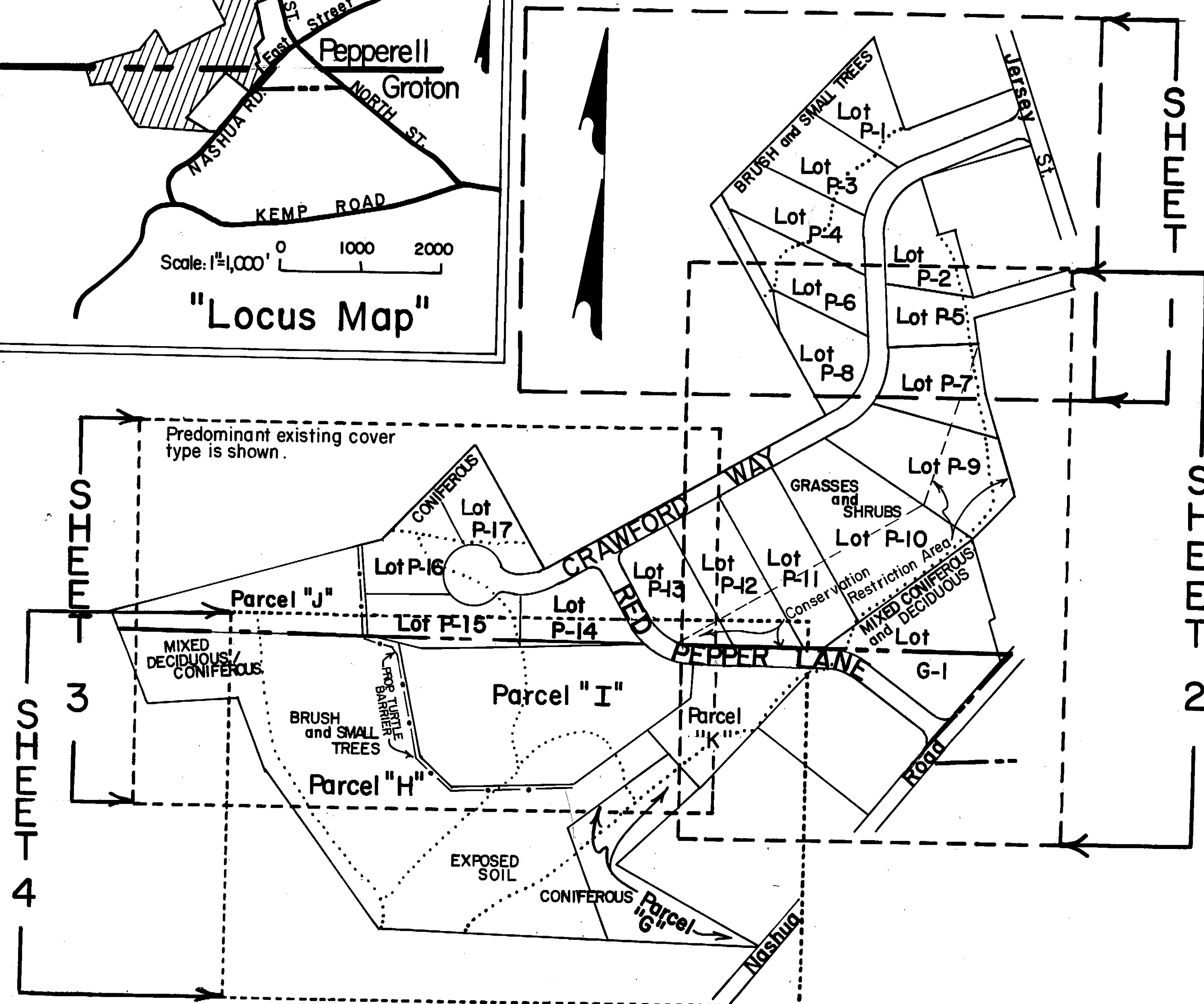
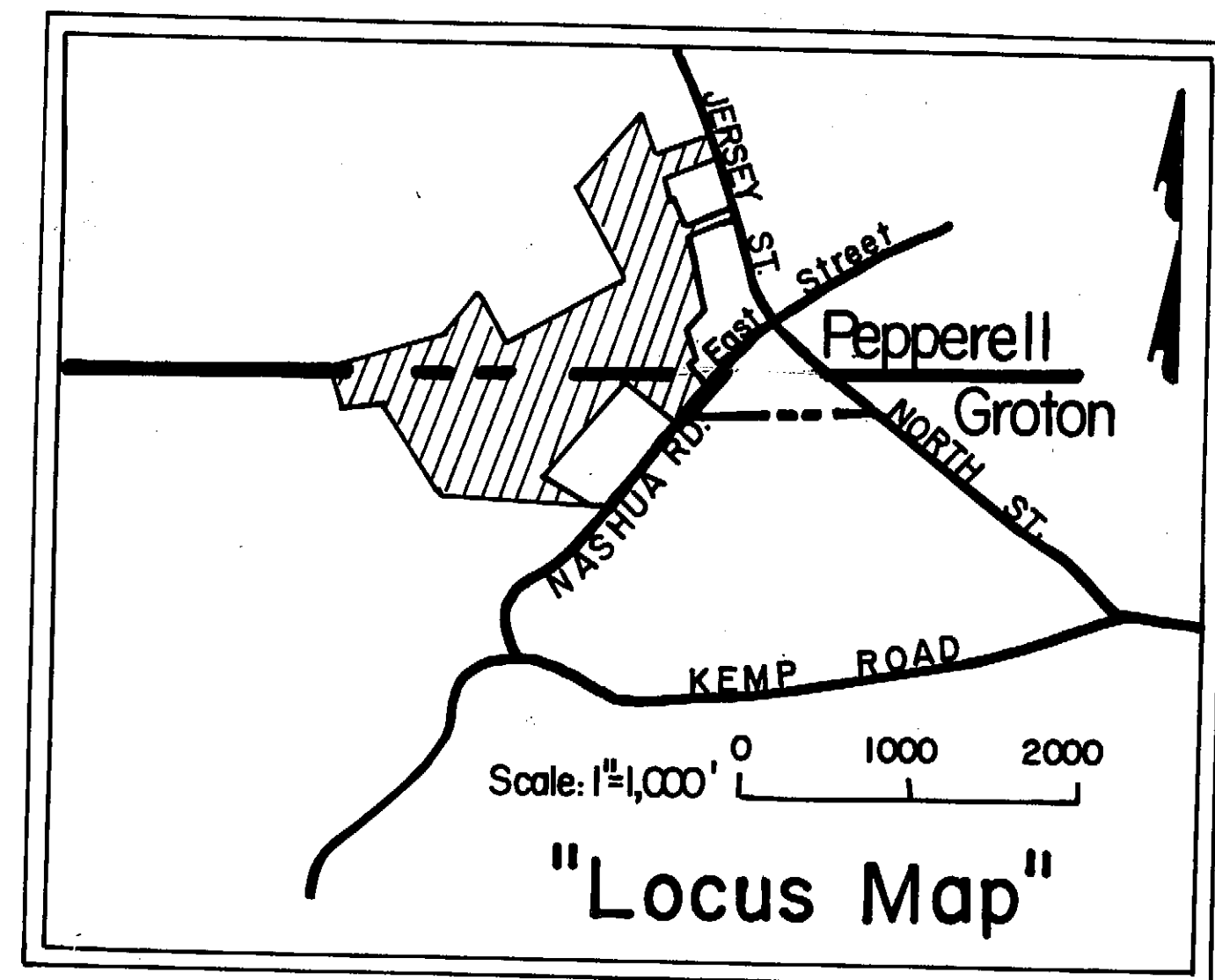


"REEDY MEADOW ESTATES"

Definitive Subdivision of land in
PEPPERELL & GROTON, MASS.

Prepared for
JOHN J. LORDEN
SHEET INDEX

Sheets 1, 2, 3 and 4.....Lot Plans.
 Sheets 5, 6, 7 and 8.....Plan and Profiles.
 Sheets 9, 10 and 11Detail Sheets.
 Sheet 12.....Erosion and Sedimentation Control Plan.
 Sheets 13, 14, 15 and 16.....Site Plans.
 Sheet 17.....Existing Utilities Plan.



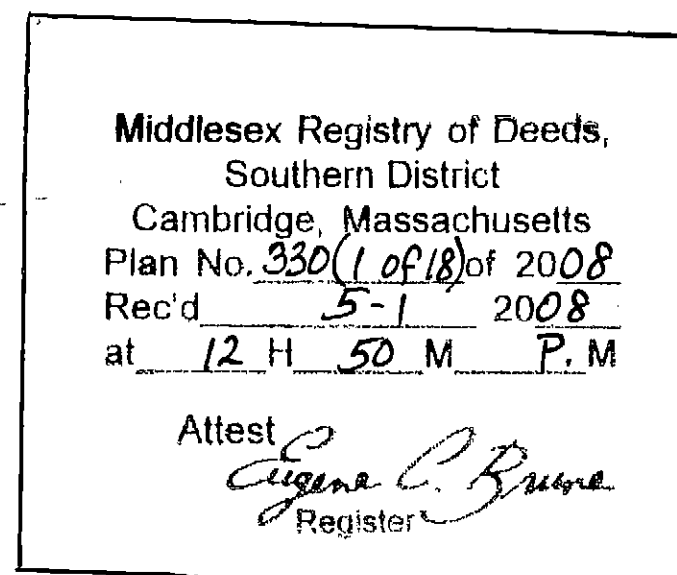
Scale: 1"=200'

OWNER/APPLICANT:

John J. Lorden
 447 Nashua Road
 Groton, Mass. 01450

ENGINEER/SURVEYOR:

David E. Ross
 Associates, Inc.
 P.O. Box 368
 111 Fitchburg Road
 Ayer, Mass. 01432

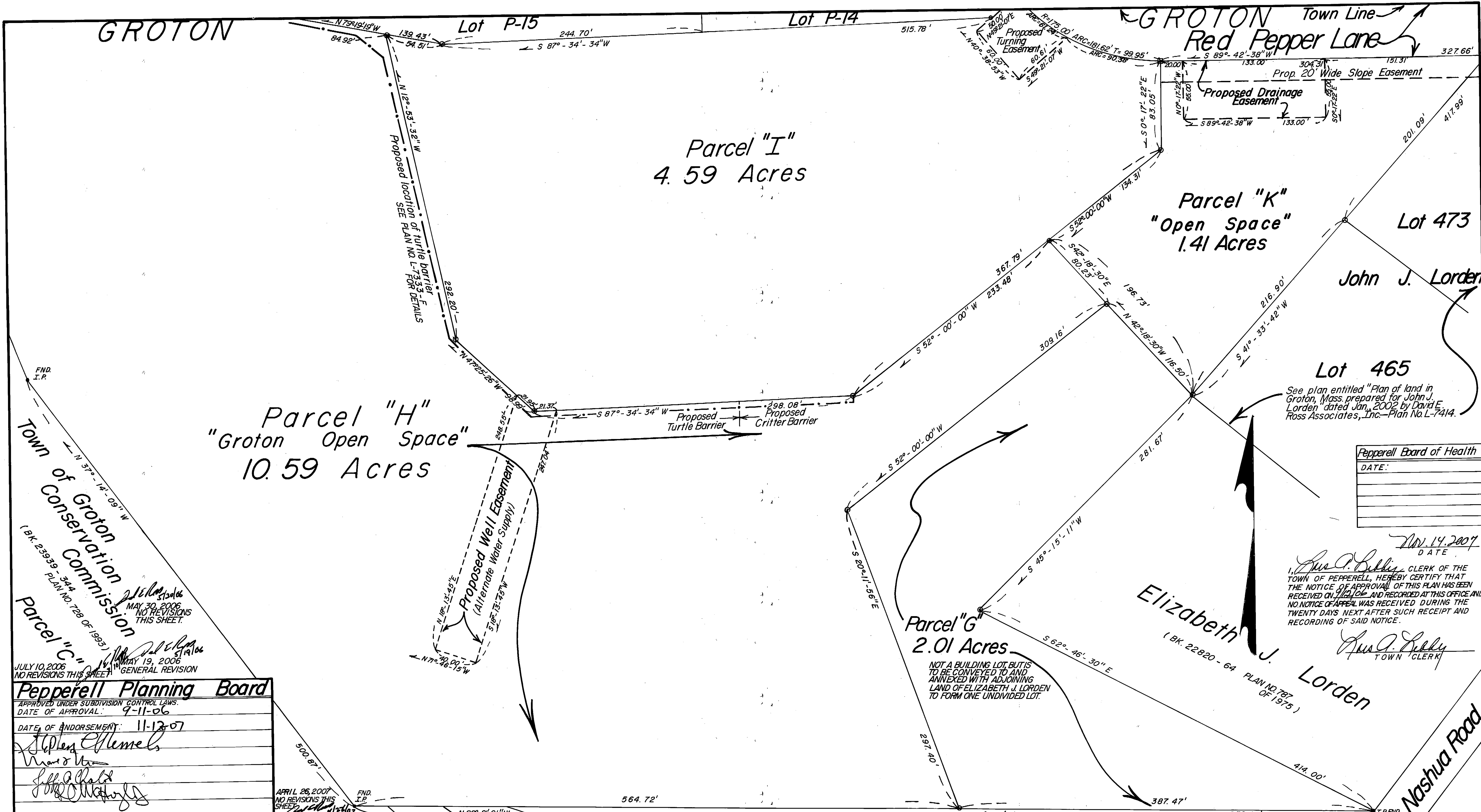


GENERAL REVISION MAY 19, 2006
 GENERAL REVISION MAY 30, 2006
 GENERAL REVISION JULY 10, 2006
 GENERAL REVISION AUG. 17, 2006
 GENERAL REVISION APRIL 26, 2007

GENERAL REVISION APRIL 19, 2006
 GENERAL REVISION JANUARY 16, 2006
 GENERAL REVISION SEPTEMBER 30, 2002
 GENERAL REVISION AUGUST 9, 2002

PLAN NO. L-7333

-REEDY MEADOW ESTATES-



Town of Groton Conservation Commission
(BK. 23939 - 344 PLAN NO. 728 OF 1993)
Parcel "C"
JULY 10, 2006
NO REVISIONS THIS SHEET
MAY 30, 2006
NO REVISIONS THIS SHEET
MAY 19, 2006
GENERAL REVISION

Pepperell Planning Board
APPROVED UNDER SUBDIVISION CONTROL LAWS.
DATE OF APPROVAL: 9-11-06
DATE OF ENDORSEMENT: 11-12-07
APRIL 26, 2007
NO REVISIONS THIS SHEET
APRIL 19, 2006
NO REVISION THIS SHEET

Groton Planning Board
APPROVED UNDER SUBDIVISION CONTROL LAWS.
DATE OF APPROVAL: July 13, 2006
DATE OF ENDORSEMENT: April 26, 2007
APR 17, 2006
NO REVISIONS THIS SHEET
APR 17, 2006
NO REVISIONS THIS SHEET

PLAN NO. 330 OF 2008
SHEET 4 OF 18

Kevin M. and Dyana M. Donaruma
(BK. 26267 - 361)
David F. and Heidi S. Beigel
(BK. 30793 - 180)
L M Realty Trust
John F. Gallant, Trustee
(BK. 31075 - 358 PLAN NO. 549 OF 1985)
AUG. 17, 2006
NO REVISIONS THIS SHEET
APR 17, 2006
NO REVISIONS THIS SHEET

Kevin M. and Dyana M. Donaruma
(BK. 26267 - 361)
APR 27, 2007
DATE
Clerk of the Town of Groton, hereby certify that the notice of approval of this plan has been received on 1/28/07 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.

Kevin M. and Dyana M. Donaruma
(BK. 26267 - 361)
APR 27, 2007
DATE
Clerk of the Town of Groton, hereby certify that the notice of approval of this plan has been received on 1/28/07 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.

Groton and Pepperell, Mass.
PREPARED FOR
John J. Lorden
SCALE: 1"=40'
JANUARY, 2008
David E. Ross Associates, Inc.
CIVIL ENGINEERS - LAND SURVEYORS
LANDSCAPE ARCHITECTS
ENVIRONMENTAL CONSULTANTS
P.O. BOX 368-III FITCHBURG RD. AVER, MASS. 01432
(TEL. NO. 978-772-6232)
JOB NO. 9375 SHEET 3 OF 4 PLAN NO. L-7333

Pepperell Board of Health
DATE: _____

NOV. 14, 2007
DATE
I, **Ann P. Kelly**, CLERK OF THE TOWN OF PEPPERELL, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN HAS BEEN RECEIVED ON 11/12/07 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.

Elizabeth J. Lorden
(BK. 22820 - 64 PLAN NO. 787 OF 1975)

Parcel "G"
2.01 Acres
NOT A BUILDING LOT, BUT IS TO BE CONVEYED TO AND ANNEXED WITH ADJOINING LAND OF ELIZABETH J. LORDEN TO FORM ONE UNDIVIDED LOT.

Parcel "H"
"Groton Open Space"
10.59 Acres

Parcel "K"
"Open Space"
1.41 Acres

Parcel "I"
4.59 Acres

Pepperell Planning Board	Pepperell Board of Health
APPROVED UNDER SUBDIVISION CONTROL LAWS. DATE OF APPROVAL: 7-11-06	DATE:
DATE OF ENDORSEMENT: 11-13-07	
<i>Matthew Ameli</i>	
<i>Mark & Eva Blanchette</i>	
<i>John J. Lorden</i>	

I, *David E. Ross*, CLERK OF THE TOWN OF PEPPERELL, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN HAS BEEN RECEIVED ON 7/13/06 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.

David E. Ross
TOWN CLERK

LOT 465

LOT 473

John J. Lorden

See plan entitled "Plan of land in Groton, Mass. prepared for John J. Lorden dated Jan., 2002 by David E. Ross Associates, Inc. Plan No. L-7414."

Proposed Drainage Easement

HOUSE 473

Nashua Road

John and Antonia Trubiano

(BK. 27816 - 562)

Pepperell

April 27, 2007

DATE

I, *Orinda F. Maloney*, CLERK OF THE TOWN OF GROTON, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN HAS BEEN RECEIVED ON 7/13/06 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.

Orinda F. Maloney
TOWN CLERK

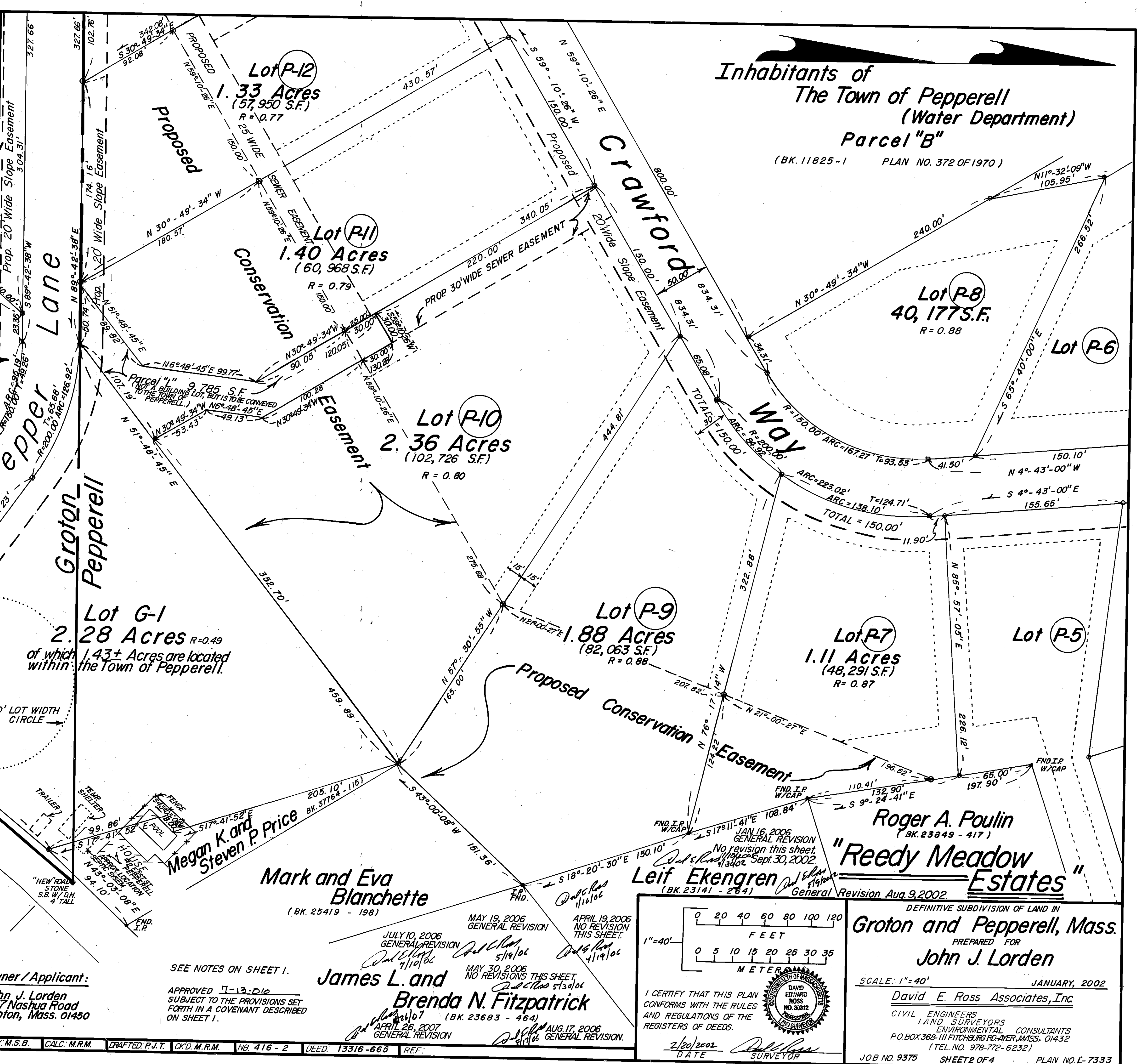
Groton Planning Board

APPROVED UNDER SUBDIVISION CONTROL LAWS.
DATE OF APPROVAL: July 13, 2006

DATE OF ENDORSEMENT: April 26, 2007

Orinda F. Maloney

PLAN NO. 330 OF 2008
SHEET 3 OF 18



Inhabitants of
The Town of Pepperell
(Water Department)
Parcel "B"

(BK. 11825-1 PLAN NO. 372 OF 1970)

Lot P-8
40,177 S.F.
R = 0.88

Lot P-6

Lot P-10
2.36 Acres
(102,726 S.F.)
R = 0.80

Lot P-9
1.88 Acres
(82,063 S.F.)
R = 0.88

Lot P-7
1.11 Acres
(48,291 S.F.)
R = 0.87

Lot P-5

Lot G-1
2.28 Acres
of which 1.43± Acres are located
within the Town of Pepperell.

Mark and Eva
Blanchette
(BK. 25419 - 198)

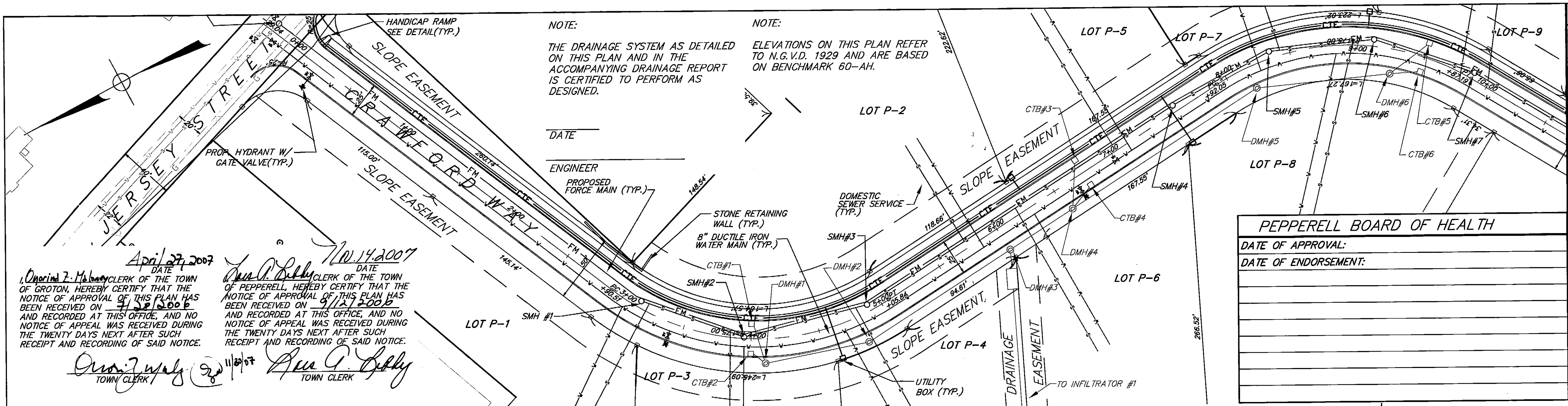
James L. and
Brenda N. Fitzpatrick
(BK. 23683 - 464)

Leif Ekengren
(BK. 23141 - 264)

Roger A. Poulin
(BK. 23849 - 417)
"Reedy Meadow Estates"

I CERTIFY THAT THIS PLAN
CONFORMS WITH THE RULES
AND REGULATIONS OF THE
REGISTERS OF DEEDS.
2/20/2002
DATE
SURVEYOR

DEFINITIVE SUBDIVISION OF LAND IN
Groton and Pepperell, Mass.
PREPARED FOR
John J. Lorden
SCALE: 1" = 40'
JANUARY, 2002
David E. Ross Associates, Inc.
CIVIL ENGINEERS
LAND SURVEYORS
ENVIRONMENTAL CONSULTANTS
P.O. BOX 368-111 FITCHBURG RD., AVER, MASS. 01432
(TEL. NO. 978-772-6232)
JOB NO. 9375 SHEET 2 OF 4 PLAN NO. L-7333



April 27, 2007
 I, *Donna Z. Maloney* CLERK OF THE TOWN OF GROTON, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN HAS BEEN RECEIVED ON 4/27/07 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.

April 14, 2007
 I, *Ann P. Kelly* CLERK OF THE TOWN OF PEPPERELL, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN HAS BEEN RECEIVED ON 4/14/07 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.

Donna Z. Maloney TOWN CLERK
Ann P. Kelly TOWN CLERK

GROTON PLANNING BOARD

DATE OF APPROVAL: July 13, 2006

DATE OF ENDORSEMENT: April 26, 2007

James G. ...
Carol ...
Ryan ...
Carol ...

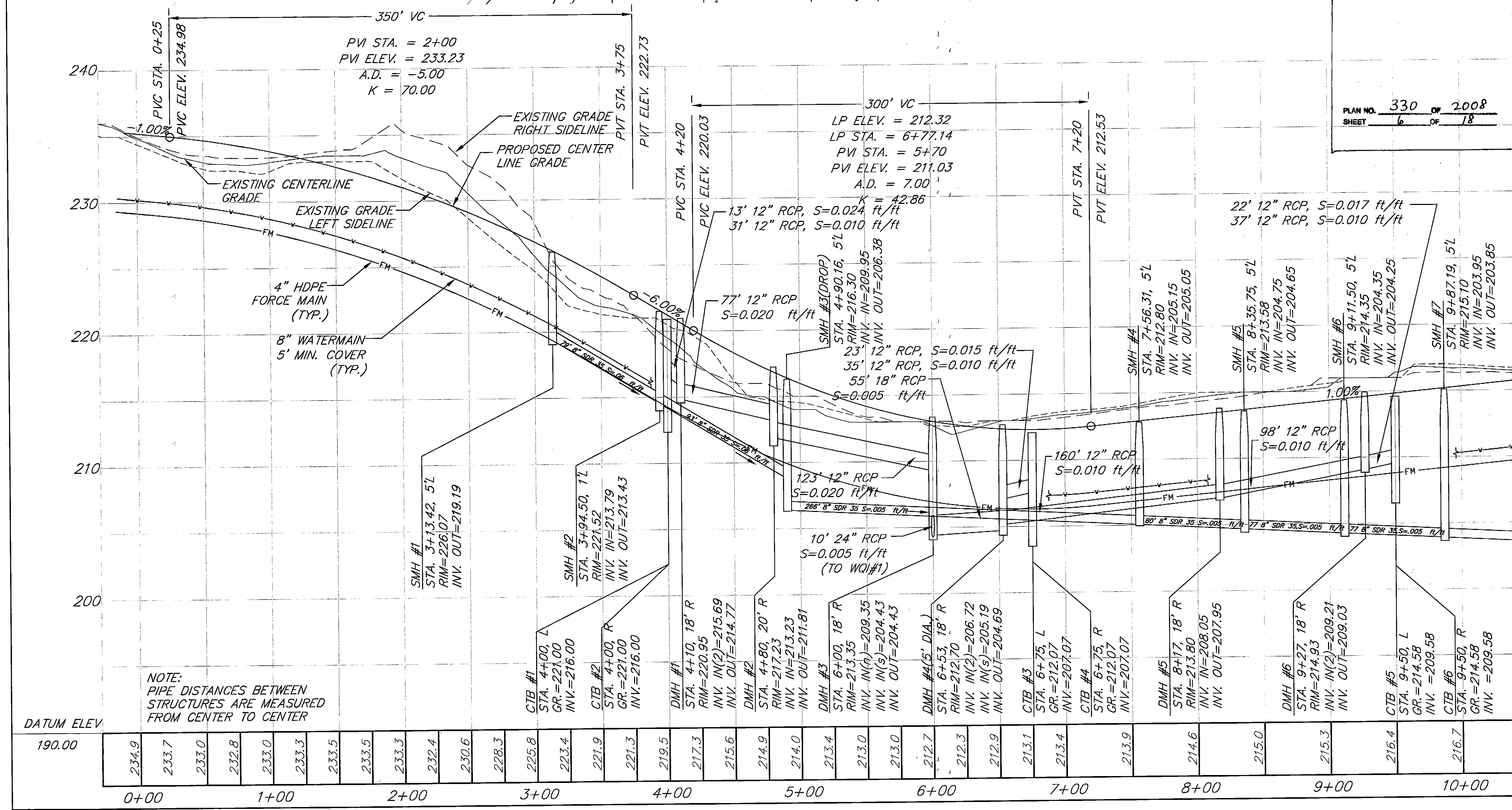
PEPPERELL PLANNING BOARD

DATE OF APPROVAL: 9-11-06

DATE OF ENDORSEMENT: 11-13-07

David ...
John ...
John ...

OWNER/APPLICANT:
 JOHN J. LORDEN
 447 NASHUA ROAD
 GROTON, MA 01450



LEGEND

EXISTING: PROPERTY LINE, EASEMENT, MONUMENT, HP OR LP, HP OR LP HIGH POINT OR LOW POINT, PROPOSED SLOPE, GUARDRAIL, FENCE, TREE LINE, TREE, EDGE OF WETLANDS W/ FLAG NOS, 100' WETLANDS BUFFER ZONE, BUILDING, SIGN, EDGE OF PAVEMENT, EDGE OF PAVEMENT W/ BERM, EDGE OF PAVEMENT W/ GRANITE CURB, SIDEWALK, UTILITY POLE, OVERHEAD WIRES, DUTY POLE, TRANSFORMER, SUBSURFACE ELECTRIC LINE, SUBSURFACE TELEPHONE LINE, (D)CTB #1, (D)CTB #2, (D)CTB #3, (D)CTB #4, DRAIN LINE, DRAIN MANHOLE, PROPOSED FLARED END SECTION W/ RIP-RAP, PROPOSED ROCK DRAIN LINE, SEWER MANHOLE, SEWER LINE, WATER LINE, HYDRANT, WELL, PROPOSED EROSION CONTROL BARRIER, E.U.A., DEEP HOLE TEST, EXCLUSIVE USE AREA

PLAN NO. 330 OF 2008
 SHEET 6 OF 18

PLAN & PROFILE

Design: ES/GS Draft: ES/LH Check: GAS/Ref:

REVISIONS	
02/20/02	Original Endorsement
08/09/02	General Revision
09/30/02	General Revision
01/16/06	General Revision
04/19/06	General Revision
05/19/06	General Revision
05/30/06	General Revision
07/10/06	General Revision
08/17/06	General Revision
04/26/07	General Revision

David E. Ross 4/26/07

REEDY MEADOW ESTATES

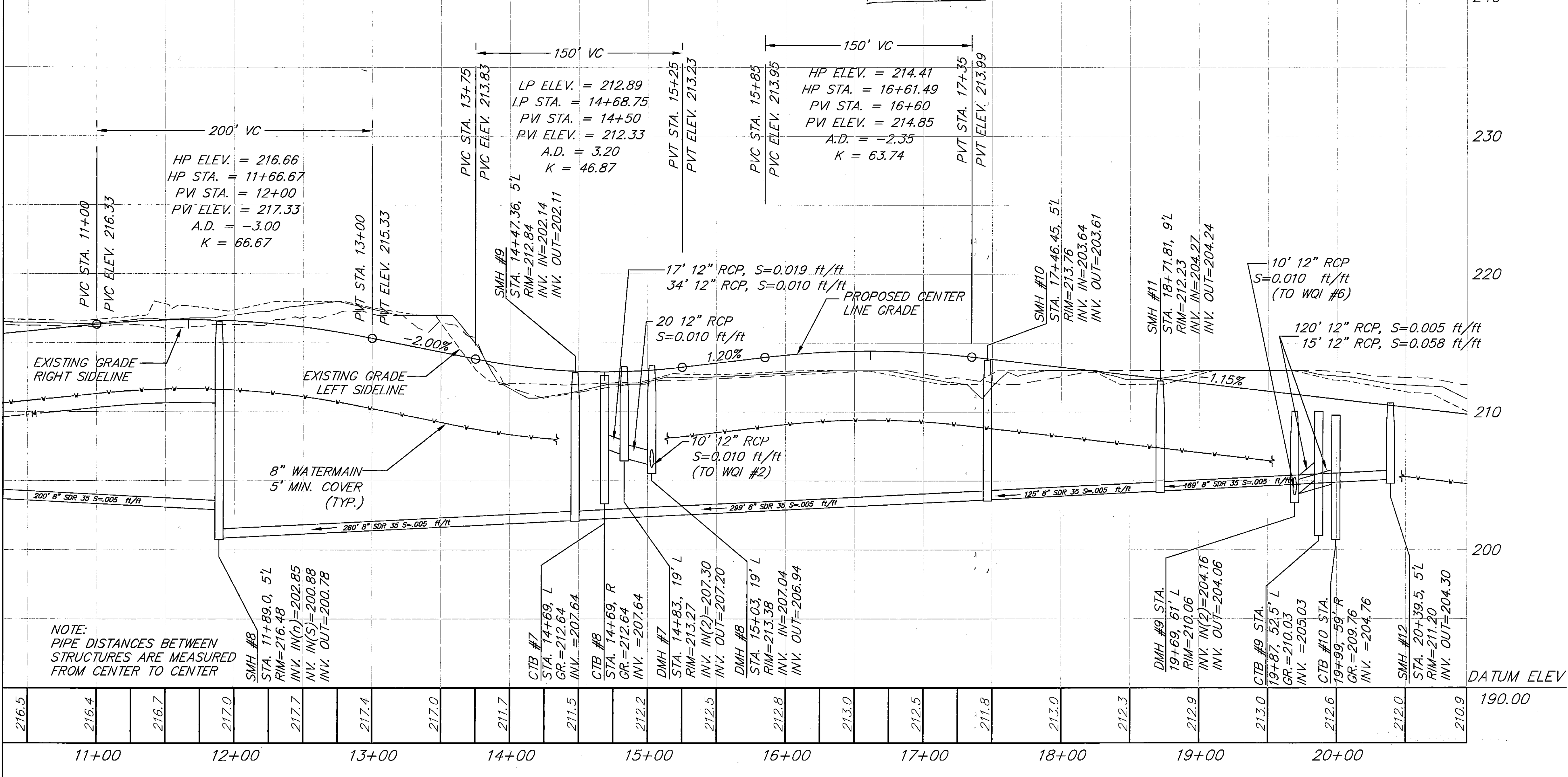
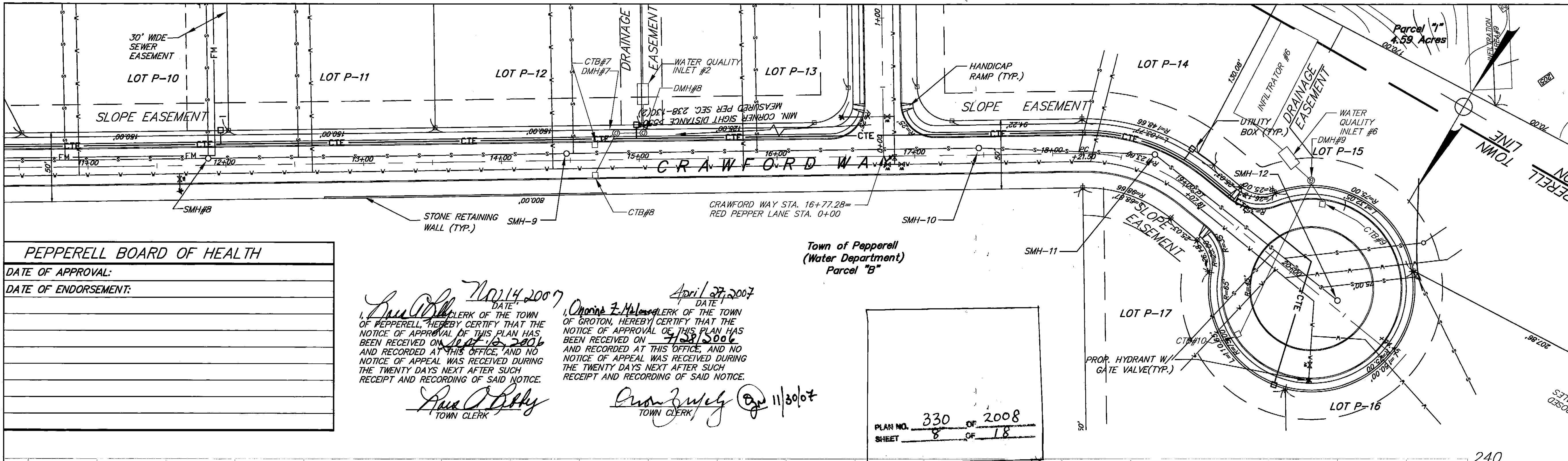
DEFINITIVE SUBDIVISION OF LAND IN
 Groton and Pepperell, Mass.

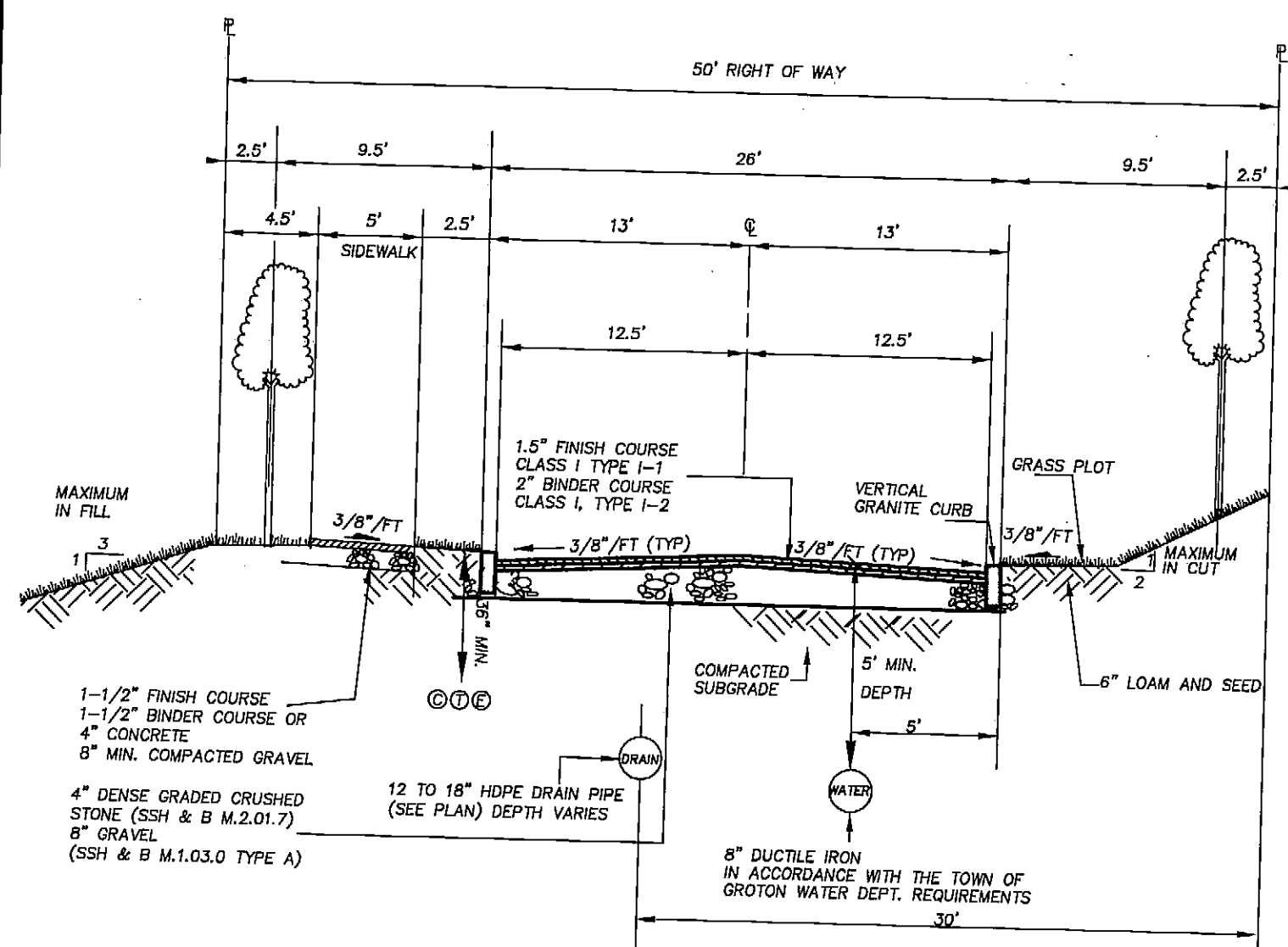
PREPARED FOR
 John J. Lorden

SCALE: 1"=4' VERT., 1"=40' HORIZ. JANUARY, 2006

David E. Ross Associates, Inc.
 CIVIL ENGINEERS LAND SURVEYORS
 LANDSCAPE ARCHITECTS
 ENVIRONMENTAL CONSULTANTS
 P.O. BOX 368-111 FITCHBURG RD AYER MA 01432
 TEL. NO. 978-772-6232

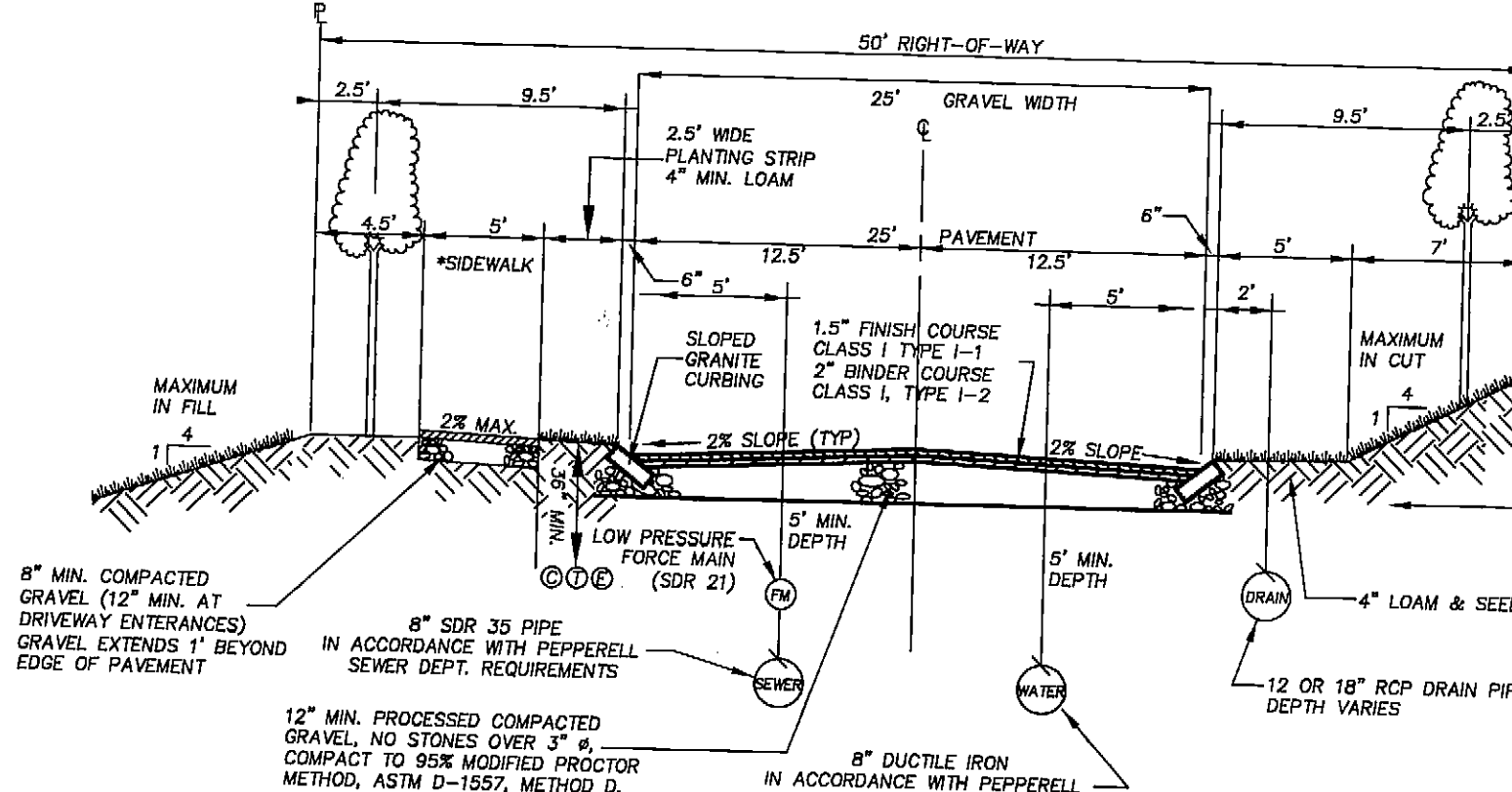
JOB NO. 9375 SHEET 5 OF 17 PLAN NO. L-7333





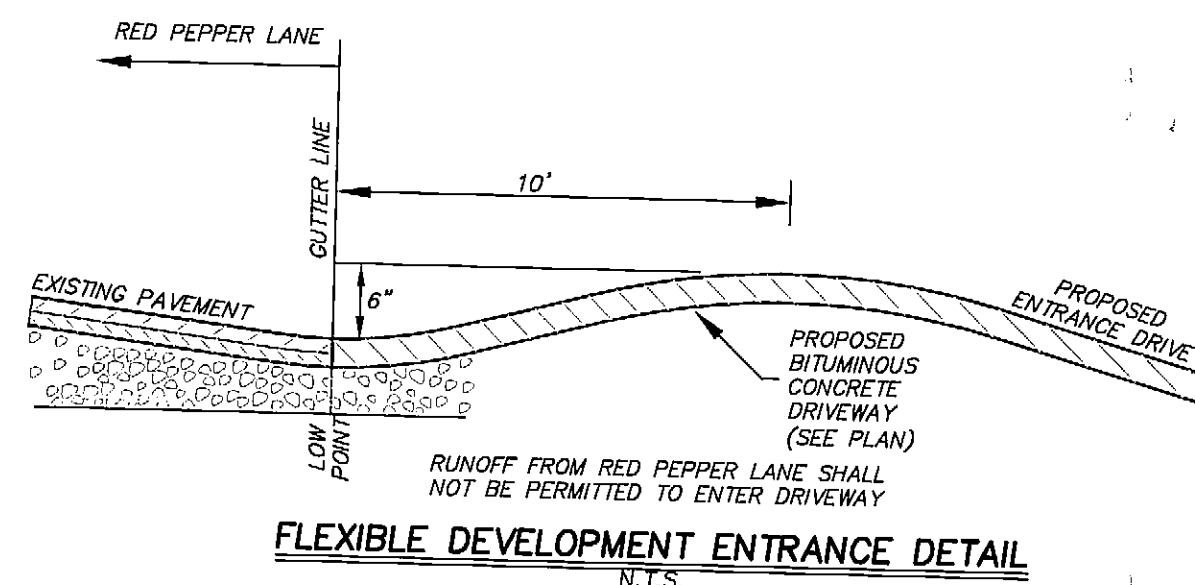
TYPICAL STREET CROSS SECTION - GROTON

RED PEPPER LANE STATION 2+75 TO 10+47

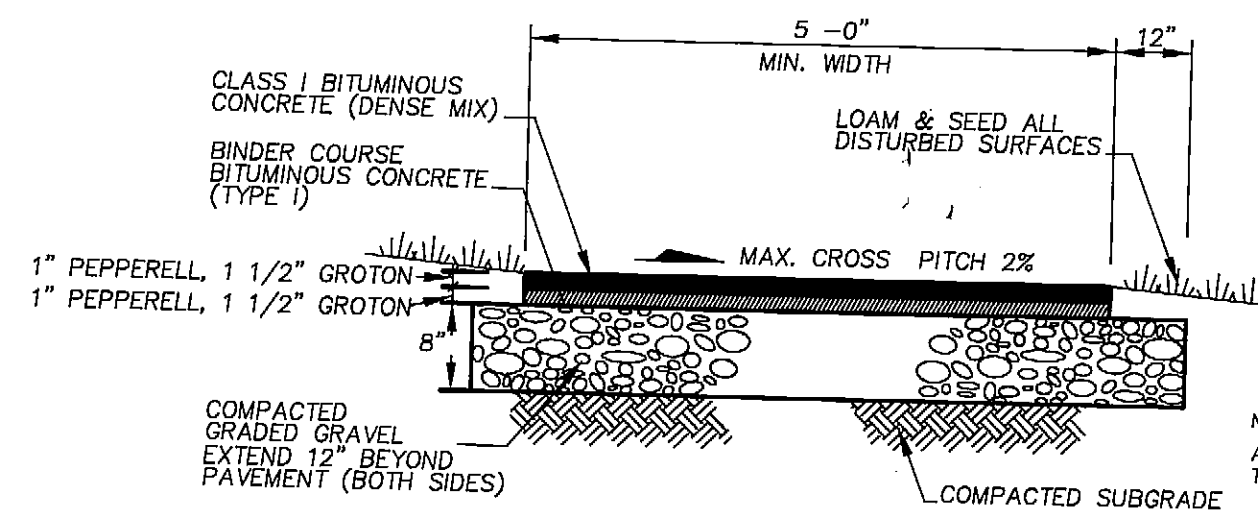


TYPICAL STREET CROSS SECTION - PEPPERELL

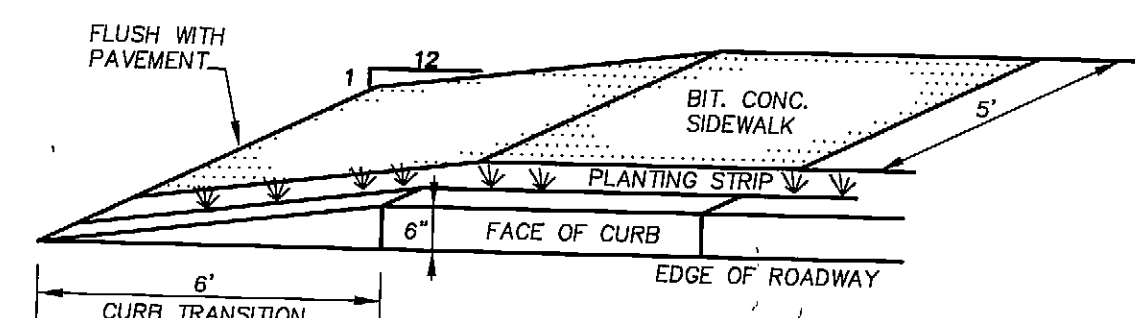
* SIDEWALK - TWO COURSES TYPE I-1 BIT. CONC. PWT: TWO (2) INCHES TOTAL DEPTH (3" REQ'D AT ALL DRIVEWAY CUTS)
CRAWFORD WAY STATION 0+00 TO 20+68
RED PEPPER LANE STATION 0+00 TO 2+75



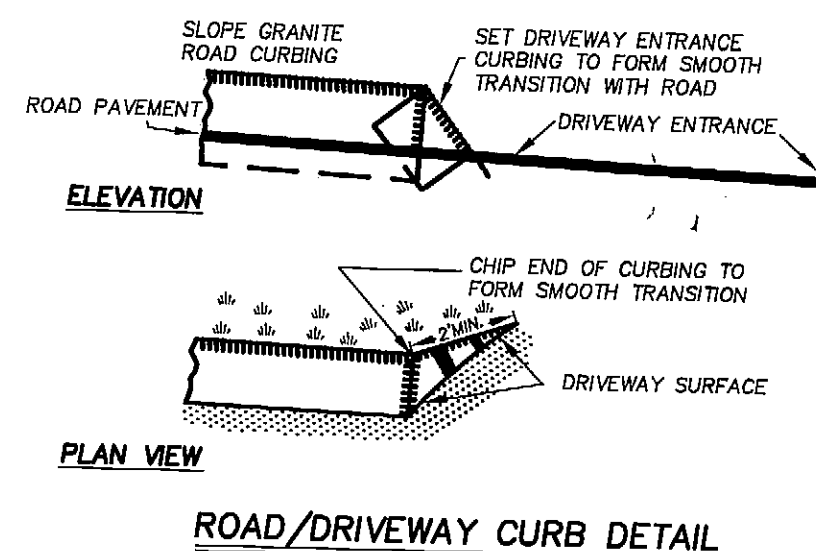
FLEXIBLE DEVELOPMENT ENTRANCE DETAIL



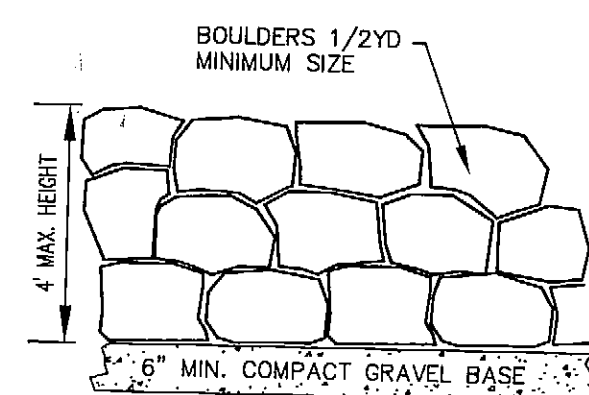
BITUMINOUS CONCRETE SIDEWALK



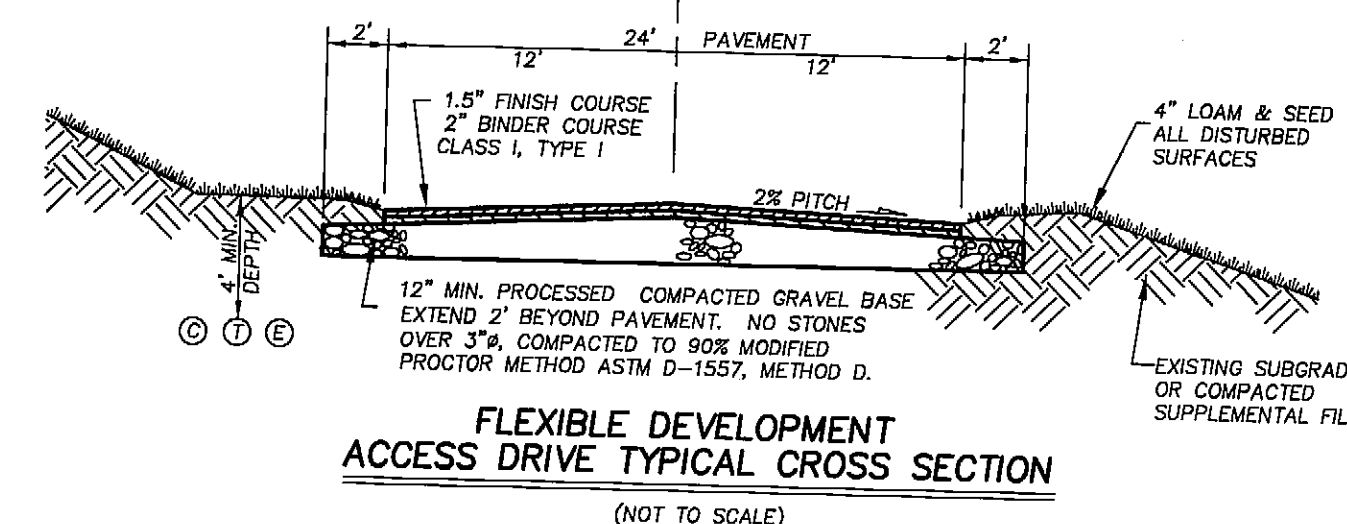
VERTICAL CURB DRIVEWAY TRANSITION DETAIL



ROAD/DRIVEWAY CURB DETAIL

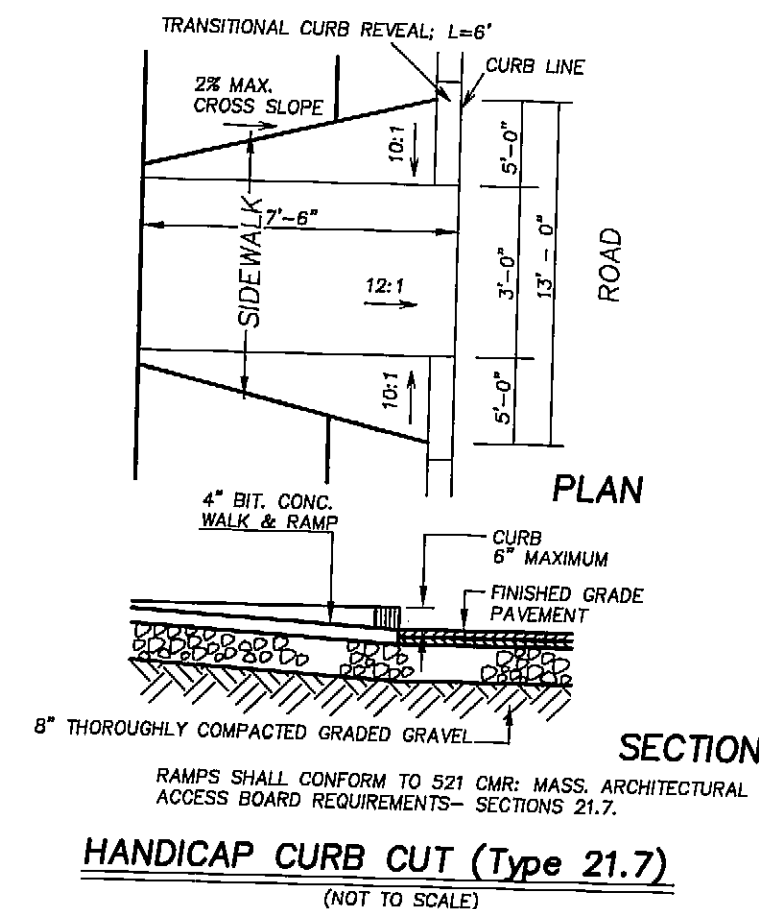


BOULDER RETAINING WALL



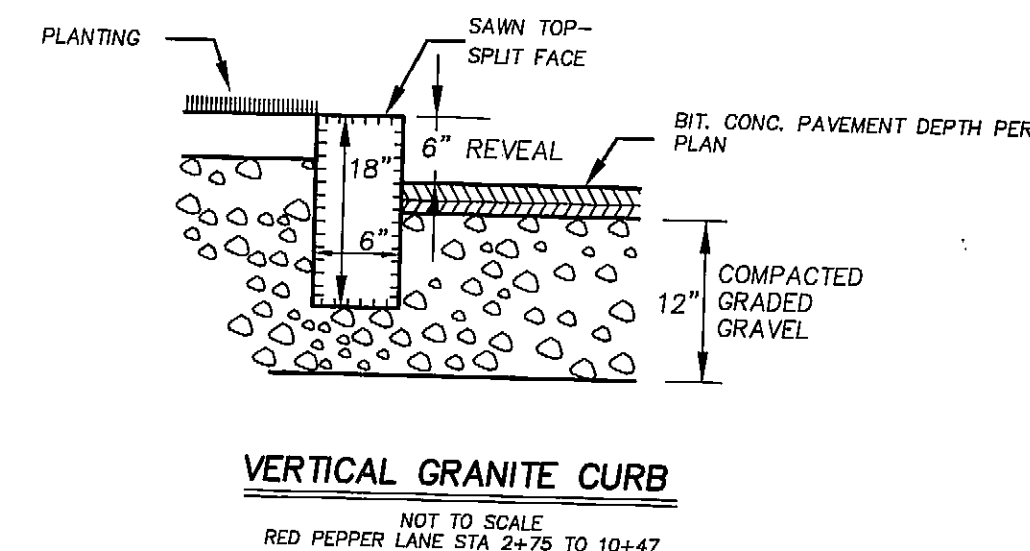
FLEXIBLE DEVELOPMENT ACCESS DRIVE TYPICAL CROSS SECTION

(NOT TO SCALE)



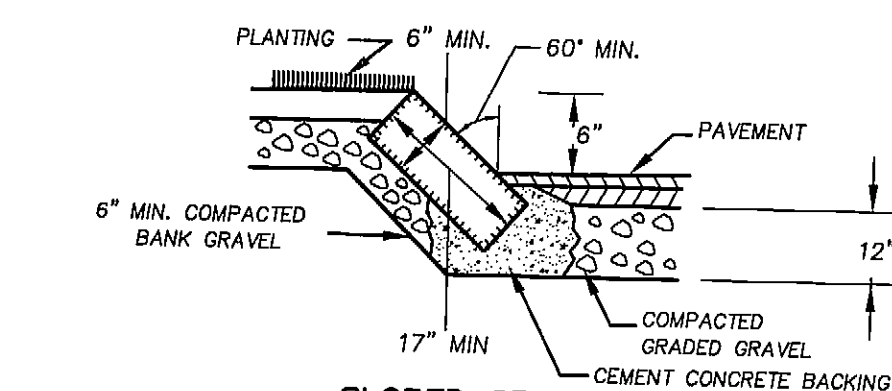
HANDICAP CURB CUT (Type 21.7)

(NOT TO SCALE)



VERTICAL GRANITE CURB

(NOT TO SCALE)



SLOPED GRANITE CURB

(NOT TO SCALE)

CRAWFORD WAY STA 0+00 TO 20+68
RED PEPPER LANE STA 0+00 TO 2+75
TO BE INSTALLED IN ACCORDANCE WITH
MASS HIGHWAY STANDARD 106.5.0

GROTON PLANNING BOARD

DATE OF APPROVAL: July 13, 2006
DATE OF ENDORSEMENT: April 26, 2007
Approved: 11/27/07
Raymond C. Capen
Raymond C. Capen

PEPPERELL PLANNING BOARD

DATE OF APPROVAL: 9-11-06
DATE OF ENDORSEMENT: 11-13-07
Approved: 11-13-07
John J. Lorden
John J. Lorden

OWNER/APPLICANT:
JOHN J. LORDEN
447 NASHUA ROAD
GROTON, MA 01450

NOTE:

1. ALL UTILITIES SHALL BE
INSTALLED IN ACCORDANCE WITH
TOWN OF GROTON AND TOWN OF
PEPPERELL STANDARDS.

CONSTRUCTION DETAILS

Design: ES/GS | Draft: ES/LH | Check: GAS | Ref:

REVISIONS
02/20/02 Original Endorsement
08/09/02 General Revision
09/30/02 General Revision
01/16/06 General Revision
04/19/06 General Revision
05/19/06 General Revision
05/30/06 General Revision
07/10/06 General Revision
08/17/06 General Revision
04/26/07 General Revision



REEDY MEADOW ESTATES

DEFINITIVE SUBDIVISION OF LAND IN

Groton and Pepperell, Mass.

PREPARED FOR

John J. Lorden

SCALE: N.T.S.

JANUARY, 2006

David E. Ross Associates, Inc.

CIVIL ENGINEERS LAND SURVEYORS

LANDSCAPE ARCHITECTS

P.O. BOX 368-111 FITCHBURG RD AYER MA 01432

TEL. NO. 978-772-6232

JOB NO. 9375 SHEET 9 OF 17 PLAN NO. L-7333

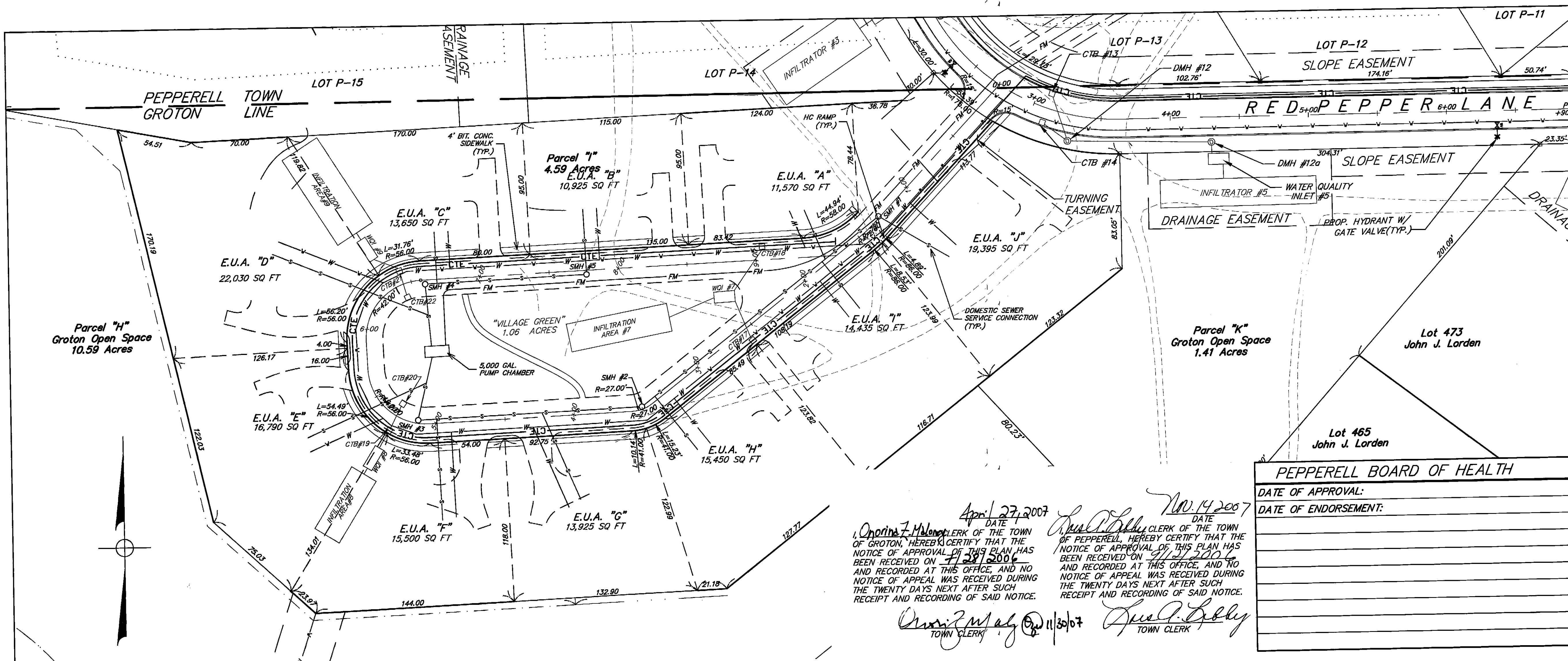
PEPPERELL BOARD OF HEALTH

DATE OF APPROVAL:

DATE OF ENDORSEMENT:

NOV 14 2007
TOWN CLERK

APRIL 27 2007
TOWN CLERK



DATE: April 27, 2007
I, Orin J. May, CLERK OF THE TOWN OF GROTON, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN HAS BEEN RECEIVED ON 4/27/2007 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.

DATE: May 14, 2007
I, John J. Lorden, CLERK OF THE TOWN OF PEPPERELL, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN HAS BEEN RECEIVED ON 5/14/2007 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.

GROTON PLANNING BOARD
DATE OF APPROVAL: July 13, 2006
DATE OF ENDORSEMENT: April 26, 2007
Orin J. May 11/29/07
John J. Lorden
Raymond C. Capen
Raymond C. Capen

PEPPERELL PLANNING BOARD
DATE OF APPROVAL: 9-11-06
DATE OF ENDORSEMENT: 11-13-07
Stephen Chumela
John J. Lorden
John J. Lorden

OWNER/APPLICANT:
JOHN J. LORDEN
447 NASHUA ROAD
GROTON, MA 01450

PEPPERELL BOARD OF HEALTH
DATE OF APPROVAL:
DATE OF ENDORSEMENT:

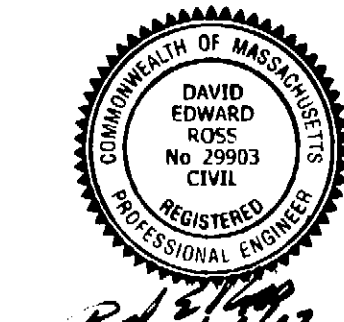
LEGEND

EXISTING	PROPOSED	PROPERTY LINE
---	---	EASEMENT
---	---	CONTOUR
---	---	HP OR LP
---	---	SPOT GRADE
---	---	PROPOSED SLOPE
---	---	QUADRANT
---	---	FENCE
---	---	TREELINE
---	---	TREE
---	---	EDGE OF WETLANDS W/ FLAG NOS.
---	---	100' WETLANDS BUFFER ZONE
---	---	BUILDING
---	---	SGN
---	---	EDGE OF PAVEMENT
---	---	EDGE OF PAVEMENT W/ BERM
---	---	EDGE OF PAVEMENT W/ GRANITE CURB
---	---	SIDEWALK
---	---	UTILITY POLE
---	---	OVERHEAD WIRES
---	---	GUY POLE
---	---	TRANSFORMER
---	---	SUBSURFACE ELECTRIC LINE
---	---	SUBSURFACE TELEPHONE LINE
---	---	(DOUBLE-GATED) CATCHBASIN
---	---	DRAIN LINE
---	---	DRAIN MANHOLE
---	---	PROPOSED FLARED END SECTION W/ RIP-RAP
---	---	PROPOSED ROOF DRAIN LINE
---	---	SEWER MANHOLE
---	---	SEWER LINE
---	---	WATER LINE
---	---	HYDRANT
---	---	WELL
---	---	PROPOSED EROSION CONTROL BARRIER
---	---	DEEP HOLE TEST
---	---	EXCLUSIVE USE AREA
---	---	E.U.A.

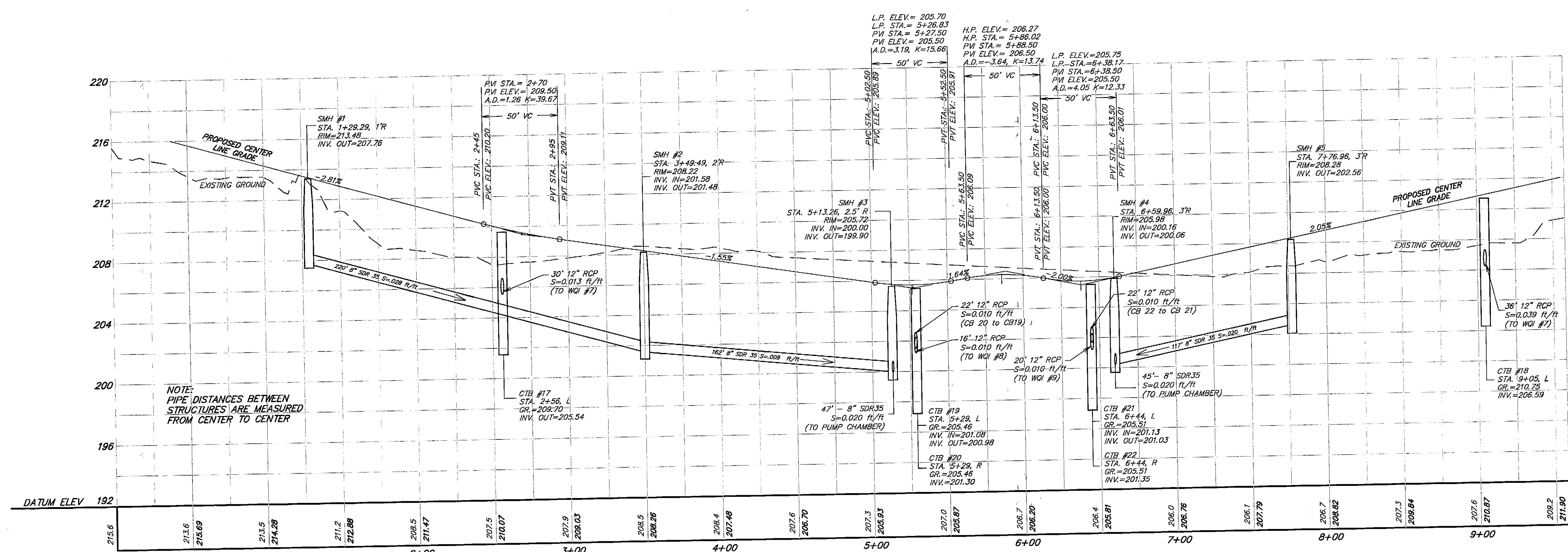
PLAN & PROFILE

Design: ES/GS Draft: ES/LH Check: GAS/Ref

REVISIONS
02/20/02 Original Endorsement
08/09/02 General Revision
09/30/02 General Revision
01/16/06 General Revision
04/19/06 General Revision
05/19/06 General Revision
05/30/06 General Revision
07/10/06 General Revision
08/17/06 General Revision
04/26/07 General Revision

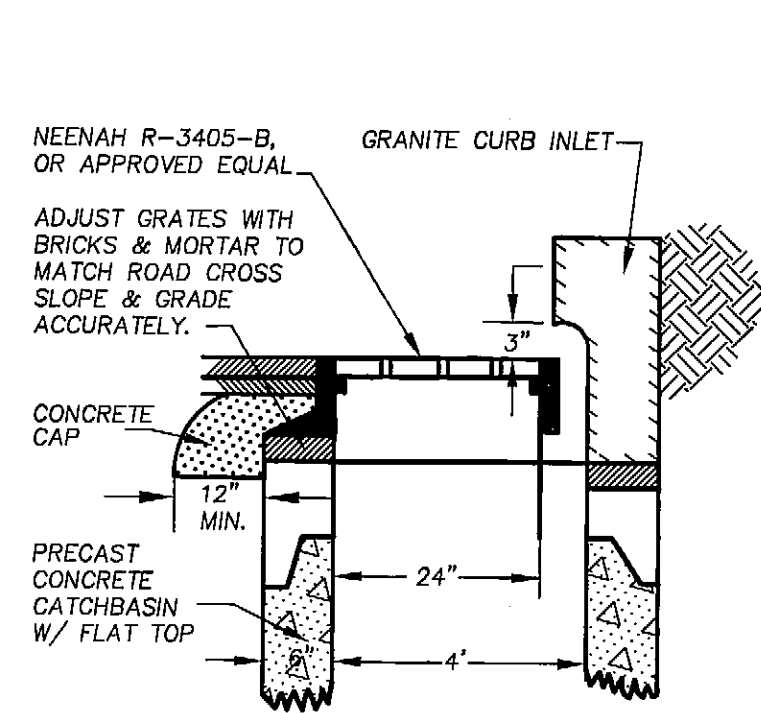


REEDY MEADOW ESTATES
DEFINITIVE SUBDIVISION OF LAND IN
Groton and Pepperell, Mass.
PREPARED FOR
John J. Lorden
SCALE: 1"=4' VERT., 1"=40' HORIZ. JANUARY, 2006
David E. Ross Associates, Inc.
CIVIL ENGINEERS LAND SURVEYORS
LANDSCAPE ARCHITECTS
ENVIRONMENTAL CONSULTANTS
P.O. BOX 368-111 FITCHBURG RD AYER MA 01432
TEL. NO. 978-772-6232
JOB NO. 9375 SHEET 8 OF 17 PLAN NO. L-7333

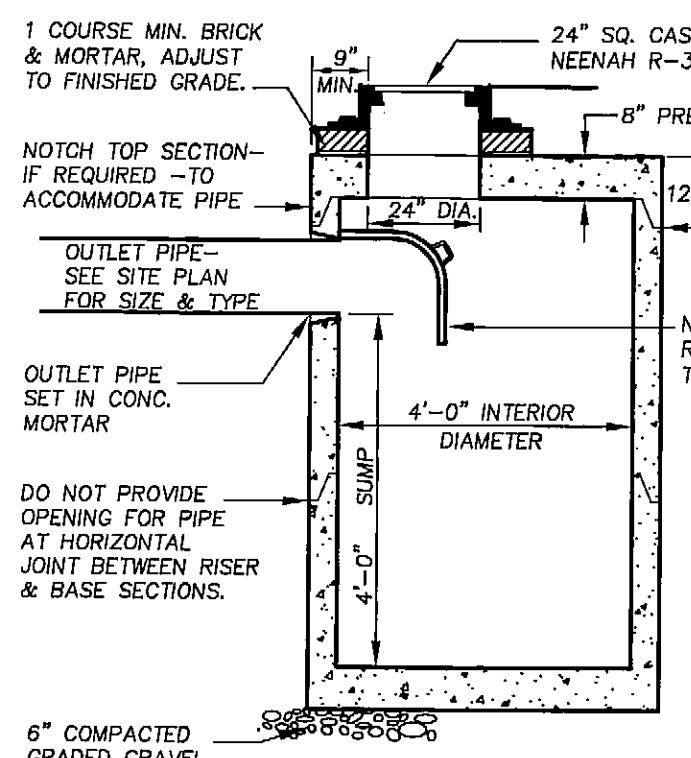


FLEXIBLE DEVELOPMENT CENTERLINE PROFILE

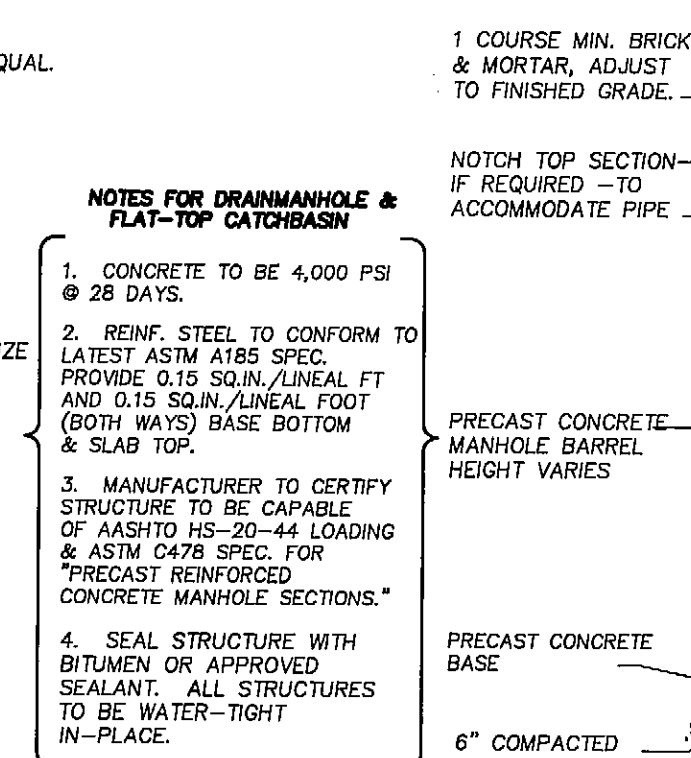
PLAN NO. 330 OF 2008
SHEET 9 OF 18



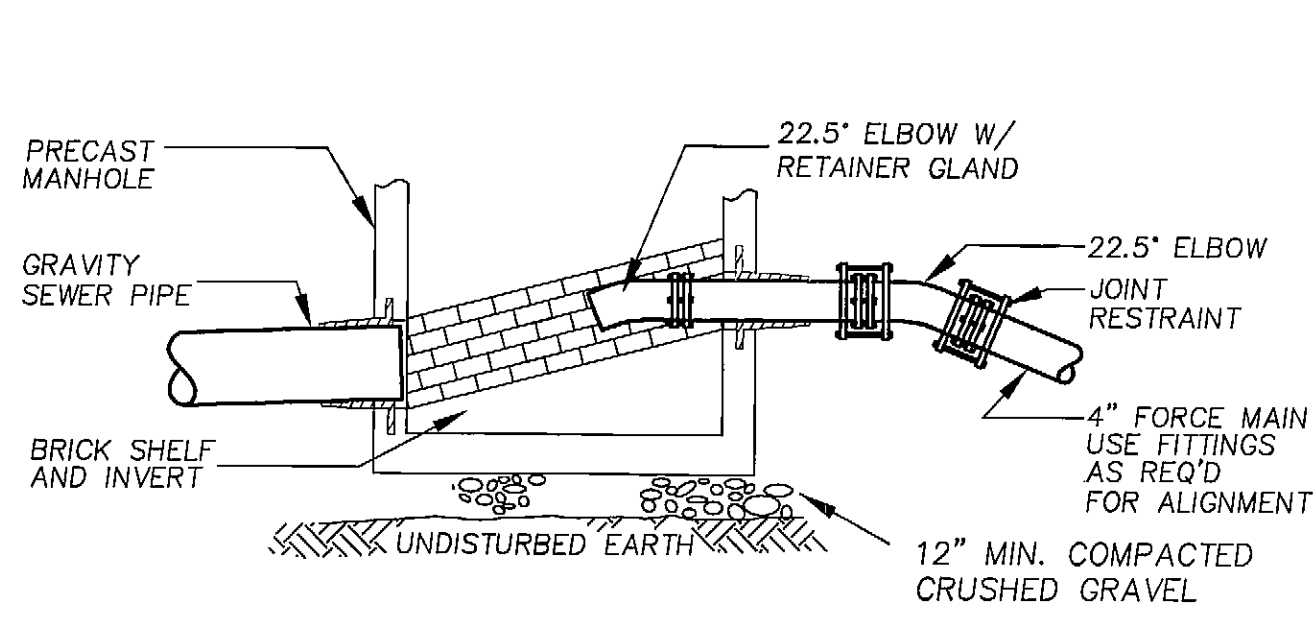
CATCHBASIN WITH GRANITE CURB DETAIL
NOT TO SCALE



PRE-CAST FLAT TOP CATCHBASIN
NOT TO SCALE



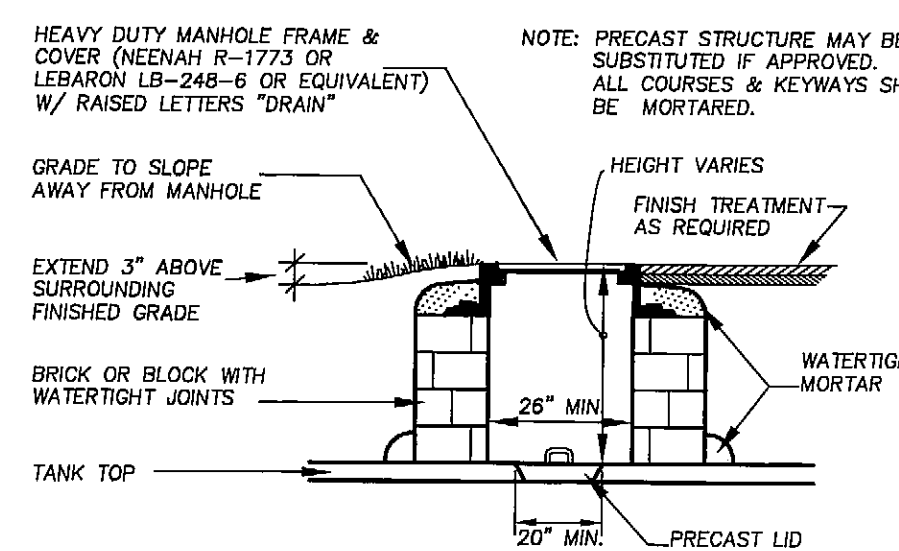
PRE-CAST FLAT TOP MANHOLE
NOT TO SCALE



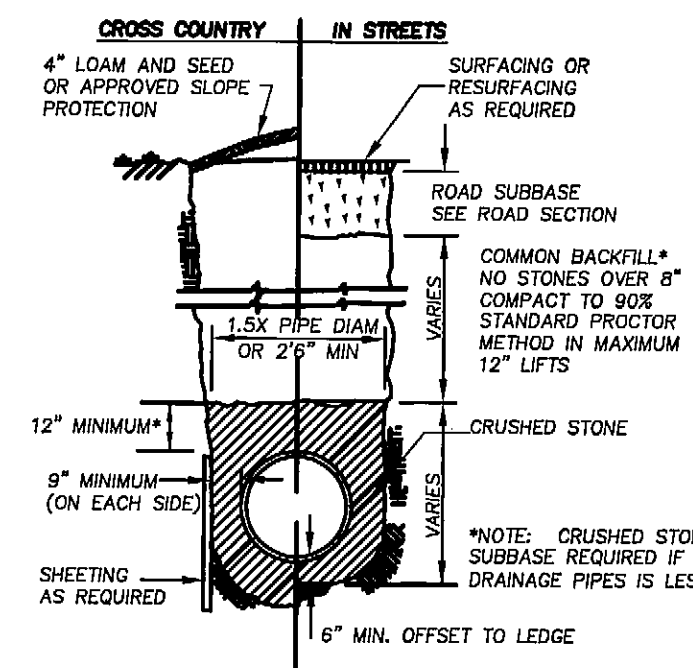
FORCE MAIN DISCHARGE MANHOLE
NOT TO SCALE

WATER QUALITY INLET SCHEDULE OF ELEVATIONS	TOP TANK	INV. IN	DIAMETER (IN)	INV. OUT	DIAMETER (OUT)	BOTTOM TANK	NOTED MODEL (OR EQUIVALENT)
#1	208.85	206.35	12	206.25	12	198.60	ST 6X16-5
#2	207.94	206.94	12	206.84	12	201.34	ST 6X16-35
#3	207.50	205.50	12	205.40	12	199.90	ST 6X16-35
#4	217.09	215.09	12	214.99	12	210.44	ST 6X16-35
#5	213.54	211.54	12	211.44	12	208.79	ST 6X16-35
#6	208.45	204.45	12	204.35	12	198.85	ST 6X16-35
#7	207.27	205.27	12	205.17	12	199.67	ST 6X16-35
#8	203.02	201.02	12	200.92	12	195.42	ST 6X16-35
#9	203.01	201.01	12	200.91	12	195.41	ST 6X16-35

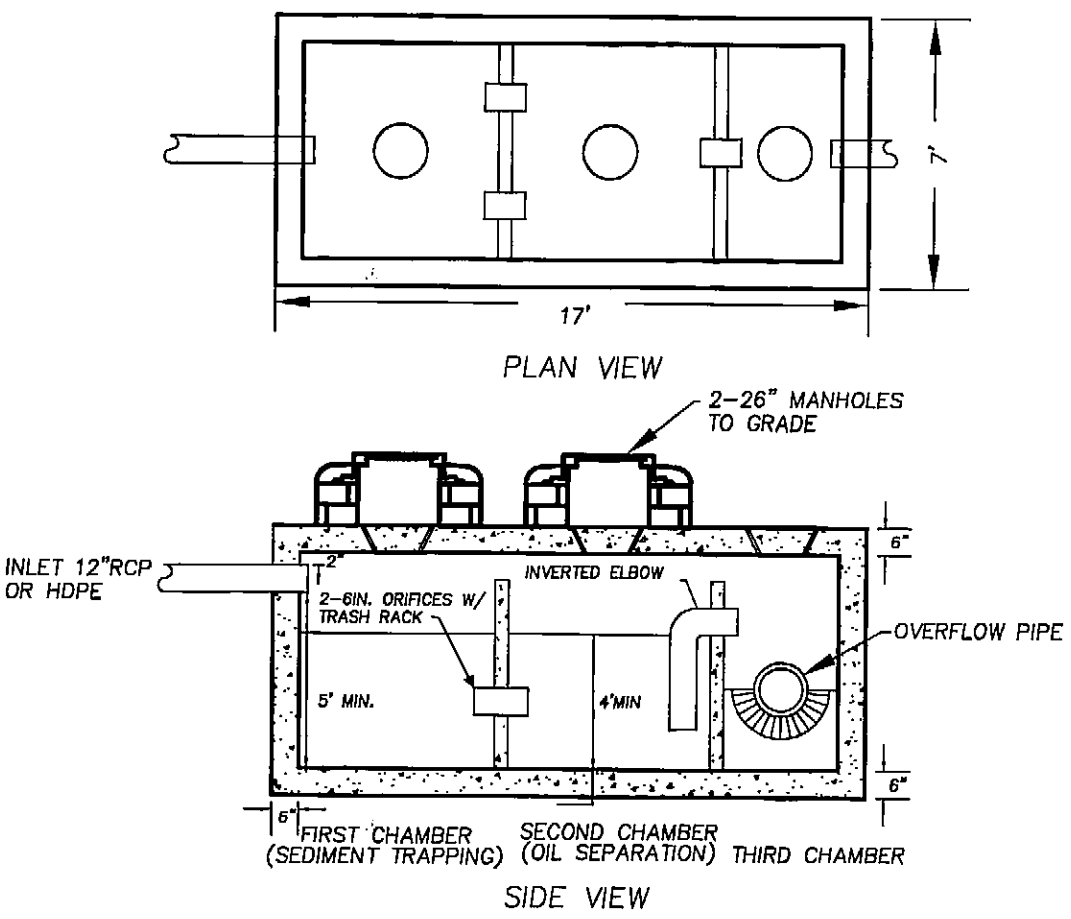
WATER QUALITY INLET ELEVATION SCHEDULE



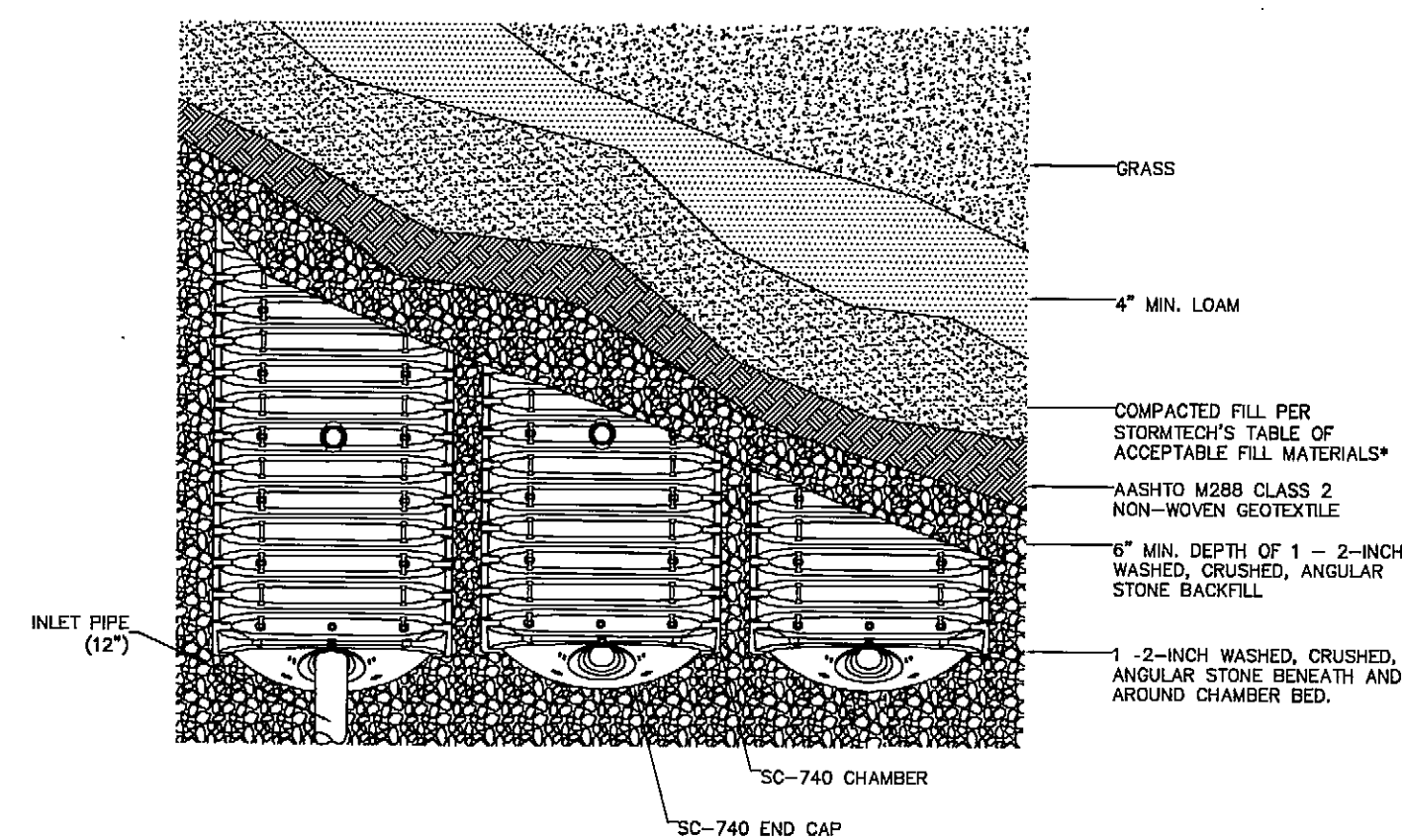
WATER QUALITY INLET MANHOLE RISER
NOT TO SCALE



DRAINAGE TRENCH
NOT TO SCALE



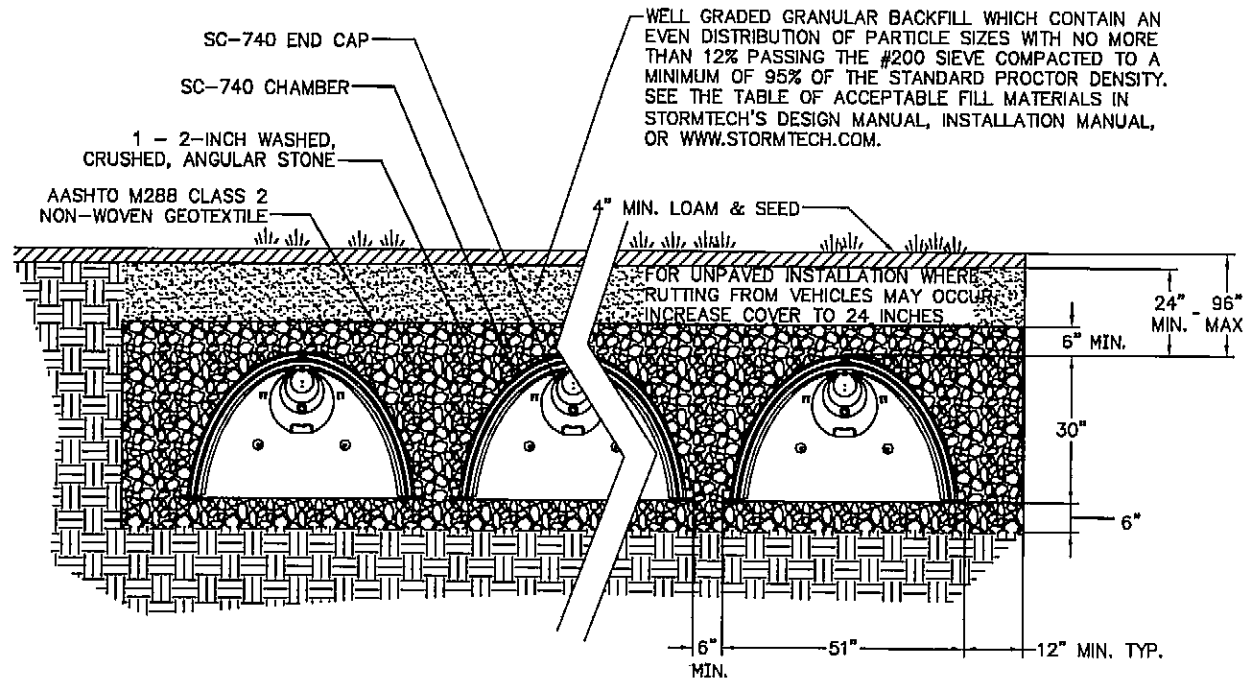
WATER QUALITY INLET
NOT TO SCALE
HS-20 LOADING REQUIRED SEE SCHEDULE OF ELEVATIONS



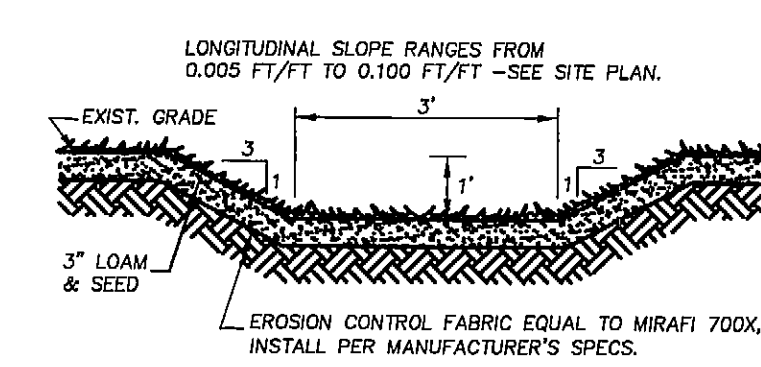
STORMTECH SC-740 CHAMBER SYSTEM
PLAN VIEW DETAIL
NOT TO SCALE

STORMWATER INFILTRATION SYSTEM SCHEDULE OF ELEVATIONS	BED DIMENSIONS	UNITS REQUIRED	ELEV. TOP OF STONE	ELEV. TOP INFILTRATOR UNIT	ELEV. BOTTOM INFILTRATOR UNIT	ELEV. BOTTOM STONE
#1	30' BY 100'	160	208.30	205.80	203.30	202.80
#2	30' BY 66'	84	208.84	208.34	205.84	205.34
#3	30' BY 66'	84	207.93	207.43	204.93	204.43
#4	20' BY 80'	84	216.69	216.19	213.69	213.19
#5	10' BY 52'	14	218.07	217.57	215.07	214.57
#6	30' BY 102'	84	206.05	205.55	203.05	202.55
#7	30' BY 80'	68	207.27	206.77	204.27	203.77
#8	30' BY 52'	42	202.52	202.02	199.52	199.02
#9	30' BY 80'	68	203.01	202.51	200.01	199.51

INFILTRATOR® ELEVATION SCHEDULE



STORMTECH SC-740 CHAMBER SYSTEM
TYPICAL CROSS SECTION DETAIL
NOT TO SCALE



GRASSED SWALE
NOT TO SCALE

PLAN NO. 330 OF 2008
SHEET 12 OF 18

PEPPERELL BOARD OF HEALTH

DATE OF APPROVAL:

DATE OF ENDORSEMENT:

NOV 14 2007
TOWN CLERK

APR 17 2007
TOWN CLERK

NOV 14 2007
TOWN CLERK

APR 17 2007
TOWN CLERK

GROTON PLANNING BOARD

DATE OF APPROVAL: July 13, 2006

DATE OF ENDORSEMENT: April 26, 2007

PEPPERELL PLANNING BOARD

DATE OF APPROVAL: 7-11-06

DATE OF ENDORSEMENT: 11-13-07

OWNER/APPLICANT:
JOHN J. LORDEN
447 NASHUA ROAD
GROTON, MA 01450

NOTE:
1. ALL UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH TOWN OF GROTON AND TOWN OF PEPPERELL STANDARDS.

CONSTRUCTION DETAILS

Design: ES/GS Draft: ES/AH Check: GAS/Ref:

REVISIONS	DATE	DESCRIPTION
02/20/02	Original Endorsement	
08/09/02	General Revision	
09/30/02	General Revision	
01/16/06	General Revision	
04/19/06	General Revision	
05/19/06	General Revision	
05/30/06	General Revision	
07/10/06	General Revision	
08/17/06	General Revision	
04/26/07	General Revision	

REEDY MEADOW ESTATES

DEFINITIVE SUBDIVISION OF LAND IN
Groton and Pepperell, Mass.

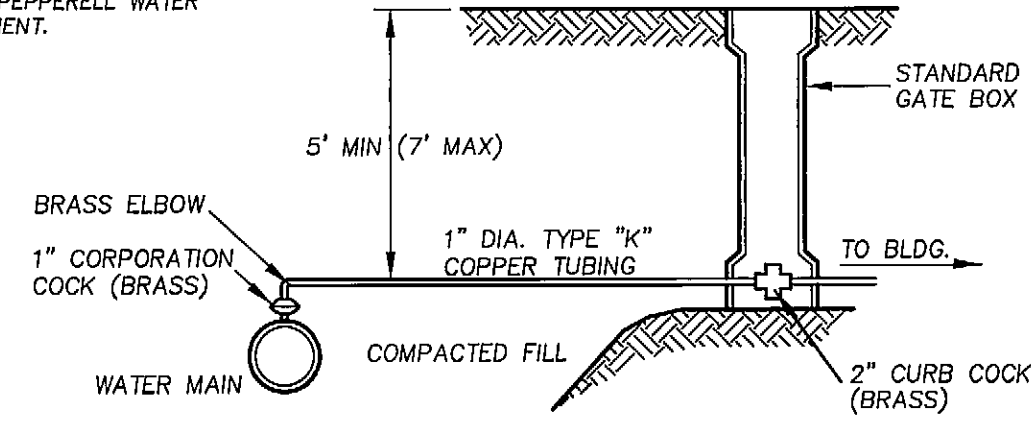
PREPARED FOR
John J. Lorden

SCALE: N.T.S. JANUARY, 2006

David E. Ross Associates, Inc.
CIVIL ENGINEERS LAND SURVEYORS
LANDSCAPE ARCHITECTS
ENVIRONMENTAL CONSULTANTS
P.O. BOX 368-111 FITCHBURG RD AYER MA 01432
TEL. NO. 978-772-6232
JOB NO. 9375 SHEET 11 OF 17 PLAN NO. L-7333

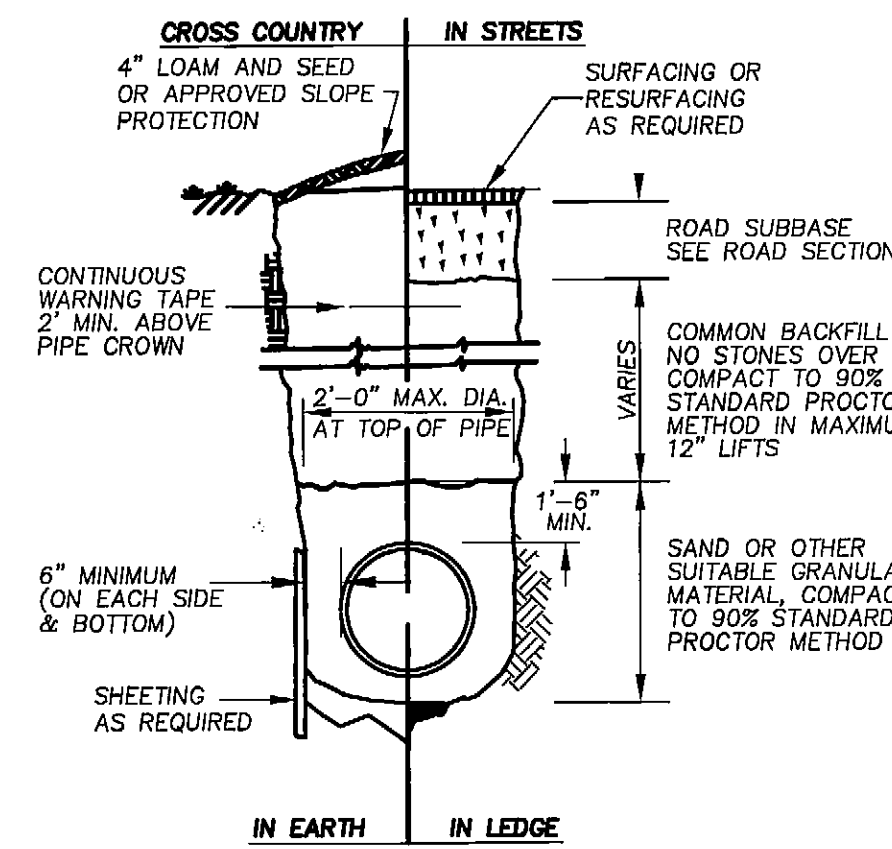
SPECIFICATIONS ON WATER INSTALLATIONS FOR THE PEPPERELL WATER DEPARTMENT

- ALL VALVES AND HYDRANTS WILL BE OPEN LEFT.
- ALL VALVES WILL BE RESILIENT WEDGE, UNLESS OTHERWISE APPROVED BY THE WATER DEPARTMENT SUPERINTENDENT.
- ALL VALVES, HYDRANTS AND MECHANICAL BENDS WILL BE THRUST BLOCKED TO WATER DEPARTMENT'S APPROVAL.
- THE PEPPERELL WATER DEPARTMENT SHALL DETERMINE WHICH TYPES OF FIRE HYDRANTS SHALL BE USED.
- ALL DUCTILE, PLASTIC OR CAST IRON PIPE SHALL MEET ALL A.W.W.A. SPECIFICATIONS.
- ALL EXCAVATING AND BACKFILLING WILL BE INSPECTED BY THE PEPPERELL WATER DEPARTMENT.
- MINIMUM DEPTH 4 FEET SIX INCHES, MAXIMUM DEPTH OF 7 FEET.
- THE PEPPERELL WATER DEPARTMENT WILL REQUIRE AT LEAST 1 FOOT OF SAND BACKFILL FOR ALL PIPES, VALVES AND BENDS. FIRE HYDRANTS WILL BE BACKFILLED WITH AT LEAST 4 HALF YARD OF 3/4" STONE FOR DRAINAGE PURPOSES.
- THE PEPPERELL WATER DEPARTMENT WILL TAP AND INSTALL ALL SERVICES LINES AND WATER METERS, UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT.
- THE PEPPERELL WATER DEPARTMENT RESERVES ALL RIGHTS TO REFUSE TO EXCAVATE A WATER LINE DUE TO LENGTH, LEDGE, AND ANY UNFORESEEN CIRCUMSTANCES.
- THERE WILL BE AN INSPECTION CHARGE FOR AND WATER DEPARTMENT EMPLOYEE WHO PHYSICALLY INSPECTS WORK DONE BY ANYONE OUTSIDE OF THE PEPPERELL WATER DEPARTMENT.
- ALL GATE BOX SECTIONS WILL BE STRAIGHT AND UP TO FINISH GRADE.
- ALL VALVES, HYDRANTS AND MECHANICAL BENDS WILL BE INSTALLED WITH MEGA-LUG OR GRIP/RING.



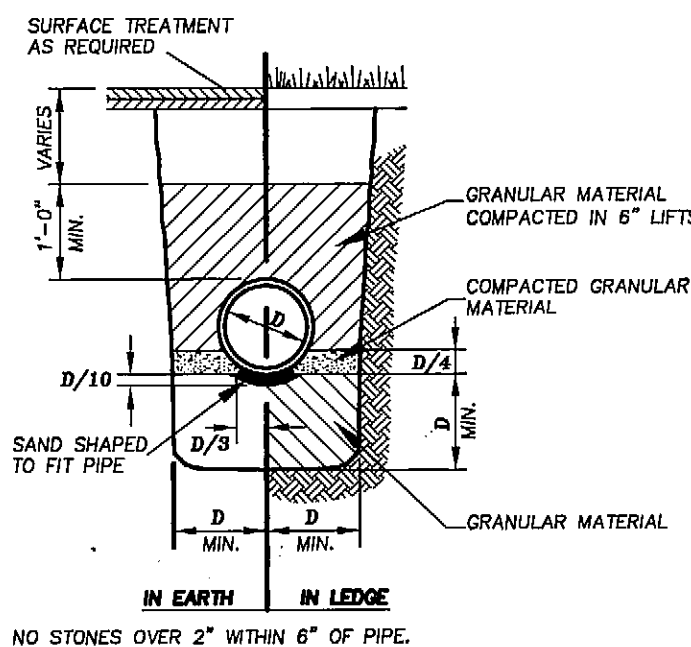
WATER SERVICE CONNECTION

NOT TO SCALE
CONNECTION TO EXISTING WATER DISTRIBUTION SYSTEM LOCATED IN JERSEY STREET TO BE PERFORMED BY THE PEPPERELL WATER DEPARTMENT CALL 978-433-5591 FOR INSTRUCTIONS



8" DUCTILE IRON WATER MAIN TRENCH

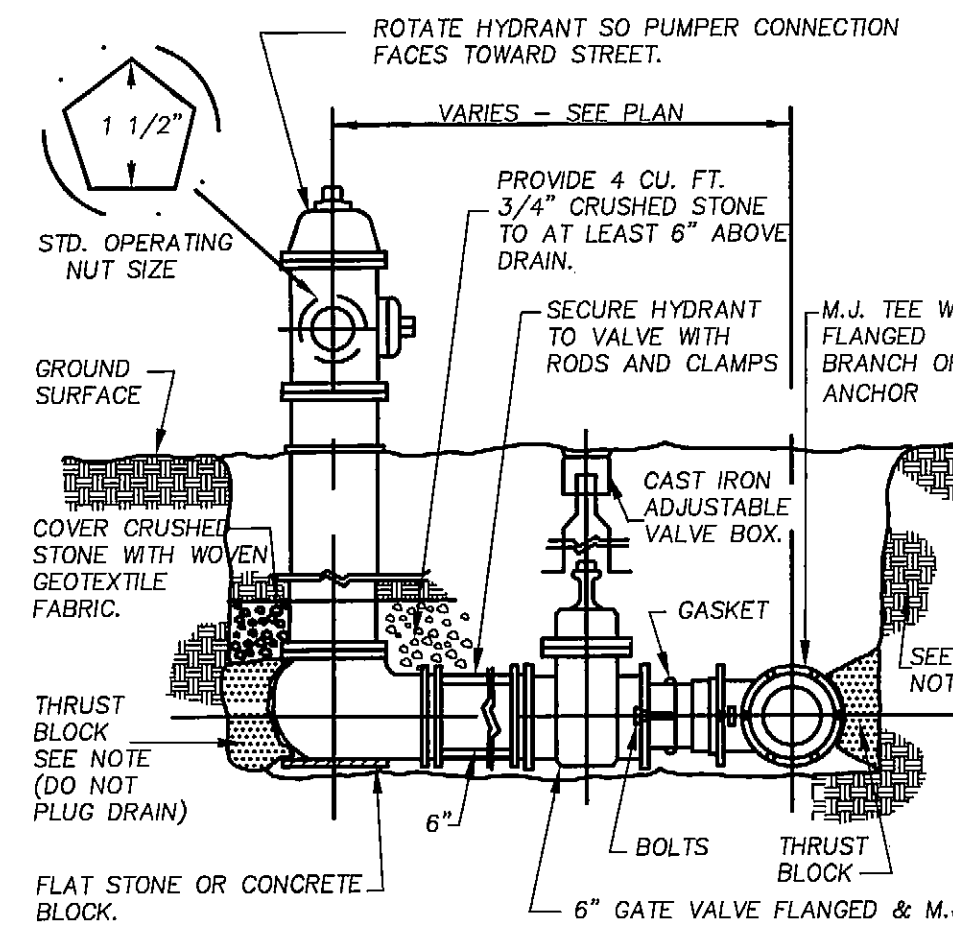
NOT TO SCALE
INSTALLATION OF WATER MAIN AND APPURTENANCES TO CONFORM TO A.W.W.A. STANDARD C900-82 AND ALL MANUFACTURER RECOMMENDATIONS.



UTILITY TRENCH

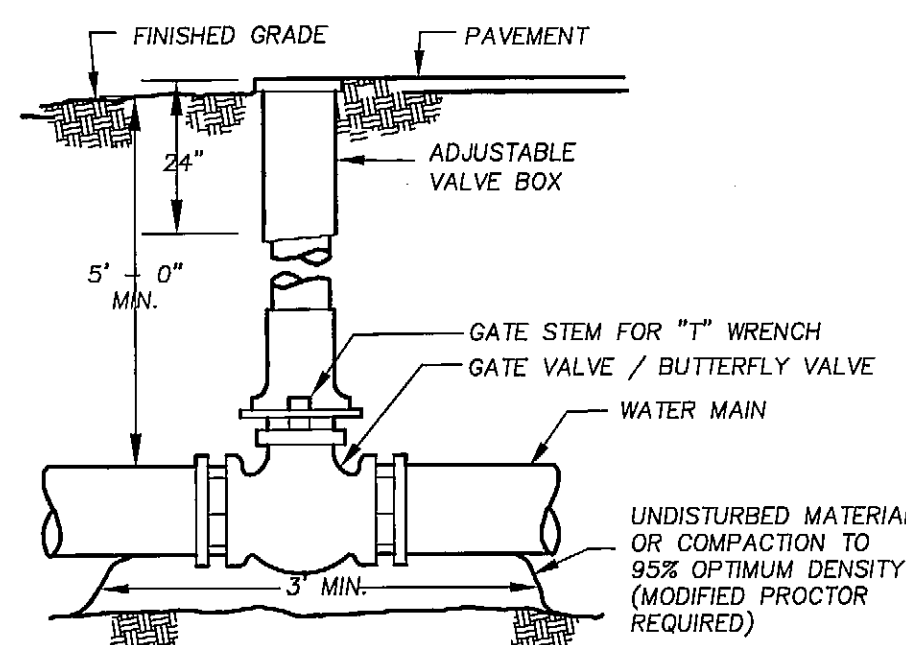
SEWER TRENCH DETAIL

NOT TO SCALE



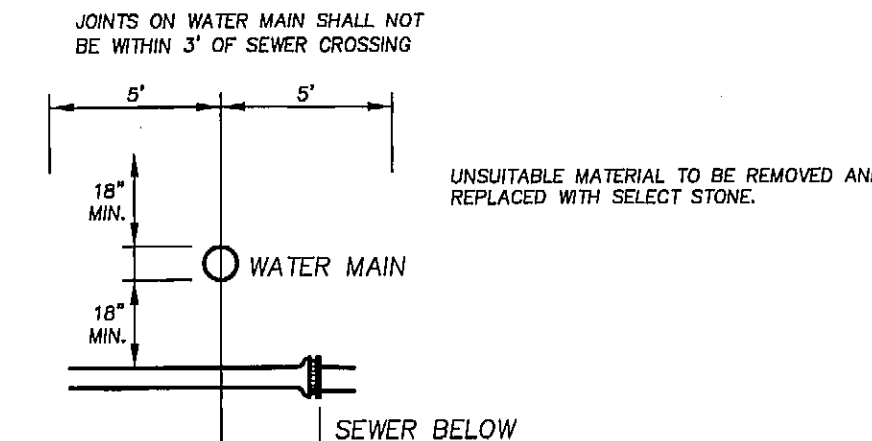
TYPICAL HYDRANT AND VALVE

NOT TO SCALE
NOTE: THE TOWN OF PEPPERELL REQUIRES EITHER MUELLER, AMERICAN DARTING OR AWK (CLASSIC STYLE) HYDRANTS.



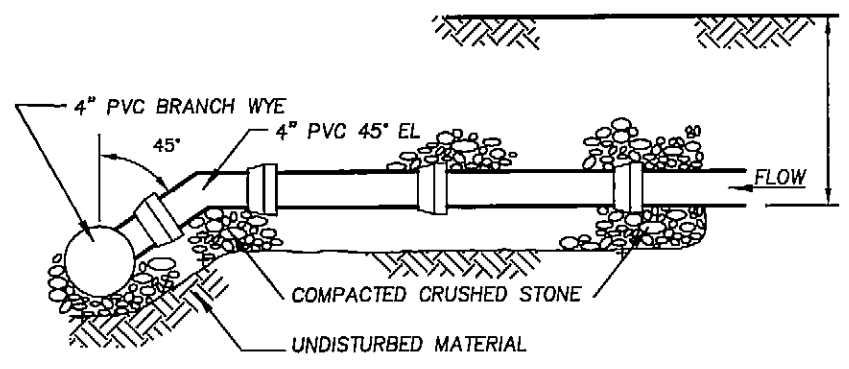
GATE VALVE DETAIL

NOT TO SCALE
GATE VALVES TO BE RESILIENT WEDGE SEATING VALVES AND OPEN LEFT.



WATER MAIN-SEWER LINE CROSSING

NOT TO SCALE



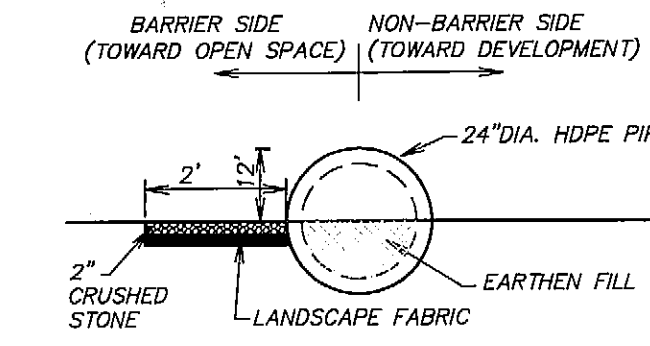
SEWER CONNECTION DETAIL

NOT TO SCALE

CRITTER BARRIER

INDICATES PROPOSED CRITTER BARRIER

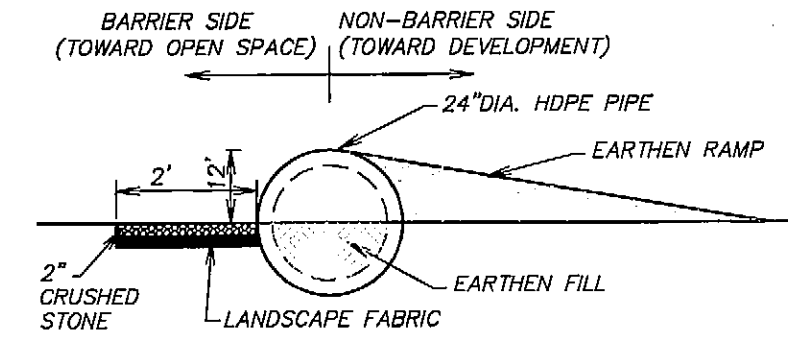
"CRITTER BARRIER IS A FINE MESH (HARDWARE CLOTH) BARRIER INSTALLED ALONG THE BOTTOM OF A CHAIN LINK FENCE. MINIMUM WIDTH 18", 12" ABOVE GRADE AND 6" BURIED BELOW GRADE. THE PURPOSE OF THE BARRIER IS TO PREVENT SMALL ANIMALS FROM CROSSING WHILE ALLOWING RUNOFF TO FLOW THROUGH.



24" DIAMETER HDPE BURIED HALFWAY SO THAT 12" INCHES IS EXPOSED ABOVE THE GROUND SURFACE. PIPE SECTIONS MUST BE FITTED END TO END SO THAT THERE IS NOT ANY GAP BETWEEN EACH SECTION. APPROXIMATELY 2 TO 4 INCHES OF CRUSHED STONE IS TO BE PLACED IN A 2-FOOT STRIP PARALLEL TO THE PIPE ALONG THE BARRIER SIDE OF THE PIPE.

BURIED PIPE TURTLE BARRIER

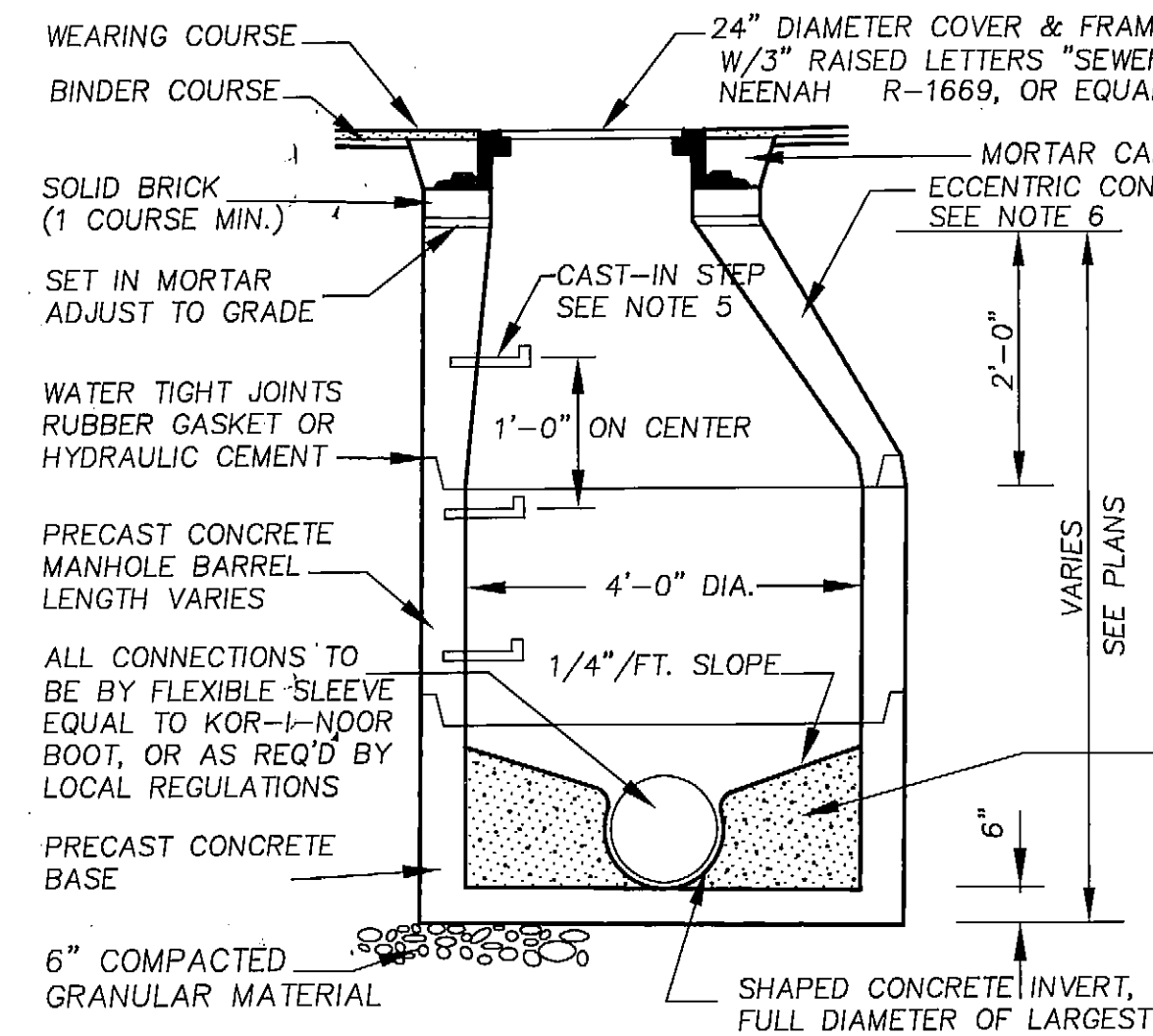
N.T.S.
INDICATES PROPOSED TURTLE BARRIER



"TURTLE GATES" ARE TO BE INSTALLED AT INTERVALS NOT GREATER THAN EVERY 125 FEET. FILL IS TO BE GRADED FLUSH WITH THE TOP OF THE PIPE ON THE NON-BARRIER SIDE (TOWARD DEVELOPMENT) CREATING A GENTLE RAMP THAT TURTLES CAN CLIMB AND DROP BACK INTO THE PROTECTED AREA. NOTE THAT THE ENTIRE NON-BARRIER SIDE MAY BE GRADED IN THIS MANNER IF DESIRED.

ONE-WAY TURTLE GATE

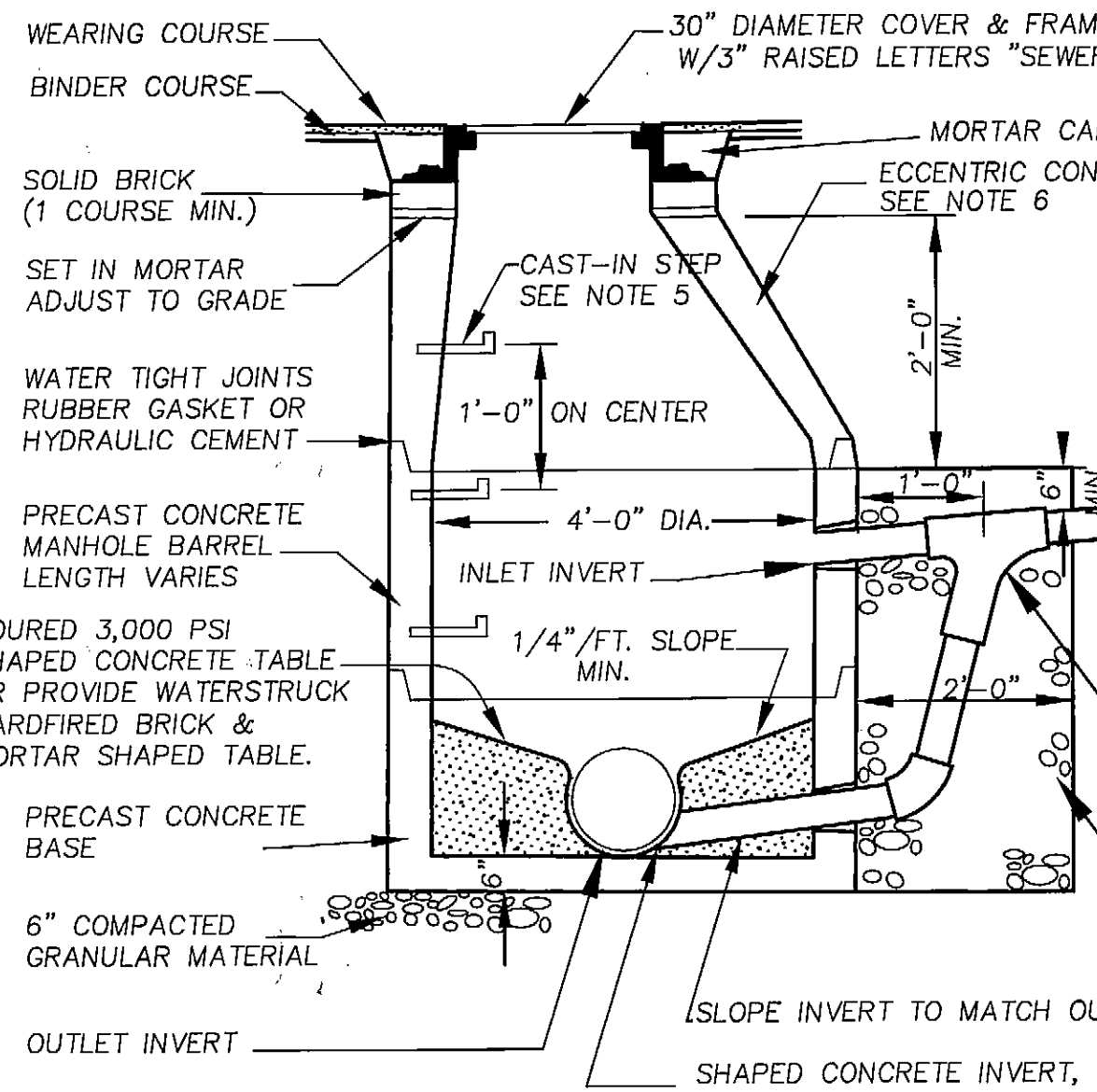
N.T.S.



SEWER MANHOLE DETAIL

NOT TO SCALE

- NOTES:
- CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
 - REINFORCED STEEL CONFORMS TO LATEST ASTM A185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
 - H-20 DESIGN LOADING PER AASHTO HS-20-44; ASTM C478 SPEC FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
 - BUTYL RESIN SECTION JOINT CONFORMS TO LATEST ASTM C443 SPEC.
 - STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEP CONFORMS TO LATEST ASTM C478 SPEC.
 - IN AREAS WHERE COVER IS 3' OR LESS ABOVE PIPES, USE FLAT TOP SLAB IN LIEU OF ECCENTRIC CONE SECTION.



DROP SEWER MANHOLE DETAIL

NOT TO SCALE

- NOTES:
- CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
 - REINFORCED STEEL CONFORMS TO LATEST ASTM A185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM.
 - H-20 DESIGN LOADING PER AASHTO HS-20-44; ASTM C478 SPEC FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
 - BUTYL RESIN SECTION JOINT CONFORMS TO LATEST ASTM C443 SPEC.
 - STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEP CONFORMS TO LATEST ASTM C478 SPEC.
 - IN AREAS WHERE COVER IS 3' OR LESS ABOVE PIPES, USE FLAT TOP SLAB IN LIEU OF ECCENTRIC CONE SECTION.
 - ALL CONNECTIONS TO BE BY FLEXIBLE SLEEVE EQUAL TO KOR-I-NOOR BOOT, OR AS REQUIRED BY LOCAL REGULATIONS.

GROTON PLANNING BOARD

DATE OF APPROVAL: July 13, 2006
DATE OF ENDORSEMENT: April 26, 2007

David E. Ross 11/29/07
Stephen J. Lorden
Raymond C. Capen
Raymond C. Capen

PEPPERELL PLANNING BOARD

DATE OF APPROVAL: 9-11-06
DATE OF ENDORSEMENT: 11-13-07

Stephen J. Lorden
Stephen J. Lorden
Stephen J. Lorden

OWNER/APPLICANT:
JOHN J. LORDEN
447 NASHUA ROAD
GROTON, MA 01450

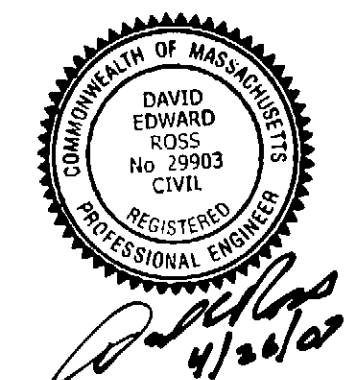
NOTE:

1. ALL UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH TOWN OF GROTON AND TOWN OF PEPPERELL STANDARDS.

CONSTRUCTION DETAILS

Design: ES/GS Draft: ES/LH Check: GAS/Ref

REVISIONS
02/20/02 Original Endorsement
08/09/02 General Revision
09/30/02 General Revision
01/16/06 General Revision
04/19/06 General Revision
05/19/06 General Revision
05/30/06 General Revision
07/10/06 General Revision
08/17/06 General Revision
04/26/07 General Revision



REEDY MEADOW ESTATES

DEFINITIVE SUBDIVISION OF LAND IN
Groton and Pepperell, Mass.
PREPARED FOR
John J. Lorden

SCALE: N.T.S. JANUARY, 2006

David E. Ross Associates, Inc.
CIVIL ENGINEERS LAND SURVEYORS
LANDSCAPE ARCHITECTS
ENVIRONMENTAL CONSULTANTS
P.O. BOX 368-111 FITCHBURG RD AYER MA 01432
TEL. NO. 978-772-6232
JOB NO. 9375 SHEET 10 OF 17 PLAN NO. L-7333

PEPPERELL BOARD OF HEALTH

DATE OF APPROVAL:
DATE OF ENDORSEMENT:

David E. Ross 11/29/07
DATE
CLERK OF THE TOWN OF PEPPERELL, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN HAS BEEN RECEIVED ON 9/13/2006 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.

David E. Ross
TOWN CLERK

David E. Ross 11/29/07
DATE
CLERK OF THE TOWN OF GROTON, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN HAS BEEN RECEIVED ON 11/29/07 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.

David E. Ross
TOWN CLERK

STORMWATER MANAGEMENT, OPERATIONS & MAINTENANCE SCHEDULE

STORM WATER COLLECTION SYSTEM:

THE STORMWATER COLLECTION SYSTEM SERVING THIS SITE IS INTENDED TO BOTH COLLECT STORMWATER RUNOFF AND TO PROVIDE TREATMENT OF THE STORMWATER PRIOR TO INFILTRATION. THE STORMWATER DRAINAGE SYSTEM COLLECTS RUNOFF GENERATED FROM THE SITE THROUGH THE USE OF CATCHBASINS. EACH CATCHBASIN IS EQUIPPED WITH A FOUR (4') FOOT DEEP SUMP TO COLLECT SEDIMENTS AND DEBRIS. EACH CATCHBASIN WILL HAVE AN OIL/GAS TRAP TO PREVENT THE INTRUSION OF HYDROCARBONS AND OTHER FLOATING MATERIALS FROM ENTERING THE DRAINAGE SYSTEM. WHEN THESE TWO BASIC CONTROL MECHANISMS ARE FUNCTIONING PROPERLY THEY PROVIDE FOR A REDUCTION OF CONTAMINANTS AND DEBRIS ENTERING THE STORMWATER COLLECTION AND RECHARGE SYSTEMS.

ALL OF THE ABOVE-DESCRIBED SYSTEMS RELY UPON PROPER MONITORING, OPERATIONS AND MAINTENANCE TO FUNCTION AS DESIGNED AND INTENDED. THE ACTIVITIES DESCRIBED BELOW ARE TO BE IMPLEMENTED DURING CONSTRUCTION OF THE PROJECT AS APPROPRIATE.

MONITORING AND OPERATION:

THE DRAINAGE SYSTEMS ARE REQUIRED TO BE MONITORED BY THE OWNER, WHO SHALL DIRECT AN INDIVIDUAL OR ENTITY TO ACT AS THE PROJECT SITE MANAGER. THE NAME, ADDRESS AND DAY AND NIGHT (OR EMERGENCY) TELEPHONE NUMBER OF THIS PERSON OR ENTITY SHALL BE PROVIDED TO THE TOWN ENGINEER PRIOR TO THE START OF CONSTRUCTION ON THE SITE.

MONITORING AND OPERATION DURING CONSTRUCTION AND PRIOR TO ACCEPTANCE BY THE TOWN SHALL CONSIST OF THE FOLLOWING:

1. ALL EROSION CONTROL DEVICES, STOCKPILED AREAS, AND STAGING AREAS SHALL BE INSPECTED AND MAINTAINED IN GOOD WORKING CONDITION THROUGHOUT THE LIFE OF THE PROJECT.
2. ALL CATCHBASINS SHALL BE INSPECTED TO ENSURE THEY ARE WATERTIGHT (HOLDING WATER), HAVE ADEQUATE SUMP CAPACITY, ALL OIL/GAS TRAPS ARE IN-PLACE, ALL GRATES AND FRAMES ARE FREE FROM STRUCTURAL DAMAGE, AND ARE DRAINING FREELY.
3. ALL DRAINAGE MANHOLES SHALL BE INSPECTED TO ENSURE THAT THEY ARE WATERTIGHT, ALL LIDS AND FRAMES ARE FREE FROM STRUCTURAL DAMAGE, ARE DRAINING FREELY AND ARE NOT PONDING WATER.
4. ALL OUTLETS FROM DISCHARGE PIPES, BASINS, TEMPORARY SWALES OR OTHER DRAINAGE STRUCTURES SHALL BE INSPECTED ON A REGULAR BASIS TO ENSURE THAT NO EROSION IS OCCURRING. ALL OUTLETS MUST BE FREE-FLOWING AND REGULAR INSPECTIONS SHALL BE CONDUCTED TO DETERMINE THAT NO DAMAGE HAS OCCURRED DURING CONSTRUCTION OR RELATED ACTIVITIES.
5. AT THE COMPLETION OF THE PROJECT THE STORMWATER DRAINAGE SYSTEM SHALL BE INSPECTED AND CLEANED OF ANY MATERIAL WHICH MAY BE INHIBITING FLOW OF THE STORMWATER.
6. ALL MATERIALS USED IN THE CONSTRUCTION OF THE SUBDIVISION ROAD AND APPURTENANCES MUST BE STORED IN A NEAT, ORDERLY MANNER IN STAGING AREAS. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE, LOCAL OR FEDERAL AGENCY, AS REQUIRED BY-LAW.

A. PETROLEUM PRODUCTS:

1. ALL ON-SITE VEHICLES AND STAGING AREAS SHALL BE REGULARLY MONITORED FOR LEAKS. ANY EVIDENCE OF DISCHARGE SHALL BE IMMEDIATELY REMEDIED.
2. PETROLEUM PRODUCTS SHALL BE STORED UNDER COVER AND SHALL BE IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED.

B. FERTILIZERS:

1. FERTILIZERS SHALL ONLY BE OF A LOW NITROGEN CONTENT AND BE USED IN THE MINIMUM AMOUNTS AS RECOMMENDED BY THE MANUFACTURER.
2. THE UNUSED CONTENTS OF ANY FERTILIZER BAGS SHALL BE TRANSFERRED TO A CLEARLY LABELED, SEALABLE PLASTIC BIN TO AVOID SPILLAGE.

MAINTENANCE:

1. ROADWAYS AND ACCESS WAYS SHALL HAVE TEMPORARY CONSTRUCTION ENTRANCES WHICH ARE MAINTAINED IN GOOD CONDITION THROUGHOUT THE PROJECT.
2. ROADWAYS SHALL BE SWEEPED CLEAN OF DEBRIS AND ACCUMULATION OF SOIL AND SILT ON A REGULAR BASIS. AT A MINIMUM, A SPRING AND FALL CLEANING SCHEDULE IS RECOMMENDED.
3. ALL CATCHBASINS SHALL HAVE THE SUMPS CLEANED AT ANY TIME OF THE YEAR WHEN 2' OR LESS SPACE EXISTS BELOW THE OUTLET INVERT, OR A MINIMUM OF ONCE PER YEAR, REGARDLESS OF SUMP ACCUMULATION. ALL DEBRIS FROM THE CLEANING SHALL BE DISPOSED OF OFF-SITE AND IN A MANNER AS PRESCRIBED BY LAW. CATCH BASINS SHALL BE CLEANED AT THE COMPLETION OF THE PROJECT.
4. ALL OIL AND GAS TRAPS SHALL BE CHECKED FOR PHYSICAL INTEGRITY AND SEAL, IMMEDIATELY AFTER EACH CATCHBASIN CLEANING AND PRIOR TO THE ACCEPTANCE OF THE ROAD BY THE TOWN.
5. ANY HYDROCARBONS (OIL, GREASE) WHICH DO NOT EVAPORATE BETWEEN REGULAR INSPECTIONS ARE TO BE REMOVED FROM THE CATCHBASIN WITH OIL ABSORBING "PILLOWS" OR OTHER SUITABLE MEANS.
6. ALL BROKEN, LEAKING OR OTHERWISE DAMAGED STRUCTURES SHALL BE REPAIRED PROMPTLY UPON DISCOVERY. CATCHBASIN GRATES OR MANHOLE LIDS SHALL BE REPLACED WITH SIMILAR WEIGHT AND LOADING CHARACTERISTIC REPLACEMENT PARTS.
7. ALL EROSION SHALL BE REPAIRED IMMEDIATELY. THE REPLACEMENT OF ANY PIPE OR DRAINAGE STRUCTURE SHALL MATCH THE ORIGINAL DESIGN SPECIFICATIONS.

GENERAL

1. THIS PLAN IS INTENDED TO MEET THE REQUIREMENTS OF THE NATIONAL STORMWATER POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) IN SECTION 402 OF THE FEDERAL CLEAN WATER ACT. THE CONSTRUCTION OF THE DRIVEWAY, HOUSES AND APPURTENANT STRUCTURES WILL RESULT IN MORE THAN 1 ACRE OF TOTAL DISTURBED AREA, REQUIRING THE SUBMITTAL OF A STORM WATER POLLUTION PREVENTION PLAN FOR THIS SITE.
2. IT'S ANTICIPATED THAT THE SITE AS DESIGNED WILL MEET THE CRITERIA FOR A NPDES GENERAL PERMIT. SITE DISTURBANCE OR CONSTRUCTION MAY BE INITIATED 7 CALENDAR DAYS AFTER ACKNOWLEDGMENT OF RECEIPT OF THE NOI IS POSTED ON THE EPA NPDES WEBSITE.
3. THIS PLAN IS INTENDED TO PROVIDE GUIDANCE AND INSTRUCTION TO THE OWNER AND CONTRACTOR(S) IN THE PREVENTION OF EROSION AND SEDIMENTATION ON AND OFF-SITE. THIS PLAN IS INTENDED TO ALLOW ANY ORDERS OF CONDITIONS TO BE MORE SPECIFIC IN ADDRESSING ITEMS OF CONCERN. IF, UPON ISSUANCE OF AN ORDER OF CONDITIONS BY THE GROTON CONSERVATION COMMISSION, ANY ITEMS SPECIFIED HEREIN ARE IN CONFLICT WITH THE ORDERS OF CONDITIONS, SAID ORDERS OF CONDITIONS SHALL SUPERSEDE THE REQUIREMENTS SPECIFIED ON THIS PLAN.

NPDES RECORD REQUIREMENTS:

1. A COPY OF THE NPDES SUBMITTAL AND THIS PLAN MUST BE KEPT ON-SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE MADE AVAILABLE TO ALL INTERESTED PARTIES.
 2. RECORDS MUST BE MAINTAINED BY THE PERMITEE FOR A PERIOD OF THREE (3) YEARS FROM THE DATE OF STABILIZATION OF THE SITE. STABILIZATION OCCURS WHEN THE SITE HAS OVER 70% VEGETATIVE GROWTH AND/OR MECHANICAL STABILIZATION THROUGHOUT.
- NPDES INSPECTION REQUIREMENTS:
1. ALL INSPECTIONS SHALL BE CONDUCTED BY QUALIFIED PERSONNEL, WHO SHALL PRODUCE WRITTEN QUANTITATIVE AND QUALITATIVE REPORTS ON THE METHODS, SUTABILITY OR STRUCTURES, AND GENERAL CONSTRUCTION.
 2. INSPECTIONS ARE REQUIRED DURING SITE ALTERATIONS A MINIMUM OF ONCE EVERY SEVEN (7) DAYS WHILE SURFACES ARE UNSTABILIZED.
 3. INSPECTIONS ARE REQUIRED WITHIN 24 HOURS OF STORMS WHICH PRODUCE 0.5" OF PRECIPITATION OR GREATER.
 4. WHEN THE SITE IS FULLY STABILIZED, INSPECTIONS SHALL BE CONDUCTED AT MONTHLY INTERVALS FOR A PERIOD OF THREE (3) YEARS.

EROSION CONTROL MEASURES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT EROSION AND SEDIMENTATION ARE CONTROLLED. THIS PLAN SHALL BE ADAPTED TO FIT THE CONTRACTOR'S EQUIPMENT, WEATHER CONDITIONS, AND ANY ORDERS OF CONDITIONS ISSUED BY THE GROTON CONSERVATION COMMISSION AND ANY SPECIAL CONDITIONS ISSUED BY ANY OTHER REGULATORY AGENCY.
2. THE MOST IMPORTANT ASPECTS OF CONTROLLING EROSION AND SEDIMENTATION ARE LIMITING THE EXTENT OF DISTURBANCE AND STABILIZING SURFACES AS SOON AS POSSIBLE. OF SECONDARY IMPORTANCE IN EROSION CONTROL IS LIMITING THE SIZE AND LENGTH OF THE TRIBUTARY DRAINAGE AREA WITHIN THE WORK SITE AND DRAINAGE STRUCTURES. THESE FUNDAMENTAL PRINCIPLES SHALL BE THE KEY FACTORS IN THE CONTRACTOR'S CONTROL OF EROSION ON THE SITE.
3. ALL DISTURBED SURFACES SHALL BE STABILIZED WITHIN 14 DAYS AFTER CONSTRUCTION IN ANY PORTION OF THE SITE HAS CEASED OR IS TEMPORARILY HALTED UNLESS ADDITIONAL CONSTRUCTION IS INTENDED TO BE INITIATED WITHIN 21 DAYS.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF ALL EROSION CONTROL DEVICES ON-SITE. ALL EROSION CONTROL DEVICES SHALL BE REGULARLY INSPECTED. ANY SEDIMENTS REMOVED FROM THE CONTROL DEVICES SHALL BE DISPOSED OF OUTSIDE OF THE 100' WETLANDS BUFFER ZONE.
5. AT NO TIME SHALL SILT-LADEN WATER BE ALLOWED TO ENTER SENSITIVE AREAS (WETLANDS, OFF-SITE AREAS AND DRAINAGE SYSTEMS). ANY RUNOFF FROM DISTURBED SURFACES SHALL BE DIRECTED THROUGH SETTLING BASINS AND EROSION CONTROL BARRIERS PRIOR TO ENTERING ANY SENSITIVE AREAS.
6. EROSION CONTROL BARRIERS SHALL BE MAINTAINED IN GOOD CONDITION THROUGHOUT THE PROJECT.
7. EXPOSED SOILS SHALL BE STABILIZED WITH VEGETATIVE COVER AS SOON AS POSSIBLE. NEW PLANTINGS SHALL BE WATERED AS NEEDED.

CONSTRUCTION REQUIREMENTS:

1. ANY REFUELING OF CONSTRUCTION VEHICLES AND EQUIPMENT SHALL TAKE PLACE GREATER THAN 100' FROM THE TOWN OF PEPPERELL PROPERTY AND THE WETLANDS, AND SHALL NOT BE CONDUCTED IN PROXIMITY TO SEDIMENTATION BASINS OR DIVERSION SWALES.
2. NO MATERIALS SHALL BE DISPOSED OF INTO THE WETLANDS OR EXISTING OR PROPOSED DRAINAGE SYSTEMS. ALL CONTRACTORS INCLUDING: CONCRETE SUPPLIERS, PAINTERS AND PLASTERERS, SHALL BE INFORMED THAT THE CLEANING OF EQUIPMENT IS PROHIBITED IN AREAS WHERE THE WASH-WATER WILL DRAIN DIRECTLY TO THE WETLANDS OR SITE DRAINAGE SYSTEMS.
3. CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL WHICH SHALL INCLUDE STREET SWEEPING OF ALL PAVED SURFACES WITHIN THE SITE AND OFF-SITE AREAS THAT ARE IMPACTED BY SITE CONSTRUCTION ON A REGULAR BASIS, AS NEEDED.
4. BEFORE THE SALE OF A LOT THE SUBDIVIDER SHALL CLEAN UP ANY DEBRIS THEREON CAUSED BY STREET CONSTRUCTION AND INSTALLATION OF UTILITIES.
5. ONLY MECHANICAL METHODS OF LEDGE REMOVAL WILL BE ALLOWED. NO BLASTING IS PERMITTED.

PRE-CONSTRUCTION:

1. AN EROSION CONTROL BARRIER (SEE BELOW) SHALL BE INSTALLED AS DEPICTED ON THE SITE PLAN, BETWEEN THE AREAS TO BE DISTURBED AND SENSITIVE AREAS. THIS BARRIER SHALL REMAIN IN PLACE UNTIL ALL TRIBUTARY SURFACES HAVE BEEN FULLY STABILIZED. THE EROSION CONTROL BARRIERS AS SHOWN ON THE SITE PLAN ARE THE MINIMUM REQUIRED TO PROTECT THE WETLANDS.
2. THE CONTRACTOR SHALL ESTABLISH A STAGING AREA ON A PORTION OF THE AREA TO BE DISTURBED, IT SHALL BE OUTSIDE OF THE 100' BUFFER ZONE FOR THE OVERNIGHT STORAGE OF EQUIPMENT AND STOCKPILING OF MATERIALS.
3. IN THE STAGING AREA, THE CONTRACTOR SHALL HAVE A STOCKPILE OF MATERIALS REQUIRED TO CONTROL EROSION ON-SITE TO BE USED TO SUPPLEMENT OR REPAIR EROSION CONTROL DEVICES. THESE MATERIALS SHALL INCLUDE, BUT ARE NOT LIMITED TO: HAYBALES, SILT FENCE AND CRUSHED STONE.
4. A TEMPORARY STONE CONSTRUCTION ENTRANCE IS REQUIRED TO PREVENT TRACKING OF SILT, MUD, ETC. ONTO EXISTING ROADS. THE STONE SHALL BE REPLACED REGULARLY AS WELL AS WHEN THE STONE IS SILT LADEN OR EQUIPMENT IS OBSERVED TO BE TRACKING SILT ONTO THE ROADWAYS.
5. THE CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL ON-SITE AND SHALL UTILIZE EROSION CONTROL MEASURES WHERE NEEDED, REGARDLESS OF WHETHER THE MEASURES ARE SPECIFIED HEREIN, ON THE PLAN, OR IN ANY ORDER OF CONDITIONS.
6. TEMPORARY CONSTRUCTION FENCING SHALL BE INSTALLED ALONG THE PROPERTY LINE OF THE PEPPERELL WATER DEPARTMENT PROPERTY PRIOR TO CONSTRUCTION TO PREVENT INADVERTENT TRESPASSING ON WATER DEPARTMENT PROPERTY. THE FENCING SHALL ALSO BE INSTALLED TO DELINEATE THE LIMIT OF DISTURBANCE.

PRELIMINARY SITE WORK:

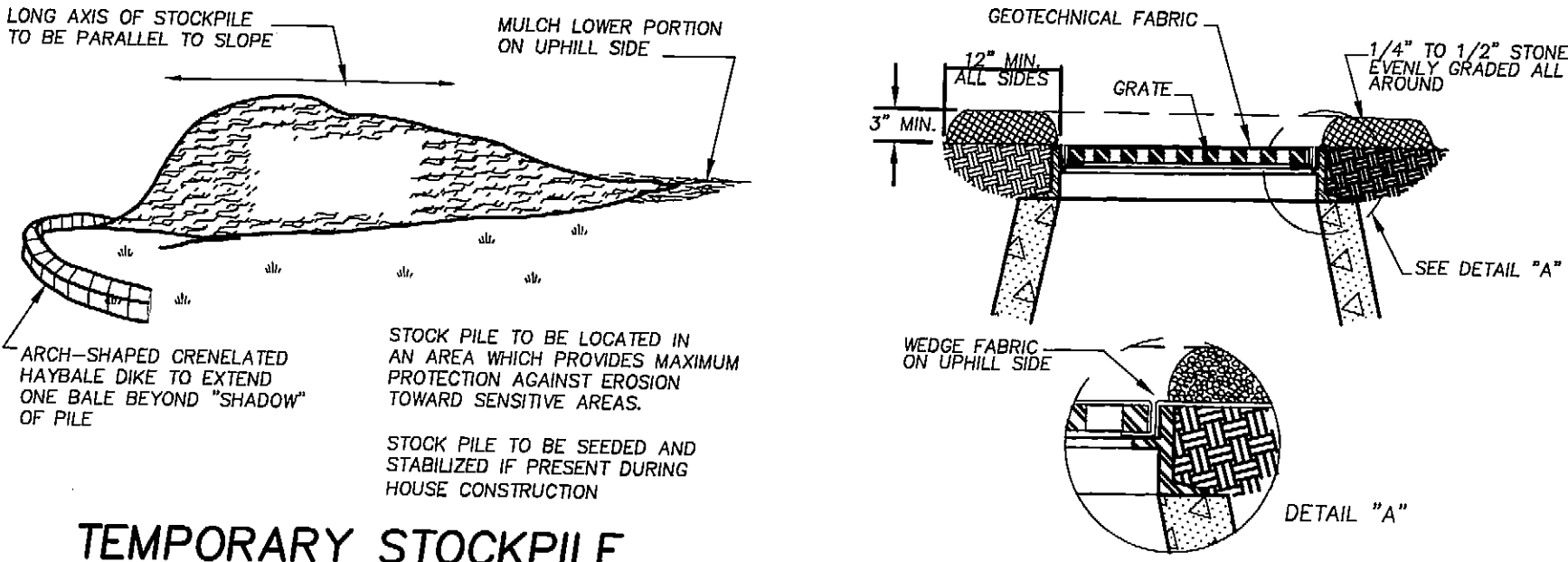
1. MATERIAL REMOVED SHOULD BE STOCKPILED, SEPARATING THE TOPSOIL FOR FUTURE USE ON THE SITE. EROSION CONTROLS SHALL BE UTILIZED ALONG THE DOWNSLOPE SIDE OF THE PILES.
2. STOCKPILES SHALL BE LOCATED OUTSIDE THE 100' BUFFER ZONE. SHOULD ADDITIONAL AREAS BE NEEDED THEY SHALL BE LOCATED WITHIN THE LIMITS OF DISTURBANCE, IN AREAS OF MINIMAL IMPACT. IF A STOCKPILE IS LOCATED ON A SLOPE, THE RUNOFF SHALL BE DIRECTED AWAY FROM THE PILE.
3. IF RAINFALL IS ANTICIPATED, THE INSTALLATION OF SUPPLEMENTAL HAYBALE DIKES, SILT FENCES, OR ARMORED DIKES SHALL BE UTILIZED.

DRAINAGE SYSTEM:

1. THE DRAINAGE SYSTEM SHALL BE INSTALLED FROM THE DOWNSTREAM END UP.
2. RIP RAP SHALL BE INSTALLED AT THE PIPE INLETS AND OUTLETS IMMEDIATELY UPON THE PLACEMENT OF THE PIPE. A SILT FENCE SHALL BE INSTALLED AT THE OUTFALL OF ALL TEMPORARY BASINS AND SWALES. IT SHALL REMAIN IN PLACE UNTIL ALL TRIBUTARY AREAS ARE STABILIZED.
3. WATER SHALL NOT BE ALLOWED TO ENTER PIPES FROM UN-STABILIZED SURFACES.
4. TRENCH EXCAVATIONS SHALL BE LIMITED TO THE MINIMUM LENGTH REQUIRED FOR DAILY PIPE INSTALLATION. ALL TRENCHES SHALL BE BACKFILLED AS SOON AS POSSIBLE. THE ENDS OF PIPES SHALL BE CLOSED NIGHTLY WITH PLYWOOD.
5. IF UNSTABLE AREAS ARE ENCOUNTERED DUE TO NATURAL SPRINGS OR GROUNDWATER BREAKOUT, INTERCEPTOR DRAINS SHALL BE INSTALLED TO DIRECT THE RUNOFF INTO THE DRAINAGE SYSTEM.
6. IT IS IMPORTANT THAT THE BINDER COURSE BE INSTALLED ON THE LIMITS OF THE ROAD AS SOON AS FEASIBLE AS THIS AREA WILL FUNCTION AS A CONDUIT FOR RUNOFF.
7. ALL EXISTING SWALES MUST BE MAINTAINED AND KEPT FREE OF OBSTRUCTIONS TO ALLOW UNIMPEDED FLOW.

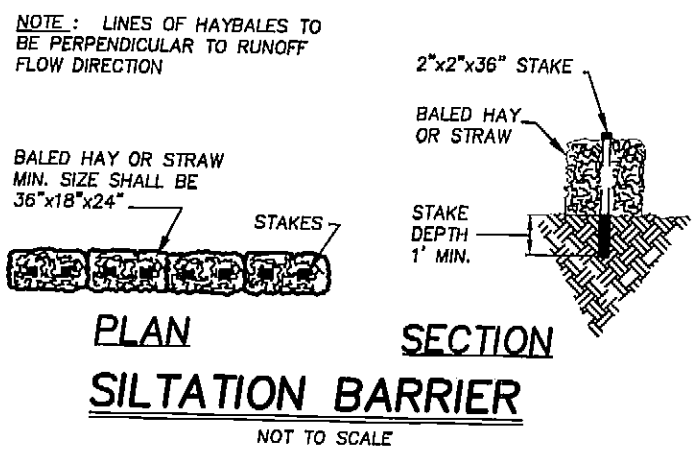
LANDSCAPING:

1. LANDSCAPING SHALL OCCUR AS SOON AS POSSIBLE TO PROVIDE PERMANENT STABILIZATION OF DISTURBED SURFACES.
2. CONTRACTOR SHALL UTILIZE A VARIETY OF SLOPE STABILIZATION METHODS AND MATERIALS WHICH SHALL BE ADJUSTED TO THE SITE CONDITIONS. EROSION CONTROL BLANKETS OR MIRAFI MIRAMAT (OR SIMILAR PRODUCTS) SHALL BE AVAILABLE ON-SITE.
3. IF THE SEASON OR ADVERSE WEATHER CONDITIONS DO NOT ALLOW THE ESTABLISHMENT OF VEGETATION, TEMPORARY MULCHING WITH HAY, TACKIFIED WOOD CHIPS OR OTHER METHODS SHALL BE PROVIDED.

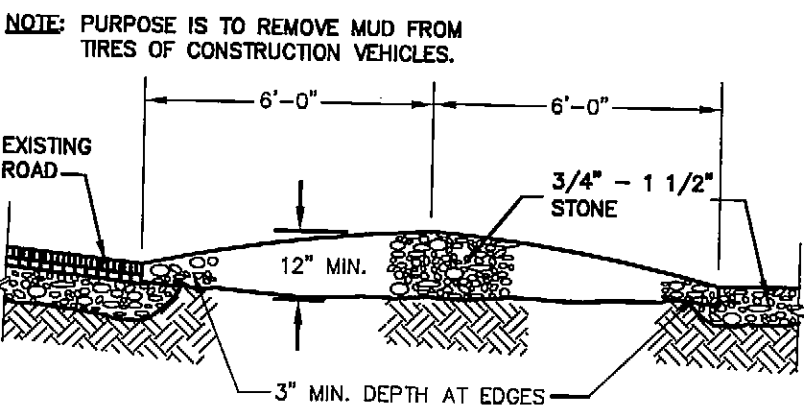


TEMPORARY STOCKPILE
NOT TO SCALE

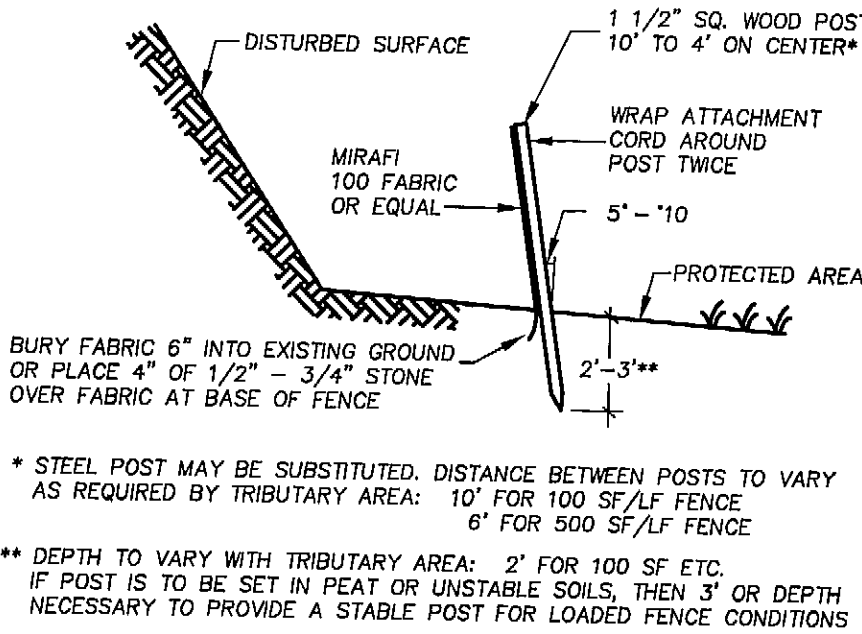
FILTERED CATCHBASIN INLET
NOT TO SCALE



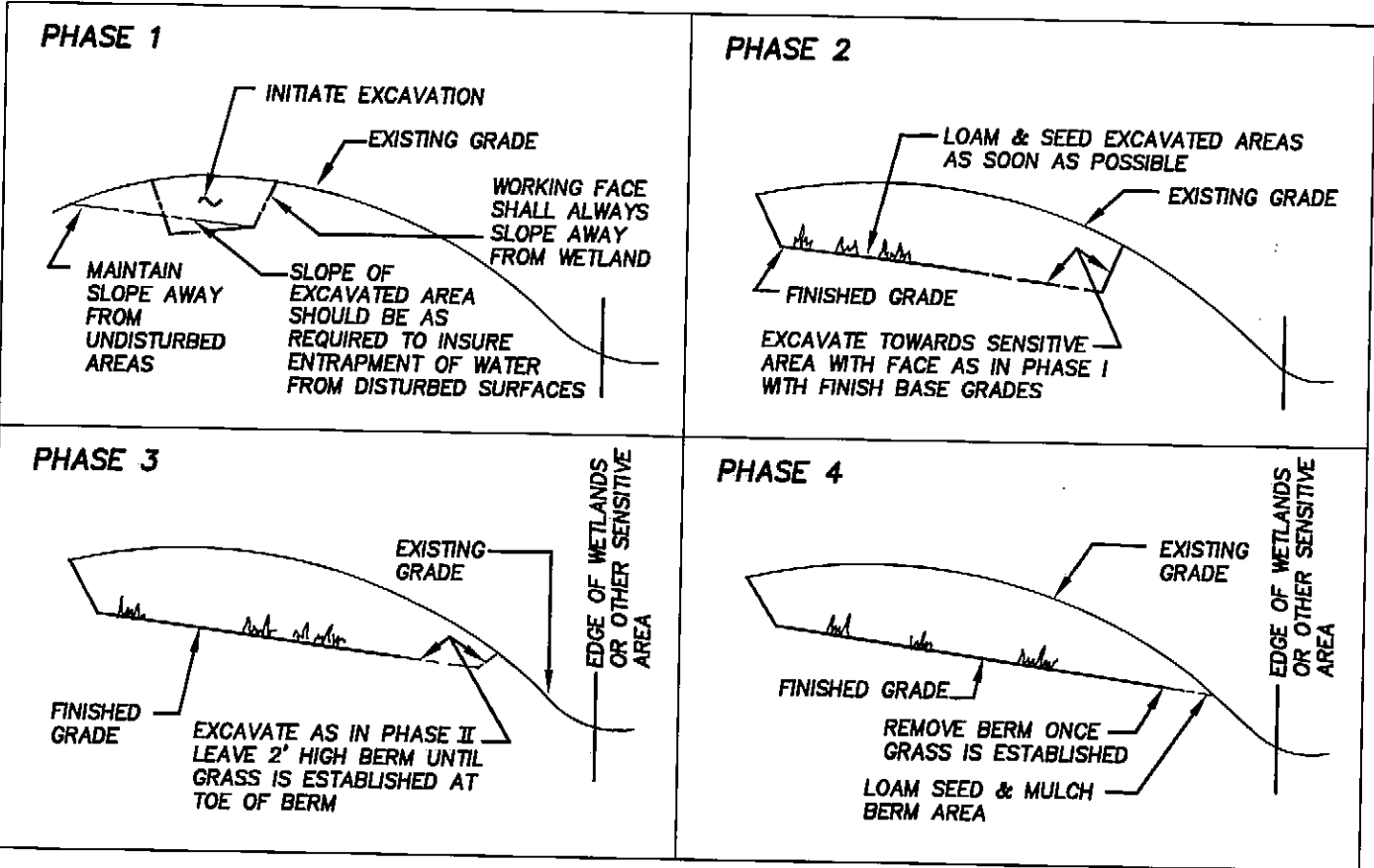
PLAN
SECTION
SILTATION BARRIER
NOT TO SCALE



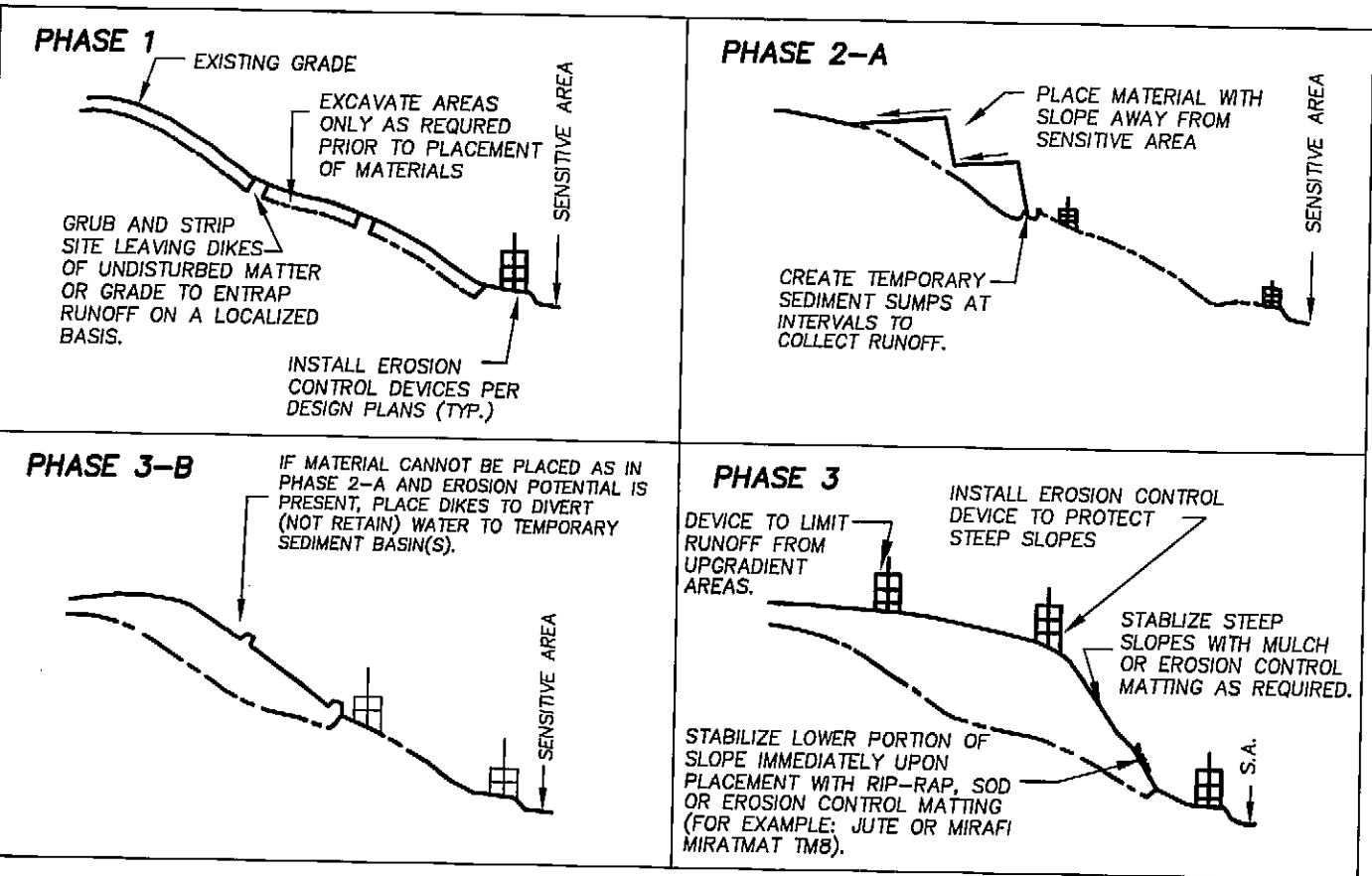
TEMPORARY
CONSTRUCTION ENTRANCE
NOT TO SCALE



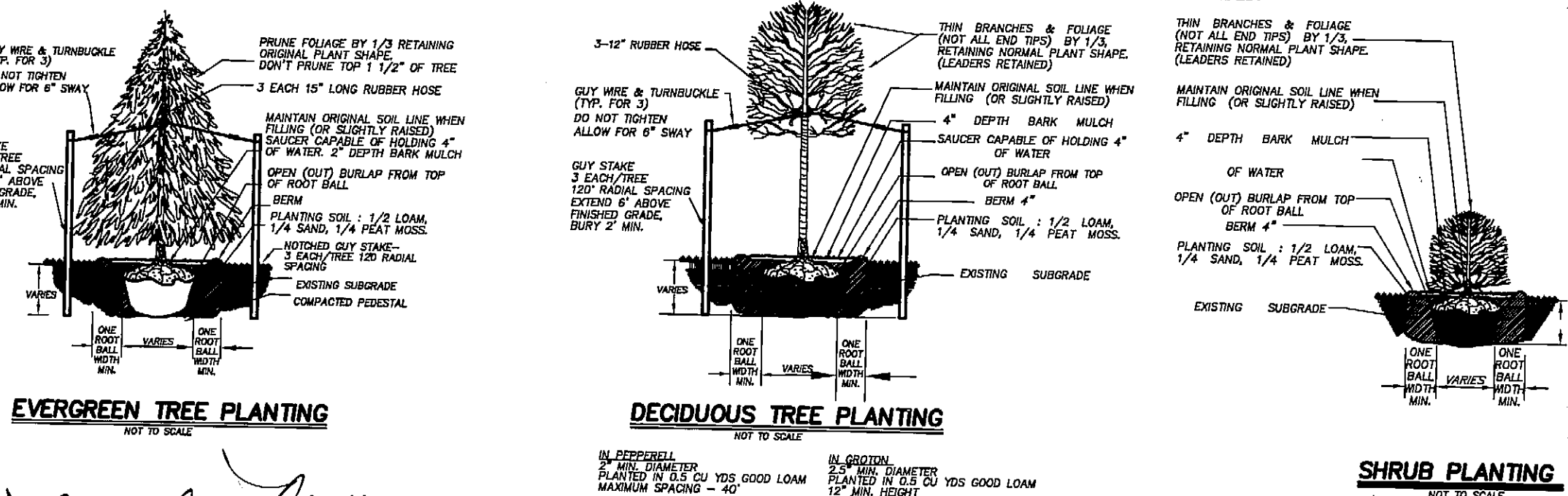
SILT FENCE DETAIL
NOT TO SCALE



EXCAVATION SEQUENCE
NOT TO SCALE



FILL SEQUENCE
NOT TO SCALE



EVERGREEN TREE PLANTING
NOT TO SCALE

DECIDUOUS TREE PLANTING
NOT TO SCALE

SHRUB PLANTING
NOT TO SCALE

PEPPERELL BOARD OF HEALTH
DATE OF APPROVAL:
DATE OF ENDORSEMENT:

10/14/2007
DATE
TOWN CLERK
TOWN CLERK

4/10/2007
DATE
TOWN CLERK
TOWN CLERK

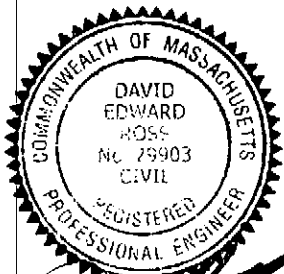
GROTON PLANNING BOARD
DATE OF APPROVAL: July 13, 2006
DATE OF ENDORSEMENT: April 26, 2007

OWNER/APPLICANT:
JOHN J. LORDEN
447 NASHUA ROAD
GROTON, MA 01450

PLAN NO. 330 OF 2008
SHEET 13 OF 18

SOIL EROSION & SEDIMENT CONTROL DETAILS

Design: ES/GS	Draft: ES/LH	Check: GAS	Ref:
REVISIONS			
02/20/02	Original Endorsement		
08/09/02	General Revision		
09/30/02	General Revision		
01/16/06	General Revision		
04/19/06	General Revision		
05/19/06	General Revision		
02/20/06	General Revision		
08/17/06	General Revision		
04/26/07	General Revision		



REEDY MEADOW ESTATES
DEFINITIVE SUBDIVISION OF LAND IN Groton and Pepperell, Mass.
PREPARED FOR John J. Lorden
SCALE: N.T.S. JANUARY, 2006
David E. Ross Associates, Inc.
CIVIL ENGINEERS LAND SURVEYORS LANDSCAPE ARCHITECTS ENVIRONMENTAL CONSULTANTS
P.O. BOX 368-111 FITCHBURG RD AYER MA 01432 TEL. NO. 978-772-6232
JOB NO. 9375 SHEET 12 OF 17 PLAN NO. L-7333

[illegible]

Quinn Murphy
TOWN CLERK @ 11/30/07


Lisa J. Kelly
TOWN CLERK

Affekt 11/29/03
In Bin Cerebellum
Cerebellum
Pons
Medulla
Spinal Cord

Stephen & Pamela
 West
 111 Alhambra
 Los Angeles

SITE PLAN

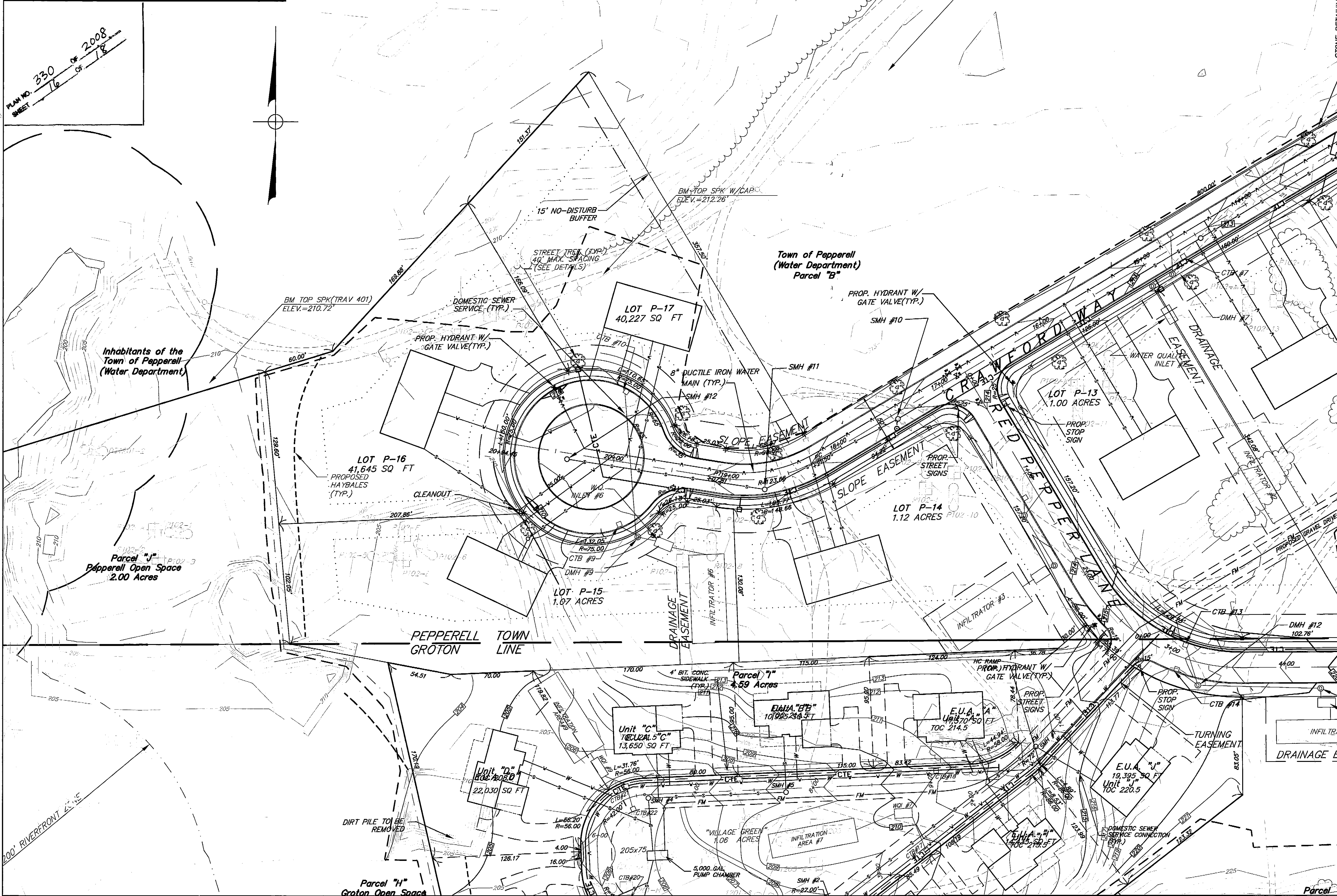
REVISONS	
02/20/02	Original Endorsement
08/09/02	General Revision
09/30/02	General Revision
01/16/06	General Revision
04/19/06	General Revision
06/19/06	General Revision
05/30/06	General Revision
07/10/06	General Revision
08/17/06	General Revision
04/26/07	General Revision



DAVID EDWARD ROSS
REG. ISSUED CIVIL

[Signature] 4/26/07

David E. Ross Associates, Inc.
CIVIL ENGINEERS LAND SURVEYORS
LANDSCAPE ARCHITECTS
ENVIRONMENTAL CONSULTANTS
P.O. BOX 368-111 FITCHBURG RD AYER MA 01432
TEL. NO. 978-772-6232
JOB NO. 9375 SHEET 15 OF 17 PLAN NO. L-7333



PLAN NO. 330 OF 2008
SHEET 18 OF 18

INFORMATION REGARDING EXISTING UTILITIES ON THIS PLAN WAS COMPILED FROM VARIOUS SOURCES INCLUDING PLANS AVAILABLE FROM THE PEPPERELL BOARD OF HEALTH, PEPPERELL WATER DEPARTMENT, PEPPERELL SEWER DEPARTMENT, AND RECORD AERIAL PHOTOGRAPHY. IT IS NOT THE RESULT OF AN ON THE GROUND SURVEY BY DAVID E. ROSS ASSOCIATES, INC.

ALL KNOWN UTILITIES ARE SHOWN. ADDITIONAL UNDOCUMENTED UTILITIES COULD EXIST.

PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL CONTACT "DIG SAFE" (1-888-344-7233).

GROTON PLANNING BOARD

DATE OF APPROVAL: July 13, 2006
DATE OF ENDORSEMENT: April 11, 2007

[Signature]
TOWN CLERK

April 27, 2007
DATE

I, *[Signature]* TOWN CLERK OF THE TOWN OF GROTON, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN 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.

[Signature]
TOWN CLERK

OWNER/APPLICANT
JOHN J. LORDEN
447 NASHUA ROAD
GROTON, MA 01450

PEPPERELL PLANNING BOARD

DATE OF APPROVAL: 9-11-06
DATE OF ENDORSEMENT: 11-13-07

[Signature]
TOWN CLERK

I, *[Signature]* TOWN CLERK OF THE TOWN OF PEPPERELL, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN 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.

[Signature]
TOWN CLERK

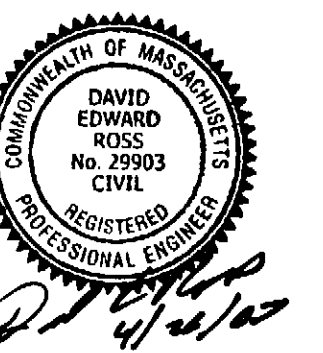
PEPPERELL BOARD OF HEALTH

DATE OF APPROVAL:

EXISTING UTILITIES LOCATION SHEET

Design: ES/GS Draft: ES/LH Check: GAS/Ref:

REVISIONS	
02/20/02	Original Endorsement
08/09/02	General Revision
09/30/02	General Revision
01/16/06	General Revision
04/19/06	General Revision
05/19/06	General Revision
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07/10/06	General Revision
08/17/06	General Revision
04/26/07	General Revision

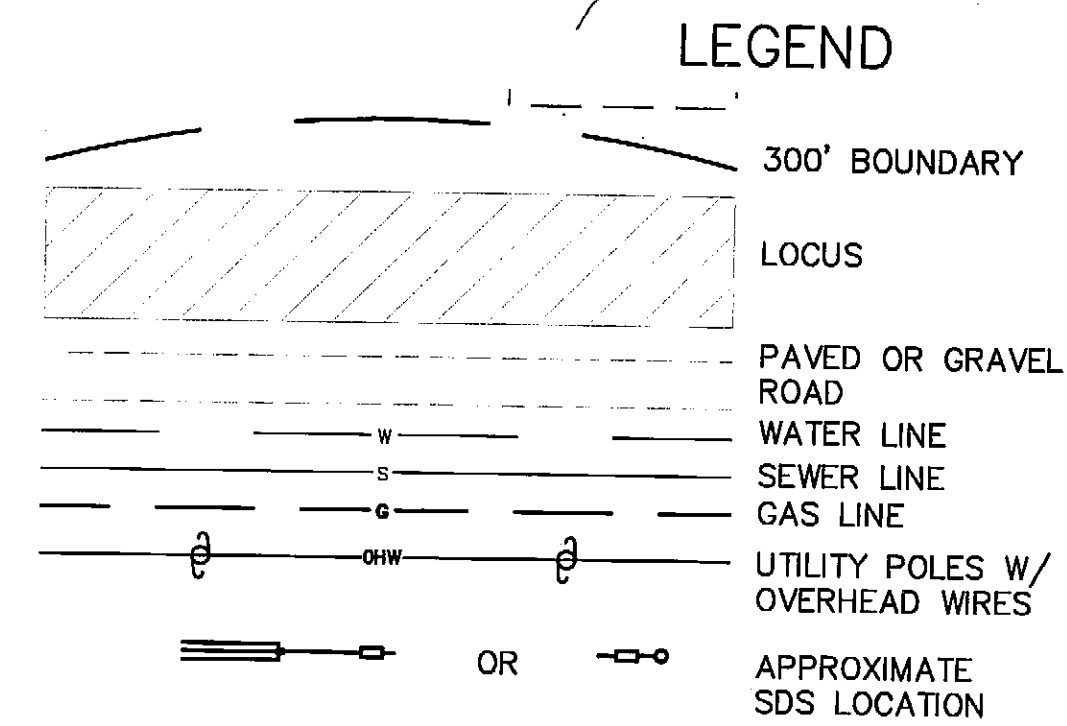


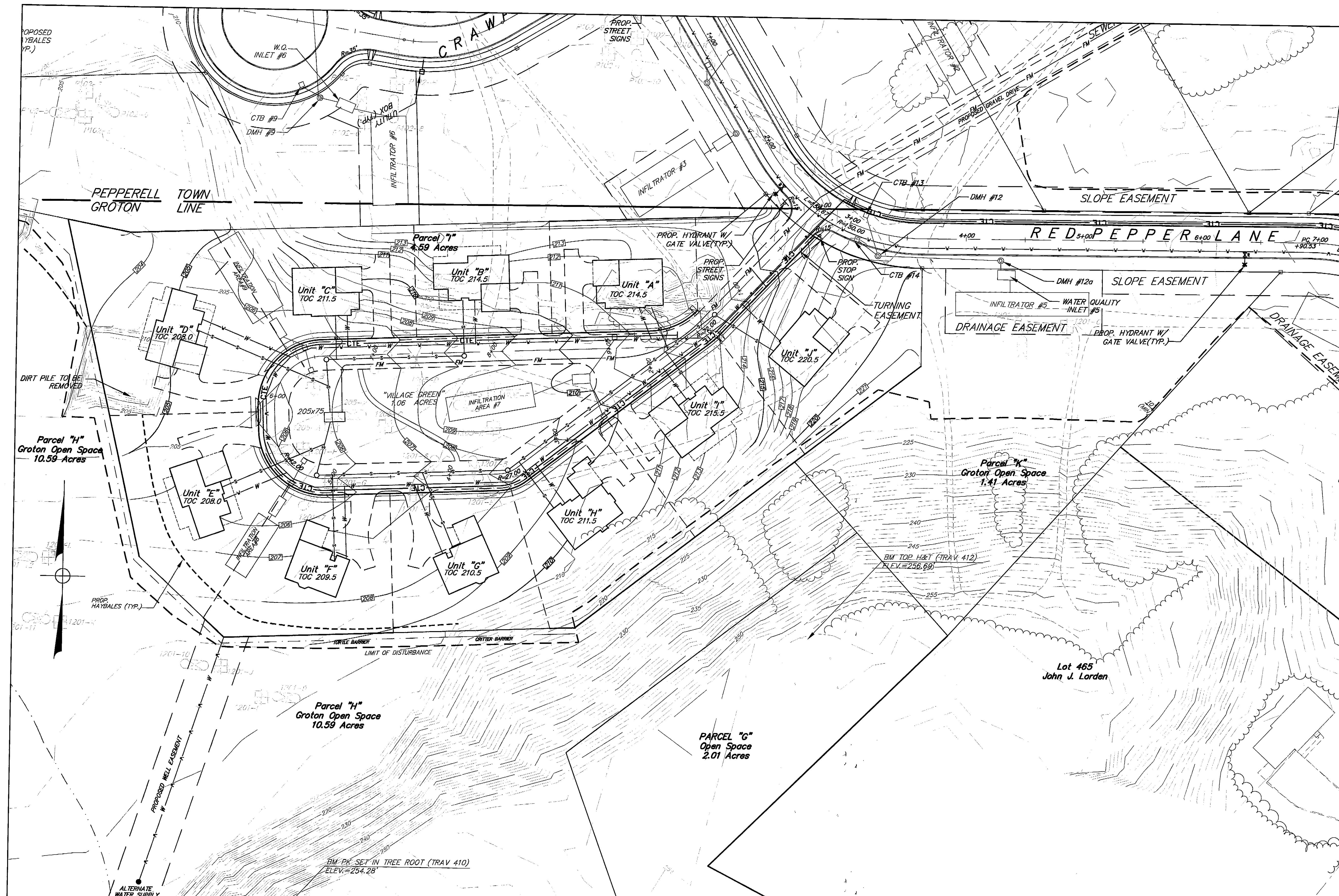
REEDY MEADOW ESTATES

DEFINITIVE SUBDIVISION OF LAND IN
Groton and Pepperell, Mass.
PREPARED FOR
John J. Lorden

SCALE: 1"=100' JANUARY, 2006



David E. Ross Associates, Inc.
CIVIL ENGINEERS LAND SURVEYORS
LANDSCAPE ARCHITECTS ENVIRONMENTAL CONSULTANTS
P.O. BOX 368-111 FITCHBURG RD AYER MA 01432
TEL. NO. 978-772-6232
JOB NO. 9375 SHEET 17 OF 17 PLAN NO. L-7333





GROTON PLANNING BOARD

DATE OF APPROVAL: July 13, 2006
DATE OF ENDORSEMENT: April 26, 2007
9567 4/27/07



 Raymond C Caples Raymond C Caples
 R.C. Caples R.C. Caples

PEPPERELL PLANNING BOARD

DATE OF APPROVAL: 9-11-06

DATE OF ENDORSEMENT: 11-13-07

Stephen Humels

11/22/18

~~100 (11/11/11) =~~

V. S. R. Murthy

OWNER/APPLICANT:

JOHN J. LORDEN

447 NASHUA ROAD

GROTON, MA 01450

LEGEND

LEGEND

EXISTING	PROPOSED	PROPERTY LINE
_____	_____	EASEMENT
CS, DH, IP	CS, DH, IP	MONUMENT
170	170	CONTOUR
HP OR LP	HP OR LP	HIGH POINT OR LOW POINT
5400	5400	SPOT GRADE
SLOPE	SLOPE	PROPOSED SLOPE
GUARDRAIL	GUARDRAIL	
FENCE	FENCE	
TREELINE	TREELINE	
TREE	TREE	
EDGE OF WETLANDS W/ FLAG NOS.	EDGE OF WETLANDS W/ FLAG NOS.	
100' WETLANDS BUFFER ZONE	100' WETLANDS BUFFER ZONE	
BUILDING	BUILDING	
SWAY	SWAY	
EDGE OF PAVEMENT	EDGE OF PAVEMENT	
EDGE OF PAVEMENT W/ BERM	EDGE OF PAVEMENT W/ BERM	
EDGE OF PAVEMENT W/ GRANITE CURB	EDGE OF PAVEMENT W/ GRANITE CURB	
SIDEWALK	SIDEWALK	
UTILITY POLE	UTILITY POLE	
OVERHEAD WIRES	OVERHEAD WIRES	
GUY POLE	GUY POLE	
TRANSFORMER	TRANSFORMER	
SUBSURFACE ELECTRIC LINE	SUBSURFACE ELECTRIC LINE	
SUBSURFACE TELEPHONE LINE	SUBSURFACE TELEPHONE LINE	
(D) CTR W/ D	(D) CTR W/ D	(DOUBLE-GRADED) CATCHBASIN
DRAIN LINE	DRAIN LINE	
DRAIN MANHOLE	DRAIN MANHOLE	
PROPOSED FLARED END SECTION W/ RIP-RAV	PROPOSED FLARED END SECTION W/ RIP-RAV	
PROPOSED ROOF DRAIN LINE	PROPOSED ROOF DRAIN LINE	
SEWER MANHOLE	SEWER MANHOLE	
SEWER LINE	SEWER LINE	
HYDRANT	HYDRANT	
WELL	WELL	
PROPOSED EROSION CONTROL BARRIER	PROPOSED EROSION CONTROL BARRIER	
DEEP HOLE TEST	DEEP HOLE TEST	
EXCLUSIVE USE AREA	EXCLUSIVE USE AREA	

SITE PLAN

Design: ES/GS	Draft: ES/LH	Check: GAS	Ref:
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REVISIONS

REVISIONS	
02/20/02	Original Endorsement
08/09/02	General Revision
09/30/02	General Revision
01/16/06	General Revision
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05/30/06	General Revision
07/10/06	General Revision
08/17/06	General Revision
04/26/07	General Revision



4/26/07

REEDY MEADOW ESTATES

DEFINITIVE SUBDIVISION OF LAND IN

Groton and Pepperell, Mass.

PREPARED FOR

John J. Lorden

SCALE: 1"=40' JANUARY, 2006

David E. Ross Associates, Inc.

CIVIL ENGINEERS LAND SURVEYORS
LANDSCAPE ARCHITECTS

LANDSCAPE ARCHITECTS
ENVIRONMENTAL CONSULTANTS

P.O. BOX 368-111 FITCHBURG RD AYE
TEL. NO. 978-772-6232

JOB NO. 9375 SHEET 16 OF 17 PLAN NO. L-7333



PEPPERELL BOARD OF HEALTH

DATE OF APPROVAL:

DATE OF ENDORSEMENT:

1, Opurim Z. Maloney CLERK OF THE TOWN
OF GROTON, HEREBY CERTIFY THAT THE
NOTICE OF APPROVAL OF THIS PLAN HAS
BEEN RECEIVED ON 7/28/2006
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.

120-17200
DATE _____
I, _____ CLERK OF THE TOWN
OF PEPPERELL, HEREBY CERTIFY THAT THE
NOTICE OF APPROVAL OF THIS PLAN HAS
BEEN RECEIVED ON 9/12/2006
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
 TOWN CLERK

330-17