

DEFINITIVE SUBDIVISION AT 60 ARBOR STREET

PROPERTY OF SUSAN M. HAMILTON AND JEFFREY R. HAMILTON

WENHAM, MASSACHUSETTS

SUBMITTED TO THE WENHAM PLANNING BOARD FOLLOWING
THE WENHAM ZONING BYLAWS AND THE RULES AND REGULATIONS
GOVERNING THE SUBDIVISION OF LAND
DATE: JANUARY 13, 2022

ABUTTERS WITHIN 500 FEET OF PROPERTY

Parcel Number	Property Address	Owner Name
008-0001	65 ARBOR ST	SUMINSBY DORIS R TR
008-0001-000A	67 ARBOR ST	SUMINSBY J DAVID & JULIANA RUTH TR
008-0002	13 FOSTER ST	CANNON EMILY O'CONNELL & C TIPMORE BROWN
008-0003	12 FOSTER ST	MOLONEY JOSEPH F JR KRISTEN J TR
008-0004	15 FOSTER ST	MCNALL CAMERON A & NANCY D
008-0005	10 FOSTER ST	CALANDRA MARK R & ALISON T
008-0006	17 HOWARD ST	MURPHY JAMES W
008-0011	65 HOWARD ST	PADLEY SIMON
008-0012	HOWARD ST	ESCH RYAN J & MEGAN E
008-0013	70 ARBOR ST	CONGDON, CHALMERS
008-0014	74 ARBOR ST	RICHARDSON JON S JR
008-0015	1 SETTLER'S LANE	PAYNE CHRISTOPHER K & KATHRYN CARR
008-0015-000A	3 SETTLER'S LANE	FLYNN MICHAEL P JR
008-0015-000D	2 SETTLER'S LANE	FALL CHRISTOPHER L
008-0016	ARBOR ST	WALSH LAURA
013-0007	49 ARBOR ST	HATCH GEORGE W M
013-0008	5 JUNIPER ST	TOBEY STEPHEN M
013-0009	9 JUNIPER ST	SKINNER THOMAS R & HUNTLEY L
013-0011	14 JUNIPER ST	COLARUSSO PHILIP D
013-0012	12 JUNIPER ST	BURRIDGE MEGAN J
013-0013	6 JUNIPER ST	SWINNERTON PAUL W & LINDA P TR
013-0014	4 JUNIPER ST	MONTANARI MARC A & LYNNE T TR
013-0015	63 ARBOR ST	DONAHUE ANTHONY J & EDNA F
013-0016	2 JUNIPER ST	COLLINS HUGH J JR & JOHN J TRSTS
013-0017	55 ARBOR ST	SPRAGUE PHINEAS S
013-0068	4 PORTER ST	SMOLIK ELIZABETH C & DANIEL M MILLIGAN
013-0069	6 PORTER ST	BELLIVEAU ANDREW
013-0070	8 PORTER ST	LUCIA RODNEY J & SUSAN
013-0076	19 PORTER ST	CARNEY TIMOTHY JOHN JR
013-0076	19 PORTER ST	BINKERD CASEY ELIZABETH
013-0076	19 PORTER ST	CARNEY TIMOTHY JOHN JR
013-0076	19 PORTER ST	BINKERD CASEY ELIZABETH
013-0076	19-19 PORTER ST	UNKNOWN
013-0077	17 PORTER ST	PASQUARELLO DANIEL J
013-0078	15 PORTER ST	DESIMONE JOHN F
013-0079	11 PORTER ST	LOCKE PETER B
013-0080	7 PORTER ST	FERRIS PETER G & MURRAY GAIL A
013-0081	5 PORTER ST	DUFFY JOHN P & NANCY A
013-0082	1 PORTER ST	IRELAND DAVID R
013-0083	56 ARBOR ST	DOLAN JAMES M & SHERRILYN
013-0084	60 ARBOR ST	HAMILTON JEFFREY R
013-0087	3 FOSTER ST	CLARK REMINGTON A III & LYNN G TR
013-0088	5 FOSTER ST	BEGIEN J FREDERIC JR
013-0089	7 FOSTER ST	LECLERC DANIEL & KARA
013-0090	9 FOSTER ST	ASHLEY ERNEST C & LINDA A
013-0091	11 FOSTER ST	LUSTIG ERIC A
013-0092	17 FOSTER ST	MAUNSELL WILLIAM A & COURTNEY C
013-0093	15 HOWARD ST	DRAPER MARK D & REBECCA STRATTON DRAPER
013-0094	11 HOWARD ST	PUKALA MICHAEL FRANCIS & ALLISON ELIZ
013-0142	58 ARBOR ST	LIPHARDT MARC

REQUESTED WAIVERS FROM RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND

- SIDEWALKS SHALL BE PROVIDED ON ONE OR BOTH SIDES OF STREETS WHEN, IN THE OPINION OF THE BOARD, THEY ARE WARRANTED. § 4.1.4.3; **APPLICANTS PROPOSE NO SIDEWALKS.**
- THE SIZE OF WATER MAINS ON ANY STREET SHALL BE NOT LESS THAN EIGHT INCHES (8") INSIDE DIAMETER. § 4.7.5.4; **APPLICANTS PROPOSE ONE 1" WATER SERVICE FOR THE ONE PROPOSED SINGLE FAMILY HOUSE.**



LOCUS MAP

Scale: 1" = 400'

Zoning District:
Residential (R)

APPLICANTS

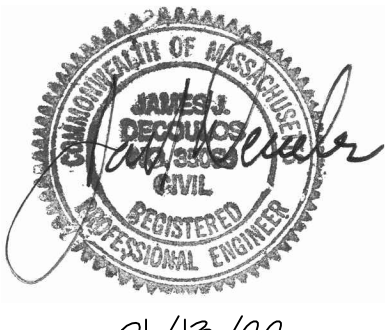
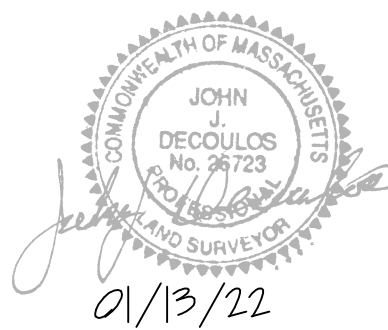
SUSAN M. HAMILTON AND JEFFREY R. HAMILTON
60 ARBOR STREET
WENHAM , MA 01984

CIVIL ENGINEER

DECOULOS & COMPANY, LLC
185 ALEWIFE BROOK PARKWAY
CAMBRIDGE, MA 02138
WWW.DECOULOS.COM
617.489.7795

SHEET INDEX

TITLE SHEET	
EXISTING CONDITIONS PLAN	C1
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EROSION AND SEDIMENT PLAN	C3
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REFERENCES

1. ALL REFERENCES TO DEEDS AND PLANS ARE AS RECORDED AT THE SOUTH ESSEX REGISTRY OF DEEDS (THE "REGISTRY").
2. DEED CONVEYING LOT 1 AS SHOWN ON MASSACHUSETTS LAND COURT PLAN 20396B; AND, THE MOYNIHAN LOT AS SHOWN IN PLAN BOOK 28, PLAN 12, AS DESCRIBED AT THE REGISTRY IN BOOK 31953, PAGE 274.
3. DEED CONVEYING LOT 2 TO SUSAN M. HAMILTON AND JEFFREY P. HAMILTON, HUSBAND AND WIFE AS TENANTS BY THE ENTIRETY, AS REGISTERED WITH THE MASSACHUSETTS LAND COURT IN DOCUMENT NUMBER 366821.
4. ESSEX COUNTY LAYOUT OF ARBOR STREET, LAYOUT NUMBER 2230.
5. INSTRUMENT SURVEYS, 2014-2016.
6. GPS DUAL-FREQUENCY STATIC SURVEY, MAY 14, 2020, WITH ELEVATION ESTABLISHED BY OPUS OF THE NATIONAL GEODETIC SURVEY.
7. ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
8. WENHAM ASSESSOR RECORDS, JANUARY, 2022.

NOTES

1. SEPTIC SYSTEM EASEMENT TERMINATED BY THE MERGING OF THE DOMINANT AND SERVIENT ESTATES. SEE LAND COURT DOCUMENT NUMBERS 340808 AND 366821.
2. FLOOD INSURANCE RATE MAP, PANEL 407 of 600, MAP NUMBER 25009C0407F OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY SHOWS THE LAND SHOWN ON THIS PLAN LIES IN AN AREA OF MINIMAL FLOODING, ZONE X.

SOIL LOGS

Date: July 24, 2013
Observed by: Gregory P. Bernard, RS

Depth (inches)	Elevations (survey feet) [NAVD88]
OH 9 Surface.....	73.2
0-19 Gravelly Fill.....	71.62
19-46 C1 Coarse Sand.....	69.37
46-60 C2 Fine Sand.....	68.20
60-81 C3 Coarse Sand.....	66.45
No Refusal	
No Observed Groundwater	
No Redox Features	
Estimated Seasonal High Groundwater > 81	

OH 10 Surface.....	73.1
0-15 Gravelly Fill.....	71.85
15-45 C1 Coarse Sand.....	69.35
45-54 C2 Very Fine Sand.....	68.60
54-80 C3 Sand.....	66.43
No Refusal	
No Observed Groundwater	
No Redox Features	
Estimated Seasonal High Groundwater > 80	

Date: November 10, 2021
Observed by: James J. Decoulos, PE

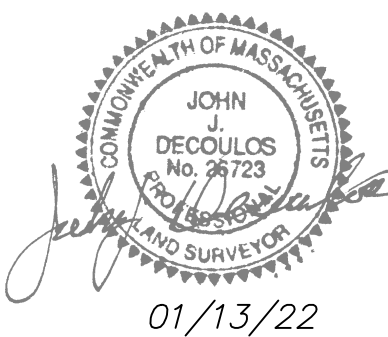
Depth (inches)	Elevations (survey feet) [NAVD88]
TP 1 Surface.....	77.90
0-12 A Sandy Loam 10 YR 3/4.....	76.90
12-28 B Gravelly Sandy Loam 10 YR 5/6.....	74.57
28-112 C Coarse Sand & Gravel 10 YR 5/6.....	66.90
No Refusal	
No Observed Groundwater	
No Redox Features	
Estimated Seasonal High Groundwater > 132	

TP 2 Surface.....	76.30
0-20 A Loam 10 YR 3/4.....	74.63
20-32 B Sandy Loam 10 YR 5/6.....	73.63
32-72 C1 Gravelly Sand 2.5 Y 5/3.....	70.30
72-128 C2 Gravel & Coarse Sand 2.5 Y 5/3.....	65.63
No Refusal	
No Observed Groundwater	
No Redox Features	
Estimated Seasonal High Groundwater > 128	

TP 3 Surface.....	76.50
0-9 A Sandy Loam 10 YR 3/4.....	75.75
9-96 C1 Sandy Loam with Pockets of Sand 10 YR 5/4.....	68.50
96-132 C2 Gravelly Sand 2.5 Y 5/3.....	65.50
No Refusal	
No Observed Groundwater	
at 60 inches, Redox was greater than 5 percent	
Estimated Seasonal High Groundwater > 132	

I CERTIFY THAT THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.

JOHN J. DECOULOS, PE, PLS



APPROVED BY THE WENHAM PLANNING BOARD

DATE: _____

I, TRUDY REID, CLERK OF THE TOWN OF WENHAM, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE WENHAM PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN CLERK: _____

DATE: _____

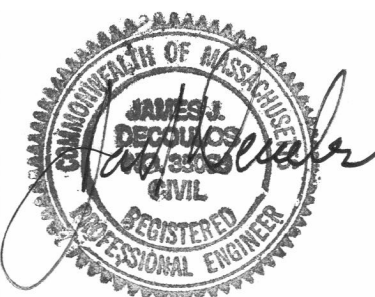
DEFINITIVE SUBDIVISION
in
WENHAM, MASSACHUSETTS

Owners: Susan M. Hamilton and Jeffrey R. Hamilton
60 Arbor Street, Wenham, MA

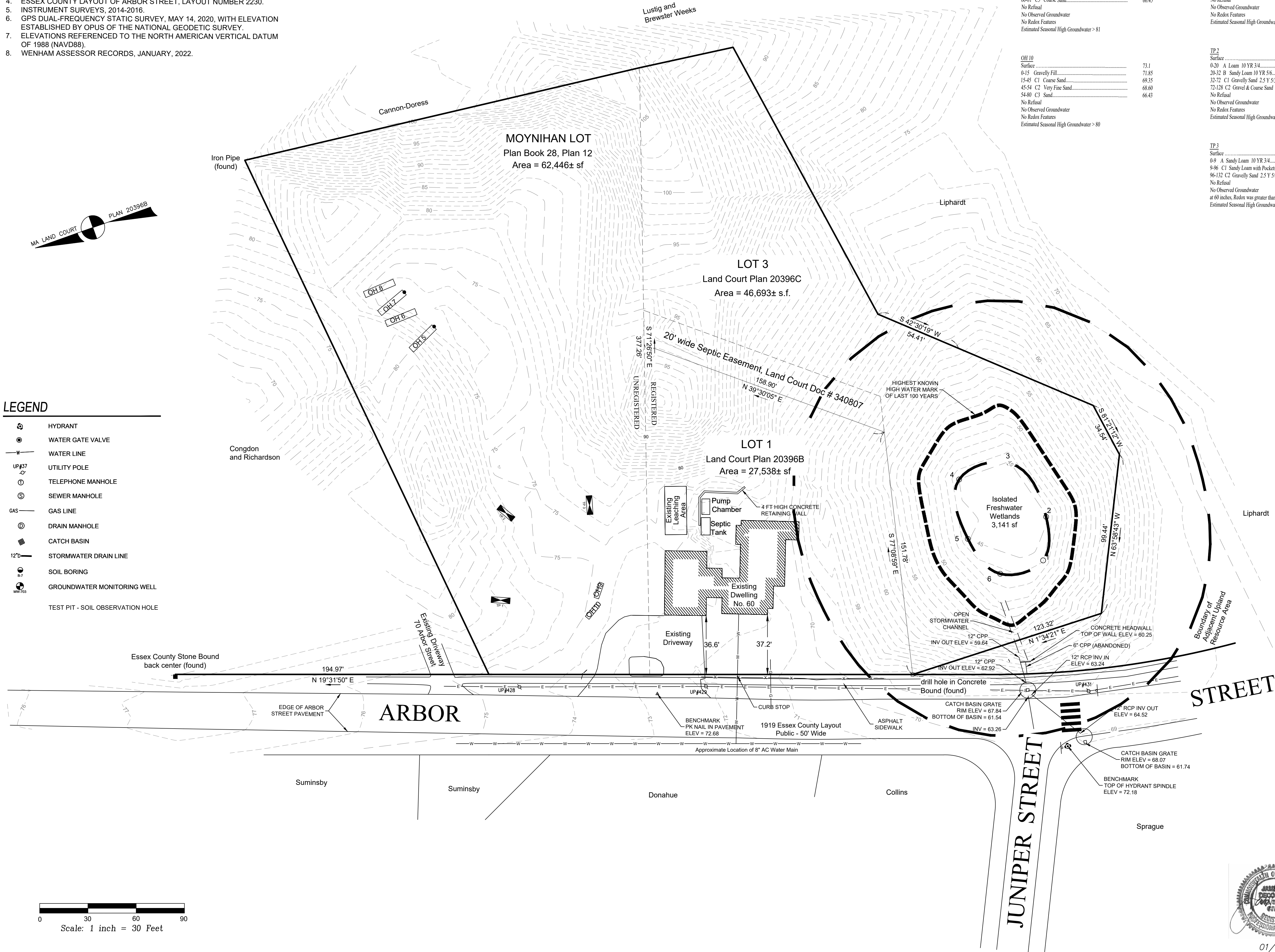
Prepared by: Decoulos & Company, LLC
185 Alewife Brook Parkway, Cambridge, MA

Date: January 13, 2022
Scale: 1 inch equals 30 feet

EXISTING CONDITIONS PLAN
SHEET C1



01/13/22



LEGEND

- HYDRANT
- WATER GATE VALVE
- WATER LINE
- UTILITY POLE
- TELEPHONE MANHOLE
- SEWER MANHOLE
- GAS LINE
- DRAIN MANHOLE
- CATCH BASIN
- STORMWATER DRAIN LINE
- SOIL BORING
- GROUNDWATER MONITORING WELL
- TEST PIT - SOIL OBSERVATION HOLE

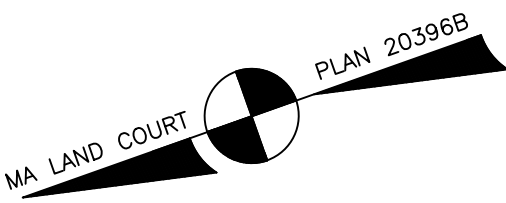
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6. WENHAM ASSESSOR RECORDS, JANUARY, 2022.

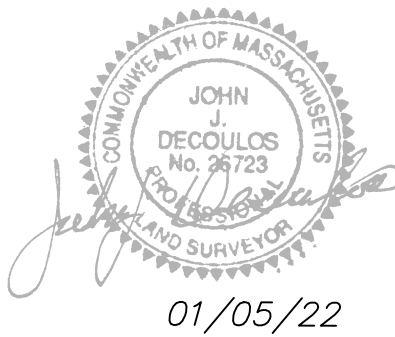
NOTES

1. THE SMALLER PORTION OF LOT 5 CONTAINS A TOTAL OF 136 LINEAR FEET OF PERIMETER AS DESCRIBED IN THE DEFINITION OF LOT AREA IN SECTION 2.2 OF THE WENHAM ZONING BYLAWS. ACCORDINGLY, THE AREA OF THE SMALLER PORTION OF LOT 5 IS CONSIDERED IN THE OVERALL AREA OF LOT 5.
2. THE SMALLER PORTION OF LOT 6 CONTAINS A TOTAL OF 193 LINEAR FEET OF PERIMETER AS DESCRIBED IN THE DEFINITION OF LOT AREA IN SECTION 2.2 OF THE WENHAM ZONING BYLAWS.
3. GRANITE BOUNDS SHALL BE INSTALLED FOLLOWING THE REQUIREMENTS OF SECTION 5.11.1 OF THE WENHAM RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND.



I CERTIFY THAT THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.

JOHN J. DECOULOS, PE, PLS



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DEFINITIVE SUBDIVISION
in
WENHAM, MASSACHUSETTS

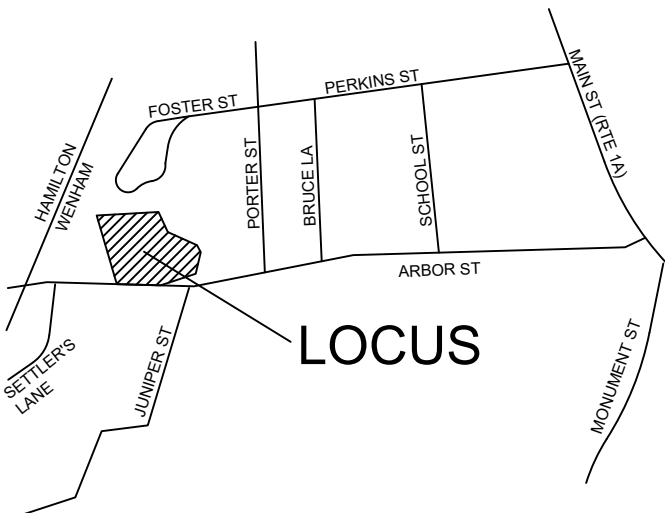
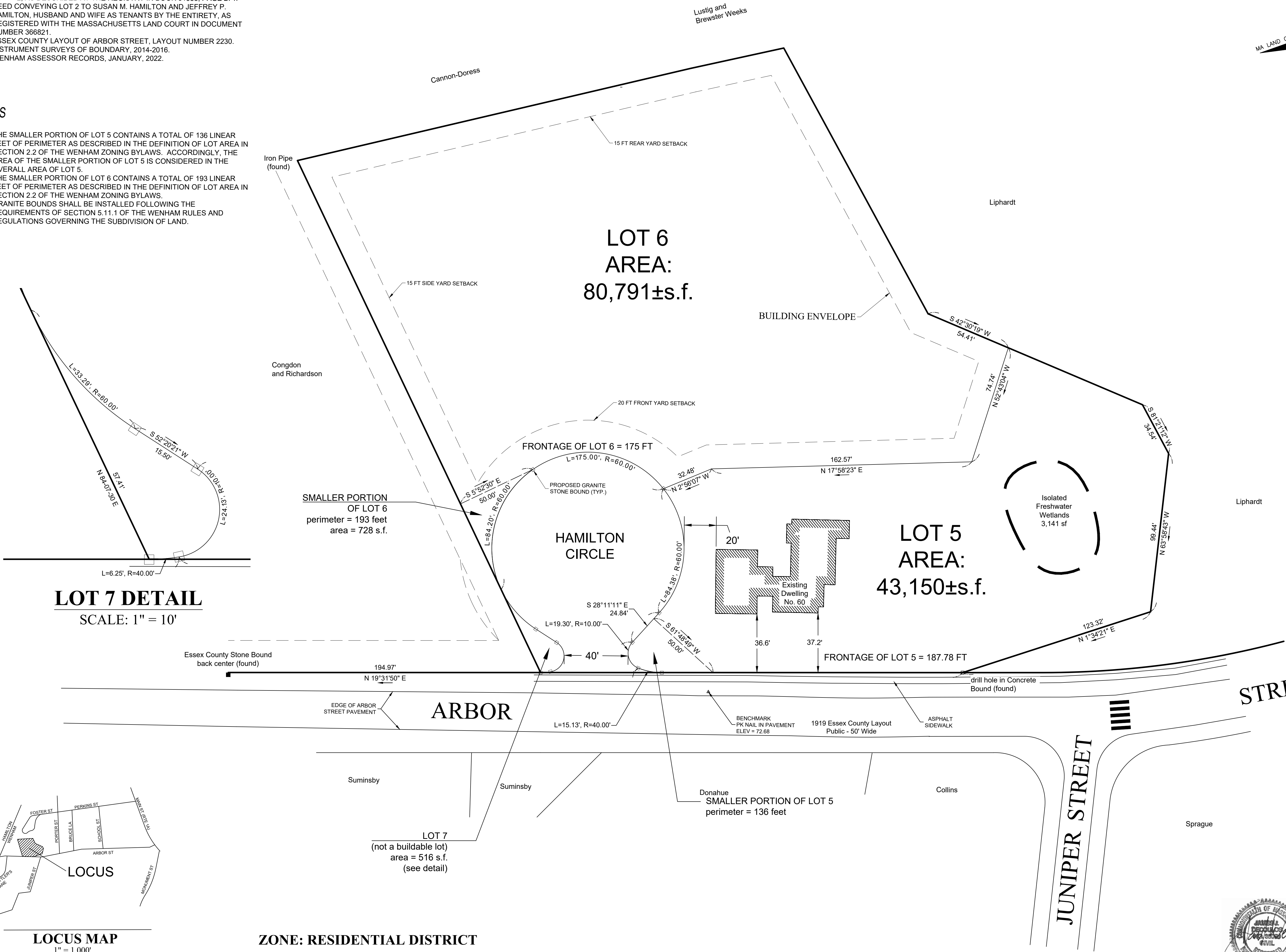
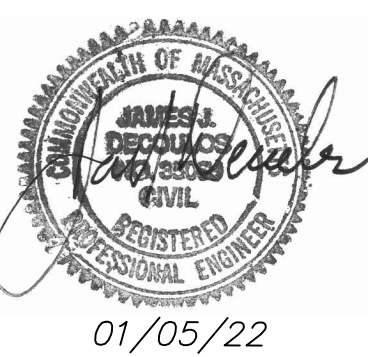
Owners: Susan M. Hamilton and Jeffrey R. Hamilton
60 Arbor Street, Wenham, MA

Prepared by: Decoulos & Company, LLC
185 Alewife Brook Parkway, Cambridge, MA

Date: January 5, 2022
Scale: 1 inch equals 30 feet



PROPOSED SUBDIVISION
SHEET C2

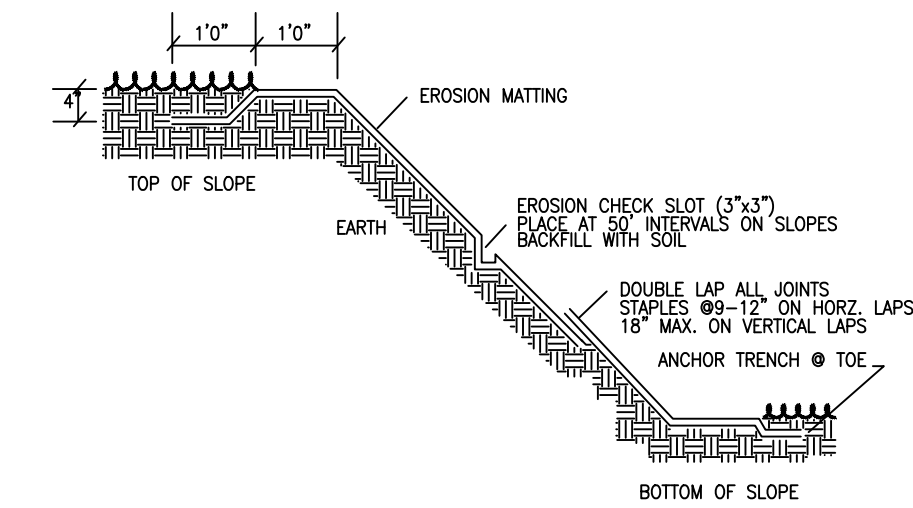
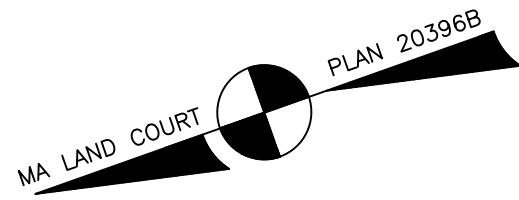


LOCUS MAP
1" = 1,000'

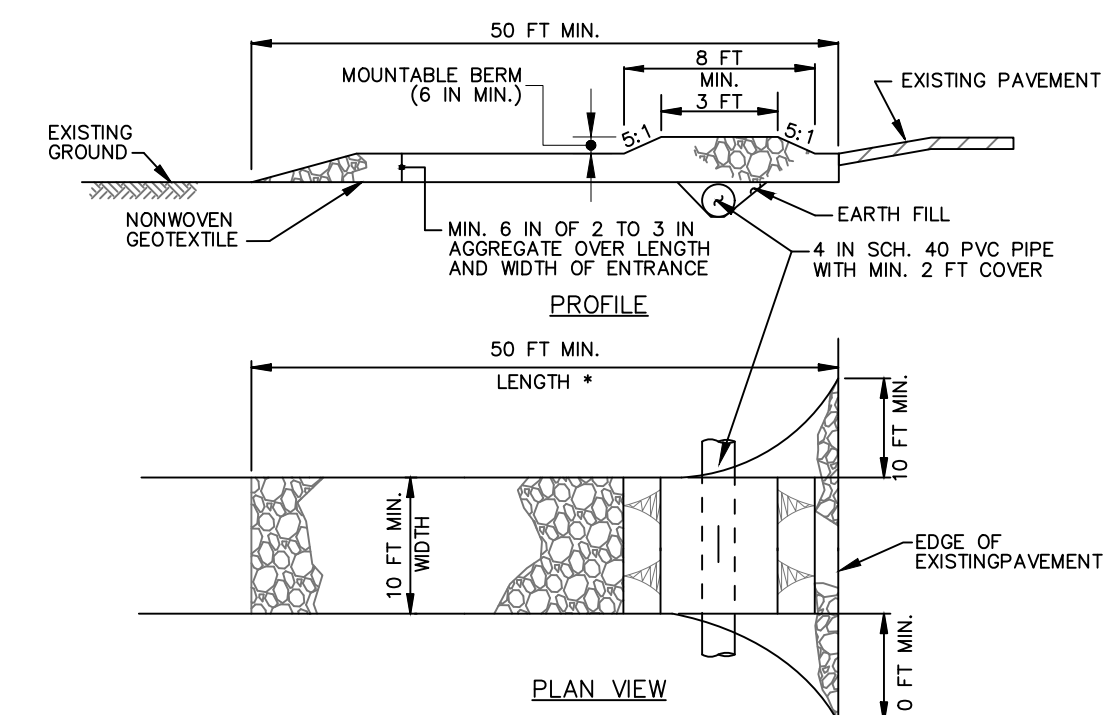
ZONE: RESIDENTIAL DISTRICT

LEGEND

- HYDRANT
- WATER GATE VALVE
- WATER LINE
- UTILITY POLE
- TELEPHONE MANHOLE
- SEWER MANHOLE
- GAS LINE
- DRAIN MANHOLE
- CATCH BASIN
- STORMWATER DRAIN LINE
- SOIL BORING
- GROUNDWATER MONITORING WELL
- SILT SOCK AND SILT FENCE
- PROPOSED SOIL TEST AS PART OF SUBSURFACE TEST PIT PROGRAM



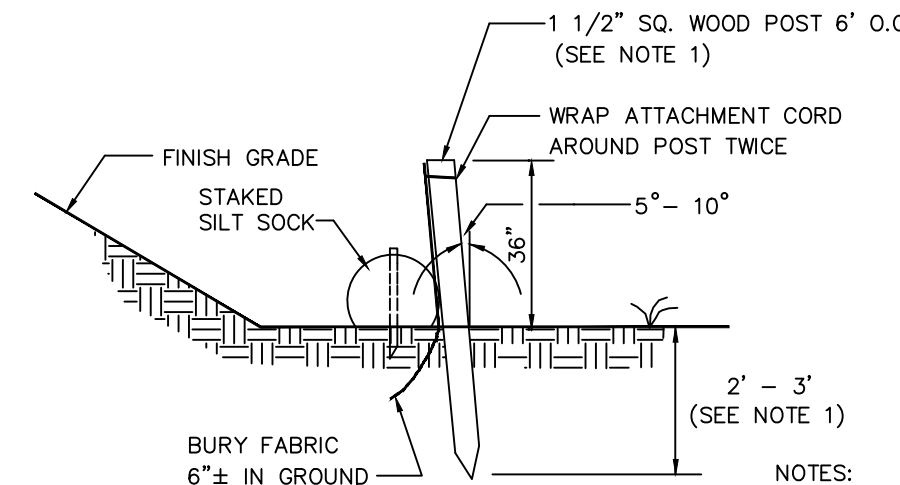
EROSION MATTING
N.T.S.



STABILIZED CONSTRUCTION ENTRANCE
N.T.S.

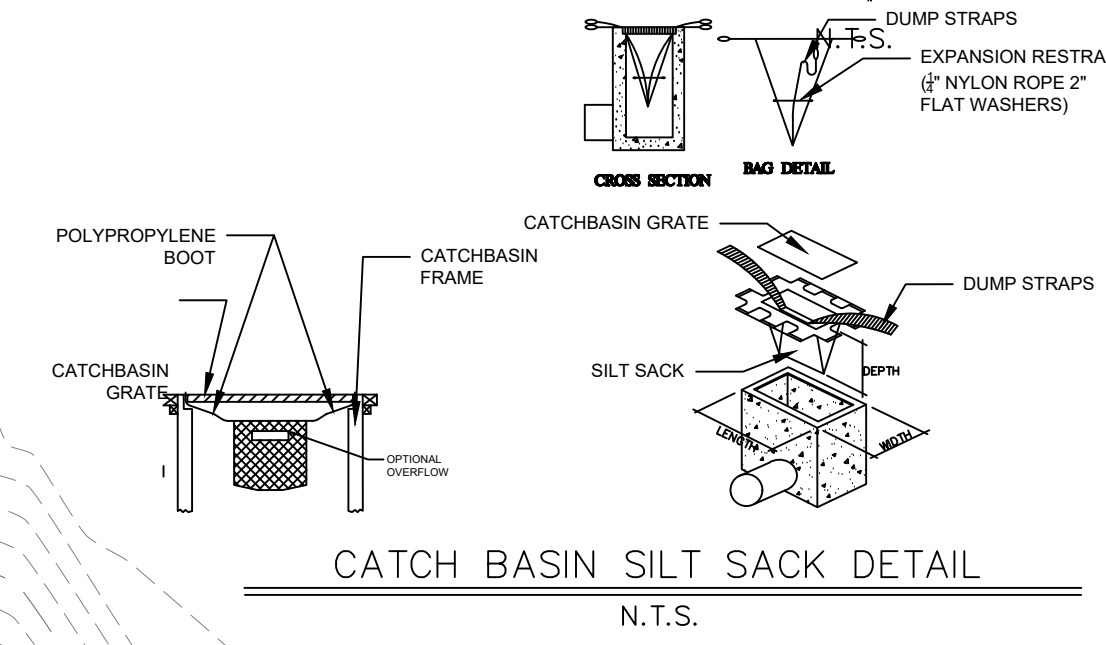
REFERENCES

- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 1 FIRE CODE - 2015 EDITION.
- MASSACHUSETTS COMPREHENSIVE FIRE SAFETY CODE, 527 CMR 1.00 ET SEQ.
- RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND, WENHAM, MASSACHUSETTS, 1984.



SILT SOCK / SILT FENCE DETAIL
N.T.S.

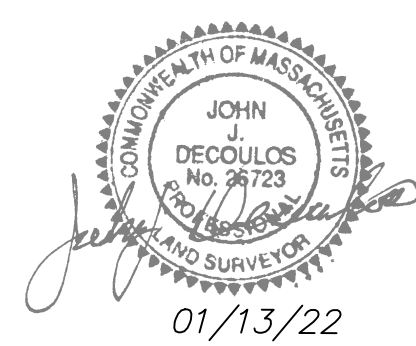
- NOTES:
- DEPTH MAY VARY W/ TRIBUTARY AREA: 2' FOR 100 SF/LF FENCE; 3' FOR 500 SF/LF FENCE, UNLESS POST IS TO BE SET IN PEAT THEN 3' OR DEPTH POSSIBLE BY PUSHING BY HAND SHALL BE REQUIRED.



CATCH BASIN SILT SACK DETAIL
N.T.S.

I CERTIFY THAT THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.

JOHN J. DECOULOS, PE, PLS



APPROVED BY THE WENHAM PLANNING BOARD

DATE: _____

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TOWN CLERK: _____

DATE: _____

STREE DEFINITIVE SUBDIVISION
in
WENHAM, MASSACHUSETTS

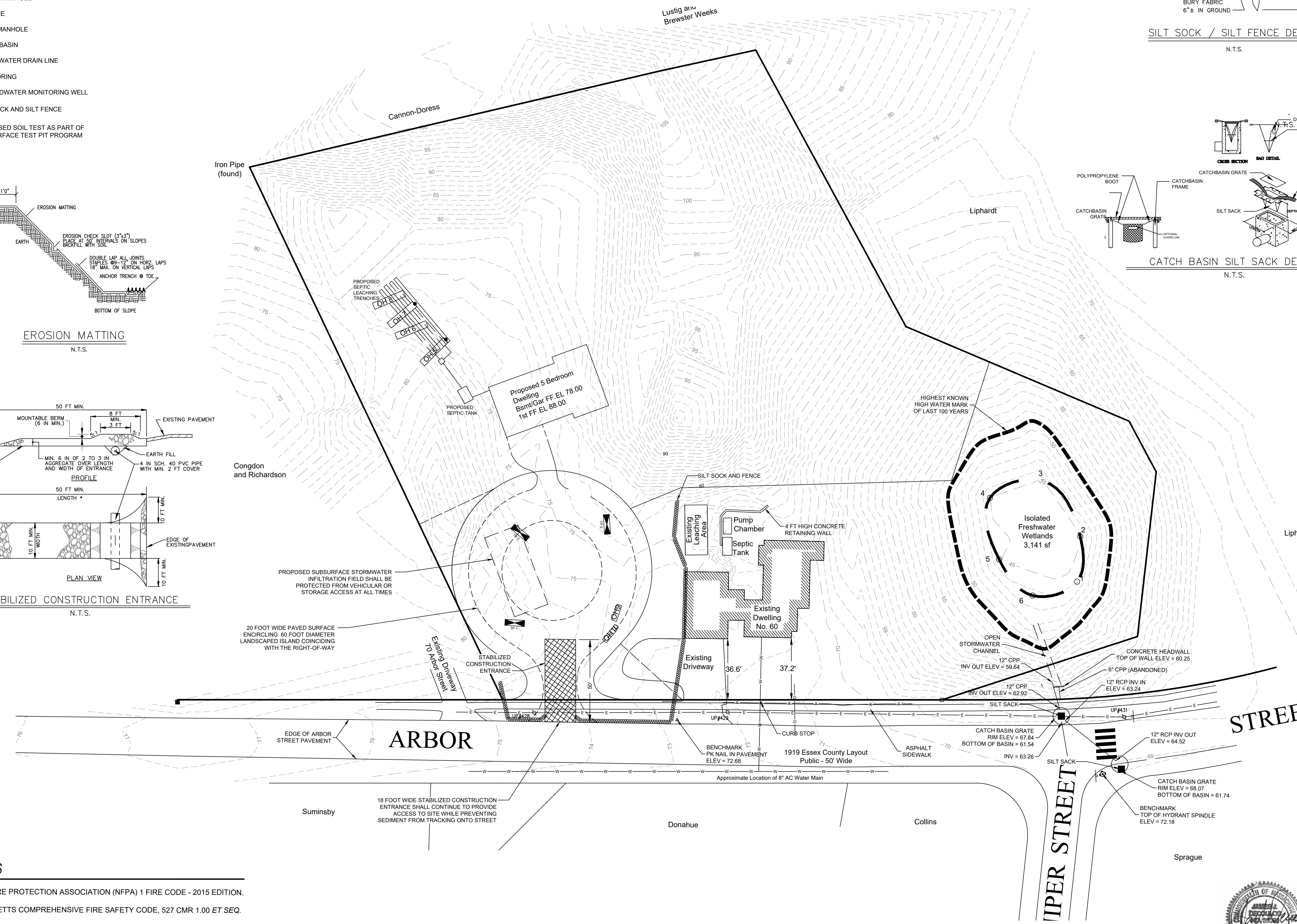
Owners: Susan M. Hamilton and Jeffrey R. Hamilton
60 Arbor Street, Wenham, MA

Prepared by: Decoulos & Company, LLC
185 Alewife Brook Parkway, Cambridge, MA

Date: January 13, 2022
Scale: 1 inch equals 30 feet

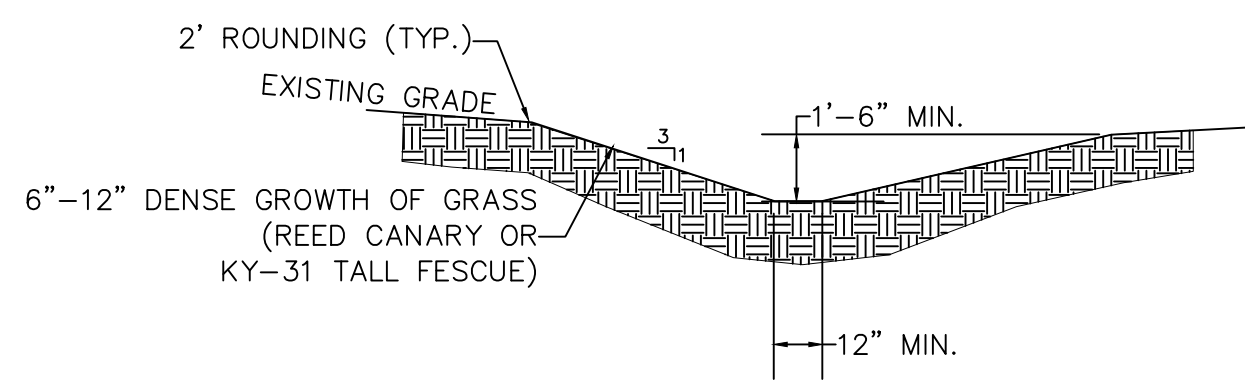
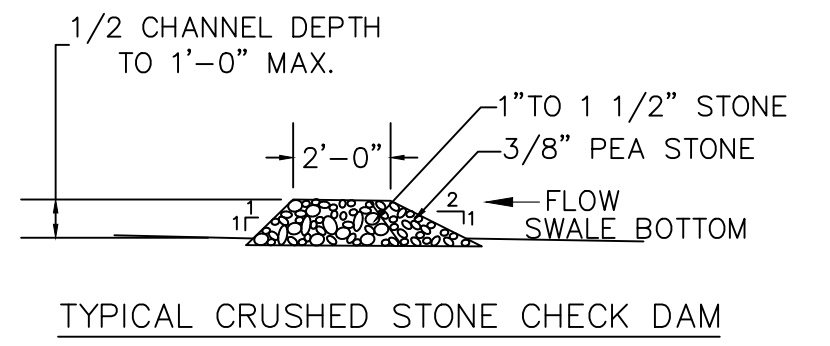
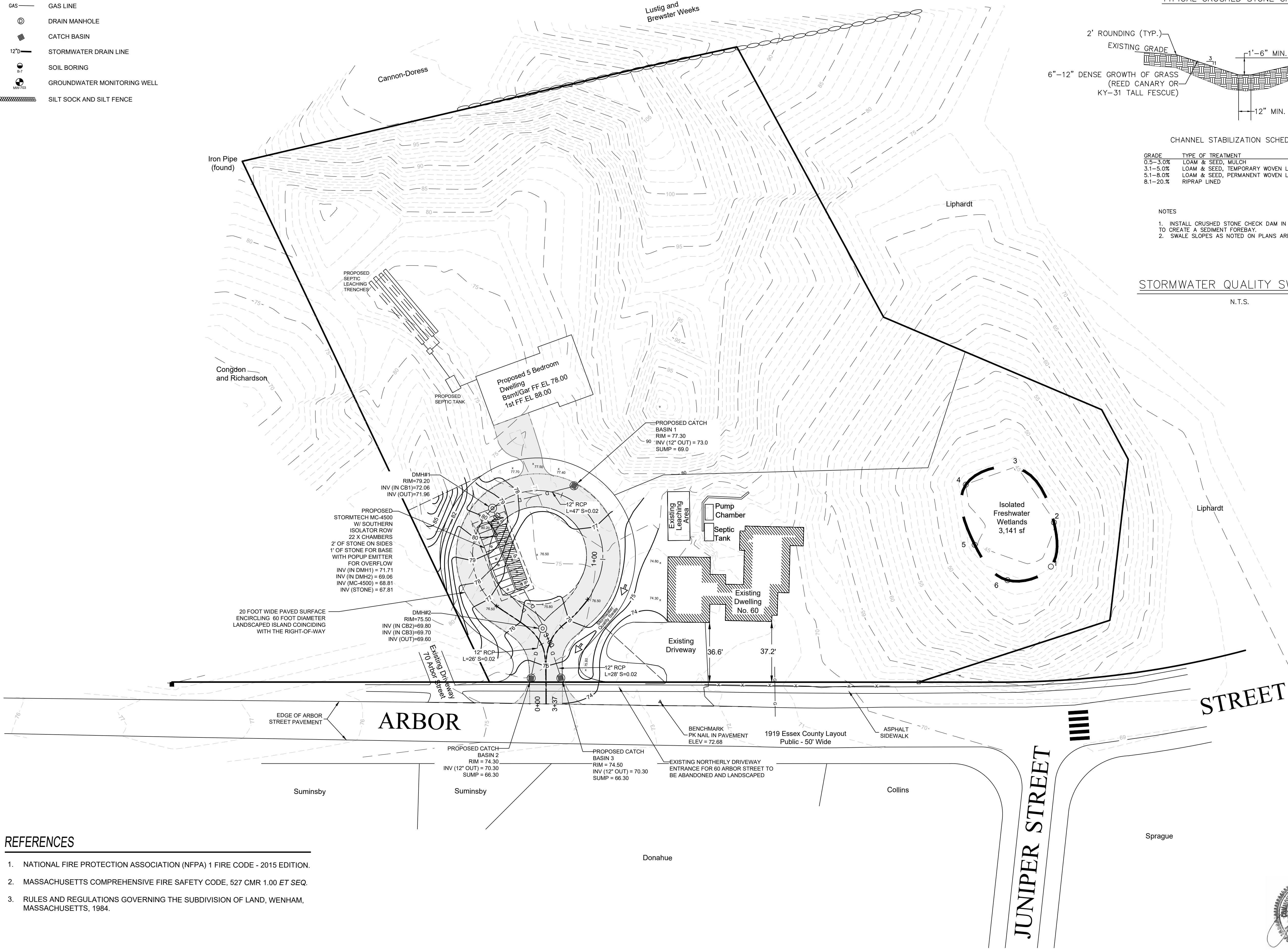
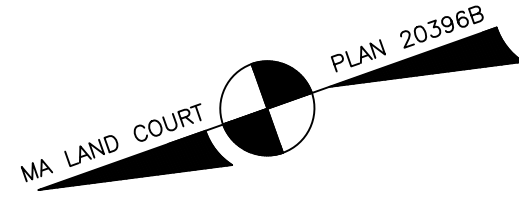


EROSION AND SEDIMENTATION PLAN
SHEET C3



LEGEND

- HYDRANT
WATER GATE VALVE
WATER LINE
UTILITY POLE
TELEPHONE MANHOLE
SEWER MANHOLE
GAS LINE
DRAIN MANHOLE
CATCH BASIN
STORMWATER DRAIN LINE
SOIL BORING
GROUNDWATER MONITORING WELL
SILT SOCK AND SILT FENCE



CHANNEL STABILIZATION SCHEDULE

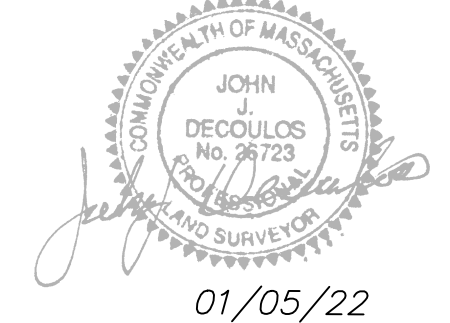
GRADE	TYPE OF TREATMENT
0.5-3.0%	LOAM & SEED, MULCH
3.1-5.0%	LOAM & SEED, TEMPORARY WOVEN LINING, CHECK DAMS
5.1-8.0%	LOAM & SEED, PERMANENT WOVEN LINING, CHECK DAMS
8.1-20.0%	RIPRAP LINED

- NOTES
- INSTALL CRUSHED STONE CHECK DAM IN UPGRADIENT PORTION OF SWALE TO CREATE A SEDIMENT FOREBAY.
 - SWALE SLOPES AS NOTED ON PLANS ARE MINIMUM SLOPES.

STORMWATER QUALITY SWALE DETAIL
N.T.S.

I CERTIFY THAT THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.

JOHN J. DECOULOS, PE, PLS



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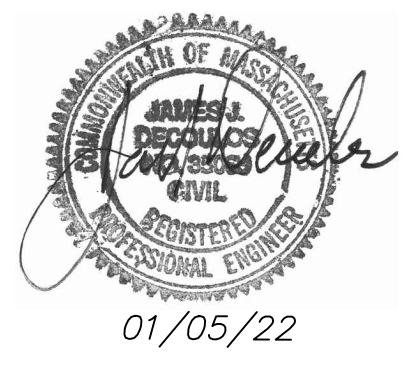
Prepared by: Decoulos & Company, LLC
185 Alewife Brook Parkway, Cambridge, MA

Date: January 5, 2022

Scale: 1 inch equals 30 feet



GRADING AND STORMWATER
MANAGEMENT PLAN
SHEET C4

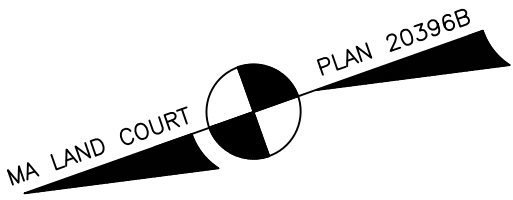
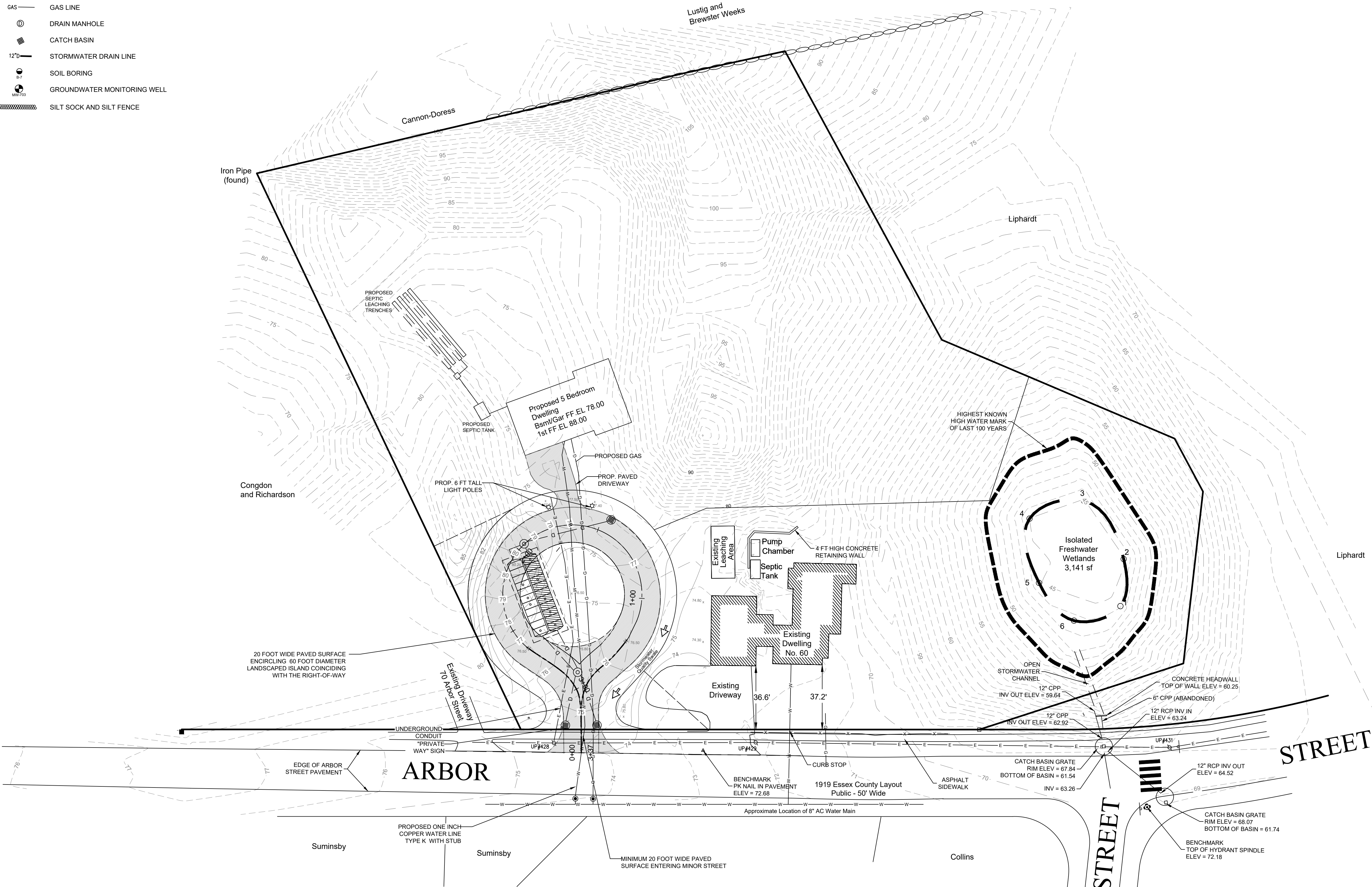


REFERENCES

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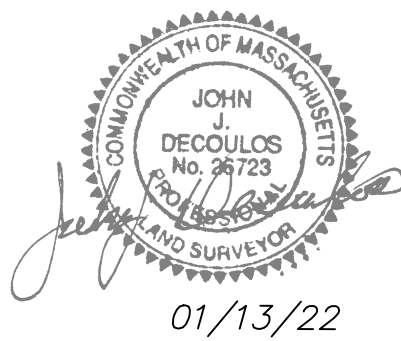
LEGEND

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- WATER GATE VALVE
- WATER LINE
- UTILITY POLE
- TELEPHONE MANHOLE
- SEWER MANHOLE
- GAS LINE
- DRAIN MANHOLE
- CATCH BASIN
- STORMWATER DRAIN LINE
- SOIL BORING
- GROUNDWATER MONITORING WELL
- SILT SOCK AND SILT FENCE



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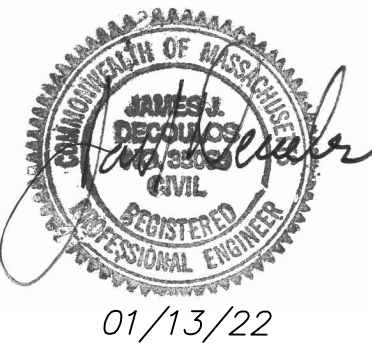
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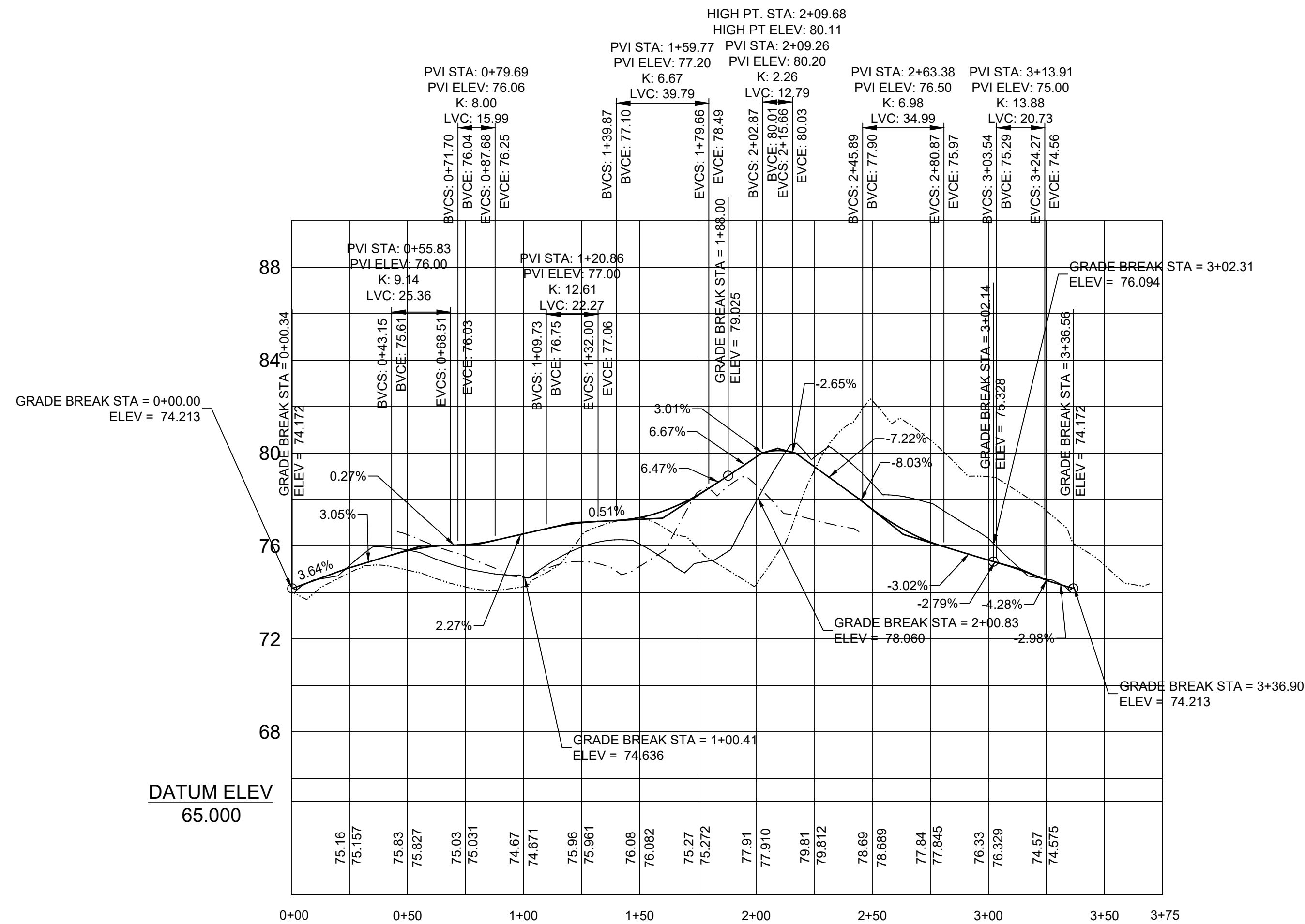
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0 30 60
UTILITY PLAN
SHEET C5

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- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 1 FIRE CODE - 2015 EDITION.
- MASSACHUSETTS COMPREHENSIVE FIRE SAFETY CODE, 527 CMR 1.00 ET SEQ.
- RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND, WENHAM, MASSACHUSETTS, 1984.

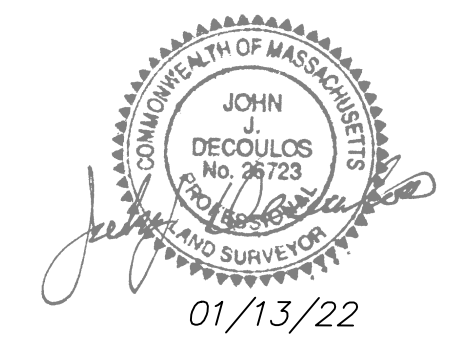


ROADWAY PROFILE

Scale: 1 inch equals 40 feet (Horizontal)
Scale: 1 inch equals 4 feet (Vertical)

I CERTIFY THAT THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.

JOHN J. DECOULOS, PE, PLS



APPROVED BY THE WENHAM PLANNING BOARD

DATE: _____

I, TRUDY REID, CLERK OF THE TOWN OF WENHAM, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE WENHAM PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

TOWN CLERK: _____

DATE: _____

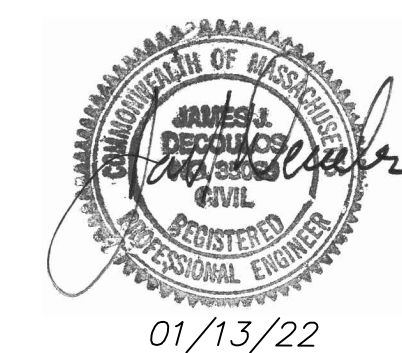
**DEFINITIVE SUBDIVISION
in
WENHAM, MASSACHUSETTS**

Owners: Susan M. Hamilton and Jeffrey R. Hamilton
60 Arbor Street, Wenham, MA

Prepared by: Decoulos & Company, LLC
185 Alewife Brook Parkway, Cambridge, MA

Date: January 13, 2022
Scale: As Shown

**ROADWAY PROFILE
SHEET C6**



1. ALL REFERENCES TO DEEDS AND PLANS ARE AS RECORDED AT THE SOUTH ESSEX REGISTRY OF DEEDS (THE "REGISTRY").
2. DEED CONVEYING LOT 1 AS SHOWN ON MASSACHUSETTS LAND COURT PLAN 20396B; AND, THE MOYNHAN LOT AS SHOWN IN PLAN BOOK 28, PLAN 12, AS DESCRIBED AT THE REGISTRY IN BOOK 31953, PAGE 274.
3. DEED CONVEYING LOT 2 TO SUSAN M. HAMILTON AND JEFFREY P. HAMILTON, HUSBAND AND WIFE AS TENANTS BY THE ENTIRETY, AS REGISTERED WITH THE MASSACHUSETTS LAND COURT IN DOCUMENT NUMBER 366821.
4. ESSEX COUNTY LAYOUT OF ARBOR STREET, LAYOUT NUMBER 2230.
5. INSTRUMENT SURVEYS OF BOUNDARY, 2014-2016.
6. WENHAM ASSESSOR RECORDS, JANUARY, 2022.



- BL – Black Locust (*Robinia pseudoccacia*)
- NM – Norway Maple (*Acer platanoides*)
- YB – Yellow Birch (*Betula alleghaniensis*)
- WP – Eastern White Pine (*Pinus strobus*)
- AE – American Elm (*Ulmus americana*)
(PROPOSED)
- WC – Western Red Cedar (*Thuja plicata*)
(PROPOSED)
- WA – White Ash (*Fraxinus americana*)
(PROPOSED)

I CERTIFY THAT THIS PLAN CONFORMS WITH THE
RULES AND REGULATIONS OF THE REGISTER OF DEEDS.

JOHN J. DECOULOS, PE, PLS



DATE: _____

I, TRUDY REID, CLERK OF THE TOWN OF WENHAM,
HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF
THIS PLAN BY THE WENHAM PLANNING BOARD HAS
BEEN RECEIVED AND RECORDED AT THIS OFFICE AND
NO NOTICE OF APPEAL WAS RECEIVED DURING THE
TWENTY DAYS NEXT AFTER SUCH RECEIPT AND
RECORDING OF SAID NOTICE.

TOWN CLERK:_____

DATE: _____

Owners: Susan M. Hamilton and Jeffrey R. Hamilton
60 Arbor Street, Wenham, MA

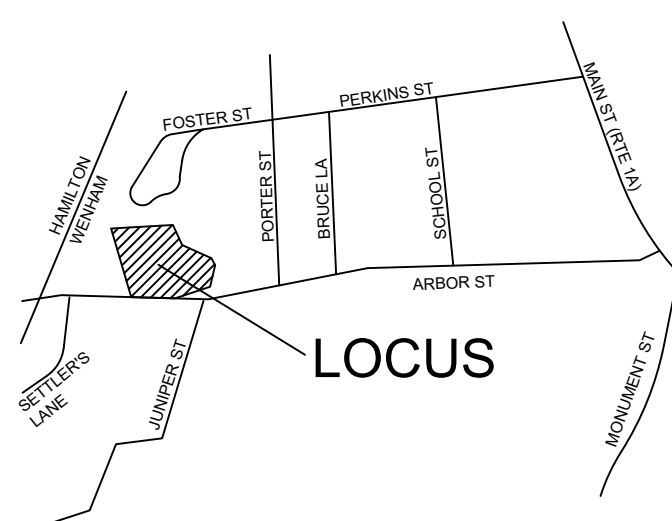
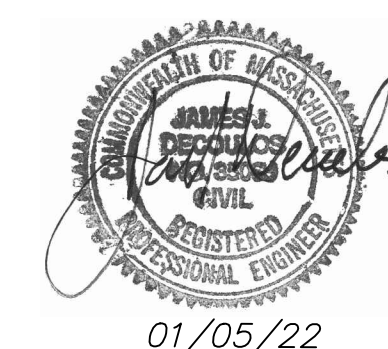
Prepared by: Decoulos & Company, LLC
185 Alewife Brook Parkway, Cambridge, MA

Date: January 5, 2022

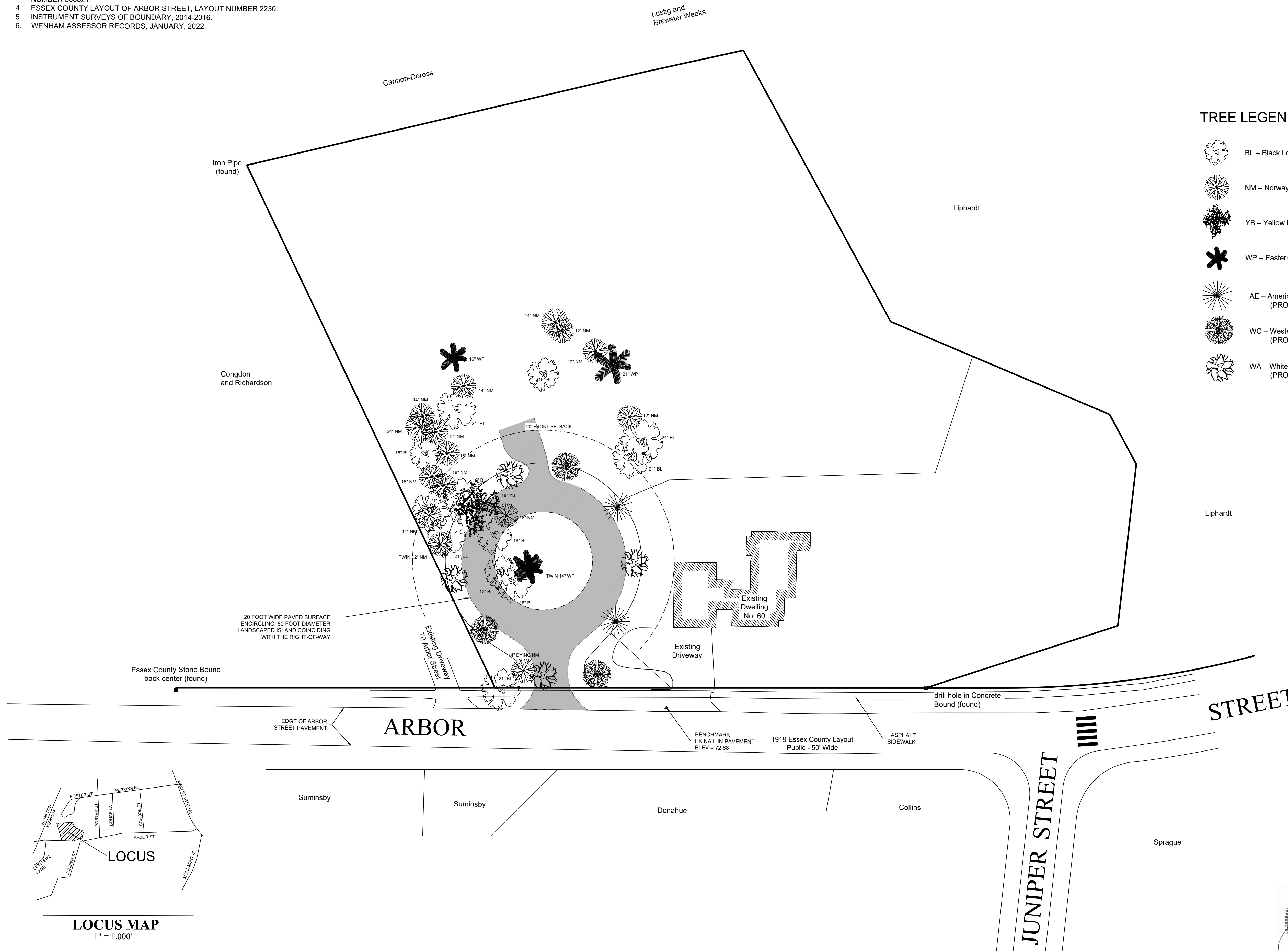
Scale: 1 inch equals 30 feet

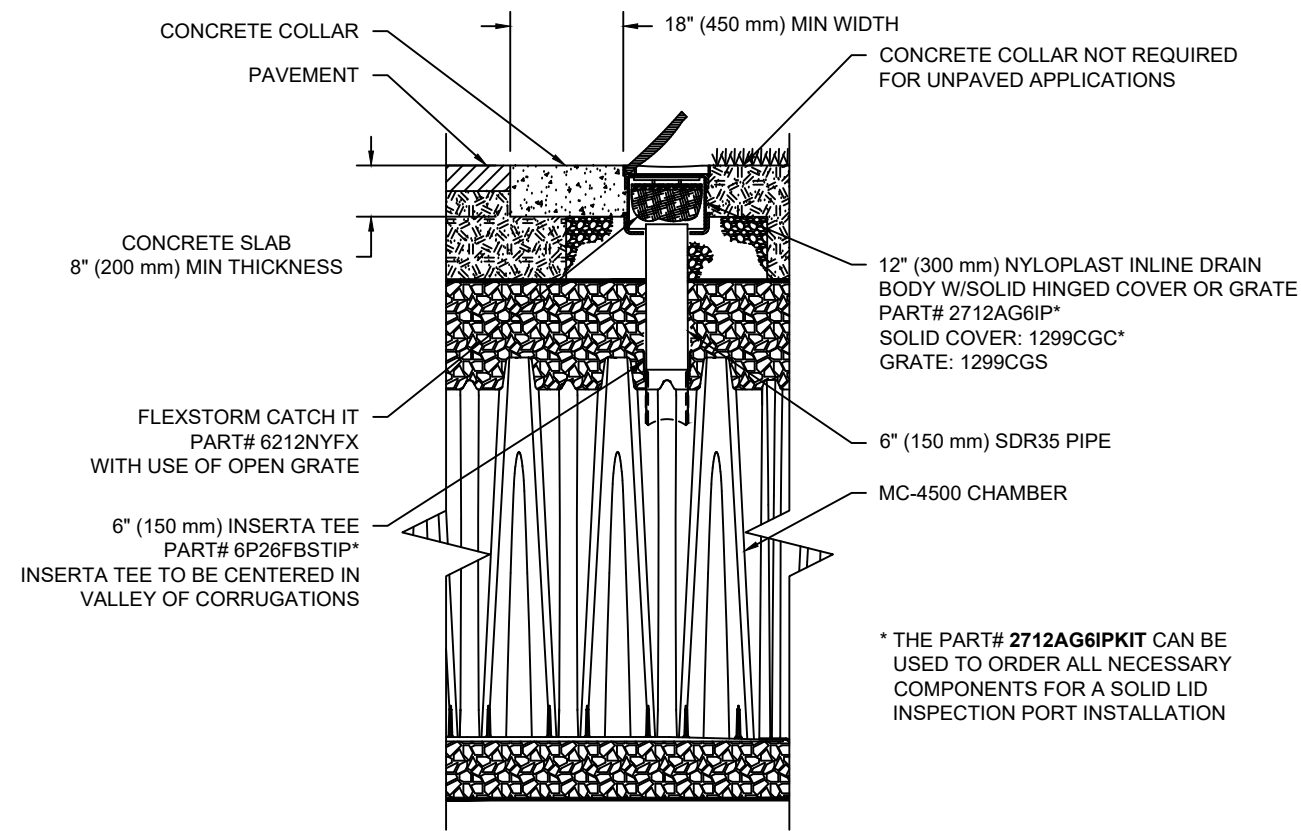


**TREE AND LANDSCAPING PLAN
SHEET C7**



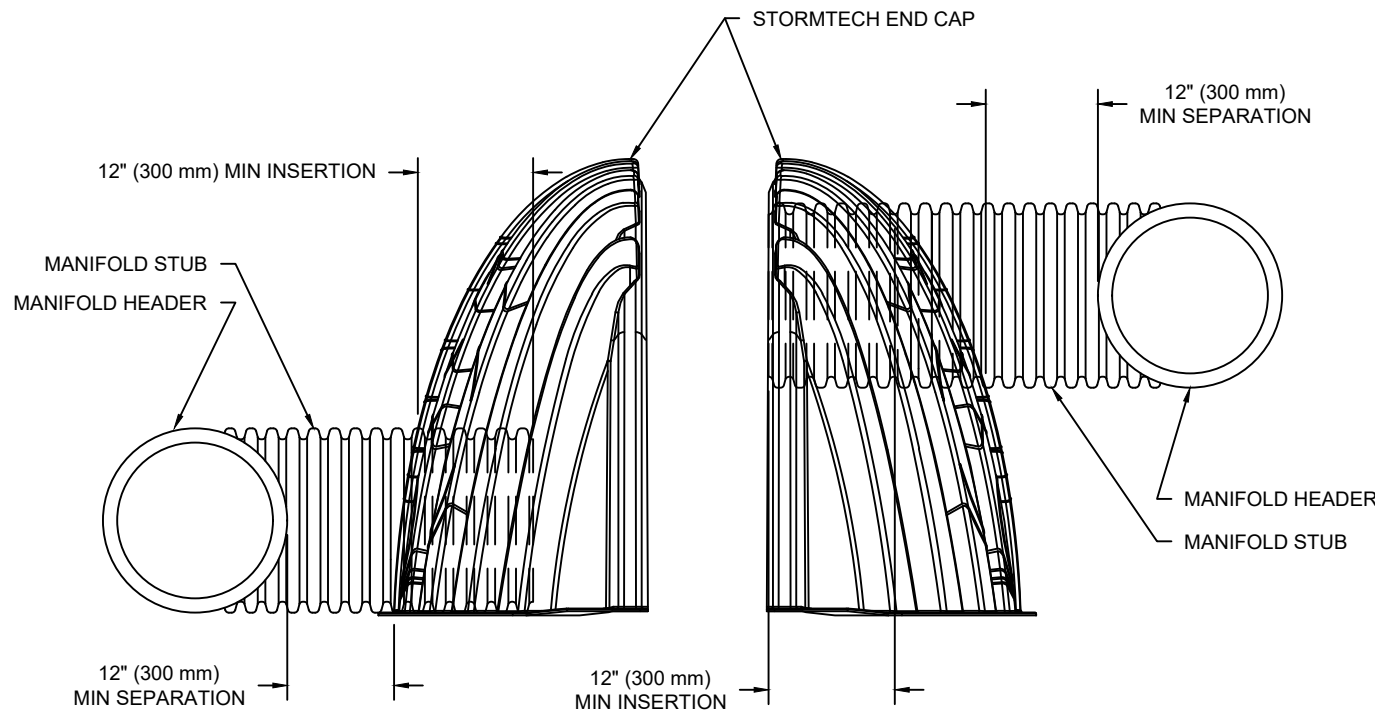
LOCUS MAP
1" = 1,000'





MC-4500 6" INSPECTION PORT DETAIL

N.T.S.



MC-SERIES END CAP INSERTION DETAIL

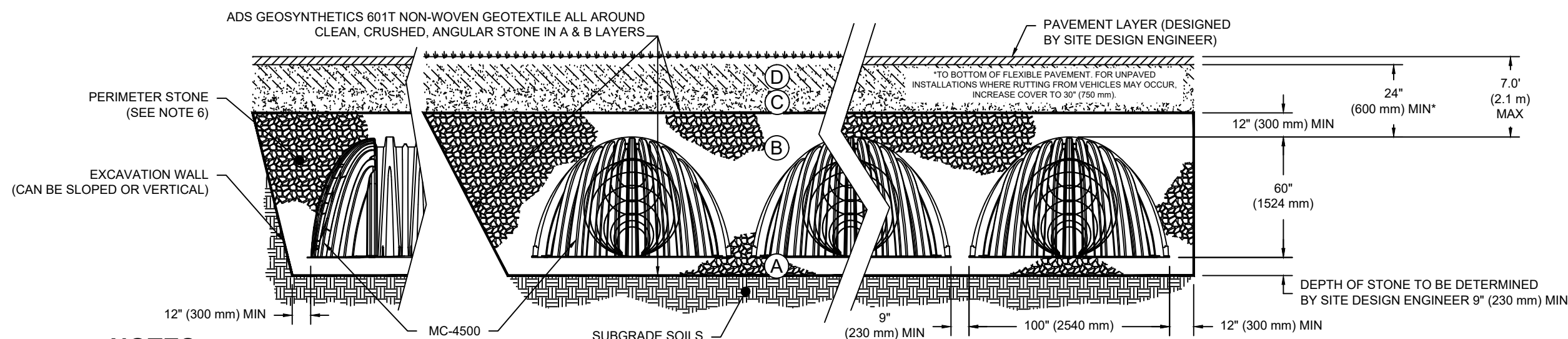
N.T.S.

ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 4	NO COMPACTION REQUIRED.
A FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

PLEASE NOTE:

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

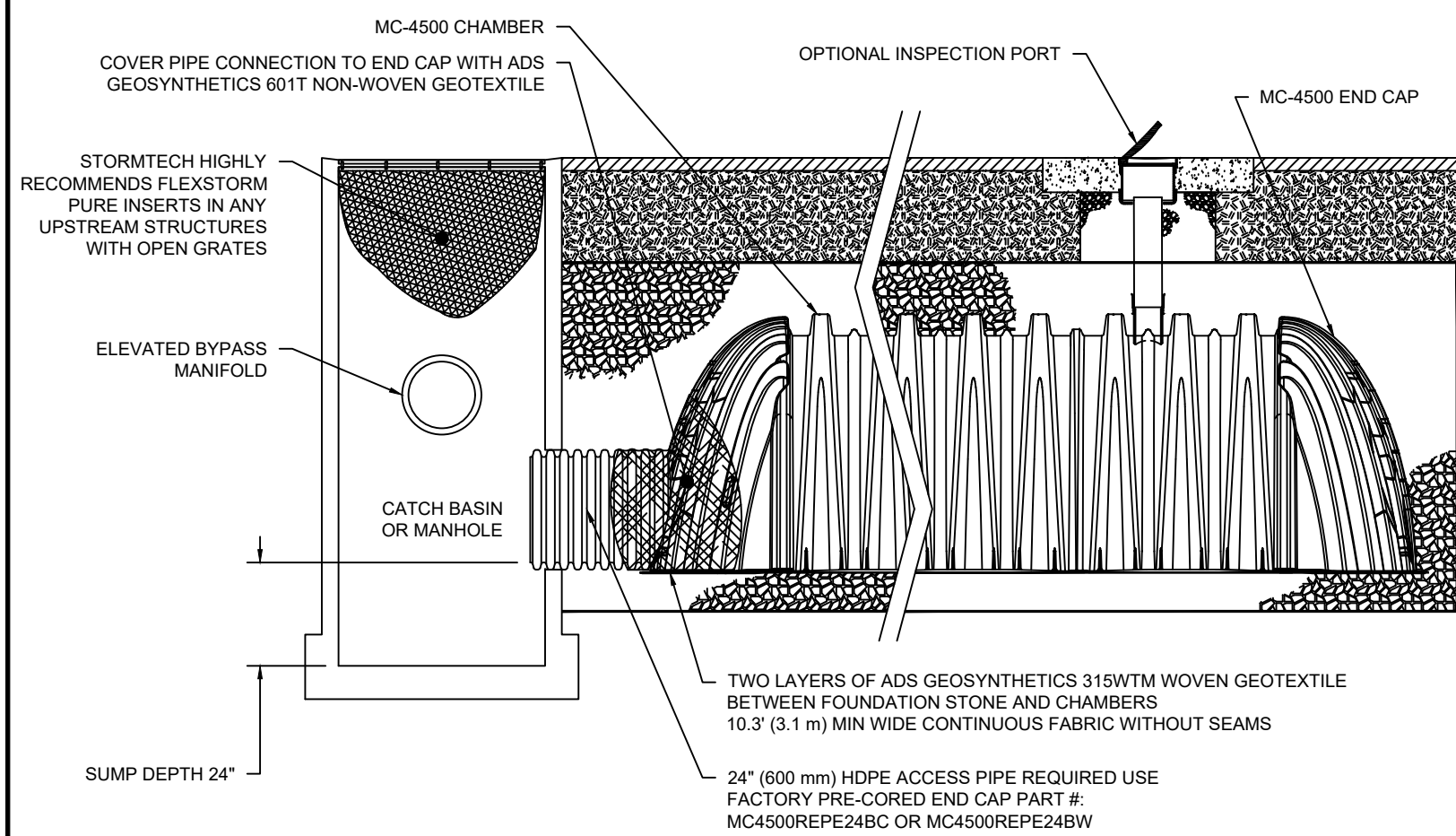


NOTES:

- MC-4500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.

MC-4500 CROSS SECTION DETAIL

N.T.S.



MC-4500 ISOLATOR ROW DETAIL

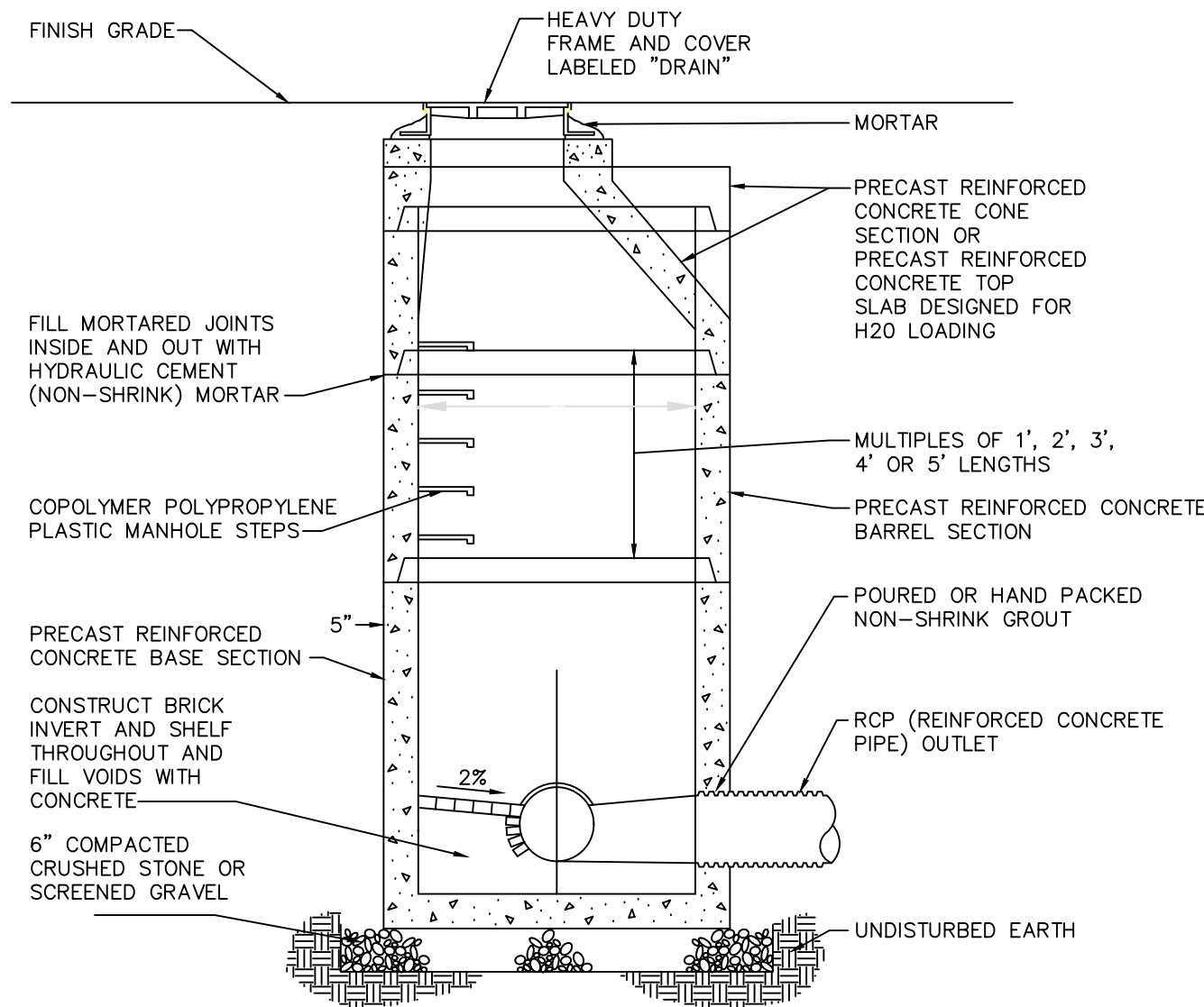
N.T.S.

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/CLEAN LID, ON NYLOPLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 - MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

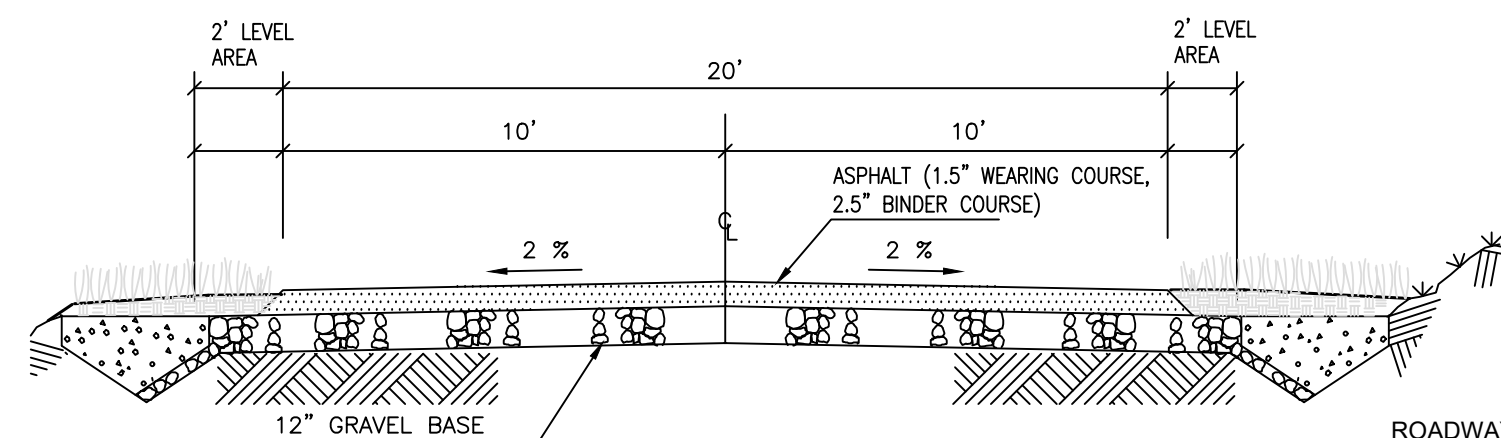
NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



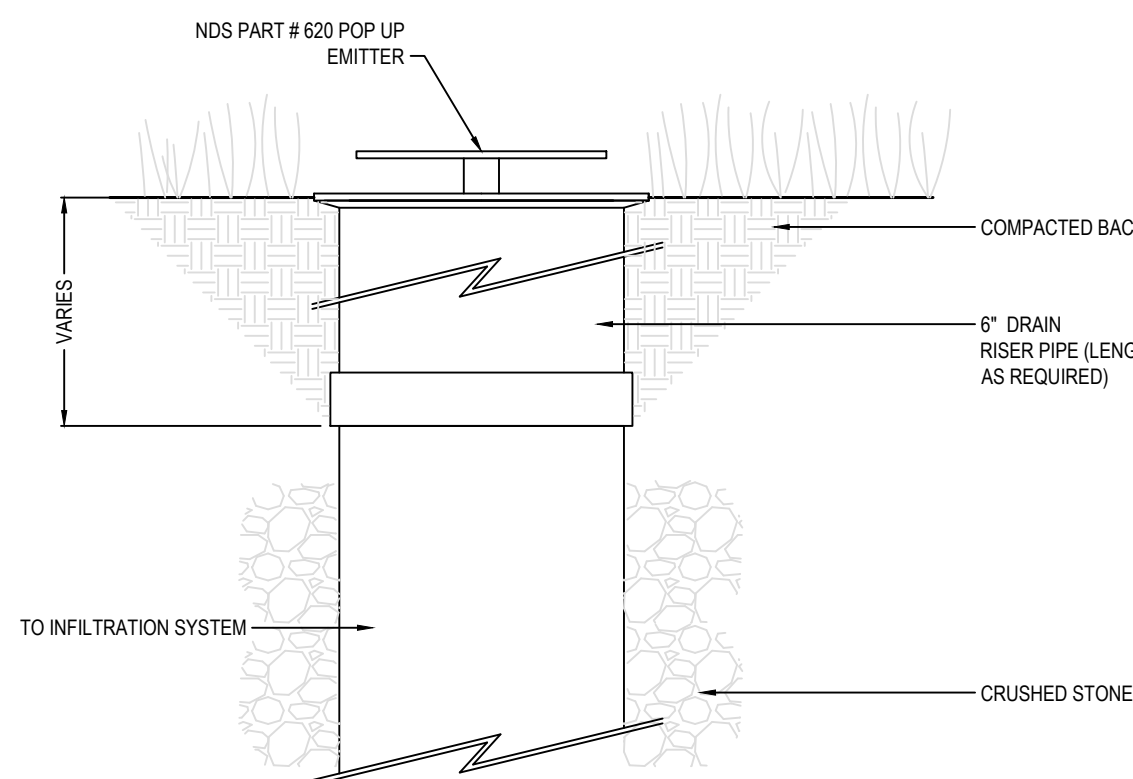
PRECAST CONCRETE DRAIN MANHOLE

N.T.S.



TYPICAL PAVEMENT CROSS-SECTION DETAIL

N.T.S.

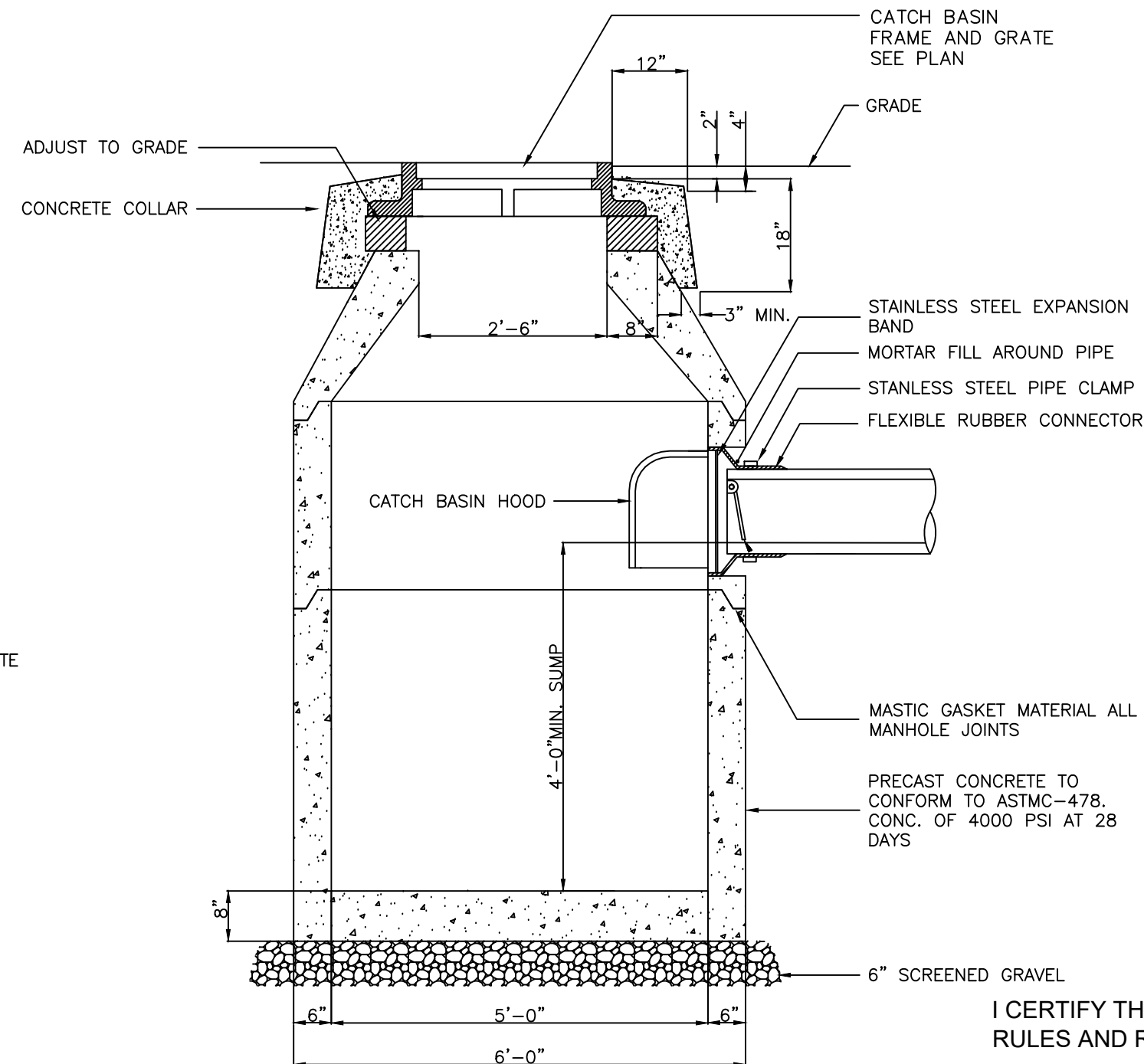


DRAINAGE EMITTER

N.T.S.

NOTE:

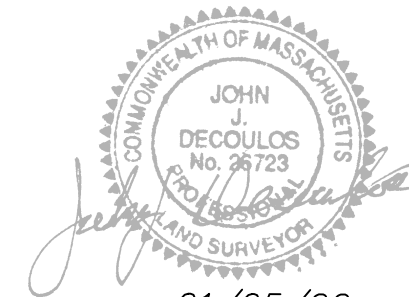
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MassDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 2020 EDITION.



CATCH BASIN DETAIL

N.T.S.

I CERTIFY THAT THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.



01/05/22

JOHN J. DECOULOS, PE, PLS

APPROVED BY THE WENHAM PLANNING BOARD

DATE: _____

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DATE: _____

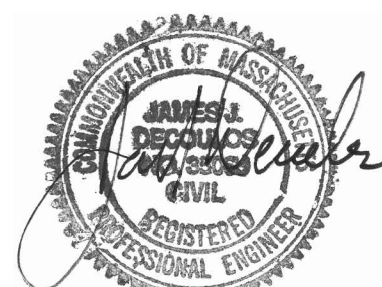
DEFINITIVE SUBDIVISION in WENHAM, MASSACHUSETTS

Owners: Susan M. Hamilton and Jeffrey R. Hamilton
60 Arbor Street, Wenham, MA

Prepared by: Decoulos & Company, LLC
185 Alewife Brook Parkway, Cambridge, MA

Date: January 5, 2022
Scale: as noted

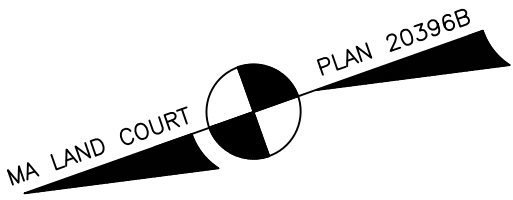
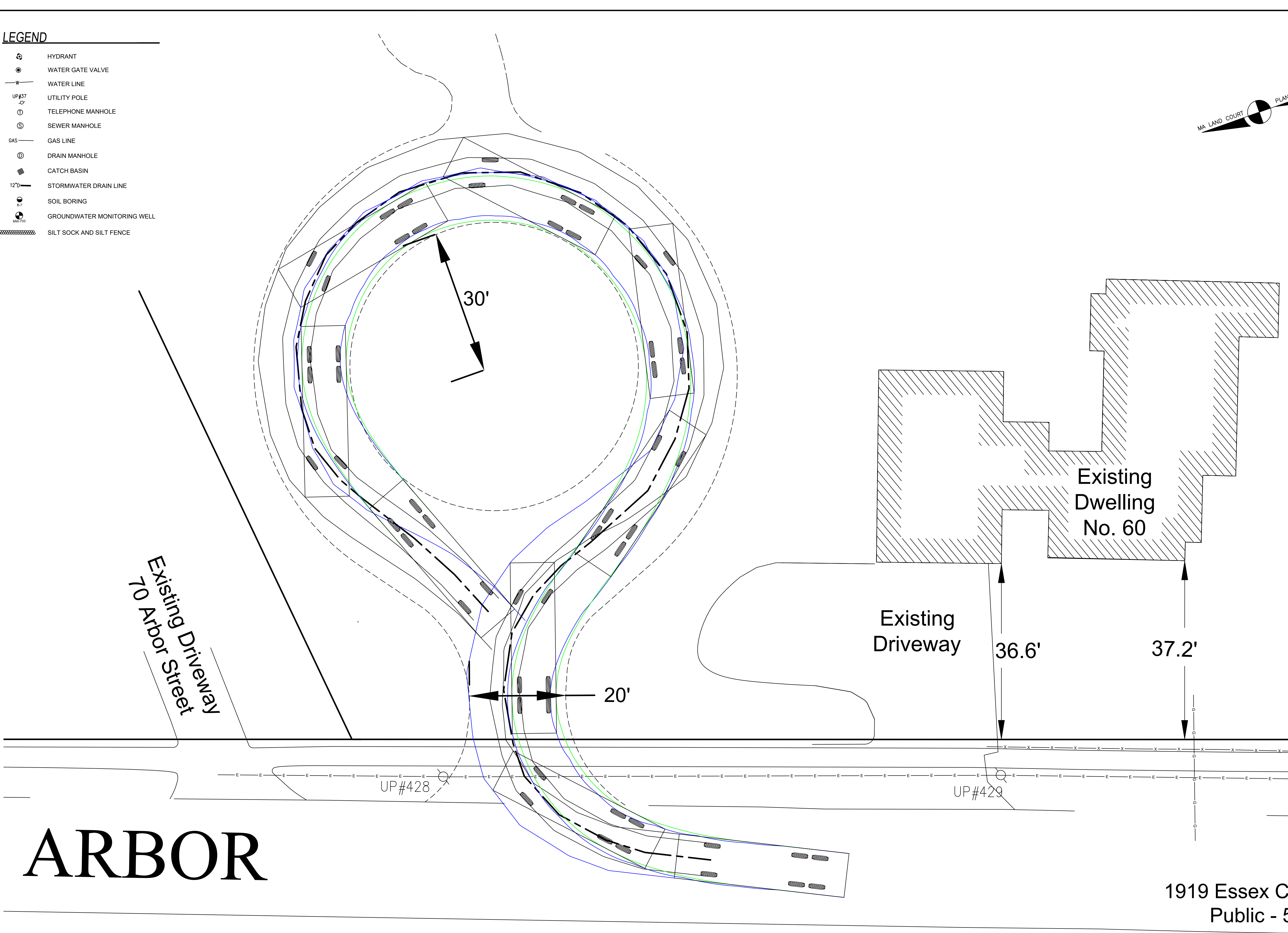
DETAIL SHEET
SHEET C8



01/05/22

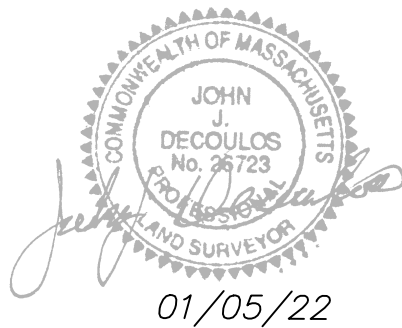
LEGEND

- HYDRANT
- WATER GATE VALVE
- WATER LINE
- UTILITY POLE
- TELEPHONE MANHOLE
- SEWER MANHOLE
- GAS LINE
- DRAIN MANHOLE
- CATCH BASIN
- STORMWATER DRAIN LINE
- SOIL BORING
- GROUNDWATER MONITORING WELL
- SILT SOCK AND SILT FENCE



I CERTIFY THAT THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS.

JOHN J. DECOULOS, PE, PLS



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DEFINITIVE SUBDIVISION
in
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Owners: Susan M. Hamilton and Jeffrey R. Hamilton
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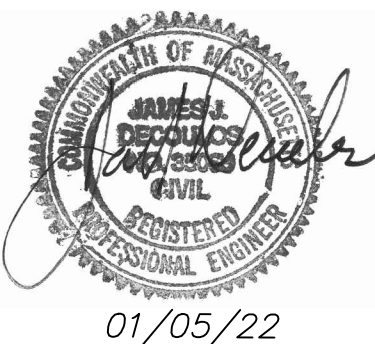
Prepared by: Decoulos & Company, LLC
185 Alewife Brook Parkway, Cambridge, MA

Date: January 5, 2022

Scale: 1 inch equals 30 feet



FIRE TRUCK SITE ACCESS
SHEET C9



REFERENCES

- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 1 FIRE CODE - 2015 EDITION.
- MASSACHUSETTS COMPREHENSIVE FIRE SAFETY CODE, 527 CMR 1.00 ET SEQ.
- RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND, WENHAM, MASSACHUSETTS, 1984.
- FIRE TRUCK MODELED IS SUTPHEN SL 75 AERIAL LADDER WITH FOLLOWING PARAMETERS:
 - Axle Track = 82.92 inches
 - Chassis Overhang = 68.99 inches
 - Wheelbase = 245.50 inches