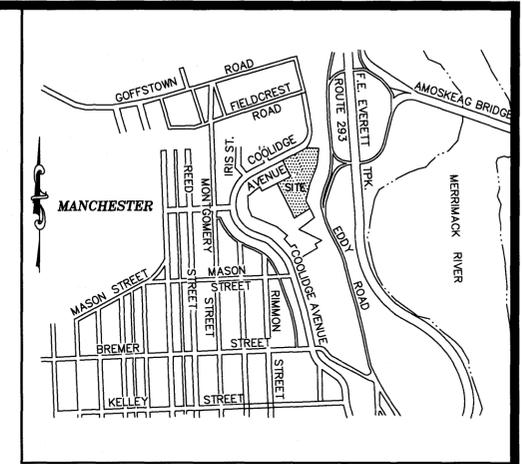


VICINITY PLAN
NOT TO SCALE



LOCATION PLAN
SCALE: 1" = 1,000'±

RESIDENTIAL PLANNED DEVELOPMENT SITE PLAN COOLIDGE AVENUE ESTATES

MAP 838; LOT 47
685 COOLIDGE AVENUE
MANCHESTER, NEW HAMPSHIRE

IT IS HEREBY AGREED THAT, AS THE OWNER OF THIS PROPERTY, I CONSENT TO THE CONDITIONS NOTED ON THIS PLAN. I UNDERSTAND THAT THESE CONDITIONS ARE REQUIRED TO ALLOW THE MODIFICATIONS REQUESTED BY THE LESSEE-DEVELOPER AND I CONSENT FOR THEM TO BE CONSTRUCTED ON THIS PROPERTY.

James Nault
OWNER

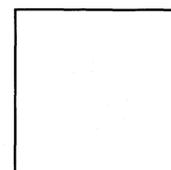
IT IS HEREBY AGREED THAT, AS THE LESSEE-DEVELOPER OF THIS PROPERTY, UNDER A LONG-TERM LEASE WITH THE OWNER, I, AS LESSEE-DEVELOPER, WILL ADHERE TO THE CONDITIONS NOTED ON THIS PLAN AND CONSTRUCT AND MAINTAIN THE NECESSARY IMPROVEMENTS AS SHOWN HEREON.

Paul Chisholm
LESSEE-DEVELOPER

OWNER:
COOLIDGE AVE. ESTATES, LLC
253 MAIN STREET
NASHUA, NH 03060

APPLICANT:
SHANNER LUXURY HOMES
PO BOX 10711
BEDFORD, NH 03110

PREPARED BY:
KEACH-NORDSTROM ASSOCIATES, INC.
10 COMMERCE PARK NORTH, SUITE 3B
BEDFORD, NEW HAMPSHIRE 03110
(603) 627-2881



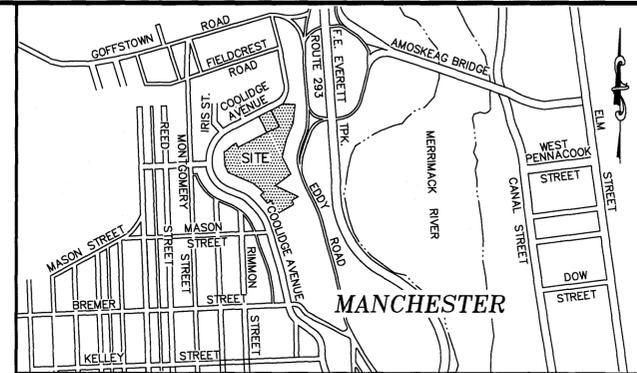
KMA
KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

APRIL 28, 2020
LAST REVISED: AUGUST 28, 2020
PROJECT NO. 19-0123-1

<u>SHEET TITLE</u>	<u>SHEET No.</u>
OVERVIEW EXISTING CONDITIONS PLANS	1
EXISTING CONDITIONS PLANS	2-3
REMOVALS PLAN	4
RESIDENTIAL SITE LAYOUT PLAN	5
GRADING AND DRAINAGE PLAN	6
EROSION CONTROL PLAN	7
UTILITY PLAN	8
LANDSCAPE PLAN	9
LIGHTING PLAN	10
PRIVATE ROADWAY PROFILE	11
DRAINAGE PROFILE	12
STANDARD SUBDIVISION PLAN	13
CONSTRUCTION DETAILS	14 - 20
ARCHITECTURAL DRAWINGS	A1 - A4

REFERENCE PLANS:

- CITY OF MANCHESTER STREET LINE PLAN: M, M' AND T ON FILE AT THE MANCHESTER HIGHWAY DEPARTMENT ENGINEERING DIVISION.
- STATE OF NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS, PLANS OF PROPOSED FEDERAL URBAN AID PROJECT U-051-1(12) P-7474-B, DATED 8-26-58 AND PROJECT LS 1865(1) DATED: OCTOBER 19, 1956. ON FILE AT THE NH-DOT R-O-W DIVISION.
- "BOUNDARY & CONSOLIDATION PLAN, TAX MAP 838 LOTS 41, 42 & 43, EDDY ROAD, MANCHESTER, NEW HAMPSHIRE. SCALE: 1"=20'. DATED: DECEMBER, 1998. PREPARED BY: OLD ENGINEERS, H.C.R.D. PLAN #30393.
- "SUBDIVISION PLAN, LAND OF MAKRI'S FAMILY REVOCABLE TRUST," COOLIDGE AVENUE, MANCHESTER, NEW HAMPSHIRE. SCALE: 1"=20'. DATED: JUNE 10, 2013. PREPARED BY: BERRY SURVEYING & ENGINEERING, H.C.R.D. PLAN #37953.
- "AMOSKEAG INDUSTRIES PLAN #181 FOR LOT #1458 AND PLAN #172 #173 & #175, FOUND ON FILE AT THE CITY OF MANCHESTER HIGHWAY DEPARTMENT.
- "PLAN OF COOLIDGE AVENUE DRAINAGE IMPROVEMENTS," PLAN #4852 ON FILE AT THE CITY OF MANCHESTER HIGHWAY DEPARTMENT.



NOTES: SCALE: 1" = 1,000±

- THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS PRESENT ON ASSESSOR'S MAP 838 LOT 47, 685 COOLIDGE AVENUE, AND NO OTHER PURPOSE.
- LOT AREA: MAP 838 LOT 47 487,605 S.F. OR 10.734 ACRES
OWNER OF RECORD: COOLIDGE AVE. ESTATES, LLC
253 MAIN STREET
NASHUA, N.H. 03060
BK. 8849 PG. 2317
- THE SUBJECT PARCEL IS LOCATED WITHIN THE RESIDENTIAL-1B (R-1B) ZONING DISTRICT AND ARE SUBJECT TO THE FOLLOWING DIMENSIONAL REQUIREMENTS.

TABLE OF ZONING REQUIREMENTS	
DESCRIPTION	REQUIRED
MINIMUM LOT SIZE	7,500 SF
MINIMUM LOT FRONTAGE	75 FT
FRONT YARD SETBACK	20 FT
SIDE YARD SETBACK	10 FT
REAR YARD SETBACK	30 FT
MAXIMUM LOT COVERAGE	70%
BUILDING HEIGHT	35 FT
MAX. FLOOR AREA RATIO	0.5

- BOUNDARY INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY PERFORMED BY THIS OFFICE IN DECEMBER OF 2019 AND JANUARY OF 2020.
- HORIZONTAL DATUM IS NAD83 & VERTICAL DATUM IS NAVD88 OBTAINED FROM GPS SURVEY METHODS POST PROCESSED THROUGH NOAA-OPUS.
- TOPOGRAPHIC DATA FOR THE INTERIOR OF THE SUBJECT PARCELS IS TAKEN FROM LIDAR DATA OBTAINED THROUGH INGRANIT, ROADWAY AND IMPROVED SITE AREAS ARE BASED ON ACTUAL FIELD SURVEY DATA BY THIS OFFICE.
- EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM) FOR THE CITY OF MANCHESTER, NEW HAMPSHIRE, HILLSBOROUGH COUNTY, MAP NUMBER 33011C0238D, PANEL NUMBER 238 OF 701, EFFECTIVE DATE SEPTEMBER 25, 2009 INDICATES THAT NO PORTION OF THE SUBJECT PARCELS ARE LOCATED IN A DESIGNATED FLOOD ZONE.
- SEWER AND WATER SERVICE INFORMATION IS PROVIDED BY CITY OF MANCHESTER.
- THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE OWNER OR CONTRACTOR SHALL CONTACT DIG SAFE AT 811.
- EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.
- IN ACCORDANCE WITH THE SUBDIVISION AND SITE PLAN REGULATIONS OF THE CITY OF MANCHESTER AND RSA 676.13, ALL IMPROVEMENTS SPECIFIED ON THESE PLANS SHALL BE CONSTRUCTED, COMPLETED, INSPECTED, AND APPROVED BY THE CITY PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- ALL CONDITIONS SUBSEQUENT TO APPROVAL SHALL BE COMPLETED WITHIN TWO YEARS OF THE DATE OF THE FINAL APPROVAL.

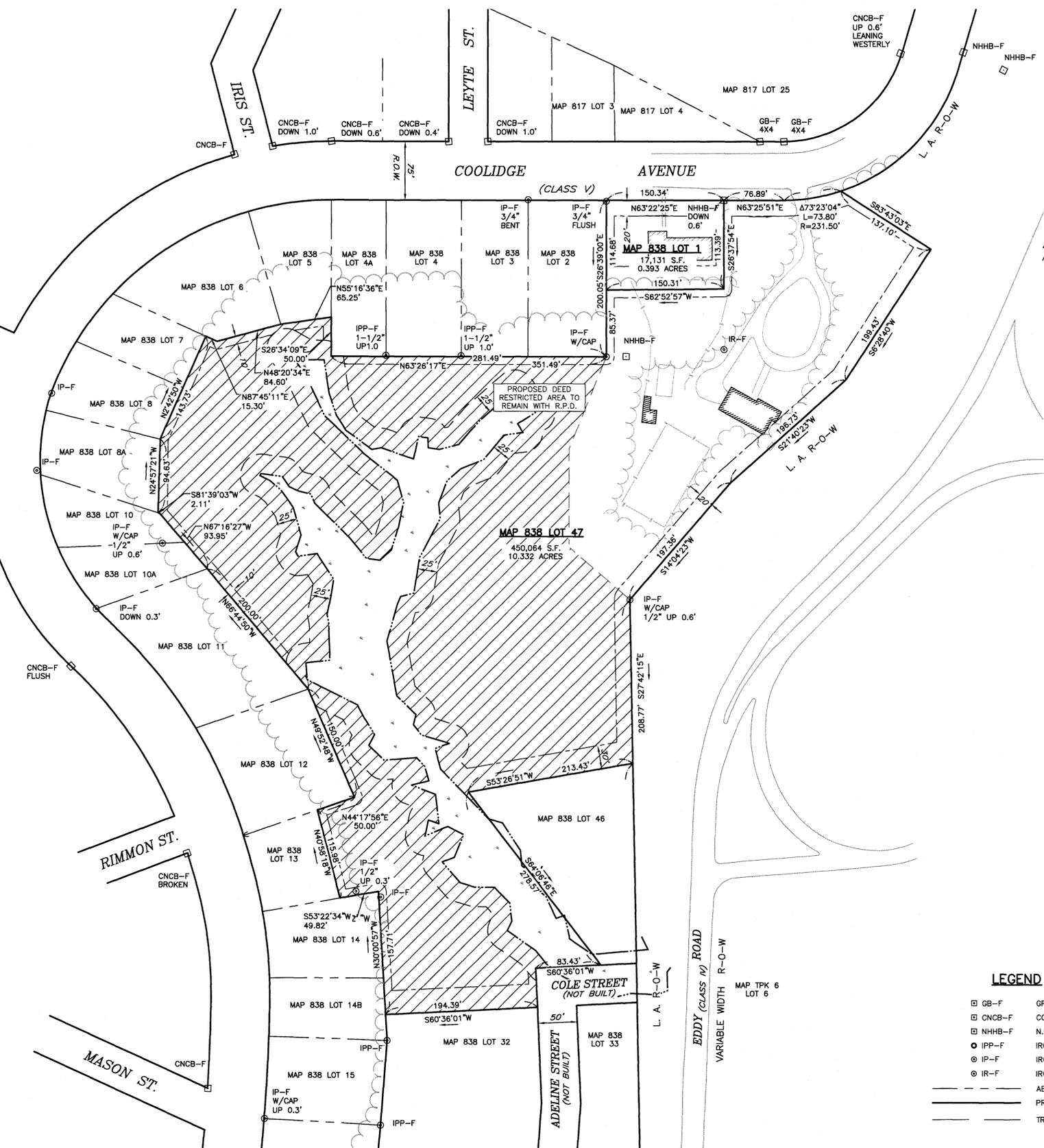
ABUTTERS

- | | |
|---|--|
| <p>MAP 838 LOT 2
THERESE C. ROBERGE
663 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 7239 PG. 1746</p> <p>MAP 838 LOT 3
ELIZABETH J. GREESON
655 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 8648 PG. 1679</p> <p>MAP 838 LOT 4
DAVID J. FOURNIER
635 COOLIDGE AVENUE
MANCHESTER, N.H. 03102-2712</p> <p>MAP 838 LOT 4A
GEORGE R. BONNEAU
625 COOLIDGE AVENUE
MANCHESTER, N.H. 03102-2712
BK. 5768 PG. 93</p> <p>MAP 838 LOT 5
DARLENE G. LONGVAL
617 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 7479 PG. 582</p> <p>MAP 838 LOT 6
SUSIE C. VACHON, TRUSTEE
SUSIE C. VACHON REVOCABLE TRUST
611 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 8497 PG. 1879</p> <p>MAP 838 LOT 7
ELVIS ZUKOVIC
555 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 7651 PG. 1744</p> <p>MAP 838 LOT 8
BRYANT S. LAHEY
39 MCALLISTER ROAD
BEDFORD, N.H. 03110
BK. 8647 PG. 799</p> <p>MAP 838 LOT 8A
JEFFREY RIVENBARK
523 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 8647 PG. 657</p> <p>MAP 838 LOT 10
DAVID C. SR. & SUSAN D.
BOUTHETTIE, TRUSTEES
BOUTHETTIE FAMILY TRUST
505 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 8995 PG. 2231</p> <p>MAP 838 LOT 10A
DAVID B. HADY
485 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 8891 PG. 1100</p> | <p>MAP 838 LOTS 11 & 12
SYLVIO L. & CECILE M. DUPUIS, TRUSTEES
DUPUIS FAMILY REVOCABLE TRUST
451 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 8884 PG. 803</p> <p>MAP 838 LOT 13
PAUL E. TURGEON
419 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 8764 PG. 2605</p> <p>MAP 838 LOT 14
ADAM ROUSSEAU, GUARDIAN
PROPERTY OF GREIL ELLIOTT ROUSSEAU
405 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 8895 PG. 419</p> <p>MAP 838 LOT 14A
ROBERT L. DOHERTY
399 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 7972 PG. 225</p> <p>MAP 838 LOT 15
DONALD L. JR. & MARCIA J. LEVESQUE, TRUSTEES
LEVESQUE 2015 FAMILY TRUST
375 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 8814 PG. 992</p> <p>MAP 838 LOT 32
COOLIDGE AVE. ESTATES, LLC
253 MAIN STREET
NASHUA, N.H. 03060
BK. 8849 PG. 2317</p> <p>MAP 838 LOT 33
GERALD G. DUPONT
55 RIVER FRONT DRIVE #103
MANCHESTER, N.H. 03102</p> <p>MAP 838 LOT 46
COOLIDGE AVE. ESTATES, LLC
253 MAIN STREET
NASHUA, N.H. 03060
BK. 8849 PG. 2317</p> <p>MAP 817 LOT 4
SUSAN L. MCHUGH
670 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 8017 PG. 684</p> <p>MAP 817 LOT 25
EVERSOURCE (PSCO, N.H.)
P.O. BOX 270
HARTFORD, CT. 06141-0270</p> <p>MAP TPK 6 LOT 6
GTJ MA/NH LEASING, INC.
125 JERICHO TPK. SITE. 103
JERICHO, NY. 11753
BK. 8308 PG. 783</p> <p>MAP 817 LOT 3
JON D. NORMAND
664 COOLIDGE AVENUE
MANCHESTER, N.H. 03102
BK. 8308 PG. 783</p> |
|---|--|



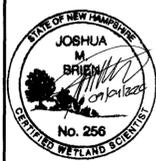
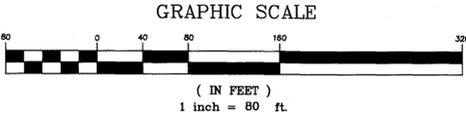
UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN DRAWN FROM FIELD SURVEY INFORMATION AND/OR PLOTTED FROM EXISTING DRAWINGS. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHER, KEACH-NORDSTROM ASSOCIATES, INC. DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. KEACH-NORDSTROM ASSOCIATES, INC. HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.



LEGEND

- GB-F GRANITE BOUND FOUND
- CNCB-F CONCRETE BOUND FOUND
- NHHB-F N.H. HIGHWAY BOUND FOUND
- IPP-F IRON PIPE FOUND
- IP-F IRON PIN FOUND
- IR-F IRON ROD FOUND
- ABUTTER LINE
- PROPERTY LINE
- TRACT LINE



WETLAND SCIENTIST'S CERTIFICATION:

JOSHUA BRIEN, CERTIFIED WETLAND SCIENTIST #256 OF KEACH-NORDSTROM ASSOCIATES, INC. OF BEDFORD, NH PERFORMED THE DELINEATION OF JURISDICTIONAL WETLANDS IN DECEMBER OF 2019 USING THE TECHNICAL CRITERIA IN THE CORPUS OF ENGINEERS WETLAND DELINEATION MANUAL (TECHNICAL REPORT Y-87-1, JANUARY 1987).

Joshua M. Brien
DATE: 04/04/2020
CERTIFIED WETLAND SCIENTIST

SURVEYOR'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION. FURTHER, THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY MADE BY THIS OFFICE DURING DECEMBER OF 2019 AND JANUARY OF 2020. SAID SURVEY HAS A RELATIVE ERROR OF CLOSURE OF ONE PART IN TEN THOUSAND (1:10,000) OR BETTER.

DATE: _____
LICENSED LAND SURVEYOR

OVERVIEW EXISTING CONDITIONS PLAN

COOLIDGE AVENUE ESTATES

MAP 838 LOT 47
685 COOLIDGE AVENUE
MANCHESTER, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER / APPLICANT:

COOLIDGE AVE. ESTATES, LLC
253 MAIN STREET
NASHUA, N.H. 03060
H.C.R.D. BK. 8849 PG. 2317

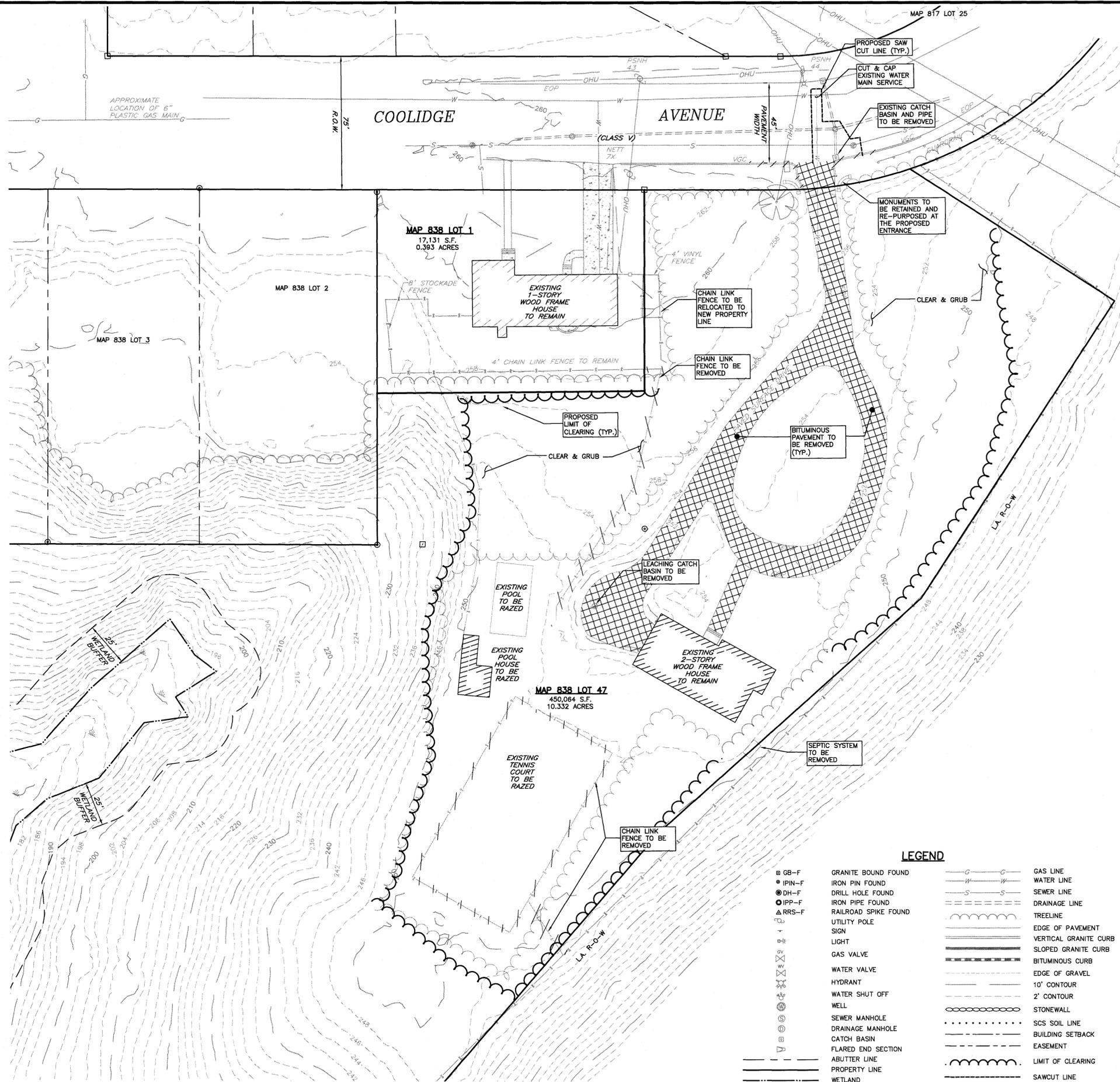


Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 827-2881

REVISIONS

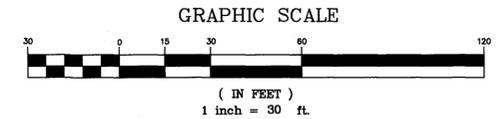
No.	DATE	DESCRIPTION	BY
1	8/26/20	REVISED PER COMMENTS	GPC

DATE: APRIL 28, 2020 SCALE: 1"=80'
PROJECT NO: 19-0123-1 SHEET 1 OF 20



REMOVALS/DEMOLITION NOTES:

1. ALL STUMPS, ROOTS, BRANCHES, BRUSH, WOODS AND OTHER PERISHABLE MATERIAL RESULTING FROM THE CLEARING AND GRUBBING OPERATIONS SHALL BE DISPOSED OF BY AN APPROVED METHOD.
2. ITEMS TO BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH THE CITY OF MANCHESTER REQUIREMENTS, UNLESS OTHERWISE SHOWN HEREON OR DIRECTED BY OWNER.
3. ALL EXISTING PAVEMENT AND GRAVEL WITHIN THE CROSS HATCHED AREA IS TO BE REMOVED DURING THE DEMOLITION PHASE OF THE PROJECT. EXCESS MATERIAL FROM THESE AREAS SHALL BE APPROPRIATELY DISPOSED OF OFFSITE BY AN APPROVED METHOD.
4. THE CONTRACTOR SHALL CONTROL ALL DUST GENERATED DURING THE REMOVAL PHASE AND CONSTRUCTION PHASE SO THAT NO DUST LEAVES THE SITE.
5. ANY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE RESET BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR AT THE SITE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
7. DEBRIS REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
8. WELLS SHALL BE DECOMMISSIONED BY A LICENSED WATER WELL CONTRACTOR IN ACCORDANCE WITH W-604 OR ANY OTHER LOCAL, STATE OR FEDERAL REGULATIONS.
9. EXISTING WATER SERVICE TO BE CUT AND CAPPED.



REMOVALS PLAN
COOLIDGE AVENUE ESTATES
 MAP 838 LOT 47
 685 COOLIDGE AVENUE
 MANCHESTER, NEW HAMPSHIRE
 HILLSBOROUGH COUNTY

OWNER / APPLICANT:
 COOLIDGE AVE. ESTATES, LLC
 253 MAIN STREET
 NASHUA, N.H. 03060
 H.C.R.D. BK. 8849 PG. 2317

KMA KEACH-NORDSTROM ASSOCIATES, INC.
 Civil Engineering Land Surveying Landscape Architecture
 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

LEGEND

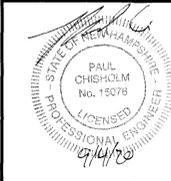
■ GB-F	GRANITE BOUND FOUND	— G — G	GAS LINE
● IPIN-F	IRON PIN FOUND	— W — W	WATER LINE
● DH-F	DRILL HOLE FOUND	— S — S	SEWER LINE
● IPP-F	IRON PIPE FOUND	— — — — —	DRAINAGE LINE
▲ RRS-F	RAILROAD SPIKE FOUND	— — — — —	TREELINE
○	UTILITY POLE	— — — — —	EDGE OF PAVEMENT
□	SIGN	— — — — —	VERTICAL GRANITE CURB
○	LIGHT	— — — — —	SLOPED GRANITE CURB
○	GAS VALVE	— — — — —	BITUMINOUS CURB
○	WATER VALVE	— — — — —	EDGE OF GRAVEL
○	HYDRANT	— — — — —	10' CONTOUR
○	WATER SHUT OFF	— — — — —	2' CONTOUR
○	WELL	— — — — —	STONEWALL
○	SEWER MANHOLE	— — — — —	SCS SOIL LINE
○	DRAINAGE MANHOLE	— — — — —	BUILDING SETBACK
○	CATCH BASIN	— — — — —	EASEMENT
○	FLARED END SECTION	— — — — —	LIMIT OF CLEARING
— — — — —	ABUTTER LINE	— — — — —	SAWCUT LINE
— — — — —	PROPERTY LINE	— — — — —	PAVEMENT TO BE REMOVED
— — — — —	WETLAND		
— — — — —	STOCKADE FENCE		
— — — — —	OVERHEAD UTILITIES		



REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/1/20	REVISIONS PER STAFF REVIEW	MJP
2	7/1/20	REV. PER DPW, EPD, & PLANNING	ACL
3	8/28/20	REVISED PER COMMENTS	GPC

DATE: APRIL 28, 2020 SCALE: 1"=30'
 PROJECT NO: 19-0123-1 SHEET 4 OF 20

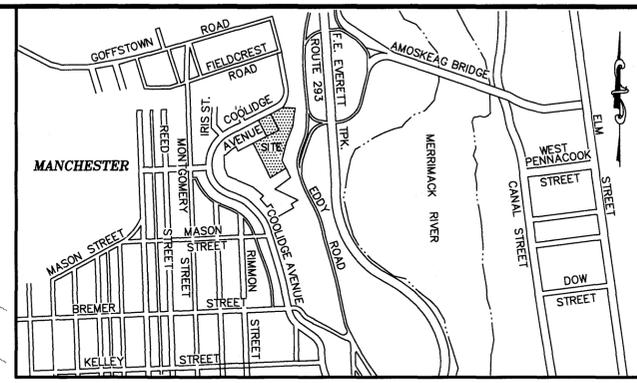
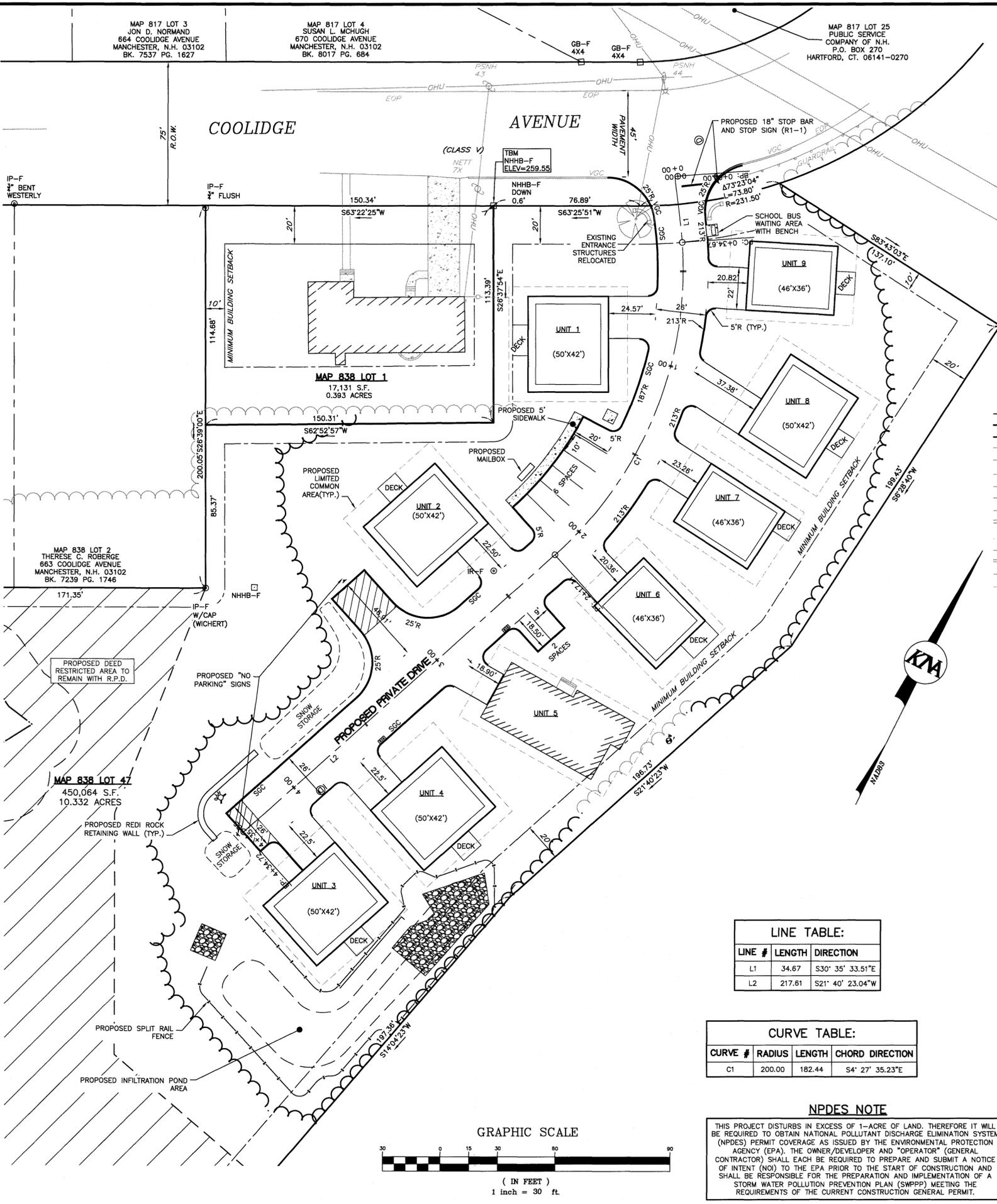


NOTES:

- THE PURPOSE OF THIS PLAN IS TO DEPICT THE DESIGN AND LAYOUT OF A 9 UNIT SINGLE FAMILY PLANNED RESIDENTIAL DEVELOPMENT ON ASSESSOR'S MAP 838 LOT 47, 685 COOLIDGE AVENUE AND NO OTHER PURPOSE.
- LOT AREAS: MAP 838 LOT 47 466,751 S.F. OR 10.714 ACRES
OWNER OF RECORD: COOLIDGE AVE. ESTATES, LLC
253 MAIN STREET
NASHUA, N.H. 03060
BK. 8849 PG. 2317
- THE SUBJECT PARCELS ARE LOCATED WITHIN THE RESIDENTIAL-1B (R-1B) ZONING DISTRICT AND ARE SUBJECT TO THE FOLLOWING DIMENSIONAL REQUIREMENTS:
SINGLE FAMILY MINIMUM BUILDING SETBACKS:

TABLE OF ZONING REQUIREMENTS			
DESCRIPTION	REQUIRED	EXISTING LOT	PROPOSED LOT
MINIMUM LOT SIZE	7,500 SF	450,063 SF	450,063 SF
MINIMUM LOT FRONTAGE	75 FT	150.69	150.69
FRONT YARD SETBACK	20 FT	20 FT	24.9 FT
SIDE YARD SETBACK	10 FT	69.8 FT	17.7 FT
REAR YARD SETBACK	30 FT	NA	419 FT
MAXIMUM LOT COVERAGE	70%	5%	8.5%
BUILDING HEIGHT	35 FT	<35'	<35'
MAX. FLOOR AREA RATIO	0.5	0.0063	0.085

- BOUNDARY INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY PERFORMED BY THIS OFFICE IN DECEMBER OF 2019 AND JANUARY OF 2020.
- HORIZONTAL DATUM IS NAD83 & VERTICAL DATUM IS NAVD88 OBTAINED FROM GPS SURVEY METHODS POST PROCESSED THROUGH NOAA-OPUS.
- TOPOGRAPHIC DATA FOR THE INTERIOR OF THE SUBJECT PARCELS IS TAKEN FROM LIDAR DATA OBTAINED THROUGH NHGRANT. ROADWAY AND IMPROVED SITE AREAS ARE BASED ON ACTUAL FIELD SURVEY DATA BY THIS OFFICE.
- EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAPS (FIRM) FOR THE CITY OF MANCHESTER, NEW HAMPSHIRE, HILLSBOROUGH COUNTY, MAP NUMBER 33011C0238D, PANEL NUMBER 238 OF 701, EFFECTIVE DATE SEPTEMBER 25, 2009 INDICATES THAT NO PORTION OF THE SUBJECT PARCELS ARE LOCATED IN A DESIGNATED FLOOD ZONE.
- SEWER AND WATER SERVICE INFORMATION IS PROVIDED BY CITY OF MANCHESTER.
- THE LOCATION OF ANY UNDERGROUND UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE OWNER OR CONTRACTOR SHALL NOTIFY THE CITY OF MANCHESTER AT 603-881-8111.
- EASEMENTS, RIGHTS AND RESTRICTIONS SHOWN OR IDENTIFIED HEREON ARE THOSE FOUND DURING RESEARCH AT THE HILLSBOROUGH COUNTY REGISTRY OF DEEDS. OTHER EASEMENTS, RIGHTS AND RESTRICTIONS MAY EXIST WHICH A TITLE EXAMINATION OF THE SUBJECT PREMISES MAY DETERMINE.
- IN ACCORDANCE WITH THE SUBDIVISION AND SITE PLAN REGULATIONS OF THE CITY OF MANCHESTER AND RESA 676.13, ALL IMPROVEMENTS SPECIFIED ON THESE PLANS SHALL BE CONSTRUCTED, COMPLETED, INSPECTED, AND APPROVED BY THE CITY PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- PLANNING BOARD APPROVAL OF THIS PLANNED DEVELOPMENT IS LIMITED TO THE REPRESENTATIONS SHOWN WITHIN THIS SET OF DRAWINGS AND DOES NOT ENDORSE ANY SUBSEQUENT PLANS THAT MAY BE PREPARED FOR CONDOMINIUM APPROVAL BY THE STATE. MODIFICATIONS TO THESE PLANS, INCLUDING, BUT NOT LIMITED TO, BUILDING ADDITIONS, ACCESSORY STRUCTURES, AND LIMITED COMMON AREAS ARE SUBJECT TO PLANNING BOARD REVIEW AND APPROVAL. ANY PROPOSED DIVISION OF THIS PARCEL OF LAND THAT MAY BE HELD IN COMMON OWNERSHIP AND SUBSEQUENTLY DIVIDED INTO PARTS AMONG THE SEVERAL OWNERS MAY BE DEEMED A SUBDIVISION AND SUBJECT TO PLANNING BOARD APPROVAL.
- ALL CONDITIONS SUBJECT TO APPROVAL SHALL BE COMPLETED WITHIN TWO YEARS OF THE DATE OF THE FINAL APPROVAL.
- TOTAL SITE IMPACT AREA IS 93,969 S.F. WHICH DOES NOT NECESSITATE AN ALTERATION OF TERRAIN PERMIT.
- REQUIRED STATE PERMIT: PENDING
- SEWER CONNECTION PERMIT: PENDING
- SITE LIGHTING SHALL BE COMPLETED AS SHOWN ON THE LIGHTING PLAN AND BE DIRECTED ON SITE.
- PLOWED SNOW FROM THE SITE SHALL BE STORED IN DESIGNATED AREAS SHOWN ON THIS PLAN. WHEN THE SNOW STORAGE AREAS ARE AT CAPACITY, SUBSEQUENT SNOW SHALL BE HAULED OFF-SITE AND DISPOSED OF IN AN ENVIRONMENTALLY SOUND FASHION AND IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
- THE PROPOSED RETAINING WALL TO BE DESIGNED BY A STRUCTURAL ENGINEER WITH PLANS BEING SUBMITTED TO THE BUILDING DEPARTMENT FOR REVIEW AND SIGN OFF PRIOR TO CONSTRUCTION.
- UNITS WILL BE SERVICED VIA PRIVATE CURB SIDE GARBAGE PICKUP.
- PARKING CALCULATIONS:
9 SINGLE FAMILY UNITS @ 2 SPACES PER UNIT = 18 PARKING SPACES REQUIRED.
PROPOSED PARKING: - 2 IN EACH GARAGE = 18 PARKING SPACES
- 8 VISITOR PARKING SPACES
- 6 UNITS WITH 2 IN FRONT OF GARAGE=12 PARKING SPACES
= 38 TOTAL PARKING SPACES
- ALL PROPOSED PRIVATE DRIVES, STORM DRAINS, SANITARY SEWER AND OTHER UTILITIES SHALL REMAIN PRIVATE IN PERPETUITY AND BE MAINTAINED BY A HOMEOWNER'S ASSOCIATION.
- ALL CATCH BASINS AND THE DETENTION POND SHALL BE CLEARED OF DEBRIS ANNUALLY.
- ALL AREAS OF THIS PARCEL SHALL BE CONSIDERED COMMON AREA/OPEN SPACE AND SHALL BE MAINTAINED BY A HOMEOWNER'S ASSOCIATION.
- THE UNITS WILL BE SERVICED BY UNDERGROUND UTILITIES INCLUDING, WATER, SEWER, ELECTRIC, TELEPHONE, AND CABLE.
- THE APPLICANT IS REQUESTING A WAIVER FROM SECTION VII: DESIGN CRITERIA FOR SITE PLANS AND PLANNED DEVELOPMENTS SUBSECTION 8.4 LAND GRADING, SLOPE CONTROL, AND SURFACE-WATER DRAINAGE TO ALLOW FOR A MINOR INCREASE OF STORMWATER RUNOFF. THE INCREASE IN RUNOFF IS TO THE EXISTING DRAINAGE SYSTEM IN COOLIDGE AVENUE DUE TO PROPER INTERSECTION GRADING DESIGN OF THE PRIVATE ROADWAY ENTRANCE.
- LOT COVERAGE CALCULATIONS:
REQUIRES AN EXCAVATION PERMIT.
- BUILDING/ROOFS: 18,869SF
- PAVEMENT: 19,583SF
TOTAL IMPERVIOUS AREA = 8.5%
- ALL WORK MUST CONFORM TO THE CITY OF MANCHESTER, DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND ANY WORK WITHIN THE CITY RIGHT-OF-WAY REQUIRES AN EXCAVATION PERMIT.
- A MORATORIUM PATCH DETAIL AND PAYMENTS FOR MORATORIUM PATCHES IS NEEDED FOR WORK WITHIN COOLIDGE AVENUE.
- A 25' WIDE WATER MAIN EASEMENT, CENTERED ON THE AS-BUILT LOCATION OF THE MAIN, AND A 15' WIDE EASEMENT CENTERED ON THE AS-BUILT LOCATION OF THE HYDRANT, WATER SERVICE AND CURB BOXES WILL BE REQUIRED PRIOR TO THE START OF CONSTRUCTION.



VICINITY PLAN
SCALE: 1" = 1,000±

LEGEND

UTILITY POLE	+	PROPOSED SIGN	
SIGN	✱	PROPOSED LIGHT	
HYDRANT	⊕	PROPOSED HYDRANT	
SEWER MANHOLE	⊙	PROPOSED SEWER MANHOLE	
DRAINAGE MANHOLE	⊗	PROPOSED DRAINAGE MANHOLE	
CATCH BASIN	⊞	PROPOSED CATCH BASIN	
FLARED END SECTION	—	PROPOSED PROPERTY LINE	
ABUTTER LINE	—	PROPOSED CHAIN LINK FENCE	
PROPERTY LINE	—	PROPOSED OVERHEAD UTILITIES	
WETLAND	OHU	UGU	PROPOSED UNDERGROUND UTILITIES
CHAIN LINK FENCE	G—G	—	PROPOSED GAS LINE
STOCKADE FENCE	W—W	—	PROPOSED WATER LINE
OVERHEAD UTILITIES	S—S	—	PROPOSED SEWER LINE
GAS LINE	—	—	PROPOSED DRAINAGE LINE
WATER LINE	—	—	PROPOSED TREETLINE
SEWER LINE	—	—	PROPOSED EDGE OF PAVEMENT
DRAINAGE LINE	—	—	PROPOSED SLOPED GRANITE CURB
TREETLINE	—	—	PROPOSED 2' CONTOUR
EDGE OF PAVEMENT	—	—	PROPOSED RETAINING WALL
VERTICAL GRANITE CURB	—	—	
10' CONTOUR	—	—	
2' CONTOUR	—	—	

LOT AREA TABLE

LOT NUMBER	TOTAL LOT AREA (SF)	WETLAND AREA (SF)	AREA (SF) >25% SLOPE	BUILDABLE AREA (SF)	FRONTAGE (FT)
838-47	450,064	58,554	168,613	222,897	150.69

LINE TABLE:

LINE #	LENGTH	DIRECTION
L1	34.67	S30° 35' 33.51"E
L2	217.61	S21° 40' 23.04"W

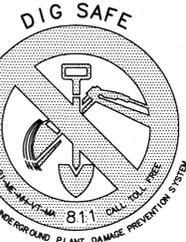
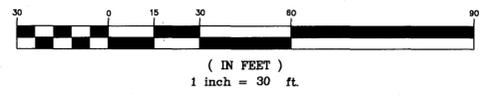
CURVE TABLE:

CURVE #	RADIUS	LENGTH	CHORD DIRECTION
C1	200.00	182.44	S4° 27' 35.23"E

NPDES NOTE

THIS PROJECT DISTURBS IN EXCESS OF 1-ACRE OF LAND. THEREFORE IT WILL BE REQUIRED TO OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE AS ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE OWNER/DEVELOPER AND "OPERATOR" (GENERAL CONTRACTOR) SHALL EACH BE REQUIRED TO PREPARE AND SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA PRIOR TO THE START OF CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MEETING THE REQUIREMENTS OF THE CURRENT CONSTRUCTION GENERAL PERMIT.

GRAPHIC SCALE



UTILITY NOTE

THE UNDERGROUND UTILITIES DEPICTED HEREON HAVE BEEN DRAWN FROM FIELD SURVEY INFORMATION AND OR PLOTTED FROM EXISTING DRAWINGS. KEACH-NORDSTROM ASSOCIATES, INC. MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES DEPICTED COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHER, KEACH-NORDSTROM ASSOCIATES, INC. DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. KEACH-NORDSTROM ASSOCIATES, INC. HAS NOT PHYSICALLY LOCATED THE UNDERGROUND PORTIONS OF THE UTILITIES.

RESIDENTIAL SITE LAYOUT PLAN

COOLIDGE AVENUE ESTATES
MAP 838 LOT 47
685 COOLIDGE AVENUE
MANCHESTER, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER / APPLICANT:
COOLIDGE AVE. ESTATES, LLC
253 MAIN STREET
NASHUA, N.H. 03060
H.C.R.D. BK. 8849 PG. 2317

KEACH-NORDSTROM ASSOCIATES, INC.
Civil Engineering Land Surveying Landscape Architecture
10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

REVISIONS

No.	DATE	DESCRIPTION	BY
1	7/1/20	REVISIONS PER STAFF REVIEW	MJP
2	7/1/20	REV. PER DPW, EPD, & PLANNING	ACL
3	8/28/20	REVISED PER COMMENTS	GPC

DATE: APRIL 28, 2020
PROJECT NO: 19-0123-1
SCALE: 1"=30'
SHEET 5 OF 20

CONSTRUCTION NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED ROADWAY DESIGN, GRADING, AND DRAINAGE FOR THIS SITE.
2. ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF MANCHESTER, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ALL WORK PERFORMED IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION, APPROVED AND ADOPTED 2016 ARE HEREBY INCORPORATED BY REFERENCE.
3. CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS FOR ROAD CONSTRUCTION, PUBLIC WORKS DEPARTMENT, MANCHESTER, NEW HAMPSHIRE. ALL DRAINAGE PIPES SHOWN SHALL BE HDPE. THE CATCH BASIN SHALL BE TYPE B, AND HAVE A 3' SUMP UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING "DIG SAFE" AT 811 AT LEAST 72 HOURS BEFORE DIGGING.
5. ALL DRAINAGE PIPE SHALL BE INSTALLED FOLLOWING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. ALL DRIVEWAY STUB LOCATIONS ARE APPROXIMATE AND SHALL BE COORDINATED WITH OWNER & ENGINEER OF RECORD FOR FINAL APPROVAL PRIOR TO CONSTRUCTION.
7. ALL WORK MUST CONFORM TO THE CITY OF MANCHESTER, DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND ANY WORK WITHIN THE CITY RIGHT-OF-WAY REQUIRES AN EXCAVATION PERMIT.
8. A MORATORIUM PATCH DETAIL AND PAYMENTS FOR MORATORIUM PATCHES IS NEEDED FOR WORK WITHIN COOLIDGE AVENUE.

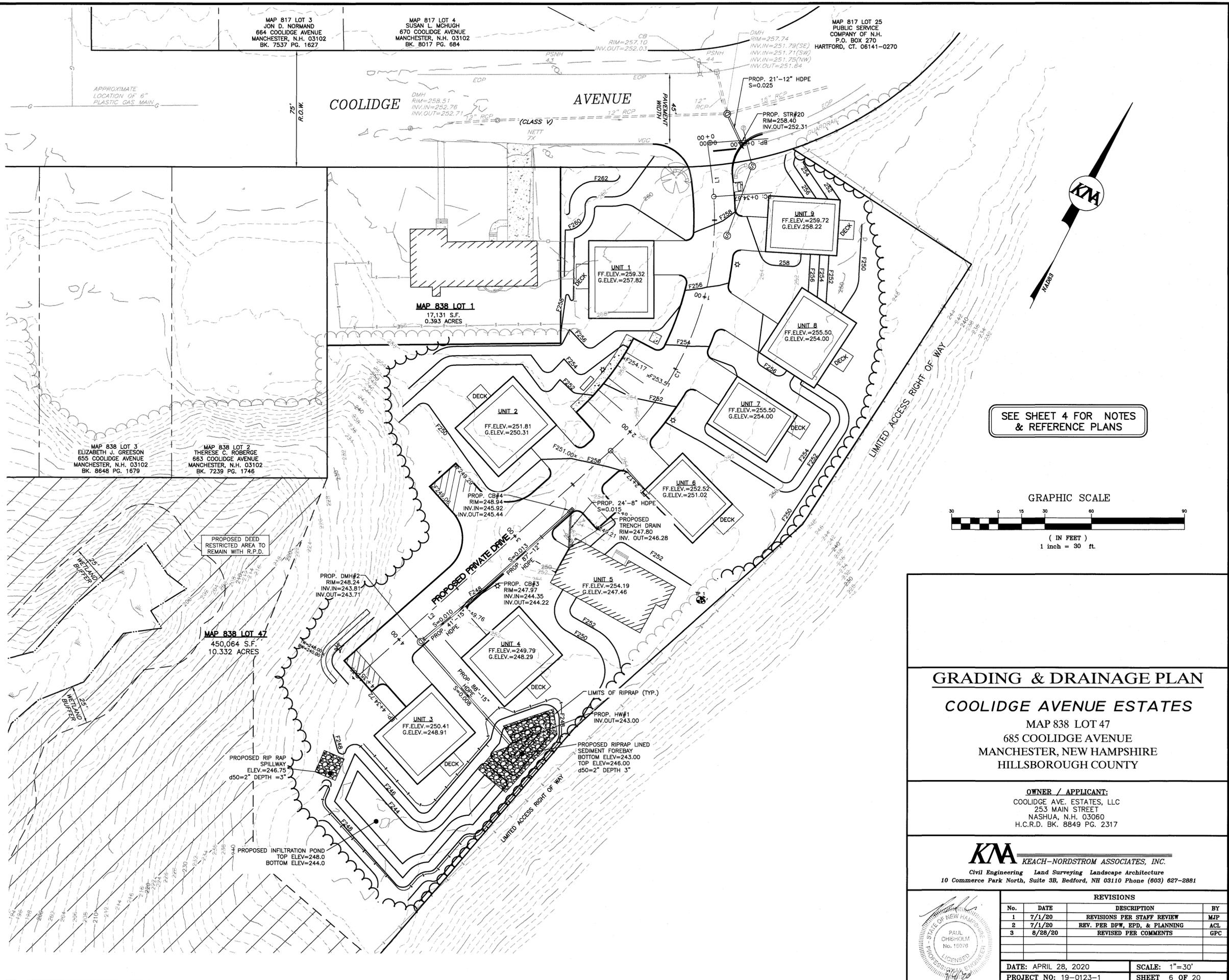
LEGEND

- UTILITY POLE
- SIGN
- HYDRANT
- SEWER MANHOLE
- DRAINAGE MANHOLE
- CATCH BASIN
- FLARED END SECTION
- ABUTTER LINE
- PROPERTY LINE
- WETLAND
- CHAIN LINK FENCE
- STOCKADE FENCE
- OVERHEAD UTILITIES
- GAS LINE
- WATER LINE
- SEWER LINE
- DRAINAGE LINE
- TREELINE
- EDGE OF PAVEMENT
- VERTICAL GRANITE CURB
- 10' CONTOUR
- 2' CONTOUR
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED HYDRANT
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
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- PROPOSED OVERHEAD UTILITIES
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- PROPOSED TREELINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED SLOPED GRANITE CURB
- PROPOSED 2' CONTOUR
- PROPOSED RETAINING WALL

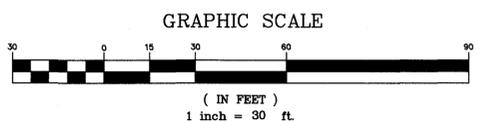


UTILITY NOTE

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SEE SHEET 4 FOR NOTES & REFERENCE PLANS



GRADING & DRAINAGE PLAN
COOLIDGE AVENUE ESTATES
 MAP 838 LOT 47
 685 COOLIDGE AVENUE
 MANCHESTER, NEW HAMPSHIRE
 HILLSBOROUGH COUNTY

OWNER / APPLICANT:
 COOLIDGE AVE. ESTATES, LLC
 253 MAIN STREET
 NASHUA, N.H. 03060
 H.C.R.D. BK. 8849 PG. 2317

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DATE: APRIL 28, 2020 SCALE: 1"=30'
 PROJECT NO: 19-0123-1 SHEET 6 OF 20



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LEGEND

- UTILITY POLE
- SIGN
- HYDRANT
- SEWER MANHOLE
- DRAINAGE MANHOLE
- CATCH BASIN
- FLARED END SECTION
- ABUTTER LINE
- PROPERTY LINE
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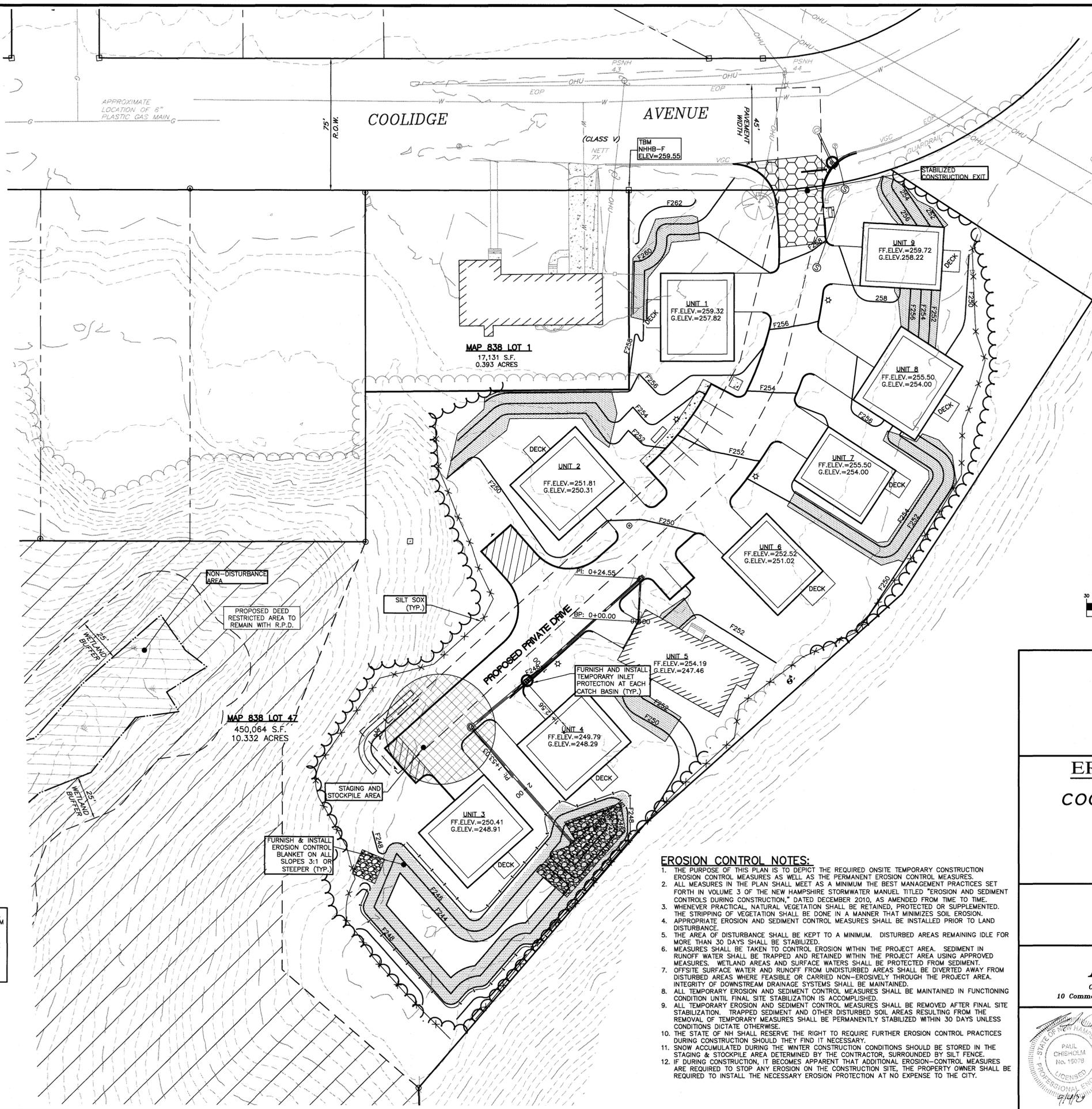


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UTILITY NOTE

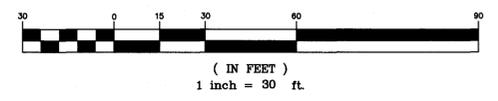
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EROSION & SEDIMENT CONTROL LEGEND

- SILT SOX
- TEMPORARY INLET PROTECTION
- STAGING AND STOCKPILE AREA
- EROSION CONTROL BLANKETS
- NON DISTURBANCE AREA
- STABILIZED CONSTRUCTION EXIT

GRAPHIC SCALE



EROSION CONTROL PLAN
COOLIDGE AVENUE ESTATES
 MAP 838 LOT 47
 685 COOLIDGE AVENUE
 MANCHESTER, NEW HAMPSHIRE
 HILLSBOROUGH COUNTY

OWNER / APPLICANT:
 COOLIDGE AVE. ESTATES, LLC
 253 MAIN STREET
 NASHUA, N.H. 03060
 H.C.R.D. BK. 8849 PG. 2317

KEACH-NORDSTROM ASSOCIATES, INC.
 Civil Engineering Land Surveying Landscape Architecture
 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881



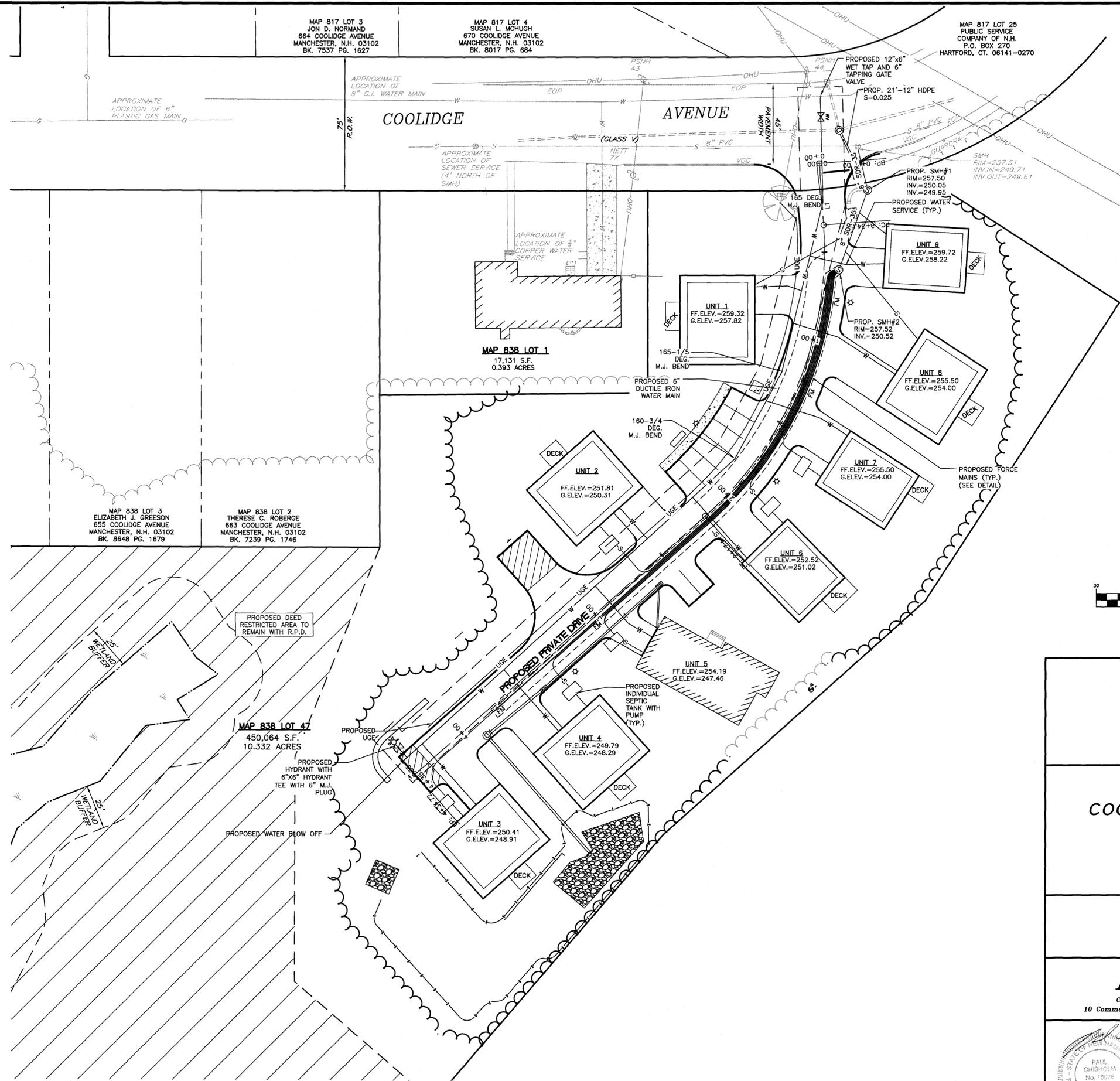
EROSION CONTROL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE REQUIRED ONSITE TEMPORARY CONSTRUCTION EROSION CONTROL MEASURES AS WELL AS THE PERMANENT EROSION CONTROL MEASURES.
2. ALL MEASURES IN THE PLAN SHALL MEET AS A MINIMUM THE BEST MANAGEMENT PRACTICES SET FORTH IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL TITLED "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION," DATED DECEMBER 2010, AS AMENDED FROM TIME TO TIME.
3. WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED OR SUPPLEMENTED. THE STRIPPING OF VEGETATION SHALL BE DONE IN A MANNER THAT MINIMIZES SOIL EROSION.
4. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE.
5. THE AREA OF DISTURBANCE SHALL BE KEPT TO A MINIMUM. DISTURBED AREAS REMAINING IDLE FOR MORE THAN 30 DAYS SHALL BE STABILIZED.
6. MEASURES SHALL BE TAKEN TO CONTROL EROSION WITHIN THE PROJECT AREA. SEDIMENT IN RUNOFF WATER SHALL BE TRAPPED AND RETAINED WITHIN THE PROJECT AREA USING APPROVED MEASURES. WETLAND AREAS AND SURFACE WATERS SHALL BE PROTECTED FROM SEDIMENT.
7. OFFSITE SURFACE WATER AND RUNOFF FROM UNDISTURBED AREAS SHALL BE DIVERTED AWAY FROM DISTURBED AREAS WHERE FEASIBLE OR CARRIED NON-EROSIVELY THROUGH THE PROJECT AREA. INTEGRITY OF DOWNSTREAM DRAINAGE SYSTEMS SHALL BE MAINTAINED.
8. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN FUNCTIONING CONDITION UNTIL FINAL SITE STABILIZATION IS ACCOMPLISHED.
9. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER FINAL SITE STABILIZATION. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED WITHIN 30 DAYS UNLESS CONDITIONS DICTATE OTHERWISE.
10. THE STATE OF NH SHALL RESERVE THE RIGHT TO REQUIRE FURTHER EROSION CONTROL PRACTICES DURING CONSTRUCTION SHOULD THEY FIND IT NECESSARY.
11. SNOW ACCUMULATED DURING THE WINTER CONSTRUCTION CONDITIONS SHOULD BE STORED IN THE STAGING & STOCKPILE AREA DETERMINED BY THE CONTRACTOR, SURROUNDED BY SILT FENCE.
12. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION-CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE, THE PROPERTY OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.

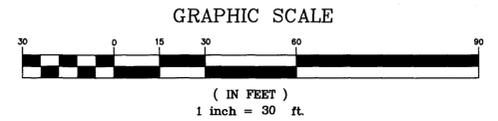
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DATE: APRIL 28, 2020 SCALE: 1"=30'
 PROJECT NO: 19-0123-1 SHEET 7 OF 20

- LEGEND**
- UTILITY POLE
 - HYDRANT
 - SEWER MANHOLE
 - DRAINAGE MANHOLE
 - CATCH BASIN
 - ABUTTER LINE
 - PROPERTY LINE
 - WETLAND
 - CHAIN LINK FENCE
 - OVERHEAD UTILITIES
 - GAS LINE
 - WATER LINE
 - SEWER LINE
 - DRAINAGE LINE
 - TREELINE
 - EDGE OF PAVEMENT
 - VERTICAL GRANITE CURB
 - PROPOSED UTILITY POLE
 - PROPOSED SIGN
 - PROPOSED LIGHT
 - PROPOSED WATER VALVE
 - PROPOSED HYDRANT
 - PROPOSED WATER SHUT OFF
 - PROPOSED WELL
 - PROPOSED SEWER MANHOLE
 - PROPOSED DRAINAGE MANHOLE
 - PROPOSED CATCH BASIN
 - PROPOSED END SECTION
 - PROPOSED PROPERTY LINE
 - PROPOSED OVERHEAD UTILITIES
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SEE SHEET 4 FOR NOTES & REFERENCE PLANS



UTILITY NOTE

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UTILITY PLAN

COOLIDGE AVENUE ESTATES

MAP 838 LOT 47
685 COOLIDGE AVENUE
MANCHESTER, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER / APPLICANT:
COOLIDGE AVE. ESTATES, LLC
253 MAIN STREET
NASHUA, N.H. 03060
H.C.R.D. BK. 8849 PG. 2317

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10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 827-2881

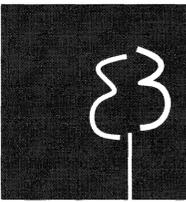
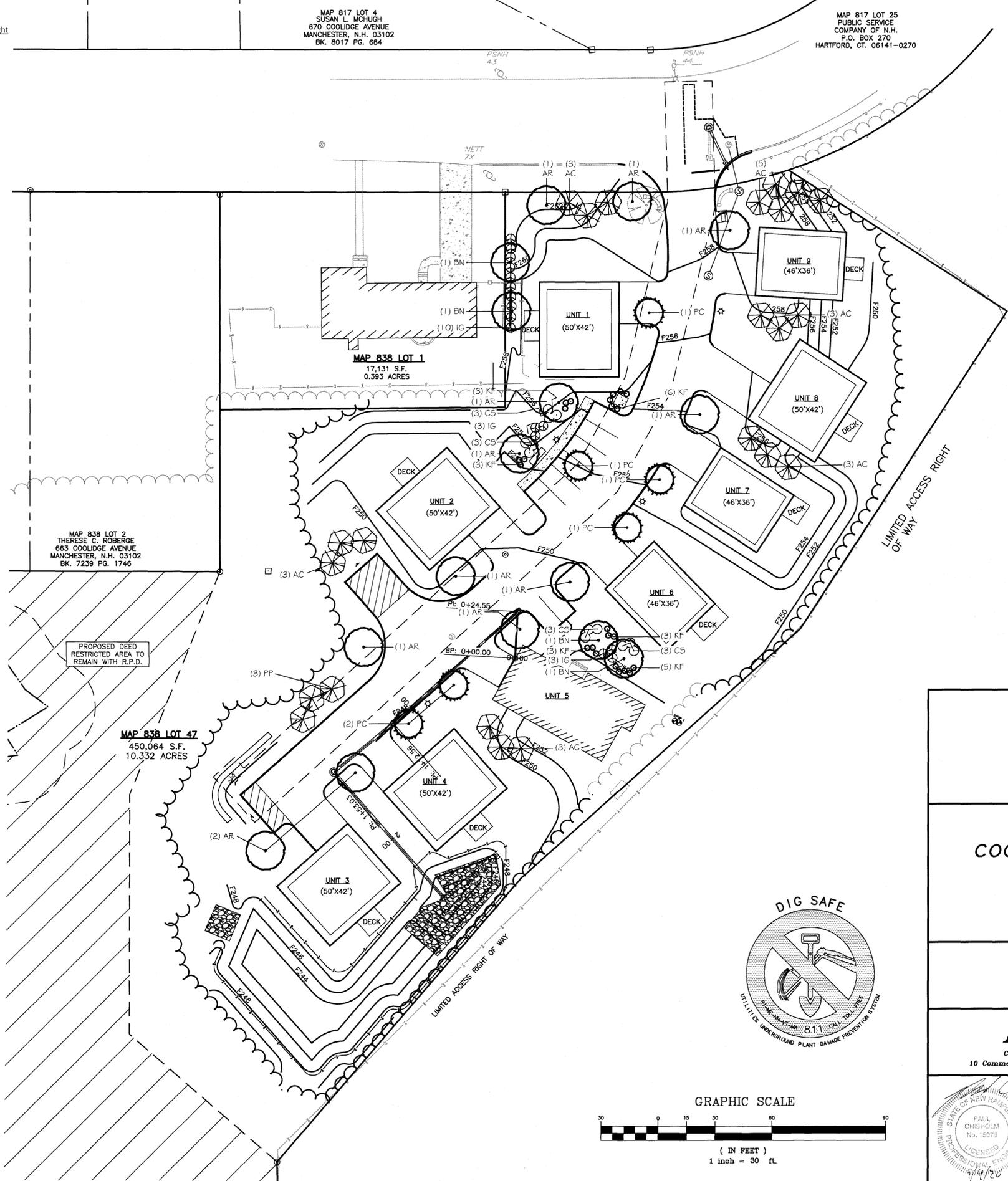
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DATE: APRIL 28, 2020 SCALE: 1"=30'

PROJECT NO: 19-0123-1 SHEET 8 OF 20

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Botanical Name / Common Name	Size	Label	Quantity	Mature Height
Trees				
<i>Abies concolor</i> / White Fir	6-7' B&B	AC	20	30-40'
<i>Acer rubrum</i> 'Redpointe' / Redpointe Red Maple	3-3.5" CAL	AR	12	40-60'
<i>Betula nigra</i> 'Heritage' / Heritage River Birch	3-3.5" CAL	BN	4	40-60'
<i>Picea pungens</i> / Colorado Spruce	6-7' B&B	PP	3	40-60'
<i>Pyrus calleryana</i> 'Chanticleer' / Chanticleer Flowering Pear	3-3.5" CAL	PC	6	30-40'
Shrubs				
<i>Cornus sericea</i> 'Arctic Fire' / Arctic Fire Red-Osier Dogwood	#3	CS	12	5-6'
<i>Ilex glabra</i> 'Compacta' / Compact Inkberry	#3	IG	16	5-6'
Grasses				
<i>Calamagrostis a.</i> 'Karl Foerster' / Karl Foerster Feather Reed Grass	#2	KF	23	5'

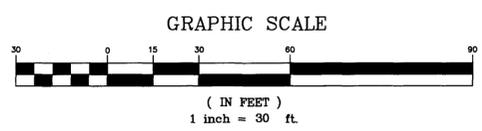


terrain
 planning & design llc
 311 kast hill road
 hopkinton nh 03229
 603. 491. 2322
 terrainplanning.com

LANDSCAPE PLAN
COOLIDGE AVENUE ESTATES
 MAP 838 LOT 47
 685 COOLIDGE AVENUE
 MANCHESTER, NEW HAMPSHIRE
 HILLSBOROUGH COUNTY

OWNER / APPLICANT:
 COOLIDGE AVE. ESTATES, LLC
 253 MAIN STREET
 NASHUA, N.H. 03060
 H.C.R.D. BK. 8849 PG. 2317

KMA KEACH-NORDSTROM ASSOCIATES, INC.
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 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2861



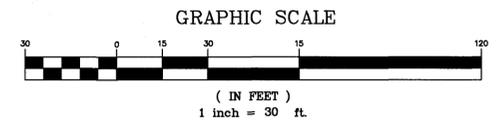
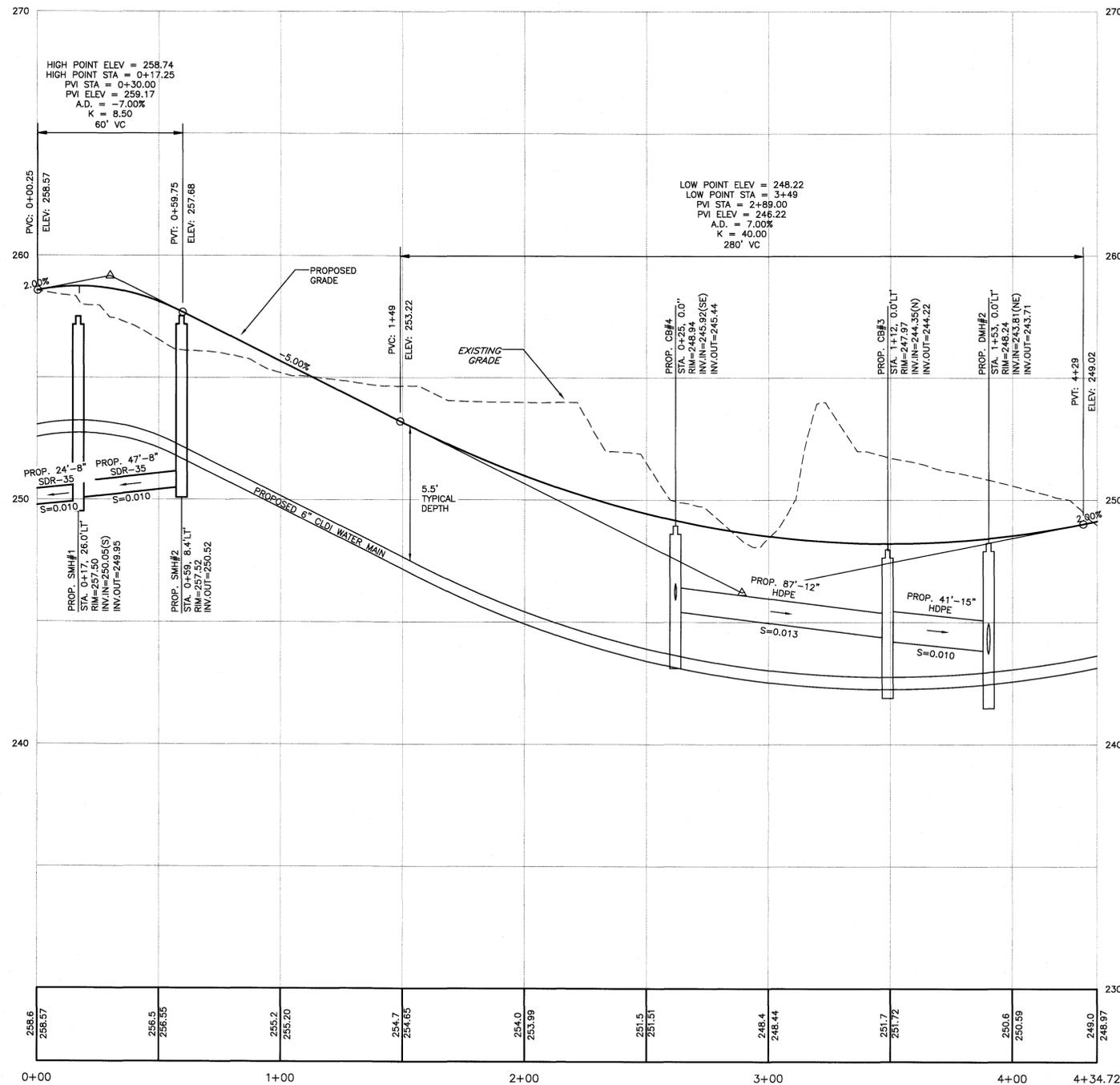
I, ROMY N. MAURER, HEREBY CERTIFY THAT I AM THE DESIGNER OF THIS LANDSCAPE PLAN AND THAT I AM A PROFESSIONAL LANDSCAPE ARCHITECT LICENSED BY THE STATE OF NEW HAMPSHIRE.

ROMY N. MAURER, ASLA, P.L.A. LICENSE #86



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DATE: APRIL 28, 2020 SCALE: 1"=30'
 PROJECT NO: 19-0123-1 SHEET 9 OF 20



PRIVATE ROADWAY PROFILE
 SCALE: 1" = 30'(HORIZ.)
 1" = 3'(VERT.)

PRIVATE ROADWAY PROFILE
COOLIDGE AVENUE ESTATES
 MAP 838 LOT 47
 685 COOLIDGE AVENUE
 MANCHESTER, NEW HAMPSHIRE
 HILLSBOROUGH COUNTY

OWNER / APPLICANT:
 COOLIDGE AVE. ESTATES, LLC
 253 MAIN STREET
 NASHUA, N.H. 03060
 H.C.R.D. BK. 8849 PG. 2317

KMA KEACH-NORDSTROM ASSOCIATES, INC.
 Civil Engineering Land Surveying Landscape Architecture
 10 Commerce Park North, Suite 3B, Bedford, NH 03110 Phone (603) 627-2881

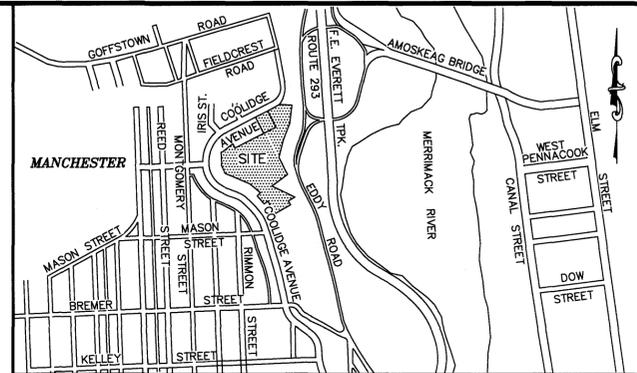


REVISIONS			
No.	DATE	DESCRIPTION	BY
1	7/1/20	REVISIONS PER STAFF REVIEW	MP
2	7/1/20	REV. PER DPW, EPD, & PLANNING	ACL
3	8/28/20	REVISED PER COMMENTS	GPC

DATE: APRIL 28, 2020 SCALE: 1" = 30'
 PROJECT NO: 19-0123-1 SHEET 11 OF 20

LEGEND

- GB-F GRANITE BOUND FOUND
- IPIN-F IRON PIN FOUND
- DH-F DRILL HOLE FOUND
- IPP-F IRON PIPE FOUND
- UTILITY POLE
- SIGN
- WATER VALVE
- HYDRANT
- WATER SHUT OFF
- WELL
- CATCH BASIN
- ▬ ABUTTER LINE
- ▬ PROPERTY LINE
- ▬ WETLAND
- ▬ DITCH
- ▬ BARBED WIRE FENCE
- ▬ OHU OVERHEAD UTILITIES
- ▬ W-W WATER LINE
- ▬ DRAINAGE LINE
- ▬ TREELINE
- ▬ EDGE OF PAVEMENT
- ▬ 10' CONTOUR
- ▬ 2' CONTOUR
- ▬ STONEWALL
- ▬ BUILDING SETBACK
- ▬ EASEMENT
- ▬ TOWN LINE
- ▬ PROPOSED PROPERTY LINE



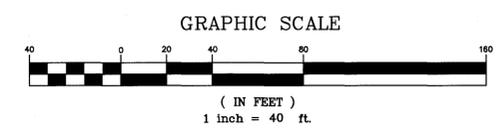
VICINITY PLAN
SCALE: 1" = 1,000±

YIELD PLAN NOTES:

1. THE PURPOSE OF THIS PLAN IS TO ILLUSTRATE THE LAYOUT OF A CONVENTIONAL RESIDENTIAL SUBDIVISION FOR THE PURPOSE OF DETERMINING THE ALLOWABLE DENSITY FOR A PLANNED UNIT DEVELOPMENT.
2. THIS YIELD PLAN ILLUSTRATES A TOTAL OF 9 CONVENTIONAL LOTS.
3. SUBJECT PROPERTY IS LOCATED ENTIRELY WITHIN THE RESIDENTIAL ONE FAMILY - MEDIUM DENSITY ZONING DISTRICT (R-1B) AND IS SUBJECT TO THE FOLLOWING DIMENSIONAL REGULATIONS:

TABLE OF ZONING REQUIREMENTS	
DESCRIPTION	REQUIRED
MINIMUM LOT SIZE	7,500 SF
MINIMUM LOT FRONTAGE	75 FT
FRONT YARD SETBACK	20 FT
SIDE YARD SETBACK	10 FT
REAR YARD SETBACK	30 FT
MAXIMUM LOT COVERAGE	50%
BUILDING HEIGHT	35 FT
MAXIMUM STORIES	2.5
FLOOR AREA RATIO	0.5

*SITE WILL BE SERVICES VIA CITY SEWER AND WATER.



STANDARD SUBDIVISION PLAN
COOLIDGE AVENUE ESTATES
MAP 838 LOT 47
685 COOLIDGE AVENUE
MANCHESTER, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

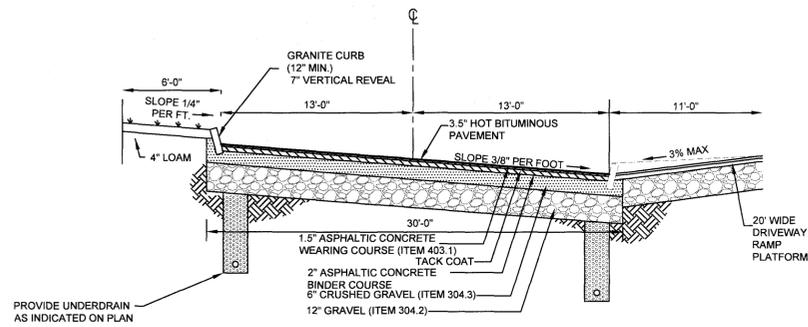
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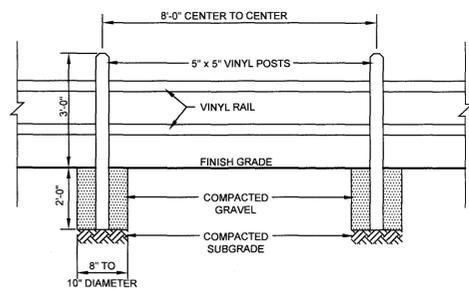
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DATE: APRIL 28, 2020 SCALE: 1"=40'
PROJECT NO: 19-0123-1 SHEET 13 OF 20

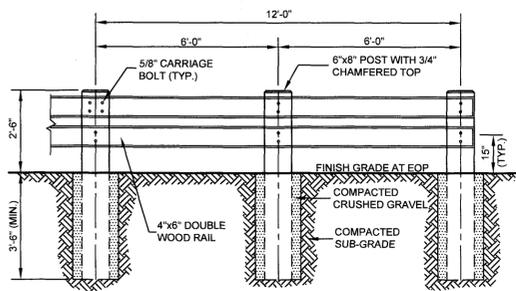
V:\Project\190123\UtilityProduction Drawings\190123-1-STANDARD SUBDIVISION.dwg 9/4/2020 11:19:43 AM, KIP 660.pcl



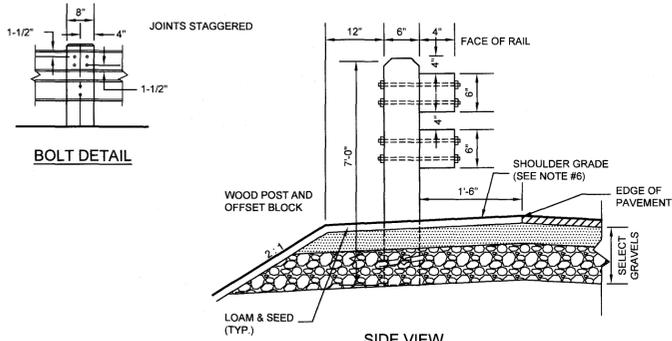
TYPICAL ROADWAY CROSS SECTION
NOT TO SCALE



SPLIT RAIL FENCE DETAIL
NOT TO SCALE



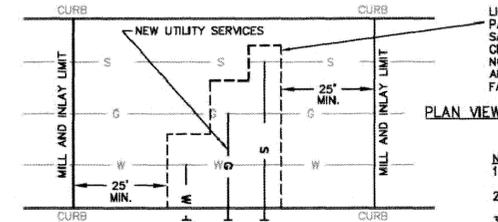
ELEVATION



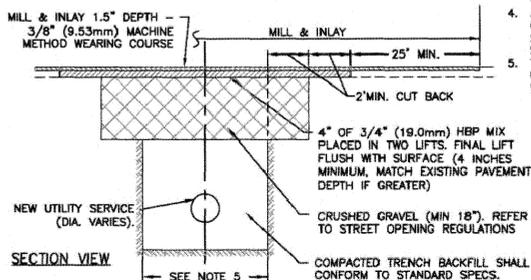
SIDE VIEW

- NOTES:**
1. ALL TIMBERS SHALL BE PRESSURE TREATED.
 2. PAY LIMIT = PER LINEAR FOOT INCLUDING END SECTION.
 3. ALL HARDWARE SHALL BE HOT DIPPED GALVANIZED.

WOOD BEAM GUARDRAIL
NOT TO SCALE
(AUGUST 2011)



PLAN VIEW



SECTION VIEW

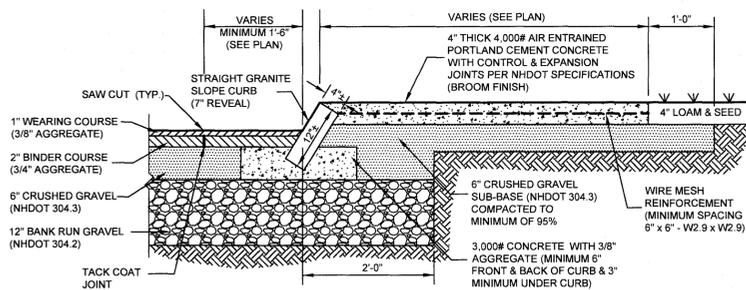
PAVEMENT RESTORATION - MORATORIUM STREETS

NOT TO SCALE
FIGURE 5-2

LIMIT OF BASE COURSE PATCH PLACED FLUSH. SAW CUT PAVEMENT TO CREATE CLEAN FACE. DO NOT OVERCUT CORNERS. APPLY TACK COAT TO FACE PRIOR TO PAVING.

NOTES

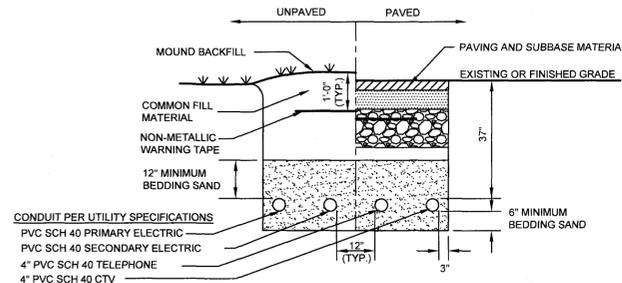
1. MATERIAL THICKNESS SHOWN ARE MINIMUM.
2. PAVEMENT AND MILLING LIMITS MAY BE EXTENDED BY THE ENGINEER.
3. BASE PAVEMENT PATCH SHALL BE FLUSH WITH EXISTING SURFACE AND SET 30 DAYS PRIOR TO MILL AND INLAY OF WEARING COURSE.
4. ALL WORK SHALL CONFORM TO CONFORM TO CITY OF MANCHESTER STANDARD SPECIFICATIONS AND THE STREET OPENING REGULATIONS.
5. TRENCH WIDTH SHALL BE 3 FEET OR UTILITY PIPE DIAMETER PLUS 2 FEET WHICHEVER IS GREATER.



STRAIGHT GRANITE SLOPE CURB WITH CONCRETE SIDEWALK

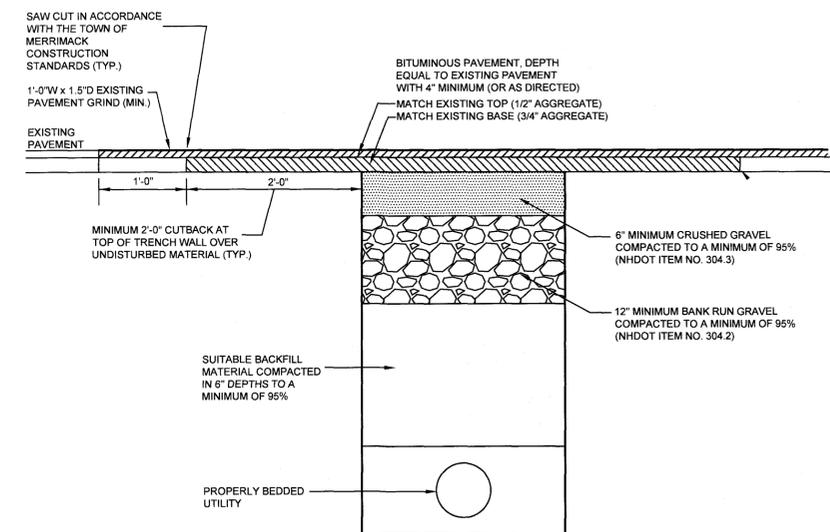
NOT TO SCALE
(MARCH 2008)

NOTE: PLACEMENT OF THE CONCRETE SHALL BE SUBSIDIARY TO THE INSTALLATION OF THE CURBING



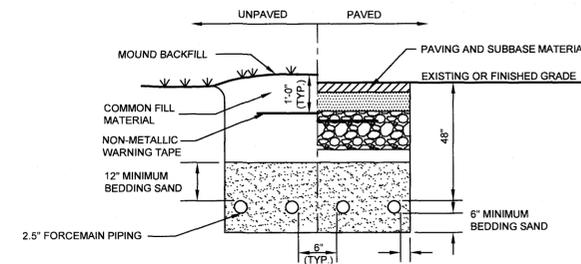
NOTE:
INSTALLATION AND MATERIALS OF UNDERGROUND UTILITIES SHALL CONFORM TO LOCAL UTILITY COMPANY SPECIFICATIONS.

UTILITY TRENCH DETAIL
NOT TO SCALE
(MARCH 2008)



UTILITY TRENCH DETAIL

NOT TO SCALE
(MARCH 2008)



NOTE:
INSTALLATION AND MATERIALS OF UNDERGROUND FORCEMAIN SHALL CONFORM TO LOCAL SEWER COMPANY SPECIFICATIONS.

FORCEMAIN TRENCH DETAIL

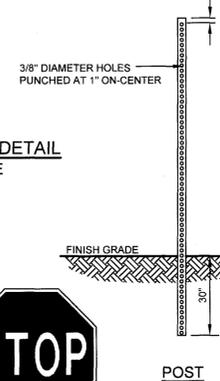
NOT TO SCALE
(MARCH 2008)



SPEED LIMIT SIGN DETAIL
NOT TO SCALE

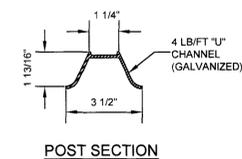


STOP SIGN DETAIL
NOT TO SCALE
(MARCH 2008)

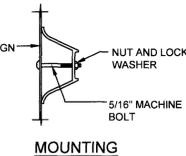


NOTE:
POST SHALL CONFORM TO NHDOT 615.2.5.3

STEEL SIGN POST DETAIL
NOT TO SCALE
(MARCH 2008)



POST SECTION



MOUNTING

CONSTRUCTION DETAILS
COOLIDGE AVENUE ESTATES

MAP 838 LOT 47
685 COOLIDGE AVENUE
MANCHESTER, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

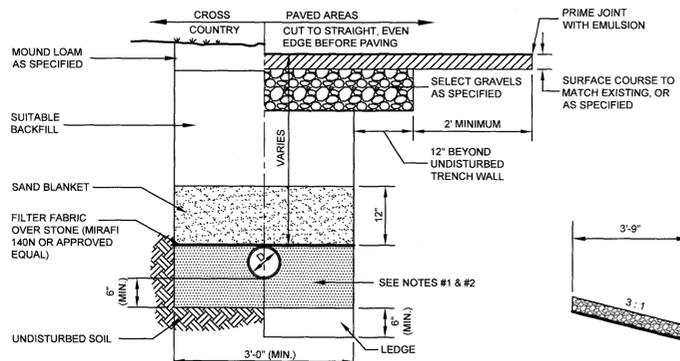
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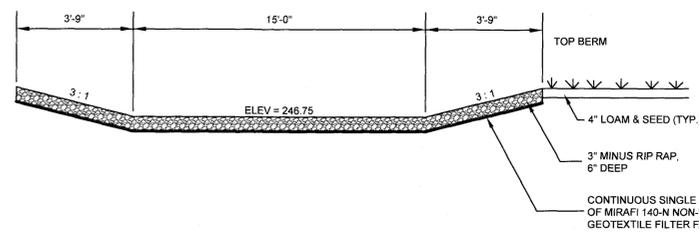
DATE: APRIL 28, 2020
PROJECT NO: 19-0123-1
SCALE: AS-NOTED
SHEET 14 OF 20



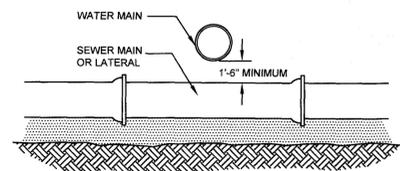
NOTES

1. THOROUGHLY COMPACTED SCREENED GRAVEL FOR RCP PIPE. SCREENED GRAVEL TO EXTEND TO SELECT FILL LINE.
2. FOR HDPE OR PVC PIPE, BEDDING SHALL BE 3/4" STONE TO THE TOP OF THE PIPE.

STORM DRAINAGE TRENCH DETAIL
NOT TO SCALE
(MARCH 2008)

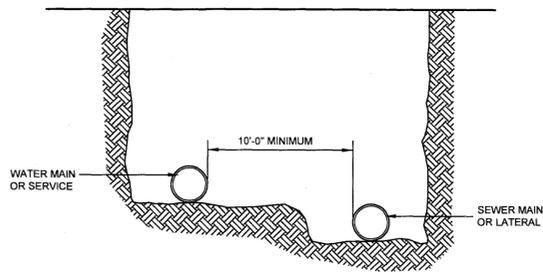


BROAD CRESTED WEIR DETAIL
NOT TO SCALE

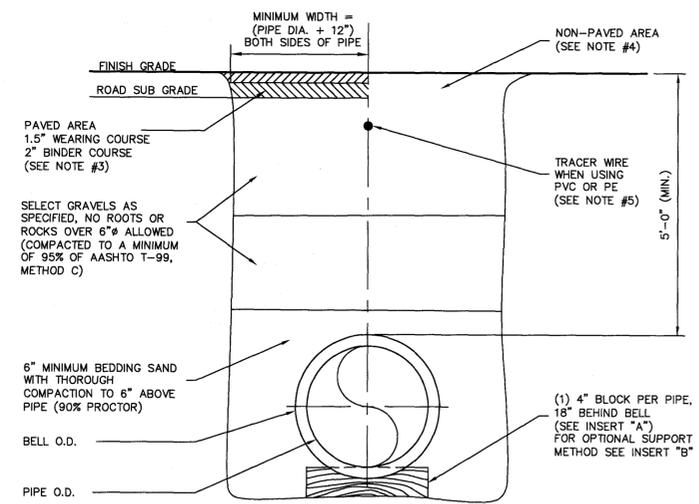


MAIN CROSSINGS

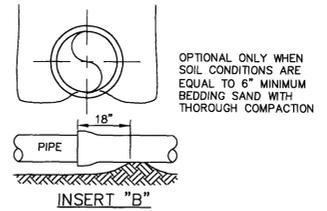
WATER MAIN/SEWER MAIN SEPARATION
NOT TO SCALE



PARALLEL INSTALLATION

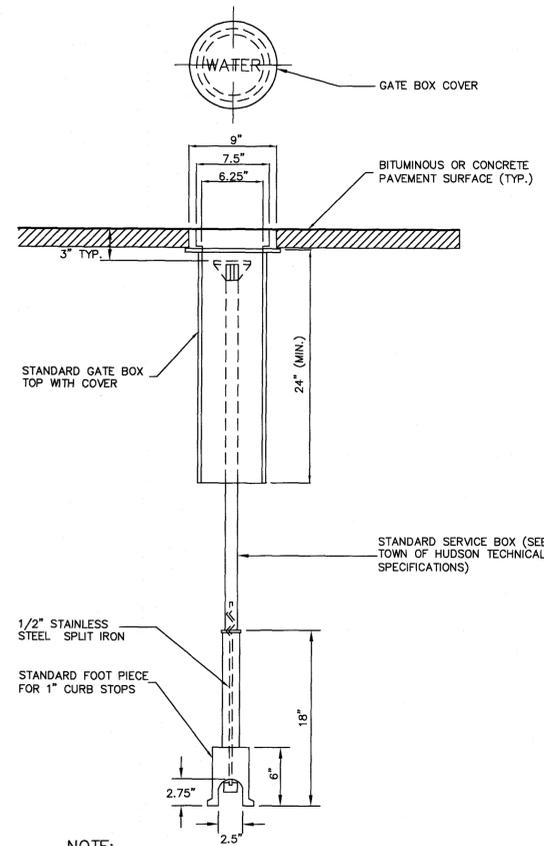


INSERT "A"

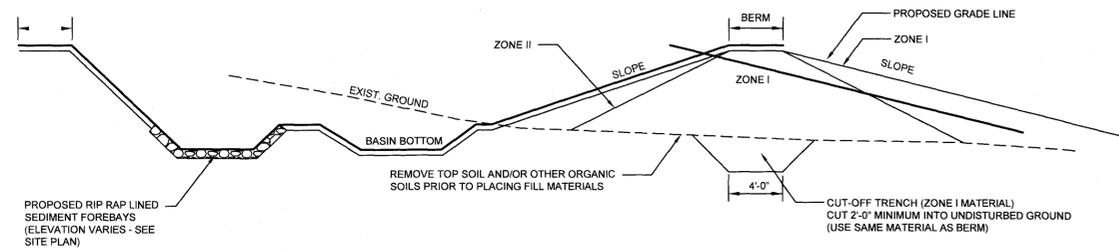


INSERT "B"

TYPICAL WATER LINE TRENCH DETAIL
NOT TO SCALE



TYPICAL SERVICE BOX DETAIL IN PAVED AREAS
NOT TO SCALE

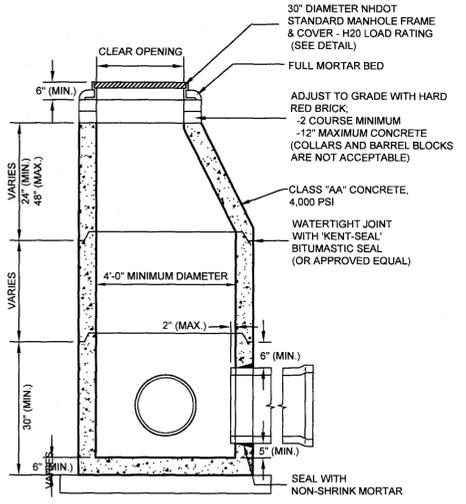


STORMWATER PONDS CONSTRUCTION SEQUENCE

1. CONTRACTOR TO NOTIFY DIG-SAFE 72 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. CUT AND CLEAR TREES AND BRUSH FROM CONSTRUCTION AREAS TO THE EXTENT NECESSARY. ALL BRANCHES, TOPS AND BRUSH TO BE PROPERLY DISPOSED OF BY CONTRACTOR.
3. PRIOR TO GRUBBING OF CLEARED AREAS, ALL SILTATION BARRIERS DESIGNED FOR USE AS TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED AS CALLED FOR ON PROJECT PLANS.
4. COMPLETE GRUBBING OPERATIONS. ALL STUMPS AND SIMILAR DEBRIS SHALL BE PROPERLY DISPOSED OF BY CONTRACTOR. ORGANIC MATERIAL SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED IN UPLAND AREAS. ALL STOCKPILES SHALL BE SEED WITH WINTER RYE AND, IF NECESSARY, SURROUNDED WITH HAY BALES IN ORDER TO PREVENT LOSS DUE TO EROSION.
5. CONSTRUCT TEMPORARY CULVERTS AS NECESSARY TO FACILITATE CONSTRUCTION ACTIVITIES. ALL SUCH CROSSINGS SHALL BE PROTECTED WITH HAY BALE BARRIERS TO LIMIT EROSION.
6. CONSTRUCT CUT-OFF TRENCH (PART OF ZONE I).
7. CONSTRUCT BROAD CRESTED WEIR, ANTI SEEP COLLARS, HEADWALL, AND RIP RAP OUTLET PROTECTION AS SHOWN ON PLANS.
8. CONSTRUCT ZONE I (PORTION OF EARTH EMBANKMENT).
9. CONSTRUCT ZONE II (PORTION OF EARTH EMBANKMENT).
10. APPLY TOPSOIL TO SLOPES AND OTHER AREAS DISTURBED BY CONSTRUCTION. TOPSOIL USED MAY BE NATIVE ORGANIC MATERIAL SCREENED SO AS TO BE FREE OF ROOTS, BRANCHES, STONES, AND OTHER DELETERIOUS MATERIALS. TOPSOIL SHALL BE APPLIED SO AS TO PROVIDE A MINIMUM OF A 4-INCH COMPACTED THICKNESS. UPON COMPLETION OF TOPSOILING, FINISHED SECTIONS ARE TO BE LIMED, SEED AND MULCHED. CONSTRUCTION PERSONNEL SHALL INSPECT COMPLETED SECTIONS OF WORK ON A REGULAR BASIS AND REMEDY ANY PROBLEM AREAS UNTIL A HEALTHY STAND OF GRASS HAS BECOME ESTABLISHED.
11. MAINTAIN, REPAIR, AND REPLACE AS NECESSARY TEMPORARY EROSION CONTROL MEASURES UNTIL SUCH TIME AS THE ENTIRE CONSTRUCTION AREA HAS BEEN STABILIZED (A MINIMUM OF ONE WINTER SHALL HAVE PASSED).
12. AFTER STABILIZATION, REMOVE AND SUITABLY DISPOSE OF TEMPORARY EROSION CONTROL MEASURES.
13. MONITOR CONSTRUCTION ACTIVITIES TO INSURE CONSTRUCTION ACTIVITIES ARE BEING PERFORMED IN SUCH A WAY AS NOT TO ENDANGER THE INTEGRITY OF EARTH EMBANKMENTS, STORMWATER CONTROL STRUCTURE, CULVERT AND RIP RAP OUTLET PROTECTION.
14. THE CONTRACTOR SHALL STAKE OUT AND PROTECT THE PROPOSED INFILTRATION AREA DURING ALL CONSTRUCTION ACTIVITIES. NO SOIL COMPACTION OF ANY KIND SHALL TAKE PLACE WITHIN THE INFILTRATION AREA IN ORDER TO MAINTAIN CURRENT SOIL INFILTRATION QUALITIES.

MATERIAL TYPE/SPECIFICATIONS

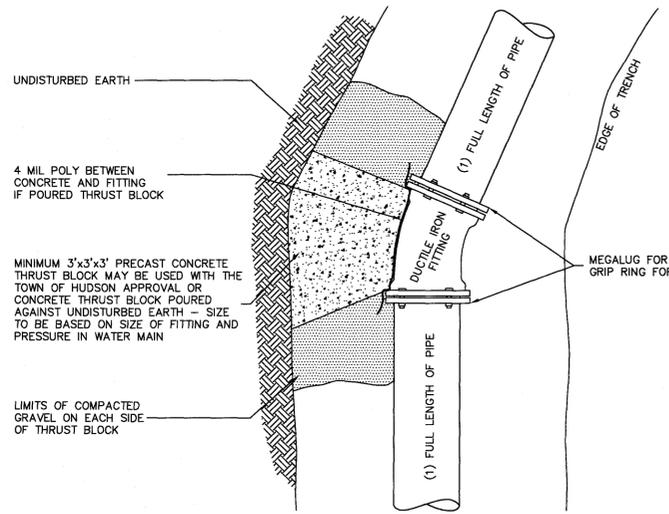
- ZONE I**
WELL GRADED MIXTURE OF GRAVEL, SAND, SILT OR CLAY WITH MAX. 6-INCH SIZE STONE AND GEADATION AS INDICATED BELOW. PLACE IN MAX. 12-INCH THICK LIFTS TO 95% OF MAX. DRY DENSITY IN ACCORDANCE WITH ASTM D1557. SCARIFY SURFACE PRIOR TO PLACING SUBSEQUENT LIFT. IN ADDITION, REMOVE ORGANIC SOILS.
- | SIZE | PERCENT BY WEIGHT PASSING |
|---------|---------------------------|
| 6-INCH | 100 |
| NO. 4 | 50 TO 100 |
| NO. 40 | 30 TO 70 |
| NO. 200 | 20 TO 40 |
- ZONE II**
DRAINAGE LAYER: PLACE IN MAX. 12-INCH THICK LIFTS TO 95% OF MAX. DRY DENSITY IN ACCORDANCE WITH ASTM D1557.
- | SIZE | PERCENT BY WEIGHT PASSING |
|---------|-----------------------------|
| 1-INCH | 100 |
| NO. 4 | 70-100 |
| NO. 200 | 0-12 (IN SAND PORTION ONLY) |



NOTES:

1. STEPS ARE NOT ALLOWED.
2. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4,000 PSI). CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER L.F. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER OF THE WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER L.F.
4. MATERIALS AND CONSTRUCTION TO NHDOT STANDARDS.

PRECAST REINFORCED DRAIN MANHOLE DETAIL
NOT TO SCALE
(MARCH 2008)



NOTES:

1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO CITY OF MANCHESTER TECHNICAL SPECIFICATIONS.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTHS OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. 3/4" S.S. RODS SHALL BE USED IN CONJUNCTION WITH REQUIRED S.S. NUTS. RODS ARE TO BE ATTACHED TO FITTINGS WITH EITHER STAR BOLTS OR DUC LUGS.
10" FITTING OR SMALLER = (2) 3/4" S.S. RODS & ASSOC. HARDWARE.
12" FITTING OR LARGER = (4) 3/4" S.S. RODS & ASSOC. HARDWARE.
4. MINIMUM 3'x3'x3' PRECAST CONCRETE THRUST BLOCK MAY BE USED WITH THE TOWN OF HUDSON APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH - SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATER MAIN.

TYPICAL THRUST BLOCK BEHIND FITTINGS INSTALLATION
NOT TO SCALE

CONSTRUCTION DETAILS
COOLIDGE AVENUE ESTATES
MAP 838 LOT 47
685 COOLIDGE AVENUE
MANCHESTER, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

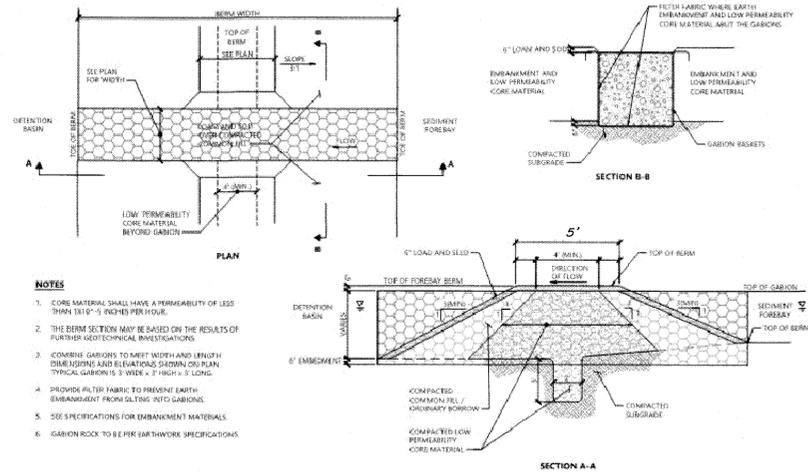
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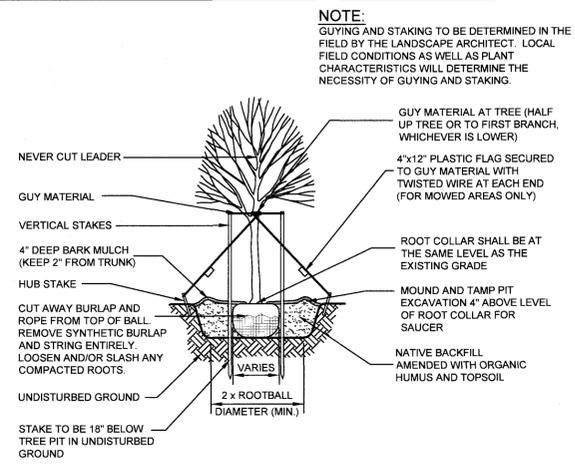
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DATE: APRIL 28, 2020 SCALE: AS-NOTED
PROJECT NO: 19-0123-1 SHEET 16 OF 20



- NOTES**
- CORE MATERIAL SHALL HAVE A PERMEABILITY OF LESS THAN 10⁻⁵ INCHES PER HOUR.
 - THE BERM SECTION MAY BE BASED ON THE RESULTS OF FURTHER GEOTECHNICAL INVESTIGATIONS.
 - COMBINE GABIONS TO MEET WIDTH AND LENGTH DIMENSIONS AND RELATIONS SHOWN ON PLAN. TYPICAL GABION IS 3' WIDE x 2' HIGH x 3' LONG.
 - PROVIDE FILTER FABRIC TO PREVENT EARTH EMBANKMENT FROM SALTING INTO GABIONS.
 - SEE SPECIFICATIONS FOR EMBANKMENT MATERIALS.
 - GABION ROCK TO BE PER EARTHWORK SPECIFICATIONS.

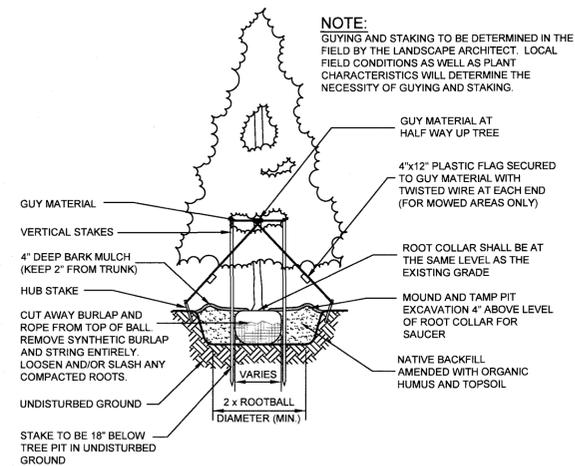
SEDIMENT FOREBAY DETAIL
NOT TO SCALE



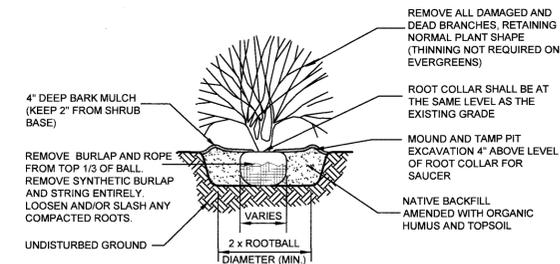
DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE
(JANUARY 2012)

MAINTENANCE:
ALL SEEDED AREAS SHALL BE KEPT WATERED AND IN GOOD CONDITION. RESEED AS NECESSARY TO ESTABLISH HEALTHY UNIFORM GROWTH OVER THE ENTIRE SEEDED AREA. MAINTAIN SEEDED AREAS IN AN APPROVED CONDITION UNTIL FINAL ACCEPTANCE. MAINTENANCE SHALL INCLUDE REPAIRS FOR DAMAGE CAUSED BY EROSION.

- APPLICATION RATES:**
- LOAM SHALL BE APPLIED AT A MINIMUM COMPACTED THICKNESS OF 4 INCHES.
 - LIME SHALL BE APPLIED AT A RATE OF 75 TO 100 POUNDS PER 1,000 S.F.
 - FERTILIZER SHALL BE APPLIED AT A RATE OF 30 POUNDS PER 1,000 S.F.
 - SEED MIXTURE FOR LAWN AREAS SHALL BE APPLIED AT A RATE OF AT LEAST 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
 - TEMPORARY SEED MIXTURE SHALL BE APPLIED AT A RATE OF 2 POUNDS PER 1,000 S.F.
 - SEED MIXTURE FOR SLOPE AREAS SHALL BE APPLIED AT A RATE OF 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
 - SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS SHALL BE APPLIED AT A RATE OF 70 POUNDS PER ACRE OR 1.6 POUNDS PER 1,000 S.F.
 - MULCH SHALL BE APPLIED AT A RATE OF 90 POUNDS PER 1,000 S.F.



EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE
(JANUARY 2012)



BALLED & BURLAP SHRUB PLANTING DETAIL
NOT TO SCALE
(JANUARY 2012)

TP #1
LOGGED BY: GPC
PERC TEST @ 43"
DATE: 1-25-2019
PERC RATE: 2 MIN./INCH
IMPERVIOUS LAYER: NONE
WATER ENCOUNTERED: NONE

0"	FOREST MAT / TOP SOIL
12"	10YR 2/2, (BURIED "A") GRANULAR, FRIABLE, LOAMY SAND, FEW ROOTS
26"	10YR 4/6, LOAMY SAND, LOOSE GRANULAR, FEW ROOTS
43"	10YR 6/8, COURSE SAND
96"	BOTTOM OF HOLE

TURF ESTABLISHMENT SCHEDULE

PURPOSE:
TO ESTABLISH AND MAINTAIN PERMANENT AND TEMPORARY TURF AREAS, RESTORE GROWTH TO EXISTING TURF AREAS DISTURBED DURING CONSTRUCTION AND CONTROL SOIL EROSION.

- PREPARATION AND EXECUTION:**
- RAKE THE SUBGRADE OF ALL AREAS TO BE SEEDING AND SEED TO REMOVE RUBBISH, STICKS, ROOTS AND STONES LARGER THAN 1 INCH.
 - PLACE LOAM OVER AREAS TO BE SEEDING AND SPREAD.
 - FINE GRADE SURFACE AND SUPPLEMENT WITH SUITABLE LOAM WHERE NEEDED TO CREATE A UNIFORM SURFACE ACCORDING TO THE FINISH GRADES INDICATED. TOP AND BOTTOM OF SLOPES SHALL BE ROUNDED. NO LOAM SHALL BE SPREAD IF THE SUBGRADE IS EXCESSIVELY WET OR FROZEN.
 - APPLY LIME EVENLY OVER LOAM SURFACE AND THOROUGHLY INCORPORATE LIME INTO THE LOAM BY HEAVY RAKING TO AT LEAST ONE-HALF THE DEPTH OF THE LOAM.
 - APPLY FERTILIZER AND MIX WITH THE UPPER 2 INCHES OF LOAM.
 - DETERMINE APPROPRIATE MIXTURE FOR AREA TO BE SEEDING BASED ON EXAMINATION OF PROJECT PLANS. UNIFORMLY SPREAD THE SEED BY BROADCASTING OR HYDROSEEDING. IF BROADCASTING, LIGHTLY RAKE INTO THE PREPARED SURFACE AND ROLL. IF HYDROSEEDING, USE 4 TIMES THE RECOMMENDED RATE OF INOCULANT. AFTER SEED IS SPREAD, WATER THOROUGHLY WITH A FINE SPRAY.
 - SEEDING FOR PERMANENT COVER SHALL OCCUR BETWEEN SEPTEMBER 15 AND OCTOBER 15 AND BETWEEN APRIL 15 AND JUNE 15. SEEDING SHALL NOT BE DONE DURING WINDY WEATHER, WHEN THE GROUND IS FROZEN OR EXCESSIVELY WET OR OTHERWISE UNTILLABLE.
 - WITHIN 24 HOURS AFTER SEEDING OPERATION, UNIFORMLY MULCH THE AREA WITH HAY. ANCHOR MULCH ON ALL SLOPES EXCEEDING 3:1 USING MULCH NETTING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER.
 - PROTECT AND PREVENT AGAINST WASHOUTS, ANY WASHOUTS WHICH OCCUR SHALL BE PROMPTLY REGRADED AND RESEED.
 - WHEN IT IS IMPRACTICAL TO ESTABLISH PERMANENT GROWTH ON DISTURBED EARTH BY OCTOBER 15, A TEMPORARY SEED MIXTURE SHALL BE USED. WHEN TEMPORARY SEEDING CANNOT ESTABLISH VISIBLE GROWTH, THE DISTURBED AREA SHALL BE COVERED WITH SIX INCHES OF MULCH FOR THE WINTER.

- MATERIALS:**
- LOAM USED FOR TOPSOIL SHALL BE FRIABLE, FERTILE, NATURAL FREE-DRAINING LOAM, FREE OF ROOTS, GRASS, STICKS, WEEDS, CLAY, SOD LUMPS, DEBRIS AND STONES LARGER THAN 1 INCH IN ANY DIMENSION. SOIL SHALL NOT BE EXCESSIVELY ACID OR ALKALINE AND CONTAIN NO TOXIC MATERIALS.
 - LIME SHALL BE GROUND LIMESTONE CONTAINING NO LESS THAN 95% CALCIUM AND MAGNESIUM CARBONATES.
 - FERTILIZER SHALL BE 10-20-20 COMMERCIAL GRADE.
 - SEED MIXTURE FOR LAWN AREAS SHALL BE 99% PURE LIVE SEED AND CONSIST OF THE FOLLOWING:
25% CREEPING RED FESCUE
25% KENTUCKY BLUEGRASS
25% REDTOP
25% MANHATTAN PERENNIAL RYEGRASS
 - TEMPORARY SEEDING MIXTURE SHALL BE AN APPROVED CONSERVATION MIX OR CONSIST OF THE FOLLOWING:
15% BLACKWELL OR SHELTER SWITCHGRASS
30% NIAGARA OR KAW BIG BLUESTEM
30% CAMPER OR BLAZE LITTLESTEM
15% NE-27 OR BLAZE SAND LOVEGRASS
10% VIKING BIRDSFOOT TREFLOID
INOCULUM SPECIFIC TO BIRDSFOOT TREFLOID MUST BE USED WITH THIS MIXTURE. IF SEEDING BY HAND, A STICKING AGENT SHALL BE USED. IF SEEDING WITH A HYDROSEEDER, USE FOUR TIMES THE RECOMMENDED AMOUNT OF INOCULUM.
 - SEED MIXTURE FOR SLOPE AREAS SHALL BE 99% PURE LIVE SEED AND SHALL CONSIST OF THE FOLLOWING:
30% CREEPING RED FESCUE
40% PERENNIAL RYE GRASS
15% REDTOP
15% BIRDSFOOT TREFLOID
*IN ADDITION TO THE MIX SPECIFIED ABOVE, CROWN VETCH SHALL BE USED ON ALL SLOPES STEEPER THAN 3:1. CROWN VETCH SHALL BE APPLIED AT A RATE OF 10 POUNDS PER ACRE AND INOCULUM SPECIFIC TO CROWN VETCH MUST BE USED.
 - SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS, INCLUDING DETENTION BASINS AND VEGETATED TREATMENT SWALES SHALL CONSIST OF THE FOLLOWING:
25% CREEPING RED FESCUE
15% SWITCH GRASS
15% FOX SEDGE
15% CREEPING BENTGRASS
10% FLATPEA
20% WILDFLOWER VARIETY
 - HAY USED FOR MULCH SHALL CONSIST OF MOWED AND PROPERLY CURED GRASS OR LEGUME MOWINGS, FREE FROM WEEDS, TWIGS, DEBRIS OR OTHER DELETERIOUS MATERIAL AND ROT OR MOLD.

CONSTRUCTION DETAILS
COOLIDGE AVENUE ESTATES
MAP 838 LOT 47
685 COOLIDGE AVENUE
MANCHESTER, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER / APPLICANT:
COOLIDGE AVE. ESTATES, LLC
253 MAIN STREET
NASHUA, N.H. 03060
H.C.R.D. BK. 8849 PG. 2317

KMA KEACH-NORDSTROM ASSOCIATES, INC.
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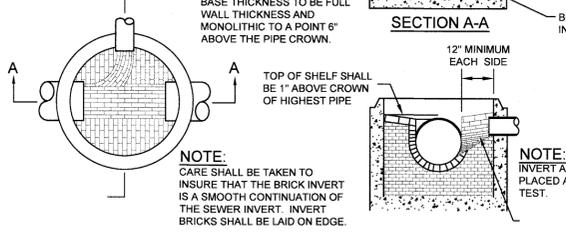
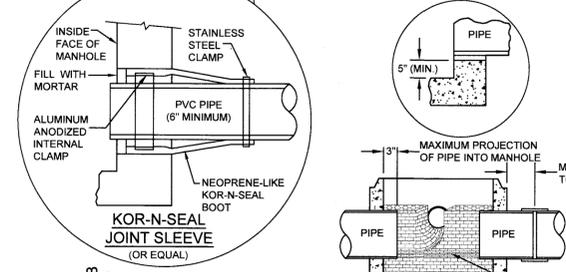
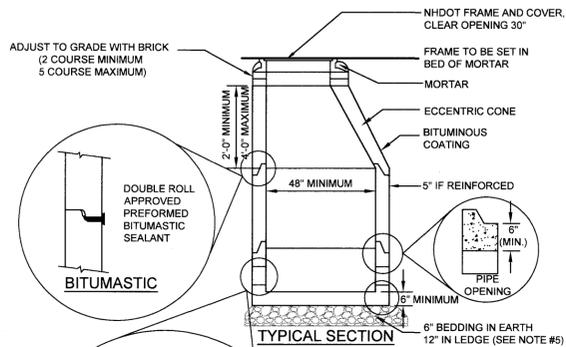


REVISIONS			
No.	DATE	DESCRIPTION	BY
1	7/1/20	REVISIONS PER STAFF REVIEW	MJP
2	7/1/20	REV. PER DPW, EPD, & PLANNING	ACL
3	8/28/20	REVISED PER COMMENTS	GPC

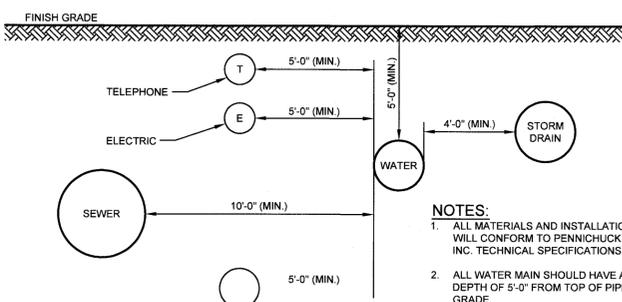
DATE: APRIL 28, 2020 SCALE: AS-NOTED
PROJECT NO: 19-0123-1 SHEET 17 OF 20

NOTES: (NHDES ENV WQ700 - 2015)

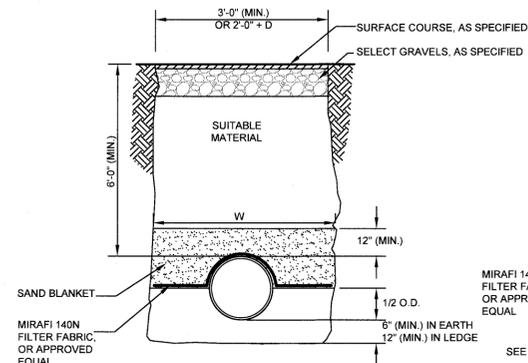
- ALL COMPONENT PARTS OF MANHOLE STRUCTURES SHALL HAVE THE STRENGTH, LEAK RESISTANCE AND SPACE NECESSARY FOR THE INTENDED SERVICE.
 - MANHOLE STRUCTURES SHALL HAVE A LIFE EXPECTANCY IN EXCESS OF 25 YEARS.
 - MANHOLE STRUCTURES SHALL BE DESIGNED TO WITHSTAND H-20 LOADING AND SHALL NOT LEAK IN EXCESS OF ONE GPD PER VERTICAL FOOT OF MANHOLE FOR THE LIFE OF THE STRUCTURE.
 - BARRELS, CONCRETE GRADE RINGS AND CONE SECTIONS SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE AND SHALL CONFORM TO ASTM C478.
 - BEDDING: CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 100% PASSING 1 INCH SCREEN
90% PASSING 3/4 INCH SCREEN
20-55% PASSING 3/8 INCH SCREEN
0-10% PASSING #4 SIEVE
0-5% PASSING #8 SIEVE
- WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, CRUSHED STONE 1/2 INCH TO 1-1/2 INCH SHALL BE USED.
- BASE SECTIONS SHALL BE OF MONOLITHIC CONSTRUCTION TO A POINT AT LEAST 6 INCHES ABOVE THE CROWN OF THE INCOMING PIPE.
 - HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF AN OVERLAPPING TYPE, SEALED FOR WATER-TIGHTNESS USING A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC-LIKE SEALANT.
 - PIPE TO MANHOLE JOINTS SHALL BE AS FOLLOWS:
 - ELASTOMERIC, RUBBER SLEEVE WITH WATERTIGHT JOINTS AT THE MANHOLE OPENING AND PIPE SURFACES.
 - CAST INTO THE WALL OR SECURED WITH STAINLESS STEEL CLAMPS.
 - ELASTOMERIC SEALING RING CAST IN THE MANHOLE OPENING WITH SEAL FORMED ON THE SURFACE OF THE PIPE BY COMPRESSION OF THE RING, AND
 - NON-SHRINK GROUTED JOINTS WHERE WATERTIGHT BONDING TO THE MANHOLE AND PIPE CAN BE OBTAINED.
 - MANHOLE CONE SECTIONS SHALL BE ECCENTRIC IN SHAPE.
 - ALL PRECAST SECTIONS AND BASES SHALL HAVE THE DATE OF MANUFACTURE AND THE NAME OR TRADEMARK OF THE MANUFACTURER IMPRESSED OR INDELIBLY MARKED ON THE INSIDE WALL.
 - ALL PRECAST SECTIONS AND BASES SHALL BE COATED ON THE EXTERIOR WITH A BITUMINOUS DAMP-PROOFING COATING.
 - MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY. INVERTS AND SHELVES SHALL BE PLACED AFTER TESTING.
 - MATERIALS OF CONSTRUCTION FOR MANHOLES SHALL BE AS FOLLOWS:
 - CONCRETE FOR PRECAST BASES OR GRADE RINGS SHALL CONFORM TO THE REQUIREMENTS FOR CLASS AA CONCRETE IN THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION".
 - REINFORCING FOR PRECAST CONCRETE SHALL BE STEEL OR STRUCTURAL FIBERS THAT CONFORM TO THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION".
 - PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM C478.
 - THE MANHOLE FRAME AND COVER SHALL PROVIDE A 30-INCH DIAMETER CLEAR OPENING.
 - THE MANHOLE COVER SHALL HAVE THE WORD "SEWER" IN 3-INCH LETTERS CAST INTO THE TOP SURFACE.
 - THE CASTINGS SHALL BE OF EVEN-GRAINED CAST IRON, SMOOTH AND FREE FROM SCALE, LUMPS, BUSTERS, SAND HOLES AND DEFECTS.
 - CONTACT SURFACES OF COVERS AND FRAMES SHALL BE MACHINED AT THE FOUNDRY TO PREVENT ROCKING OF COVERS IN ANY ORIENTATION.
 - CASTINGS SHALL BE EQUAL TO CLASS 30, BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM A484/48M.
 - BRICK MASONRY FOR SHELF, INVERT AND GRADE ADJUSTMENT SHALL BE CERTIFIED BY THEIR MANUFACTURER(S) AS CONFORMING TO ASTM C32, CLAY OR SHALE, FOR GRADE SS HARD BRICK.
 - MORTAR SHALL BE COMPOSED OF TYPE I PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME, ADDITION:
 - PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
 - 4.5 PARTS SAND AND 1.5 PARTS CEMENT, OR
 - 4.5 PARTS SAND, ONE PART CEMENT AND 0.5 PARTS HYDRATED LIME.
 - CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150/C150M.
 - HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207 "STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES".
 - SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO THE ASTM C33 "STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES".
 - CONCRETE FOR DROP SUPPORTS SHALL CONFORM TO THE REQUIREMENT FOR CLASS AAA CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION".
 - SUBJECT TO (D) BELOW, A FLEXIBLE PIPE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES FROM ANY MANHOLE CONNECTION:
 - WITHIN 48-INCHES FOR REINFORCED CONCRETE (RC) PIPE, AND
 - WITHIN 80-INCHES FOR PVC PIPE LARGER THAN 15-INCH DIAMETER;
 - NO FLEXIBLE JOINT SHALL BE REQUIRED FOR D.I. PIPE OR FOR PVC PIPE UP THROUGH 15-INCH DIAMETER, AND
 - WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED IN LIEU OF A CONE SECTION, PROVIDED THE SLAB HAS AN ECCENTRIC ENTRANCE OPENING AND IS CAPABLE OF SUPPORTING H-20 LOADS.
 - MANHOLE TESTING:
 - MANHOLES SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST.
 - THE MANHOLE VACUUM TEST SHALL CONFORM TO THE FOLLOWING:
 - THE INITIAL VACUUM GAUGE TEST PRESSURE SHALL BE 10 INCHES Hg, AND
 - THE MINIMUM ACCEPTABLE TEST HOLD TIME FOR A 1-INCH Hg PRESSURE DROP TO 9 INCH Hg SHALL BE:
 - NOT LESS THAN 2 MINUTES FOR MANHOLES LESS THAN 10 FEET DEEP IN DEPTH;
 - NOT LESS THAN 2.5 MINUTES FOR MANHOLES 10 TO 15 FEET DEEP; AND
 - NOT LESS THAN 3 MINUTES FOR MANHOLES MORE THAN 15 FEET DEEP.
 - THE MANHOLE SHALL BE REPAIRED AND RETESTED IF THE TEST HOLD TIMES FAIL TO ACHIEVE THE ACCEPTANCE LIMITS IN (B) ABOVE.
 - FOLLOWING COMPLETION OF THE LEAKAGE TEST, THE FRAME AND COVER SHALL BE PLACED ON THE TOP OF THE MANHOLE OR SOME OTHER MEANS USED TO PREVENT ACCIDENTAL ENTRY BY UNAUTHORIZED PERSONS, CHILDREN OR ANIMALS UNTIL THE CONTRACTOR IS READY TO MAKE FINAL ADJUSTMENTS TO GRADE.



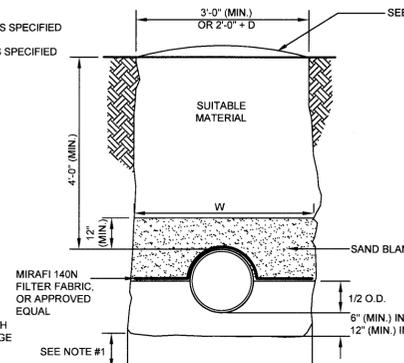
SANITARY SEWER MANHOLE
NOT TO SCALE
(MARCH 2008)



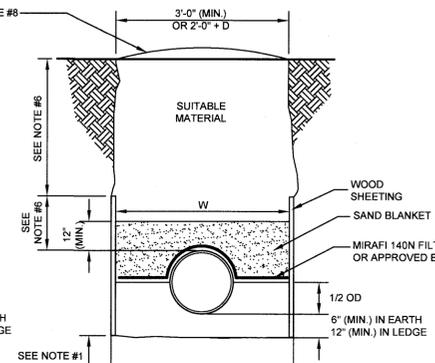
- NOTES:**
- ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO PENNICHUCK WATER WORKS, INC. TECHNICAL SPECIFICATIONS.
 - ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5'-0" FROM TOP OF PIPE TO FINISH GRADE.
 - SEE DETAIL FOR TRENCH SPECIFICATIONS.
 - SEE DETAIL FOR OUTSIDE SERVICE ENTRANCE SPECIFICATIONS.



FOR CONSTRUCTION IN ROADS, ROAD SHOULDER AND WALKWAYS
NOT TO SCALE



CROSS COUNTRY EARTH CONSTRUCTION
NOT TO SCALE



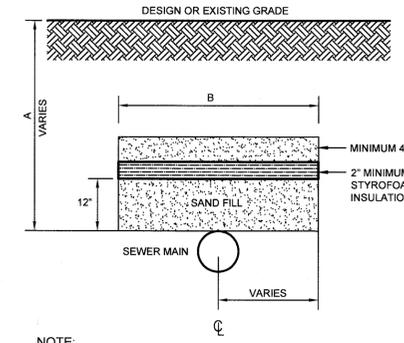
CROSS COUNTRY EARTH CONSTRUCTION WITH SHEETING
NOT TO SCALE

SANITARY SEWER & FORCEMAIN TRENCH DETAIL
NOT TO SCALE
(MARCH 2008)

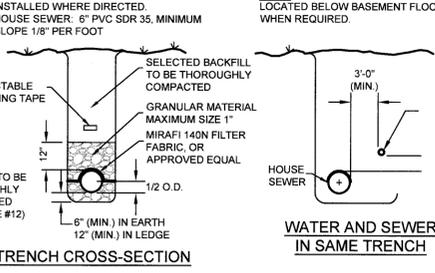
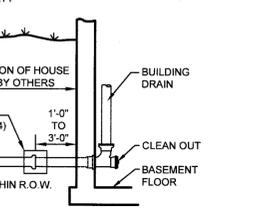
- NOTES:**
- ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE. REFILL WITH BEDDING MATERIAL, ALSO SEE NOTE #7.
 - 100% PASSING 1 INCH SCREEN
90 - 100% PASSING 3/4 INCH SCREEN
20 - 55% PASSING 3/8 INCH SCREEN
0 - 10% PASSING #4 SIEVE
0 - 5% PASSING #8 SIEVE
- WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, GRADED CRUSHED STONE 1/2 INCH TO 1-1/2 INCHES SHALL BE USED.
- SAND BLANKET: GRADED CLEAN SAND FREE FROM ORGANIC MATTER, SO THAT 100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 5% WILL PASS A # 200 SIEVE. BLANKET MAY BE OMITTED FOR CAST IRON, DUCTILE IRON AND REINFORCED CONCRETE PIPE PROVIDED, HOWEVER, THAT NO STONE LARGER THAN 2 INCHES IS IN CONTACT WITH THE PIPE.
 - MIRAFI 140 N FILTER FABRIC, OR APPROVED EQUAL, SHALL BE INSTALLED ABOVE PIPE.

- SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL AND ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.
- IN CROSS COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT IF HE/SHE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER SHALL BE PRESERVED FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WHEN NECESSARY.
- WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.

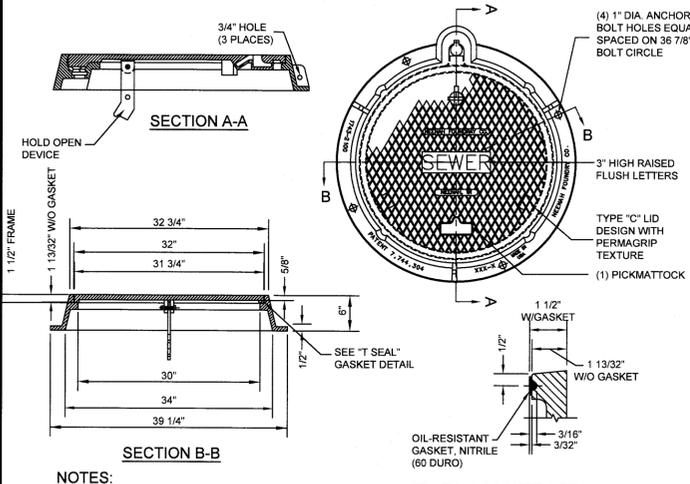
- NOTES:**
- MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE 6 INCHES. MINIMUM SIZE FOR STREET SEWER LINES SHALL BE 8 INCHES.
 - PIPE AND JOINT MATERIALS:
 - DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA):
 - AWWA C150/A21 51-02 - FOR DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL OR SAND-LINED MOLDS, FOR WATER OR OTHER LIQUIDS;
 - AWWA C150/A21 50-02 - FOR THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A536-84 (2004) DUCTILE IRON CASTINGS;
 - JOINTS SHALL BE MECHANICAL, PUSH-ON OR BALL-AND-SOCKET TYPE.
 - PLASTIC GRAVITY SEWER PIPE AND FITTINGS SHALL COMPLY WITH THE FOLLOWING STANDARDS:
 - ASTM D3034-04A - PVC, SOLID WALL;
 - AT LEAST 46 PSI AT 5% PIPE DIAMETER DEFLECTION, AS MEASURED IN ACCORDANCE WITH ASTM D2241-02 DURING MANUFACTURING; AND
 - JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D3212-96A(2003)E1 AND SHALL BE PUSH-ON OR BELL-AND-SPIGOT TYPE.
 - DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
 - JOINTS SHALL BE DEPENDENT UPON PROPER MATERIALS (SEE NOTE #2) FOR WATER TIGHTNESS, AND ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.
 - SERVICE CONNECTIONS SHALL USE SANITARY FITTINGS FOR ALL NEW CONSTRUCTION. THE CENTERLINE OF ALL BUILDING CONNECTIONS SHALL ENTER THE TOP HALF OF THE SEWER. IF A CHECK VALVE IS USED AT THE PROPERTY LINE, THE VALVE SHALL BE INSTALLED WITHIN A VAULT TO FACILITATE MAINTENANCE. ROOF DOWNSPOUTS, EXTERIOR OR INTERIOR FOUNDATION DRAINS, SUMP PUMPS OR OTHER SOURCE OF SURFACE WATER RUN-OFF OR GROUND WATER SHALL NOT BE DIRECTLY OR INDIRECTLY CONNECTED TO A PUBLIC SEWER.
 - PIPE INSTALLATION:
 - THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER.
 - PIPES SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL.
 - BEDDING AND RE-FILL, FOR A DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE, SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH THE APPROPRIATE MECHANICAL DEVICES.
 - THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE HOUSE FOUNDATION AT A GRADE OF NOT LESS THAN 1/8 INCH PER FOOT.
 - PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.
 - TESTING: THE COMPLETED HOUSE SEWER SHALL BE SUBJECT TO VACUUM TESTING.
 - ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM TOILETS, SINKS, LAUNDRY, ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR ANY OTHER SIMILAR CONNECTION CARRYING RAIN WATER, DRAINAGE OR GROUND WATER, SHALL NOT BE PERMITTED.
 - WATER SERVICE SHALL NOT BE LAID IN THE SAME TRENCH AS THE SEWER SERVICE. WHEN NECESSARY, THE WATER SERVICE SHALL BE PLACED ABOVE AND TO ONE SIDE OF THE SEWER SERVICE, AS SHOWN.
 - LOCATION: THE LOCATION OF THE WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION A FERROUS MATERIAL, ROD OR PIPE SHALL BE PLACED OVER THE WYE TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPE FINDER.
 - UNLESS OTHERWISE NOTED, ALL GRANULAR MATERIAL SHALL BE PLACED IN 12" MAXIMUM LIFTS AND COMPACTED TO 95% OF THE MODIFIED PROCTOR TEST DENSITY.



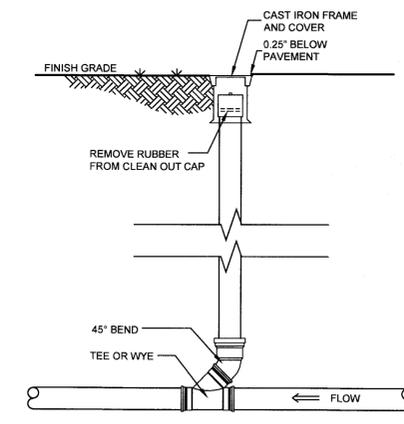
SEWER MAIN INSULATION DETAIL
NOT TO SCALE



TRENCH CROSS-SECTION
NOT TO SCALE



SEWER MANHOLE FRAME AND LID DETAIL
NOT TO SCALE



CLEANOUTS ON SERVICE LATERALS (4" OR 6")
NOT TO SCALE
(MARCH 2008)

- W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D. W SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
- FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUND TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES DESIGN STANDARDS REQUIRE 10 FEET OF SEPARATION BETWEEN WATER AND SEWER. HOWEVER, SHOULD CONSTRUCTION REVEAL OR EXPOSE A WATERLINE (MAIN OR SERVICE) RUNNING APPROXIMATELY PARALLEL AND LESS THAN 10 FEET HORIZONTALLY FROM THE PROPOSED SEWER INSTALLATION AND WHERE IT IS NOT PRACTICAL TO RELOCATE THE SEWER, A DEVIATION MAY BE GRANTED PROVIDED THAT THE SEWER IS CONSTRUCTED IN ACCORDANCE WITH THE FORCE MAIN CONSTRUCTION REQUIREMENT SPECIFIED BELOW.
 - FORCEMAINS SHALL BE CONSTRUCTED FROM DUCTILE IRON, HIGH DENSITY POLYETHYLENE, OR PVC PER ENV-WQ 704.06(6).
 - PVC SHALL CONFORM TO ASTM D2241-06 OR ASTM D1785-05.
 - HDPE SHALL CONFORM TO ASTM D3335-03a.
 - DI SHALL BE CORROSION PROTECTED IN CORROSIVE ENVIRONMENTS.
- WHERE WATER LINES AND SEWER LINES CROSS, THEY SHOULD CROSS AS PERPENDICULAR AS POSSIBLE AND THE WATER MAIN SHALL CROSS AT LEAST 18" ABOVE THE SEWER. FURTHER, THE SEWER JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATER MAIN.
- ALL SEWERS AT 8 PERCENT SLOPE, OR GREATER, SHALL HAVE IMPERVIOUS TRENCH DAMS CONSTRUCTED EVERY 300 FEET.
- UNLESS OTHERWISE NOTED, ALL GRANULAR MATERIAL SHALL BE PLACED IN 12" LIFTS AND COMPACTED TO 95% OF THE MODIFIED PROCTOR TEST.
- WHERE WATER MAINS CROSS UNDER SEWER MAINS, BOTH THE SEWER AND WATER MAINS SHALL BE PRESSURE RATED PIPE PER ENV-WQ 704.06 AND TESTED PER AWWA C600-05 AT 1.5 TIMES DESIGN PRESSURE OR 100 PSI, WHICHEVER IS GREATER, WITH NO JOINTS WITHIN 8 FEET OF THE CROSSING POINT AND 18" MINIMUM VERTICAL SEPARATION. GRAVITY PIPE SEWER TESTING:
 - ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE OF LOW-PRESSURE AIR TESTS.
 - LOW-PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH:
 - ASTM F1417-02 (2005) "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW-PRESSURE AIR," OR
 - UNI-BELL PVC PIPE ASSOCIATION UNI-B-6, "LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE" (1998).
 - ALL NEW GRAVITY SEWERS SHALL BE CLEANED AND VISUALLY INSPECTED AND SHALL BE TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE.
 - ALL PLASTIC SEWER PIPE SHALL BE DEFLECTION TESTED NOT LESS THAN 30 DAYS FOLLOWING INSTALLATION.
 - THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 7-1/2 PERCENT OF AVERAGE INSIDE DIAMETER.

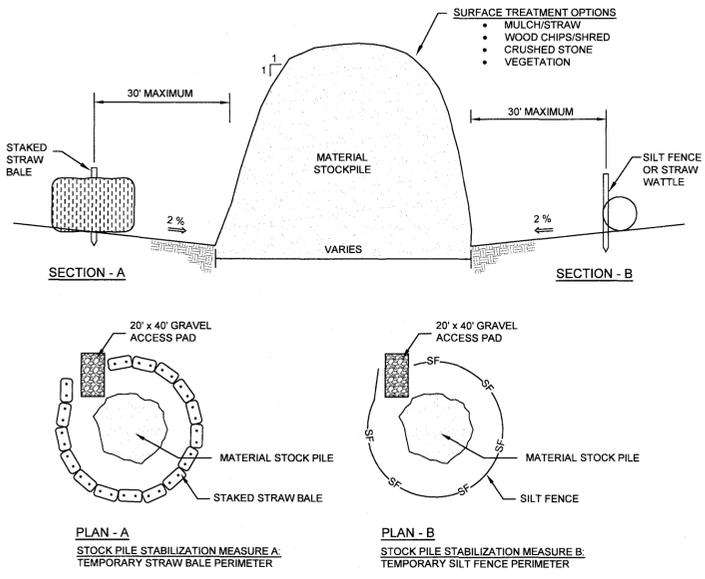
CONSTRUCTION DETAILS
COOLIDGE AVENUE ESTATES
MAP 838 LOT 47
685 COOLIDGE AVENUE
MANCHESTER, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER / APPLICANT:
COOLIDGE AVE. ESTATES, LLC
253 MAIN STREET
NASHUA, N.H. 03060
H.C.R.D. BK. 8849 PG. 2317

KMA KEACH-NORDSTROM ASSOCIATES, INC.
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REVISIONS			
No.	DATE	DESCRIPTION	BY
1	7/1/20	REVISIONS PER STAFF REVIEW	MP
2	7/1/20	REV. PER DPW, EPD, & PLANNING	ACL
3	8/28/20	REVISED PER COMMENTS	GFC

DATE: APRIL 28, 2020 SCALE: AS-NOTED
PROJECT NO: 19-0123-1 SHEET 18 OF 20



GENERAL NOTES:

- THIS PROJECT DOES ANTICIPATE THE NEED OR USE OF STANDING STOCKPILES FOR GREATER THAN 24 HOURS. ALL MATERIALS WILL EITHER BE IMMEDIATELY REMOVED OR PLACED WITHIN THE ACTIVE PROJECT LIMITS.
- ALL MATERIAL STOCK PILES LEFT STANDING GREATER THAN 72 HOURS WILL REQUIRE PERIMETER MEASURES (A OR B), AS NOTED ABOVE.
- NO TEMPORARY OR PERMANENT MATERIAL STOCKPILES WILL BE PERMITTED WITHIN THE PROJECT LIMITS FOLLOWING PROJECT SUBSTANTIAL COMPLETION.

STOCK PILE STABILIZATION
NOT TO SCALE

TURF ESTABLISHMENT SCHEDULE

PURPOSE:

TO ESTABLISH AND MAINTAIN PERMANENT AND TEMPORARY TURF AREAS, RESTORE GROWTH TO EXISTING TURF AREAS DISTURBED DURING CONSTRUCTION AND CONTROL SOIL EROSION.

PREPARATION AND EXECUTION:

- RAKE THE SUBGRADE OF ALL AREAS TO BE LOAMED AND SEEDED TO REMOVE RUBBISH, STICKS, ROOTS AND STONES LARGER THAN 1 INCH.
- PLACE LOAM OVER AREAS TO BE SEEDED AND SPREAD.
- FINE GRADE SURFACE AND SUPPLEMENT WITH SUITABLE LOAM WHERE NEEDED TO CREATE A UNIFORM SURFACE ACCORDING TO THE FINISH GRADES INDICATED. TOP AND BOTTOM OF SLOPES SHALL BE ROUNDED. NO LOAM SHALL BE SPREAD IF THE SUBGRADE IS EXCESSIVELY WET OR FROZEN.
- APPLY LIME EVENLY OVER LOAM SURFACE AND THOROUGHLY INCORPORATE LIME INTO THE LOAM BY HEAVY RAKING TO AT LEAST ONE-HALF THE DEPTH OF THE LOAM.
- APPLY NO PHOSPHATE, SLOW RELEASE FERTILIZER AND MIX WITH THE UPPER 2 INCHES OF LOAM.
- DETERMINE APPROPRIATE MIXTURE FOR AREA TO BE SEEDED BASED ON EXAMINATION OF PROJECT PLANS. UNIFORMLY SPREAD THE SEED BY BROADCASTING OR HYDROSEEDING. IF BROADCASTING, LIGHTLY RAKE INTO THE PREPARED SURFACE AND ROLL. IF HYDROSEEDING, USE 4 TIMES THE RECOMMENDED RATE OF INOCULANT. AFTER SEED IS SPREAD, WATER THOROUGHLY WITH A FINE SPRAY.
- SEEDING FOR PERMANENT COVER SHALL OCCUR BETWEEN SEPTEMBER 15 AND OCTOBER 15 AND BETWEEN APRIL 15 AND JUNE 15. SEEDING SHALL NOT BE DONE DURING WINDY WEATHER, WHEN THE GROUND IS FROZEN OR EXCESSIVELY WET OR OTHERWISE UNTILLABLE.
- WITHIN 24 HOURS AFTER SEEDING OPERATION, UNIFORMLY MULCH THE AREA WITH STRAW. ANCHOR MULCH ON ALL SLOPES EXCEEDING 3:1 USING MULCH NETTING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER.
- PROTECT AND PREVENT AGAINST WASHOUTS. ANY WASHOUTS WHICH OCCUR SHALL BE PROMPTLY REGRADED AND RESEED.
- WHEN IT IS IMPRACTICAL TO ESTABLISH PERMANENT GROWTH ON DISTURBED EARTH BY SEEDING, A TEMPORARY SEED MIXTURE SHALL BE USED. WHEN TEMPORARY SEEDING CANNOT ESTABLISH VISIBLE GROWTH, THE DISTURBED AREA SHALL BE COVERED WITH SIX INCHES OF MULCH FOR THE WINTER.

MAINTENANCE:

ALL SEEDED AREAS SHALL BE KEPT WATERED AND IN GOOD CONDITION. RESEED AS NECESSARY TO ESTABLISH HEALTHY UNIFORM GROWTH OVER THE ENTIRE SEEDED AREA. MAINTAIN SEEDED AREAS IN AN APPROVED CONDITION UNTIL FINAL ACCEPTANCE. MAINTENANCE SHALL INCLUDE REPAIRS FOR DAMAGE CAUSED BY EROSION.

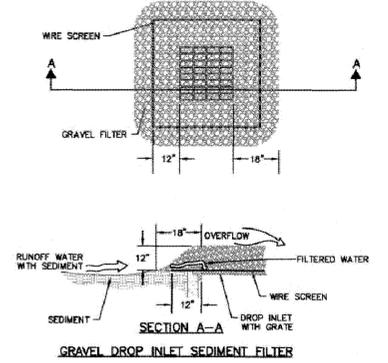
APPLICATION RATES:

- LOAM SHALL BE APPLIED AT A MINIMUM COMPACTED THICKNESS OF 4 INCHES.
- LIME SHALL BE APPLIED AT A RATE OF 75 TO 100 POUNDS PER 1,000 S.F.
- FERTILIZER SHALL BE APPLIED AT A RATE OF 30 POUNDS PER 1,000 S.F. IT IS RECOMMENDED THAT THE SOIL BE TESTED PRIOR TO APPLYING ANY FERTILIZERS TO DETERMINE WHAT LEVELS AND RATES ARE NECESSARY.
- SEED MIXTURE FOR LAWN AREAS SHALL BE APPLIED AT A RATE OF AT LEAST 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
- TEMPORARY SEED MIXTURE SHALL BE APPLIED AT A RATE OF 2 POUNDS PER 1,000 S.F.
- SEED MIXTURE FOR SLOPE AREAS SHALL BE APPLIED AT A RATE OF 80 POUNDS PER ACRE OR 2 POUNDS PER 1,000 S.F.
- SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS SHALL BE APPLIED AT A RATE OF 70 POUNDS PER ACRE OR 1.6 POUNDS PER 1,000 S.F.
- MULCH SHALL BE APPLIED AT A RATE OF 90 POUNDS PER 1,000 S.F.

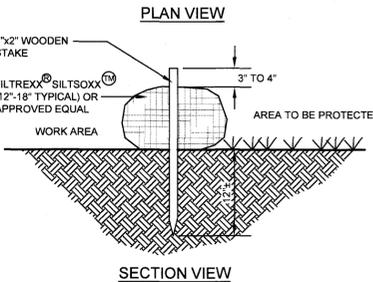
MATERIALS:

- LOAM USED FOR TOPSOIL SHALL BE FRIABLE, FERTILE, NATURAL FREE-DRAINING LOAM, FREE OF ROOTS, GRASS, STICKS, WEEDS, CLAY, SOD LUMPS, DEBRIS AND STONES LARGER THAN 1 INCH IN ANY DIMENSION. SOIL SHALL NOT BE EXCESSIVELY ACID OR ALKALINE AND CONTAIN NO TOXIC MATERIALS.
- LIME SHALL BE GROUND LIMESTONE CONTAINING NO LESS THAN 95% CALCIUM AND MAGNESIUM CARBONATES.
- FERTILIZER SHALL BE NO PHOSPHORUS, SLOW RELEASE.
- SEED MIXTURE FOR LAWN AREAS SHALL BE 99% PURE LIVE SEED AND CONSIST OF THE FOLLOWING:
 - 25% CREEPING RED FESCUE
 - 25% KENTUCKY BLUEGRASS
 - 25% REDTOP
 - 25% MANHATTAN PERENNIAL RYEGRASS
- TEMPORARY SEEDING MIXTURE SHALL BE AN APPROVED CONSERVATION MIX OR CONSIST OF THE FOLLOWING:
 - 15% BLACKWELL OR SHELTER SWITCHGRASS
 - 30% NIAGRA OR KAW BIG BLUESTEM
 - 30% CAMPER OR BLAZE LITTLESTEM
 - 15% NE-27 OR BLAZE SAND LOVEGRASS
 - 10% VIKING BIRDSFOOT TREFLOIL
 INOCULUM SPECIFIC TO BIRDSFOOT TREFLOIL MUST BE USED WITH THIS MIXTURE. IF SEEDING BY HAND, A STICKING AGENT SHALL BE USED. IF SEEDING WITH A HYDROSEEDER, USE FOUR TIMES THE RECOMMENDED AMOUNT OF INOCULUM.
- SEED MIXTURE FOR SLOPE AREAS SHALL BE 99% PURE LIVE SEED AND SHALL CONSIST OF THE FOLLOWING:
 - 30% CREEPING RED FESCUE
 - 40% PERENNIAL RYE GRASS
 - 15% REDTOP
 - 15% BIRDSFOOT TREFLOIL
 IN ADDITION TO THE MIX SPECIFIED ABOVE, CROWN VETCH SHALL BE USED ON ALL SLOPES STEEPER THAN 3:1. CROWN VETCH SHALL BE APPLIED AT A RATE OF 10 POUNDS PER ACRE AND INOCULUM SPECIFIC TO CROWN VETCH MUST BE USED.
- SEED MIXTURE FOR STORMWATER MANAGEMENT AREAS, INCLUDING DETENTION BASINS AND VEGETATED TREATMENT SWALES SHALL CONSIST OF THE FOLLOWING:
 - 25% CREEPING RED FESCUE
 - 15% SWITCH GRASS
 - 15% FOX SEDGE
 - 15% CREEPING BENTGRASS
 - 10% FLATPEA
 - 20% WILDFLOWER VARIETY
- STRAW USED FOR MULCH SHALL CONSIST OF MOWED AND PROPERLY CURED GRASS OR LEGUME MOWINGS, FREE FROM WEEDS, TWIGS, DEBRIS OR OTHER DELETERIOUS MATERIAL AND ROT OR MOLD.
- NATIVE PLANTINGS SHOULD BE USED FOR ALL NEW GREENSCAPES.
- ALL WILDFLOWER SEEDING MIXES SHOULD BE FREE OF INVASIVE SPECIES.

GRAVEL DROP INLET SEDIMENT FILTER
NOT TO SCALE
FIGURE 845-1



- HARDWARE CLOTH OR WIRE MESH SHALL BE PLACED OVER THE GRATE AND CURB INLET OPENINGS AND EXTENDED AT LEAST 12 INCHES THE GRATE EDGE.
- WELL GRADED CLEAN STONE (1" MIN, 3" MAX) SHALL BE PLACED ON TOP OF WIRE MESH TO A DEPTH OF 12 INCHES OVER THE GRATE.



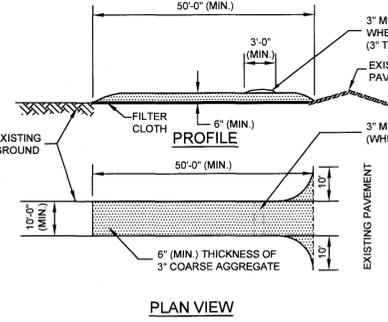
NOTES:

- ALL MATERIAL TO MEET FILTREX[®] SPECIFICATIONS.
- SILTSOX[®] COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
- SILTSOX[®] DEPICTED IS FOR MINIMUM SLOPES. GREAT SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
- COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

FILTREX[®] SILTSOX[®] DETAIL
NOT TO SCALE
(AUGUST 2011)

WINTER CONSTRUCTION NOTES:

- ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 4:1. AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING ELSEWHERE. THE PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3 OR, IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON, BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
- AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
 - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
 - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.



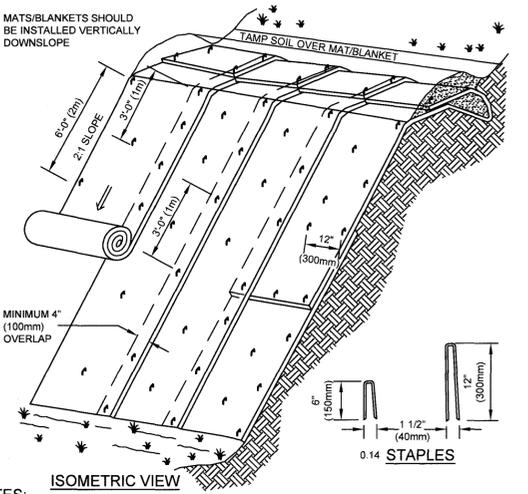
STABILIZED CONSTRUCTION EXIT DETAIL
NOT TO SCALE

MAINTENANCE:

- MUD AND SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE CRUSHED STONE AND THE EFFECTIVENESS OF THE CRUSHED STONE PAD WILL NOT BE SATISFACTORY. WHEN THIS OCCURS, THE PAD SHOULD BE TOPDRESSED WITH NEW CRUSHED STONE OR COMPLETE REPLACEMENT OF THE PAD MAY BE NECESSARY WHEN THE PAD BECOMES COMPLETELY CLOGGED.
- IF WASHING FACILITIES ARE USED, THE SEDIMENT TRAPS SHOULD BE CLEANED OUT AS OFTEN AS NECESSARY TO ASSURE THAT ADEQUATE TRAPPING EFFICIENCY AND STORAGE VOLUME IS AVAILABLE. VEGETATIVE FILTER STRIPS SHOULD BE MAINTAINED TO INSURE A VIGOROUS STAND OF VEGETATION AT ALL TIMES.

CONSTRUCTION SPECIFICATIONS:

- STONE FOR A STABILIZED CONSTRUCTION EXIT SHALL BE 1 TO 2 INCH STONE, RECLAIMED STONE OR RECYCLED CONCRETE EQUIVALENT.
- THE LENGTH OF THE STABILIZED EXIT SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
- THE THICKNESS OF THE STONE FOR THE STABILIZED EXIT SHALL NOT BE LESS THAN 6 INCHES.
- THE WIDTH OF THE EXIT SHALL NOT BE LESS THAN THE FULL WIDTH OF THE AREA WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
- GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
- ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION EXIT SHALL BE PIPED BENEATH THE EXIT. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
- THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
- WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.



NOTES:

- SLOPE SURFACE SHALL BE FREE OF ROCKS, CLOUDS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
- APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
- LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
- EROSION BLANKETS TO BE BCN150 OR AN APPROVED ALTERNATIVE WHICH MUST CONSIST OF ALL NATURAL FIBERS.

EROSION CONTROL BLANKETS - SLOPE INSTALLATION
NOT TO SCALE
(AUGUST 2011)

CONSTRUCTION SEQUENCE

- THIS PROJECT IS PHASED TO ENSURE THAT NO MORE THAN 5 ACRES IS DISTURBED AT ANY ONE TIME. EACH PHASE MUST BE STABILIZED BEFORE PROCEEDING TO A SUCCESSIVE PHASE.
- FIRST CUT AND CLEAR TREES AND BRUSH OR WITHIN DESIGNATED LIMITS OF CLEARING AS NECESSARY TO FACILITATE PROPOSED CONSTRUCTION. ALL TREES, BRANCHES AND OTHER VEGETATIVE MATERIALS SHALL BE PROPERLY DISPOSED OF OFF SITE BY THE CONTRACTOR. THIS PROJECT IS MANAGED TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
- PRIOR TO COMMENCEMENT OF ANY EARTHMOVING OPERATIONS, ALL APPLICABLE TEMPORARY EROSION CONTROL MEASURES, INCLUDING SPECIFIED PERIMETER SILTATION FENCING AND STABILIZED CONSTRUCTION EXIT SHALL BE IN PLACE AS SHOWN ON THE PROJECT PLANS.
- COMPLETE GRUBBING OPERATIONS. ALL STUMPS AND SIMILAR ORGANIC DEBRIS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR. NATIVE ORGANIC SOIL MATERIALS SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED WITHIN AREAS OUT OF THE WAY OF OTHER CONSTRUCTION ACTIVITIES AND DRAINAGE FLOW. STOCKPILES SHALL BE TEMPORARILY SEEDED WITH WINTER RYE AND BE SURROUNDED WITH STRAW BALES AND/OR FABRIC SILTATION FENCE IN ORDER TO PREVENT LOSS DUE TO EROSION.
- BEGIN EARTHMOVING OPERATIONS, COMMENCING WITH WORK NEEDED TO BALANCE SITE AND FACILITATE BUILDING FOUNDATION AND RETAINING WALL CONSTRUCTION. PERMANENT DOWNSLOPE WORK SHALL BE PROTECTED FROM UPGRADIENT STORMWATER FLOW BY THE CONSTRUCTION OF TEMPORARY EARTHEN DIKES OR EXCAVATED SWALES.
- ONCE BUILDING FOUNDATION WORK IS UNDERWAY, CONTINUE EARTHMOVING OPERATIONS UNTIL DESIGN SUBGRADE IS ACHIEVED.
- DETENTION BASINS/SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
- DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL SOILS ARE STABILIZED.
- INSTALL DRAINAGE SYSTEMS AND UTILITIES WORKING FROM LOW TO HIGH. INCOMPLETE WORK SHALL BE PROTECTED FROM SILTATION BY THE USE OF SILTATION BARRIERS AROUND SWALES UNTIL THE SITE HAS BECOME FULLY STABILIZED.
- DEEPLY TILL THE BASE OF THE INFILTRATION BASIN TO RESTORE INFILTRATION RATES FOLLOWED BY A PASS WITH A LEVELING DRAG. STORMWATER FLOWS ARE NOT TO BE DIRECTED TO THE INFILTRATION AREA UNTIL CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
- PLACE GRAVEL AND CRUSHED GRAVEL OVER PROPOSED DRIVEWAY, WALKS AND PARKING AREAS AND COMPACT IN SPECIFIED LIFT THICKNESS.
- COMPLETE EXCAVATION/STABILIZATION GRADING ACTIVITIES. WHEN COMPLETE, IMMEDIATELY BEGIN TOPSOILING PROPOSED TURF AREAS USING STOCKPILED LOAM SUPPLEMENTED WITH BORROW LOAM, IF NECESSARY, TO LEAVE A THICKNESS OF 4 INCHES OF FRIABLE LOAM.
- FINE GRADE ALL FUTURE TURF AREAS AND HYDROSEED WITH THE SPECIFIED SEED MIXTURE IMMEDIATELY AFTER FINE GRADING IS COMPLETED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
- INSTALL THE BINDER COURSE OF PAVEMENT OVER ALL DESIGNATED AREAS.
- CONTINUE TO MONITOR AND RECTIFY MINOR SITE AND SLOPE EROSION UNTIL ENTIRE SITE APPEARS TO BE COMPLETELY STABILIZED AND VEGETATED WITH A HEALTHY STAND OF TURF OR GROUND COVER. MAINTAIN SPECIFIED SILTATION/EROSION CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PERIOD.
- INSTALL THE SPECIFIED WEARING COURSE OF PAVEMENT OVER THE BINDER COURSE.
- COMPLETE INSTALLATION OF LANDSCAPING, SIGNAGE AND OTHER SITE AMENITIES.

CERTIFICATE OF OCCUPANCY PHASING PLAN AGREEMENT:

- THE FOLLOWING SITE IMPROVEMENTS ARE REQUIRED FOR INDIVIDUAL CERTIFICATES OF OCCUPANCY AS CONSTRUCTION PROGRESSES:
 - ROAD BASE COAT;
 - STOP SIGNS AND TEMPORARY STRIPING OF STOP BARS;
 - GRADING AND DRAINAGE;
 - LOAM AND SEED THAT SUPPORTS THE SUBJECT UNIT OF THE CERTIFICATE OF OCCUPANCY;
 - TEMPORARY STRIPING OF VISITOR PARKING; AND
 - UTILITIES.

EROSION CONTROL NOTES

- EXPOSED EARTHWORK SHALL BE CONFINED TO AS LIMITED AN AREA AS IS PRACTICAL AT ANY GIVEN TIME THROUGHOUT THE CONSTRUCTION SEQUENCE. AT NO TIME SHALL MORE THAN FIVE (5) ACRES OF SITE AREA BE IN AN UNSTABLE CONDITION UNLESS AN ENVIRONMENTAL MONITOR IS EMPLOYED THROUGHOUT THE DURATION OF CONSTRUCTION. NO GIVEN AREA OF THE SITE SHALL BE LEFT IN AN UNSTABILIZED CONDITION FOR A PERIOD OF TIME EXCEEDING FORTY-FIVE (45) CALENDAR DAYS.
- TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PROJECT PLANS. IN ADDITION, SIMILAR MEASURES SHALL BE INSTALLED WHERE AND WHEN THE FIELD CONDITION, OR FIELD OPERATION OF THE INDIVIDUAL SITE CONTRACTOR, MAY WARRANT. ALL TEMPORARY EROSION CONTROL MEASURES USED SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER 0.25" OF RAINFALL OR MORE. THEY SHALL BE CLEANED AND MAINTAINED AND OTHERWISE KEPT IN AN EFFECTIVE OPERATING MANNER THROUGHOUT THE CONSTRUCTION PERIOD.
- ALL DISTURBED AREAS DESIGNATED TO BE TURF, SHALL RECEIVE A MINIMUM APPLICATION OF 4 INCHES OF LOAM (COMPACTED THICKNESS), PRIOR TO FINAL SEEDING AND MULCHING.
- EROSION CONTROL AND STABILIZATION SHALL BE IN ACCORDANCE WITH HILLSBOROUGH COUNTY CONSERVATION DISTRICT-VEGETATIVE STANDARD AND SPECIFICATIONS FOR SEEDING GRASSES AND LEGUMES FOR LONG-TERM COVER ON EXCAVATED AREAS.
- ALL SWALES AND DITCHLINES SHALL BE PERIODICALLY CLEANED OF DEPOSITED SEDIMENT SO AS TO MAINTAIN AN EFFECTIVE GRADE AND CROSS SECTION. ALL SWALES AND DITCHLINES SHALL BE FULLY STABILIZED PRIOR TO HAVING STORMWATER DIRECTED TOWARDS THEM.
- IN THE EVENT THAT, DURING CONSTRUCTION OF ANY PORTION OF THIS PROJECT, A WINTER SHUTDOWN IS NECESSARY, THE CONTRACTOR SHALL STABILIZE ALL INCOMPLETE WORK AND PROVIDE FOR SUITABLE METHODS OF DIVERTING RUNOFF IN ORDER TO ELIMINATE SHEET FLOW ACROSS FROZEN SURFACES.
- AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - BASE COURSE GRAVELS ARE INSTALLED IN AREAS TO BE PAVED;
 - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED; OR
 - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- DUST SHALL BE CONTROLLED BY THE USE OF WATER AS NECESSARY THROUGHOUT THE CONSTRUCTION PERIOD, IN ACCORDANCE WITH ENV-A 1000.
- IN NO WAY ARE THOSE TEMPORARY EROSION CONTROL MEASURES INDICATED ON THESE PLANS TO BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL USE JUDGEMENT IN INSTALLING SUPPLEMENTARY EROSION CONTROL MEASURES WHERE AND WHEN SPECIFIC SITE CONDITIONS AND/OR CONSTRUCTION METHODOLOGIES MAY WARRANT.
- THE TOWN RESERVES THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES DURING CONSTRUCTION.
- AREAS HAVING FINISH GRADE SLOPES OF 3:1 OR STEEPER, SHALL BE STABILIZED WITH JUTE MATTING WHEN AND IF FIELD CONDITIONS WARRANT, OR IF SO ORDERED. JUTE MATTING INSTALLED TO CONFORM WITH THE RECOMMENDED BEST MANAGEMENT PRACTICE OUTLINED IN VOLUME 3 OF THE NEW HAMPSHIRE STORMWATER MANUAL "EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION."
- DETENTION BASIN/SWALES SHALL BE INSTALLED BEFORE ROUGH GRADING THE SITE.
- DITCHES/SWALES/BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL SOILS ARE STABILIZED.
- ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- CONTRACTOR SHALL INSPECT AND MAINTAIN THE PROPOSED STORMWATER MANAGEMENT SYSTEM (CATCH BASINS, FOREBAY, INFILTRATION BASIN) FOLLOWING STABILIZATION OF THE SITE AND FINAL PAVING PRIOR TO THE SYSTEM BECOMING OPERATIONAL.

CONSTRUCTION DETAILS
COOLIDGE AVENUE ESTATES
MAP 838 LOT 47
685 COOLIDGE AVENUE
MANCHESTER, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

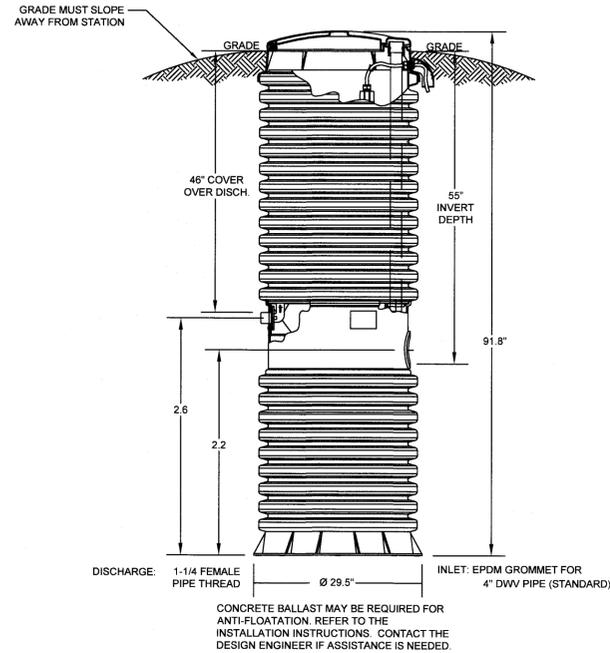
OWNER / APPLICANT:
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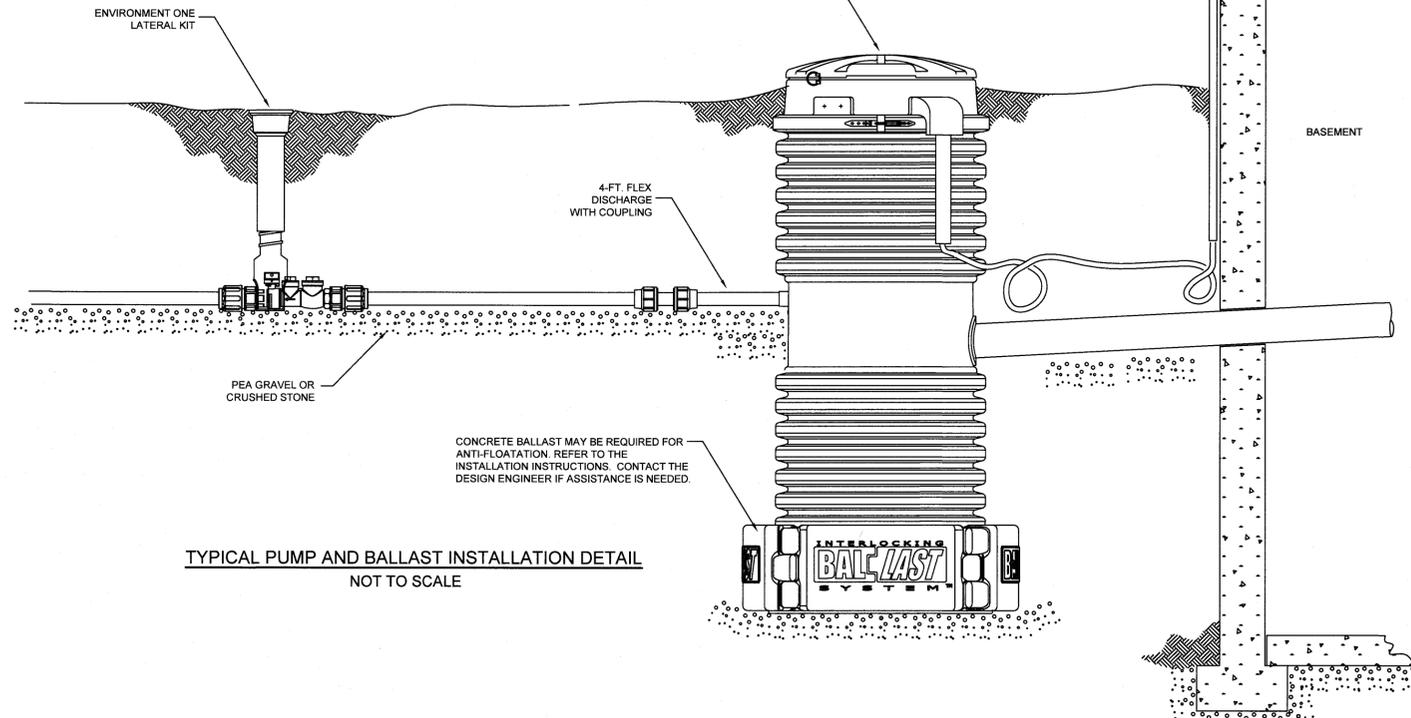


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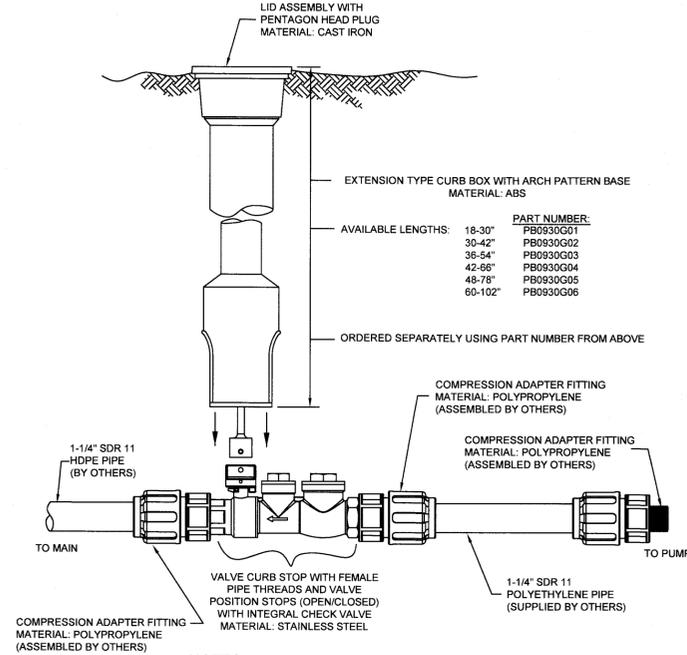
DATE: APRIL 28, 2020 SCALE: AS-NOTED
PROJECT NO: 19-0123-1 SHEET 19 OF 20



TYPICAL ENVIRONMENTAL ONE PUMP STATION DETAIL
NOT TO SCALE
(JULY 2007)

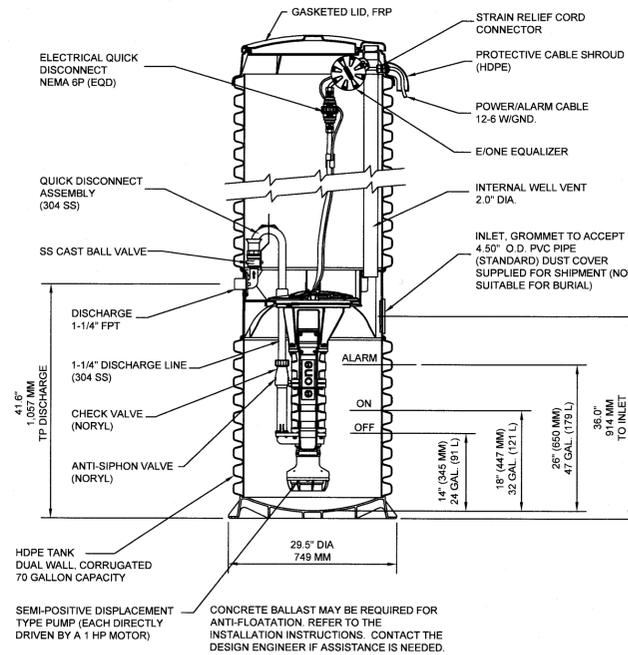


TYPICAL PUMP AND BALLAST INSTALLATION DETAIL
NOT TO SCALE



- NOTES:**
- SS CURB STOP/CHECK VALVE AND FITTINGS ARE PROVIDED SEPARATELY, TO BE ASSEMBLED BY OTHERS.
 - TO ASSEMBLE, APPLY A DOUBLE LAYER OF TEFLON TAPE, AND A LAYER OF PIPE DOPE (SUPPLIED BY OTHERS) TO THE THREADS ON THE PLASTIC FITTINGS AND INSTALL PER THE MANUFACTURER'S INSTRUCTIONS.
 - ASSEMBLY IS TO BE PRESSURE TESTED (BY OTHERS).
 - ASSEMBLY IS TO BE USED WITH SDR 11 HDPE PIPE.
 - TO ORDER SS LATERAL KIT, USE PART NUMBER N0193G01.
 - CURB BOX IS TO BE ORDERED SEPARATELY, SEE ABOVE.

CURB SHUT OFF DETAIL
NOT TO SCALE



E-ONE PUMP DETAIL
NOT TO SCALE

CONSTRUCTION DETAILS
COOLIDGE AVENUE ESTATES
MAP 838 LOT 47
685 COOLIDGE AVENUE
MANCHESTER, NEW HAMPSHIRE
HILLSBOROUGH COUNTY

OWNER / APPLICANT:
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253 MAIN STREET
NASHUA, N.H. 03060
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REVISIONS			
No.	DATE	DESCRIPTION	BY
1	7/1/20	REVISIONS PER STAFF REVIEW	MJP
2	7/1/20	REV. PER DFW, EPD, & PLANNING	ACL
3	8/28/20	REVISED PER COMMENTS	GFC

DATE: APRIL 28, 2020 SCALE: AS-NOTED
PROJECT NO: 19-0123-1 SHEET 20 OF 20