

NOTES:

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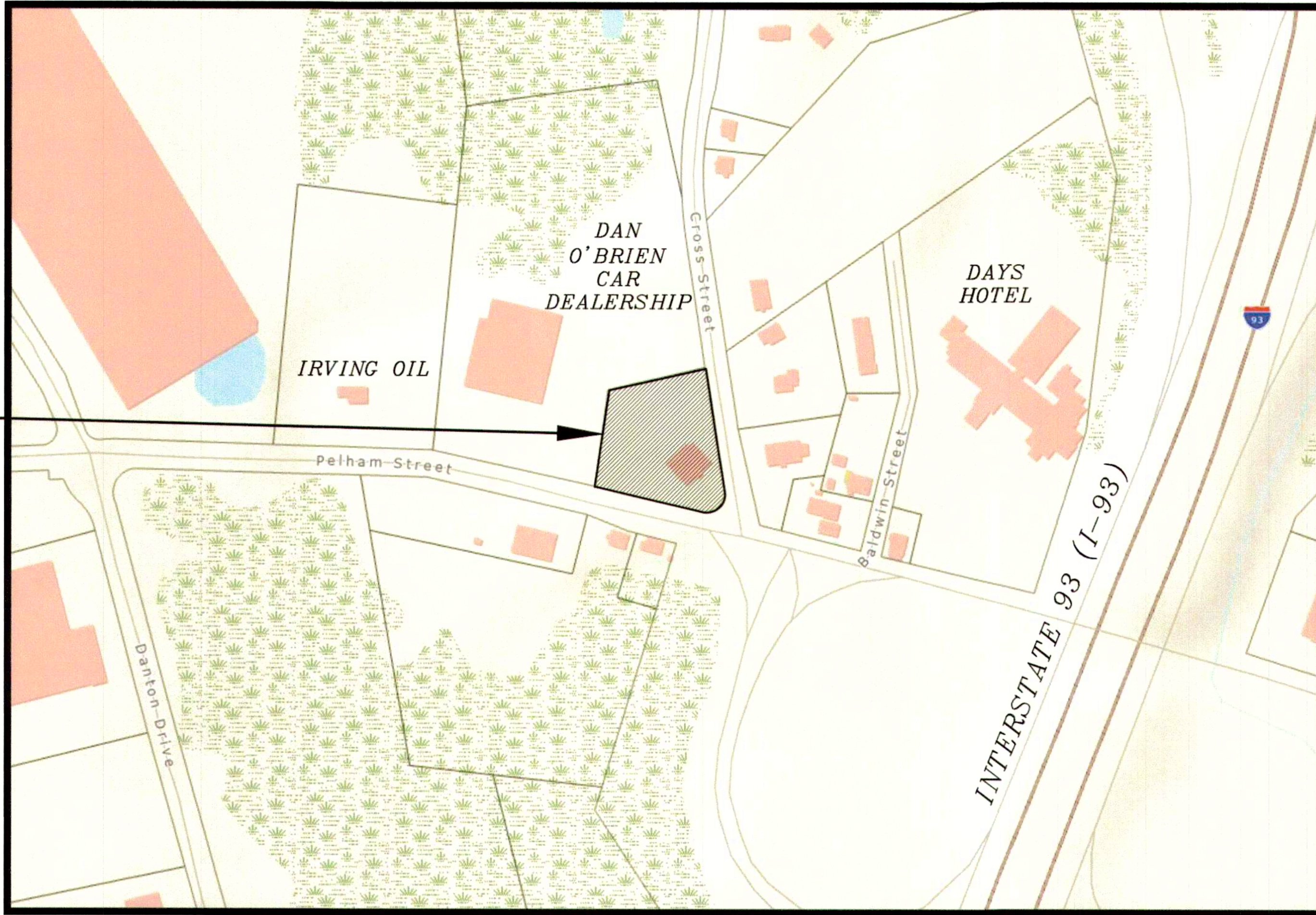


CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION (WATER, ELECTRICAL, ETC.) CALL DIG-SAFE BEFORE YOU DIG 811.

LEGEND

A/C	AIR CONDITIONER
APPROX.	APPROXIMATE
B o	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
DD.C.B.	DRAIN CATCH BASIN
DD.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
HY	HYDRANT
I.P.	IRON PIPE
I.R.	IRON ROD
INV.	INVERT
LS	LANDSCAPING
L=	LENGTH
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
S.M.H.	SEWER MANHOLE
+	SIGN
S=	SLOPE
S.F.	SQUARE FEET
SB	STONE BOUND
STC	STORMCEPTOR
SQ.	SQUARE
ST.M.H.	TELEPHONE MANHOLE
TBM	TEMPORARY BENCH MARK
T.B.R.	TO BE REMOVED
TOB-#	TOP OF BANK FLAG
T.D.	TRENCH DRAIN
TSFM	TRANSFORMER
T.W.	TOP OF WALL
QUP#	UTILITY POLE
WG	WATER GATE
W/	WITH
WF-	WETLAND FLAG
VAC	VACUUM STATION
VCC	VERTICAL CONCRETE CURB
VGC	VERTICAL GRANITE CURB
V.C.	VITRIFIED CLAY
+100.0	EXISTING SPOT GRADE
-100.0	EXISTING GRADE
—	FENCE
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
SHEET C901	— 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 <sup>1</sup>  PLUS ONE (1) SPACE PER 2 EMPLOYEES ON MAXIMUM SHIFT <sup>1</sup>	16 PARKING SPACES (4,743 S.F.) & 3 PARKING SPACES (6 EMPLOYEES)	8 PARKING SPACES, 1 VAN HANDICAP SPACE & 15 VACUUM STALLS
	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

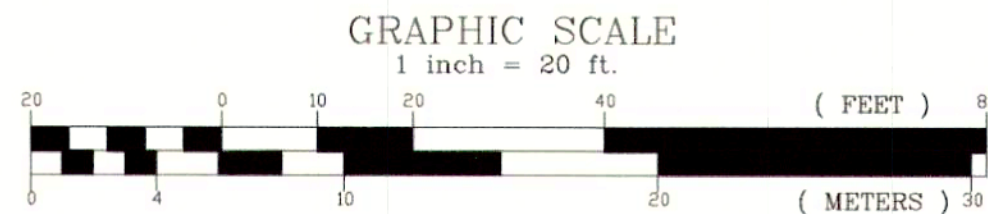
Land Surveyor/Civil Engineer:  
MetroWest Engineering, Inc.  
75 Franklin Street  
Framingham, MA 01702  
508.626.0063  
info@mwengineering.com

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



*Robert A. Gemma*  
8/3/23

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



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

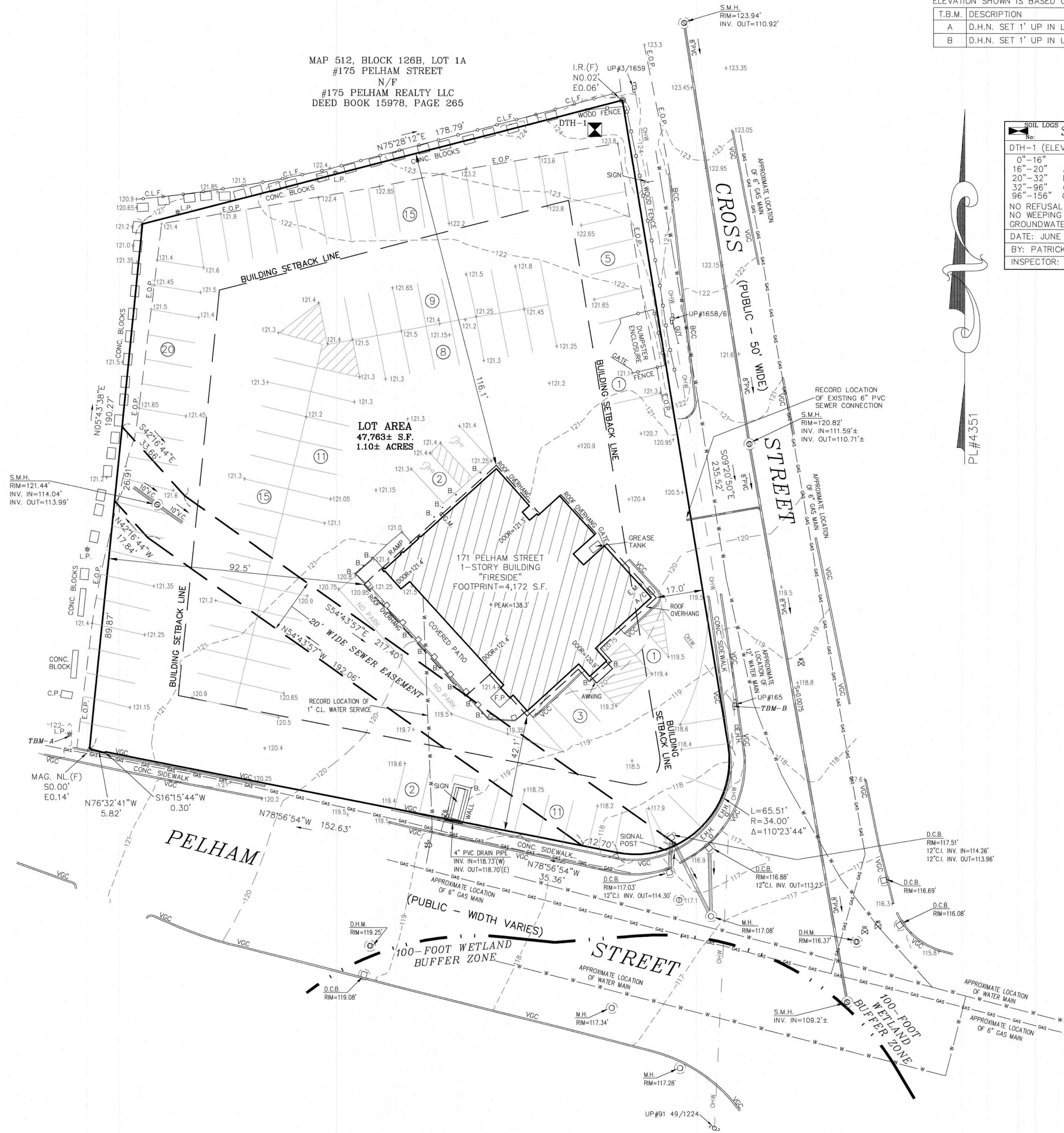
SHEET C000	DATE: JULY 28, 2023
CALC'D BY: PHA	FIELD BK: 751
DRAPTER: CJC	PROJECT: MET_PEL
	DWG FILE:

ZONING TABLE			
BUSINESS HIGHWAY DISTRICT (BH)			
	REQUIRED	EXISTING	PROPOSED
AREA	10,000 S.F.	47,763 S.F.	47,763 S.F.
FRONTAGE	100 FEET	495.14 FEET	495.14 FEET
LOT WIDTH	100 FEET	446.75 FEET	446.75 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%	65.3%
GROSS FLOOR AREA	N/A	3,876 S.F.	4,743 S.F.

\*NORTHERN PROPERTY LINE DESIGNATED AS REAR LOT LINE.



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



### 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'

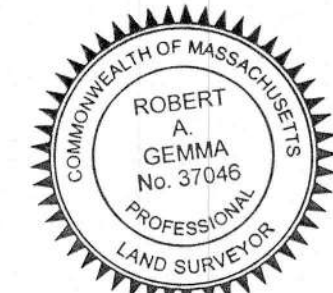
SOIL TEST RESULTS			
DTH-1 (ELEV. = 124.1')			
0"-16"	A	FILL (HTM)	
16"-20"	A	LOAMY SAND	10YR 5/3
20"-32"	Bw	LOAMY SAND	7.5YR 7/4
32"-96"	C1	SAND	2.5Y 7/4
96"-156"	C2	FINE SAND	2.5Y 7/2
NO REFUSAL			
NO WEeping OR STANDING WATER			
GROUNDWATER = BELOW ELEV. 111.1'			
DATE: JUNE 05, 2023 F.B. 727A, PG.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

### NOTES:

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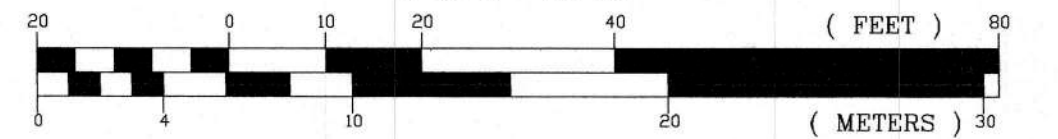


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*Robert A. Gemma*  
FOR METROWEST ENGINEERING, INC. DATE  
ROBERT A. GEMMA, P.L.S. # 37046

GRAPHIC SCALE  
1 inch = 20 ft.



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

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

PROPERTY OF:  
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ENGINEERS & SURVEYORS:  
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75 FRANKLIN STREET  
FRAMINGHAM, MA 01702  
TELE: (508) 626-0063  
EMAIL: INFO@MWEENGINEERING.COM

SHEET C100 DATE: JULY 28, 2023

CALC'D BY: PHA FIELD BK: 751 CAD FILE: SCRUB\_SP\_03.DWG  
DRAFTER: CJC PROJECT: MET\_PEL DWG FILE:



## 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.

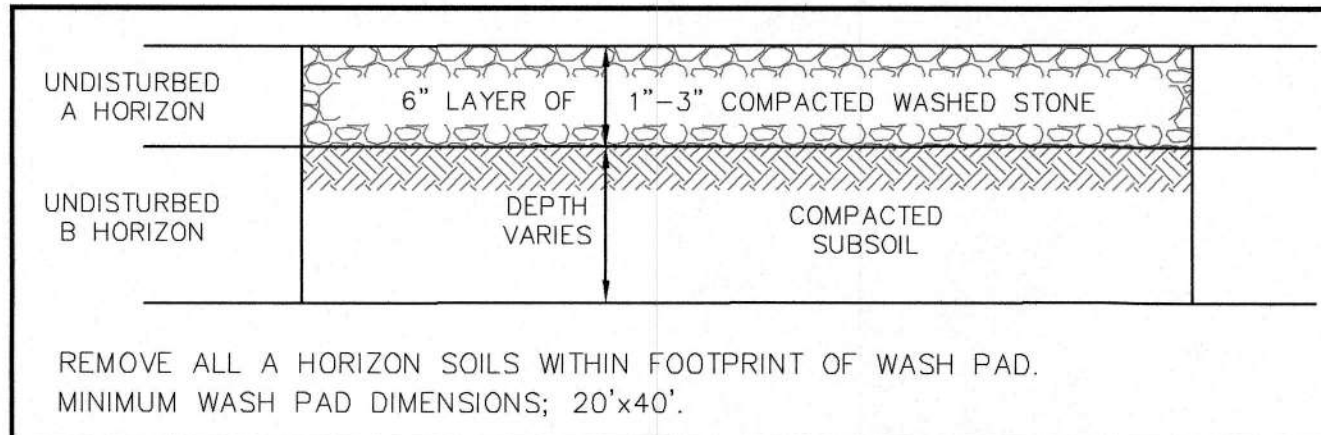
MAP 512, BLOCK 126B, LOT 1A  
#175 PELHAM STREET  
N/F  
#175 PELHAM REALTY LLC  
DEED BOOK 15978, PAGE 265

S.M.H.  
RIM=121.44'  
INV. IN=114.04'  
INV. OUT=113.99'  
EXISTING SEWER  
MANHOLE TO REMAIN.  
PROTECT FRAME AND  
COVER WHEN REMOVING  
EXISTING PAVEMENT

## PROTECTION OF STORMWATER MANAGEMENT AREAS DURING CONSTRUCTION:

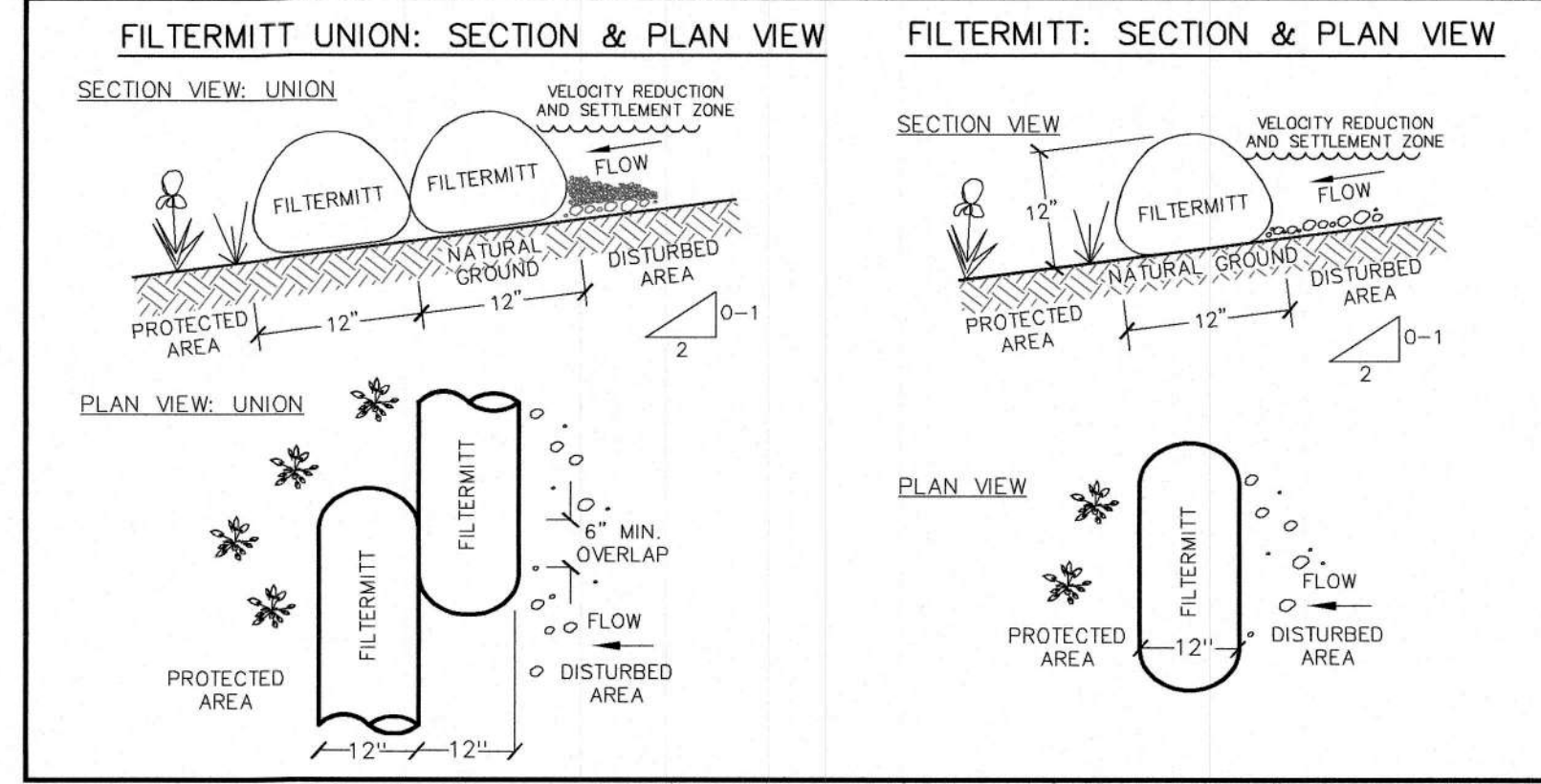
CONTRACTOR SHALL EXERCISE CARE TO PROTECT THE SURFACES BENEATH AND ADJACENT TO THE PROPOSED INFILTRATION SYSTEM FROM DEGRADATION BY SURROUNDING CONSTRUCTION ACTIVITIES, INCLUDING:

- 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



SOIL TEST RESULTS			
DTH-1 (ELEV.= 124.1')			
0"-16"	A	LOAMY SAND	10YR 5/3
16"-20"	Bw	LOAMY SAND	7.5YR 7/4
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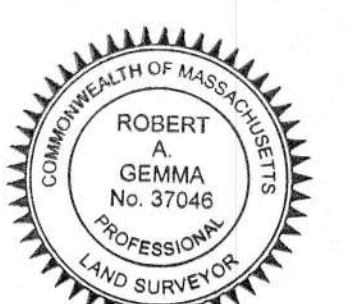
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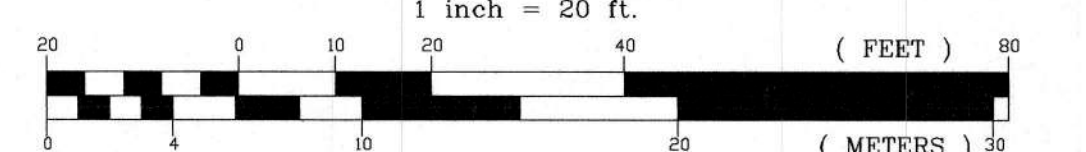
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FOR METROWEST ENGINEERING, INC.  
ROBERT A. GEMMA, P.E.(CIVIL) # 31967  
P.L.S. # 37046

GRAPHIC SCALE



## EROSION & SEDIMENT CONTROL PLAN #171 PELHAM STREET IN METHUEN, MASS. (NORTH ESSEX COUNTY)

PREPARED FOR:  
SCRUBADUB AUTO WASH CENTERS  
172 WORCESTER STREET  
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METHUEN, MA 01844

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

SHEET C200 DATE: JULY 28, 2023

CALC'D BY: PHA FIELD BK: 751 CAD FILE: SCRUB\_SP\_03.DWG  
DRAFTER: CJC PROJECT: MET\_PEL DWG FILE:



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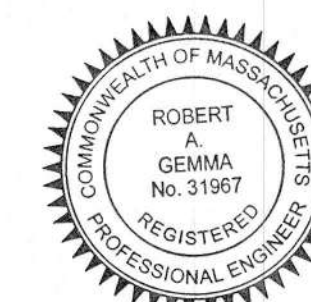
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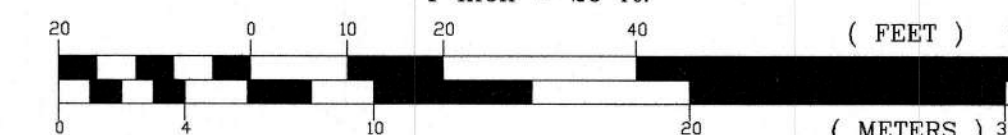
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*RH*  8/3/22

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GRAPHIC SCALE  
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PROPOSED LAYOUT PLAN  
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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*

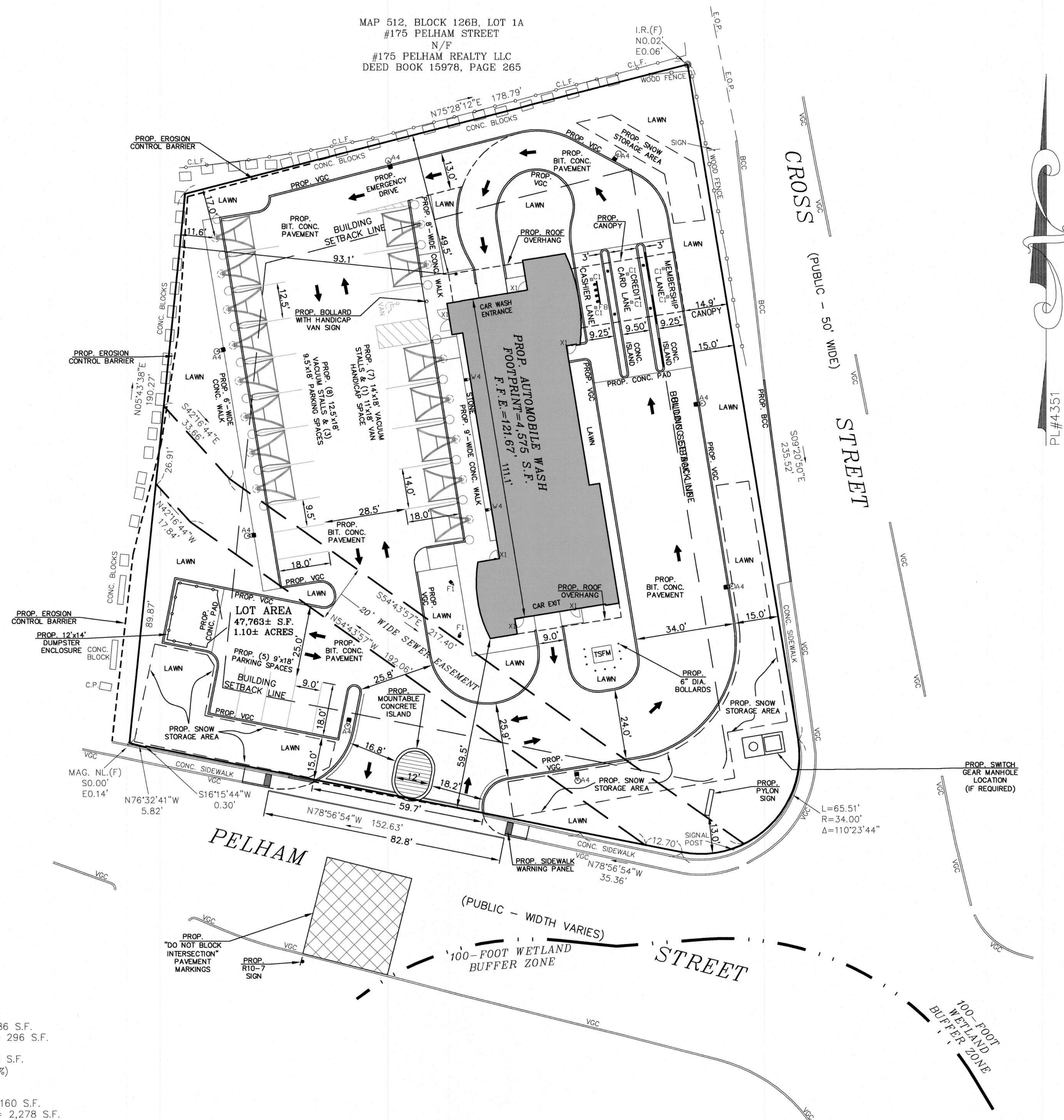
ENGINEERS &  
SURVEYORS:

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

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

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



## IMPERVIOUS AREA

EXISTING BUILDING = 5,098 S.F.  
EXISTING DRIVEWAY & PARKING LOT = 39,886 S.F.  
EXISTING CONC. PAD, PATIO & WALKWAYS = 296 S.F.

TOTAL EXISTING IMPERVIOUS AREA = 45,280 S.F.  
EXISTING SITE COVERAGE = 0.948 (OR 94.8%)

PROPOSED NEW BUILDING = 5,750 S.F.  
PROPOSED DRIVEWAY & PARKING LOT = 23,160 S.F.  
PROPOSED CONC. PAD, WALKWAYS & ETC. = 2,278 S.F.

TOTAL PROPOSED IMPERVIOUS AREA = 31,188 S.F.  
PROPOSED SITE COVERAGE = 0.653 (OR 65.3%)  
DELTA IN IMPERVIOUS AREA = -14,092 S.F. (31.1% REDUCTION)



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 BENEATH 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.

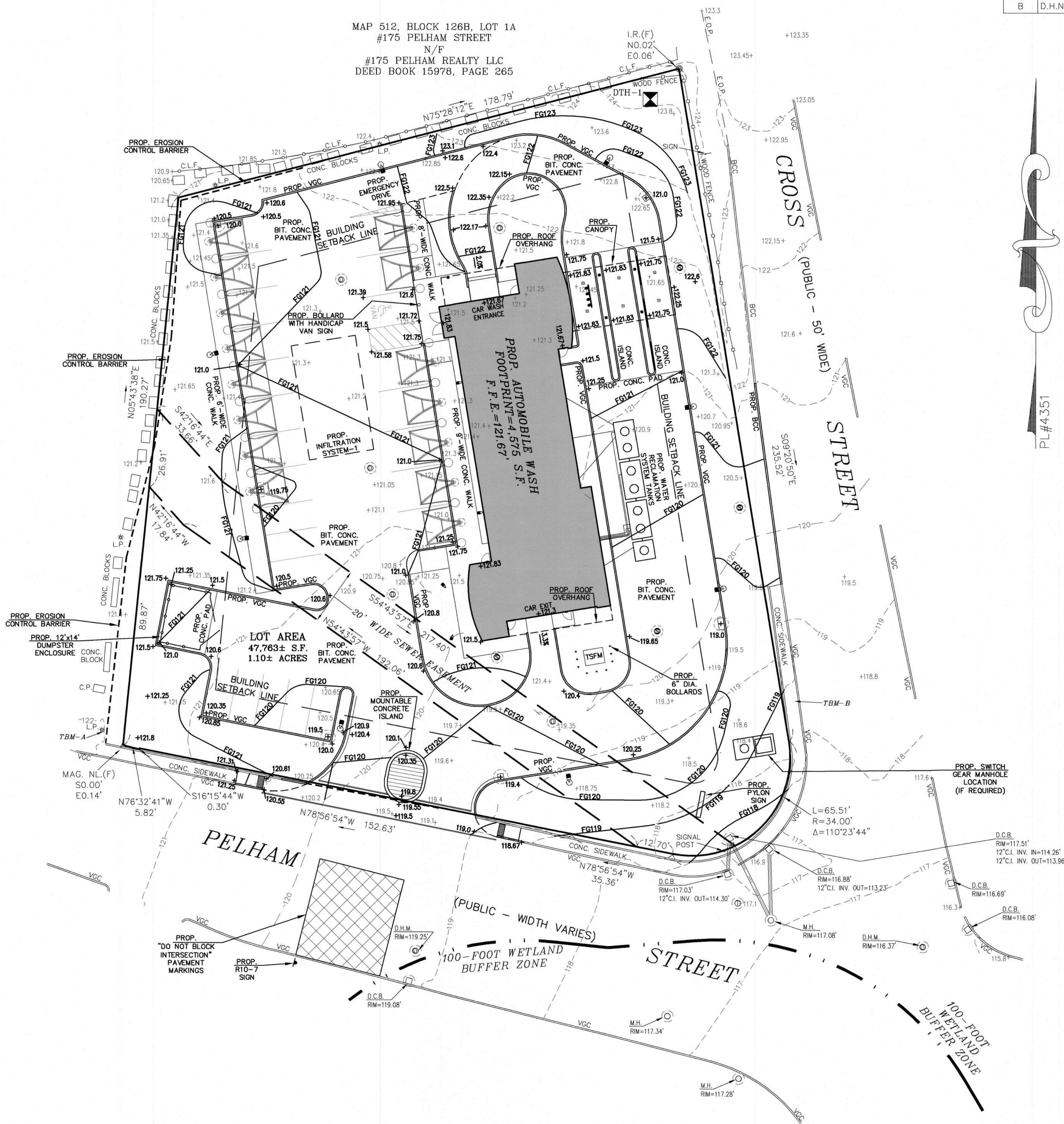
BENCHMARKS

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'

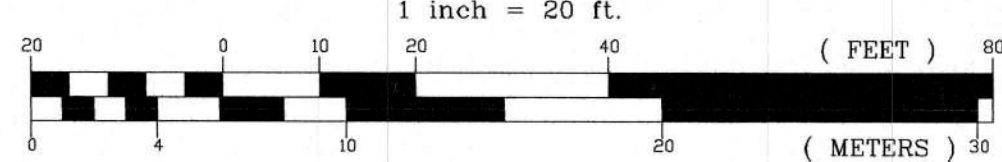
SOIL TEST RESULTS	
DTH-1 (ELEV.= 124.1')	
0"-16"	FILL (HTM)
16"-20"	A LOAMY SAND 10YR 5/3
20"-32"	Bw LOAMY SAND 7.5YR 7/4
32"-96"	C1 SAND 2.5Y 7/4
96"-156"	C2 FINE SAND 2.5Y 7/2
NO REFUSAL	
NO WEEPING OR STANDING WATER	
GROUNDWATER= BELOW ELEV. 111.1'	
DATE: JUNE 05, 2023 F.B. 727A, PG. 66	
BY: PATRICK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

MAP 512, BLOCK 126B, LOT 1A  
#175 PELHAM STREET  
N/F  
#175 PELHAM REALTY LLC  
DEED BOOK 15978, PAGE 285



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

GRAPHIC SCALE



PROPOSED GRADING 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@MWEENGINEERING.COM

SHEET C400 DATE: JULY 28, 2023

CALC'D BY: PHA FIELD BK: 751 CAD FILE: SCRUB\_SP\_03.DWG  
DRAFTER: CJC PROJECT: MET\_PEL DWG FILE:

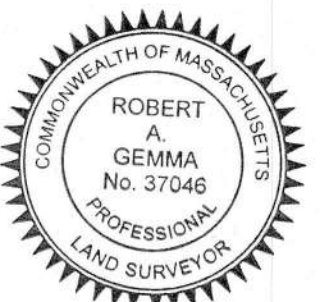
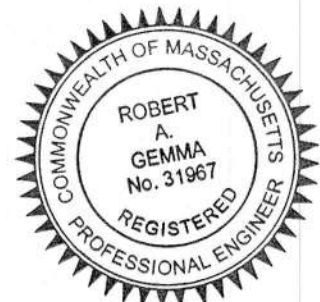


# NOTES:

- SUBJECT 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.
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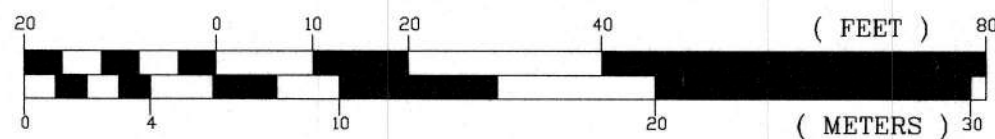


CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION (WATER, ELECTRICAL, ETC.) CALL DIG-SAFE BEFORE YOU DIG 811.



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

GRAPHIC SCALE  
1 inch = 20 ft.



## 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@MWEENGINEERING.COM

SHEET C500 DATE: JULY 28, 2023

CALC'D BY: PHA FIELD BK: 751 CAD FILE: SCRUB\_SP\_03.DWG  
DRAFTER: CJC PROJECT: MET\_PEL DWG FILE:

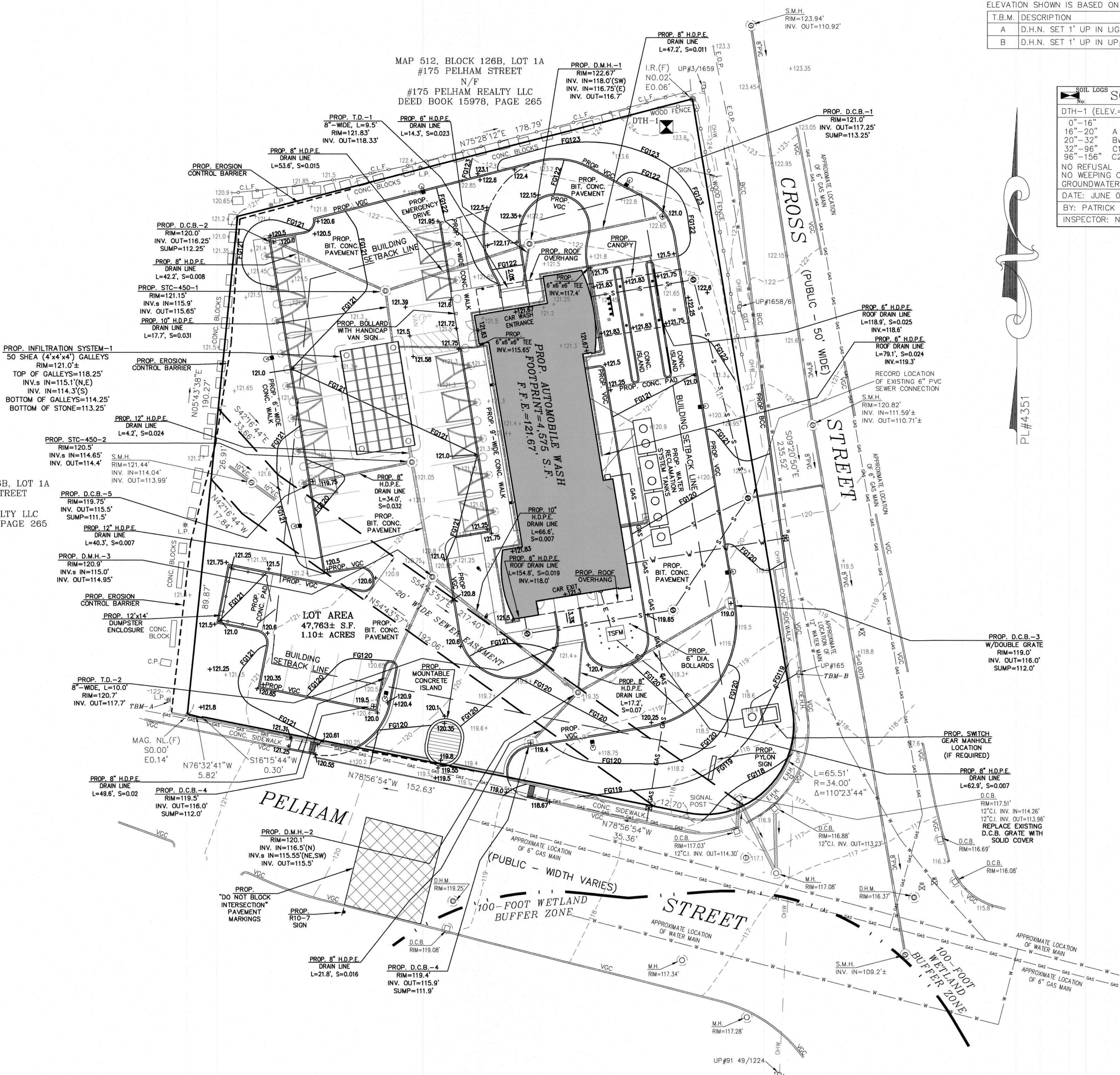
## BENCHMARKS

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 LOGS	
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	

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





# NOTES:

- SUBJECT 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.
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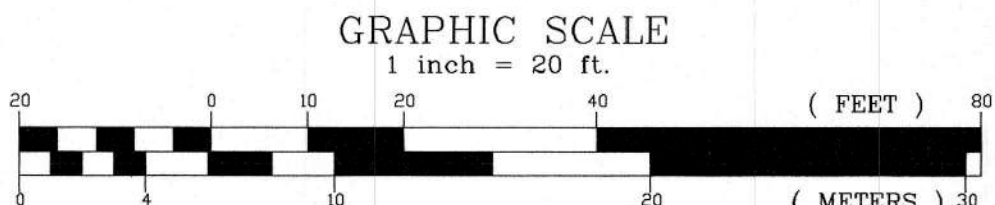


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*Robert A. Gemma*  
FOR METROWEST ENGINEERING, INC.  
ROBERT A. GEMMA, P.E.(CIVIL) # 31967  
P.L.S. # 37046

DATE  
GRAPHIC SCALE  
1 inch = 20 ft.



## 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@MWEENGINEERING.COM

SHEET C600 DATE: JULY 28, 2023

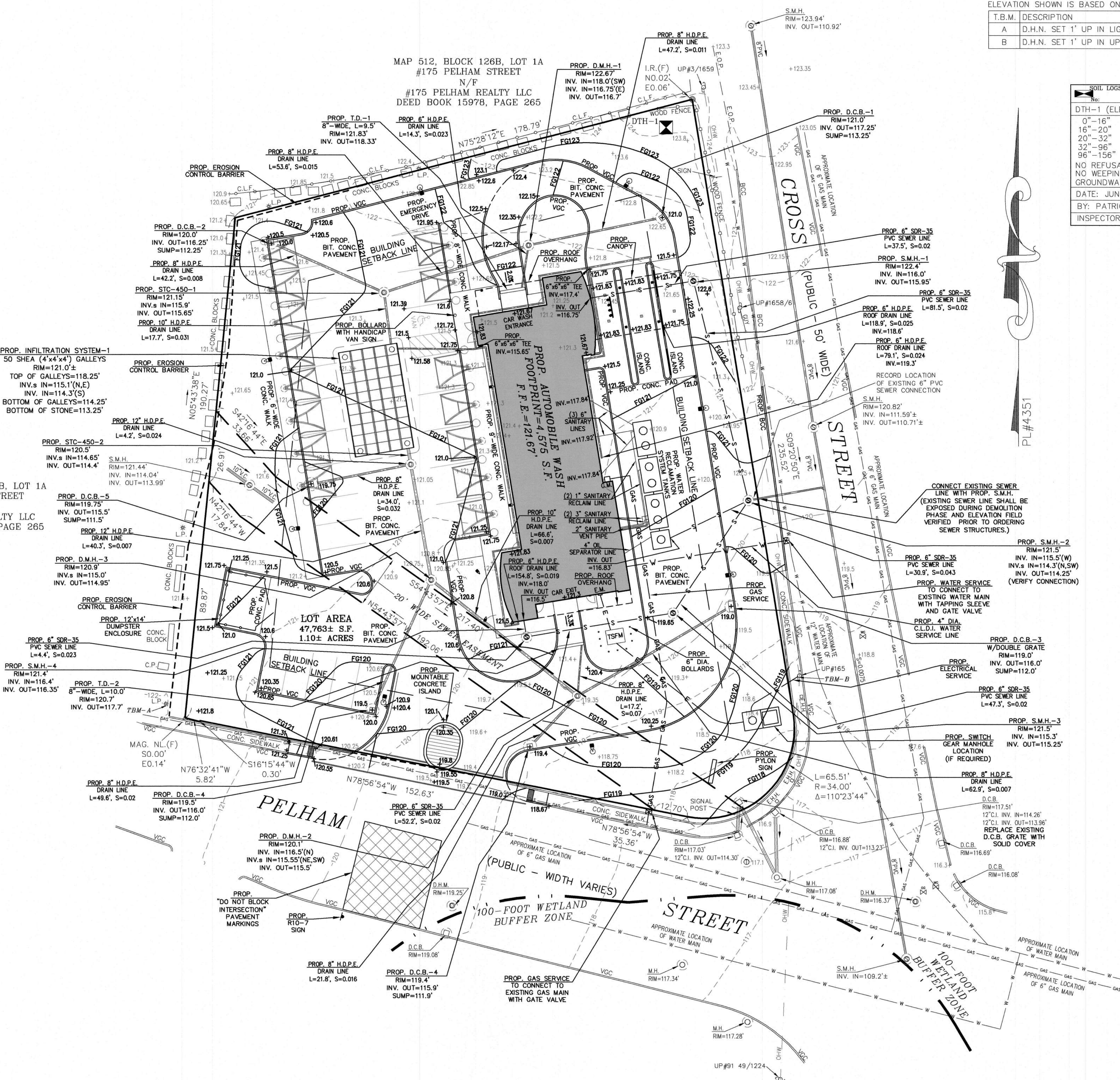
CALC'D BY: PHA FIELD BK: 751 CAD FILE: SCRUB\_SP\_03.DWG  
DRAFTER: CJC PROJECT: MET\_PEL DWG FILE:

## 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
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32"-96"	C1 SAND 2.5Y 7/4
96"-156"	C2 FINE SAND 2.5Y 7/2
NO REFUSAL	
NO WEEDING OR STANDING WATER	
GROUNDWATER= BELOW ELEV. 111.1'	
DATE: JUNE 05, 2023 F.B. 727A, PG. 66	
BY: PATRICK ARNOW, SOIL EVALUATOR	
INSPECTOR: NONE	



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

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



# NOTES:

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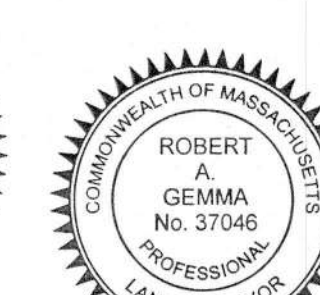
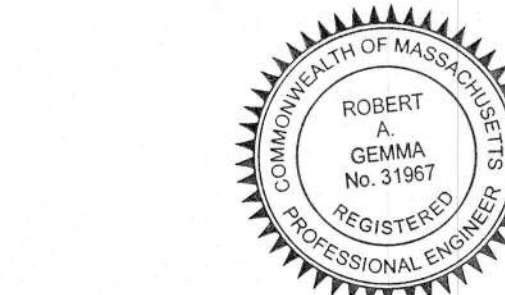
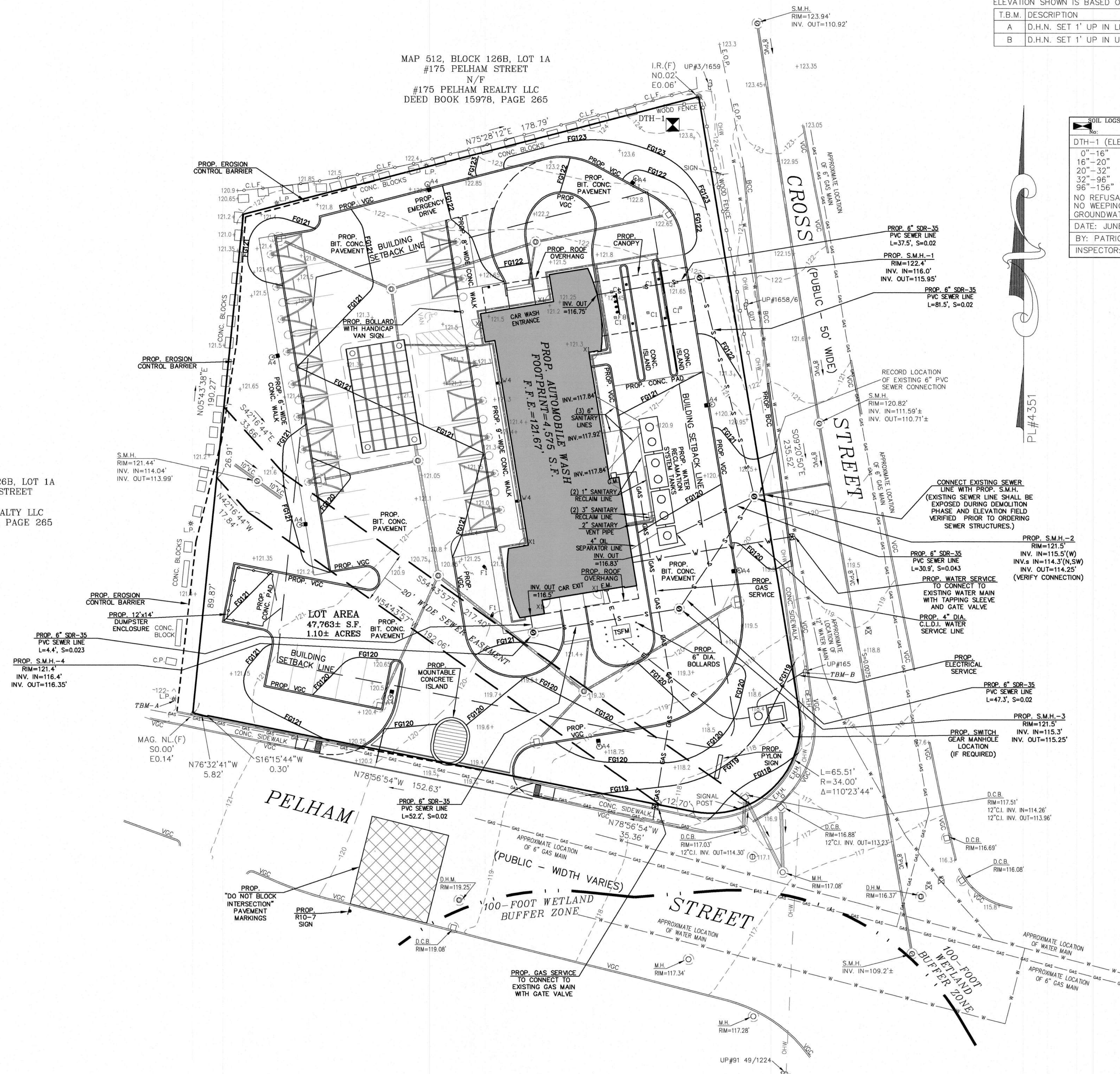
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NO WEeping OR STANDING WATER			
GROUNDWATER = BELOW ELEV. 111.1'			
DATE: JUNE 05, 2023 F.B. 727A, PG. 66			
BY: PATRICK ARNOW, SOIL EVALUATOR			
INSPECTOR: NONE			

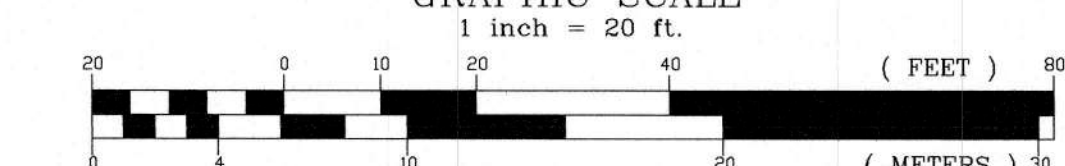
MAP 512, BLOCK 126B, LOT 1A  
#175 PELHAM STREET  
N/F  
#175 PELHAM REALTY LLC  
DEED BOOK 15978, PAGE 265



*Robert A. Gemma*  
8/3/23

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

GRAPHIC SCALE



## PROPOSED UTILITY 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@MWEENGINEERING.COM

SHEET C700 DATE: JULY 28, 2023

CALC'D BY: PHA FIELD BK: 751 CAD FILE: SCRUB\_SP\_03.DWG  
DRAFTER: CJC PROJECT: MET\_PEL DWG FILE:

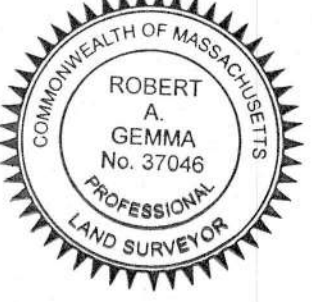


NOTES:

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 512, BLOCK 126B, LOT 1. RECORD TITLE FROM DEED BOOK 17513, PAGE 108.
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 BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
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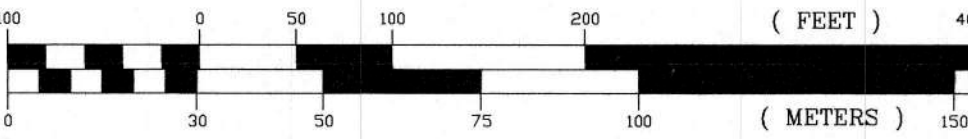


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*Robert A. Gemma*  
FOR METROWEST ENGINEERING, INC. DATE  
ROBERT A. GEMMA, P.E.(CIVIL) # 31967  
P.L.S. # 37046

GRAPHIC SCALE  
1 inch = 100 ft.



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

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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.DWG  
DRAFTER: CJC PROJECT: MET\_PEL DWG FILE:



1. 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.
2. ALL PIPE AND OTHER APPURTENANCES SHALL BE HANDLED CAREFULLY AND INSPECTED PRIOR TO INSTALLATION.
3. ALL MATERIALS INCLUDING PIPE AND FITTINGS SHALL BE LEAD FREE
4. ALL WATER MAINS SHALL BE MINIMUM DUCTILE IRON CLASS 52, SINGLE GASKET, DOUBLE SEALING PIPE WITH CEMENT LINING. ALL DUCTILE IRON PIPE SHALL BE RATED FOR A MINIMUM OPERATING PRESSURE OF 350 P.S.I.
5. MECHANICAL JOINT RESTRAINTS SHALL CONSIST OF ACTUATED WEDGES THAT INCREASE RESISTANCE TO PULL OUT AS PRESSURE INCREASES.
6. USE SERIES 1100 MECH-LUG RESTRAINTS APPROVED BY THE CITY OF METHUEN.
7. PIPE FITTINGS SHALL BE CEMENT LINED DUCTILE IRON AND RATED FOR 350 P.S.I.
8. PIPE FITTINGS SHALL BE FITTED WITH MECHANICAL JOINT RESTRAINTS WITH ALL NUTS AND BOLTS OF A SIMILAR TYPE LUG IRON OR KOR-10 STEEL T BOLTS AND NUTS
9. RESIDUAL 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.
10. GATE VALVE BOXES SHALL BE ADJUSTABLE, BUFFALO STYLE, WITH THE LOWER PART MADE OF CAST IRON AND THE UPPER PART OF STEEL OR PLAST IRON. THE VALVE BOX SHALL BE DESIGNED TO PREVENT DIRECT TRANSMISSION OF TRAFFIC LOADS TO THE VALVE OR PIPE.
11. ALL WATER PIPING SHALL BE INSTALLED WITH A MINIMUM OF FIVE FEET (5') OF COVER. PIPE SHALL BE PROPERLY INSULATED WHEN THE PROPER COVER CAN NOT BE ACHIEVED.
12. PIPE SHALL BE LAID ACCURATELY TO LINE AND GRADE IN SAND BEDDING (MASSDOT SPEC. M.10.4.0, SAND BORROW) IN ACCORDANCE WITH AWWA C100.
13. PUSH-ON PIPE GASKETS SHALL BE CLEAN AND THOROUGHLY COATED WITH LUBRICANT SUPPLIED BY THE MANUFACTURER DURING INSTALLATION.
14. ALL PIPE LINES SHALL BE PRESSURE TESTED FOR STRENGTH AND LEAKAGE AT A PRESSURE OF 200 P.S.I. BY A QUALIFIED THIRD PARTY.
15. ALLOWABLE LEAKAGE AMOUNTS DURING TESTING SHALL CONFORM TO AWWA STANDARDS FOR PRESSURE TESTING DUCTILE IRON PIPE (AWWA C600).
16. CONTRACTOR SHALL SUBMIT ANY LEAKS DISCOVERED UNDER AND ABOVE GROUND TO THE CITY OF METHUEN FOR TESTING AND RETEST IF NECESSARY.
17. ALL WATER PIPING SHALL BE DISINFECTED AND FLUSHED TO THE WORKING D.P.W. AND WATER SUPERINTENDENT AND SHALL NOT BEGIN DISINFECTION UNTIL THE PLAN HAS BEEN APPROVED BY THE WORCESTER D.P.W.
18. THE DISINFECTION PLAN SHALL INCLUDE THE INTENDED CHLORINE DOSE, METHOD FOR ESTABLISHING DOSE AND LOCATIONS FOR APPLICATION OF DOSE.
19. THE CONTACT PERIOD FOR DISINFECTION SHALL BE AT LEAST 24-HOURS.
20. THE PIPELINE SHALL BE ADEQUATELY FLUSHED WITH POTABLE WATER FOR THE DE-CHLORINATION OF RESIDUAL CHLORINATED WATER.

1. ALL MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH THE CITY OF METHUEN DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
2. 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.
3. COMPACTION OF EXISTING AND NEW PAVEMENTS 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 ROPR TO PLACEMENT OF NEW PAVEMENT.
4. SAWCUTS SHALL EXTEND COMPLETELY THROUGH BINDER AND TOP COURSE LAYERS.
5. PAVEMENT EDGES SHALL BE TRIMMED AND CLEANED FOR A NEAT VERTICAL FACE FREE OF LOOSE MATERIALS AND DEBRIS.
6. EXCAVATION SHALL BE KEPT OPEN TO PREVENT COLLAPSE OF EXISTING PAVEMENT SURROUNDING EXCAVATION WORK.
7. BACKFILL IN TRENCHES SHALL BE IN ACCORDANCE WITH SPECIFIC UTILITY TRENCH REQUIREMENTS. BACKFILL MATERIAL IN TRENCHES SHALL CONSIST OF GRANULAR GRAVEL BORROW, PROCESSED GRAVEL, SAND OR CRUSHED STONE MATERIAL. BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 12-INCH LIFTS AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T99 COMPACTION TEST METHOD.
8. BROKEN PAVEMENT, LARGE STONES, ROOTS AND OTHER DEBRIS SHALL NOT BE USED IN TRENCH BACKFILL.
9. 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 COMPACTION. PAVEMENT SHALL BE MIXED IN ACCORDANCE WITH MASSDOT SPECIFICATION SECTION M3.07.0
10. A ROLLER SHALL BE USED TO COMPACT AND FINISH THE ROLLING ROLLER WITH A WEIGHT OF NOT LESS THAN 10-TONS. ROLLER SHALL MAKE AT LEAST FOUR PASSES OVER ALL NEWLY PLACED PAVEMENT.
11. ROLLER SHALL NOT EXCEED A SPEED OF 3 MILES PER HOUR DURING ROLLING OPERATIONS TO ENSURE PROPER COMPACTION. ANY RIDGES, INDENTATIONS SHALL BE ROLLED ADDITIONALLY UNTIL THEY ARE REMOVED.
12. SPECIAL SUBBASE SHALL BE 19% OR GREATER CRUSHED STONE OR 10% OR GREATER CRUSHED STONE COMPLYING WITH REQUIREMENTS OF MASSDOT SECTION M2.01.07 OR GRAVEL BORROW COMPLYING WITH REQUIREMENTS OF MASSDOT SECTION M1.03.0.
13. BASE MATERIALS SHALL BE PLACED IN LIFTS NOT TO EXCEED EIGHT-INCHES (8") AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO SPECIFICATION T99.
14. SPECIAL SUBBASE MATERIALS SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO SPECIFICATION T99.
15. UNSUITABLE SUBBASE MATERIAL SHALL BE REMOVED AND REPLACED WITH MATERIAL IN CONFORMANCE WITH MASSDOT SPECIFICATION M1.02.0, SPECIAL BORROW OR SPECIFICATION M2.03.0 FOR GRAVEL BORROW.
16. SPECIAL SUBBASE MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING TWELVE-INCHES (12") AND COMPACTED IN NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO SPECIFICATION T99.

1. ALL MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH THE CITY OF METHUEN DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
2. ALL PIPE AND OTHER APPURTENANCES SHALL BE HANDLED CAREFULLY AND INSPECTED PRIOR TO INSTALLATION.
3. POLYVINYL CHLORIDE PIPE AND FITTINGS (P.V.C.) SHALL BE MINIMUM SDR 35 WITH DIAMETER DIMENSIONS CONFORMING TO SPECIFICATIONS FOR TYPE PSM P.V.C. FOR MANHOLES AND FITTINGS, ASTM 3034, LATEST REVISION.
4. ALL P.V.C. PIPE SHALL HAVE AN INTEGRAL WALL BELL AND SPIGOT PUSH-ON JOINT WITH ELASTOMERIC GASKETS SECURED IN THE BELL END OF THE PIPE. ELASTOMERIC GASKETS SHALL CONFORM TO ASTM D3212.
5. SPIGOT 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 FROM JOINING THE PIPES.
6. 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 HS-20 LOADING REQUIREMENTS.
7. PRECAST SECTIONS SHALL BE JOINED BY BUTYL RUBBER SEALANT.
8. MANHOLE FRAMES AND COVERS SHALL HAVE A MINIMUM CLEAR OPENING OF 24-INCHES AND BE A MINIMUM OF SIX-INCHES (6") IN HEIGHT.
9. MANHOLE FRAMES AND COVERS SHALL BE MANUFACTURED BY EAST JORDAN IRON WORKS (FORMERLY LEBARON FOUNDRY) AND CONSIST OF 2112Z FRAME AND 2111A SEWER COVER.
10. FRAMES SHALL BE ADJUSTED TO FINISH GRADE WITH MORTAR AND HARD RED BRICK; MINIMUM OF TWO COURSES AND MAXIMUM OF FIVE COURSES OF BRICK.
11. 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%).
12. ALL SERVICE CONNECTIONS TO THE SEWER MAIN SHALL BE MADE BY WYES, T-WYES OR SADDLE TYPE CONNECTIONS.
13. ALL BEDS, BELLS, BENCHES 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.
14. BEDDING MATERIAL SHALL BE COMPACTED BY HAND UNDER AND AROUND THE SEWER PIPE IN LAYERS NOT EXCEEDING SIX-INCHES (6").
15. SEWER PIPE SHALL BE LAID AT LEAST TEN-FEET (10') FROM A WATER MAIN WHENEVER POSSIBLE.
16. ALL SEWER PIPES SHALL BE CUT FLUSH WITH THE INSIDE FACE OF MANHOLE STRUCTURES UNLESS NOTED OTHERWISE ON DRAWINGS.
17. 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.
18. ALL PIPE JOINTS SHALL BE MADE WATERTIGHT AND ALL JOINTING SHALL BE DONE IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

Technical drawing of a light pole base assembly. The drawing shows a vertical pole with a base plate and anchor bolts. A circular inset provides a detailed view of the bolt assembly, showing a bolt/base cover, jam nut, nut, flat washers, and leveling nut. Dimensions include a maximum reveal of 6 inches and a base height as required by soil bearing per recommendations of soil reports. The drawing also shows a finish grade line and a 2-foot diameter at the base.

**NOTES:**

1. ALL LIGHT POLE BASES TO SHALL BE SEBACK A MINIMUM OF THREE-FOOT FROM CURB LINE.
2. ALL LIGHT POLES ARE REQUIRED TO HAVE BASE COVERS
3. ALL LIGHT POLES SHALL NOT EXCEED A MAXIMUM HEIGHT OF 18-FEET.

**COMPONENTS:**

- BOLT/BASE COVER
- JAM NUT
- NUT
- FLAT WASHERS
- LEVELING NUT

**BASE PLATE**

**FINISH GRADE**

**MAX. 6" REVEAL**

**BASE HEIGHT\***

**2'-0"**

**ALL ANCHOR BOLTS, WASHERS AND NUTS TO BE GALVANIZED COATED. (GALVANIZED COATING TO COVER FULL LENGTH OF BOLT).**

**\* BASE HEIGHT AS REQUIRED BY OR TO ACHIEVE ADEQUATE SOIL BEARING PER RECOMMENDATIONS OF SOIL REPORTS.**

**SEE LIGHTING CUT SHEETS FOR SPECIFIC TEMPLATE OF ANCHOR BOLT PATTERN**

Technical drawing of a manhole section showing top and side views with dimensions and material specifications.

**TOP VIEW:** A circle representing the manhole opening with a diameter dimension of  $\phi 7' \frac{1}{2}"$ .

**SIDE VIEW:** A cross-section of the manhole structure. The structure consists of a vertical shaft with a rounded top. The total height of the structure is dimensioned as 7'-0". The shaft is divided into two main sections: the upper section is 4'-6" high and is labeled "POLYETHYLENE SHELL WITH CONCRETE FILL"; the lower section is 2'-6" high and is labeled "BIT. CONC. PAVEMENT". The shaft is shown intersecting a horizontal line representing the ground level.

**NOTES:**

1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. STEEL REINFORCEMENT CONCRETE FILLED POLYETHYLENE.
3. AVAILABLE IN 5 COLORS: RED, BLUE, LIGHT & DARK GRANITE.

The image contains two technical drawings of a gravity sewer pipe installation. The top drawing is the 'PLAN VIEW', showing a cross-section of the pipe and its connection to a building. It labels a 'TEE-WYE' at the junction, a '6" MIN. PVC SERVICE' pipe, and a 'GRAVITY SEWER PIPE (SEWER MAIN) (SIZE VARIES)'. Arrows indicate 'FLOW' direction. The bottom drawing is the 'ELEVATION VIEW', showing the pipe's profile and bedding. It labels a 'SANITARY 6" TEE-WYE' at the inlet, a '2% SLOPE (MIN)' and '6% SLOPE (MAX)' for the pipe, and bedding consisting of '6" MIN. OF 3/4" CRUSHED STONE OVER PIPE IN SERVICE TRENCH' and '6" MIN. OF 3/4" CRUSHED STONE IN NATIVE SOIL 12" MIN. IN LEDGE UNDER PIPE'. A vertical scale on the left indicates '1" = 4" STONE DUCT PIPE 10" DIA' and a horizontal scale at the bottom indicates '1 FT.'.

Diagram illustrating the standard manhole construction layers and dimensions:

- Surface Treatment:** AS REQUIRED
- Gravel Layers:** 4" COMPACTED ROAD GRAVEL and 3" MIN. (Gravel Fill)
- Pipe:** 6" SDR-35
- Bedding:** SAND BEDDING OR 3/4" CRUSHED STONE
- Dimensions:** 12" MIN. (Pipe Diameter and Bedding Thickness)

Diagram illustrating the cross-section of a sewer structure, showing various components and dimensions:

- Top Section:** METHUEN SPEC. SEWER FRAME & COVER SET ON FULL BED OF MORTAR. FINISH GRADE.
- Brick Leveling Course:** BRICK LEVELING COURSE.
- Dimensions:**
  - 24" MINIMUM (horizontal distance from leveling course to barrel section)
  - 18" ~ 24" ECCENTRIC SECTION (slanted distance)
  - 5" (vertical distance from leveling course to barrel section)
  - 48" DIAMETER (barrel section diameter)
  - 12" (vertical distance from barrel section to base section)
  - 6" SDR = 35 P.V.C. (bottom section diameter)
  - 4'-0" (vertical distance from base section to bottom section)
  - 1'-6" (vertical distance from barrel section to base section)
- Materials/Components:**
  - ALUMINUM OR POLYPROPYLENE COATED 1/2" STEPS (on barrel section)
  - PRE-FORMED FLEXIBLE SEALANT OR RUBBER "O" RING SET IN RECESS (at barrel section)
  - BARREL SECTION HEIGHT VARIES
  - BASE SECTION
  - RUBBER RESILIENT SEAL BOOTS FOR PIPE CONNECTION (ASTM C923) WITH STAINLESS STEEL CLAMP(S) APPLY HYDRAULIC CEMENT SEAL WHEN CONSTRUCTING INVERT OR AT TIME OF TESTING.
  - CEMENT CONCRETE OR BRICK IN MORTAR (bottom section)
- Notes:**
  - TABLE TO BE RED HARD BRICK HEADERS LAID FLAT SET TO CROWN OF HIGHEST SEWER
  - TOTAL DEPTH VARIES

Diagram illustrating the construction details of a vertical curb. The curb is 6" wide and 3,000 PSI concrete. The curb is supported by a gravel subbase. The top course binder is shown above the curb. Dimensions are indicated: 6" for the curb width, 6" for the reveal, and 6" for the binder thickness. A vertical curb is shown on the right side of the curb.

**NOTES:**

1. CUT NEAT LINE 6" FROM CURB LINE AND REMOVE BINDER, BASE AND STONE, REPLACE WITH CEMENT CONCRETE.
2. ANY CEMENT CONCRETE THAT IS ACCEPTABLE TO THE DEPARTMENT UNDER M4 OF THE 1973 STANDARD SPECIFICATIONS, ALL TEST REQUIREMENTS ARE WAIVED. BITUMINOUS CONCRETE SHALL NOT BE USED AS A SUBSTITUTE.

FRAME & COVER EAST JORDAN IRON WORKS  
(FORMERLY LE BARON FOUNDRY)  
FRAME - CAT. # 0021111  
COVER - CAT. # 0021123  
TOTAL WEIGHT: 475 LBS. (MIN.) COVER MUST  
HAVE A DIAMOND PATTERN WITH THE WORD  
"SEWER" CAST IN 3" HIGH LETTERS.  
FRAME AND COVER TO MEET OR EXCEED HS-20  
WHEEL LOADING REQUIREMENTS.

Diagram illustrating the cross-section of a shoulder, labeled TYPE - 3. The cross-section shows a trapezoidal shape with a top width of 8" (divided into 2", 4", and 2" sections) and a height of 6". The shoulder is labeled TYPE - 3. The side view shows the shoulder structure with layers: SHOULDER, TOP COURSE, BINDER, and BASE. The shoulder is labeled LEVEL and SLOPE VARIES.

## A row of modern, red, arched electric vehicle charging stations in a parking lot. The stations have a distinctive red metal frame that arches over the charging cables, which are coiled around red spherical bases. A blue pickup truck is parked in the background, and a young tree is in the foreground on the left.

**SECTION**

12" NON-SHRINK GROUT  
LENGTH VARIES (4'-0" MIN.)

2'-3" LENGTH VARIES (1'-9" MIN.)

CONC. WALK (1.5% MIN. SLOPE)

6"

3/4" 1" RADIUS CONT FINISHED GRADE

BIT. CONC. PAVEMENT

3'-6"

6" 2"

9" EMBED

CONDUITS BY ELECTRIC CONTRACTOR

(5) #6 VERTICAL W/ #3 CLOSED TIES @ 10" OC

2'-0"

**PLAN VIEW**

6" 6"

VACUUM STANCHION & BASE PL 3/4"x16"x1'-4" FURNISHED BY TOMMY, INSTALLED BY GENERAL CONTRACTOR

(4) 5/8"Ø F1554 GRADE 36 GALVANIZED STEEL ANCHOR BOLTS PROVIDED AND INSTALLED BY CONTRACTOR.

3 1/2"Ø CENTER HOLE

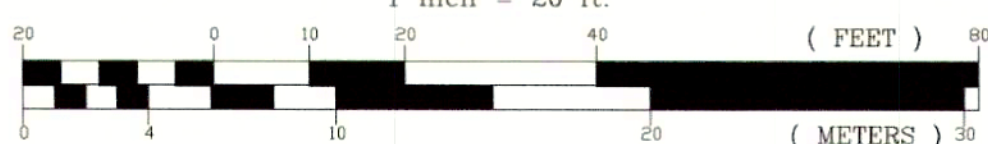
6" 6"

6"



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

GRAPHIC SCALE  
1 inch = 20 ft



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

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## DRAINAGE MATERIALS NOTES:

### PRECAST CONCRETE DRAIN MANHOLE MATERIALS AND INSTALLATION

- 1) ALL MATERIALS ASSOCIATED SHALL BE IN ACCORDANCE WITH THE DESIGN PLANS AND THE CITY OF METHUEN DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
- 2) FILTER FABRIC SHALL BE MIRAFI 140N (TENCATE INDUSTRIES) OR APPROVED EQUAL.
- 3) MANHOLES SHALL BE CONSTRUCTION OF REINFORCED PRECAST CONCRETE BASE SECTION, BARREL SECTION AND DOME SECTION MEETING THE REQUIREMENTS OF ASTM C478 AND AASHTO M199. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I.
- 4) IN CASES WHERE VERTICAL TOLERANCE DOES NOT PERMIT A CONE TOP SECTION, A PRECAST CONCRETE FLAT SECTION MAY BE USED.
- 5) MANHOLES SHALL MEET OR EXCEED HS-20 LOADING REQUIREMENTS.
- 6) MANHOLES SHALL HAVE A MINIMUM OPENING OF 26-INCHES AND A MINIMUM INSIDE DIAMETER OF FOUR-FEET (4').
- 7) MANHOLES SHALL HAVE TONGUE AND GROOVE JOINTS BETWEEN SECTIONS THAT ARE MORTARED OR SEALED WITH BUTYL RUBBER SEALANTS.
- 8) PIPE INLETS AND OUTLETS SHALL BE SEALED WITH MORTAR OR RUBBER SEALANTS OR BOOT TYPE CONNECTIONS.
- 9) DRAIN MANHOLES SHALL BE PLACED ON A LAYER OF COMPACTED, LEVEL, BEDDING MATERIAL NOT LESS THAN SIX-INCHES IN HEIGHT.
- 10) MANHOLE SECTIONS SHALL BE CAREFULLY PLACED SO THAT ALL SECTIONS ARE LEVEL AND PLUMB.
- 11) EXCAVATION AROUND THE MANHOLE STRUCTURES SHALL BE BACKFILLED AND COMPACTED IN TWELVE-INCH (12") LIFTS WITH SUITABLE MATERIALS.
- 12) ROAD BASE MATERIAL AND PAVEMENT MATERIALS SHALL BE INSTALLED AROUND STRUCTURES IN ACCORDANCE WITH BASE AND PAVEMENT PREPARATION INSTRUCTIONS.
- 13) MANHOLE ACCESS FRAME AND COVER SHALL CONSIST OF EAST JORDAN IRONWORKS 2111A/2111Z FRAME AND COVER.
- 14) FRAME AND COVER SHALL BE ADJUSTED TO FINISH GRADE USING LAYERS OF MORTAR AND BRICK.
- 15) FRAME AND COVERS SHALL MEET ASTM A888 AND MADE FROM CLASS 20, GREY CAST IRON.

### PRECAST CONCRETE DRAIN CATCH BASIN MATERIALS AND INSTALLATION

- 1) ALL MATERIALS ASSOCIATED SHALL BE IN ACCORDANCE WITH THE DESIGN PLANS AND THE CITY OF METHUEN DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
- 2) ALL CATCH BASINS SHALL HAVE A SUMP OF AT LEAST FOUR-FEET (48-INCHES) BELOW THE INVERT OF THE OUTLET PIPE AND SHALL HAVE A HOOD ON OUTLET PIPES.
- 3) CATCH BASIN HOODS SHALL EXTEND AT LEAST ONE-FOOT BELOW THE INVERT OF THE OUTLET PIPE.
- 4) CATCH BASINS SHALL BE CONSTRUCTED OF REINFORCED PRECAST CONCRETE BASE SECTION, BARREL SECTION AND DOME SECTION MEETING THE REQUIREMENTS OF ASTM C478 AND AASHTO M199. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I.
- 5) IN CASES WHERE VERTICAL TOLERANCE DOES NOT PERMIT A CONE TOP SECTION, A PRECAST CONCRETE FLAT SECTION MAY BE USED.
- 6) CATCH BASINS SHALL MEET OR EXCEED HS-20 LOADING REQUIREMENTS.
- 7) CATCH BASINS SHALL HAVE A MINIMUM OPENING OF 26-INCHES AND A MINIMUM INSIDE DIAMETER OF FIVE-FEET (5').
- 8) CATCH BASINS SHALL HAVE TONGUE AND GROOVE JOINTS BETWEEN SECTIONS THAT ARE MORTARED OR SEALED WITH BUTYL RUBBER SEALANTS.
- 9) PIPE INLETS AND OUTLETS SHALL BE SEALED WITH MORTAR OR RUBBER SEALANTS OR BOOT TYPE CONNECTIONS.
- 10) CATCH BASINS SHALL BE PLACED ON A LAYER OF COMPACTED, LEVEL, BEDDING MATERIAL NOT LESS THAN SIX-INCHES IN HEIGHT.
- 11) CATCH BASIN SECTIONS SHALL BE CAREFULLY PLACED SO THAT ALL SECTIONS ARE LEVEL AND PLUMB.
- 12) EXCAVATION AROUND THE MANHOLE STRUCTURED SHALL BE BACKFILLED AND COMPACTED IN TWELVE-INCH (12") LIFTS WITH SUITABLE MATERIALS.
- 13) ROAD BASE MATERIAL AND PAVEMENT MATERIALS SHALL BE INSTALLED AROUND STRUCTURES IN ACCORDANCE WITH BASE AND PAVEMENT PREPARATION INSTRUCTIONS.
- 14) FRAME AND GRATE SHALL BE ADJUSTED TO FINISH GRADE USING LAYERS OF MORTAR AND BRICK.

### H.D.P.E. DRAIN PIPE MATERIALS AND INSTALLATION

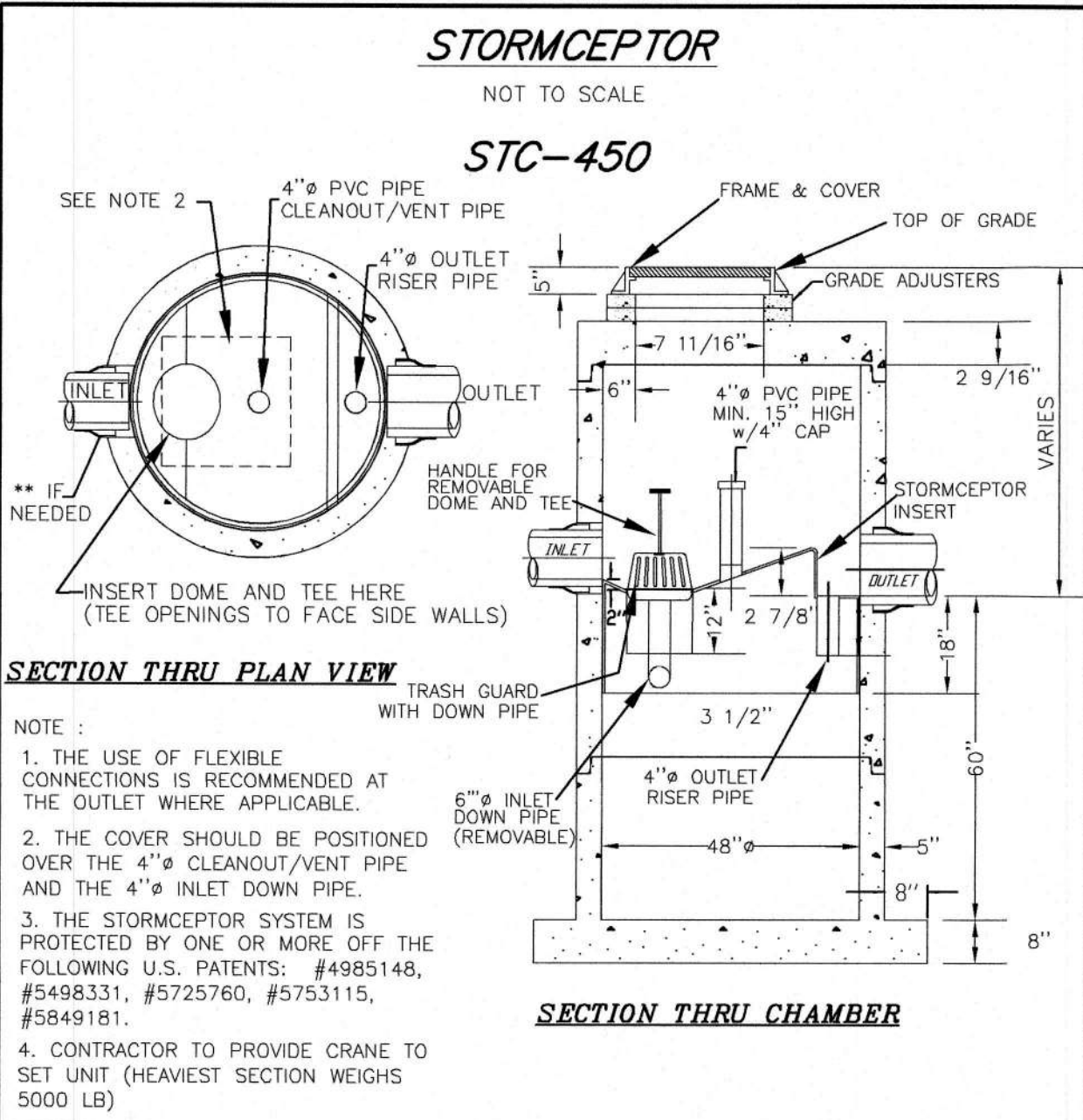
- 1) ALL PIPE SHALL CONFORM TO MASSDOT SECTION M5.03.10.
- 2) PIPE SHALL BE SMOOTH INTERIOR WALL AND CORRUGATED EXTERIOR WALL AND SHALL BE BELL AND SPIGOT CONNECTION.
- 3) PIPE SHALL COMPLY WITH REQUIREMENTS AND MARKINGS FOUND IN AASHTO DESIGNATIONS M252 AND M294.
- 4) ALL PIPE SHALL SUPPORT AN HS-20 LIVE LOAD WITH A MAXIMUM DEFLECTION OF 5% OF THE PIPE DIAMETER.
- 5) ALL PIPE AND FITTINGS SHALL BE MADE FROM VIRGIN POLYETHYLENE COMPOUNDS WHICH CONFORM TO CURRENT AASHTO CLASSIFICATIONS AND ALSO AS DEFINED IN ASTM D3530.
- 6) PIPES SHALL BE CAREFULLY LAID TO LINES AND GRADES AS SHOWN ON DESIGN PLANS.
- 7) PIPE BEDDING MATERIAL SHALL BE PLACED TO A DEPTH OF NO LESS THAN SIX-INCHES BELOW THE INVERT OF THE PIPE.
- 8) TRENCHES FOR DRAIN LINES SHALL PROVIDE MINIMUM OF TWELVE-INCHES (12") OF HORIZONTAL CLEARANCE FROM SIDES OF PIPE TO EDGE OF TRENCH.
- 9) INSTALLATION OF H.D.P.E. PIPE SHALL BE IN ACCORDANCE WITH ASTM D2321 AND AS RECOMMENDED BY THE MANUFACTURER.
- 10) WATER TIGHT JOINTS SHALL BE USED ON ALL PIPES IN ACCORDANCE WITH ASTM D3212. PIPE JOINTS SHALL BE BELL AND SPIGOT WITH ELASTOMERIC RUBBER GASKETS MEETING OR EXCEEDING ASTM F477.
- 11) PIPE BEDDING MATERIAL OR 3/4" CRUSHED STONE SHALL BE CAREFULLY BACKFILLED AND COMPACTED AROUND PIPE TO A DEPTH OF TWELVE-INCHES ABOVE THE TOP OF PIPE.
- 12) MATERIAL FOR BACKFILLING THE REMAINDER OF THE TRENCH, PAVEMENT AND PAVEMENT BASE EXCLUDED, SHALL BE BACKFILLED AND COMPACTED IN TWELVE-INCH LIFTS WITH SUITABLE MATERIAL WITH NO STONES GREATER THAN FOUR-INCHES IN DIAMETER. MATERIAL SHOULD BE FREE OF ORGANICS AND DEBRIS.
- 13) TRENCH SHALL BE FINISHED WITH SIX-INCHES (6") OF LOAM AND SEED IN NON-PAVED AREAS AND PREPARED IN ACCORDANCE WITH PAVEMENT STRUCTURE IN PAVED AREAS.

### SUBSURFACE INFILTRATION SYSTEM MATERIALS AND INSTALLATION

- 1) SUBSURFACE LEACHING CHAMBERS SHALL BE SHEA PRECAST GALLEYS OR APPROVED EQUAL.
- 2) FILTER FABRIC SHALL BE MIRAFI 140N (TENCATE INDUSTRIES) OR APPROVED EQUAL.
- 3) ACCESS MANHOLES SHALL BE REQUIRED AT LOCATIONS SPECIFIED ON DESIGN PLANS.
- 4) ACCESS MANHOLES SHALL CONSIST OF EAST JORDAN IRON WORKS 2111Z/2111A, HEAVY DUTY FRAME AND COVER AND SHALL MEET OR EXCEED HS-20 LOADING REQUIREMENTS.
- 5) ACCESS MANHOLES SHALL BE ADJUSTED TO FINISH GRADE WITH PRECAST CONCRETE RISERS AND/OR LAYERS OF BRICK AND MORTAR.
- 6) EXCAVATION FOR PRECAST LEACHING CHAMBERS SHALL BE DONE CAREFULLY TO AVOID SMEARING AND COMPACTION OF BOTTOM AND EXCAVATION SIDEWALLS.
- 7) ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH FREE DRAINING MATERIAL, INCLUDING BUT NOT LIMITED TO TITLE V SAND.
- 8) ALL PRECAST LEACHING CHAMBERS SHALL BE PLACED ON A TWELVE-INCH (12") DEEP LAYER OF COMPACTED 3/4" TO 1-1/2", DOUBLE WASHED CRUSHED STONE.
- 9) PRECAST LEACHING CHAMBERS SHALL BE CAREFULLY PLACED AT THE SAME ELEVATION IN ROWS AND BUTTED TOGETHER SO NO VOIDS EXIST BETWEEN UNITS.
- 10) AREAS BETWEEN ROWS OF PRECAST LEACHING CHAMBERS SHALL BE FILLED WITH 3/4" TO 1-1/2", DOUBLE WASHED CRUSHED STONE.
- 11) ALL PIPES SHALL BE SECURELY MORTARED IN PLACE TO PROVIDE WATER TIGHT CONNECTIONS.
- 12) FILTER FABRIC SHALL BE INSTALLED AROUND THE SIDES, AND ON TOP OF THE PRECAST LEACHING CHAMBERS.
- 13) CONTRACTOR SHALL OVERLAP ROWS OF FILTER FABRIC ONE-HALF FOOT (0.5') AND CAREFULLY BACKFILL AROUND AND ON TOP OF THE LEACHING CHAMBERS TO AVOID SHIFTING OR TEARING FILTER FABRIC.
- 14) INSTALL AND COMPACT 3/4" TO 1-1/2" DOUBLE WASHED STONE IN TWELVE-INCH (12") LIFTS FOR A DISTANCE OF TWO-FEET (2') AROUND THE PERIMETER OF LEACHING CHAMBERS.

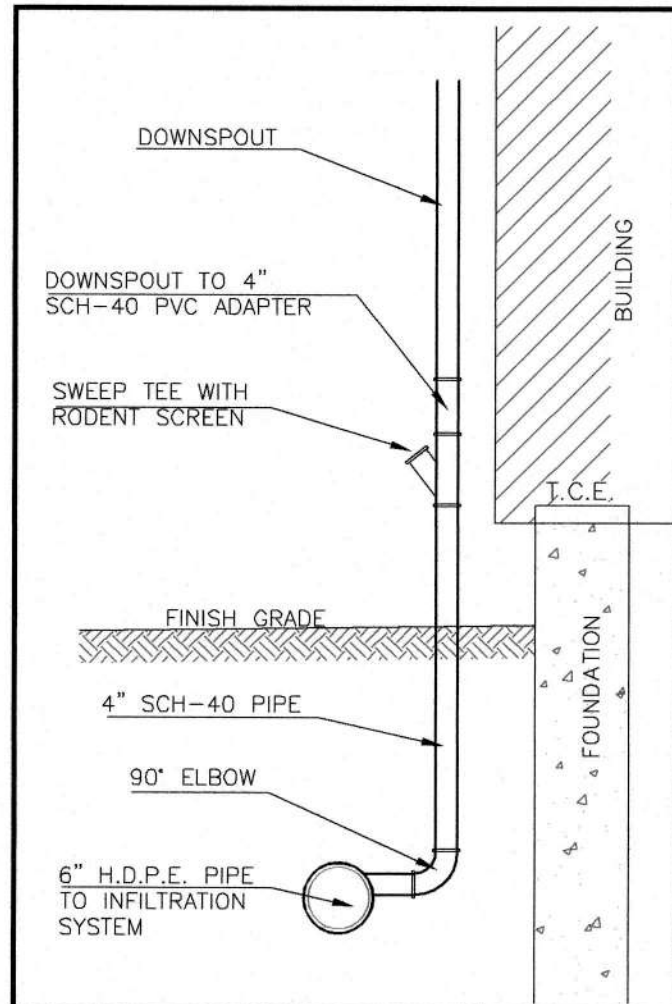
### STORMWATER QUALITY TREATMENT UNIT

NOT TO SCALE



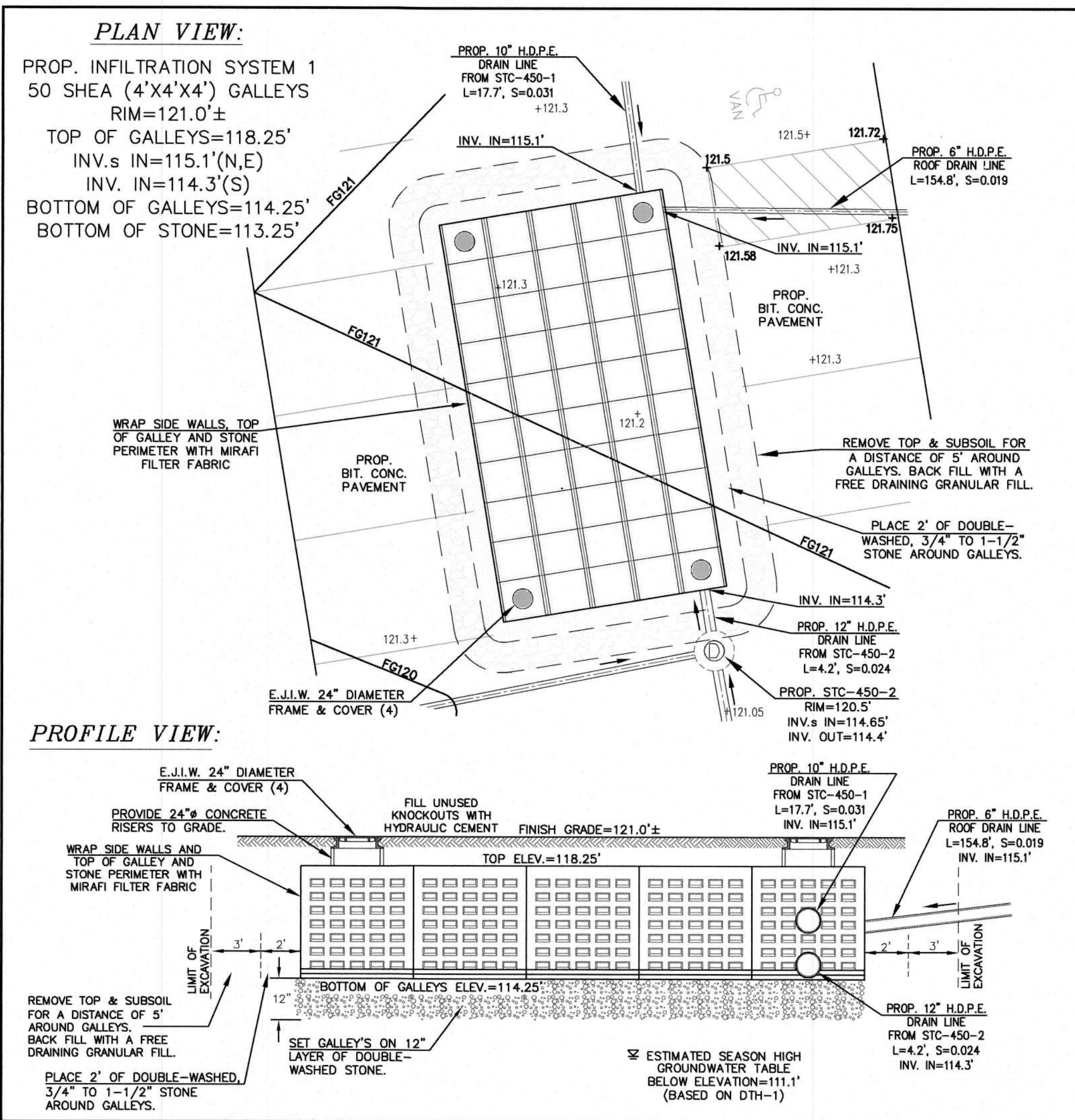
### DOWNSPOUT DETAIL

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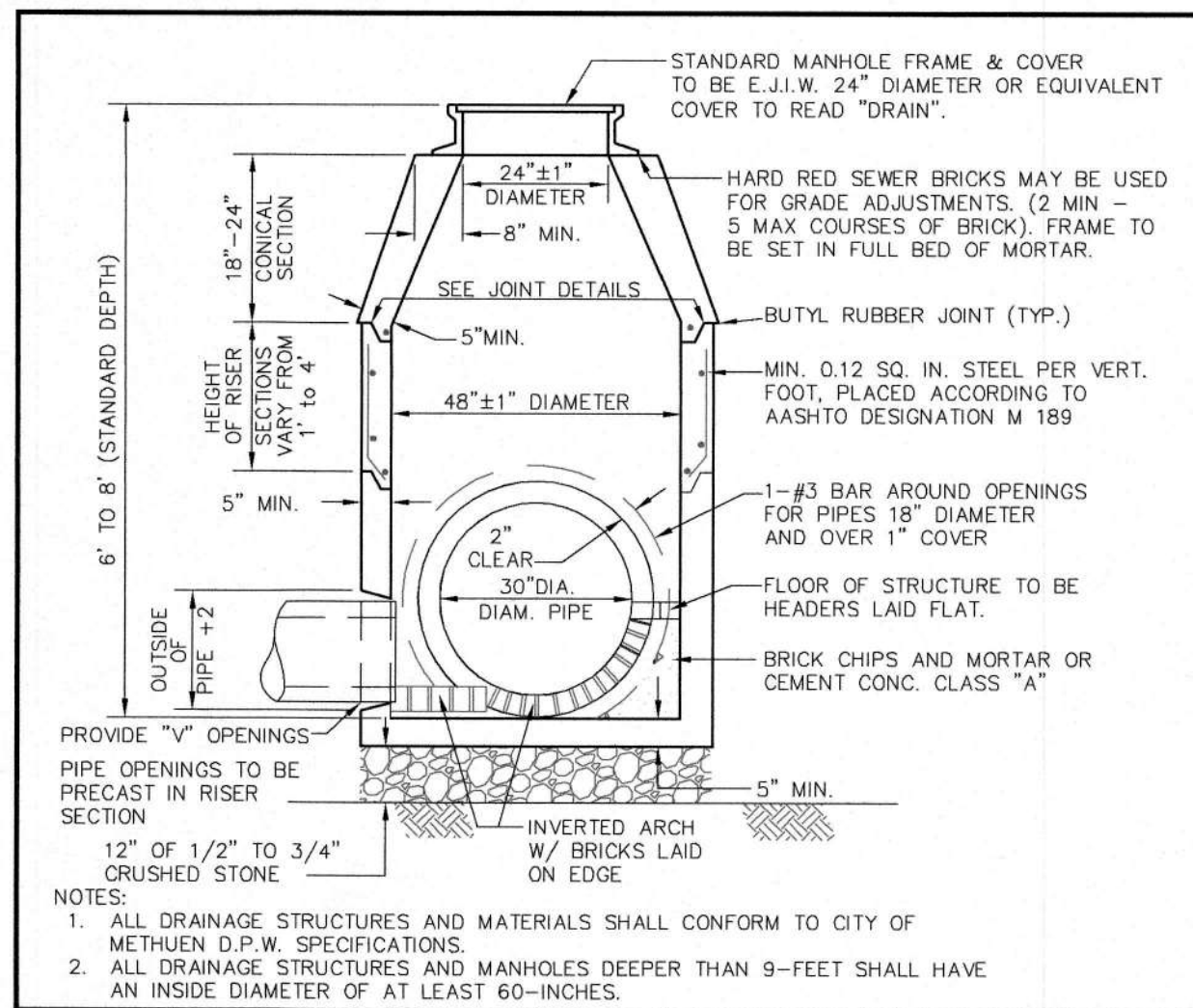
### PROPOSED INFILTRATION SYSTEM 1

NOT TO SCALE



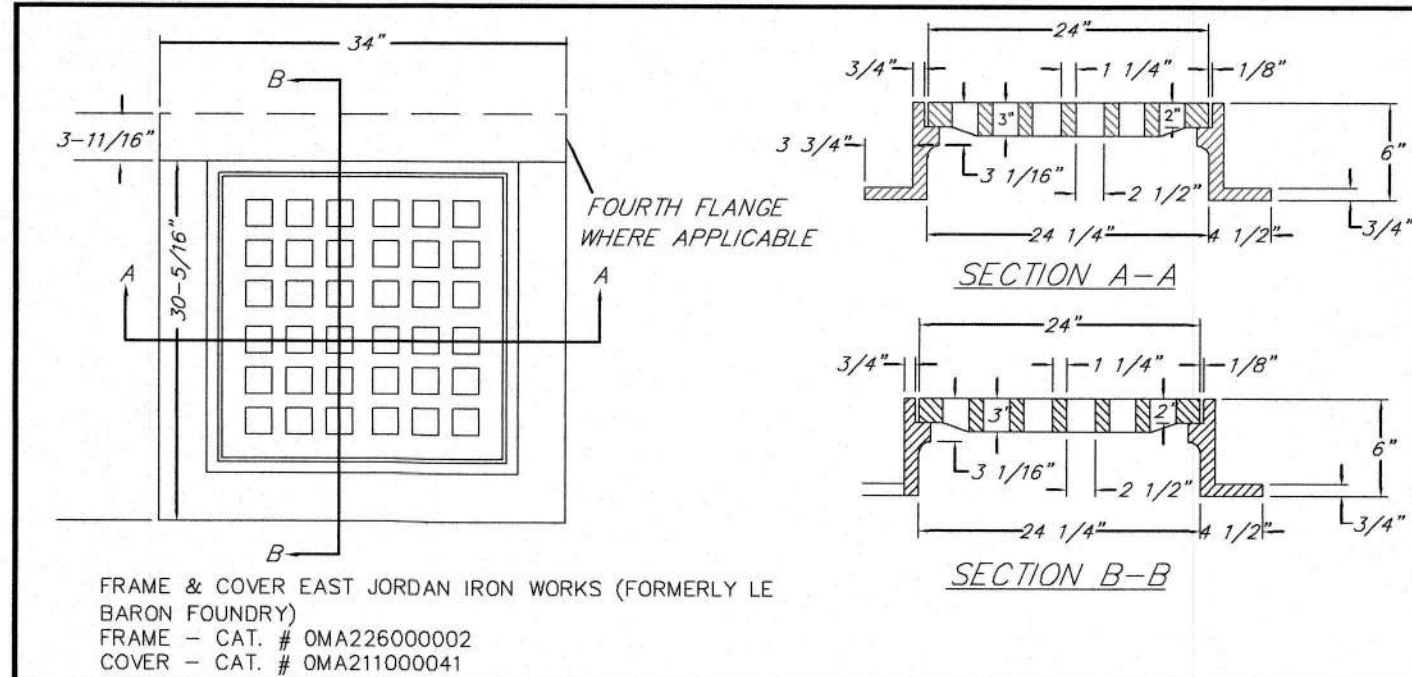
### PRECAST CONCRETE DRAIN MANHOLE

NOT TO SCALE



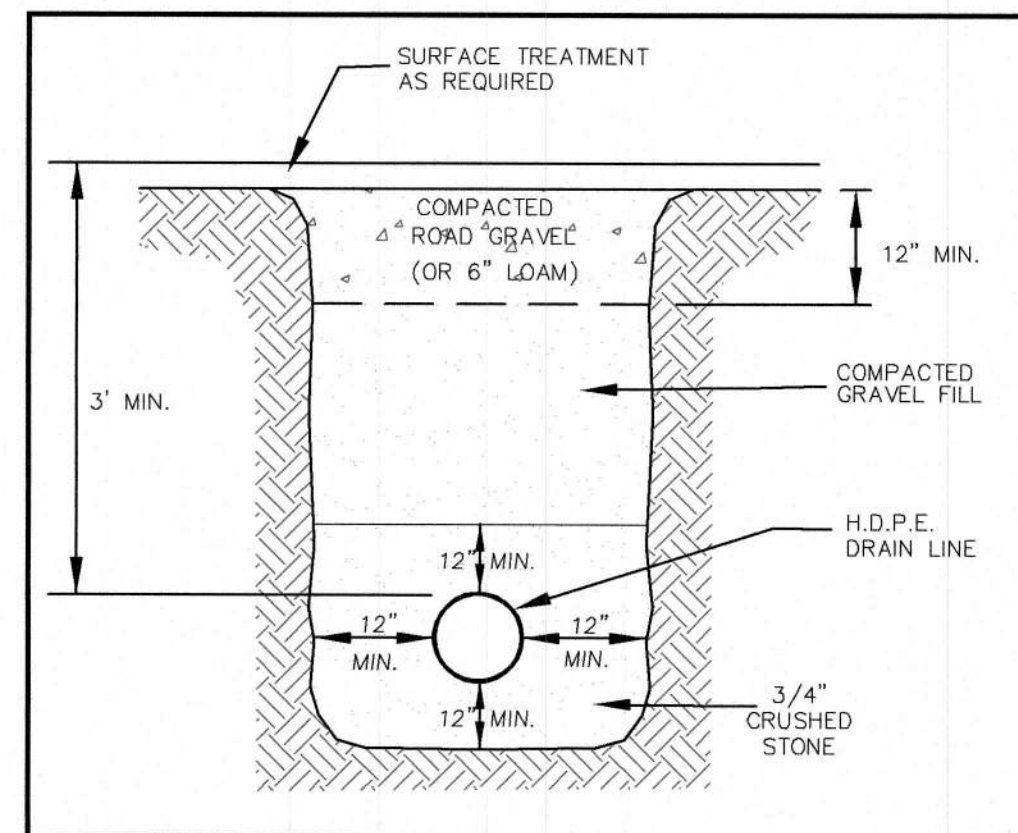
### SQUARE CATCH BASIN FRAME & GRATE

NOT TO SCALE



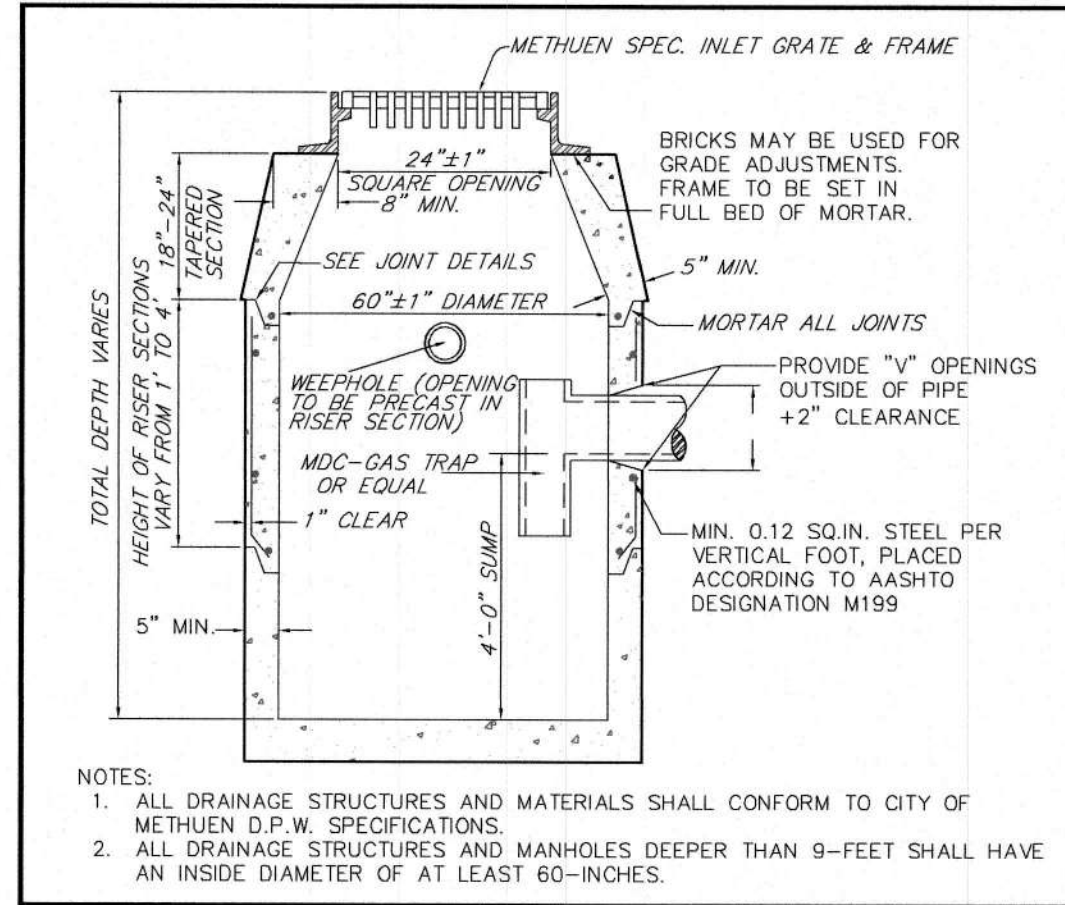
### TYPICAL DRAIN LINE TRENCH

NOT TO SCALE



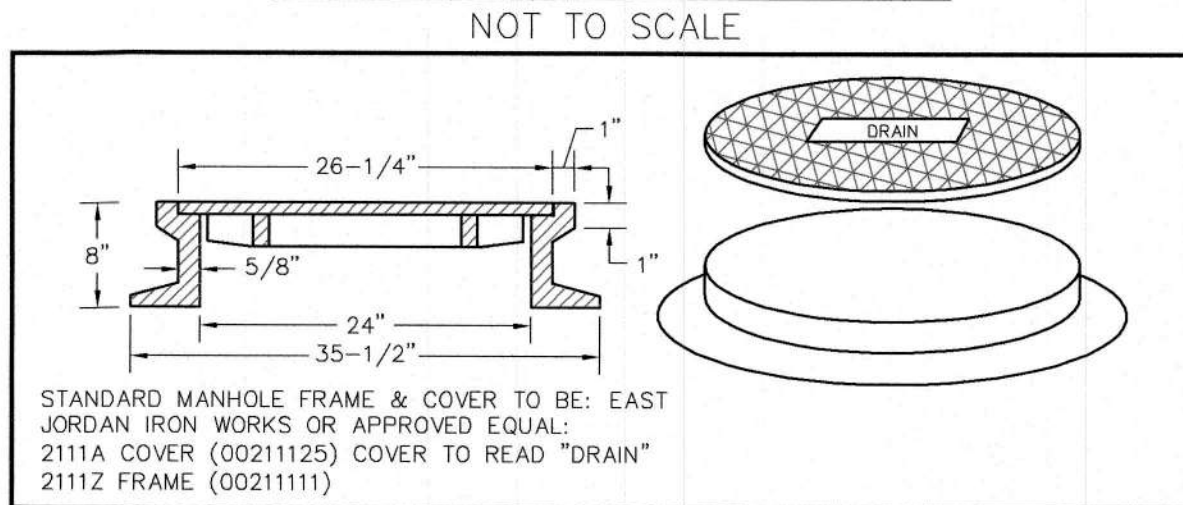
### PRECAST CONCRETE CATCH BASIN

NOT TO SCALE



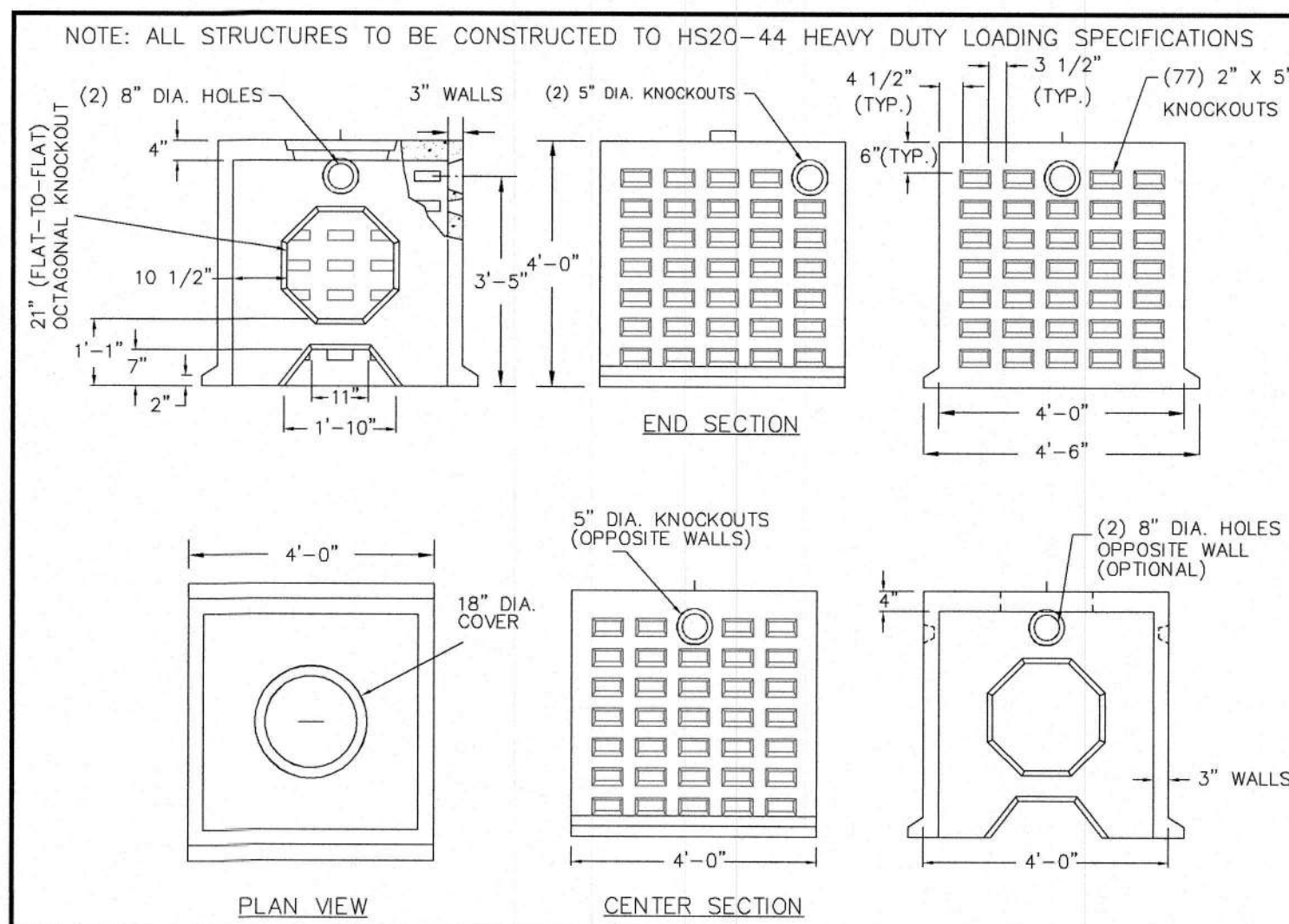
### STANDARD DRAIN MANHOLE FRAME & COVER

NOT TO SCALE



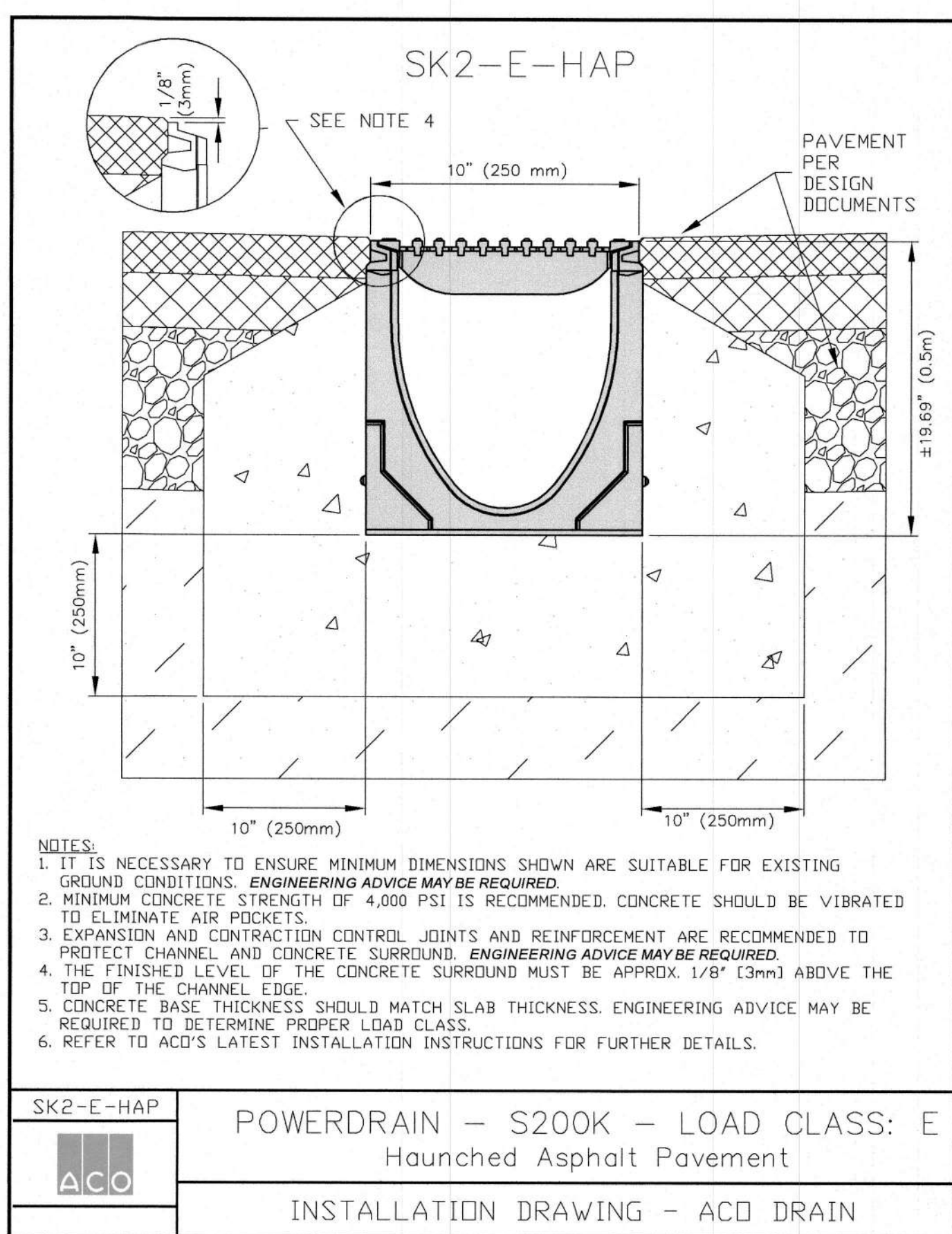
### DRAINAGE INFILTRATION LEACHING GALLEYS

NOT TO SCALE

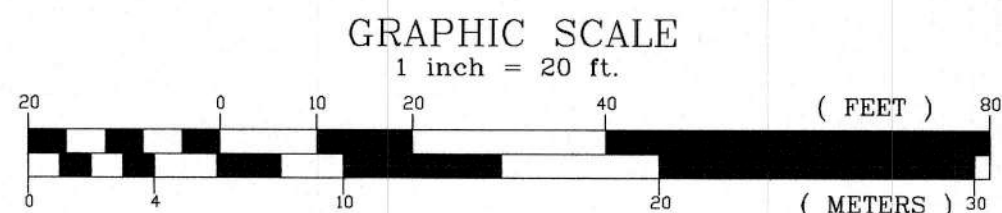


### DRIVEWAY TRENCH DRAIN

NOT TO SCALE



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



### PROPOSED DETAILS 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  
TEL.: (508)626-0063  
EMAIL: INFO@MWEENGINEERING.COM

SHEET C901 DATE: JULY 28, 2023

CALC'D BY: PHA FIELD BK: 751 CAD FILE: SCRUB\_SP\_03.DWG  
DRAFTER: CJC PROJECT: MET\_PEL DWG FILE: