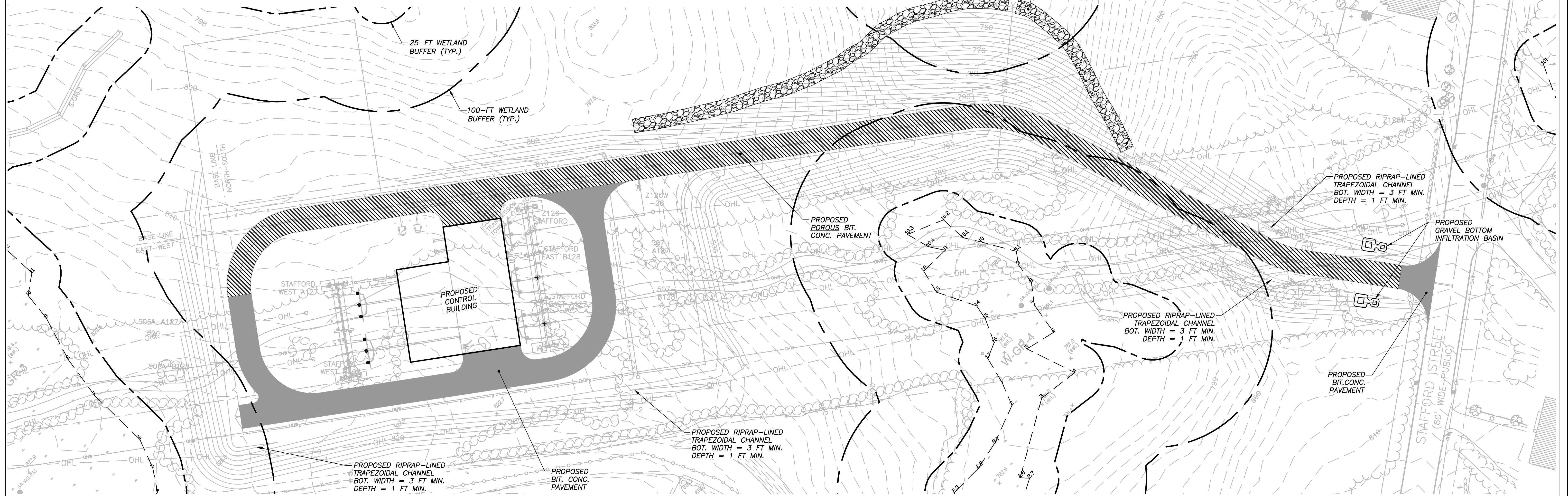


POROUS PAVEMENT NOTES:

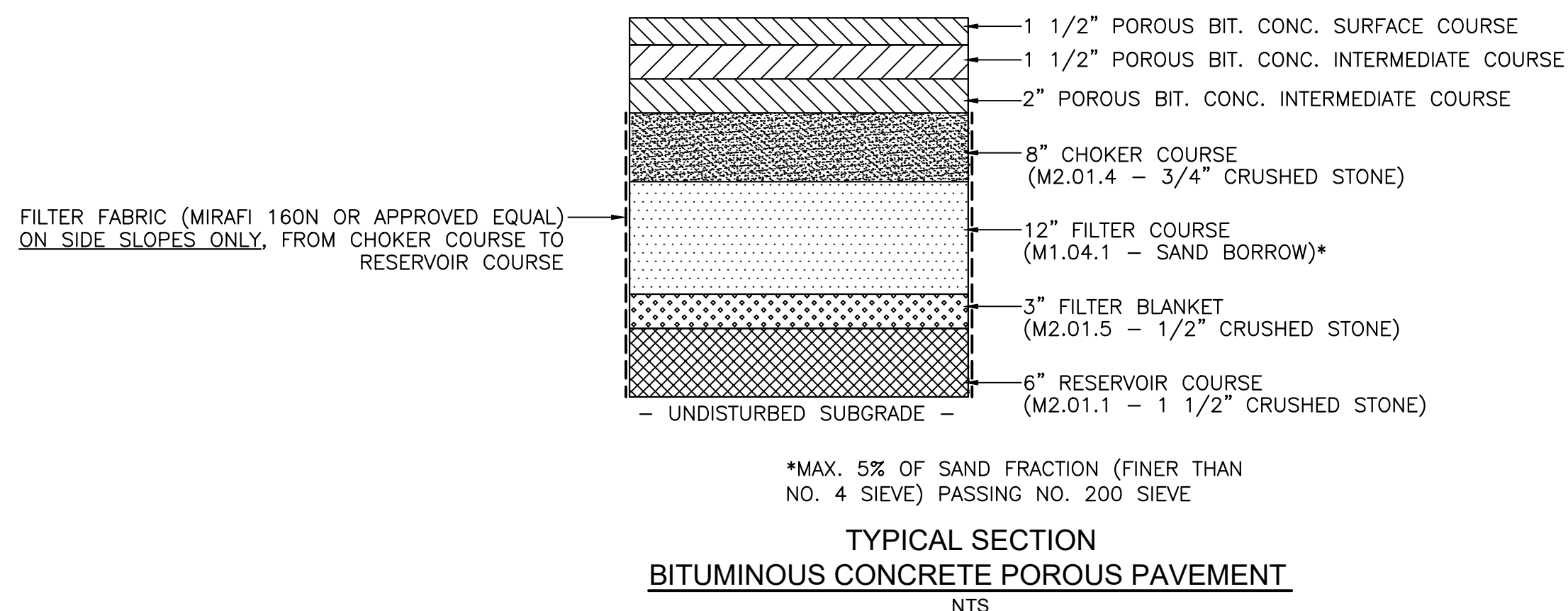
- POROUS PAVEMENT IS SPECIFIED FOR USE TO MEET STORMWATER QUALITY STANDARDS FOR THE PROJECT BY PROVIDING THE REQUISITE GROUNDWATER RECHARGE AND WATER QUALITY TREATMENT PURSUANT TO THE MASSDEP STORMWATER MANAGEMENT STANDARDS (SMS). ADDITIONALLY, THE POROUS PAVEMENT SHOWN HEREON IS INTENDED TO MEET THE HYDRAULIC AND HYDROLOGIC REQUIREMENTS OF THE SMS. THE FINAL POROUS PAVEMENT DESIGN SHOULD BE PROVIDED BY THE ENGINEER TO ALSO MEET THE PROJECT PAVEMENT STRUCTURAL AND SERVICEABILITY REQUIREMENTS BASED ON PLANNED SERVICE LIFE, TRAFFIC LOADING, AND ENVIRONMENTAL CONDITIONS. SEE THE CIVIL DRAWINGS FOR FINAL PAVEMENT DESIGN INCLUDING BITUMINOUS CONCRETE THICKNESS AND MATERIAL REQUIREMENTS.
- POROUS PAVEMENT DESIGN AND CONSTRUCTION SHOULD BE IN ACCORDANCE WITH:
 - NATIONAL GRID CONSTRUCTION SPECIFICATIONS, SP.08.00.001, FEB 2020 (NGRID SPECIFICATIONS);
 - MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 2022 EDITION (MASSDOT SPECIFICATIONS);
 - AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS (AASHTO SPECIFICATIONS);
 - UNH STORMWATER CENTER DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS, REVISED SEPTEMBER 2016 (UNHSC SPECIFICATIONS.);
 - WHERE CONFLICTS EXIST, THE UNHSC SPECIFICATIONS SHOULD GOVERN WITH RESPECT TO THE STORMWATER MANAGEMENT ASPECTS OF THE POROUS PAVEMENT SECTION.
- MATERIALS PROPOSED FOR USE IN THE POROUS PAVEMENT SECTION (I.E., BITUMINOUS CONCRETE MIX DESIGN, CHOKER COURSE, FILTER COURSE, FILTER BLANKET, AND RESERVOIR COURSE) INCLUDING TEST RESULTS SHOULD BE SUBMITTED TO THE OWNER AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PURCHASE OR DELIVERY TO THE SITE.
- POROUS PAVEMENT SHOULD BE DESIGNED TO MEET THE MINIMUM STRUCTURAL NUMBER REQUIRED BY THE ENGINEER. THE BITUMINOUS BINDER SHOULD BE POST-BLENDED PG 76-28 MODIFIED WITH STYRENE BUTADIENE RUBBER (SBR) OR STYRENE BUTADIENE STYRENE (SBS) AND BE PROVIDED AN ANTI-STRIPPING MIX ADDITIVE. THE AGGREGATE SHOULD MEET THE ANGULARITY, HARDNESS, AND SOUNDNESS REQUIREMENTS PER MASSDOT SPECIFICATIONS. THE MIX DESIGN GRADATION, BINDER CONTENT, AIR VOID CONTENT, DRAWDOWN, AND TENSILE AND ABRASION CRITERIA SHOULD MEET TABLE 5 OF THE 2016 UNHSC SPECIFICATIONS. THE COMPACTED BITUMINOUS COURSES SHOULD HAVE A MINIMUM INFILTRATION RATE OF 10 IN/HR.
- CHOKER COURSE SHOULD BE A HARD, DURABLE, OPEN-GRADED, NOMINAL CRUSHED STONE PER MASSDOT M2.01.4 - 3/4" CRUSHED STONE, OR AASHTO #57, THAT REMAINS STABLE AND NOT SUBJECT TO RUTTING, UNDER LOADED TRUCK AND PAVEMENT WHEEL LOADS. COMPLIANCE WITH THE GRADATION REQUIREMENT DOES NOT PRECLUDE MEETING THE RUTTING REQUIREMENT.
- FILTER COURSE SHOULD BE A SAND-GRAVEL MIXTURE MEETING THE REQUIREMENTS OF MASSDOT M1.04.1 - SAND BORROW FOR SUBDRAINS. THE MATERIAL SHOULD HAVE A TESTED MINIMUM COMPACTED INFILTRATION RATE OF 10 FT/DAY (5 IN/HR) AT 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY.
- COMPACTION: CHOKER COURSE, FILTER BLANKET, AND RESERVOIR COURSE SHOULD BE COMPACTED USING MINIMUM 5-TON STEEL DRUM ROLLERS WITHOUT VIBRATORY COMPACTION. FILTER COURSE SHOULD BE COMPACTED TO 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY PROVIDED THE MINIMUM TESTED HYDRAULIC CONDUCTIVITY IS ACHIEVED. NATURAL SUBGRADE AND STRUCTURAL FILL SUBGRADE BENEATH THE RESERVOIR COURSE SHOULD BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY PROVIDED A MINIMUM INFILTRATION RATE OF 1 IN/HR CAN BE ACHIEVED AT THAT COMPACTION. A REDUCED DEGREE OF COMPACTION REQUIRES APPROVAL BY THE ENGINEER, AND IN NO CASE SHOULD THE DEGREE OF SUBGRADE COMPACTION BE LESS THAN 92% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY.
- TOLERANCES: ALL POROUS PAVEMENT SECTION THICKNESSES ARE MINIMUM VALUES.
- OPERATIONS AND MAINTENANCE: THE POROUS PAVEMENT SHOULD BE INSPECTED NO LESS THAN QUARTERLY FOR EVIDENCE OF SEDIMENT ACCUMULATION, PONDING, OR OTHER INDICATIONS OF INSUFFICIENT INFILTRATION. EXCESSIVE SEDIMENT FROM VEHICLE TRACKING, RUN-ON, ETC., SHOULD BE REMOVED AS NEEDED USING PAVEMENT VACUUM METHODS ANNUALLY IN THE SPRING FOLLOWING LAST SNOW MELT. EXCESSIVE LEAVES SHOULD BE REMOVED BY VACUUM OR BLOWERS ANNUALLY IN THE FALL FOLLOWING LEAF DROP AND PRIOR TO THE FIRST SIGNIFICANT SNOW FALL AND LONG-DURATION FREEZING. SNOW SHOULD NOT BE STOCKPILED ON POROUS PAVEMENT. ROAD SALT SHOULD BE APPLIED FOR TRACTION CONTROL IN WINTER MONTHS IN LIEU OF SAND. SAND OR OTHER NON-SOLUBLE TRACTION ENHANCEMENT MATERIALS SHOULD NOT BE APPLIED TO THE AREAS OF POROUS PAVEMENT.



PARTIAL SITE PLAN
SCALE IN FEET
0 20 40 80

NOTES:

- BASE PLAN INFORMATION COMPILED FROM THE FOLLOWING DRAWINGS PROVIDED BY BLACK & VEATCH VIA EMAIL ON NOVEMBER 15, 2021:
 - H121391 - PROPOSED SITE PLAN
 - H121392 - EXISTING CONDITIONS PLAN
 - H121393 - GRADING & DRAINAGE PLAN
 - H121394 - SURFACE & FENCING PLAN
 - H121395 - ACCESS ROAD PLAN & PROFILE
 - H121396 - GRADING AND DRAINAGE DETAILS
 - H121397 - EROSION CONTROL FENCE
 - H121398 - CONSTRUCTION DETAILS
 - H122297 - LANDSCAPING PLAN
 - H122298 - SITE PAD CROSS-SECTIONS
- UNLESS OTHERWISE NOTED, ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES," AS AMENDED, AND SECTION 3, INSTALLATION OF "UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS," REVISED SEPTEMBER 2016.
- UNLESS OTHERWISE NOTED, ALL MATERIALS SHALL COMPLY WITH SECTION M: MATERIALS OF THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES," AS AMENDED.
- BITUMINOUS PAVEMENT THICKNESS TO BE CONFIRMED BY CIVIL ENGINEER BASED ON DESIGN TRAFFIC LOADING.



TYPICAL SECTION
BITUMINOUS CONCRETE POROUS PAVEMENT
NTS

P.E. STAMP AFFIXED		STD	04/14/22
NO.	ISSUE/DESCRIPTION	BY	DATE
UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOTECHNICAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THIS DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.			
STAFFORD STREET SUBSTATION 408 STAFFORD STREET LEICESTER, MA 01611			
STORMWATER MANAGEMENT PLAN			
PREPARED BY:	GZA GeoEnvironmental, Inc. www.gza.com	PREPARED FOR:	nationalgrid
PRJ MGR:	STD	REVIEWED BY:	GRM
DESIGNED BY:	STD	DRAWN BY:	EDM
DATE:	MARCH 10, 2021	PROJECT NO.:	15.0166857.00
		CHECKED BY:	TEJ
		SCALE:	1"=40'
		REVISION NO.:	1
		SHEET	C-1

