

**BASIN PREVENTATIVE & CORRECTIVE MAINTENANCE PROCEDURES**

THE FOLLOWING TASKS SHALL BE PERFORMED ON A REGULAR BASIS AND SHALL BE CONSIDERED APPLICABLE FOR THE MINIMUM NUMBER OF PROCEDURES TO BE FOLLOWED FOR THE SITE.

**STORMWATER MANAGEMENT BASIN**

1. EARTHEN WEIRS SHALL BE INSPECTED ON A ROUTINE BASIS (AT LEAST FOUR TIMES ANNUALLY) AND AFTER EVERY STORM EXCEEDING 1" OF RAINFALL. IMPORTANT ITEMS TO EXAMINE INCLUDE DIFFERENTIAL SETTLEMENT, EROSION, LEAKAGE OR TREE GROWTH ON THE EMBANKMENT (BASINS), SEDIMENT ACCUMULATION AND THE DENSITY OF GRASS. SITE DESIGN SHOULD BE REEVALUATED SHOULD CLOGGING OCCUR TO DETERMINE THE FACTORS RESPONSIBLE FOR THE PROBLEM.
2. THE APPROXIMATE NORMAL DRAIN TIME OF THE STORMWATER MANAGEMENT BASIN ARE 17.7 HOURS BASIN A, 22.48 HOURS BASIN B, AND 25.18 HOURS BASIN C. THE 90% TIME REQUIRED FOR THE BASIN TO EMPTY AFTER THE STORM EVENT HAS CEASED AND THE WATER SURFACE ELEVATION IN THE BASIN IS LEVEL WITH THE INVERT OF THE OUTLET HERE. IF THE DRAIN TIME EXCEEDS 72 HOURS CORRECTIVE ACTIONS MUST BE TAKEN TO COMPLY WITH THE NORMAL DRAIN TIME REQUIREMENT OF 72 HOURS.
3. THE BASIN MUST BE INSPECTED FOR CLOGGING, EXCESSIVE DEBRIS AND SEDIMENT ACCUMULATION AT LEAST FOUR TIMES ANNUALLY AS WELL AS AFTER EVERY STORM EXCEEDING 1 INCH OF RAINFALL. SEDIMENT REMOVAL SHOULD TAKE PLACE WHEN ALL RUNOFF HAS SHOWN FROM THE SAND BED AND WHEN THE SAND BED IS REASONABLY DRY. DISPOSAL OF DEBRIS, TRASH, SEDIMENT AND OTHER WASTE MATERIAL SHALL BE DONE AT A SUITABLE DISPOSAL/RECYCLING SITE IN COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WASTE REGULATIONS.
4. WHEN ESTABLISHING OR RESTORING VEGETATION ALONG SIDE SLOPES, BIWEEKLY INSPECTIONS OF VEGETATION HEALTH SHOULD BE PERFORMED DURING THE FIRST GROWING SEASON UNTIL THE VEGETATION IS ESTABLISHED. ONCE ESTABLISHED, INSPECTIONS OF VEGETATION HEALTH, DENSITY AND DIVERSITY SHOULD BE PERFORMED DURING BOTH THE GROWING AND NON-GROWING SEASON AT LEAST TWICE ANNUALLY. IF VEGETATION HAS GREATER THAN 50 PERCENT DAMAGE, THE AREA SHOULD BE REESTABLISHED IN ACCORDANCE WITH THE ORIGINAL SPECIFICATIONS AND THE INSPECTION REQUIREMENTS PRESENTED ABOVE.
5. ALL USE OF FERTILIZERS, MECHANICAL TREATMENTS, PESTICIDES AND OTHER MEANS TO ASSURE OPTIMUM SOIL VEGETATION HEALTH MUST NOT COMPROMISE THE INTENDED PURPOSE OF THE SAND FILTER. ALL VEGETATION DEFICIENCIES SHOULD BE ADDRESSED WITHOUT THE USE OF FERTILIZERS AND PESTICIDES WHENEVER POSSIBLE.
6. PERIODIC INSPECTIONS SHALL BE USED TO DETERMINE THE EFFECTIVENESS OF THE REGULAR MAINTENANCE SCHEDULE AS WELL AS TO DETERMINE THE TIMING OF CORRECTIVE MAINTENANCE PROCEDURES.
7. SIDE SLOPES SHALL BE MOVED AT LEAST ONCE A YEAR OR WHENEVER THE GRASS OR VEGETATION EXCEEDS A HEIGHT OF 12 INCHES. A ROUTINE SHALL BE DEVELOPED FOR THE REMOVAL OF TRASH AND DEBRIS, GRASS CLIPPINGS AND ACCUMULATED ORGANIC MATTER MUST BE REMOVED TO PREVENT THE FORMATION OF AN INTERFERING ORGANIC LAYER OR MAT. TREES, SHRUBS AND OTHER VEGETATIVE COVER ALSO REQUIRE PERIODIC MAINTENANCE SUCH AS FERTILIZING, PRUNING AND PEST CONTROL TO MAINTAIN HEALTHY GROWTH.
8. ALL STORMWATER MANAGEMENT MEASURES COMPONENTS MUST BE READILY ACCESSIBLE FOR INSPECTION AND MAINTENANCE. THEREFORE, TREES, SHRUBS, AND UNDERBRUSH MUST BE PRUNED OR TRIMMED AS NECESSARY TO MAINTAIN ACCESS TO THE STORMWATER MANAGEMENT MEASURES.

**INSET**

SCALE: 1"=30'

**BASIN GRADING NOTES**

1. A POST-CONSTRUCTION PERMEABILITY TEST SHOULD BE PROVIDED TO ASCERTAIN IF THE FINE MATERIAL THAT ENTERED THE SYSTEM DURING CONSTRUCTION OR IF HEAVY EQUIPMENT HAS COMPACTED THE SOIL HAS ADVERSELY AFFECTED THE INFILTRATION RATE OF THE SOIL.
2. IN ORDER TO MAINTAIN THE INFILTRATION RATE, MINIMIZE SILT AND OTHER DEBRIS FROM ENTERING THE BASIN DURING BOTH CONSTRUCTION AND AFTERWARDS, THE USE OF HEAVY EQUIPMENT WITHIN THE BASIN IS TO BE LIMITED.
3. THE BOTTOM OF THE STORMWATER BASIN IS NOT TO BE EXCAVATED UNTIL THE PROJECT SITE IS COMPLETELY STABILIZED.
4. BASIN A SHALL BE INITIALLY EXCAVATED TO ELEVATION 120.00 IN THE VICINITY OF TEST PITS 2 & 4 AND EXCAVATED TO ELEVATION 112.70 WITHIN THE SANDY CLAY LOAM AREA PROXIMAL TO TEST PITS 1 & 3 UPON ACHIEVING 75% SITE STABILIZATION. FINAL EXCAVATE TO REMOVE SANDY CLAY LOAM AND INSTALL K-5 SAND TO FINAL BASIN BOTTOM ELEVATION OF 120.00. EXCAVATION OF SANDY CLAY LOAM SHALL BE WITNESSED AND APPROVED BY A PROFESSIONAL GEOTECHNICAL ENGINEER.
5. BASIN B SHALL BE OVER EXCAVATED TO ELEVATION 117.5 THIS WILL PROVIDE A MEANS FOR REMOVAL OF COLLECTED SEDIMENT AT THE BOTTOM OF BASIN. WHEN THE ENTIRE PRODUCT IS STABILIZED AND NEARLY COMPLETE, UPON ACHIEVING 75% SITE STABILIZATION, FINAL EXCAVATE BASIN TO ELEVATION 116.50 AND INSTALL K-5 SAND TO ELEVATION 120.00.
6. BASIN C SHALL BE INITIALLY EXCAVATED TO ELEVATION 118.5 THIS WILL PROVIDE A MEANS FOR REMOVAL OF COLLECTED SEDIMENT AT THE BOTTOM OF BASIN. WHEN THE ENTIRE PROJECT IS STABILIZED AND NEARLY COMPLETE, AND WITH APPROVAL OF THE BOARD ENGINEER, THE STORMWATER BASIN BOTTOM WILL BE EXCAVATED TO THE FINAL DEPTH AS SHOWN ON THE DRAWINGS. A 6 INCH THICK LAYER OF SAND MATERIAL WILL BE PLACED WITHIN THE ENTIRE AREA OF THE BASIN BOTTOM. THE SAND MATERIAL SHALL HAVE A MINIMUM PERMEABILITY OF 20 INCHES PER HOUR (K-5).
7. THE BASINS HAVE BEEN DESIGNED TO DRAIN AS FOLLOWS:  
 BASIN A: 17.7 HOURS AFTER A STORM  
 BASIN B: 22.48 HOURS AFTER A STORM  
 BASIN C: 25.18 HOURS AFTER A STORM  
 THE CONTRACTOR SHALL UTILIZE CONSTRUCTION METHODS THAT WILL MAINTAIN THE EXISTING SOIL PERMEABILITY AND PREVENT OVER CONSOLIDATING THE BASIN FLOOR BY THE USE OF HEAVY EQUIPMENT.

**GENERAL NOTES**

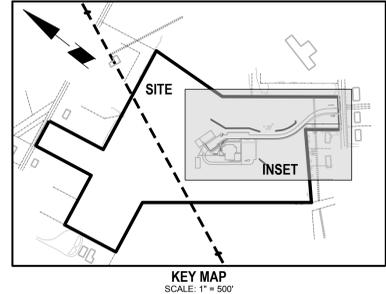
1. ALL DRAWINGS IN THIS PLAN SET ARE MADE PART OF THIS RECORD PLAN AND ALL INFORMATION SHOWN HEREON SHALL BE CONSIDERED APPLICABLE FOR THE COMPLETION OF THIS PROJECT. INDIVIDUAL PLANS SHALL NOT BE USED SINCE THEY CONSTITUTE ONLY A PART OF THE COMPLETE SET OF PLANS FOR THIS PROJECT.
2. IT IS IMPERATIVE THAT UTILITY COMPANIES ARE NOTIFIED PRIOR TO ANY EXCAVATION AND/OR CONSTRUCTION. CALL 1-800-272-1000 TO ORDER MARK-OUTS.
3. IT IS IMPERATIVE THAT THE PROPOSED UNDERGROUND UTILITY CONNECTIONS BE MADE STARTING AT THE MOST DOWNSTREAM END AND THAT THE LOCATION AND DEPTH OF THE EXISTING UNDERGROUND UTILITIES BE VERIFIED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ENSURE THE DOWNSTREAM UTILITY CONNECTIONS CAN BE MADE AND ARE CONSTRUCTED PRIOR TO INSTALLATION OF ANY OTHER PORTIONS OF THE SYSTEM. TEST FITS SHALL BE DUG AT THE DISCRETION OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER OF ANY CONFLICTS BETWEEN EXISTING AND/OR PROPOSED UTILITY CONNECTIONS AND CROSSINGS. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT DOWNSTREAM UTILITY CONNECTIONS CAN BE AS PROPOSED AND TO THE SATISFACTION OF THE ENGINEER.
4. LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM EXISTING RECORDS AND/OR ABOVE-GROUND OBSERVATIONS AT THE SITE. COMPLETENESS OR ACCURACY OF LOCATIONS AND DEPTH CANNOT BE GUARANTEED. ALL CONTRACTORS AND OTHER PERSONS UTILIZING THIS PLAN AND THE INFORMATION CONTAINED THEREON ARE CAUTIONED THAT EACH INDIVIDUAL USING THIS PLAN MUST VERIFY THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE STARTING WORK.
5. THE EROSION AND SEDIMENT CONTROL PLAN IS AN INTEGRAL PART OF THE STORM WATER MANAGEMENT SYSTEM DURING CONSTRUCTION OF CERTAIN STAGES. THE EROSION AND SEDIMENT CONTROL PLANS SHALL BE REFERENCED AND USED IN CONJUNCTION WITH THIS DRAWING TO COMPLETE CONSTRUCTION PHASING.
6. THE ROUTING OF ALL UTILITIES IS SUBJECT TO ADJUSTMENT TO MEET UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS OF BUILDING MECHANICAL DESIGN. WHEN BUILDING MECHANICAL DRAWINGS ARE COMPLETE AND UTILITY REQUIREMENTS ARE FINALIZED, NECESSARY ADJUSTMENTS SHALL BE MADE AS PART OF THE PREPARATION OF CONSTRUCTION DOCUMENTS.
7. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS TO REQUEST EXACT LOCATION OF UTILITIES BEFORE ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, UTILITY LOCATIONS, DEPTHS AND INVERTS PRIOR TO CONSTRUCTION. ANY CONDITIONS FOUND TO DIFFER FROM THOSE SHOWN BY THESE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
8. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS OF ALL UTILITIES ENTERING THE BUILDING, INCLUDING SANITARY SEWER, SANITARY WATER SERVICE, AND FIRE PROTECTION, ELECTRIC, TELEPHONE AND GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND TO ENSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH THE UTILITY COMPANIES AS TO LOCATION AND SCHEDULING OF CONNECTIONS TO THEIR FACILITIES.
9. THE CONTRACTOR SHALL REFERENCE ALL BOROUGH OF ELMER SPECIFICATIONS FOR UTILITY MATERIALS AND CONSTRUCTION.
10. THE CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED UTILITY FRAMES, COVERS, MANHOLES, VALVE BOXES, ETC. TO BE FLUSH WITH THE PROPOSED SURFACE ELEVATIONS.
11. OBSOLETE ON-SITE UTILITY SERVICE CONNECTIONS MUST BE REMOVED. REMOVAL OF SERVICE CONNECTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY AND VERIFIED BY THE CONTRACTOR THAT THEY ARE NO LONGER ACTIVE.

**GRADING NOTES**

1. ALL DRAWINGS IN THIS PLAN SET ARE MADE PART OF THIS RECORD PLAN AND ALL INFORMATION SHOWN HEREON SHALL BE CONSIDERED APPLICABLE FOR THE COMPLETION OF THIS PROJECT. INDIVIDUAL PLANS SHALL NOT BE USED SINCE THEY CONSTITUTE ONLY A PART OF THE COMPLETE SET OF PLANS FOR THIS PROJECT.
2. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
3. THE SITE IS TO BE GRADED SMOOTHLY AND EVENLY IN ACCORDANCE WITH THE PROPOSED CONTOURS AND SPOT ELEVATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING A POSITIVE DRAINAGE FLOW TO ALL CATCH BASINS WITHOUT CREATING FLAT SPOTS THAT WILL RESULT IN STANDING WATER (POUNDING OR PONDING).
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS INCLUDING BUT NOT LIMITED TO BUILDING, SIDEWALK/STREET CLOSING AND DEMOLITION.
5. TOPSOIL MOVED DURING THE COURSE OF CONSTRUCTION SHALL BE REDISTRIBUTED 50 AS TO PROVIDE AT LEAST SIX (6) INCHES OF COVER TO ALL LANDSCAPE AREAS OF THE SITE AND SHALL BE STABILIZED BY SEEDING OR PLANTING.
6. THE CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED UTILITY FRAMES, COVERS, MANHOLES, VALVE BOXES, ETC. TO BE FLUSH WITH THE PROPOSED SURFACE ELEVATIONS.
7. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (LATEST EDITION) FROM THE U.S. DEPARTMENT OF TRANSPORTATION.
8. SIDEWALKS SHALL NOT BE LESS THAN FOUR (4) FOOT IN WIDTH. SIDEWALKS SHALL BE CONSTRUCTED WITH FOUR-INCH THICK CONCRETE, 4,000 PSI (MINIMUM).
9. ALL PAVEMENT SUBGRADE PREPARATION MUST BE APPROVED BY THE BOROUGH ENGINEER.
10. ALL CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

**LEGEND**

CONC. MONUMENT	1' CONTOUR INTERVAL
IRON PIN	5' CONTOUR INTERVAL
BOLLARD	CURB
CLEANOUT	EDGE OF PAVEMENT
FIRE HYDRANT	EDGE OF STONE
GAS VALVE	CHAIN LINK FENCE
GUP WIRE	VINYL FENCE
4" INLET	WIRE FENCE
6" INLET	WOOD FENCE
8" INLET	WOODS LINE
GAS LINE	PROPOSED CONTOUR
LIGHT POLE	PROPERTY LINE
MAILBOX	GAS LINE
SANITARY MANHOLE	SANITARY LINE
SKIN	WOODS LINE
SPOT ELEVATION	PROPOSED SPOT ELEVATION
STORM MANHOLE	
UNKNOWN MANHOLE	
UTILITY POLE W/LIGHT	
WATER METER	
ELEC. TRANSFORMER	



**GRADING & DRAINAGE PLAN**

**SITE PLANS**  
 FOR  
**FIRST BAPTIST CHURCH OF ELMER**  
 PLATE 6, BLOCK 12, LOTS 2.10 & 2.12  
 329 FRONT STREET  
 SITUATED IN THE  
 BOROUGH OF ELMER  
 COUNTY OF SALEM, STATE OF NEW JERSEY

**SITE CIVIL ENGINEERING**

2205 DELSEA DRIVE, SUITE 7  
 FRANKLINVILLE, NEW JERSEY 08322  
 (609) 885-5879  
 FAX (609) 513-4504  
 N.J. CERTIFICATE OF AUTHORIZATION NO. GA28188600

FILE NUMBER: 934-2021  
 CHECKED BY: WG  
 DRAWN BY: MPG  
 SCALE: 1"=30'  
 PROJECT NO: 934  
 DATE: NOVEMBER 9, 2022  
 SHEET 6 OF 12

*William P. Gilmore*  
**WILLIAM P. GILMORE, P.E.**  
 NEW JERSEY PROFESSIONAL ENGINEER NO. 24624742100

REV.	DATE	DESCRIPTION	BY	SCALE: