



OWNER/APPLICANT:

MERHEJ & SONS
REALTY, LLC
87 DERBY STREET
HINGHAM, MA 02043



IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER OR MODIFY ANY PART OF THE SEAL OR STAMP OF A LICENSED PROFESSIONAL IS ALTERED. THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE WORKING FILTERED BY FOLLOWING BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

HINGHAM GAS
#19 & 27 WHITING
STREET
HINGHAM, MA 02043

No.	Submittal / Revision	App'd. By	Date

PERMIT SET KK JM 5/1/2020

DEMOLITION & SEDIMENT CONTROL PLAN

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale: 1" = 20'

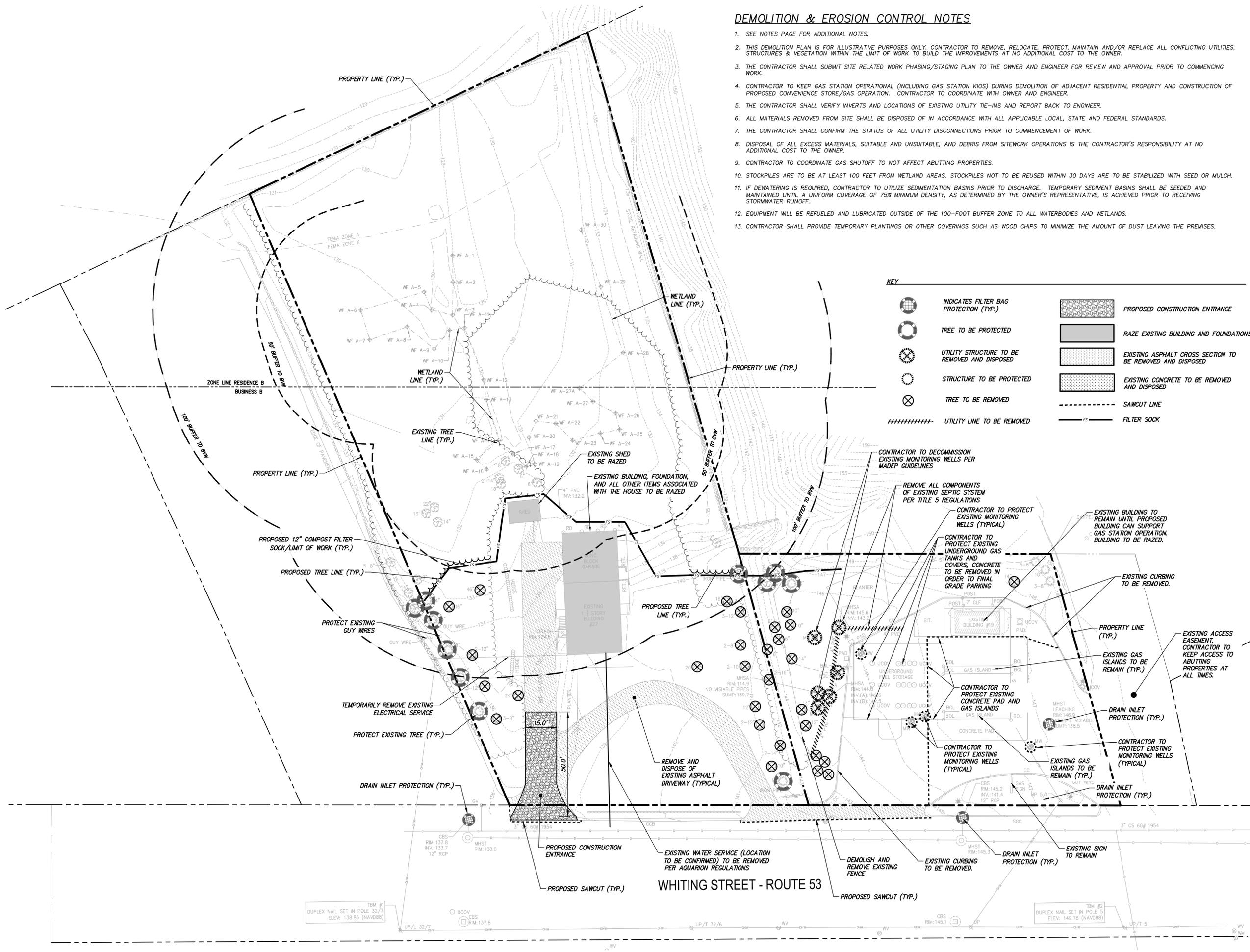
Drawing No.:
C-003

DEMOLITION & EROSION CONTROL NOTES

- SEE NOTES PAGE FOR ADDITIONAL NOTES.
- THIS DEMOLITION PLAN IS FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR TO REMOVE, RELOCATE, PROTECT, MAINTAIN AND/OR REPLACE ALL CONFLICTING UTILITIES, STRUCTURES & VEGETATION WITHIN THE LIMIT OF WORK TO BUILD THE IMPROVEMENTS AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL SUBMIT SITE RELATED WORK PHASING/STAGING PLAN TO THE OWNER AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO COMMENCING WORK.
- CONTRACTOR TO KEEP GAS STATION OPERATIONAL (INCLUDING GAS STATION KIOS) DURING DEMOLITION OF ADJACENT RESIDENTIAL PROPERTY AND CONSTRUCTION OF PROPOSED CONVENIENCE STORE/GAS OPERATION. CONTRACTOR TO COORDINATE WITH OWNER AND ENGINEER.
- THE CONTRACTOR SHALL VERIFY INVERTS AND LOCATIONS OF EXISTING UTILITY TIE-INS AND REPORT BACK TO ENGINEER.
- ALL MATERIALS REMOVED FROM SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL STANDARDS.
- THE CONTRACTOR SHALL CONFIRM THE STATUS OF ALL UTILITY DISCONNECTIONS PRIOR TO COMMENCEMENT OF WORK.
- DISPOSAL OF ALL EXCESS MATERIALS, SUITABLE AND UNSUITABLE, AND DEBRIS FROM SITEMARK OPERATIONS IS THE CONTRACTOR'S RESPONSIBILITY AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR TO COORDINATE GAS SHUTOFF TO NOT AFFECT ABUTTING PROPERTIES.
- STOCKPILES ARE TO BE AT LEAST 100 FEET FROM WETLAND AREAS. STOCKPILES NOT TO BE REUSED WITHIN 30 DAYS ARE TO BE STABILIZED WITH SEED OR MULCH.
- IF DEWATERING IS REQUIRED, CONTRACTOR TO UTILIZE SEDIMENTATION BASINS PRIOR TO DISCHARGE. TEMPORARY SEDIMENT BASINS SHALL BE SEEDED AND MAINTAINED UNTIL A UNIFORM COVERAGE OF 75% MINIMUM DENSITY, AS DETERMINED BY THE OWNER'S REPRESENTATIVE, IS ACHIEVED PRIOR TO RECEIVING STORMWATER RUNOFF.
- EQUIPMENT WILL BE REFUELED AND LUBRICATED OUTSIDE OF THE 100-FOOT BUFFER ZONE TO ALL WATERBODIES AND WETLANDS.
- CONTRACTOR SHALL PROVIDE TEMPORARY PLANTINGS OR OTHER COVERINGS SUCH AS WOOD CHIPS TO MINIMIZE THE AMOUNT OF DUST LEAVING THE PREMISES.

KEY

	INDICATES FILTER BAG PROTECTION (TYP.)		PROPOSED CONSTRUCTION ENTRANCE
	TREE TO BE PROTECTED		RAZE EXISTING BUILDING AND FOUNDATIONS
	UTILITY STRUCTURE TO BE REMOVED AND DISPOSED		EXISTING ASPHALT CROSS SECTION TO BE REMOVED AND DISPOSED
	STRUCTURE TO BE PROTECTED		EXISTING CONCRETE TO BE REMOVED AND DISPOSED
	TREE TO BE REMOVED		SAWCUT LINE
	UTILITY LINE TO BE REMOVED		FILTER SOCK



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0 20 40
Scale in feet

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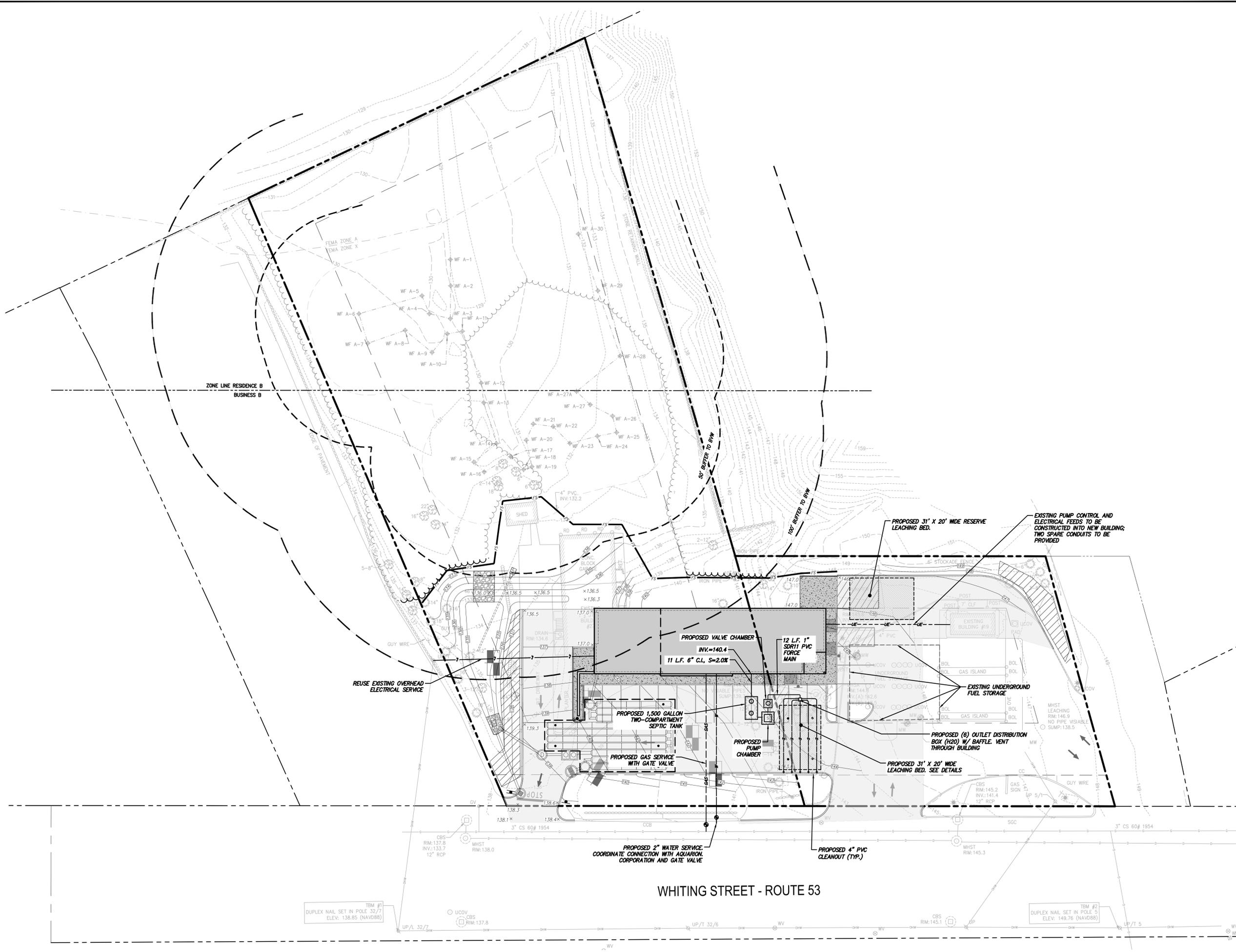
UTILITY PLAN

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale: 1" = 20'

Drawing No.:

C-301

File: V:\PROJECTS\WV\K\060903\000\CAD\ACAD\060903_C-301 UTILITY PLAN.DWG Saved: 5/1/2020 9:56:56 AM Plotted: 5/1/2020 10:28:15 AM Current User: Rose, Donald, Ltd\DrawBy: 4323



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No.	Submitted / Revision	App'd. By	Date

PERMIT SET NJS JK 05/01/20

LANDSCAPE PLAN

Designed By:	Drawn By:	Checked By:
JK	JK	NJS
Issue Date:	Project No:	Scale:
05/01/2020	060903	1" = 20'

Drawing No.:
C-501

1	TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
C-606	AT2	2	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	1.5" CAL.	B&B	REPLACEMENT TREES
	AT	3	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3" CAL.	B&B	
	PW	1	PINUS ALBA	WHITE PINE	1.5" CAL.	B&B	
	TC	2	TSUGA CANADENSIS	CANADIAN HEMLOCK	8'-10' HT.	B&B	

4	SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
C-606	EM	20	EUONYMUS FORTUNEI 'MOONSHADOW' TM	MOONSHADOW EUONYMUS	6-12"	1 GAL	
	IH	12	ILEX CRENATA 'HELLER'	HELLER JAPANESE HOLLY	18-24" HT.	3 GAL	
	SG	10	SPIRAEA JAPONICA 'GOLDFLAME'	SPIREA	18-24" HT.	3 GAL	

3	GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING	REMARKS
C-606		HO	75	HEMEROCALLIS X 'STELLA DE ORO'	STELLA DE ORO DAYLILY	1' HT.	#1 CONT.	18" o.c.	SPACE 18" O.C.

3	PERENNIALS & GRASSES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING	REMARKS
C-606		CK	21	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	1' HT.	#1 CONT.	24" o.c.	SPACE 24" O.C.
		PH	22	PENNISETUM ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1' HT.	#1 CONT.	24" o.c.	SPACE 24" O.C.

	SEED MIXES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING	REMARKS
		TG	13,071 SF	TURF GRASS	TURF GRASS	SEED			REFER TO SEEDING NOTES

LANDSCAPE NOTES

- THE CONTRACTOR SHALL SUPPLY PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE WORK SHOWN. ANY DISCREPANCIES BETWEEN QUANTITIES SHOWN ON THE PLANT SCHEDULE AND THOSE REQUIRED BY THE CONTRACT DRAWINGS SHALL NOT ENTITLE THE CONTRACTOR TO ADDITIONAL REMUNERATION.
- THE CONTRACTOR SHALL VERIFY AND VISUALLY INSPECT FINAL SELECTION OF PLANT MATERIALS WITH THE LANDSCAPE ARCHITECT OR OWNER PRIOR TO INSTALLATION.
- ALL PLANTING LOCATIONS SHALL BE STAKED OUT AND APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT OR OWNER PRIOR TO INSTALLATION.
- NO PLANT MATERIAL WILL BE ACCEPTED WHICH DISPLAYS MAJOR IRREGULARITIES OR MECHANICAL DAMAGE. THE OWNER RETAINS THE RIGHT TO REJECT ANY PLANT MATERIAL DEEMED UNFIT.
- CONTRACTOR MAY SUBSTITUTE ANY OF THE PLANTINGS LISTED IN THE PLANT SCHEDULE DUE TO AVAILABILITY WITH WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT OR OWNER PRIOR TO INSTALLATION.
- EXISTING VEGETATION SHALL REMAIN UNDISTURBED IN ALL AREAS WHICH ARE NOT PART OF THE PROPOSED CONTRACT LIMIT LINE.
- GUARANTEE:
 - FOR A PERIOD OF [TWELVE MONTHS] FROM THE DATE THAT THE WORK UNDER THIS CONTRACT IS CERTIFIED AS COMPLETE, THE CONTRACTOR SHALL: 1) GUARANTEE ALL PLANTS AND SEEDED AREAS UNDER THIS CONTRACT; 2) REMOVE AND REPLACE DURING THIS GUARANTEE PERIOD PLANTS WHICH DIE OR ARE IN A BADLY IMPAIRED CONDITION; 3) REPLANT WITH STOCK OF SAME SIZE AND QUALITY AS ORIGINALLY SPECIFIED; 4) GUY AND MAINTAIN AS SPECIFIED HEREIN AT NO ADDITIONAL COST TO THE OWNER.
 - REPLACEMENTS MADE WITHIN SIX MONTHS AFTER THE BEGINNING OF THE GUARANTEE PERIOD SHALL NOT EXTEND THE GUARANTEE PERIOD OF THESE PARTICULAR PLANTS. THOSE REPLACEMENTS MADE SIX MONTHS OR MORE AFTER THE BEGINNING OF THE GUARANTEE PERIOD SHALL BE MAINTAINED AND GUARANTEED FOR A PERIOD OF SIX MONTHS FROM THE TIME OF PLACEMENT.
- WATER THOROUGHLY DURING AND IMMEDIATELY AFTER PLANTING.

SEEDING NOTES:

- ALL AREAS TO BE SEEDED SHALL BE SOWN WITH THE FOLLOWING SEEDING MIX:

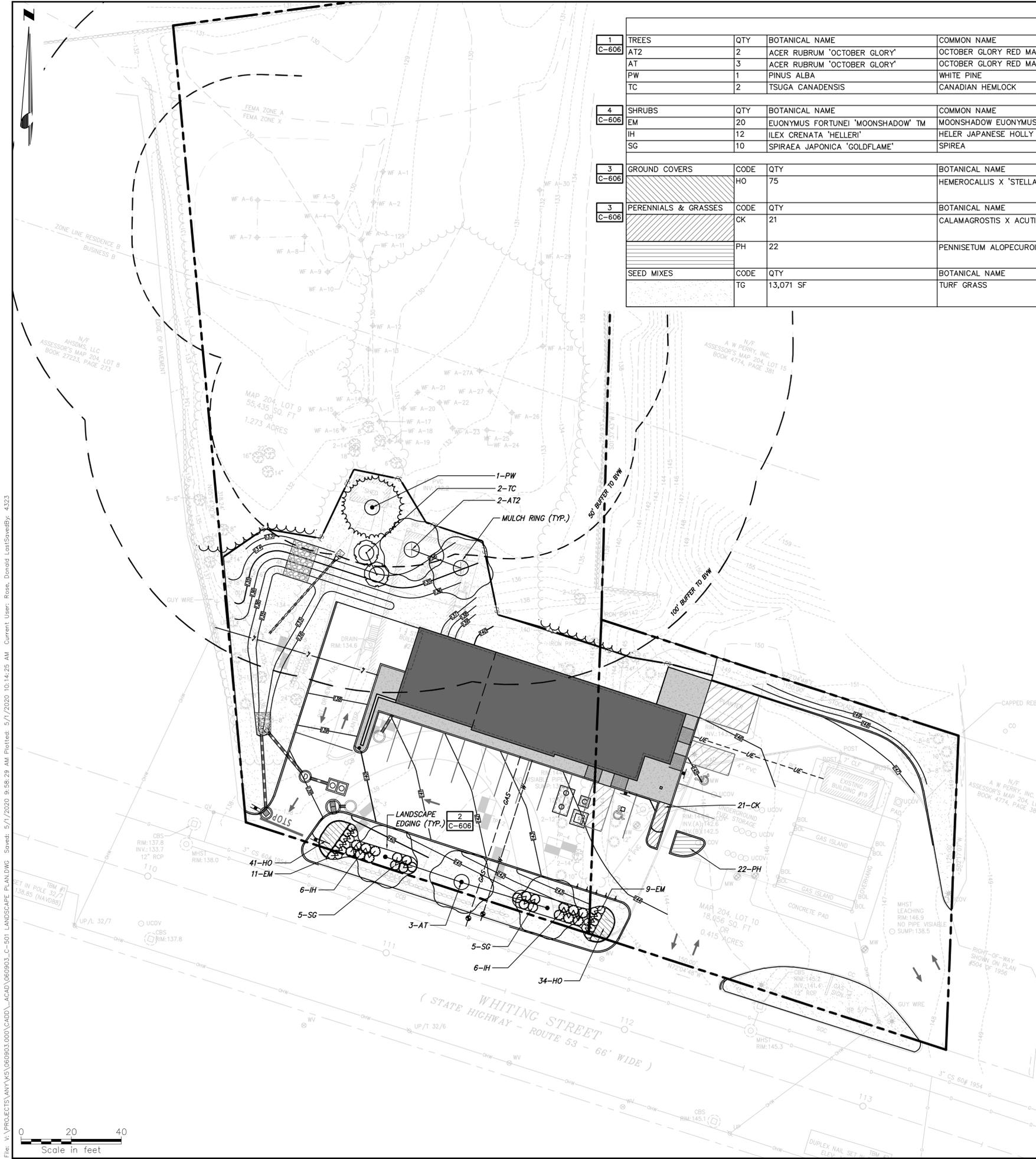
SPECIES	% BY WEIGHT	% BY PURITY	% BY GERMINATION
KENTUCKY BLUEGRASS*	60	85	80
CREeping RED FESCUE	20	95	85
PERENNIAL RYE	20	95	85

 *KENTUCKY BLUEGRASS MUST CONSIST OF A MINIMUM OF TWO VARIETIES.
- WEED SEED CONTENT SHALL NOT EXCEED 0.25%.
- THE SEED MIXTURE SHALL BE DISTRIBUTED BY MEANS OF HYDRO-SEEDING.
- THE FERTILIZER SHALL BE A 5-10-5 COMMERCIAL GRADE FERTILIZER APPLIED AT THE MANUFACTURERS RECOMMENDED APPLICATION RATE.
- SEEDING APPLICATION RATE SHALL BE 4 LBS PER 1,000 SQ. FT.
- WATER THOROUGHLY IMMEDIATELY AFTER SEEDING.
- MAINTAIN AND PROTECT ALL SEEDED AREAS UNTIL A UNIFORM STAND OF GRASS HAS BEEN ESTABLISHED AND ACCEPTED BY THE [LANDSCAPE ARCHITECT/ENGINEER] [OWNER] [OWNER'S REPRESENTATIVE].

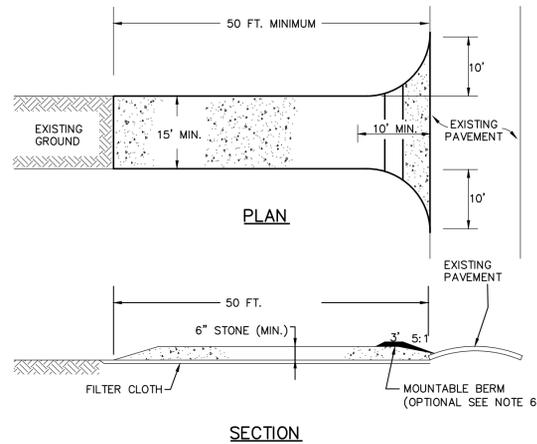
TOPSOIL NOTES:

- ALL AREAS OF THE SITE WHICH ARE DISTURBED AND NOT PLANTED, MULCHED, PAVED, ETC. SHALL BE TOPSOILED AND SEEDED.
- TOPSOIL TO BE INSTALLED TO A MINIMUM 4" DEPTH IN LAWN AREAS AND 12" IN PLANTING BEDS.
- TOPSOIL SHALL CONSIST OF FERTILE, FRIABLE, NATURAL LOAM FREE OF SUBSOIL, CLAY LUMPS, BRUSH, TWIGS, ENVIRONMENTAL CONTAMINANTS, STONES OR OTHER DELETERIOUS MATERIALS LARGER THAN 1.5" IN GREATEST DIMENSION.
- PROPOSED TOPSOIL SHALL BE TESTED BY AN INDEPENDENT TESTING FACILITY WITH TEST RESULTS SUBMITTED TO THE LANDSCAPE ARCHITECT/ENGINEER FOR APPROVAL. CONTRACTOR SHALL PAY FOR ALL TESTING. ACCEPTANCE OF TOPSOIL SHALL BE BASED UPON TEST RESULTS. ONE TEST SHALL BE PERFORMED PER 100 C.Y. OF TOPSOIL. LABORATORY TESTS SHALL INCLUDE THE FOLLOWING:
 - SIEVE PARTICLE SIZE ANALYSIS AND GRADIENT OF MINERAL CONTENT.

SCREEN SIZE	% SOIL RETAINED	% SOIL PASSING
1?"	0	100
1/4"	3	97
NO. 100	40-60	40-60
 - CHEMICAL ANALYSIS OF THE FOLLOWING:
 - PH (BETWEEN 5.5 AND 7.0)
 - PERCENT OF ORGANIC CONTENT (NO LESS THAN 6% NOR MORE THAN 20%)
 - NUTRIENT LEVELS OF PHOSPHORUS, POTASSIUM MAGNESIUM, MANGANESE, IRON, ZINC AND CALCIUM
 - SOLUBLE SALT
 - CATION EXCHANGE CAPACITY (CEC).
- NATURAL TOPSOIL MAY BE AMENDED WITH APPROVED MATERIALS, BY APPROVED METHODS, TO MEET THE ABOVE SPECIFICATIONS.



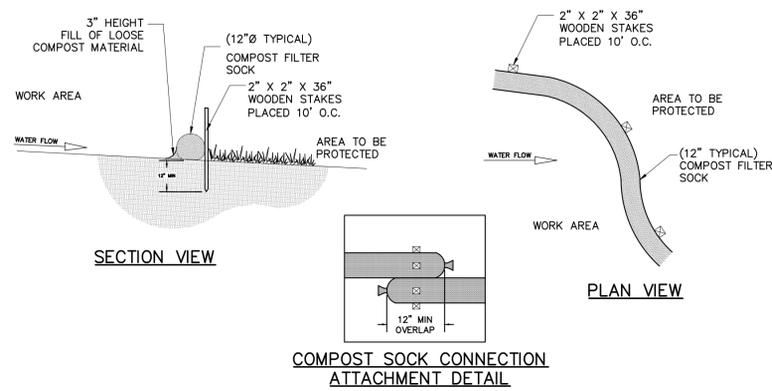
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CONSTRUCTION SPECIFICATIONS:

- STONE SIZE: USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- LENGTH: RECOMMEND GREATER THAN OR EQUAL TO 50 FEET WHERE SOILS ARE SANDS AND GRAVELS AND 100 FEET IN SILTS AND CLAYS.
- THICKNESS: NOT LESS THAN SIX (6) INCHES.
- WIDTH: FIFTEEN (15) FOOT, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OF EGRESS OCCURS.
- FILTER CLOTH: SHALL 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 SHALL BE INSTALLED.
- MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OF FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR 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 AND ON AN ON GOING BASIS.
- PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED.

1 STABILIZED CONSTRUCTION ENTRANCE
SCALE: NO SCALE



NOTES:

- PREFABRICATED COMPOST SOCK SHALL BE FILTREXX SOXX OR APPROVED EQUAL.
- MATERIAL FOR SOCKS SHALL CONSIST OF SANITIZED MATURE COMPOST, FREE OF VIABLE WEED SEEDS AND FOREIGN DEBRIS SUCH AS GLASS AND PLASTIC. COMPOST SHALL BE IN SHREDDED OR GRANULAR FORM AND FREE FROM HARD LUMPS. IN ADDITION, NO KILN-DRIED WOOD OR CONSTRUCTION DEBRIS SHALL BE ALLOWED. CONTRACTOR SHALL REFER TO MASSDOT SPECIFICATIONS M1.06.0 FOR MATERIAL SPECIFICATIONS.
- SOCK SHALL CONSIST OF JUTE MESH OR OTHER APPROVED BIODEGRADABLE MATERIAL.

PRACTICE: COMPOST FILTER SOCKS:

A COMPOST FILTER SOCK IS A TYPE OF CONTAINED COMPOST FILTER BERM CONSISTING OF A MESH TUBE FILLED WITH COMPOST MATERIAL THAT IS PLACED PERPENDICULAR TO SHEET FLOW RUNOFF TO RETAIN SEDIMENT FROM DISTURBED AREAS. THE COMPOST FILTER SOCK ACTS AS A FILTER TO RETAIN SEDIMENT AND OTHER POLLUTANTS (E.G., SUSPENDED SOLIDS, NUTRIENTS) WHILE ALLOWING THE WATER TO FLOW THROUGH IT. COMPOST QUALITY MUST MEET AASHTO 2010 SPECIFICATIONS.

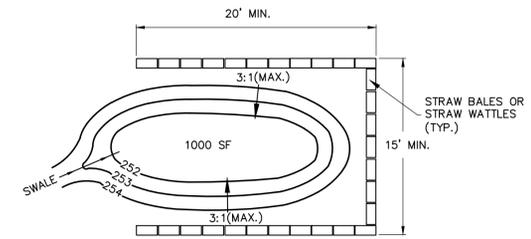
INSTALLATIONS REQUIREMENTS:

ONCE THE FILTER SOCK IS FILLED AND PUT IN PLACE, IT SHOULD BE ANCHORED TO THE SLOPE BY STAKES ALONG THE DOWNHILL SIDE OF THE SOCK AT 10' SPACING ON CENTER (O.C.) THE ENDS OF THE FILTER SOCK SHOULD BE DIRECTED UPSLOPE, TO PREVENT STORMWATER FROM RUNNING AROUND THE END OF THE TUBE.

MAINTENANCE REQUIREMENTS:

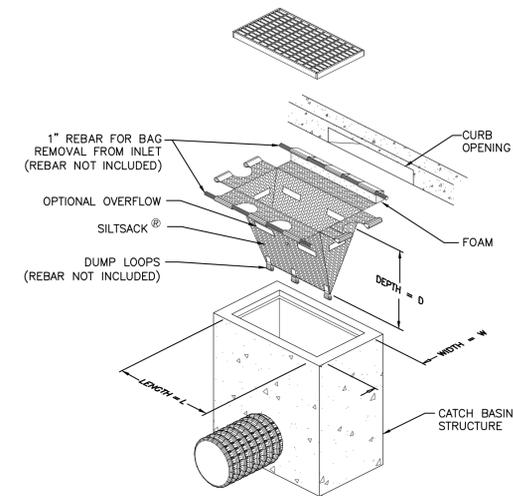
SOCK MUST BE INSPECTED FOR SEDIMENT ACCUMULATION. IF THERE IS EXCESSIVE PONDING BEHIND THE FILTER SOCK OR ACCUMULATED SEDIMENT REACHES THE TOP OF THE SOCK, AN ADDITIONAL SOCK SHOULD BE ADDED ON TOP OR IN FRONT OF THE EXISTING SOCK IN THESE AREAS. AN ADEQUATE RESERVE OF SOCKS MUST BE KEPT ON SITE AT ALL TIMES FOR EMERGENCY AND/OR ROUTINE REPLACEMENT. SOCKS SHALL BE REMOVED ONLY AFTER EXPOSED SOILS IN THE CONTRIBUTING DRAINAGE AREA ACHIEVE FINAL STABILIZATION. SEDIMENT ACCUMULATION MUST BE REMOVED ONCE IT HAS REACHED 1/2 OF THE EXPOSED HEIGHT OF THE SOCK.

2 12-INCH COMPOST FILTER SOCK
SCALE: NO SCALE



- SEDIMENT BASINS AND TRAPS SHALL BE SIZED IN ACCORDANCE WITH EPA NPDES GUIDELINES.
- SEDIMENT TRAPS ARE UTILIZED FOR DRAINAGE AREAS SMALLER THAN 5 ACRES. THE SEDIMENT TRAP SHOULD HAVE A MINIMUM VOLUME BASED ON 1/2 INCH OF STORAGE FOR EACH ACRE OF DRAINAGE AREA. THIS VOLUME EQUATES TO 1800 CUBIC FEET OF STORAGE OR 67 CUBIC YARDS FOR EACH ACRE OF DRAINAGE AREA.
- SEDIMENT BASIN ARE UTILIZED FOR DRAINAGE AREAS FROM 5 TO 100 ACRES. THE TEMPORARY SEDIMENT BASIN SHOULD HAVE A MINIMUM VOLUME OF 3,600 CUBIC FEET FOR EACH ACRE OF DRAINAGE AREA.
- LOCATION DICTATED BY SEQUENCE OF CONSTRUCTION. CONTRACTOR TO PROVIDE WHERE NECESSARY TO FILTER RUNOFF FROM CONSTRUCTION AREAS PRIOR TO DISCHARGE.

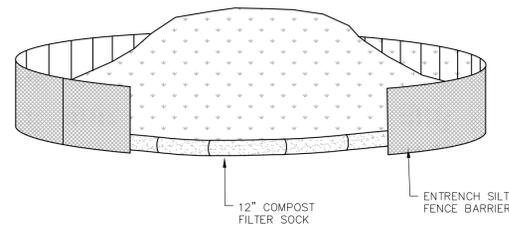
3 TEMPORARY SEDIMENT BASIN
SCALE: NO SCALE



NOTES:

- REMOVE ACCUMULATED SEDIMENT WHEN CAPACITY IS REDUCED BY HALF OR PER MANUFACTURER'S RECOMMENDATIONS.
- CATCH BASIN INSERT TO BE SILTSACK® BY ACF ENVIRONMENTAL. PHONE: 1-800-448-3636, acfenvironmental.com OR EQUIVALENT.
- INSTALL ON ALL EXISTING CATCH BASINS WITHIN SNOW BIRD AVENUE AND ADJACENT CATCH BASINS ON INTERSECTION ROADS IF ROADWAY DRAINAGE CAN REACH THOSE.

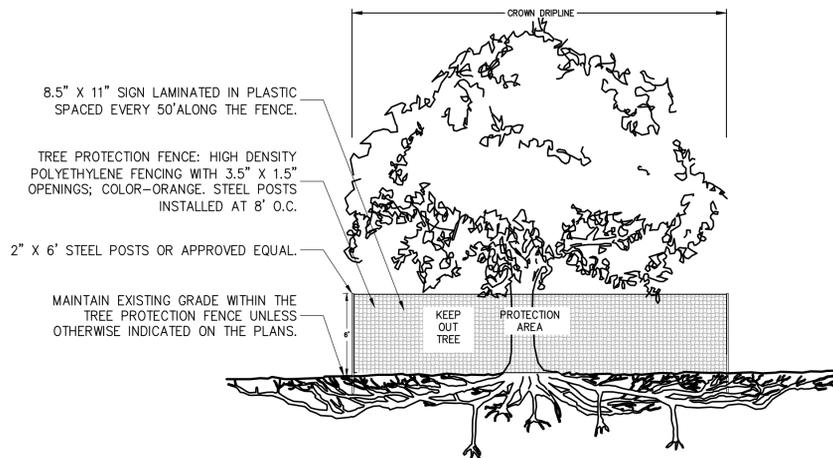
4 FILTER SACK CATCH BASIN INSERT DETAIL
SCALE: NO SCALE



INSTALLATION NOTES:

- AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
- MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
- UPON COMPLETION OF STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH COMOST FILTER SOCK, THEN STABILIZED WITH VEGETATION, OR COVERED.
- SEE SPECIFICATIONS FOR INSTALLATION OF COMPOST FILTER SOCKS.

5 SOIL STOCKPILE
SCALE: NO SCALE



8.5" X 11" SIGN LAMINATED IN PLASTIC SPACED EVERY 50' ALONG THE FENCE.

TREE PROTECTION FENCE: HIGH DENSITY POLYETHYLENE FENCING WITH 3.5" X 1.5" OPENINGS; COLOR-ORANGE. STEEL POSTS INSTALLED AT 8' O.C.

2" X 6" STEEL POSTS OR APPROVED EQUAL.

MAINTAIN EXISTING GRADE WITHIN THE TREE PROTECTION FENCE UNLESS OTHERWISE INDICATED ON THE PLANS.

NOTES:

- CONTRACTOR TO MAINTAIN INTEGRITY OF CONSTRUCTION FENCE FOR DURATION OF PROJECT.
- NO PRUNING SHALL BE PERFORMED EXCEPT BY APPROVED ARBORIST.
- NO EQUIPMENT SHALL OPERATE INSIDE THE PROTECTIVE FENCING INCLUDING DURING FENCE INSTALLATION AND REMOVAL.
- SEE SITE PREPARATION PLAN FOR ANY MODIFICATIONS WITH THE TREE PROTECTION AREA.

6 TREE PROTECTION
NOT TO SCALE

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SITE DETAILS

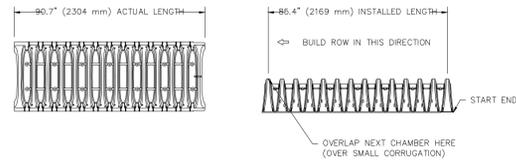
Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale:

Drawing No.:

C-601

SC-310 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0\"/>
CHAMBER STORAGE	14.7 CUBIC FEET (0.42 m ³)
MINIMUM INSTALLED STORAGE*	31.0 CUBIC FEET (0.88 m ³)
WEIGHT	35.0 lbs. (16.8 kg)

*ASSUMES 6\"/>



STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	A	B	C
SC310EP06W / SC310EP06TFC	6\"/>			
SC310EP08B / SC310EP08TFC	8\"/>			
SC310EP10T / SC310EP10TFC	10\"/>			
SC310EP12B / SC310EP12TFC	12\"/>			

ALL STUBS, EXCEPT FOR THE SC310EP12B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

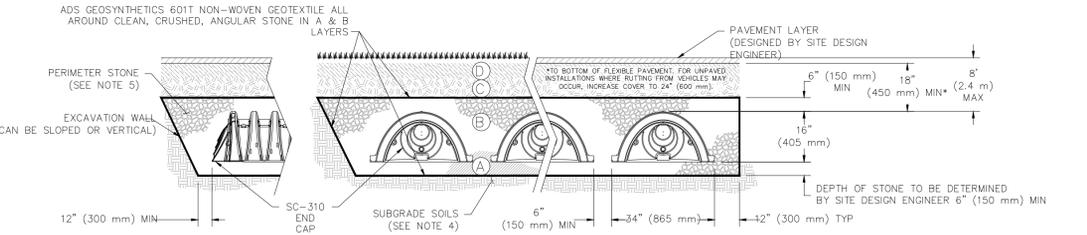
* FOR THE SC310EP12B THE 12\"/>

NOTE: ALL DIMENSIONS ARE NOMINAL

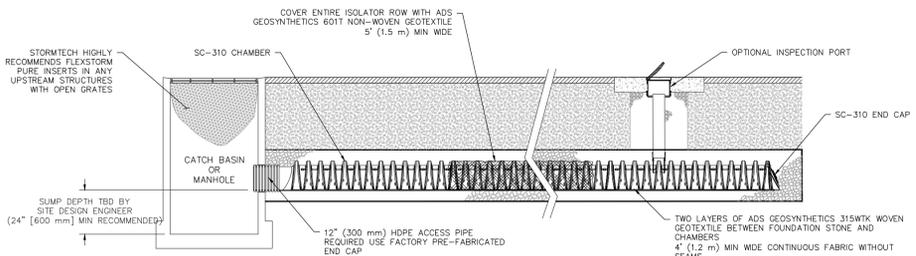
ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBLEMSTONE ('B' LAYER) TO 18\"/>	AASHTO M41S ¹ A-1, A-2, A-3 OR AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12\"/>
B	EMBLEMSTONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTIONED IN 6\"/>



NOTES:
1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418-16a (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
a) TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
b) TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2\"/>

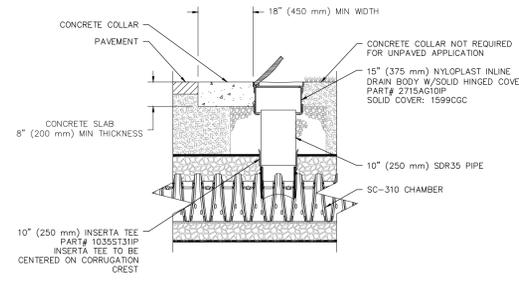


SC-310 ISOLATOR ROW DETAIL

NTS

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT**
- A. INSPECTION PORTS (IF PRESENT)**
- REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - IF SEDIMENT IS AT, OR ABOVE, 3\"/>
- B. ALL ISOLATOR ROWS**
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
2.1. MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
2.2. FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - IF SEDIMENT IS AT, OR ABOVE, 3\"/>
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS**
- A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45\"/>
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.**
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.**



SC-310 10\"/>

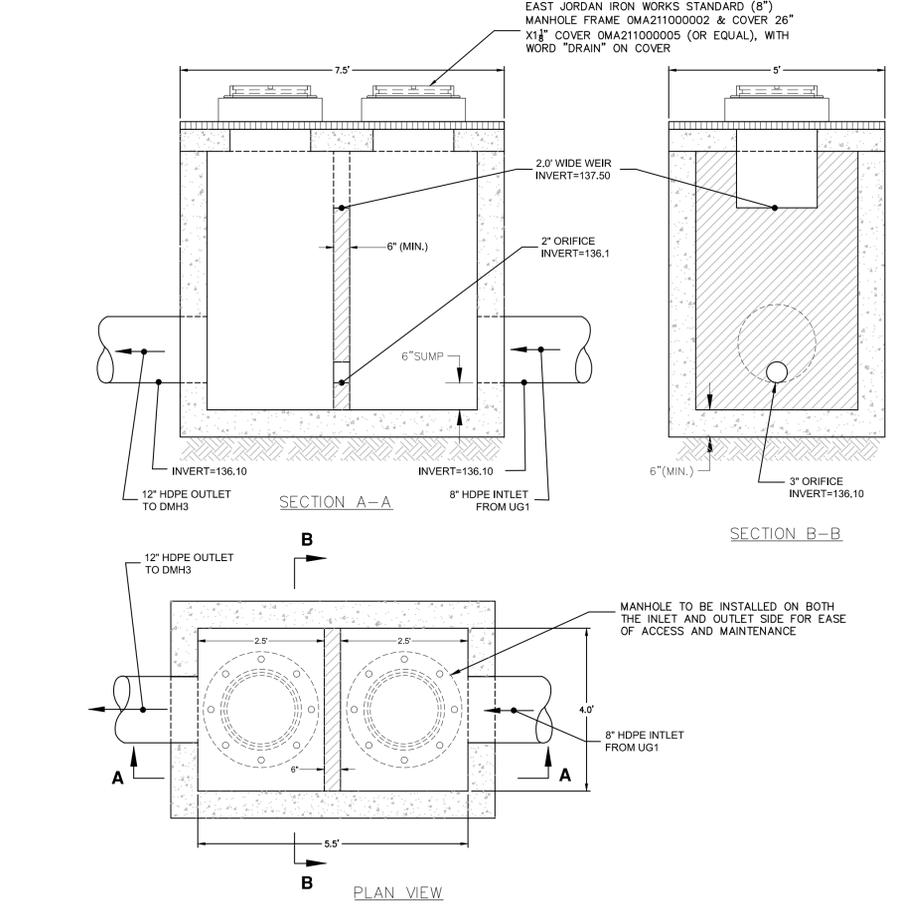
NTS

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

2 STORMTECH SC-310 CHAMBER ISOLATOR ROW

SCALE: NO SCALE

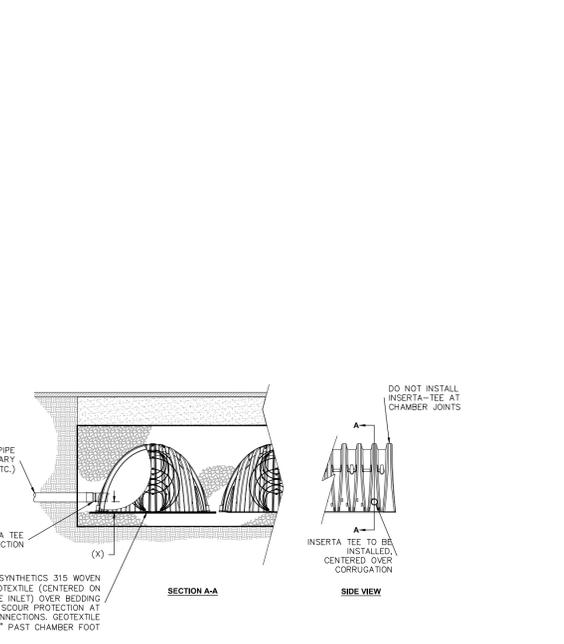


5 OUTLET CONTROL STRUCTURE (OCS-100)

SCALE: NO SCALE

1 STORMTECH SC-310 CHAMBER UNIT SYSTEMS

SCALE: NO SCALE



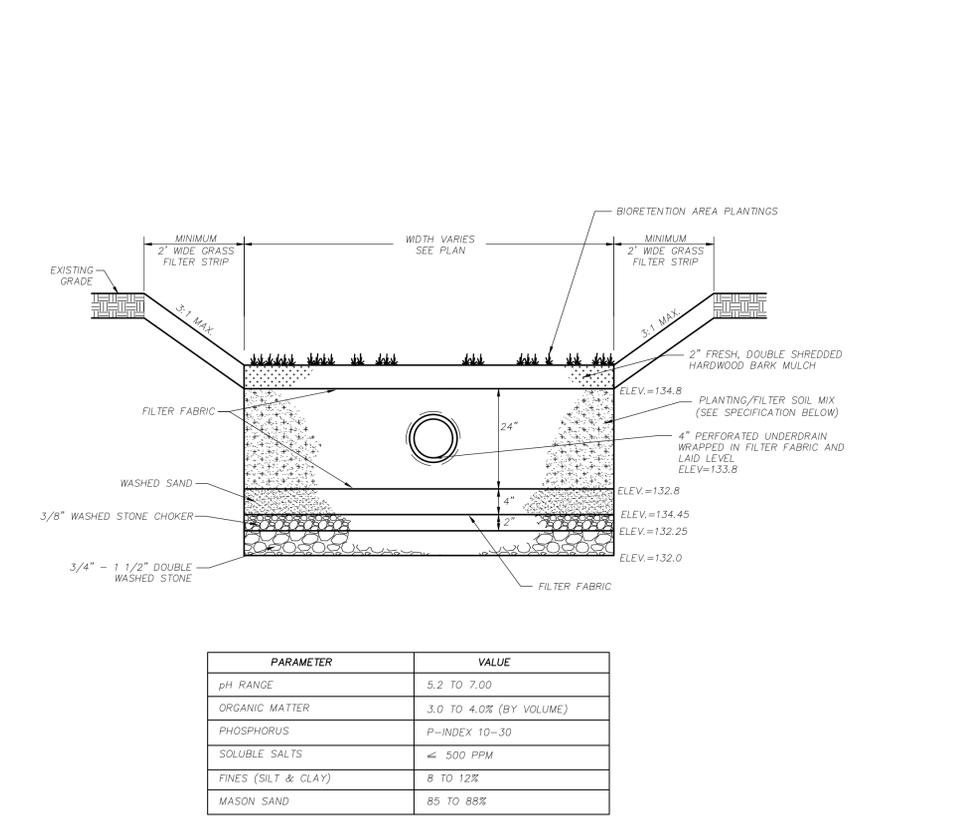
NOTE: PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6\"/>	
SC-740	10\"/>	
DC-780	10\"/>	
MC-3500	12\"/>	
MC-4500	12\"/>	

INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON

4 BIORETENTION AREA

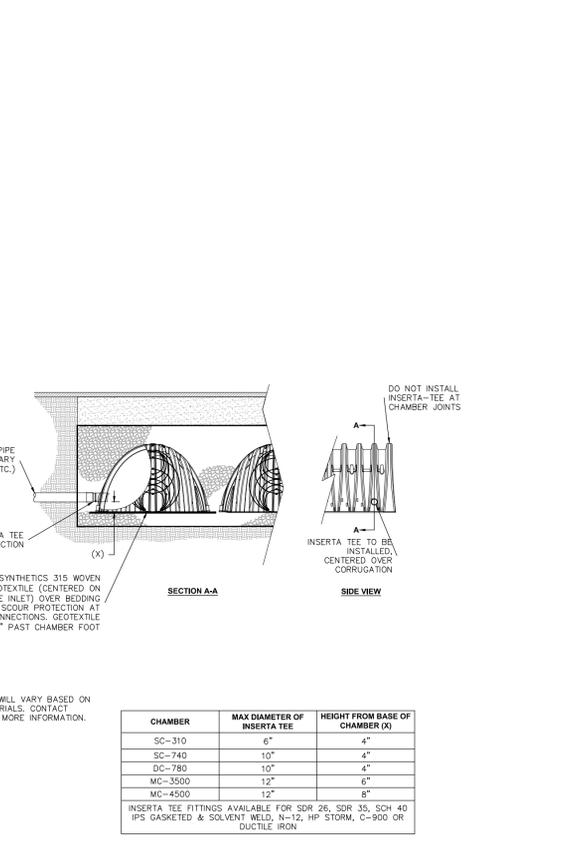
SCALE: NO SCALE



PARAMETER	VALUE
pH RANGE	5.2 TO 7.00
ORGANIC MATTER	3.0 TO 4.0% (BY VOLUME)
PHOSPHORUS	P-INDEX 10-30
SOLUBLE SALTS	< 500 PPM
FINES (SILT & CLAY)	8 TO 12%
MASON SAND	85 TO 88%

3 STORMTECH INSERTA TEE DETAIL

SCALE: NO SCALE



OWNER/APPLICANT:

MERHEJ & SONS REALTY, LLC
87 DERBY STREET
HINGHAM, MA 02043



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HINGHAM GAS #19 & 27 WHITING STREET HINGHAM, MA 02043

No.	Submittal/Revision	App'd. By	Date

SITE DETAILS

Designed By:	Drawn By:	Checked By:
DR/BN	DR/BN	KK
Issue Date:	Project No:	Scale:
05/01/2020	060903	

Drawing No.: **C-603**

SEPTIC SYSTEM SIZING INFORMATION AND DESIGN DATA

- FOR RETAIL, (50 GPD / 1,000 S.F.) IS USED, AND FOR GAS ISLAND, (75 GPD / ISLAND) IS USED BASED ON TITLE 5 (310CMR 15.203).
- TOTAL FLOW RATE REQUIRED FOR THE FACILITY, BASED ON SIZE OF RETAIL AREA AND NUMBER OF GAS ISLANDS:
 $(3,531 \text{ S.F.}) \times (50 \text{ GPD} / 1,000 \text{ S.F.}) = 176.6 \text{ GPD}$
 $(3 \text{ GAS ISLANDS}) \times (75 \text{ GPD} / \text{GAS ISLAND}) = 225 \text{ GPD}$
 $(176.6 \text{ GPD}) + (225 \text{ GPD}) = 401.6 \text{ GPD}$

THE PROPOSED DESIGN FLOW 401.6 GPD.

DESIGN FLOW FACTOR OF SAFETY = $(401.6 \text{ GPD} / 401.6 \text{ GPD}) = 1.00$

- ONE TWO CHAMBER SEPTIC TANK IS PROPOSED FOR THE NEW FACILITY. THE FIRST CHAMBER OF THE SEPTIC TANK IS SIZED FOR OVER 200% OF THE DAILY DESIGN FLOW AT 1,000 GALLONS. THE SECOND CHAMBER OF THE SEPTIC TANK IS SIZED FOR OVER 100% OF THE DAILY DESIGN FLOW AT 500 GALLONS.

LIST OF LOCAL VARIANCES REQUIRED (TOWN OF HINGHAM BOH RULES & REGULATIONS)

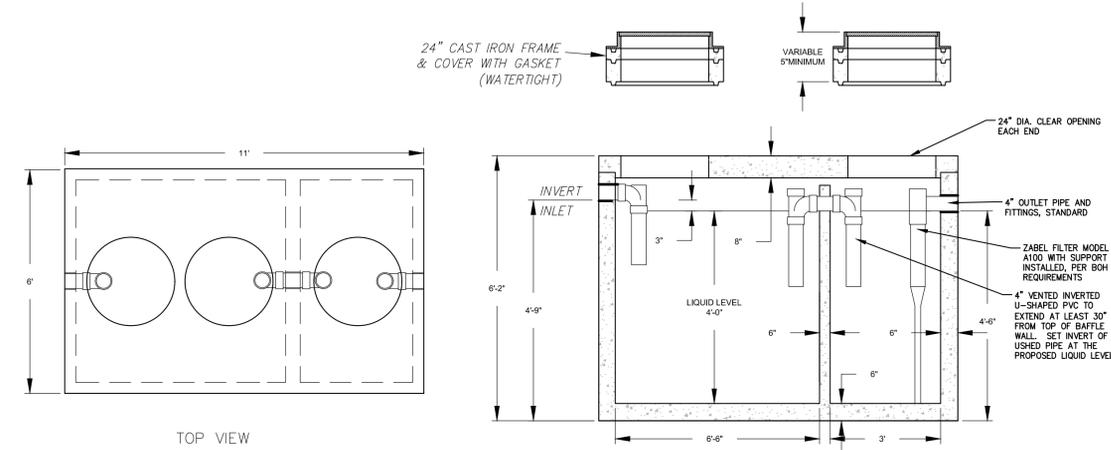
- NONE

SOIL ABSORPTION SYSTEM SIZING INFORMATION:

- SOIL ABSORPTION SYSTEM (SAS) SHALL BE EXCAVATED PRIOR TO BUILDING CONSTRUCTION
- DESIGN FLOW = 401.6 GPD
- PER 310CMR, SECTION 15.242, LOADING RATE FOR CLASS I (<5 MIN/INCH) SOILS IS = 0.74 GPD/SF

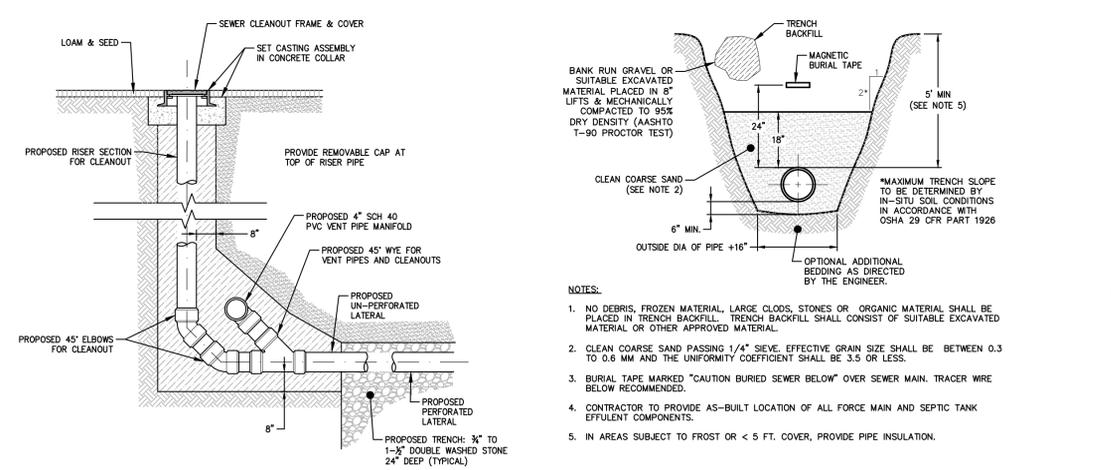
CONTROLLING SEASONAL HIGH GROUNDWATER ELEVATION IS WITHIN TEST PIT (TP-4), WHICH RESULTS IN AN ESTIMATED SEASONAL HIGH GROUNDWATER (ESHW) ELEVATION OF 134.18 (REDOXIMORPHIC FEATURES AT 83" FROM TOP OF TP-4).

- THE SYSTEM HAS BEEN DESIGNED TO COMPLY WITH SECTION VII.J OF THE HINGHAM SUPPLEMENTARY RULES AND REGULATIONS TO PROVIDE AT LEAST 6 FEET OF NATURALLY OCCURRING PERMEABLE MATERIAL BELOW THE BOTTOM OF THE SYSTEM TO THE ESHGW FOR SOILS WITH PERCOLATION RATES BETWEEN 2 MINUTES AND 5 MINUTES PER INCH.
- USE LEACHING BED IN ACCORDANCE WITH 310CMR 15.252 WERE SELECTED
- REQUIRED AREA = $(401.6 \text{ GPD} / 0.74 \text{ GPD/SF}) = 542.7 \text{ SF}$
- USE 31 FT LONG X 20 FT WIDE BED:
 - LEACHING BED PROVIDED DAILY CAPACITY = $(31 \text{ FEET LONG}) \times (20 \text{ FEET WIDE}) \times (0.74 \text{ GPD/SF}) = 458.8 \text{ GPD} > 401.6 \text{ GPD}$ O.K.

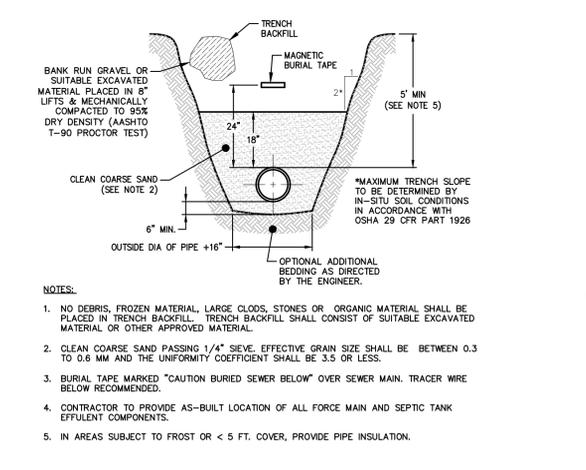


- NOTES:**
- PROPERLY SIZED SEPTIC TANK SHALL CONFORM TO ALL TITLE 5 AND HINGHAM BOH REQUIREMENTS.
 - ALL TANK PENETRATIONS SHALL BE CORED IN FIELD, AFTER TANKS ARE SET IN THE GROUND AND PRIOR TO BACKFILLING.
 - STRUCTURE SHALL BE WATERTIGHT.
 - SEPTIC TANK TO WITHSTAND H=20 LOADING.
 - INLET TEE TO EXTEND A MINIMUM OF 10" BELOW FLOW LINE.
 - PROVIDE A MINIMUM 3" SPACE BETWEEN INLET AND FLOW LINE.
 - SEAL ALL JOINTS WITH WATERPROOFING MEMBRANE TREMPROOF 60 OR APPROVED EQUAL.
 - DIMENSIONS SHOWN HEREIN ARE BASED ON SITUATE CONCRETE PRODUCTS, PRODUCT, AN EQUAL PRODUCT CAN BE USED IF THE MINIMUM CAPACITY OF THE TANK IS 1,500 GALLONS WITH A BAFFLE.
 - A MIN. 24" DIA. MANHOLE FRAME & COVER TO GRADE OVER THE INLET AND OUTLET SHALL BE PROVIDED.
 - SHOP DRAWING SUBMITTALS SHALL INCLUDE BUOYANCY CALCULATIONS AND CONTRACTOR IS RESPONSIBLE FOR SUITABLE STRUCTURES TO RESIST BUOYANCY. ASSUME TANK SUBMERGED UP TO FEMA FLOOD PLAIN ELEVATION. (10.0 NAVD)
 - COVERS SHALL BE CAM LOCK WATERTIGHT COVERS OR APPROVED EQUAL.

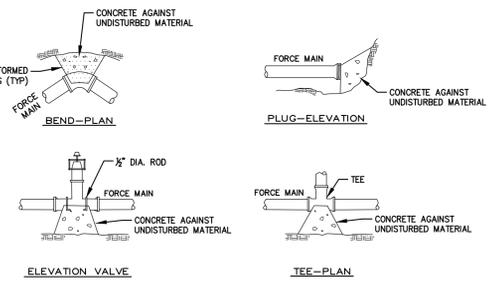
1. 1,500 GALLON SEPTIC TANK WITH BAFFLE
SCALE: NO SCALE



2. CLEANOUT DETAIL
SCALE: NO SCALE



3. TYPICAL TRENCH DETAIL FOR PRESSURE FORCE MAIN
SCALE: NO SCALE

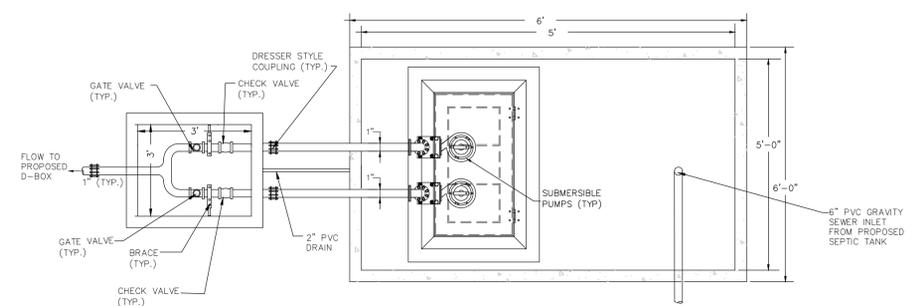


NOTES:

- CONCRETE FOR THRUST BLOCKS SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 1500 PSI AT 28 DAYS.
- THRUST BLOCK BEARING AREAS TO BE IN ACCORDANCE WITH TABLE BELOW, UNLESS DETERMINED OTHERWISE BY THE ENGINEER BECAUSE OF SOIL CONDITIONS.

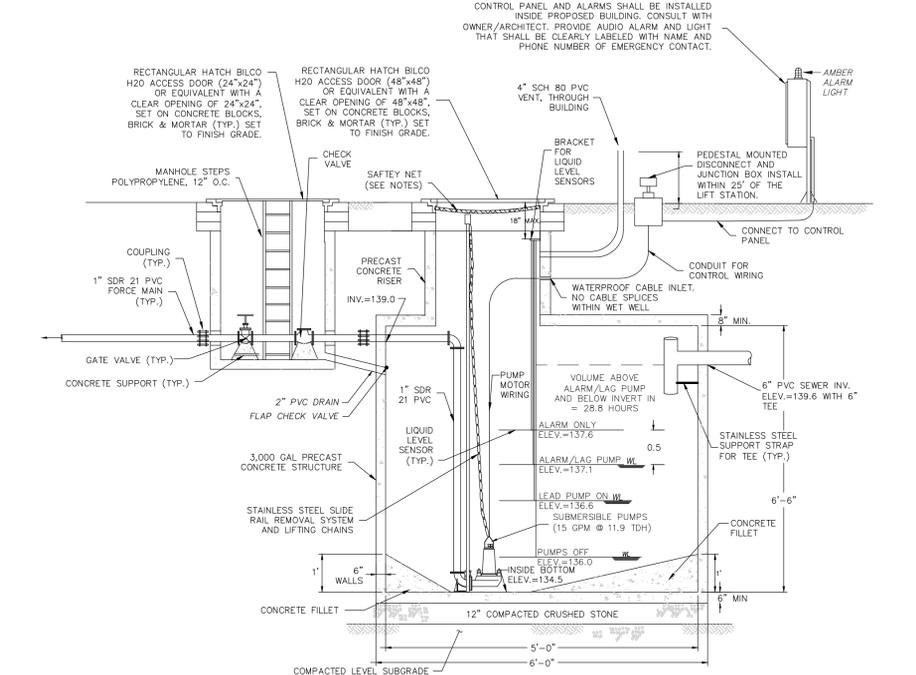
SIZE OF MAIN (IN)	TABLE OF BEARING AREAS S.F.			
	TEES & VALVES		BENDS	
4" & LESS	2	1	2	1
6"	3	2	3	2
8"	4	3	5	3
10" & 12"	9	4	10	6

4. THRUST BLOCK DETAILS
SCALE: NO SCALE



PUMP CHAMBER AND VALVE CHAMBER PLAN VIEW

NOTE: CONTRACTOR SHALL SUBMIT SHOP DRAWING OF TANK AND HATCH. HATCH TO BE LARGE ENOUGH TO PROVIDE SUITABLE ACCESS TO OPERATE AND MAINTAIN THE VALVES.



PUMP CHAMBER AND VALVE CHAMBER ELEVATION VIEW

- PUMP EQUIPMENT SHALL BE DUPLEX SUBMERSIBLE PUMPS AS MANUFACTURED. THE UNITS SHALL OPERATE FROM A 230 VOLT, 1 PHASE, 3 WIRE A.C. POWER SOURCE. PUMPS SHALL BE APPROVED BY CHA BEFORE INSTALLATION.
- PUMP STATION WET WELLS AND VALVE CHAMBERS SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE STANDARD H2O LOADING, CONSTRUCTED OF REINFORCED CONCRETE FOR COMPRESSIVE STRENGTH TO A MINIMUM OF 5,000 PSI AND TO THE DIMENSIONS AS SHOWN ON THE DETAILS AND MANUFACTURED BY ROTONDO & SONS, REHOBOTH, MA, OR APPROVED EQUAL.
- ALL STEEL REINFORCEMENT SHALL CONFORM TO ASTM A 615-75 GRADE 60 WITH 1" MINIMUM COVER.
- THE SUBMERSIBLE PUMPS SHALL BE INSTALLED WITH A HYDRAULICALLY SEALED SLIDE COUPLING ARRANGEMENT SO THAT THE PUMPS CAN BE REMOVED FROM THE WET WELL FOR SERVICE AND INSPECTION AND THEN RETURNED TO SERVICE WITHOUT ENTERING THE WET WELL BASIN TO UNBOLT OR UNLOCK THE CONNECTION BETWEEN THE PUMP AND PIPING.
- THE ACCESS COVERS SHALL EXTEND TO FINISH GRADE. THE ACCESS COVERS SHALL BE GALVANIZED STEEL DOOR TO THE CLEAR DIMENSIONS AS SHOWN ON THE DETAILS DESIGNED FOR H=20 WHEEL LOADING PLUS ADDITIONAL SOLE LIVE LOAD. THE ACCESS COVERS SHALL HAVE STAINLESS STEEL HINGES WITH STAINLESS STEEL PINS, A FLUSH SPRING LOADED SNAP LOCK OPERABLE FROM THE OUTSIDE BY A REMOVABLE HANDLE, AND FROM THE INSIDE BY A FIXED HANDLE, AND SURFACE MOUNTED PADLOCK.
- EACH SUBMERSIBLE PUMP SHALL BE EQUIPPED WITH 60 FEET OF POWER CABLE WITH EPOXY SEALED HOUSING WITH SECONDARY PRESSURE GROMMET FOR SEALING AND STRAIN RELIEF. ALL INCOMING LEAD WIRES SHALL BE SPLICED IN THE MOTOR TERMINAL HOUSING.
- THE CONTRACTOR SHALL FURNISH AND INSTALL FOUR (4) LIQUID LEVEL SENSORS WITH SUFFICIENT LENGTH OF CABLE FOR EACH PUMP STATION. SUSPENDED TYPE OF LEVEL SENSORS MOUNTED IN A CORROSION RESISTANT POLYPROPYLENE HOUSING, AND MOUNTED TO TANK INTERIOR BY A DETACHABLE BRACKET.
- ELECTRICAL SUPPLY AND CONTROL CIRCUITS SHALL BE DESIGNED TO ALLOW DISCONNECTION AT PEDESTAL MOUNTED WATERTIGHT JUNCTION BOX LOCATED ADJACENT TO THE PUMP STATION. SUPPLY AND CONTROL WIRING SHALL BE PLACED IN SEPARATE CONDUIT.
- THE PUMP MOTORS SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE FOR CLASS 1, DIVISION 2 LOCATIONS.
- ALL INLET AND OUTLET PIPING CONNECTIONS AT THE WET WELLS AND VALVE CHAMBERS SHALL BE MADE WATERTIGHT.
- DISCHARGE PIPING WITHIN WET WELLS AND VALVE CHAMBERS SHALL BE PVC, SCHEDULE 40. PIPING BEYOND VALVE CHAMBERS SHALL BE PVC, SDR 21.
- CONTRACTOR SHALL VERIFY EXISTING, AVAILABLE POWER LOCATION AND PHASE ETC. PRIOR TO ORDERING AND INSTALLING PUMPS.
- PUMP CHAMBER SHALL BE FITTED WITH A SAFETY NET MANUFACTURED BY "SAFE APPROACH" OR APPROVED EQUAL. CONTRACTOR SHALL VERIFY SAFETY NET SPECIFICATIONS WITH THE PEMBROKE BOARD OF HEALTH.
- STAINLESS STEEL SHALL BE USED FOR BRACKETS, RAILS, LIFTING CHAINS AND SAFETY NET BRACKETS.
- PROVIDE THRUST BLOCKING FOR ALL FITTINGS AND BENDS ETC. IN THE FORCEMAIN.

5. DUPLEX PUMP CHAMBER AND VALVE CHAMBER (H2O)
SCALE: NO SCALE

OWNER/APPLICANT:

**MERHEJ & SONS
REALTY, LLC
87 DERBY STREET
HINGHAM, MA 02043**



**HINGHAM GAS
#19 & 27 WHITING
STREET
HINGHAM, MA 02043**

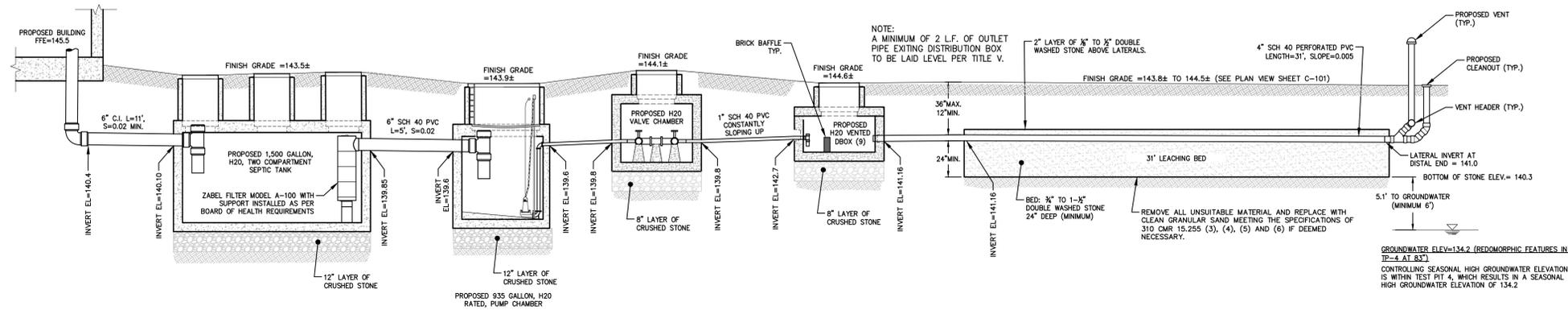
No.	Submittal / Revision	App'd.	By	Date

PERMIT SET KK JM 5/1/2020

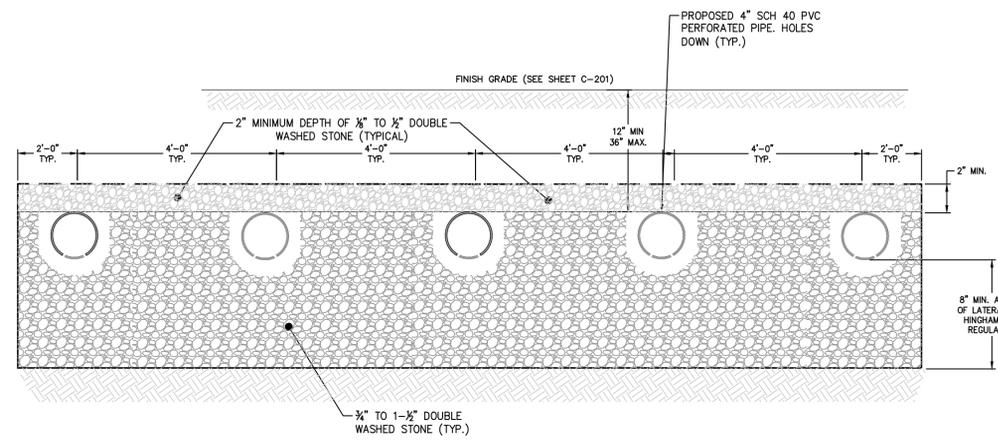
**SEPTIC
DETAILS - 1**

Designed By: DR/BN
Drawn By: DR/BN
Checked By: KK
Issue Date: 05/01/2020
Project No: 060903
Scale:

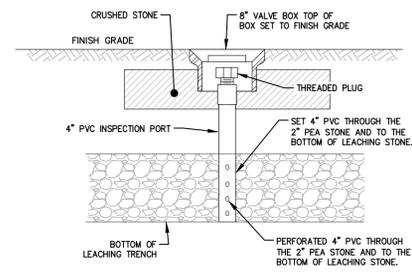
Drawing No.:
C-607



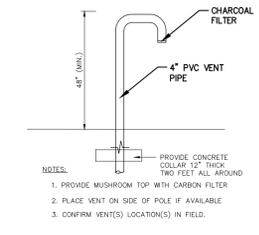
1 SANITARY SYSTEM PROFILE
SCALE: NO SCALE



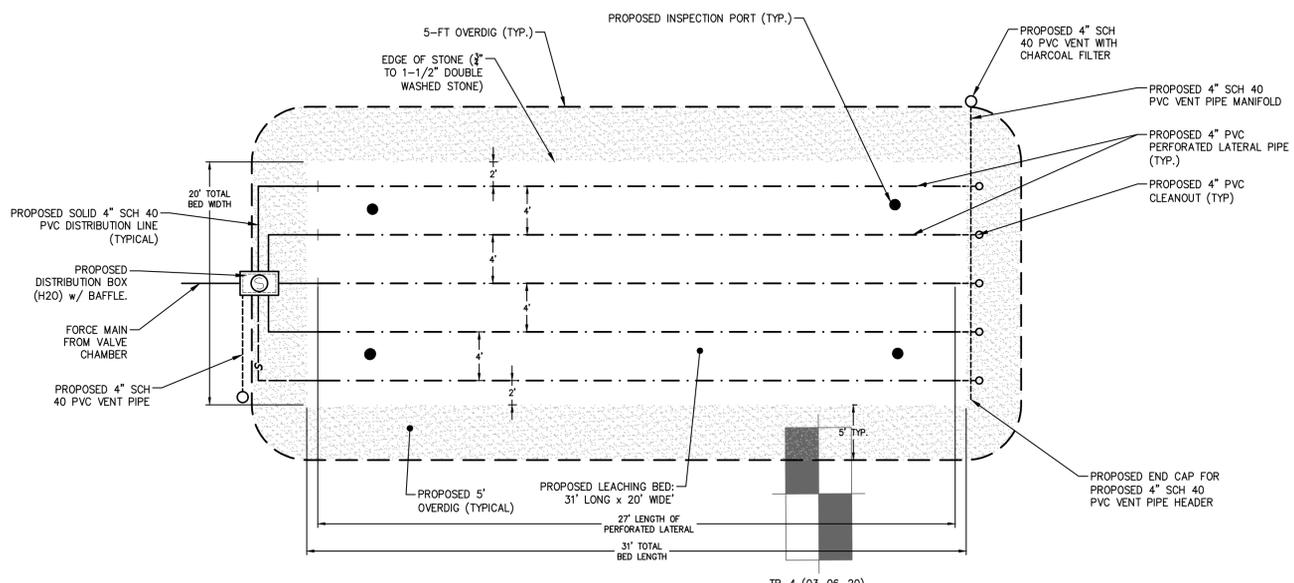
2 LEACHING BED CROSS SECTION
SCALE: NO SCALE



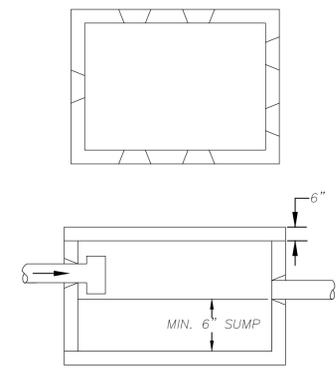
4 INSPECTION PORT DETAIL
SCALE: NO SCALE



5 4" PVC VENT DETAIL
SCALE: NO SCALE



3 LEACHING FIELD DETAIL
SCALE: NO SCALE



6 DISTRIBUTION BOX (H2O)
SCALE: NO SCALE

- NOTE:
- 6 OUTLETS REQUIRED.
 - CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
 - DESIGN CONFORMS WITH 310 CMR 15.000, DEP TITLE 5 REGS, FOR DISTRIBUTION BOXES.
 - DISTRIBUTION BOX DESIGNED FOR AASHTO HS-20 LOADING, COVER 1 TO 5 FEET.
 - INLET TEE TO BE STRAPPED SECURELY TO INTERIOR OF D-BOX.
 - DISTRIBUTION BOX TO HAVE ONE WATERTIGHT MANHOLE ACCESS TO GRADE.

OWNER/APPLICANT:

MERHEJ & SONS
REALTY, LLC
87 DERBY STREET
HINGHAM, MA 02043



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HINGHAM GAS
#19 & 27 WHITING
STREET
HINGHAM, MA 02043

No.	Submitted / Revision	App'd.	By	Date

PERMIT SET KK JM 5/1/2020

SEPTIC
DETAILS - 2

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale:

Drawing No.:
C-608

File: V:\PROJECTS\WANNY\060903_000\CADD\ACAD\060903_000_SEPTIC DETAILS.DWG Saved: 5/1/2020 10:39:53 AM Plotted: 5/1/2020 10:40:14 AM Current User: Rosen, Donald LastSavedBy: 4323

PREPARED FOR:
MERHEJ AND SONS REALTY, LLC
87 DERBY STREET
HINGHAM, MA 02043



PROJECT LOCATION:
19 & 27
WHITING STREET
HINGHAM, MA

No.	Submittal / Revision	App'd. By	Date
0	Issued as Final	WJD/MWC	04/27/2020

EXISTING CONDITIONS PLAN

Designed By: ---	Drawn By: MWC	Checked By: GXD
Issue Date: 04/27/2020	Project No: 060903	Scale: 1" = 20'

Drawing No.:
SHEET 1 OF 1

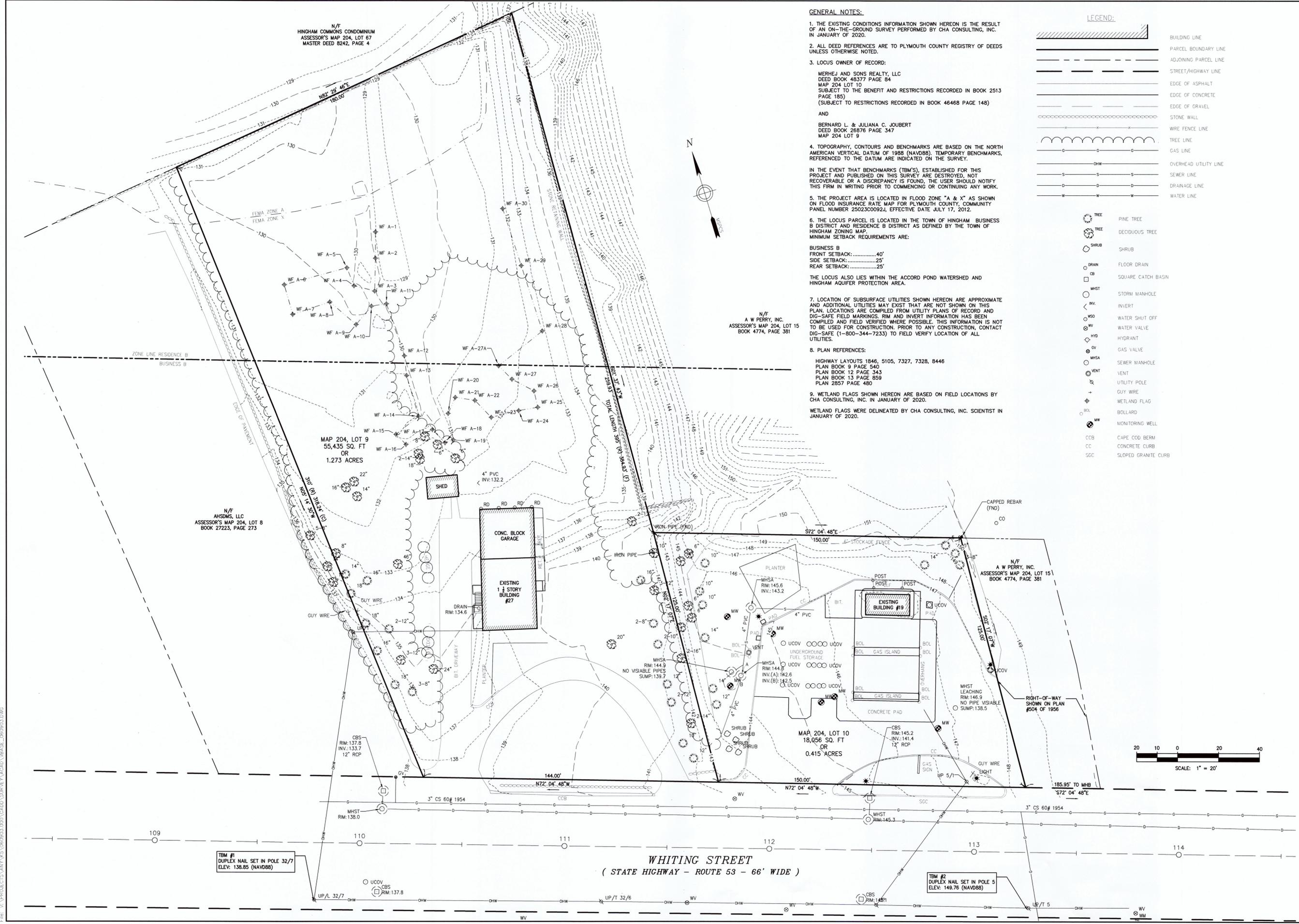
GENERAL NOTES:

- THE EXISTING CONDITIONS INFORMATION SHOWN HEREON IS THE RESULT OF AN ON-THE-GROUND SURVEY PERFORMED BY CHA CONSULTING, INC. IN JANUARY OF 2020.
- ALL DEED REFERENCES ARE TO PLYMOUTH COUNTY REGISTRY OF DEEDS UNLESS OTHERWISE NOTED.
- LOCUS OWNER OF RECORD:
MERHEJ AND SONS REALTY, LLC
DEED BOOK 48377 PAGE 84
MAP 204 LOT 10
SUBJECT TO THE BENEFIT AND RESTRICTIONS RECORDED IN BOOK 2513 PAGE 185)
(SUBJECT TO RESTRICTIONS RECORDED IN BOOK 46468 PAGE 148)
AND
BERNARD L. & JULIANA C. JOUBERT
DEED BOOK 26876 PAGE 347
MAP 204 LOT 9
- TOPOGRAPHY, CONTOURS AND BENCHMARKS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). TEMPORARY BENCHMARKS, REFERENCED TO THE DATUM ARE INDICATED ON THE SURVEY.
IN THE EVENT THAT BENCHMARKS (TBM'S), ESTABLISHED FOR THIS PROJECT AND PUBLISHED ON THIS SURVEY ARE DESTROYED, NOT RECOVERABLE OR A DISCREPANCY IS FOUND, THE USER SHOULD NOTIFY THIS FIRM IN WRITING PRIOR TO COMMENCING OR CONTINUING ANY WORK.
THE PROJECT AREA IS LOCATED IN FLOOD ZONE "A & X" AS SHOWN ON FLOOD INSURANCE RATE MAP FOR PLYMOUTH COUNTY, COMMUNITY PANEL NUMBER 25023C0092A, EFFECTIVE DATE JULY 17, 2012.
- THE LOCUS PARCEL IS LOCATED IN THE TOWN OF HINGHAM BUSINESS B DISTRICT AND RESIDENCE B DISTRICT AS DEFINED BY THE TOWN OF HINGHAM ZONING MAP.
MINIMUM SETBACK REQUIREMENTS ARE:
BUSINESS B
FRONT SETBACK:.....40'
SIDE SETBACK:.....25'
REAR SETBACK:.....25'
THE LOCUS ALSO LIES WITHIN THE ACCORD POND WATERSHED AND HINGHAM AQUIFER PROTECTION AREA.
- LOCATION OF SUBSURFACE UTILITIES SHOWN HEREON ARE APPROXIMATE AND ADDITIONAL UTILITIES MAY EXIST THAT ARE NOT SHOWN ON THIS PLAN. LOCATIONS ARE COMPILED FROM UTILITY PLANS OF RECORD AND DIG-SAFE FIELD MARKINGS. RIM AND INVERT INFORMATION HAS BEEN COMPILED AND FIELD VERIFIED WHERE POSSIBLE. THIS INFORMATION IS NOT TO BE USED FOR CONSTRUCTION. PRIOR TO ANY CONSTRUCTION, CONTACT DIG-SAFE (1-800-344-7233) TO FIELD VERIFY LOCATION OF ALL UTILITIES.
- PLAN REFERENCES:
HIGHWAY LAYOUTS 1846, 5105, 7327, 7328, 8446
PLAN BOOK 9 PAGE 340
PLAN BOOK 12 PAGE 343
PLAN BOOK 13 PAGE 859
PLAN 2857 PAGE 480
- WETLAND FLAGS SHOWN HEREON ARE BASED ON FIELD LOCATIONS BY CHA CONSULTING, INC. IN JANUARY OF 2020.
WETLAND FLAGS WERE DELINEATED BY CHA CONSULTING, INC. SCIENTIST IN JANUARY OF 2020.

LEGEND:

- BUILDING LINE
- PARCEL BOUNDARY LINE
- ADJOINING PARCEL LINE
- STREET/HIGHWAY LINE
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- EDGE OF GRAVEL
- STONE WALL
- WIRE FENCE LINE
- TREE LINE
- GAS LINE
- OVERHEAD UTILITY LINE
- SEWER LINE
- DRAINAGE LINE
- WATER LINE

- TREE (Symbol): PINE TREE
- TREE (Symbol): DECIDUOUS TREE
- SHRUB (Symbol): SHRUB
- DRAIN (Symbol): FLOOR DRAIN
- CB (Symbol): SQUARE CATCH BASIN
- MHST (Symbol): STORM MANHOLE
- INV. (Symbol): INVERT
- WSD (Symbol): WATER SHUT OFF
- WV (Symbol): WATER VALVE
- HYD (Symbol): HYDRANT
- GV (Symbol): GAS VALVE
- MHSA (Symbol): SEWER MANHOLE
- VENT (Symbol): VENT
- UT (Symbol): UTILITY POLE
- GW (Symbol): GUY WIRE
- WFL (Symbol): WETLAND FLAG
- BOLL (Symbol): BOLLARD
- MW (Symbol): MONITORING WELL
- CCB (Symbol): CAPE COD BERM
- CC (Symbol): CONCRETE CURB
- SGC (Symbol): SLOPED GRANITE CURB



WHITING STREET
(STATE HIGHWAY - ROUTE 53 - 66' WIDE)

FILE: H:\PROJECTS\WAY\K3\060903.DWG(CADD)\SURVEY\K3\CADD\BASE_060903.DWG



OWNER/APPLICANT:

**MERHEJ & SONS
REALTY, LLC**
87 DERBY STREET
HINGHAM, MA 02043

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**HINGHAM GAS
#19 & 27 WHITING
STREET**
HINGHAM, MA 02043

No.	Submittal / Revision	App'd. By	Date

PERMIT SET KK JM 5/1/2020

TEST PIT PLAN

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale: 1" = 20'

Drawing No.:
G-001

PERCOLATION TESTS SUMMARY			
PERFORMED BY HAZEM DANI, WITNESSED BY JOHN CHESSIA			
LOCATION #	DATE	DEPTH	STABILIZED RATE
TP-1	3/6/2020	24"-42"	< 2 MIN / INCH
TP-2	3/3/2020	26"-44"	< 2 MIN / INCH
TP-3	3/6/2020	36"-54"	2 MIN / INCH
TP-4	3/6/2020	21"-39"	< 2 MIN / INCH

ESTIMATED SEASONAL HIGH GROUNDWATER			
PERFORMED BY HAZEM DANI, WITNESSED BY JOHN CHESSIA			
LOCATION #	DATE	DEPTH	E.S.H.G.W.
TP-1	3/6/2020	96"	132.50±
TP-2	3/6/2020	77"	133.78±
TP-3	3/6/2020	67"	133.62±
TP-4	3/6/2020	83"	134.18±
TP-5	3/6/2020	38"	131.33±
TP-6	3/6/2020	60"	133.60±

- NOTES:**
- TEST PIT ELEVATIONS SHOWN HEREON (CENTER OF TEST PIT) ARE TAKEN FROM AN ON-THE-GROUND SURVEY CHA CONSULTING IN MARCH 2020.
 - SOIL TEST PIT PROFILES SHOWN ON THIS PLAN ARE FOR ILLUSTRATION PURPOSES ONLY AND ARE NOT TO SCALE.

SOIL TEST DATA:
DATE: 03/06/2020
PERFORMED BY HAZEM DANI, SE#13902
WITNESSED BY JOHN CHESSIA, SE#375

TP-1 EL=140.5

"FILL"
DEPTH: 0"-20"

"c"
DEPTH: 20"-120"
LOAMY SAND (10YR%)
REDOX: 96%, 7.5YR% & 2.5Y% 20%
MASSIVE
VERY FRIABLE

E.S.H.G.W. EL=132.50±

WEeping @ 102" (EL. 132.0)

TP-2 EL=140.2

"FILL"
DEPTH: 0"-16"

"c"
DEPTH: 16"-114"
SAND (10YR%)
REDOX: 77%, 7.5YR% & 2.5Y% 20%
25% GRAVEL, 10% COBBLES
MASSIVE
FRIABLE

E.S.H.G.W. EL=133.78±

WEeping @ 91" (EL. 132.6)

TP-3 EL=139.2

"FILL"
DEPTH: 0"-57"

"c"
DEPTH: 57"-108"
LOAMY SAND (10YR%)
REDOX: 67%, 7.5YR% & 2.5Y% 60%
MASSIVE
FRIABLE

E.S.H.G.W. EL=133.62±

WEeping @ 91" (EL. 131.6)

TP-4 EL=141.1

"FILL"
DEPTH: 0"-10"

"c1"
DEPTH: 10"-83"
SAND (10YR%)
REDOX: NONE
25% GRAVEL, 10% COBBLES
SINGLE GRAIN
LOOSE

E.S.H.G.W. EL=134.18±

"c2"
DEPTH: 83"-108"
SANDY LOAM (10YR%)
REDOX: 83%, 7.5YR% & 2.5Y% 20%
5% GRAVEL
MASSIVE
FRIABLE

CAVING SOIL

TP-5 EL=134.5

"FILL"
DEPTH: 0"-26"

"A"
DEPTH: 26"-38"
SANDY LOAM (10YR%)
REDOX: NONE
MASSIVE
FRIABLE

"c"
DEPTH: 38"-84"
SANDY LOAM (2.5Y%)
REDOX: 38%, 7.5YR% & 2.5Y% 25%
15% COBBLES & STONES
MASSIVE
FRIABLE

E.S.H.G.W. EL=131.33±

WEeping @ 53" (130.1)
CAVING SOIL

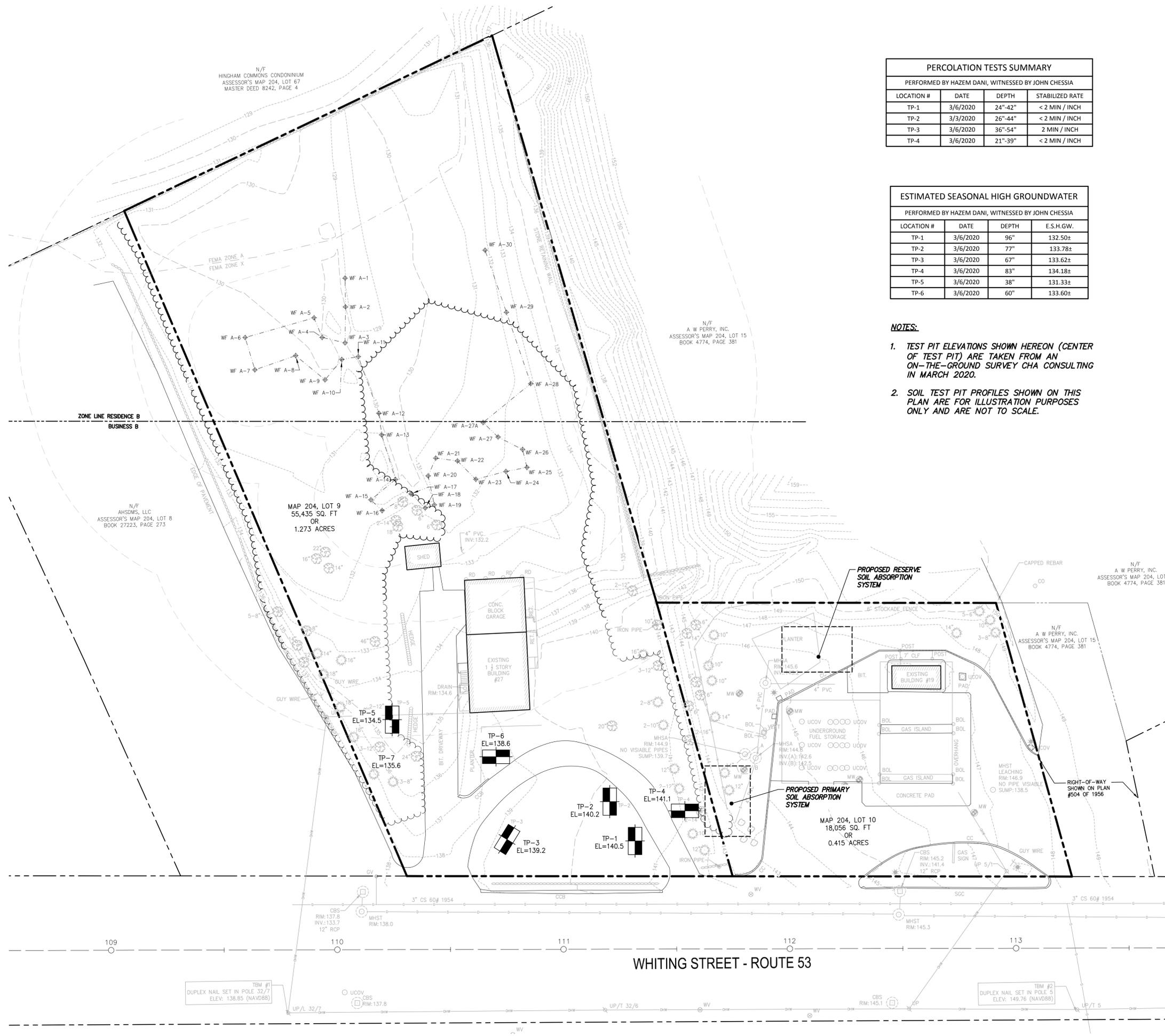
TP-6 EL=138.6

"FILL"
DEPTH: 0"-10"

"c"
DEPTH: 10"-120"
LOAMY SAND (10YR%)
REDOX: 60%, 7.5YR% & 2.5Y% MANY
MASSIVE
FRIABLE

E.S.H.G.W. EL=133.60±

CAVING SOIL



File: V:\PROJECTS\2020\060903\G-001 TEST PIT PLAN.DWG Sheet: 5/1/2020 10:21:09 AM Plotter: 5/1/2020 10:35:41 AM Current User: Ross, Donald LastSavedBy: 4323



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**HINGHAM GAS
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HINGHAM, MA 02043

No.	Submittal / Revision	App'd. By	Date

PERMIT SET KK JM 5/1/2020

**RESOURCE
AREA PLAN**

Designed By: DR/BN	Drawn By: DR/BN	Checked By: KK
Issue Date: 05/01/2020	Project No: 060903	Scale: 1" = 20'

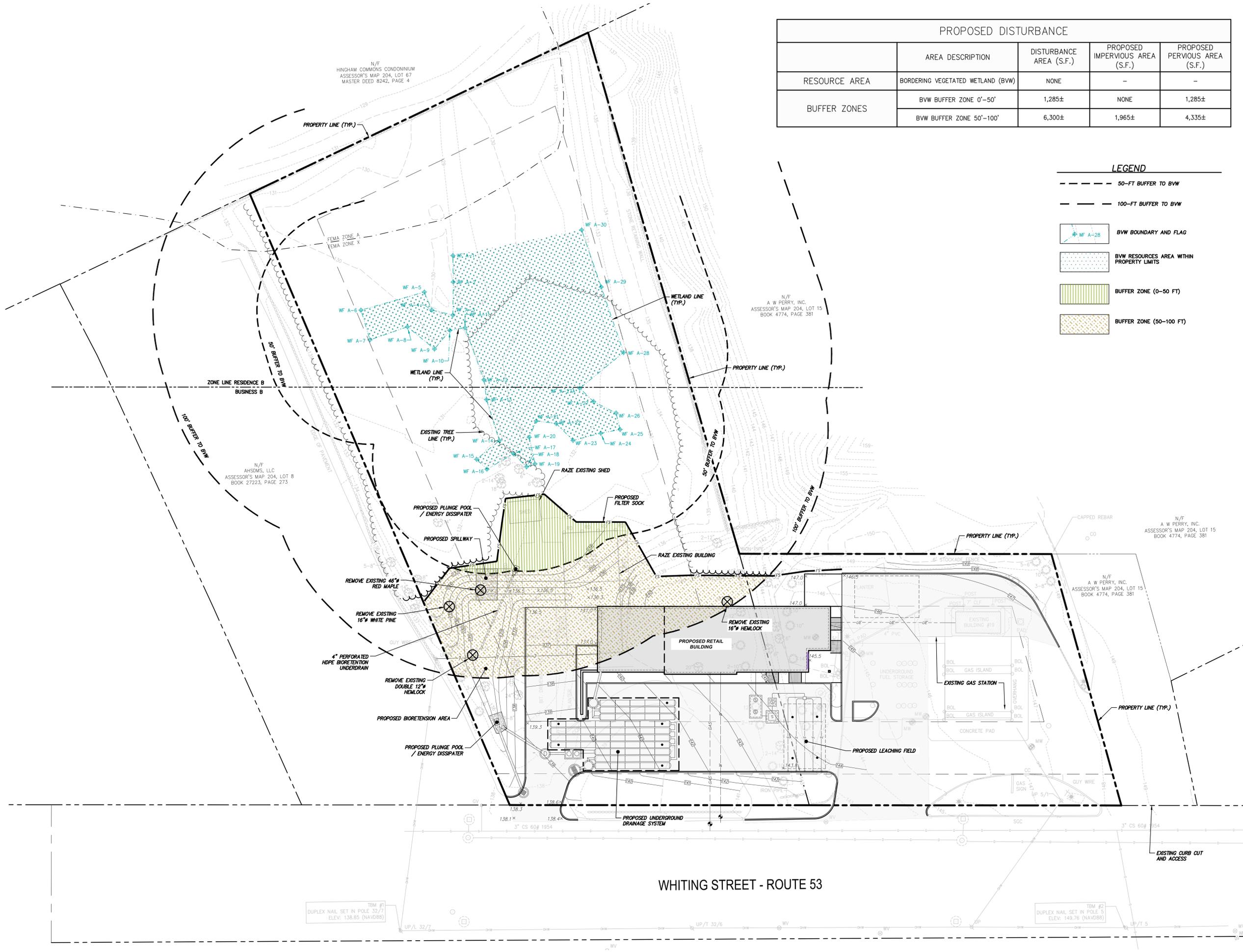
Drawing No.:

G-002

PROPOSED DISTURBANCE				
	AREA DESCRIPTION	DISTURBANCE AREA (S.F.)	PROPOSED IMPERVIOUS AREA (S.F.)	PROPOSED PERVIOUS AREA (S.F.)
RESOURCE AREA	BORDERING VEGETATED WETLAND (BVW)	NONE	-	-
BUFFER ZONES	BVW BUFFER ZONE 0'-50'	1,285±	NONE	1,285±
	BVW BUFFER ZONE 50'-100'	6,300±	1,965±	4,335±

LEGEND

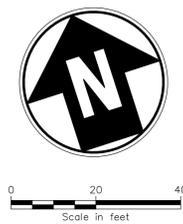
- 50-FT BUFFER TO BVW
- 100-FT BUFFER TO BVW
- WF A-28 BVW BOUNDARY AND FLAG
- BVW RESOURCES AREA WITHIN PROPERTY LIMITS
- BUFFER ZONE (0-50 FT)
- BUFFER ZONE (50-100 FT)



File: V:\PROJECTS\ANY\K\060903\000\CADD\ACAD\060903_G-002_RESOURCE_AREA_PLAN.DWG; Saved: 5/1/2020 10:08:11 AM; Plotted: 5/1/2020 10:21:39 AM; Current User: Ross, Donal; Last Saved By: 4323

WHITING STREET - ROUTE 53

File: V:\PROJECTS\NANY\K5\060903\000\CAD\ACAD\060903_G-003_SIGHT_DISTANCE.DWG Saved: 5/4/2020 11:50:15 AM Plotted: 5/4/2020 11:56:53 AM Current User: Rose, Donald Last Saved By: 4323



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**HINGHAM GAS
 #19 & 27 WHITING
 STREET**
 HINGHAM, MA 02043

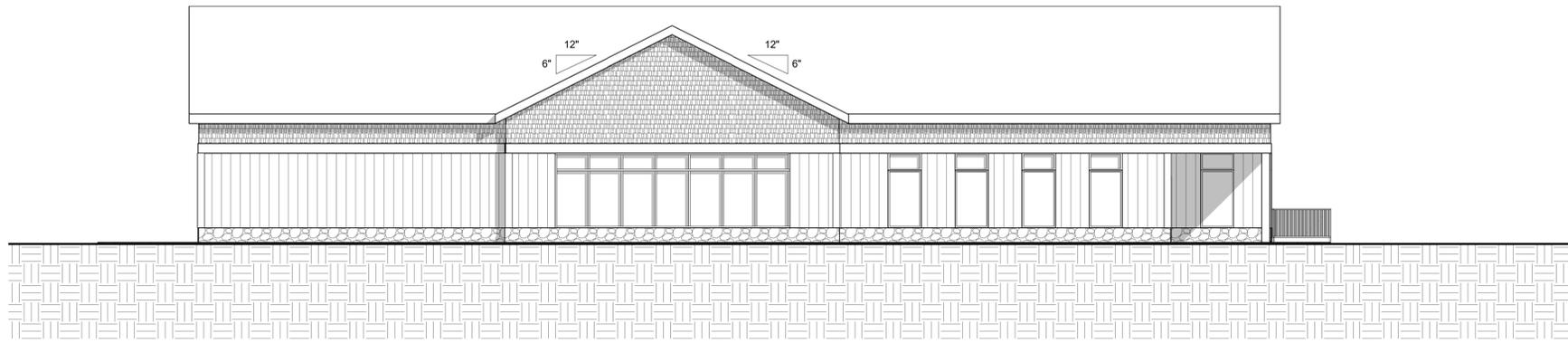
No.	Submittal / Revision	App'd. By	Date

△ PERMIT SET KK JM 5/1/2020

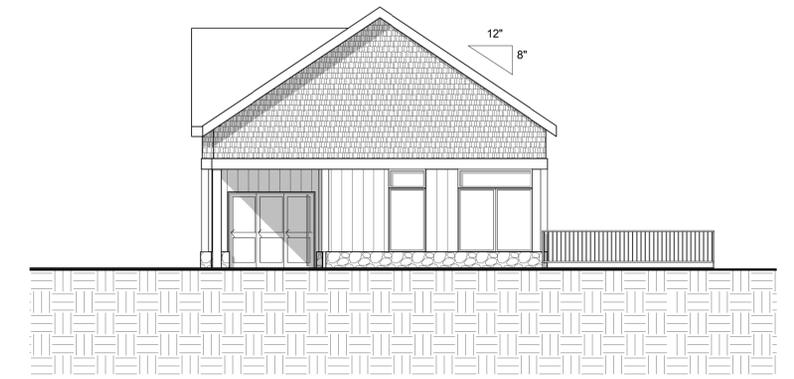
SIGHT DISTANCE

Designed By:	Drawn By:	Checked By:
DR/BN	DR/BN	KK
Issue Date:	Project No:	Scale:
05/01/2020	060903	1" = 20'

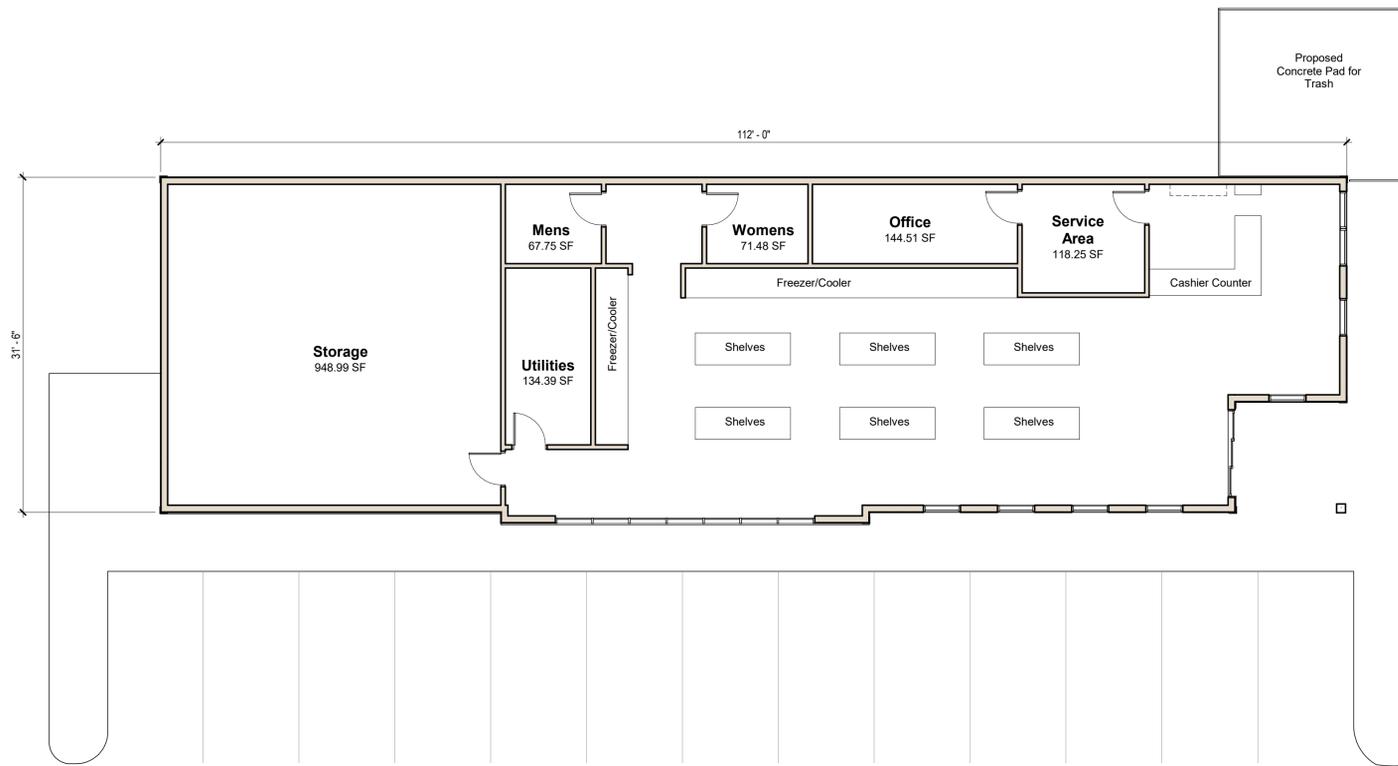
Drawing No.:
G-003



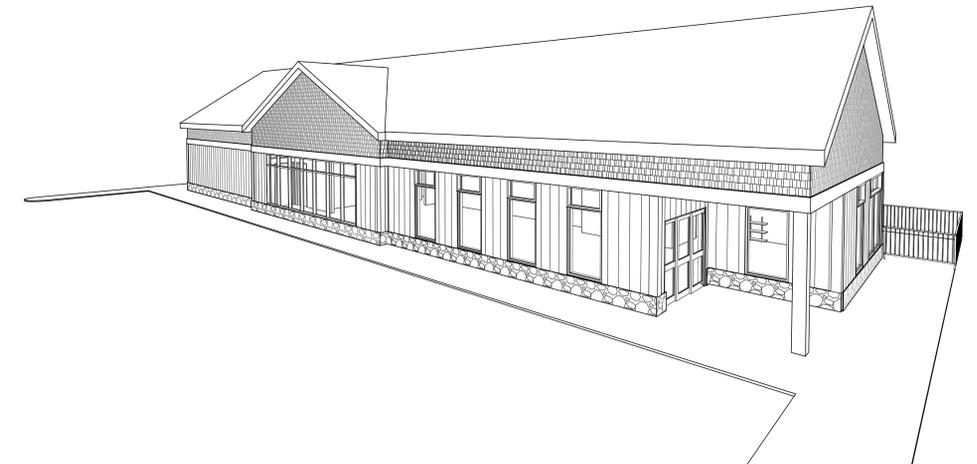
1 South Elevation
1/8" = 1'-0"



2 East Elevation
1/8" = 1'-0"



3 Top of Slab
1/8" = 1'-0"



4 3D View 1