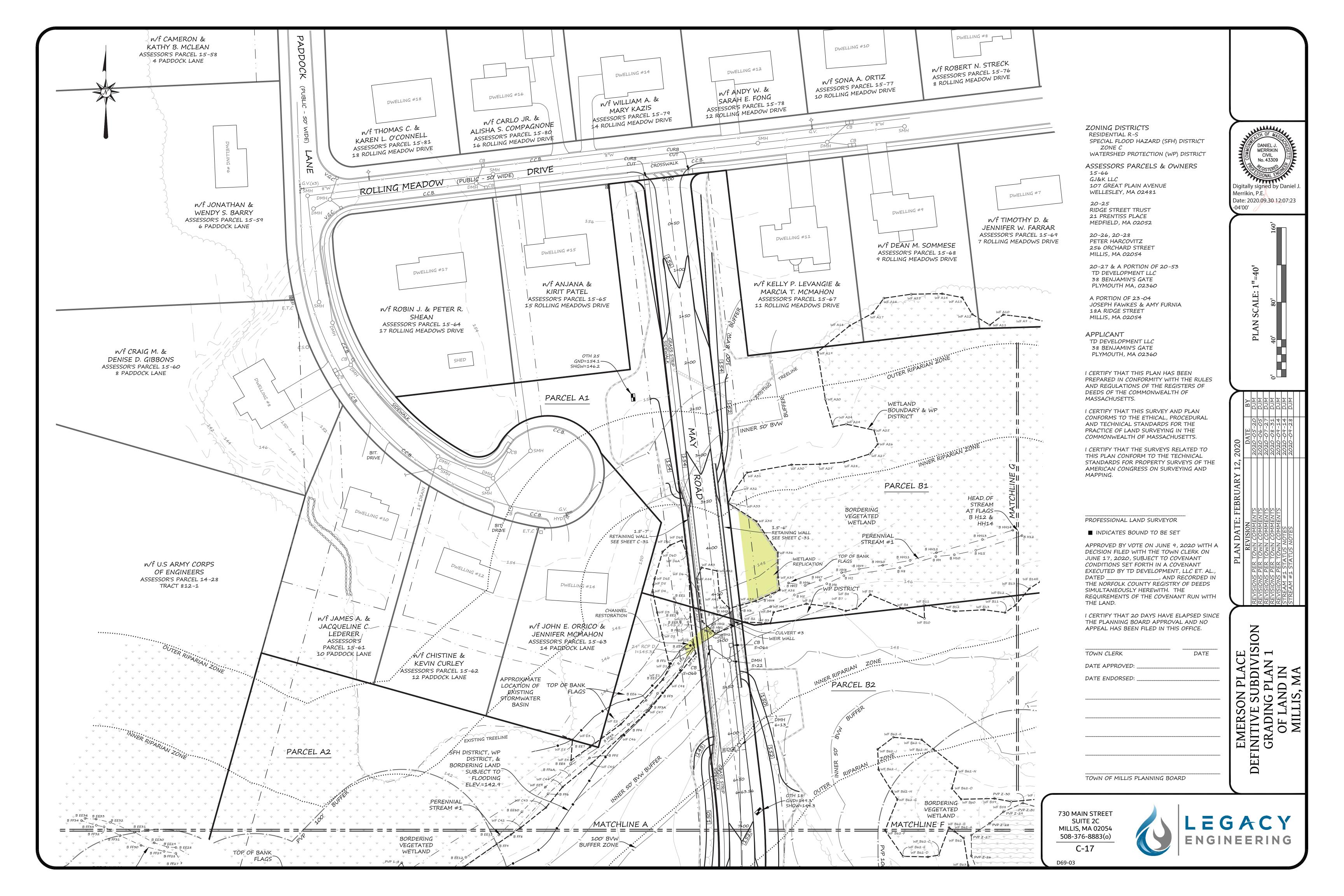
TOWN OF MILLIS PLANNING BOARD

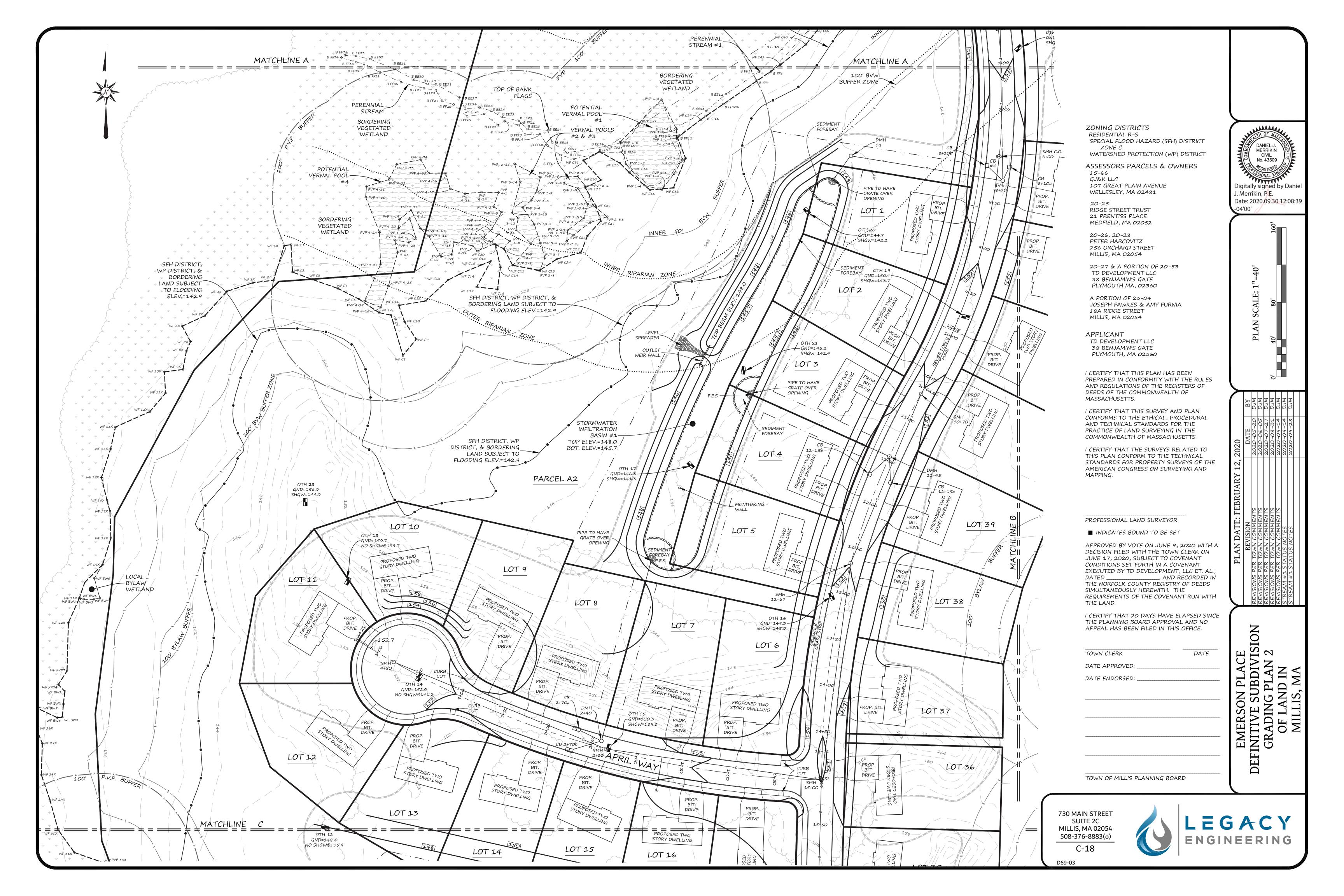
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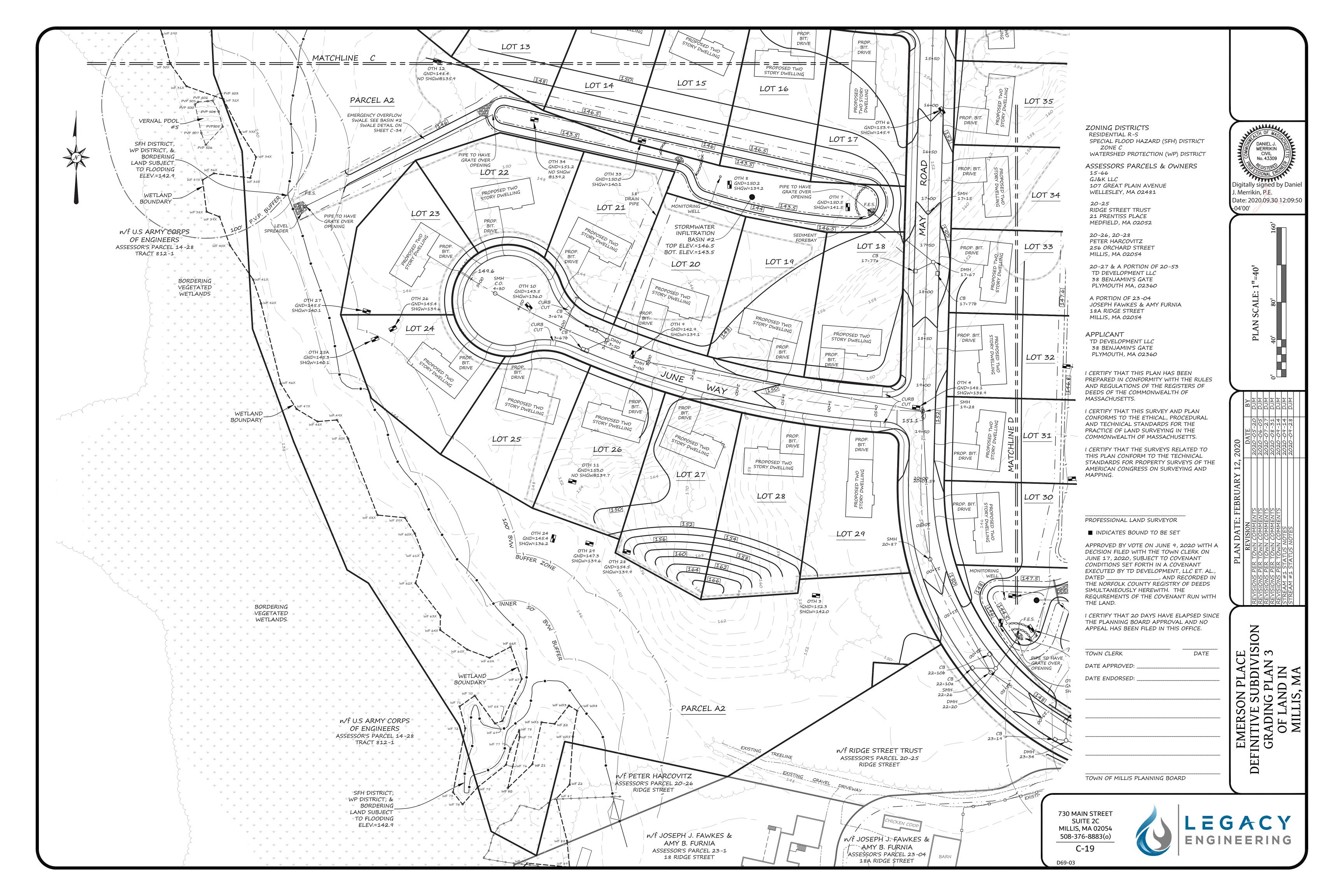
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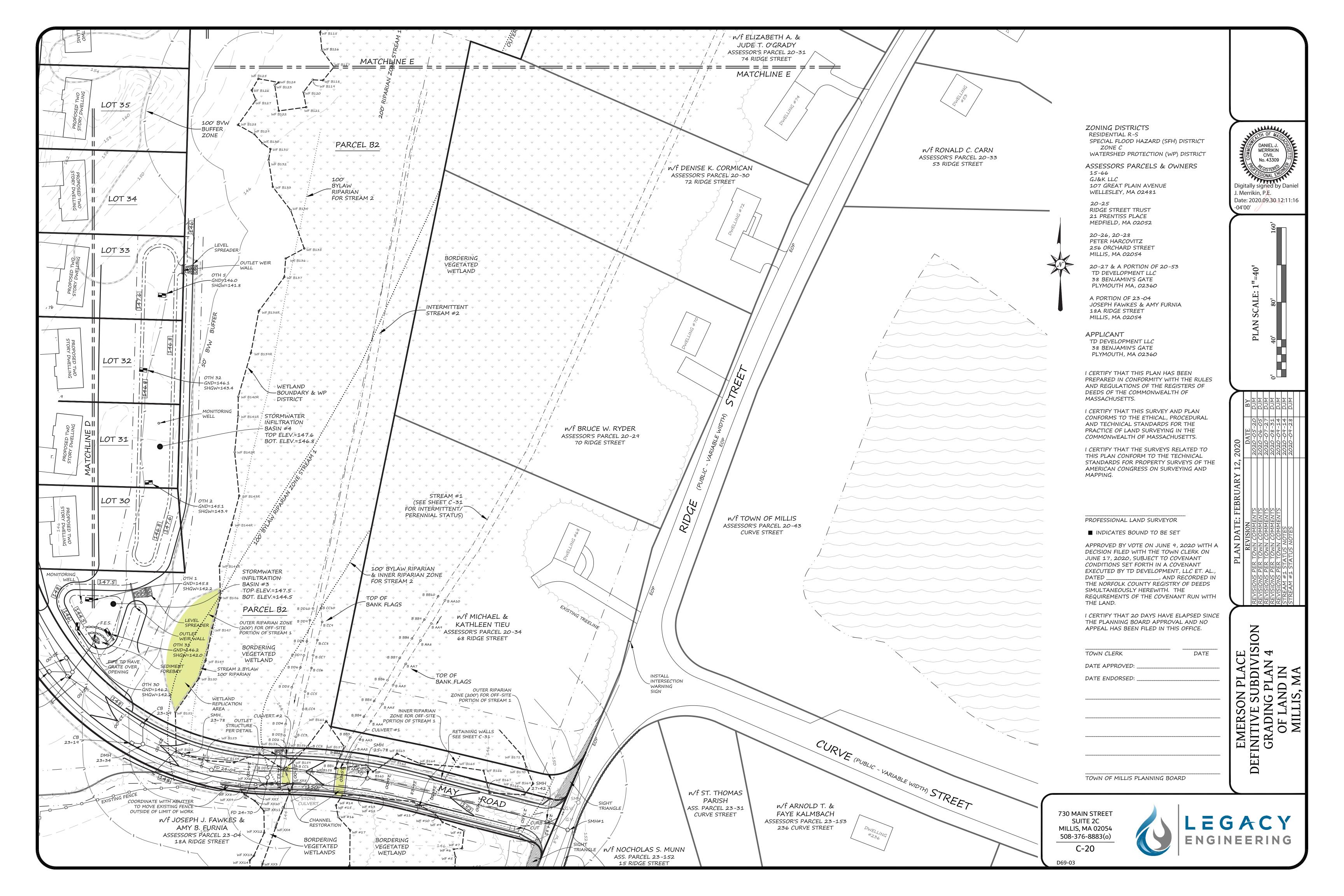
730 MAIN STREET SUITE 2C **MILLIS, MA 02054** 508-376-8883(o) C-16

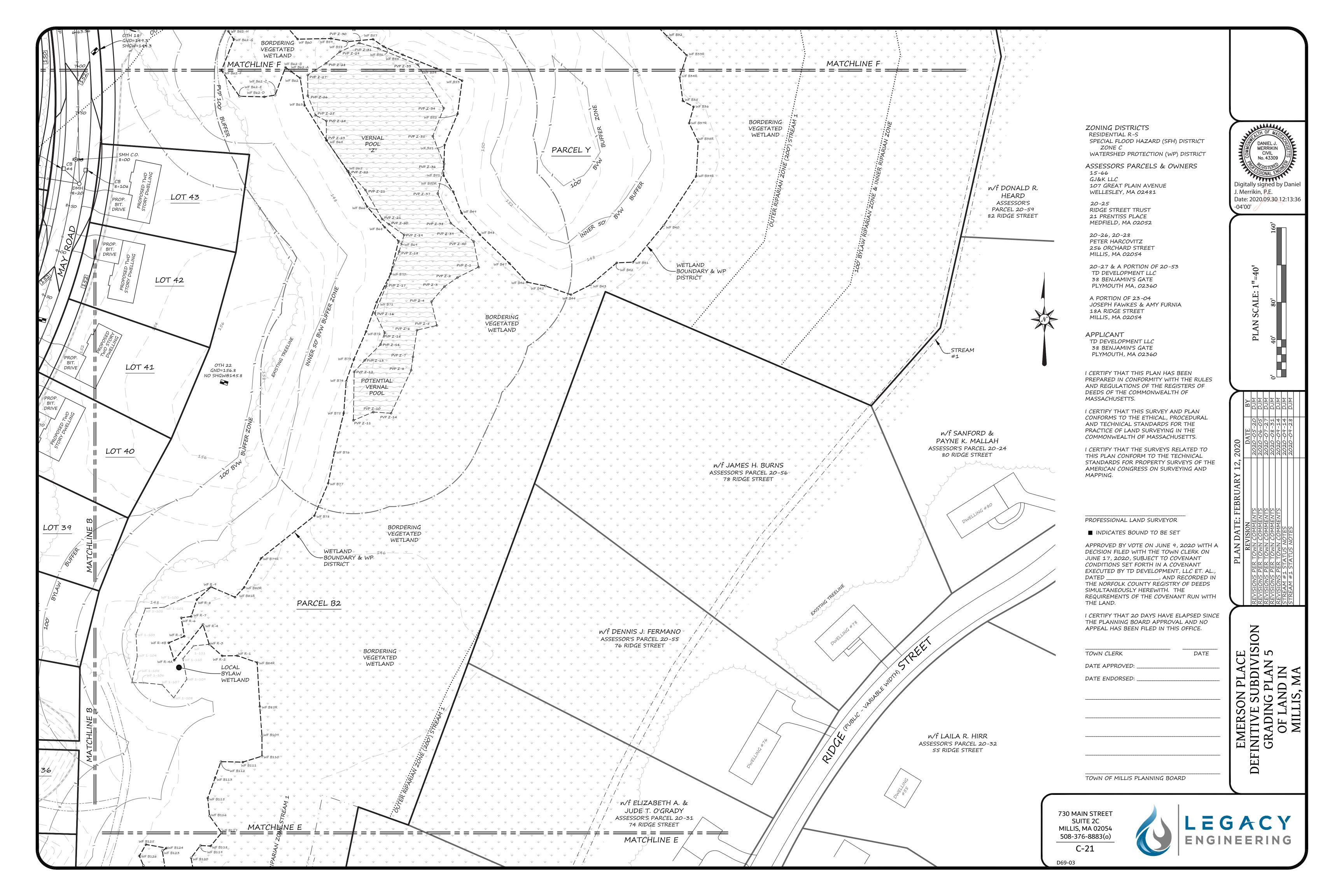


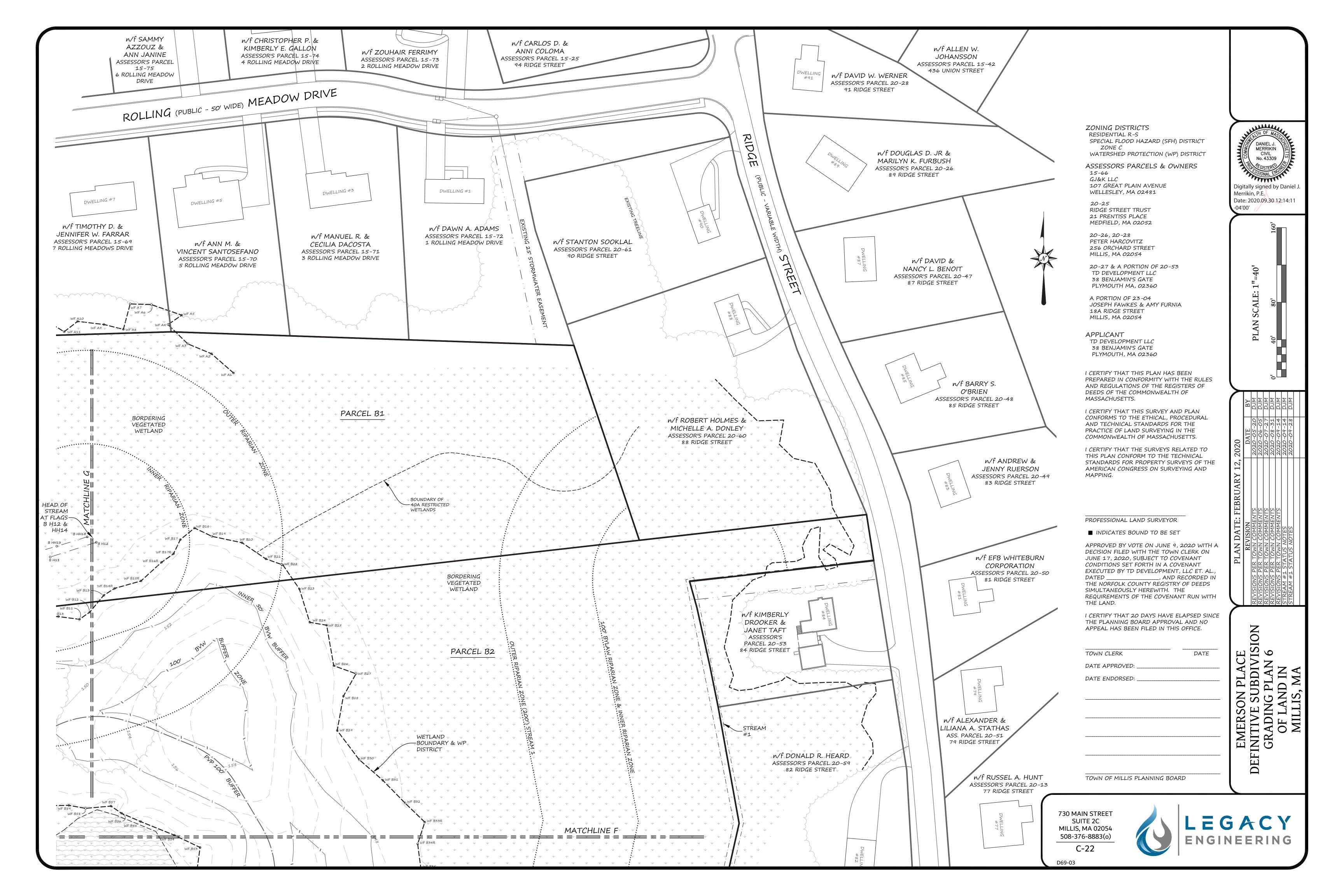


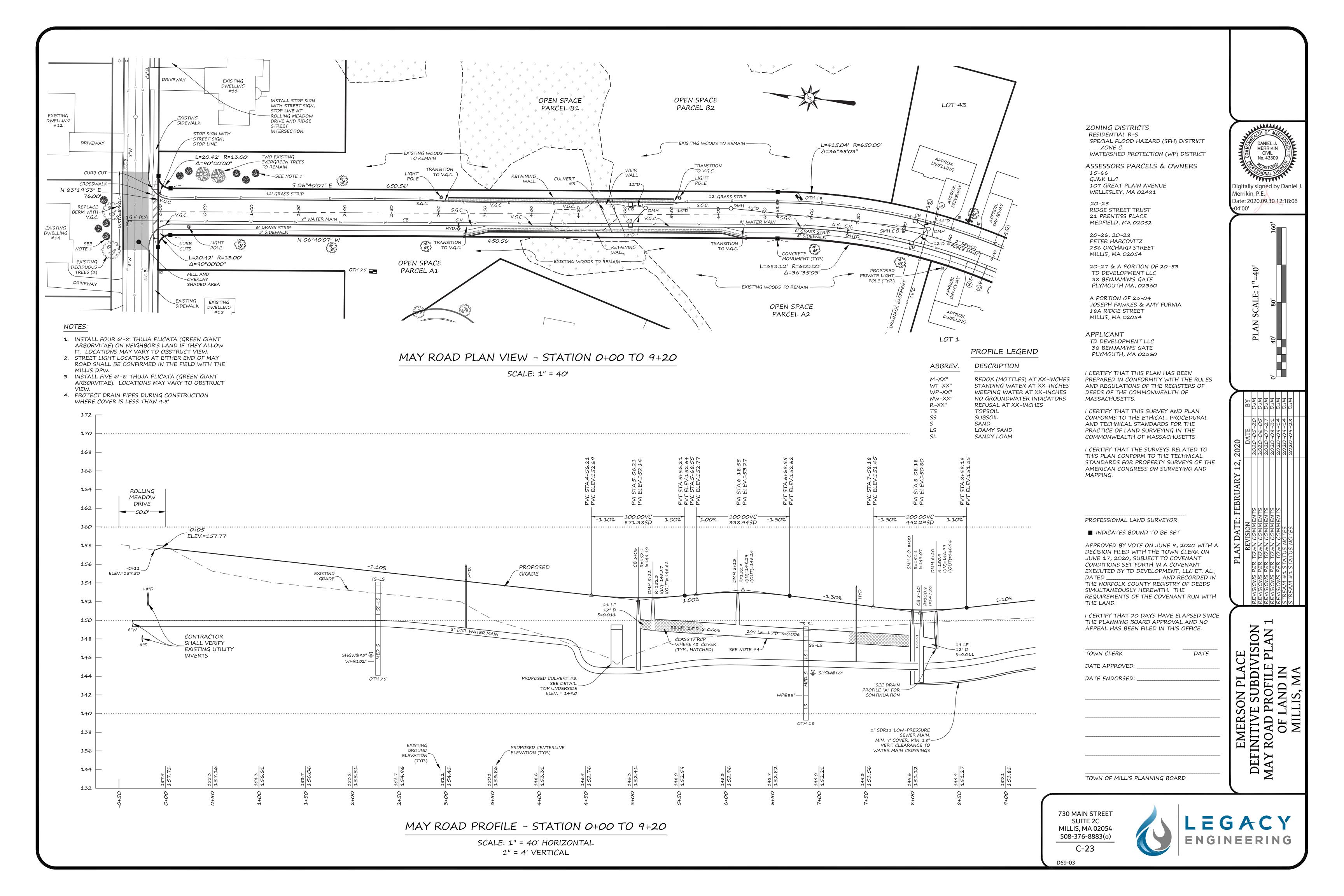


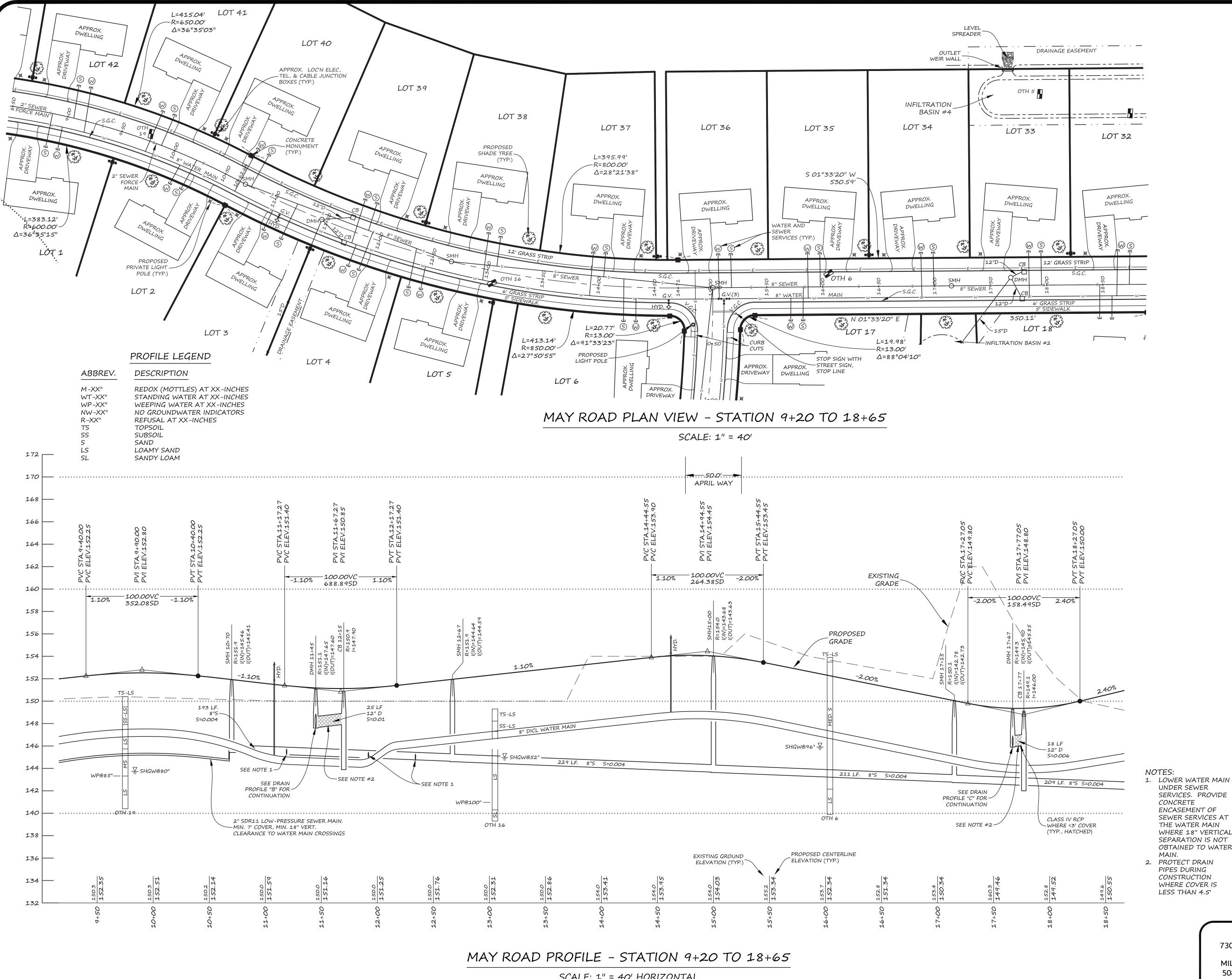














ZONING DISTRICTS

RESIDENTIAL R-S SPECIAL FLOOD HAZARD (SFH) DISTRICT

ZONE C WATERSHED PROTECTION (WP) DISTRICT

ASSESSORS PARCELS & OWNERS 15-66

GJ&K LLC 107 GREAT PLAIN AVENUE WELLESLEY, MA 02481

20-25 DIDGE STI

RIDGE STREET TRUST 21 PRENTISS PLACE MEDFIELD, MA 02052

20-26, 20-28 PETER HARCOVITZ 256 ORCHARD STREET MILLIS, MA 02054

20-27 & A PORTION OF 20-53 TD DEVELOPMENT LLC 38 BENJAMIN'S GATE PLYMOUTH MA, 02360

A PORTION OF 23-04 JOSEPH FAWKES & AMY FURNIA 18A RIDGE STREET MILLIS, MA 02054

APPLICANT
TD DEVELOPMENT LLC
38 BENJAMIN'S GATE

PLYMOUTH, MA 02360

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THE NORFOLK COUNTY REGISTRY OF DEEDS SIMULTANEOUSLY HEREWITH. THE REQUIREMENTS OF THE COVENANT RUN WITH THE LAND.

I CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE THE PLANNING BOARD APPROVAL AND NO APPEAL HAS BEEN FILED IN THIS OFFICE.

OWN CLERK	DATE
ATE APPROVED:	
ATE ENDORSED:	

TOWN OF MILLIS PLANNING BOARD

EMERSON PLACE
DEFINITIVE SUBDIVISION
MAY ROAD PROFILE PLAN 2
OF LAND IN
MILLIS, MA

Digitally signed by Daniel

Date: 2020.09.30 12:20:07

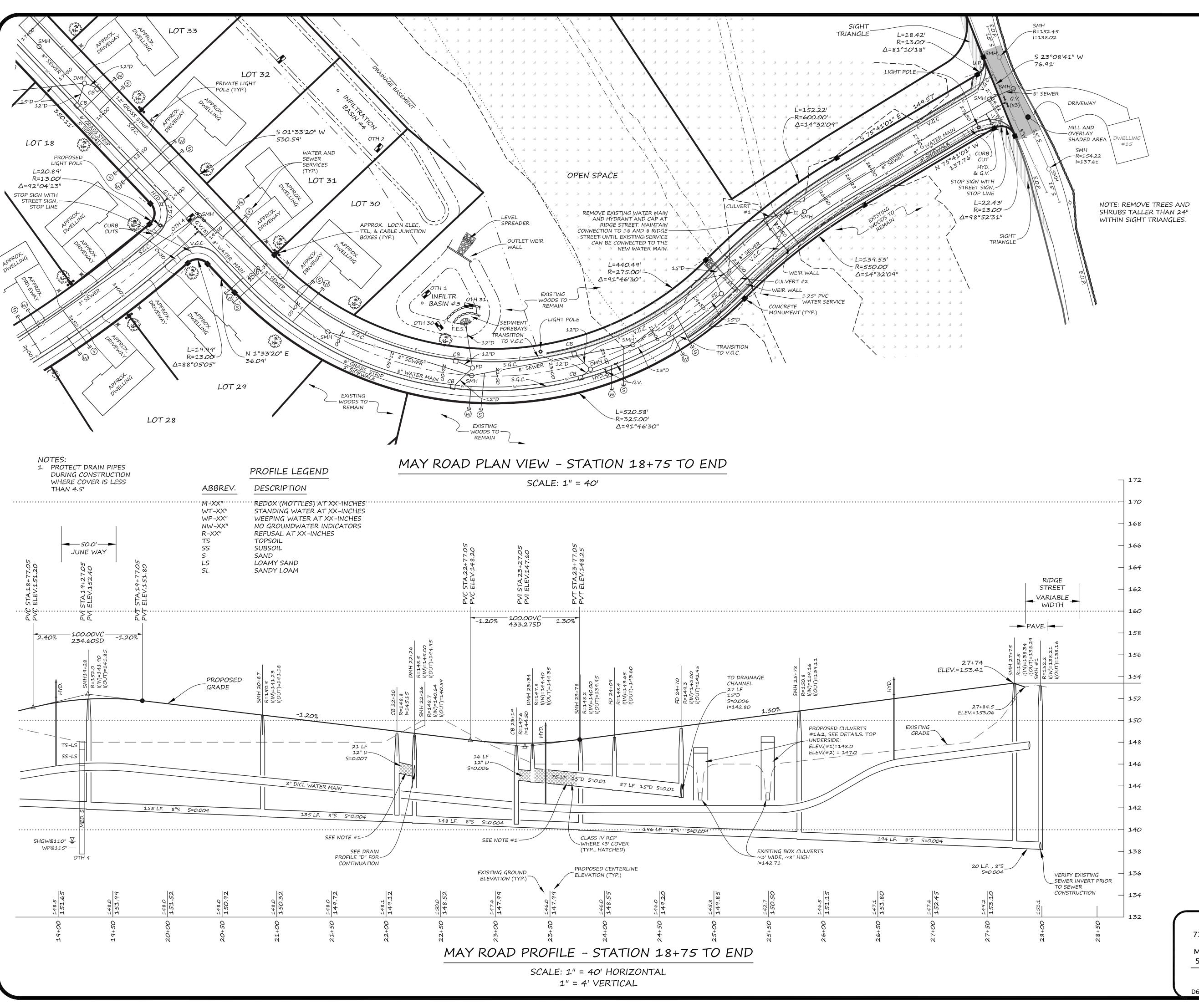
Merrikin, P.E.

730 MAIN STREET SUITE 2C MILLIS, MA 02054 508-376-8883(o) C-24



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

D69-0





ZONING DISTRICTS RESIDENTIAL R-S

SPECIAL FLOOD HAZARD (SFH) DISTRICT ZONE C

WATERSHED PROTECTION (WP) DISTRICT

ASSESSORS PARCELS & OWNERS 15-66

GJ&K LLC 107 GREAT PLAIN AVENUE WELLESLEY, MA 02481

20-25 RIDGE STREET TRUST

21 PRENTISS PLACE MEDFIELD, MA 02052 20-26, 20-28

PETER HARCOVITZ

256 ORCHARD STREET
MILLIS, MA 02054

20-27 & A PORTION OF 20-53
TD DEVELOPMENT LLC

38 BENJAMIN'S GATE

PLYMOUTH MA, 02360

A PORTION OF 23-04 JOSEPH FAWKES & AMY FURNIA 18A RIDGE STREET MILLIS, MA 02054

APPLICANT
TD DEVELOPMENT LLC
38 BENJAMIN'S GATE
PLYMOUTH, MA 02360

I CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

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PROFESSIONAL LAND SURVEYOR

■ INDICATES BOUND TO BE SET

APPROVED BY VOTE ON JUNE 9, 2020 WITH A DECISION FILED WITH THE TOWN CLERK ON JUNE 17, 2020, SUBJECT TO COVENANT CONDITIONS SET FORTH IN A COVENANT EXECUTED BY TD DEVELOPMENT, LLC ET. AL., DATED ______, AND RECORDED IN THE NORFOLK COUNTY REGISTRY OF DEEDS

DATED ______, AND RECORDED IN THE NORFOLK COUNTY REGISTRY OF DEEDS SIMULTANEOUSLY HEREWITH. THE REQUIREMENTS OF THE COVENANT RUN WITH THE LAND.

I CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE THE PLANNING BOARD APPROVAL AND NO APPEAL HAS BEEN FILED IN THIS OFFICE.

TOWN CLERK	DATE
DATE APPROVED:	····
PATE ENDORSED:	

TOWN OF MILLIS PLANNING BOARD

730 MAIN STREET SUITE 2C MILLIS, MA 02054 508-376-8883(o)



Digitally signed by Daniel J. Merrikin, P.E.

Digitally signed by Daniel. Merrikin, P.E. Date: 2020.09.30 12:21:41 -04'00'

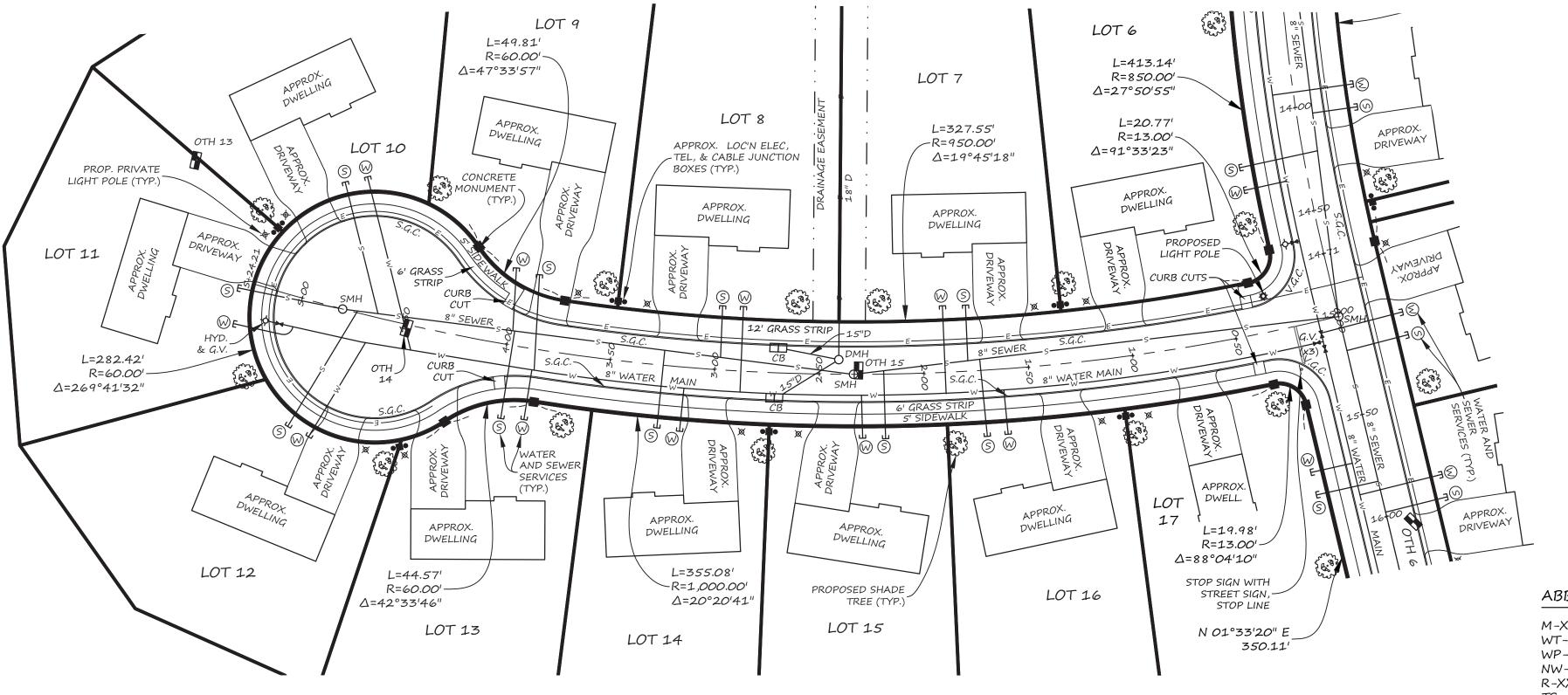
PLAN SCALE: 1"=40'

PLAN DATE: FEBRUARY 12, 2020

REVISIONS PER TOWN COMMENTS
SOZO-09-31
STREAM #1 STATUS NOTES
SOZO-09-14

EMERSON PLACE
DEFINITIVE SUBDIVISION
MAY ROAD PROFILE PLAN 3
OF LAND IN
MILLIS, MA

0.02



APRIL WAY PLAN VIEW - STATION 0+00 TO END

SCALE: 1" = 40'

ABBREV. DESCRIPTION

M-XX''WT-XX" WP-XX" NW-XX" R-XX" TS SS

REDOX (MOTTLES) AT XX-INCHES STANDING WATER AT XX-INCHES WEEPING WATER AT XX-INCHES NO GROUNDWATER INDICATORS REFUSAL AT XX-INCHES TOPSOIL SUBSOIL SAND LOAMY SAND SANDY LOAM

PROFILE LEGEND

1. LOWER WATER MAIN UNDER

WATER MAIN WHERE 18" VERTICAL SEPARATION IS NOT OBTAINED TO WATER MAIN.

2. PROTECT DRAIN PIPES DURING CONSTRUCTION WHERE COVER

IS LESS THAN 4.5'

SEWER SERVICES. PROVIDE CONCRETE ENCASEMENT OF SEWER SERVICES AT THE

168 — -499.1 DEAD-END ROAD LENGTH-MAY ROAD 164 164 162 162 160 160 158 **158** -1.40% -100.00VC 492.31SD 156 **156** PROPOSED GRADE 154 154 1.00% 152 152 150 150 -WHERE <3' COVER (TYP., HATCHED) 15" D — S=0.008 148 148 SEE NOTE #2-146 228 L.F. 8"S 0.004 144 144 SEE DRAIN PROFILE "E" 142 142 PROPOSED FOR CONTINUATION EXISTING GROUND _ ELEVATION (TYP.) __CENTERLINE OTH 14 NO SHGW@130" -SEE NOTE #1 ELEVATION (TYP.) 140 ¥SHGW@132" 138 138 136

APRIL WAY PROFILE - STATION 0+00 TO END

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



RESIDENTIAL R-S SPECIAL FLOOD HAZARD (SFH) DISTRICT ZONE C

WATERSHED PROTECTION (WP) DISTRICT

ASSESSORS PARCELS & OWNERS 15-66

GJ&K LLC 107 GREAT PLAIN AVENUE WELLESLEY, MA 02481

20-25

RIDGE STREET TRUST 21 PRENTISS PLACE MEDFIELD, MA 02052

20-26, 20-28 PETER HARCOVITZ 256 ORCHARD STREET MILLIS, MA 02054

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A PORTION OF 23-04 JOSEPH FAWKES & AMY FURNIA 18A RIDGE STREET MILLIS, MA 02054

APPLICANT TD DEVELOPMENT LLC 38 BENJAMIN'S GATE PLYMOUTH, MA 02360

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PROFESSIONAL LAND SURVEYOR

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SIMULTANEOUSLY HEREWITH. THE REQUIREMENTS OF THE COVENANT RUN WITH THE LAND.

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DATE APPROVED:	
DATE ENDORSED:	
	· · · · · · · · · · · · · · · · · · ·

TOWN OF MILLIS PLANNING BOARD

730 MAIN STREET SUITE 2C MILLIS, MA 02054 508-376-8883(o) C-26



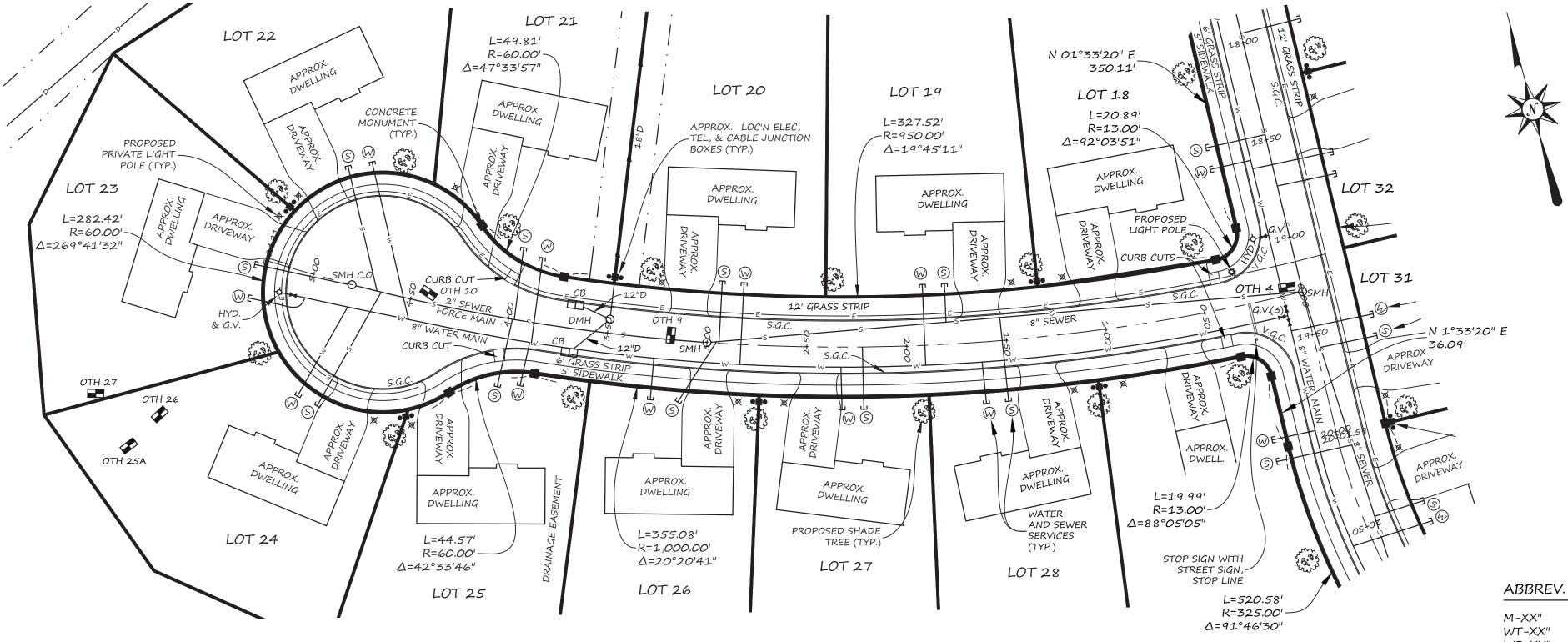
DANIEL J. DANIEL J.
MERRIKIN
CIVIL
No. 43309

Digitally signed by Daniel

J. Merrikin, P.E. Date: 2020.09.30 12:23:11 -04'00'

	160'
PLAN SCALE: 1"=40'	0' 40' 80'

EMERSON PLACE
DEFINITIVE SUBDIVISION
APRIL WAY PROFILE
PLAN OF LAND IN



164 –499.2' DEAD-END ROAD LENGTH– **►** 50.0′ **►** MAY ROAD 162 **162** 160 160 **158** 158 EXISTING GRADE-**156** 156 1.00% -1.00% -- 100.00VC --1200.00SD 154 **154** PROPOSED 152 **152** GRADE -1.00% 1.00% 150 150 148 - 148 CLASS IV RCP SEE DRAIN PROFILE "F" WHERE <3' COVER -FOR CONTINUATION (TYP., HATCHED) 146 SEE NOTE #2-12" D — 144 S=0.015 295 L.F. 8"S 0.004 142 **142** 2" SDR11 LOW-PRESSURE SEWER MAIN. MIN. 7' COVER, MIN. 18" VERTICAL SEE NOTE #1 CLEARANCE TO WATER MAIN CROSSINGS 140 140 SHGW@46" **—** 138 138 PROPOSED EXISTING GROUND | ₹ SHGW@90" -CENTERLINE - 136 136 — WT@96" ELEVATION (TYP.) ELEVATION (TYP.) **134** 134 143.7 148.7 148.0 149.7 132 132

JUNE WAY PLAN VIEW - STATION 0+00 TO END

SCALE: 1" = 40'

PROFILE LEGEND

DESCRIPTION

M-XX" REDOX (MOTTLES) AT XX-INCHES
WT-XX" STANDING WATER AT XX-INCHES
WP-XX" WEEPING WATER AT XX-INCHES
NW-XX" NO GROUNDWATER INDICATORS
R-XX" REFUSAL AT XX-INCHES
TS TOPSOIL
SS SUBSOIL

SUBSOIL SAND LOAMY SAND SANDY LOAM

NOTES:

1. LOWER WATER MAIN UNDER
SEWER SERVICES. PROVIDE
CONCRETE ENCASEMENT OF
SEWER SERVICES AT THE
WATER MAIN WHERE 18"

WATER MAIN WHERE 18"
VERTICAL SEPARATION IS NOT
OBTAINED TO WATER MAIN.

2. PROTECT DRAIN PIPES DURING
CONSTRUCTION WHERE COVER
IS LESS THAN 4.5'

ZONING DISTRICTS

RESIDENTIAL R-S SPECIAL FLOOD HAZARD (SFH) DISTRICT

ZONE C WATERSHED PROTECTION (WP) DISTRICT

Digitally signed by Daniel J.

Date: 2020.09.30 12:24:29

Merrikin, P.E.

-04'00'

ASSESSORS PARCELS & OWNERS 15-66

GJ&K LLC 107 GREAT PLAIN AVENUE WELLESLEY, MA 02481

20-25

RIDGE STREET TRUST 21 PRENTISS PLACE MEDFIELD, MA 02052

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A PORTION OF 23-04
JOSEPH FAWKES & AMY FURNIA
18A RIDGE STREET
MILLIS, MA 02054

APPLICANT
TD DEVELOPMENT LLC
38 BENJAMIN'S GATE

PLYMOUTH, MA 02360

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PROFESSIONAL LAND SURVEYOR

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TOWN CLERK DATE

DATE APPROVED:

DATE ENDORSED:

TOWN OF MILLIS PLANNING BOARD

EMERSON PLACE
DEFINITIVE SUBDIVISION
JUNE WAY PROFILE
PLAN OF LAND IN

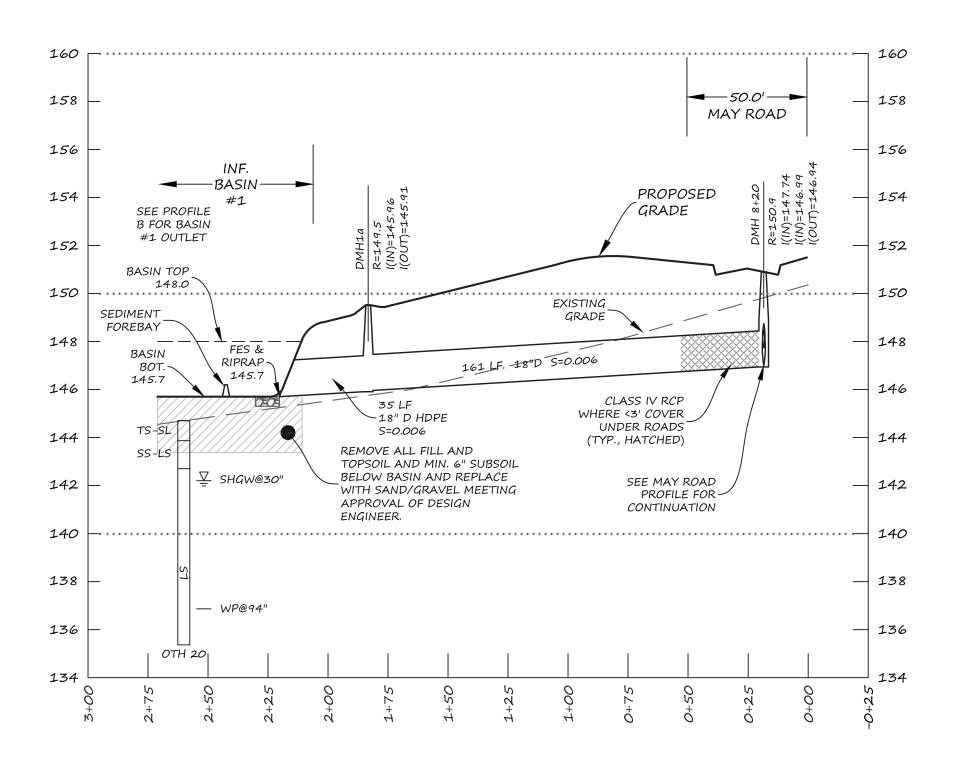
730 MAIN STREET SUITE 2C MILLIS, MA 02054 508-376-8883(o) C-27

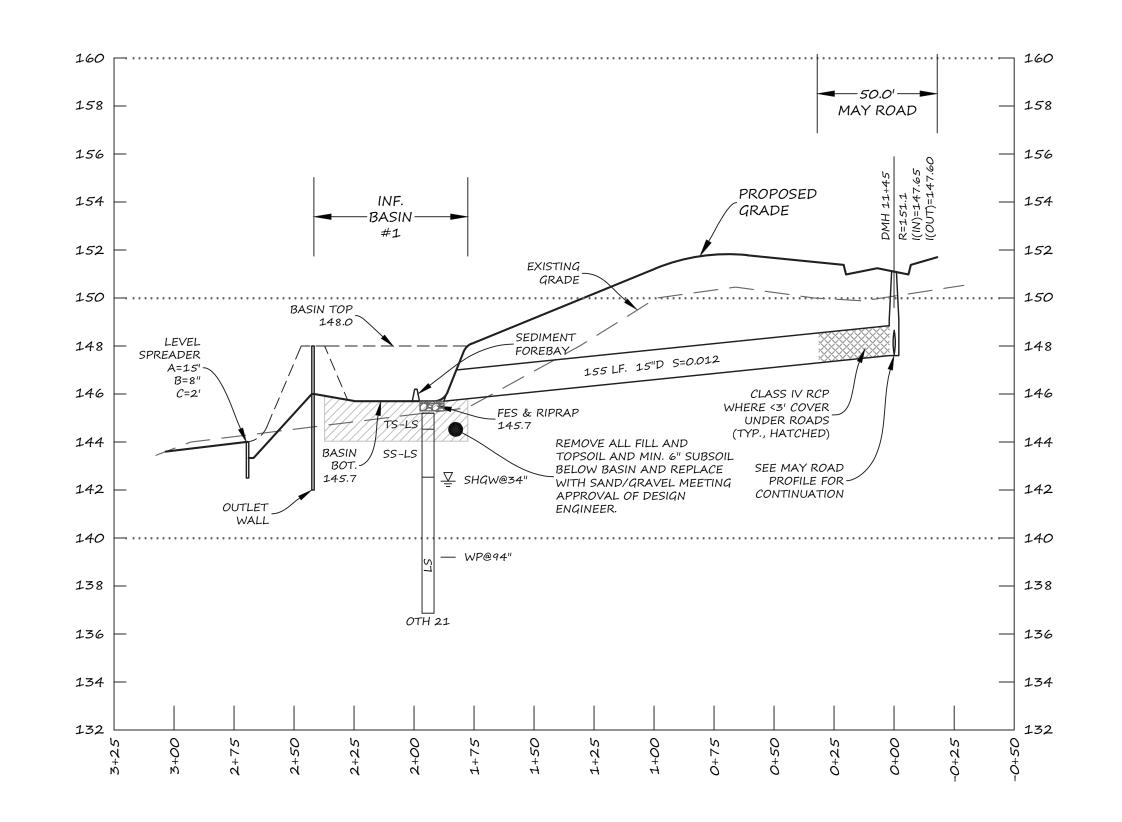


JUNE WAY PROFILE - STATION 0+00 TO END

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

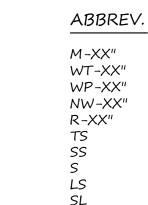
D69-03





DRAINAGE PROFILE A

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



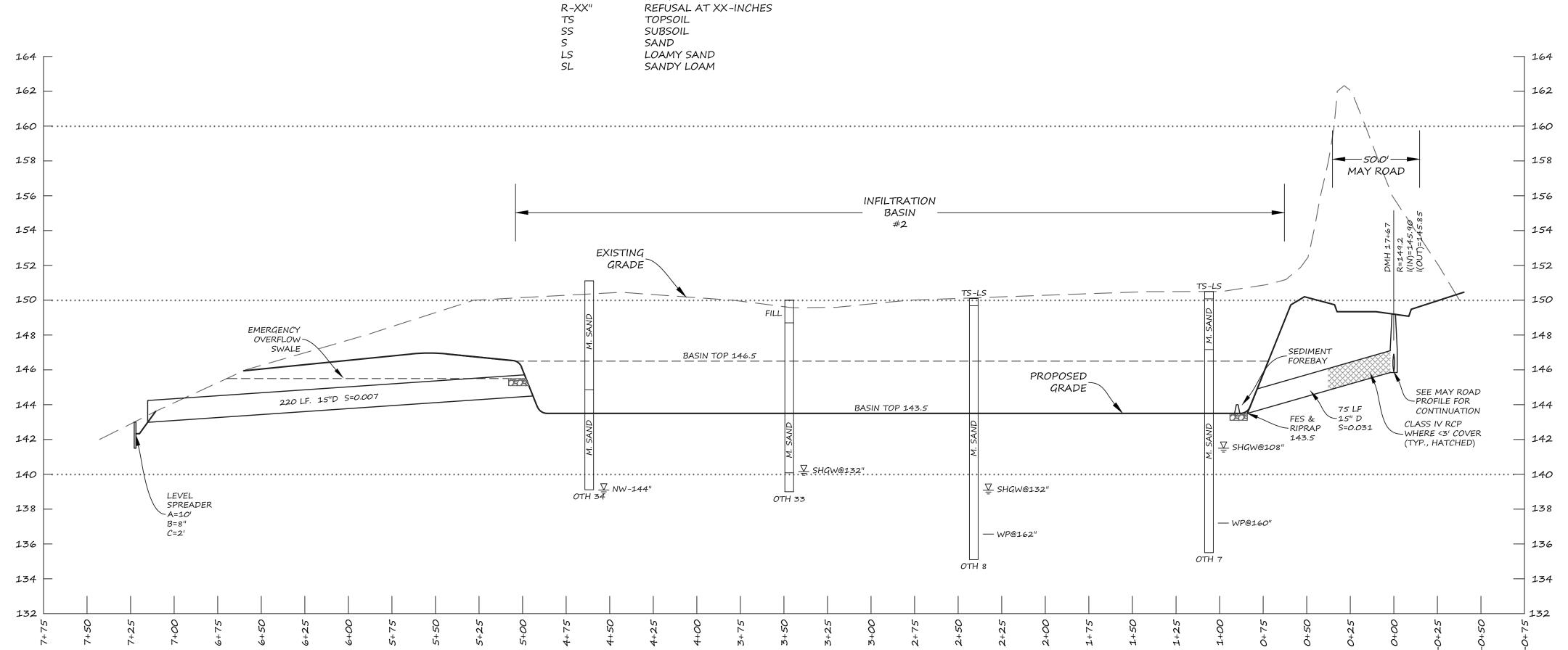
PROFILE LEGEND

DESCRIPTION

REDOX (MOTTLES) AT XX-INCHES STANDING WATER AT XX-INCHES WEEPING WATER AT XX-INCHES NO GROUNDWATER INDICATORS REFUSAL AT XX-INCHES TOPSOIL SUBSOIL

DRAINAGE PROFILE B

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



DRAINAGE PROFILE C

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

ZONING DISTRICTS RESIDENTIAL R-S

SPECIAL FLOOD HAZARD (SFH) DISTRICT ZONE C

WATERSHED PROTECTION (WP) DISTRICT

DANIEL J.

MERRIKIN
CIVIL
No. 43309

Digitally signed by Daniel

Date: 2020.09.30 12:25:36

J. Merrikin, P.E.

-04'00'

ASSESSORS PARCELS & OWNERS 15-66

GJ&K LLC 107 GREAT PLAIN AVENUE WELLESLEY, MA 02481

20-25 RIDGE STREET TRUST

21 PRENTISS PLACE MEDFIELD, MA 02052

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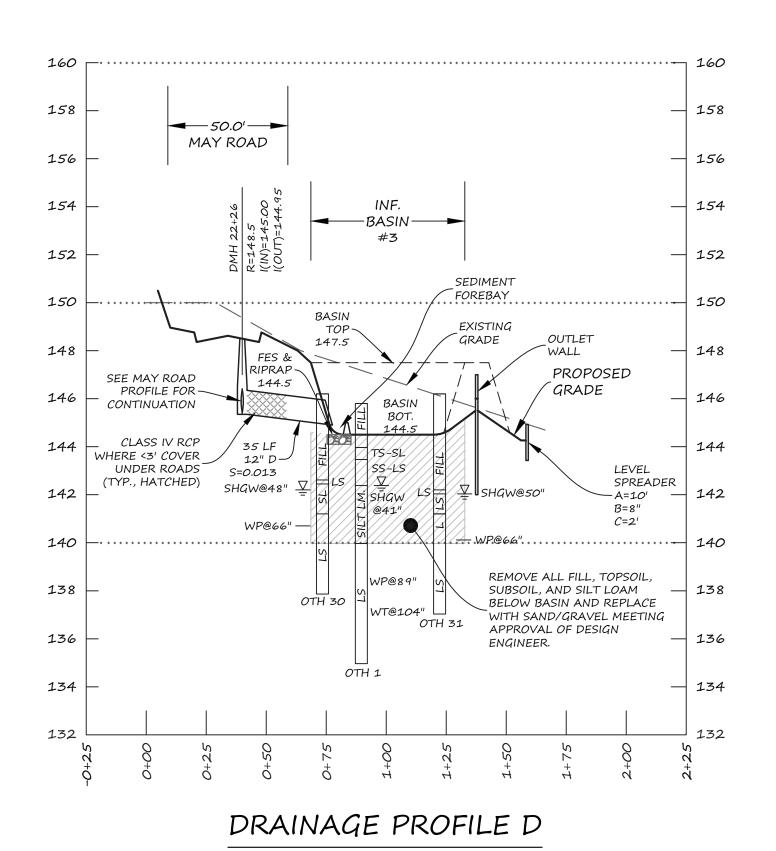
I CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE THE PLANNING BOARD APPROVAL AND NO APPEAL HAS BEEN FILED IN THIS OFFICE.

TOWN CLERK	DAT
DATE APPROVED:	
DATE ENDORSED:	·····

TOWN OF MILLIS PLANNING BOARD

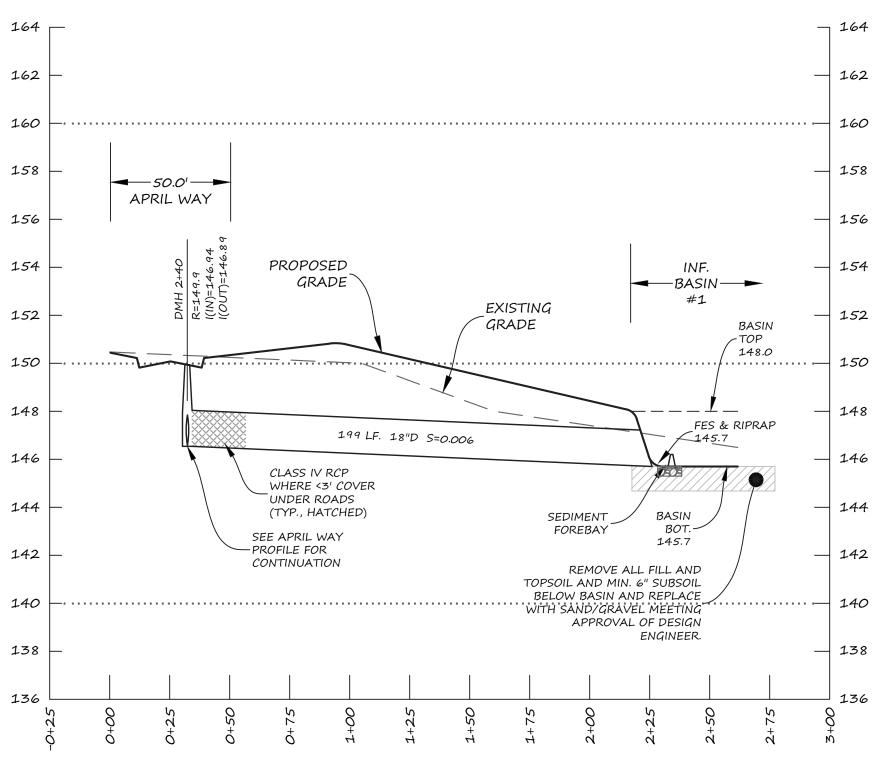
730 MAIN STREET SUITE 2C MILLIS, MA 02054 508-376-8883(o) C-28

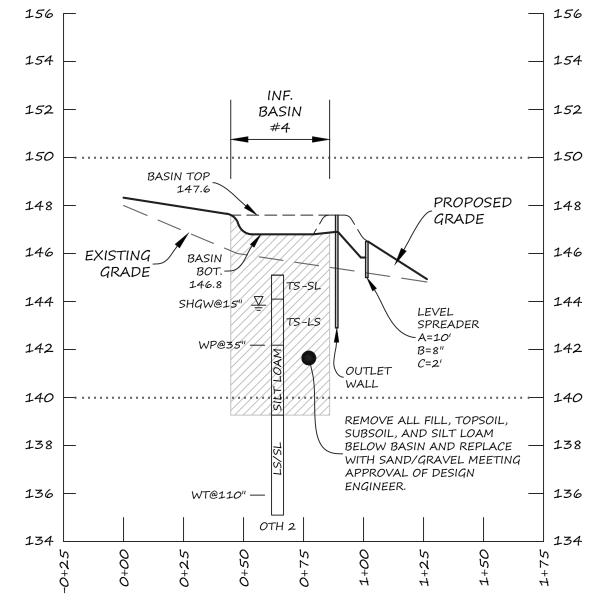




SCALE: 1" = 40' HORIZONTAL

1" = 4' VERTICAL





DRAINAGE PROFILE E

PROFILE LEGEND

REDOX (MOTTLES) AT XX-INCHES

STANDING WATER AT XX-INCHES

WEEPING WATER AT XX-INCHES

NO GROUNDWATER INDICATORS

REFUSAL AT XX-INCHES

DESCRIPTION

TOPSOIL SUBSOIL

LOAMY SAND

SANDY LOAM

SAND

ABBREV.

M-XX''

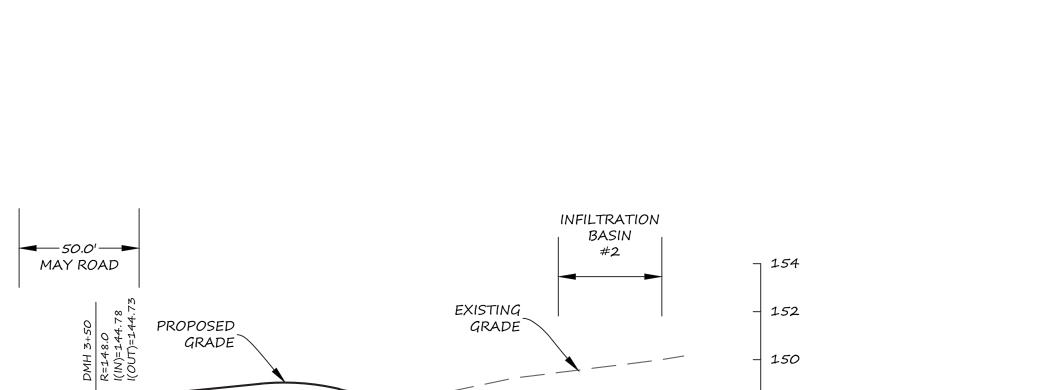
WT-XX"

WP-XX"

NW-XX"

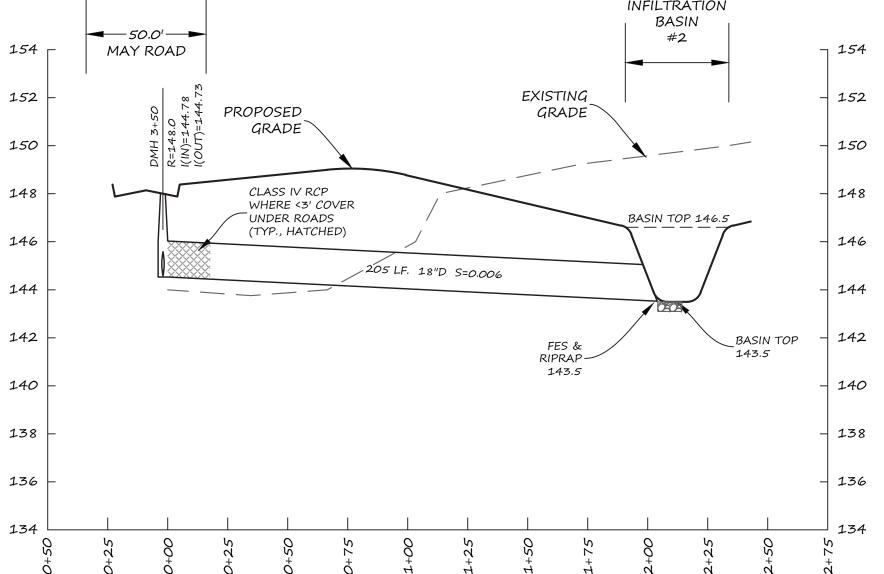
R-XX"

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



DRAINAGE PROFILE F

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



DRAINAGE PROFILE H SCALE: 1" = 40' HORIZONTAL 1" = 4' VERTICAL

PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF I CERTIFY THAT THIS SURVEY AND PLAN CONFORMS TO THE ETHICAL, PROCEDURAL I CERTIFY THAT THE SURVEYS RELATED TO THIS PLAN CONFORM TO THE TECHNICAL STANDARDS FOR PROPERTY SURVEYS OF THE AMERICAN CONGRESS ON SURVEYING AND MAPPING.

EMERSON PLACE
DEFINITIVE SUBDIVISION
DRAINAGE PROFILE PLAN 2
OF LAND IN

Digitally signed by Daniel

Date: 2020.09.30 12:26:35

J. Merrikin, P.E.

PROFESSIONAL LAND SURVEYOR

ZONING DISTRICTS

SPECIAL FLOOD HAZARD (SFH) DISTRICT

WATERSHED PROTECTION (WP) DISTRICT

ASSESSORS PARCELS & OWNERS

107 GREAT PLAIN AVENUE

WELLESLEY, MA 02481

RIDGE STREET TRUST

MEDFIELD, MA 02052

256 ORCHARD STREET

TD DEVELOPMENT LLC

38 BENJAMIN'S GATE

PLYMOUTH MA, 02360

A PORTION OF 23-04

TD DEVELOPMENT LLC 38 BENJAMIN'S GATE

PLYMOUTH, MA 02360

18A RIDGE STREET MILLIS, MA 02054

APPLICANT

MASSACHUSETTS.

20-27 & A PORTION OF 20-53

JOSEPH FAWKES & AMY FURNIA

I CERTIFY THAT THIS PLAN HAS BEEN

DEEDS OF THE COMMONWEALTH OF

AND TECHNICAL STANDARDS FOR THE

PRACTICE OF LAND SURVEYING IN THE

COMMONWEALTH OF MASSACHUSETTS.

21 PRENTISS PLACE

PETER HARCOVITZ

MILLIS, MA 02054

20-26, 20-28

RESIDENTIAL R-S

ZONE C

15-66

20-25

GJ&K LLC

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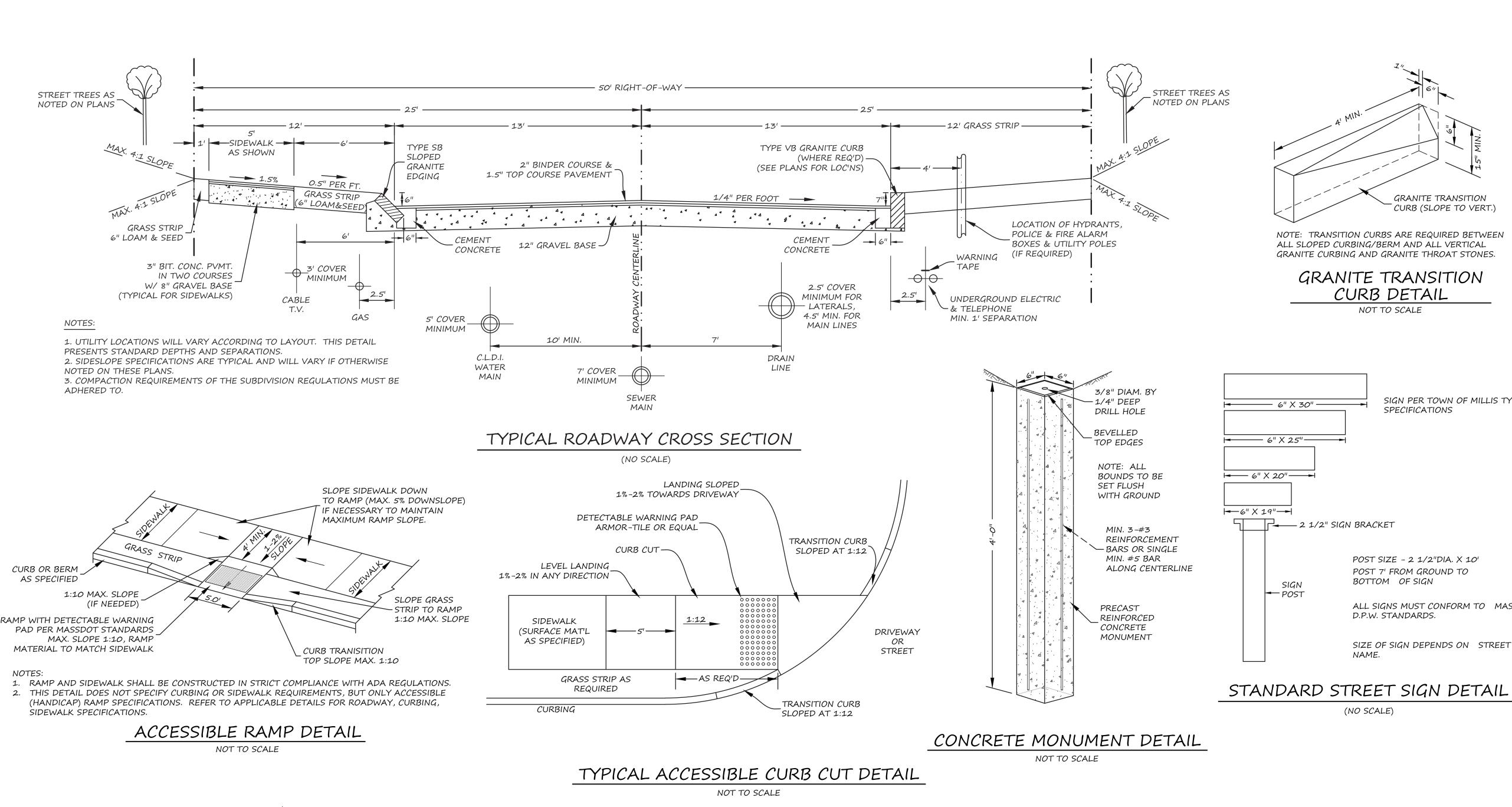
TOWN OF MILLIS PLANNING BOARD

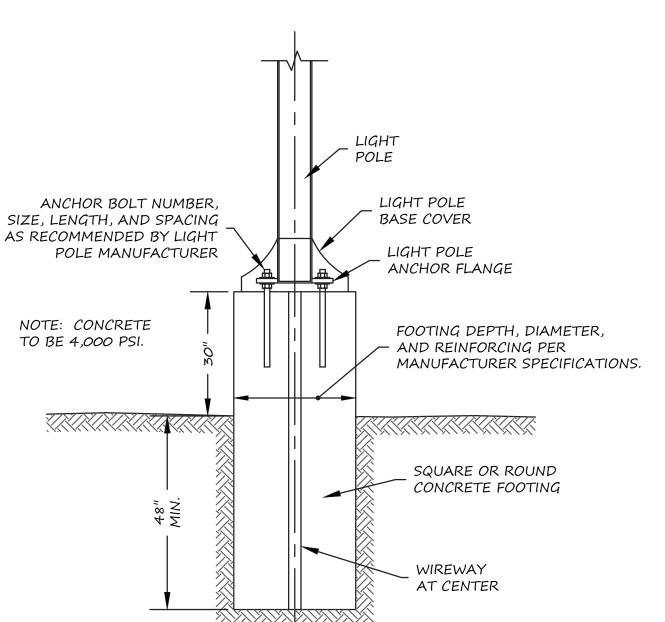
SUITE 2C C-29



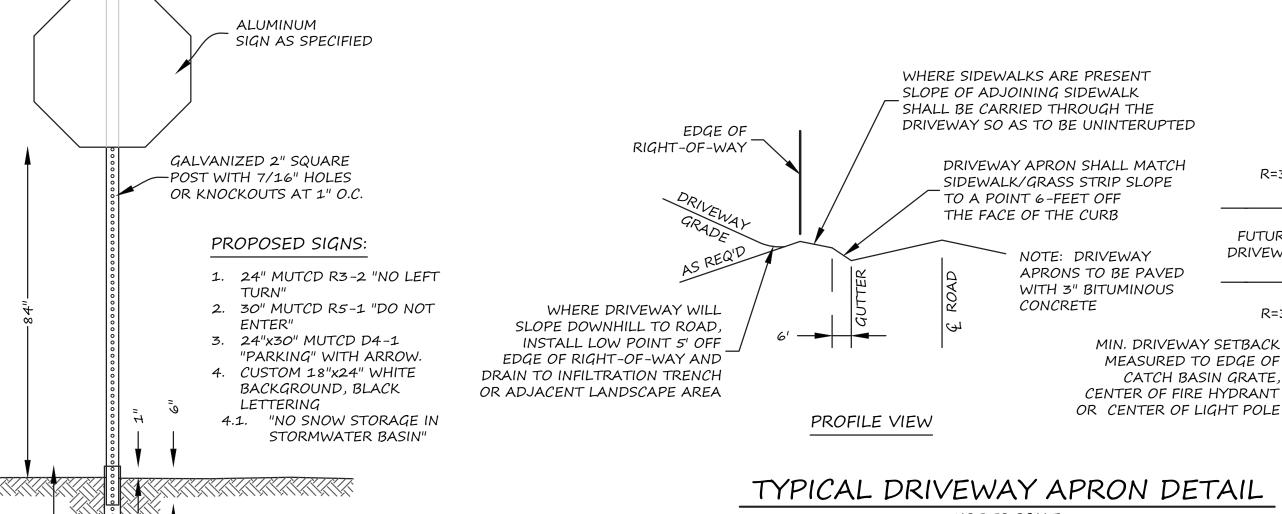
730 MAIN STREET MILLIS, MA 02054 508-376-8883(o)

D69-03





CONCRETE LIGHT POLE BASE DETAIL NOT TO SCALE

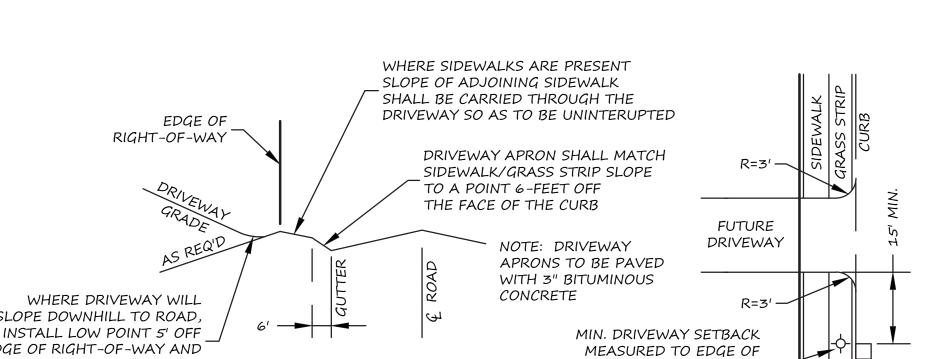


TYPICAL SIGN POST DETAIL

NOT TO SCALE

GALVANIZED 2-1/4" SQUARE ANCHOR POST WITH 7/16" HOLES

OR KNOCKOUTS AT 1" O.C.



TYPICAL DRIVEWAY APRON DETAIL NOT TO SCALE

ZONING DISTRICTS

GRANITE TRANSITION

NOTE: TRANSITION CURBS ARE REQUIRED BETWEEN

ALL SLOPED CURBING/BERM AND ALL VERTICAL

GRANITE CURBING AND GRANITE THROAT STONES.

GRANITE TRANSITION

CURB DETAIL

NOT TO SCALE

— 6" X 30" —

— 6" X 2*5*"—

→ POST

CURB (SLOPE TO VERT.)

SIGN PER TOWN OF MILLIS TYPICAL

SPECIFICATIONS

POST SIZE - 2 1/2"DIA. X 10'

ALL SIGNS MUST CONFORM TO MASS.

SIZE OF SIGN DEPENDS ON STREET

POST 7' FROM GROUND TO

BOTTOM OF SIGN

D.P.W. STANDARDS.

(NO SCALE)

CATCH BASIN GRATE,

PLAN VIEW

RESIDENTIAL R-S SPECIAL FLOOD HAZARD (SFH) DISTRICT ZONE C

WATERSHED PROTECTION (WP) DISTRICT

DANIEL J

Digitally signed by Daniel

Date: 2020.09.30 12:27:3

J. Merrikin, P.E.

ASSESSORS PARCELS & OWNERS 15-66

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TOWN CLERK DATE DATE APPROVED DATE ENDORSED:

TOWN OF MILLIS PLANNING BOARD

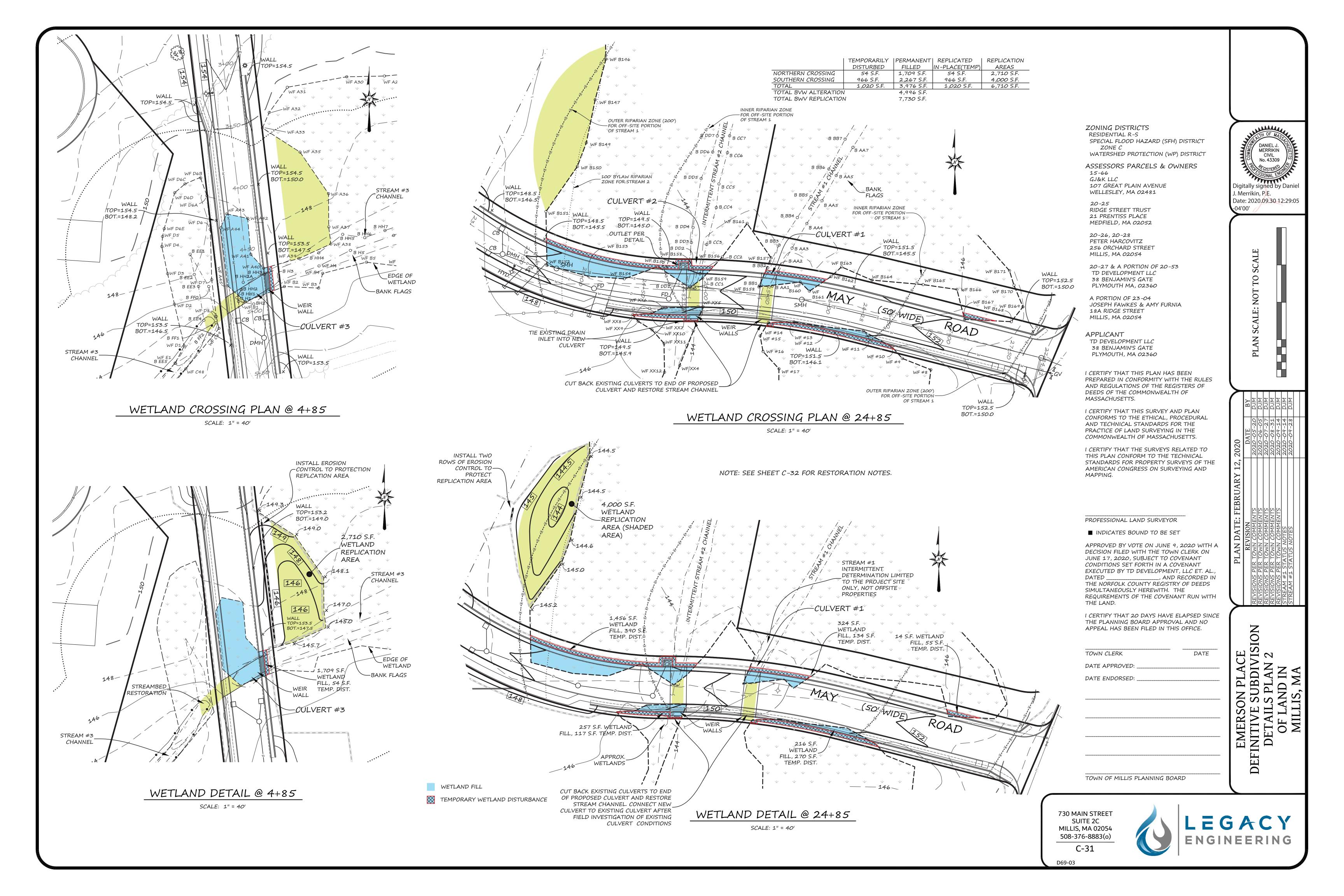
730 MAIN STREET SUITE 2C **MILLIS, MA 02054** 508-376-8883(o) C-30

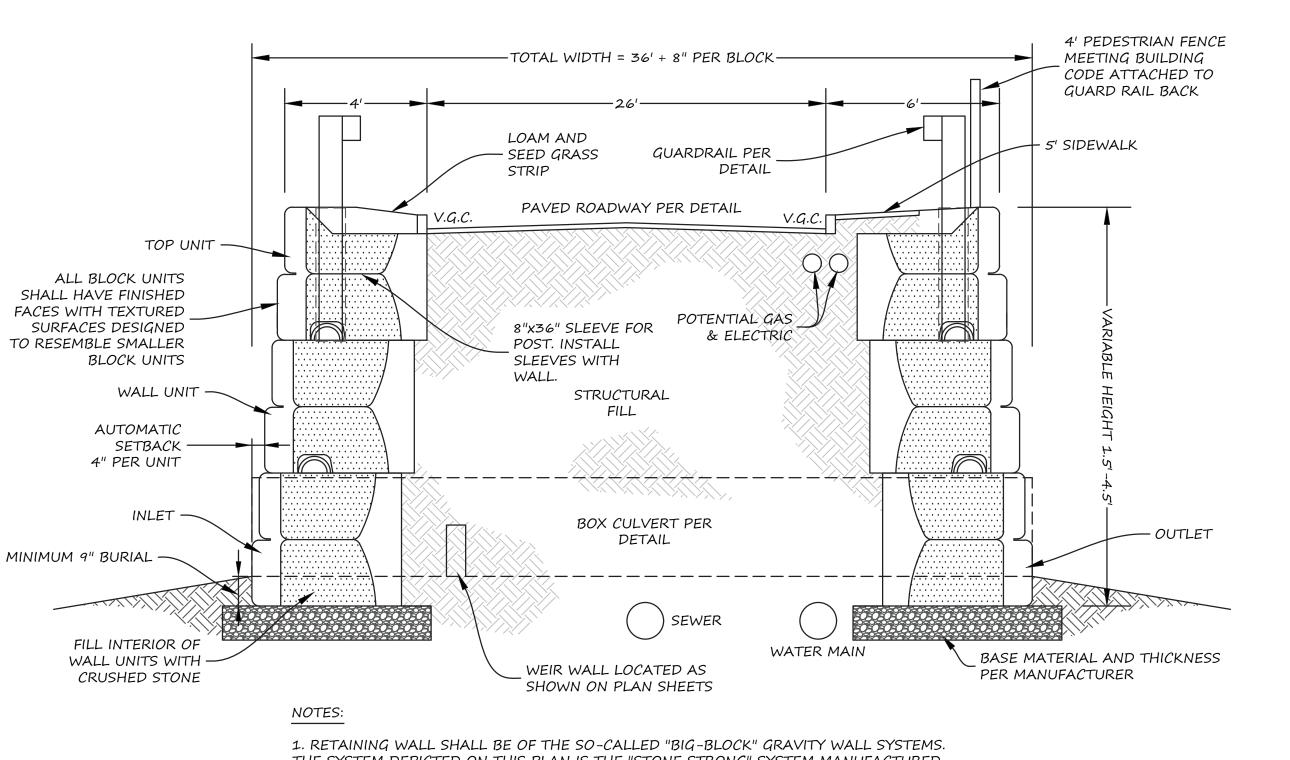
D69-03



ACE IVISION N 1

EMERSON PLACI DEFINITIVE SUBDIVI DETAILS PLAN 1 OF LAND IN





FOR CROSSINGS #2&3 PROPOSED REINFORCED CONCRETE END WALL TO BE DESIGNED BY STRUCTURAL -ENGINEER AND LOCATED AT WHERE EXISTING CULVERT IS CUT BACK TO. OPENING IS TO MATCH THE EXISTING CONDITIONS. ELEV.= MATCH EXISTING SUBSTRATE —3:1 SLOPE 1' THICK CONCRETE WIDE, ELEV. "Y"

SCHEDULE OF DIMENSIONS AND ELEVATIONS

WHERE POSSIBLE, ROUTE

SHALLOW UTILITIES

OVER CULVERT TOP

FOR CULVERT #1 & 2, EXISTING CULVERT TO BE

CHANNEL TO BE EXTENDED THROUGH THE

WATER AND OTHER

DEEPER UTILITIES

ROUTED UNDER

PROPOSED CULVERT, ENDING AT THE EXISTING

CUT BACK TO 3 FEET OUTSIDE OF THE SOUTH END OPENING OF PROPOSED CULVERT. EXISTING STREAM

1. CONCRETE: 5,000 SF PSI

2. DESIGN PER ASTM C1504

3. ALL REINFORCEMENT PER

SPECIFICATION FOR

3-SIDED CULVERT.

ASTM A-615-75.

4. DESIGNED TO AASHTO

MINIMUM AFTER 28

DAYS.

(GAS & ELECTRIC)

	CULVERT #3	CULVERT #1 &
NOTCH WIDTH "X"	2'	1.4'
NOTCH ELEV. "Y"	145.80	143.50
OVERFLOW WIDTH "W"	<i>5</i> ′	3'
OVERFLOW ELEV. "Z"	146.00	144.90
OVERFLOW HEIGHT "H"	0.5'	0.1'

-FINISHED GRADE/SURFACE

-MIN. 2' COVER

WEIR WALL AND EXISTING CULVERT

CULVERT.

WEIR WALL IN FRONT OF

CULVERT

CULVERT, SEE DETAIL

THE SYSTEM DEPICTED ON THIS PLAN IS THE "STONE STRONG" SYSTEM MANUFACTURED BY STONE STRONG, LLC. ALTERNATIVE SYSTEMS MAY BE ALLOWED BY THE OWNER. 2. RETAINING WALL SYSTEMS SHALL BE DESIGNED BY THE PRODUCT MANUFACTURER. THE DETAILS ON THIS PLAN ARE APPROXIMATE ONLY AND SUBJECT TO CHANGE BASED ON THE FINAL DESIGN BY A REGISTERED PROFESSIONAL ENGINEER.

TYPICAL ROADWAY CROSSING SECTION

NOT TO SCALE

STREAM CROSSING STANDARDS:

- 1. CROSSING WIDTH IS AT LEAST 1.2 TIMES THE BANKFULL WIDTH (BFW).
- 1.1. CULVERT 1: 9.75' AVERAGE BFW * 1.2 = 11.7' MIN.; 12' WIDTH PROVIDED 1.2. CULVERT 2: 8.0' AVERAGE BFW * 1.2 = 9.6' MIN.; 13' WIDTH PROVIDED
- 1.3. CULVERT 3: 10.5' AVERAGE BVW * 1.2 = 12.6' MIN.; 13' WIDTH PROVIDED 2. THE BOTTOM SUBSTRATE MATCHES THE EXISTING SUBSTRATE.
- 3. THE PROPOSED WATER DEPTH AND VELOCITY MATCH EXISTING CONDITIONS OVER
- 4. OPENNESS (X-SECTION AREA/L) IS MORE THAN 0.82. THE CROSS SECTIONAL AREA OF EACH CULVERT HAS BEEN CALCULATED TO EXCLUDE THE FLOW-CONTROL WEIR
- 4.1. CULVERT #1: 36.5 S.F./36'=1.01
- 4.2. CULVERT #2: 29.6 S.F./36'=0.82 4.3. CULVERT #3: 35.4 S.F./40'=0.89
- 5. BANKS MATCH THE EXISTING BANKS AND WILL BE CONSTRUCTED SO AS TO NOT HINDER RIVERINE WILDLIFE.

WETLAND REPLICATION NOTES:

- CONSTRUCT WETLAND REPLICATION AREAS IN ACCORDANCE WITH THE REPORT FROM GODDARD CONSULTANTS.
- STRIP EACH WETLAND REPLICATION AREA TO A DEPTH 6"-12" BELOW PROPOSED GRADES. INSTALL 6"-12" OF ORGANIC SOIL IN THE WETLAND REPLICATION AREAS WITH SALVAGED LOAM FROM THE STRIPPING OF FILLED WETLANDS AREAS. SUPPLEMENT WITH 50:50 MIX OF LOAM AND ORGANIC MATERIAL WITH ORGANIC CONTENT OF 12-20%. DO NOT DRIVE OVER LOAM AFTER INSTALLATION AND PROVIDE MICRO RELIEF PITS AND MOUNDS AS DIRECTED BY THE APPLICANT'S WETLAND SCIENTIST.
- INSTALL WOODY DEBRIS AND ROCKS THROUGHOUT REPLICATION AREA AS DIRECTED BY APPLICANT'S WETLAND SCIENTIST. PLANT EACH REPLICATION AREA IN ACCORDANCE WITH THE APPROVED WETLAND REPLICATION PLAN BY GODDARD CONSULTANTS.
- CONSTRUCTION OF THE WETLANDS IS TO OCCUR AS SOON AS PRACTICABLE AFTER ALTERATION OF EXISTING WETLANDS AND DURING THE SAME GROWING SEASON TO THE FULLEST EXTENT POSSIBLE.

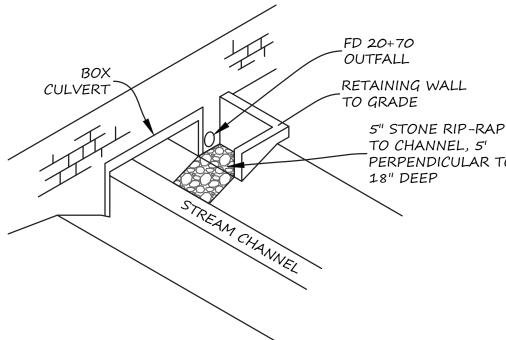
BANK/STREAM RESTORATION NOTES:

- SHOULD THE STREAM BE FLOWING DURING STREAM WORK ACTIVITY, A SMALL TEMPORARY COFFERDAM (E.G. SANDBAGS, SHEET METAL ETC..) SHALL BE INSTALLED ACROSS THE STREAMBED IMMEDIATELY UPGRADIENT OF THE PROPOSED WORK ACTIVITY. CONTAINED WATER WILL BE PUMPED DOWNGRADIENT AROUND THE WORK AREA TO THE STREAM CHANNEL DOWNSTREAM.
- 2. EFFORT SHALL BE MADE TO SCHEDULE WORK ON THE STREAM DURING PERIODS OF LOW WATER AND WHEN PREDICTED WEATHER CONDITIONS ARE ABSENT OF A SUBSTANTIAL FORECASTED RAIN EVENTS.
- EROSION CONTROLS WITHIN THE STREAM CHANNEL SHALL BE IMPLEMENTED DURING CONSTRUCTION, INCLUDING STAKED HAY-BALES AND SILT-FENCE INSTALLED ACROSS THE
- STREAMBED IMMEDIATELY DOWNGRADIENT OF THE PROPOSED WORK. ANY NECESSARY DEWATERING WILL BE PERFORMED USING CONSTRUCTION BEST MANAGEMENT PRACTICES.
- SIX INCH BIODEGRADABLE COIR FIBER LOGS SHALL BE USED TO RESTORE AND/OR STABILIZE THE STREAM BANKS IMMEDIATELY ADJACENT TO THE RETAINING WALL CONSTRUCTION. THE FIBER LOGS SHALL BE INSTALLED/EMBEDDED DIRECTLY ON THE FACE OF THE BANK AND ANCHORED (E.G. DUCKBILL, EARTH ANCHORS OR WOODEN STAKES). IF NECESSARY, APPROPRIATE BIODEGRADABLE EROSION CONTROL NETTING (E.G. JUTE) SHALL BE INSTALLED AND STAKED ACCORDING TO THE MANUFACTURER OVER ANY
- DISTURBED AREAS IMMEDIATELY ADJACENT TO THE STREAM CHANNEL SUBJECT TO FLOW OR EROSION, OR AS RECOMMENDED BY THE WETLAND SCIENTIST THE BOTTOM SUBSTRATE WITHIN THE RESTORED CHANNEL IMMEDIATELY ADJACENT TO THE NEW RETAINING WALLS SHALL BE SIMILAR TO THE COMPOSITION OF THE SUBSTRATE
- IN THE ADJACENT EXISTING STREAM CHANNEL AND WILL BE DESIGNED TO RESIST DISPLACEMENT. 8. EFFORTS SHALL BE MADE STOCKPILE AND RE-USE EXISTING STREAM SUBSTRATE WHEN APPROPRIATE.

CROSSING SEQUENCING NOTES

AFTER EROSION CONTROL INSTALLATION AT THE CROSSINGS, THE INITIAL PHASE OF CLEARING AND GRUBBING ON THE SITE SHALL INCLUDE THE ENTRANCE ROADWAYS, REPLICATION AREAS, AND A STOCKPILE/ STAGING AREA. THE REMAINDER OF THE SITE SHALL BE CLEARED AFTER THE FOLLOWING WORK IS UNDERTAKEN:

- INSTALL EROSION CONTROLS AT THE CROSSINGS.
- IF THERE IS FLOW IN THE STREAM CHANNEL(S), INSTALL COFFERDAM UPSTREAM AND BYPASS PUMP AS NOTED ABOVE. CLEAR THE CROSSINGS, WETLAND REPLICATION AREAS AND STAGING AREAS. GRUB UPLAND AREAS ONLY INITIALLY.
- INSTALL THE REMAINDER OF EROSION CONTROLS.
- INSTALL TEMPORARY EARTHEN BERMS ALONG EITHER SIDE OF THE CROSSINGS, INSIDE OF EROSION CONTROL LINES (EXCEPT AT THE STREAM CHANNEL). BERMS SHALL BE AT LEAST THREE FEET HIGH.
- REMOVE TOPSOIL AND UNSUITABLES AND STOCKPILE IN THE STAGING AREA.
- INSTALL A MINIMUM OF TWO FEET OF DRIVEWAY FILL THROUGH CROSSING TO STABILIZE THE ENTRANCE, EXCEPT AT THE STREAM CHANNEL AND TO PROVIDE A WORKING SURFACE.
- INSTALL UTILITIES THROUGH THE CROSSING AREAS.
- INSTALL CULVERTS.
- 10. INSTALL BASE LAYERS OF RETAINING WALLS TO A HEIGHT SUFFICIENT TO STABILIZE THE WORK AREA. 11. INSTALL ROADWAY RETAINING WALLS.
- GRADE AND INSTALL TOPSOIL IN BOTH WETLAND REPLICATION AREAS.
- 12. FINISH GRADE AREAS ALONG RETAINING WALLS AND CULVERTS.
- 13. RESTORE STREAM CHANNELS IMMEDIATELY ADJACENT TO NEW RETAINING WALLS. 14. PLANT WETLAND REPLICATION AREAS AS SOON AS WEATHER PERMITS AS DIRECTED BY WETLAND SCIENTIST.



MATCH

MATCH

MATCH

EXISTING

SUBSTRATE

EXISTING

SUBSTRATE

CHANNEL #1 RESTORATION

CHANNEL #2 RESTORATION

CHANNEL #3 RESTORATION

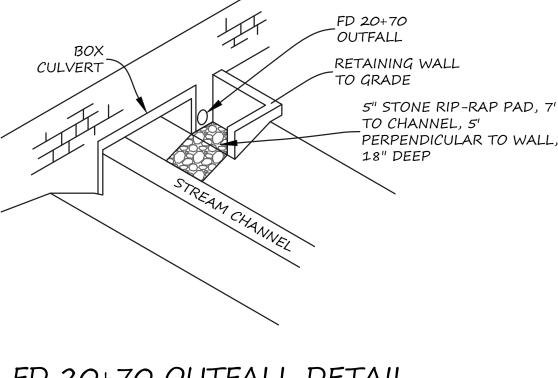
-EXISTING

-EXISTING

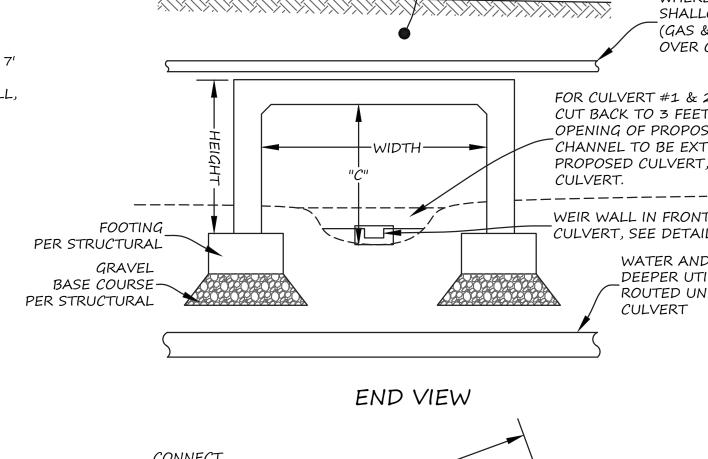
BANKS

EXISTING

SUBSTRATE



FD 20+70 OUTFALL DETAIL



H-20 LOADING, 1 TO 5 FEET COVER. 5. TONGUE AND GROOVE JOINT SEALED WITH BUTYL RESIN. CONNECT RETAINING WALL TO-PRECAST CONCRETE CULVERT PER CULVERT SECTION STRUCTURAL CONCRETE CONCRETE BLOCK BLOCK UNITS UNITS

BOX CULVERT DIMENSIONS

	CULVERT #1	CULVERT #2	CULVERT #3
BOX CULVERT WIDTH	12' MIN.	13' MIN.	13' MIN.
BOX CULVERT HEIGHT	6.5' MIN.	6' MIN.	6' MIN.
CLEARANCE "C"	4.5' MIN.	3.7' MIN.	3.2' MIN.
BOX CULVERT LENGTH	36'	36'	40'

RETAINING

WALL FOOTING-

PER STRUCTURAL

NOTES:

CULVERT FOOTING

PER STRUCTURAL

1. CULVERTS SHALL BE DESIGNED BY A REGISTERED STRUCTURAL ENGINEER FOR HS20 TRUCK LOADINGS.

TYPICAL PRECAST BOX CULVERT STREAM CROSSING

ZONING DISTRICTS RESIDENTIAL R-S

SPECIAL FLOOD HAZARD (SFH) DISTRICT ZONE C

WATERSHED PROTECTION (WP) DISTRICT ASSESSORS PARCELS & OWNERS

15-66 GJ&K LLC

107 GREAT PLAIN AVENUE WELLESLEY, MA 02481

20-25 RIDGE STREET TRUST

21 PRENTISS PLACE MEDFIELD, MA 02052 20-26, 20-28

PETER HARCOVITZ 256 ORCHARD STREET MILLIS, MA 02054

20-27 & A PORTION OF 20-53 TD DEVELOPMENT LLC 38 BENJAMIN'S GATE PLYMOUTH MA, 02360

A PORTION OF 23-04 JOSEPH FAWKES & AMY FURNIA 18A RIDGE STREET MILLIS, MA 02054

APPLICANT TD DEVELOPMENT LLC 38 BENJAMIN'S GATE PLYMOUTH, MA 02360

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I CERTIFY THAT THE SURVEYS RELATED TO THIS PLAN CONFORM TO THE TECHNICAL STANDARDS FOR PROPERTY SURVEYS OF THE AMERICAN CONGRESS ON SURVEYING AND

PROFESSIONAL LAND SURVEYOR

■ INDICATES BOUND TO BE SET

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, AND RECORDED IN THE NORFOLK COUNTY REGISTRY OF DEEDS SIMULTANEOUSLY HEREWITH. THE REQUIREMENTS OF THE COVENANT RUN WITH THE LAND.

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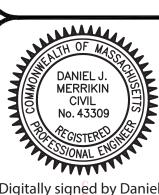
TOWN CLERK	DATE
DATE APPROVED:	****
DATE ENDORSED:	
	······································

TOWN OF MILLIS PLANNING BOARD

730 MAIN STREET SUITE 2C **MILLIS, MA 02054** 508-376-8883(o) C-32

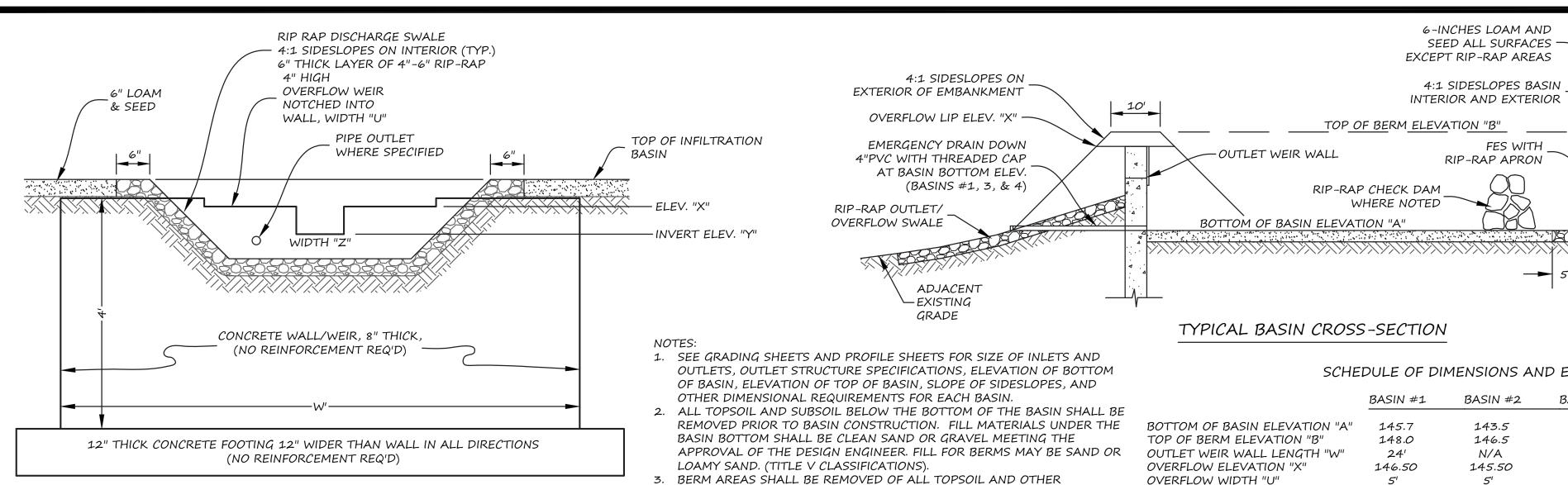


D69-03



Digitally signed by Daniel . Merrikin, P.E. 人 Date: 2020.09.30 12:30:00

SON PLAC, /E SUBDIV /TCS PLAN (EMERSO FINITIVE S DETAILS



FINISHED GRADE.

UNDERNEATH THE BASINS.

UNSUITABLE SOILS. BERM CORE SHALL CONSIST OF ORDINARY BORROW INSTALLED IN 12-INCH LIFTS TO A MINIMUM 93% PROCTOR DENSITY.

PLANS. WELLS ARE TO BE 4" PERFORATED PVC PIPE WRAPPED IN TWO

TYPICAL INFILTRATION BASIN CROSS-SECTION

NOT TO SCALE

12" THICK RIP-RAP

6" THICK RIP-RAP

5' WIDE x 6" THICK

6" THICK x 12"

BACKING

-WIDE CONCRETE

ALONG ENTIRE

MASTIC GASKET ALL JOINTS

PROVIDE "V" OPENINGS PRECAST

OUTSIDE OF PIPE

+ 2" CLEARANCE

THE ELIMINATOR BY GROUNDWATER

- FOOT, PLACED ACCORDING TO

AASHTO DESIGNATION M199.

OF 4,000 PSI IN 28 DAYS

TO MATCH DIMENSION OF PIPE

RESOURCES, INC. OR EQUAL

6" OF 1/2"-3/4"

CRUSHED STONE

MIN. 0.12 SQ. IN. STEEL PER VERTICAL

PRECAST REINFORCED CONCRETE SECTIONS

- TO CONFORM TO ASTM C-478, CONCRETE

- IN RISER SECTION AND SEAL WITH

NON-SHRINK MORTAR ALL AROUND

AND LIFTING HOLES

LEVEL SPREADER

CRUSHED STONE APRON

SLOPE (3:1)

SQ. OPENING

• - 48"±1" DIAMETER -

WEEP HOLE

OUTLET PIPE

1" CLEAR

5" MIN.

GRATES EQUAL TO ABOVE-SPECIFICATION.

MUST BE

ABOVE

-2' MIN.-

CURB

BOTTOM

6-INCHES OF LOAM &

SEED ON SIDESLOPES

4. MONITORING WELLS ARE TO BE IMPLEMENTED WHERE NOTED ON THE

LAYERS OF FILTER FABRIC WITH A REMOVABLE CAP SET 6" ABOVE

5. A SIEVE ANALYSIS IS TO BE COMPLETED FOR ALL FILL PLACED

INLET PIPE

6" GRAVEL

FILTER LAYER

1. WEIR LENGTH (A), DEPTH (B), &

SPILLWAY LIP SHALL BE AS

AND ELEVATION OF THE

PROFILE SHEETS.

BOTTOM WIDTH (C) OF SPILLWAY

SPECIFIED ON THE GRADING AND

GRADES AS CLOSELY AS POSSIBLE.

USE FLAT TOP SECTION

WHERE GRADES DICTATE —

OR FOR DOUBLE GRATES

2. WEIR LIP SHALL FOLLOW EXISTING

OUTLET WEIR AND RIP-RAP SWALE DETAIL

RIP-RAP

APRON

TAPERING CRUSHED STONE APRON

TOP OF WEIR CURB WALL MUST BE LEVEL

PLAN VIEW

SCHEDULE OF DIMENSIONS AND ELEVATIONS

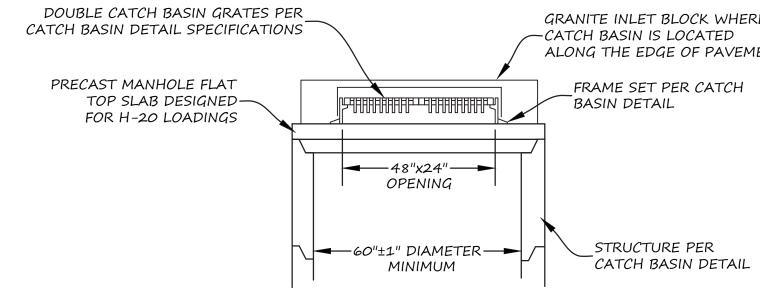
	BASIN #1	BASIN #2	BASIN #3	BASIN #4
BOTTOM OF BASIN ELEVATION "A"	145.7	143.5	144.5	146.8
TOP OF BERM ELEVATION "B"	148.0	146.5	147 <i>.</i> 5	147.6
OUTLET WEIR WALL LENGTH "W"	24'	N/A	26'	10'
OVERFLOW ELEVATION "X"	146.50	145.50	146.5	147.20
OVERFLOW WIDTH "U"	5'	5'	4'	8'
DISCHARGE ORIFICE INVERT "Y" ORIFICE WIDTH "Z"	146.00 1'	N/A N/A	N/A N/A	146.90 1.5
PIPE DIAMETER	N/A	15"	2"	1.3 N/A
PIPE INVERT	N/A	144.50	145.00	N/A

REBAR WELDED TO 1/4" PLATE, PLATE BOLTED TO INSIDE OF PIPE (TYP.) #4 REBAR WELD ALL JOINTS (TYP.) **BOLT EVERY OTHER**

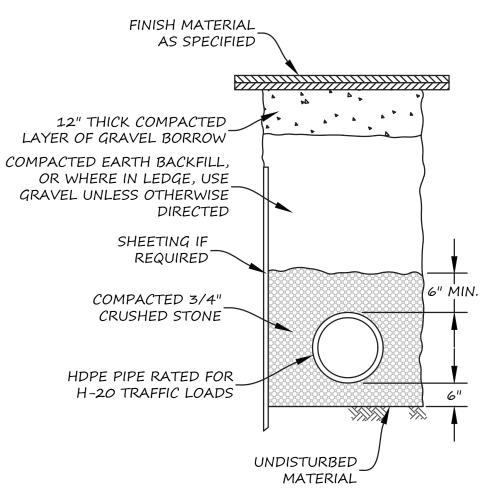
ADJACENT PROPOSED -

GRADE

INLET PIPE(S)



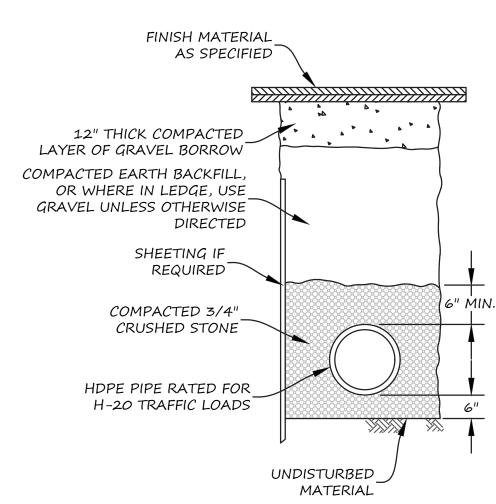
CATCH BASIN DOUBLE GRATE DETAIL



(NO SCALE)

BAR TO PIPE 12" DIA. PIPE 15" DIA. PIPE >15" DIA. PIPE NOTE: GRATES SHALL BE INSTALLED ON ALL PIPE DISCHARGES PIPE DISCHARGE GRATE DETAIL NOT TO SCALE

GRANITE INLET BLOCK WHERE ALONG THE EDGE OF PAVEMENT



TYPICAL DRAIN TRENCH

Digitally signed by Daniel J. Merrikin, P.E. 人 Date: 2020.09.30 12:30:44

DANIEL J.

MERRIKIN

JOSEPH FAWKES & AMY FURNIA 18A RIDGE STREET MILLIS, MA 02054

ZONING DISTRICTS

SPECIAL FLOOD HAZARD (SFH) DISTRICT

WATERSHED PROTECTION (WP) DISTRICT

ASSESSORS PARCELS & OWNERS

107 GREAT PLAIN AVENUE

WELLESLEY, MA 02481

RIDGE STREET TRUST

MEDFIELD, MA 02052

256 ORCHARD STREET

TD DEVELOPMENT LLC

38 BENJAMIN'S GATE

A PORTION OF 23-04

PLYMOUTH MA, 02360

20-27 & A PORTION OF 20-53

21 PRENTISS PLACE

20-26, 20-28

PETER HARCOVITZ

MILLIS, MA 02054

RESIDENTIAL R-S

ZONE C

15-66

20-25

GJ&K LLC

APPLICANT TD DEVELOPMENT LLC 38 BENJAMIN'S GATE PLYMOUTH, MA 02360

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PROFESSIONAL LAND SURVEYOR

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TOWN CLERK	DATE
DATE APPROVED:	
PATE ENDORSED:	
	······

TOWN OF MILLIS PLANNING BOARD

ENGINEERING

730 MAIN STREET SUITE 2C **MILLIS, MA 02054** 508-376-8883(o) C-33

SION EMER INITIV DETA

D69-03

LEVEL SPREADER DETAIL

NOT TO SCALE

INSTALL JOINT

SEAL (TYPICAL)

CONCRETE CURB WEIR

2' LENGTH OF CONCRETE

HIGHER THAN WEIR WALL

CURB ON EITHER SIDE

TOP ELEVATION 0.25'

LOAM & SEED

SIDESLOPES

WALL PER SECTION

MANHOLE FRAME & COVER TO BE 24" ROUND CAST IRON EQUAL TO EAST USE FLAT TOP SECTION JORDAN IRON WORKS NO. OMA211000100. WHERE GRADES DICTATE COVER TO READ "DRAIN" 24"±1" DIA. BRICKS MAY BE USED FOR GRADE -ADJUSTMENTS. FRAME TO BE SET IN FULL BED OF MORTAR 5"MIN. BUTYL RUBBER JOINT (TYP.) MIN. 0.12 SQ. IN. STEEL PER VERT. -FOOT, PLACED ACCORDING TO "48"±1" DIAMETER AASHTO DESIGNATION M189 1-#3 BAR AROUND OPENINGS 5" MIN. → ALUMINUM M.H. -FOR PIPES 18" DIAMETER STEPS 12" O.C. AND OVER 1" COVER SAFETY TYPE $/CLEAR^{-}$ -PIPE-FLOOR OF STRUCTURE TO BE HEADERS LAID FLAT BRICK CHIPS AND MORTAR OR 5" MIGEMENT CONC. CLASS "A" PROVIDE "V" OPENINGS PRECAST IN RISER SECTION 6" OF 1/2" TO 3/4"_

INVERTED ARCH WITH

BRICKS LAID ON EDGE

1. MANHOLE DIAMETER SHALL BE INCREASED IF NUMBER, SIZE, AND CONFIGURATION OF INLET/OUTLET PIPING NECESSITATES A LARGER MANHOLE DIAMETER.

CRUSHED STONE

PRECAST CONCRETE DRAIN MANHOLE

NOT TO SCALE

2. SUBSTITUTE FRAME AND COVERS SHALL BE MADE IN USA AND SHALL BE APPROVED BY THE ENGINEERING DEPARTMENT OR PLANNING BOARD PRIOR TO CONSTRUCTION.

NOT TO SCALE

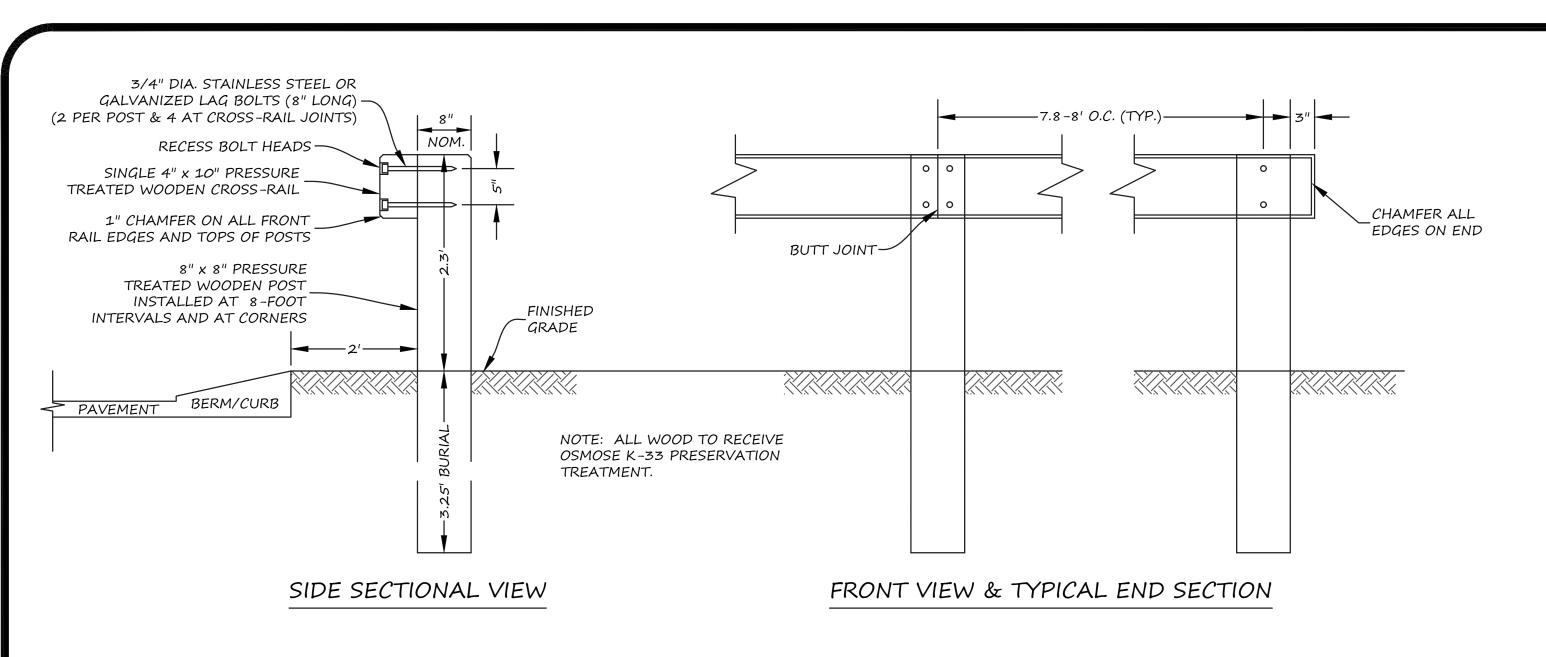
PRECAST CONCRETE CATCH BASIN

DOUBLE GRATES, WHICH SHALL BE EAST JORDAN IRON WORKS NO. OMA544000002 WITH

1. NO BELL ENDS IN CATCH BASIN. CONNECTIONS TO BE TIGHTLY SEALED WITH MORTAR.

2. PROVIDE 5' DIAMETER STRUCTURE WITH FLAT TOP WITH RECTANGULAR OPENING FOR

TYPICAL SECTIONAL VIEW STANDARD CATCH BASIN SHALL HAVE A 24" SQUARE CAST IRON GRANITE INLET BLOCK WHERE FRAME & GRATE EQUAL TO -- CATCH BASIN IS LOCATED EAST JORDAN IRON WORKS ALONG A CURB LINE NO. OMA552000050 NOT TO SCALE BRICKS MAY BE USED FOR GRADE ADJUSTMENTS (12" MAX.) FRAME TO BE SET IN FULL BED OF MORTAR.



WOOD GUARD RAIL DETAIL NOT TO SCALE

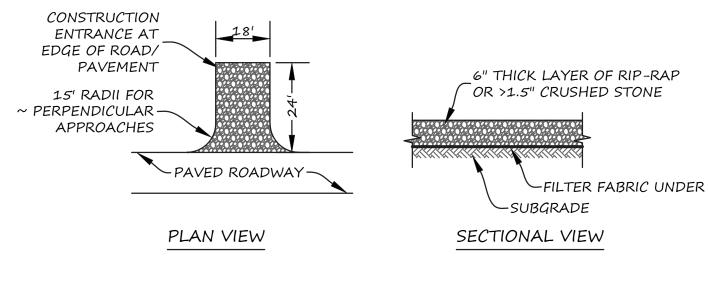
3:1 SIDESLOPES
(VARIABLE SWALE DEPTH)

6" DEEP RIPRAP APRON AT
SWALE INLET, GRASSED FOR
REMAINDER OF LENGTH.

1. SWALE SLOPE TO BE AT LEAST 0.5%

BASIN #2 SWALE DETAIL

NOT TO SCALE

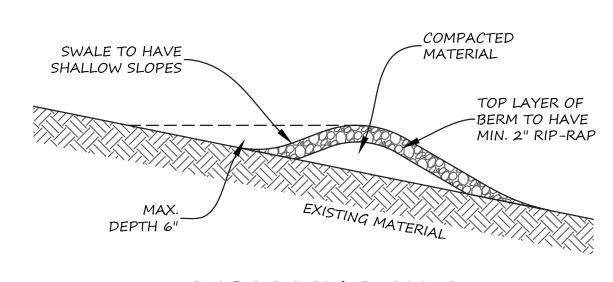


NOTES:

- 1. ENTRANCE SHALL BE INSTALLED BEFORE ANY EXCAVATION WORK OCCURS
- ENTRANCE SHALL BE MAINTAINED IN GOOD CONTITION UNTIL A PAVED DRIVEWAY IS INSTALLED. REPLACE ENTRANCE IF FILLED WITH SOILS OR IF SOILS ARE BEING TRACKED ONTO ADJACENT ROADWAYS.

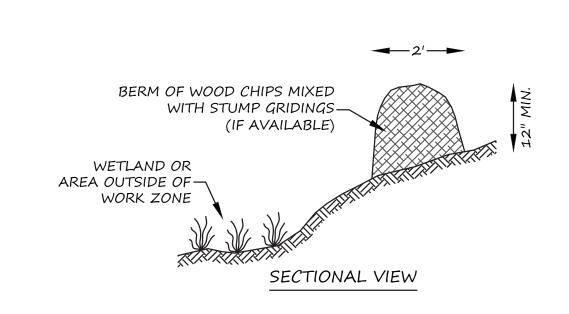
CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE



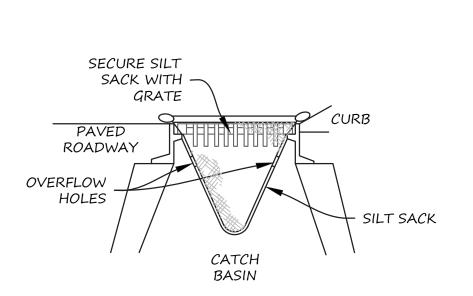
TEMPORARY SWALE

NOT TO SCALE



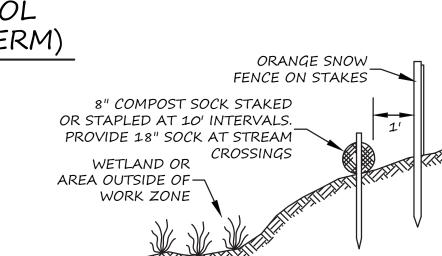
EROSION CONTROL DETAIL (MULCH BERM)

NOT TO SCALE



CATCH BASIN SILT SACK DETAIL

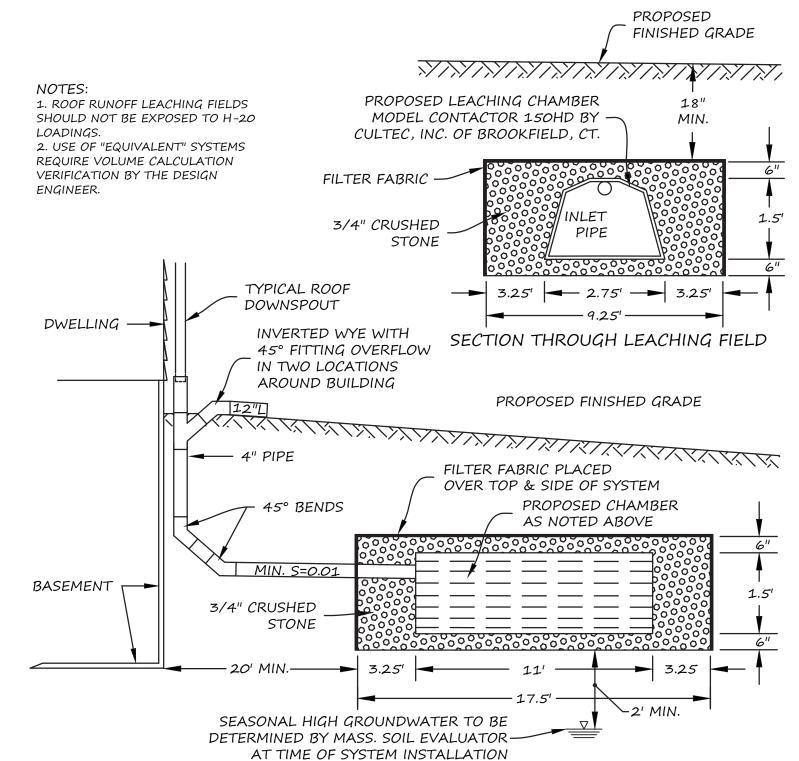
NOT TO SCALE



NOTE: NON-BIODEGRADABLE SOCK SHELL FILLED WITH COMPOST MEDIA. JOINTS SHALL BE OVERLAPPED BY AT LEAST TWO FEET.

SECTIONAL VIEW

EROSION CONTROL (COMPOST SOCK)

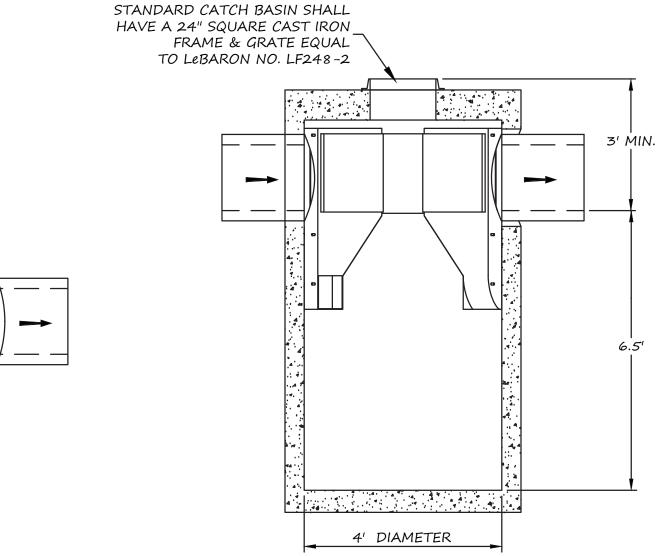


DESIGN NOTES: 1. THIS ROOF RUI

PLAN VIEW

- THIS ROOF RUNOFF LEACHING SYSTEM WAS DESIGNED TO CAPTURE 1-INCH OF RUNOFF FROM AN 1,800 S.F. ROOF AREA, WHICH IS TYPICAL FOR THE PROPOSED DEVELOPMENT. PROVIDE ONE SYSTEM FOR EACH HOUSE (OR TWO SMALLER SYSTEMS WITH THE EQUIVALENT STORAGE VOLUME).
- THE COMPLETED ROOF RUNOFF COLLECTION SYSTEM MUST COLLECT RUNOFF FROM THE ENTIRE ROOF AREA OF THE PROPOSED HOUSE. THE SYSTEM DESIGNED HAS A STORAGE CAPACITY OF 153 C.F.
 PIPING FOR THE ROOF DOWNSPOUT COLLECTION SYSTEM MAY BE SCHEDULE 40 PVC OR HDPE.

ROOF RUNOFF LEACHING FIELD



PROFILE VIEW

FIRST DEFENSE (4' DIA. MODEL)

NOT TO SCALE

ZONING DISTRICTS

RESIDENTIAL R-S SPECIAL FLOOD HAZARD (SFH) DISTRICT ZONE C

WATERSHED PROTECTION (WP) DISTRICT

ASSESSORS PARCELS & OWNERS 15-66

GJ&K LLC 107 GREAT PLAIN AVENUE WELLESLEY, MA 02481

20-25

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PROFESSIONAL LAND SURVEYOR

■ INDICATES BOUND TO BE SET

APPROVED BY VOTE ON JUNE 9, 2020 WITH A DECISION FILED WITH THE TOWN CLERK ON JUNE 17, 2020, SUBJECT TO COVENANT CONDITIONS SET FORTH IN A COVENANT EXECUTED BY TD DEVELOPMENT, LLC ET. AL., DATED ______, AND RECORDED IN THE NORFOLK COUNTY REGISTRY OF DEEDS SIMULTANEOUSLY HEREWITH. THE REQUIREMENTS OF THE COVENANT RUN WITH THE LAND.

I CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE THE PLANNING BOARD APPROVAL AND NO APPEAL HAS BEEN FILED IN THIS OFFICE.

TOWN CLERK DATE

DATE APPROVED: _______

DATE ENDORSED: ______

TOWN OF MILLIS PLANNING BOARD

730 MAIN STREET SUITE 2C MILLIS, MA 02054 508-376-8883(o) C-34



D69-03

Date: 2020.09.30 12:31:43 04'00'

DANIEL J. MERRIKIN CIVIL No. 43309

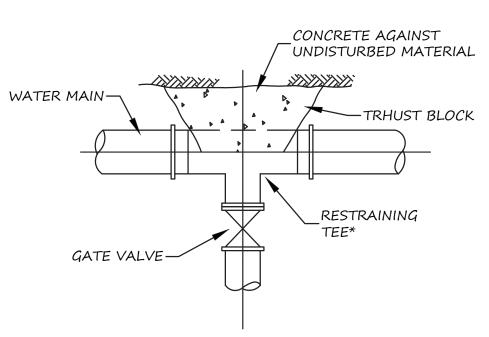
Digitally signed by Daniel J.

Merrikin, P.E.

PLAN DATE: FEBRUARY 12, 2020

REVISIONS
EVISIONS PER TOWN COMMENTS
EVISIONS

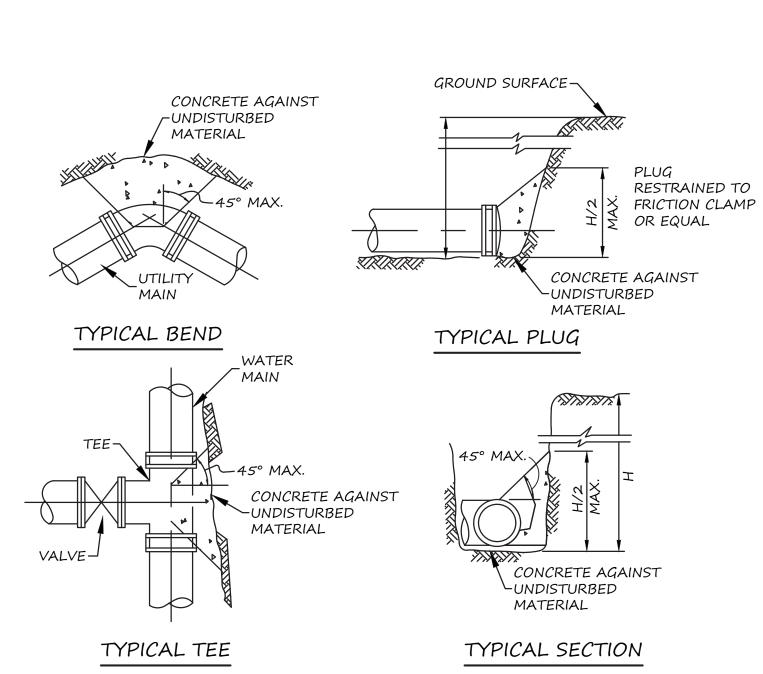
EMERSON PLACE
DEFINITIVE SUBDIVISION
DETAILS PLAN 4
OF LAND IN
MILLIS, MA



NOTE: MECHANICAL JOINT RESTRAINT SYSTEMS SUCH AS "MEGALUG" MAY BE USED SUBJECT TO APPROVAL BY THE DEPARTMENT OF PUBLIC WORKS/ENGINEERING DEPT.

TYPICAL LATERAL GATE VALVE CONNECTION DETAILS

NOT TO SCALE



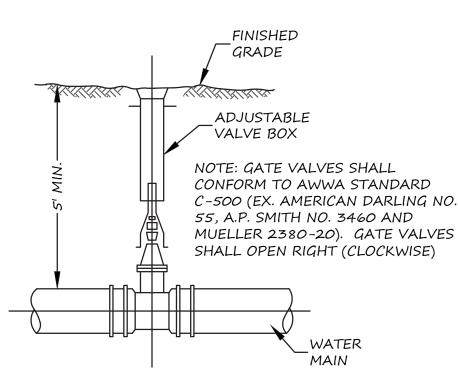
NOTE: CONCRETE FOR THRUST BLOCKS SHALL BE NO LONGER THAT THE RATIO OF 2 1/2 : 5 1/2 AND SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 2000 PSI (SO THAT FLANGES AND BOLTS ARE ACCESSIBLE)

BEARING AREAS OF THRUST BLOCKS (BEARING AREA IN SQUARE FT.)				
PIPE SIZE 1/4 BEND 1/8 BEND 1/16 BEND PL				PLUG TEES
2 AND 4	5	5		5
6 AND 8	8	8		8
10 AND 12	22	13	8	16

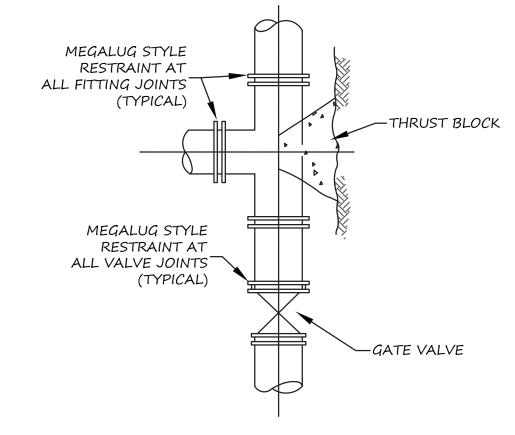
NOTE: TO BE PROVIDED FOR ALL WATER MAINS (IN ADDITION TO MEGALUG JOINT RESTRAINTS) AND LOW-PRESSURE SEWER MAIN AND SEWER FORCE MAIN BENDS.

TYPICAL THRUST BLOCK DETAIL

NOT TO SCALE



TYPICAL GATE VALVE NOT TO SCALE



NOTE: ALL GATE VALVES AND FITTINGS SHALL BE PROVIDED WITH MEGALUG STYLE JOINT RESTRAINTS. TEES AND BENDS SHALL ALSO BE PROVIDED WITH THRUST BLOCKS.

TYPICAL JOINT RESTRAINT DETAIL

WATER MAIN

WATER MAIN

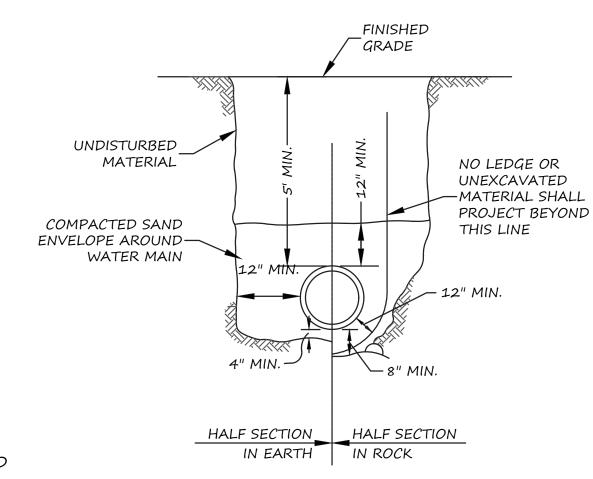
18" MINIMUM

-18" MINIMUM

DRAIN OR

SEWER PIPE

NOT TO SCALE



WATER MAIN TRENCH DETAIL

NOT TO SCALE

MANHOLE

OR CATCH

- WATER MAIN

DRAIN/SEWER PIPE

TD DEVELOPMENT LLC 38 BENJAMIN'S GATE PLYMOUTH MA, 02360

20-27 & A PORTION OF 20-53

ZONING DISTRICTS

SPECIAL FLOOD HAZARD (SFH) DISTRICT

WATERSHED PROTECTION (WP) DISTRICT

ASSESSORS PARCELS & OWNERS

107 GREAT PLAIN AVENUE

WELLESLEY, MA 02481

RIDGE STREET TRUST

MEDFIELD, MA 02052

21 PRENTISS PLACE

PETER HARCOVITZ 256 ORCHARD STREET

MILLIS, MA 02054

20-26, 20-28

RESIDENTIAL R-S

ZONE C

GJ&K LLC

20-25

A PORTION OF 23-04 JOSEPH FAWKES & AMY FURNIA 18A RIDGE STREET MILLIS, MA 02054

APPLICANT TD DEVELOPMENT LLC 38 BENJAMIN'S GATE PLYMOUTH, MA 02360

I CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

I CERTIFY THAT THIS SURVEY AND PLAN CONFORMS TO THE ETHICAL, PROCEDURAL AND TECHNICAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS.

I CERTIFY THAT THE SURVEYS RELATED TO THIS PLAN CONFORM TO THE TECHNICAL STANDARDS FOR PROPERTY SURVEYS OF THE AMERICAN CONGRESS ON SURVEYING AND MAPPING.

PROFESSIONAL LAND SURVEYOR

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TOWN OF MILLIS PLANNING BOARD

CURB BOX SHALL BE CAST IRON WITH 2 1/2" OPENING; COVER W/ BRASS BOLT; ADJUSTABLE -FROM 3 1/2' TO 5 1/2' BURY COVER TO READ "SEWER" GREEN TRACER TAPE MARKED "CAUTION -16" SEWER LINE BELOW" LOW-PRESSURE 1.25" BRASS BALL SEWER MAIN VALVE CURB STOP 6" CRUSHED STONE 1.25" PVC CHECK VALVE PVC TEE--6" CRUSHED STONE 1.25" HDPE SERVICE LATERAL (SDR21)

ONE FULL LENGTH OF WATER

STRUCTURAL FILL

TO SPRINGLINE OF

ALONG THE TRENCH-

TO A POINT THREE

FEET ON EITHER SIDE

OF THE PIPE INTERSECTION

WATER MAIN CROSSING DETAIL

NOT TO SCALE

DRAIN/SEWER PIPE AND

MAIN PIPE CENTERED ON

AS FAR FROM CROSSING

AS POSSIBLE

- CROSSING TO KEEP JOINTS

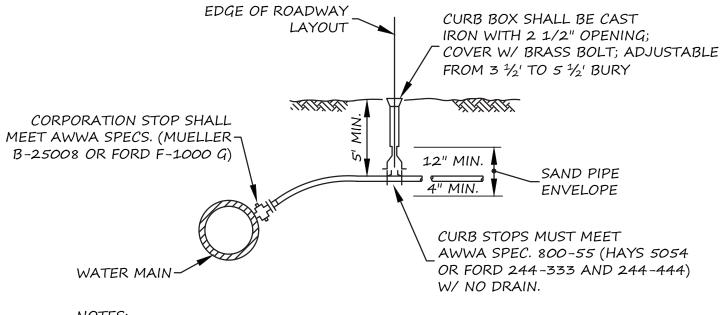
LOW PRESSURE SEWER SERVICE LATERAL DETAIL NOT TO SCALE

Digitally signed by Daniel. Merrikin, P.E. Date: 2020.09.30 12:35:11

ACE IVISION N 5 EMERSO EFINITIVE S DETAILS

730 MAIN STREET SUITE 2C **MILLIS, MA 02054** 508-376-8883(o)





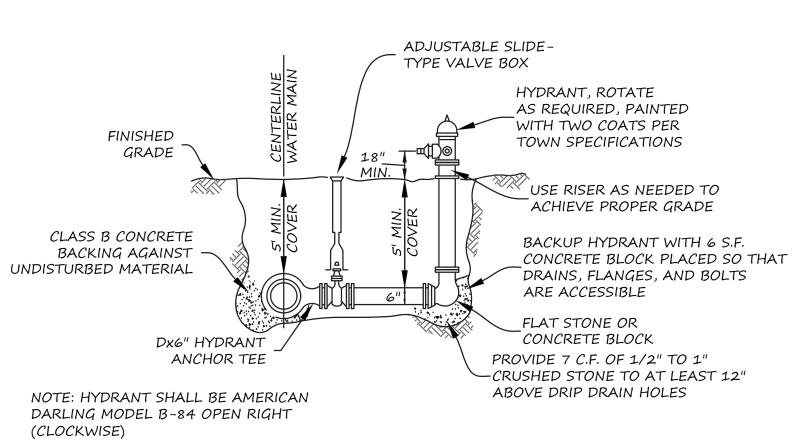
NOTES:

WWT-799 TYPE K.

- 1. COPPER TUBING SHALL MEET AWWA SPEC. 76-CR TYPE K OR FEDERAL SPEC.
- 2. 1 1/2-INCH AND LARGER SERVICES SHALL BE INSTALLED WITH A SADDLE. 3. WATER SERVICE PIPING SHALL BE BEDDED IN COMPACTED SAND, MIN. 4"

UNDERNEATH, MIN. 12" ON EITHER SIDE AND MIN. 12" ABOVE.

TYPICAL WATER SERVICE CONNECTION



TYPICAL HYDRANT ASSEMBLY DETAIL NOT TO SCALE

C-35

D69-03

SEWER SYSTEM NOTES:

- REFERENCE TOWN OF MILLIS SEWER CONSTRUCTION GUIDELINES GOVERNING SEWER WORK IN THE TOWN OF MILLIS, MASSACHUSETTS REVISED JULY 2007 (HEREIN THE "MILLIS SEWER
- 2. ALL MATERIALS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MILLIS SEWER STANDARDS.
- 3. UNLESS OTHERWISE SPECIFIED, GRAVITY SEWER MAINS AND SERVICES SHALL BE SDR35 PVC. 4. SERVICE LATERAL LOCATIONS ARE SHOWN APPROXIMATELY AND ARE SUBJECT TO FIELD CHANGE DEPENDING ON ACTUAL SITE CONDITIONS. LATERALS SHALL BE AT LEAST 10 FEET
- FROM WATER SERVICES. 5. SEWER TESTING FOR ALL SEWER MAINS:
- 5.1. All debris shall be removed from manholes and shall thoroughly flush from sewers and force mains prior to testing for watertightness. All sewers and force mains, (not including manholes), service connections and sewer laterals constructed shall be tested and shall satisfactorily meet the test requirements prior to final acceptance of the work. An exfiltration, infiltration, or low pressure air tests for gravity sewers and shall perform water pressure test for the force main.
- 5.2. SEWER LINE MANDREL TESTING: Prior to testing all lines shall be flushed and jetted. A 5% maximum deflection test is required for the PVC mainline pipes after final trench compaction has taken place and 30 days after installation. The test shall be conducted with a rigid mandrel (go no go) device cylindrical in shape and constructed with a minimum of nine or ten evenly spaced arms or prongs. The mandrel shall be hand pulled by the contractor through all sewer lines. Any section of sewer not passing the mandrel shall be uncovered and the contractor shall re-round or replace the sewer at the contractor's expense. The excavation shall be mechanically compacted to a minimum of 95 percent and the pipe retested.
- 5.3. SEWER LINE TELEVISION INSPECTION OF LINES: All mainline gravity sewer pipes shall be television tested upon completion of all other tests. The testing shall be done by a company specializing in this type of work. The camera shall be drawn through the pipe, with a color image projected upon a color video screen that includes a distance. All services shall be located a distance from the manhole on the tape. All imperfections should be noted on the tape. Two copies of the tape shall be furnished to the Town of Millis. Any misalignments, imperfections, sags, or other unacceptable observations shall be corrected by the contractor. If the line is not flushed properly and requires re-flushing the contractor shall re-video the line. 6. SEWER MANHOLE TESTING:
- 6.1. Each manhole shall be tested immediately after assembly and prior to backfilling.
- 6.2. All lift holes shall be plugged with an approved non-shrink grout. All pipes entering the manhole shall be plugged; taking care to securely brace the plug from begin drawn into the manhole. The test head shall be placed at the inside of the top of the core section and the seal inflated in accordance with the manufacturers recommendations. A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to 9 inches. The manhole shall pass the test if the time is greater than those listed

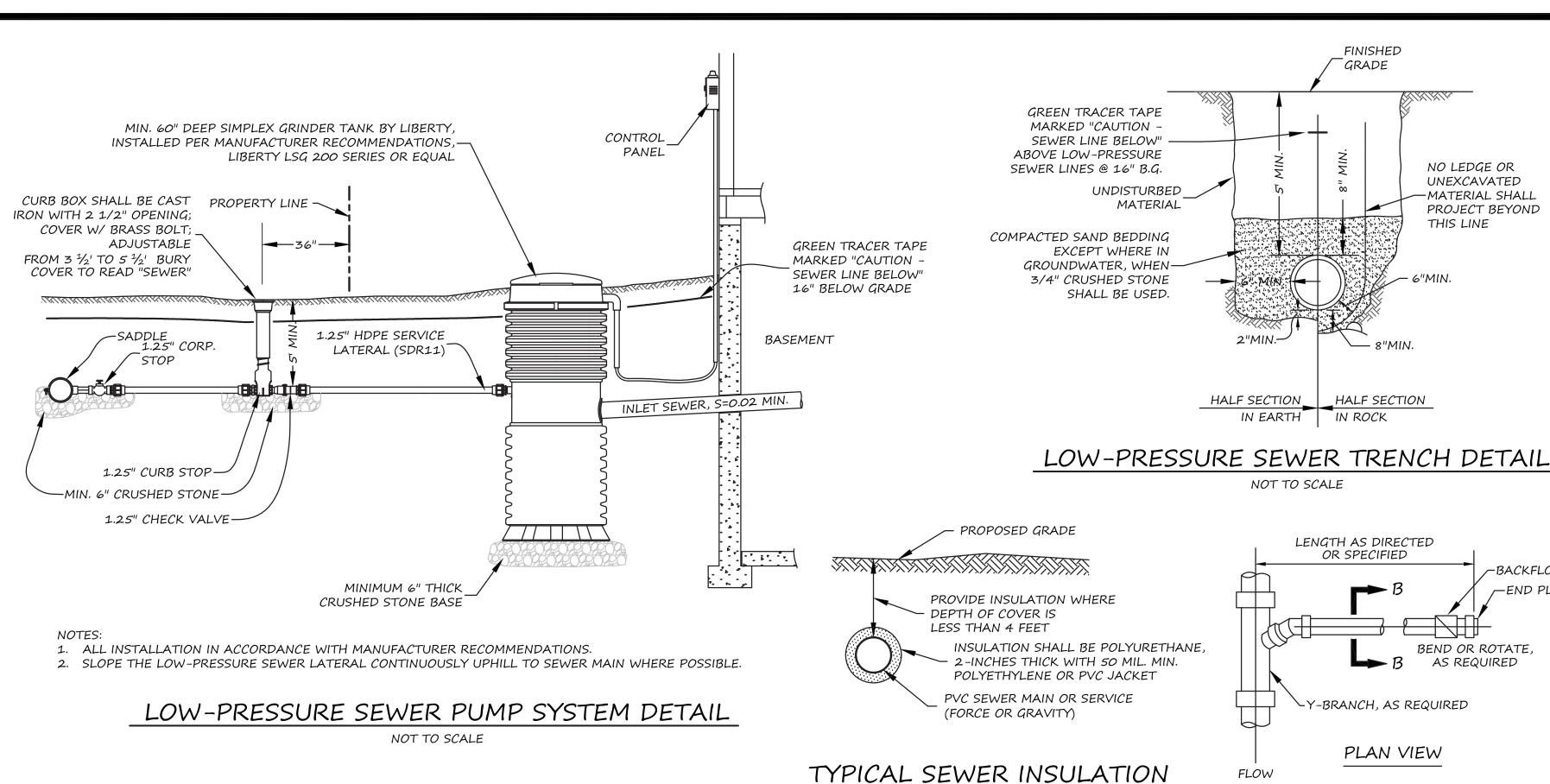
Depth of Manhole 4 and 5 footdiameter	Maximum Allowable Time (sec)
0-10'	60
10-15'	7 <i>5</i>
<i>15-25'</i>	90

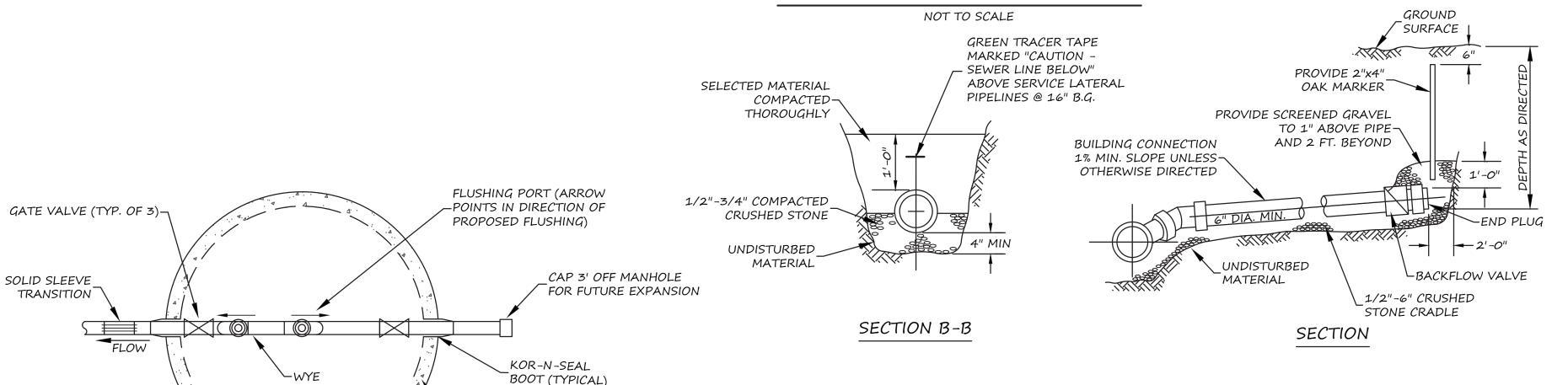
If the manhole fails the initial test, necessary repairs shall be made with a non-shrink grout while the vacuum is still being drawn. Retesting shall proceed until a satisfactory test is obtained. Following satisfactory test results, the manhole may be backfilled.

- 7. GRAVITY SEWER TESTING REQUIREMENTS (LOW-PRESSURE AIR TEST):
- 7.1. The low pressure air test shall be performed with AIR-LOC equipment manufactured by Cherne Industrial Inc., Hopkins, Minnesota; New Britain Prod., New Britain, Pa., or equal
- 7.2. All wyes, tees, or ends of lateral stubs, shall be capped to withstand the internal test pressures. Caps shall be easily removable for future lateral connections or extensions.
- 7.3. After a manhole-to-manhole section of sewer has been backfilled and cleaned, it shall be plugged at each manhole with pneumatic plugs. The pneumatic plugs shall be such that they will hold against the line test pressure without requiring external blocking or bracing. One of the plugs shall have three hose connections. Air for inflation of the triple connection pneumatic plug shall be supplied through a factory-equipped control panel. One hose shall be used for inflation of the plug. The second hose shall be used for continuously reading the air pressure in the sealed line. The third hose shall be used for introducing low pressure air into the sealed line.
- 7.4. There shall be a 3 1/2" or larger diameter, 0-30 psi gauge mounted on the control panel for reading of the internal pressure in the line being tested. Calibrations from 0-10 psi shall cover 90% of the complete dial range.
- 7.5. Low pressure air shall be introduced into the sealed line until the internal air pressure reaches 4 psi greater than the average backpressure of any ground water that may be over the pipe. At least two (2) minutes shall be allowed for the air pressure to stabilize. After the stabilization period, the third hose shall be quickly disconnected from the control panel.
- 7.6. The portion of line being tested shall be accepted if the portion under test does not lose air at a rate greater than 0.003 cfm per square foot of internal pipe surface when tested at an average pressure of 3.0 psig greater than any back pressure exerted by ground water that may be over the pipe at the time of the test.
- 7.7. The requirements shall be accomplished by performing the test as follows: The time required in minutes for the pressure to decrease from 3.5 to 2.5 psig (greater than the average back pressure of any ground water over the pipe) shall not be less than the time shown for the given diameters in the following tables:

ve Diameter in Inches	Minute
4	2.0
6	3.0
8	4.0
10	5.0
12	5.5
15	7.5
18	8 <i>.5</i>
21	10.0
24	11.5

- 7.8. In areas where ground water is known to exist, a one-half inch diameter capped pipe nipple, approximately 10" long, shall be installed through the manhole. This shall be done at the time the sewer line is installed. Immediately prior to the performance of the line acceptance test the ground water level shall be determined by removing the pipe cap, blowing air through the pipe nipple into the ground so as to clear it, and then connecting a clear plastic tube to the pipe nipple. The hose shall be held vertically and a measurement of the height in feet of water shall be taken after the water stops rising in this plastic tube. The height in feet shall be divided by 2.3 to establish the pounds of pressure that will be added to all readings.
- 7.9. If leakage exceeds the specified amount make the necessary repairs or re-placements required to permanently reduce the leak-age to within the specified limit, and the test shall be repeated until the leakage requirement is met.
- 8. LOW-PRESSURE SEWER TESTING REQUIREMENTS (FORCE MAIN PRESSURE TEST):
- 8.1. The section of pipe to be tested shall be filled with water of approved quality, and all air shall be expelled from the pipe.
- 8.2. For the pressure test, by pumping, raise the water pressure (based on the elevation at the lowest point of the section under test and corrected to the gauge location) to a pressure in pounds per square inch numerically equal to the class rating of the pipe. If the pressure cannot be maintained for a period of one hour, the section under test shall be considered as having failed the pressure
- 8.3. Following a successful pressure test, perform a leakage test by metering the flow of water into the pipe while maintaining in the section being tested a pressure equal to the average pressure to which the pipe will be subjected under normal conditions of service. This shall be done by placing the section under system pressure or by pumping. If the average leakage during a 12 hour period exceeds 75gallons per inch diameter per mile of pipe per day, the section shall be considered as having failed the leakage test.
- 8.4. The lengths of joint to be used in determining the allowable leakage shall be based on the nominal diameter of the pipe.
- 8.5. If the section fails to pass the pressure test, the leakage test, or both, everything necessary to locate, uncover, even to the extent of uncovering the entire section, and repair or replace the defective pipe, fitting, or joint shall be done.





TYPICAL BUILDING SEWER SERVICE CONNECTION NOT TO SCALE

MAX. HEIGHT 12"

SET RIM ELEVATION AT FINISHED GRADE

STANDARD MANHOLE FRAME AND COVER TO BE 24" ROUND CAST IRON FRAME AND COVER

EQUAL TO EAST JORDAN IRON WORKS NO. OMA211000100. COVER TO READ "SEWER".

USE BRICK COURSES AS NEEDED TO BRING

MANHOLE RIM TO REQUIRED ELEVATION.

4' DIA. PRECAST

SEWER MANHOLE

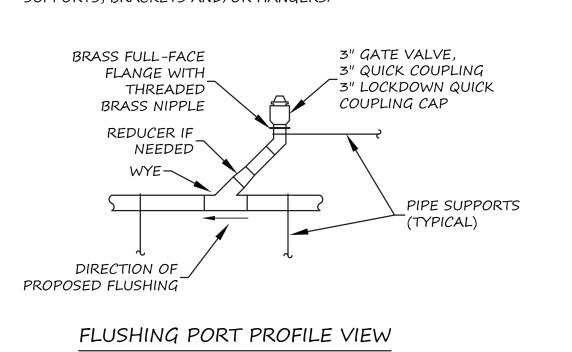
1. ALL PIPING AND FITTINGS INSIDE MANHOLE TO BE PVC. PIPING TO BE SDR21 PVC. FITTINGS TO MEET SDR17 250 PSI.

PLAN VIEW

2. VALVES TO BE BRASS AND RATED FOR 200 PSI.

NOTES:

3. ALL PIPES, VALVES AND FITTINGS TO BE FULLY SUPPORTED WITH PIPE SUPPORTS, BRACKETS AND/OR HANGERS.



LOW-PRESSURE SEWER MANHOLE CLEANOUT

NOT TO SCALE

L24"CLEAR\ A.S.T.M. & A.A.S.H.T.O. SPECS 0.12 SQ. IN./LIN. FT. BUTYL RUBBER JOINT (TYP) ALUMINUM M.H. STEPS 12" O.C.-SAFETY TYPE BRICK TABLE - INNER EDGE AT EL. OF CROWN OF HIGHEST PIPE - 1" PITCH UP TO WALL PLACE COUPLINGS OR JOINT ON ALL PIPES -WITHIN 3' OF WALL FLEXIBLE M.H. SLEEVE W/ ADJUSTABLE METAL -STRAP SECTIONAL ELEVATION 6" OF 1/2"-3/4"

SET CASTING IN GROUT

AND GROUT ALL AROUND

ALL OVER

PAINT WITH 2 COATS

OF BITUMASTIC No. 50 -

CRUSHED STONE

STEELL REINFORCED TO

STANDARD PRECAST - CONE SECTION: 2', PLACE COUPLING OR JOINT 3' OR 4' LENGTHS ON ALL PIPES WITHIN 3' OF MANHOLE WALL ADJUSTABLE METAL STANDARD PRECAST STRAP (TYP) BARREL SECTION -COMBINATIONS OF BRICK INVERT 1', 2', 3' OR 4' LENGTHS M.H. STEPS STANDARD PRECAST SHAPE SMOOTH ROUNDED -BASE SECTION INVERT FOR SIDE 3' LENGTH **ENTRANCE PIPES** FLEXIBLE M.H. SLEEVE NOTE: (TYPICAL) DO NOT MORTAR OVER INTERIOR BRICK WORK PLAN

TYPICAL PRECAST CONCRETE MANHOLE DETAILS NOT TO SCALE

ZONING DISTRICTS RESIDENTIAL R-S

SPECIAL FLOOD HAZARD (SFH) DISTRICT ZONE C

WATERSHED PROTECTION (WP) DISTRICT

DANIEL J.

Digitally signed by Daniel

Date: 2020.09.30 12:39:29

J. Merrikin, P.E.

ASSESSORS PARCELS & OWNERS

GJ&K LLC

WELLESLEY, MA 02481 20-25

107 GREAT PLAIN AVENUE

RIDGE STREET TRUST 21 PRENTISS PLACE MEDFIELD, MA 02052

PETER HARCOVITZ 256 ORCHARD STREET MILLIS, MA 02054

20-26, 20-28

-BACKFLOW VALVE

-END PLUG

20-27 & A PORTION OF 20-53 TD DEVELOPMENT LLC 38 BENJAMIN'S GATE PLYMOUTH MA, 02360

A PORTION OF 23-04 JOSEPH FAWKES & AMY FURNIA 18A RIDGE STREET MILLIS, MA 02054

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TOWN OF MILLIS PLANNING BOARD

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DETA Ш

730 MAIN STREET **MILLIS, MA 02054** 508-376-8883(o)



D69-03

SUITE 2C

C-36