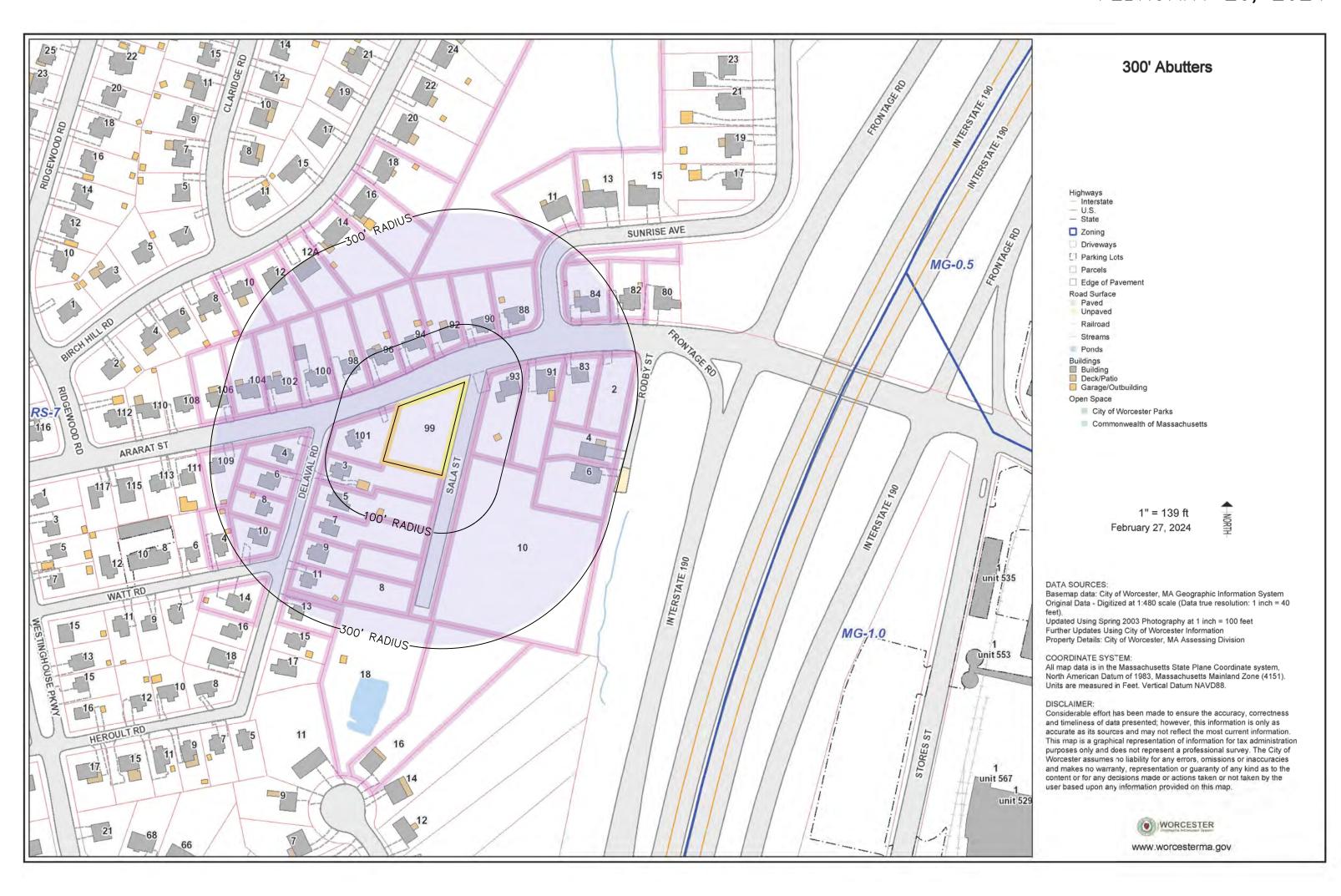
## DEFINITIVE SITE PLAN

IN WORCESTER, MASSACHUSETTS

# 99 ARARAT STREET

FEBRUARY 20, 2024



ABUTTING PROPERTIES MAP SCALE: 1"=139' +/-

#### PROJECT INFO:

1. PROPERTY INFORMATION:
STREET ADDRESS:
ASSESSORS REF.:
ZONING DISTRICT:
DEED REFERENCES:

ZONING INFORMATION: DISTRICT: USE:

MIN. AREA:
MIN. FRONTAGE:
MIN. FRONT YARD:
MIN. SIDE YARD:
MIN. REAR YARD:
MAX. HEIGHT:
FLOOR TO AREA RATIO:
FRONT YARD IMPERVIOUS:
USABLE OPEN SPACE:
PARKING REQUIRED:

99 ARARAT STREET, WORCESTER, MA
PARCEL ID: 37-007-46+48
RS-7

4289/440 and 4371/577

NA

50%

2 SPACES

RS-7
SINGLE FAMILY
REQUIRED PROPOSED

7,000 SF 13,605 SF
65' 123.21'
20' 20'
8' 20'
20'
20' 61'
2 STORIES/35' 26.2'

20' 61' 26.2' NA 20% 46% (DEVELOPED AREAS) 2 SPACES (GARAGE) 3. APPLICANT:

5. SURVEYOR:

6. EMERGENCY CONTACT INFO

PERSON RESPONSIBLE FOR

STORMWATER MAINTENANCE:

ATHANASIOS ENGONIDIS 133 FISHER ROAD HOLDEN, MA 01520 (508) 826-1728

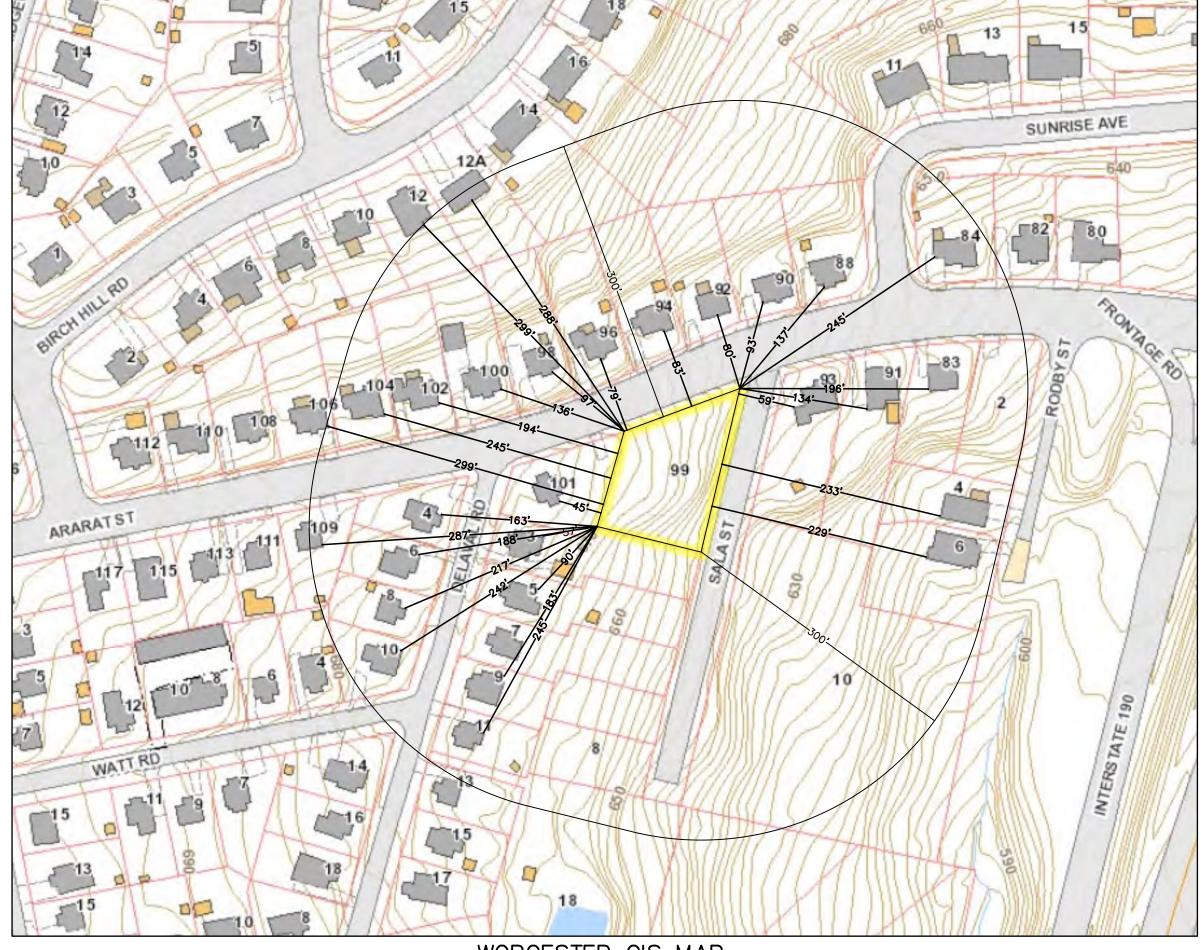
4. CIVIL ENGINEER: QUINN ENGINEERING, INC PO BOX 107

PAXTON, MA 01612 (508)753-7999

1 MAIN STREET, SUITE 1 LUNENBURG, MA 01462 (978) 779–6091

DILLIS AND ROY

ATHANASIOS ENGONIDIS 133 FISHER ROAD HOLDEN, MA 01520 (508) 826-1728

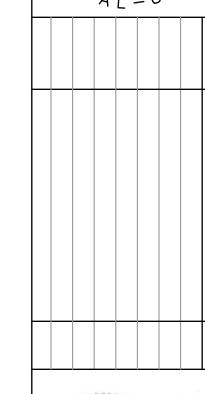


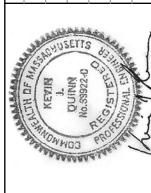
#### WORCESTER GIS MAP SCALE: 1"=100'+/-

		S					
Owner	MBL	Location	Owner Address 1	Owner Address 2	City	Stat Zip Code	
HEIRS OF VIRGINIA S HEARNS ABELSON, MICHAEL + NEWELL, JOYCE F TRUSTEE O'HANLON, JOSEPH BRUNNER, KRYSTINA M + BRIA, PETER F + ELIZABETH A CLARK, DAWN M BOAKYE, CYNTHIA COMM OF MASS HIGHWAY DEPT	37-007-00001	101 ARARAT ST	C/O JEAN HEARNS	0101 ARARAT ST	WORCESTER		
ABELSON,MICHAEL +	37-007-00002	3 DELAVAL RD	0003 DELAVAL RD	242,480,000	WORCESTER	MA 01606	
NEWELL, JOYCE F TRUSTEE	37-007-00004	7 DELAVAL RD	0018 BRATTLE STREET		WORCESTER	MA 01606	
O'HANLON, JOSEPH	37-007-00005	9 DELAVAL RD	0009 DELAVAL RD		WORCESTER		
BRUNNER, KRYSTINA M +	37-007-00006	11 DELAVAL RD	0041 DENMARK ST		WORCESTER	MA 01605	
BRIA PETER F + ELIZABETH A	37-007-00007	13 DELAVAL RD	13 DELAVAL ROAD		WORCESTER	MA 01606	
CLARK, DAWN M	37-007-00036	6 RODBY ST	0006 RODBYST		WORCESTER	MA 01606	
BOAKYE, CYNTHIA	37-007-00038	4 RODBY ST	0004 RODBY ST		WORCESTER		
COMM OF MASS HIGHWAY DEPT	37-007-00040	2 RODBY ST 83 ARARAT ST 91 ARARAT ST 0 SALA ST	TRANSPORTATION BLDG	10 PARK PLAZA ROOM 6160	BOSTON	MA 02116-3973	
TIRRELL, MICHAEL	37-007-00043	83 ARARAT ST	071B PLEASANT ST		LEOMINSTER		
CONNELL, ORRIN + ELLEN	37-007-00044	91 ARARAT ST	0091 ARARAT ST		WORCESTER	MA 01606	
O'HANLON, JOSEPH	37-007-00056	0 SALA ST	0009 DELAVAL RD		WORCESTER	MA 01606	
NOVAK, PAUL M TRUSTEE			0392 WEST BOYLSTON ST		WORCESTER	MA 01606	
GARRITY, JAMES L TRUSTEE	37-007-00059	10 RODBY ST	C/O RYAN LLC	PO BOX 460329 DEPT 909	HOUSTON	TX 77056	
O'HANLON, JOSEPH NOVAK, PAUL M TRUSTEE GARRITY, JAMES L TRUSTEE WEBSTER, RICHARD M POULIN, ERICAPOTE DE LA LIMA MAE	37-007-03+52	5 DELAVAL RD	0005 DELAVAL RD		WORCESTER	MA 01606	
POULIN.ERICA	37-007-45+47	93 ARARAT ST	0093 ARARAT ST		WORCESTER		
PURCELL ROBERT D + ALMA MAE	37-007-46+48	99 ARARAT ST	109 SLOUGH RD			MA 01451	
PURCELL,ROBERT D + ALMA MAE PERELEZ,OLIVIA + JORGE L	37-008-00010	4 DELAVAL RD	0004 DELAVAL RD			MA 01606-2602	
JACOBS ANNE G + RICHARDSON, JOEL V	V+ 37-008-00011	6 DELAVAL RD	0043 MORGAN ST		WORCESTER		
CROTTY FDWARD J	37-008-00012	8 DELAVAL RD	8 DELAVAL ROAD		WORCESTER		
LOCKE PATRICIA A	37-008-00013	109 ARARAT ST	0109 ARARAT ST			MA 01606-2647	
ZELLMER.STEPHEN A + KIM C	37-008-00026	4 WATT RD	0004 WATT RD		WORCESTER	MA 01606-2619	
CAMPBELL, AMY E +	37-008-00027	10 DELAVAL RD	0010 DELAVAL RD		WORCESTER	MA 01606	
LOCKE, PATRICIA A ZELLMER, STEPHEN A + KIM C CAMPBELL, AMY E + SARVER, AARON	37-008-00028	14 DELAVAL RD	0014 DELAVAL RD		WORCESTER	MA 01606	
INDIAN HILL LTD PARTNERSHIP JOSEPH, LILIANNE	37-009-0012N	18 SHAWNEE RD	0595 JEFFERSON BLVD			RI 02886	
JOSEPH, LILIANNE	37-009-0013N	16 SHAWNEE RD	0016 SHAWNEE RD		WORCESTER	MA 01606	
GREATER WORCESTER LAND TRUST	37-023-0000R	9 SUNRISE AVE	0004 ASH ST		WORCESTER		
SANCHEZ, CARMEN	37-033-00001	88 ARARAT ST	0088 ARARAT ST		WORCESTER		
PENA, HECTOR +	37-033-00002	90 ARARAT ST	0090 ARARAT ST		WORCESTER		
TONELLI, ROBERT J + JUDY K	37-033-00003	92 ARARAT ST	92 ARARAT ST		WORCESTER	MA 01606	
WHITE, ROBERT JR	37-033-00004	94 ARARAT ST	0094 ARARAT ST			MA 01606-2623	
WHITE, ROBERT JR NOEL, ERIC J	37-033-00005	96 ARARAT ST	0096 ARARAT ST		WORCESTER	MA 01606	
WRIGHTSON, THOMAS P + JANELLE D	37-033-00006	98 ARARAT ST	0098 ARARAT ST			MA 01606-2623	
GRIBBONS,MARC C	37-033-00007	100 ARARAT ST	0100 ARARAT ST		WORCESTER		
HOLLIE, JAMES A	37-033-0000A	11 SUNRISE AVE	0011 SUNRISE AVE		WORCESTER		
COMM OF MASS HIGHWAY DEPT	37-033-0000X	0 SUNRISE AVE	0403 BELMONT ST		WORCESTER		
CARDELLO.COURTNEY M	37-033-0002C	82 ARARAT ST	0082 ARARAT ST		WORCESTER		
AIKINS, JEAN	37-033-0003C	84 ARARAT ST	0084 ARARAT ST		WORCESTER	MA 01606	
OZUNA AIL VN + JESUS	37-034-00039	12 BIRCH HILL RE	012A BIRCH HILL RD		WORCESTER		
JACKSON,MONICA M	37-034-00040	12 BIRCH HILL RE	0012 BIRCH HILL RD		WORCESTER		
COMM OF MASS HIGHWAY DEPT CARDELLO, COURTNEY M AIKINS, JEAN OZUNA, AILVN + JESUS JACKSON, MONICA M WYMAN, KATRINA	37-034-00041	10 BIRCH HILL RE	0095 OUTLOOK DR		WORCESTER		
WHITE, ADAM D	37-034-00049	106 ARARAT ST	0106 ARARAT ST		WORCESTER		
SPRING AMANDA + HILDRETH CORY	37-034-00050	104 ARARAT ST	0392 WEST BOYLSTON ST C/O RYAN LLC 0005 DELAVAL RD 0093 ARARAT ST 109 SLOUGH RD 0004 DELAVAL RD 0043 MORGAN ST 8 DELAVAL ROAD 0109 ARARAT ST 0004 WATT RD 0010 DELAVAL RD 0014 DELAVAL RD 0014 DELAVAL RD 0016 SHAWNEE RD 0004 ASH ST 0090 ARARAT ST 0090 ARARAT ST 0090 ARARAT ST 0094 ARARAT ST 0096 ARARAT ST 0098 ARARAT ST 0100 ARARAT ST 0010 ARARAT ST 0011 SUNRISE AVE 0403 BELMONT ST 0082 ARARAT ST 0082 ARARAT ST 0012 BIRCH HILL RD 0012 BIRCH HILL RD 0016 ARARAT ST 0104 ARARAT ST 0105 ARARAT ST 0106 ARARAT ST 0017 BIRCH HILL RD 0018 BIRCH HILL RD 0019 ARARAT ST 01010 ARARAT ST 01010 ARARAT ST 01014 BIRCH HILL RD 0016 BIRCH HILL RD 0016 BIRCH HILL RD		WORCESTER		
MURPHY,BARBARA J	37-034-00051	102 ARARAT ST	0102 ARARAT ST			MA 01606-2623	
MURPHY,BARBARA J TROY,JAY D THORNTON,JEREMY W	37-33A-0046R	14 BIRCH HILL RE	0014 BIRCH HILL RD		WORCESTER		
THORNTON JEREMY W	37-33A-0047R	16 BIRCH HILL BE	0014 BIRCH HILL RD 0016 BIRCH HILL RD		WORCESTER		
	OF DOLLOOTIFE	TO DITCOLL THEE TAL					

LIST OF ABUTTING PROPERTIES SCALE: NTS







ED FOR:
SIOS ENGONIDIS
HER ROAD
, MA 01520

D AND ALMA MAE PURCELL

SITE PLAN
TER, MASSACHUSETTS
ATHANASI
133 FISHE
HOLDEN, N
HOLDEN, N
THOMAS C
93 ARARA
WORCESTE

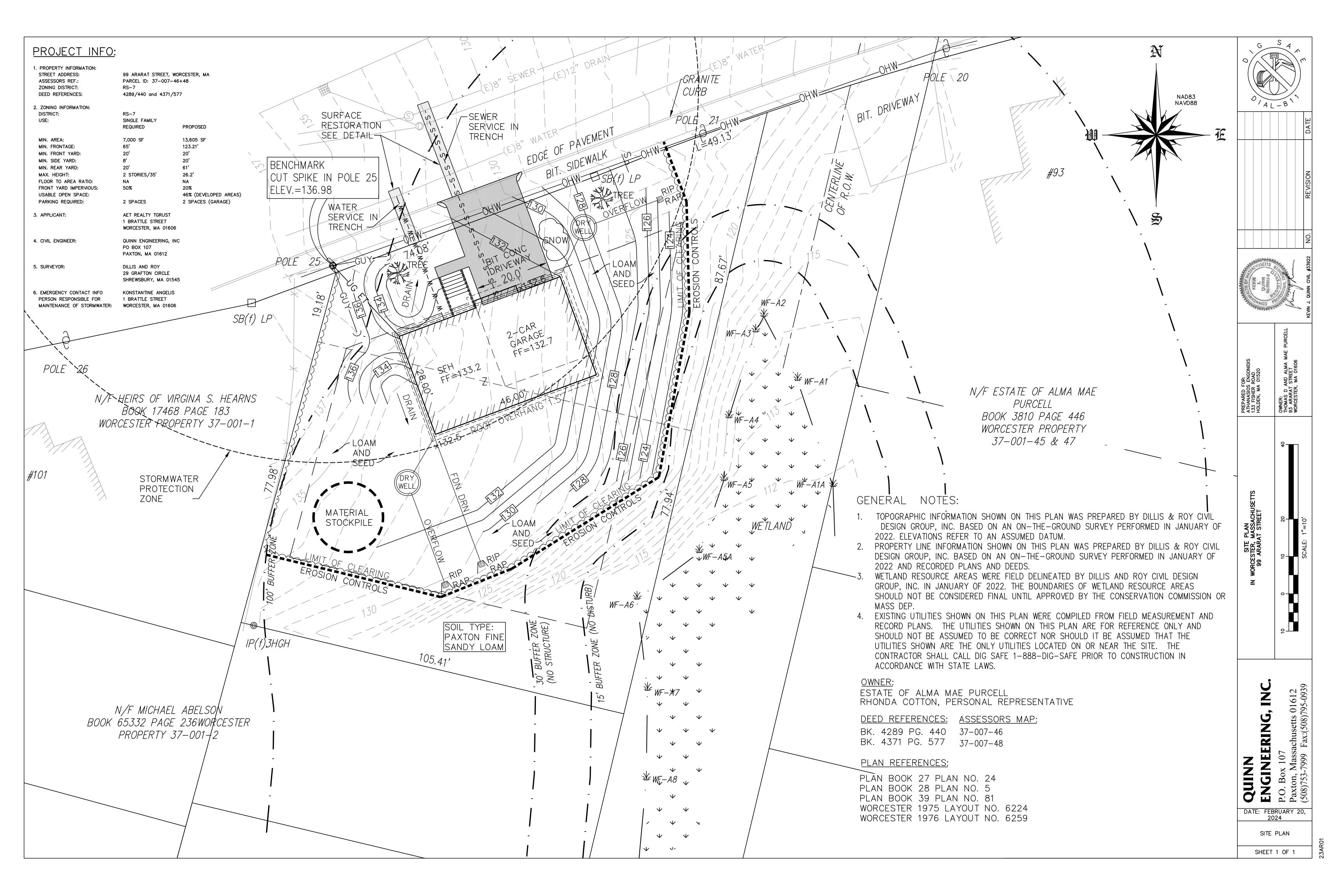
SITE PLAN
IN WORCESTER, MASSACHUSET
99 ARARAT STREET
10 0 10 20

VEERING, INC.
107
Aassachusetts 01612

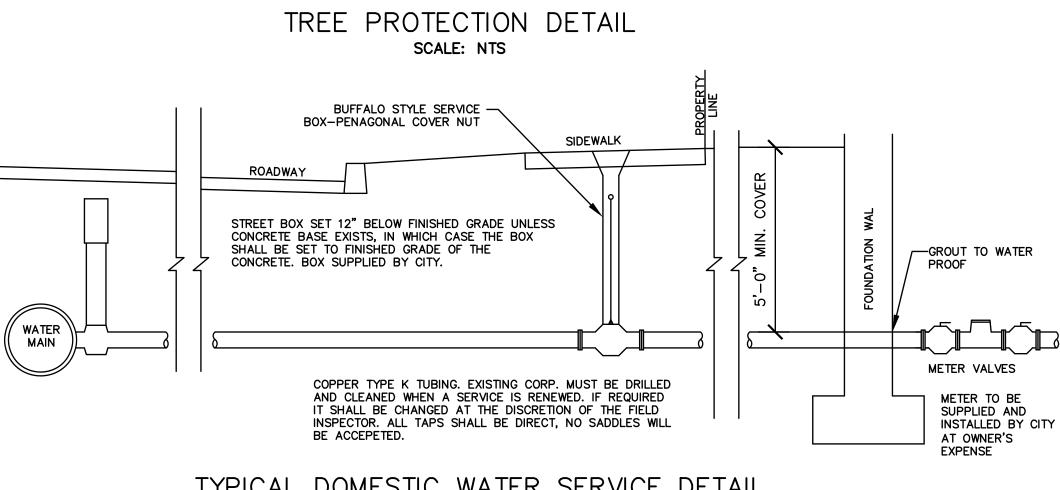
ENGINE
P.O. Box 10

DATE: FEBRUARY 20, 2024

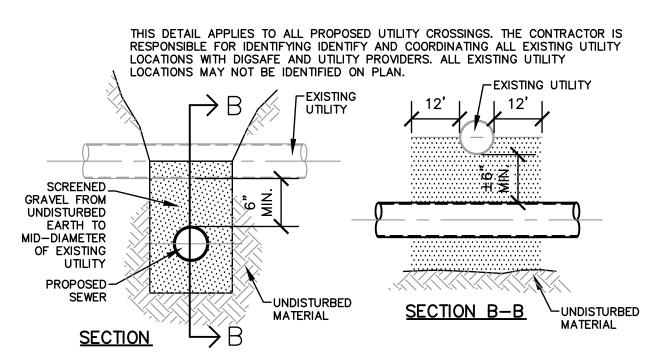
COVER SHEET



#### LONG TERM POLLUTION PREVENTION PLAN MEASURES: 1. GOOD HOUSEKEEPING PRACTICES SHALL BE EMPLOYED IN MAINTENANCE OF THE STORMWATER SYSTEM AND ON SITE AREAS. THE MINIMUM HOUSEKEEPING PRACTICES ARE IDENTIFIED IN THE STORMWATER COLLECTION AND TREATMENT SYSTEM OPERATION AND MAINTENANCE PLAN. 2. STORAGE OF MATERIALS AND WASTE PRODUCTS SHALL BE STORED IN A MANNER THAT MINIMIZES EXPOSURE TO STORMWATER, IE USE OF TARPAULINS, INSIDE STORAGE, ETC. MATERIALS AND WASTE SHALL BE MAINTAINED IN AN ORDERLY MANNER AND SHALL BE COLLECTED IMMEDIATELY UPON SPILLS OR DISPERSION. 3. VEHICLE WASHING SHOULD OCCUR IN ACCORDANCE WITH THE "ILLICIT AND NON STORMWATER DISCHARGES' PORTION OF THE STORMWATER POLLUTION PREVENTION PLAN NOTES. 4. LONG TERM MAINTENANCE OF THE STORMWATER SYSTEM SHALL FOLLOW THE OPERATION AND MAINTENANCE REQUIREMENTS ON THESE PLANS AT A MINIMUM. 5. PARTIES RESPONSIBLE FOR MAINTENANCE OF THE STORMWATER SYSTEM SHOULD BE FAMILIAR WITH "CLEAN UP OF SITES AND SPILLS" INFORMATION AVAILABLE ON THE MA DEP WEB SITE (CURRENTLY AVAILABLE AT http://www.mass.gov/dep/cleanup/laws/spillmam.doc) AND SHOULD BE PREPARED TO ACT ACCORDINGLY IN THE 6. THE MINIMUM PRACTICES EMPLOYED IN INSPECTION AND MAINTENANCE OF THE ON SITE AREAS AND STORMWATER SYSTEM COMPONENTS ARE IDENTIFIED IN THE STORMWATER COLLECTION AND TREATMENT SYSTEM OPERATION AND MAINTENANCE PLAN. 7. THE MASSACHUSETTS BUREAU OF FARM PRODUCTS & PLANT INDUSTRIES FACT SHEET FOR "PROTECTING WATER RESOURCES FROM FERTILIZER" RECOMMENDS THAT: UNUSED FERTILIZER SHOULD BE REMOVED FROM THE SPREADER AND RETURNED TO THE ORIGINAL BAG OR CONTAINER FOR FUTURE USE. STORE UNUSED FERTILIZER IN A DRY PLACE AWAY FROM ANY WATER SOURCE. IF STORED FERTILIZER GETS WET YOU NOT ONLY LOSE NUTRIENT VALUE, THERE IS POTENTIAL FOR NITRATES TO LEACH INTO WATER SOURCES. THE HANDLING OF HERBICIDES AND PESTICIDES SHOULD BE CONDUCTED IN ACCORDANCE WITH GUIDELINES AVAILABLE ON THE MA DEP WEB SITE (CURRENTLY AVAILABLE AT http://www.mass.gov/dep/recycle/hazardous/pesticid.htm) 8. MANAGEMENT OF PET WASTE SHOULD BE CONDUCTED IN ACCORDANCE WITH THE GUIDELINES AVAILABLE ON THE MA DEP WEB SITE (CURRENTLY AVAILABLE AT http://www.mass.gov/dep/water/resources/petwaste.pdf) 9. OPERATION AND MAINTENANCE OF ANY ON SITE SEPTIC SYSTEM SHOULD BE CONDUCTED IN ACCORDANCE 310 CMR 15.00. 10. SOLID WASTE SHOULD BE MANAGED IN ACCORDANCE WITH LOCAL, STATE, FEDERAL REGULATIONS AND GUIDELINES. 11. SNOW DISPOSAL SHALL BE CONDUCTED IN ACCORDANCE WITH THE MA DEP GUIDELINE BRPG01-01 (CURRENTLY AVAILABLE AT http://www.mass.gov/dep/water/laws/snowdisp.htm) 12. USE OF SALT ON ROADS AND WALKS IS TO BE MINIMIZED. STORAGE OF SNOW SALT AND OTHER DE-ICING MATERIALS SHALL BE IN ACCORDANCE WITH MA DEP POLICY DWSG97-1 (CURRENTLY AVAILABLE AT http://www.mass.gov/dep/water/laws/saltgui.doc) 13. THE FOLLOWING PAVEMENT SWEEPING SCHEDULE IS RECOMMENDED WITH SWEEPING SCHEDULED PRIMARILY IN THE SPRING AND FALL: - QUARTERLY AVERAGE USING A HIGH EFFICIENCY VACUUM SWEEPER - QUARTERLY AVERAGE USING A REGENERATIVE AIR SWEEPER - MONTHLY AVERAGE USING A MECHANICAL SWEEPER (ROTARY BROOM) SWEEPINGS SHOULD BE HANDLED IN ACCORDANCE WITH MA DEP POLICY #BRP-94-092. 13. ILLICIT DISCHARGES TO THE STORMWATER SYSTEM ARE PROHIBITED. 14. FOR LAND USES NEAR CRITICAL AREAS OR FROM LAND USED WITH HIGHER POTENTIAL POLLUTANT LOADS THE STORMWATER SYSTEM SHOULD BE PROVIDED WITH A SHUTDOWN DEVICE. 15. PARTIES RESPONSIBLE FOR MAINTENANCE OF THE STORMWATER SYSTEM SHOULD BECOME FAMILIAR WITH THE REQUIREMENTS OF: - THE STORMWATER POLLUTION PREVENTION PLAN AND NOTES - THE STORMWATER COLLECTION AND TREATMENT SYSTEM OPERATION AND MAINTENANCE PLAN - THESE LONG TERM POLLUTION PREVENTION PLAN MEASURES 16. IN THE CASE OF AN EMERGENCY DIAL 911 OR CONTACT: MASS DEP CENTRAL REGION 8 NEW BOND STREET WORCESTER, MA 01606 (508) 792-7650 PROTECTED TREE PROTECTION DETAIL SCALE: NTS



#### TYPICAL DOMESTIC WATER SERVICE DETAIL SCALE: NOT TO SCALE



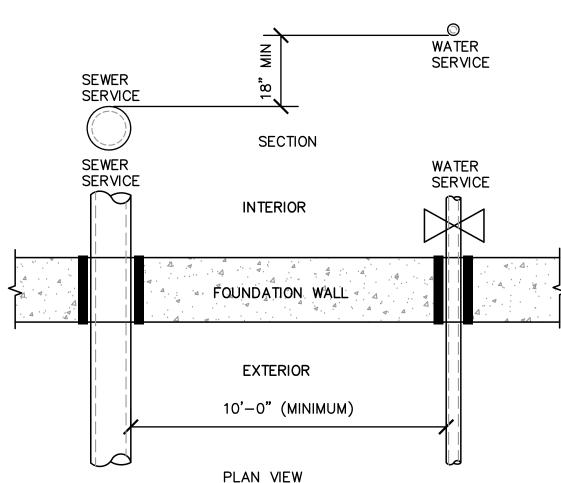
UTILITY CROSSING DETAILS SCALE: NOT TO SCALE

### CONSTRUCTION PERIOD POLLUTION PREVENTION PLAN NOTES:

1. CONTROLS TO REDUCE POLLUTANTS:

3. MAINTENANCE AND CONTROLS:

- A.) THE FOLLOWING IS A BRIEF DESCRIPTION OF EACH BMP IMPLEMENTED TO CONTROL POLLUTANTS IN STORM WATER DISCHARGES.
- 1.) EROSION CONTROLS: STRAW WATTLES PROVIDE MEASURES OF CONTROLLING EROSION AND SEDIMENTATION AND SHALL BE IMPLEMENTED BY THE CONTRACTOR WHERE NEEDED TO PREVENT SEDIMENT FROM LEAVING THE WORK SITE. 2.) EARTH DIKES. TEMPORARY DRAINAGE SWALES, INTERCEPTOR DIKES AND/OR SWALES SHALL BE EMPLOYED BY THE SITE
- CONTRACTOR TO DIRECT STORMWATER RUNOFF FROM DISTURBED AREAS TO AREAS WHERE DISCHARGE IS ACCEPTABLE. 3.) TEMPORARY CONSTRUCTION ENTRANCES OF CRUSHED STONE SHALL BE IMPLEMENTED BY THE CONTRACTOR WHEN NEEDED TO PREVENT SEDIMENT FROM TRACKING OFF-SITE AND INTO EXISTING ROADWAYS.
- B.) DISTURBED AREAS NOT SUBJECT TO RESTORATION BY OTHER MEANS SHALL BE STABILIZED UPON FINISH GRADING WITH 6" OF LOAM AND GRASS SEED. AREAS SLOPED AT GREATER THAN 3:1 SHALL BE STABILIZED WITH GEOTEXTILE FABRIC. C.) THE FOLLOWING RECORDS SHOULD BE MAINTAINED BY THE OPERATOR AS PART OF THE POLLUTION PREVENTION PLAN. . DATES WHEN MAJOR GRADING ACTIVITIES OCCUR.
- 2. DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE. 5. DATES WHEN STABILIZATION MEASURES ARE INITIATED. D.) HAY BALES, SILT FENCE, STONE CONSTRUCTION ENTRANCES, EARTH DIKES, TEMPORARY DRAINAGE SWALES, INTERCEPTOR DIKES AND SWALES, AND OTHER STRUCTURAL PRACTICES SHALL BE EMPLOYED BY THE SITE CONTRACTOR TO DIRECT STORMWATER RUNOFF FROM DISTURBED AREAS TO AREAS WHERE DISCHARGE IS ACCEPTABLE. THE APPROPRIATE LOCATION AND INSTALLATION TIMING SHALL
- BE DETERMINED BY THE SITE CONTRACTOR. E.) THE DISCHARGE OF SOLID MATERIALS, INCLUDING BUILDING MATERIALS, TO ANY WETLAND AREAS, CATCH BASIN, STORMWATER BASIN,
- ETC. ARE PROHIBITED. F.) THE CONTRACTOR SHALL MINIMIZE VEHICLE TRACKED SEDIMENT ONTO THE SURROUNDING ROADWAYS. AIRBORNE DUST SHALL BE CONTROLLED WITH WATER.
- G.) CONSTRUCTION MATERIALS AND CONSTRUCTION WASTE MATERIALS ASSOCIATED WITH THE PROPOSED DEVELOPMENT SHALL BE STORED IN A MANNER THAT MINIMIZES EXPOSURE TO STORMWATER, IE USE OF TARPAULINS, INSIDE STORAGE, ETC. MATERIALS AND WASTE SHALL BE MAINTAINED IN AN ORDERLY MANNER AND SHALL BE COLLECTED IMMEDIATELY UPON SPILLS OR
- H.) DURING CONSTRUCTION, POLLUTANTS FROM SOURCES OTHER THAN THE CONSTRUCTION ACTIVITIES ARE NOT EXPECTED. 2. ILLICIT AND NON STORMWATER DISCHARGES:
- A. IN ACCORDANCE WITH THE DEP MASSACHUSETTS STORMWATER HANDBOOK, AN ILLICIT DISCHARGE DOES NOT INCLUDE DISCHARGES
  FROM THE FOLLOWING ACTIVITIES OR FACILITIES: FIRE FIGHTING, WATER LINE FLUSHING, LANDSCAPE IRRIGATION, UNCONTAMINATED GROUNDWATER, POTABLE WATER SOURCES, FOUNDATION DRAINS, AIR CONDITIONING CONDENSATION, FOOTING DRAINS, INDIVIDUAL RESIDENT CAR WASHING, FLOWS FROM RIPARIAN HABITATS AND WETLANDS, DECHLORINATED WATER FROM SWIMMING POOLS, WATER USED FOR STREET WASHING AND WATER USED TO CLEAN RESIDENTIAL BUILDINGS WITHOUT DETERGENTS.
- B. ILLICIT DISCHARGES TO THE STORMWATER MANAGEMENT SYSTEM SHALL BE PROHIBITED. ILLICIT DISCHARGES INCLUDE WASTEWATER DISCHARGES AND DISCHARGES OF STORMWATER CONTAMINATED BY CONTACT WITH PROCESS WASTES, RAW MATERIALS, TOXIC POLLUTANTS, HAZARDOUS SUBSTANCES, OIL, OR GREASE.
- A.) DURING CONSTRUCTION, ALL SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION. IN THE EVENT THAT THE MEASURES ARE NOT WORKING PROPERLY OR IF ADDITIONAL MEASURES ARE REQUIRED. MAINTENANCE AND ADJUSTMENTS SHALL BE MADE BY THE OPERATOR AS SOON AS POSSIBLE BEFORE THE NEXT RAIN STORM.
- B.) DURING CONSTRUCTION, IN THE EVENT THAT MAINTENANCE OR IMPLEMENTATION CANNOT BE MADE PRIOR TO THE NEXT RAIN STORM, THE SITUATION SHALL BE DOCUMENTED BY THE OPERATOR AND ALTERNATIVE BMP'S IMPLEMENTED AS SOON AS POSSIBLE. C.) DURING CONSTRUCTION, CATCH BASINS SUMPS AND SEDIMENT TRAPS SHALL BE CLEANED OF SEDIMENT WHEN THE CAPACITY HAS BEEN REDUCED BY 50%.
- 4. MANAGEMENT PRACTICES: A.) ALL CONTROL MEASURES SHALL BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS AND GOOD PRACTICES. INAPPROPRIATE OR INCORRECT USE OF THE CONTROL SHALL BE MODIFIED AS SOON AS PRACTICABLE.
- B.) OFF-SITE ACCUMULATION OF SEDIMENT MUST BE REMOVED IMMEDIATELY. C.) LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORMWATER MUST BE PREVENTED
- FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES. D.) STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARY
- OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED PRIOR TO AND DURING WINTER CONDITIONS.
- E.) A VEGETATED BUFFER SHALL BE MAINTAINED WHEREVER POSSIBLE BETWEEN THE WORK AREA AND DOWNSTREAM RESOURCE AREAS AND PROPERTY BOUNDARIES. F.) PROVIDE VELOCITY DISSIPATERS OR RIP RAP AT ALL TEMPORARY AND PERMANENT STORMWATER POINT DISCHARGES



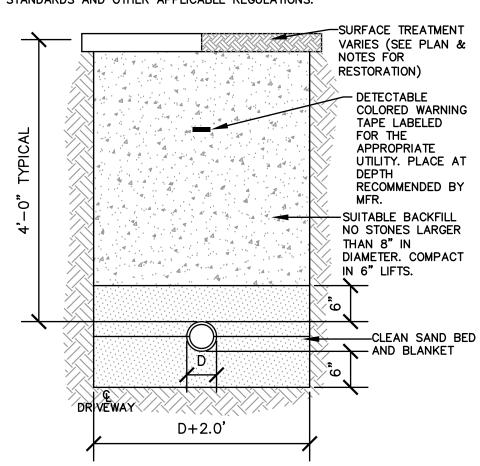
#### WATER/SEWER CONNECTION DETAIL SCALE: NOT TO SCALE

#### NOTES:

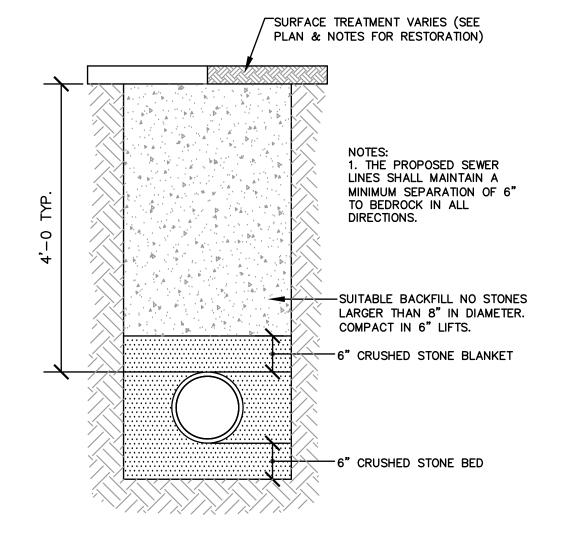
1. THIS DETAIL APPLIES TO UTILITY TRENCHES THAT HAVE NOT BEEN SPECIFIED IN THESE PLANS AND THAT ARE NOT SPECIFIED BY STATE BUILDING CODE, LOCAL REGULATIONS, OR BY THE UTILITY PROVIDER.

1. THE UTILITY CONDUIT, PIPE, ETC SHALL MAINTAIN A MINIMUM SEPARATION OF 6" TO BEDROCK IN ALL DIRECTIONS.

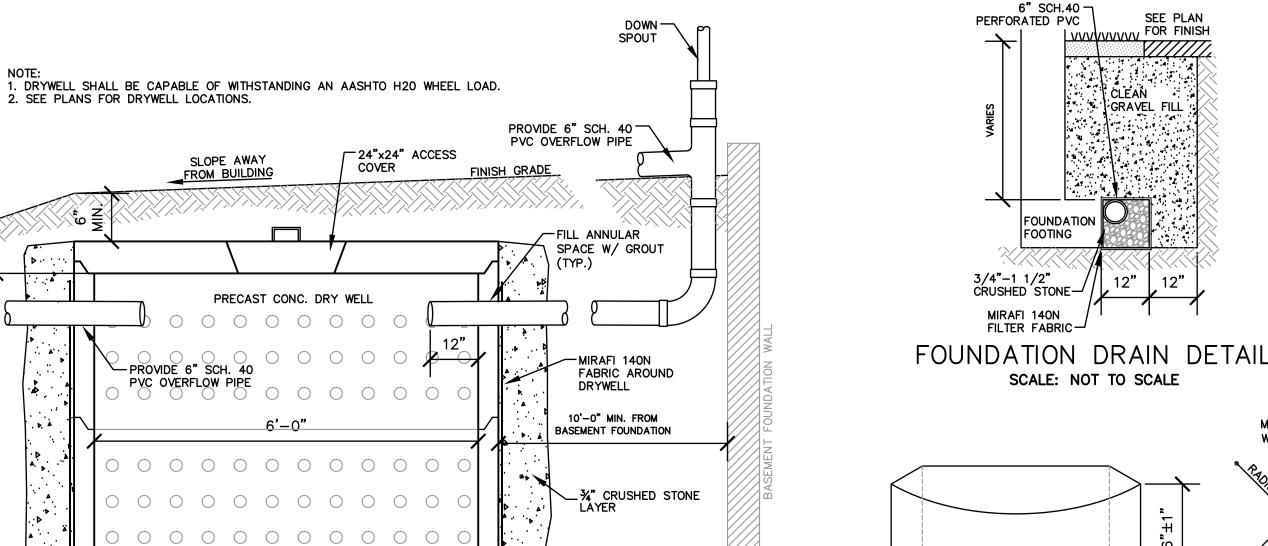
2. ALL TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA STANDARDS AND OTHER APPLICABLE REGULATIONS.



MISC. UTILITY TRENCH DETAIL SCALE: NOT TO SCALE



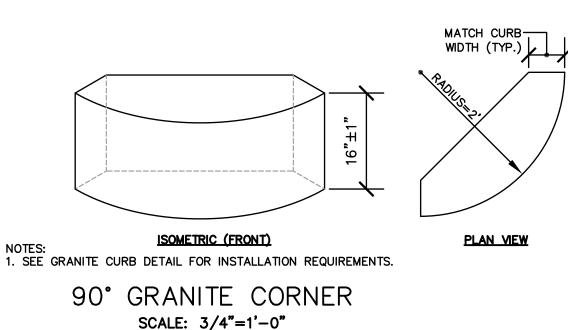
SEWER SERVICE TRENCH DETAIL SCALE: NOT TO SCALE



DRYWELL DETAIL SCALE: 1/2"=1'-0"

h b b . . . . .

**D** • .



- DETECTABLE COLORED WARNING TAPE LABELED FOR THE

APPROPRIATE UTILITY. PLACE AT

1. THE DRAIN MAIN SHALL MAINTAIN A

CONSTRUCTED IN ACCORDANCE WITH OSHA STANDARDS AND OTHER

-SUITABLE BACKFILL NO STONES

LARGER THAN 8" IN DIAMETER.

SEE PLAN FOR PIPE SIZE &

2. THIS DETAIL DOES NOT APPLY

TO PIPING BELOW THE

RAMP/STAIRS.

MINIMUM SEPARATION OF 6" TO

BEDROCK IN ALL DIRECTIONS.

2. ALL TRENCHES SHALL BE

APPLICABLE REGULATIONS.

\_COMPACT IN 6" LIFTS.

\_3/4" WASHED SCREENED

SELECT HAND

BACKFILL MAT'L

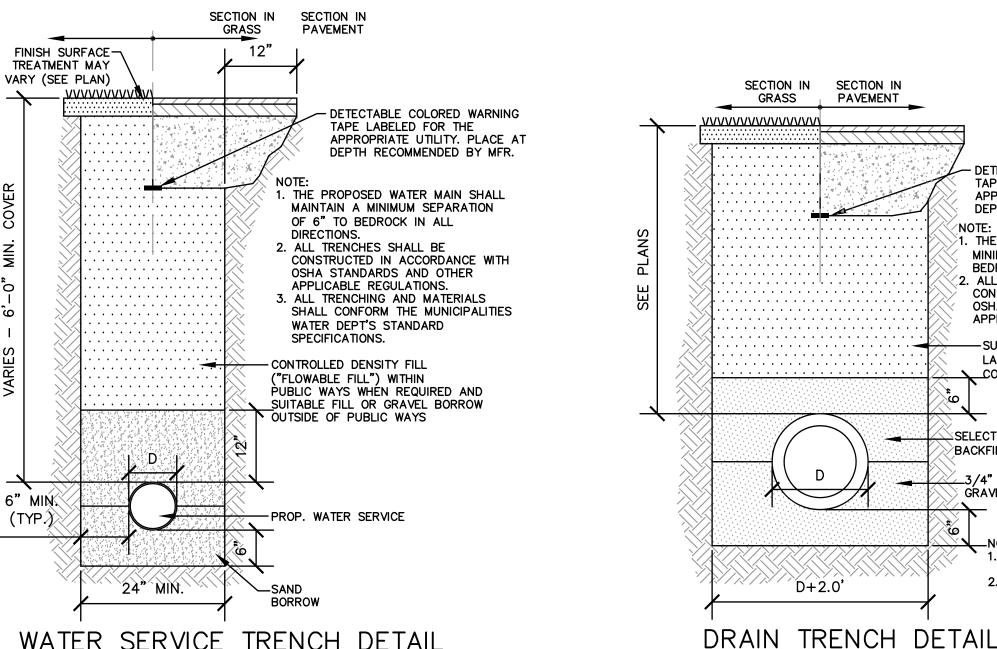
GRAVEL BEDDING

DEPTH RECOMMENDED BY MFR.

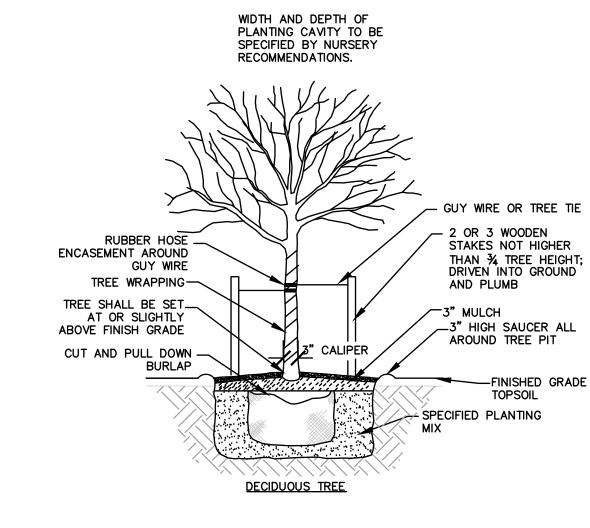
SECTION IN

PAVEMENT

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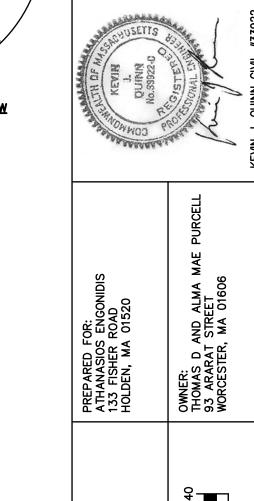
WATER SERVICE TRENCH DETAIL SCALE: 3/4"=1'-0"



D+2.0'

SCALE: 3/4"=1'-0"

TYPICAL TREE PLANTING DETAILS SCALE: NOT TO SCALE



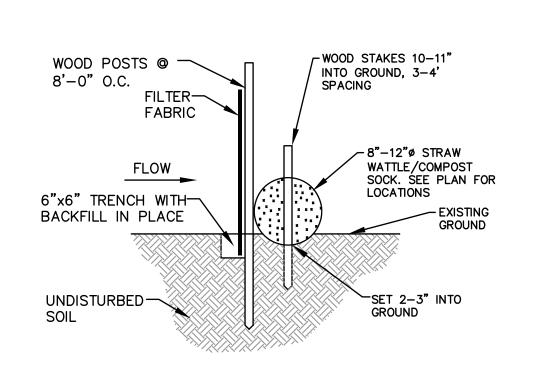
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k 107 Massachusetts 01612 7999 Fax:(508)795-0939 Ž ENGINEERI

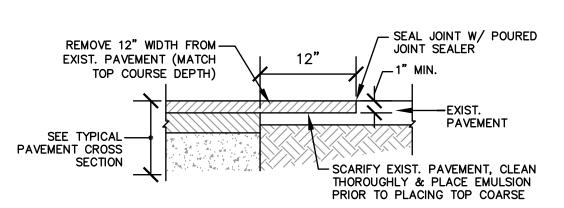
Paxton, (508)753-DATE: FEBRUARY 20, 2024 TYPICAL DETAILS

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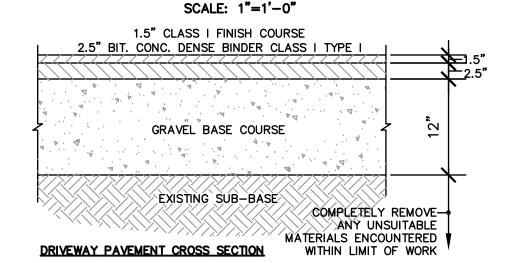
AND NOTES SHEET 3 OF 3



EROSION CONTROL DETAIL SCALE: NOT TO SCALE



#### PAVEMENT JOINT DETAIL



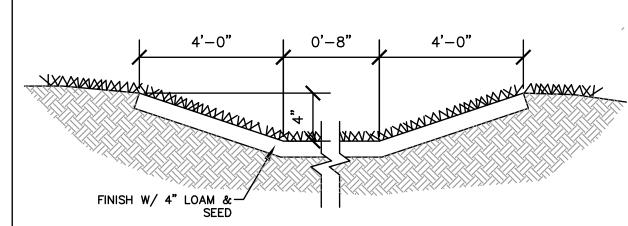
1. IMPORTED GRAVEL USED AS BASE MATERIAL SHALL CONFORM TO MA DOT STANDARD SPECIFICATION M1.03.0 TYPE b. 2. GRAVEL BASE SHALL CONSIST OF INERT MATERIAL THAT IS HARD,

DURABLE STONE AND COARSE SAND, FREE FROM LOAM AND CLAY, SURFACE COATINGS, AND DELETERIOUS MATERIALS. 3. GRADATION REQUIREMENTS FOR IMPORTED GRAVEL SHALL BE DETERMINED BY AASHTO-T11 AND T27 AND SHALL CONFORM TO THE FOLLOWING: SIEVE DESIGNATION: % PASSING: 50-85 1/2 IN. 40-75

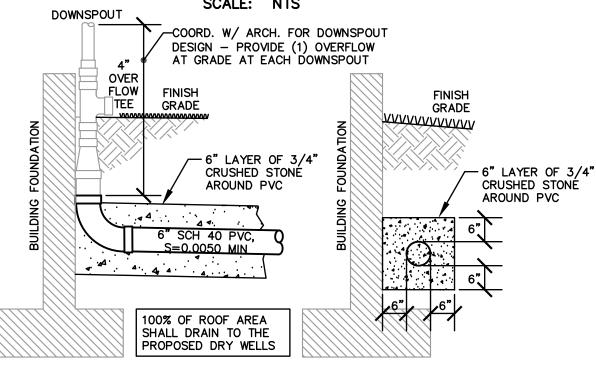
4. THE MAXIMUM SIZE OF STONE IN GRAVEL SHALL BE 3" LARGEST DIMENSION FOR M1.03.0 TYPE b. 5. ALL PAVEMENT SHALL HAVE A CONTINUOUS LONGITUDINAL SLOPE OR SHALL BE CROSS PITCHED TO ADEQUATELY SHED SURFACE WATER.

8-28

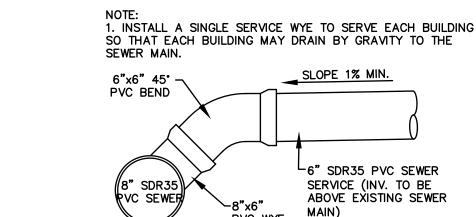
#### BITUMINOUS PAVEMENT CROSS SECTION SCALE: 1"=1'-0"



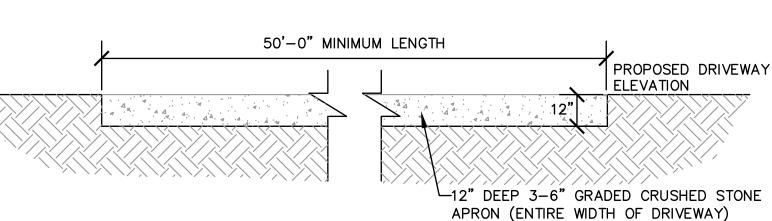
TEMP CONSTRUCTION SWALE DETAIL



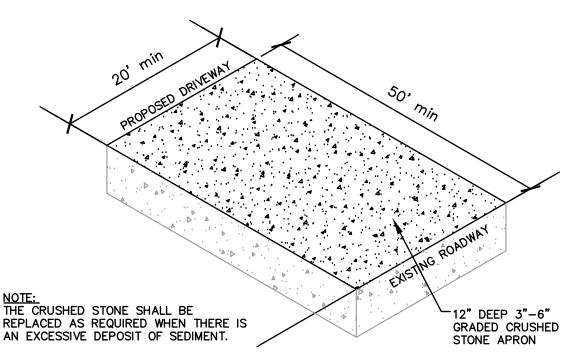
ROOF DRAIN DETAILS SCALE: NOT TO SCALE



SEWER SERVICE CONNECTION DETAIL SCALE: 1"=1'-0"



STABILIZED ENTRANCE DETAIL SCALE: NOT TO SCALE

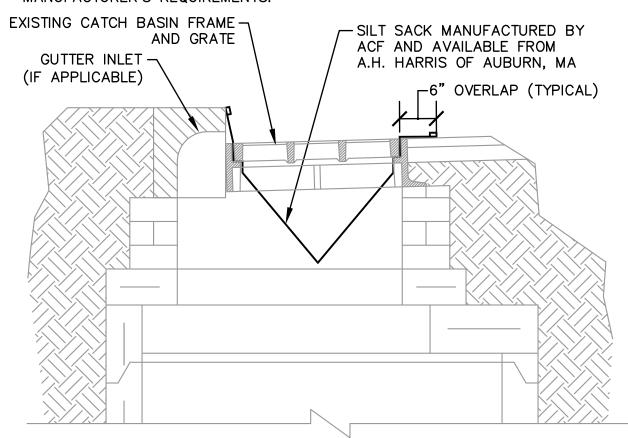


STABILIZED ENTRANCE ISOMETRIC DETAIL SCALE: NOT TO SCALE

NOTES:

THIS DETAIL APPLIES TO ALL CATCH BASINS IDENTIFIED ON THE EROSION & SEDIMENT CONTROL PLAN. 2. SILT SACK SHALL BE INSTALLED AN MAINTAINED IN ACCORDANCE

WITH MANUFACTURER'S SPECIFICATIONS. 3. INSPECT SILT SACKS WEEKLY OR AFTER EVERY RAIN EVENT OF MORE THAN 0.25". REPLACE WHEN VOLUME IS REDUCED BY 50% OR PER MANUFACTURER'S REQUIREMENTS.



SILT SACK DETAIL SCALE: NOT TO SCALE

LANDSCAPING TABLE							
SYMBOL	QUANTITY	COMMON NAME	GENUS & SPECIES	SIZE			
CK	1	KOUSA DOGWOOD	CORNUS KOUSA	3" CALIPER			
MF	1	JAPANESE CRABAPPLE	MALUS FLORIBUNDA	3" CALIPER			

1.) ALL TREES SHALL BE ASIAN LONG HORNED BEETLE AND EMERALD ASH BORER RESISTANT. AND ANY TREE OR SHRUB REMOVAL SHALL BE COMPLETED BY AN ASIAN LONG HORNED BEETLE/EMERALD ASH BORER CERTIFIED CONTRACTOR.

2.) ALL AREAS SUBJECT TO DISRUPTION SHALL BE STABILIZED WITH 4" OF LOAM AND HYDROSEED APPLICATION ON SLOPES 2.5:1 OR FLATTER. SLOPES STEEPER THAN 2.5:1 ADDITIONALLY REQUIRE AN EROSION CONTROL BLANKET, SEE DETAILS. IMPERVIOUS AND HARDSCAPE AREAS REQUIRE NO FURTHER STABILIZATION ONCE SET.

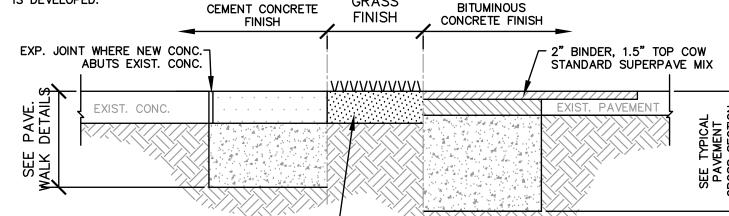
3.) EROSION CONTROLS SHALL REMAIN IN PLACE UNTIL THE SITE IS FULLY STABILIZED

1. ALL AREAS WITHIN THE TOWN RIGHT OF WAY DISTURBED BY THE PROPOSED WORK SHALL BE SUBJECT TO RESTORATION. 2. ALL FINISH SURFACES SHALL: A. BE CONSTRUCTED FLUSH WITH THE ADJACENT FINISH SURFACES.

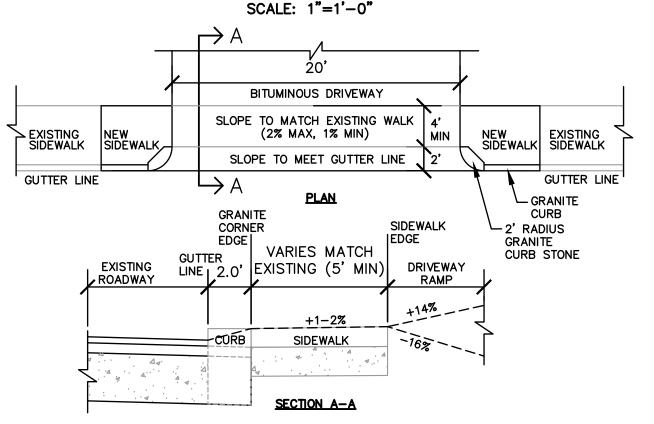
B. HAVE UNIFORM SLOPES AND SHALL NOT CONTAIN ANY IRREGULARITIES C. SHALL SLOPE AWAY FROM THE EXISTING BUILDINGS (UNLESS OTHERWISE NOTED) D. SHALL SLOPE TOWARDS THE EXISTING SURFACE DRAINS (UNLESS OTHERWISE NOTED).

4" LOAM AND SEED

E. SHALL BE FINISHED WITH 4 INCHES OF TOP SOIL AND GRASS (UNLESS FINISHED WITH BITUMINOUS CONCRETE, CEMENT CONCRETE OR OTHERWISE NOTED). THE CONTRACTOR SHALL WATER AND FERTILIZE THE GRASS SO THAT A DENSE GROWTH

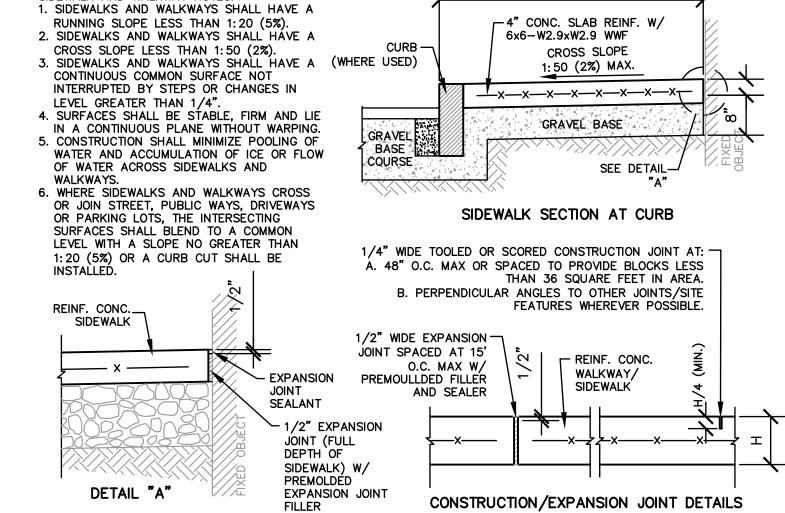


ROW SURFACE RESTORATION DETAIL



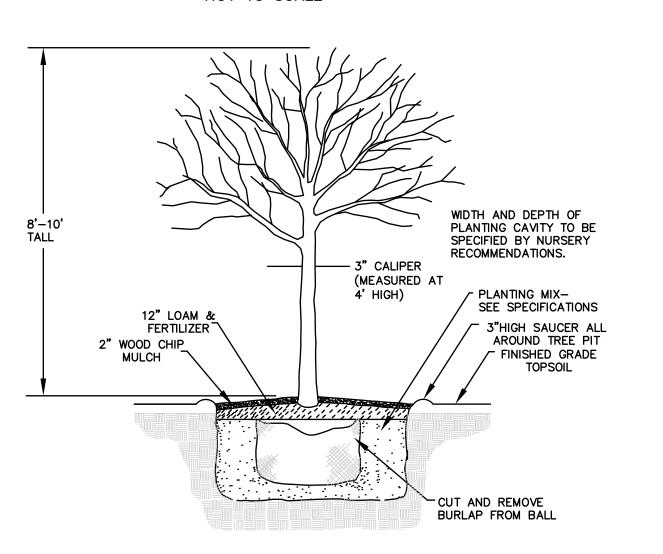
DRIVEWAY CURB CUT DETAIL SCALE: NOT TO SCALE

SIDEWALK AND WALKWAY NOTES:



SEE PLAN

CEMENT CONCRETE WALKWAY/SIDEWALK DETAILS NOT TO SCALE



TREE PLANTING DETAIL SCALE: NOT TO SCALE

#### **GENERAL NOTES:**

1. ALL REQUIRED PERMITS SHALL BE SECURED PRIOR TO COMMENCING WORK. PRIOR TO COMMENCING ANY WORK ONSITE, CONTRACTOR SHALL NOTIFY THE CITY OF WORCESTER PLANNING AND ENGINEERING DEPARTMENTS, BUILDING DEPARTMENT, CONSERVATION COMMISSION, DEPARTMENT OF PUBLIC WORKS, SCHOOL DEPARTMENT, POLICE AND FIRE DEPARTMENTS

2. ALL WORK SHALL CONFORM TO THE CITY OF WORCESTER REGULATIONS, ZONING ORDINANCE, CONSERVATION COMMISSION LOCAL ORDINANCE OR OTHER REGULATIONS AS APPLICABLE. ALL REQUIREMENTS OF THE CITY OF WORCESTER ARE HEREBY MADE CONDITIONS OF THIS WORK.

3. CONTRACTOR SHALL CONTROL AIRBORNE DUST WITH USE OF SPRAYED WATER AS REQUIRED TO MINIMIZE IMPACT ON NEIGHBORING PROPERTIES. USE OF CALCIUM CHLORIDE OR OTHER CHEMICALS IS NOT PERMITTED.

4. CONTRACTOR SHALL RETAIN A LICENSED SURVEYOR TO LAY OUT THE SITE CONSTRUCTION, WHO CERTIFY THAT ALL LOCATIONS ARE AS

5. PROVIDE DEEP SUMPS AT ALL CATCH BASINS ONSITE. 6. SEVENTY TWO HOURS PRIOR TO COMMENCING ANY EXCAVATION, THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 811. THE CONTRACTOR

7. INTERIM AND/OR PERMANENT SOIL STABILIZATION MEASURE SHALL BE INSTITUTED AS SOON AS PRACTICABLE, BUT NO MORE THAN 14 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED ON THAT PORTION OF THE SITE.

8. REMOVE ALL TOPSOIL, SUBSOIL, PRIOR TO PLACING ANY FILL ONSITE. WHERE GRAVEL IS CALLED FOR ONSITE, CONTRACTOR MAY

SHALL COORDINATE INSTALLATION OF NEW UTILITIES WITH THE VICINITY OF EXISTING UTILITIES (UNDERGROUND AND OVERHEAD) WITH THE

UTILIZE ONSITE MATERIALS, IF APPROVED BY OWNER. 9. CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF AS-BUILT LOCATIONS OF ALL UNDERGROUND AND ABOVE GROUND FACILITIES. PROVIDE THE OWNER WITH COMPLETE AS-BUILT PLANS UPON COMPLETION OF PROJECT, INCLUDING UTILITIES NOT INDICATED ON THIS PLAN.

- ALL WORK OF THIS PROJECT SHALL PROCEED ACCORDING TO THE FOLLOWING PROPOSED SEQUENCE:
- 1.) EROSION CONTROL PROVISIONS IN PLACE

RESPONSIBILITY OF THE CONTRACTOR.

- 2.) CLEARING/GRUBBING
- 3.) CONSTRUCTION OF STORMWATER FACILITIES AND THEN SITE DEVELOPMENT CONSTRUCTION.

11. CONTRACTOR SHALL PLACE A MINIMUM OF 6" (COMPACTED DEPTH) OF GOOD QUALITY LOAM AND GRASS SEED IN ALL AREAS NOT SUBJECT TO RESTORATION BY ANY OTHER MEANS.

12. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE HIS WORK WITH MUNICIPALITY TO LIMIT THE POTENTIAL DISRUPTIONS TO THE THE GENERAL PUBLIC. SHALL EMPLOY DUE CARE AND CAUTION TO PROTECT THE PUBLIC FROM DANGERS ASSOCIATED WITH THE OPERATION. SHALL INSTALL TEMPORARY FENCES, BARRICADES AND SIGNAGE TO ENSURE THAT NO PERSONS ENTER THE WORK AREA. SHALL COORDINATE POLICE DETAILS AS REQUIRED FOR WORK TO BE CONDUCTED IN THE STREET. SHALL EMPLOY DUE CARE WHEN WORKING AROUND PEDESTRIAN AND VEHICLE TRAFFIC

13. NO EXCAVATION SHALL TAKE PLACE ONSITE UNTIL ALL SEDIMENTATION CONTROLS (STRAW WATTLES, TEMP BASINS, ETC.) ARE FULLY INSTALLED AS PER PLAN. FOLLOWING COMPLETION OF GRADING IN ANY AREA CONTRACTOR SHALL ACT TO PLACE PERMANENT SURFACE FINISH OR TO STABILIZE SURFACE SOILS AGAINST EROSION. LOAM AND SEED SHALL BE PLACED IMMEDIATELY UPON FINAL GRADING. 14. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT THE PROPOSED CONSTRUCTION ACTIVITIES DO NOT DAMAGE OR UNDERMINE EXISTING SLOPES, BUILDINGS, WALLS, STRUCTURES, ETC. IN THE AREA AROUND THE CONSTRUCTION. REPAIR OF EXISTING SLOPES, BUILDINGS, WALLS, STRUCTURES, ETC. THAT ARE DAMAGED OR UNDERMINED BY THE CONTRACTORS WORK SHALL BE THE

15. EXISTING UTILITY LOCATIONS ARE APPROXIMATE ARE TO BE FIELD VERIFIED. QUINN ENGINEERING, INC. DOES NOT WARRANT THAT ALL EXISTING UTILITIES HAVE BEEN INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE EXISTING UTILITY LOCATIONS AND ENSURING THAT THE PROPOSED WORK DOES NOT CONFLICT WITH THE EXISTING UTILITIES NOT SHOWN.

16. SEWERS SHOULD BE LAID AT A MINIMUM OF 10 FEET, HORIZONTALLY, FROM ANY EXISTING OR PROPOSED WATER MAIN. SHOULD LOCAL CONDITIONS PREVENT LATERAL SEPARATION OF 10 FEET TO A WATER MAIN, THE WATER MAIN SHOULD BE LAID IN A SEPARATE TRENCH AND THE ELEVATION OF THE CROWN OF THE SEWER PLACED AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN. WHENEVER SEWERS MUST CROSS UNDER WATER MAINS, THE SEWER SHOULD BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN. WHEN THE ELEVATION OF THE SEWER CAN NOT BE VARIED TO MEET THIS REQUIREMENT, THE WATER MAIN SHOULD BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL-JOINT PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER MAIN SHOULD BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. WHEN IT IS IMPOSSIBLE TO OBTAIN HORIZONTAL OR VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH SEWER AND WATER MAIN SHOULD BE ENCASED IN CONCRETE FOR 10 FEET EITHER SIDE OF

17. THE GROUND IMMEDIATELY ADJACENT TO FOUNDATIONS SHALL BE SLOPED AWAY FROM THE BUILDING, IN ACCORDANCE WITH 780 CMR 1813.7, AT A SLOPE OF NOT LESS THAN 1:12 FOR A MINIMUM DISTANCE OF 10 FEET MEASURED PERPENDICULAR TO THE FACE OF THE WALL. OTHER APPROVED ALTERNATE METHODS OF DIVERTING WATER AWAY FROM THE FOUNDATION MAY BE ACCEPTABLE. 18. REINFORCED CONCRETE PIPE:

A. SHALL BE CLASS V CONCRETE. B. SHALL CONFORM TO ASTM C76, WALL B.

C. JOINT MATERIAL TO BE RUBBER GASKET CONFORMING TO ASTM C443 OR MORTAR REINFORCED

19. PRECAST CONCRETE MANHOLE/CATCH BASIN BASE, BARREL, AND CONE STRUCTURES:

A. SHALL CONFORM TO ASTM C478.

B. SHALL BE CAPABLE OF WITHSTANDING H20 LOADING CONDITIONS. C. MANHOLE STEPS SHALL BE COPOLYMER POLYPROPYLENE PLASTIC.

D. STEEL REINFORCING SHALL BE GRADE 60 AND CONFORM TO ASTM A185 AND A615. 20. ALL SDR35 PVC SEWER PIPE & FITTINGS SHALL CONFORM TO ASTM D3034 OR ASTM F679.

21. ALL SCH. 40 & SCH. 80 PVC PIPE & FITTINGS SHALL CONFORM TO ASTM D178M D3915, .4, ASTM . D1785, ASTM D3915, ASTM

22. THE SITE IS NOT LOCATED WITHIN A CITY OF WORCESTER WATERSHED RESOURCE PROTECTION DISTRICT 23. SUITABLE FILL SHALL CONSIST OF MATERIAL SOIL FREE OF ORGANIC MATERIALS, LOAM, AND ANY DELETERIOUS MATERIALS. SUITABLE CONFORMABLE FILL SHALL NOT CONTAIN STONES LARGER THAN 10" IN ANY DIMENSION, AND SHALL HAVE LESS THAN 75% PASSING THE

NO. 4 SIEVE AND A MAXIMUM OF 20% PASSING THE NO. 200 SIEVE. SUITABLE FILL SHALL NOT CONTAIN ANY BUILDING RUBBLE, GRANITE, OR CONCRETE BLOCK, ROOFING MATERIALS, OR OTHER CONSTRUCTION REFUSE. AT THE TIME OF PLACEMENT SUITABLE FILL SHALL NOT CONTAIN FROST, SNOW, OR ICE AND SHALL NOT CONTAIN WATER GREATER THAN THE OPTIMAL MOISTURE CONTENT. 24. ALL SITE LIGHTING SHALL MEET THE CITY OF WORCESTER DESIGN STANDARDS AND SHALL INCORPORATE DARK SKIES ELEMENTS WITH NO UPWARD PROJECTING LIGHTING, ENERGY SAVING FIXTURES, AND TIMING CONTROLS TO EXTINGUISH ALL LIGHTING NOT USED FOR SECURITY PURPOSES ONE-HALF HOUR AFTER NORMAL USE HOURS.

25. PROPOSED WORK SHALL CONFORM TO REGULATIONS SET FORTH IN THE AMERICANS WITH DISABILITIES ACT (ADA) AND BY THE

MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB). 26. THE QUANTITY OF MATERIAL ESTIMATED FOR REMOVAL FOR THIS PROJECT IS LESS THAN 500 CUBIC YARDS. SUITABILITY OF EXISTING

SOILS TO SUPPORT PROPOSED TRAFFIC LOADS IS ASSUMED. 27. THE EROSION CONTROL LINE SHALL BE STAKED BY A MA REGISTERED SURVEYOR PRIOR TO THE INSTALLATION OF EROSION CONTROLS. THE EROSION CONTROL LINE SHALL SERVE AS THE LIMIT OF WORK.

28. SITE OPERATIONS SHALL NOT DIRECT HAZARDOUS MATERIALS IN QUANTITIES SUBSTANTIALLY GREATER THAT THOSE ASSOCIATE WITH NORMAL HOUSEHOLD USE TO THE SEWER SYSTEM.

#### WETLAND/STORMWATER NOTES:

1. WETLANDS EXIST IN THE VICINITY OF THIS PROJECT.

2. EROSION CONTROLS INCLUDING TEMPORARY BASINS SHALL BE IMPLEMENTED AND INSPECTED BY A MUNICIPAL REPRESENTATIVE PRIOR TO STARTING CONSTRUCTION.

3. APPROVAL FROM THE WORCESTER CONSERVATION COMMISSION IS REQUIRED FOR THIS PROJECT AS THE SITE CONTAINS WETLANDS.

4. NO EXCAVATION SHALL TAKE PLACE ONSITE UNTIL ALL SEDIMENTATION CONTROLS (WATTLES, SILT FENCE, ETC.) ARE FULLY INSTALLED PER PLAN. EROSION CONTROLS SHALL SERVE AS THE LIMIT OF TREE CLEARING AND SITE WORK. NO WORK BEYOND IS

5. FOLLOWING COMPLETION OF GRADING IN ANY AREA, CONTRACTOR SHALL ACT TO PLACE PERMANENT SURFACE FINISH OR TO STABILIZE SOILS AGAINST EROSION. LOAM AND SEED SHALL BE PLACED IMMEDIATELY UPON FINAL GRADING. 6. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AND SHALL NOT BE REMOVED UNTIL ALL

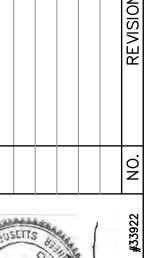
DISTURBED SURFACES HAVE BEEN FULLY STABILIZED WITH VEGETATION.

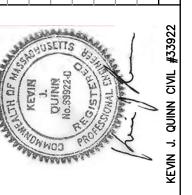
7. EXISTING ROADS CONNECTED TO THE PROJECT SITE WILL BE KEPT CLEAN OF SILT AND DEBRIS AT ALL TIMES.

8. THE SITE DOES NOT LIE WITHIN A FLOOD HAZARD ZONE AS INDICATED ON NFIP FIRM MAPS.

9. THE SITE DOES NOT LIE WITHIN A WATER SUPPLY PROTECTION AREA AS MAPPED ON THE MASS GIS WEBSITE.

10. THE SITE DOES NOT LIE WITHIN AN ESTIMATED HABITAT OR RARE WILDLIFE OR PRIORITY HABITAT OF RARE SPECIES.





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ENGINEERING 10′

DATE: FEBRUARY 20, 2024

TYPICAL DETAILS AND NOTES

SHEET 2 OF 3