

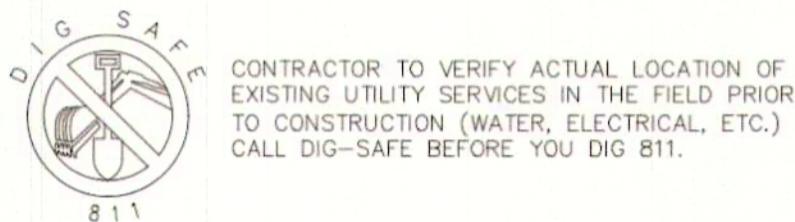
NOTES:

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 512, BLOCK 126B, LOT 1. RECORD TITLE FROM DEED BOOK 17513, PAGE 108.

2. UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY, RECORD PLAN LOCATIONS, OR DIGSAFE PAINT-INDICATORS. METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BEHIND THE GROUND SURFACE AT THE TIME OF THE SURVEY.

3. CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE, OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.

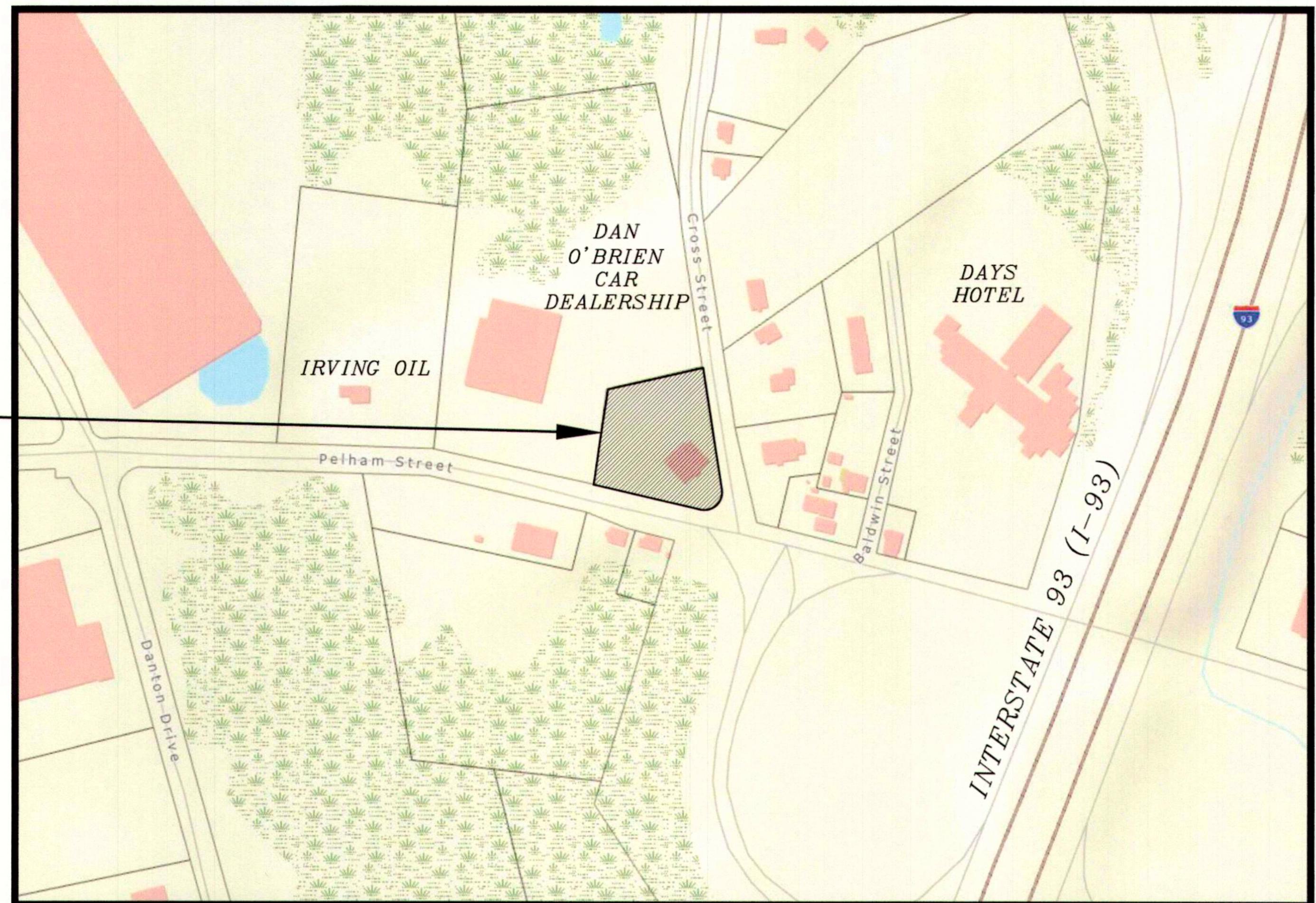
4. THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY; THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25009C0202F, BEARING AN EFFECTIVE DATE OF JULY 03, 2012.



LEGEND

A/C	AIR CONDITIONER
APPROX.	APPROXIMATE
Bo	BOLLARD
BIT.	BITUMINOUS
BCC	BITUMINOUS CONCRETE CURB
BRG.	BEARING
B.W.	BOTTOM OF WALL
C.I.	CAST IRON
C.L.	CEMENT LINED
CB	CONCRETE BOUND
CHD.	CHORD
CHS.	CHISELED
C.P.	CONCRETE PAD
C.L.F.	CHAIN-LINKED FENCE
CONC.	CONCRETE
□ D.C.B.	DRAIN CATCH BASIN
① D.M.H.	DRAIN MANHOLE
D.H.N.	DOUBLE HEADED NAIL
D.H.	DRILL HOLE
D	DUMPSTER
EHH	ELECTRIC HAND HOLE
ELEV.	ELEVATION
E.M.	ELECTRIC METER
E.O.P.	EDGE OF PAVEMENT
(F)	FOUND
GG	GAS GATE
G.M.	GAS METER
HP	HIGH POINT
HYD	HYDRANT
I.P.	IRON PIPE
I.R.	IRON ROD
INV.	INVERT
LS	LANDSCAPING
L=	LENGTH
Ø L.P.	LIGHTPOST
L.O.W.	LIMIT OF WORK
M.H.	MANHOLE
MAG.	MAGNETIC
N/A	NOT APPLICABLE
N/F	NOW OR FORMALLY
NL	NAIL
OHW	OVERHANG WIRE
P.T.	POINT OF TANGENT
PROP.	PROPOSED
R=	RADIUS
(S)	SET
② S.M.H.	SEWER MANHOLE
S=	SIGN
S.F.	SLOPE
SB	SQUARE FEET
STC	STONE BOUND
SQU.	STORMCEPTOR
SQU.	SQUARE
③ T.M.H.	TELEPHONE MANHOLE
TBM	TEMPORARY BENCH MARK
T.B.R.	TO BE REMOVED
Ø TOB-#	TOP OF BANK FLAG
T.D.	TRENCH DRAIN
TSFM	TRANSFORMER
T.W.	TOP OF WALL
UOP #	UTILITY POLE
WG	WATER GATE
W/	WITH
WF-	WETLAND FLAG
VAC	VACUUM STATION
VCC	VERTICAL CONCRETE CURB
VCC	VERTICAL GRANITE CURB
V.C.	VITRIFIED CLAY
+100.0	EXISTING SPOT GRADE
○-100-	EXISTING GRADE
FG100	FINISHED GRADE
GAS	GAS SERVICE LINE
S	SEWER SERVICE LINE
W/	WATER SERVICE LINE
E	ELECTRICAL SERVICE LINE

PROJECT SITE



SHEET INDEX

SHEET C000	COVER SHEET
SHEET C100	EXISTING CONDITIONS PLAN
SHEET C200	EROSION AND SEDIMENT CONTROL PLAN
SHEET C300	PROPOSED LAYOUT PLAN
SHEET C400	PROPOSED GRADING PLAN
SHEET C500	PROPOSED DRAINAGE PLAN
SHEET C600	PROPOSED SITE PLAN
SHEET C700	PROPOSED UTILITY PLAN
SHEET C800	LOCUS PLAN
SHEET C900	PROPOSED DETAILS PLAN
	PROPOSED DETAILS PLAN

PARKING REQUIREMENTS

PRINCIPLE USE	PARKING REQUIREMENT	REQUIRED	PROPOSED
AUTOMOBILE WASH FACILITY (RELEGATED UNDER GASOLINE STATION OR REPAIR GARAGE)	ONE (1) SPACE PER 300 SQUARE FEET OF GROSS FLOOR AREA ¹	16 PARKING SPACES (4,743 S.F.) & 3 PARKING SPACES (6 EMPLOYEES)	8 PARKING SPACES, 1 VAN HANDICAP SPACE & 15 VACUUM STALLS
	PLUS ONE (1) SPACE PER 2 EMPLOYEES ON MAXIMUM SHIFT ¹		
	TOTAL NUMBER OF PARKING SPACES =	19 SPACES	24 SPACES

1. PARKING REQUIREMENTS TAKEN FROM "TABLE OF REQUIRED OFF-STREET PARKING" OF THE CITY OF METHUEN COMPREHENSIVE ZONING ORDINANCE FOR "GASOLINE STATION OR REPAIR GARAGE".

PROPOSED SITE PLAN SET
SCRUB-A-DUB CAR WASH
#171 PELHAM STREET
METHUEN, MASSACHUSETTS

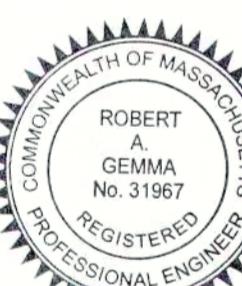
LIST OF CONSULTANTS:

Architect:
Cripe Architecture
9339 Priority Way West Drive, Suite 100
Indianapolis, IN 46240
317.844.6777
www.cripe.biz

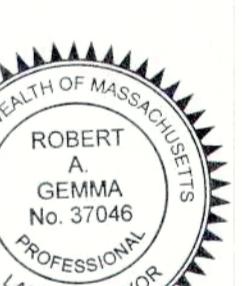
Landscape Architect:
Hawk Design, Inc.
P.O. Box 1309
Sandwich, MA 02563
508.833.8800
www.hawkdesigninc.com

Land Surveyor/Civil Engineer:
MetroWest Engineering, Inc.
75 Franklin Street
Framingham, MA 01702
508.626.0063
info@mwestengineering.com

Builder/General Contractor:
Dixon, Inc.
361 West Main Street
Northborough, MA 01532
508.393.4411
www.dixon-inc.com



FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046



ROBERT A. GEMMA
No. 37046
PROFESSIONAL
LAND SURVEYOR

COVER SHEET
#171 PELHAM STREET
IN
METHUEN, MASS.
(NORTH ESSEX COUNTY)

PREPARED FOR:	SCRUBADUB AUTO WASH CENTERS 172 WORCESTER STREET NATICK, MA 01760
PROPERTY OF:	
DONNA & THOMAS SWERCHESKY, ET AL., TRUSTEES SWERCHESKY FAMILY REVOCABLE LIVING TRUST 171 PELHAM STREET METHUEN, MA 01844	
ENGINEERS & SURVEYORS:	
MWE	METROWEST ENGINEERING, INC. 75 FRANKLIN STREET FRAMINGHAM, MA 01702 TELE.: (508)626-0063
SHEET C000	DATE: JULY 28, 2023
CALC'D BY: PHA	FIELD BK: 751
DRAFTER: CJC	PROJECT: MET_PEL
	DWG FILE:

ZONING TABLE			
BUSINESS HIGHWAY DISTRICT (BH)			
AREA	REQUIRED	EXISTING	PROPOSED
FRONTAGE	10,000 S.F.	47,763 S.F.	47,763 S.F.
LOT WIDTH	100 FEET	495.14 FEET	495.14 FEET
SETBACKS:			
FRONT YARD	25 FEET	17.0 FEET	14.9 FEET (CANOPY)
SIDE YARD	30 FEET	92.5 FEET	11.6 FEET (VACUUM)
REAR YARD*	30 FEET	116.1 FEET	17.0 FEET (VACUUM)
BUILDING HEIGHT	40 FEET/3 STORIES	18.3 FEET	29.7 FEET/2 STORIES
OPEN SPACE	N/A	5.2%	34.7%
LOT COVERAGE	35% MAXIMUM	94.8%	68.4%
GROSS FLOOR AREA	N/A	3,875 S.F.	4,743 S.F.

*NORTHERN PROPERTY LINE DESIGNATED AS REAR LOT LINE.

EROSION CONTROL NOTES:

1.) CONTRACTOR SHALL MODIFY SEDIMENTATION CONTROLS AS NECESSARY DURING CONSTRUCTION.

2.) CONTRACTOR SHALL INSPECT AND CLEAN ALL SILTATION CONTROL MEASURES ON A WEEKLY BASIS AND AFTER ALL STORMS WITH A PRECIPITATION AMOUNT IN EXCESS OF 1". CONTRACTOR SHALL IMMEDIATELY REPAIR ANY DEFICIENCIES FOUND ON SILTATION CONTROL MEASURES.

3.) CONTRACTOR SHALL MAINTAIN AN INVENTORY OF EMERGENCY SUPPLIES ON SITE IN A PROTECTED LOCATION INCLUDING, BUT NOT LIMITED TO HAYBALES, SILT FENCE, WASHED STONE, PVC PIPE, MULCH AND SEED.

4.) THE BASE OF ALL STOCKPILES SHALL BE PROTECTED WITH A HAYBALE, FILTER SOCK OR SILT FENCE BARRIER.

5.) ALL DISTURBED AREAS SHALL BE PROPERLY STABILIZED BEFORE OR THROUGH THE WINTER TO ELIMINATE DESTABILIZATION OR SILTATION DURING THE SPRING THAW.

6.) ANY RELEASE OF WATER FROM TEMPORARY SILTATION PONDS SHALL BE FREE OF SILT AND SEDIMENT AND SHALL MEET WATER QUALITY STANDARDS FOR CLASS B WATER IN THE COMMONWEALTH OF MASSACHUSETTS.

7.) IF GROUNDWATER DE-WATERING IS REQUIRED, CONTRACTOR SHALL IMPLEMENT A FILTERING SYSTEM FOR PUMPED GROUNDWATER TO REMOVE SILT AND SEDIMENT. THE DIRECT DISCHARGE OF ANY DE-WATERING OPERATION INTO A WETLAND IS PROHIBITED.

8.) CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL SEDIMENTS WHEN THEY HAVE ACCUMULATED TO A HEIGHT APPROXIMATELY EQUAL TO ONE HALF OF THE HEIGHT OF THE CORRESPONDING EROSION AND SEDIMENTATION CONTROL MEASURE.

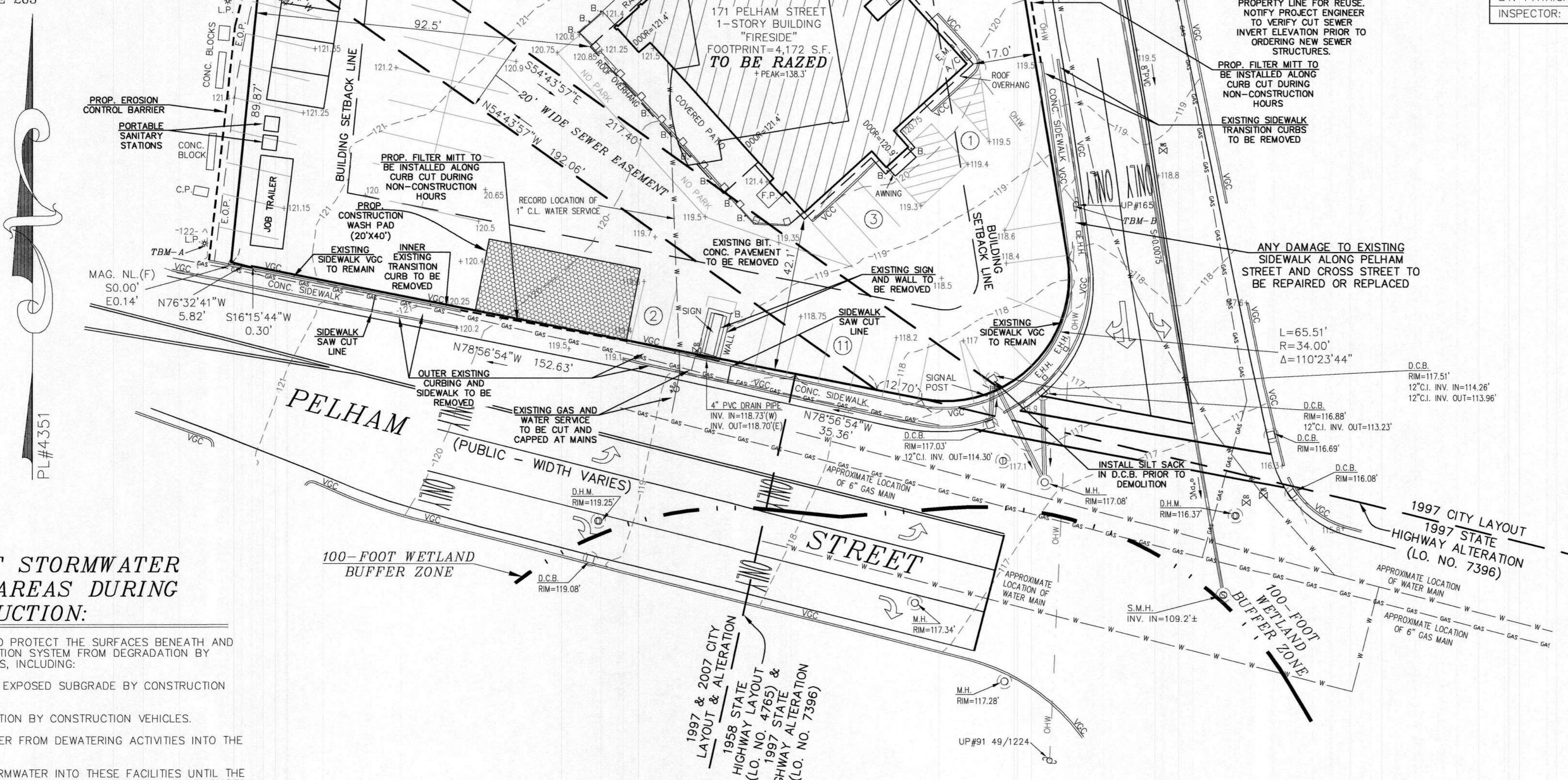
9.) CONTRACTOR SHALL KEEP COPIES OF THE EROSION CONTROL PLAN, INSPECTION REPORTS AND THE STORMWATER POLLUTION PREVENTION PLAN SO THEY ARE ACCESSIBLE AT ALL TIMES.

10.) CONTRACTOR TO PROTECT ALL DRAINAGE INLETS FROM SILT AND SEDIMENT UNTIL THEIR TRIBUTARY AREAS ARE FULLY STABILIZED.

11.) DESIGN ENGINEER TO VERIFY LOCATION AND INSTALLATION OF ALL EROSION CONTROL MEASURES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

12.) CONTRACTOR TO SWEEP STREET IN FRONT OF WORK AREA WEEKLY TO PREVENT ACCUMULATION OF SILT AND SEDIMENT ON CROSS STREET AND PELHAM STREET.

MAP 512, BLOCK 126B, LOT 1A
#175 PELHAM STREET
N/F
#175 PELHAM REALTY LLC
DEED BOOK 15978, PAGE 265



PROTECTION OF STORMWATER MANAGEMENT AREAS DURING CONSTRUCTION:

CONTRACTOR SHALL EXERCISE CARE TO PROTECT THE SURFACES BENEATH AND ADJACENT TO THE PROPOSED INFILTRATION SYSTEM FROM DEGRADATION BY SURROUNDING CONSTRUCTION ACTIVITIES, INCLUDING:

A. PREVENTION OF CONTAMINATION OF EXPOSED SUBGRADE BY CONSTRUCTION SEDIMENT.

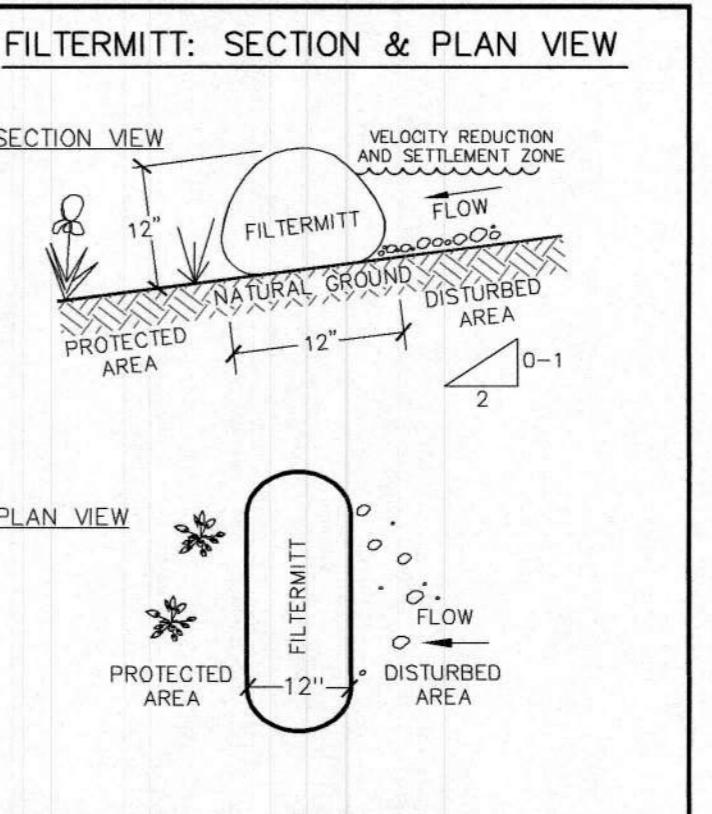
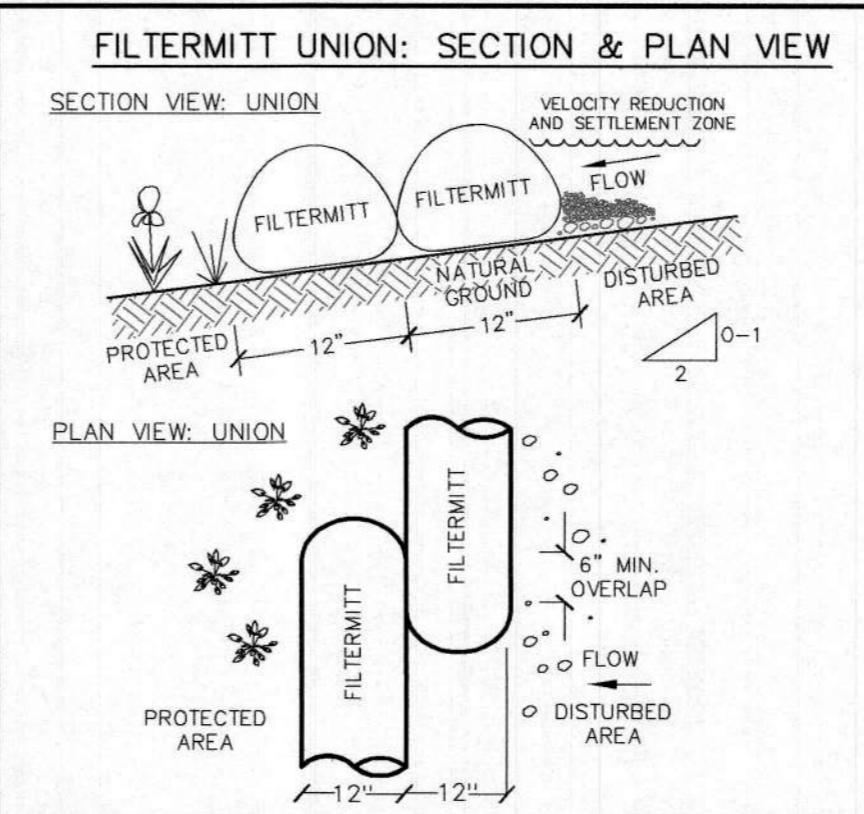
B. PREVENTION OF EXCESSIVE COMPACTION BY CONSTRUCTION VEHICLES.

C. PREVENTION OF DISCHARGE OF WATER FROM DEWATERING ACTIVITIES INTO THE PROPOSED INFILTRATION SYSTEM.

D. PREVENTION OF DISCHARGE OF STORMWATER INTO THESE FACILITIES UNTIL THE CONTRIBUTING AREAS ARE STABILIZED UNLESS SPECIFIC MEASURES ARE PROVIDED FOR PROTECTING AND RESTORING THE INFILTRATION SURFACE.

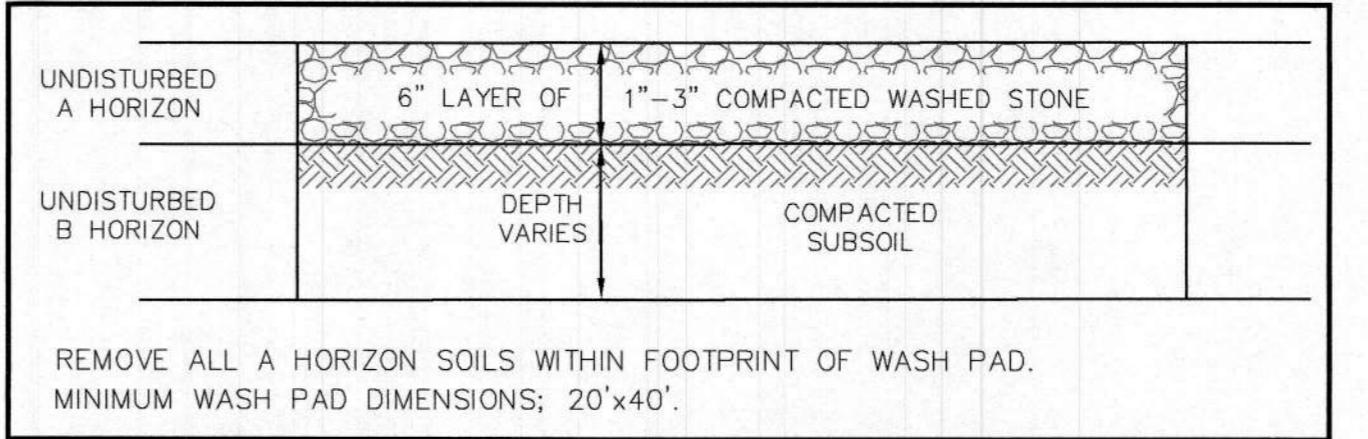
FILTER MITT EROSION CONTROL BARRIER

NOT TO SCALE



STONE WASH PAD

NOT TO SCALE



NOTES:

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DIG-SAFE
811
CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION (WATER, ELECTRICAL, ETC.)
CALL DIG-SAFE BEFORE YOU DIG 811.

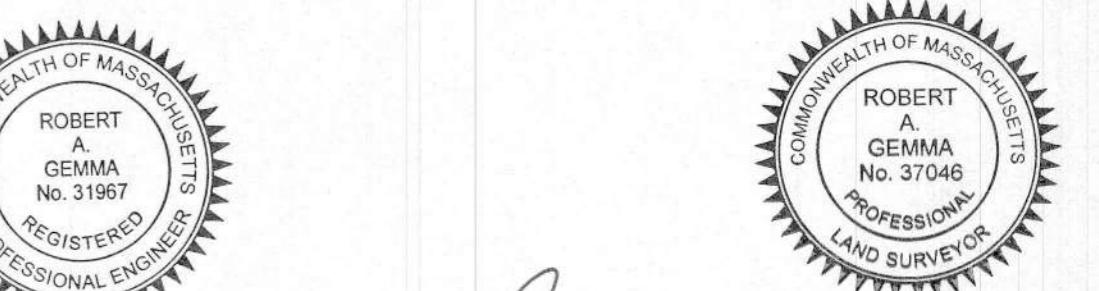
BENCHMARKS

ELEVATION SHOWN IS BASED ON N.A.V.D. 1988 DATUM

T.B.M.	DESCRIPTION	ELEVATION
A	D.H.N. SET 1' UP IN LIGHT POLE	122.91'
B	D.H.N. SET 1' UP IN UP#165	119.66'

REVISIONS:

NO.	DATE	DESCRIPTION	BY
1	11/6/23	ADDED STREET PAVEMENT MARKINGS AND REVISED CURBING	CJC
2	11/9/23	SHIFT BUILDING, REVISED DRIVE AND ADDED CROSS STREET EXIT	CJC



FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE
1 inch = 20 ft.
0 4 8 12 16 20 24 28 32 (FEET)
0 10 20 30 (METERS)

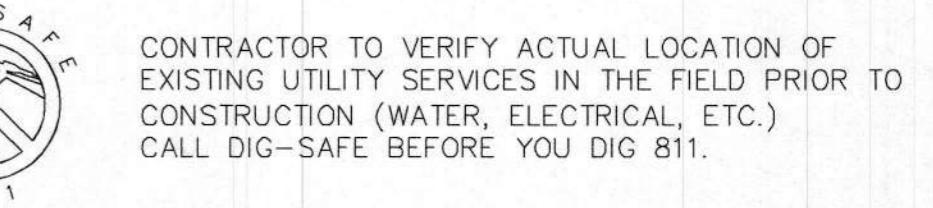
EROSION & SEDIMENT CONTROL PLAN

#171 PELHAM STREET
IN
METHUEN, MASS.
(NORTH ESSEX COUNTY)

PREPARED FOR:	SCRUBADUB AUTO WASH CENTERS 172 WORCESTER STREET NATICK, MA 01760
PROPERTY OF:	DONNA & THOMAS SWERCHESKY, ET AL., TRUSTEES SWERCHESKY FAMILY REVOCABLE LIVING TRUST 171 PELHAM STREET METHUEN, MA 01844
ENGINEERS & SURVEYORS:	MWE METROWEST ENGINEERING, INC. 75 FRANKLIN STREET FRAMINGHAM, MA 01702 TELE.: (508)626-0063 EMAIL: INFO@MWENGINEERING.COM
SHEET C200	DATE: JULY 28, 2023
CALC'D BY: PHA	FIELD BK: 751
DRAFTER: CJC	CAD FILE: SCRUB_SP_03_R2.DWG
DWG FILE:	

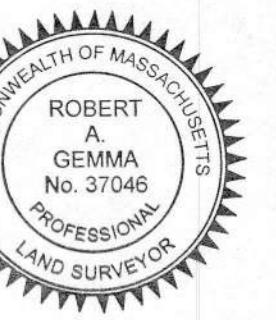
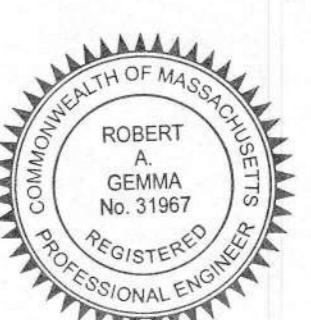
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REVISIONS:

NO.	DATE	DESCRIPTION	BY
1	11/6/23	ADDED STREET PAVEMENT MARKINGS AND REVISED CURBING	CJC
2	11/9/23	SHIFT BUILDING, REVISED DRIVE AND ADDED CROSS STREET EXIT	CJC



FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE
1 inch = 20 ft.
(FEET)
0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60
(METERS) 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30

PROPOSED LAYOUT PLAN

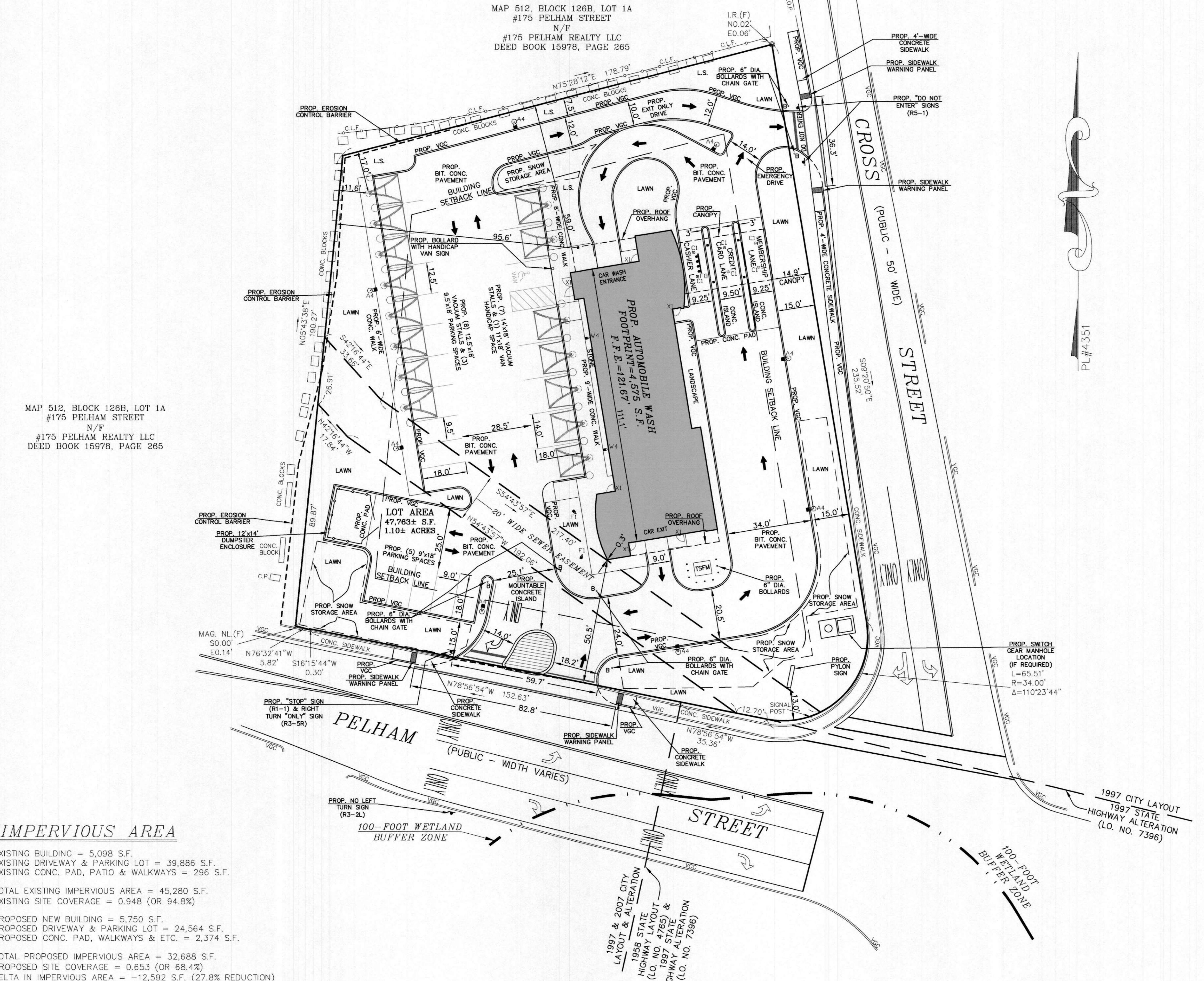
#171 PELHAM STREET
IN
METHUEN, MASS.
(NORTH ESSEX COUNTY)

PREPARED FOR:
SCRUBADUB AUTO WASH CENTERS
172 WORCESTER STREET
NATICK, MA 01760

PROPERTY OF:
DONNA & THOMAS SWERCHESKY, ET AL., TRUSTEES
SWERCHESKY FAMILY REVOCABLE LIVING TRUST
171 PELHAM STREET
METHUEN, MA 01844

ENGINEERS &
SURVEYORS:
MWE METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
FRAMINGHAM, MA 01702
TELE: (508)626-0063
EMAIL: INFO@MWENGINEERING.COM

SHEET C300 DATE: JULY 28, 2023
CALC'D BY: PHA FIELD BK: 751 CAD FILE: SCRUB_SP_03_R2.DWG
DRAFTER: CJC PROJECT: MET_PEL DWG FILE:



VOTES:

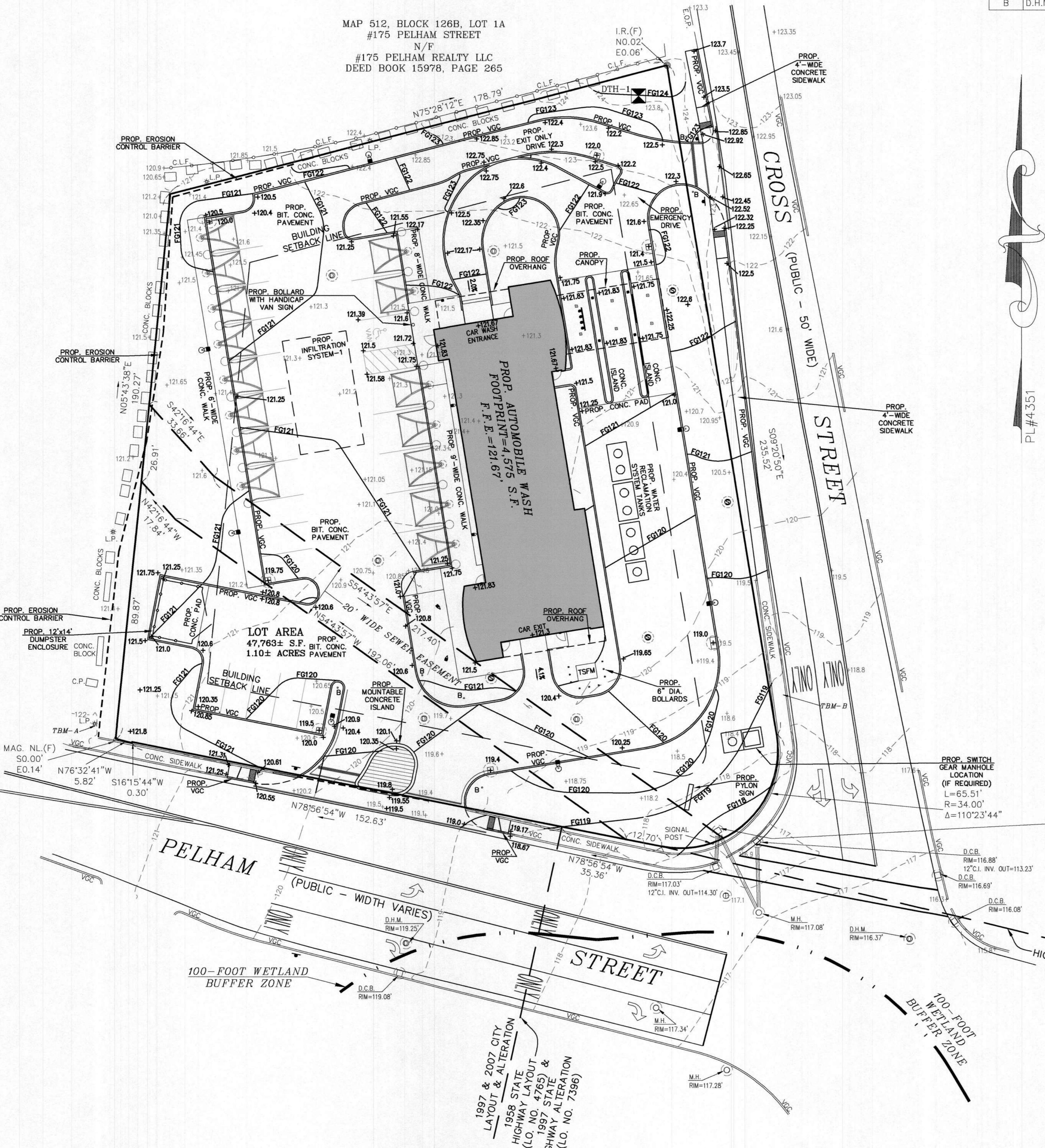
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RECORD TITLE FROM DEED BOOK 17513, PAGE 108.

BENCHMARKS

ELEVATION SHOWN IS BASED ON N.A.V.D. 1988 DATUM

ELEVATION SHOWN IS BASED ON N.N.V.D. 1988 DATUM		
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A	D.H.N. SET 1' UP IN LIGHT POLE	122.91'
B	D.H.N. SET 1' UP IN UP#165	119.66'

MAP 512, BLOCK 126B, LOT 1A
#175 PELHAM STREET
N/F
#175 PELHAM REALTY LLC
DEED BOOK 15978, PAGE 265



SOIL LOGS		SOIL TEST RESULTS			
No:					
DTH-1 (ELEV.= 124.1')					
0"-16"		FILL (HTM)			
16"-20"	A	LOAMY	SAND	10YR	5/3
20"-32"	Bw	LOAMY	SAND	7.5YR	7/4
32"-96"	C1	SAND		2.5Y	7/4
96"-156"	C2	FINE SAND		2.5Y	7/2
NO REFUSAL					
NO WEEPING OR STANDING WATER					
GROUNDWATER= BELOW ELEV. 111.1'					
DATE: JUNE 05, 2023 F.B. 727A, PG. 66					
BY: PATRICK ARNOW, SOIL EVALUATOR					
INSPECTOR: NONE					

CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.

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CONTRACTOR TO VERIFY ACTUAL LOCATION OF
EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO
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CALL DIG-SAFE BEFORE YOU DIG 811.

REVISIONS:

O.	DATE	DESCRIPTION	BY
	11/6/23	ADDED STREET PAVEMENT MARKINGS AND REVISED CURBING	CJC
	11/9/23	SHIFT BUILDING, REVISED DRIVE AND ADDED CROSS STREET EXIT	CJC

MAP 512, BLOCK 126B, LOT 1A
#175 PELHAM STREET
N/F
#175 PELHAM REALTY LLC
DEED BOOK 15978, PAGE 265

The image displays two circular seals for Massachusetts Notary Publics. The left seal is for ROBERT A. GEMMA, No. 31967, a Registered Professional Engineer. The right seal is for ROBERT A. GEMMA, No. 37046, a Professional Land Surveyor. Both seals feature a sunburst border and the text 'COMMONWEALTH OF MASSACHUSETTS' around the perimeter of the inner circle.

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE

1 inch = 20 ft.

10 20 40 (FEET) 80

10 20 20 (METERS) 30

PROPOSED GRADING PLAN
#171 PELHAM STREET
IN
METHUEN, MASS.
(NORTH ESSEX COUNTY)

(NORTH ESSEX COUNTY)
ARED FOR:
SCRUBADUB AUTO WASH CENTERS
172 WORCESTER STREET

PROPERTY OF:
DONNA & THOMAS SWERCHESKY, ET AL., TRUSTEES
SWERCHESKY FAMILY REVOCABLE LIVING TRUST
171 PELHAM STREET

METROWEST, MA 017844
INEERS &
URVEYORS:
MWE METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
FRAMINGHAM, MA 01702
TELE.: (508)626-0063
EMAIL: INFO@MWENGINEERING.COM

SHEET C400		DATE: JULY 28, 2023
'D BY: PHA	FIELD BK: 751	CAD FILE: SCRUB_SP_03_R2.DWG
FTER: CJC	PROJECT: MET_PEL	DWG FILE:

NOTES:

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 512, BLOCK 126B, LOT 1. RECORD TITLE FROM DEED BOOK 17513, PAGE 108.

2. UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORD PLAN LOCATIONS, OR DIGSAFE PAINT-INDICATORS, METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BEHIND THE GROUND SURFACE AT THE TIME OF THE SURVEY.

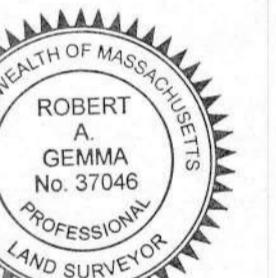
3. CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE, OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.

4. THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY; THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25009C0202F, BEARING AN EFFECTIVE DATE OF JULY 03, 2012.

 CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION (WATER, ELECTRICAL, ETC.) CALL DIG-SAFE BEFORE YOU DIG 811.

REVISIONS:

NO.	DATE	DESCRIPTION	BY
1	11/6/23	ADDED STREET PAVEMENT, MARKINGS AND REVISED CURBING	CJC
2	11/9/23	SHIFT BUILDING, REVISED DRIVE AND ADDED CROSS STREET EXIT	CJC



FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE
1 inch = 20 ft.
(FEET)
0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80
(METERS)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30

PROPOSED DRAINAGE PLAN

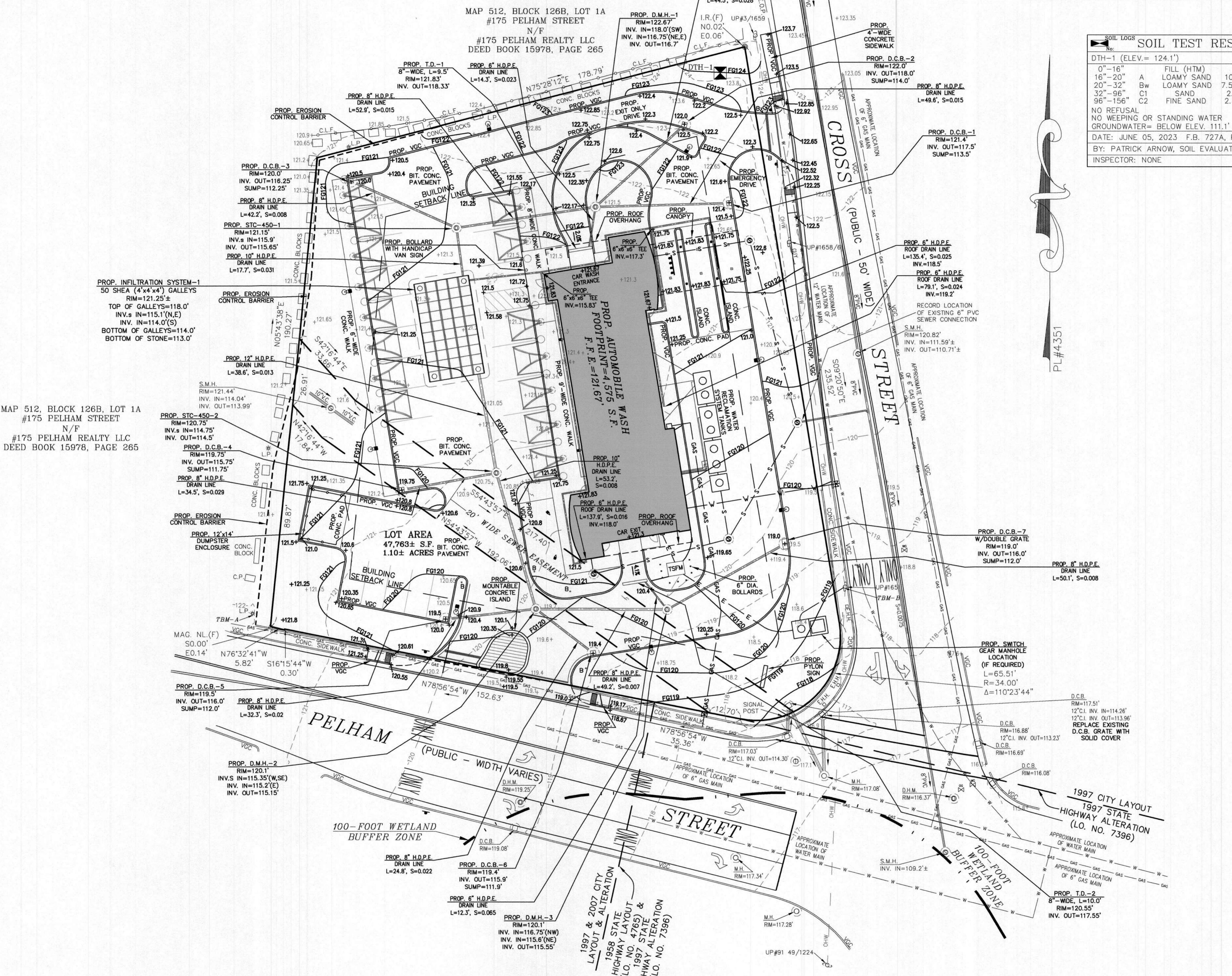
#171 PELHAM STREET
IN
METHUEN, MASS.
(NORTH ESSEX COUNTY)

PREPARED FOR:
SCRUBADUB AUTO WASH CENTERS
172 WORCESTER STREET
NATICK, MA 01760

PROPERTY OF:
DONNA & THOMAS SWERCHESKY, ET AL., TRUSTEES
SWERCHESKY FAMILY REVOCABLE LIVING TRUST
171 PELHAM STREET
METHUEN, MA 01844

ENGINEERS &
SURVEYORS:
MWE METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
FRAMINGHAM, MA 01702
TELE.: (508)626-0063
EMAIL: INFO@MWENGINEERING.COM

SHEET C500 DATE: JULY 28, 2023
CALC'D BY: PHA FIELD BK: 751 CAD FILE: SCRUB_SP_03_R2.DWG
DRAFTER: CJC PROJECT: MET_PEL DWG FILE: SP072823_R2



NOTES:

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 512, BLOCK 126B, LOT 1. RECORD TITLE FROM DEED BOOK 15978, PAGE 108.

2. UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORD PLAN LOCATIONS, OR DIGSAFE PAINT-INDICATORS. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BEHIND THE GROUND SURFACE AT THE TIME OF THE SURVEY.

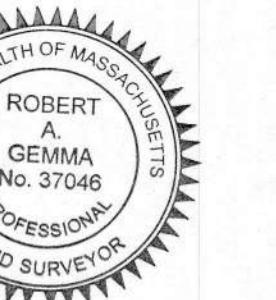
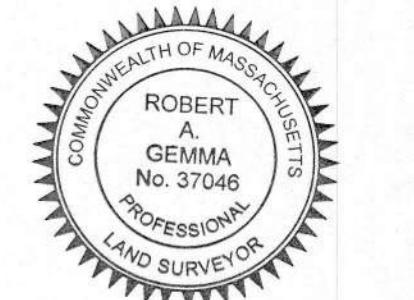
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4. THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY; THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25009C0202F, BEARING AN EFFECTIVE DATE OF JULY 03, 2012.

 CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION (WATER, ELECTRICAL, ETC.) CALL DIG-SAFE BEFORE YOU DIG 811.

REVISIONS:

NO.	DATE	DESCRIPTION	BY
1	11/6/23	ADDED STREET PAVEMENT MARKINGS AND REVISED CURBING	CJC
2	11/9/23	SHIFT BUILDING, REVISED DRIVE AND ADDED CROSS STREET EXIT	CJC



 FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE
1 inch = 20 ft.
(FEET)
0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80
(METERS)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80

PROPOSED SITE PLAN #171 PELHAM STREET IN METHUEN, MASS. (NORTH ESSEX COUNTY)

PREPARED FOR:
SCRUBADUB AUTO WASH CENTERS
172 WORCESTER STREET
NATICK, MA 01760

PROPERTY OF:
DONNA & THOMAS SWERCHESKY, ET AL., TRUSTEES
SWERCHESKY FAMILY REVOCABLE LIVING TRUST
171 PELHAM STREET
METHUEN, MA 01844

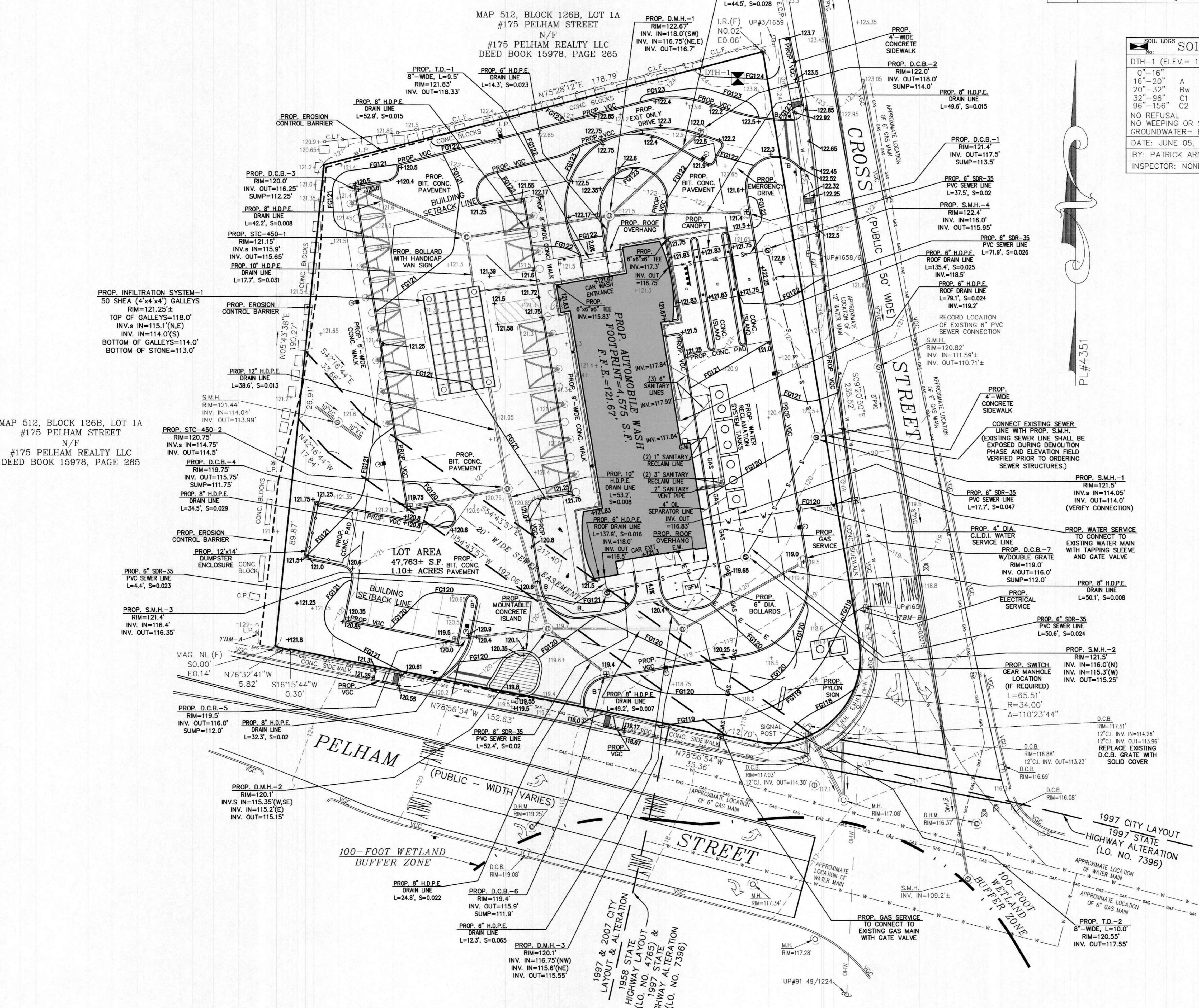
ENGINEERS &
SURVEYORS:
MWE METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
FRAMINGHAM, MA 01702
TELE.: (508) 626-0063
EMAIL: INFO@MWENGINEERING.COM

SHEET C600 DATE: JULY 28, 2023
CALC'D BY: PHA FIELD BK: 751 CAD FILE: SCRUB_SP_03_R2.DWG
DRAFTER: CJC PROJECT: MET_PEL DWG FILE: SP072823_R2

BENCHMARKS

ELEVATION SHOWN IS BASED ON N.A.V.D. 1988 DATUM		
T.B.M.	DESCRIPTION	ELEVATION
A	D.H.N. SET 1' UP IN LIGHT POLE	122.91'
B	D.H.N. SET 1' UP IN UP#165	119.66'

SOIL TEST RESULTS			
DTH-1 (ELEV.= 124.1')			
0"-16"	FILL (HTM)		
16"-20"	A LOAMY SAND	10YR 5/3	
20"-32"	Bw LOAMY SAND	7.5YR 7/4	
32"-96"	C1 SAND	2.5YR 7/4	
96"-156"	C2 FINE SAND	2.5YR 7/2	
NO REFUSAL NO WEEPING OR STANDING WATER GROUNDDWATER= BELOW ELEV. 111.1'			
DATE: JUNE 05, 2023 F.B. 727A, PG. 66			
BY: PATRICK ARNOW, SOIL EVALUATOR			
INSPECTOR: NONE			



NOTES:

JECT PARCEL IS SHOWN AS ASSESSORS MAP 512, BLOCK 126B, LOT 1.
RECORD TITLE FROM DEED BOOK 17513, PAGE 108.

UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY, RECORD PLAN LOCATIONS, OR DIGSAFE PAINT-INDICATORS. METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.

CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.

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CONTRACTOR TO VERIFY ACTUAL LOCATION OF
EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO
CONSTRUCTION (WATER, ELECTRICAL, ETC.)
CALL DIG-SAFE BEFORE YOU DIG 811.

BENCHMARKS

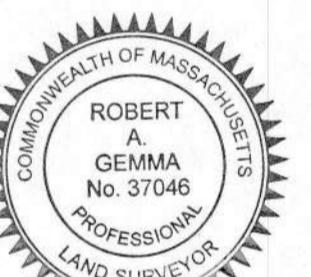
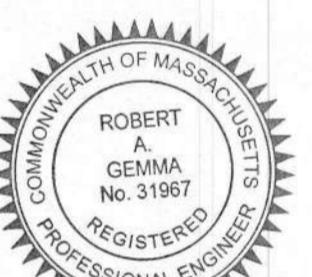
ELEVATION SHOWN IS BASED ON N.A.V.D. 1988 DATUM		
T.B.M.	DESCRIPTION	ELEVATION
A	D.H.N. SET 1' UP IN LIGHT POLE	122.91'
B	D.H.N. SET 1' UP IN UP#165	119.66'

LOGS SOIL TEST RESULTS

(ELEV.= 124.1')				
6"		FILL (HTM)		
20"	A	LOAMY SAND	10YR	5/3
32"	Bw	LOAMY SAND	7.5YR	7/4
96"	C1	SAND	2.5Y	7/4
56"	C2	FINE SAND	2.5Y	7/2
FUSAL				
KEEPING OR STANDING WATER				
NDWATER= BELOW ELEV. 111.1'				
JUNE 05, 2023 F.B. 727A, PG. 66				
ATRICK ARNOW, SOIL EVALUATOR				
CTOR: NONE				

REVISIONS:

O.	DATE	DESCRIPTION	BY
	11/6/23	ADDED STREET PAVEMENT MARKINGS AND REVISED CURBING	CJC
	11/9/23	SHIFT BUILDING, REVISED DRIVE AND ADDED CROSS STREET EXIT	CJC



FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.I.S. # 32046

GRAPHIC SCALE

1 inch = 20 ft.

0 20 40 (FEET) 80

10 20 (METERS) 30

PROPOSED UTILITY PLAN
#171 PELHAM STREET
IN
METHUEN, MASS.
(NORTH ESSEX COUNTY)

PREPARED FOR:
SCRUBADUR AUTO WASH CENTERS

SCREWDRIVE ACTS WASH CENTERS
172 WORCESTER STREET
NATICK, MA 01760

PROPERTY OF:
DONNA & THOMAS SWERCHESKY, ET AL., TRUSTEES
SWERCHESKY FAMILY REVOCABLE LIVING TRUST
171 PELHAM STREET

METHUEN, MA 01844

ENGINEERS &
SURVEYORS:

MWE

METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
FRAMINGHAM, MA 01702
TELE.: (508)626-0063
EMAIL: INFO@MWENGINEERING.COM

SHEET C700		DATE: JULY 28, 2023
CALC'D BY: PHA	FIELD BK: 751	CAD FILE: SCRUB_SP_03_R2.DWG
DRAFTER: CJC	PROJECT: MET PEL	DWG FILE:

NOTES:

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 512, BLOCK 126B, LOT 1. RECORD TITLE FROM DEED BOOK 17513, PAGE 108.

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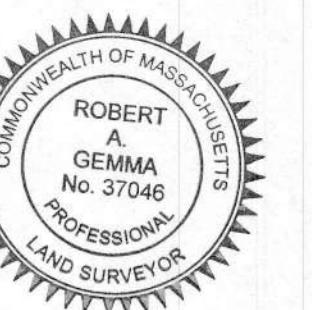
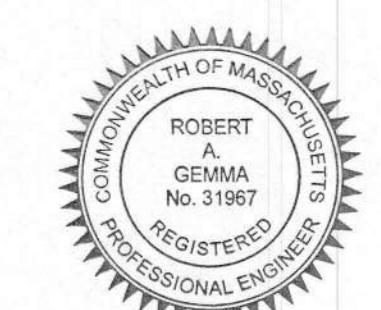
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CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION (WATER, ELECTRICAL, ETC.) CALL DIG-SAFE BEFORE YOU DIG 811.

REVISIONS:

NO.	DATE	DESCRIPTION	BY
1	11/6/23	ADDED STREET PAVEMENT MARKINGS AND REVISED CURBING	CJC
2	11/9/23	SHIFT BUILDING, REVISED DRIVE AND ADDED CROSS STREET EXIT	CJC



FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE
1 inch = 100 ft.
0 50 100 150 (FEET)
0 50 100 150 (METERS)

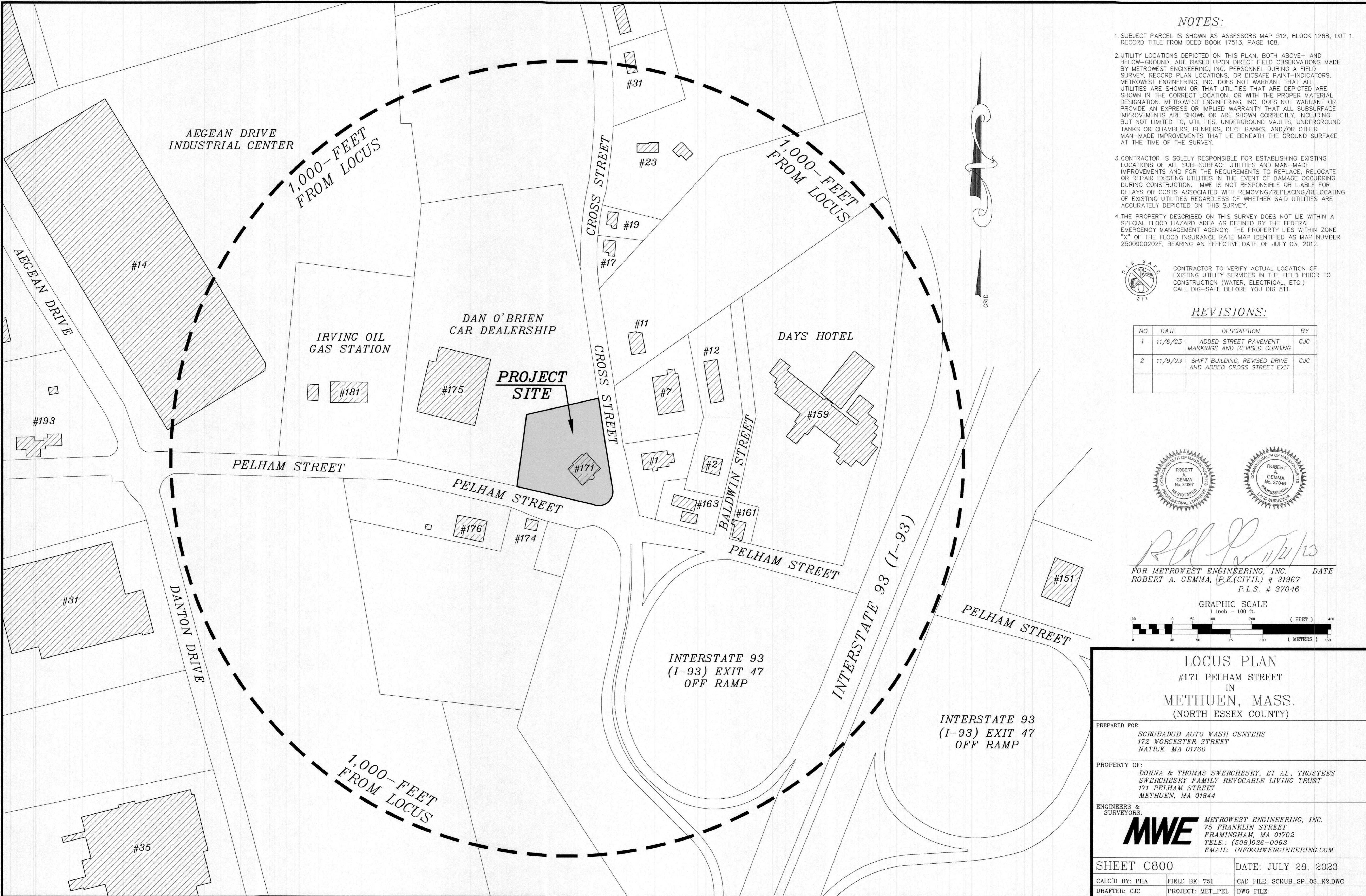
LOCUS PLAN
#171 PELHAM STREET
IN
METHUEN, MASS.
(NORTH ESSEX COUNTY)

PREPARED FOR:
SCRUBADUB AUTO WASH CENTERS
172 WORCESTER STREET
NATICK, MA 01760

PROPERTY OF:
DONNA & THOMAS SWERCHESKY, ET AL., TRUSTEES
SWERCHESKY FAMILY REVOCABLE LIVING TRUST
171 PELHAM STREET
METHUEN, MA 01844

ENGINEERS &
SURVEYORS:
MWE METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
FRAMINGHAM, MA 01702
TELE.: (508)626-0063
EMAIL: INFO@MWENGINEERING.COM

SHEET C800 DATE: JULY 28, 2023
CALC'D BY: PHA FIELD BK: 751 CAD FILE: SCRUB_SP_03_R2.DWG
DRAFTER: CJC PROJECT: MET_PEL DWG FILE:



WATER SYSTEM MATERIALS AND INSTALLATION

- ALL MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH THE CITY OF METHUEN DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS AND REQUIREMENTS OF THE METHUEN FIRE DEPARTMENT.
- ALL PIPE AND OTHER APPURTENANCES SHALL BE HANDLED CAREFULLY AND INSPECTED PRIOR TO INSTALLATION.
- ALL MATERIALS INCLUDING PIPE AND FITTINGS SHALL BE LEFT FREE.
- ALL WATER MAINS SHALL BE MINIMUM DUCTILE IRON CLASS 52, SINGLE GASKET, DOUBLE SEALING PIPE WITH CEMENT LINING. ALL DUCTILE IRON PIPE SHALL RATE FOR A MINIMUM OPERATING PRESSURE OF 350 P.S.I.
- MECHANICAL JOINT RESTRAINTS SHALL CONSIST OF ACTUATED WEDGES THAT INCREASE RESISTANCE TO PULL OUT AS PRESSURE INCREASES.
- USE SERIES 1100 MEGA-LUG RESTRAINTS OR APPROVED EQUAL FOR PIPE RESTRAINTS.
- PIPE FITTINGS SHALL BE CEMENT LINED DUCTILE IRON AND RATED FOR 350 P.S.I.
- PIPE FITTINGS SHALL BE FITTED WITH MECHANICAL JOINT RESTRAINTS WITH ALL NUTS AND BOLTS OF A SIMILAR TYPE DUCTILE IRON OR KOR-10 RESTRAINTS. BOLTS AND NUTS SHALL BE PRETIGHTENED.
- RESILIENT SEAT GATE VALVES SHALL BE MANUFACTURED OF DUCTILE IRON, OPEN LEFT (COUNTER CLOCKWISE) AND BE DESIGNED FOR A MINIMUM WORKING PRESSURE OF 250 P.S.I.
- GATE VALVE BOXES SHALL BE ADJUSTABLE, BUFFALO STYLE, WITH THE LOWER PART MADE OF CAST IRON AND THE UPPER PART OF STEEL OR CAST IRON. THE VALVE BOX SHALL BE DESIGNED TO PREVENT DIRECT TRANSMISSION OF TRAFFIC LOADS TO THE VALVE OR PIPE.
- ALL WATER PIPING SHALL BE INSTALLED WITH A MINIMUM OF FIVE FEET (5') OF COVER. PIPE SHALL BE PROPERLY INSULATED WHEN THE PROPER COVER CANNOT BE ACHIEVED.
- PUSH-ON PIPE GASKETS SHALL BE CLEAN AND THOROUGHLY COATED WITH LUBRICANT SUPPLIED BY THE MANUFACTURER DURING INSTALLATION.
- ALL PIPE LINES SHALL BE PRESSURE TESTED FOR STRENGTH AND LEAKAGE AT A PRESSURE OF 200 P.S.I. BY A QUALIFIED THIRD PARTY.
- ALLOWABLE LEAKAGE AMOUNTS DURING TESTING SHALL CONFORM TO AWWA STANDARDS FOR PRESSURE TESTING DUCTILE IRON PIPE (AWWA C600).
- CONTRACTOR SHALL REPAIR ANY LEAKS DISCOVERED UNDER ANY OF THE REQUIRED TESTS AND RETEST PIPES IF NECESSARY.
- CONTRACTOR SHALL SUBMIT A DETAILED DISINFECTION PLAN TO THE WORCESTER D.P.W. AND WATER SUPERINTENDENT AND SHALL NOT BEGIN DISINFECTION UNTIL THE PLAN HAS BEEN APPROVED BY THE WORCESTER D.P.W.
- THE DISINFECTION PLAN SHALL INCLUDE THE INTENDED CHLORINE DOSAGE METHOD FOR ESTABLISHING DOSAGE AND LOCATIONS FOR APPLICATION OF DOSAGE.
- THE CONTACT PERIOD FOR DISINFECTION SHALL BE AT LEAST 24-HOURS.
- THE PIPELINE SHALL BE ADEQUATELY FLUSHED WITH POTABLE WATER FOR THE DE-CHLORINATION OF RESIDUAL CHLORINATED WATER.

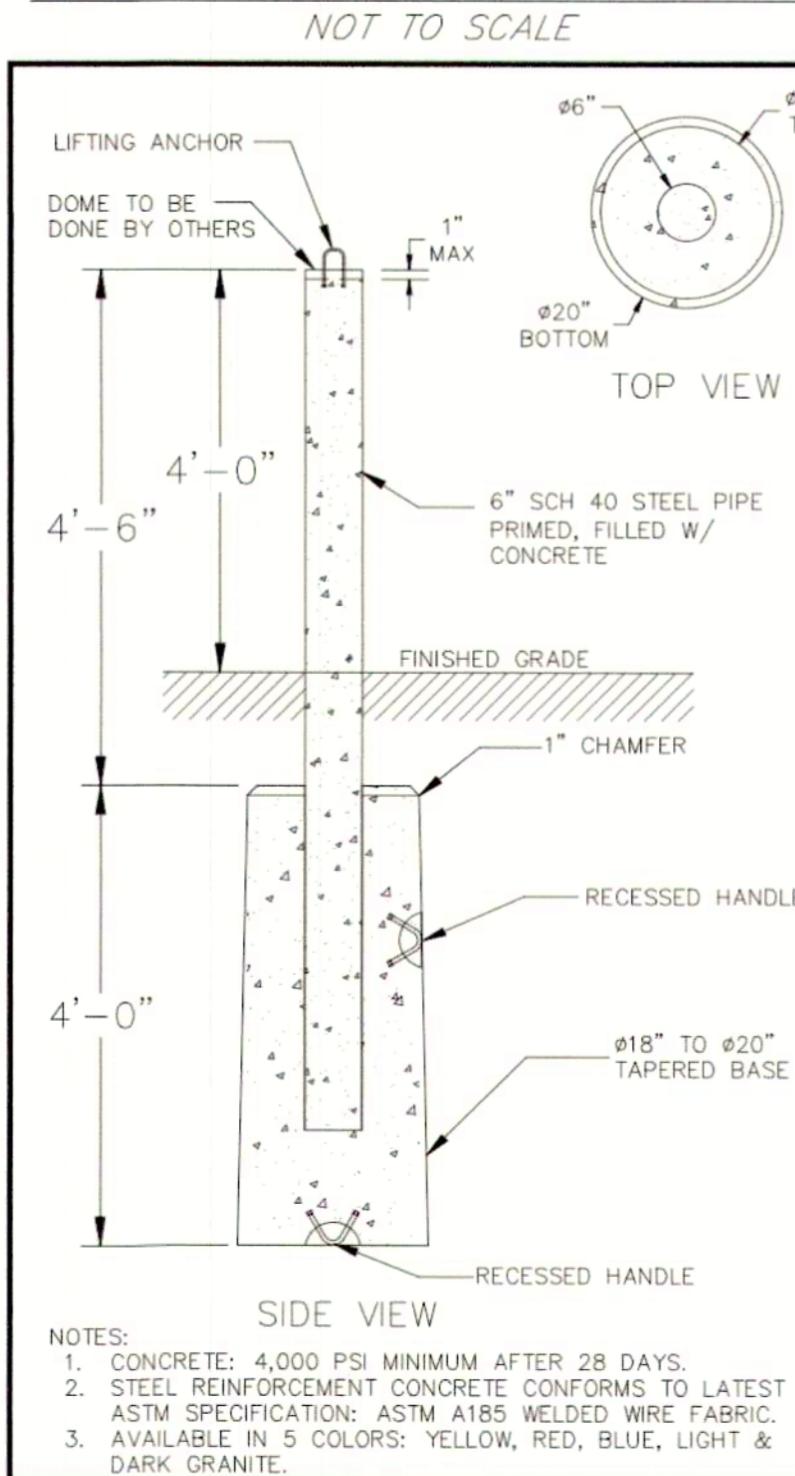
PAVEMENT MATERIALS AND INSTALLATION

- ALL MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH THE CITY OF METHUEN DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
- BITUMINOUS PAVING SHALL NOT BE PLACED WHEN AMBIENT TEMPERATURE IS BELOW 40-DEGREES FAHRENHEIT, OR WHEN THERE IS FROST IN THE BASE, OR WHEN WEATHER CONDITIONS ARE UNSUITABLE IN ANY WAY.
- CONTRACTOR SHALL SAWCUT ALL EXISTING TRENCHES AND EXCAVATIONS WHEN LOCATED WITHIN LIMITS OF EXISTING PAVEMENT. PAVEMENT BREAKER MAY BE USED FOR INITIAL EXCAVATION AND A SAWCUT MAY BE EMPLOYED TO PROVIDE NEATER CUT FOR TRENCH PRIOR TO PLACEMENT OF NEW PAVEMENT.
- SAWCUTS SHALL EXTEND COMPLETELY THROUGH BINDER AND TOP COURSE LAYERS.
- PAVEMENT EDGES SHALL BE TRIMMED AND CLEANED FOR A NEAT VERTICAL FACE FREE OF LOOSE MATERIALS AND DEBRIS.
- CONTRACTOR SHALL EXERCISE CARE TO PREVENT OR MINIMIZE DAMAGE TO EXISTING PAVEMENT SURROUNDING EXCAVATION WORK.
- IN BACKFILLING TRENCHES IN CONFORMANCE WITH THE REQUIREMENTS OF MASSDOT SECTION M.2.0.1, MATERIALS IN TRENCHES SHALL CONSIST OF GRANULAR GRAVEL BORROW, PROCESSED GRAVEL, SAND OR CRUSHED STONE MATERIAL. BACKFILL MATERIAL SHALL BE PLACED AND COMPAKTED IN LAYERS NOT EXCEDING 12-INCH LIFTS AND COMPAKTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO DESIGNATION T99 COMPAKCTION TEST METHODS.
- BROKEN PAVEMENT, LARGE STONES, ROOTS AND OTHER DEBRIS SHALL NOT BE USED IN TRENCH BACKFILL.
- PERMANENT PAVEMENT SHALL CONSIST OF A TOP COURSE LAYER OF NOT LESS THAN ONE AND A HALF-INCHES (1.5") AND A BINDER COURSE LAYER OF NOT LESS THAN TWO-INCHES (2") AFTER COMPAKCTION. PAVEMENT SHALL BE MIXED IN ACCORDANCE WITH MASSDOT SPECIFICATION SECTION M.3.0.7.
- PAVEMENT SHALL BE COMPAKTED AND ROLLED BY AN OSILLATING ROLLER WITH A WEIGHT OF NOT LESS THAN 10-TONS. ROLLER SHALL MAKE AT LEAST FIVE PASSES OVER ALL NEWLY PLACED PAVEMENT.
- PAVEMENT SHALL NOT EXCEED ONE AND A HALF-INCHES (1.5") IN THICKNESS DURING ROLLING OPERATIONS TO ENSURE PROPER COMPAKCTION. ANY RIDGES, INDENTATIONS SHALL BE ROLLED ADDITIONALLY UNTIL THEY ARE REMOVED.
- GRAVEL BASE MATERIAL SHALL CONSIST OF A LAYER OF EITHER DENSE GRADE CRUSHED STONE COMPLYING WITH REQUIREMENTS OF MASSDOT SECTION M.2.0.1.7 OR GRAVEL BORROW COMPLYING WITH REQUIREMENTS OF MASSDOT SECTION M.10.3.
- BASE MATERIALS SHALL BE PLACED IN LIFTS NOT TO EXCEED EIGHT-INCHES (8") AND COMPAKTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO SPECIFICATION T99.
- SUITABLE SUBBASE MATERIALS SHALL BE COMPAKTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO SPECIFICATION T99.
- SUBBASE SURFACE MATERIAL SHALL BE REMOVED AND REPLACED WITH MATERIAL IN CONFORMANCE WITH MASSDOT SPECIFICATION M.1.0.2, SPECIAL BORROW OR SPECIFICATION M.2.0.3.0 FOR GRAVEL BORROW.
- IMPORTED SUBBASE MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEDING TWELVE-INCHES (12") AND COMPAKTED IN TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO SPECIFICATION T99.

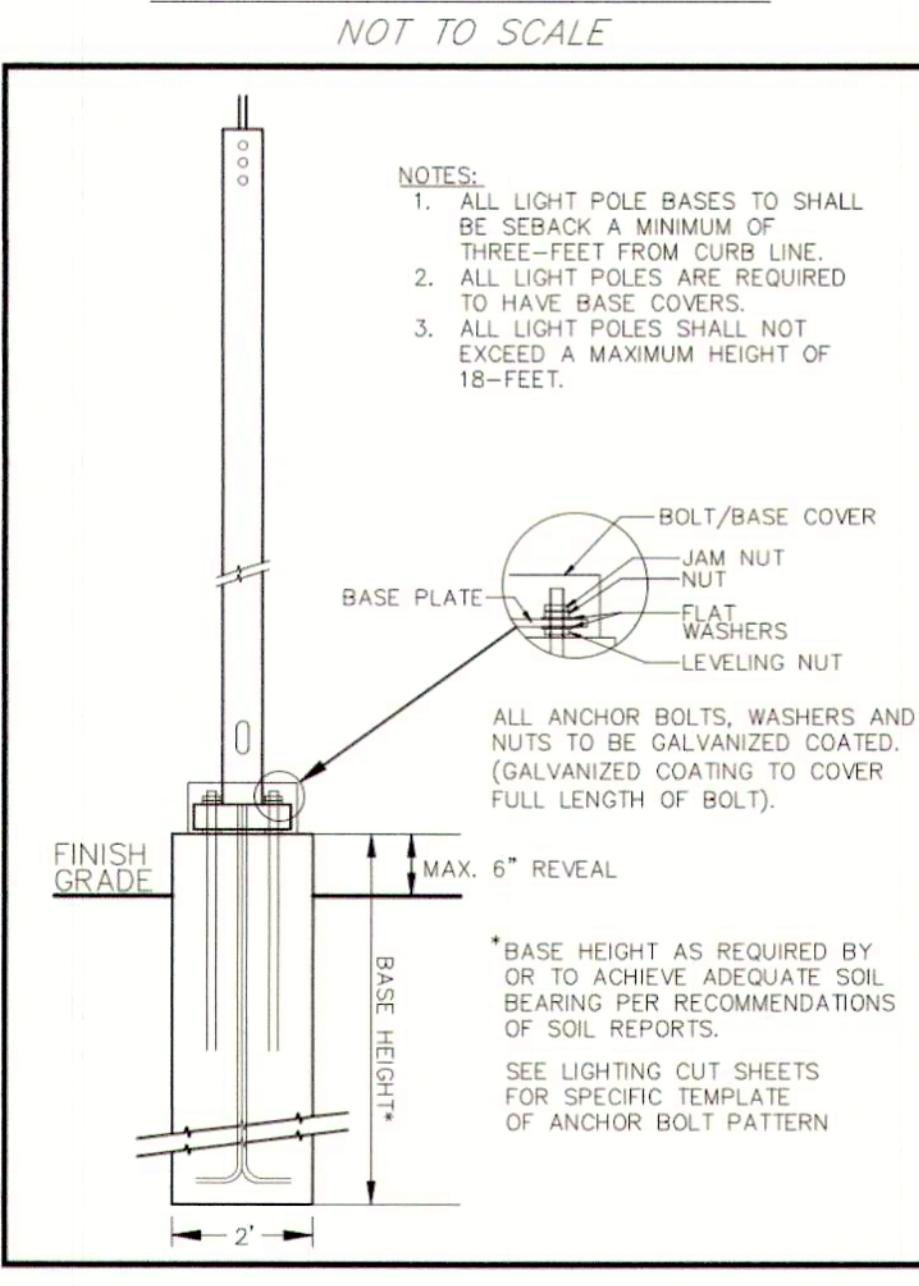
SEWER SYSTEM MATERIALS AND INSTALLATION

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- SPOT ENDS SHALL HAVE BEVELS FROM THE MANUFACTURER TO ENSURE PROPER INSERTION AND SHALL HAVE AN ASSEMBLY STRIP IMPRINTED THEREIN TO WHICH THE BELL END OF THE MATED PIPE WILL EXTEND UPON JOINING THE PIPES.
- ALL PRECAST REINFORCED CONCRETE MANHOLES SHALL CONFORM TO ASTM DESIGNATION C478 AND SHALL BE MANUFACTURED WITH 4,000 P.S.I. (MINIMUM COMPRESSIVE STRENGTH) CONCRETE AND BE DESIGNED FOR 20-LOADING REQUIREMENTS.
- PRECAST SECTIONS SHALL BE JOINED BY BUTYL RUBBER SEALANT.
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- FRAMES SHALL BE ADJUSTED TO FINISH GRADE WITH MORTAR AND HARD RED BRICK. MINIMUM OF TWO COURSES AND MAXIMUM OF FIVE COURSES OF BRICK.
- GRAVITY SERVICE CONNECTION SHALL BE A MINIMUM OF SIX-INCH DIAMETER SDR 35 SEWER PIPE AND SHALL HAVE A MINIMUM SLOPE OF ONE-PERCENT (1.0%).
- ALL SERVICE CONNECTIONS TO THE SEWER MAIN SHALL BE MADE BY WYES, T-WYES OR SADDLE TYPE CONNECTIONS.
- PIPE SHALL BE LAID ACCURATELY TO LINE AND GRADE IN APPROVED BEDDING OR 3/4" CRUSHED STONE. BEDDING SHALL EXTEND NO LESS THAN SIX-INCHES (6") AROUND THE PIPE IN ALL DIRECTIONS.
- BEDDING MATERIAL SHALL BE COMPAKTED BY HAND UNDER AND AROUND THE SEWER PIPE IN LAYERS NOT EXCEDING SIX-INCHES (6").
- SEWER PIPE SHALL BE LAID AT LEAST TEN-FEET (10') FROM A WATER MAIN WHENEVER POSSIBLE.
- ALL SEWER PIPES SHALL BE CUT FLUSH WITH THE INSIDE FACE OF MANHOLE STRUCTURES UNLESS NOTED OTHERWISE ON DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY PLUGS AT ENDS OF SEWER LINES TO PREVENT THE ACCUMULATION OF DIRT OR SEDIMENT IN SEWER PIPES WHEN PIPE LAYING OPERATIONS ARE NOT IN PROGRESS.
- ALL PIPE JOINTS SHALL BE MADE WATERTIGHT AND ALL JOINTING SHALL BE DONE IN CONFORMANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

TYPICAL POLYETHYLENE BOLLARD



LIGHT POLE BASE DETAIL



SEWER SYSTEM MATERIALS AND INSTALLATION

- ALL MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH THE CITY OF METHUEN DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS AND REQUIREMENTS OF THE METHUEN FIRE DEPARTMENT.
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- MECHANICAL JOINT RESTRAINTS SHALL CONSIST OF ACTUATED WEDGES THAT INCREASE RESISTANCE TO PULL OUT AS PRESSURE INCREASES.
- USE SERIES 1100 MEGA-LUG RESTRAINTS OR APPROVED EQUAL FOR PIPE RESTRAINTS.
- PIPE FITTINGS SHALL BE CEMENT LINED DUCTILE IRON AND RATED FOR 350 P.S.I.
- PIPE FITTINGS SHALL BE FITTED WITH MECHANICAL JOINT RESTRAINTS WITH ALL NUTS AND BOLTS OF A SIMILAR TYPE DUCTILE IRON OR KOR-10 RESTRAINTS. BOLTS AND NUTS SHALL BE PRETIGHTENED.
- RESILIENT SEAT GATE VALVES SHALL BE MANUFACTURED OF DUCTILE IRON, OPEN LEFT (COUNTER CLOCKWISE) AND BE DESIGNED FOR A MINIMUM WORKING PRESSURE OF 250 P.S.I.
- GATE VALVE BOXES SHALL BE ADJUSTABLE, BUFFALO STYLE, WITH THE LOWER PART MADE OF CAST IRON AND THE UPPER PART OF STEEL OR CAST IRON. THE VALVE BOX SHALL BE DESIGNED TO PREVENT DIRECT TRANSMISSION OF TRAFFIC LOADS TO THE VALVE OR PIPE.
- ALL WATER PIPING SHALL BE INSTALLED WITH A MINIMUM OF FIVE FEET (5') OF COVER. PIPE SHALL BE PROPERLY INSULATED WHEN THE PROPER COVER CANNOT BE ACHIEVED.
- PUSH-ON PIPE GASKETS SHALL BE CLEAN AND THOROUGHLY COATED WITH LUBRICANT SUPPLIED BY THE MANUFACTURER DURING INSTALLATION.
- ALL PIPE LINES SHALL BE PRESSURE TESTED FOR STRENGTH AND LEAKAGE AT A PRESSURE OF 200 P.S.I. BY A QUALIFIED THIRD PARTY.
- ALLOWABLE LEAKAGE AMOUNTS DURING TESTING SHALL CONFORM TO AWWA STANDARDS FOR PRESSURE TESTING DUCTILE IRON PIPE (AWWA C600).
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- THE CONTACT PERIOD FOR DISINFECTION SHALL BE AT LEAST 24-HOURS.
- THE PIPELINE SHALL BE ADEQUATELY FLUSHED WITH POTABLE WATER FOR THE DE-CHLORINATION OF RESIDUAL CHLORINATED WATER.

PAVEMENT MATERIALS AND INSTALLATION

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- BITUMINOUS PAVING SHALL NOT BE PLACED WHEN AMBIENT TEMPERATURE IS BELOW 40-DEGREES FAHRENHEIT, OR WHEN THERE IS FROST IN THE BASE, OR WHEN WEATHER CONDITIONS ARE UNSUITABLE IN ANY WAY.
- CONTRACTOR SHALL SAWCUT ALL EXISTING TRENCHES AND EXCAVATIONS WHEN LOCATED WITHIN LIMITS OF EXISTING PAVEMENT. PAVEMENT BREAKER MAY BE USED FOR INITIAL EXCAVATION AND A SAWCUT MAY BE EMPLOYED TO PROVIDE NEATER CUT FOR TRENCH PRIOR TO PLACEMENT OF NEW PAVEMENT.
- SAWCUTS SHALL EXTEND COMPLETELY THROUGH BINDER AND TOP COURSE LAYERS.
- PAVEMENT EDGES SHALL BE TRIMMED AND CLEANED FOR A NEAT VERTICAL FACE FREE OF LOOSE MATERIALS AND DEBRIS.
- CONTRACTOR SHALL EXERCISE CARE TO PREVENT OR MINIMIZE DAMAGE TO EXISTING PAVEMENT SURROUNDING EXCAVATION WORK.
- IN BACKFILLING TRENCHES IN CONFORMANCE WITH THE REQUIREMENTS OF MASSDOT SECTION M.2.0.1, MATERIALS IN TRENCHES SHALL CONSIST OF GRANULAR GRAVEL BORROW, PROCESSED GRAVEL, SAND OR CRUSHED STONE MATERIAL. BACKFILL MATERIAL SHALL BE PLACED AND COMPAKTED IN LAYERS NOT EXCEDING 12-INCH LIFTS AND COMPAKTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO DESIGNATION T99 COMPAKCTION TEST METHODS.
- BROKEN PAVEMENT, LARGE STONES, ROOTS AND OTHER DEBRIS SHALL NOT BE USED IN TRENCH BACKFILL.
- PERMANENT PAVEMENT SHALL CONSIST OF A TOP COURSE LAYER OF NOT LESS THAN ONE AND A HALF-INCHES (1.5") AND A BINDER COURSE LAYER OF NOT LESS THAN TWO-INCHES (2") AFTER COMPAKCTION. PAVEMENT SHALL BE MIXED IN ACCORDANCE WITH MASSDOT SPECIFICATION SECTION M.3.0.7.
- PAVEMENT SHALL BE COMPAKTED AND ROLLED BY AN OSILLATING ROLLER WITH A WEIGHT OF NOT LESS THAN 10-TONS. ROLLER SHALL MAKE AT LEAST FIVE PASSES OVER ALL NEWLY PLACED PAVEMENT.
- PAVEMENT SHALL NOT EXCEED ONE AND A HALF-INCHES (1.5") IN THICKNESS DURING ROLLING OPERATIONS TO ENSURE PROPER COMPAKCTION. ANY RIDGES, INDENTATIONS SHALL BE ROLLED ADDITIONALLY UNTIL THEY ARE REMOVED.
- GRAVEL BASE MATERIAL SHALL CONSIST OF A LAYER OF EITHER DENSE GRADE CRUSHED STONE COMPLYING WITH REQUIREMENTS OF MASSDOT SECTION M.2.0.1.7 OR GRAVEL BORROW COMPLYING WITH REQUIREMENTS OF MASSDOT SECTION M.10.3.
- BASE MATERIALS SHALL BE PLACED IN LIFTS NOT TO EXCEED EIGHT-INCHES (8") AND COMPAKTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO SPECIFICATION T99.
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