

# SITE DEVELOPMENT PLANS FOR UPPER UNION SOLAR PROJECT

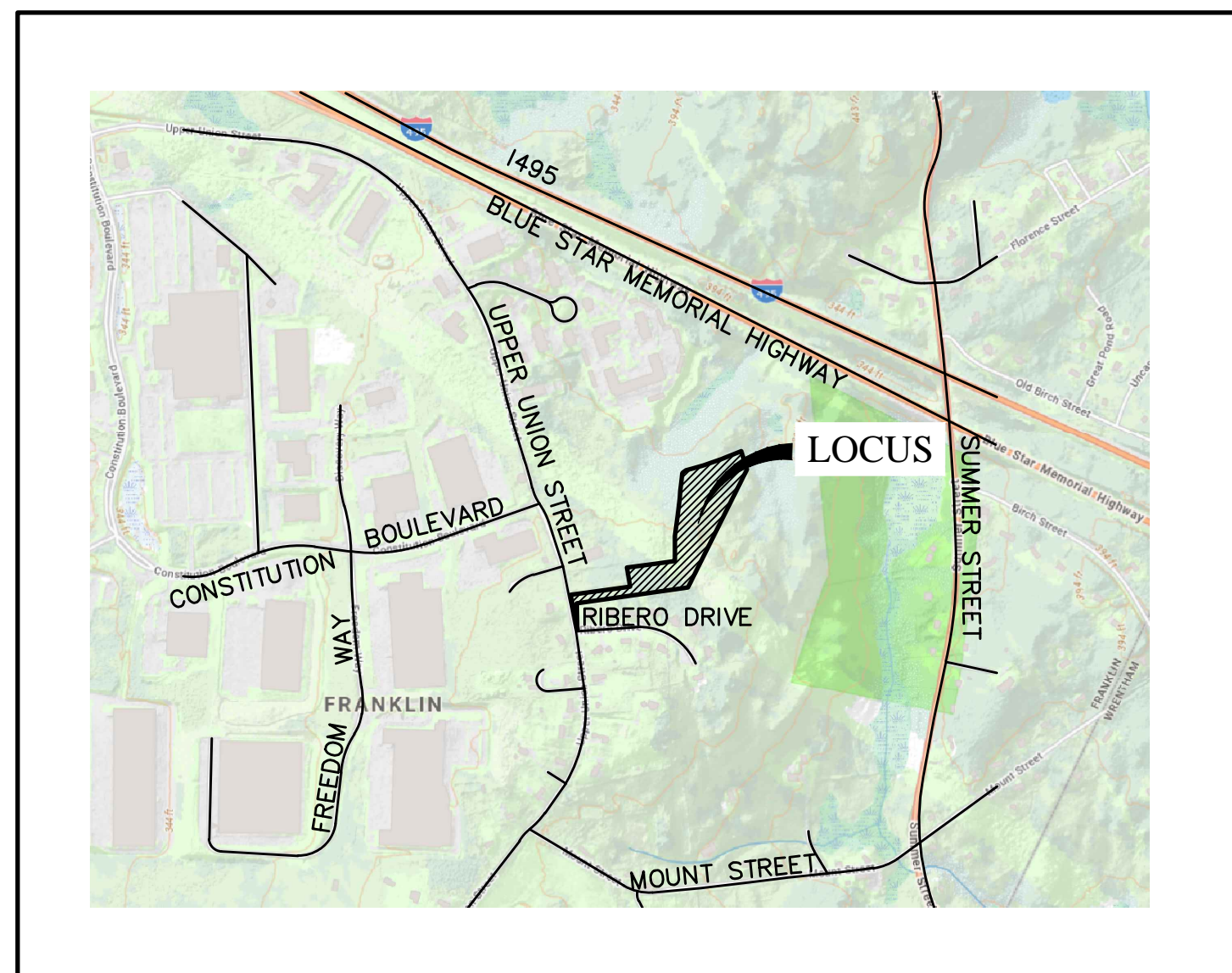
FRANKLIN, MASSACHUSETTS 02038

DATE: JUNE 19, 2023

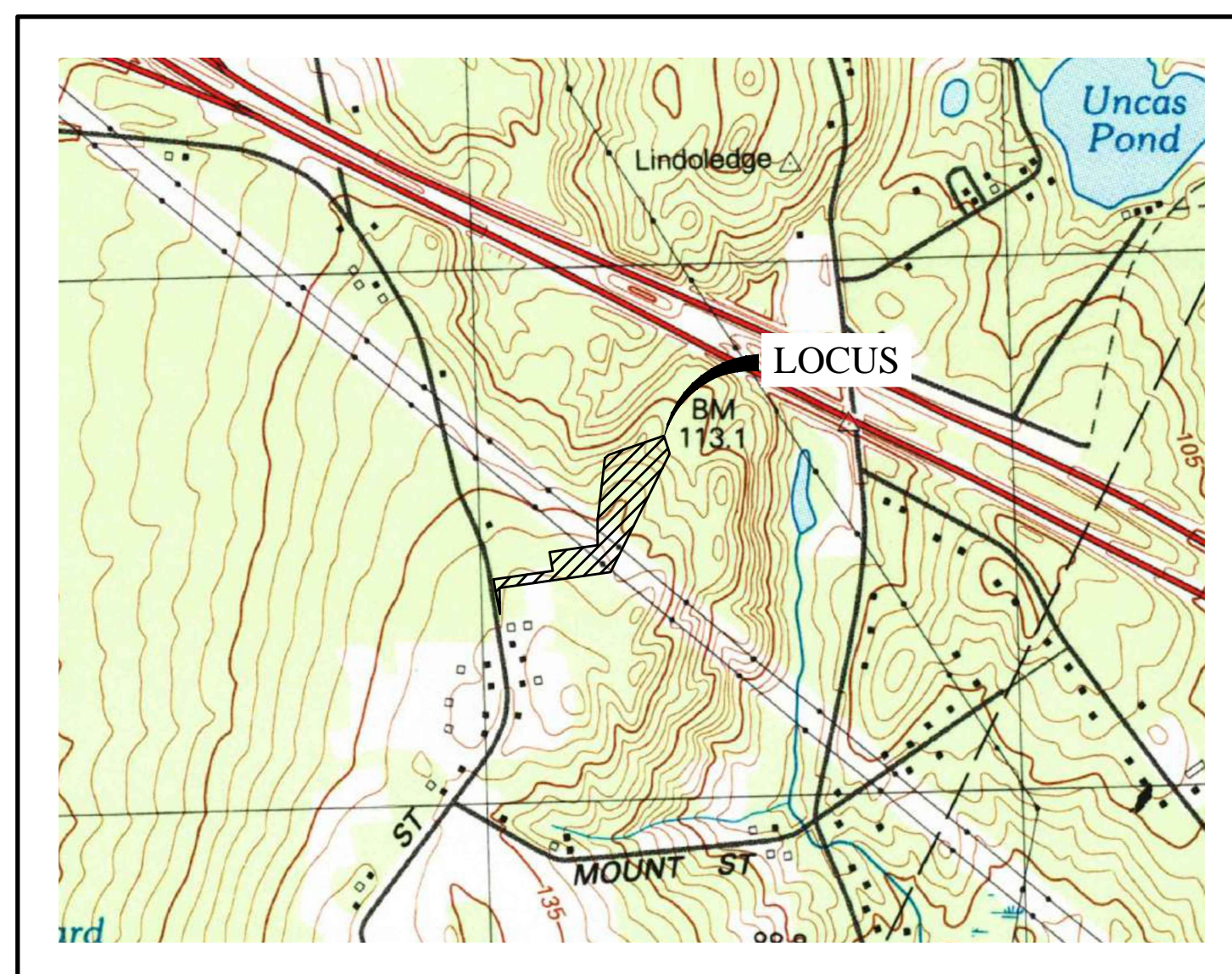
REVISION DATE: NOVEMBER 10, 2023

REVISION DATE: DECEMBER 13, 2023

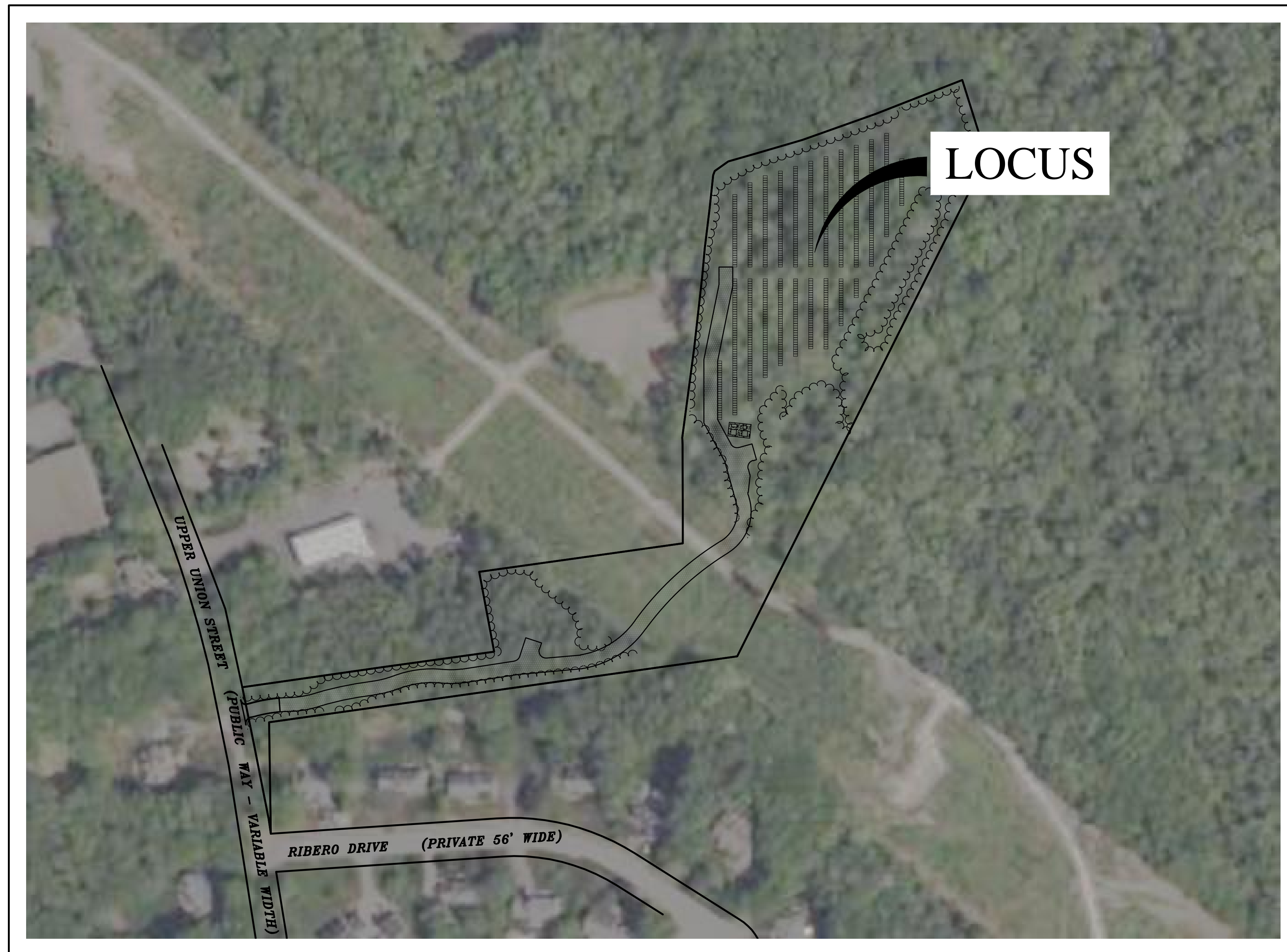
REVISION DATE: JANUARY 08, 2024



VICINITY MAP  
1" = 1,000'



LOCUS MAP  
1" = 1,000'



OVERALL LOCATION PLAN  
SCALE: 1" = 100'

INDEX OF PLANS		
SHEET NO.	TITLE	SCALE
1	COVER SHEET	1" = 100'
2	OVERALL EXISTING CONDITIONS PLAN	1" = 60'
3	EXISTING CONDITIONS PLAN	1" = 30'
4	EXISTING CONDITIONS PLAN	1" = 30'
5	OVERALL SITE DEVELOPMENT PLAN	1" = 60'
6	SITE DEVELOPMENT PLAN	1" = 30'
7	SITE DEVELOPMENT PLAN	1" = 30'
8	DETAILS PLAN	N.T.S.
9	DETAILS PLAN	N.T.S.
10	DETAILS PLAN	N.T.S.

**OWNER:**

JOHN C. COLELLA SR.  
0 UPPER UNION STREET  
FRANKLIN MA, 02038

**APPLICANT:**

VS UNION SOLAR SMART, LLC  
24942 DANA POINT HARBOR  
DANA POINT, CA 92629

**ENGINEER:**

**Atlantic**<sup>®</sup>  
DESIGN ENGINEERS, INC.  
P.O. Box 1051, Sandwich, MA 02563  
PHONE NUMBER: (508) 888-9282

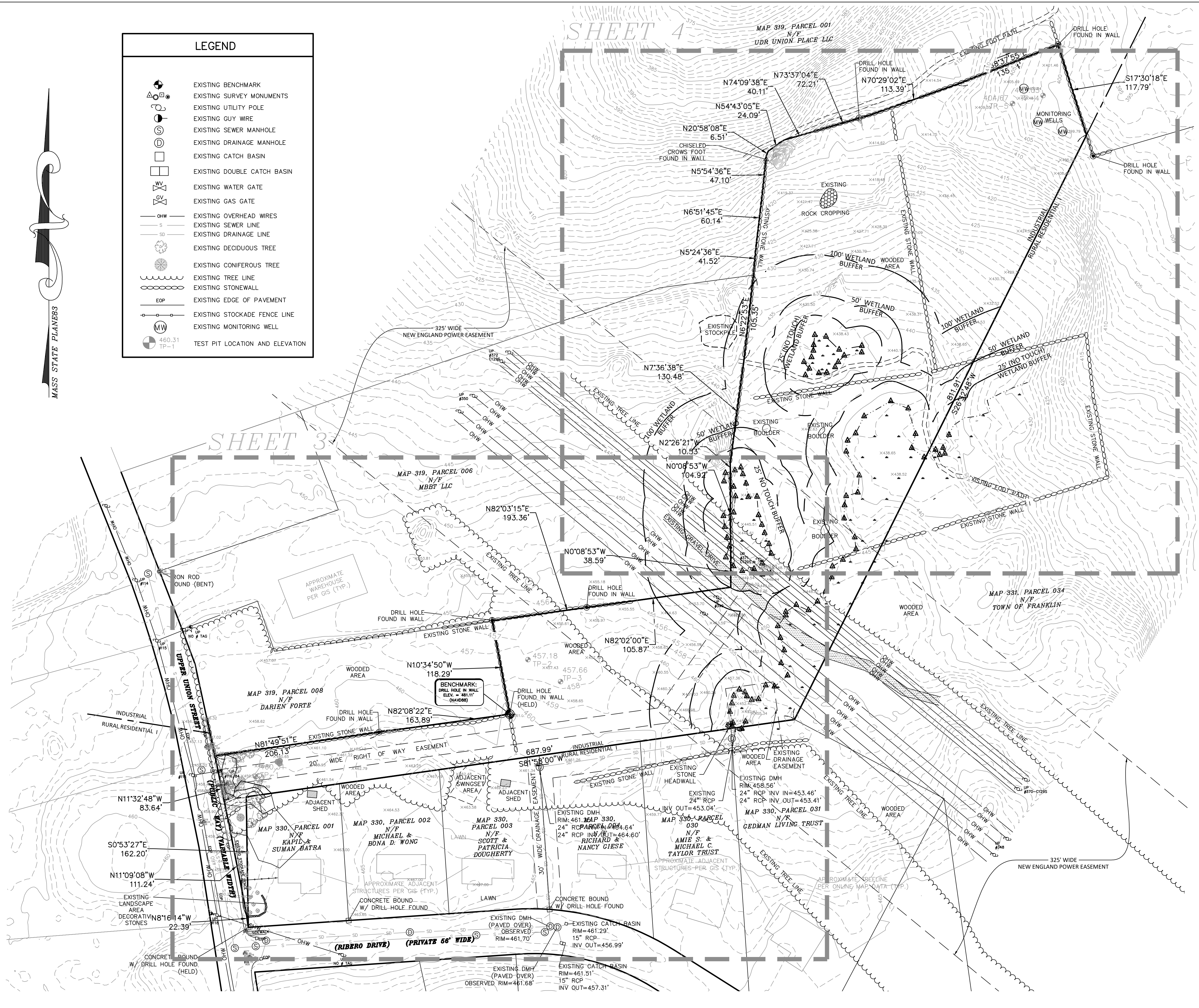
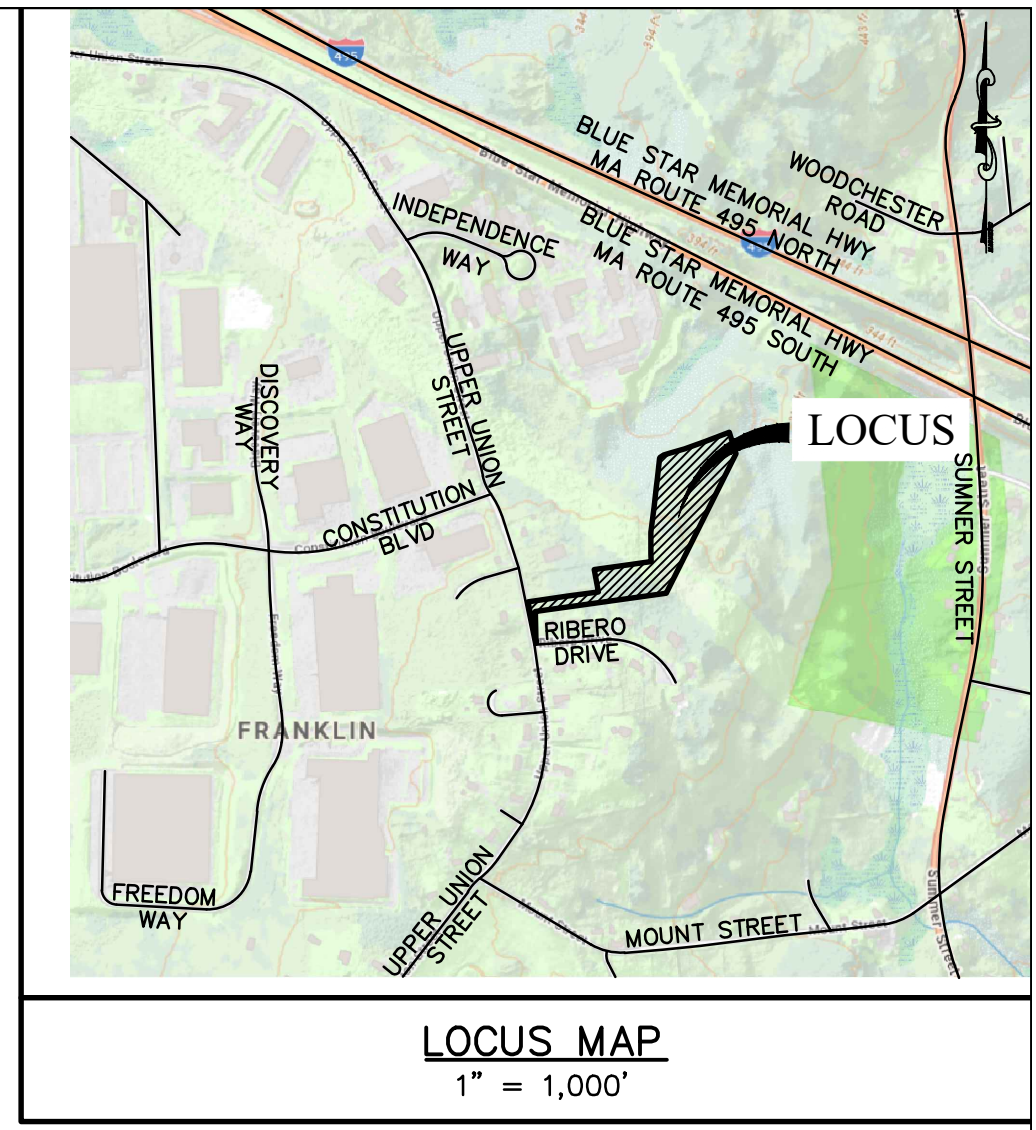


FILE: 3328-DETAIL-REV3

Sheet	of
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JOB NUMBER	
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MASS STATE PLAN 883

LEGEND	
	EXISTING BENCHMARK
	EXISTING SURVEY MONUMENTS
	EXISTING UTILITY POLE
	EXISTING GUY WIRE
	EXISTING SEWER MANHOLE
	EXISTING DRAINAGE MANHOLE
	EXISTING CATCH BASIN
	EXISTING DOUBLE CATCH BASIN
	EXISTING WATER GATE
	EXISTING GAS GATE
	EXISTING OVERHEAD WIRES
	EXISTING SEWER LINE
	EXISTING DRAINAGE LINE
	EXISTING DECIDUOUS TREE
	EXISTING CONIFEROUS TREE
	EXISTING TREE LINE
	EXISTING STONE WALL
	EXISTING EDGE OF PAVEMENT
	EXISTING STOCKADE FENCE LINE
	EXISTING MONITORING WELL
	TEST PIT LOCATION AND ELEVATION



- GENERAL NOTES:**
- RECORD OWNER(S) PER NORFOLK COUNTY REGISTRY OF DEEDS BOOK 31678 PAGE 107:  
 MAP 319 PARCEL 009 (0 UPPER UNION STREET)  
 JOHN C. COLELLA JR.  
 FRANKLIN, MA 02038  
 AREA = ±6.21 ACRES
  - THE SUBJECT PROPERTY IS SHOWN AS PARCEL 009 ON THE TOWN OF FRANKLIN ASSESSOR'S MAP 319. TOTAL LAND AREA IS ±6.21 ACRES.
  - THE PROPERTY LIES WITHIN A INDUSTRIAL ZONING DISTRICT BASED UPON A REVIEW OF THE TOWN OF FRANKLIN ZONING MAP AND PROPERTY CARDS.
  - THE LOCUS PROPERTY LINES SHOWN HEREON, ARE COMPILED FROM THE RECORD PLAN (PARCEL A-PLAN NUMBER 624 OF 1995 IN PLAN BOOK 433) AND DEED (BOOK 31678 PAGE 107) AND ARE BASED UPON THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND ARE BASED UPON A FIELD SURVEY BY ATLANTIC DESIGN ENGINEERS, INC.
  - THE PROPERTY LIES WITHIN FLOOD ZONE X, AN AREA OF MINIMAL FLOODING, BASED UPON A REVIEW OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 25021C0317E, EFFECTIVE DATE JULY 17, 2012.
  - THE LOCUS DOES NOT LIE WITHIN A ZONE II BASED UPON REVIEW OF THE MASSACHUSETTS GEOGRAPHIC INFORMATION SYSTEM AND THE TOWN OF FRANKLIN GEOGRAPHIC INFORMATION SYSTEM.
  - THE LOCUS DOES NOT LIE WITHIN THE WATER RESERVE OVERLAY DISTRICT BASED UPON REVIEW OF THE TOWN OF FRANKLIN GEOGRAPHIC INFORMATION SYSTEM AND WATER RESERVE DISTRICT MAPS.
  - THE SITE IS NOT LOCATED WITHIN AN ESTIMATED HABITAT OF RARE WILDLIFE OR A PRIORITY HABITAT OF RARE SPECIES BASED UPON A REVIEW OF THE NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM MAPS OBSERVED ON THE MASSACHUSETTS GEOGRAPHIC INFORMATION SYSTEM.
  - THE PROPERTY DOES NOT LIE WITHIN AN AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC) BASED UPON A REVIEW OF THE MASSACHUSETTS GEOGRAPHIC INFORMATION SYSTEM.
  - THE EXISTING CONDITIONS SHOWN HEREON ARE BASED UPON A FIELD SURVEY BY ATLANTIC DESIGN ENGINEERS, INC. IN APRIL AND JUNE OF 2023 AND SUPPLEMENTED BY INFORMATION OBTAINED BY THE MASSACHUSETTS GEOGRAPHIC INFORMATION SYSTEM, THE TOWN OF FRANKLIN GEOGRAPHIC INFORMATION SYSTEM, AND INFORMATION OBTAINED FROM PUBLIC RECORDS.
  - THE WETLAND RESOURCE AREAS SHOWN HEREON ARE BASED UPON WETLAND DELINEATIONS COMPLETED BY GODDARD CONSULTING LLC IN APRIL AND SEPTEMBER 2023. WETLAND FLAGS WERE GPS LOCATED BY ATLANTIC DESIGN ENGINEERS ON APRIL 19, 2023 AND OCTOBER 2, 2023.



**Atlantic** DESIGN ENGINEERS, INC.  
 P.O. Box 1051, Sandwich, MA 02563 (508) 888 - 9282

Designed by : \_\_\_\_\_  
 Drawn by : \_\_\_\_\_  
 Checked by : \_\_\_\_\_  
 Survey chk. by : \_\_\_\_\_  
 Approved by : \_\_\_\_\_

SCALE  
 SCALE 1" = 60'  
 DATE

NO.	BY	DATE	REVISION
1	BJR	11/10/23	PEER REVIEW/TOWN COMMENTS

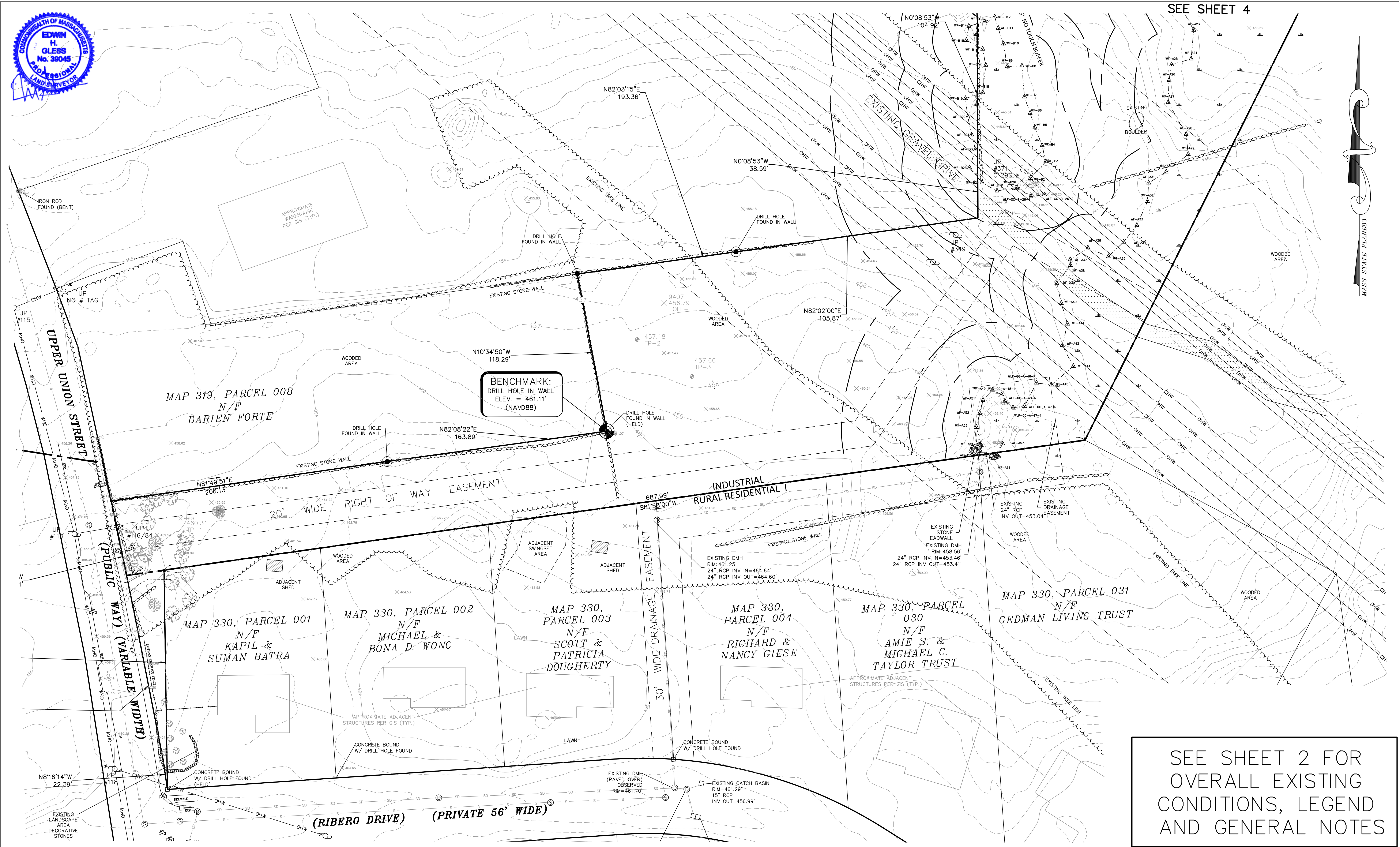
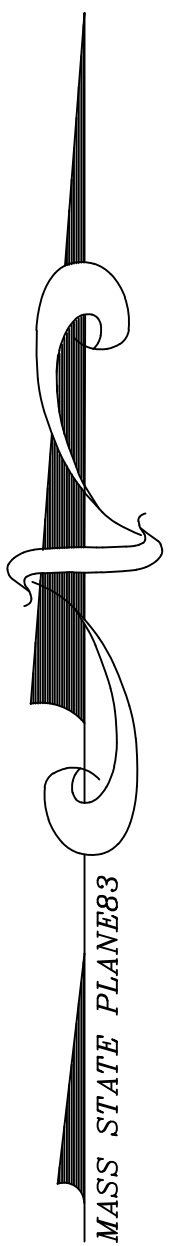
PREPARED FOR:  
**VS UNION SOLAR SMART, LLC**  
 24941 DANA POINT HARBOR  
 DANA POINT, CA 92629

OVERALL EXISTING CONDITIONS PLAN  
 FOR  
**UPPER UNION SOLAR PROJECT**  
 FRANKLIN, MA  
 JUNE 19, 2023

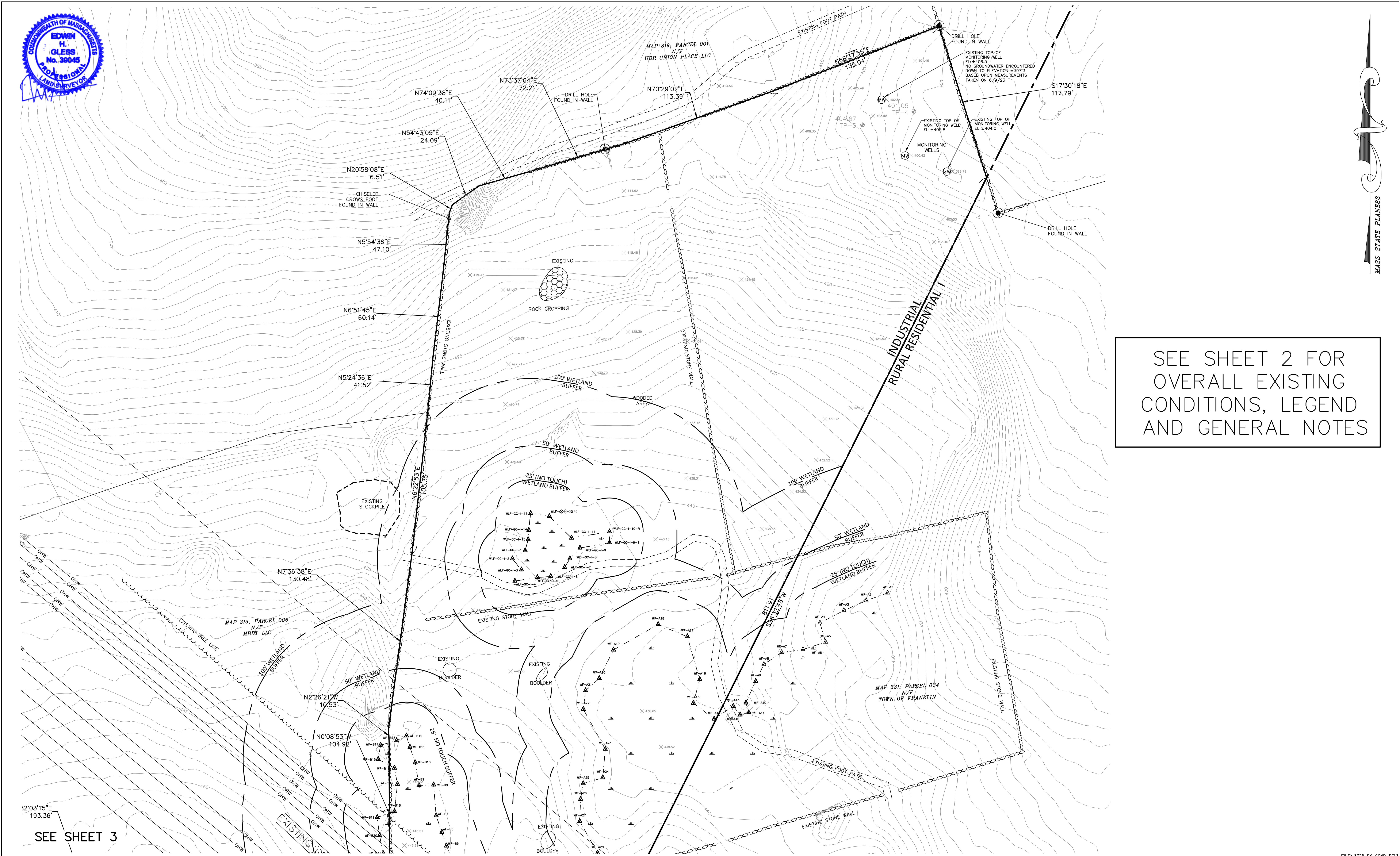
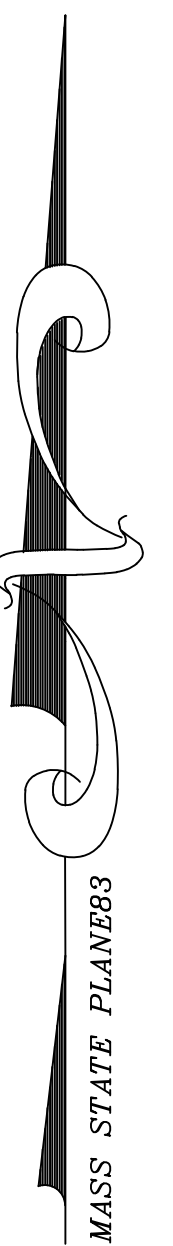
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SEE SHEET 4



SEE SHEET 2 FOR  
OVERALL EXISTING  
CONDITIONS, LEGEND  
AND GENERAL NOTES

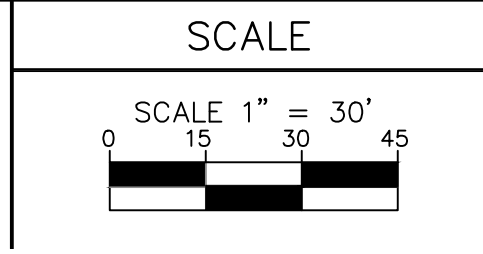


SEE SHEET 2 FOR  
OVERALL EXISTING  
CONDITIONS, LEGEND  
AND GENERAL NOTES

SEE SHEET 3

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Checked by :  
Survey chk. by :  
Approved by :



NO.	BY	DATE	REVISION
1	BJR	11/10/23	PEER REVIEW/TOWN COMMENTS

PREPARED FOR:  
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EXISTING CONDITIONS PLAN  
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FRANKLIN, MA  
JUNE 19, 2023

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Sheet	of
4	10
JOB NUMBER	
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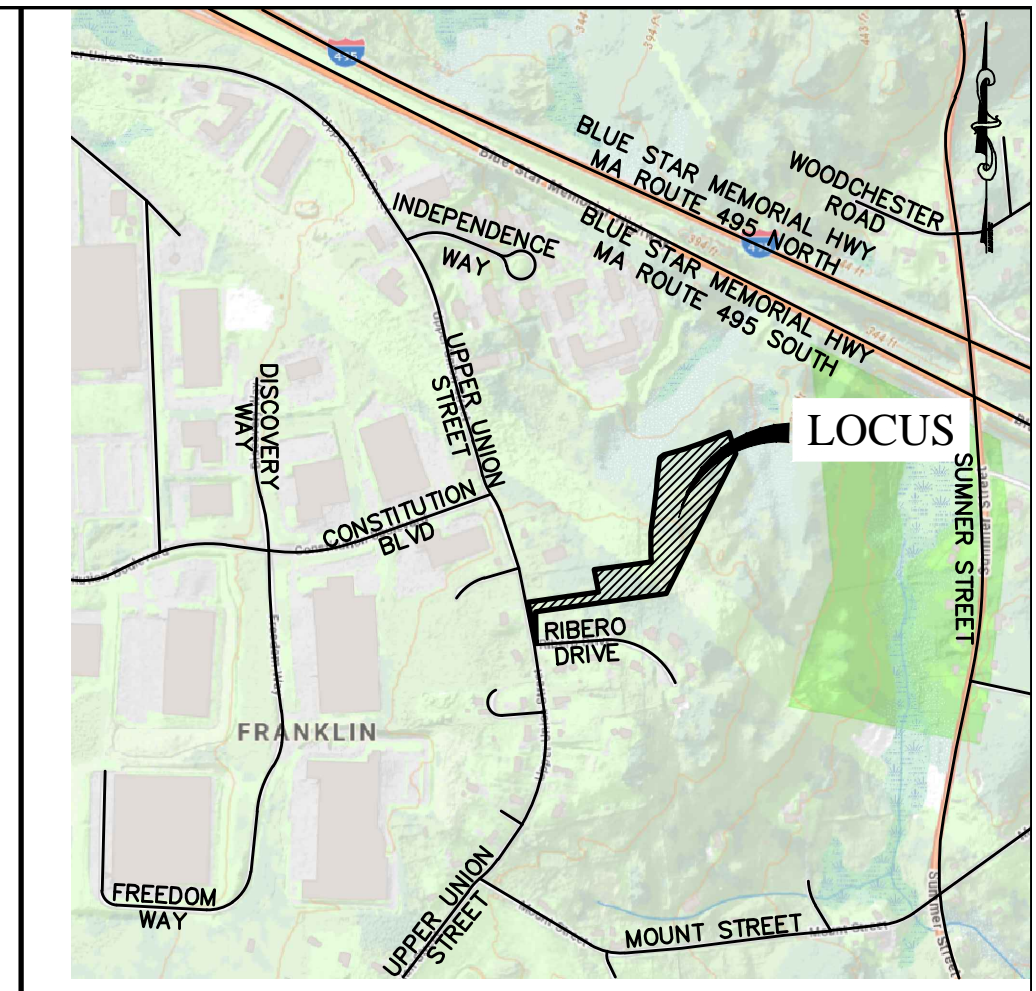
**ZONING REQUIREMENTS**

TOWN OF FRANKLIN  
ZONING BYLAWS, JAN, 2021

**CHAPTER 185 ATTACHMENT 9  
(INDUSTRIAL DISTRICT)**

	REQUIRED	PROVIDED
MINIMUM LOT SIZE	40,000 SF	±2,642,323 SF
MINIMUM LOT DIMENSIONS:		
FRONTAGE	175 FEET	±217.3 FEET
DEPTH	200 FEET	>200 FEET
WIDTH	157.5 FEET	N/A (LOT CREATED IN 1995)
MINIMUM YARD DIMENSIONS:		
FRONT YARD	30 FEET	794.0 FEET
SIDE YARD	30 FEET	31.2 FEET
REAR YARD	30 FEET	115.4 FEET
RESIDENTIAL SETBACK*	75 FEET*	75.6 FEET
MAXIMUM BUILDING HEIGHT	3 STORIES	N/A
MAXIMUM IMPERVIOUS COVERAGE:		
STRUCTURES	70%	N/A
STRUCTURES PLUS PAVING	80%	0.06%

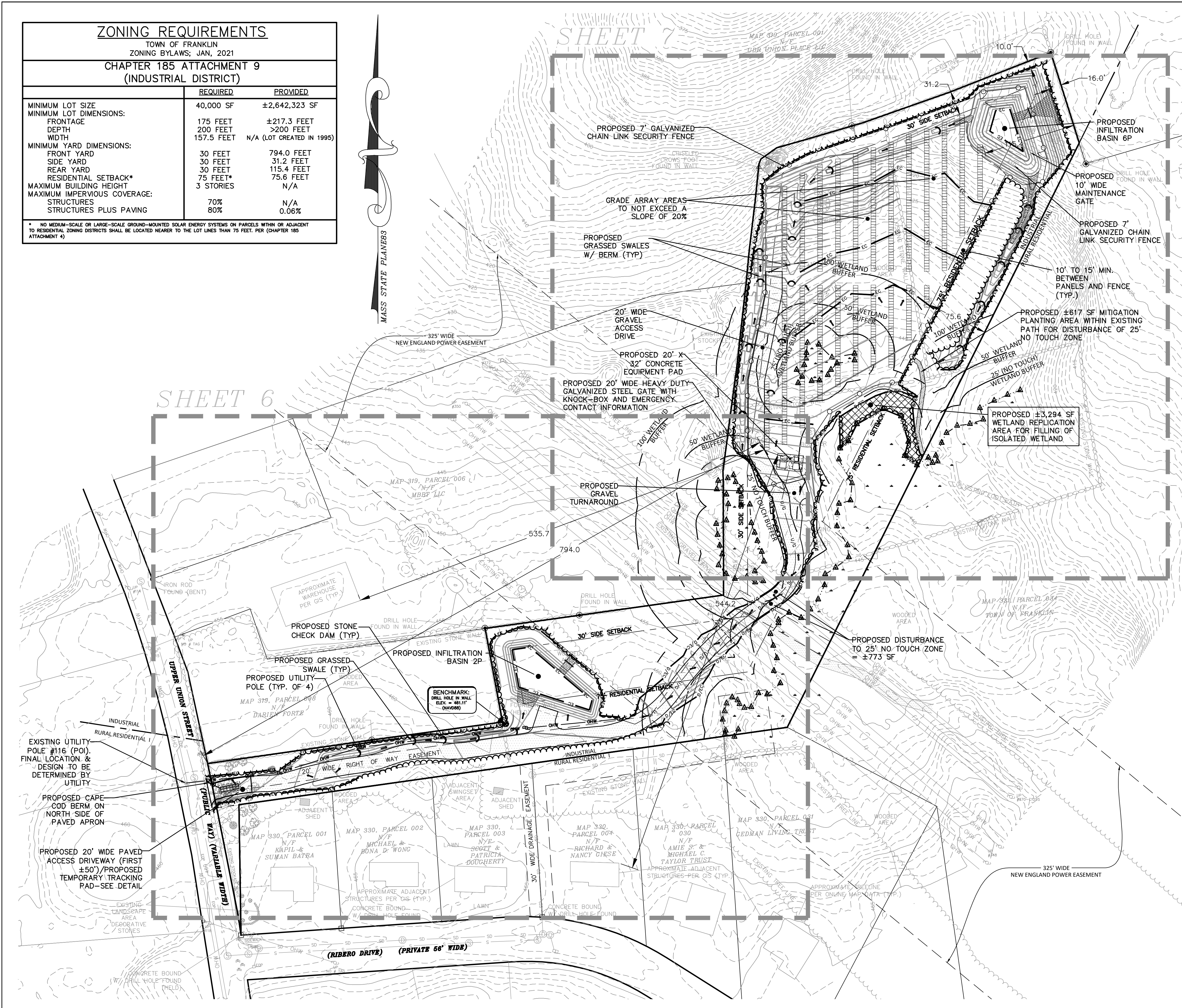
\* NO MEDIUM-SCALE OR LARGE-SCALE GROUND-MOUNTED SOLAR ENERGY SYSTEMS ON PARCELS WITHIN OR ADJACENT TO RESIDENTIAL ZONING DISTRICTS SHALL BE LOCATED NEARER TO THE LOT LINES THAN 75 FEET. PER (CHAPTER 185 ATTACHMENT 4)



**LOCUS MAP**  
1" = 1,000'

**LEGEND**

	EXISTING BENCHMARK
	EXISTING SURVEY MONUMENTS
	EXISTING UTILITY POLE
	EXISTING GUY WIRE
	EXISTING SEWER MANHOLE
	EXISTING DRAINAGE MANHOLE
	EXISTING CATCH BASIN
	EXISTING DOUBLE CATCH BASIN
	EXISTING WATER GATE
	EXISTING GAS GATE
	EXISTING OVERHEAD WIRES
	EXISTING SEWER LINE
	EXISTING DRAINAGE LINE
	EXISTING DECIDUOUS TREE
	EXISTING CONIFEROUS TREE
	EXISTING TREE LINE
	EXISTING STONEWALL
	EXISTING EDGE OF PAVEMENT
	EXISTING STOCKADE FENCE LINE
	EXISTING MONITORING WELL
	TEST PIT LOCATION AND ELEVATION
	PROPOSED TREELINE
	PROPOSED 1 FOOT CONTOUR
	PROPOSED 5 FOOT CONTOUR
	PROPOSED CHAIN LINK FENCE
	PROPOSED EROSION CONTROL BARRIER
	PROPOSED DOUBLE EROSION CONTROL
	PROPOSED OVERHEAD WIRES
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED UTILITY POLE
	PROPOSED DRAINAGE LINE
	PROPOSED FLARED END SECTION
	PROPOSED DRAINAGE FLOW ARROW
	PROPOSED RIP-RAP APRON/CHANNEL

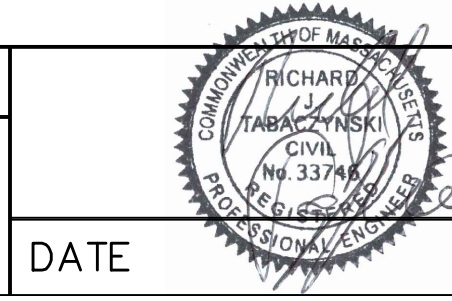
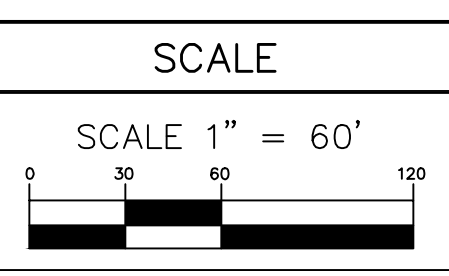


NO LIGHTING IS PROPOSED AS PART OF THIS PROJECT

SEE SHEET 8 FOR CONSTRUCTION NOTES

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Drawn by :	
Checked by :	
Survey chk. by :	
Approved by :	



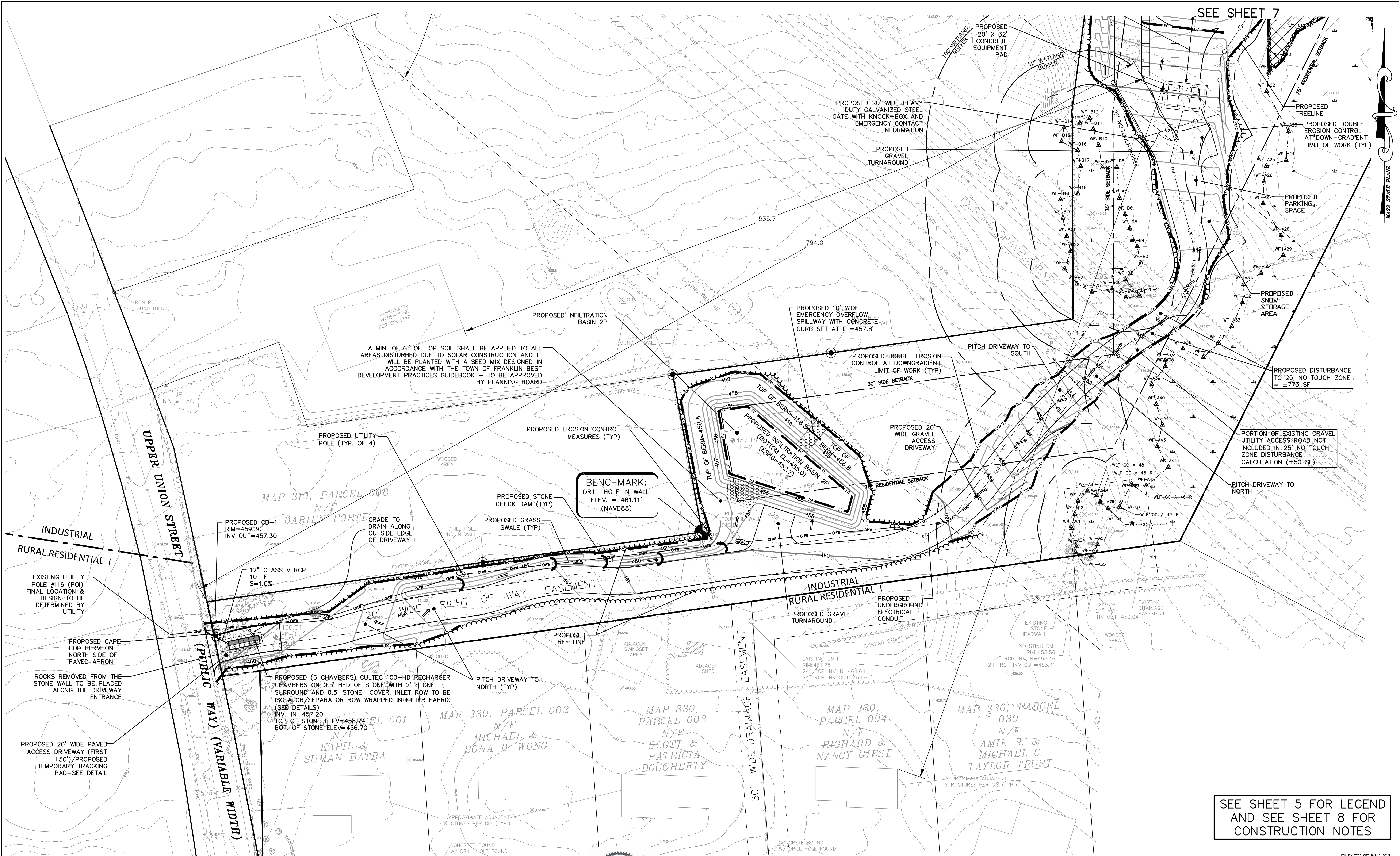
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3	BJR	01/08/24	PEER REVIEW COMMENTS
2	BJR	12/13/23	PEER REVIEW/TOWN COMMENTS
1	BJR	11/10/23	PEER REVIEW/TOWN COMMENTS

APPLICANT:  
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OVERALL DEVELOPMENT PLAN  
FOR  
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JUNE 19, 2023  
FRANKLIN, MA

Sheet	of
5	10
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SEE SHEET 7

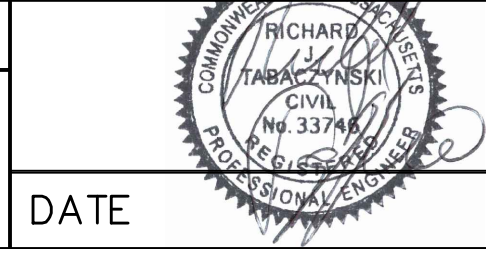


SEE SHEET 5 FOR LEGEND  
AND SEE SHEET 8 FOR  
CONSTRUCTION NOTES

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Designed by : \_\_\_\_\_  
 Drawn by : \_\_\_\_\_  
 Checked by : \_\_\_\_\_  
 Survey chk. by : \_\_\_\_\_  
 Approved by : \_\_\_\_\_

SCALE  
 SCALE 1" = 30'  
 0 15 30 45



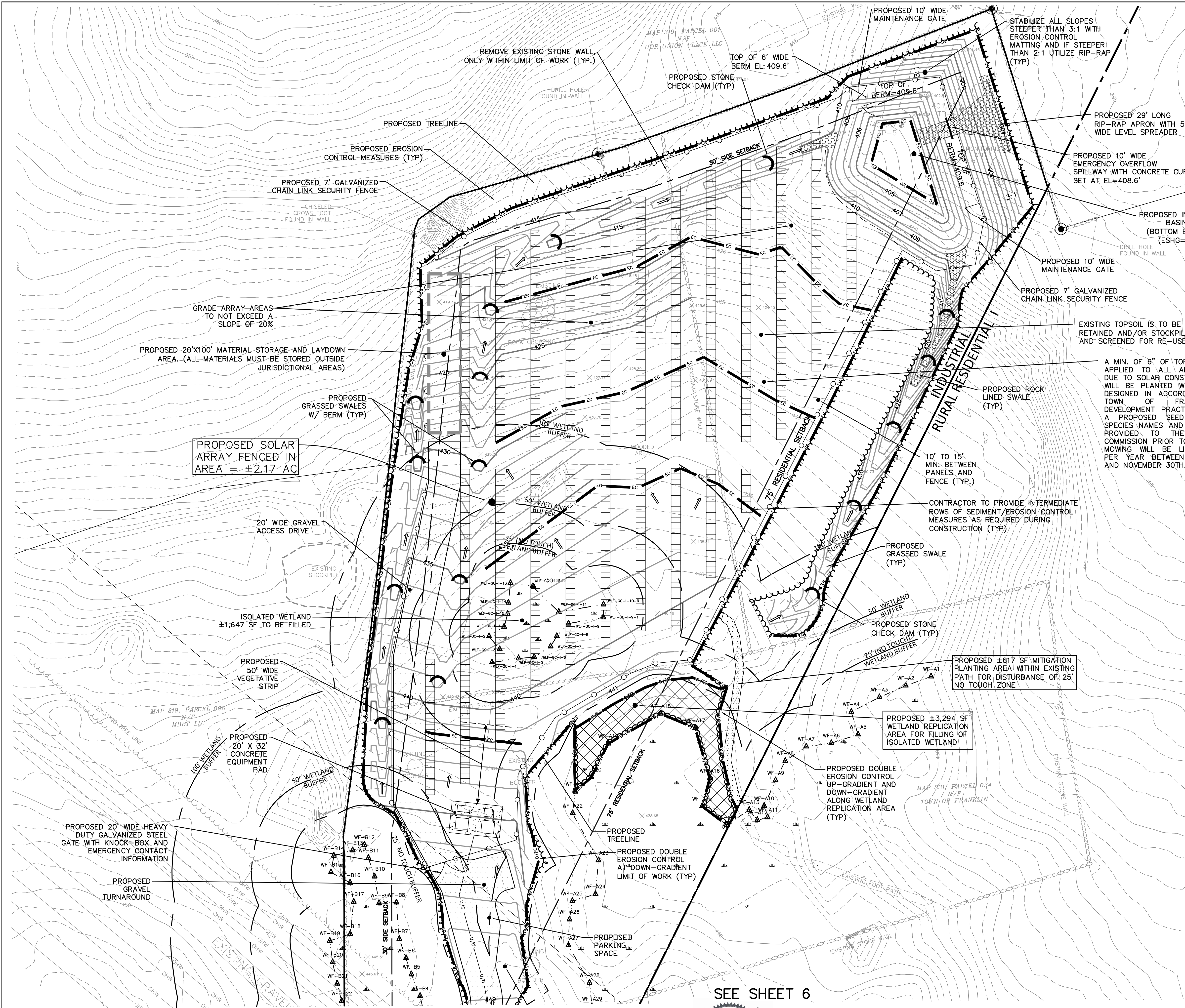
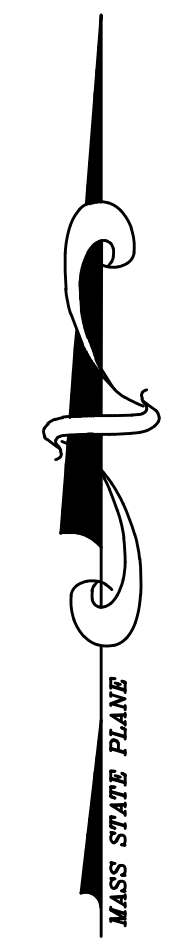
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DEVELOPMENT PLAN  
 FOR  
**UPPER UNION SOLAR PROJECT**  
 JUNE 19, 2023  
 FRANKLIN, MA

FILE: 3328 SITE PLANS-REV3

Sheet	of
6	10
JOB NUMBER	3328.00



RESOURCE AREA IMPACT SUMMARY		
RESOURCE AREA	ALTERATION PROPOSED	MITIGATION PROPOSED
ISOLATED WETLAND	±1,647 SF	±3,294 SF WETLAND REPLICATION AREA
BUFFER ZONE	0-25': ±773 SF 25-100': ±55,963 SF TOTAL: ±56,736 SF	±617 SF MITIGATION PLANTING AREA

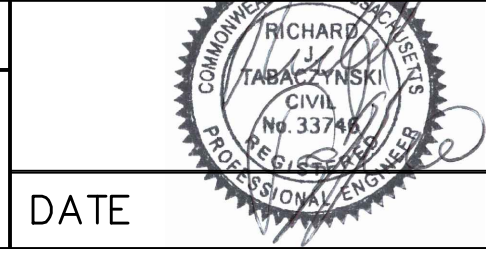
SEE SHEET 5 FOR LEGEND AND SEE SHEET 8 FOR CONSTRUCTION NOTES

SEE SHEET 6

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Checked by :  
Survey chk. by :  
Approved by :

SCALE  
SCALE 1" = 30'  
0 15 30 45



NO.	BY	DATE	REVISION
3	BJR	01/08/24	PEER REVIEW COMMENTS
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1	BJR	11/10/23	PEER REVIEW/TOWN COMMENTS

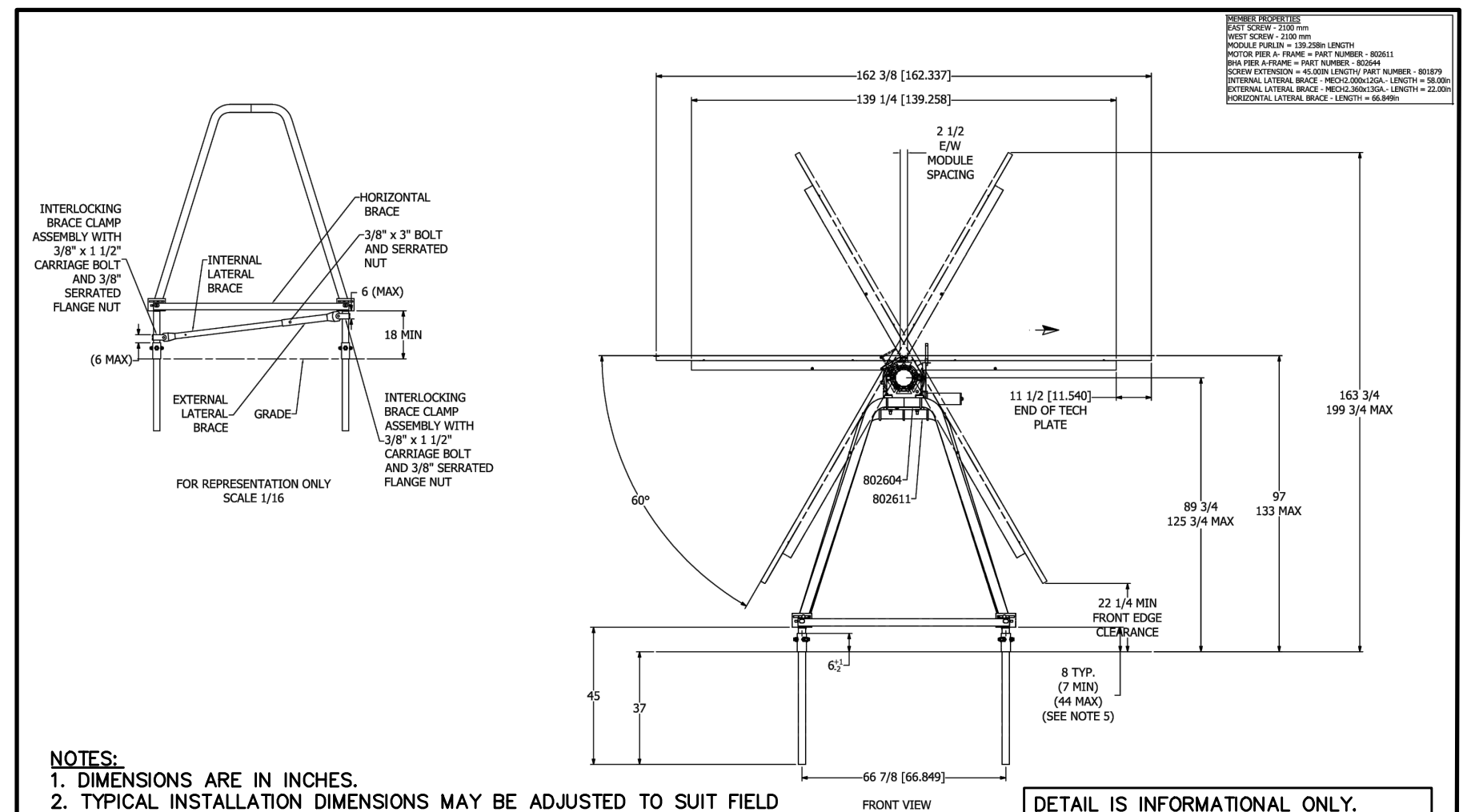
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JUNE 19, 2023  
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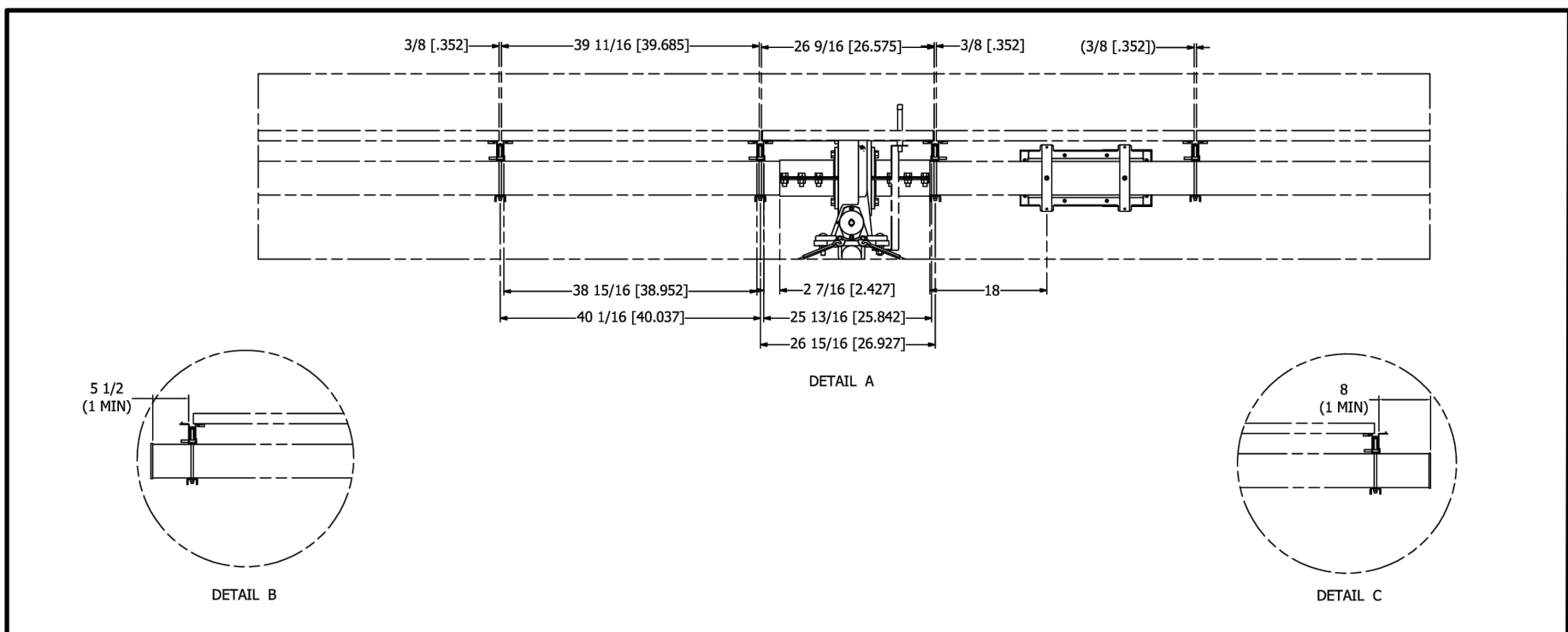




**NOTES:**

1. DIMENSIONS ARE IN INCHES.
2. TYPICAL INSTALLATION DIMENSIONS MAY BE ADJUSTED TO SUIT FIELD CONDITIONS WITHIN THE TOLERANCES PROVIDED.
3. SCREW EXTENSIONS SHALL BE INSTALLED PLUMB, IF MECHANICALLY POSSIBLE MAXIMUM 3' OUT OF PLUMB.
4. LATERAL BRACES ARE DESIGNED TO ALLOW FOR 7" OF TOTAL ADJUSTMENT IN LENGTH. IF FIELD CONDITIONS REQUIRE ADDITIONAL ADJUSTMENT AND LATERAL BRACES ARE TOO LONG, THEY MAY BE CUT DOWN AND DRILLED TO FIT BY THE RACK INSTALLER. IF THEY ARE TOO SHORT, NEW LATERAL BRACES MAY BE ORDERED TO FIT AT THE PURCHASER'S EXPENSE.
5. ALL SCREW EXTENSIONS REQUIRE A MINIMUM OF 1 INCH EMBEDMENT BELOW GRADE.
6. DIAGONAL BRACING IS REQUIRED IF EITHER OF THE SCREW EXTENSIONS FOR A SINGLE FOUNDATION HAVE MORE THAN 18" OF TUBE MATERIAL ABOVE GRADE.

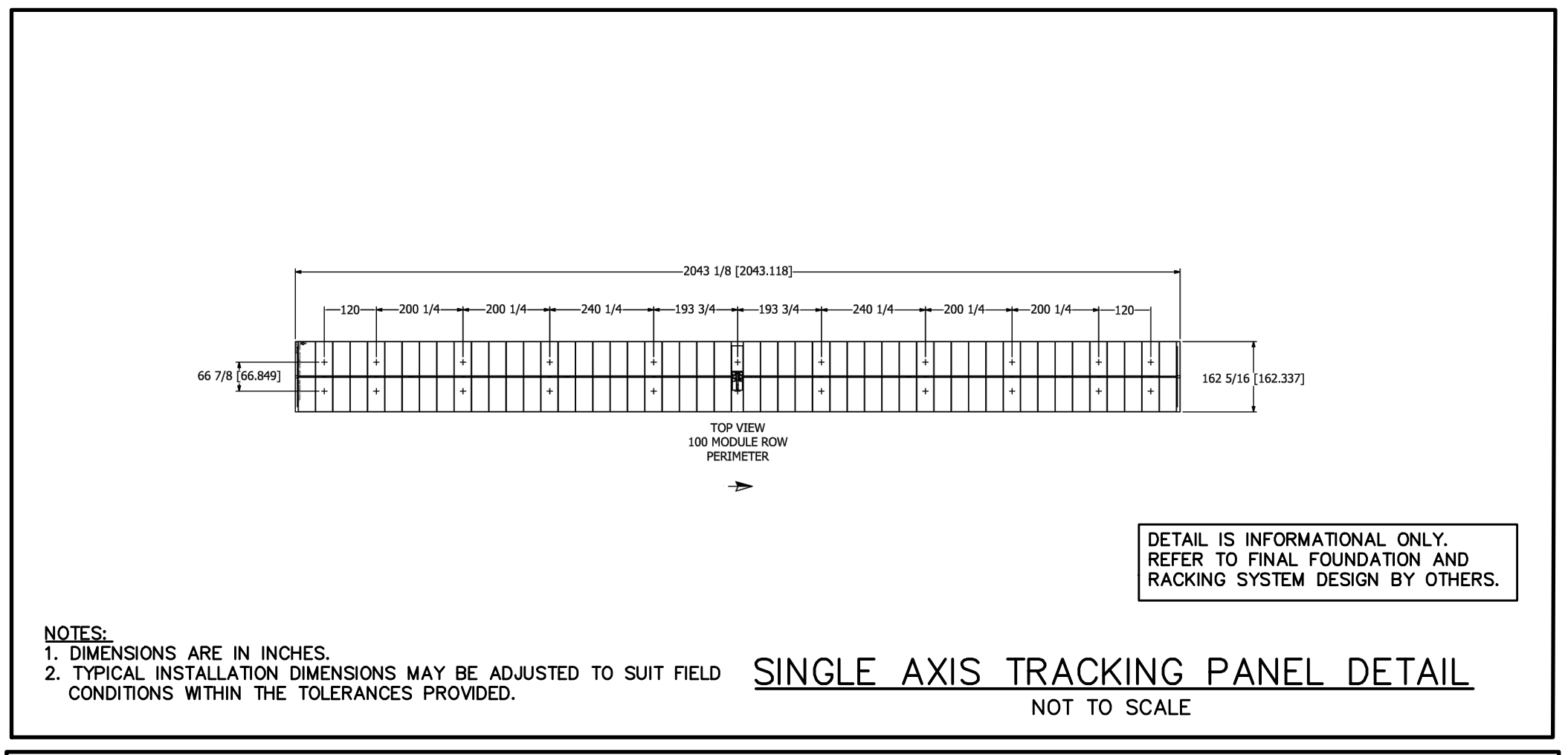
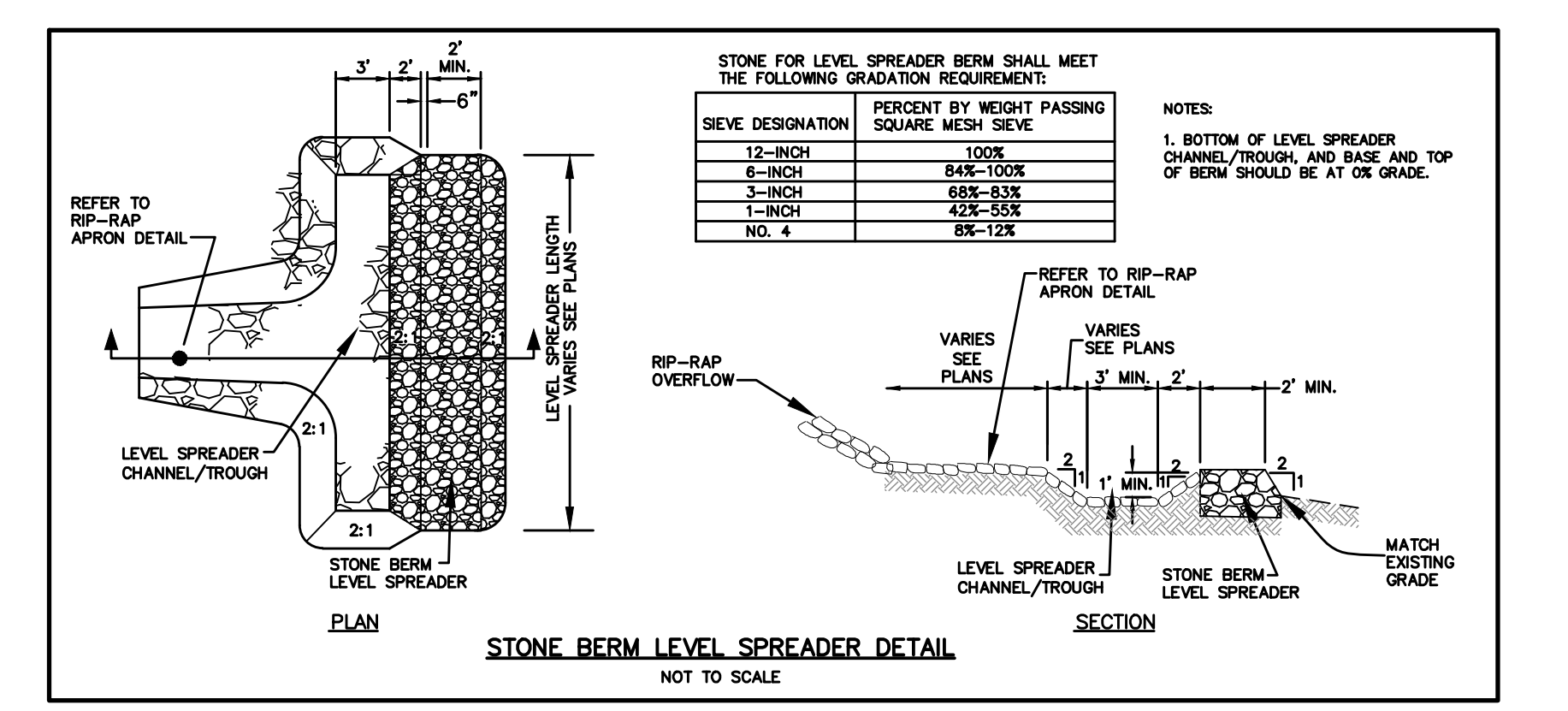
**SINGLE AXIS TRACKING PANEL DETAIL**  
NOT TO SCALE



**NOTES:**

1. DIMENSIONS ARE IN INCHES.
2. PURLIN BRACES INDICATED ARE TO BE 62 INCHES LONG. ALL OTHER BRACES TO BE 14 INCHES.
3. TYPICAL INSTALLATION DIMENSIONS MAY BE ADJUSTED TO SUIT FIELD CONDITIONS WITHIN THE TOLERANCES PROVIDED.
4. INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5-2009.
5. CIRCLED DIMENSIONS ARE VARIABLE BASED ON PROJECT NEEDS AND ONLY REPRESENT A RANGE OF POSSIBLE VALUES.

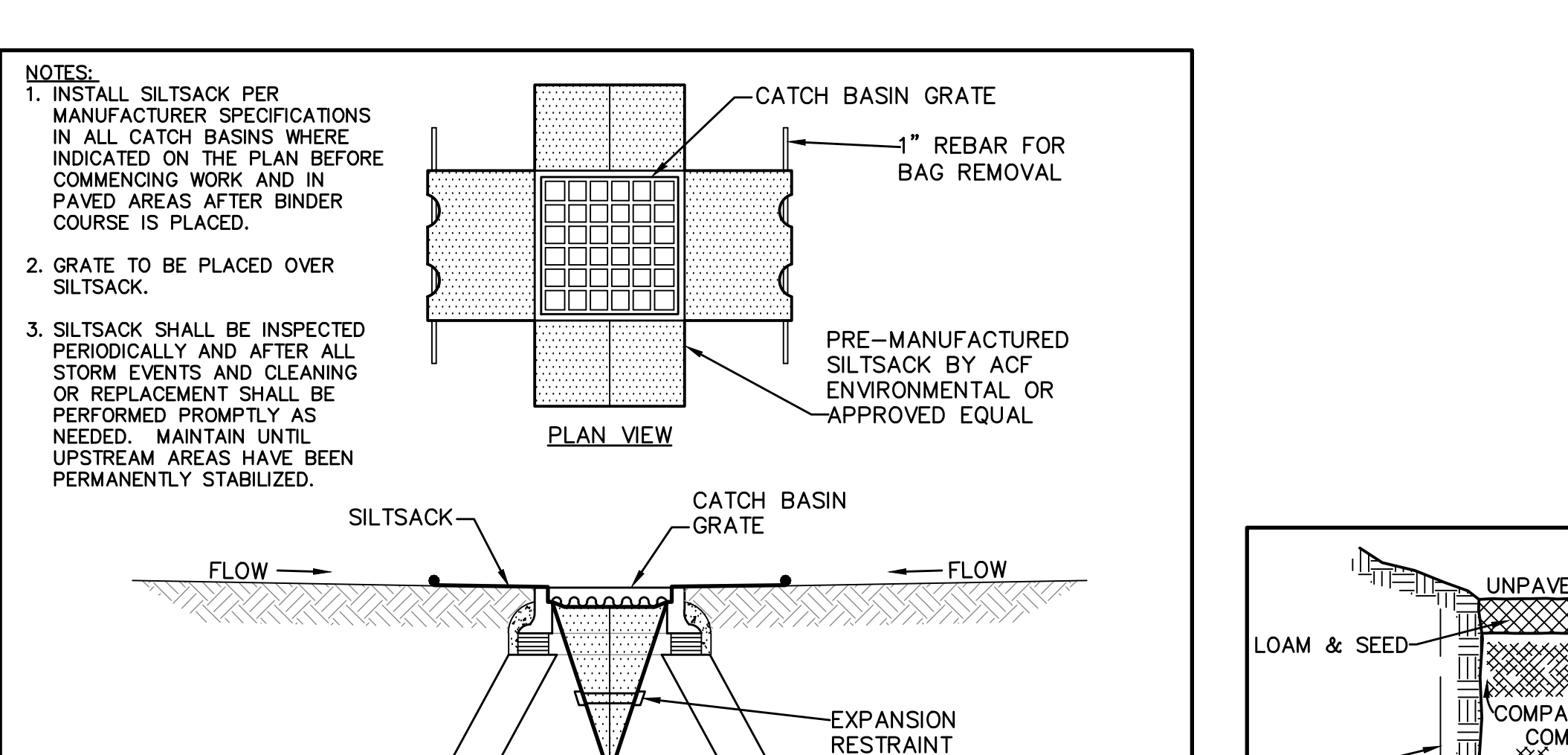
**SINGLE AXIS TRACKING PANEL DETAIL**  
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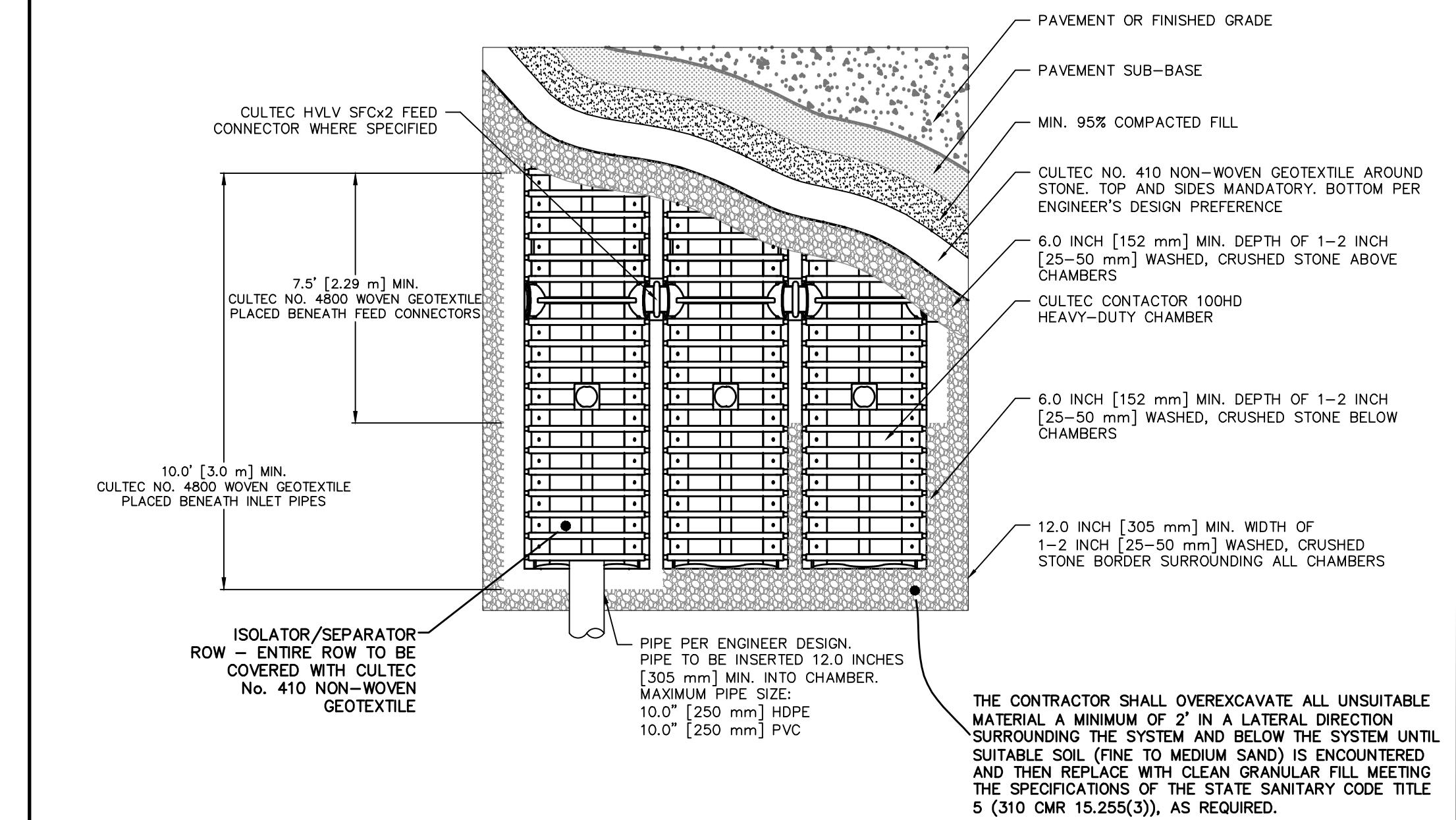
**SINGLE AXIS TRACKING PANEL DETAIL**  
NOT TO SCALE



**NOTES:**

1. INSTALL SILTSACK PER MANUFACTURER SPECIFICATIONS IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK AND IN PAVED AREAS AFTER BINDER COURSE IS PLACED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED.

**SILTSACK SEDIMENT TRAP DETAIL**  
(NOT TO SCALE)

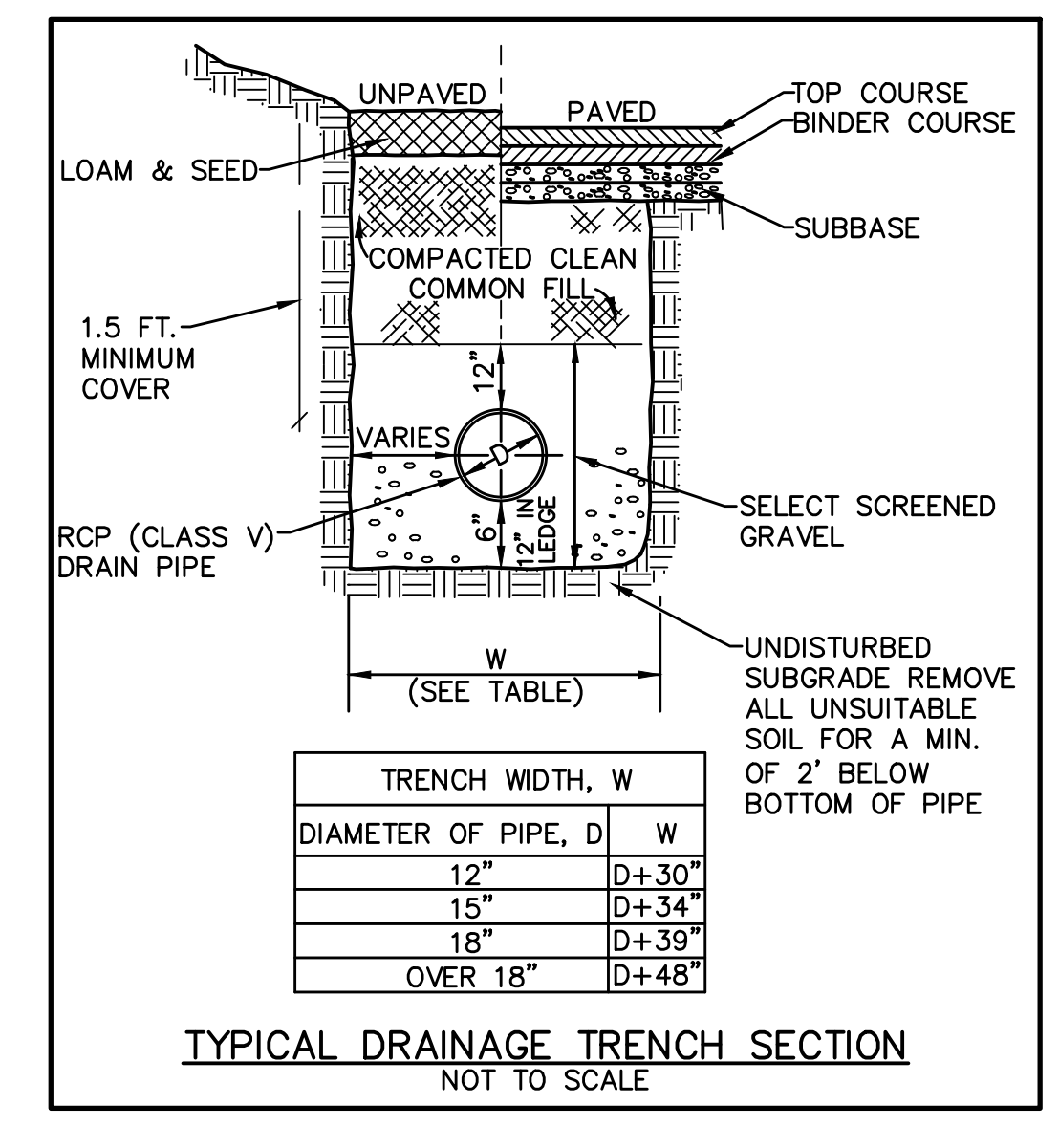


**GENERAL NOTES:**

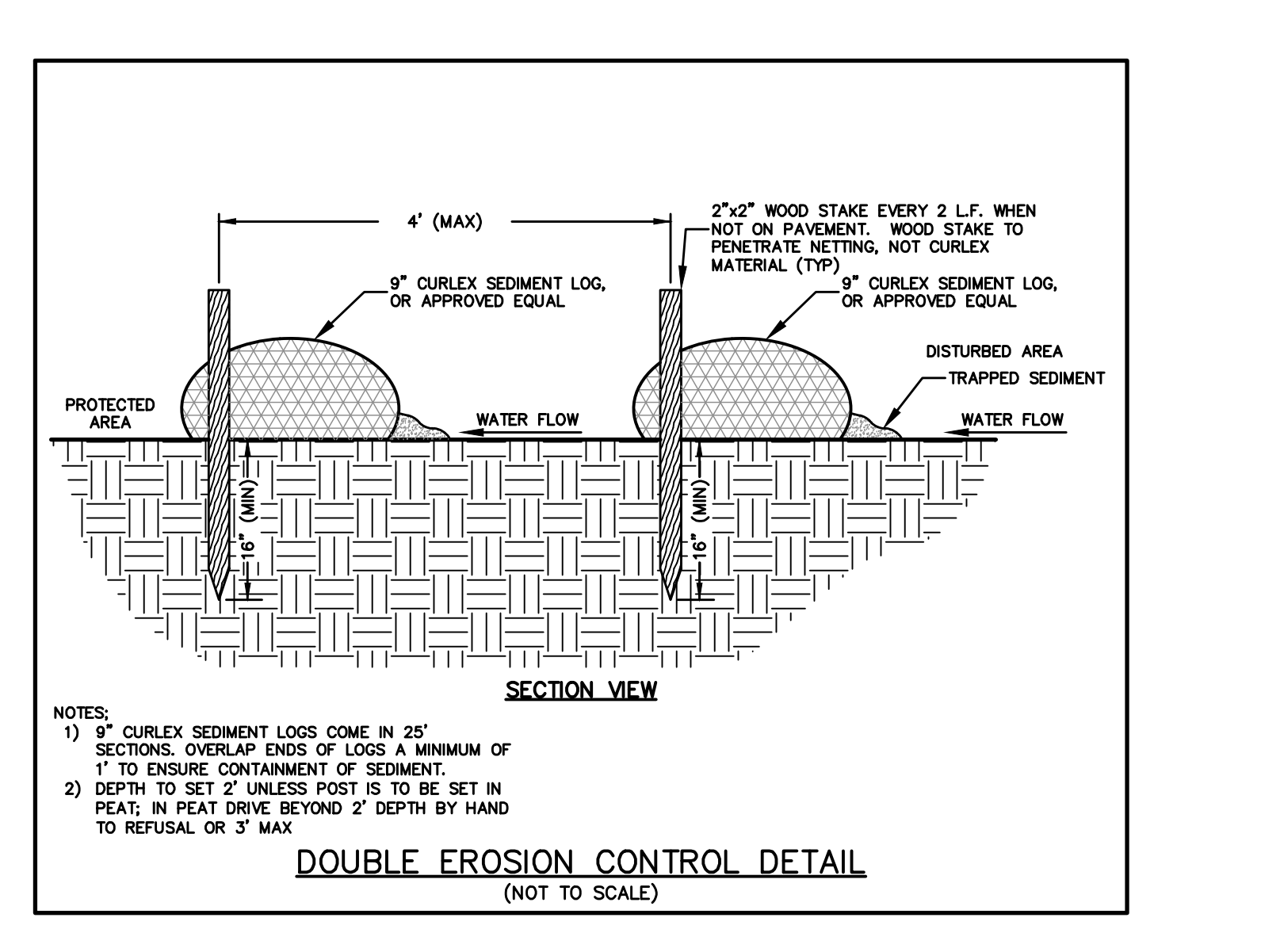
RECHARGER 100HD BY CULTEC, INC. OF BROOKFIELD, CT. STORAGE PROVIDED = 1.96 CF/FT PER DESIGN UNIT. REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES. MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12' (3.65m).

THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS. ALL RECHARGER 100HD HEAVY DUTY UNITS ARE MARKED WITH A COLOR STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER. ALL RECHARGER 100HD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

**CULTEC 100HD INFILTRATION SYSTEM DETAIL**  
(NOT TO SCALE)



**TYPICAL DRAINAGE TRENCH SECTION**  
NOT TO SCALE



**DOUBLE EROSION CONTROL DETAIL**  
(NOT TO SCALE)

TEST PIT #1

Estimated Depth to High Groundwater Mottles @74"

SOIL LOG					
Depth (in)	Soil Horizon/ Layer	Soil Texture	Soil Color (Munsell)	Mottles	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-8	O/A	Sandy Loam	10YR 3/2		
8-34	B	Sandy Loam	10YR 5/6		
34-108	C	Loamy Sand	2.5Y 5/2	74"	

TEST PIT #2

Estimated Depth to High Groundwater Mottles @ 70"

SOIL LOG					
Depth (in)	Soil Horizon/ Layer	Soil Texture	Soil Color (Munsell)	Mottles	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-8	O/A	Sandy Loam	10YR 3/2		
8-32	B	Sandy Loam	10YR 5/6		
32-94	C	Loamy Sand	2.5Y 5/2	70"	Refusal

TEST PIT #3

Estimated Depth to High Groundwater Mottles @60"

SOIL LOG					
Depth (in)	Soil Horizon/ Layer	Soil Texture	Soil Color (Munsell)	Mottles	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-12	O/A	Sandy Loam	10YR 3/2		
12-38	B	Sandy Loam	10YR 5/6		
38-56	C1	Loamy Sand	2.5Y 5/2		
56-74	C2d	Sandy Loam	2.5Y 5/3	60"	
74-122	C3	Coarse Sand	2.5Y 5/4		

TEST PIT #4

Estimated Depth to High Groundwater Mottles @50"

SOIL LOG					
Depth (in)	Soil Horizon/ Layer	Soil Texture	Soil Color (Munsell)	Mottles	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-10	O/A	Sandy Loam	10YR 3/2		
10-32	B	Sandy Loam	10YR 5/8		
32-76	C	Loamy Sand	2.5Y 5/6	50"	

TEST PIT #5

Estimated Depth to High Groundwater Mottles @40"

SOIL LOG					
Depth (in)	Soil Horizon/ Layer	Soil Texture	Soil Color (Munsell)	Mottles	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-8	O/A	Sandy Loam	10YR 3/2		
8-34	B	Sandy Loam	10YR 5/8		
34-84	C	Loamy Sand	2.5Y 5/6	40"	Refusal

