

SITE DEVELOPMENT PLAN OF LAND "GOODRIDGE BROOK ESTATES" Multi Unit & Single Family Subdivision Layout LANCASTER, MASSACHUSETTS

DATE: FEBRUARY 8, 2018

Revised: April 10, 2018

July 5, 2018

PROJECT SUMMARY:
64 SINGLE FAMILY HOUSE LOTS
136 APARTMENT STYLE UNITS
200 TOTAL PROPOSED UNITS

PROJECT DENSITY:
LOT B1 TOTAL LOT AREA: 833,833 ± S.F. (19.14 ± AC) Uplands Area: 427,585 S.F. Wetland Area: 406,248 S.F.
LOT B2 TOTAL LOT AREA: 1,144,579 ± S.F. (26.25 ± AC) Uplands Area: 976,958 S.F. Wetland Area: 167,621 S.F.

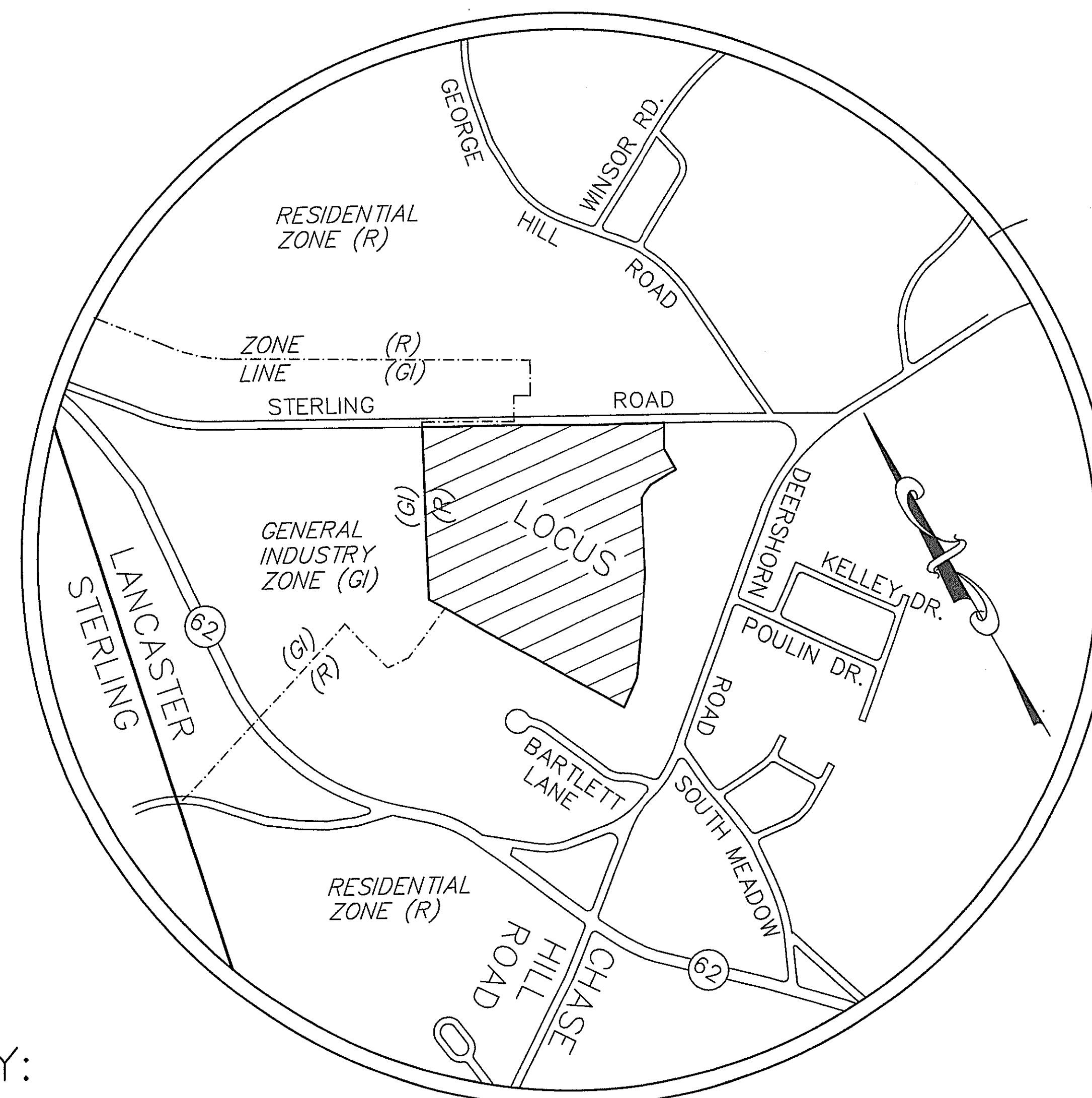
OWNER REFERENCE:
GLADY C KILBOURN
PO BOX 275
SO LANCASTER, MA

DEED REFERENCE:
REGISTRY OF DEEDS
BOOK 2922, PAGE 341

TOWN OF LANCASTER ASSESSOR'S REFERENCE
MAP 41, LOT 34B

PLAN REFERENCE:
WORCESTER COUNTY REGISTRY
1) PLAN BOOK 466, PLAN No. 69
2) PLAN BOOK 422, PLAN No. 76
3) PLAN BOOK 539, PLAN No. 80
4) PLAN BOOK 763, PLAN No. 63

ZONING CLASSIFICATION:
RESIDENTIAL
AREA: 2 ACRES
FRONTAGE: 225'
FRONT SETBACK: 60' (Collector St.)
SIDE SETBACK: 20'
REAR SETBACK: 20'



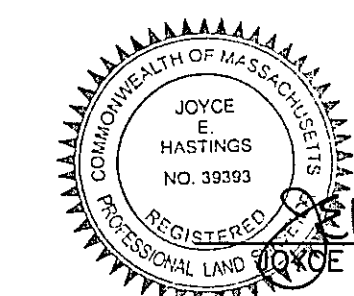
LOCUS MAP
1" = 600'

SHEET INDEX

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3	EXISTING CONDITIONS
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5	MULTI-UNIT LAYOUT
6	MULTI-UNIT GRADING & UTILITIES
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8	SINGLE FAMILY-LAYOUT & GRADING
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11	PLAN & PROFILE ROAD A
12	PLAN & PROFILE ROAD A
13	PLAN & PROFILE ROAD B
14	PLAN & PROFILE ROAD C
15	PLAN & PROFILE STERLING ROAD
16	EROSION CONTROL DETAILS
17	DETAILS STREET
18	DETAILS DRAIN
19	DETAILS DRAIN
20	DETAILS SEWER
21	DETAILS WATER
22	SOIL LOGS

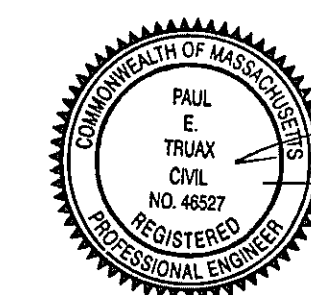
PREPARED BY:
GLM ENGINEERING
CONSULTANTS, INC.
19 EXCHANGE STREET
HOLLISTON, MASSACHUSETTS 01746
(508)429-1100 fax:(508)429-7160

PREPARED FOR:
CRESENT BUILDERS, INC.
94 NORTH MAIN STREET
BOYLSTON, MA 01583



JOYCE E. HASTINGS P.L.S.

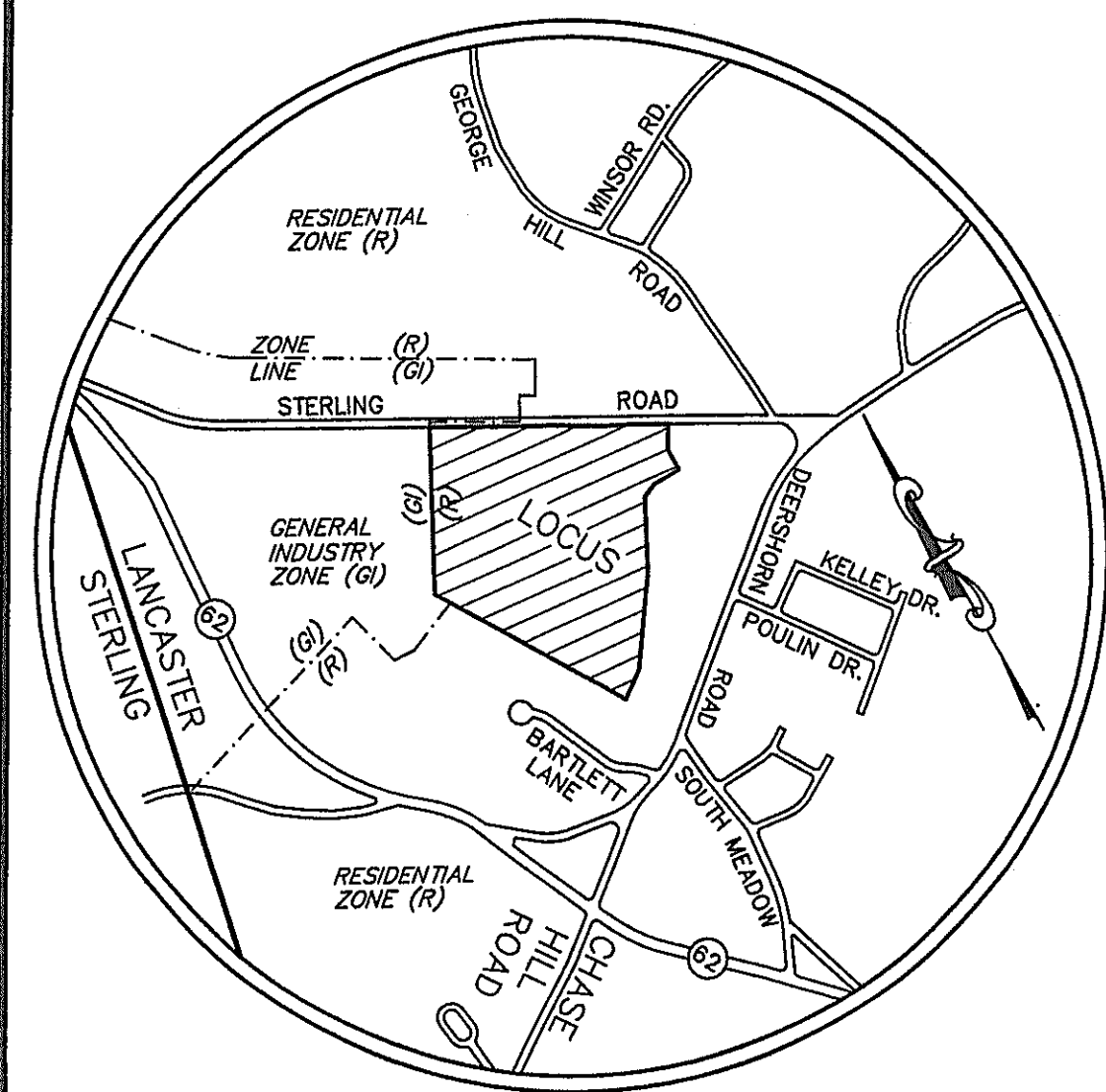
7/6/18
DATE



PAUL E. TRUAX, P.E.

7-6-2018
DATE

DATE: FEBRUARY 8, 2018
SHEET: 1 of 22
PLAN #: 27,147



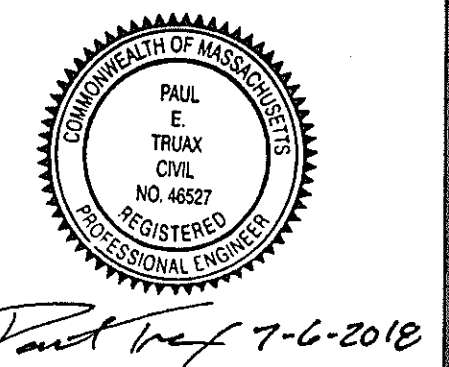
LOCUS MAP
1" = 1200'

LEGEND

- SEWER LINE (8" PVC TYP.)
- SEWER MANHOLE
- DRAINAGE LINE (12" CONC. TYP.)
- DRAINAGE MANHOLE
- CATCH BASIN
- WATER LINE
- WATERGATE
- HYDRANT
- WATER TEE
- CENTERLINE OF ROAD WAY
- MODIFIED CAPE COD BERM
- DENOTES CONC. BND. W/ D.H.
- 100' BUFFER ZONE
- EDGE OF VEGETATED WETLANDS
- WETLAND FLAG NO.
- EROSION CONTROL BARRIER
- WETLANDS
- UTILITY POLE
- PROPOSED SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED CONTOUR
- STONE WALL
- PROPOSED LIMIT OF CLEARING
- DRILL HOLE
- IRON PIN
- DEEP TEST HOLE



REVISIONS		DESCRIPTION
No.	DATE	
1	04/10/18	APARTMENTS 136 UNITS
2	07/06/18	PLAN LAYOUT & DRAINAGE



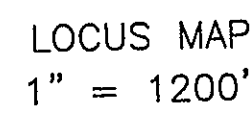
SITE DEVELOPMENT PLAN
"GOODRIDGE BROOK ESTATES"
Multi Unit & Single Family Subdivision Layout
LANCASTER, MASSACHUSETTS

PREPARED FOR:
CRESCENT BUILDERS, INC.
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BOYLSTON MA 01583

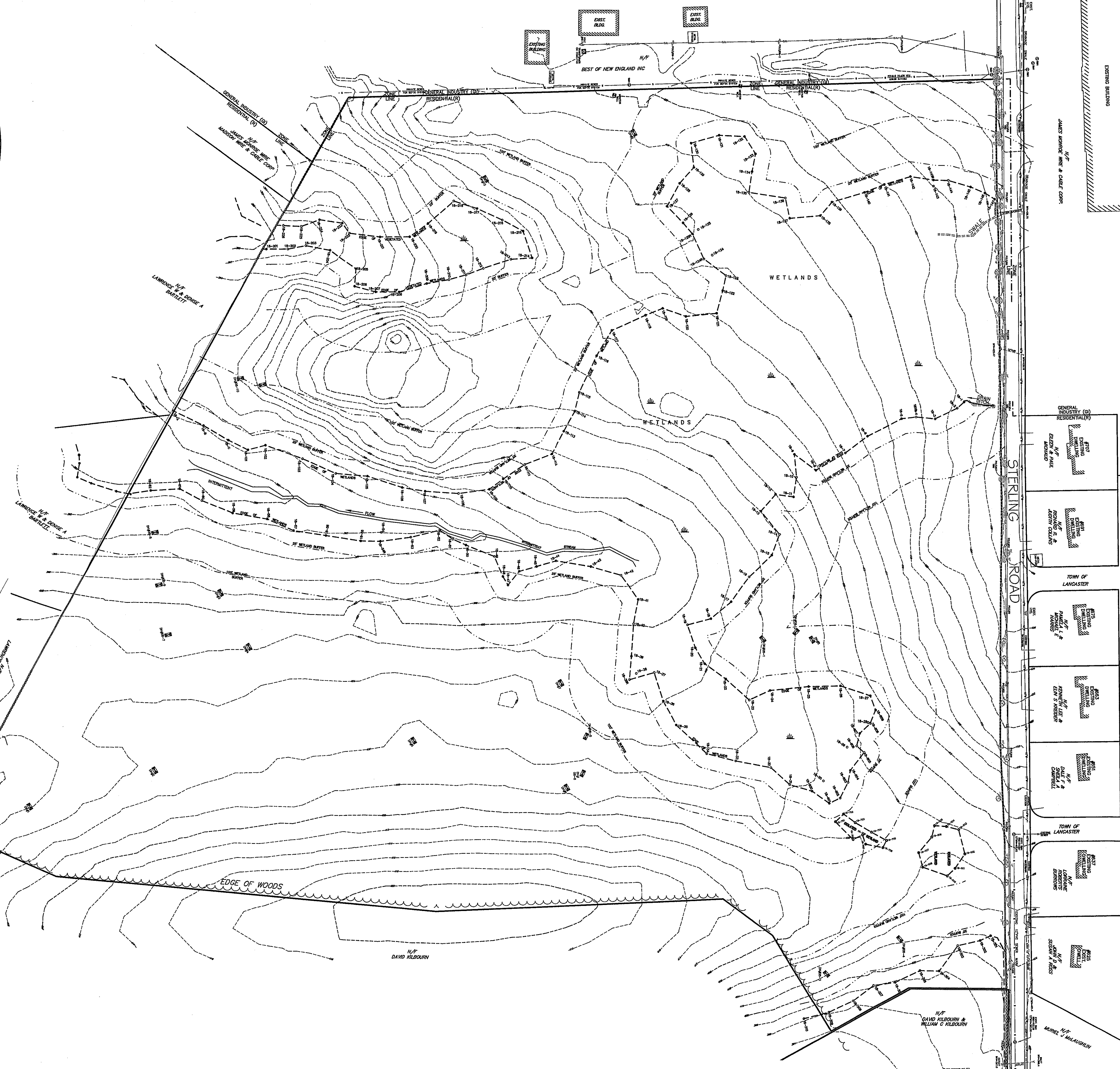
GLM Engineering
Consultants, Inc.
19 EXCHANGE STREET
HOLLISTON, MA 01746
P: 508-429-1100
F: 508-429-7160
www.GLMengineering.com

DRW.: RST
JOB No. 12,274-DUPLEX
DATE: OCTOBER 4, 2017
SCALE: 1" = 80'
SHEET: 2 of 22
PLAN #: 27,147

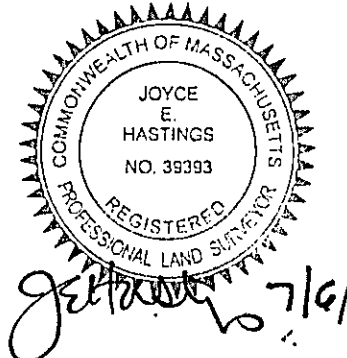
PROJECT SITE OVERVIEW



- | | |
|--|--------------------------------|
| | SEWER LINE (8" PVC TYP.) |
| | SEWER MANHOLE |
| | DRAINAGE LINE (12" CONC. TYP.) |
| | DRAINAGE MANHOLE |
| | CATCH BASIN |
| | WATER LINE |
| | WATERGATE |
| | HYDRANT |
| | WATER TEE |
| | CENTERLINE OF ROAD WAY |
| | MODIFIED CAPE COD BERM |
| | DENOTES CAPE COD BND. W/ D.H. |
| | 100' BUFFER ZONE |
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| | WETLAND FLAG NO. |
| | EROSION CONTROL BARRIER |
| | WETLANDS |
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| | EXISTING CONTOUR |
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| | DRILL HOLE |
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| | DEEP TEST HOLE |



EXISTING CONDITIONS

[illegible]

SITE DEVELOPMENT PLAN
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LANCASTER, MASSACHUSETTS
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DRW.: RST

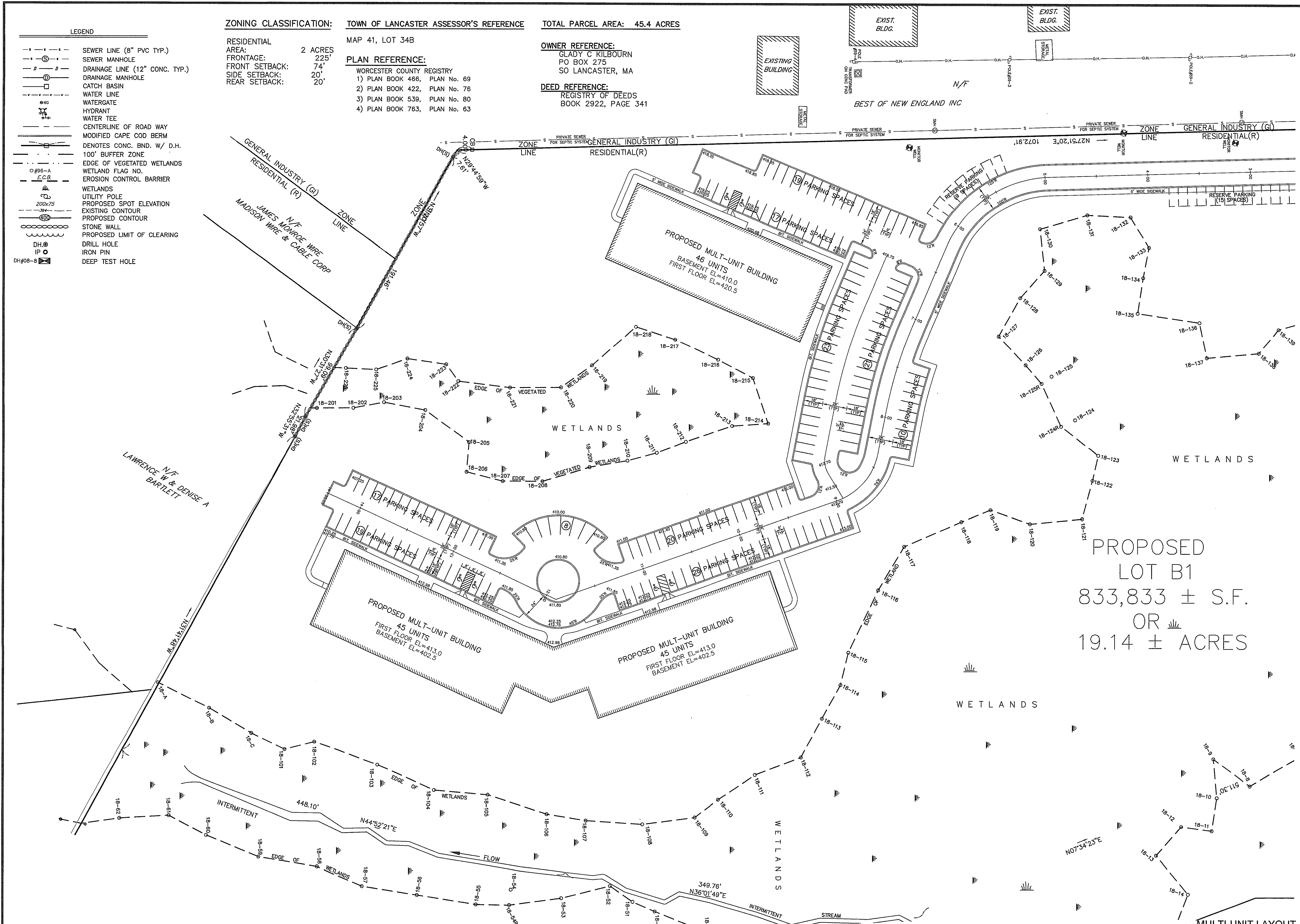
JOB No. 12,274-DUPLEX

DATE: OCTOBER 4, 2017

SCALE: 1"= 80'

SHEET: 3 of 22

PLAN #: 27,147



- LEGEND
- SEWER LINE (8" PVC TYP.)
 - SEWER MANHOLE
 - DRAINAGE LINE (12" CONC. TYP.)
 - DRAINAGE MANHOLE
 - CATCH BASIN
 - WATER LINE
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ZONING CLASSIFICATION:
RESIDENTIAL
AREA: 2 ACRES
FRONTAGE: 225'
FRONT SETBACK: 74'
SIDE SETBACK: 20'
REAR SETBACK: 20'

TOWN OF LANCASTER ASSESSOR'S REFERENCE
MAP 41, LOT 34B

PLAN REFERENCE:
WORCESTER COUNTY REGISTRY
1) PLAN BOOK 466, PLAN No. 69
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3) PLAN BOOK 539, PLAN No. 80
4) PLAN BOOK 763, PLAN No. 63

OWNER REFERENCE:
GLADY C KILBOURN
PO BOX 275
SO LANCASTER, MA

DEED REFERENCE:
REGISTRY OF DEEDS
BOOK 2922, PAGE 341

REVISIONS	
No.	DATE
1	04/10/18
2	07/06/18

JOYCE E. HASTINGS
NO. 39393
7/6/18

PAUL E. TRUAX
NO. 46527
REGISTERED PROFESSIONAL ENGINEER
7/6/2018

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DRW.: RST
JOB No. 12,274
DATE: FEBRUARY 8, 2018
SCALE: 1"= 80'
SHEET: 4 of 22
PLAN #: 27,147

TOTAL PARCEL AREA: 45.4 ACRES

PROJECT SUMMARY:

64 SINGLE FAMILY HOUSE LOTS
136 APARTMENT STYLE UNITS
200 TOTAL PROPOSED UNITS

OWNER REFERENCE:

GLADY C KILBOURN
PO BOX 275
SO LANCASTER, MA

DEED REFERENCE:

REGISTRY OF DEEDS
BOOK 2922, PAGE 341

TOWN OF LANCASTER ASSESSOR'S REFERENCE

MAP 41, LOT 34B

PLAN REFERENCE:

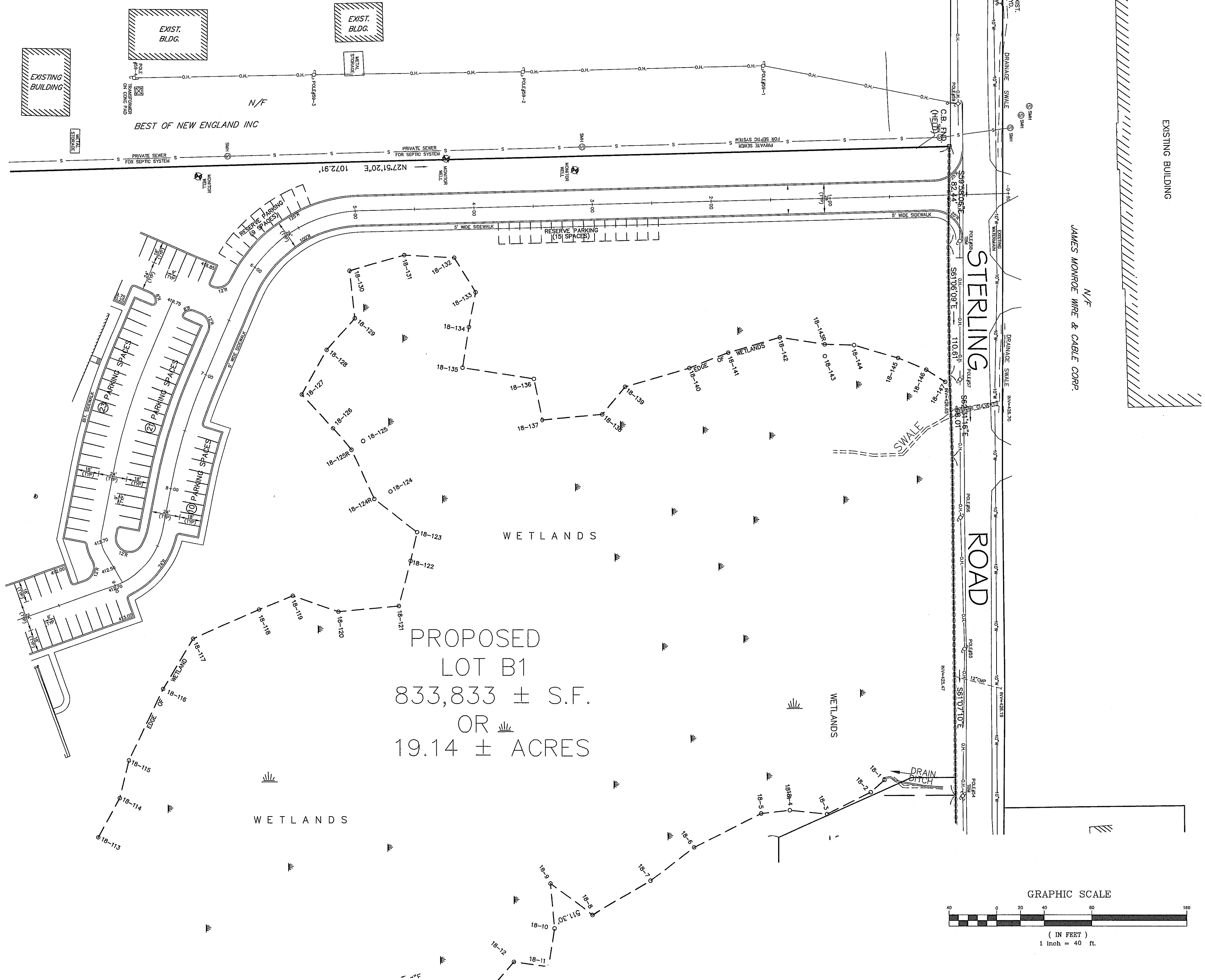
WORCESTER COUNTY REGISTRY
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- PROPOSED LIMIT OF CLEARING
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MULTI-UNIT LAYOUT

REVISIONS		DESCRIPTION
No.	DATE	
1	04/10/18	APARTMENTS 136 UNITS
2	07/06/18	PLAN LAYOUT & DRAINAGE



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"GOODRIDGE BROOK ESTATES"
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DRW.: RST
JOB No. 12,274
DATE: FEBRUARY 8, 2018
SCALE: 1"= 40'
SHEET: 5 of 22
PLAN #: 27,147

PLAN REFERENCE:

WORCESTER COUNTY REGISTRY
1) PLAN BOOK 466, PLAN No. 69
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TOTAL PARCEL AREA: 45.4 ACRES

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136 APARTMENT STYLE UNITS
200 TOTAL PROPOSED UNITS

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PO BOX 275
SO LANCASTER, MA

DEED REFERENCE:

REGISTRY OF DEEDS
BOOK 2922, PAGE 341

TOWN OF LANCASTER ASSESSOR'S REFERENCE

MAP #1, LOT 34B

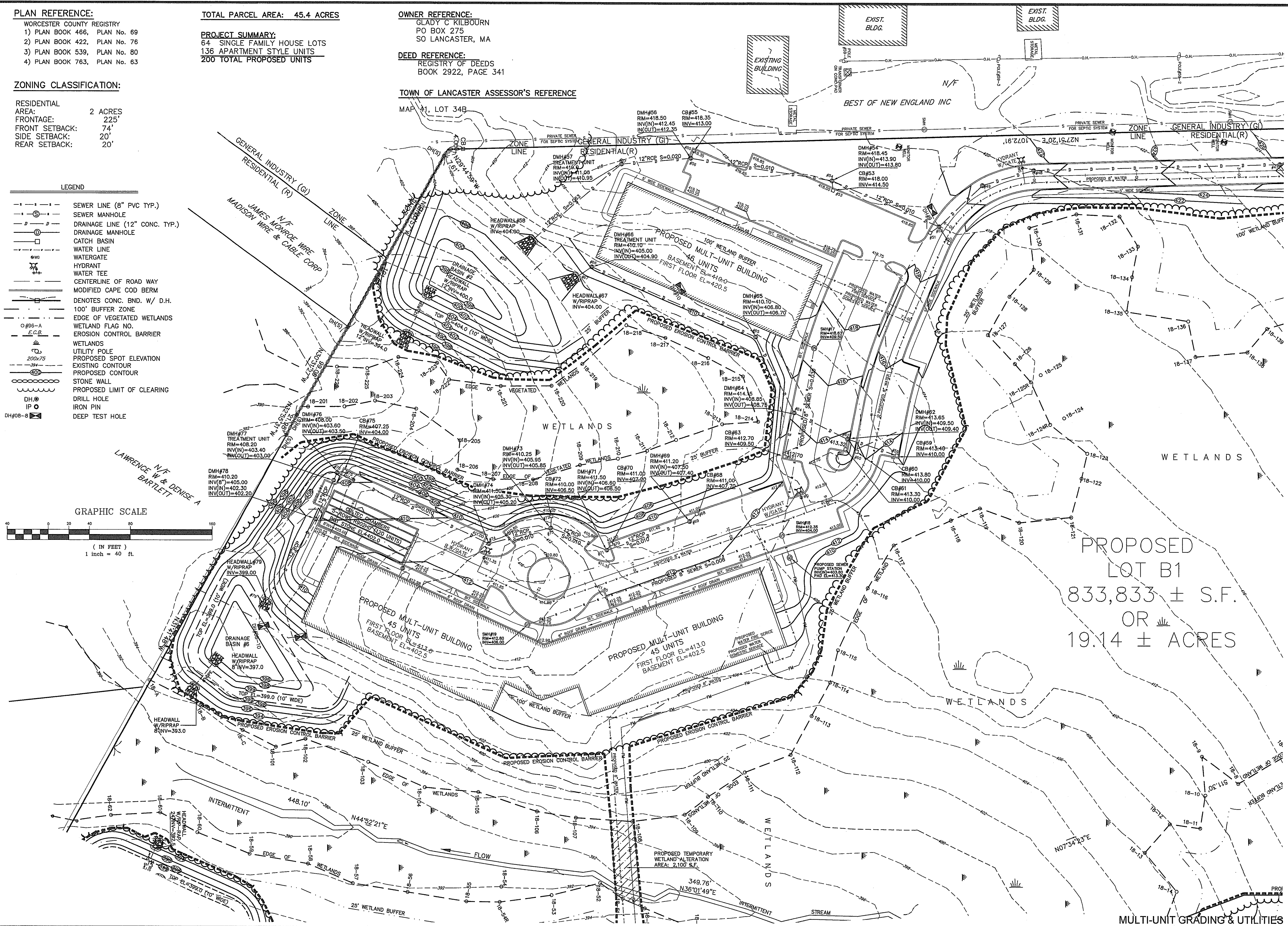
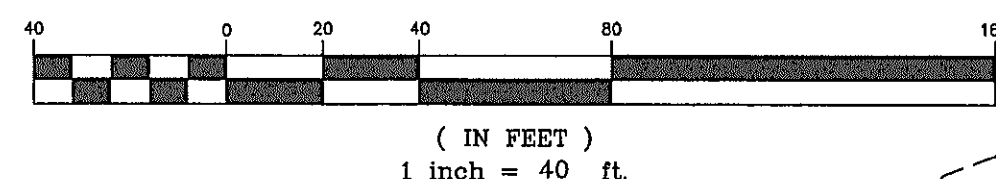
ZONING CLASSIFICATION:

RESIDENTIAL
AREA: 2 ACRES
FRONTAGE: 225'
FRONT SETBACK: 74'
SIDE SETBACK: 20'
REAR SETBACK: 20'

LEGEND

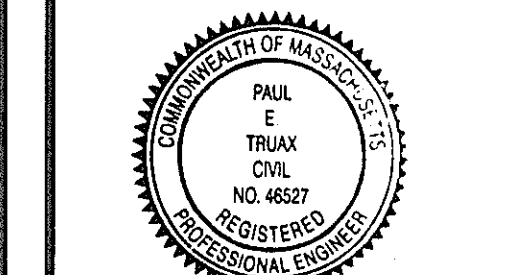
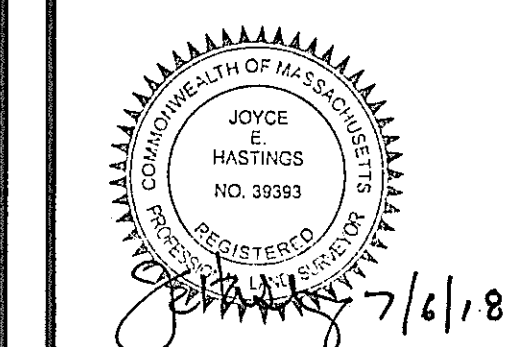
- SEWER LINE (8" PVC TYP.)
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- PROPOSED CONTOUR
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GRAPHIC SCALE



PROPOSED
LOT B1
833,833 ± S.F.
OR
19.14 ± ACRES

REVISIONS		
DATE	DESCRIPTION	
04/10/18	APARTMENTS 136 UNITS	
07/06/18	PLAN LAYOUT & DRAINAGE	
No.		
1		
2		



Paul Thruak 7-6-2018

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www.GLMengineering.com

DRW: RST
JOB No. 12,274
DATE: FEBRUARY 8, 2018
SCALE: 1"= 40'
SHEET: 6 of 22
PLAN #: 27,147

TOTAL PARCEL AREA: 45.4 ACRES

PROJECT SUMMARY:

64 SINGLE FAMILY HOUSE LOTS
136 APARTMENT STYLE UNITS
200 TOTAL PROPOSED UNITS

OWNER REFERENCE:

GLADY C KILBOURN
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SO LANCASTER, MA

DEED REFERENCE:

REGISTRY OF DEEDS
BOOK 2922, PAGE 341

TOWN OF LANCASTER ASSESSOR'S REFERENCE

MAP 41, LOT 34B

PLAN REFERENCE:

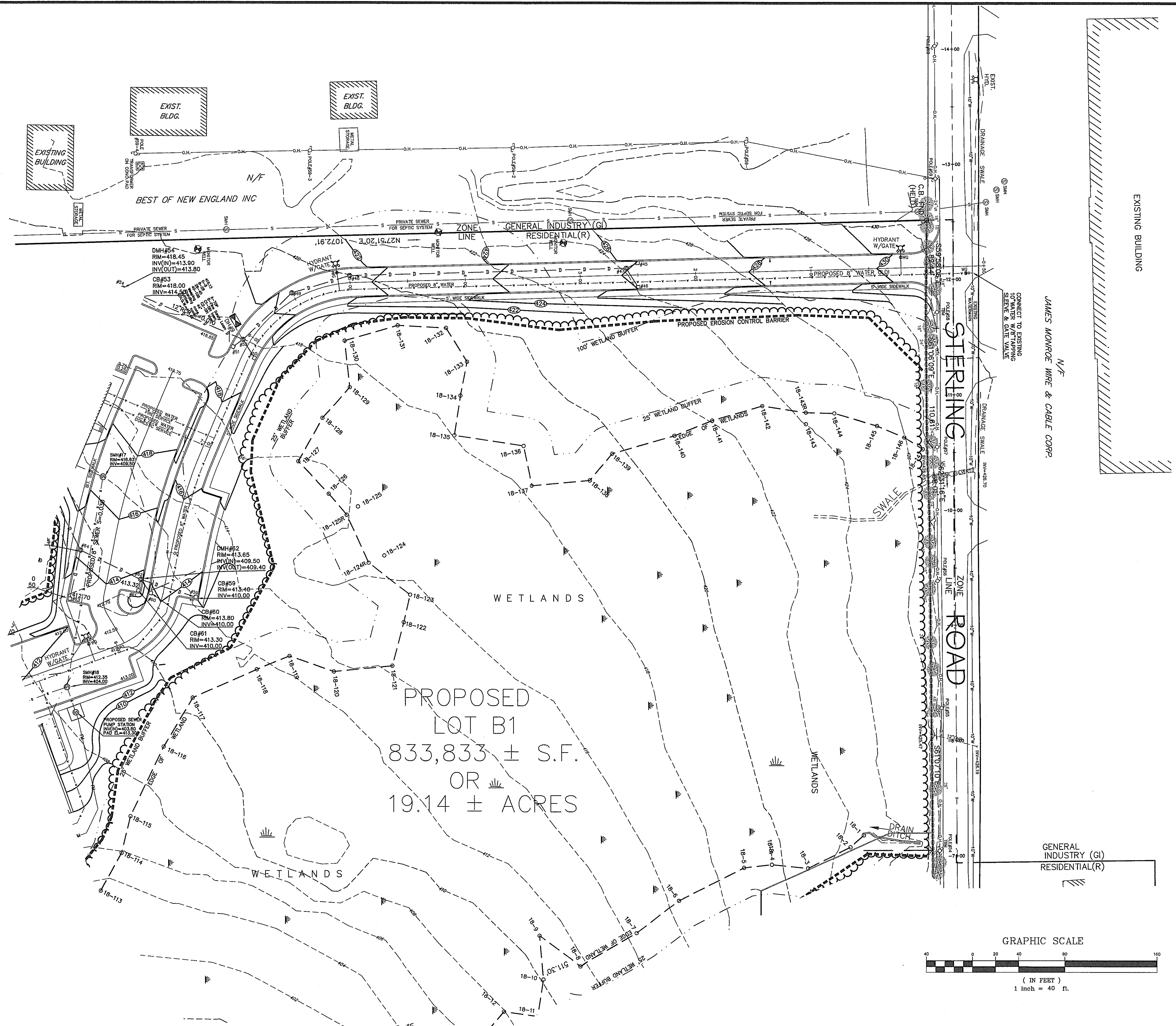
WORCESTER COUNTY REGISTRY
1) PLAN BOOK 466, PLAN No. 69
2) PLAN BOOK 422, PLAN No. 76
3) PLAN BOOK 539, PLAN No. 80
4) PLAN BOOK 763, PLAN No. 63

ZONING CLASSIFICATION:

RESIDENTIAL
AREA: 2 ACRES
FRONTAGE: 225'
FRONT SETBACK: 74'
SIDE SETBACK: 20'
REAR SETBACK: 20'

LEGEND

- +---+---+ SEWER LINE (8" PVC TYP.)
- +---+---+ SEWER MANHOLE
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- +---+---+ DRAINAGE MANHOLE
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- +---+---+ WATERGATE
- +---+---+ HYDRANT
- +---+---+ WATER TEE
- +---+---+ CENTERLINE OF ROAD WAY
- +---+---+ MODIFIED CAPE COD BERM
- +---+---+ DENOTES CONC. BND. W/ D.H.
- +---+---+ 100' BUFFER ZONE
- +---+---+ EDGE OF VEGETATED WETLANDS
- +---+---+ WETLAND FLAG NO.
- +---+---+ EROSION CONTROL BARRIER
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- +---+---+ EXISTING CONTOUR
- +---+---+ PROPOSED CONTOUR
- +---+---+ STONE WALL
- +---+---+ PROPOSED LIMIT OF CLEARING
- +---+---+ DRILL HOLE
- +---+---+ IRON PIN
- +---+---+ DEEP TEST HOLE



REVISIONS	No.	DATE	DESCRIPTION
	1	04/10/18	APARTMENTS 136 UNITS
	2	07/06/18	PLAN LAYOUT & DRAINAGE

JOYCE HASTINGS
NO. 39393
REGISTERED PROFESSIONAL ENGINEER

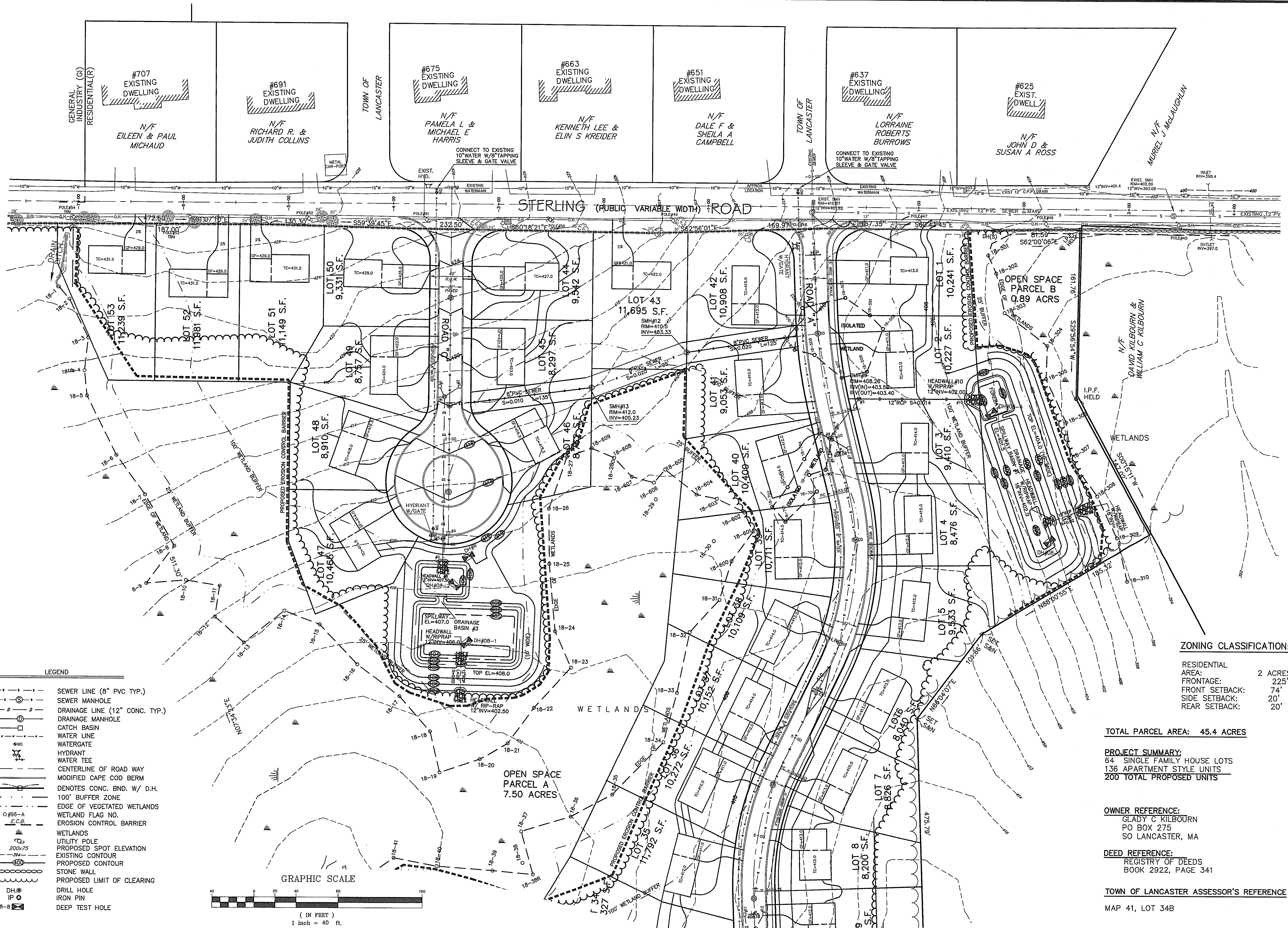
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DRW.: RST
JOB No. 12,274
DATE: FEBRUARY 8, 2018
SCALE: 1" = 40'
SHEET: 7 of 22
PLAN #: 27,147



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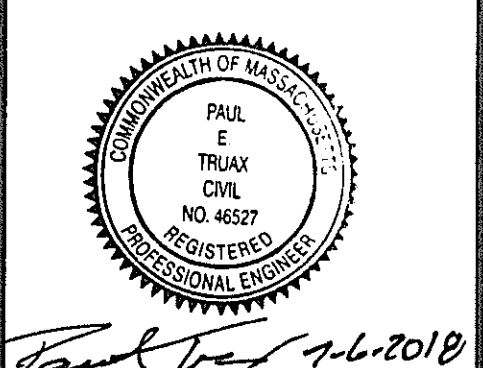
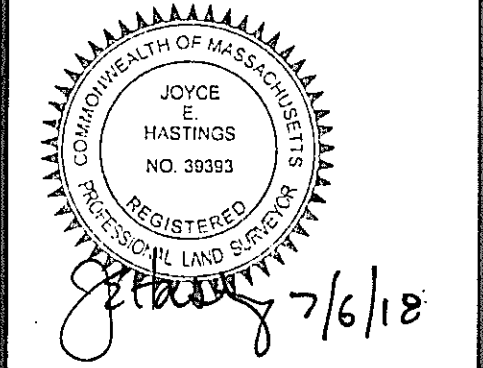
OWNER REFERENCE:
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PO BOX 275
SO LANCASTER, MA

DEED REFERENCE:
REGISTRY OF DEEDS
BOOK 2922, PAGE 341

TOWN OF LANCASTER ASSESSOR'S REFERENCE
MAP 41, LOT 34B

SINGLE FAMILY - LAYOUT & GRADING

REVISIONS		DESCRIPTION
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1	04/01/18	APARTMENTS 136 UNITS
2	07/06/18	PLAN LAYOUT & DRAINAGE



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DRW.: RST
JOB No. 12,274
DATE: FEBRUARY 8, 2018
SCALE: 1" = 40'
SHEET: 8 of 22
PLAN #: 27,147



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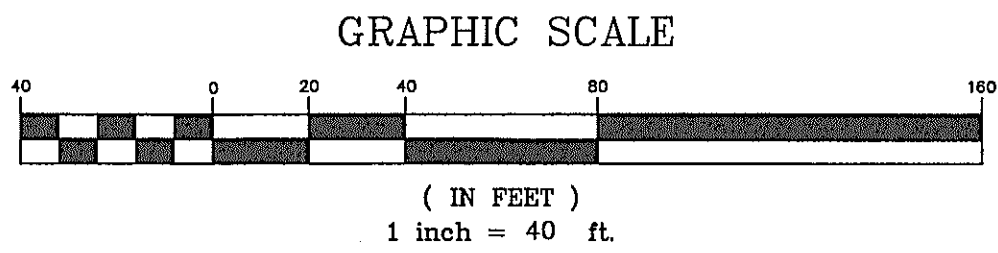
MAP 41, LOT 34B

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SINGLE FAMILY - LAYOUT & GRADING

REVISIONS		DESCRIPTION
No.	DATE	
1	04/10/18	APARTMENTS 136 UNITS
2	07/06/18	PLAN LAYOUT & DRAINAGE

JOYCE E. HASTINGS
NO. 39393
7/6/18

PAUL T. KILBOURN
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DRW.: RST	
JOB No.	12,274
DATE:	FEBRUARY 8, 2018
SCALE:	1" = 40'
SHEET:	9 of 22
PLAN #:	27,147

TOTAL PARCEL AREA: 45.4 ACRES

PROJECT SUMMARY:
64 SINGLE FAMILY HOUSE LOTS
136 APARTMENT STYLE UNITS
200 TOTAL PROPOSED UNITS

OWNER REFERENCE:
GLADY C KILBOURN
PO BOX 275
SO LANCASTER, MA

DEED REFERENCE:
REGISTRY OF DEEDS
BOOK 2922, PAGE 341

TOWN OF LANCASTER ASSESSOR'S REFERENCE

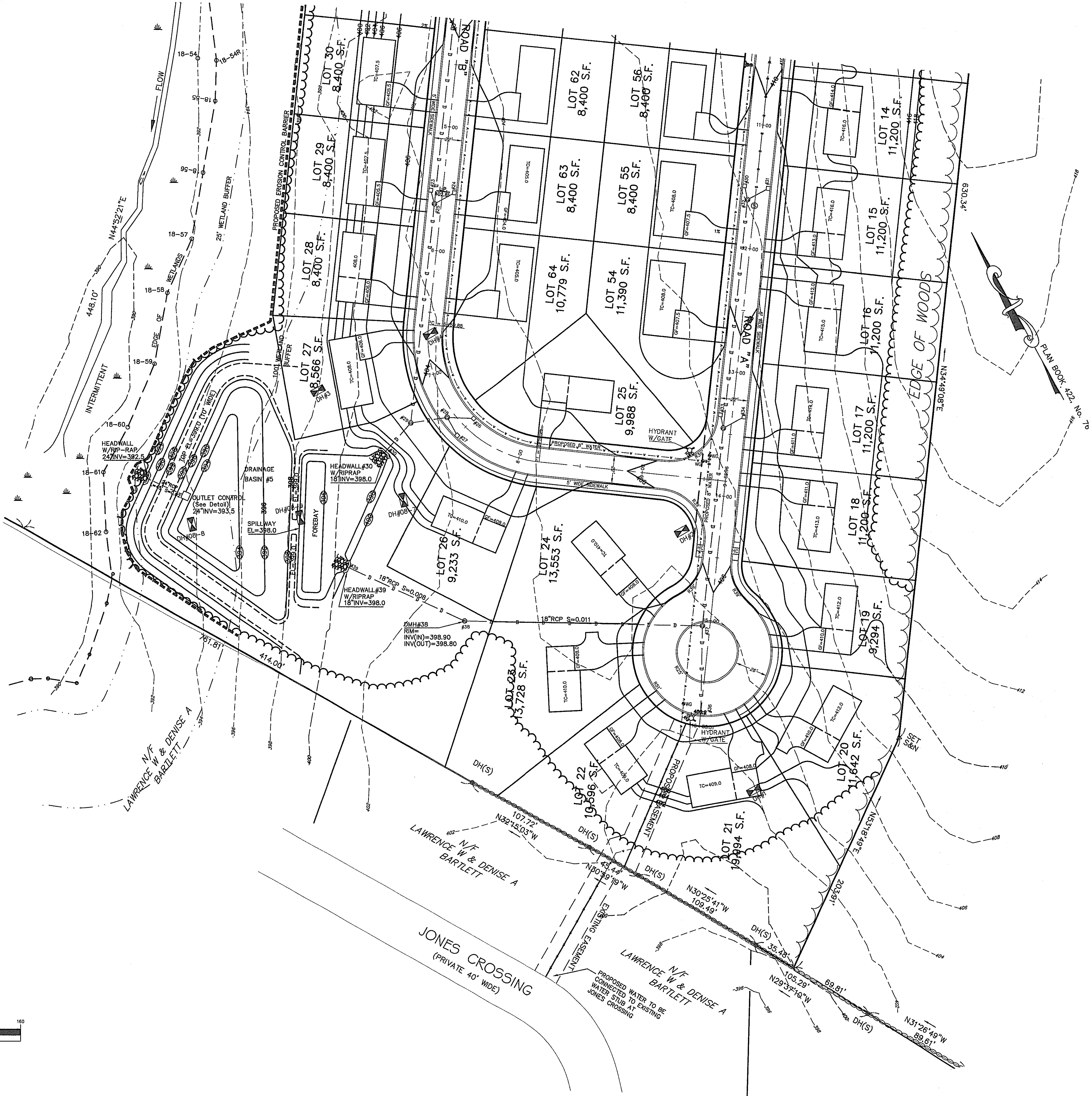
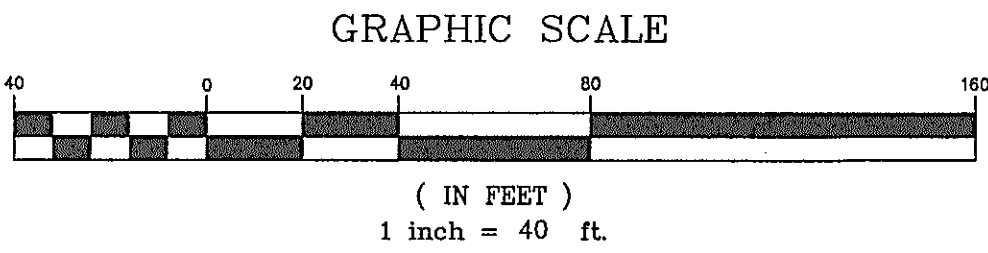
MAP 41, LOT 34B

PLAN REFERENCE:
WORCESTER COUNTY REGISTRY
1) PLAN BOOK 466, PLAN No. 69
2) PLAN BOOK 422, PLAN No. 76
3) PLAN BOOK 539, PLAN No. 80
4) PLAN BOOK 763, PLAN No. 63

ZONING CLASSIFICATION:

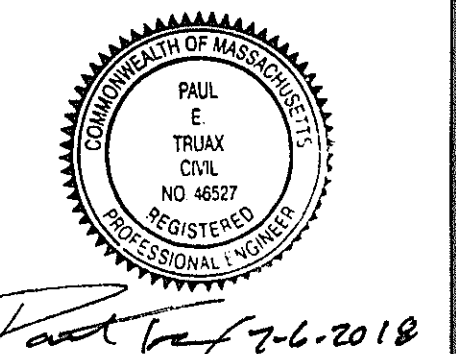
RESIDENTIAL
AREA: 2 ACRES
FRONTAGE: 225'
FRONT SETBACK: 74'
SIDE SETBACK: 20'
REAR SETBACK: 20'

- LEGEND
- SEWER LINE (8" PVC TYP.)
 - SEWER MANHOLE
 - DRAINAGE LINE (12" CONC. TYP.)
 - DRAINAGE MANHOLE
 - CATCH BASIN
 - WATER LINE
 - WATERGATE
 - HYDRANT
 - WATER TEE
 - CENTERLINE OF ROAD WAY
 - MODIFIED CAPE COD BERM
 - DENOTES CONC. BND. W/ D.H.
 - 100' BUFFER ZONE
 - EDGE OF VEGETATED WETLANDS
 - WETLAND FLAG NO.
 - EROSION CONTROL BARRIER
 - WETLANDS
 - UTILITY POLE
 - PROPOSED SPOT ELEVATION
 - EXISTING CONTOUR
 - PROPOSED CONTOUR
 - STONE WALL
 - PROPOSED LIMIT OF CLEARING
 - DRILL HOLE
 - IRON PIN
 - DEEP TEST HOLE



SINGLE FAMILY - LAYOUT & GRADING

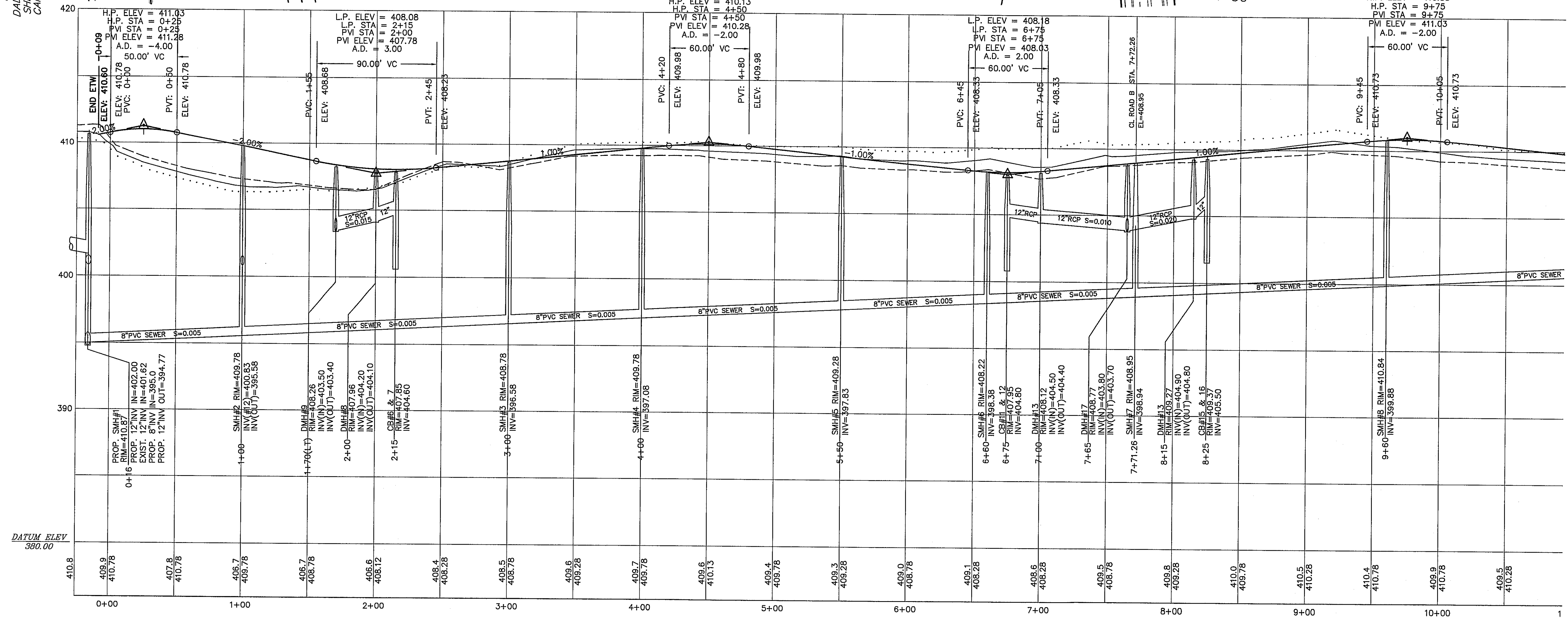
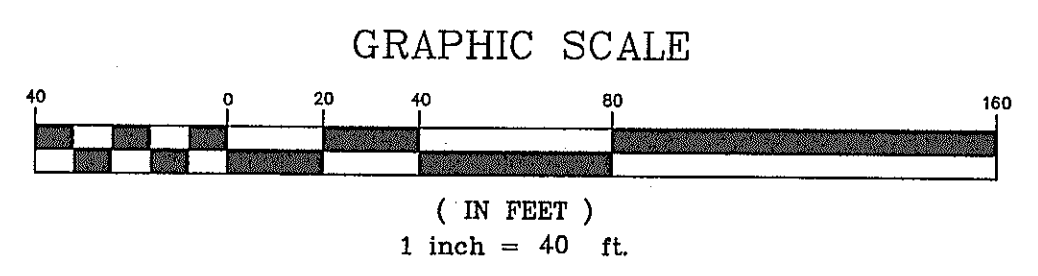
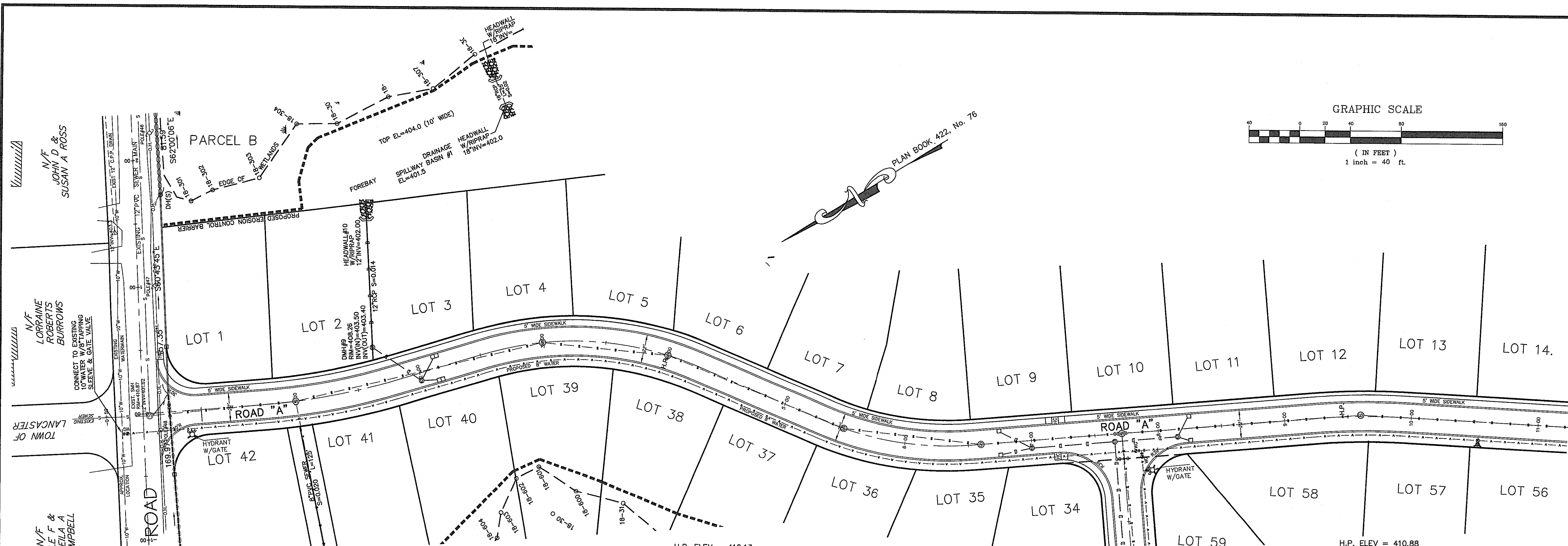
REVISIONS		DESCRIPTION
No.	DATE	
1	04/10/18	APARTMENTS 136 UNITS
2	07/06/18	PLAN LAYOUT & DRAINAGE



SITE DEVELOPMENT PLAN
"GOODRIDGE BROOK ESTATES"
Multi Unit & Single Family Subdivision Layout
LANCASTER, MASSACHUSETTS
PREPARED FOR:
CRESCENT BUILDERS, INC.
94 NORTH MAIN STREET
BOYLSTON MA 01563

GLM Engineering
Consultants, Inc.
19 EXCHANGE STREET
HOLLISTON, MA 01746
P: 508-429-1100
F: 508-429-7160
www.GLMengineering.com

DRW.: RST	
JOB No.	12,274
DATE:	FEBRUARY 8, 2018
SCALE:	1"= 40'
SHEET:	10 of 22
PLAN #:	27,147



REVISIONS		DESCRIPTION
No.	DATE	
1	04/10/18	APARTMENTS 136 UNITS
2	07/09/18	PLAN LAYOUT & DRAINAGE

JOYCE HASTINGS
REGISTERED PROFESSIONAL ENGINEER
7/6/18

PAUL E. TRUAX
REGISTERED PROFESSIONAL ENGINEER
7-6-2018

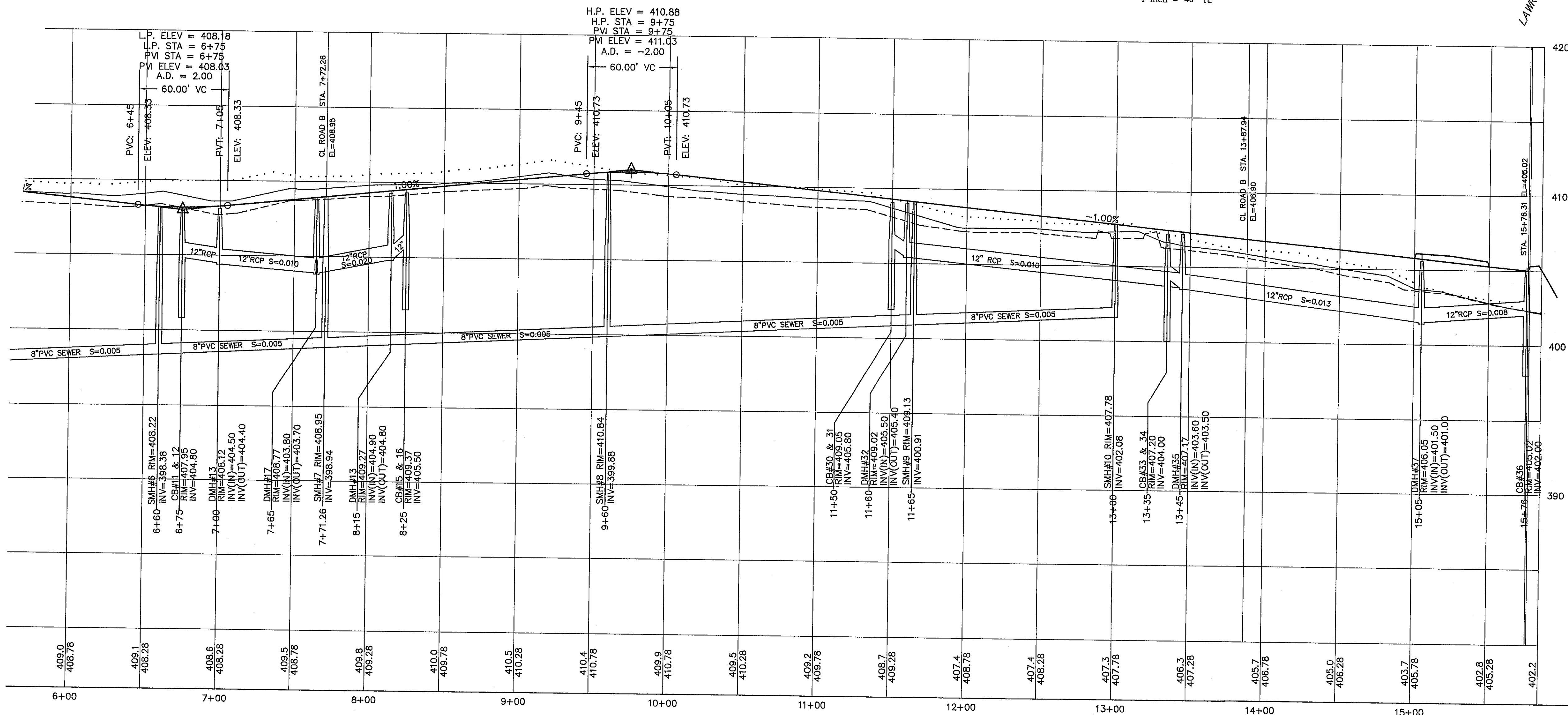
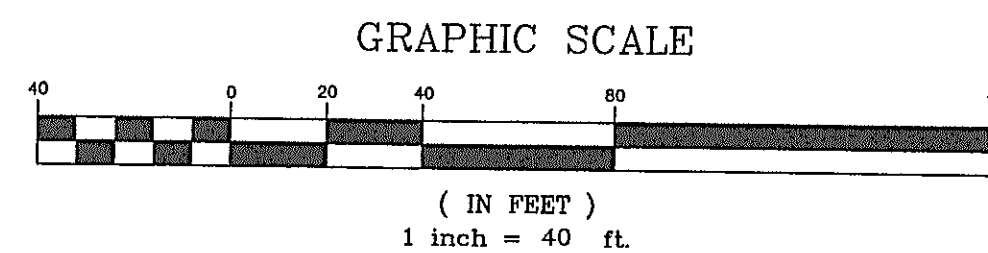
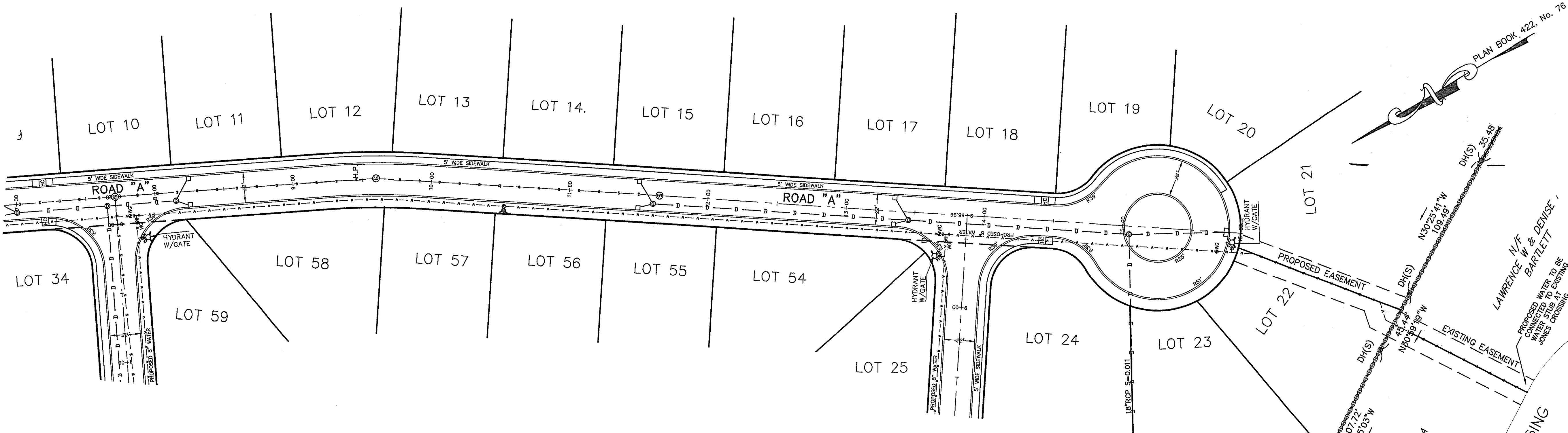
SITE DEVELOPMENT PLAN
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PREPARED FOR:
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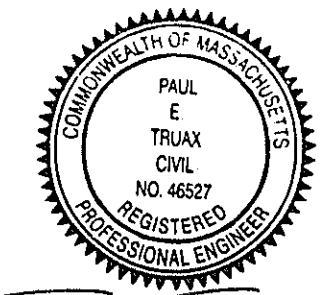
DRW.: RST
JOB No. 12,274
DATE: FEBRUARY 8, 2018
SCALE: 1"= 40'
SHEET: 11 of 22
PLAN #: 27,147

SINGLE FAMILY - PLAN & PROFILE ROAD A



SINGLE FAMILY - PLAN & PROFILE ROAD A

REVISIONS		DESCRIPTION
No.	DATE	
1	04/10/18	APARTMENTS 136 UNITS
2	07/06/18	PLAN LAYOUT & DRAINAGE

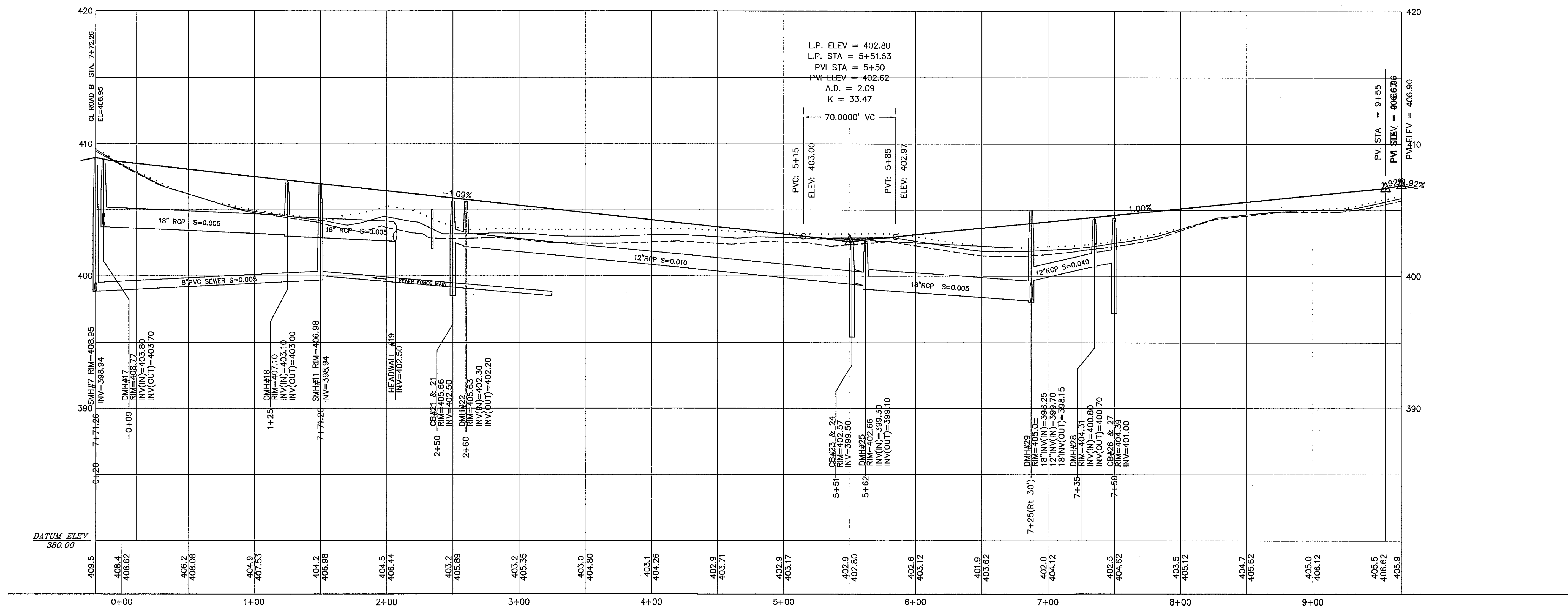
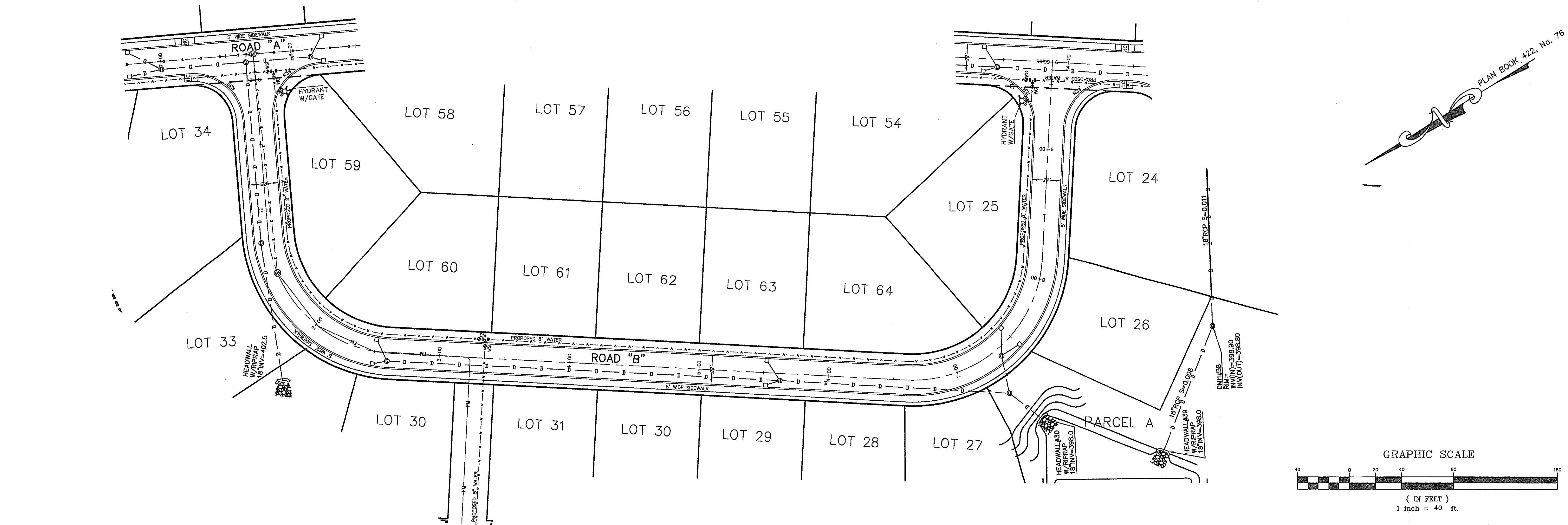


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PREPARED FOR:
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94 NORTH MAIN STREET
BOYLSTON MA 01583

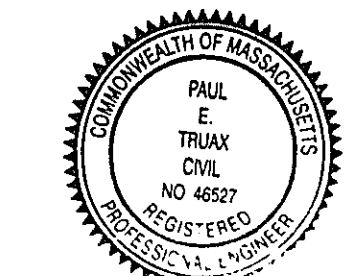
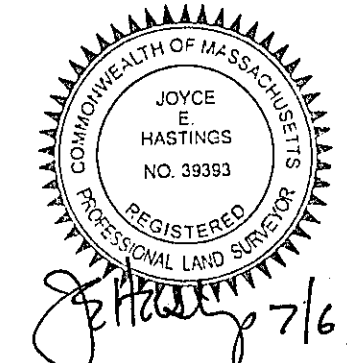
GLM Engineering
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19 EXCHANGE STREET
HOLLISTON, MA 01746
P: 508-429-1100
F: 508-429-7160
www.GLMengineering.com

DRW.: RST	
JOB No.	12,274
DATE:	FEBRUARY 8, 2018
SCALE:	1"= 40'
SHEET:	12 of 22
PLAN #:	27,147



SINGLE FAMILY - PLAN & PROFILE ROAD B

REVISIONS		DESCRIPTION
No.	DATE	
1	04/10/18	APARTMENTS 136 UNITS
2	07/06/18	PLAN LAYOUT & DRAINAGE

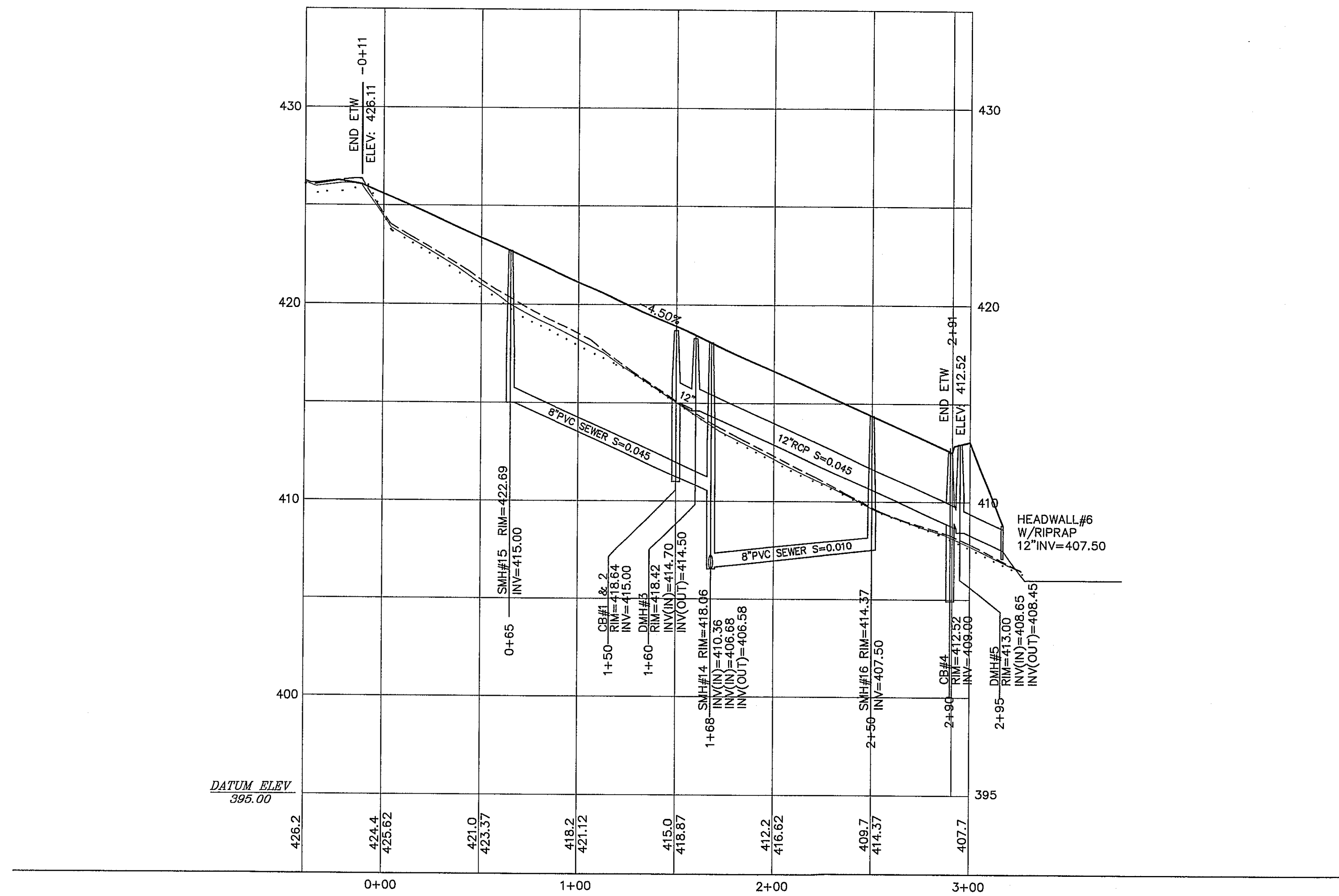
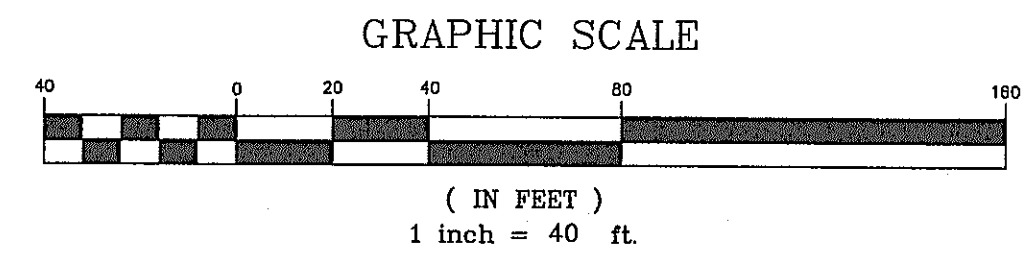
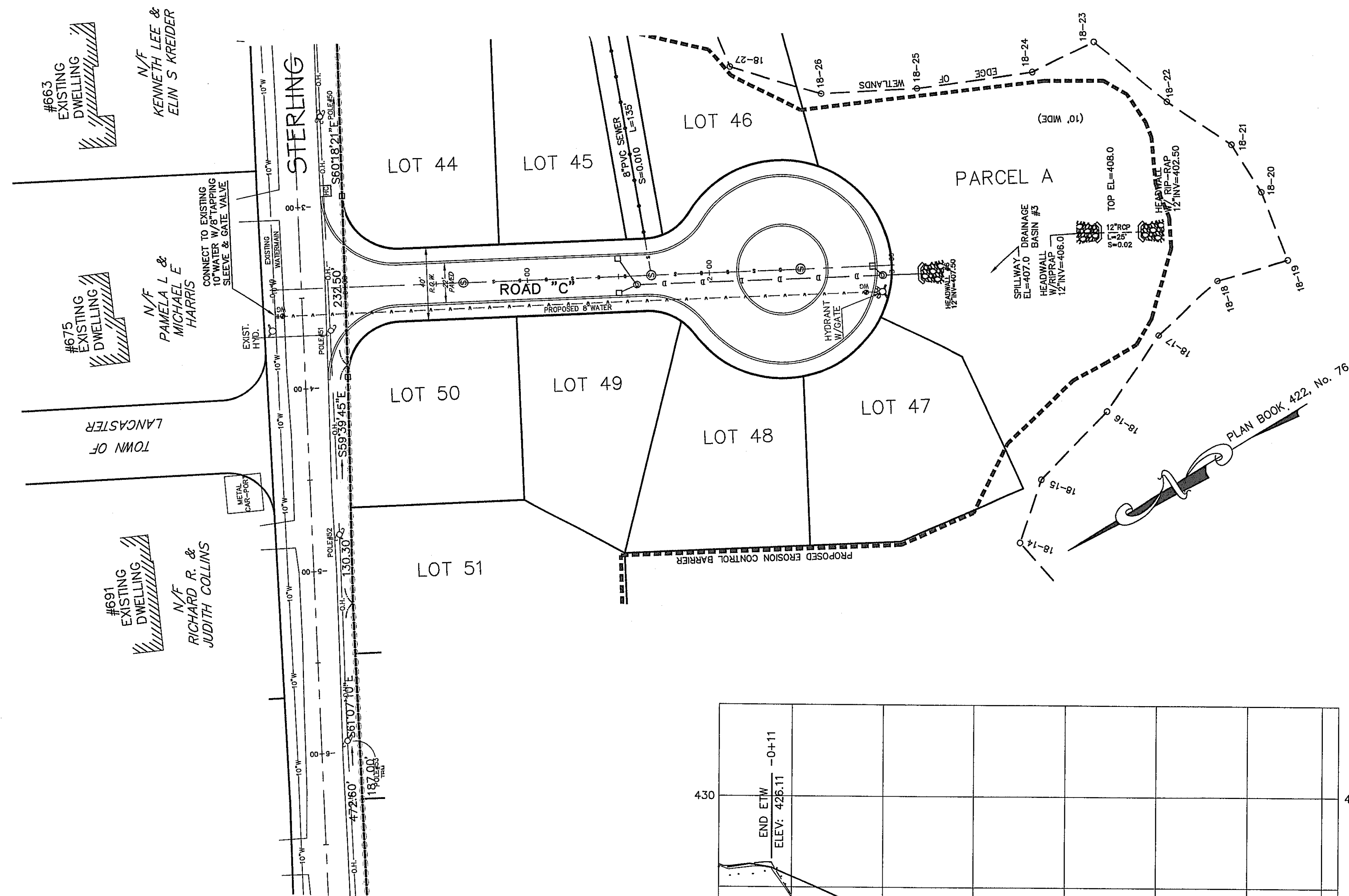


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 Multi Unit & Single Family Subdivision Layout
 LANCASTER, MASSACHUSETTS

PREPARED FOR:
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 94 NORTH MAIN STREET
 BOYLSTON MA 01583

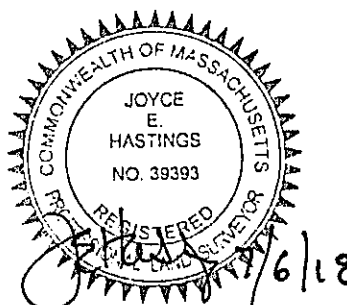
GLM Engineering Consultants, Inc.
 19 EXCHANGE STREET
 HOLLISTON, MA 01746
 P: 508-429-1100
 F: 508-429-7160
 www.GLMengineering.com

DRW.: RST
 JOB No. 12,274
 DATE: FEBRUARY 8, 2018
 SCALE: 1"= 40'
 SHEET: 13 of 22
 PLAN #: 27,147



SINGLE FAMILY - PLAN & PROFILE ROAD C

REVISIONS		
No.	DATE	DESCRIPTION
1	04/10/18	APARTMENTS 196 UNITS
2	07/06/18	PLAN LAYOUT & DRAINAGE

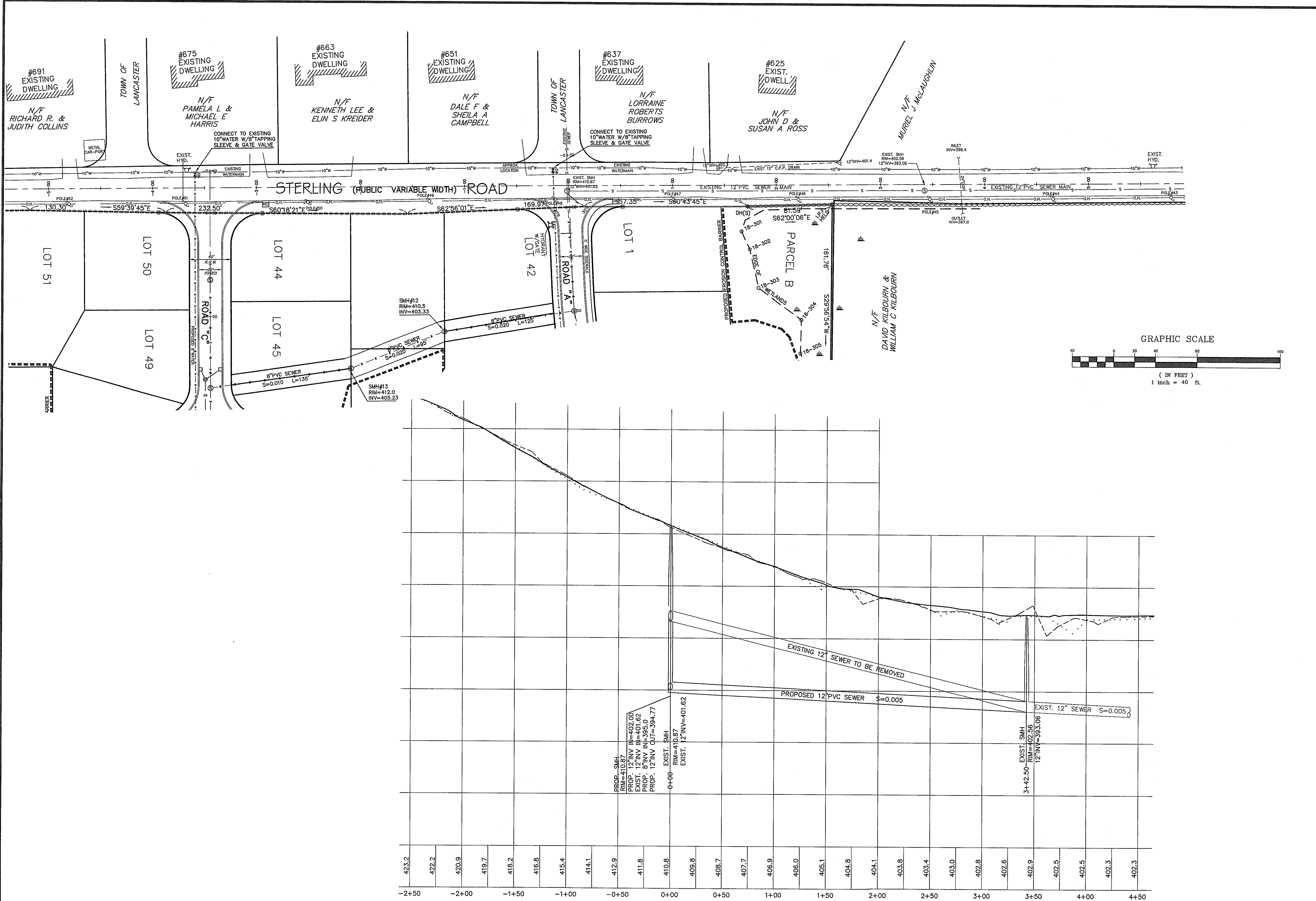


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DRW.: RST	
JOB No.	12,274
DATE:	FEBRUARY 8, 2018
SCALE:	1"= 40'
SHEET:	14 of 22
PLAN #:	27,147



SINGLE FAMILY - PLAN & PROFILE STERLING ROAD

REVISIONS	
No.	DATE
1	04/10/18
2	07/06/18

DESCRIPTION	APARTMENTS 136 UNITS	PLAN LAYOUT & DRAINAGE

JOYCE HASTINGS
NO. 39293
REGISTERED PROFESSIONAL ENGINEER
7/6/18

PAUL E. TRUAX
NO. 46827
REGISTERED PROFESSIONAL ENGINEER
7.6.2018

SITE DEVELOPMENT PLAN
"GOODRIDGE BROOK ESTATES"
 Multi Unit & Single Family Subdivision Layout
 LANCASTER, MASSACHUSETTS

PREPARED FOR:
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 94 NORTH MAIN STREET
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DRW.: RST

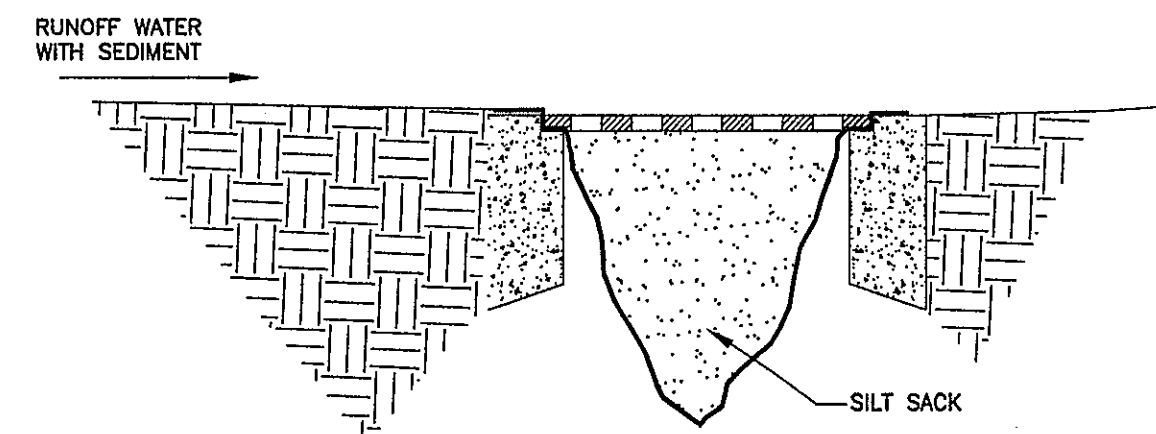
JOB No. 12,274

DATE: FEBRUARY 8, 2018

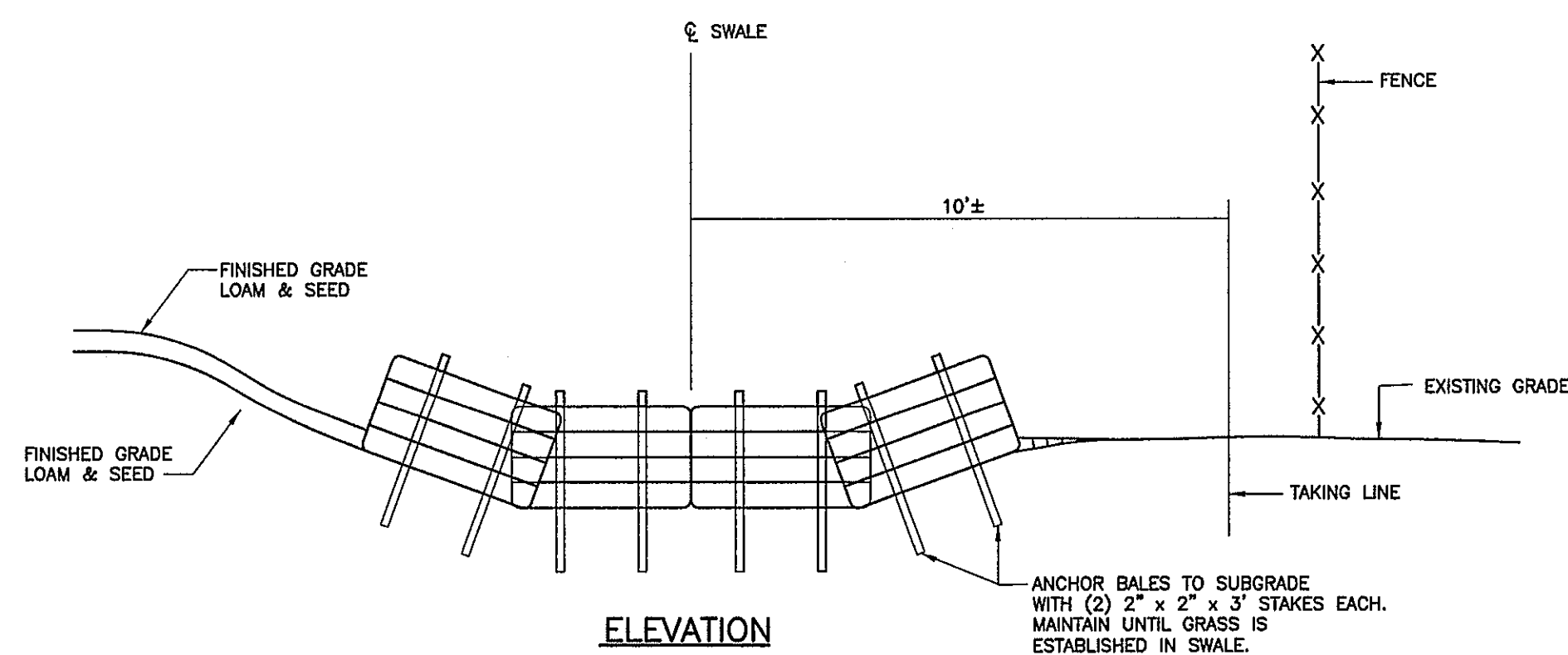
SCALE: 1" = 40'

SHEET: 15 of 22

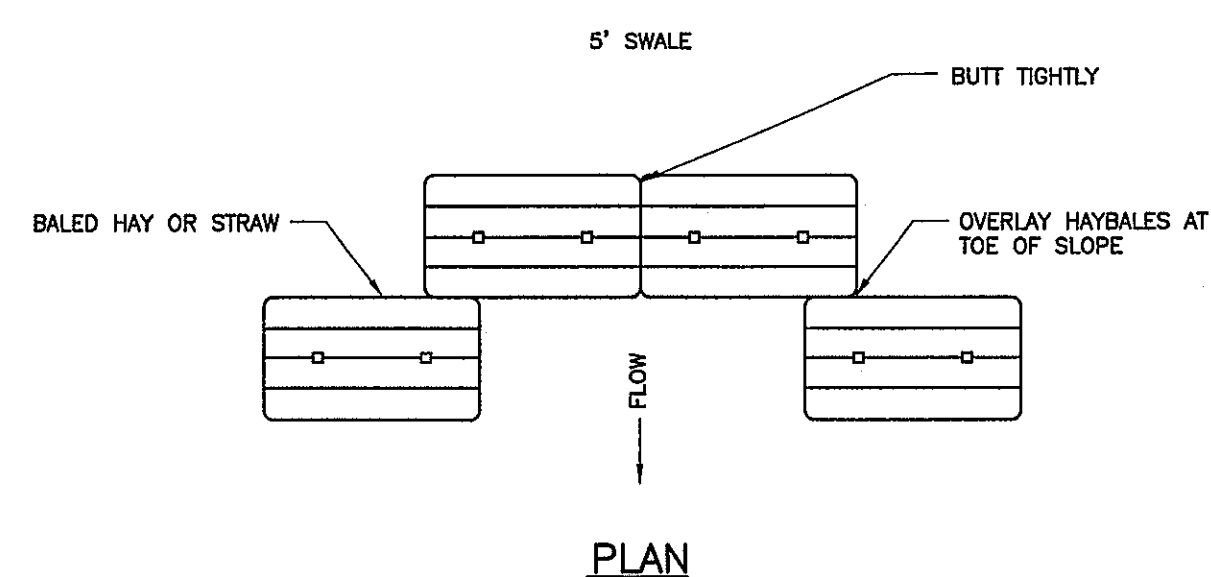
PLAN #: 27,147



SILT SACK CATCH BASIN INLET
NOT TO SCALE



ELEVATION



PLAN

SEDIMENT CHECK DAM DETAIL
N.T.S.

EROSION CONTROL MAINTENANCE:

THE CONTRACTOR SHALL HAVE ON THE SITE, AN ADEQUATE QUANTITY OF SUPPLEMENTAL FILTER MITT AND STAKES TO BE USED FOR CONTROL OF EMERGENCY EROSION PROBLEMS. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER A STORM EVENT OF 1" INCH OR GREATER.

DEWATERING:

PUMPING AND DEWATERING SHALL BE DONE IN A MANNER WHICH WILL NOT DISCHARGE ANY SILT AND SEDIMENT INTO A RESOURCE AREA. DISCHARGES FROM A DEWATERING CONSTRUCTION PROCEDURE WILL BE FILTERED THROUGH A SILTATION BASIN CONSTRUCTED UPLAND FROM THE WORK SITE. THE SILTATION BASIN SHALL BE A DEPRESSION SURROUNDED BY A HAYBALE DIKE OR SILT FENCE. OVERFLOW FROM THE BASIN SHALL BE PLANNED TO BE LOCATED OVER THICKLY AND NATURALLY MULCHED UPLAND AREA. ALL BASINS SHALL BE LOCATED AT LEAST 100 FEET UPSLOPE FROM ANY WETLAND RESOURCE AREA.

STOCKPILING:

ALL STOCKPILES AREAS SHALL BE SECURED AROUND THE PERIMETER WITH FILTER MITT BARRIER.

EROSION AND SEDIMENTATION CONTROL:

1. PRIOR TO ANY DISTURBANCE OR ALTERATIONS ON ANY AREA ON THE SITE. THE FILTER MITT SEDIMENT BARRIER SHALL BE INSTALLED IN THE LOCATIONS SHOWN ON THE SITE PLAN.

2. BARRIERS SHALL BE CONSTRUCTED AS SHOWN ON THE FILTER MITT DETAIL WITH CONSTRUCTION FENCE DETAIL ABOVE.

3. ONCE INSTALLED, THE FILTER MITT SEDIMENT BARRIERS SHALL BE MAINTAINED IN PLACE UNTIL ALL AREAS UPGRADIENT FROM THE BARRIERS HAVE BEEN STABILIZED AS SPECIFIED HEREIN. UPON COMPLETION AND STABILIZATION OF THE PROJECT, THE FILTER MITT AND FENCE SHALL BE REMOVED.

4. THE SILT FENCE IS INTENDED TO ACT AS A LIMIT OF DISTURBANCE. ANY LAND DOWN GRADIENT FROM THE FENCE ACCIDENTALLY DISTURBED SHALL BE IMMEDIATELY REPAIRED AND RESTORED TO ORIGINAL CONDITION.

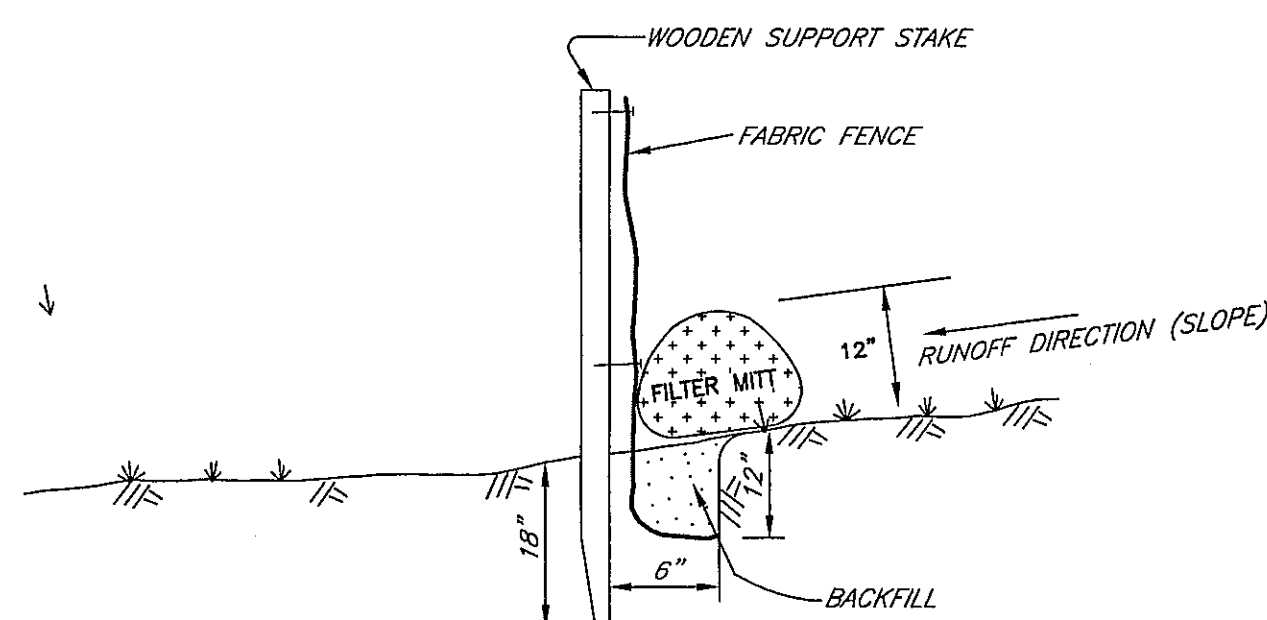
5. EROSION CONTROL MEASURES SHALL BE MONITORED ON A DAILY BASIS, OR AS NEEDED, AND BE REINFORCED, REPAIRED, OR REPLACED WHEN NEEDED, PER JUDGEMENT OF THE SITE FOREMAN AND/OR TOWN OF LANCASTER REPRESENTATIVE.

6. TEMPORARY VEGETATION COVER SHALL BE ESTABLISHED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES TEMPORARILY CEASE FOR AT LEAST 30 DAYS. AREAS SHALL BE STABILIZED WITH TEMPORARY SEED. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A VEGETATIVE COVER, DISTURBED AREAS SHALL BE MULCHED AND THEN SEEDED WHEN WEATHER CONDITIONS ALLOW.

7. THE FIRST ONE-HUNDRED (100) FEET OF THE PROPOSED DRIVEWAY ENTRANCE AT STERLING ROAD SHALL BE COVERED WITH TWELVE (12) INCHES OF 1 - 3 INCH CRUSHED STONE TO STABILIZE THE AREA.

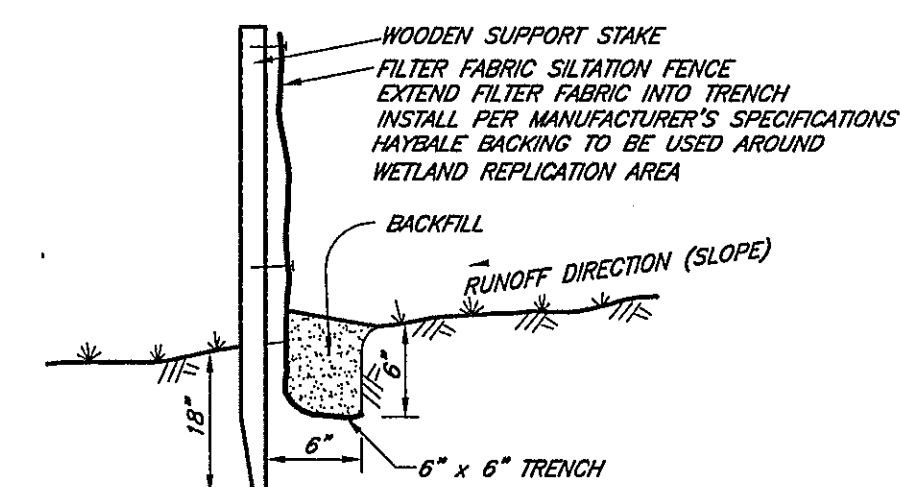
8. WATER SPRAYING SHALL BE UTILIZED ON ALL DISTURBED AREAS DURING DRY WEATHER TO PREVENT DUST. A WATER TRUCK SHALL BE KEPT ON SITE AT ALL TIMES DURING THE DURING THE SUMMER MONTHS OF CONSTRUCTION.

9. FOLLOWING CONSTRUCTION OF THE CATCH BASIN STRUCTURES, A SILTATION BARRIER SHALL BE SET AROUND THE INLET FOR EACH STRUCTURE TO PREVENT SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM. (SEE DETAIL)



EROSION CONTROL BARRIER
WITH FILTER MITT

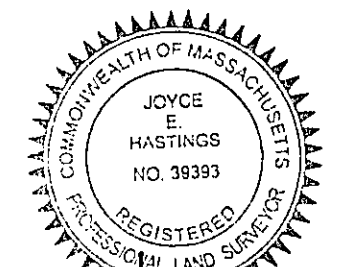
TO BE USED IN AREAS WITHIN 25' OF WETLAND DELINEATION



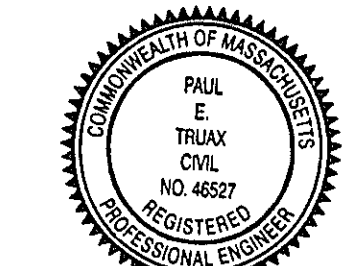
EROSION CONTROL BARRIER
WITHOUT FILTER MITT

TO BE USED IN AREAS OUTSIDE OF 25'

REVISIONS		DESCRIPTION
No.	DATE	
1	04/10/18	APARTMENTS 136 UNITS
2	07/06/18	PLAN LAYOUT & DRAINAGE



7/6/18

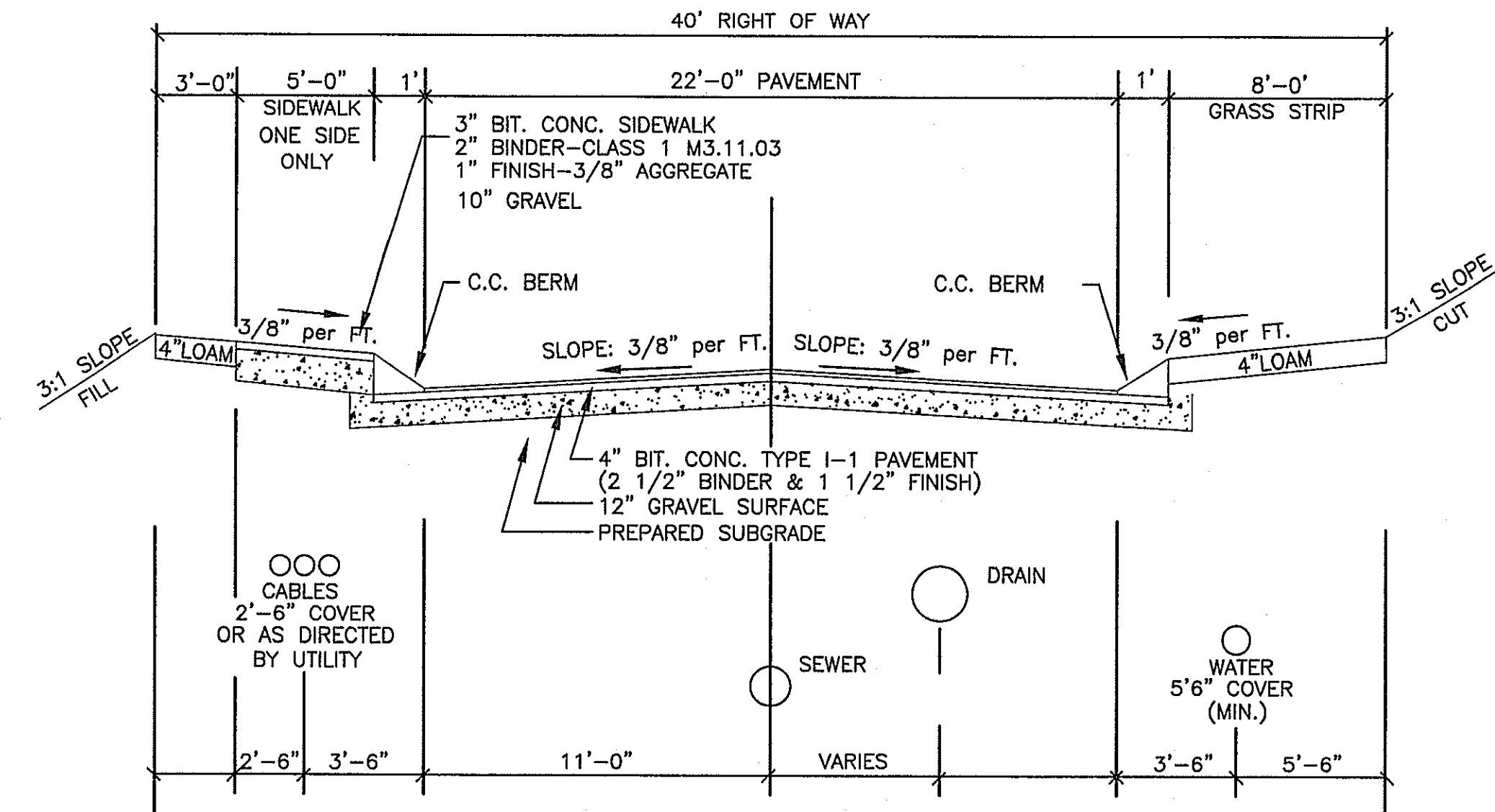


7-6-2018

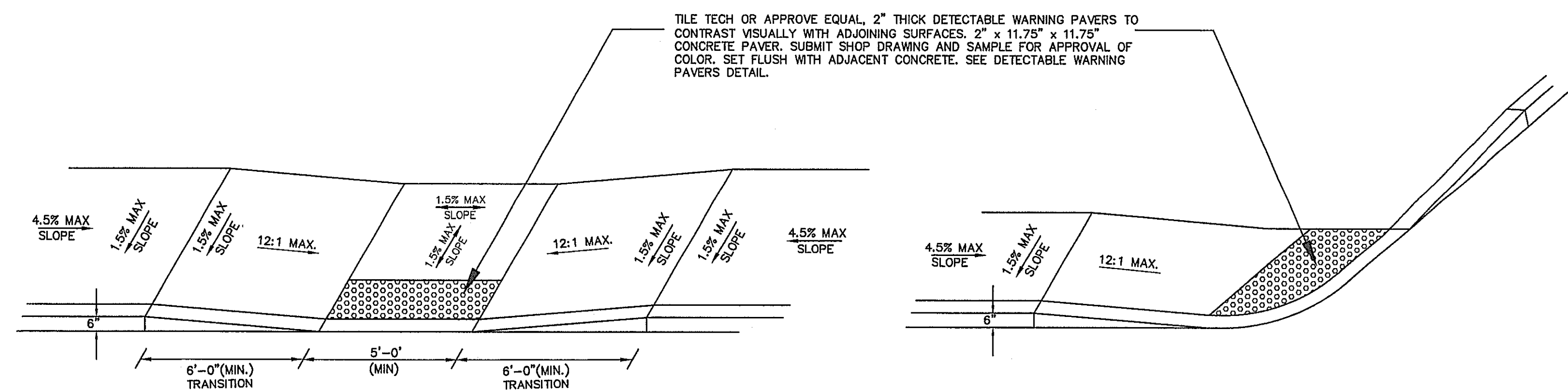
SITE DEVELOPMENT PLAN
"GOODRIDGE BROOK ESTATES"
Multi Unit & Single Family Subdivision Layout
LANCASTER, MASSACHUSETTS
PREPARED FOR:
CRESCENT BUILDERS, INC.
94 NORTH MAIN STREET
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DRW.: RST
JOB No. 12,274
DATE: FEBRUARY 8, 2018
SCALE: nts
SHEET: 16 of 22
PLAN #: 27,147

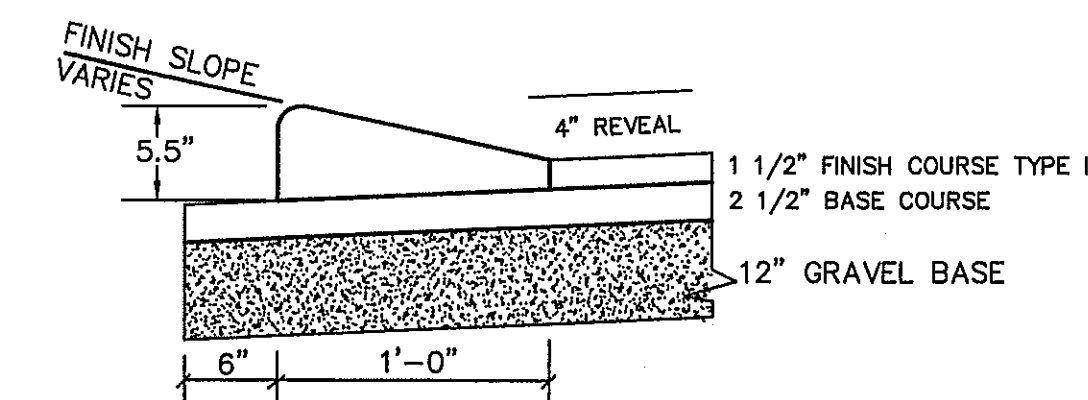


TYPICAL RIGHT OF WAY CROSS SECTION
LANCASTER, MASS.



HANDICAP SIDEWALK CURB CUT DETAIL
NOT TO SCALE

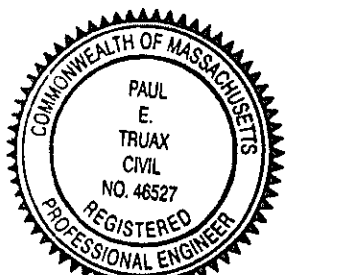
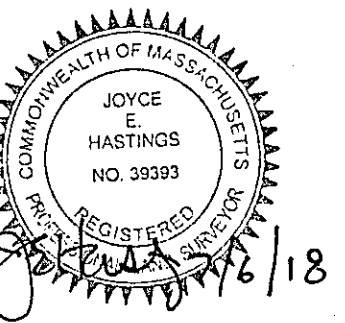
- NOTES:
1. THE DIMENSIONS SHOWN AT ROADWAY EDGE AREA FIXED DISTANCE.
 2. RAMP CROSS SECTION TO BE THE SAME AS ADJACENT SIDEWALK
 3. PORTLAND CEMENT CONCRETE RAMPS ARE TO BE TEXTURED BY BROOMING IN A DIRECTION PARALLEL TO THE LENGTH OF THE RAMP.
 4. IN NO CASE ARE THE RAMPS TO BE PLACED BEHIND THE STOP LINE.
 5. THE DIMENSIONS ARE SUBJECT TO CHANGE IN THE FIELD IN EXISTING APPURTENANCES OR CONDITIONS WILL MAKE THE RAMP LOCATIONS IMPRACTICAL OR UNSAFE. CONSULT CIVIL ENGINEER PRIOR TO MAKING ANY MODIFICATIONS.



CAPE COD BERM DETAIL
NOT TO SCALE:

DETAILS

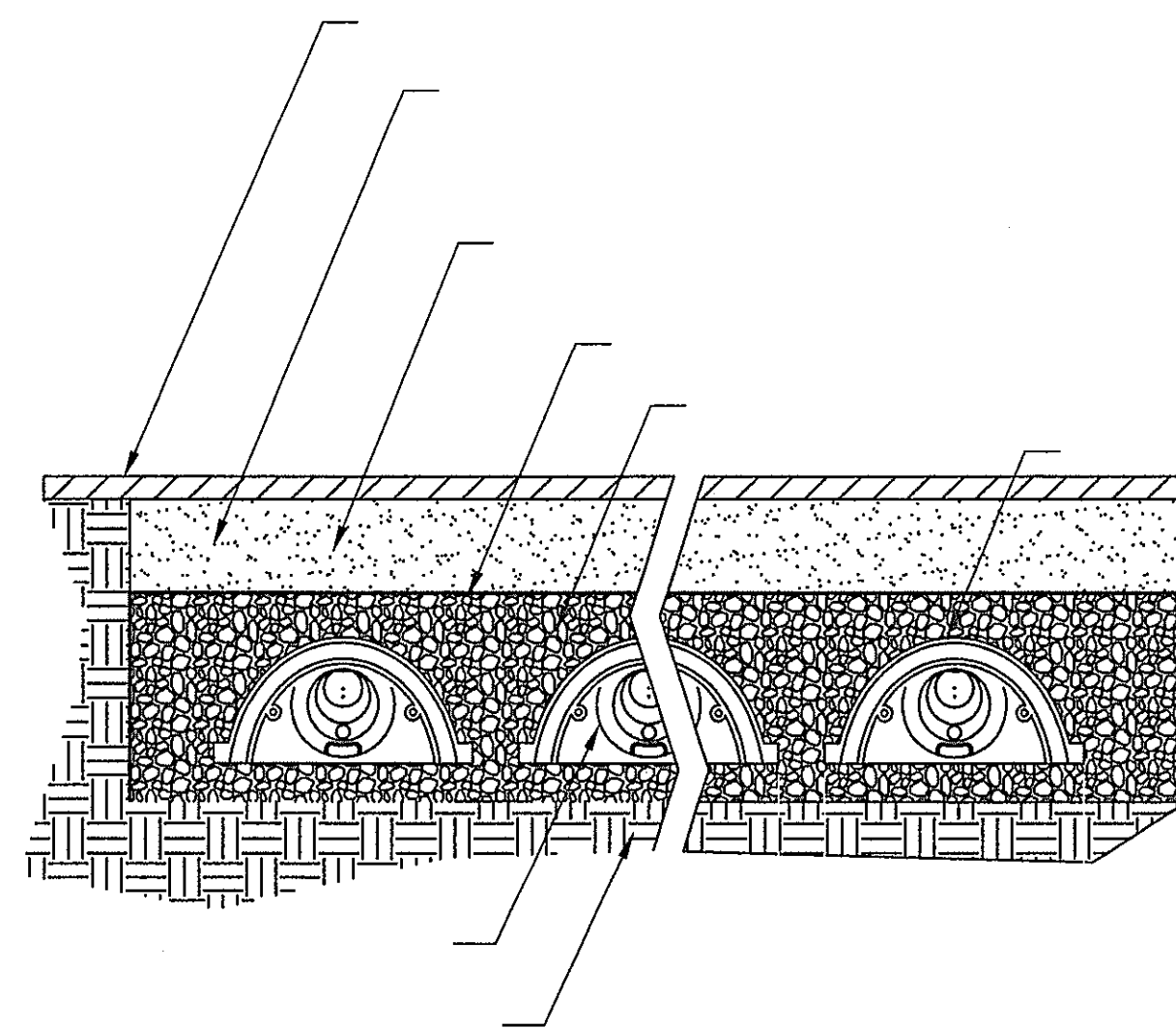
REVISIONS	DATE	DESCRIPTION
No. 1	04/10/18	APARTMENTS 136 UNITS
No. 2	07/06/18	PLAN LAYOUT & DRAINAGE



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CULTEC CHAMBERS
120-CULTEC R-902HD
(4 Rows of 11 Chambers)

ELEV.=188.5±

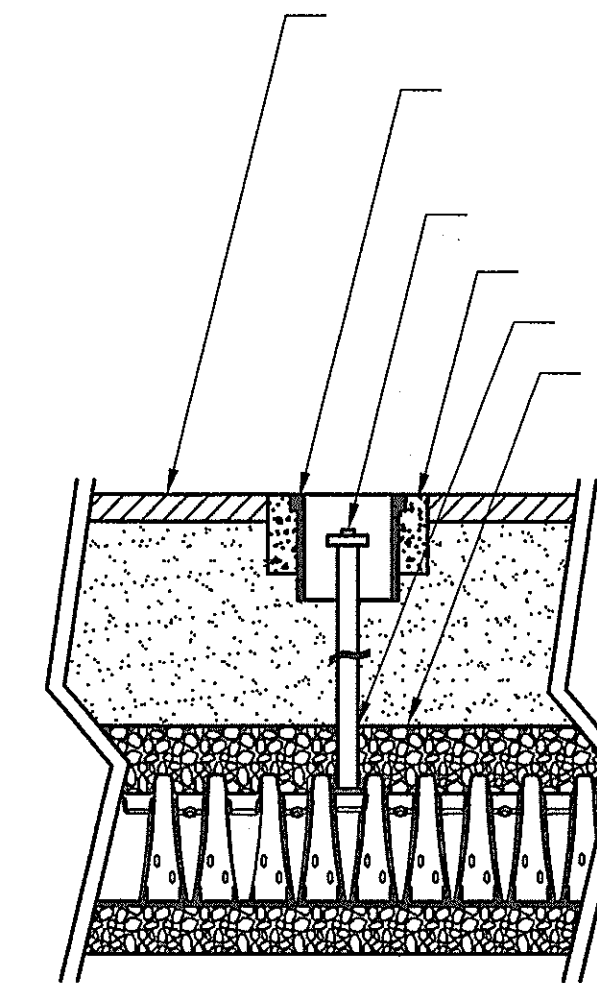
ELEV.=407.50

ELEV.=406.50

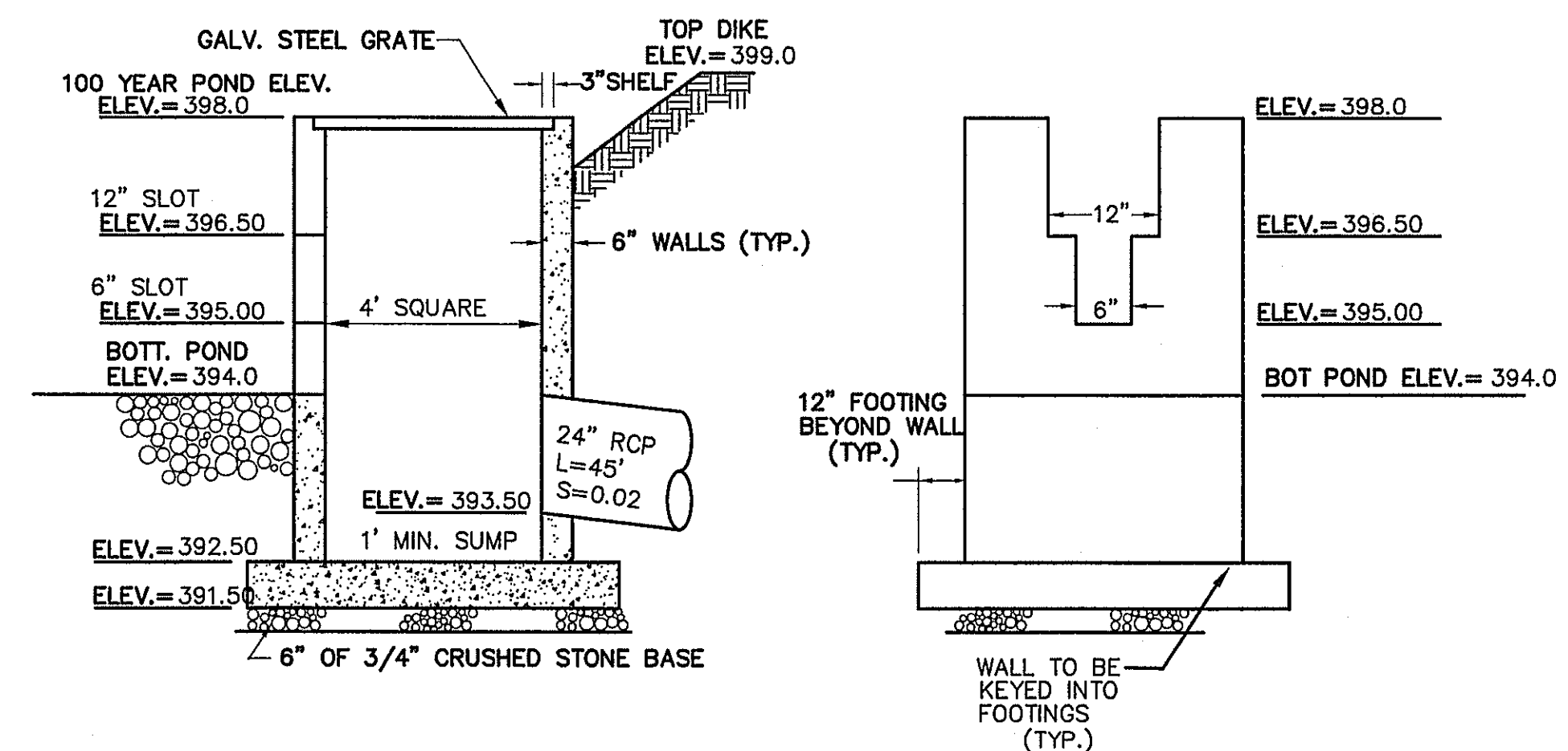
ELEV.=402.5

ELEV.=402.0

CULTEC R-902HD ROOF RECHARGE SYSTEM
TYPICAL CROSS SECTION DETAIL
NOT TO SCALE

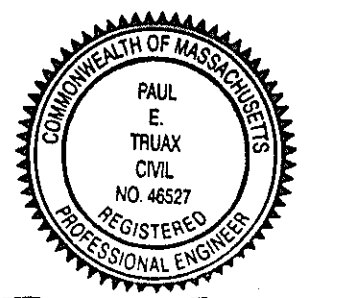


CULTEC 902HD CHAMBER SYSTEM
INSPECTION PORT DETAIL
NOT TO SCALE



PROPOSED OUTLET CONTROL STRUCTURE
DRAINAGE BASIN#5
(PRECAST CONCRETE STRUCTURE)
NOT TO SCALE

REVISIONS	DATE	DESCRIPTION
No. 1	04/10/18	APARTMENTS 136 UNITS
No. 2	07/06/18	PLAN LAYOUT & DRAINAGE



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DATE: FEBRUARY 8, 2018

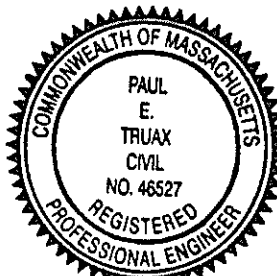
SCALE: nts

SHEET: 18 of 22

PLAN #: 27,147

DETAILS

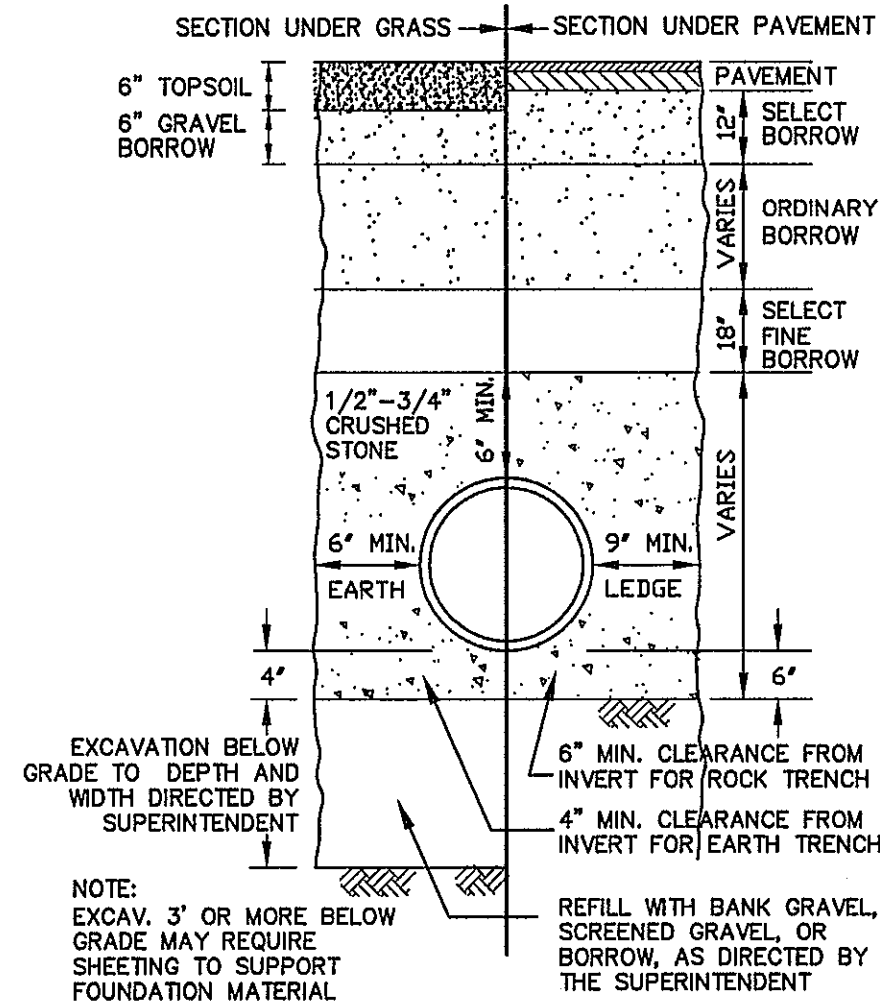
REVISIONS		DESCRIPTION
No.	DATE	
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2	07/06/18	PLAN LAYOUT & DRAINAGE



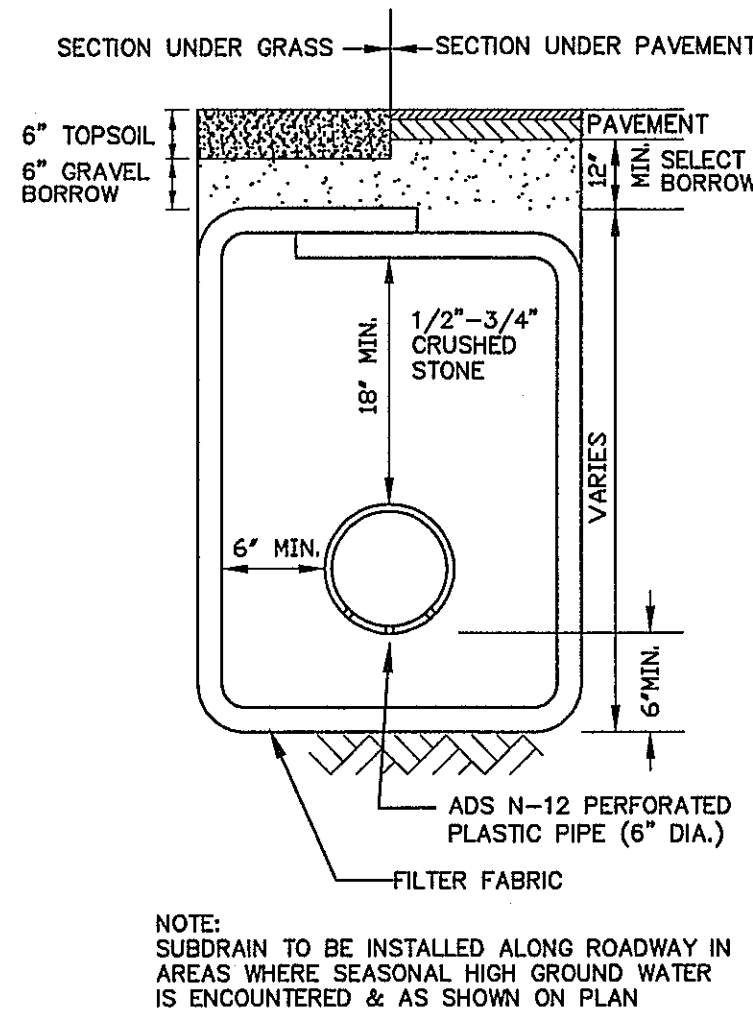
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JOB No.	12,274
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SCALE:	nts
SHEET:	19 of 22
PLAN #:	27,147

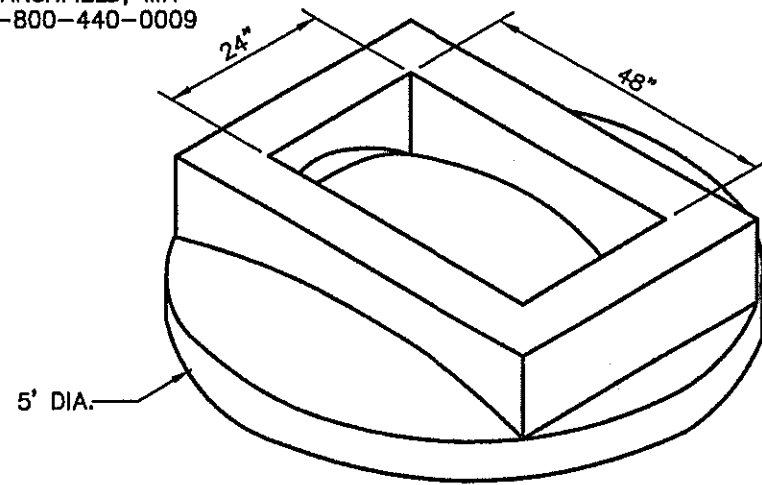


TYPICAL SECTION
 EARTH/ROCK TRENCH
 SEWER MAINS, FORCE MAINS, & WATER MAINS
 N.T.S.



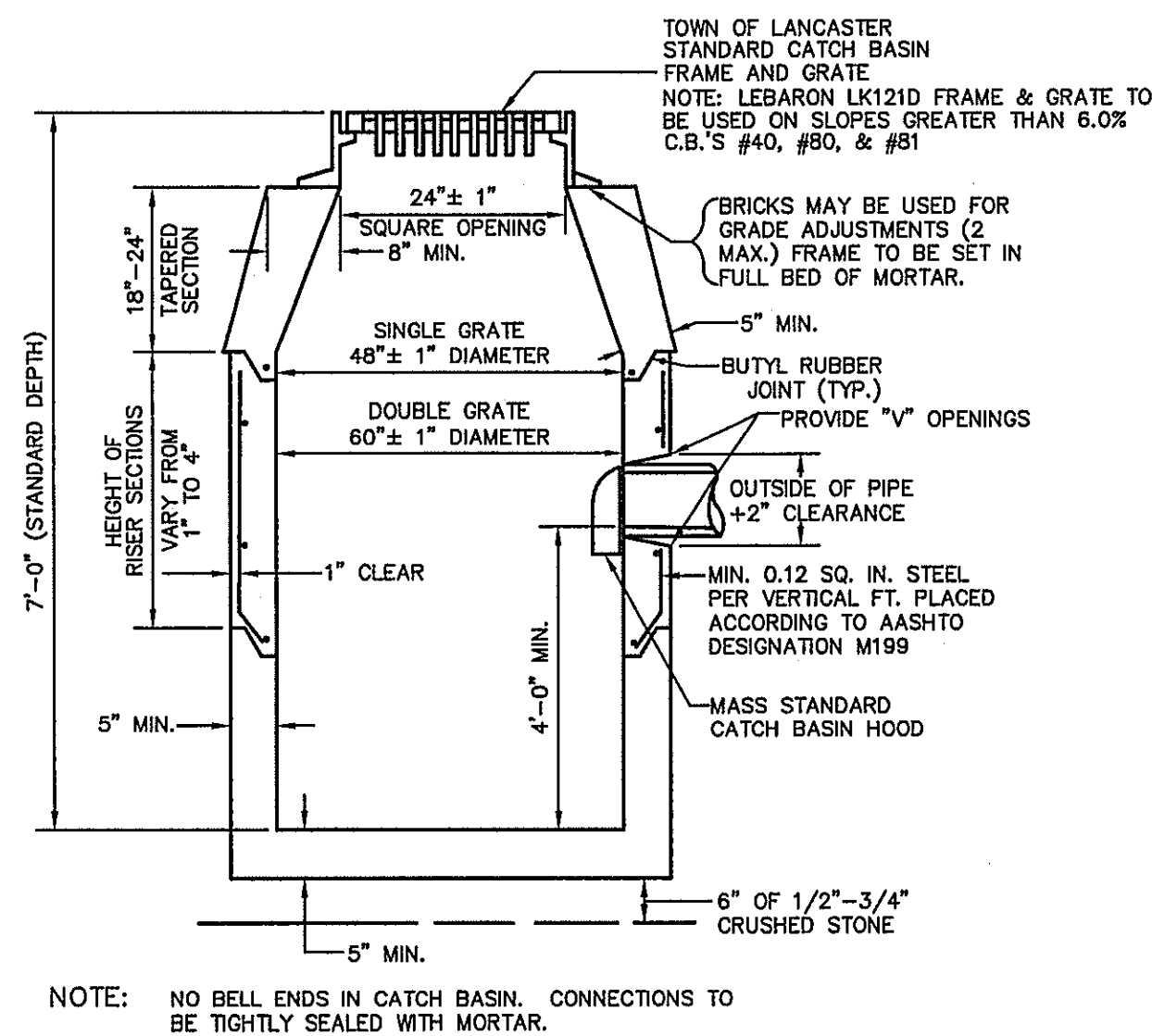
SUBDRAIN DETAIL
 N.T.S.

MANUFACTURED BY:
 SQUIATTE/RAY
 PRECAST CONCRETE PRODUCTS CORP.
 MARSHFIELD, MA
 1-800-440-0009

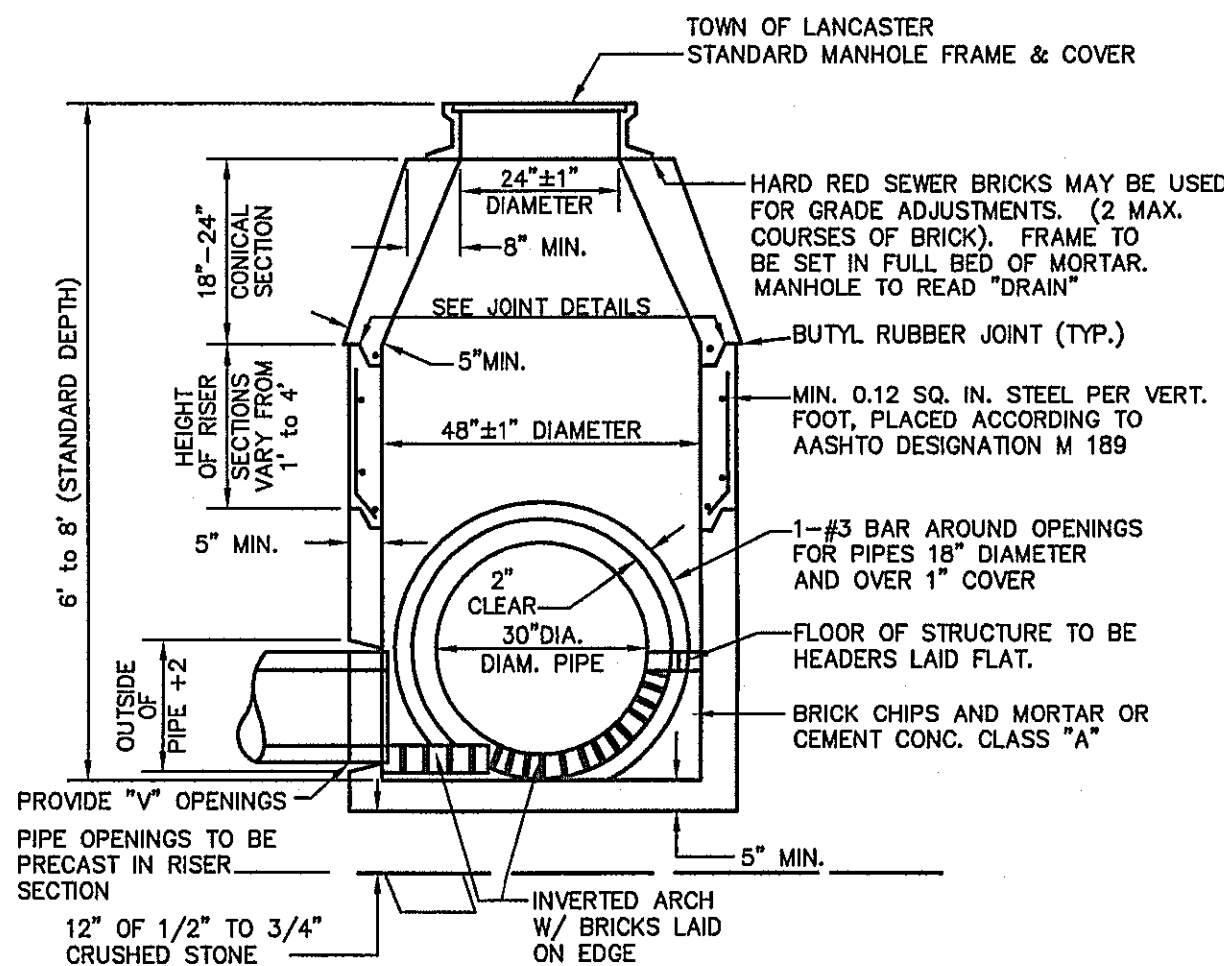


1. MANUFACTURED TO MEET OR EXCEED ASTM C-478 & AASHTO M 199 SPECS.
2. REINFORCING SHALL CONFORM TO ASTM A-185 AND BE PLACED AS PER ASTM C-478 (8.1, 8.3)
3. CONCRETE = 4000 PSI MIN. AND CEMENT PER ASTM C-478 (8.1)
4. MANHOLE STEPS - POLYPROPYLENE COATED GRADE 60 R-BAR PER ASTM C-478 & OSHA (STD. 1-19)
5. BUTYL RUBBER JOINT SEALANT PER ASTM C-390 & AASHTO M-198
6. WATERPROOFING PER CONTRACT SPECS. AS REQUIRED.
7. DESIGNED FOR H-20 LOADING.

DOUBLE OPEN CATCH BASIN DOME TOP
 NOT TO SCALE

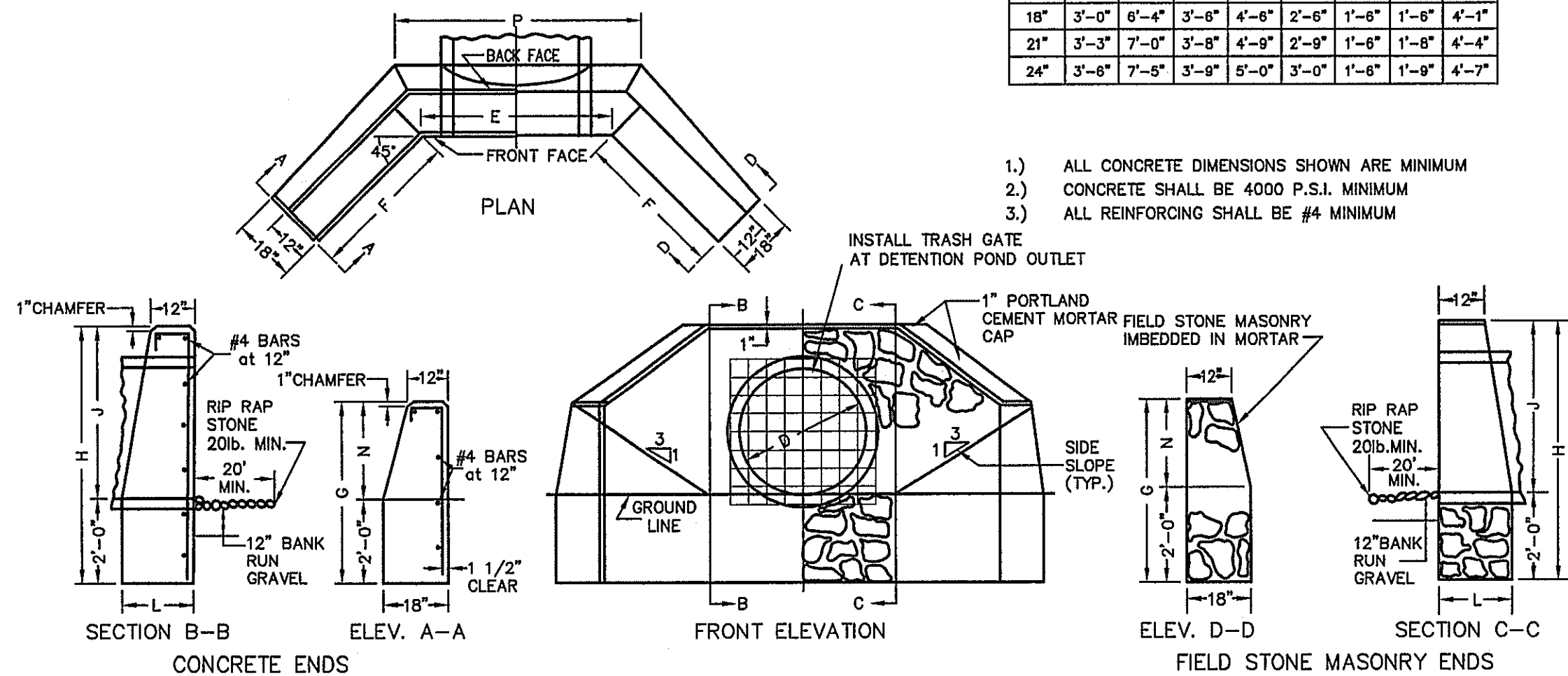


PRECAST CONCRETE CATCH BASIN DETAILS
 NOT TO SCALE



PRECAST CONCRETE MANHOLE DETAILS
 NOT TO SCALE

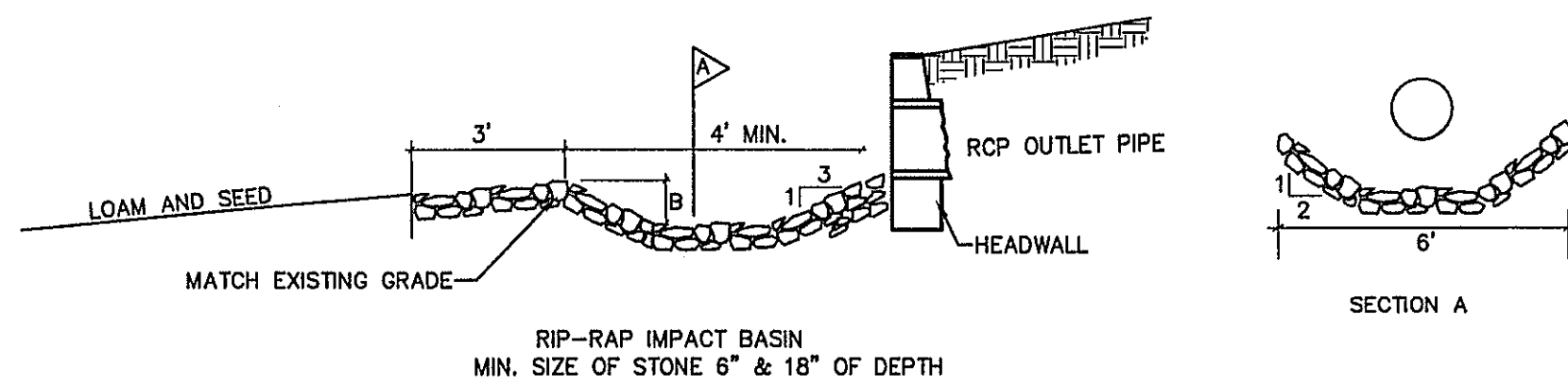
D	E	F	G	H	J	L	N	P
12"	2'-6"	4'-6"	3'-2"	4'-0"	2'-0"	1'-6"	1'-2"	3'-5"
15"	2'-9"	5'-4"	3'-3"	4'-3"	2'-3"	1'-8"	1'-3"	3'-9"
18"	3'-0"	6'-4"	3'-6"	4'-6"	2'-6"	1'-8"	1'-6"	4'-1"
21"	3'-3"	7'-0"	3'-8"	4'-9"	2'-9"	1'-8"	1'-8"	4'-4"
24"	3'-6"	7'-5"	3'-9"	5'-0"	3'-0"	1'-8"	1'-8"	4'-7"



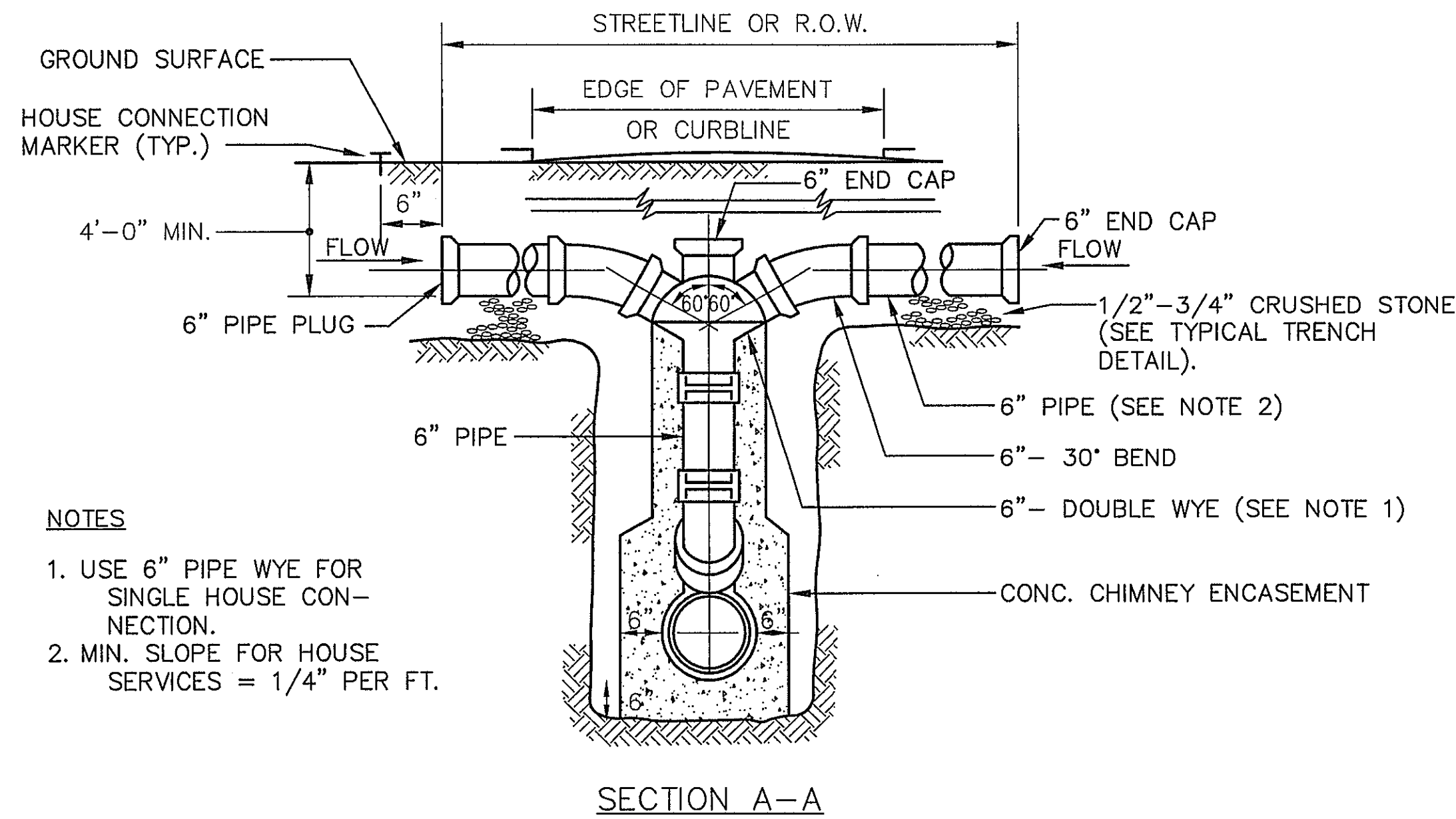
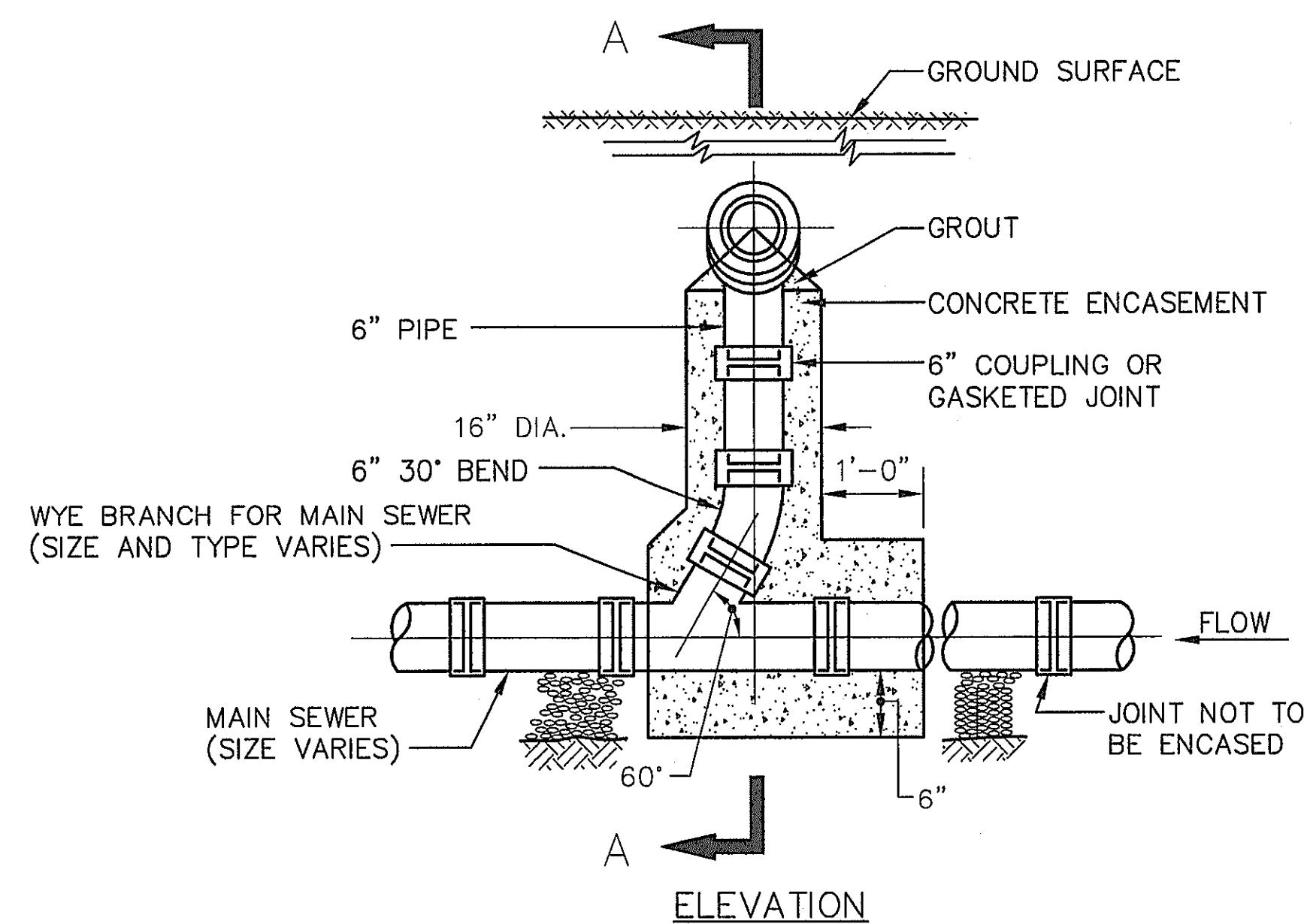
CONCRETE AND FIELD STONE MASONRY HEADWALL DETAILS
 NOT TO SCALE

IMPACT BASIN SIZING

FLARED END #	DEPTH "B" (INCHES)	RIP-RAP SIZE D50 (IN.)
1	18.00	6.00
2	18.00	6.00
3	18.00	6.00



RIP-RAP IMPACT BASIN AT HEADWALLS
 NOT TO SCALE

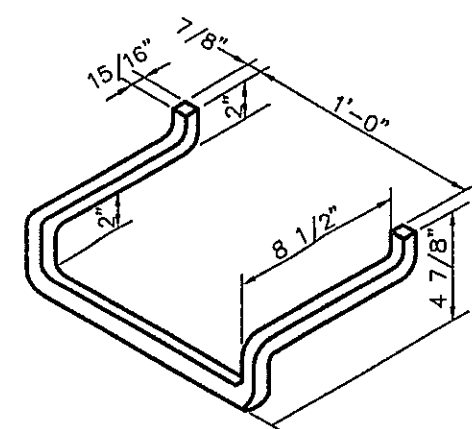


TYPICAL HOUSE SERVICE CONNECTION & CHIMNEY DETAIL

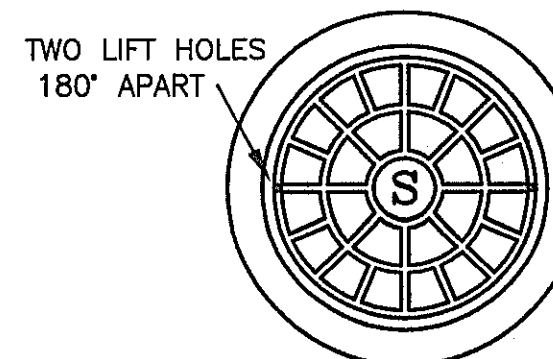
(FOR MAIN SEWER OVER 8'-0" DEEP)
NOT TO SCALE

NOTES

1. USE 6" PIPE WYE FOR SINGLE HOUSE CONNECTION.
2. MIN. SLOPE FOR HOUSE SERVICES = 1/4" PER FT.



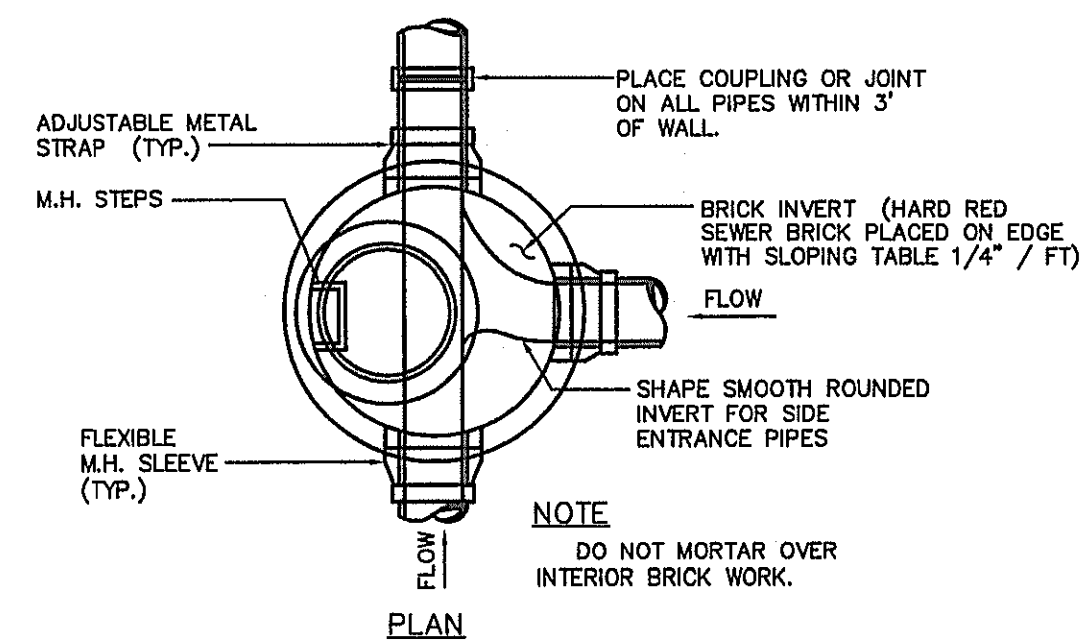
MANHOLE STEP DETAILS
NOT TO SCALE



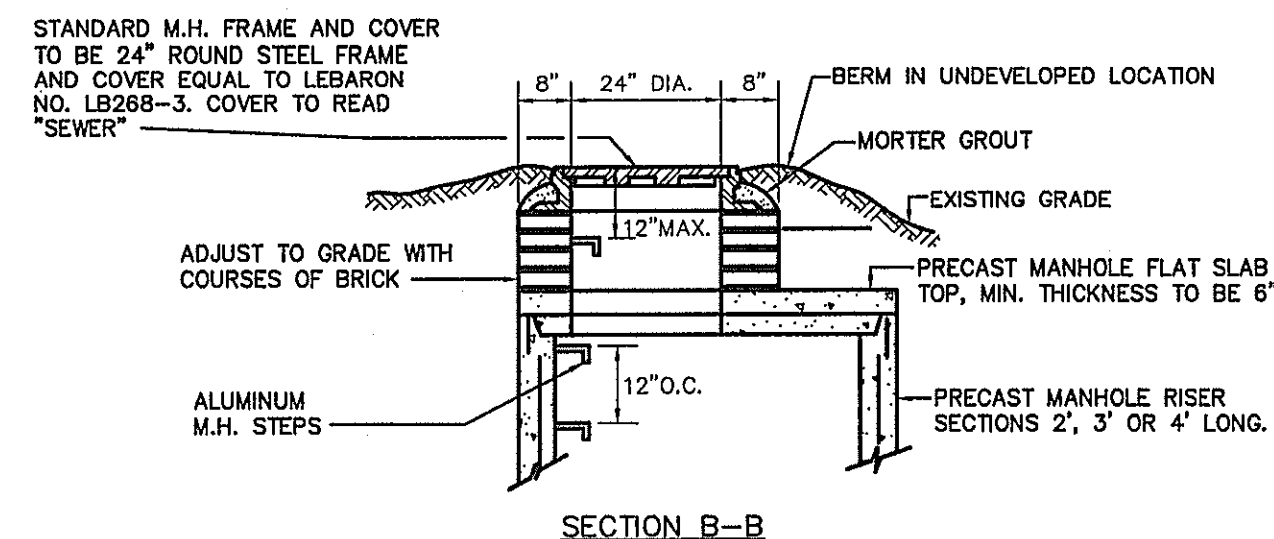
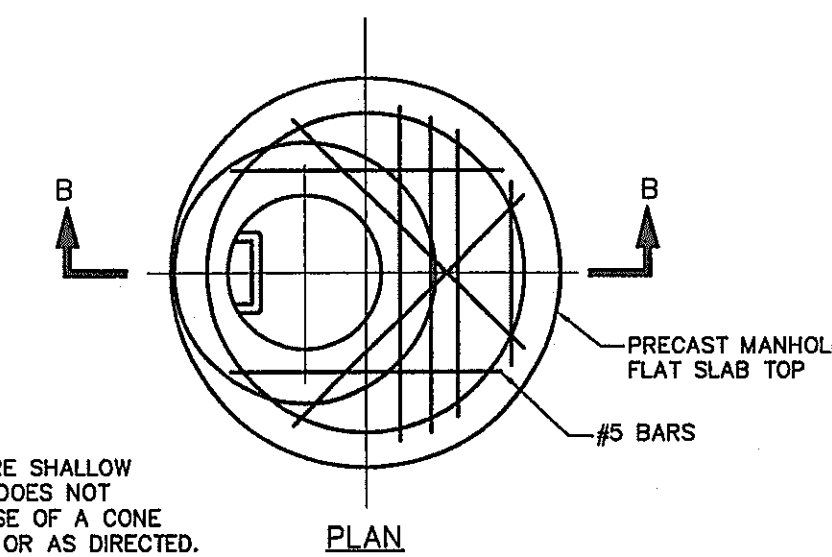
AS MANUFACTURED BY:
LE BARON FONDRY CO.
BROCKTON, MA
No. LT 101
MECHANICS IRON FOUNDRY CO.
BOSTON, MA
No. K 6004
C.M. WHITE IRON WORKS
NORTH READING, MA
No. R 258

NOTE:
FOR WATERTIGHT APPLICATIONS
USE THE FOLLOWING CASTINGS:
LE BARON FOUNDRY CO.
WATERTIGHT M.H. FRAME & COVER
No. LBW268-2
OR
LE BARON FOUNDRY CO.
BOLTED & GASKETED FRAME & COVER
No. LBB268-2
OR APPROVED EQUAL

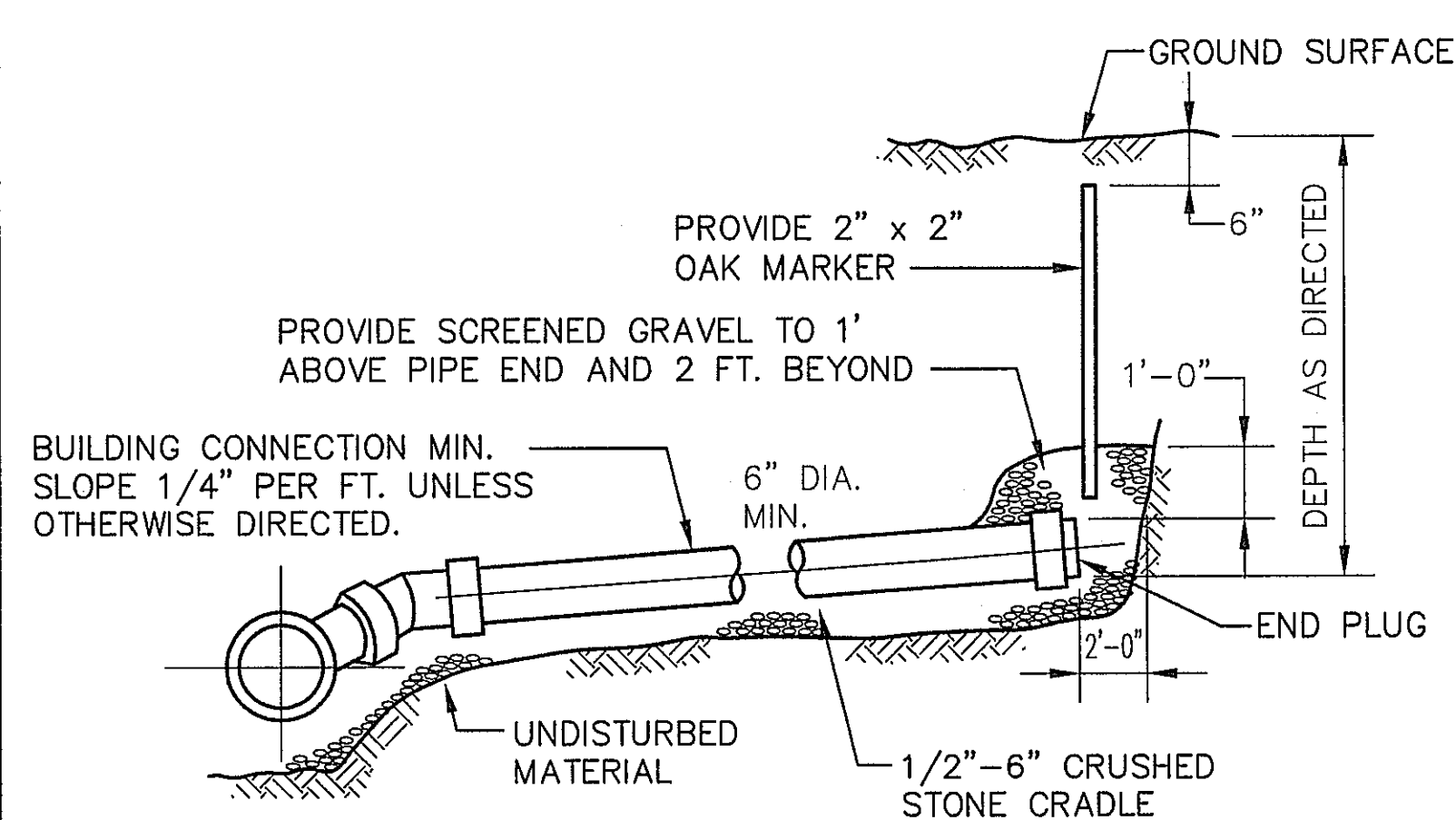
**CAST IRON
MANHOLE FRAME AND COVER**
MIN. WEIGHT=450# PER SET



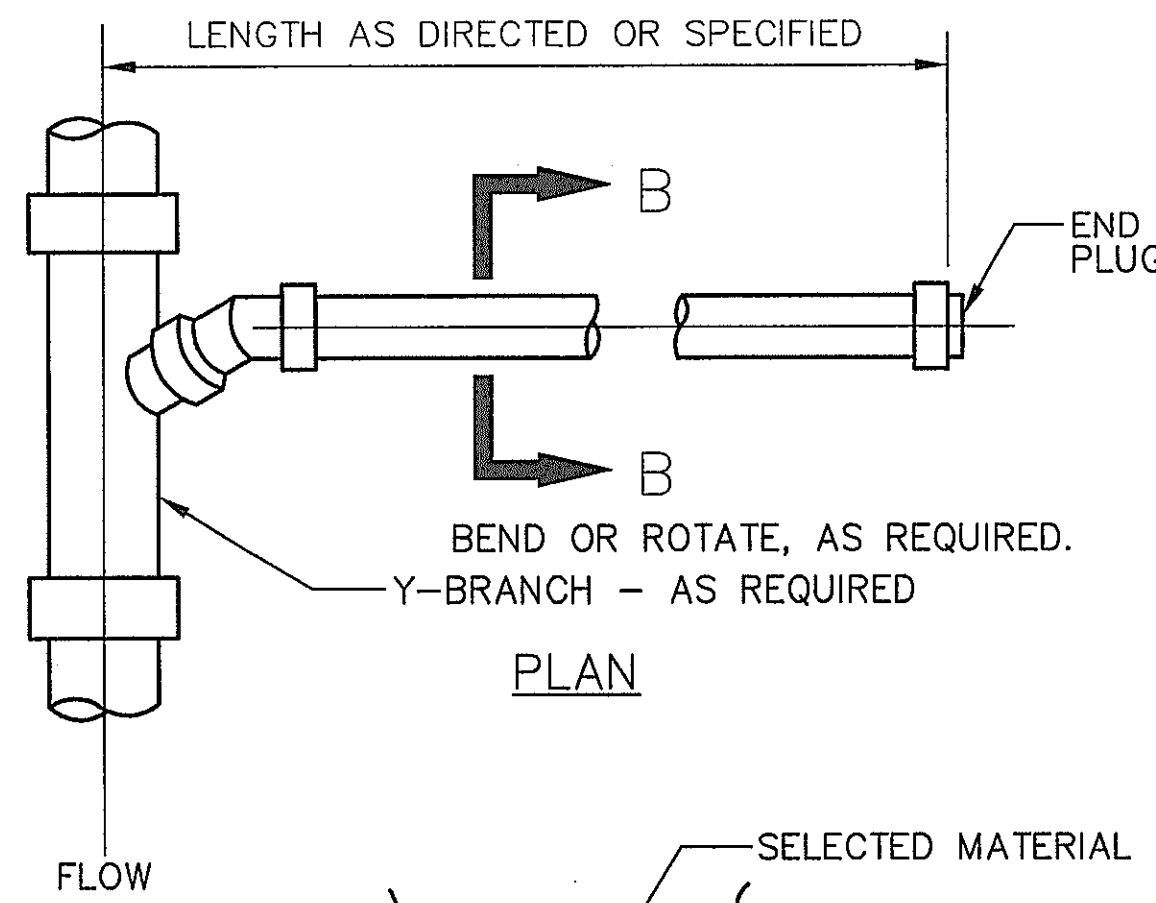
NOTE:
FOR USE WHERE SHALLOW
INSTALLATION DOES NOT
PERMIT THE USE OF A CONE
TYPE SECTION OR AS DIRECTED.



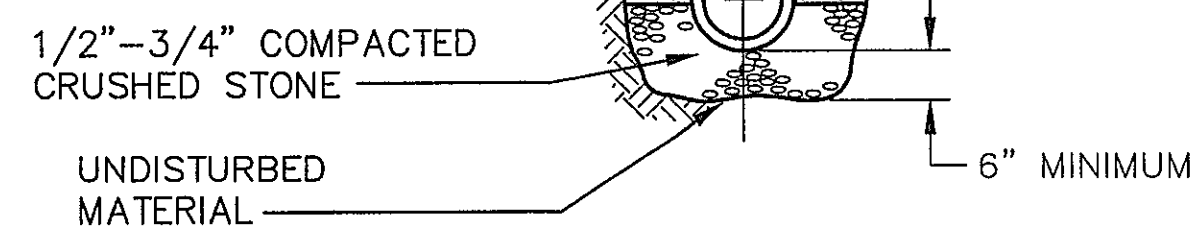
FLAT TOP SECTION
NOT TO SCALE



SECTION



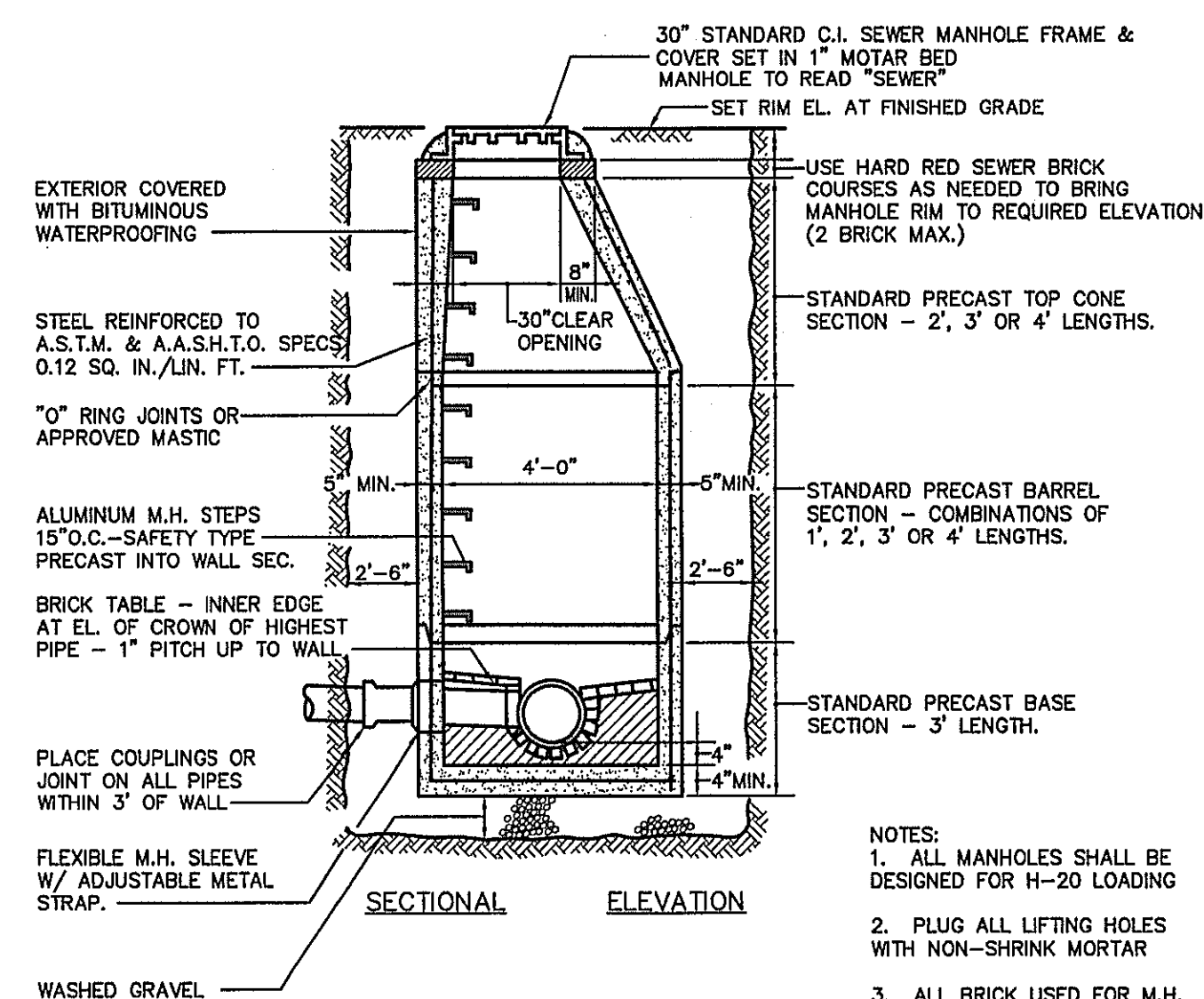
PLAN



SECTION B-B

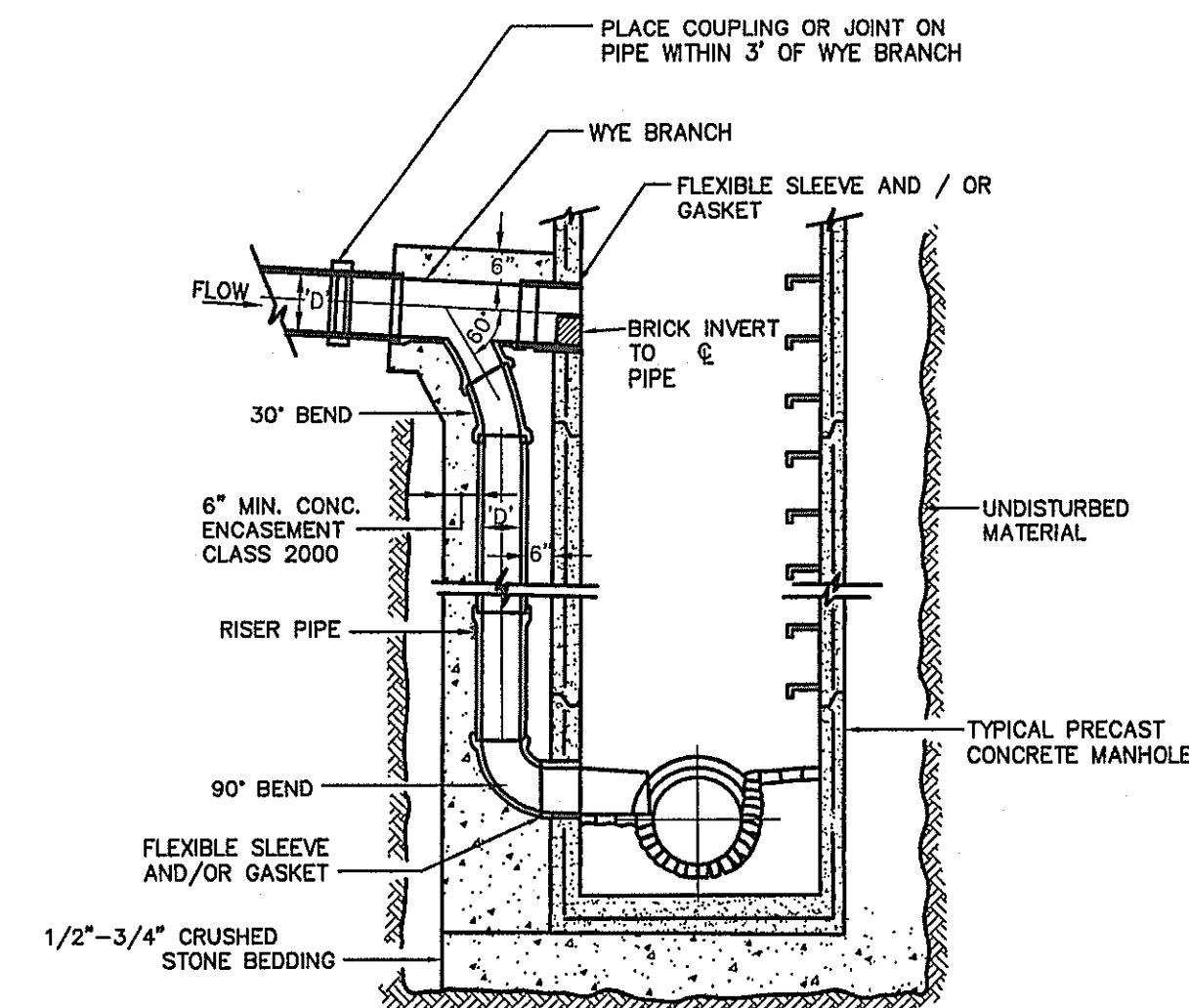
TYPICAL BUILDING CONNECTION

NOT TO SCALE



TYPICAL SEWER MANHOLE DETAIL

NOT TO SCALE



TYPICAL DROP INLET MANHOLE DETAILS

NOT TO SCALE

NOTE:

DIGSAFE 1-888-DIG-SAFE

REVISIONS	DATE	DESCRIPTION
1	04/10/18	APARTMENTS 136 UNITS
2	07/06/18	PLAN LAYOUT & DRAINAGE

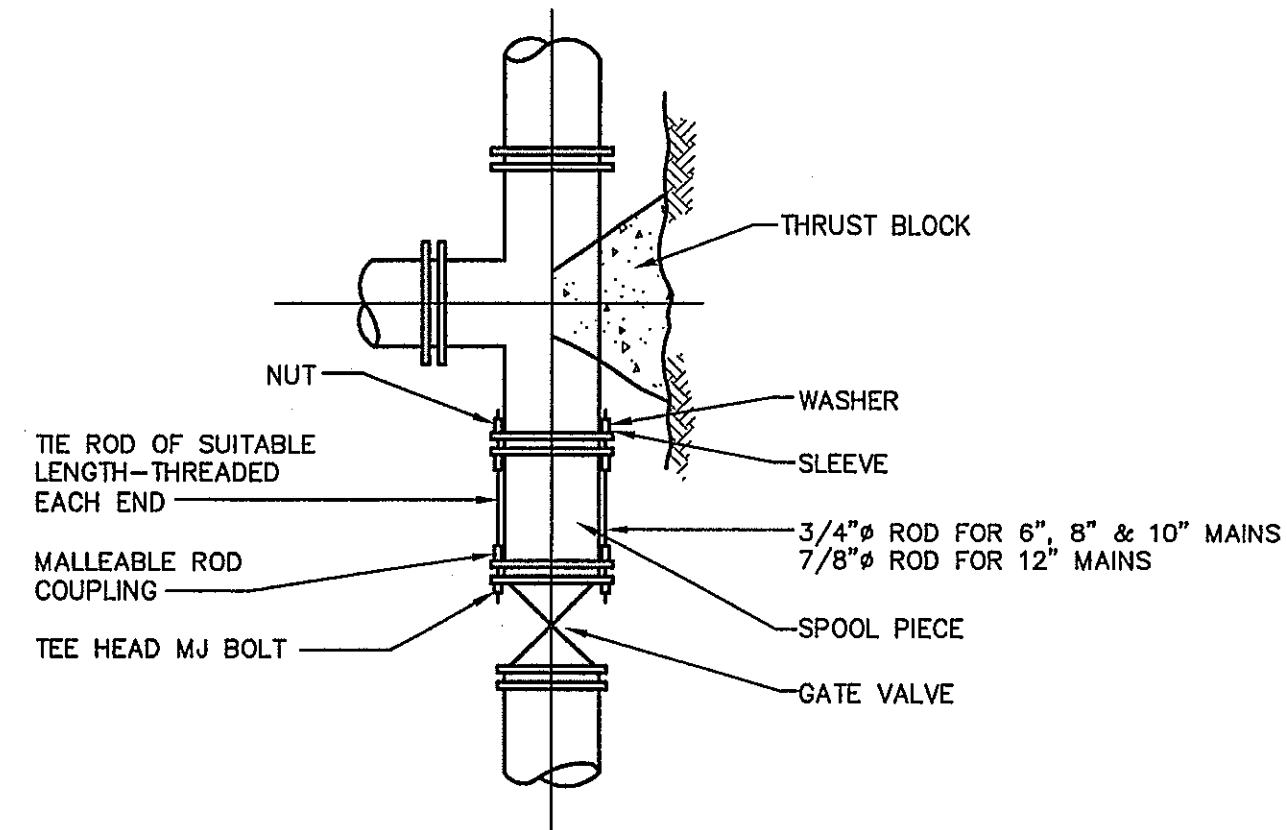


SITE DEVELOPMENT PLAN
"GOODRIDGE BROOK ESTATES"
Multi Unit & Single Family Subdivision Layout
LANCASTER, MASSACHUSETTS

PREPARED FOR:
CRESCENT BUILDERS, INC.
94 NORTH MAIN STREET
BOYLSTON MA 01583

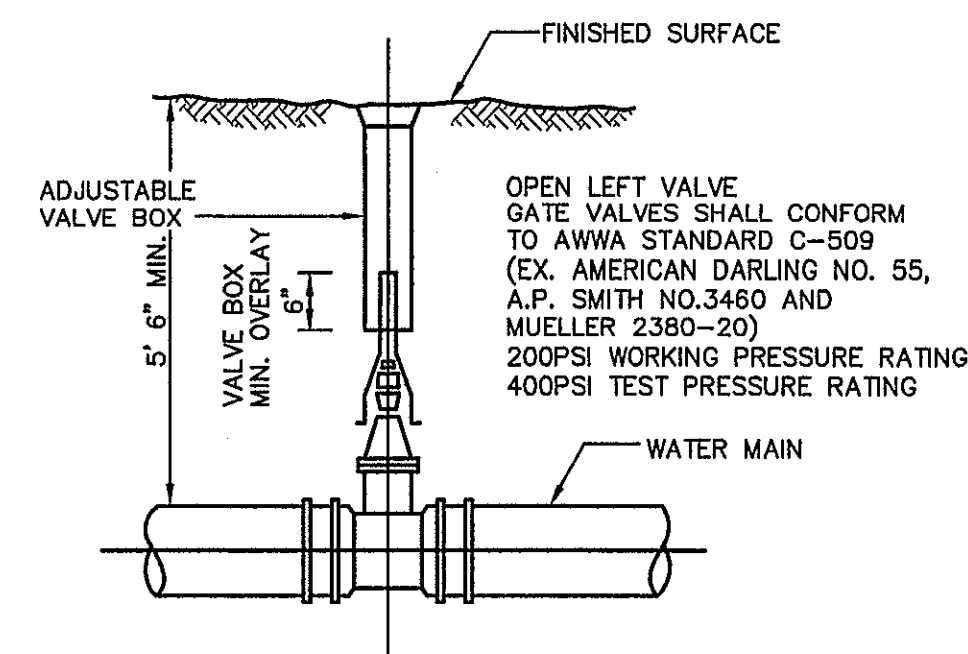
GLM Engineering Consultants, Inc.
19 EXCHANGE STREET
HOLLISTON, MA 01746
P: 508-429-1100
F: 508-429-7160
www.GLMengineering.com

DRW.: RST	JOB No. 12,274
DATE: FEBRUARY 8, 2018	SCALE: nts
SHEET: 20 of 22	PLAN #: 27,147



TYPICAL TIED MECHANICAL JOINT
VALVE CONNECTION DETAILS

NOT TO SCALE



TYPICAL GATE VALVE

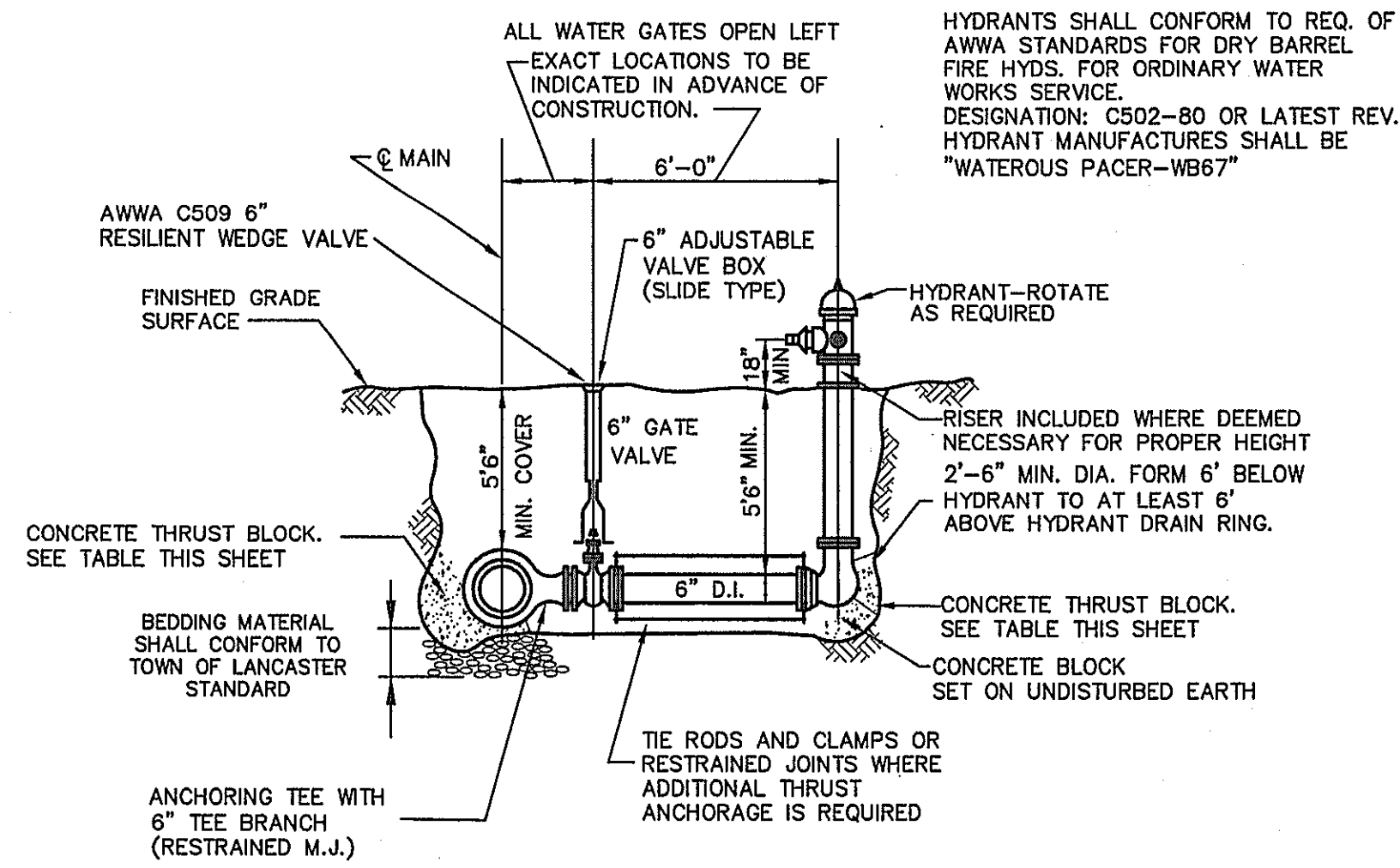
NOT TO SCALE

NOTE: CONCRETE FOR THRUST BLOCKS SHALL BE NO LONGER THAN THE RATIO OF 2 1/2 : 5 1/2 AND SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 2000 PSI (SO THAT FLANGES AND BOLTS ARE ACCESSIBLE.)

BEARING AREAS OF THRUST BLOCKS (BEARING AREA IN SQUARE FT.)				
PIPE SIZE INCHES	1/4 BEND	1/8 BEND	1/16 BEND OR LESS	PLUG TEES
6 AND 8	8	8		8
10 AND 12	22	13	8	16

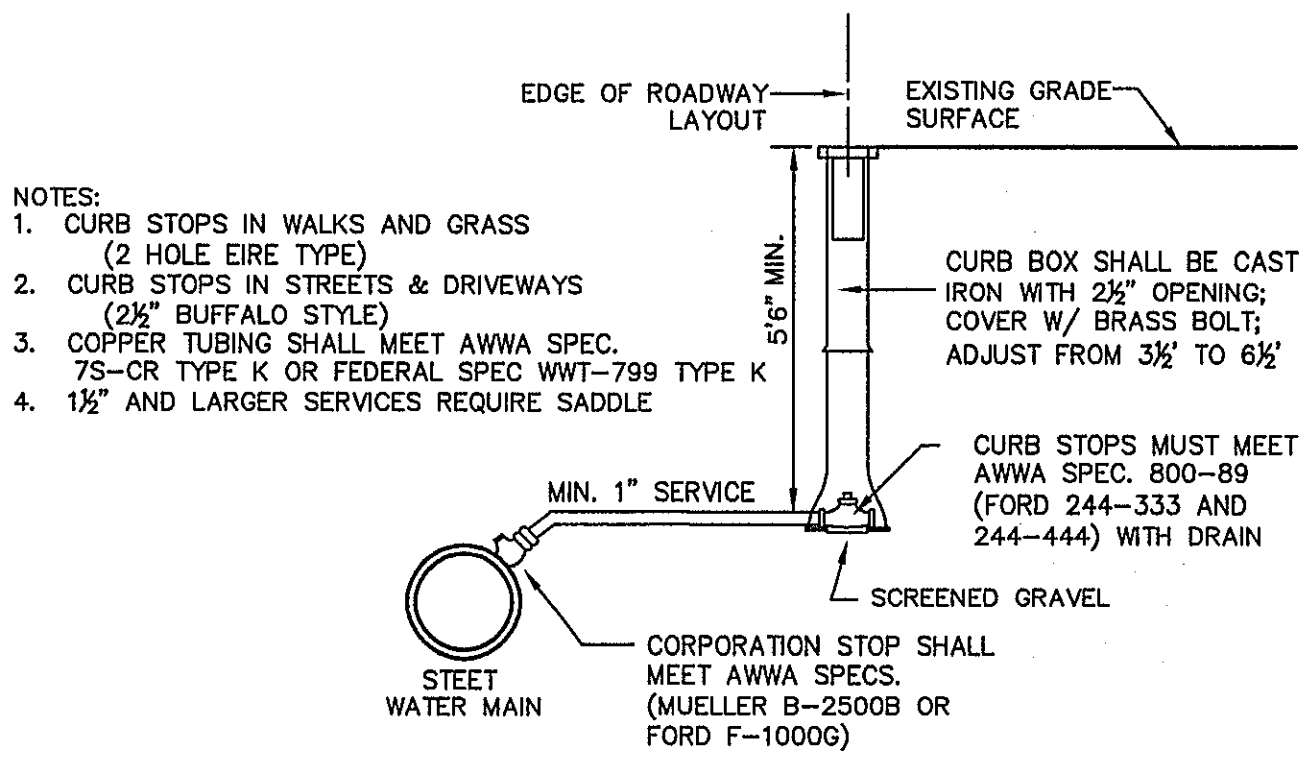
TYPICAL THRUST BLOCK DETAIL

NOT TO SCALE



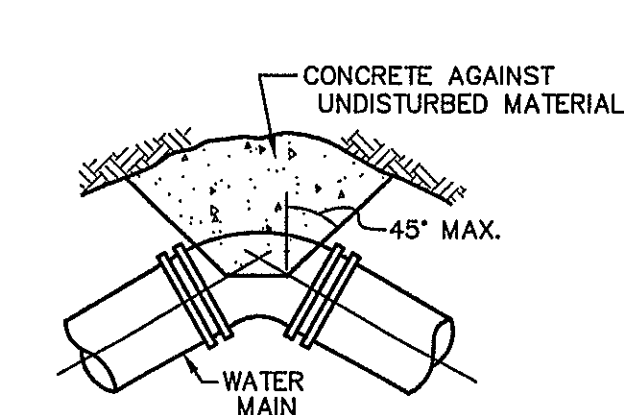
TYPICAL HYDRANT ASSEMBLY DETAIL

NOT TO SCALE

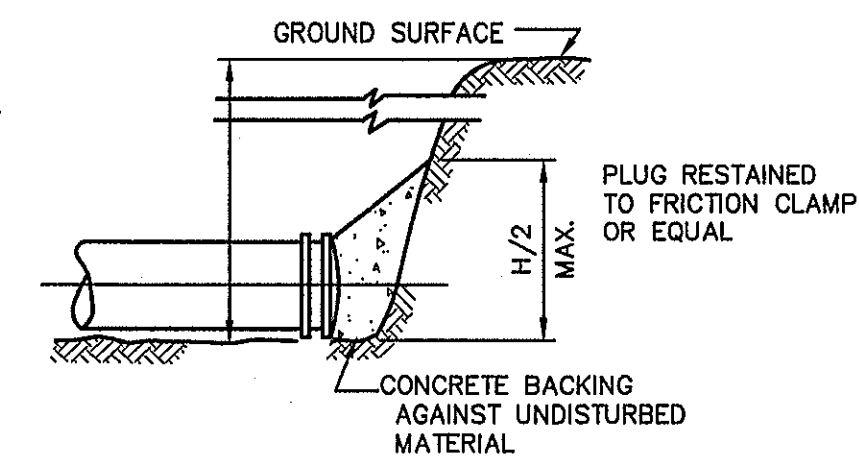


TYPICAL NEW WATER SERVICE CONNECTION DETAIL

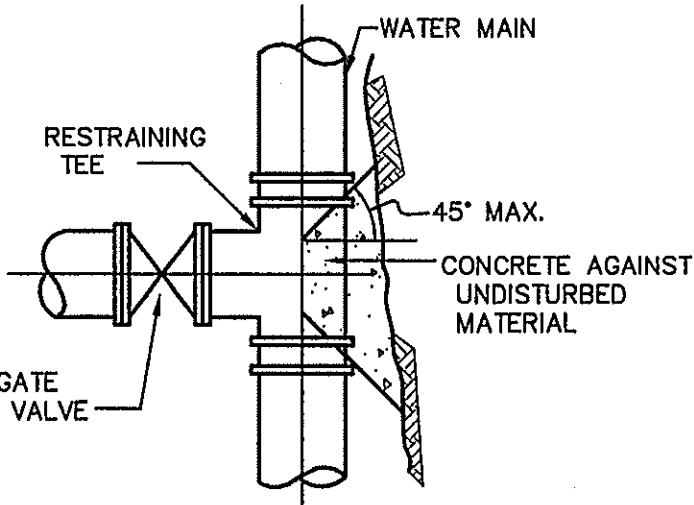
NOT TO SCALE



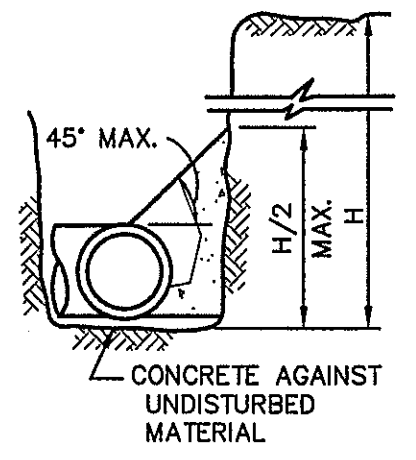
TYPICAL BEND



TYPICAL PLUG



TYPICAL TEE

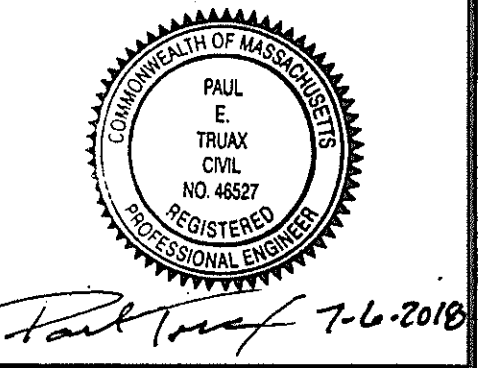


TYPICAL SECTION

NOTES:
ALL WATER DETAILS MANUFACTURERS & CONSTRUCTION STANDARDS SHALL CONFORM TO THE TOWN OF LANCASTER STANDARDS.

DETAILS

REVISIONS		DESCRIPTION
No.	DATE	
1	04/10/18	APARTMENTS 136 UNITS
2	07/06/18	PLAN LAYOUT & DRAINAGE



SITE DEVELOPMENT PLAN
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GLM Engineering
Consultants, Inc.
19 EXCHANGE STREET
HOLLISTON, MA 01746
P: 508-429-1100
F: 508-429-7160
www.GLMengineering.com

DRW.: RST	
JOB No.	12,274
DATE:	FEBRUARY 8, 2018
SCALE:	nts
SHEET:	21 of 22
PLAN #:	27,147

DEEP HOLE -- #08-1		
HORIZ DEPTH	DATE: 01/28/08 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	404.0
6"		403.5
16"	B -- SILT LOAM	402.2
	C -- FINE SILT LOAM, 5 % GRAVEL	
84"		397.0
28"	GROUNDWATER OBSERVED (STANDING / WEEPING)	401.7
24"	SOIL MOTTLING -- FAINT	402.0
24"	ESTIMATED SEASONAL HIGH GROUNDWATER	402.0

DEEP HOLE -- #08-2		
HORIZ DEPTH	DATE: 01/28/08 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	406.0
4"		405.7
12"	B -- SANDY LOAM	405.0
	C -- SILT LOAM	
80"		399.3
38"	GROUNDWATER OBSERVED (STANDING / WEEPING)	402.8
30"	SOIL MOTTLING -- FAINT	403.5
30"	ESTIMATED SEASONAL HIGH GROUNDWATER	403.5

DEEP HOLE -- #08-3		
HORIZ DEPTH	DATE: 01/28/08 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	402.0
2"		401.8
10"	B -- SILT LOAM	401.2
	C -- SILT LOAM	
115"		392.4
NA	GROUNDWATER OBSERVED (STANDING / WEEPING)	
86"	SOIL MOTTLING -- FAINT	394.8
30"	ESTIMATED SEASONAL HIGH GROUNDWATER	394.8

DEEP HOLE -- #08-4		
HORIZ DEPTH	DATE: 01/28/08 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	402.2
4"		401.9
14"	B -- SILT LOAM	401.0
	C -- SILT LOAM	
76"		395.9
NA	GROUNDWATER OBSERVED (STANDING / WEEPING)	
NA	SOIL MOTTLING -- FAINT	
	ESTIMATED SEASONAL HIGH GROUNDWATER	

DEEP HOLE -- #08-5		
HORIZ DEPTH	DATE: 01/28/08 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	404.5
8"		403.8
26"	B -- SILT LOAM	402.3
	C -- SILT LOAM	
108"		395.5
48"	GROUNDWATER OBSERVED (STANDING / WEEPING)	400.5
34"	SOIL MOTTLING -- FAINT	401.7
34"	ESTIMATED SEASONAL HIGH GROUNDWATER	401.7

DEEP HOLE -- #08-6		
HORIZ DEPTH	DATE: 01/28/08 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	406.3
3"		406.0
26"	B -- SILT LOAM	404.1
	C -- SILT LOAM	
72"		400.3
48"	GROUNDWATER OBSERVED (STANDING / WEEPING)	402.3
38"	SOIL MOTTLING -- FAINT	403.1
34"	ESTIMATED SEASONAL HIGH GROUNDWATER	403.1

DEEP HOLE -- #08-7		
HORIZ DEPTH	DATE: 01/28/08 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	401.2
2"		401.0
10"	B -- SANDY LOAM	400.4
	C -- SANDY LOAM	
92"		393.5
NA	GROUNDWATER OBSERVED (STANDING / WEEPING)	
NA	SOIL MOTTLING -- FAINT	
NA	ESTIMATED SEASONAL HIGH GROUNDWATER	

DEEP HOLE -- #08-8		
HORIZ DEPTH	DATE: 01/28/08 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	394.0
2"		393.8
20"	B -- SILT LOAM	392.3
48"	C1 -- COURSE SAND	390.0
	C1 -- FINE SAND	
108"		385.0
52"	GROUNDWATER OBSERVED (STANDING / WEEPING)	389.7
42"	SOIL MOTTLING -- FAINT	390.5
42"	ESTIMATED SEASONAL HIGH GROUNDWATER	390.5

DEEP HOLE -- #08-9		
HORIZ DEPTH	DATE: 01/28/08 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	398.5
3"		398.3
10"	B -- SANDY LOAM	397.7
	C -- SANDY LOAM	
102"		390.0
80"	GROUNDWATER OBSERVED (STANDING / WEEPING)	391.8
74"	SOIL MOTTLING -- FAINT	392.3
74"	ESTIMATED SEASONAL HIGH GROUNDWATER	392.3

DEEP HOLE -- #08-10		
HORIZ DEPTH	DATE: 01/28/08 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	398.0
3"		397.8
8"	B -- SANDY LOAM	397.3
48"	C1 -- SANDY LOAM	394.0
	C2 -- SILTY LOAM	
76"		391.7
	C3 -- SILTY LOAM WITH SHALE	
108"		389.0
88"	GROUNDWATER OBSERVED (STANDING / WEEPING)	390.7
78"	SOIL MOTTLING -- FAINT	391.5
78"	ESTIMATED SEASONAL HIGH GROUNDWATER	391.5

DEEP HOLE -- #1		
HORIZ DEPTH	DATE: 03/28/06 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	401.8
4"		401.5
19"	B--FINE SANDY LOAM	401.6
	C -- FINE SILT LOAM, 20% GRAVEL	
108"		392.8
48"	GROUNDWATER OBSERVED (STANDING / WEEPING)	397.8
24"	SOIL MOTTLING -- FAINT	399.8
24"	ESTIMATED SEASONAL HIGH GROUNDWATER	399.8

DEEP HOLE -- #2		
HORIZ DEPTH	DATE: 03/28/06 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	404.3
8"		403.6
18"	B--FINE SANDY LOAM	402.8
	C -- SILT LOAM	
108"		395.3
18"	GROUNDWATER OBSERVED (STANDING / WEEPING)	402.8
18"	SOIL MOTTLING -- FAINT	402.8
18"	ESTIMATED SEASONAL HIGH GROUNDWATER	402.8

DEEP HOLE -- #3		
HORIZ DEPTH	DATE: 03/28/06 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	398.6
8"		397.9
12"	B--FINE SANDY LOAM	397.6
	C -- SILT LOAM	
108"		389.6
72"	GROUNDWATER OBSERVED (STANDING / WEEPING)	392.6
NA	SOIL MOTTLING -- FAINT	
72"	ESTIMATED SEASONAL HIGH GROUNDWATER	392.6

DEEP HOLE -- #4		
HORIZ DEPTH	DATE: 03/28/06 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	402.2
6"		401.7
19"	B--FINE SANDY LOAM	400.6
	C -- SILT LOAM	
120"		392.2
92"	GROUNDWATER OBSERVED (STANDING / WEEPING)	394.5
NA	SOIL MOTTLING -- FAINT	
92"	ESTIMATED SEASONAL HIGH GROUNDWATER	394.5

DEEP HOLE -- #5		
HORIZ DEPTH	DATE: 03/28/06 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	406.6
6"		406.1
18"	B -- SANDY LOAM	405.1
37"	C1 -- SANDY LOAM	403.5
	C2 -- SILT LOAM	
113"		397.2
28"	GROUNDWATER OBSERVED (STANDING / WEEPING)	404.3
28"	SOIL MOTTLING -- FAINT	404.3
28"	ESTIMATED SEASONAL HIGH GROUNDWATER	404.3

DEEP HOLE -- #6		
HORIZ DEPTH	DATE: 03/28/06 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	407.5
6"		407.0
20"	B -- SANDY LOAM	405.8
36"	C1 -- SANDY LOAM	404.5
	C2 -- SILT LOAM	
113"		398.1
51"	GROUNDWATER OBSERVED (STANDING / WEEPING)	403.3
24"	SOIL MOTTLING	406.5
24"	ESTIMATED SEASONAL HIGH GROUNDWATER	406.5

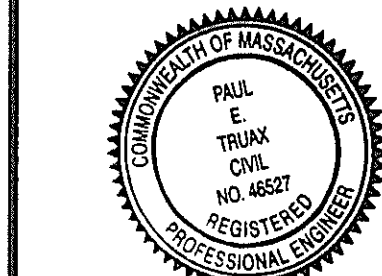
DEEP HOLE -- #7		
HORIZ DEPTH	DATE: 03/28/06 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	401.8
8"		401.1
28"	B -- SILT LOAM	399.5
38"	C1 -- SANDY LOAM	398.6
	C2 -- SILT LOAM	
108"		392.8
36"	GROUNDWATER OBSERVED (STANDING / WEEPING)	398.8
NA	SOIL MOTTLING	
36"	ESTIMATED SEASONAL HIGH GROUNDWATER	398.8

DEEP HOLE -- #8		
HORIZ DEPTH	DATE: 03/28/06 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	407.0
6"		406.5
16"	B -- SILT LOAM	405.2
	C -- SILT LOAM	
108"		397.5
48"	GROUNDWATER OBSERVED (STANDING / WEEPING)	403.0
NA	SOIL MOTTLING	
48"	ESTIMATED SEASONAL HIGH GROUNDWATER	403.0

DEEP HOLE -- #9		
HORIZ DEPTH	DATE: 03/28/06 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	418.1
8"		417.4
28"	B -- SILT LOAM	415.8
40"	C1 -- SANDY LOAM	414.8
	C2 -- SILT LOAM	
108"		409.1
44"	GROUNDWATER OBSERVED (STANDING / WEEPING)	414.4
NA	SOIL MOTTLING	
44"	ESTIMATED SEASONAL HIGH GROUNDWATER	414.4

DEEP HOLE -- #10		
HORIZ DEPTH	DATE: 03/28/06 SOIL DESCRIPTION	ELEV.
0"	A -- TOPSOIL	410.1
8"		409.4
18"	B--FINE SANDY LOAM	408.6
28"	C1 -- SANDY LOAM	407.8
	C2 -- SILT LOAM	
108"		401.1
60"	GROUNDWATER OBSERVED (STANDING / WEEPING)	405.1
NA	SOIL MOTTLING	
60"	ESTIMATED SEASONAL HIGH GROUNDWATER	405.1

REVISIONS		DESCRIPTION
No.	DATE	
1	04/10/18	APARTMENTS 136 UNITS
2	07/06/18	PLAN LAYOUT & DRAINAGE



Paul E. Trunk 7-6-2018

SITE DEVELOPMENT PLAN
"GOODRIDGE BROOK ESTATES"
 Multi Unit & Single Family Subdivision Layout
 LANCASTER, MASSACHUSETTS

GLM Engineering Consultants, Inc.
 19 EXCHANGE STREET
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 P: 508-429-1100
 F: 508-429-7160
 www.GLMengineering.com

DRW.: RST
 JOB No. 12,274
 DATE: FEBRUARY 8, 2018
 SCALE:
 SHEET: 22 of 22
 PLAN #: 27,147