



Coppi Environmental, LLC

Wetland & Soil Services, Consulting & Permitting

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Main-land Development Consultants, Inc.
Beal Pond Road, Madrid TWP
July 10, 2026

SOIL NARRATIVE REPORT

DATE: Soil profiles (100 series) observed on June 22, 2026, in two (2) additional mapping areas. Previous mapping completed in 2025.

BASE MAP: Base map provided by Mainland Development Consultants. Contour map 2-foot intervals, scaled 1" = 80', from the Maine Office of GIS.

GROUND CONTROL: Test pits located with a Trimble Geo 7x Hand-Held GPS.

THE SOIL MAPPING CONFORMS WITH A HIGH-INTENSITY (CLASS A) SURVEY.

Class A - Soil Survey

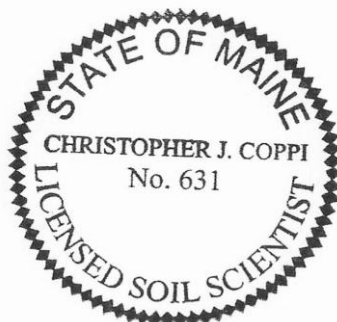
1. Mapping units of 1/8 acre or greater.
2. Scale of 1" = 100' or larger.
3. Map units not to contain dissimilar limiting inclusions greater than 1/8 acre; dissimilar inclusions may total > 1/8 acre per map unit delineation, if not continuous.
4. Ground control – Base map provided by Mainland Development Consultants, Inc.
5. Base map with 2' contour lines.

This was prepared for a residential subdivision project served by private water and sewer. The accompanying soil profile descriptions, soil map and this soil narrative report were done in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, and the Maine Board of Certification of Geologists and Soil Scientists.

Christopher J. Coppi

Christopher J. Coppi

L.S.S. #631, S.E. #403 7 / 10 / 2026
Date



BECKET (Typic Haplorthods)

SETTING

Parent Material:	Sandy glacial till.
Landform:	Generally located on drumlins and glaciated uplands.
Position in Landscape:	Upper portions of landform; crests and upper sideslopes.
Slope Gradient Ranges:	(B) 3-8% (C) 8-20% (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Well drained, with a perched water table 2.0 to 3.5 feet beneath the soil surface, through spring run-off and during periods of heavy precipitation.

Typical Profile Description:	Surface layer:	Pinkish gray & dark reddish brown fine sandy loam, 0-3"
	Subsurface layer:	Reddish brown & strong brown fine sandy loam, 3-12"
	Subsoil layer:	Yellowish brown & light olive brown gravelly sandy loam, 12-31"
	Substratum:	Mixed olive gravelly sandy loam & sand, 31-65"

Hydrologic Group:	Group C
Permeability:	Moderate in the solum, and moderately slow to slow in the substratum.
Depth to Bedrock:	Deep, greater than 40 inches
Hazard to Flooding:	None

INCLUSIONS (Within Mapping Unit)

Similar:	Marlow
Dissimilar:	Chesuncook, Made Land, Skerry, Telos

USE AND MANAGEMENT

Development with subsurface wastewater disposal: The limiting factor for building site development is wetness due to the presence of a perched water table 2.0 to 3.5 feet beneath the soil surface in the spring of the year. Proper foundation drainage is recommended for construction. Becket soil is suitable for subsurface wastewater disposal in accordance with State of Maine Rules for Subsurface Wastewater Disposal.

Stormwater Management: Becket soils are well drained with occasional perched water table 2.0 to 3.5 inches beneath the soil surface. Soil solum (0-31") typically exhibits permeabilities of 0.6 to 2.0 inches per hour, while firm substratum (31"-60") has a permeability of 0.06-0.6 inches per hour.

BURNHAM
(Frigid Histic Humaquepts)

SETTING

Parent Material:	Coarse-loamy glacial till.
Landform:	Nearly level to sloping soils.
Position in Landscape:	Occupies lower positions in the landscape, base of long slopes, swales, and depressional areas.
Slope Gradient Ranges:	(A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Very poorly drained with a perched ground water table 0 to 0.5 feet beneath the soil surface from October to May and during periods of heavy precipitation. May be ponded from time to time.		
Typical Profile Description:	Surface layer:	Black to dark reddish brown muck (organic), 0-13"	
	Subsurface layer:	Mottled gray, gravelly silt loam, 13-34"	
	Substratum:	Mottled dark grayish brown, gravelly silt loam, 34-65"	
Hydrologic Group:	Group D		
Permeability:	0-2.0"	0.6 - 2.0 in/hr	
	> 2.0"	0.06 - 2.0 in/hr	
Depth to Bedrock:	Greater than 60".		
Hazard to Flooding:	None		

INCLUSIONS
(Within Mapping Unit)

Dissimilar: Monarda (Brayton), Chesuncook, Skerry, Telos

USE AND MANAGEMENT

Subsurface Wastewater and Stormwater: The limiting factor for building site development is wetness, due to the presence of a shallow water table for a portion of the year. Proper foundation drainage or other site modification is recommended for construction. Burnham soils are usually classified as wetlands, based on the combined consideration of hydric conditions, hydrology, and vegetation.

CHESUNCOOK (Typic Haplorthods)

SETTING

Parent Material: Loamy glacial till.
Landform: Glaciated uplands.
Position in Landscape: Side slope.
Slope Gradient Ranges: (B) 3-8% (C) 8-20% (D) 20%+

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately well drained, with a perched water table 1.5 to 3.0 feet beneath the existing soil surface March through May and during periods of excessive precipitation.

Typical Profile Description:

Surface layer:	Dark reddish brown organic, 0-3"
Subsurface layer:	Light gray, dark reddish brown to reddish brown and yellowish brown silt loam and loam, 3-14"
Subsoil layer:	Olive brown to grayish brown, gravelly loam, 14-24"
Substratum:	Olive gravelly loam, 24-36"

Hydrologic Group: Group C and D (if hardpan or seasonal high-water table is within 24")

Permeability: Moderate in the solum, moderately slow or slow in the compact substratum.

Depth to Bedrock: Very deep, greater than 60 inches.

Hazard to Flooding: None

INCLUSIONS

(Within Mapping Unit)

Similar: Marlow, Peru, Skerry
Dissimilar: Monarda, Telos

USE AND MANAGEMENT

Subsurface wastewater disposal: The limiting factor for building site development is wetness due to the presence of a perched water table 1.5 to 3.0 feet beneath the soil surface for some portion of the year. Proper foundation drainage or other site modification is recommended for construction. Chesuncook soil is suitable for subsurface wastewater disposal, in accordance with the State of Maine Rules for Subsurface Wastewater Disposal.

Stormwater Management and Construction: The limiting factor for building site development is wetness, due to the presence of a perched water table 1.5 to 3.0 feet beneath the soil surface for some portion of the year. Proper foundation drainage or other site modification is recommended for construction. Expected permeability for Chesuncook soils ranges from 0.6-2.0 in/hr in the soil solum (A & B horizons) to 0.0-0.2 in/hr in the dense till (C horizon).

MARLOW (Paxton)

SETTING

Parent Material:	Loamy soils underlain by compact, loamy glacial till.
Landform:	Drumlins and glaciated uplands.
Position in Landscape:	Uppermost portions of landform.
Slope Gradient Ranges:	(C) 8-20% (D) 20+%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Well drained, with a perched water table 2.0 to 3.5 feet below the soil surface through March and April, and during periods of excessive rainfall.	
Typical Profile Description:	Surface layer:	Dark gray and gray fine sandy loam, 0-6"
	Subsurface layer:	Yellowish red fine sandy loam, 6-13"
	Subsoil layer:	Light olive brown fine sandy loam, 13-17"
	Substratum:	Olive and olive gray fine sandy loam, 17-65"
Hydrologic Group:	Group C	
Surface Run Off:	Moderate	
Permeability:	Moderate in solum, and moderately slow to slow in the compact substratum.	
Depth to Bedrock:	Very deep, greater than 60".	
Hazard to Flooding:	None	
Erosion Factors:	K: .20 - .32	

INCLUSIONS

(Within Mapping Unit)

Similar:	Becket
Dissimilar:	Chesuncook, Peru, Skerry, Telos

USE AND MANAGEMENT

Development with subsurface wastewater disposal: Marlow soils are well suited to building site development, however, proper foundation drainage or other site modification is recommended since there is a perched water table 2.0 to 3.5 feet beneath the soil surface for a portion of the year. Marlow soil is suitable for subsurface wastewater disposal, in accordance with the State of Maine Rules for Subsurface Wastewater Disposal.

Stormwater Management and Construction: Marlow soils exhibit soil permeabilities of .6 to 2.0 inches/hour in the soil solum and 0.0 to .2 in the dense C-horizon.

MONARDA
(Aeric Haplaquepts)

SETTING

Parent Material:	Loamy glacial till.
Landform:	Nearly level to sloping soils.
Position in Landscape:	Occupies lower positions in the landscape, base of long slopes, swales, and depressional areas.
Slope Gradient Ranges:	(A) 0-3% (B) 3-8% (C) 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Poorly drained with a perched groundwater table 0 to 1.5 feet beneath the soil surface from October through May and during periods of heavy precipitation.		
Typical Profile Description:	Surface layer:	Black organic layer, 0-4"	
	Subsurface layer:	Light brownish gray, gravelly silt loam, 4-9"	
	Subsoil layer:	Gray, olive gray and olive, gravelly silt loam, 9-33"	
	Substratum:	Gray, gravelly silt loam, 33"+	
Hydrologic Group:	Group D		
Permeability:	Moderate to moderately slow in the solum, moderately slow to slow in the substratum.		
Depth to Bedrock:	Deep, greater than 60".		
Hazard to Flooding:	None, except adjacent to small waterbodies		
Erosion Factors (KF):	0-6"-20-.28		
	6"-65" .32		

INCLUSIONS
(Within Mapping Unit)

Similar:	Telos (somewhat poorly drained)
Dissimilar:	Pecham and Burnham, VPD

USE AND MANAGEMENT

Subsurface wastewater disposal: The limiting factor for building site development is wetness due to the presence of a high perched water table 0 to 1.5 feet below the existing the soil surface for a significant portion of the year. This soil is unsuitable for on-site subsurface wastewater disposal. Monarda soil may be classified as wetlands, based on the combined consideration of hydric conditions, hydrology, and vegetation.

Stormwater Management and Construction: Monarda soils are limiting use soils due to presence of a high-water table throughout the year. Proper foundation and erosion and sedimentation control measures are necessary in Monarda soil areas for construction purposes. Expected permeability rates for Monarda soils are 0.6 – 6.0 in/hr in the soil solum and 0.0 – 0.2 in/hr in the dense till.

PERU
(Typic Haplorthods)

SETTING

Parent Material: Compact loamy glacial till.

Landform: Glaciated uplands and drumlins.

Position in Landscape: Upper portions of landform.

Slope Gradient Ranges: (B) 3-8% (C) 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class: Moderately well drained, with a perched water table 1.5 to 2.5 feet beneath the existing soil surface from November through April and during periods of excessive precipitation.

Typical Profile Description:

Surface layer:	Grayish brown and dark brown fine sandy loam, 0-6"
Subsurface layer:	Strong brown and dark yellowish brown fine sandy loam, 6-19"
Subsoil layer:	Light olive brown gravelly fine sandy loam, 19-24"
Substratum:	Light olive brown gravelly sandy loam, 24-65"

Hydrologic Group: Group C or D if hardpan is 24" or less.

Surface Runoff: Moderate in the solum, moderately slow or slow in the compact substratum.

Permeability: Moderate in the solum, moderately slow or slow in the compact substratum.

Depth to Bedrock: Very deep, greater than 40".

Hazard to Flooding: None

Erosion Factors: K: .17 - .24

INCLUSIONS
(Within Mapping Unit)

Similar: Chesuncook and Skerry

Dissimilar: Brayton, Monarda, Telos

USE AND MANAGEMENT

Stormwater design: Peru soils are moderately well drained, with seasonal high groundwater table of approximately 1.5 to 3.5 feet beneath the soil surface. Peru soils generally exhibit permeabilities of 0.6-2.0 inches/hour in the upper horizons, and 0.06-0.6 inches/hour in the firm basal till horizons of 1.5'+ (approximately).

Subsurface wastewater disposal: Peru soil is suitable for subsurface wastewater disposal.

SKERRY (Aquic Haplorthods)

LUPC Received
7/24/2026

SETTING

Parent Material:	Loamy glacial till underlain by sandy textured denser till.
Landform:	Drumlins and glaciated uplands.
Position in Landscape:	Usually occupies upper components of landform.
Slope Gradient Ranges:	(B) 3-8% (C) 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Moderately well-drained, with a perched water table 1.5 to 3.5 feet below the soil surface from November through May.		
Typical Profile Description:	Surface layer:	Light gray fine sandy loam, 0-4"	
	Subsurface layer:	Dark reddish brown fine sandy loam, 4-20"	
	Subsoil layer:	Yellowish brown fine sandy loam, 20-25"	
	Substratum:	Mixed brown and light olive brown fine sandy loam and sand, 25-65"	
Hydrologic Group:	Group C or D if hardpan is 24" or less		
Surface Run Off:	Moderate		
Permeability:	Moderate in solum and slow or moderately slow in the compact substratum.		
Depth to Bedrock:	Deep, greater than 40".		
Hazard to Flooding:	None		

INCLUSIONS (Within Mapping Unit)

Similar:	Peru and Chesuncook
Dissimilar:	Brayton and Monarda, Telos (Colonel)

USE AND MANAGEMENT

Development with subsurface wastewater disposal: The limiting factor for building site development is wetness due to the presence of a water table 1.5 to 3.5 feet beneath the soil surface for some period during the year. Proper foundation drainage is recommended for construction. Skerry soil is suitable for subsurface wastewater disposal as defined by the State of Maine Rules for Subsurface Wastewater Disposal. Steep slopes may nullify the allowance for soil conditions of a Skerry.

Stormwater design: Skerry soils are moderately well drained. Soil permeabilities are expected to be 0.6 – 2.0 inches/hour in the upper portions of soil profile, and 0.06 – 0.6 inches/hour in the compact substratum, generally 25" – 65" beneath the soil surface.

TELOS (Typic Haplorthods)

LUPC Received
7/24/2026

SETTING

Parent Material:	Loamy dense basal till.
Landform:	Lower side slopes in glaciated uplands.
Position in Landscape:	Nearly level to steeply sloping soils on upland till ridges.
Slope Gradient Ranges:	(B) 3-8% (C) 8-20%

COMPOSITION AND SOIL CHARACTERISTICS

Drainage Class:	Somewhat poorly drained, with a seasonal water table generally 9-15" beneath the soil surface in spring and during wettest seasons.		
Typical Profile Description	Surface layer:	Pinkish gray silt loam, 0-4"	
	Subsurface layer:	Dark reddish to yellowish brown silt loam, 4-15"	
	Subsoil layer:	Light olive brown silt loam, 15-20"	
	Substratum:	Olive gravelly silt loam, 20-65"	
Hydrologic Group:	Group D		
Surface Run Off:	Slow		
Permeability:	Moderate in the solum, and slow or very slow in the substratum.		
Depth to Bedrock:	Very deep, greater than 65".		
Hazard to Flooding:	None		

INCLUSIONS

(Within Mapping Unit)

Similar: Chesuncook and Peru

Dissimilar: Burnham, Monarda

USE AND MANAGEMENT

Subsurface wastewater disposal: The limiting factor for building site development is wetness, due to the presence of a groundwater table 1.0 to 1.5 feet below the soil surface for some portion of the year. Proper foundation drainage or other site modification is recommended for construction. Telos soils typically meet the minimum soil conditions for subsurface wastewater disposal rules in most cases.

Stormwater Management and Construction: Telos soils are somewhat limiting for construction due to the presence of a high-water table near the surface. Proper foundation and erosion and sedimentation control measures is advised especially on sloping areas of ground water seepage. Expected permeability rates for Telos soils range from 0.6 – 2.0 in/hr in the soil solum to 0.0 – 0.2 in the dense till.

6/22/26
Date

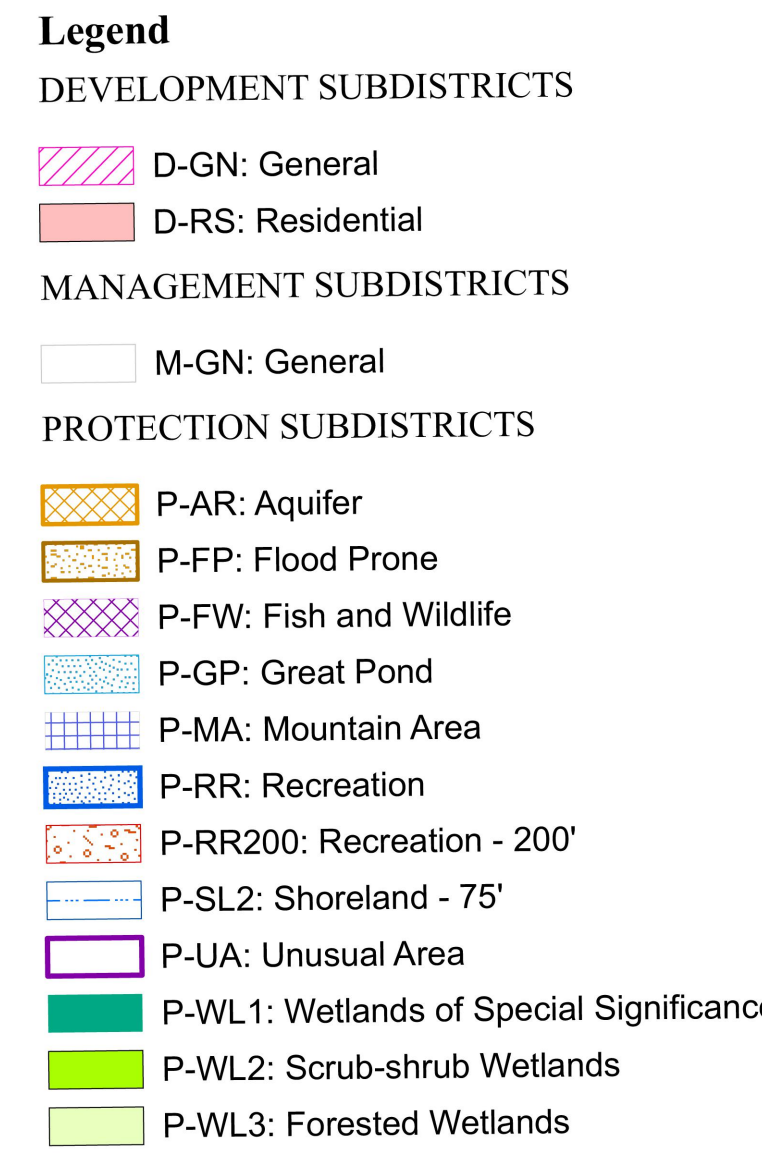


DRAWING SCALE:

(IN FEET)
1 INCH = 500 FT

[illegible]

MLDC NO. 25-024 1 0





BEAL POND RD
MADRID, MAINE, 04966

WALTER HAINES

MADE FOR

P.O. BOX 207
PHILLIPS, ME ,04966

[illegible]

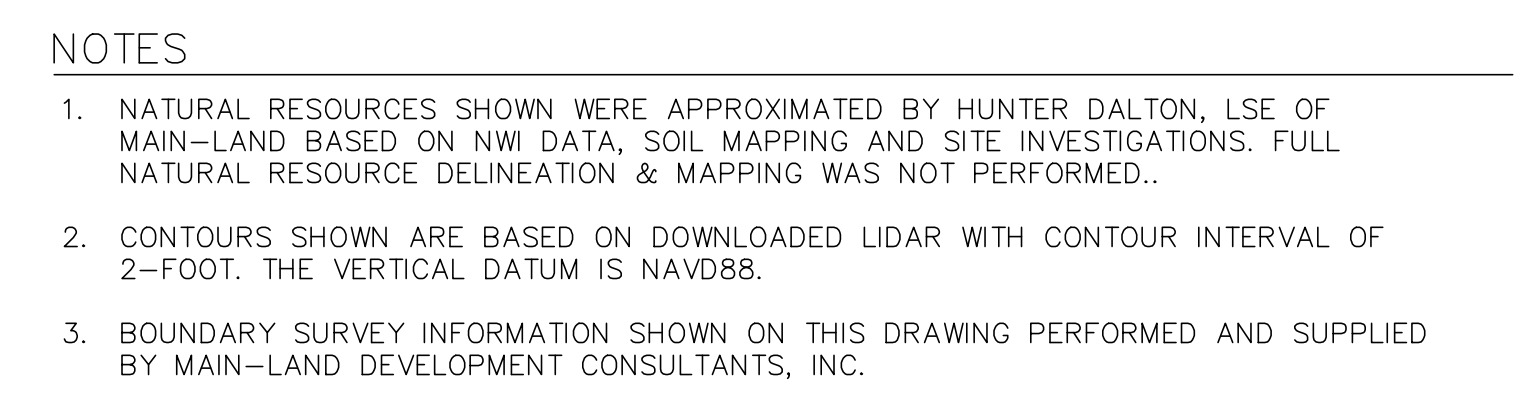
NOT FOR CONSTRUCTION

SEAL:



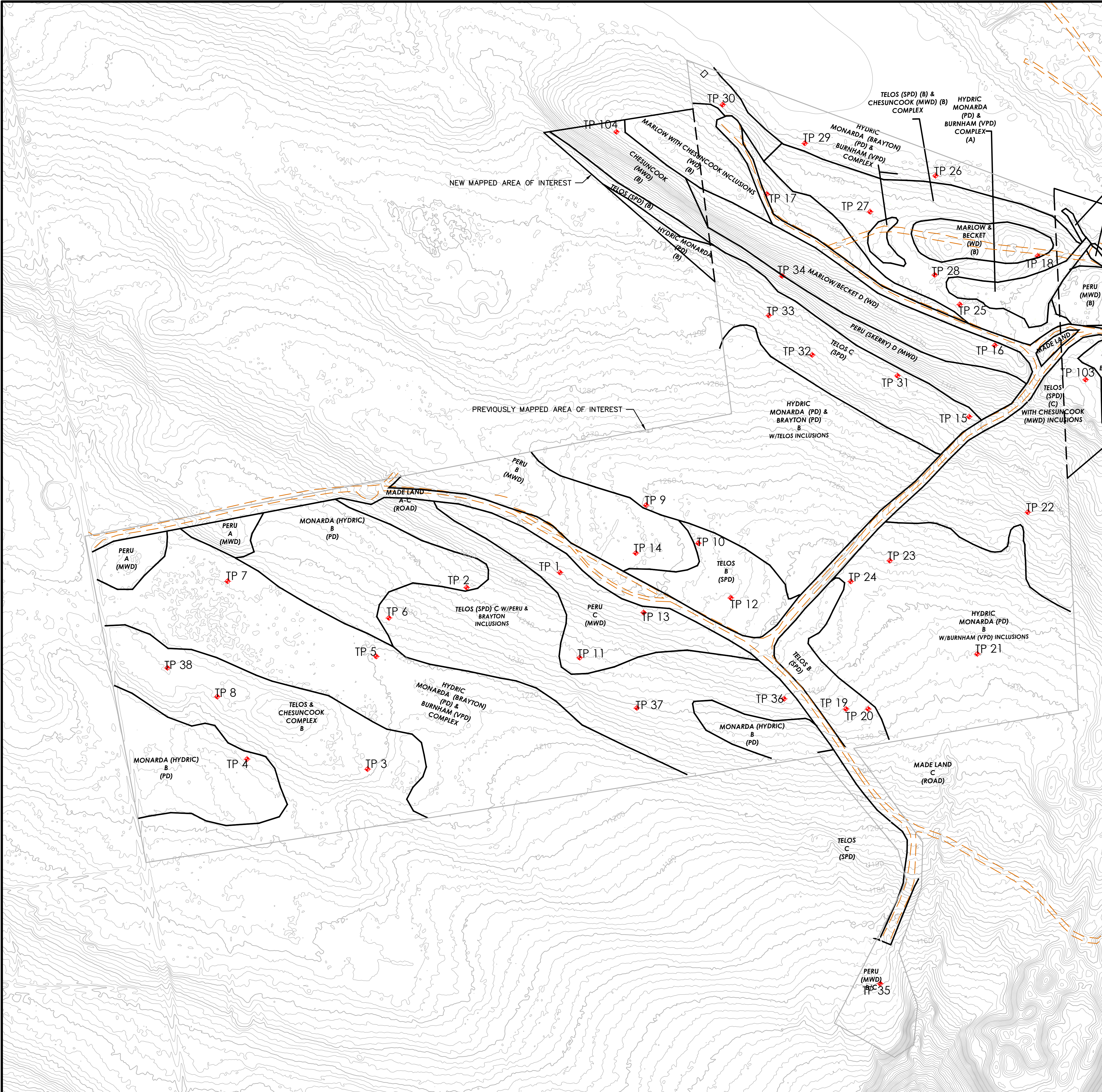
CP 1.0

MLDC NO. 23-024 1 OF 1



	BOUNDARY LINE (APPROX.)
	ABUTTING BOUNDARY LINES (APPROX.)
	NEW/IMPROVED GRAVEL
	75' STREAM BUFFER (APPROX.)
	WETLAND BOUNDARY (APPROX.)

LOT INFORMATION			
	MINIMUM (AC)	MAXIMUM (AC)	AVERAGE (AC)
LUPC MOD. DENSITY SUBDIVISION REQUIREMENTS	1.00	10.00	2.4
PROPOSED SUBDIVISION CONCEPT	1.00* *LOT 31 IS 0.81AC AS AN EXISTING RECORDED LOT	9.05	2.91



LUPC Received
7/24/2026



MAIN-LAND
DEVELOPMENT
CONSULTANTS, INC.

69 MAIN ST. LIVERMORE FALLS, MAINE
367 US ROUTE 1 FALMOUTH, MAINE
182 MOOSEHEAD TRAIL, NEWPORT, MAINE
PH: (207) 897-6752 FAX: (207) 897-5404
WWW.MAIN-LANDDCI.COM

PROJECT
**RESIDENTIAL
DEVELOPMENT**

BEAL POND ROAD
MADRID, ME 04966

OWNER OF RECORD
WALTER HAINES

PO BOX 207
PHILLIPS, ME 04966

MADE FOR
WALTER HAINES

PO BOX 207
PHILLIPS, ME 04966

DRAWING SCALE:
200 0 100 200
(IN FEET)
1 INCH = 200 FT

NOTES

1. CLASS A HIGH INTENSITY SOIL SURVEY COMPLETED BY COPPI ENVIRONMENTAL, LLC.
2. A LARGE AREA OF INTEREST OF THE PARENT WAS PREVIOUSLY MAPPED BY COPPI ENVIRONMENTAL, LLC. IN JUNE OF 2025.
3. TWO SMALLER AREA OF INTERESTS WERE MAPPED DURING THIS CLASS A HIGH INTENSITY SOIL SURVEY COMPLETED IN JUNE OF 2026.

LEGEND

- LIMITS OF SOIL INVESTIGATION
- SOIL TEST PIT (GPS LOCATED BY MAIN-LAND DEVELOPMENT CONSULTANTS)
- SOIL BOUNDARY LINE - 2025
- - - SOIL BOUNDARY LINE - 2026

Drainage Class Acronyms

- WD- Well Drained
- MWD- Moderatley Well-Drained
- SPD- Somewhat Poorly Drained
- PD- Poorly Drained
- VPD- Very Poorly Drained

SLOPE DESIGNATION

- A — 0 - 3%
- B — 3 - 8%
- C — 8 - 20%
- D — 20%+

NOTE: SEE ACCOMPANYING SOIL NARRATIVE REPORT,
DATED JULY 10TH, 2026

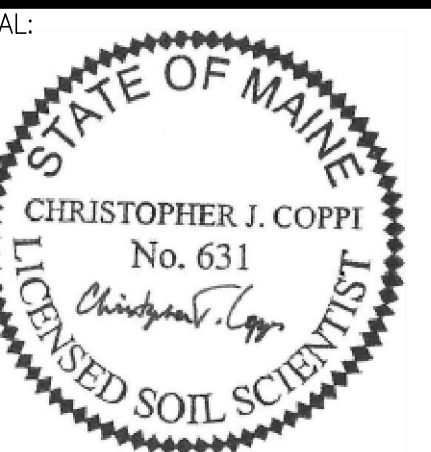
THE ACCOMPANYING SOILS SURVEY WAS DONE IN
ACCORDANCE WITH THE STANDARDS ADOPTED BY
THE MAINE ASSOCIATION OF PROFESSIONAL SOIL
SCIENTISTS, FEBRUARY 1995, AS AMENDED.

REVISION NOTES:

NO.	DATE	BY	DESCRIPTION

NOT FOR CONSTRUCTION

**CLASS A HIGH
INTENSITY SOIL
SURVEY**



DRAWING NO.
E1.1
MLDC NO. 25-024 1 OF 1