

## GENERAL INFORMATION

### OWNER

MAP 22, PARCEL 115 & 116  
GODDARD FAMILY TRUST  
THOMAS GODDARD TR  
P.O. BOX 666  
NORTH READING, MA 01864

### APPLICANT

EBI MASALEHDAN  
26 OLD CARRIAGE PATH  
GROTON, MA 01450  
(978) 649-1970

### PREPARED FOR

EBI MASALEHDAN  
26 OLD CARRIAGE PATH  
GROTON, MA 01450

### RESOURCE LIST

PLANNING/  
ZONING DEPARTMENT  
55 MAIN STREET, WESTFORD, MA  
(978) 692-5524  
JEFFREY MORISSETTE

### BOARD OF HEALTH

55 MAIN STREET, WESTFORD, MA  
(978) 399-2553  
RAE DICK

### BUILDING DEPT

55 MAIN STREET, WESTFORD, MA  
(978) 692-5527  
MATTHEW HAKALA

### ENGINEERING DEPARTMENT

28 NORTH STREET, WESTFORD, MA  
(978) 692-5520  
PAUL M. STARRATT, P.E.

### WATER DEPARTMENT

55 MAIN STREET, WESTFORD, MA  
(978) 692-5529  
STEPHEN CRONIN

### CONSERVATION COMMISSION

55 MAIN STREET, WESTFORD, MA  
(978) 692-5524  
CAROL GUMBART

### FIRE DEPARTMENT

51 MAIN STREET, WESTFORD, MA  
(978) 692-5542  
JOESPEH TARG

### POLICE DEPARTMENT

53 MAIN STREET, WESTFORD, MA  
(978) 692-2161  
THOMAS MCENANEY

### ABUTTERS

MAP 22, PARCEL 3-4  
TOWN OF WESTFORD  
55 MAIN ST, WESTFORD, MA

MAP 22, PARCEL 3-5  
ORCHARD HILL TRUST  
C/O LAURA WALTER  
22 BLAKES HILL RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-100  
BOSTON ROAD HOMES, LLC  
487 GROTON RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-101  
ELIZABETH JEAN MITCHELL  
2 JOE'S WAY, WESTFORD, MA 01886

MAP 22, PARCEL 3-102  
BEVERLY ELWELL  
4 JOE'S WAY, WESTFORD, MA 01886

MAP 22, PARCEL 3-103  
NICHOLAS E. & LISA M. ABBOTT  
6 JOE'S WAY, WESTFORD, MA 01886

MAP 22, PARCEL 3-104  
NICHOLAS CARDONE  
8 JOE'S WAY, WESTFORD, MA 01886

MAP 22, PARCEL 3-105  
PAGNA M. & JULIE A. KONG  
22 PORTER RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-106  
PETER FOLEY  
20 PORTER RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-107  
AYE AYE LWIN & KHIN MAUNG OO  
18 PORTER RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-108  
CHRISTOPHER ANNAND  
16 PORTER RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-109  
NICOLE M. TRACEY  
14 PORTER RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-110  
THING TUAN CAO  
12 PORTER RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-111  
DYLAN R. PALMER  
10 PORTER RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-112  
MICHELLE WILLIAMS  
8 PORTER RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-113  
DEAMORIM NORTON & VALERIA AMORIM  
6 PORTER RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-114  
STEFANIE M. GOOD  
4 PORTER RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-115  
BAEK HAESEON  
2 PORTER RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-116  
SHARON ELIZABETH SPANOS  
1 PORTER RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-117  
GEORGE MAUREEN  
3 PORTER RD, WESTFORD, MA 01886

MAP 22, PARCEL 3-118  
LORI A. DERVAN  
6 ADELIN LANE, WESTFORD, MA 01886

MAP 22, PARCEL 3-119  
ELAINE FOURNIER-LEMAY  
4 ADELIN LANE, WESTFORD, MA 01886

MAP 22, PARCEL 3-120  
ALEXANDER C. DIBISCEGLIE  
2 ADELIN LANE, WESTFORD, MA 01886

MAP 22, PARCEL 5  
JULIETTE T. MOUNT  
51 BOSTON RD, WESTFORD, MA 01886

MAP 22, PARCEL 6-4  
STEPHEN C. & SHIRLEY MACDOUGALL  
47 BOSTON RD, WESTFORD, MA 01886

MAP 22, PARCEL 6-5  
SUN & HAN YONG MOON  
49 BOSTON RD, WESTFORD, MA 01886

MAP 22, PARCEL 83  
TOWN OF WESTFORD  
55 MAIN ST, WESTFORD, MA 01886

MAP 22, PARCEL 105  
BRAD R. & JESSICA O. GILBERT  
4 KINGS PINE RD, WESTFORD, MA 01886

MAP 22, PARCEL 106  
JOANNE D. FILLEBROWN  
6 KINGS PINE RD, WESTFORD, MA 01886

MAP 22, PARCEL 107  
HARRY BURNHAM LANCASTER &  
JUNE MCMORROW  
8 KINGS PINE RD, WESTFORD, MA 01886

MAP 22, PARCEL 108  
JEFFREY L. & MIRIAM MORGENSTERN  
7 KINGS PINE RD, WESTFORD, MA 01886

MAP 22, PARCEL 109  
JULIE C. BROWN  
5 KINGS PINE RD, WESTFORD, MA 01886

MAP 22, PARCEL 110  
BRIAN S. & AMY B. MERRITT  
3 KINGS PINE RD, WESTFORD, MA 01886

MAP 22, PARCEL 114  
KRISHNAKUMAR & THULASI VELMURUGAN  
50 BOSTON RD, WESTFORD, MA 01886

MAP 22, PARCEL 114-2  
RAGHAVA VINODKUMA  
48 BOSTON RD, WESTFORD, MA 01886

MAP 22, PARCEL 117-1  
TOWN OF WESTFORD  
55 MAIN ST, WESTFORD, MA 01886

MAP 22, PARCEL 117-2  
TOWN OF WESTFORD  
55 MAIN ST, WESTFORD, MA 01886

MAP 22, PARCEL 117-3  
WINDEMERE II TRUST  
PAUL A. BRUNELLE  
13 DREW XING, WESTFORD, MA 01886

MAP 22, PARCEL 117-4  
TOWN OF WESTFORD  
55 MAIN ST, WESTFORD, MA 01886

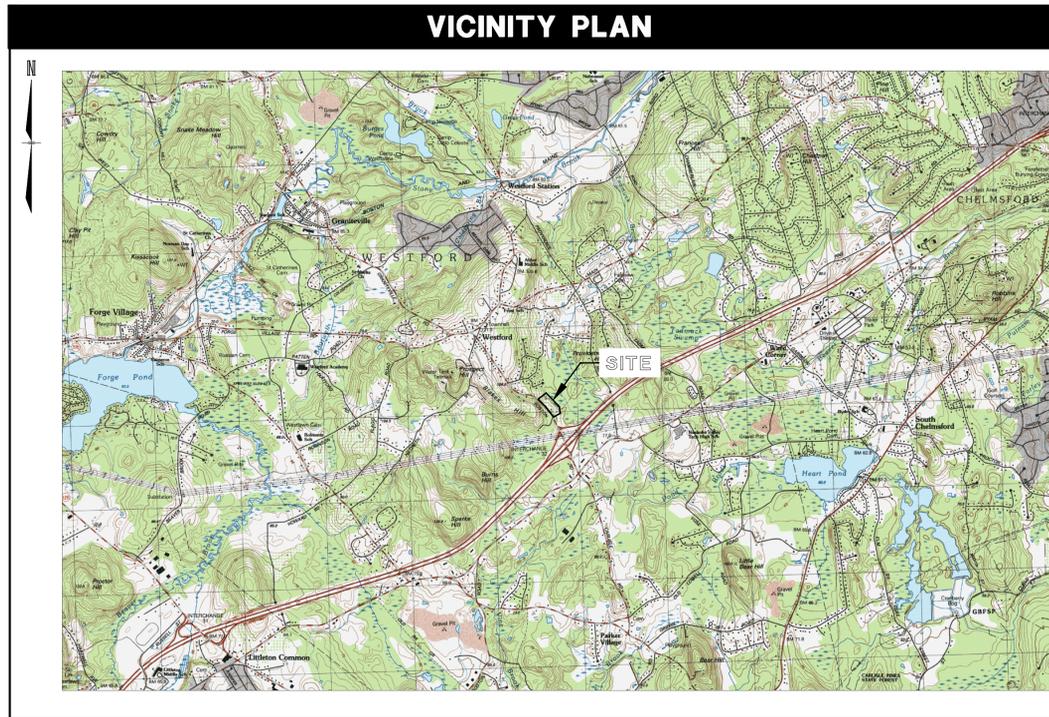
MAP 22, PARCEL 117-16  
TOWN OF WESTFORD  
55 MAIN ST, WESTFORD, MA 01886

MAP 22, PARCEL 117-18  
REALOGY CORPORATION  
CORPORATE REAL ESTATE  
1 CAMPUS DRIVE, PARSIPPANY, NJ 07054

# PROPOSED RESTAURANT

66 BOSTON ROAD  
WESTFORD, MASSACHUSETTS

## VICINITY PLAN



1000 500 0 1000  
SCALE: 1"=1000'



Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

## INDEX OF SHEETS

### SHEET SHEET TITLE

1	COVER SHEET
2	EXISTING CONDITIONS (BY NORSE DESIGN SERVICES, INC.)
3	SITE PREPARATION PLAN
4	SITE LAYOUT PLAN
5	GRADING & DRAINAGE PLAN
6	UTILITY PLAN
7	LANDSCAPE PLAN
8	STORM WATER MANAGEMENT PLAN
9-14	DETAIL SHEETS
L1	LIGHTING PLAN (BY CHARRON LIGHTING, INC.)
A2.0	ARCHITECTURAL ELEVATIONS (BY DOMINIC SICARI ASSOCIATES)
B2.0	SEPTIC DESIGN (BY NORSE DESIGN SERVICES, INC.)

## PERMITS / APPROVALS

	NUMBER	APPROVED	EXPIRES
ZONING BOARD OF APPEALS			
MADEP WETLANDS			
TOWN CONSERVATION COMMISSION			
WESTFORD BOH: SEPTIC			
TOWN SITE PLAN			
TOWN STORMWATER			

## VARIANCES

THE FOLLOWING VARIANCES ARE BEING REQUESTED FROM THE ZONING BOARD OF APPEALS

APPENDIX A:	TO ALLOW THE PROPOSED USE OF A RESTAURANT AND GREENHOUSE FACILITY WITHIN THE RESIDENCE A ZONING DISTRICT
APPENDIX A:	TO ALLOW FOR A MAJOR COMMERCIAL PROJECT WITHIN A RESIDENCE A (RA) ZONING DISTRICT
APPENDIX C:	TO ALLOW FOR A BUILDING HEIGHT IN EXCESS OF 35'
APPENDIX C:	TO ALLOW FOR STRUCTURES (RETAINING WALL) WITHIN THE REAR YARD SETBACK
SECTION 3.1:	TO ALLOW MORE THAN ONE PRINCIPAL USE OR STRUCTURE ON ANY LOT
SECTION 5.15(4):	TO ALLOW A REDUCTION IN REQUIRED LIGHTING FOR PARKING AREAS
SECTION 5.17:	TO ALLOW FOR A REDUCTION IN THE REQUIREMENTS FOR LANDSCAPING IN PARKING AREA

## SPECIAL PERMIT

THE FOLLOWING SPECIAL PERMITS ARE BEING REQUESTED FROM THE PLANNING BOARD:

SECTION 3.1.3.1	FOR MORE THAN ONE USE AND CLASSIFIED AS A MAJOR COMMERCIAL PROJECT AS DEFINED BY SECTION 10.2
SECTION 5.2.10	TO AUTHORIZE A REDUCTION IN THE REQUIRED NUMBER OF LOADING SPACES AND/OR BERTHS
SECTION 5.3.11	TO AUTHORIZE SIGNAGE EXCEEDING ESTABLISHED STANDARDS
SECTION 8.1.7	PERMISSION TO STORE FUELS AND OILS IN EXCESS OF WHAT IS ALLOWED FOR RESIDENTIAL APPLICATIONS WITHIN WATER RESOURCE DISTRICT III
SECTION 8.1.7	RENDERING IMPERVIOUS MORE THAN 15% OF THE LOT

OWNERS SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_  
OWNER OR REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_

## SITE PLAN

TAX MAP 22 LOT 115 & 116  
**COVER SHEET**  
**PROPOSED RESTAURANT**  
**66 BOSTON ROAD, WESTFORD, MA**  
OWNED BY & PREPARED FOR  
**EBI MASALEHDAN**

SCALE: AS NOTED

February 22, 2016



Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists  
48 Constitution Drive  
Bedford, NH 03110  
Phone (603) 472-4488  
Fax (603) 472-9747  
www.tfmoran.com

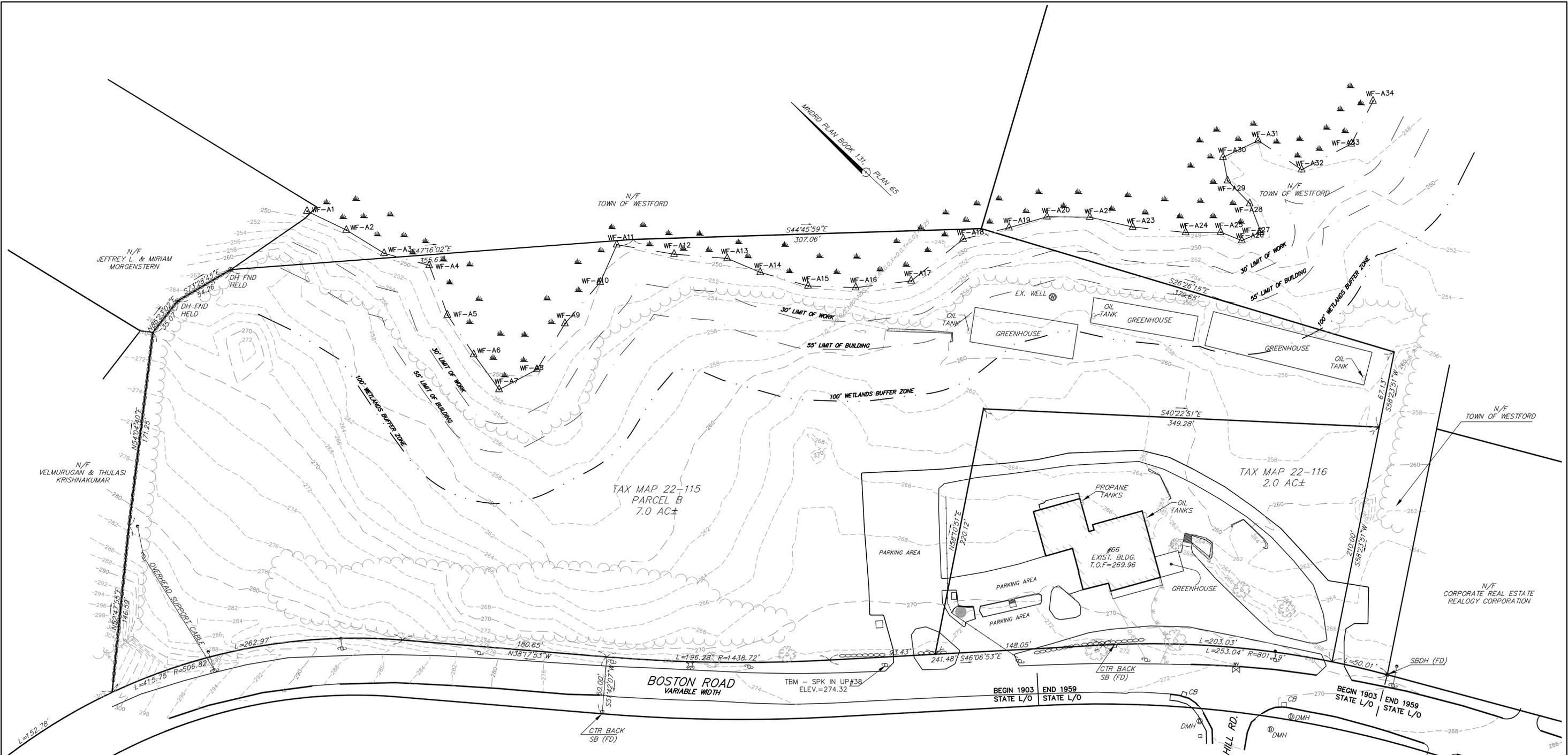
REV.	DATE	DESCRIPTION	TM	JK
1	5/16/16	GENERAL SITE REVISIONS	TM	JK
			DR	CK

FILE	31578.01	DR	AA	FB				
		CK	JK	CA	FILE	31578-01	Details	SHEET 1 OF 14

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**LEGEND:**

- C.E.T.— CABLE, ELECTRIC & TELEPHONE
- C,E,T    □    CABLE, ELECTRIC & TELEPHONE BOXES
- CI        □    CAST IRON PIPE
- CB        □    CATCH BASIN
- DMH      ⊙    DRAIN MANHOLE
- FND        ⊙    FOUND
- G—      —    GAS LINE
- ⊗        ⊗    GAS VALVE
- ⊗        ⊗    HYDRANT
- INV.      ⊗    INVERT
- MNDRD    ⊗    MIDDLESEX NORTH DISTRICT  
REGISTRY OF DEEDS
- RCP        ⊗    REINFORCED CONCRETE PIPE
- RR SPK W/PM ⊗ RAILROAD SPIKE WITH PUNCH MARK
- SMH      ⊙    SEWER MANHOLE
- SBDH     ⊙    STONE BOUND DRILL HOLE
- ⊗        ⊗    UTILITY POLE
- W—      —    WATER LINE
- ⊗        ⊗    WATER VALVE

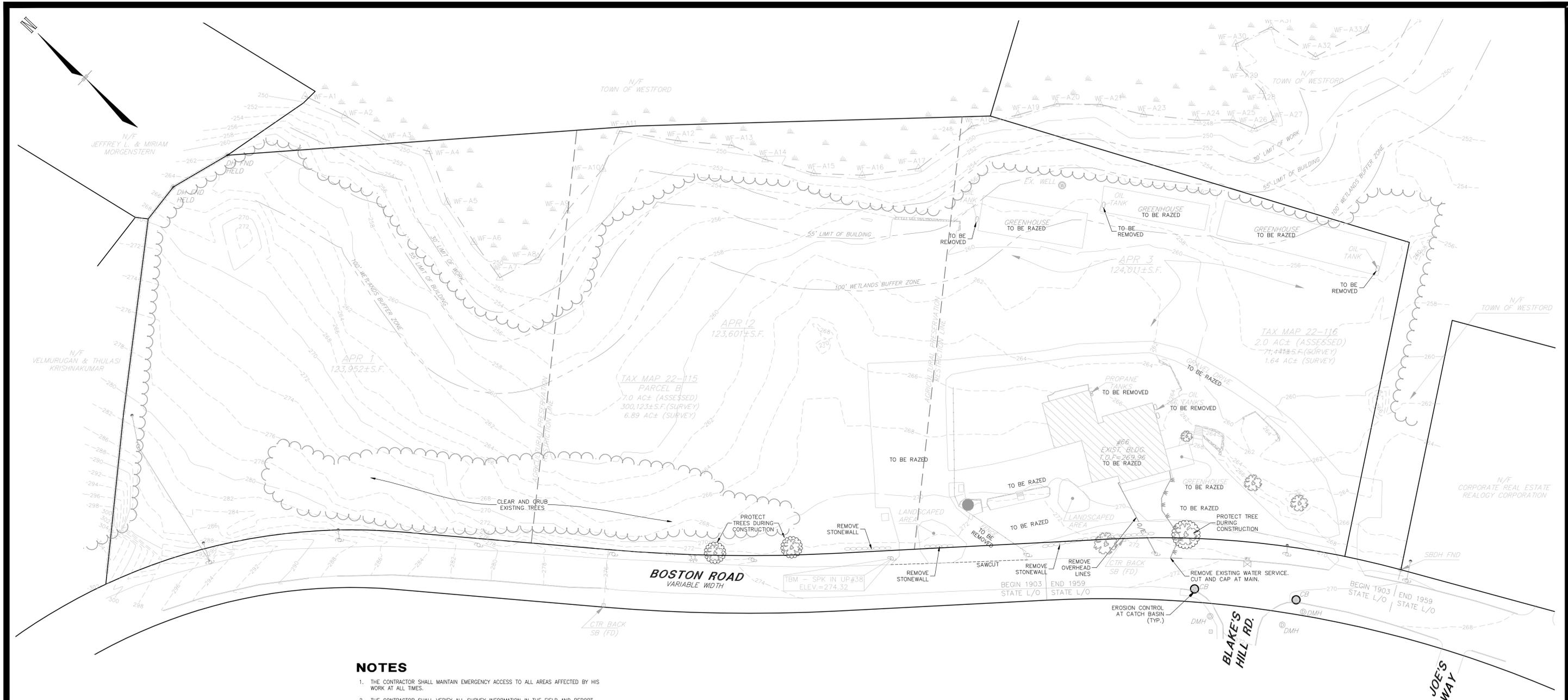
**EXISTING  
CONDITIONS  
PLAN**

66 BOSTON ROAD  
WESTFORD, MA

PREPARED FOR  
GATEWAY WESTFORD, LLC  
31 PROGRESS AVE.  
TYNGSBORO, MA 01879

SCALE: 1"=40'    FEBRUARY 1, 2016

**NDS**  
Norse Design Services, Inc.  
3 Pondview Place  
Tyngsborough, MA 01879  
(978-649-1966)    NDS@VERIZON.NET



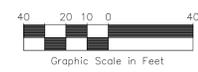
**NOTES**

1. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS WORK AT ALL TIMES.
2. THE CONTRACTOR SHALL VERIFY ALL SURVEY INFORMATION IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
3. EXISTING UTILITY SERVICES TO BE DISCONTINUED ARE TO BE CAPPED AS REQUIRED BY THE RESPECTIVE UTILITY COMPANIES.
4. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL TO PLACE ORANGE CONSTRUCTION FENCING AROUND EACH TREE TO BE SAVED DURING CONSTRUCTION. NO STOCKPILES OF MATERIAL ARE PERMITTED WITHIN THE DRIP LINE OF THE TREES TO BE SAVED.
5. ALL PAVEMENT AND SUB-BASE MATERIALS LOCATED WITHIN PROPOSED LANDSCAPING AREAS SHALL BE REMOVED AND REPLACED WITH MATERIALS SUITABLE FOR LANDSCAPING.
6. STUMPS SHALL NOT BE BURIED ON-SITE, BUT SHALL BE REMOVED AND DISPOSED OF IN A LEGAL MANNER.
7. CONTRACTOR SHALL COORDINATE WITH THE OWNER TO RAZE EXISTING BUILDINGS AS NOTED ON THE PLAN. ALL DEMOLITION AND DEBRIS DISPOSAL SHALL BE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
8. ALL TRANSFORMERS AND UTILITY POLES REMOVED SHALL BE SALVAGED TO THE UTILITY COMPANY.
9. REMOVE ALL SITE LIGHTING, LANDSCAPING & VEGETATION (EXCEPT WHERE NOTED) AND SIGNAGE WITHIN LIMIT OF WORK.

TAX MAP 22 LOTS 115 & 116  
**SITE PREPARATION PLAN**  
**PROPOSED RESTAURANT**  
**66 BOSTON ROAD, WESTFORD, MA**  
 OWNED BY & PREPARED FOR  
**EBI MASALEHDAN**

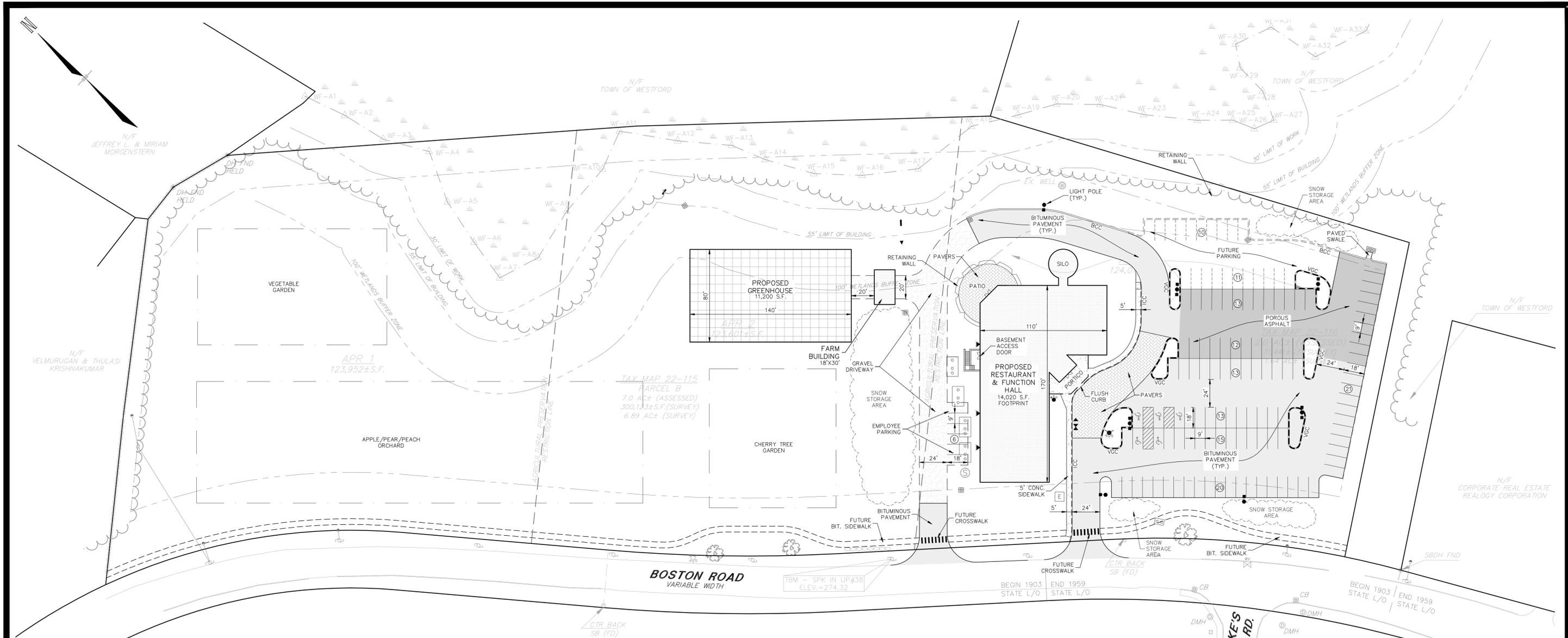
SCALE: 1"=40' February 22, 2016

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REV.	DATE	DESCRIPTION	DR	CK

	Civil Engineers Structural Engineers Traffic Engineers Land Surveyors Landscape Architects Scientists	48 Constitution Drive Bedford, NH 03110 Phone (603) 472-4488 Fax (603) 472-9747 www.tfmoran.com
	F L E 31578.01 DR TM FB CK JK (A)FILE	31578-01 Site



**NOTES**

- OWNER OF RECORD OF MAP 22 LOT 115: EBRAHIM MASALEHDAN, P.O. BOX 2127, WESTFORD, MA 01886  
DEED REFERENCE TO PARCEL IS BK. 11422 PG. 170  
AREA OF PARCEL = 303,813 S.F.± OR 6.970 ACRES±  
  
OWNER OF RECORD OF MAP 22 LOT 116: EBRAHIM MASALEHDAN, P.O. BOX 2127, WESTFORD, MA 01886  
DEED REFERENCE TO PARCEL IS BK. 11422 PG. 170  
AREA OF PARCEL = 87,120 S.F.± OR 2.000 ACRES±
- THE PURPOSE OF THIS PLAN IS TO SHOW A PROPOSED RESTAURANT, FUNCTION HALL, AND FARM.
- CURRENT ZONING IS RA ZONING DISTRICT  

MIN. LOT SIZE:	40,000 S.F.	REQUIRED	390,733 S.F.	PROVIDED
MIN. LOT FRONTAGE:	200'		>200'	
MIN. BUILDING SETBACKS:				
FRONT	50'		52'	
SIDE	15'		237'	
REAR	30'		104'	
- PARKING CALCULATIONS:  
 REQUIRED:  
 RESTAURANT 180 SEATS  
 LOUNGE/DR 40 SEATS  
 FUNCTION HALL 85 SEATS  
 TOTAL = 305 SEATS  
 1 SPACE/3 SEATS = 102 SPACES  
 20 EMPLOYEES X 1 SP./EMPLOYEE = 20 SPACES  
 TOTAL REQUIRED = 122 SPACES  
 PROPOSED: 113 SPACES (INCL. 5 ACCESSIBLE)  
 FUTURE PROPOSED: 21 SPACES
- THE PROPERTY WILL BE SERVICED BY THE FOLLOWING:  
 DRAINAGE PRIVATE  
 SEWER PRIVATE SEPTIC  
 WATER  
 GAS  
 ELECTRIC  
 TELECOMM COMCAST / FAIRPOINT COMMUNICATIONS
- IN THE EVENT THAT THE SNOW STORAGE AREAS PROVIDED ON THE SITE ARE COMPLETELY UTILIZED, EXCESS SNOW SHALL BE TRANSPORTED OFF SITE FOR DISPOSAL IN ACCORDANCE WITH M.A. D.E.P. REGULATIONS. IF SNOW IS STORED WITHIN PARKING AREA KEEP CATCH BASINS CLEAR.
- THE CONTRACTOR SHALL BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS AND STANDARDS.
- ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS NOTED OTHERWISE.
- WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY TFMORAN, INC., DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE SITE AND ALL SURROUNDING CONDITIONS. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF HIS INTENTIONS AT LEAST 48 HOURS IN ADVANCE.
- THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS WORK AT ALL TIMES.
- LIGHTING, SIGNAGE, LANDSCAPING, AND SCREENING SHALL MEET THE REQUIREMENTS OF THE TOWN OF WESTFORD ZONING ORDINANCE AND SITE PLAN REGULATIONS.
- SITE WORK SHALL BE CONSTRUCTED FROM A COMPLETE SET OF PLANS. NOT ALL FEATURES ARE DETAILED ON EVERY PLAN. THE ENGINEER IS TO BE NOTIFIED OF ANY CONFLICT WITHIN THIS PLAN SET.
- ALL WORK IS TO CONFORM TO CITY OR TOWN OF WESTFORD, DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS.
- IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS, AND DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
- IF CONDITIONS AT THE SITE ARE DIFFERENT THAN SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
- THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. TFMORAN, INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-COMFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
- TFMORAN, INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ENGINEER OF RECORD.

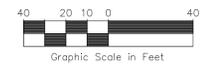
APPROVED BY THE WESTFORD PLANNING BOARD

ON \_\_\_\_\_ AND  
 CHAIRMAN: \_\_\_\_\_  
 SECRETARY: \_\_\_\_\_

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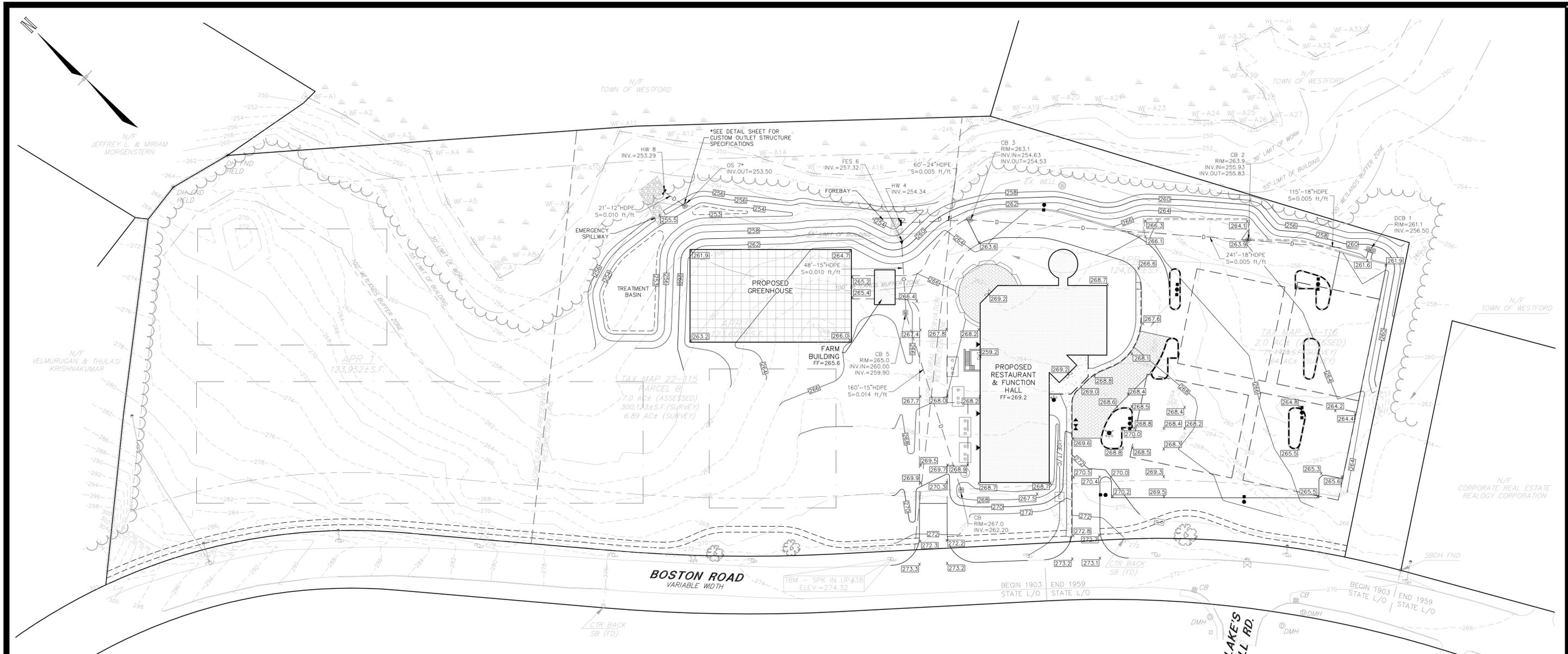


REV.	DATE	DESCRIPTION	TM	JK
1	5/16/16	GENERAL SITE REVISIONS	TM	JK

TAX MAP 22 LOTS 115 & 116  
**SITE LAYOUT PLAN**  
**PROPOSED RESTAURANT**  
**66 BOSTON ROAD, WESTFORD, MA**  
 OWNED BY & PREPARED FOR  
**EBI MASALEHDAN**

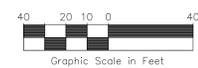
SCALE: 1"=40' February 22, 2016

	Civil Engineers Structural Engineers Traffic Engineers Land Surveyors Landscape Architects Scientists	48 Constitution Drive Bedford, NH 03110 Phone (603) 472-4488 Fax (603) 472-9747 www.tfmoran.com
	31578.01	DR TM FB CK JK (LOAD)



**NOTES**

- ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF WESTFORD, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE SITE AND ALL SURROUNDING CONDITIONS.
- 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 BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE DIGGING.
- THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL COORDINATE MATERIALS AND INSTALLATION SPECIFICATIONS WITH THE INDIVIDUAL UTILITY AGENCIES/COMPANIES, AND ARRANGE FOR ALL INSPECTIONS.
- ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET LOCAL STANDARDS AND THE REQUIREMENTS OF THE LATEST NHDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGE CONSTRUCTION AND THE NHDOT STANDARD STRUCTURE DRAWINGS UNLESS OTHERWISE NOTED.
- STORM DRAINAGE SYSTEM SHALL BE CONSTRUCTED TO LINE AND GRADE AS SHOWN ON THE PLANS. CONSTRUCTION METHODS SHALL CONFORM TO NHDOT STANDARD SPECIFICATIONS, SECTION 603. CATCH BASINS AND DRAIN MANHOLES SHALL CONFORM TO SECTION 604. ALL CATCH BASIN GRATES SHALL BE TYPE B AND CONFORM TO NHDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
- ALL MANHOLES IN PAVEMENT SHALL HAVE RIMS SET TO FINISH GRADE REGARDLESS OF ANY ELEVATIONS OTHERWISE SHOWN.
- ALL ELEVATIONS SHOWN AT CURB ARE TO THE BOTTOM OF CURB UNLESS OTHERWISE NOTED. CURBS HAVE A 6" REVEAL UNLESS OTHERWISE NOTED.
- ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
- THE CONTRACTOR SHALL NOT TRANSPORT INVASIVE SPECIES OFF THE PROPERTY, AND SHALL DISPOSE OF INVASIVE SPECIES ON-SITE IN A LEGAL MANNER.
- THE SITE CONTRACTOR SHALL PREPARE, MAINTAIN, AND EXECUTE A S.W.P.P.P. IN ACCORDANCE WITH EPA REGULATIONS AND THE CONSTRUCTION GENERAL PERMIT.
- THE SITE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO SUBMIT AN eNOI AT LEAST 14 DAYS IN ADVANCE OF ANY EARTHWORK ACTIVITIES AT THE SITE.
- THE EROSION CONTROL PRACTICES SHOWN ON THESE PLANS ARE ILLUSTRATIVE ONLY AND SHALL BE SUPPLEMENTED BY THE SITE CONTRACTOR AS NEEDED.
- COORDINATE WITH ARCHITECTURAL PLANS FOR DETAILED GRADING AT BUILDING, AND SIZE AND LOCATION OF ALL BUILDING SERVICES.
- COORDINATE WITH GEOTECHNICAL/STRUCTURAL PLANS FOR SITE PREPARATION AND OTHER BUILDING INFORMATION.
- COORDINATE WITH MECHANICAL AND PLUMBING PLANS FOR ROOF DRAIN INFORMATION.
- LIMITS OF WORK ARE SHOWN AS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE ALL WORK TO PROVIDE SMOOTH TRANSITIONS. THIS INCLUDES GRADING, PAVEMENT, CURBING, SIDEWALKS AND ALIGNMENTS.
- THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR INFORMATION ABOUT GROUNDWATER CONDITIONS. THE CONTRACTOR SHALL FOLLOW THE GEOTECHNICAL ENGINEERS RECOMMENDED METHODS TO ADDRESS ANY GROUNDWATER ISSUES THAT ARE FOUND ON SITE.
- THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE CONDITIONS AT THE SITE. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND REPORT DISCREPANCIES TO THE ENGINEER.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK THE ACCURACY OF THE TOPOGRAPHY AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO ANY EARTHWORK BEING PERFORMED ON THE SITE. NO CLAIM FOR EXTRA WORK WILL BE CONSIDERED FOR PAYMENT AFTER EARTHWORK HAS COMMENCED.
- VERIFY TBM ELEVATIONS PRIOR TO CONSTRUCTION.
- IN THE EVENT OF A CONFLICT BETWEEN PLANS, SPECIFICATIONS, AND DETAILS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
- IF CONDITIONS AT THE SITE ARE DIFFERENT THAN SHOWN THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
- THESE PLANS WERE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER, TFMORAN INC. ASSUMES NO LIABILITY AS A RESULT OF ANY CHANGES OR NON-COMFORMANCE WITH THESE PLANS EXCEPT UPON THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
- TFMORAN INC. ASSUMES NO LIABILITY FOR WORK PERFORMED WITHOUT AN ACCEPTABLE PROGRAM OF TESTING AND INSPECTION AS APPROVED BY THE ENGINEER OF RECORD.
- THE SITE CONTRACTOR SHALL ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF M.A.D.E.P. AS APPLICABLE.
- AT COMPLETION OF CONSTRUCTION, THE SITE CONTRACTOR SHALL PROVIDE A LETTER CERTIFYING THAT THE PROJECT WAS COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND A LETTER STAMPED BY A QUALIFIED ENGINEER THAT THEY HAVE OBSERVED ALL UNDERGROUND DETENTION SYSTEMS, INFILTRATION SYSTEMS, OR FILTERING SYSTEMS PRIOR TO BACKFILL, AND THAT SUCH SYSTEMS CONFORM TO THE APPROVED PLANS AND SPECIFICATIONS.
- IF ANY DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS HAVE BEEN MADE, THE SITE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS STAMPED BY A LICENSED SURVEYOR OR QUALIFIED ENGINEER ALONG WITH A LETTER STAMPED BY A QUALIFIED ENGINEER DESCRIBING ALL SUCH DEVIATIONS, AND BEAR ALL COSTS FOR PREPARING AND FILING ANY NEW PERMITS OR PERMIT AMENDMENTS THAT MAY BE REQUIRED.



REV.	DATE	DESCRIPTION	TM	JK
1	5/16/16	GENERAL SITE REVISIONS	TM	JK

TAX MAP 22 LOTS 115 & 116  
**GRADING & DRAINAGE PLAN**  
**PROPOSED RESTAURANT**  
**66 BOSTON ROAD, WESTFORD, MA**  
 OWNED BY & PREPARED FOR  
**EBI MASALEHDAN**

SCALE: 1"=40' February 22, 2016

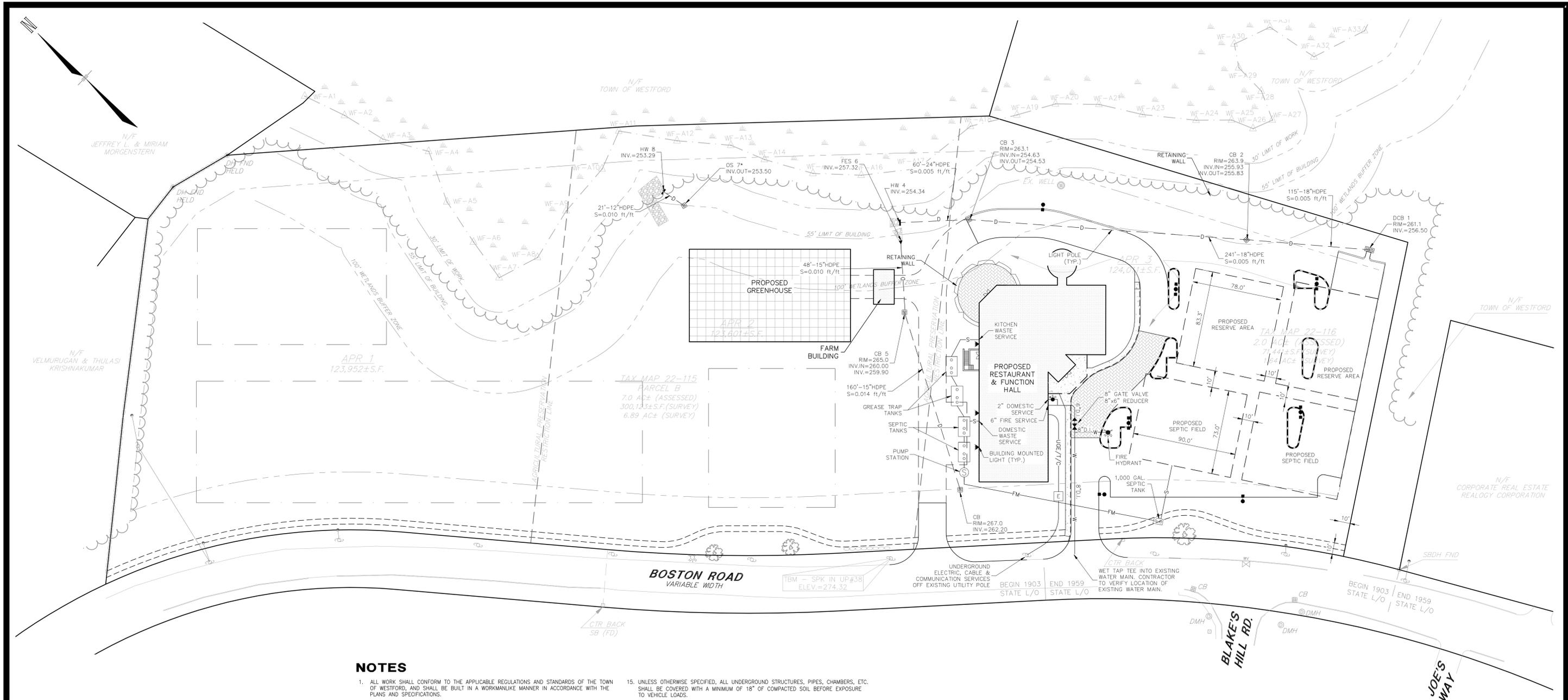
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CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION



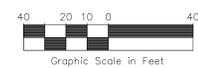
**NOTES**

- ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF WESTFORD, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE SITE AND ALL SURROUNDING CONDITIONS.
- 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 BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE DIGGING.
- THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL COORDINATE MATERIALS AND INSTALLATION SPECIFICATIONS WITH THE INDIVIDUAL UTILITY AGENCIES/COMPANIES, AND ARRANGE FOR ALL INSPECTIONS.
- ALL MANHOLES IN PAVEMENT SHALL HAVE RIMS SET TO FINISH GRADE REGARDLESS OF ANY ELEVATIONS OTHERWISE SHOWN.
- SANITARY SEWER SHALL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATIONS AS SHOWN ON THESE PLANS. ALL SEWER MAINS AND FITTINGS SHALL BE PVC AND SHALL CONFORM TO ASTM F 679 (SDR 35 MINIMUM). SANITARY MANHOLES SHALL CONFORM TO NHDES WATER DIVISION WASTEWATER ENGINEERING BUREAU STANDARDS AND SPECIFICATIONS SHOWN HEREON.
- ON-SITE WATER DISTRIBUTION SHALL BE TO TOWN OF WESTFORD STANDARDS AND SPECIFICATIONS. WATER MAINS SHALL HAVE A MINIMUM OF 5.5 FEET COVER. WHERE WATER PIPES CROSS SEWER LINES A MINIMUM OF 18" VERTICAL SEPARATION BETWEEN THE TWO OUTSIDE PIPE WALLS SHALL BE OBSERVED. HORIZONTAL SEPARATION BETWEEN WATER AND SEWER SHALL BE 10 FEET MINIMUM.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONDUIT AND WIRING TO ALL SIGNS AND LIGHTS. CONDUIT TO BE A MINIMUM OF 24" BELOW FINISH GRADE.
- VERIFY UTILITY CONNECTIONS TO BUILDING WITH ARCHITECTURAL DRAWINGS.
- ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
- LIMITS OF WORK ARE SHOWN AS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE ALL WORK TO PROVIDE SMOOTH TRANSITIONS. THIS INCLUDES GRADING, PAVEMENT, CURBING, SIDEWALKS AND ALIGNMENTS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE CONDITIONS AT THE SITE. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND REPORT DISCREPANCIES TO THE ENGINEER.
- UNLESS OTHERWISE SPECIFIED, ALL UNDERGROUND STRUCTURES, PIPES, CHAMBERS, ETC. SHALL BE COVERED WITH A MINIMUM OF 18" OF COMPACTED SOIL BEFORE EXPOSURE TO VEHICLE LOADS.



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CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

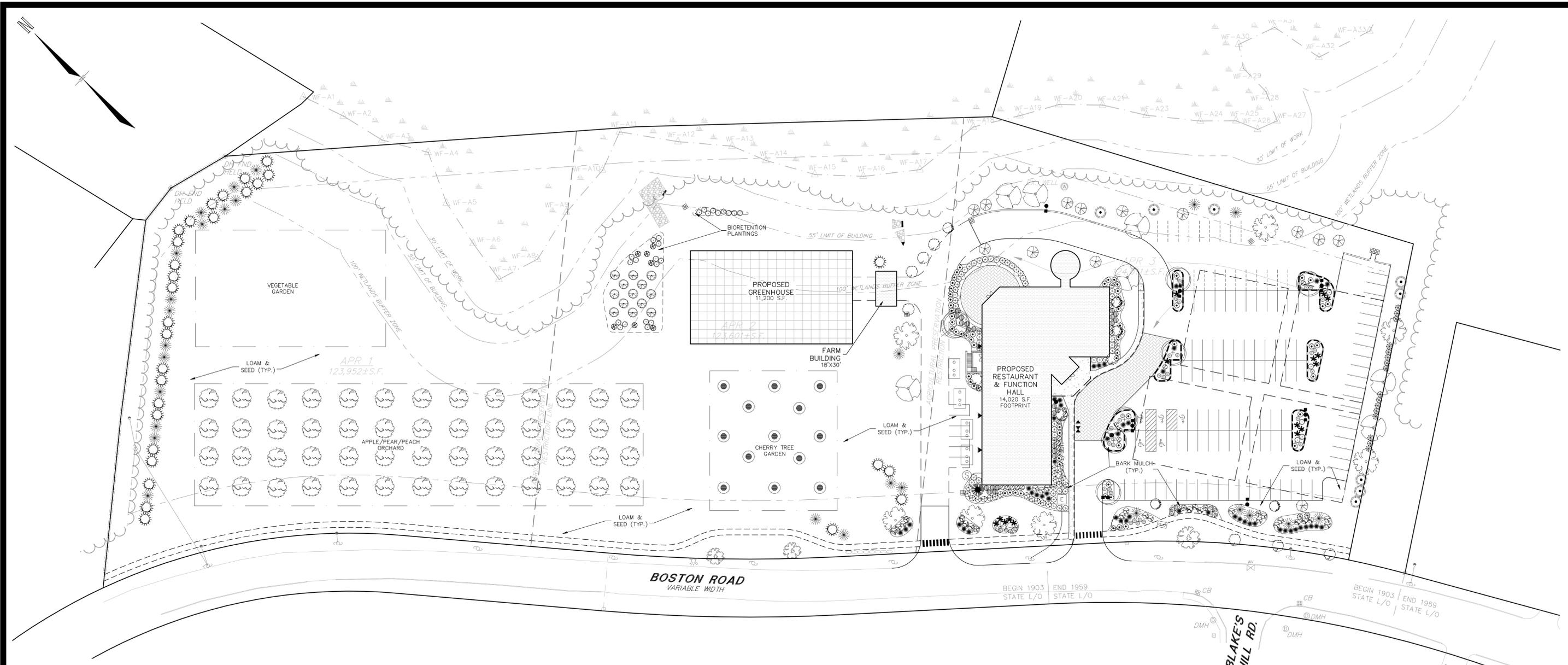


REV.	DATE	DESCRIPTION	TM	JK
1	5/16/16	GENERAL SITE REVISIONS	TM	JK

TAX MAP 22 LOTS 115 & 116  
**UTILITY PLAN**  
**PROPOSED RESTAURANT**  
**66 BOSTON ROAD, WESTFORD, MA**  
OWNED BY & PREPARED FOR  
**EBI MASALEHDAN**

SCALE: 1"=40' February 22, 2016

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	FILE NO: 31578.01 DR: TM CK: JK FB: [blank] LADFILE: 31578-01 Site	SHEET 6 OF 14



**LANDSCAPE NOTES**

(SEE DETAILS FOR ADDITIONAL NOTES)

- GENERAL**
1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE RULES, REGULATIONS, LAWS, AND ORDINANCES HAVING JURISDICTION OVER THIS PROJECT SITE.
  2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND NOTIFY OWNER'S REPRESENTATIVE OF CONFLICTS.
  3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON PLANS BEFORE PRICING THE WORK. ANY DIFFERENCE IN QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION. LANDSCAPE QUANTITIES SHOWN ON THE PLAN SHALL SUPERCEDE QUANTITIES LISTED IN LANDSCAPE LEGEND.
  4. THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT PRIOR TO STARTING WORK AND VERIFY THAT THE PLANS IN THE CONTRACTOR'S POSSESSION ARE THE MOST CURRENT PLANS AVAILABLE AND ARE THE APPROVED PLAN SET FOR USE IN CONSTRUCTION.
  5. ALL PLANT MATERIALS INSTALLED SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
  6. ALL PLANTS SHALL BE FIRST CLASS AND SHALL BE REPRESENTATIVE OF THEIR NORMAL SPECIES AND/OR VARIETIES. ALL PLANTS MUST HAVE GOOD, HEALTHY, WELL-FORMED UPPER GROWTH AND A LARGE, FIBEROUS, COMPACT ROOT SYSTEM.
  7. ALL PLANTS SHALL BE FREE FROM DISEASE AND INSECT PESTS AND SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL LAWS PERTAINING TO PLANT DISEASES AND INFESTATIONS.
  8. ALL TREES SHALL BE BALLED AND BURLAPPED (B & B) UNLESS OTHERWISE NOTED OR APPROVED BY LANDSCAPE ARCHITECT.
  9. IF APPLICABLE, THE CONTRACTOR SHALL HAVE ALL FALL TRANSPLANTING HAZARD PLANTS DUG IN THE SPRING AND STORED FOR FALL PLANTING.

**GUARANTEE**

THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE WORK FOR A PERIOD OF ONE YEAR, BEGINNING AT THE START OF THE MAINTENANCE PERIOD.

CONTACT DIG SAFE 72 BUSINESS HOURS PRIOR TO CONSTRUCTION

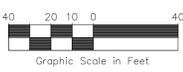
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**LANDSCAPE LEGEND**

SYMBOL	QTY	BOTANICAL NAME COMMON NAME	SIZE	REMARKS	SYMBOL	QTY	BOTANICAL NAME COMMON NAME	SIZE	REMARKS
	7	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	2 1/2" TO 3" CAL.	B&B		13	ALNUS INCANA RUGOSA SPECKLED ALDER	3 GAL.	CONT.
	1	BETULA N. 'DURA HEAT' DURA HEAT RIVER BIRCH	12" TO 14" CLUMP	B&B		24	AZALEA 'HINO-CRIMSON' HINO-CRIMSON AZALEA	3 GAL.	CONT.
	5	CORNUS KOUSA KOUSA DOGWOOD	2' TO 2 1/2" CAL.	B&B		23	AZALEA 'GIBRALTAR' GIBRALTAR AZALEA	3 GAL.	CONT.
	17	MALUS 'PRAIRIEFIRE' PRAIRIEFIRE CRABAPPLE	2' TO 2 1/2" CAL.	B&B		20	COTONEASTER HORIZONTALIS ROCKSPRAY COTONEASTER	3 GAL.	CONT.
	7	PLATANUS X ACREIFOLIA 'BLOODGOOD' BLOODGOOD LONDON PLANETREE	2 1/2" TO 3" CAL.	B&B		6	FORSYTHIA 'LYNWOOD GOLD' LYNWOOD GOLD FORSYTHIA	3' TO 4'	B&B
	11	PRUNUS SERRULATA 'KWANZAN' FLOWERING KWANZAN CHERRY	2' TO 2 1/2" CAL.	B&B		22	PHYSOCARPUS O. SUMMER WINE' SUMMER WINE NINEBARK	3 GAL.	CONT.
	6	TILIA T. 'STERLING' STERLING LINDEN	2 1/2" TO 3" CAL.	B&B		40/4	ILEX M 'BLUE PRINCESS/PRINCE' BLUE PRINCESS/PRINCE HOLLY	3 GAL.	CONT.
	1	ABIES CONCOLOR WHITE FIR	7' TO 8'	B&B		62	JUNIPERUS H. 'BAR HARBOR' BAR HARBOR JUNIPER	3 GAL.	CONT.
	8	ABIES BALSAMEA BALSAM FIR	6' TO 7'	B&B		49	PINUS M. 'MUGO' COMPACT MUGO PINE	3 GAL.	CONT.
	31	PICEA ABIES NORWAY SPRUCE	6' TO 7'	B&B		10	THUJA O. 'SMARAGD' EMERALD GREEN ARBORVITAE	5' TO 6'	B&B
	28	PICEA GLAUCA WHITE SPRUCE	6' TO 7'	B&B		16	THUJA O. 'TECHNY' MISSION ARBORVITAE	5' TO 6'	B&B
						8	VIBURNUM DENTATUM ARROWWOOD VIBURNUM	3 GAL.	CONT.
						40	HELICTOTRICHON S. 'SAPPHIRE' SAPPHIRE OAT GRASS	1 GAL.	CONT.
						15	MISCANTHUS S. 'VARIEGATA' VARIEGATED SILVER GRASS	3 GAL.	CONT.
						30	PANICUM V. 'HEAVY METAL' HEAVY METAL SWITCH GRASS	3 GAL.	CONT.



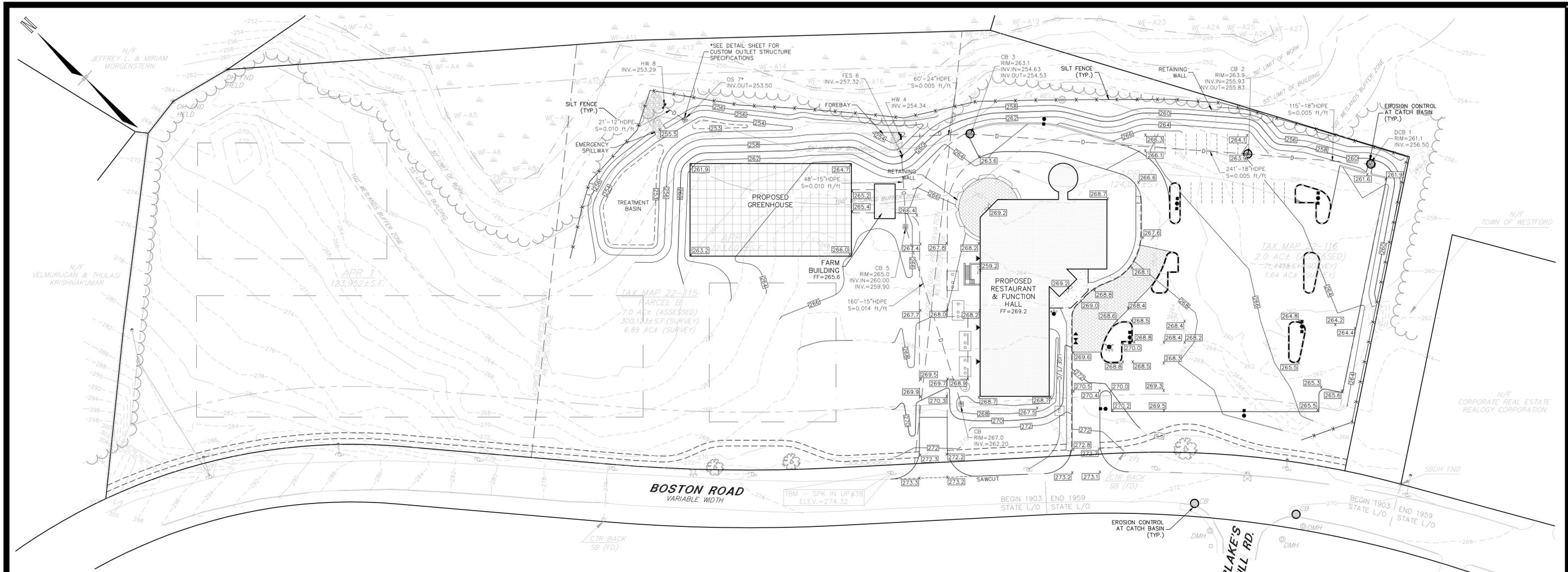
REV.	DATE	DESCRIPTION	TM	JK
1	5/16/16	GENERAL SITE REVISIONS	TM	JK

TAX MAP 22 LOTS 115 & 116  
**LANDSCAPE PLAN**  
**PROPOSED RESTAURANT**  
**66 BOSTON ROAD, WESTFORD, MA**  
OWNED BY & PREPARED FOR  
**EBI MASALEHDAN**

SCALE: 1"=40' February 22, 2016

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**CONSTRUCTION GENERAL PERMIT**

- THE OWNER, IN CONJUNCTION WITH THE CONTRACTOR (OPERATORS), NEEDS TO OBTAIN A CONSTRUCTION GENERAL PERMIT (CGP) FOR LARGE CONSTRUCTION ACTIVITIES (FIVE OR MORE ACRES) OR SMALL CONSTRUCTION ACTIVITIES (GREATER THAN ONE ACRE BUT LESS THAN FIVE ACRES) FROM THE ENVIRONMENTAL PROTECTION AGENCY (EPA). AS PART OF THE CGP, A STORM WATER NOTICE OF INTENT (NOI) WILL NEED TO BE SUBMITTED TO THE EPA AT LEAST 7 DAYS PRIOR TO COMMENCING CONSTRUCTION. THE NOI WILL NEED TO BE SUBMITTED TO STORM WATER NOTICE OF INTENT (4203M), USEPA, 1200 PENNSYLVANIA AVE. NW, WASHINGTON, DC 20460.
- THE CGP OUTLINES A SET OF PROVISIONS MANDATING THE OWNER AND CONTRACTOR TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER REGULATIONS, INCLUDING, BUT NOT LIMITED TO, STORM WATER POLLUTION PREVENTION PLANS (SWPPPS), IMPLEMENTATION OF EROSION AND SEDIMENTATION CONTROLS, EQUIPMENT MAINTENANCE GUIDELINES, ETC. PLEASE CONTACT USEPA OFFICE OF WASTEWATER MANAGEMENT AT 202-564-9545 OR AT WWW.EPA.GOV/NPDES/STORMWATER FOR ADDITIONAL INFORMATION. IN ADDITION, ONE CAN CONTACT ABBY SWAINE OF NEW ENGLAND'S EPA REGION 1 AT 617-918-1841.

**NOTES**

- IT IS BEING PROPOSED TO CONSTRUCT A RESTAURANT, FUNCTION HALL AND FARM.
- TOTAL SITE AREA: 8.97 AC.  
TOTAL AREA OF DISTURBANCE: 6.49 AC.
- SOILS SHOWN ARE FROM THE SOIL SURVEY OF HILLSBOROUGH COUNTY, NH, EASTERN PART, PREPARED BY USDA-SOIL CONSERVATION SERVICES.  
XXX - XXXX  
XXX - XXXX
- STORM WATER DRAINAGE SYSTEM IS SHOWN ON THE PLAN. SEE GRADING & DRAINAGE PLAN FOR RIM, INVERT, PIPE LENGTH AND SLOPE INFORMATION.  
POST-CONSTRUCTION RUNOFF COEFFICIENT: C=0.0x  
IMPERVIOUS SURFACE AREA: XXX± AC.
- STABILIZATION PRACTICES FOR EROSION AND SEDIMENTATION CONTROLS:  
TEMPORARY STABILIZATION - TOPSOIL STOCKPILES AND DISTURBED AREAS OF THE CONSTRUCTION SITE THAT WILL NOT BE REDISTURBED FOR 14 DAYS OR MORE MUST BE STABILIZED BY THE 14TH DAY AFTER THE LAST DISTURBANCE. THE TEMPORARY SEED SHALL BE ANNUAL RYE APPLIED AT THE RATE OF 1.1 LBS PER 1,000 SQUARE FEET. PRIOR TO SEEDING, A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS PER ACRE OF 10-20-20 FERTILIZER SHALL BE APPLIED. AFTER SEEDING, EACH AREA SHALL BE MULCHED WITH 1.5 TONS PER ACRE OF HAY MULCH. MULCH TO BE ANCHORED IN PLACE WHERE NECESSARY. AREAS OF THE SITE THAT WILL BE PAVED WILL BE TEMPORARILY STABILIZED BY APPLYING GEOTEXTILES AND A STONE SUB-BASE UNTIL BITUMINOUS PAVEMENT CAN BE APPLIED. CALCIUM CHLORIDE SHALL BE USED FOR DUST CONTROL IF NEEDED.

**NOTES (CONTINUED)**

- PERMANENT STABILIZATION - DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASE SHALL BE STABILIZED WITH PERMANENT SEED NO LATER THAN 3 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY. THE PERMANENT SEED MIX SHALL CONSIST OF 0.45 LBS/1,000 S.F. TALL FESCUE, 0.20 LBS/1,000 S.F. CREEPING RED FESCUE, AND 0.20 LBS/1,000 S.F. BIRDSFOOT TROFOLI. PRIOR TO SEEDING, A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS PER ACRE IF 10-20-20 FERTILIZER SHALL BE APPLIED. AFTER SEEDING, EACH AREA SHALL BE MULCHED WITH 1.5 TONS PER ACRE OF HAY MULCH. MULCH TO BE ANCHORED IN PLACE WHERE NECESSARY.
- STRUCTURAL PRACTICES FOR EROSION AND SEDIMENTATION CONTROL**  
SILT SOCK - WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE DISTURBED AREAS AND WILL DELINEATE THE LIMITS OF WORK FOR THE PROPOSED CONSTRUCTION. THE SILT SOCK WILL BE INSTALLED BY OTHERS. POSTS SHALL BE USED WITH AT LEAST 6 INCHES OF THE POST BURIED BELOW THE GROUND SURFACE TO PREVENT THE SILT SOCK FROM FORMING CAPS NEAR THE GROUND SURFACE. RUNOFF WILL FLOW THROUGH THE OPENINGS IN THE SILT SOCK WHILE RETAINING THE SEDIMENT WITHIN THE CONSTRUCTION AREA.  
SILT FENCE - WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE DISTURBED AREAS AND WILL DELINEATE THE LIMITS OF WORK FOR THE PROPOSED CONSTRUCTION. THE SILT FENCE WILL BE INSTALLED BY STRETCHING REINFORCED FILTER FABRIC BETWEEN POSTS WITH AT LEAST 8 INCHES OF THE FABRIC BURIED BELOW THE GROUND SURFACE TO PREVENT CAPS FROM FORMING NEAR THE GROUND SURFACE. RUNOFF WILL FLOW THROUGH THE OPENINGS IN THE FILTER FABRIC WHILE RETAINING THE SEDIMENT WITHIN THE CONSTRUCTION AREA.  
STABILIZED CONSTRUCTION ENTRANCE - WILL BE INSTALLED IN ACCORDANCE WITH THE DETAIL AT THE ENTRANCE TO THE CONSTRUCTION SITE TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS OFF THE SITE. THE STABILIZED ENTRANCE WILL BE 20 FEET WIDE AND FLARE AT THE ENTRANCE TO THE PAVED ROAD AND HAVE A DEPTH OF 12 INCHES OF STONE. THE STABILIZED ENTRANCE SHALL BE MAINTAINED UNTIL THE REMAINDER OF THE CONSTRUCTION SITE HAS BEEN FULLY STABILIZED. THE PAVED STREET ADJACENT TO THE SITE SHALL BE SWEEPED ON A WEEKLY BASIS TO REMOVE EXCESS MUD AND DIRT FROM BEING TRACKED FROM THE SITE. TRUCKS HAULING MATERIAL TO AND/OR FROM THE SITE SHALL BE COVERED WITH A TARPULIN.  
CATCH BASINS - WILL BE CLEANED ON AN ANNUAL BASIS TO REMOVE ALL SEDIMENTS FROM THE CATCH BASIN SLUMPS.  
CATCH BASIN PROTECTION - WILL BE INSTALLED AT ALL CATCH BASINS WITHIN THE CONSTRUCTION AREA. FILTER FABRIC WILL BE INSTALLED AROUND THE GRATES OF CATCH BASINS THAT ARE LOCATED IN THE TRAVEL WAY AND STONE/FILTER FABRIC PROTECTION WILL BE INSTALLED AT THE CATCH BASINS FOUND WITHIN THE PARKING AREA AND GRASS.  
BLANKET SLOPE PROTECTION - SHALL BE INSTALLED ON ALL 2:1 SLOPES OR STEEPER ON SITE. ANCHOR THE TOP OF THE BLANKET BY ANCHORING THE BLANKET IN A 6" DEEP TRENCH, BACKFILL AND COMPACT TRENCH AFTER STAPLING. ROLL THE BLANKET IN THE DIRECTION OF STORM WATER FLOW, WHERE 2 OR MORE STRIPS OF BLANKET ARE REQUIRED, A MINIMUM OF 4" OF OVERLAP SHALL BE PROVIDED.  
STONE CHECK DAMS - WILL BE INSTALLED IN EXISTING AND PROPOSED GRASS SWALES TO REDUCE THE VELOCITY OF CONCENTRATED STORM WATER FLOWS AND PREVENT EROSION OF THE SWALE.
  - STORM WATER MANAGEMENT**  
STORM WATER DRAINAGE FOR DEVELOPED AREAS WILL BE COLLECTED BY A PIPE AND CATCH BASIN CLOSED DRAINAGE SYSTEM. APPROXIMATELY 2.48 ACRES OF THE 8.97 ACRE SITE WILL REMAIN UNTOUCHED AND IN ITS NATURAL STATE.
  - ALL CONSTRUCTION DEBRIS AND WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURE DUMPSTERS OR APPROVED ENCLOSURE AND REMOVED FROM THE SITE ON A WEEKLY BASIS. NO CONSTRUCTION WASTE SHALL BE BURIED ON SITE. PORTABLE TOILET SANITARY WASTE FACILITIES WILL BE PROVIDED DURING CONSTRUCTION AND MAINTAINED/DISPOSED OF ON A REGULAR BASIS IN ACCORDANCE WITH TOWN AND STATE REGULATIONS.

**NOTES (CONTINUED)**

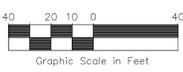
- A LIST OF CONSTRUCTION ITEMS AND OTHER PRODUCTS USED ON THIS PROJECT SHALL BE KEPT ON RECORD WITH THIS PLAN ON-SITE. ALL CHEMICALS, PETROLEUM PRODUCTS AND OTHER MATERIALS USED DURING CONSTRUCTION SHALL BE STORED IN A SECURE AREA, AND PRECAUTIONS USED TO PREVENT POTENTIAL SOURCES OF CONTAMINATION OR POLLUTION. ANY SPILL OF THESE TYPES OF SUBSTANCES SHALL BE CLEANED UP AND DISPOSED OF IN A LEGAL MANNER AS SPECIFIED BY STATE REGULATIONS AND THE MANUFACTURER. ANY SPILL IN AMOUNTS EQUAL TO OR EXCEEDING REPORTABLE QUANTITY AS DEFINED BY THE EPA SHALL TAKE THE FOLLOWING STEPS:  
- NOTIFY THE NATIONAL RESPONSE CENTER IMMEDIATELY AT (888) 424-8802; IN WASHINGTON, D.C., CALL (202) 426-2675.  
- WITHIN 14 DAYS, SUBMIT A WRITTEN DESCRIPTION OF THE RELEASE TO THE EPA REGIONAL OFFICE PROVIDING THE DATE AND CIRCUMSTANCES OF THE RELEASE AND THE STEPS TO BE TAKEN TO PREVENT ANOTHER RELEASE.  
- MODIFY THE POLLUTION PREVENTION PLAN TO INCLUDE THE INFORMATION LISTED ABOVE.
- GOOD HOUSEKEEPING:**  
THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ON-SITE DURING THE CONSTRUCTION PROJECT:  
- AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB;  
- ALL MATERIALS STORED ON-SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE;  
- PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL;  
- SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;  
- WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER;  
- MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED;  
- TRASH DUMPSTERS SHALL BE GASKETED OR HAVE A SECURE WATERTIGHT LID AND BE PLACED AWAY FROM STORMWATER CONVEYANCES AND DRAINS.  
- THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ON-SITE.  
**HAZARDOUS PRODUCTS:**  
THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.  
- PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;  
- ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION;  
- IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.
- PRODUCT SPECIFIC PRACTICES:**  
THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON-SITE:  
**PETROLEUM PRODUCTS:**  
ALL ON-SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ON-SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.  
**FERTILIZERS:**  
FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.  
**PAINTS:**  
ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.  
**CONCRETE TRUCKS:**  
EXCESS CONCRETE SHALL BE USED IN AREAS DESIGNATED BY THE SITE CONTRACTOR. WASH WATER SHALL BE DISPOSED OF USING BEST MANAGEMENT PRACTICES. BUILDING CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL DRUM WASH WATER ASSOCIATED WITH CONCRETE FOR THE BUILDING PAD. SITE CONTRACTOR TO COORDINATE AND PROVIDE BUILDING CONTRACTOR WITH AN AREA FOR DRUM WASH WATER.

**NOTES (CONTINUED)**

- SPILL CONTROL PRACTICES:**  
IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:  
- MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.  
- MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON-SITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.  
- ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.  
- THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.  
- SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF SIZE.  
- THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.  
- THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THEY WILL DESIGNATE AT LEAST THREE OTHER SITE PERSONNEL WHO WILL EACH RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ON-SITE.
  - THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN RECORDS OF CONSTRUCTION ACTIVITIES, INCLUDING DATES OF MAJOR GRADING ACTIVITIES, DATES WHEN CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED ON A PORTION OF THE SITE, DATES WHEN WORK IS COMPLETED ON A PORTION OF THE SITE, AND DATES WHEN STABILIZATION MEASURES ARE INITIATED ON-SITE.
  - THE CONTRACTOR SHALL PERFORM INSPECTIONS OR HAVE A CONSULTING ENGINEER PERFORM INSPECTIONS EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS AFTER A STORM OF 0.5 INCH OR GREATER. INSPECTIONS REPORTS ARE TO BE KEPT ON FILE AT THE SITE WITH THIS PLAN. MAINTENANCE OR MODIFICATION SHALL BE IMPLEMENTED AND ADDED TO THE PLAN AS RECOMMENDED BY THE QUALIFIED INSPECTOR.



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REV.	DATE	DESCRIPTION	TM	JK
1	5/16/16	GENERAL SITE REVISIONS	TM	JK

TAX MAP 22 LOTS 115 & 116  
**STORM WATER MANAGEMENT PLAN**  
**PROPOSED RESTAURANT**  
**66 BOSTON ROAD, WESTFORD, MA**  
OWNED BY & PREPARED FOR  
**EBI MASALEHDAN**

SCALE: 1"=40' February 22, 2016

	Civil Engineers Structural Engineers Traffic Engineers Land Surveyors Landscape Architects Scientists	48 Constitution Drive Bedford, NH 03110 Phone (603) 472-4488 Fax (603) 472-9747 www.tfmoran.com
	31578.01	DR TM FB CK JK CADFILE

SHEET 8 OF 14

## CONSTRUCTION SEQUENCE NOTES

- INSTALL STABILIZED CONSTRUCTION ENTRANCE
- CUT AND CLEAR TREES WITHIN AREA OF DISTURBANCE UNLESS OTHERWISE NOTED.
- CONSTRUCT TEMPORARY AND PERMANENT EROSION CONTROL FACILITIES PRIOR TO ANY EARTH MOVING OPERATION.
- DEMOLISH EXISTING BUILDING AS SHOWN ON PLANS. REMOVE EXISTING CURBING AND PAVEMENT AS SHOWN ON PLANS.
- ROUGH GRADE SITE OR PHASED WORK AREA. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED NO LATER THAN 72 HOURS AFTER CONSTRUCTION ACTIVITY CEASES. IF EARTHWORK TEMPORARILY CEASES ON A PORTION OF OR THE ENTIRE SITE, AND WILL NOT RESUME WITHIN 21 DAYS, THE AREA SHALL BE STABILIZED.  
AN AREA SHALL BE CONSIDERED STABILIZED IF:  
A) BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;  
B) A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;  
C) A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED, OR  
D) EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- CONSTRUCT CULVERTS AND UNDERGROUND DRAINAGE FACILITIES ACCORDING TO THE PLAN. THE CONTRACTOR SHALL STABILIZE ALL DRAINAGE STRUCTURES PRIOR TO DIRECTING FLOW TO THEM.
- INSTALL ALL UNDERGROUND UTILITIES
- CONSTRUCT BUILDINGS
- CONSTRUCT PARKING AND FINISH GRADE SITE ACCORDING TO PLAN. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER GRADING.
- INSPECT AND MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL MEASURES PERIODICALLY AND IMMEDIATELY AFTER STORM EVENTS.
- COMPLETE PERMANENT SEEDING AND LANDSCAPING.
- REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE ALL AREAS ARE STABILIZED WITH A SUITABLE STAND OF GRASS, PAVEMENT OR COMPACTED GRAVELS.

\*REFER TO THE STORM WATER MANAGEMENT PLAN FOR EROSION CONTROL MEASURES AND SPECIFIC INFORMATION.

## GENERAL NOTES

- ALL IN PAVEMENT MANHOLES SHALL HAVE RIMS SET TO FINISH GRADE REGARDLESS OF ANY ELEVATIONS OTHERWISE SHOWN.
- THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE AS NECESSARY WITH THE UTILITY COMPANIES OF SAID UTILITIES. THE PROTECTION OR RELOCATION OF UTILITIES IS ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS TO ALL AREAS AFFECTED BY HIS WORK AT ALL TIMES.
- ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS IN THE IMMEDIATE AREA.
- EROSION CONTROL SYSTEMS SHALL BE INSTALLED AND MAINTAINED FOR THE DURATION OF THE PROJECT IN ACCORDANCE WITH APPLICABLE NHDES STANDARDS. THESE DETAILS SERVE AS A GUIDE ONLY.
- REFER TO THE TOWN STANDARD DETAILS, LATEST REVISION, FOR ADDITIONAL INFORMATION AND CRITERIA.
- THE CONTRACTOR SHALL STABILIZE ALL DITCHES, SWALES, AND PONDS PRIOR TO DIRECTING FLOW TO THEM.

## EROSION CONTROL NOTES

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED:

- INSTALLATION OF SILTATION FENCES AND OTHER EROSION CONTROL MEASURES SHALL BE COMPLETED PRIOR TO THE START OF SITE WORK IN ANY GIVEN AREA. PREFABRICATED SILTATION FENCES SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- SILTATION FENCES AND OTHER EROSION CONTROL MEASURES SHALL BE KEPT CLEAN DURING CONSTRUCTION AND REMOVED WHEN ALL SLOPES HAVE A VEGETATIVE COVER OF GREATER THAN 85%. EROSION CONTROL MEASURES SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EVERY RAINFALL.
- EXISTING VEGETATION IS TO REMAIN UNDISTURBED WHEREVER POSSIBLE.
- THE AREA OF LAND EXPOSED AND THE TIME OF EXPOSURE SHALL BE MINIMIZED. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 72 HOURS AFTER FINAL GRADING.
- ALL DISTURBED AREAS SHALL HAVE A MINIMUM OF 4" OF LOAM. ACCEPTABLE SEED MIXES ARE AS FOLLOWS:

**TYPICAL LAWN MIX (MIN. 200 LBS/ACRE):**  
 33% CREEPING RED FESCUE (MIN. 66 LBS/ACRE)  
 42% PERENNIAL RYEGRASS (MIN. 84 LBS/ACRE)  
 21% KENTUCKY BLUEGRASS (MIN. 42 LBS/ACRE)  
 4% REDTOP (MIN. 8 LBS/ACRE)

**TEMPORARY LAWN MIX: (MIN. 47 LBS/ACRE)**  
 100% ANNUAL RYE

**GENERAL SLOPE (NHSDOT TYPE 44) MIX 3:1 OR GREATER SLOPES (MIN. 160 LBS/ACRE):**  
 44% CREEPING RED FESCUE (MIN. 70 LBS/ACRE)  
 38% PERENNIAL RYEGRASS (MIN. 60 LBS/ACRE)  
 6% REDTOP (MIN. 10 LBS/ACRE)  
 6% ALSIKE CLOVER (MIN. 10 LBS/ACRE)  
 6% BIRDSFOOT TREFLOIL (MIN. 10 LBS/ACRE)

- PLACING LOAM ON SITE
  - ALL SUBGRADE ELEVATIONS SHOULD BE UNIFORMLY GRADED TO RECEIVE LOAM AND SHALL BE INSPECTED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO PLACEMENT OF LOAM.
  - PLACE LOAM TO FORM A MINIMUM DEPTH OF 4" WHEN ROLLED, UNLESS OTHERWISE INDICATED.
  - ALL DEPRESSIONS EXPOSED DURING THE ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM.

- SEED BED PREPARATION  
 AFTER FINISH GRADING AND JUST BEFORE SEEDING, THE AREAS TO BE SEEDDED SHALL BE LOOSENEED TO PROVIDE A ROUGH, FIRM BUT FINELY PULVERIZED SEEDBED. THE INTENT IS A TEXTURE CAPABLE OF RETAINING WATER, SEED AND FERTILIZER WHILE REMAINING STABLE AND ALLOWING SEED TIME TO GERMINATE. SEED SHALL BE APPLIED TO THE CONDITIONED SEEDBED NOT MORE THAN 48 HOURS AFTER THE SEEDBED HAS BEEN PREPARED.

- LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE SOIL PRIOR TO OR AT THE TIME OF AT THE TIME OF SEEDING. A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS. PER ACRE OF 10-20-20 FERTILIZER SHALL BE APPLIED. SEEDING PRACTICES SHALL COMPLY WITH LOCAL USDA SOIL CONSERVATION SERVICES RECOMMENDATIONS.
- HAY MULCH OR JUTE MATTING SHALL BE USED WHERE INDICATED ON THE PLANS. A MINIMUM OF 1.5 TONS OF MULCH PER ACRE SHALL BE APPLIED. MULCH SHALL BE ANCHORED IN PLACE WHERE NECESSARY. JUTE MATTING SHALL BE LAID IN THE DIRECTION OF RUNOFF FLOW AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS. WHEN SEEDDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 15 TO SEPTEMBER 15. NO DISTURBED AREA SHALL BE LEFT EXPOSED DURING WINTER MONTHS.
- WATER SHALL BE USED FOR DUST CONTROL IN APPROPRIATE AREAS.

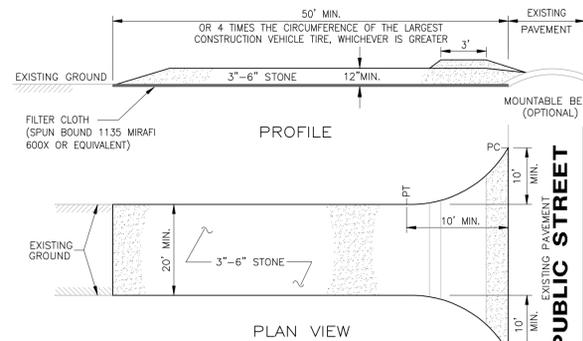
## WINTER CONSTRUCTION

IN ADDITION TO THE OTHER NOTES CONTAINED ON THIS PLAN, THE FOLLOWING MUST BE IMPLEMENTED:

- WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED AS SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
- AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE PERMANENTLY MULCHED THE SAME DAY.
- TEMPORARY MULCH MUST BE APPLIED WITHIN 7 DAYS OF SOIL EXPOSURE OR PRIOR TO ANY STORM EVENT.
- IN THE EVENT OF A SNOWFALL GREATER THAN 1 INCH (FRESH OR CUMULATIVE), THE SNOW SHALL BE REMOVED FROM THE AREAS DUE TO BE SEEDDED AND MULCHED.
- LOAM SHALL BE FREE OF FROZEN CLUMPS BEFORE IT IS APPLIED.
- A DITCH THAT WILL BE CONSTRUCTED DURING THE WINTER MUST BE STABILIZED WITH RIPRAP.

## OVERWINTER STABILIZATION

- PERMANENT STABILIZATION CONSISTS OF AT LEAST 85% VEGETATION, PAVEMENT/GRAVEL BASE OR RIPRAP.
- DO NOT EXPOSE SLOPES OR LEAVE SLOPES EXPOSED OVER THE WINTER OR FOR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY PROTECTED WITH MULCH.
- APPLY HAY MULCH AT TWICE THE STANDARD RATE (150 LBS. PER 1,000 SF). THE MULCH MUST BE THICK ENOUGH SUCH THAT THE GROUND SURFACE WILL NOT BE VISIBLE AND MUST BE ANCHORED.
- USE MULCH AND MULCH NETTING OR AN EROSION CONTROL MULCH BLANKET OR MIX FOR ALL SLOPES GREATER THAN 8% OR OTHER AREAS EXPOSED TO DIRECT WIND.
- SEE THE VEGETATION MEASURES FOR MORE INFORMATION ON SEEDING DATES AND TYPES.

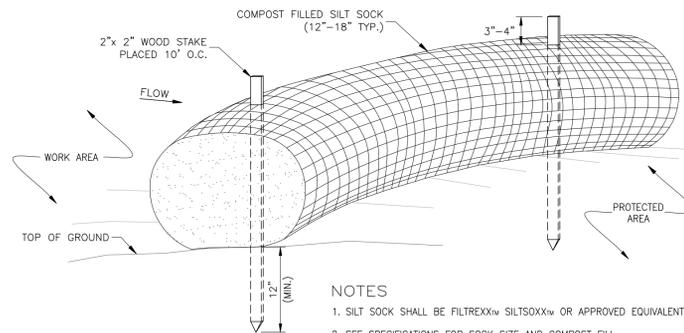


### NOTES

- FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE SURFACE.
- WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN STORM EVENT.

## USDA - SCS STABILIZED CONSTRUCTION ENTRANCE

SEE PLAN FOR PROPOSED LOCATION NOT TO SCALE

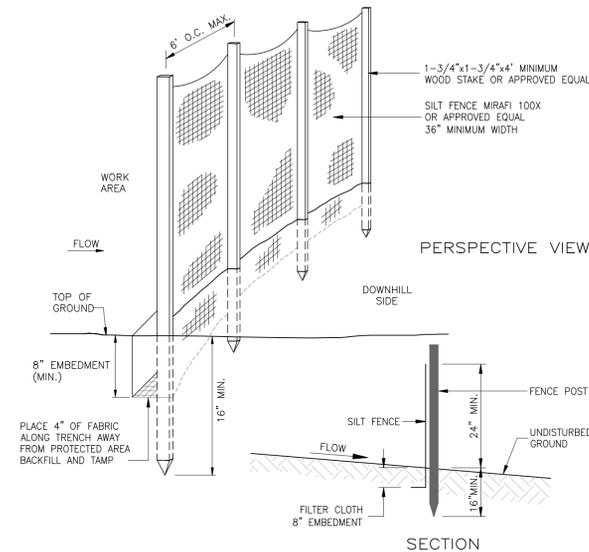


### NOTES

- SILT SOCK SHALL BE FILTREX<sup>SM</sup> SILTSOX<sup>SM</sup> OR APPROVED EQUIVALENT.
- SEE SPECIFICATIONS FOR SOCK SIZE AND COMPOST FILL REQUIREMENTS.
- SILT SOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED AS NEEDED.
- COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.

## SILT SOCK

NOT TO SCALE



## SILT FENCE

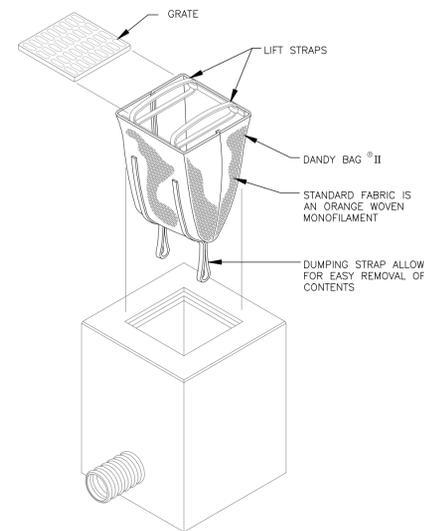
NOT TO SCALE

## DANDY BAG<sup>®</sup> II

### Installation and Maintenance Guidelines

**Installation:** Remove the grate from catch basin. If using optional oil absorbents; place absorbent pillow in unit. Stand the grate on end. Move the top lifting straps out of the way and place the grate into the Dandy Bag II so that the grate is below the top straps and above the lower straps. Holding the lifting devices, insert the grate into the inlet.

**Maintenance:** Remove all accumulated sediment and debris from vicinity of unit after each storm event. After each storm event and at regular intervals, look into the Dandy Bag II. If the containment area is more than 1/3 full of sediment, the unit must be emptied. To empty unit, lift the unit out of the inlet using the lifting straps and remove the grate. If using optional oil absorbents; replace absorbent when near saturation.

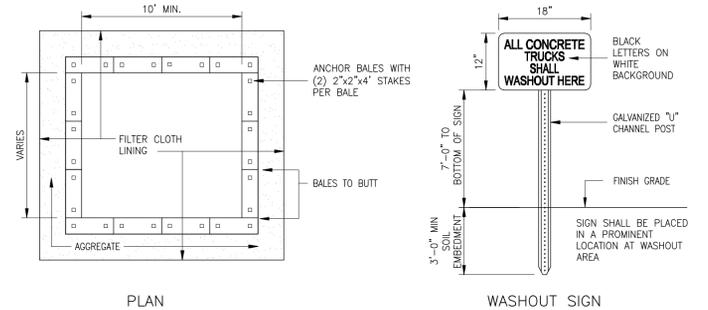


## DANDY BAG<sup>®</sup> II

FOR ALL CATCH BASINS  
ONSITE & OFFSITE NOT TO SCALE

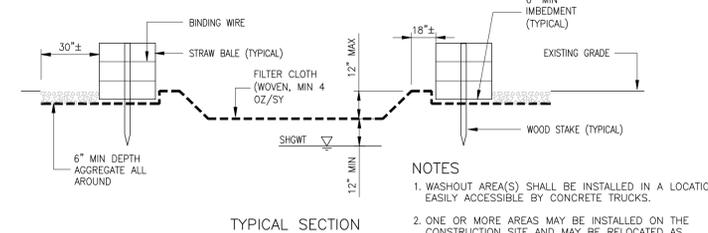
## CONSTRUCTION NOTES

- ALL WORK SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE TOWN OF WESTFORD, AND SHALL BE BUILT IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE SITE AND ALL EXISTING CONDITIONS SURROUNDING IT AND THEREON. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF HIS INTENTION AT LEAST 48 HOURS IN ADVANCE.
- 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 BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (811) AT LEAST 72 HOURS BEFORE DIGGING.
- ROAD AND DRAINAGE CONSTRUCTION SHALL CONFORM TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET LOCAL STANDARDS AND THE REQUIREMENTS OF THE LATEST MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES AND THE MASSDOT STANDARD STRUCTURE DRAWINGS UNLESS OTHERWISE NOTED.
- ON-SITE WATER DISTRIBUTION SHALL BE TO MANCHESTER WATER WORKS STANDARDS AND SPECIFICATIONS. WATER MAINS SHALL HAVE A MINIMUM OF 5.5 FEET COVER, WHERE WATER PIPES CROSS SEWER LINES A MINIMUM OF 18" VERTICAL SEPARATION BETWEEN THE TWO OUTSIDE PIPE WALLS SHALL BE OBSERVED. HORIZONTAL SEPARATION BETWEEN WATER AND SEWER SHALL BE 10 FEET MINIMUM.
- SANITARY SEWER SHALL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATIONS AS SHOWN ON THESE PLANS. ALL SEWER MAINS AND FITTINGS SHALL BE PVC AND SHALL CONFORM TO ASTM F 679 (SDR 35 MINIMUM). SANITARY MANHOLES SHALL CONFORM TO 314CMR 8.00. ALL STRUCTURES TO BE H-20 DESIGN.
- STORM DRAINAGE SYSTEM SHALL BE CONSTRUCTED TO LINE AND GRADE AS SHOWN ON THE PLANS. ALL PIPE MATERIAL SHALL BE HDPE AND CONFORM TO MASSDOT STANDARDS AND SPECIFICATIONS. CONSTRUCTION METHODS SHALL CONFORM TO MASSDOT STANDARD SPECIFICATIONS, SECTION 201. CATCH BASINS AND DRAIN MANHOLES SHALL CONFORM TO SECTION 201. ALL CATCH BASIN GRATES SHALL BE TYPE B AND CONFORM TO MASSDOT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. ALL STRUCTURES TO BE H-20 DESIGN.
- THE CONTRACTOR SHALL COORDINATE MATERIALS AND INSTALLATION SPECIFICATIONS WITH THE INDIVIDUAL UTILITY AGENCIES/COMPANIES, AND ARRANGE FOR ALL INSPECTIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN IN THE PLANS THROUGHOUT THE DURATION OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND REPORT DISCREPANCIES TO THE ENGINEER.



### PLAN

### WASHOUT SIGN



### TYPICAL SECTION

### NOTES

- WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
- ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
- AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

## CONCRETE WASHOUT AREA

NOT TO SCALE

TAX MAP 22 LOT 115 & 116  
**DETAIL SHEET**  
**PROPOSED RESTAURANT**  
**66 BOSTON ROAD, WESTFORD, MA**  
 OWNED BY & PREPARED FOR  
**EBI MASALEHDAN**

SCALE: AS NOTED

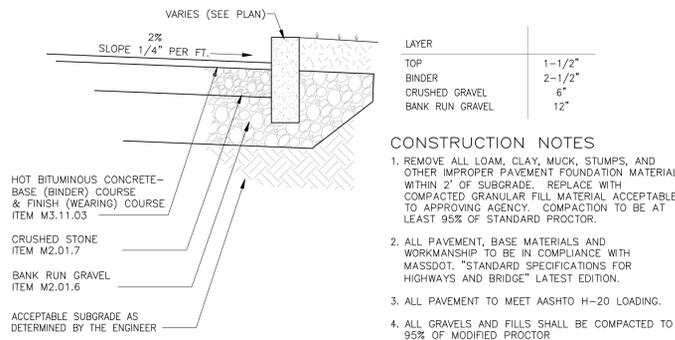
February 22, 2016



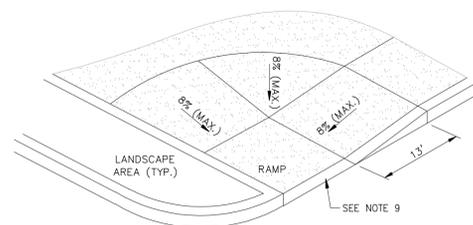
Civil Engineers  
 Structural Engineers  
 Traffic Engineers  
 Land Surveyors  
 Landscape Architects  
 Scientists  
 48 Constitution Drive  
 Bedford, NH 03110  
 Phone (603) 472-4488  
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 CK JK CADFILE 31578-01 Details SHEET 9 OF 14

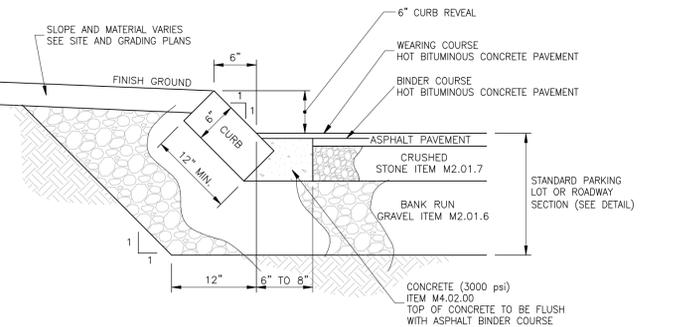
REV.	DATE	DESCRIPTION	DR	CK



**PARKING LOT SECTION**  
NOT TO SCALE

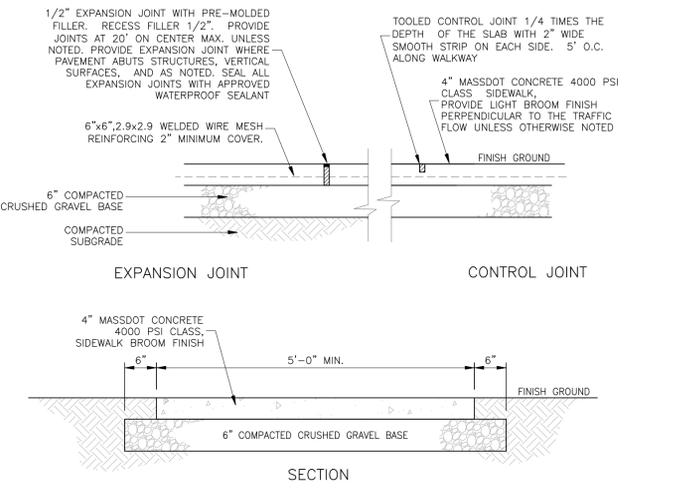


**ACCESSIBLE CURB RAMP**  
TYPE "B"  
NOT TO SCALE

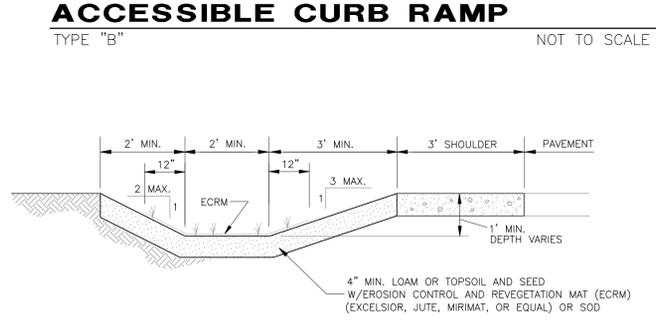


RADIUS FOR STONES WITH SQUARE JOINTS	RADIUS FOR STONES WITH RADIAL JOINTS	MAXIMUM LENGTH
16"-28"	SEE CURB SECTIONS ON RADII DETAIL	1'-6"
29"-41"		2'
42"-55"		3'
56"-68"		4'
69"-82"		5'
83"-96"		6'
97"-110"		7'
OVER 110"		8'

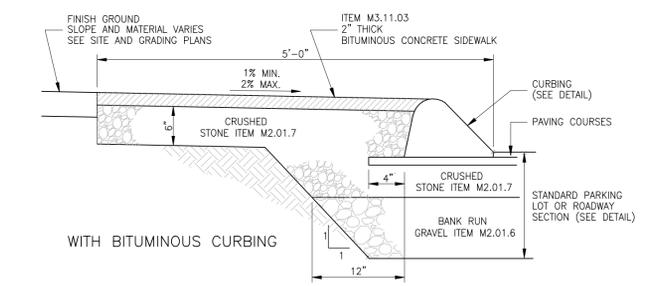
**SLOPED GRANITE CURB**  
EMBEDDED IN CONCRETE  
NOT TO SCALE



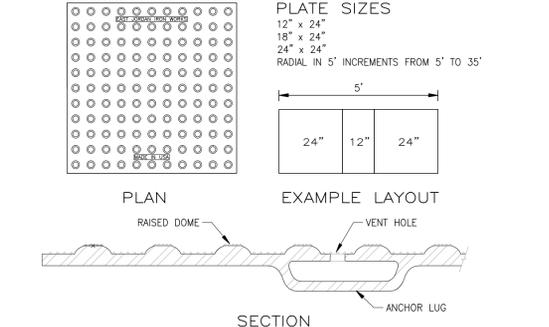
**CONCRETE SIDEWALK**  
NOT TO SCALE



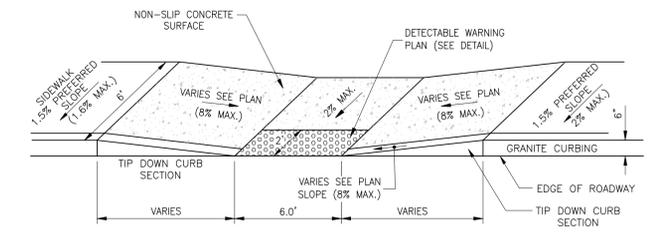
**GRASS LINED SWALE**  
FOR USE WHERE VELOCITIES ARE 3 CFS OR LESS  
NOT TO SCALE



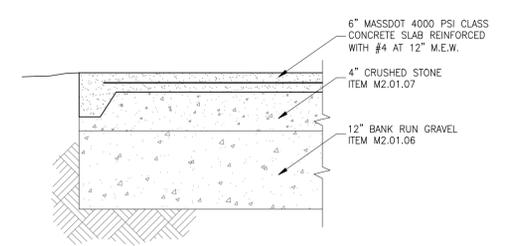
**BITUMINOUS SIDEWALK**  
NOT TO SCALE



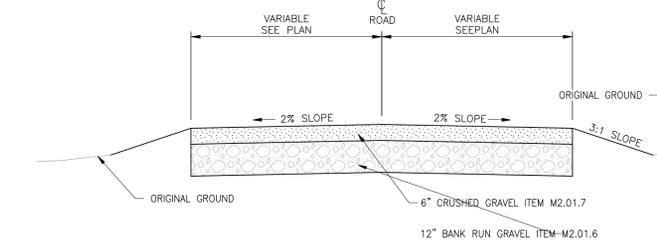
**DETECTABLE WARNING PLATE**  
NHDOT ITEM 902.1  
NOT TO SCALE



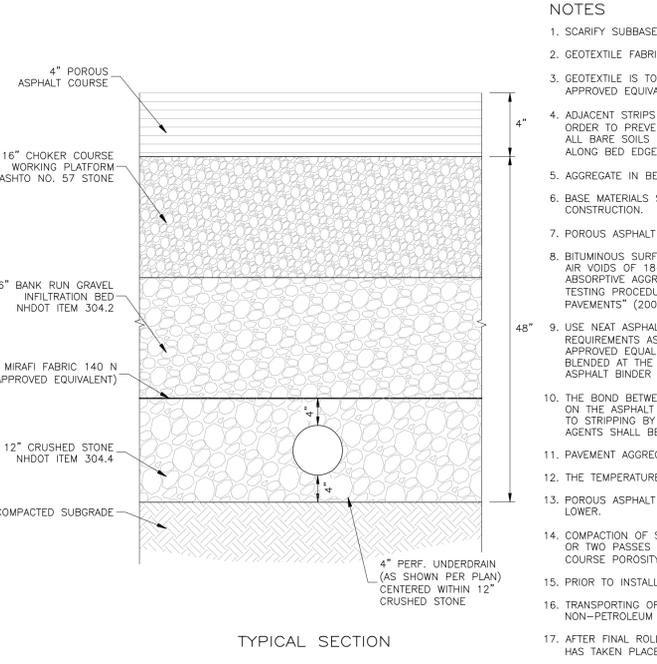
**ACCESSIBLE RAMP RECESSED IN WALK**  
WITH DETECTABLE WARNING SURFACE  
NOT TO SCALE



**CONCRETE PAD**  
FOR DUMPSTER  
NOT TO SCALE



**GRAVEL ACCESS ROAD**  
NOT TO SCALE



**POROUS ASPHALT**  
NOT TO SCALE

- NOTES**
- SCARIFY SUBBASE.
  - GEOTEXTILE FABRIC AND BED AGGREGATE SHALL BE PLACED IMMEDIATELY AFTER APPROVAL OF SUBGRADE.
  - GEOTEXTILE IS TO BE PLACED IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND SPECIFICATIONS (USE MIRAFI 140 N OR APPROVED EQUIVALENT).
  - ADJACENT STRIPS OF GEOTEXTILE SHALL OVERLAP A MINIMUM OF 16". IT SHALL ALSO BE SECURED AT LEAST 4" OUTSIDE OF BED IN ORDER TO PREVENT ANY RUNOFF OR SEDIMENT FROM ENTERING THE STORAGE BED (THIS EDGE STRIP SHALL REMAIN IN PLACE UNTIL ALL BARE SOILS CONTIGUOUS TO BEDS ARE STABILIZED AND VEGETATED - AS THE SITE IS FULLY STABILIZED, EXCESS GEOTEXTILE ALONG BED EDGES CAN BE CUT BACK TO GRAVEL EDGE).
  - AGGREGATE IN BED TO BE PLACED IN MAXIMUM 8" LIFTS.
  - BASE MATERIALS SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
  - POROUS ASPHALT SHALL BE LAID IN MAXIMUM 2" LIFTS (AFTER ROLLED/COMPACTED).
  - BITUMINOUS SURFACE COURSE FOR POROUS PAVING SHALL HAVE A BITUMINOUS MIX OF 5.75% TO 6% BY WEIGHT DRY AGGREGATE AND AIR Voids OF 18-22%. IN ACCORDANCE WITH ASTM D6390, DRAIN DOWN OF THE BINDER SHALL BE NO GREATER THAN 0.3%. IF MORE ABSORPTIVE AGGREGATES, SUCH AS LIMESTONE, ARE USED IN THE MIX, THEN THE AMOUNT OF BITUMEN IS TO BE BASED ON THE TESTING PROCEDURES OUTLINED IN THE NATIONAL ASPHALT PAVEMENT ASSOCIATION'S INFORMATION SERIES 131 - "POROUS ASPHALT PAVEMENTS" (2003) OR NHDOT EQUIVALENT.
  - USE NEAT ASPHALT BINDER MODIFIED WITH PLASTIC FIBERS OR AN ELASTOMERIC POLYMER TO PRODUCE A BINDER MEETING THE REQUIREMENTS AS SPECIFIED IN AASHTO MP-1. THE ELASTOMER POLYMER SHALL BE STYRENE-BUTADIENE-STYRENE (SBS), OR APPROVED EQUAL, APPLIED AT A RATE OF 3% BY WEIGHT OF THE TOTAL BINDER. THE COMPOSITE MATERIALS SHALL BE THOROUGHLY BLENDED AT THE ASPHALT REFINERY OR TERMINAL PRIOR TO BEING LOADED INTO THE TRANSPORT VEHICLE. THE POLYMER MODIFIED ASPHALT BINDER SHALL BE HEAT AND STORAGE STABLE.
  - THE BOND BETWEEN ASPHALT BINDER AND AGGREGATE SHALL ACHIEVE A REQUIRED TENSILE STRENGTH RATIO (TSR) OF AT LEAST 80% ON THE ASPHALT MIX WHEN TESTED IN ACCORDANCE WITH AASHTO T 283. THE ASPHALTIC MIX SHALL BE TESTED FOR ITS RESISTANCE TO STRIPPING BY WATER IN ACCORDANCE WITH ASTM D-1664. IF THE ESTIMATED COATING AREA IS NOT ABOVE 95%, ANTI-STRIPPING AGENTS SHALL BE ADDED TO THE ASPHALT.
  - PAVEMENT AGGREGATE SHALL BE MINIMUM 90% CRUSHED MATERIAL AND CONFORM TO THE ATTACHED GRADATION.
  - THE TEMPERATURE OF THE BITUMINOUS MIX SHALL BE BETWEEN 300 DEGREES FAHRENHEIT AND 350 DEGREES FAHRENHEIT.
  - POROUS ASPHALT SHALL NOT BE INSTALLED ON WET SURFACES OR WHEN AMBIENT TEMPERATURE IS 50 DEGREES FAHRENHEIT OR LOWER.
  - COMPACTION OF SURFACE COURSE SHALL TAKE PLACE WHEN THE SURFACE IS COOL ENOUGH TO WITHSTAND A 10-TON ROLLER (ONE OR TWO PASSES IS ALL THAT IS REQUIRED FOR PROPER COMPACTION - MORE ROLLING COULD CAUSE A REDUCTION IN THE SURFACE COURSE POROSITY).
  - PRIOR TO INSTALLATION, THE POROUS ASPHALT MIX SHALL NOT BE STORED IN EXCESS OF 90 MINUTES.
  - TRANSPORTING OF THE MIX SHALL BE IN VEHICLES WITH SMOOTH, CLEAN DUMP BEDS THAT HAVE BEEN SPRAYED WITH A NON-PETROLEUM RELEASE AGENT. THE MIX SHALL BE COVERED DURING TRANSPORT TO CONTROL COOLING.
  - AFTER FINAL ROLLING, NO VEHICULAR TRAFFIC OF ANY KIND SHALL BE PERMITTED ON THE SURFACE UNTIL COOLING AND HARDENING HAS TAKEN PLACE (IN NO CASE LESS THAN 48 HOURS).
  - PERMEABILITY OF THE PAVEMENT SURFACE SHALL BE TESTED BY APPLICATION OF CLEAN WATER AT A RATE OF 5 GPM (USING A HOSE OR OTHER DISTRIBUTION DEVICE). ALL WATER SHOULD INFILTRATE DIRECTLY WITHOUT PUDDLE FORMATION OR SURFACE RUNOFF.

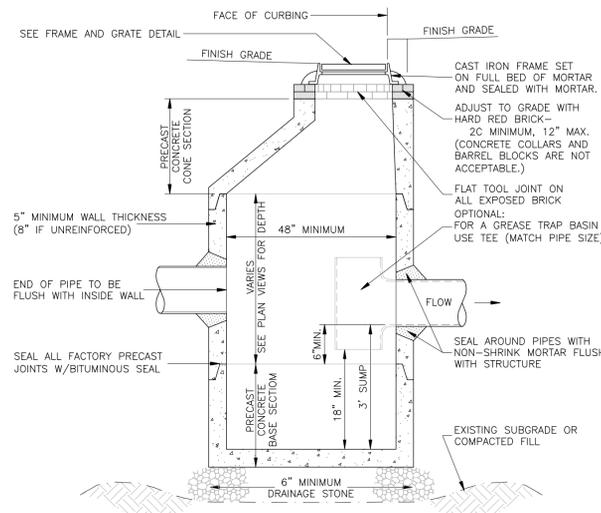
TAX MAP 22 LOT 115 & 116  
**DETAIL SHEET**  
**PROPOSED RESTAURANT**  
**66 BOSTON ROAD, WESTFORD, MA**  
OWNED BY & PREPARED FOR  
**EBI MASALEHDAN**

SCALE: AS NOTED February 22, 2016

<b>TFM</b>	Civil Engineers	48 Constitution Drive
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	Traffic Engineers	Phone (603) 472-4488
	Land Surveyors	Fax (603) 472-9747
	Landscape Architects	www.tforan.com
	Scientists	

REV.	DATE	DESCRIPTION	TM	JK
1	5/16/16	ADD POROUS ASPHALT DETAIL	TM	JK

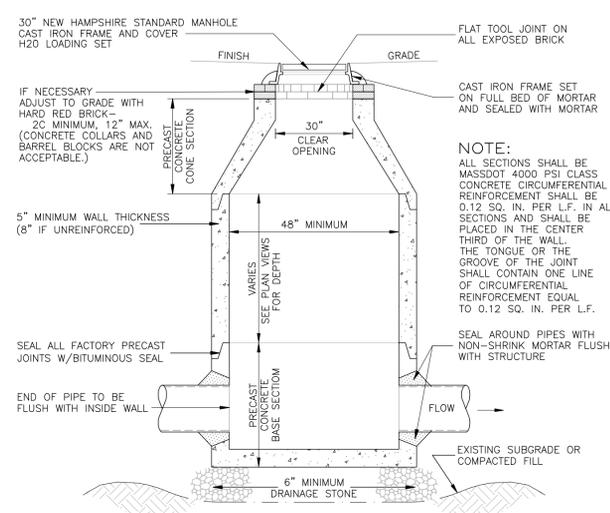
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NOTE: ALL PRECAST SECTIONS SHALL CONFORM TO ASTM C-478

### CATCH BASIN

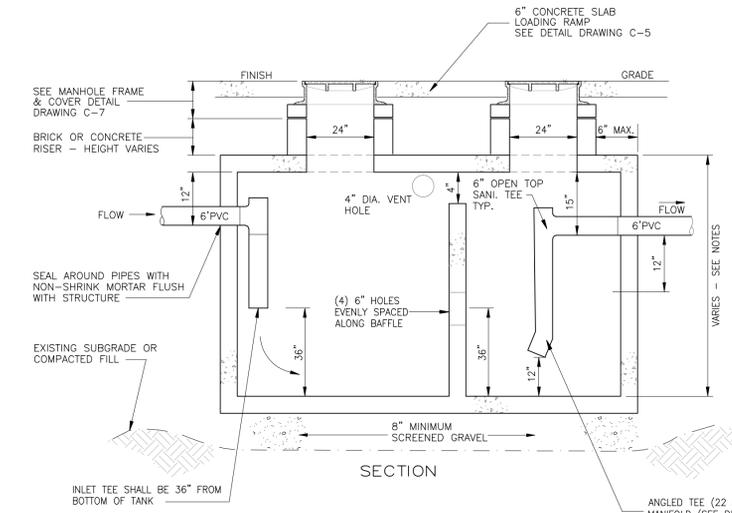
ECCENTRIC CONE (FOR USE IN CURBED AREAS) NOT TO SCALE



NOTE: ALL PRECAST SECTIONS SHALL CONFORM TO ASTM C-478

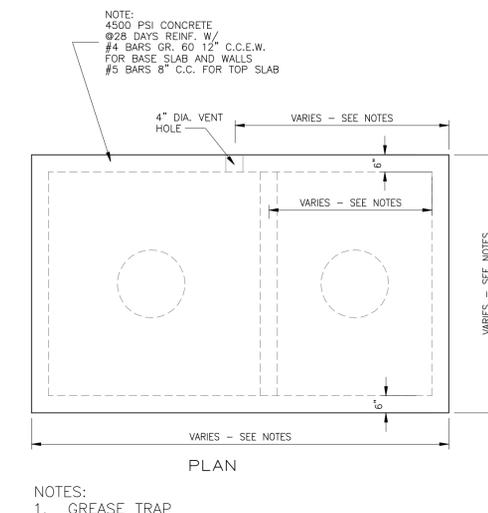
### DRAIN MANHOLE

CONCENTRIC CONE NOT TO SCALE



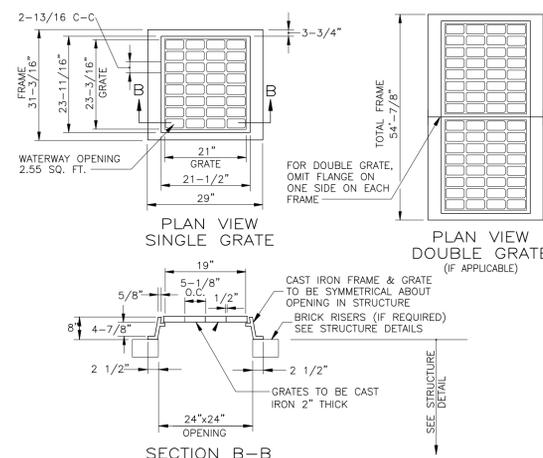
### GREASE TRAP CHAMBER

NOT TO SCALE



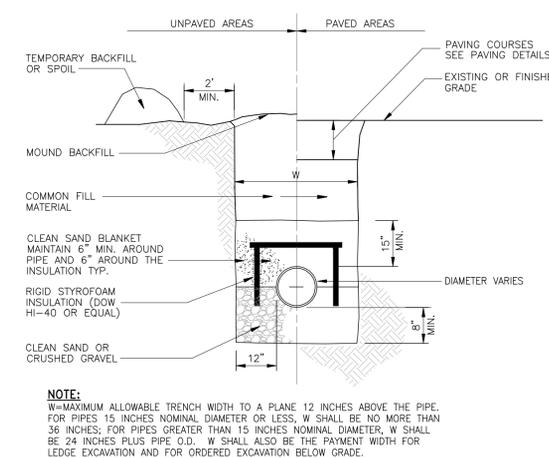
NOTES:  
1. GREASE TRAP  
2. H-20 LOADING.

NOT TO SCALE



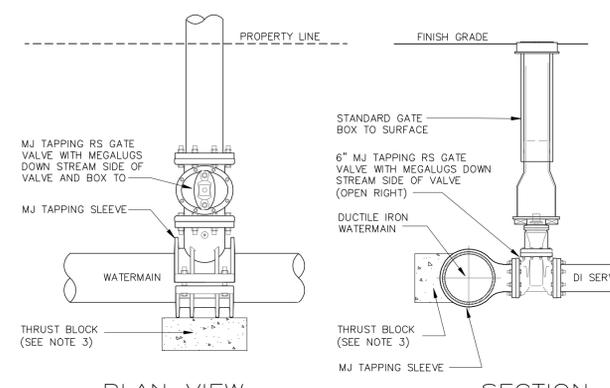
### FRAME AND GRATE

NOT TO SCALE



### PIPE INSULATION

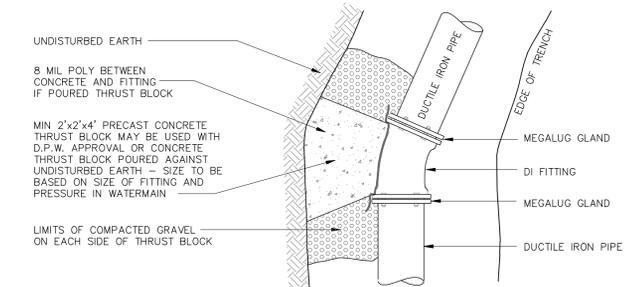
NOT TO SCALE



### WET TAP TEE INSTALLATION

NOTE  
1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO TOWN OF WESTFORD TECHNICAL SPECIFICATIONS.  
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTHS OF 5' FROM TOP OF PIPE TO FINISH GRADE.  
3. MIN 2'x2'x4' PRECAST CONCRETE THRUST BLOCK MAY BE USED WITH M.W.W. APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH - SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATERMAIN.

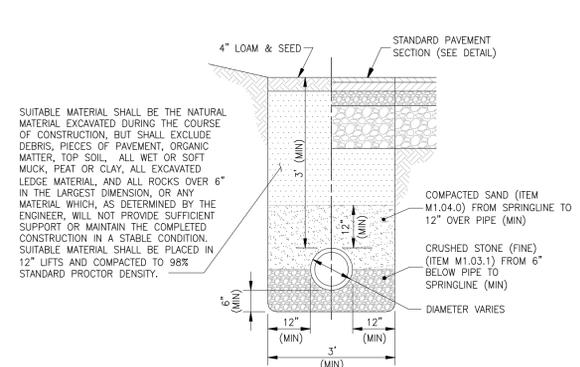
PIPE SIZE	90° BEND		45° BEND		22½° BEND		11¼° BEND		TEE & PLUG	
	WIDTH	HGT.	WIDTH	HGT.	WIDTH	HGT.	WIDTH	HGT.	WIDTH	HGT.
6"	33"	21"	18"	21"	18"	9"	12"	21"	24"	
8"	45"	27"	24"	27"	24"	12"	15"	27"	33"	
10"	60"	36"	36"	36"	24"	30"	18"	21"	36"	42"
12"	66"	39"	36"	42"	24"	30"	18"	21"	39"	45"
14"	72"	45"	42"	48"	27"	36"	18"	27"	45"	54"



NOTE  
1. ALL MATERIAL AND INSTALLATION PROCEDURES WILL CONFORM TO D.P.W. TECHNICAL SPECIFICATIONS.  
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.

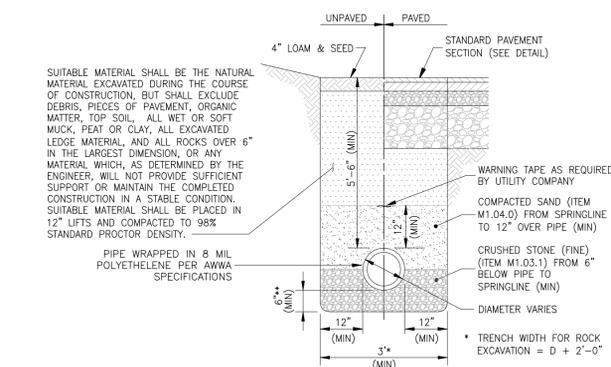
### THRUST BLOCKING BEHIND FITTINGS INSTALLATION

NOT TO SCALE



### STORM DRAIN TRENCH

NOT TO SCALE



### WATER MAIN TRENCH

NOT TO SCALE

TAX MAP 22 LOT 115 & 116  
**DETAIL SHEET**  
**PROPOSED RESTAURANT**  
66 BOSTON ROAD, WESTFORD, MA  
OWNED BY & PREPARED FOR  
**EBI MASALEHDAN**

SCALE: AS NOTED February 22, 2016

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REV.	DATE	DESCRIPTION	DR	CK

**TFM** Civil Engineers  
Structural Engineers  
Traffic Engineers  
Land Surveyors  
Landscape Architects  
Scientists

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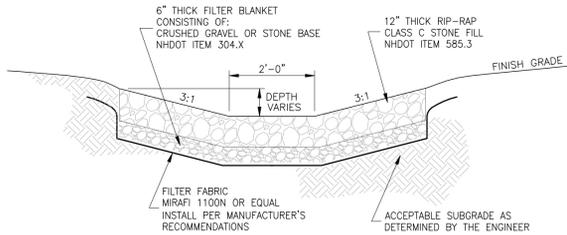
31578.01 DR AA FB -  
CK JK (CADFILE) 31578-01 Details SHEET 11 OF 14

**CONSTRUCTION SPECIFICATIONS**

1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC OR RIP-RAP SHALL BE CLEARED AND GRUBBED TO REMOVE ALL ROOTS, VEGETATION, AND DEBRIS AND PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM ROCK RIP-RAP BY PLACING A CUSHION OF SAND AND GRAVEL OVER THE FABRIC. PUNCTURE OR TEARING DURING PLACEMENT OF THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF THE FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING FABRIC SHALL BE A MINIMUM OF 12 INCHES.
3. RIP-RAP MAY BE PLACED BY EQUIPMENT TO THE FULL LAYER THICKNESS IN ONE OPERATION IF HANDLED IN SUCH A MANNER AS TO PREVENT DISPLACEMENT OF THE UNDERLYING MATERIALS. HAND PLACEMENT MAY BE REQUIRED WHERE NECESSARY TO PREVENT DAMAGE TO ANY PERMANENT STRUCTURES OR UNDERLYING MATERIALS.
4. STONES FOR RIP-RAP SHALL BE ANGULAR OR SUBANGULAR. THE STONES SHOULD BE SHAPED SO THAT THE LEAST DIMENSION OF THE STONE FRAGMENT SHALL BE NOT LESS THAN ONE-THIRD OF THE GREATEST DIMENSION OF THE FRAGMENT. FLAT ROCKS SHALL NOT BE USED AS RIP-RAP.
5. VOIDS IN THE ROCK RIP-RAP SHALL BE FILLED WITH SPALLS AND SMALLER ROCKS MEETING SPECIFIED GRADATION.

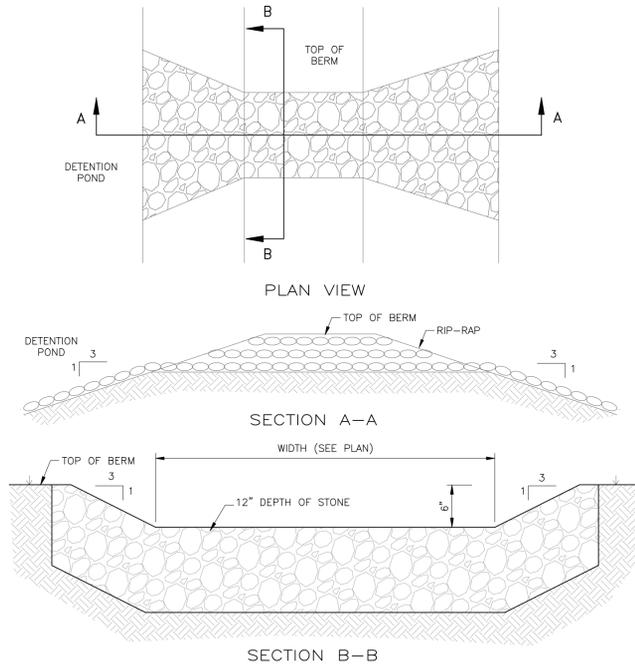
**MAINTENANCE**

1. ROCK RIP-RAP SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM TO SEE IF THE RIP-RAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED.
2. WOODY VEGETATION SHOULD BE REMOVED FROM THE ROCK RIP-RAP ANNUALLY.
3. IF THE RIP-RAP IS ON A CHANNEL BANK, THE STREAM SHOULD BE KEPT CLEAR OF OBSTRUCTIONS.
4. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE RIP-RAP.



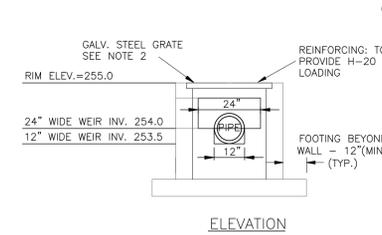
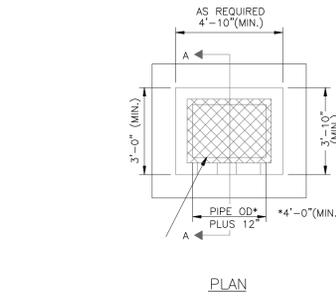
**RIP RAP SWALE**

NOT TO SCALE



**RIP-RAP WEIR**

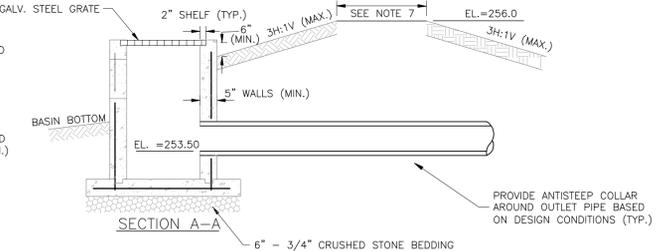
FOREBAY SPILLWAYS TO DETENTION POND NOT TO SCALE



**OUTLET STRUCTURE AT DETENTION BASIN**

NOT TO SCALE

- NOTES:**
1. ALL CEMENT CONCRETE TO BE 4000 PSI (NHDOT - CLASS AA)
  2. GALVANIZED STEEL GRATE SHALL BE BOLTED TO TOP OF STRUCTURE
  3. OUTLET PIPE SHALL NOT BE LESS THAN 15\"(MIN.)
  4. ALL OPENINGS CAST AS REQUIRED
  5. PRECAST REINFORCED CONCRETE STRUCTURE TO MEET ASTM C-478 DESIGNATION AND H-20 LOADING
  6. CONTROL WEIR SHALL BE SIZED TO MITIGATE DESIGN STORM AS REQUIRED BY REGULATIONS
  7. MINIMUM EMBANKMENT ELEVATION TO BE 12\"/>



**BIORETENTION AREA CONSTRUCTION**

1. CLEAR AND GRUB THE AREA WHERE THE BIORETENTION AREAS ARE TO BE LOCATED. STOCKPILE LOAM FOR REUSE ON SLOPES.
2. GRADE BIORETENTION AREAS ACCORDING TO PLAN AND DETAILS. SIDE SLOPES SHALL HAVE 4\"/>

5. COMPOST SHALL MEET THE FOLLOWING SPECIFICATION:

ITEM	PERCENT BY WEIGHT	TEST METHOD
SAND (2.0-0.050 MM)	50-85%	AASHTO T88
SILT (0.050-0.002 MM)	0-50%	AASHTO T88
CLAY (LESS THAN 0.002 MM)	10-20%	AASHTO T88
ORGANIC MATTER	1.5-10%	AASHTO T194

6. CLEAN COARSE SAND SHALL MEET THE FOLLOWING SPECIFICATION:

US STANDARD SIEVE SIZE	PERCENT FINER
3/8 INCH	100
#4	65-90
#10	40-75
#40	5-40
#100	0
#200	0

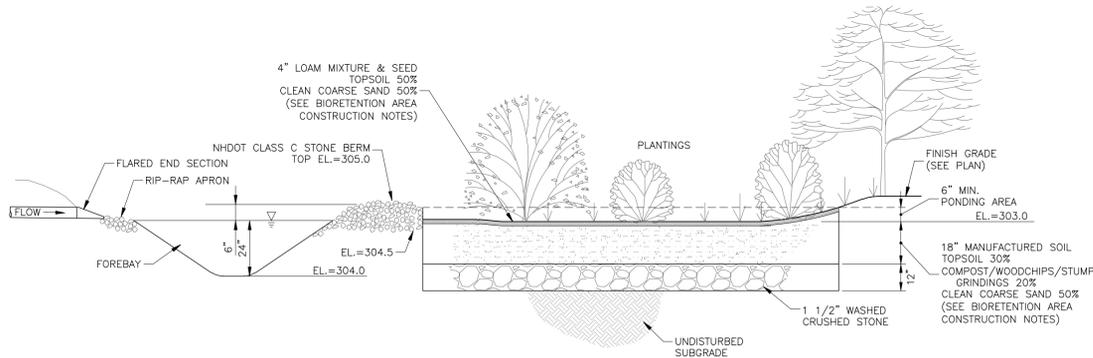
7. SEEDING FOR BIORETENTION AREA SIDE SLOPES SHALL HAVE A MINIMUM OF 4\"/>

8. SEEDING FOR BIORETENTION AREA BASIN SHALL BE NEW ENGLAND WETLAND PLANTS, INC. NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES (MIN. 35 LBS/ACRE).

9. THE DRAINAGE LAYER MATERIAL SHALL BE PLACED WITH ONLY NOMINAL COMPACTION APPLIED BY A DOZER OR GRADER. FORMAL COMPACTION USING A VIBRATORY STEEL DRUM ROLLER SHALL NOT BE USED AS DENSIFICATION WILL REDUCE THE PERMEABILITY AND ABILITY FOR THE MANUFACTURED SOIL TO PROPERLY DRAIN. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT EQUIPMENT & VEHICLE TRAFFIC FROM DRIVING IN THE AREA OF THE PROPOSED BIORETENTION AREA DURING CONSTRUCTION. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT SMEARING OF THE SUBGRADE DURING CONSTRUCTION.

**BIORETENTION AREA INSPECTION & MAINTENANCE**

- INSPECTION & MAINTENANCE SCHEDULE TO BEGIN AFTER CONSTRUCTION SITE IS STABILIZED AND FLOW DIRECTED TO BASIN.
1. BIORETENTION AREA SHALL BE INSPECTED TWICE A YEAR AND MAINTENANCE PERFORMED AS REQUIRED PER INSPECTION. AT LEAST ONCE ANNUALLY THE BASIN SHALL BE INSPECTED FOR DRAINAGE TIME. IF THE BASIN DOES NOT DRAIN WITHIN 72 HOURS, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION AND DETERMINE MEASURES REQUIRED TO RESTORE FUNCTION.
  2. VEGETATION - SHALL BE INSPECTED AND MAINTAINED IN A HEALTHY CONDITION BY REMOVING/REPLACING DEAD OR DISEASED VEGETATION AND REMOVING INVASIVE SPECIES. THE VEGETATED AREAS SHALL BE PROTECTED FROM DAMAGE BY TRAFFIC AND DENSE WEED GROWTH. VEGETATION MAINTENANCE A MINIMUM OF 2 TONS PER ACRE OF AGRICULTURAL LIMESTONE AND 500 LBS. PER ACRE OF 10-20-20 FERTILIZER SHALL BE APPLIED.
  3. BOTTOM OF BASIN - BOTTOM OF BASIN SHALL BE INSPECTED FOR EROSION, SEDIMENT ACCUMULATION, TRASH & DEBRIS. REPAIR ANY ERODED AREA OF THE BIORETENTION AREA WITH APPROPRIATE GRASS COVER AFTER REPLACING ANY LOST FILL MATERIAL AND LOAM. REMOVED SEDIMENT, TRASH & DEBRIS SHALL BE REMOVED AND DISPOSED OF PROPERLY.
  4. INLET/OUTLET - CONDITIONS OF PIPES/RIPRAP SHALL BE NOTED AND REPAIRS MADE IF NEEDED. ACCUMULATED SEDIMENT & DEBRIS SHALL BE REMOVED AND DISPOSED OF PROPERLY. IF EROSION HAS OCCURRED, THEN MEASURES SHALL BE TAKEN TO STABILIZE AND PROTECT THE AREAS.



**BIORETENTION NOTES**

- DO NOT PLACE THE BIORETENTION SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND IT'S CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
- DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE BIORETENTION AREA DURING ANY STAGE OF CONSTRUCTION.
- DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.

**BIORETENTION AREA SECTION**

NOT TO SCALE

TAX MAP 22 LOT 115 & 116  
**DETAIL SHEET**  
**PROPOSED RESTAURANT**  
**66 BOSTON ROAD, WESTFORD, MA**  
 OWNED BY & PREPARED FOR  
**EBI MASALEHDAN**

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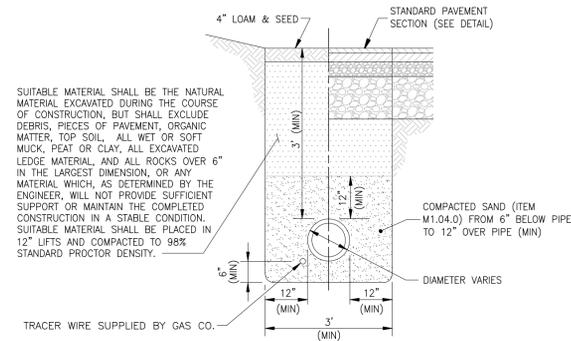
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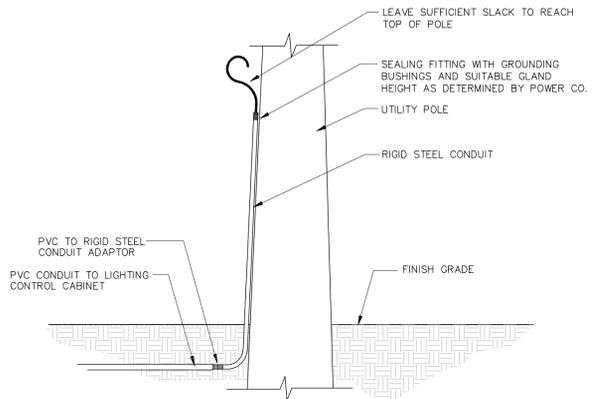
**TFM** Civil Engineers, Structural Engineers, Traffic Engineers, Land Surveyors, Landscape Architects, Scientists

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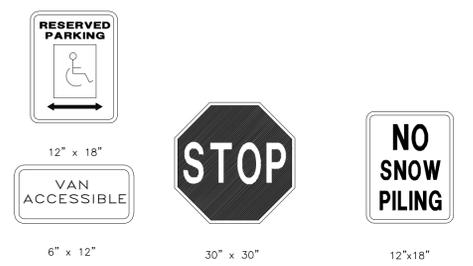
FILE 31578.01 DR AA FB - CK JK CADFILE 31578-01 Details SHEET 12 OF 14



**GAS MAIN TRENCH**  
NOT TO SCALE



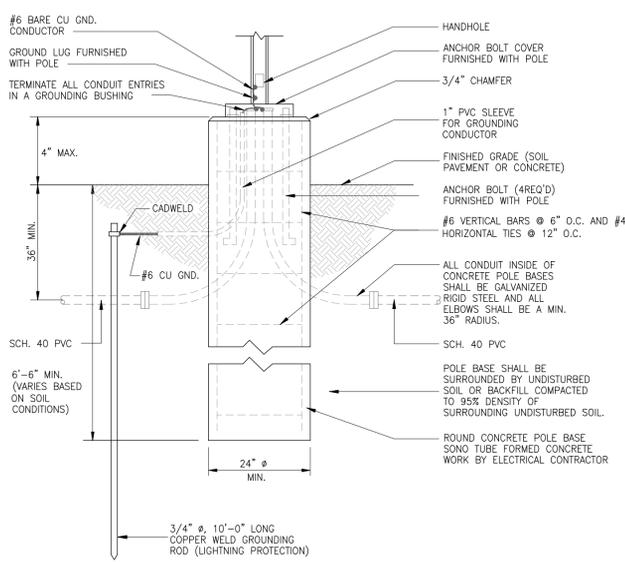
**SERVICE POLE RISER**  
NOT TO SCALE



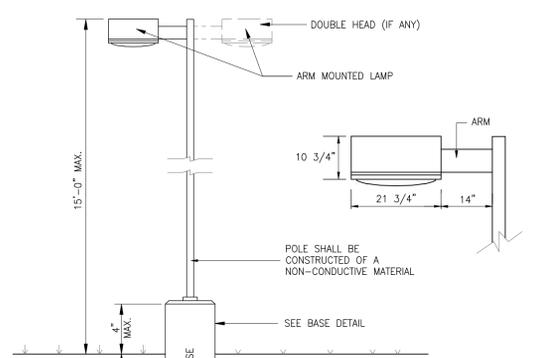
LENGTH: P-12, 12'-0"; P-14, 14'-0"; P-16, 16'-0".  
 WEIGHT PER LINEAR FOOT: 2.50 LBS. (MIN.)  
 HOLES: 3/8" DIA. 1" C-C FULL LENGTH  
 STEEL: SHALL CONFORM TO ASTM A-499 (GRADE 60) OR ASTM A-576 (GRADE 1070-1080).  
 FINISH: SHALL BE PAINTED WITH TWO COATS OF AN APPROVED MEDIUM GREEN, BAKED ON OR AIR DRIED, PAINT OF WEATHER RESISTANT QUALITY. ALL FABRICATION SHALL BE COMPLETE BEFORE PAINTING.

- NOTES**
- POSTS SHALL BE PLUMB; ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND PROPERLY REPLACED. POSTS MAY BE SET OR DRIVEN.
  - WHEN POSTS ARE SET, HOLES SHALL BE DUG TO THE PROPER DEPTH, AFTER INSERTING POSTS, THE HOLES SHALL BE BACKFILLED WITH SUITABLE MATERIAL IN LAYERS NO TO EXCEED 6" DEEP THOROUGHLY COMPACTED, CARE BEING TAKEN TO PRESERVE THE ALIGNMENT OF THE POST.
  - WHEN POSTS ARE DRIVEN, A SUITABLE DRIVING CAP SHALL BE USED AND AFTER DRIVING THE TOP OF THE POST SHALL HAVE SUBSTANTIALLY THE SAME CROSS-SECTIONAL DIMENSION AS THE BODY OF THE POST; BATTERED HEADS WILL NOT BE ACCEPTED.
  - POSTS SHALL NOT BE DRIVEN WITH THE SIGN ATTACHED TO THE POST.
  - SIGNS SHALL BE ERECTED IN CONFORMANCE WITH THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
  - WHEN SIGN IS IN PLACE NO PART OF POST SHALL EXTEND ABOVE THE SIGN.
  - DIMENSIONS SHOWN ARE NOMINAL.
  - ALTERNATE SECTIONS MUST BE APPROVED PRIOR TO USE.

**TRAFFIC SIGN POST IN GRADE**  
NOT TO SCALE

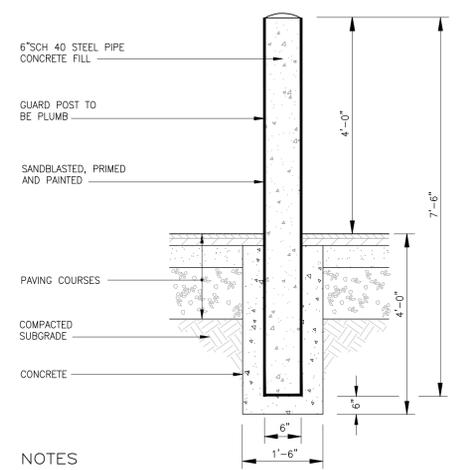


**LIGHT POLE BASE**  
NOT TO SCALE



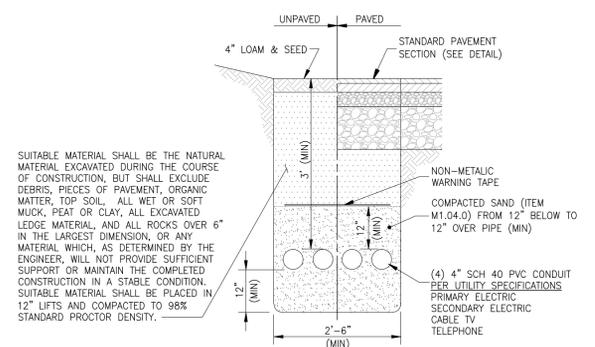
- NOTES**
- FIXTURES MUST BE GROUNDED IN ACCORDANCE WITH LOCAL ELECTRICAL CODES, OR THE NATIONAL ELECTRICAL CODE.
  - CENTER OF POLE BASES TO BE SET 4'-0" FROM EDGE OF PAVEMENT, EXCEPT WHERE OTHERWISE INDICATED ON DRAWING.
  - LIGHTING SHOWN HERE IS AREA LIGHTING, SUPPLEMENTAL BUILDING-MOUNTED FIXTURES AT DOORWAYS, ETC. MAY BE REQUIRED.
  - SEE LIGHTING PLAN FOR FIXTURE SCHEDULE.

**LIGHT POLE**  
NOT TO SCALE



- NOTES**
- BOLLARD TO CONFORM TO NHDOT SPECIFICATIONS
  - INSTALL POYLY COVER TO BOLLARDS ALONG BUILDING (GRAY POLYETHYLENE COVER FROM IDEAL SHIELD 313-842-7290)

**BOLLARD**  
NOT TO SCALE



**UTILITY TRENCH**  
NOT TO SCALE

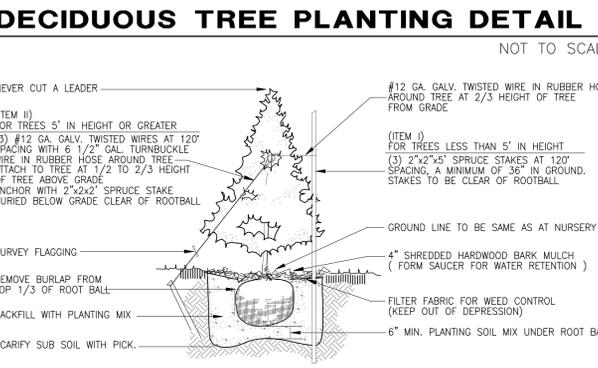
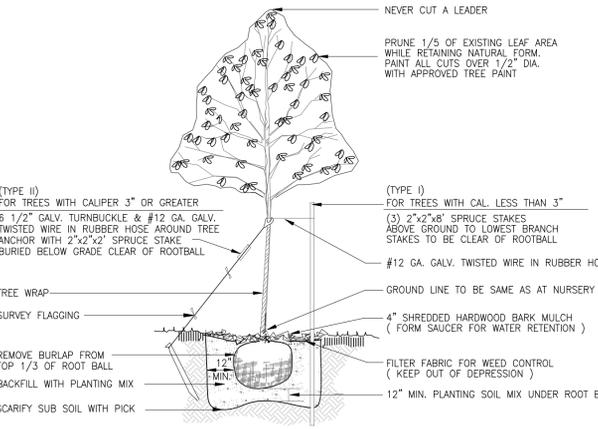
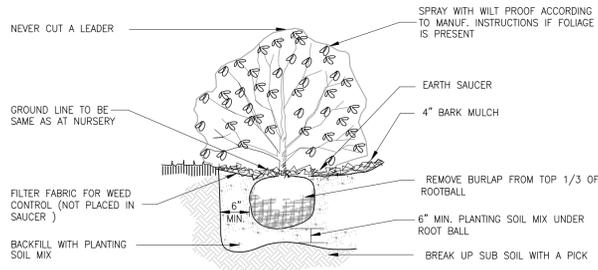
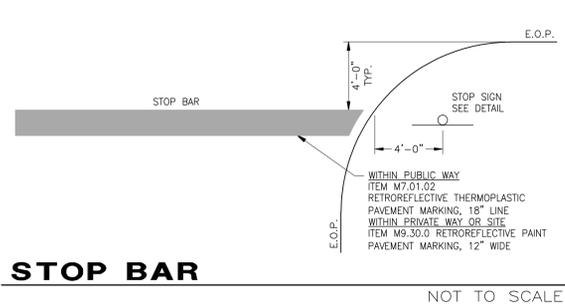
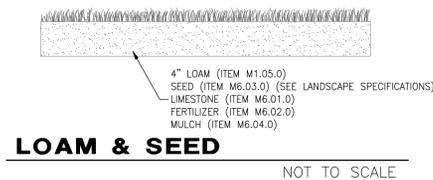
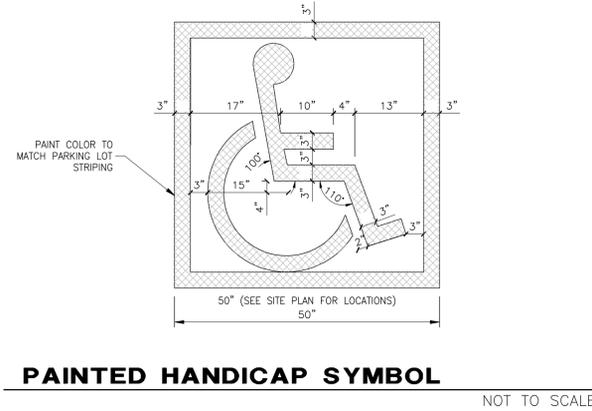
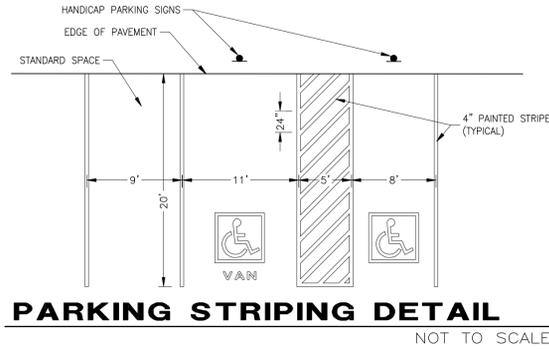
TAX MAP 22 LOT 115 & 116  
**DETAIL SHEET**  
**PROPOSED RESTAURANT**  
**66 BOSTON ROAD, WESTFORD, MA**  
 OWNED BY & PREPARED FOR  
**EBI MASALEHDAN**

SCALE: AS NOTED February 22, 2016

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REV.	DATE	DESCRIPTION	DR	CK

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	31578.01	DR AA FB CK JK CADFILE
SHEET 13 OF 14		



**LANDSCAPE SPECIFICATIONS**

**SITE AND SOIL PREPARATION**

- WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR LEDGE, NOTIFY LANDSCAPE ARCHITECT/ENGINEER BEFORE PLANTING.
- ALL DISTURBED AREAS & PLANTING AREAS, INCLUDING AREAS TO BE SODED, SHALL RECEIVE THE FOLLOWING SOIL PREPARATION PRIOR TO PLANTING: A MINIMUM OF 4 INCHES OF LIGHTLY COMPACTED TOPSOIL SHALL BE INSTALLED OVER THE SUBSOIL IF TOPSOIL HAS BEEN REMOVED OR IS NOT PRESENT.
- LOAM SHALL CONSIST OF LOOSE FRIABLE TOPSOIL WITH NO ADMIXTURE OF REFUSE OR MATERIAL TOXIC TO PLANT GROWTH. LOAM SHALL BE FREE FROM STONES, LUMPS, STUMPS, OR SIMILAR OBJECTS LARGER THAN TWO INCHES (2") IN GREATEST DIAMETER, SUBSOIL, ROOTS, AND WEEDS. THE MINIMUM AND MAXIMUM PH VALUE SHALL BE FROM 5.5 TO 7.6. LOAM SHALL CONTAIN A MINIMUM OF THREE PERCENT (3%) AND A MAXIMUM OF TWENTY PERCENT (20%) ORGANIC MATTER AS DETERMINED BY LOSS BY IGNITION. NOT MORE THAN SIXTY-FIVE PERCENT (65%) SHALL PASS A NO. 200 SIEVE AS DETERMINED BY THE WASH TEST IN ACCORDANCE WITH ASTM D1140. IN NO INSTANCE SHALL MORE THAN 20% OF THAT MATERIAL PASSING THE #4 SIEVE CONSIST OF CLAY SIZE PARTICLES.
- NATURAL TOPSOIL NOT CONFORMING TO THE PARAGRAPH ABOVE OR CONTAINING EXCESSIVE AMOUNTS OF CLAY OR SAND SHALL BE TREATED BY THE CONTRACTOR TO MEET THOSE REQUIREMENTS.
- SUBMIT TEST RESULTS OBTAINED FROM SOURCE TO ENGINEER/LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL, PRIOR TO SPREADING OPERATIONS.
- APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT TO USE THE TOPSOIL WILL DEPEND UPON THE RESULTS OF THE SOIL TESTS.
- THE BURDEN OF PROOF OF SOIL AMENDMENT INSTALLATION RESTS WITH THE CONTRACTOR. SOIL TESTS MAY BE REQUIRED AT THE CONTRACTOR'S EXPENSE IN ORDER TO CONFIRM AMENDMENT INSTALLATION.

**SEEDING**

- ROUGH GRADING SHALL BE COMPLETED PRIOR TO THE START OF PLANTING IN ANY GIVEN AREA OF THE PROJECT SITE.
- SEEDING SHALL BE DONE BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 15, EXCEPT FOR RESEEDING OF BARE SPOTS AND MAINTENANCE. ALL DISTURBED AREAS NOT COVERED BY BUILDINGS, PAVING OR AREAS THAT HAVE NOT BEEN OTHERWISE DEVELOPED SHALL BE SEEDED OR SODED. SLOPES GREATER THAN 3:1 SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET. AFTER OCTOBER 15 DISTURBED SOILS SHALL BE PROTECTED IN ACCORDANCE WITH THE WINTER CONSTRUCTION NOTES.

**ACCEPTABLE SEED MIXES ARE AS FOLLOWS:**

**TYPICAL LAWN MIX (MIN. 200 LBS/ACRE):**

33% CREEPING RED FESCUE	(MIN. 66 LBS/ACRE)
42% PERENNIAL RYEGRASS	(MIN. 84 LBS/ACRE)
21% KENTUCKY BLUEGRASS	(MIN. 42 LBS/ACRE)
4% REDTOP	(MIN. 8 LBS/ACRE)

**GENERAL SLOPE MIX 3:1 OR GREATER SLOPES (MIN. 160 LBS/ACRE):**

44% CREEPING RED FESCUE	(MIN. 70 LBS/ACRE)
38% PERENNIAL RYEGRASS	(MIN. 60 LBS/ACRE)
6% REDTOP	(MIN. 10 LBS/ACRE)
6% ALSIKE CLOVER	(MIN. 10 LBS/ACRE)
6% BIRDFOOT TREFLOIL	(MIN. 10 LBS/ACRE)

**PLANTING**

- EXCAVATE PITS, PLANTERS, BEDS AND TRENCHES WITH VERTICAL SIDES AND WITH BOTTOM OF EXCAVATION SLIGHTLY RAISED AT CENTER TO PROVIDE PROPER DRAINAGE. LOOSEN HARD SUBSOIL IN BOTTOM OF EXCAVATION.
- ANY LEDGE OR RUBBLE MATERIAL SHALL BE FRACTURED TO A DEPTH OF 3 FEET AND EXCAVATED TO A DEPTH OF 30 INCHES FOR TREE POCKETS AND 18 INCHES FOR SHRUB BEDS. THIS PROCEDURE SHALL BE HANDLED BY THE SITE CONTRACTOR. SITE TOPSOIL SHALL BE DEPOSITED IN ALL EXCAVATED POCKETS.
- DISPOSE OF SUBSOIL REMOVED FROM PLANTING EXCAVATIONS. DO NOT MIX WITH PLANTING SOIL OR USE AS BACKFILL.
- FILL EXCAVATIONS FOR TREES AND SHRUBS WITH WATER AND ALLOW TO PERCOLATE OUT BEFORE PLANTING.
- DISH TOP OF BACKFILL TO ALLOW FOR MULCH - PLANT SAUCERS SHALL BE AS SHOWN ON DETAIL SHEETS, 6" DIAMETER FOR ALL DECIDUOUS TREES, AND FOR EVERGREEN TREES A RADIUS 2' BEYOND THE OUTER MOST BRANCHES.
- MULCH TREES, SHRUBS, PLANTERS AND BEDS. PROVIDE NOT LESS THAN 4" THICKNESS OF BARK MULCH, 3/8"-2" OF WIDTH, AND WORK INTO TOP OF BACKFILL AND FINISH LEVEL WITH ADJACENT FINISH GRADES AS DIRECTED IN THE FIELD.
- STAKE AND GUY TREES IMMEDIATELY AFTER PLANTING (TREE SUPPORT STAKES SHALL BE 2" X 3" X 8', WOOD STAKES, GUYING WIRE SHALL BE NO. 12 GAUGE GALVANIZED SOFT STEEL WIRE. HOSE FOR COVERING WIRE SHALL BE NEW OR USED TWO PLY RUBBER HOSE NOT LESS THAN 1/2 INCH INSIDE DIAMETER. (PLASTIC "CINCH-TIES" OR EQUIVALENT FASTENING DEVICE MAY BE AN ACCEPTABLE GUY WIRE AND HOSE PROTECTOR SUBSTITUTE.)
- ALL PLANT MATERIALS SHALL HAVE DEAD OR DAMAGED BRANCHES REMOVED AT TIME OF PLANTING. ALL TAGS AND RIBBONS SHALL BE REMOVED AT THIS TIME.
- TREES TO REMAIN STAKED FOR 1 FULL GROWING SEASONS.
- THE CONTRACTOR SHALL REQUEST A FINAL OBSERVATION BY THE OWNER'S REPRESENTATIVE UPON COMPLETION OF INSTALLATION.

**LANDSCAPE MAINTENANCE**

**LAWN**

- BEGINNING MAINTENANCE IMMEDIATELY AFTER EACH AREA IS PLANTED AND CONTINUE UNTIL ACCEPTABLE LAWN IS ESTABLISHED, BUT NOT LESS THAN THE FOLLOWING PERIODS:
  - SEEDED LAWNS: 60 DAYS FROM DATE OF SUBSTANTIAL COMPLETION.
    - WHEN FULL MAINTENANCE PERIOD HAS NOT ELAPSED BEFORE END OF PLANTING SEASON, OR IF LAWN IS NOT FULLY ESTABLISHED, CONTINUE MAINTENANCE DURING NEXT PLANTING SEASON.
  - SODED LAWNS: 30 DAYS FROM DATE OF SUBSTANTIAL COMPLETION.
  - SPRIGGED LAWNS: 30 DAYS FROM DATE OF SUBSTANTIAL COMPLETION.
- MAINTAIN AND ESTABLISH LAWN BY WATERING, WEEDING, MOWING, TRIMMING, REPLANTING, AND OTHER OPERATIONS. ROLL, REGRADE, AND REPLANT BARE OR ERODED AREAS AND REMULCH TO PRODUCE A UNIFORMLY SMOOTH LAWN.
  - IN AREAS WHERE MULCH HAS BEEN DISTURBED BY WIND OR MAINTENANCE OPERATIONS, ADD NEW MULCH. ANCHOR AS REQUIRED TO PREVENT DISPLACEMENT.
- WATERING: PROVIDE AND MAINTAIN TEMPORARY PIPING, HOSES, AND LAWN-WATERING EQUIPMENT TO CONVEY WATER FROM SOURCES AND KEEP LAWN UNIFORMLY MOIST TO A DEPTH OF FOUR INCHES (100 mm).
  - SCHEDULE WATERING TO PREVENT WILTING, PUDDLING, EROSION, AND DISPLACEMENT OF SEED OR MULCH. LAY OUT TEMPORARY WATERING SYSTEM TO AVOID WALKING OVER MUDDY OR NEWLY PLANTED AREAS.
  - WATER LAWN AT A MINIMUM RATE OF ONE INCH (25 mm) PER WEEK.
- MOW LAWN AS SOON AS TOP GROWTH IS TALL ENOUGH TO CUT. REPEAT MOWING TO MAINTAIN SPECIFIC HEIGHT WITHOUT CUTTING MORE THAN 40 PERCENT OF GRASS HEIGHT. REMOVE NO MORE THAN 40 PERCENT OF GRASS-LEAF GROWTH IN INITIAL OR SUBSEQUENT MOWINGS. DO NOT DELAY MOWING UNTIL GRASS BLADES BEND OVER AND BECOME MATTED. DO NOT MOW WHEN GRASS IS WET. SCHEDULE INITIAL AND SUBSEQUENT MOWINGS TO MAINTAIN THE FOLLOWING GRASS HEIGHT.
  - MOW GRASS TO 1/2 INCH (13 mm) HIGH OR LESS.
  - MOW GRASS 1/2 TO 1 INCH (13 TO 25 mm) HIGH OR LESS.
  - MOW GRASS 1 TO 2 INCHES (25 TO 50 mm) HIGH OR LESS.
  - MOW GRASS 1-1/2 TO 2 INCHES (38 TO 50 mm) HIGH OR LESS.
  - MOW GRASS 2 TO 3 INCHES (50 TO 75 mm) HIGH OR LESS.
- LAWN POSTFERTILIZATION: APPLY FERTILIZER AFTER INITIAL MOWING AND WHEN GRASS IS DRY.
  - USE FERTILIZER THAT WILL PROVIDE ACTUAL NITROGEN OF AT LEAST 1 lb/1,000 SF (0.45 kg/92.9 SM) TO LAWN AREA.

**MEADOW**

- BEGIN MAINTENANCE IMMEDIATELY AFTER EACH AREA IS PLANTED AND CONTINUE UNTIL ACCEPTABLE MEADOW IS ESTABLISHED, BUT FOR NOT LESS THAN 40 DAYS FROM DATE OF SUBSTANTIAL COMPLETION.
- MAINTAIN AND ESTABLISH MEADOW BY WATERING, WEEDING, MOWING, TRIMMING, AND OTHER OPERATIONS. ROLL, REGRADE, AND REPLANT BARE OR ERODED AREAS AND REMULCH.
- WATERING: PROVIDE AND MAINTAIN TEMPORARY PIPING, HOSES, AND LAWN-WATERING EQUIPMENT TO CONVEY WATER FROM SOURCES AND KEEP MEADOW UNIFORMLY MOIST.
  - SCHEDULE WATERING TO PREVENT WILTING, PUDDLING, EROSION, AND DISPLACEMENT OF SEED OR MULCH. LAY OUT TEMPORARY WATERING SYSTEM TO AVOID WALKING OVER MUDDY OR NEWLY PLANTED AREAS.
  - WATER LAWN AT A MINIMUM RATE OF 1/2 INCH (13 mm) PER WEEK FOR 4 WEEKS.

**TREES AND SHRUBS:**

- PRUNING SHOULD BE STARTED EARLY AND KEPT UP AT REGULAR INTERVALS. TREES SHOULD BE PRUNED AND SHAPED TO AVOID SPLITTING LATER IN LIFE. BROKEN TOPS AND BRANCHES SHOULD BE REMOVED AS SOON AS POSSIBLE AFTER NURSERY. BROKEN, WEAK OR DISEASED BRANCHES SHOULD BE REMOVED FIRST, DEAD BRANCHES SECOND AND HEALTH BRANCHES LAST.
- TREES AND SHRUBS SHOULD BE PROTECTED AGAINST DAMAGE INCURRED WITH LAWN MOWERS AND GARDEN EQUIPMENT. KEEPING GRASS AWAY FROM TREE TRUNKS WITH THE USE OF MULCH IS RECOMMENDED.
- THE USE OF ROAD SALT AROUND TREES AND SHRUBS SHOULD BE AVOIDED OR MINIMIZED.
- LANDSCAPED AREAS SHALL BE ROUTINELY MAINTAINED FREE OF DEBRIS AND LITTER. SPRAY AS REQUIRED TO KEEP TREES AND SHRUBS FREE OF INSECTS AND DISEASE. MAINTENANCE SHALL INCLUDE THE REPLACEMENT OF ALL DEAD PLANT MATERIAL WITHIN THE GUARANTEED CONTRACT PERIOD.

TAX MAP 22 LOT 115 & 116  
**DETAIL SHEET**  
**PROPOSED RESTAURANT**  
**66 BOSTON ROAD, WESTFORD, MA**  
OWNED BY & PREPARED FOR  
**EBI MASALEHDAN**

**SCALE: AS NOTED** **February 22, 2016**

REV.	DATE	DESCRIPTION	DR	CK

	Civil Engineers Structural Engineers Traffic Engineers Land Surveyors Landscape Architects Scientists	48 Constitution Drive Bedford, NH 03110 Phone (603) 472-4488 Fax (603) 472-9747 www.tforan.com	
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