No. _____

BOKUM ROAD BUSINESS PARK

BOKUM ROAD
ESSEX, CONNECTICUT

JULY 2021

PERMIT DRAWINGS

INLAND WETLANDS AND WATERCOURSES COMMISSION SUBMISSION

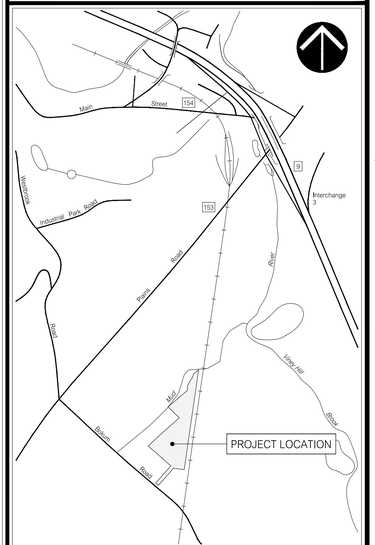
PREPARED FOR:

GEORGE C. FIELD COMPANY, INC.

PREPARED BY:

Summer Hill
Civil Engineers & Land Surveyors, P.C.
60 Wall Street
P.O. Box 708
Madison, Connecticut 06443-0708
Telephone: (203) 245-0722

SCHEDULE OF DRAWINGS



LOCATION PLAN
SCALE: 1"=1000'

1000 500 0 1000 2000
(IN FEET)

ZONING STANDARDS SCHEDULE

LIMITED INDUSTRIAL (LI) DISTRICT

SECTION	STANDARD	REQUIRED	EXISTING	PROVIDED
90E.	MINIMUM LOT AREA	80,000 SF	388,259 SF	388,259 SF
90E.	MINIMUM LOT WIDTH	200 FT	200 FT	200 FT
90E.	MINIMUM SETBACKS [1]			
	FRONT	75 FT	-	-
	SIDE	25 FT	-	35.5 FT
	REAR	50 FT	-	-
90E.	MAXIMUM BUILDING COVERAGE	25%	-	13%
90E.	MAXIMUM BUILDING HEIGHT	35 FT	-	24 FT

PARKING AND LOADING SPACE REQUIREMENTS:

1 SPACE / EMPLOYEE X 30 EMPLOYEES = 30 PARKING SPACES
1 TRUCK LOADING SPACE / 20,000 SF GROSS FLOOR AREA X 52,480 SF = 3 TRUCK LOADING SPACES

PARKING AND LOADING SPACES PROVIDED:

52 PARKING SPACES
3 TRUCK LOADING SPACES

NOTE:

1. NO SETBACK REQUIRED FROM A LOT LINE WHICH ABUTS A RAILROAD RIGHT-OF-WAY.

OWNER

GEORGE C. FIELD COMPANY, INC.
P.O. BOX 24
ESSEX, CONNECTICUT 06426
860-767-0420

APPLICANT

GEORGE C. FIELD COMPANY, INC.
P.O. BOX 24
ESSEX, CONNECTICUT 06426
860-767-0420

REVISED:
4 11-29-21 REVIEW COMMENTS
3 11-1-21 REVIEW COMMENTS
2 9-13-21 REVIEW COMMENTS
1 8-15-21 MISCELLANEOUS

SHEET No.: C0.1

STATE OF CONNECTICUT
MICHAEL J. OTT
No. 70082
REGISTERED
PROFESSIONAL ENGINEER

MICHAEL J. OTT, P.E., L.S. DATE
CT REGISTRATION No. 70082

ABBREVIATIONS

Ac.	ACRE
ACP	ASBESTOS CEMENT PIPE
ACCMP	ASPHALT COATED CORRUGATED METAL PIPE
A.O.B.E.	AS ORDERED BY ENGINEER
B&B	BALLED & BURLAPPED
BIT.	BITUMINOUS
BM	BENCHMARK
B.O.F.	BOTTOM OF FOOTING
CATV	CABLE TELEVISION
CB	CATCH BASIN
C.C.	CENTER TO CENTER
C.C.S.	CONNECTICUT COORDINATE SYSTEM
CFS	CUBIC FEET PER SECOND
CHD	CONNECTICUT HIGHWAY DEPARTMENT
CIP	CAST IRON PIPE
CJ	CONSTRUCTION OR CONTRACTION JOINT
CL	CLEAR
C.L.&P.	CONNECTICUT LIGHT AND POWER
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CONC.	CONCRETE
CONT.	CONTINUOUS
CPEP	CORRUGATED POLYETHYLENE PIPE
C.Y.	CUBIC YARD
DBL.	DOUBLE
DH	DRILL HOLE
DI	DUCTILE IRON
DIA.	DIAMETER
DIP	DUCTILE IRON PIPE
EA.	EACH
EJ	EXPANSION JOINT
EL.	ELEVATION
E.O.B.	END OF BORING
EOP	EDGE OF PAVEMENT
EQ.	EQUAL
EX.	EXISTING
f'_c	MINIMUM COMPRESSIVE STRENGTH
f_y	YIELD STRENGTH OF STEEL REINFORCEMENT
F.F.	FINISH FLOOR
FM	FORCE MAIN
FND.	FOUND
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET OR FOOT
GA.	GAUGE
GAL	GALLON
H	HORIZONTAL
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
HTL	HIGH TIDE LINE
I.D.	INSIDE DIAMETER
INV.	INVERT
IP	IRON PIN/PIPE
KSF	KIPS PER SQUARE FOOT
L	LENGTH
LB	POUND
L.F.	LINEAR FEET
L.S.	LUMP SUM
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MAX.	MAXIMUM
MH	MANHOLE
MIN.	MINIMUM
MON	MONUMENT
N/F	NOW OR FORMERLY
N.I.C.	NOT IN CONTRACT
NTS	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
P.C.	POINT OF CURVATURE
P.C.C.	POINT OF COMPOUND CURVATURE
PE	PLAIN END OR POLYETHYLENE
P.I.	POINT OF INTERSECTION
P.R.C.	POINT OF REVERSE CURVATURE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
P.T.	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVATURE
PVCC	POINT OF VERTICAL COMPOUND CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVRC	POINT OF VERTICAL REVERSE CURVATURE
PVT	POINT OF VERTICAL TANGENCY
R	RADIUS
RCCE	REINFORCED CONCRETE CULVERT END
RCP	REINFORCED CONCRETE PIPE
R.O.W.	RIGHT-OF-WAY
R.R.	RAILROAD
RT	RIGHT
R/W	RETAINING WALL
SAN	SANITARY
SCG	SOUTHERN CONNECTICUT GAS
SCH	SCHEDULE
SDR	STANDARD DIMENSION RATIO
S.F.	SQUARE FOOT
SNET	SOUTHERN NEW ENGLAND TELEPHONE
S.S.	STAINLESS STEEL
STA.	STATION
STD.	STANDARD
S.Y.	SQUARE YARD
T&B	TOP AND BOTTOM
T.F.	TOP OF FRAME
T.G.	TOP OF GRATE
T.O.F.	TOP OF FOOTING
T.O.W.	TOP OF WALL
TYP.	TYPICAL
U.I.	UNITED ILLUMINATING
V	VERTICAL
VCP	VITRIFIED CLAY PIPE
WF	WETLAND FLAG

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
RIGHT-OF-WAY LINE		
EASEMENT LINE		
BASELINE		1+00
ELEVATION CONTOUR		100
ELEVATION	x 100.0	+ 100.0
EDGE OF PAVEMENT		
CURBING		
GUIDE RAIL		
TREE LINE		
MAILBOX		
SIGN		
LIGHT POST		
UTILITY POLE (W/GUY)		
UTILITY POLE (W/LIGHT)		
HYDRANT		
CHAIN LINK FENCE		
WIRE FENCE	x x x x x	
WOOD FENCE		
STONE WALL		
HEDGEROW		
WATERCOURSE		
INLAND WETLAND BOUNDARY		
TIDAL WETLAND BOUNDARY		
COMMUNICATIONS	C	C
ELECTRIC	E	E
GAS MAIN/SERVICE	G	G
WATER MAIN/SERVICE	W	W
OVERHEAD UTILITY WIRE(S)		
SANITARY SEWER≤ 12" DIAMETER		
SANITARY SEWER > 12" DIAMETER		
STORM SEWER≤ 12" DIAMETER		
STORM SEWER > 12" DIAMETER		
CATCH BASIN		
MANHOLE		
SURVEY STATION		
TEST PIT		
BORING		
PROBE		
ASSESSOR'S MAP NO./LOT NO.	49-50	
SOIL TYPE	87B	
SOIL TYPE BOUNDARY		
FLOODPLAIN BOUNDARY		
CLEARING LIMIT LINE		
LIMIT OF CUT		C
LIMIT OF FILL		F
PAVEMENT REMOVAL LINE		
SEDIMENTATION CONTROL BARRIER		
SEDIMENTATION CONTROL AT DRAINAGE STRUCTURE		
DECIDUOUS TREE		
CONIFEROUS TREE		
SHRUB		
TREE TO BE REMOVED		

W20-1 (80-9602)

MUTCD SIGN NO. — CONNDOT SIGN NO.

SOIL TYPE LEGEND

REFERENCE:

NATIONAL COOPERATIVE SOIL SURVEY DATA FOR THE STATE OF CONNECTICUT, U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE

MAP UNIT SYMBOL	MAP UNIT DESCRIPTION
36B	WINDSOR LOAMY SAND, 3 TO 8 PERCENT SLOPES

GENERAL NOTES:

1. THESE DRAWINGS ARE INTENDED TO BE USED FOR MUNICIPAL, STATE, AND/OR FEDERAL LAND USE AND ENVIRONMENTAL PERMITTING PURPOSES AND ARE NOT INTENDED TO BE USED AS CONSTRUCTION DOCUMENTS.
2. PROPERTY BOUNDARY, STREET LINE, AND PLANIMETRIC AND TOPOGRAPHIC INFORMATION DEPICTED HEREIN HAS BEEN REPRODUCED FROM THE FOLLOWING MAP:

   "IMPROVEMENT LOCATION SURVEY PREPARED FOR HERBERT T. CLARK, III #37 BOKUM ROAD ESSEX, CONNECTICUT", SHEETS 1-2 OF 2, SCALE: 1"=40', DATE: 3-11-20, PREPARED BY DOANE ENGINEERING.
3. THE INLAND WETLAND BOUNDARY DEPICTED HEREIN WAS DELINEATED BY R. RICHARD SNARSKI, CPSS OF NEW ENGLAND ENVIRONMENTAL SERVICES ON 12-23-18.
4. THE PROJECT COORDINATE SYSTEM IS REFERENCED TO THE BEARING SYSTEM OF THE REFERENCE MAP NOTED.
5. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.
6. THE PARCEL IS DEPICTED ON ASSESSORS MAP 67 AS LOT 4.
7. PARCEL AREA = 388,259 SF = 8.91 AC. PER THE REFERENCE MAP NOTED.
8. THE PARCEL IS LOCATED WITHIN A LIMITED INDUSTRIAL (LI) ZONING DISTRICT.
9. THE PARCEL IS LOCATED WITHIN SPECIAL FLOOD HAZARD AREA ZONE A AND FLOOD ZONE X. REFERENCE: FEMA NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP MIDDLESEX COUNTY, CONNECTICUT PANEL 333 OF 450, MAP NUMBER 09007C0333G, EFFECTIVE DATE: 8-28-08.
10. SOIL TYPES AND/OR SOIL TYPE BOUNDARIES DEPICTED HEREIN HAVE BEEN REPRODUCED FROM NATIONAL COOPERATIVE SOIL SURVEY DATA FOR THE STATE OF CONNECTICUT, U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE.
11. UNDERGROUND UTILITIES, STRUCTURES AND OTHER FACILITIES DEPICTED HEREIN HAVE BEEN COMPILED FROM RECORD MAPPING AND FIELD LOCATIONS OF ABOVE GROUND FACILITIES AND MARKOUTS. ALL UNDERGROUND FACILITY LOCATIONS SHOWN SHOULD BE CONSIDERED APPROXIMATE ONLY AND ALL FACILITIES MAY NOT BE SHOWN.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND FOR THE MAINTENANCE AND PROTECTION THEREOF. CONTACT THE CONNECTICUT "CALL BEFORE YOU DIG" CLEARANCE CENTER (1-800-922-4455) AT LEAST TWO WORKING DAYS PRIOR TO THE START OF WORK TO ESTABLISH AND HAVE MARKED ON THE GROUND THE LOCATION OF ALL UNDERGROUND UTILITIES. NOTIFY THE ENGINEER IN THE EVENT THAT A UTILITY IS LOCATED DURING THE PROGRESS OF THE WORK THAT IS NOT INDICATED ON OR IS NOT IN ACCORDANCE WITH THE DRAWINGS.

    UTILITY COMPANY CONTACTS:

CABLE TELEVISION	- COMCAST OF CONNECTICUT, INC.	(860) 505-3331
COMMUNICATIONS	- FRONTIER COMMUNICATIONS OF CONNECTICUT	(203) 238-5000
COMMUNICATIONS	- LIGHT TOWER FIBER NETWORKS I, LLC	(203) 649-3904
ELECTRIC	- EVERSOURCE ENERGY	(860) 665-4733
GAS	- SOUTHERN CONNECTICUT GAS COMPANY	(203) 795-7767
WATER	- CONNECTICUT WATER COMPANY	(860) 664-6007

13. IN GENERAL, EXISTING CONDITIONS AND FEATURES ARE DEPICTED IN SCREENED GRAPHICS AND TITLECASE LETTERING AND PROPOSED WORK IS DEPICTED IN BOLD GRAPHICS AND UPPERCASE LETTERING.
14. THE STANDARD SPECIFICATIONS ARE THE DIVISION II CONSTRUCTION DETAILS AND DIVISION III MATERIALS SECTION OF THE "STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES AND INCIDENTAL CONSTRUCTION, FORM 818", 2020, LATEST REVISION, INCLUDING ALL SUPPLEMENTS THERETO.
15. PRIOR TO THE START OF WORK, THOROUGHLY REVIEW THE DRAWINGS, THE SITE OF THE WORK AND ALL EXISTING CONDITIONS AND FEATURES. NOTIFY THE ENGINEER OF DISCREPANCIES BETWEEN THE DRAWINGS AND EXISTING CONDITIONS AND FEATURES IN THE FIELD.
16. ADHERE TO THE REGULATIONS AND ORDINANCES OF THE TOWN OF ESSEX, ALL APPLICABLE STATE AND FEDERAL REGULATORY AUTHORITIES, AND THE PROVISIONS OF ALL APPROVALS AND OR PERMITS ISSUED FOR THE PROJECT.
17. PROVIDE EROSION AND SEDIMENT CONTROLS AS SHOWN ON THE DRAWINGS OR AS ORDERED BY THE ENGINEER. THE MINIMUM STANDARDS FOR ALL EROSION AND SEDIMENT CONTROLS SHALL BE THOSE OUTLINED IN THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL", LATEST REVISION. TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.
18. MATERIAL AND EQUIPMENT STORAGE AREA LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
19. VEHICLE AND EQUIPMENT FUELING AND MAINTENANCE OPERATIONS SHALL BE PERFORMED ONLY IN AREAS APPROVED BY THE ENGINEER.
20. IN THE EVENT OF A CONTAMINANT RELEASE, IMMEDIATELY NOTIFY THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION EMERGENCY RESPONSE AND SPILL PREVENTION DIVISION (860-424-3338 OR 866-337-7745) AND THE TOWN OF ESSEX FIRE MARSHALS OFFICE (860-767-4340).
21. COORDINATE ALL BUILDING UTILITY SERVICE WORK WITH THE RESPECTIVE UTILITY COMPANIES.
22. ALL WORK WITHIN THE RIGHT-OF-WAY OF BOKUM ROAD WILL REQUIRE AN ENCROACHMENT PERMIT FROM THE TOWN OF ESSEX DEPARTMENT OF PUBLIC WORKS.
23. BE RESPONSIBLE FOR THE MAINTENANCE AND PROTECTION OF TRAFFIC WITHIN AND ADJACENT TO WORK AREAS.
24. BE RESPONSIBLE FOR THE CONTROL OF DUST RESULTING FROM CONSTRUCTION OPERATIONS.
25. PROTECT ALL EXISTING CONDITIONS AND FEATURES WHERE NEW CONSTRUCTION IS NOT SHOWN ON THE DRAWINGS.
26. PROTECT STREET LINE MONUMENTS AND PRIVATE BOUNDARY MARKERS. RESET STREET LINE MONUMENTS AND PRIVATE BOUNDARY MARKERS DISTURBED BY CONSTRUCTION OPERATIONS.
27. PRIOR TO THE START OF TREE AND VEGETATION REMOVAL WORK, SCHEDULE A FIELD MEETING WITH THE ENGINEER TO REVIEW SPECIFIC TREES AND VEGETATION TO BE REMOVED AND TREES AND VEGETATION TO BE PROTECTED.
28. SAWCUT PAVEMENTS AT THE LINES SHOWN ON THE DRAWINGS. WHERE NEW BITUMINOUS CONCRETE PAVEMENT IS TO BE PLACED AGAINST EXISTING PAVEMENT, CLEAN THE FACE OF EXISTING PAVEMENT AND APPLY LIQUID BITUMEN. MATCH EXISTING ADJACENT PAVEMENT SURFACE ELEVATIONS WITH NEW PAVEMENT.
29. ADJUST MANHOLE FRAMES, HANDHOLES, AND VALVE BOXES TO MATCH FINISHED GROUND SURFACE AND PAVEMENTS ELEVATIONS.
30. PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.
31. SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS. TEMPORARY AND PERMANENT SIGN IDENTIFICATION NUMBERS SHOWN ON THE DRAWINGS ARE IN ACCORDANCE WITH THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION AND THE CONNECTICUT DEPARTMENT OF TRANSPORTATION SIGN CATALOG, LATEST REVISION.
32. THE SUBGRADE OF DISTURBED GROUND SURFACES NOT NOTED TO BE SURFACED OTHERWISE SHALL RECEIVE A 6" THICKNESS OF TOPSOIL UPON WHICH TURF SHALL BE ESTABLISHED.

REVISIONS:

NO.	DATE	DESCRIPTION
4	11-29-21	REVIEW COMMENTS
3	11-1-21	REVIEW COMMENTS
2	9-13-21	REVIEW COMMENTS
1	8-15-21	MISCELLANEOUS

REVISIONS

TITLE:

LAND
OF
GEORGE C. FIELD COMPANY, INC.
BOKUM ROAD
ESSEX, CONNECTICUT

SEAL:

PREPARED BY:
Summer Hill
Civil Engineers & Land Surveyors, P.C.
60 Wall Street
P.O. Box 708
Madison, Connecticut 06443-0708
Telephone: (203) 245-0722

PROJECT:
BOKUM ROAD BUSINESS PARK
BOKUM ROAD
ESSEX, CONNECTICUT

DATE: 7-1-21
SCALE: AS NOTED
DESIGNED: MJO
CHECKED: LJM
FIELD BOOK: -
PROJECT NO.: 20-50

SHEET:
GENERAL NOTES, ABBREVIATIONS AND LEGEND

SHEET NO.:
C0.2

A. PROJECT NARRATIVE

THE PLANNED PROJECT CONSISTS OF THE CONSTRUCTION OF A COMMERCIAL BUSINESS PARK. THE IMPROVEMENTS CONSIST OF A 28,000 SQUARE FOOT AND A 24,800 SQUARE FOOT BUILDING AND ASSOCIATED ACCESS ROADWAY, DRIVEWAYS, PARKING AREA, RETAINING WALL, UTILITY SERVICES,ON-SITE WASTEWATER SYSTEMS, STORMWATER MANAGEMENT FACILITIES, GUIDERAIL, SIGNAGE, AND LANDSCAPING.

THE BUILDINGS WILL BE SERVED BY COMMUNICATION, ELECTRIC, GAS, AND WATER PUBLIC UTILITIES LOCATED WITHIN THE BOKUM ROAD RIGHT-OF-WAY. ALL UTILITIES WILL BE INSTALLED UNDERGROUND.

THE SITE WORK CONSTRUCTION ASSOCIATED WITH THE PROJECT INCLUDES EROSION AND SEDIMENT CONTROL, TRAFFIC CONTROL, SITE PREPARATION, MASS EARTHWORK, TRENCHING, BACKFILLING, GRADING, BUILDING FOUNDATION, RETAINING WALL, WATER MAIN AND SERVICE, COMMUNICATION, ELECTRIC, AND GAS UTILITY, WASTEWATER SYSTEM, STORM DRAINAGE, PAVING, CURBING, GUIDERAIL, PAVEMENT MARKINGS, SIGNAGE, LANDSCAPE AND TURF ESTABLISHMENT CONSTRUCTION.

THE TOTAL AREA OF LAND DISTURBANCE ASSOCIATED WITH THE COMPLETE PROJECT CONSTRUCTION ACTIVITIES IS APPROXIMATELY 3.75 ACRES.

THE SURFICIAL SOILS ON THE PROJECT SITE ARE IDENTIFIED IN THE NATURAL RESOURCES CONSERVATION SERVICE SOIL SURVEY FOR THE STATE OF CONNECTICUT AS WINDSOR LOAMY SANDS, 3-8% SLOPES (36B).

THE SITE IS LOCATED WITHIN THE FALLS RIVER SUBREGIONAL DRAINAGE BASIN (HUC 4019). THE MUD RIVER FLOWS NORTHERLY TO THE WEST OF THE SITE AND ALONG THE SITES NORTHERLY BOUNDARY.

THE SITE IS LOCATED WITHIN AN UN-NUMBERED SPECIAL FLOOD HAZARD AREA ZONE A AND FLOOD ZONE X. THE TOTAL AREA OF FLOODPLAIN IMPACTS ASSOCIATED WITH THE COMPLETE CONSTRUCTION ACTIVITIES IS APPROXIMATELY 0.45 ACRES.

THE SITE IS NOT LOCATED WITHIN A PUBLIC WATER SUPPLY WATERSHED AREA, AN AQUIFER PROTECTION AREA, OR AN IDENTIFIED CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION NATURAL DIVERSITY DATABASE AREA.

AREAS OF STEEP SLOPES (25 PERCENT OR GREATER) ARE NOT LOCATED ON THE SITE.

PROJECT LOCATION:

THE PROJECT IS LOCATED ON AN APPROXIMATE 9 ACRE INTERIOR LAND PARCEL HAVING FRONTAGE ON BOKUM ROAD IN THE SOUTH CENTRAL PORTION OF THE TOWN OF ESSEX.

PROJECT OWNER:

GEORGE C. FIELD COMPANY, INC.
P.O. BOX 24
ESSEX, CONNECTICUT 06426
860-767-0420

CONTACT PERSON:

HERBERT T. CLARK, III
GEORGE C. FIELD COMPANY, INC.
P.O. BOX 24
ESSEX, CONNECTICUT 06426
860-767-0420

PERMIT REQUIREMENTS:

THE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROJECT ARE SUBJECT TO THE REQUIREMENTS OF APPROVALS AND PERMITS OF THE TOWN OF ESSEX INLAND WETLANDS AND WATERCOURSES COMMISSION AND PLANNING AND ZONING COMMISSION, AND APPROVALS AND PERMITS ISSUED BY THE TOWN OF ESSEX LAND USE, HEALTH, BUILDING, AND PUBLIC WORKS DEPARTMENTS, AND THE CONNECTICUT PUBLIC HEALTH DEPARTMENT.

IN ADDITION, THE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROJECT ARE SUBJECT TO THE REQUIREMENTS OF THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION GENERAL PERMIT FOR THE DISCHARGE OF STORMWATER AND DEWATERING WASTEWATERS FROM CONSTRUCTION ACTIVITIES.

THE GENERAL PERMIT INCLUDES REGISTRATION, CERTIFICATION, NOTIFICATION, STORMWATER POLLUTION CONTROL PLAN PREPARATION, AND INSPECTION REQUIREMENTS. THE GENERAL PERMIT CAN BE ACCESSED AT URL:

https://portal.ct.gov/-/media/DEEP/Permits_and_Licenses/Water_Discharge_General_Permits/stormconstgp1.pdf

CONSTRUCTION SCHEDULE AND SEQUENCE:

THE PLANNED START DATE FOR THE PROJECT IS SPRING 2022. IT IS ANTICIPATED THAT THE DURATION OF SITE WORK CONSTRUCTION WILL BE APPROXIMATELY 4 MONTHS.

THE GENERAL SEQUENCE OF SITE WORK CONSTRUCTION ACTIVITIES WILL BE AS FOLL0WS:

1. EQUIPMENT MOBILIZATION.
2. INSTALLATION OF TEMPORARY EROSION AND SEDIMENT CONTROLS.
3. SITE PREPARATION.
4. MASS EARTHWORK OPERATIONS.
5. BUILDING FOUNDATION CONSTRUCTION.
6. RETAINING WALL CONSTRUCTION.
7. WATER MAIN AND SERVICE CONSTRUCTION.
8. COMMUNICATIONS, ELECTRIC, AND GAS UTILITY SERVICES CONSTRUCTION.
9. STORM DRAINAGE AND STORMWATER WETLAND CONSTRUCTION.
10. WASTEWATER SYSTEM CONSTRUCTION.
11. DRIVEWAY AND PARKING AREA CONSTRUCTION.
12. PAVING AND CURBING OPERATIONS.
13. GUIDERAIL CONSTRUCTION.
14. LANDSCAPE PLANTING CONSTRUCTION.
15. TOPSOIL PLACEMENT AND TURF ESTABLISHMENT.
16. RESTORATION OF DISTURBED AREAS.
17. FINAL CLEAN UP AND REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROLS.

B. EROSION AND SEDIMENT CONTROL STANDARDS AND RESPONSIBILITIES

THE MINIMUM STANDARDS FOR ALL EROSION AND SEDIMENT CONTROLS SHALL BE THOSE OUTLINED IN THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL", LATEST REVISION. THE TYPES AND LOCATIONS OF EROSION AND SEDIMENT CONTROLS DEPICTED ON THE DRAWINGS ARE THE MINIMUM TYPES AND LOCATIONS REQUIRED. THE TYPES OF CONTROLS REQUIRED AND THIER LOCATIONS MAY VARY DURING THE VARIOUS PHASES OF CONSTRUCTION OF THE PROJECT AND THE PROGRESS OF THE WORK. THE CONTRACTOR SHALL REFERENCE THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL", LATEST REVISION FOR SPECIFIC DESIGN CRITERIA, CONSTRUCTION DETAILS, AND MAINTENANCE REQUIREMENTS FOR THE VARIOUS TYPES OF EROSION AND SEDIMENT CONTROLS REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION, OPERATION, MONITORING, AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROLS FOR THE PROJECT.

C. CONTINGENCY PLAN

A MINIMUM OF TWO WEEKS PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE CONTACT PERSON DESIGNATED HEREIN WITH THE NAMES AND TELEPHONE NUMBERS OF THE RESPONSIBLE PERSON(S) TO BE CONTACTED IN THE EVENT OF AN EROSION AND/OR SEDIMENTATION PROBLEM.

THE CONTRACTOR SHALL AT ALL TIMES KEEP SUFFICIENT ADDITIONAL GEOTEXTILE SILT FENCE AND/OR STRAW BALE BARRIER ON THE PROJECT SITE TO CONTROL UNFORESEEN EROSION AND/OR SEDIMENTATION PROBLEMS. IN THE EVENT OF A PROBLEM, THE CONTRACTOR SHALL PROMPTLY STABILIZE THE PROBLEM AND CONTAIN ANY SEDIMENT AND THEN NOTIFY THE TOWN OF ESSEX LAND USE DEPARTMENT (860-767-4340).

D. GENERAL GUIDELINES:

1). PRIOR TO THE START OF WORK, INSTALL EROSION AND SEDIMENT CONTROLS AS SHOWN ON THE DRAWINGS OR AS ORDERED BY THE ENGINEER.

2). ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED CONTINUOUSLY AND INSPECTED ON A PERIODIC BASIS AS DEFINED IN THE GUIDELINES FOR EACH TYPE OF CONTROL, AND SHALL NOT BE REMOVED UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED. IN ADDITION, ALL EROSION AND SEDIMENT CONTROLS SHALL BE INSPECTED PRIOR TO AND DURING MAJOR RAINFALL EVENTS.

3.) LIMIT THE DISTURBANCE OF LAND TO THE LIMITS OF DISTURBANCE REQUIRED TO ACCOMPLISH THE WORK SHOWN ON THE DRAWINGS.

4). PRESERVE EXISTING VEGETATION WITHIN THE LIMITS OF DISTURBANCE SHOWN ON THE DRAWINGS TO BE PRESERVED AND TAKE REASONABLE CARE TO PROTECT SUCH EXISTING VEGETATION.

5). WHERE PRACTICABLE, PLAN CONSTRUCTION OPERATIONS SO AS TO LIMIT THE AREAS OF EXPOSED SOIL TO AREAS ACTIVELY UNDER CONSTRUCTION. TAKE REASONABLE CARE TO LIMIT THE PERIOD OF EXPOSURE OF DISTURBED AREAS AND INSTALL PERMANENT VEGETATIVE MEASURES AS SOON AS IS PRACTICABLE.

6). WATER FROM DEWATERING OPERATIONS SHALL NOT BE DISCHARGED DIRECTLY TO ANY WETLAND OR WATERCOURSE. SUCH WATER SHALL BE DISCHARGED TO AN APPROVED SEDIMENT BASIN AND/OR FILTER DEVICE, OR TO A STORM DRAINAGE SYSTEM ONLY WHEN APPROVED.

7). ADEQUATE PROVISIONS SHALL BE TAKEN TO PROTECT ALL EXPOSED CUT AND FILL SLOPES FROM SURFACE WATER FLOW DAMAGE AND EROSION.

8). BE RESPONSIBLE FOR THE CONTROL OF DUST AND OTHER PARTICULATE MATTER RESULTING FROM CONSTRUCTION OPERATIONS.

9). TEMPORARY MATERIAL STOCKPILES SHALL BE PROTECTED FROM BOTH WATER AND WIND INDUCED EROSION.

10). BE RESPONSIBLE FOR MONITORING NOAA NATIONAL WEATHER SERVICE WEATHER FORECASTS AND TAKING PROPER PRECAUTIONS TO PREVENT EROSION AND SEDIMENTATION IN ADVANCE OF RAINFALL EVENTS AND REMOVING OR SECURING ALL EQUIPMENT AND MATERIALS IN ADVANCE OF ISSUED FLOOD WARNINGS.

2. VEGETATIVE SOIL COVER

a.) TEMPORARY SEEDING INSTALLATION REQUIREMENTS

i.) GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH THE REQUIREMENTS FOR LAND GRADING.

ii.) INSTALL NEEDED EROSION CONTROL MEASURES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, SEDIMENT BASINS AND GRASSED WATERWAYS.

b.) SEEDBED PREPARATION

i.) APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS THOSE OFFERED BY THE UNIVERSITY OF CONNECTICUT SOIL TESTING LABORATORY. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 300 POUNDS PER ACRE OR 7.5 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AS FOLLOWS:

SOIL TEXTURE	TONS/AC.	LBS/1,000 SQUARE FEET
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

REFER TO DRAWINGS FOR SOIL TEXTURES AT THE SITE.

c.) SEEDING

i.) ANNUAL RYE GRASS 40 LBS/ACRE, 1 LB/1,000 SF

ii.) WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER LIME AND SEED.

iii.) APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER. HYDROSEEDINGS WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED BY 10 PERCENT WHEN HYDROSEEDING.

iv.) SPRING SEEDINGS USUALLY GIVE THE BEST RESULTS, SPRING SEEDINGS OF ALL SEED LEGUMES IS RECOMMENDED. HOWEVER, LATE SUMMER SEEDINGS PRIOR TO SEPTEMBER 1 CAN BE MADE. WHEN CROWN VETCH IS SEEDED IN LATE SUMMER AT LEAST 35 PERCENT OF THE SEED SHOULD BE HARD SEED (UNSCARIFIED), THE RECOMMENDED SEEDING DATES ARE:

MARCH 1 THROUGH JUNE 15 AUGUST 1 THROUGH OCTOBER 1

d.) PERMANENT SEEDING INSTALLATION REQUIREMENTS

i.) GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH THE REQUIREMENTS FOR LAND GRADING.

ii.) INSTALL NEEDED EROSION CONTROL MEASURES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, SEDIMENT BASINS AND GRASSED WATERWAYS.

SEEDBED PREPARATION

i.) APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS SUCH AS THOSE OFFERED BY THE UNIVERSITY OF CONNECTICUT SOIL TESTING LABORATORY. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 300 POUNDS PER ACRE OR 7.5 POUNDS PER 1,000 SQUARE FEET USING 10-10-10 OR EQUIVALENT. IN ADDITION, 300 POUNDS OF 38-0-0 PER ACRE OR EQUIVALENT OF SLOW RELEASE NITROGEN MAY BE USED FOR TOPDRESSING. APPLY GROUND LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AS FOLLOWS:

SOIL TEXTURE	TONS/AC.	LBS/1,000 SQUARE FEET
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	4	180
SANDY LOAM, LOAM, SILT LOAM	3	135
LOAMY SAND, SAND	2	90

REFER TO DRAWINGS FOR SOIL TEXTURES AT THE SITE.

ii.) WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.

ii.) REMOVE FROM THE SURFACE ALL STONES ONE AND ONE-QUARTER INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.

iv.) INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS ABOVE.

SEEDING DATES

i.) SPRING SEEDINGS USUALLY GIVE THE BEST RESULTS. SPRING SEEDINGS OF ALL SEED MIXES WITH LEGUMES IS RECOMMENDED, HOWEVER LATE SUMMER SEEDINGS PRIOR TO SEPTEMBER 15 CAN BE MADE. WHEN CROWN VETCH IS SEEDED IN LATE SUMMER AT LEAST 35 PERCENT OF THE SEED SHOULD BE HARD SEED (UNSCARIFIED). THE RECOMMENDED SEEDING DATES ARE:

APRIL 15 THROUGH JUNE 15 AUGUST 15 THROUGH SEPTEMBER 15

WITH THE EXCEPTION OF CROWN VETCH, THE FINAL SEEDING DATE MAY BE EXTENDED 15 DAYS IN THE COASTAL TOWNS OF NEW LONDON, MIDDLESEX, NEW HAVEN AND FAIRFIELD COUNTIES.

SEEDING

i.) UNLESS OTHERWISE SPECIFIED ON LANDSCAPE DRAWINGS IF INCLUDED IN THE DRAWING SET, THE SEED MIXTURE SHALL BE AS FOLLOWS:

SEED MIXTURE	LBS/AC.	LBS/1,000 SQUARE FEET
KENTUCK BLUEGRASS	20	1.80
CREEPING RED FESCUE	20	1.80
PERENNIAL RYEGRASS	5	0.40

ii.) APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER. NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDINGS WHICH ARE MULCHED MAY BE LEFT ON SOIL SURFACE.

iii.) WHERE FEASIBLE, EXCEPT WHERE EITHER A CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A ROLLER, OR LIGHT DRAG. SEEDING OPERATIONS SHOULD BE ON THE CONTOUR.

iv.) FROST CRACK SEEDING MUST BE DONE IN LATE WINTER OR EARLY SPRING. SUITABLE WEATHER CONDITIONS ARE FREEZING NIGHTS AND THAWING DAYS WITH LITTLE OR NO SNOW COVER. SEEDING RATES MUST BE INCREASED 10 PERCENT WHEN USING THIS METHOD.

v.) HYDRAULIC APPLICATION (HYDROSEEDING), IS A SUITABLE METHOD FOR USE ON CRITICAL AREAS. WHEN HYDROSEEDING, A SEEDBED IS PREPARED IN THE CONVENTIONAL WAY OR BY HAND RAKING TO LOOSEN AND SMOOTH THE SOIL AND TO REMOVE SURFACE STONES LARGER THAN ONE AND ONE-QUARTER INCHES IN DIAMETER. SLOPES MUST BE NO STEEPER THAN 2 TO 1 (2 FEET HORIZONTALLY TO ONE FOOT VERTICALLY). LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF FIBER MULCH ON CRITICAL AREAS IS NOT RECOMMENDED (UNLESS IT IS USED TO HOLD STRAW OR HAY). FIBER MULCH OES NOT PROVIDE ADEQUATE SEEDBED PROTECTION. BETTER PROTECTION IS GAINED BY USING STRAW MULCH AND HOLDING IT WITH ADHESIVE MATERIALS OR 500 POUNDS PER ACRE OF WOOD FIBER MULCH. SEEDING RATES MUST BE INCREASED BY 10 PERCENT WHEN HYDROSEEDING.

vi.) APPLY MULCH ACCORDING TO THE TEMPORARY MULCHING MEASURE.

vii.) IF SEEDING CANNOT BE DONE WITHIN THE SEEDING DATES, USE THE TEMPORARY MULCHING MEASURE TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

MAINTENANCE

i.) LIME ACCORDING TO A SOIL TEST OR AT A MINIMUM OF EVERY FIVE YEARS USING A RATE OF TWO TONS PER ACRE (100 POUNDS PER 1,000 SQUARE FEET).

ii.) WHERE GRASSES PREDOMINATE, FERTILIZE ACCORDING TO A SOIL TEST OR BROADCAST BIENNIALLY, 300 POUNDS OR 10-10-10 OR EQUIVALENT PER ACRE (7.5 POUNDS PER 1,000 SQUARE FEET).

iii.) WHERE LEGUMES PREDOMINATE, FERTILIZE ACCORDING TO A SOIL TEST OR BROADCAST EVERY THREE YEARS 300 POUNDS OF 0-20-20 PER ACRE OR EQUIVALENT (7.5 POUNDS PER 1,000 SQUARE FEET).

3. NONSTRUCTURAL MEASURES

a.) SEDIMENT IMPOUNDMENTS, BARRIERS AND FILTERS STRAW BALES SHEET FLOW APPLICATIONS INSTALLATION REQUIREMENTS

i.) BALES SHALL BE PLACED IN A SINGLE ROW, LENGTHWISE ON THE CONTOUR, WITH THE ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER.

ii.) ALL BALES SHALL BE EITHER WIRE-BOUND OR STRING TIED. BALES SHALL BE INSTALLED SO THAT BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES TO PREVENT DETERIORATION OF THE BINDINGS.

iii.) A TRENCH SHALL BE EXCAVATED THE WIDTH OF A BALE AND THE LENGTH OF THE PROPOSED BARRIER TO A MINIMUM DEPTH OF 4 INCHES. AFTER THE BALES ARE STAKED AND CHINKED, THE EXCAVATED SOIL SHALL BE BACKFILLED AGAINST THE BARRIER. BACKFILL SOIL SHALL CONFORM TO THE GROUND LEVEL ON THE DOWNHILL SIDE AND SHALL BE BUILT UP TO 4 INCHES AGAINST THE UPHILL SIDE OF THE BARRIER. BALES SHOULD BE PLACED 10 FEET AWAY FROM THE TOE OF SLOPES.

iv.) EACH BALE SHALL BE SECURELY ANCHORED BY AT LEAST TWO STAKES OR REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. STAKES OR REBARS SHALL BE DRIVEN DEEP ENOUGH INTO THE GROUND TO SECURELY ANCHOR THE BALES.

v.) THE GAPS BETWEEN BALES SHALL BE CHINKED (FILLED BY WEDGING) STRAW BETWEEN THEM TO PREVENT WATER FROM FLOWING BETWEEN THE BALES.

CHANNEL FLOW APPLICATIONS

INSTALLATION REQUIREMENTS

i.) BALES SHALL BE PLACED IN A SINGLE ROW, LENGTHWISE, ORIENTED PERPENDICULAR TO THE CONTOUR, WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER.

ii.) THE REMAINING STEPS FOR INSTALLING A BALE BARRIER FOR SHEET FLOW APPLICATIONS APPLY HERE, WITH THE FOLLOWING ADDITION:

iii.) THE BARRIER SHALL BE EXTENDED TO SUCH A LENGTH THAT THE BOTTOMS OF THE END BALES ARE HIGHER IN ELEVATION THAN THE TOP OF THE LOWEST MIDDLE BALE TO ASSURE THAT SEDIMENT LADEN RUNOFF WILL FLOW EITHER THROUGH OR OVER THE BARRIER BUT NOT AROUND IT.

MAINTENANCE

i.) INSPECTION SHALL BE MADE AFTER EACH STORM EVENT AND PERIODICALLY DURING PROLONGED RAIN EVENTS AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

ii.) ACCUMULATED SEDIMENT BEHIND THE BALES SHALL BE REMOVED WHEN IT REACHES 1/2 OF THE ORIGINAL HEIGHT OF THE BALES.

SEDIMENTATION CONTROL FENCE

MATERIALS

i.) GEOTEXTILE

GEOTEXTILE SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE FILAMENTS AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE FOLLOWING REQUIREMENTS:

PHYSICAL PROPERTY	REQUIREMENTS
FILTERING EFFICIENCY	75% (MIN.)
TENSILE STRENGTH AT 20% (MAX) ELONGATION	
EXTRA STRENGTH	50 LBS.LIN. IN. (MIN.)
STANDARD STRENGTH	30 LBS/LIN. IN. (MIN.)
FLOW RATE	0.3 GAL/SF/MIN (MIN.)

ii.) STAKES FOR SEDIMENTATION CONTROL FENCES SHALL BE EITHER 1" X 2" WOOD OR 0.5 POUND (MINIMUM) PER LINEAL FOOT STEEL WITH A MINIMUM LENGTH OF 5 FEET STEEL POSTS SHALL HAVE PROJECTIONS FOR FASTENING WIRE TO THEM.

iii.) WIRE FENCE REINFORCEMENT FOR SEDIMENTATION CONTROL FENCES USING STANDARD STRENGTH MATERIAL SHALL BE A MINIMUM OF 42 INCHES IN HEIGHT, A MINIMUM OF 14 GAUGE AND SHALL HAVE A MAXIMUM MESH SPACING OF 6 INCHES.

INSTALLATION REQUIREMENTS

i.) THE HEIGHT OF THE BARRIER SHALL NOT EXCEED 30 INCHES. (HIGHER BARRIERS MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE). THE SEDIMENTATION CONTROL FENCE SHALL BE PLACED 10 FEET AWAY FROM THE TOE OF SLOPES UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR DIRECTED.

ii.) WHEN JOINTS ARE NECESSARY, GEOTEXTILE ROLL ENDS SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6" OVERLAP AND SECURELY SEALED IN CONFORMANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

iii.) POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM DEPTH OF 12 INCHES.

i v.) WHEN STANDARD STRENGTH GEOTEXTILE IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO A TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

v.) THE STANDARD STRENGTH GEOTEXTILE SHALL BE STAPLED, WIRED OR TIED TO THE WIRE FENCE, AND 8 INCHES OF THE GEOTEXTILE SHALL BE EXTENDED INTO THE TRENCH.

vi.) WHEN EXTRA STRENGTH GEOTEXTILE OR BURLAP AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED.

vii.) THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE GEOTEXTILE.

MAINTENANCE

i.) INSPECTION SHALL BE MADE AFTER EACH STORM EVENT AND PERIODICALLY DURING PROLONGED RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE AS REQUIRED.

ii.) ACCUMULATED SEDIMENT BEHIND THE FENCE SHALL BE REMOVED WHEN IT REACHES 1/2 OF THE HEIGHT OF THE BARRIER.

b.) LAND GRADING

i.) ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLAN UNTIL THEY ARE PERMANENTLY STABILIZED.

ii.) AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL.

iii.) ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS.

iv.) FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS AND OTHER OBJECTIONABLE MATERIALS.

v.) FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.

vi.) FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION.

vii.) TOPSOILING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE REQUIREMENTS FOR TOPSOILING.

viii.) ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

c.) TOPSOILING

MATERIALS

SITE INVESTIGATIONS SHALL BE MADE TO DETERMINE IF THERE IS A SUFFICIENT QUANTITY OF TOPSOIL OF GOOD QUALITY ON THE SITE TO JUSTIFY STRIPPING. HIGH QUALITY TOPSOIL SHALL BE FRIABLE AND LOAMY (LOAM, SANDY LOAM, SILT LOAM, SANDY CLAY LOAM, CLAY LOAM). OTHER SOIL TYPES WITH HIGH ORGANIC CONTENT MAY BE FOUND SUITABLE AFTER TESTING. IT SHALL BE FREE OF DEBRIS, TRASH, TUMPS, ROCKS, ROOTS AND NOXIOUS WEEDS. IT SHALL GIVE EVIDENCE OF BEING ABLE TO SUPPORT HEALTHY VEGETATION. IT SHALL CONTAIN NO SUBSTANCE THAT IS POTENTIALLY TOXIC TO PLANT GROWTH. ALL TOPSOIL SHALL BE TESTED BY A RECOGNIZED LABORATORY TO DETERMINE THE PROPER APPLICATION RATES OF LIME AND FERTILIZER.

INSTALLATION REQUIREMENTS

i.) STRIPPING OF TOPSOIL SHALL BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA. THE DEPTH OF REMOVAL MAY VERY DEPENDING ON THE SITE CONDITIONS. ALL SEDIMENT CONTROLS SHALL BE IN PLACE PRIOR TO BEGINNING STRIPPING OPERATIONS.

ii.) TOPSOIL SHALL BE STOCKPILED IN SUCH A MANNER THAT NATURAL SURFACE WATER FLOW IS NOT OBSTRUCTED AND NO OFF-SITE SEDIMENT DAMAGE SHALL RESULT.

iii.) SIDE SLOPES OF STOCKPILES SHALL NOT BE STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL.

iv.) A SEDIMENT BARRIER SHALL SURROUND ALL TOPSOIL STOCKPILES.

v.) TEMPORARY SEEDING OF STOCKPILES SHALL BE COMPLETED WITHIN 15 DAYS OF THE FORMATION OF THE STOCKPILE, IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE COVER REQUIREMENTS.

vi.) PREVIOUSLY ESTABLISHED GRADES ON THE AREAS TO BE TOPSOILED SHALL BE MAINTAINED ACCORDING TO THE DRAWINGS.

vii.) WHERE THE PH OF THE SUBSOIL IS 6.0 OR LESS, GROUND AGRICULTURAL LIMESTONE SHALL BE SPREAD IN ACCORDANCE WITH THE SOIL TEST OR THE VEGETATIVE ESTABLISHMENT PRACTICE BEING USED.

viii.) AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY DISCING OR SCARIFYING TO A DEPTH OF AT LEAST 2 INCHES TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL.

ix.) TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING. THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED TO A MINIMUM COMPACTED DEPTH OF 6 INCHES. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

x.) TOPSOIL SHOULD BE COMPACTED ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL AND TO OBTAIN A UNIFORM FIRM SEEDBED FOR THE ESTABLISHMENT OF A HIGH MAINTENANCE TURF. UNDUE COMPACTION IS TO BE AVOIDED AS IT INCREASES RUNOFF VELOCITY AND VOLUME, AND PREVENTS SEED GERMINATION.

d.) TEMPORARY MULCHING

INSTALLATION REQUIREMENTS

ORGANIC MULCHES

i.) ORGANIC MULCHES MAY BE USED IN ANY AREA WHERE MULCH IS REQUIRED, SUBJECT TO THE RESTRICTIONS NOTED BELOW:

ORGANIC MULCH MATERIALS AND APPLICATION RATES

MULCHES	PER ACRE	PER 1000 SF
STRAW OR HAY	1 1/2 - 2 TONS	70-90 LBS
WOOD FIBER	1000-2000 LBS	25-50 LBS
CORN STALKS	4-6 TONS	185-275 LBS
WOOD CHIPS	4-6 TONS	185-275 LBS
SHREDDED BARK	50-75 CY	1-2 CY

MATERIALS

i.) SELECT MULCH MATERIALS BASED ON SITE CONDITIONS, AVAILABILITY OF MATERIALS AND LABOR AND EQUIPMENT. OTHER MATERIALS MAY BE USED ONLY WITH THE PERMISSION OF THE APPROVING AUTHORITY.

APPLICATION

i.) MULCH MATERIALS SHALL BE SPREAD UNIFORMLY, BY HAND OR MACHINE. WHEN SPREADING STRAW OR HAY MULCH BY HAND, DIVIDE THE AREA TO BE MULCHED INTO APPROXIMATELY 1,000 SQUARE FOOT SECTIONS AND PLACE 70-90 POUNDS (11/2 TO 2 BALES) OF STRAW OR HAY IN EACH SECTION TO ENSURE UNIFORM DISTRIBUTION.

ANCHORING

i.) HAY OR STRAW MULCHES MUST BE ANCHORED IMMEDIATELY AFTER APPLICATION TO PREVENT WINDBLOWING. HAY OR STRAW MULCH MAY BE ANCHORED BY TRACKING WITH CONSTRUCTION EQUIPMENT OR BY USING MULCH NETTING.

MAINTENANCE

i.) ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. WHERE EROSION IS OBSERVED, ADDITIONAL MULCH SHOULD BE APPLIED. NETS SHOULD BE INSPECTED AFTER RAINSTORMS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, REINSTALL NET AS NECESSARY AFTER REPAIRING DAMAGE TO THE SLOPE. INSPECTIONS SHOULD TAKE PLACE UNTIL GRASSES ARE FIRMLY ESTABLISHED. GRASSES SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED WHICH IS MATURE ENOUGH TO CONTROL SOIL EROSION AND TO SURVIVE SEVERE WEATHER CONDITIONS. WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE, REPAIR AS NEEDED.

e.) DUST CONTROL

INSTALLATION REQUIREMENTS

WATER

i.) THE EXPOSED SOIL SURFACE SHOULD BE MOISTENED PERIODICALLY WITH ADEQUATE QUANTITIES OF WATER TO CONTROL DUST.

STONE

i.) COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. IN AREAS ADJACENT TO WATERWAYS USE CHEMICALLY STABLE AGGREGATE.

MAINTENANCE

ii.) WHEN TEMPORARY DUST CONTROL MEASURES ARE USED, REPETITIVE TREATMENT SHALL BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.

REVISIONS:

NO.	DATE	DESCRIPTION
4	11-29-21	REVIEW COMMENTS
3	11-1-21	REVIEW COMMENTS
2	9-13-21	REVIEW COMMENTS
1	8-15-21	MISCELLANEOUS

REVISIONS

TITLE:

LAND
OF
GEORGE C. FIELD COMPANY, INC.
BOKUM ROAD
ESSEX, CONNECTICUT

SEAL:

PREPARED BY:

Summer Hill
Civil Engineers & Land Surveyors, P.C.
60 Wall Street
P.O. Box 708
Madison, Connecticut 06443-0708
Telephone: (203) 245-0722

PROJECT:
BOKUM ROAD BUSINESS PARK
BOKUM ROAD
ESSEX, CONNECTICUT

DATE: 7-1-21
SCALE: NONE
DESIGNED: MJO
CHECKED: LJM

SHEET:
EROSION
AND
SEDIMENT CONTROL NOTES

FIELD BOOK: -
PROJECT NO.: 20-50

SHEET NO.: C0.3

REVISIONS:

NO.	DATE	DESCRIPTION
4	11-29-21	REVIEW COMMENTS
3	11-1-21	REVIEW COMMENTS
2	9-13-21	REVIEW COMMENTS
1	8-15-21	MISCELLANEOUS

REVISIONS

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PROJECT:

BOKUM ROAD BUSINESS PARK
BOKUM ROAD
ESSEX, CONNECTICUT

DATE: 7-1-21	SHEET: EXISTING CONDITIONS PLAN		SHEET NO.: C1.1
SCALE: 1"=40'			
DESIGNED: MJO			
CHECKED: LJM	FIELD BOOK: -	PROJECT NO.: 20-50	

NOTES:

1. ALL STORM SEWERS SHALL BE 15" DIAMETER CORRUGATED HIGH DENSITY POLYETHYLENE SMOOTH INTERIOR PIPE MEETING THE REQUIREMENTS OF AASHTO M 294, TYPE S, WITH BELL AND SPIGOT JOINTS.
2. ALL ROOF WATER PIPE SHALL BE 6" DIAMETER SOLID WALL PVC ASTM D3034 SDR-35 WITH SOLVENT WELD OR RUBBER COMPRESSION GASKET FITTINGS AND JOINTS.
3. EROSION CONTROL BLANKETS SHALL BE INSTALLED ON ALL FILL SLOPES STEEPER THAN 4 HORIZONTAL TO 1 VERTICAL. SEE EROSION CONTROL BLANKET FOR SLOPES DETAIL SHEET C3.6.
4. SEE SHEET C3.3 DETAILS FOR STORMWATER WETLAND PLANTING AND SLOPE AND BERM SEEDING INFORMATION.
5. TEMPORARY WETLAND IMPACT AREAS SHALL BE PLANTED UPON COMPLETION OF CONSTRUCTION ACTIVITIES. THE INSTALLATION OF ALL PLANT MATERIAL INCLUDING THE PLANTING LOCATIONS SHALL BE DETERMINED BY THE PROFESSIONAL WETLAND SCIENTIST.

TEMPORARY WETLAND IMPACT AREA RESTORATION SHRUB PLANT LIST				
SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
AC	TBD	SHADBLOW SERVICEBERRY	Amelanchier canadensis	3 FT-4 FT
AR	TBD	RED MAPLE	Acer rubrum	3 FT-4 FT

PERMANENT WETLAND IMPACT AREAS	
AREA NO.	IMPACT AREA
SWL 1 OUTLET	120 SF
SWL 2 OUTLET	150 SF

TEMPORARY WETLAND IMPACT AREAS	
AREA NO.	IMPACT AREA
1	220 SF
2	150 SF

REVISIONS:

NO.	DATE	DESCRIPTION
4	11-29-21	REVIEW COMMENTS
3	11-1-21	REVIEW COMMENTS
2	9-13-21	REVIEW COMMENTS
1	8-15-21	MISCELLANEOUS

REVISIONS

TITLE:

LAND
OF
GEORGE C. FIELD COMPANY, INC.
BOKUM ROAD
ESSEX, CONNECTICUT

SEAL:

PREPARED BY:

Summer Hill
Civil Engineers & Land Surveyors, P.C.
60 Wall Street
P.O. Box 708
Madison, Connecticut 06443-0708
Telephone: (203) 245-0722

PROJECT:
BOKUM ROAD BUSINESS PARK
BOKUM ROAD
ESSEX, CONNECTICUT

DATE: 7-1-21
SCALE: 1"=40'
DESIGNED: MJO
CHECKED: LJM
SHEET: GENERAL PLAN
FIELD BOOK: -
PROJECT NO.: 20-50
SHEET NO.: C2.1

NOTES:

1. ALL BUILDING SEWERS SHALL HAVE A MINIMUM SLOPE OF 0.0208 FT/FT.
2. ALL EFFLUENT SEWER PIPE SHALL HAVE A MINIMUM SLOPE OF 0.0104 FT/FT.
3. SEE SHEET C3.2 DETAILS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEM MATERIAL REQUIREMENTS.

NO.	DATE	DESCRIPTION
4	11-29-21	REVIEW COMMENTS
3	11-1-21	REVIEW COMMENTS
2	9-13-21	REVIEW COMMENTS
1	8-15-21	MISCELLANEOUS

REVISIONS

TITLE:
LAND
OF
GEORGE C. FIELD COMPANY, INC.
BOKUM ROAD
ESSEX, CONNECTICUT

SEAL:

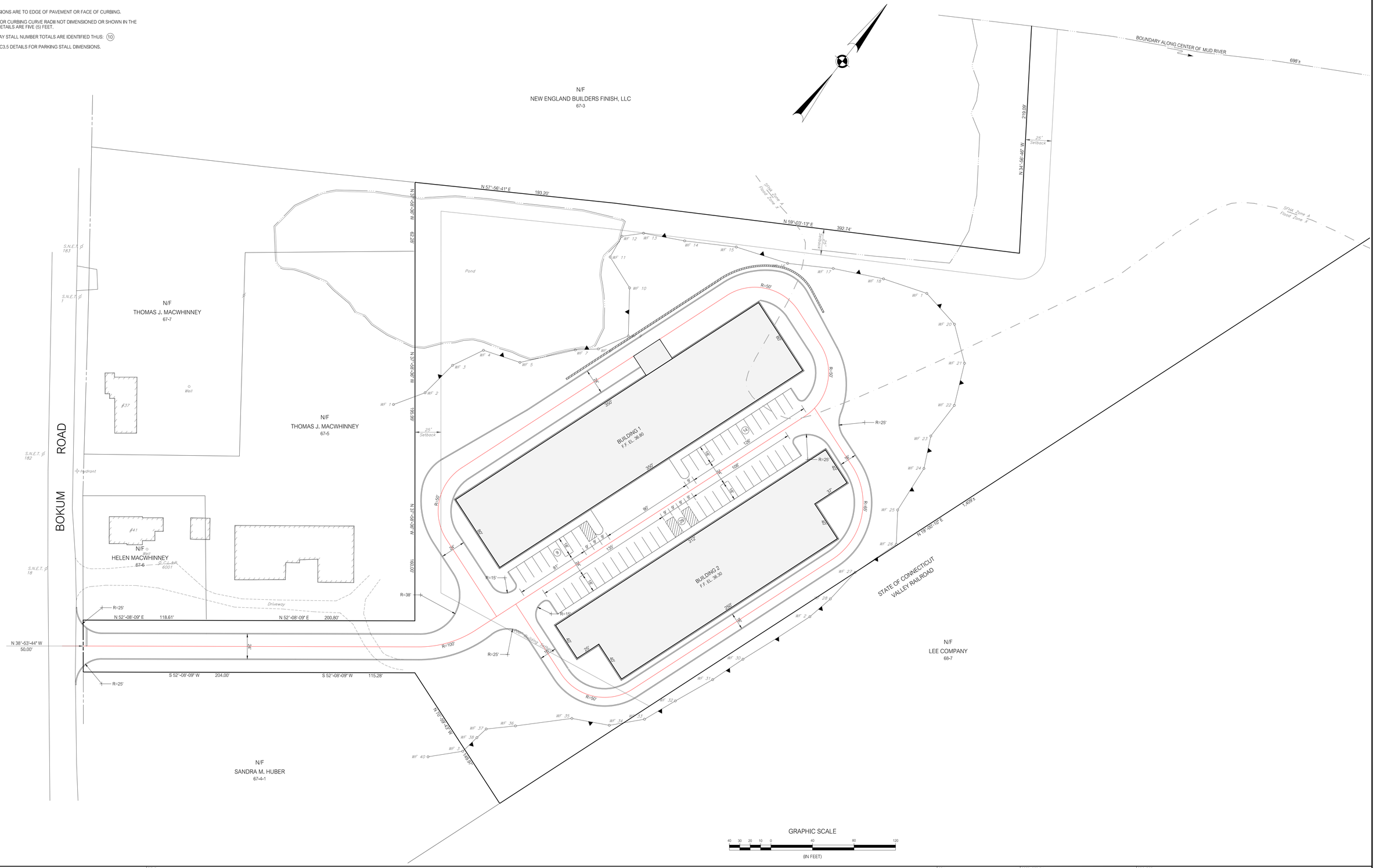
PREPARED BY:
Summer Hill
Civil Engineers & Land Surveyors, P.C.
60 Wall Street
P.O. Box 708
Madison, Connecticut 06443-0708
Telephone: (203) 245-0722

PROJECT:
BOKUM ROAD BUSINESS PARK
BOKUM ROAD
ESSEX, CONNECTICUT

DATE: 7-1-21
SCALE: 1"=40'
DESIGNED: MJO
CHECKED: LJM
SHEET: SUBSURFACE SEWAGE DISPOSAL SYSTEM PLAN
FIELD BOOK: -
PROJECT NO.: 20-50
SHEET NO.: C2.2

NOTES:

1. ALL DIMENSIONS ARE TO EDGE OF PAVEMENT OR FACE OF CURBING.
2. PAVEMENT OR CURBING CURVE RADII NOT DIMENSIONED OR SHOWN IN THE DRAWING DETAILS ARE FIVE (5) FEET.
3. PARKING BAY STALL NUMBER TOTALS ARE IDENTIFIED THUS: (10)
4. SEE SHEET C3.5 DETAILS FOR PARKING STALL DIMENSIONS.



REVISIONS:		
4	11-29-21	REVIEW COMMENTS
3	11-1-21	REVIEW COMMENTS
2	9-13-21	REVIEW COMMENTS
1	8-15-21	MISCELLANEOUS
NO.	DATE	DESCRIPTION

REVISIONS

TITLE:

LAND
OF
GEORGE C. FIELD COMPANY, INC.
BOKUM ROAD
ESSEX, CONNECTICUT

SEAL:

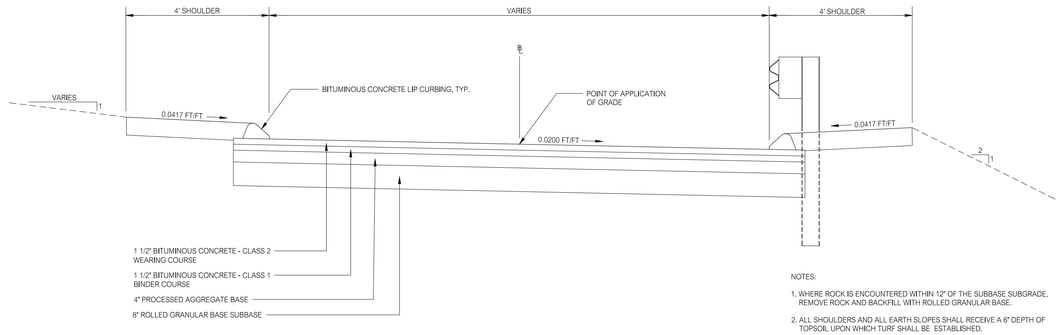
PREPARED BY:
Summer Hill
Civil Engineers & Land Surveyors, P.C.
60 Wall Street
P.O. Box 708
Madison, Connecticut 06443-0708
Telephone: (203) 245-0722

PROJECT: BOKUM ROAD BUSINESS PARK
BOKUM ROAD
ESSEX, CONNECTICUT

DATE: 7-1-21
SCALE: 1"=40'
DESIGNED: MJO
CHECKED: LJM
FIELD BOOK: -
PROJECT NO.: 20-50

SHEET: SITE LAYOUT PLAN

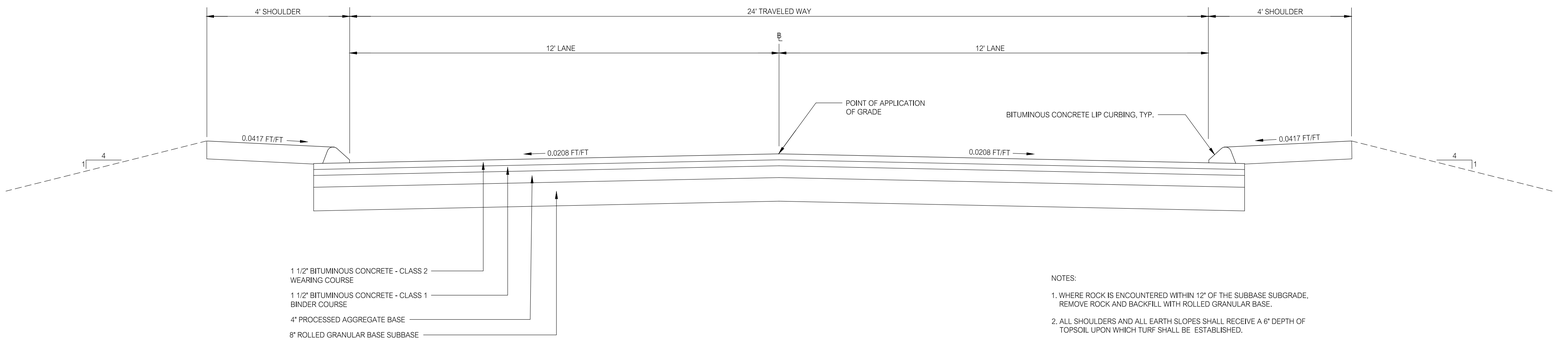
SHEET NO.: C2.3



NOTES:

1. WHERE ROCK IS ENCOUNTERED WITHIN 12" OF THE SUBBASE SUBGRADE, REMOVE ROCK AND BACKFILL WITH ROLLED GRANULAR BASE.
2. ALL SHOULDERS AND ALL EARTH SLOPES SHALL RECEIVE A 6" DEPTH OF TOPSOIL UPON WHICH TURF SHALL BE ESTABLISHED.

TYPICAL DRIVEWAY CROSS SECTION
NOT TO SCALE



NOTES:

1. WHERE ROCK IS ENCOUNTERED WITHIN 12" OF THE SUBBASE SUBGRADE, REMOVE ROCK AND BACKFILL WITH ROLLED GRANULAR BASE.
2. ALL SHOULDERS AND ALL EARTH SLOPES SHALL RECEIVE A 6" DEPTH OF TOPSOIL UPON WHICH TURF SHALL BE ESTABLISHED.

TYPICAL ACCESS ROADWAY CROSS SECTION
NOT TO SCALE

REVISIONS:

NO.	DATE	DESCRIPTION
4	11-29-21	REVIEW COMMENTS
3	11-1-21	REVIEW COMMENTS
2	9-13-21	REVIEW COMMENTS
1	8-15-21	MISCELLANEOUS

REVISIONS

TITLE:

LAND
OF
GEORGE C. FIELD COMPANY, INC.
BOKUM ROAD
ESSEX, CONNECTICUT

SEAL:

PREPARED BY:

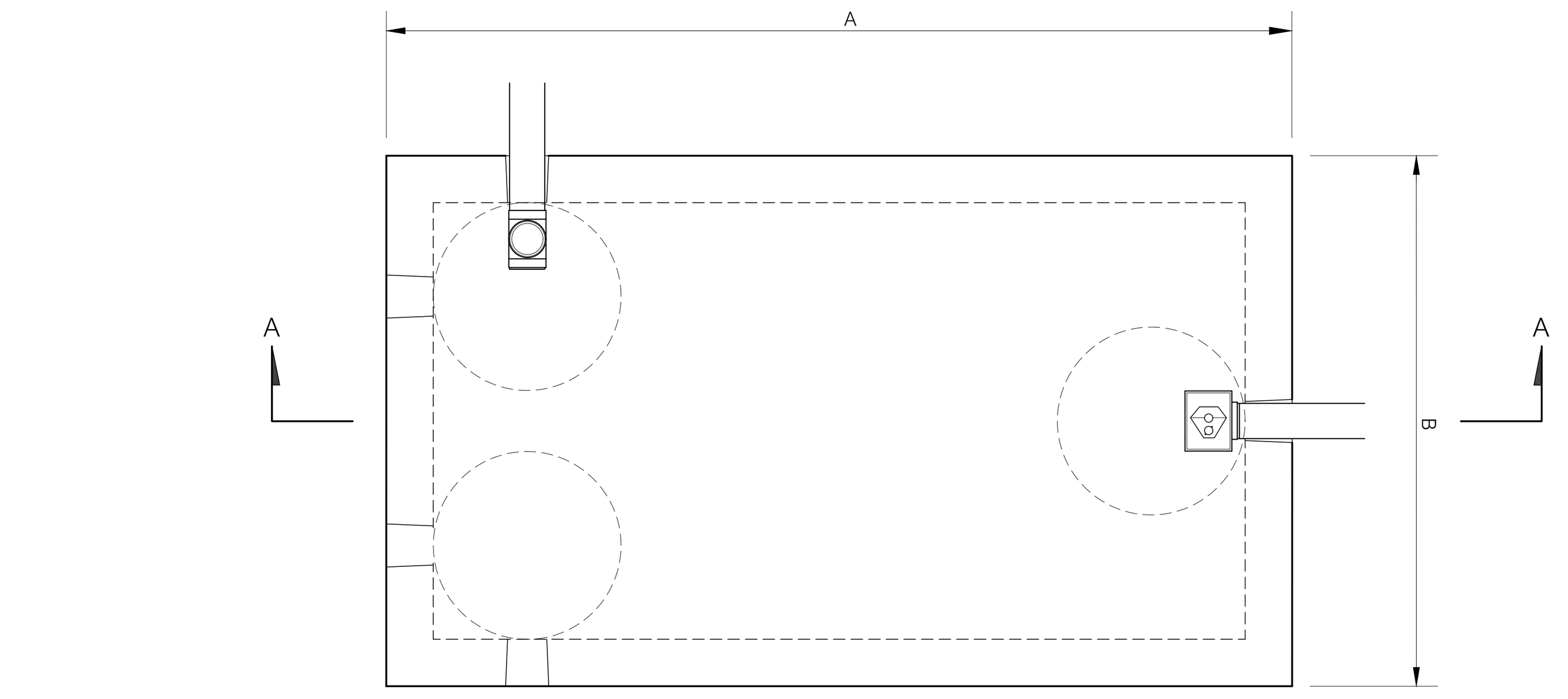
Summer Hill

Civil Engineers & Land Surveyors, P.C.
60 Wall Street
P.O. Box 708
Madison, Connecticut 06443-0708
Telephone: (203) 245-0722

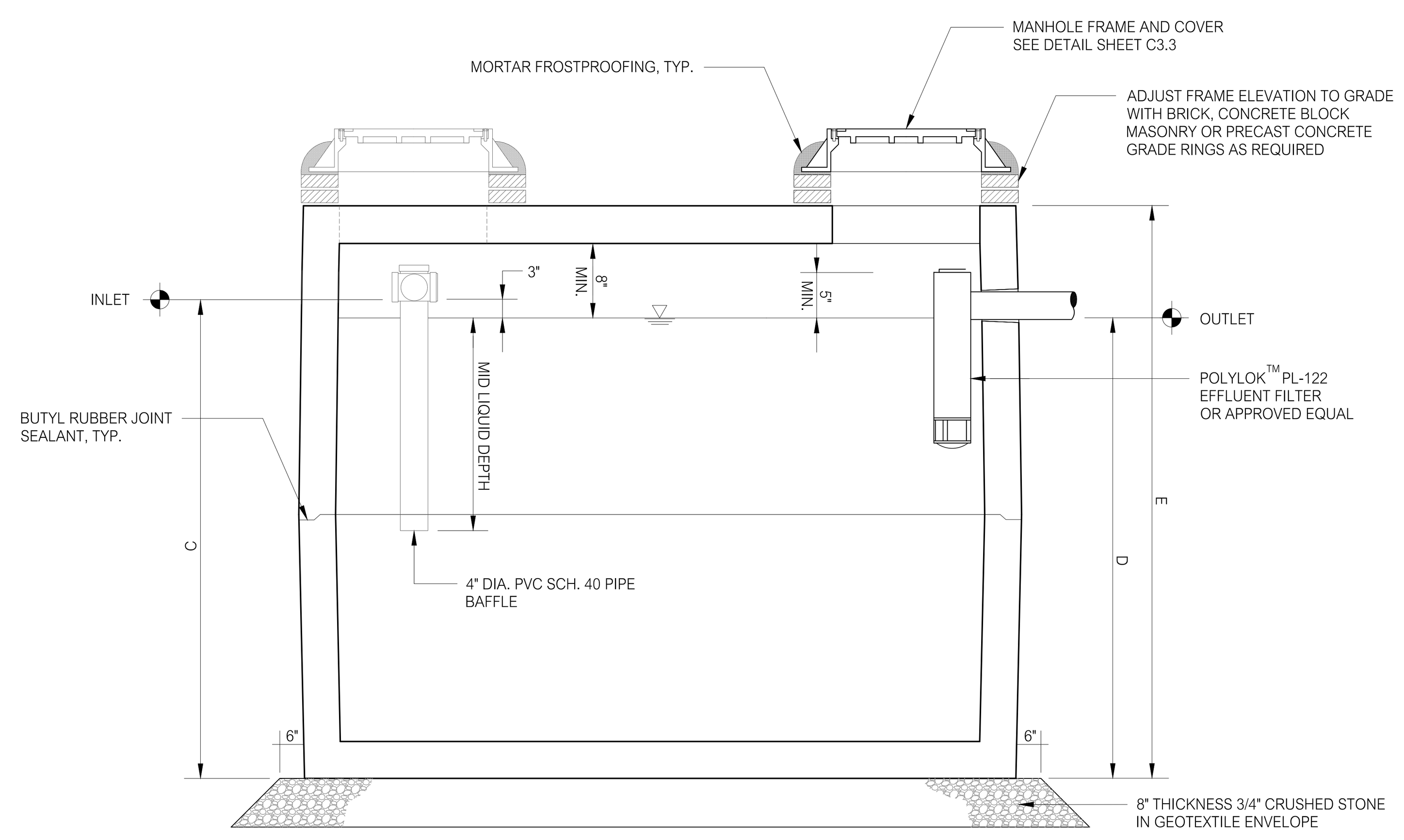
PROJECT:

BOKUM ROAD BUSINESS PARK
BOKUM ROAD
ESSEX, CONNECTICUT

DATE: 7-1-21	SHEET: DETAILS	SHEET NO.: C3.1
SCALE: AS NOTED		
DESIGNED: MJO		
CHECKED: LJM	FIELD BOOK: -	PROJECT NO.: 20-50



PLAN



SECTION A-A

PRECAST CONCRETE SEPTIC TANK

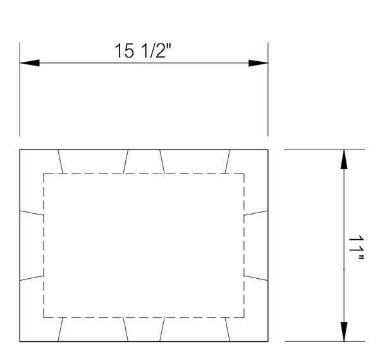
NOT TO SCALE

NOTES:

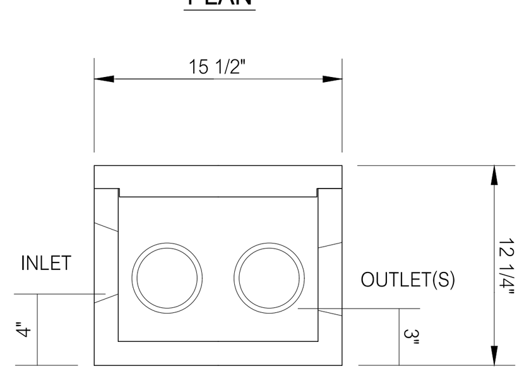
1. PRECAST CONCRETE SEPTIC TANK STRUCTURE DIMENSIONS SHOWN ARE BASED ON TYPICAL SEPTIC TANK STRUCTURE DESIGNS OF UNITED CONCRETE PRODUCTS, INC., WALLINGFORD, CONNECTICUT. SEPTIC TANK STRUCTURE DIMENSIONS OF OTHER PRECAST CONCRETE MANUFACTURERS MAY VARY FROM THOSE SHOWN.
2. THE SEPTIC TANK STRUCTURE EXTERIOR BOTTOM AND SIDE WALL SURFACES SHALL BE COATED WITH A BITUMINOUS WATERPROOFING COMPOUND.
3. DESIGN LOADING: AASHTO HS-20-44 WHEEL LOADING.
4. CONCRETE REINFORCEMENT NOT SHOWN.

SEPTIC TANK DIMENSIONS

TANK SIZE	DIMENSION				
	A	B	C	D	E
2,500 GAL	7'-7"	10'-1"	6'-4"	6'-2"	7'-6"
3,000 GAL	7'-7"	10'-1"	7'-3"	7'-0"	8'-5"



PLAN



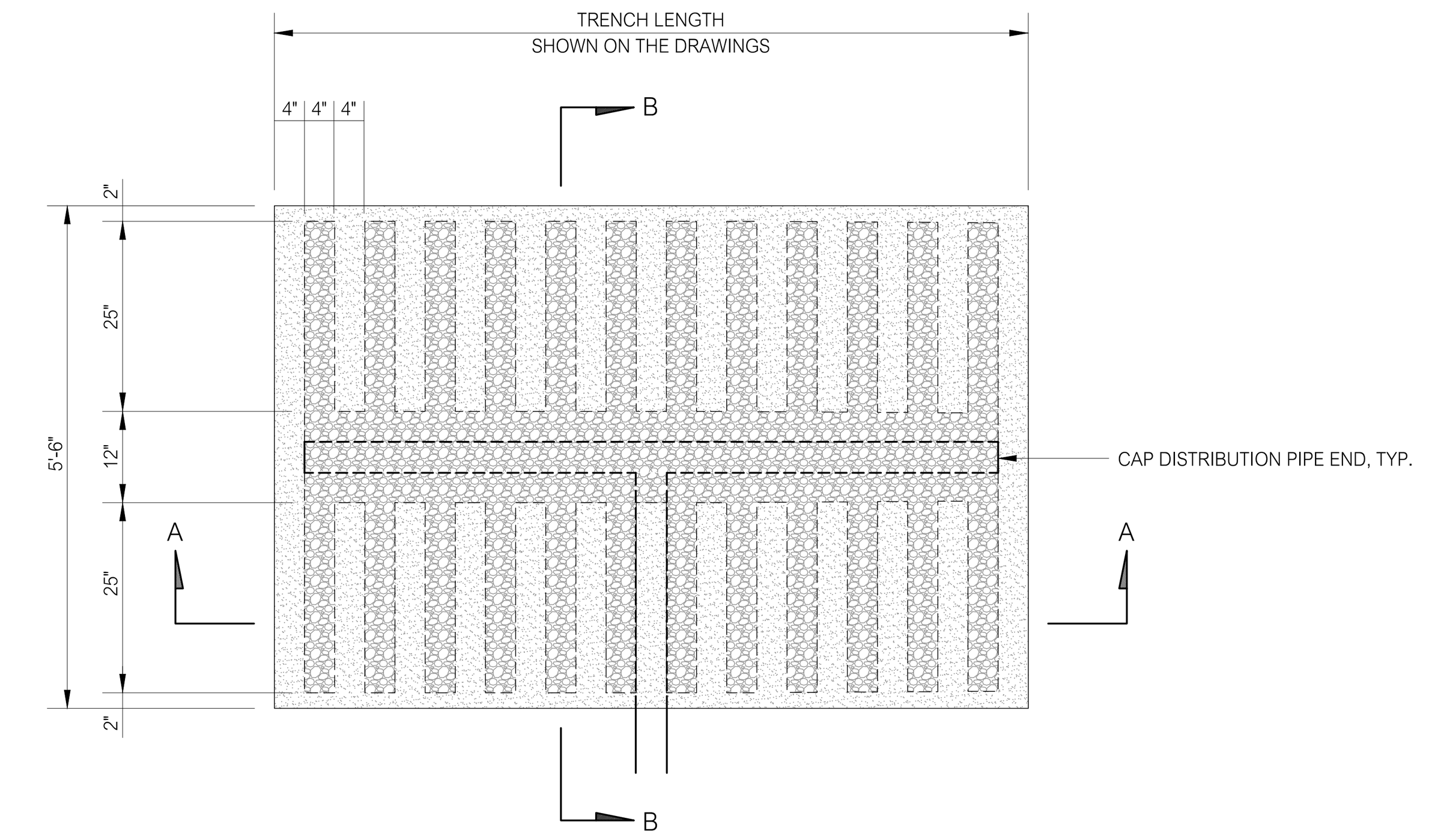
SECTION

PRECAST CONCRETE DISTRIBUTION BOX

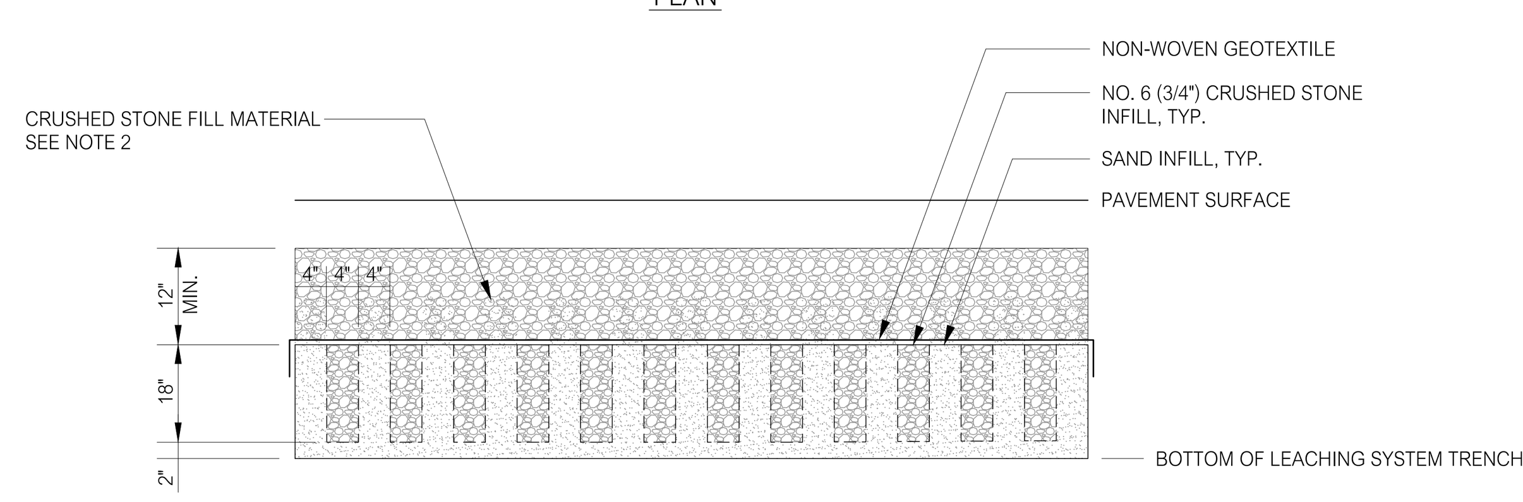
NOT TO SCALE

NOTES:

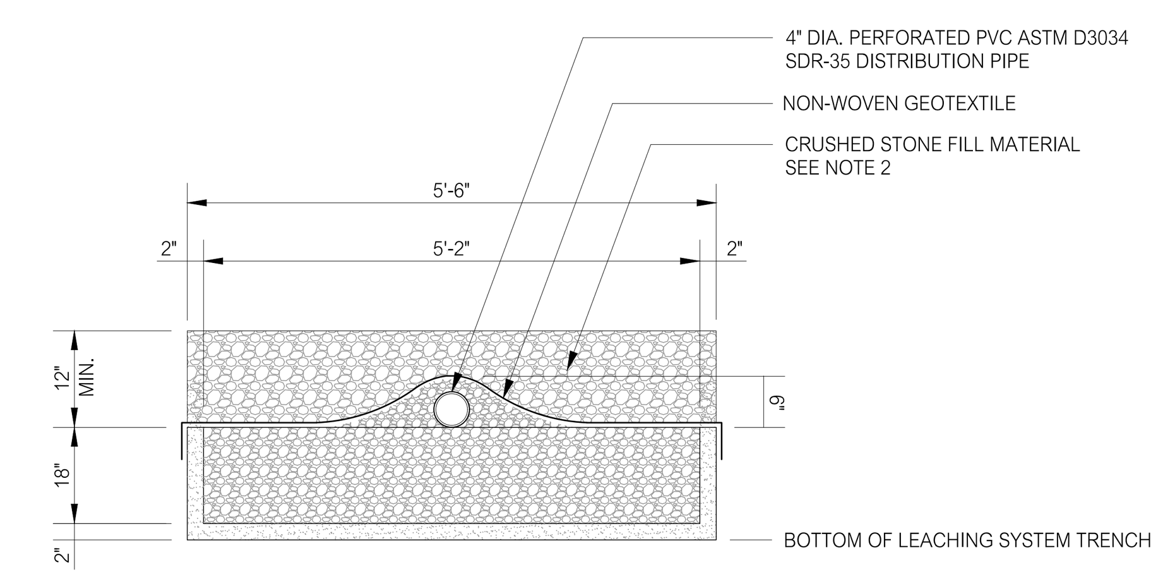
1. SET DISTRIBUTION BOX LEVEL ON A 6" THICKNESS BASE OF 3/4" CRUSHED STONE.
2. EXTEND EFFLUENT SEWER AND DISTRIBUTION PIPE(S) INSIDE DISTRIBUTION BOX TO ALLOW FOR INSTALLATION OF FITTINGS TO BE USED FOR FLOW ADJUSTMENT.
3. DISTRIBUTION BOX DIMENSIONS SHOWN ARE BASED ON TYPICAL PRECAST CONCRETE MANUFACTURER DESIGNS FOR THE TYPE OF DISTRIBUTION BOX SHOWN. DIMENSIONS MAY VARY WITH PRECAST MANUFACTURER.
4. CONCRETE REINFORCEMENT NOT SHOWN.



PLAN



SECTION A-A



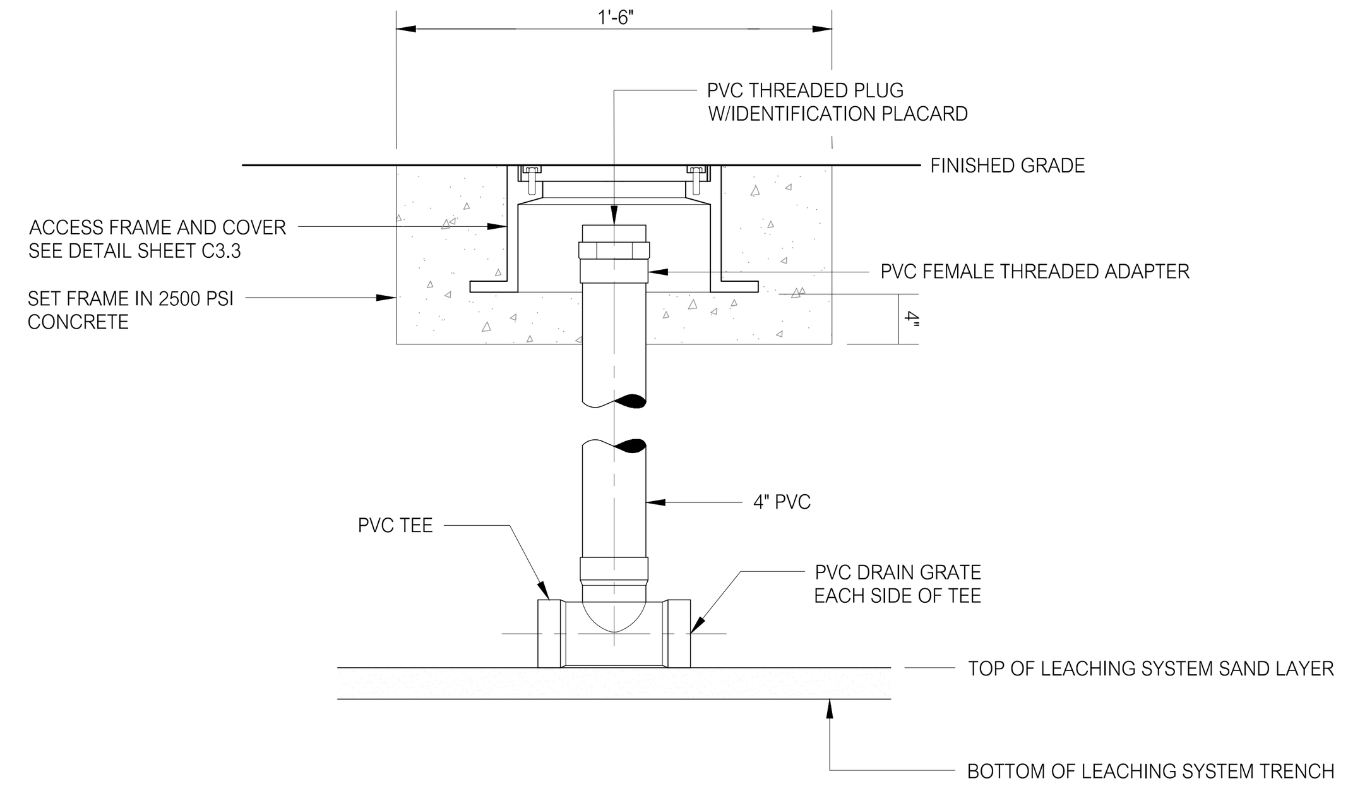
SECTION B-B

GST 6218
GEOMATRIX GST™ LEACHING SYSTEM
TYPICAL DETAILS FOR VEHICULAR LOADING INSTALLATIONS

NOT TO SCALE

NOTES:

1. GEOMATRIX LEACHING SYSTEM INSTALLATION FOR AASHTO H-20 WHEEL LOADING CONDITION.
2. CRUSHED STONE FILL MATERIAL LAYER ABOVE THE LEACHING SYSTEM SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 1 1/2 INCHES AND A FINE PARTICLE FRACTION PASSING THE #200 SIEVE OF LESS THAN 10% BY WEIGHT.
3. INSTALL THE GEOMATRIX LEACHING SYSTEM IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.



ELEVATION

INSPECTION PORT DETAIL
GEOMATRIX GST™ LEACHING SYSTEM

NOT TO SCALE

NOTES:

1. INSPECTION PORT PIPE MATERIAL: 4" DIA. SOLID WALL SCH. 40 PVC ASTM D1785.
2. PVC THREADED PLUG WITH IDENTIFICATION PLACARD AND PVC TEE WITH DRAIN GRATES SUPPLIED BY THE LEACHING SYSTEM MANUFACTURER.
3. INSTALL INSPECTION PORT IN ACCORDANCE WITH THE LEACHING SYSTEM MANUFACTURERS INSTRUCTIONS.

DESIGN BASIS

BUILDING 1 WEST

1. DESIGN WASTEWATER FLOW:
   OFFICE/INDUSTRIAL USE
   0.1 GAL/DAY PER SF X 28,000 SF = 2,800 GAL/DAY
2. SEPTIC TANK VOLUME PROVIDED: 3,000 GAL
3. DESIGN PERCOLATION RATE: <10.1 MIN/IN
4. WASTEWATER APPLICATION RATE: 0.8 GAL/DAY/SF
5. EFFECTIVE LEACHING AREA REQUIRED:
   2,800 GAL/DAY X 1 SF/0.8 GAL/DAY = 3,500 SF
6. EFFECTIVE LEACHING AREA PROVIDED:
   2(64 + 64) LF GEOMATRIX GST 6218 X 14.0 SF/LF = 3,584 SF

SUBSURFACE SEWAGE DISPOSAL SYSTEM ELEVATIONS

BUILDING 1 WEST

BUILDING SEWER INVERT AT EXTERIOR FACE OF FOUNDATION WALL	33.50
SEPTIC TANK	
INLET INVERT	33.25
OUTLET INVERT	33.00
DISTRIBUTION BOX	
INLET INVERT	32.83
OUTLET INVERT	32.75
TOP LEACHING SYSTEM	32.67
BOTTOM LEACHING SYSTEM TRENCH	31.00

DESIGN BASIS

BUILDING 2 EAST

1. DESIGN WASTEWATER FLOW:
   OFFICE/INDUSTRIAL USE
   0.1 GAL/DAY PER SF X 22,480 SF = 2,248 GAL/DAY
2. SEPTIC TANK VOLUME PROVIDED: 2,500 GAL
3. DESIGN PERCOLATION RATE: <10.1 MIN/IN
4. WASTEWATER APPLICATION RATE: 0.8 GAL/DAY/SF
5. EFFECTIVE LEACHING AREA REQUIRED:
   2,248 GAL/DAY X 1 SF/0.8 GAL/DAY = 2,810 SF
6. EFFECTIVE LEACHING AREA PROVIDED:
   2(52 + 52) LF GEOMATRIX GST 6218 X 14.0 SF/LF = 2,912 SF

SUBSURFACE SEWAGE DISPOSAL SYSTEM ELEVATIONS

BUILDING 2 EAST

BUILDING SEWER INVERT AT EXTERIOR FACE OF FOUNDATION WALL	33.50
SEPTIC TANK	
INLET INVERT	33.25
OUTLET INVERT	33.00
DISTRIBUTION BOX	
INLET INVERT	32.83
OUTLET INVERT	32.75
TOP LEACHING SYSTEM	32.67
BOTTOM LEACHING SYSTEM TRENCH	31.00

TEST PIT LOGS

TEST PITS 1-7 LOGGED BY DOANE ENGINEERING COMPANY ON 1-9-19
TEST PITS 8-11 LOGGED BY DONALD MITCHELL, R.S. OF THE TOWN OF ESSEX HEALTH DEPARTMENT ON 1-15-20
TEST PITS 12-16 LOGGED BY R. RICHARD SNARSKI, CPSS OF NEW ENGLAND ENVIRONMENTAL SERVICES ON 1-15-20

TH 1 (MP SET)

0" - 9" TOPSOIL
9" - 27" SILTY, FINE/MEDIUM SAND SUBSOIL
27" - 80" BROWN, MEDIUM SAND WITH POCKETS OF MEDIUM GRAY SAND
NO LEDGE OBSERVED
GROUNDWATER OBSERVED AT 68"
MOTTLING OBSERVED AT 58" (FAINT)

TH 2 (MP SET)

0" - 11" TOPSOIL
11" - 37" FINE/MEDIUM, SAND SUBSOIL
37" - 89" GRAY/BROWN, MEDIUM SAND
NO LEDGE OBSERVED
GROUNDWATER OBSERVED AT 84"
MOTTLING OBSERVED AT 60"

TH 3

0" - 11" TOPSOIL
11" - 32" FINE, SILTY SAND SUBSOIL
32" - 50" BROWN, MEDIUM SAND, TRACE SILT (WEST SIDE)
32" - 60" BROWN, MEDIUM SAND, TRACE SILT (EAST SIDE)
LEDGE OBSERVED AT 50" WEST SIDE
60" EAST SIDE
NO GROUNDWATER OBSERVED
NO MOTTLING OBSERVED

TH 4 (MP SET)

0" - 10" TOPSOIL
10" - 34" FINE, SILTY SAND SUBSOIL
34" - 90" TAN MEDIUM SAND
NO LEDGE OBSERVED
GROUNDWATER OBSERVED AT 66"
NO MOTTLING OBSERVED

TH 5 (MP SET)

0" - 10" TOPSOIL
10" - 42" FINE, SILTY, SAND SUBSOIL
42" - 96" TAN/BROWN, MEDIUM SAND
NO LEDGE OBSERVED
GROUNDWATER OBSERVED AT 60"
(DISCOLORED GROUNDWATER)
NO MOTTLING OBSERVED

TH 6 (MP SET)

0" - 10" TOPSOIL
10" - 30" FINE, SANDY SUBSOIL
30" - 50" TAN, MEDIUM SAND
50" - 87" GRAY SAND, LENS OF SILTY SAND AT 50" MOIST
NO LEDGE OBSERVED
GROUNDWATER OBSERVED AT 80"
MOTTLING OBSERVED AT 50"

TH 7 (MP SET)

0" - 11" TOPSOIL
11" - 40" FINE, SILTY SAND SUBSOIL
40" - 88" GRAY MEDIUM SAND
NO LEDGE OBSERVED
GROUNDWATER OBSERVED AT 77"
MOTTLING OBSERVED AT 40"

TH 8

0" - 8" TOPSOIL
8" - 26" DARK YELLOW BROWN LOAM FINE SAND (LOOSE)
26" - 63" TAN TO GREY FINE TO MEDIUM SAND (LOOSE)
63" - 96" GRAY FINE SAND (DAMP)
ROOTS OBSERVED TO 40"
NO LEDGE OBSERVED
RESTRICTIVE LAYER OBSERVED AT 64"
GROUNDWATER OBSERVED AT 84"
POSSIBLE MOTTLING OBSERVED AT 64"
DEFINITE MOTTLING OBSERVED AT 78"

TH 9

0" - 8" TOPSOIL
8" - 33" DARK YELLOW BROWN FINE LOAMY SAND (LOOSE)
33" - 68" TAN TO GREY FINE LOAMY SAND (LOOSE), VARIES-SOME MEDIUM SAND
68" - 93" GREY FINE SAND (DAMP)
ROOTS OBSERVED TO 43"
NO LEDGE OBSERVED
RESTRICTIVE LAYER (IRON STAIN) AT 36"
GROUNDWATER OBSERVED AT 87"
POSSIBLE MOTTLING OBSERVED AT 57"
DEFINITE MOTTLING OBSERVED AT 77"

TH 10

0" - 10" TOPSOIL
10" - 23" DARK YELLOW BROWN FINE LOAMY SAND
23" - 69" TAN TO GREY FINE LOAMY SAND (LOOSE), VARIES-SOME MEDIUM SAND
69" - 108" GREY FINE SAND (WET)
ROOTS OBSERVED TO 40"
NO LEDGE OBSERVED
GROUNDWATER OBSERVED AT 87
POSSIBLE MOTTLING OBSERVED AT 52"
DEFINITE MOTTLING OBSERVED AT 72"

TH 11

0" - 9" TOPSOIL
9" - 28" DARK YELLOW BROWN FINE LOAMY SAND
28" - 108" GREY LOAMY FINE SAND (STRATIFIED-BETWEEN MEDIUM AND FINE)
ROOTS OBSERVED TO 45"
NO LEDGE OBSERVED
GROUNDWATER (SEEPAGE) OBSERVED AT 94"
POSSIBLE MOTTLING OBSERVED AT 57"
DEFINITE MOTTLING OBSERVED AT 76"

TH 12

0" - 13" TOPSOIL
13" - 34" DARK YELLOWISH BROWN FINE SANDY LOAM
34" - 63" OLIVE FINE LOAMY SAND
WATER OBSERVED AT 53"
MOTTLING OBSERVED AT 37"
PERMEABILITY SAMPLE AT 29"

TH 13

0" - 9" TOPSOIL
9" - 34" DARK YELLOWISH BROWN FINE SANDY LOAM
34" - 83" OLIVE FINE LOAM SAND
NO WATER OBSERVED
POSSIBLE MOTTLING OBSERVED AT 63"
PERMEABILITY SAMPLES AT 19" & 43"

TH 14

0" - 4" TOPSOIL
4" - 23" DARK YELLOWISH BROWN, FINE SANDY LOAM
23" - 63" OLIVE FINE SAND
NO WATER OBSERVEDZ
MOTTLING OBSERVED AT 33"
PERMEABILITY SAMPLE AT 20"

TH 15

0" - 9" TOPSOIL
9" - 23" DARK YELLOWISH BROWN FINE SANDY LOAM
23" - 43" OLIVE FINE SANDY LOAM
LEDGE OBSERVED AT 43"
MOTTLING OBSERVED AT 33"

TH 16

0" - 12" TOPSOIL (FILL)
12" - 16" NATURAL TOPSOIL
16" - 44" DARK YELLOWISH BROWN FINE SANDY LOAM
44" - 57" OLIVE FINE LOAMY SAND
WATER OBSERVED AT 51"
MOTTLING OBSERVED AT 36"
PERMEABILITY SAMPLE AT 25"

SUBSURFACE SEWAGE DISPOSAL SYSTEM NOTES:

1. THE SUBSURFACE SEWAGE DISPOSAL SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES CONNECTICUT PUBLIC HEALTH CODE SECTIONS 19-13-B103a THROUGH 19-13-B103f AND THE "CONNECTICUT PUBLIC HEALTH CODE ON-SITE SEWAGE DISPOSAL REGULATIONS AND TECHNICAL STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS" (TECHNICAL STANDARDS), LATEST REVISION. THE SUBSURFACE SEWAGE DISPOSAL SYSTEM SHALL REQUIRE APPROVALS FROM THE TOWN OF ESSEX HEALTH DEPARTMENT AND THE STATE OF CONNECTICUT PUBLIC HEALTH DEPARTMENT.
2. WITH RESPECT TO THE REQUIREMENTS OF THE TECHNICAL STANDARDS, THERE ARE NO KNOWN CONFLICTS WITH THE DESIGN OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEMS.
3. NO DEVIATION FROM THE DRAWINGS OR SPECIFICATIONS SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE TOWN OF ESSEX HEALTH DEPARTMENT AND THE ENGINEER.
4. CONTACT THE TOWN OF ESSEX HEALTH DEPARTMENT PRIOR TO THE START OF WORK TO OBTAIN AN APPROVAL TO CONSTRUCT FOR THE SUBSURFACE SEWAGE DISPOSAL SYSTEMS AND TO ARRANGE FOR A SCHEDULE OF INSPECTIONS DURING THE PROGRESS OF THE WORK.
5. CONTACT THE ENGINEER PRIOR TO THE START OF WORK TO SCHEDULE THE CONSTRUCTION STAKING OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEMS.
6. NOTIFY THE TOWN OF ESSEX HEALTH DEPARTMENT AND THE ENGINEER A MINIMUM OF 48 HOURS IN ADVANCE OF THE START OF WORK AND IN ADVANCE OF ALL REQUIRED INSPECTIONS.
7. NOTIFY THE TOWN OF ESSEX HEALTH DEPARTMENT AND THE ENGINEER SHOULD SOIL OR GROUNDWATER CONDITIONS BE ENCOUNTERED THAT DIFFER FROM THOSE INDICATED IN THE TEST PIT LOGS PROVIDED ON THE DRAWINGS.
8. THE SUBSURFACE SEWAGE DISPOSAL SYSTEMS HAVE NOT BEEN DESIGNED TO ACCOMMODATE THE INSTALLATION OF GARBAGE GRINDERS WITHIN THE BUILDINGS SERVED.
9. WHERE LEACHNG FIELDS OR PORTIONS OF LEACHING FIELDS ARE SHOWN TO BE CONSTRUCTED IN SELECT FILL, WITHIN THE LEACHING FIELD AREAS, REMOVE TOPSOIL AND UNSUITABLE SOILS WITHIN THE HORIZONTAL LIMITS AND TO THE SELECT FILL SUBGRADE ELEVATION SHOWN ON THE DRAWINGS. DO NOT ALLOW RUBBER TIRED EQUIPMENT OR VEHICLES ON THE LEACHING FIELD SUBGRADE SOIL AREA ONCE TOPSOIL AND UNSUITABLE SOILS HAVE BEEN REMOVED. SCARIFY THE SUBGRADE SOIL AREA TO A DEPTH ADEQUATE TO REMOVE SOIL COMPACTION THAT MAY HAVE OCCURRED DURING TOPSOIL AND UNSUITABLE SOILS REMOVAL OPERATIONS.
10. PLACE SELECT FILL IN A MANNER THAT PREVENTS OVER COMPACTION OF THE LEACHING FIELD SUBGRADE SOIL AREA. PLACE SELECT FILL BY PUSHING THE MATERIAL IN FROM THE PERIMETER OF THE AREA USING TRACK MOUNTED EQUIPMENT, MAINTAINING AT LEAST TWELVE (12) INCHES OF SELECT FILL UNDER THE EQUIPMENT TRACKS AT ALL TIMES. PLACE SELECT FILL IN LAYERS NOT EXCEEDING TWELEVE (12) INCHES IN DEPTH (LOOSE LAYER THICKNESS). COMPACT EACH LAYER OF SELECT FILL WITH SUITABLE EQUIPMENT CAPABLE OF ACHIEVING A DRY DENISTY OF 90 PERCENT OF THE MAXIMUM DRY DENSITY FOR THE MATERIAL AS DETERMINED BY COMPACTION TESTING CONFORMING TO ASTM D1557, METHOD C.
11. PREVENT SEDIMENT FROM ENTERING THE LEACHING FIELD AREAS DURING THE CONSTRUCTION PERIOD THROUGH THE USE OF TEMPORARY EARTH BERMS AND/OR OTHER EROSION AND SEDIMENT CONTROL MEASURES.
12. CONTACT THE ENGINEER PRIOR TO COVERING THE SUBSURFACE SEWAGE DISPOSAL SYSTEMS TO SCHEDULE THE RECORD FIELD SURVEY OF THE SYSTEMS.
13. THE COMPLETED SUBSURFACE SEWAGE DISPOSAL SYSTEMS SHALL BE COVERED AS SOON AS IS PRACTICABLE FOLLOWING THE FINAL INSPECTION BY THE TOWN OF ESSEX HEALTH DEPARTMENT AND THE ENGINEER.
14. THE SUBGRADE OF DISTURBED GROUND SURFACES NOT NOTED TO BE SURFACED OTHERWISE SHALL RECEIVE A SIX INCH THICKNESS OF TOPSOIL UPON WHICH TURF SHALL BE ESTABLISHED.
15. A RECORD DRAWING OF THE COMPLETED SUBSURFACE SEWAGE DISPOSAL SYSTEMS PREPARED BY THE ENGINEER SHALL BE SUBMITTED TO THE TOWN OF ESSEX HEALTH DEPARTMENT PRIOR TO THE ISSUANCE OF A PERMIT TO DISCHARGE WASTEWATER TO THE SUBSURFACE SEWAGE DISPOSAL SYSTEMS.

MATERIAL REQUIREMENTS:

1. PRECAST CONCRETE PRODUCTS:

PRECAST CONCRETE PRODUCTS SHALL MEET THE REQUIREMENTS OF THE TECHNICAL STANDARDS AND:

SEPTIC TANKS, GREASE INTERCEPTOR TANKS, AND PUMP CHAMBERS: ASTM C1227 STANDARD SPECIFICATION FOR CONCRETE SEPTIC TANKS. SEALS AT PIPE AND CONDUIT PENETRATIONS SHALL BE WATERTIGHT TYPE MEETING THE REQUIREMENTS OF ASTM C1644 STANDARD SPECIFICATION FOR RESILIENT CONNECTORS BETWEEN REINFORCED CONCRETE ON-SITE WASTEWATER TANKS AND PIPE.

LEACHING CHAMBERS: ASTM C913 STANDARD SPECIFICATION FOR PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES.

2. POLYVINYL CHLORIDE (PVC) PIPE:

BUILDING SEWER AND FORCE MAIN PIPE: ASTM D1785 STANDARD SPECIFICATION FOR POLY(VINYL CHLORIDE) (PVC) SCHEDULES 40, 80, AND 120, SOLID WALL, WITH SOLVENT WELD FITTINGS AND JOINTS.

EFFLUENT SEWER AND DISTRIBUTION PIPE: ASTM D3034 STANDARD SPECIFICATION FOR TYPE PSM POLY(VINYL CHLORIDE) (PVC) SEWER PIPE AND FITTINGS, STANDARD DIMENSION RATIO 35, SOLID WALL, WITH BELL AND SPIGOT RUBBER COMPRESSION GASKET FITTINGS AND JOINTS MEETING THE REQUIREMENTS OF ASTM D3212 STANDARD SPECIFICATION FOR JOINTS FOR DRAIN AND SEWER PLASTIC PIPES USING FLEXIBLE ELASTOMERIC SEALS, OR SOLVENT WELD FITTINGS AND JOINTS, AND PERFORATED WITH BELL AND SPIGOT JOINTS.

3. GEOTEXTILES:

NON WOVEN SEPARATION/FILTRATION FABRIC COMPRISED OF PERVIOUS SHEETS OF POLYESTER, POLYPROPYLENE, OR POLYETHYLENE FABRICATED INTO A STABLE NETWORK OF FIBERS THAT RETAIN THEIR RELATIVE POSITION WITH RESPECT TO EACH OTHER. NONWOVEN GEOTEXTILE SHALL BE COMPOSED OF CONTINUOUS OR DISCONTINUOUS (STAPLE) FIBERS HELD TOGETHER THROUGH NEEDLE-PUNCHING, SPUN-BONDING, THERMAL-BONDING, OR RESIN-BONDING.

GEOTEXTILE EDGES: SELVAGED OR OTHERWISE FINISHED TO PREVENT OUTER MATERIAL FROM PULLING AWAY FROM GEOTEXTILE.

MINIMUM AVERAGE ROLL VALUES:

PROPERTY	DESIGN VALUE	TEST METHOD
TENSILE STRENGTH	120 LBS	ASTM D4632
ELONGATION	50%	ASTM D4632
TRAPEZOIDAL TEAR	50 LBS	ASTM D4533
MULLEN BURST STRENGTH	225 PSI	ASTM D3786
PUNCTURE STRENGTH	65 LBS	ASTM D4833
A.O.S.	70 (US SIEVE)	ASTM D4751
PERMITTIVITY	1.8 SEC-1	ASTM D4491

ACCEPTABLE MANUFACTURERS AND TYPES:

MIRAFI 65303, 65304
TERRATEX SO1.5, PO1.5
TYPAR 3151, 3201

4. STONE AGGREGATE:

CLEAN, WASHED CRUSHED OR BROKEN STONE OF THE SIZES SHOWN ON THE DRAWINGS MEETING THE GRADATION REQUIREMENTS OF SECTION M.01 AND THE REQUIREMENTS OF SECTION M.02.06 3. AND 4. REGARDING RESISTANCE TO ABRASION AND SOUNDNESS RESPECTIVELY OF THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES AND INCIDENTAL CONSTRUCTION, FORM 817, 2016, LATEST REVISION, INCLUDING ALL SUPPLEMENTS THERETO.

5. SAND:

CLEAN SAND MEETING THE PARTICLE SIZE GRADATION REQUIREMENTS OF ASTM C33 STANDARD SPECIFICATION FOR CONCRETE AGGREGATES:

SIEVE SIZE	PERCENT PASSING
3/8"	100
#4	95 - 100
#8	80 - 100
#16	50 - 85
#30	25 - 60
#50	5 - 30
#100	0 - 10
#200	0 - 5

6. SELECT FILL:

CLEAN, SAND OR SAND AND GRAVEL MATERIAL FREE FROM DEBRIS, ICE, SNOW, FROZEN LUMPS, VEGETATION, STUMPS, ROOTS, OR OTHER ORGANIC MATERIALS, CONTAINING NO MATERIAL LARGER THAN THE THREE (3) INCH SIEVE, AND MEETING THE FOLLOWING PARTICLE SIZE GRADATION CRITERIA:

SIEVE SIZE	PERCENT PASSING	
	WET SIEVE	DRY SIEVE
#4	100	100
#10	70 - 100	70 - 100
#40	* 10 - 50	10 - 75
#100	0 - 20	0 - 5
#200	0 - 5	0 - 2.5

* THE CRITERIA FOR THE PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THAN SEVENTY-FIVE (75) PERCENT IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED TEN (10) PERCENT AND THE PERCENT PASSING THE #200 SIEVE DOES NOT EXCEED FIVE (5) PERCENT.

7. COMMON FILL:

CLEAN, FRIABLE, NON-PLASTIC IN-ORGANIC SOIL MATERIAL CONTAINING NO STONE GREATER THAN TWO THIRDS (2/3) OF THE REQUIRED LOOSE LIFT THICKNESS. THE MATERIAL SHALL BE FREE FROM DEBRIS, ICE, SNOW, FROZEN LUMPS, VEGETATION, STUMPS, ROOTS, OR OTHER ORGANIC MATERIALS.

REVISIONS:

NO.	DATE	DESCRIPTION
4	11-29-21	REVIEW COMMENTS
3	11-1-21	REVIEW COMMENTS
2	9-13-21	REVIEW COMMENTS
1	8-15-21	MISCELLANEOUS

REVISIONS

TITLE:

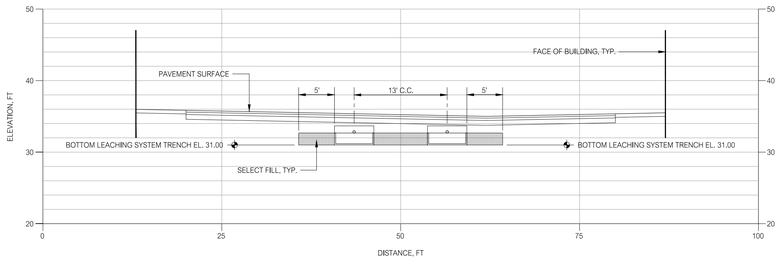
LAND
OF
GEORGE C. FIELD COMPANY, INC.
BOKUM ROAD
ESSEX, CONNECTICUT

SEAL:

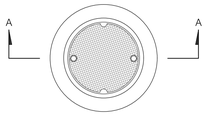
PREPARED BY:
Summer Hill
Civil Engineers & Land Surveyors, P.C.
60 Wall Street
P.O. Box 708
Madison, Connecticut 06443-0708
Telephone: (203) 245-0722

PROJECT:
BOKUM ROAD BUSINESS PARK
BOKUM ROAD
ESSEX, CONNECTICUT

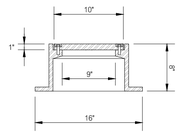
DATE: 7-1-21	SHEET: DETAILS		SHEET NO.: C3.2
SCALE: AS NOTED			
DESIGNED: MJO			
CHECKED: LJM	FIELD BOOK: -	PROJECT NO.: 20-50	



TYPICAL LEACHING FIELD SECTION X-X
SCALE: 1"=10'



PLAN

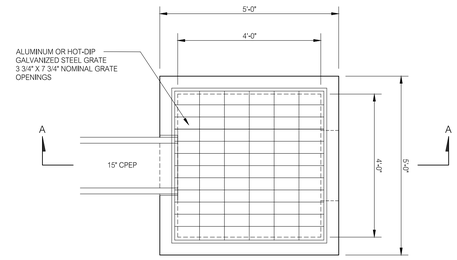


SECTION A-A

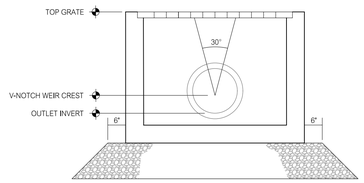
ACCESS FRAME AND COVER
NOT TO SCALE

NOTE:

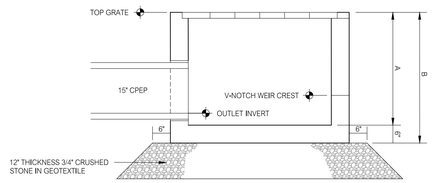
HEAVY DUTY, BOLTED COVER ACCESS FRAME AND COVER- PATTERN NUMBER 4155, CAMPBELL FOUNDRY COMPANY, NORTH HAVEN, CONNECTICUT OR APPROVED EQUAL.



PLAN



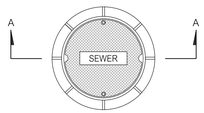
FRONT ELEVATION



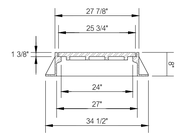
SECTION A-A

PRECAST CONCRETE OUTLET CONTROL STRUCTURE
NOT TO SCALE

OUTLET CONTROL STRUCTURE ELEVATIONS AND DIMENSIONS					
STRUCTURE	V-NOTCH WEIR CREST	OUTLET INVERT	TOP GRATE	A	B
OCS 1	30.50	30.00	32.83	3.17	3.67
OCS 2	23.00	22.50	24.50	2.33	2.83



PLAN

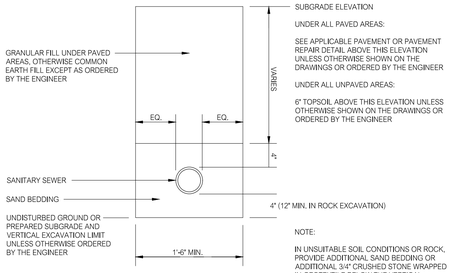


SECTION A-A

MANHOLE FRAME AND COVER
NOT TO SCALE

NOTES:

1. HEAVY DUTY, WATERTIGHT, BOLTED COVER MANHOLE FRAME AND COVER- PATTERN NUMBER 1009 4682, CAMPBELL FOUNDRY COMPANY, NORTH HAVEN, CONNECTICUT OR APPROVED EQUAL.
2. THE DESIGNATION "SEWER" SHALL BE CAST IN THE MANHOLE COVER.



SECTION

SANITARY SEWER TRENCH
NOT TO SCALE

SUBGRADE ELEVATION

UNDER ALL PAVED AREAS:

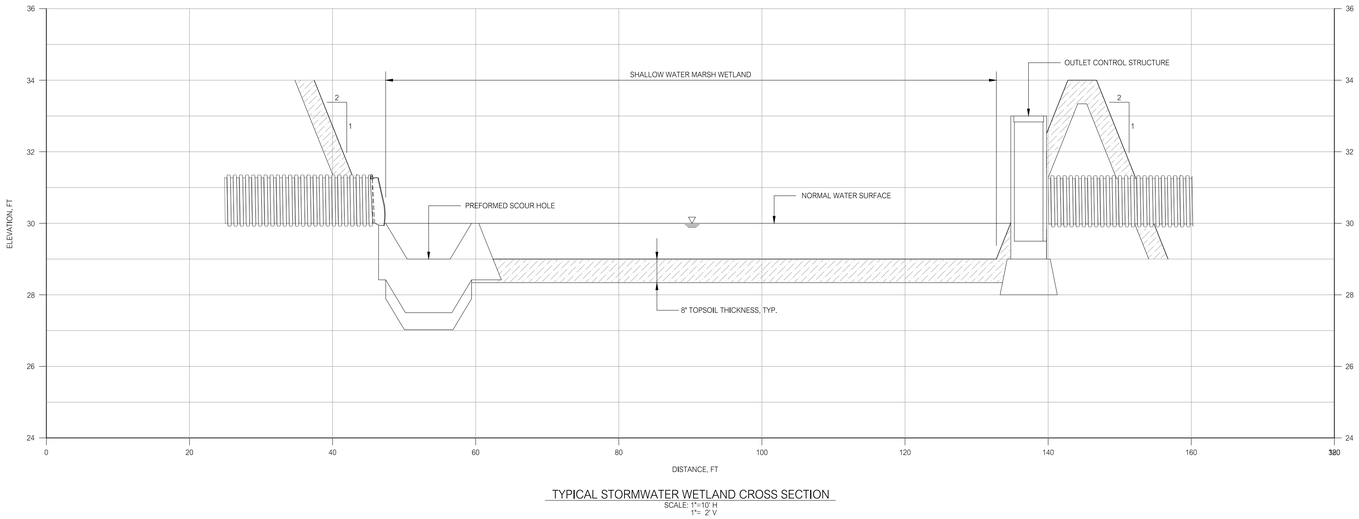
SEE APPLICABLE PAVEMENT OR PAVEMENT REPAIR DETAIL ABOVE THIS ELEVATION UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR ORDERED BY THE ENGINEER

UNDER ALL UNPAVED AREAS:

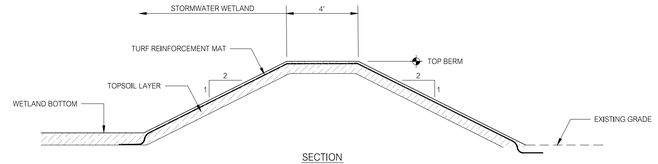
6" TOPSOIL ABOVE THIS ELEVATION UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR ORDERED BY THE ENGINEER

NOTE:

IN UNSUITABLE SOIL CONDITIONS OR ROCK, PROVIDE ADDITIONAL SAND BEDDING OR ADDITIONAL 3/4" CRUSHED STONE WRAPPED IN GEOTEXTILE BELOW THE VERTICAL EXCAVATION LIMIT.



TYPICAL STORMWATER WETLAND CROSS SECTION
SCALE: 1"=10' H
1"= 2' V



SECTION

TYPICAL STORMWATER WETLAND BERM
NOT TO SCALE

SECTION

STORMWATER WETLAND EMERGENCY SPILLWAY CHANNEL
NOT TO SCALE

STORMWATER WETLAND CONSTRUCTION NOTES:

1. THE CONSTRUCTION OF THE STORMWATER WETLANDS SHALL BE OVERSEEN BY A PROFESSIONAL WETLAND SCIENTIST.
2. THE STORMWATER WETLAND BOTTOM ELEVATIONS MAY BE LOWERED AS DETERMINED BY THE PROFESSIONAL WETLAND SCIENTIST BASED ON FIELD CONDITIONS.
3. THE INSTALLATION OF ALL PLANT MATERIAL INCLUDING THE PLANTING LOCATIONS SHALL BE DETERMINED BY THE PROFESSIONAL WETLAND SCIENTIST.
4. PERMANENT SEEDING SHALL BE ACCOMPLISHED BETWEEN APRIL 15 AND JUNE 15 OR AUGUST 15 AND SEPTEMBER 15 UNLESS A TEMPORARY WATERING PLAN IS SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE PROFESSIONAL WETLAND SCIENTIST.
5. SHOULD PERMANENT SEEDING NOT BE ACCOMPLISHED WITHIN THE DATES SPECIFIED ABOVE, ALL DISTURBED AREAS SHALL BE SEEDED WITH THE TEMPORARY SEED MIXTURE SPECIFIED ON THIS SHEET AND TEMPORARY STRAW MULCH SHALL BE INSTALLED AT A RATE OF 90 POUNDS PER 1,000 SQUARE FEET OVER ALL TEMPORARY SEEDED AREAS.
6. PERMANENT SEED MIXTURE SHALL BE AS SPECIFIED BELOW.
7. THE STORMWATER WETLANDS SHALL BE PLANTED IN ACCORDANCE WITH THE WETLAND PLANTING SCHEDULES BELOW. THE INTERIOR SLOPES OF THE STORMWATER WETLANDS SHALL BE OVERSEEDED WITH A SEED MIXTURE CONTAINING SPECIES NATIVE TO NEW ENGLAND SUCH AS THE NEW ENGLAND CONSERVATION/WILDLIFE SEED MIXTURE PROVIDED BY NEW ENGLAND WETLAND PLANTS, INC., AMHERST, MASSACHUSETTS, OR A SEED MIXTURE APPROVED BY THE PROFESSIONAL WETLAND SCIENTIST.
8. THE EXTERIOR SLOPES OF THE STORMWATER WETLANDS SHALL BE PLANTED IN ACCORDANCE WITH THE SHRUB PLANTING SCHEDULE BELOW. THE PLANT MATERIAL QUANTITIES SHALL BE AS SPECIFIED BY THE PROFESSIONAL WETLAND SCIENTIST.

TEMPORARY SEED MIXTURE

	POUNDS PER ACRE	POUNDS PER 1,000 SQUARE FEET
ANNUAL RYEGRASS OR	40	1.00
PERRENIAL RYEGRASS OR	40	1.00
WINTER RYE	120	3.00

PERMANENT SEED MIXTURE

	POUNDS PER ACRE	POUNDS PER 1,000 SQUARE FEET
CREEEPING RED FESCUE	20	0.45
REDTOP	2	0.05
TALL FESCUE OR SMOOTH BROMEGRASS	40	0.45
	TOTAL 42	0.95

WETLAND PLANT LIST STORMWATER WETLAND 1			
SYMBOL	QUANTITY	COMMON NAME	BOTANICAL NAME
SA	250	AMERICAN BURREED	Sparganium americanum
SL	100	ARROWHEAD	Sagittaria latifolia
PC	250	PICKERELWEED	Pondederia cordota
SV	50	SOFT STEM BULRUSH	Scirpus validus

WETLAND PLANT LIST STORMWATER WETLAND 2			
SYMBOL	QUANTITY	COMMON NAME	BOTANICAL NAME
SA	550	AMERICAN BURREED	Sparganium americanum
SL	250	ARROWHEAD	Sagittaria latifolia
PC	550	PICKERELWEED	Pondederia cordota
SV	150	SOFT STEM BULRUSH	Scirpus validus

STORMWATER WETLAND EXTERIOR SLOPE SHRUB PLANT LIST				
SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE
CS	TBD	RED OSIER DOGWOOD	Cornus sericea	4 FT
IV	TBD	WINTERBERRY	Ilex verticillatta	4 FT
AC	TBD	SHADBLOW SERVICEBERRY	Amelanchier canadensis	4 FT

REVISIONS:

NO.	DATE	DESCRIPTION
1	11-29-21	REVIEW COMMENTS
1	11-1-21	REVIEW COMMENTS
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REVISIONS

TITLE:

LAND
OF
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BOKUM ROAD
ESSEX, CONNECTICUT

SEAL:

PREPARED BY:

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Civil Engineers & Land Surveyors, P.C.
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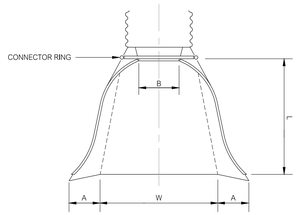
Telephone: (203) 245-0722

PROJECT:

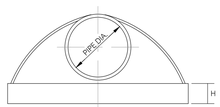
BOKUM ROAD BUSINESS PARK
BOKUM ROAD
ESSEX, CONNECTICUT

DATE: 7-1-21
SCALE: AS NOTED
DESIGNED: MJO
CHECKED: LJM
SHEET: DETAILS
FIELD BOOK: -
PROJECT NO.: 20-50
SHEET NO.: C3.3

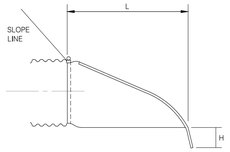


PLAN

DIMENSIONS FOR METAL CULVERT END						
PIPE DIA.	A MAX.	B MAX.	H ± 1"	L ± 1 1/2"	W ± 2"	THICKNESS (INCHES)
12	6	6	6	21	24	.064
15	7	8	6	26	30	.064
18	8	10	6	31	36	.064
21	9	12	6	36	42	.064
24	10	13	6	41	48	.064
30	12	16	8	51	60	.079
36	14	19	9	60	72	.079

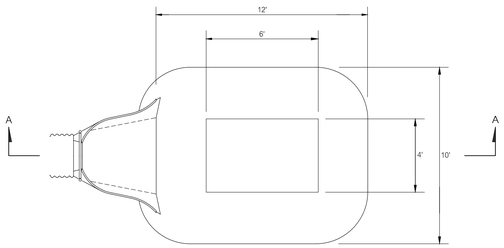


END VIEW

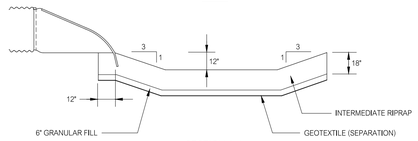


SIDE VIEW

METAL CULVERT END
NOT TO SCALE



PLAN



SECTION A-A

PREFORMED SCOUR HOLE
NOT TO SCALE

S_p = { MAX. INSIDE PIPE SPAN (NON-CIRCULAR SECTIONS) / INSIDE PIPE DIAMETER (CIRCULAR SECTIONS)

R_p = { MAX. INSIDE PIPE RISE (NON-CIRCULAR SECTIONS) / INSIDE PIPE DIAMETER (CIRCULAR SECTIONS)

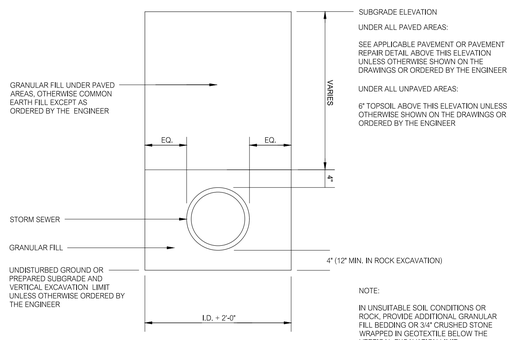
D = { 12 IN. MODIFIED RIPRAP / 18 IN. INTERMEDIATE RIPRAP / 36 IN. STANDARD RIPRAP

TYPE 1 $F = 0.5\ R_p$

TYPE 2 $F = R_p$

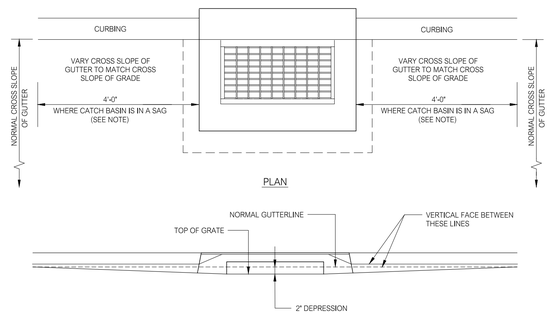
$C = 3S_p + 6F$

$B = 2S_p + 6F$



SECTION

STORM SEWER TRENCH
NOT TO SCALE



PLAN

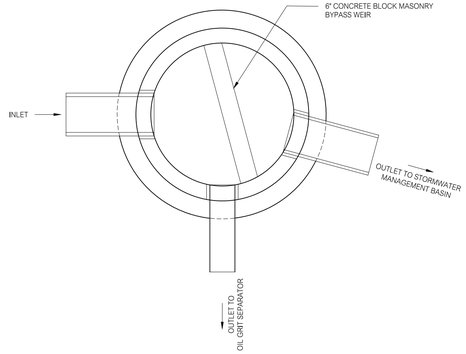
FOR CATCH BASINS AND DROP INLETS IN A LINE OF 6" BITUMINOUS CONCRETE LIP CURBING

PROFILE

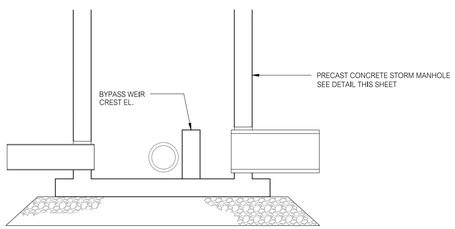
DETAILS OF DEPRESSED GUTTER STRIP
NOT TO SCALE

NOTE:

6'-0" ON UPGRADE SIDE OF CONTINUOUS GRADE, 1'-0" ON DOWNGRADE SIDE OF CONTINUOUS GRADE OR AS DIRECTED.

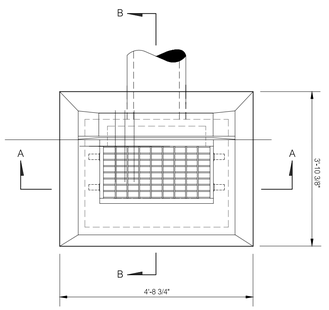


PLAN

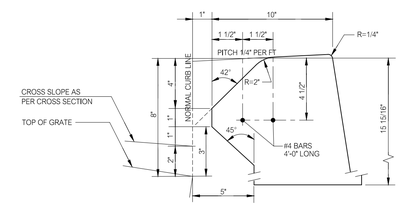


VERTICAL SECTION

FLOW DIVERSION MANHOLE
NOT TO SCALE

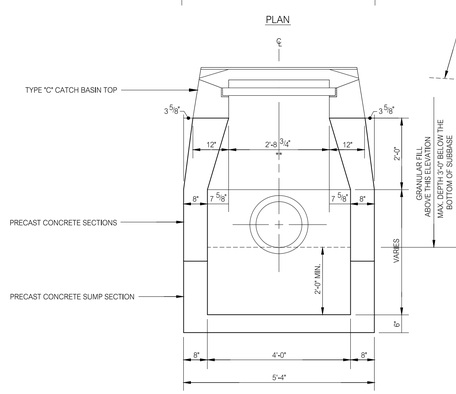


PLAN

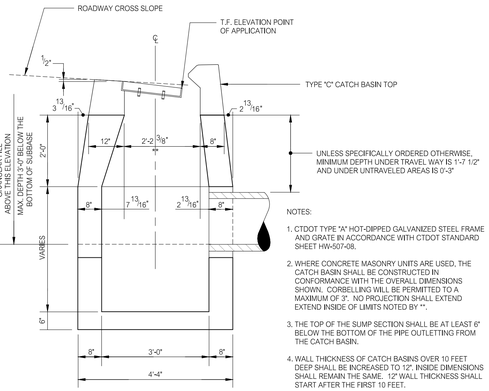


TO BE USED WHEN CURB INLET IS CONSTRUCTED IN A LINE OF BITUMINOUS CONCRETE CURBING 6" HIGH

CURB INLET DETAIL



SECTION A-A



SECTION B-B

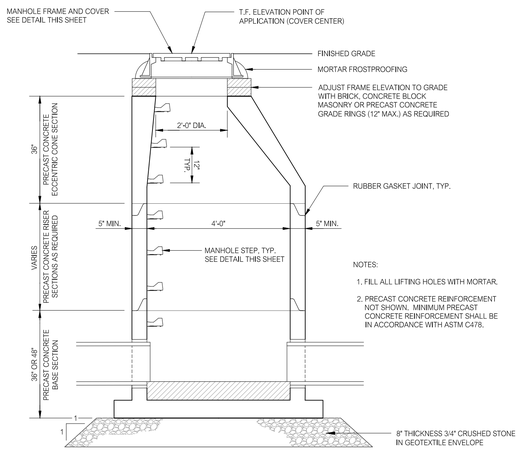
UNLESS SPECIFICALLY ORDERED OTHERWISE, MINIMUM DEPTH UNDER TRAVEL WAY IS 1'-7 1/2" AND UNDER UNTRAVELED AREAS IS 0'-3"

NOTES:

1. CTDOT TYPE "A" HOT-DIPPED GALVANIZED STEEL FRAME AND GRATE IN ACCORDANCE WITH CTDOT STANDARD SHEET HW-507-08.
2. WHERE CONCRETE MASONRY UNITS ARE USED, THE CATCH BASIN SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE OVERALL DIMENSIONS SHOWN. CORBELLING WILL BE PERMITTED TO A MAXIMUM OF 3". NO PROJECTION SHALL EXTEND EXTEND INSIDE OF LIMITS NOTED BY **.
3. THE TOP OF THE SUMP SECTION SHALL BE AT LEAST 6" BELOW THE BOTTOM OF THE PIPE OUTLETTING FROM THE CATCH BASIN.
4. WALL THICKNESS OF CATCH BASINS OVER 10 FEET DEEP SHALL BE INCREASED TO 12". INSIDE DIMENSIONS SHALL REMAIN THE SAME. 12" WALL THICKNESS SHALL START AFTER THE FIRST 10 FEET.
5. TO CONVEY SUBSURFACE DRAINAGE, OPENINGS SHALL BE FORMED IN ALL FOUR WALLS AT OR IMMEDIATELY ABOVE THE BOTTOM OF THE PERVIOUS BACKFILL.

TYPE "C" CATCH BASIN
NOT TO SCALE

PLAN

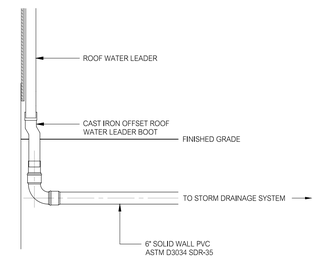


NOTES:

1. FILL ALL LIFTING HOLES WITH MORTAR.
2. PRECAST CONCRETE REINFORCEMENT NOT SHOWN. MINIMUM PRECAST CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH ASTM C478.

VERTICAL SECTION

PRECAST CONCRETE STORM MANHOLE
NOT TO SCALE



SECTION

BUILDING ROOF WATER LEADER CONNECTION
NOT TO SCALE

REVISIONS:		
5	11-29-21	REVIEW COMMENTS
4	11-1-21	REVIEW COMMENTS
3	9-13-21	REVIEW COMMENTS
2	8-15-21	MISCELLANEOUS
NO.	DATE	DESCRIPTION

REVISIONS

TITLE:

LAND
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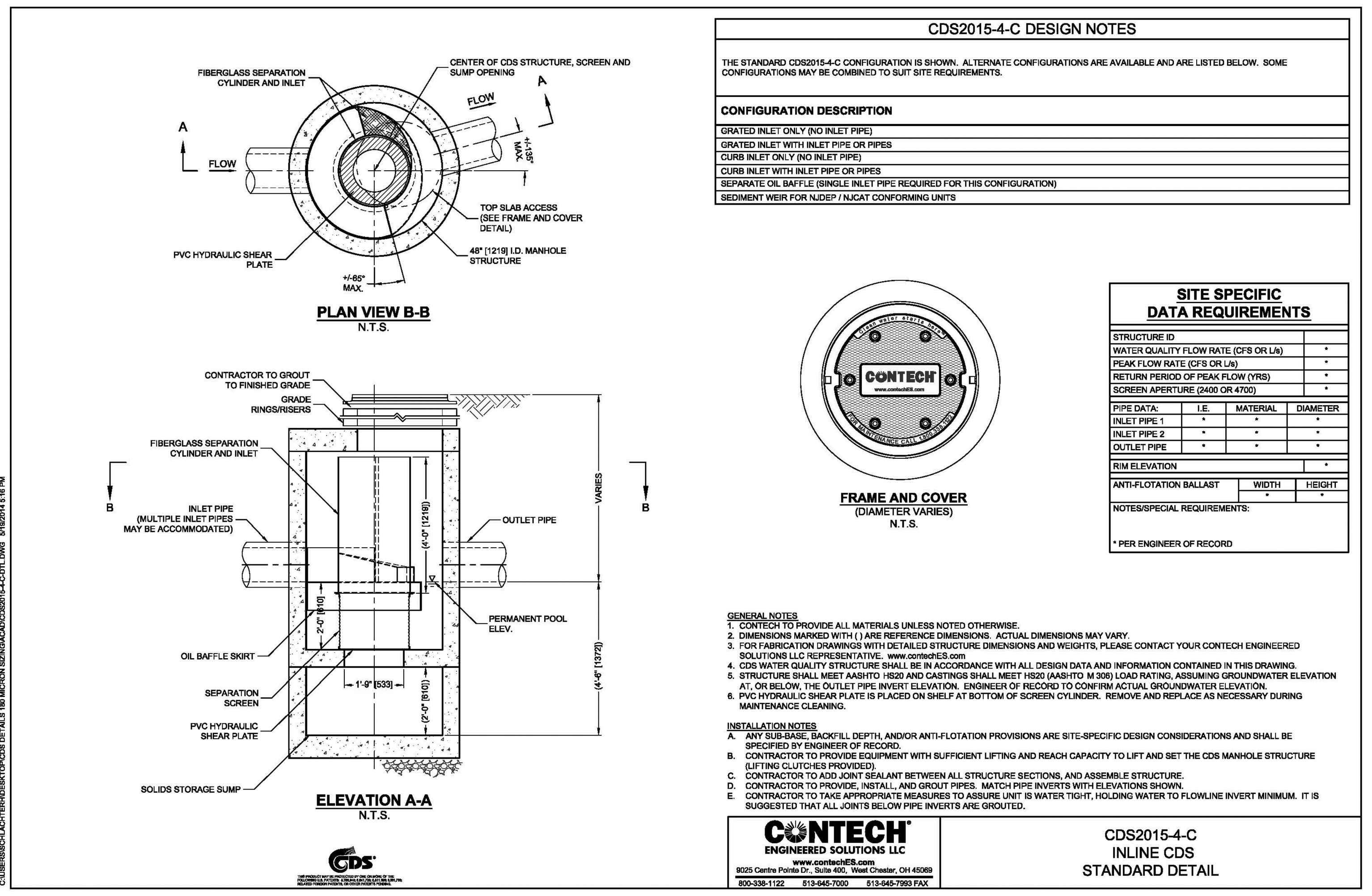
BOKUM ROAD
ESSEX, CONNECTICUT

SEAL:

PREPARED BY:
Summer Hill
Civil Engineers & Land Surveyors, P.C.
60 Wall Street
P.O. Box 708
Madison, Connecticut 06443-0708
Telephone: (203) 245-0722

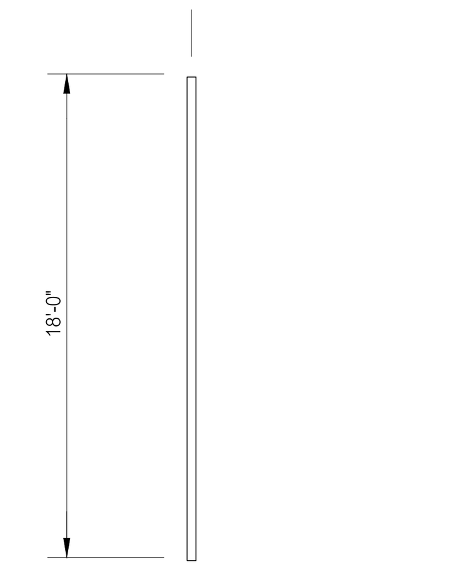
PROJECT:
BOKUM ROAD BUSINESS PARK
BOKUM ROAD
ESSEX, CONNECTICUT

DATE:	SHEET:	SHEET NO.:
7-1-21	DETAILS	C3.4
SCALE: AS NOTED		
DESIGNED: MJO		
CHECKED: LJM	FIELD BOOK: -	PROJECT NO.: 20-50



CDS2015-4-C DESIGN NOTES
THE STANDARD CDS2015-4-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.
CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES
SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS
FIBERGLASS SEPARATION CYLINDER AND INLET
CENTER OF CDS STRUCTURE, SCREEN AND SUMP OPENING
FLOW
A
+/-135° MAX.
TOP SLAB ACCESS (SEE FRAME AND COVER DETAIL)
48" [1219] I.D. MANHOLE STRUCTURE
PVC HYDRAULIC SHEAR PLATE
+/-65° MAX.
PLAN VIEW B-B
N.T.S.
CONTRACTOR TO GROUT TO FINISHED GRADE
GRADE RINGS/RISERS
FIBERGLASS SEPARATION CYLINDER AND INLET
INLET PIPE (MULTIPLE INLET PIPES MAY BE ACCOMMODATED)
OUTLET PIPE
PERMANENT POOL ELEV.
VARIES
(4'-0" [1219])
2'-0" [610]
1'-9" [533]
(2'-0" [610])
(4'-6" [1372])
B
OIL BAFFLE SKIRT
SEPARATION SCREEN
PVC HYDRAULIC SHEAR PLATE
SOLIDS STORAGE SUMP
ELEVATION A-A
N.T.S.
CONTECH
www.contechES.com
FRAME AND COVER
(DIAMETER VARIES)
N.T.S.
SITE SPECIFIC DATA REQUIREMENTS
STRUCTURE ID
WATER QUALITY FLOW RATE (CFS OR L/s) *
PEAK FLOW RATE (CFS OR L/s) *
RETURN PERIOD OF PEAK FLOW (YRS) *
SCREEN APERTURE (2400 OR 4700) *
PIPE DATA: I.E. MATERIAL DIAMETER
INLET PIPE 1 * * *
INLET PIPE 2 * * *
OUTLET PIPE * * *
RIM ELEVATION *
ANTI-FLOTATION BALLAST WIDTH HEIGHT * *
NOTES/SPECIAL REQUIREMENTS:
* PER ENGINEER OF RECORD
GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.
CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX
CDS2015-4-C
INLINE CDS
STANDARD DETAIL

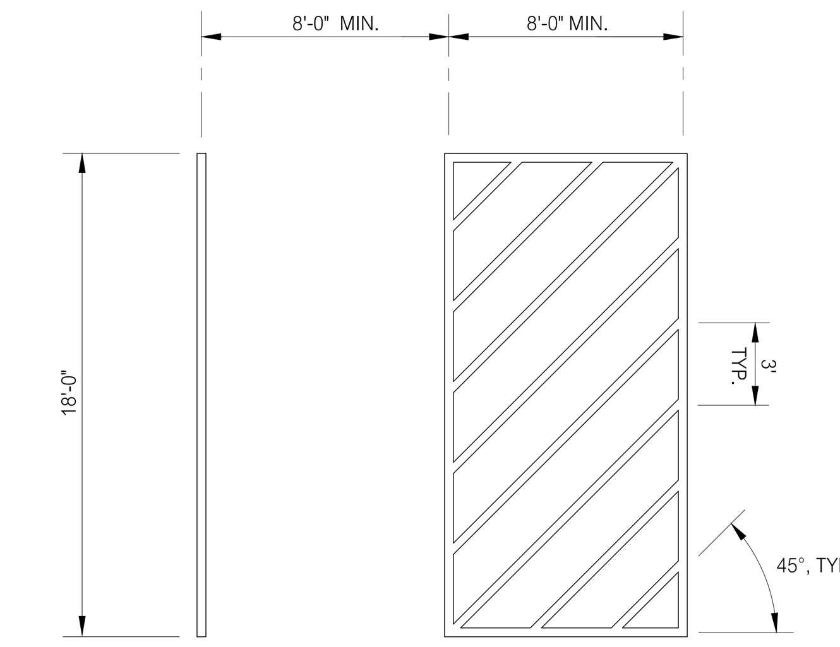
CDS 2015-4-C HYDRODYNAMIC SEPARATOR
NOT TO SCALE



STANDARD PARKING STALL
NOT TO SCALE

NOTE:

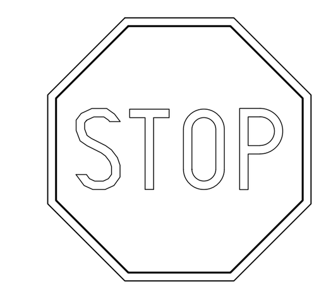
ALL LINES SHALL BE 4" WIDE, COLOR-WHITE.



VAN RESERVED PARKING STALL
NOT TO SCALE

NOTES:

1. ALL LINES SHALL BE 4" WIDE, COLOR-WHITE.
2. THE SLOPE OF THE PAVEMENT SURFACE WITHIN THE LIMITS OF THE RESERVED PARKING SPACE SHALL BE NO GREATER THAN 1:50 IN ANY DIRECTION.
3. STALL AND HATCHED AISLE WIDTHS SHOWN ARE MINIMUM WIDTHS.



SIGN NO.: R1 (31-0552)
SIZE: 30" X 30"
MOUNTING HEIGHT: 5'-0"

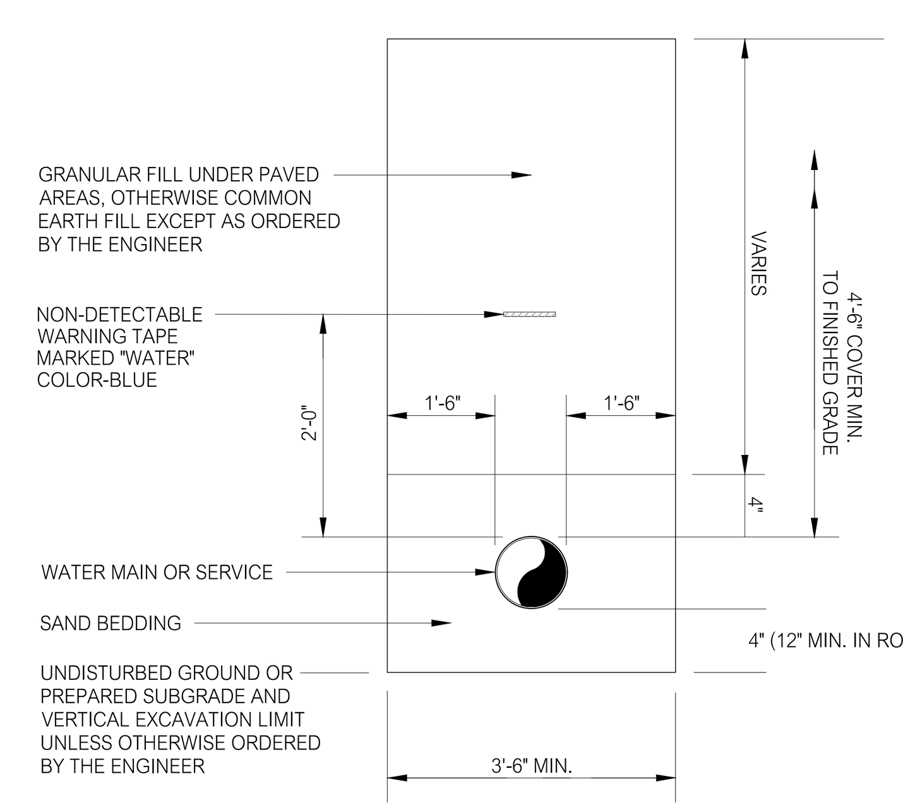
STOP SIGN
NOT TO SCALE

SIGN NO.: R7/R7-8P (31-0662/31-0648)
SIZE: 12" x 24"/12" x 6"
MOUNTING HEIGHT: 5'-0"

RESERVED PARKING SPACE SIGNS
NOT TO SCALE

NOTE:

VAN ACCESSIBLE SUBPLATE INSTALLED AT VAN RESERVED PARKING STALLS ONLY.



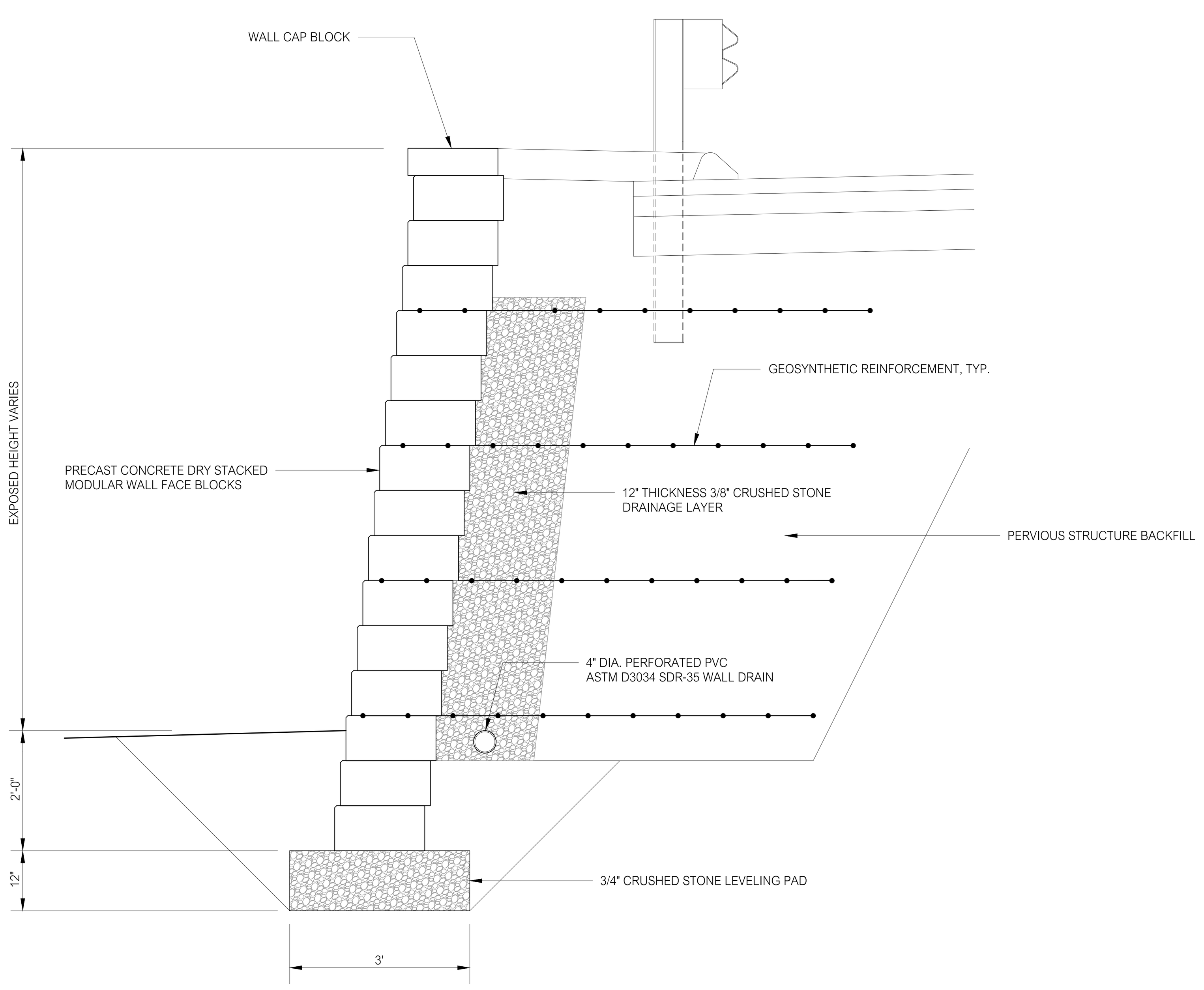
SUBGRADE ELEVATION
UNDER ALL PAVED AREAS:
SEE APPLICABLE PAVEMENT OR PAVEMENT REPAIR DETAIL ABOVE THIS ELEVATION UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR ORDERED BY THE ENGINEER
UNDER ALL UNPAVED AREAS:
6" TOPSOIL ABOVE THIS ELEVATION UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR ORDERED BY THE ENGINEER
GRANULAR FILL UNDER PAVED AREAS, OTHERWISE COMMON EARTH FILL EXCEPT AS ORDERED BY THE ENGINEER
NON-DETECTABLE WARNING TAPE MARKED "WATER" COLOR-BLUE
VARIES
4'-6" COVER MIN. TO FINISHED GRADE
1'-6"
1'-6"
2'-0"
4"
WATER MAIN OR SERVICE
SAND BEDDING
4" (12" MIN. IN ROCK EXCAVATION)
UNDISTURBED GROUND OR PREPARED SUBGRADE AND VERTICAL EXCAVATION LIMIT UNLESS OTHERWISE ORDERED BY THE ENGINEER
3'-6" MIN.

NOTE:

IN UNSUITABLE SOIL CONDITIONS OR ROCK, PROVIDE ADDITIONAL SAND BEDDING OR ADDITIONAL 3/4" CRUSHED STONE WRAPPED IN GEOTEXTILE BELOW THE VERTICAL EXCAVATION LIMIT.

SECTION

WATER MAIN OR SERVICE TRENCH
NOT TO SCALE

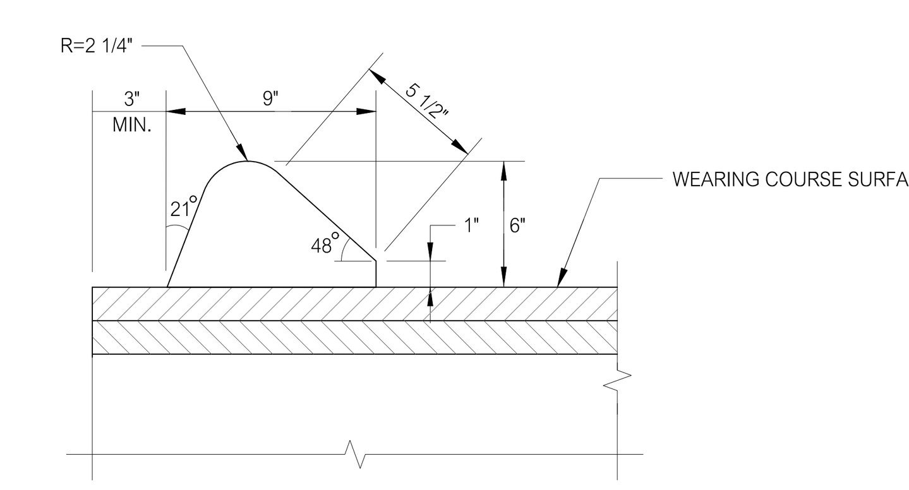


WALL CAP BLOCK
GEOSYNTHETIC REINFORCEMENT, TYP.
EXPOSED HEIGHT VARIES
PRECAST CONCRETE DRY STACKED MODULAR WALL FACE BLOCKS
12" THICKNESS 3/8" CRUSHED STONE DRAINAGE LAYER
PERVIOUS STRUCTURE BACKFILL
4" DIA. PERFORATED PVC ASTM D3034 SDR-35 WALL DRAIN
2'-0"
12"
3/4" CRUSHED STONE LEVELING PAD
3'

TYPICAL SOIL REINFORCED SEGMENTAL RETAINING WALL SECTION
1/2"=1'-0"

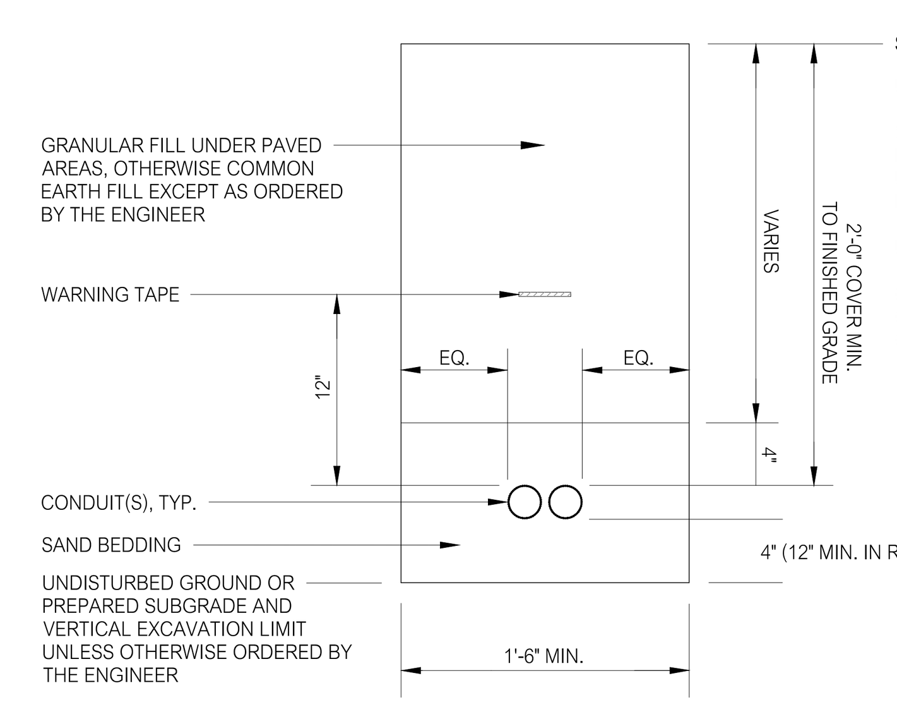
NOTES:

1. THE SITE RETAINING WALLS DEPICTED ON THE DRAWINGS WILL REQUIRE THE APPROVAL OF A BUILDING PERMIT APPLICATION BY THE TOWN OF ESSEX BUILDING DEPARTMENT PRIOR TO BEGINNING CONSTRUCTION OF THE WALLS.
2. SUBMIT DESIGN COMPUTATIONS AND CONSTRUCTION DRAWINGS PREPARED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT TO THE TOWN OF ESSEX BUILDING DEPARTMENT FOR ALL SITE RETAINING WALLS.



SECTION

BITUMINOUS CONCRETE LIP CURBING
NOT TO SCALE



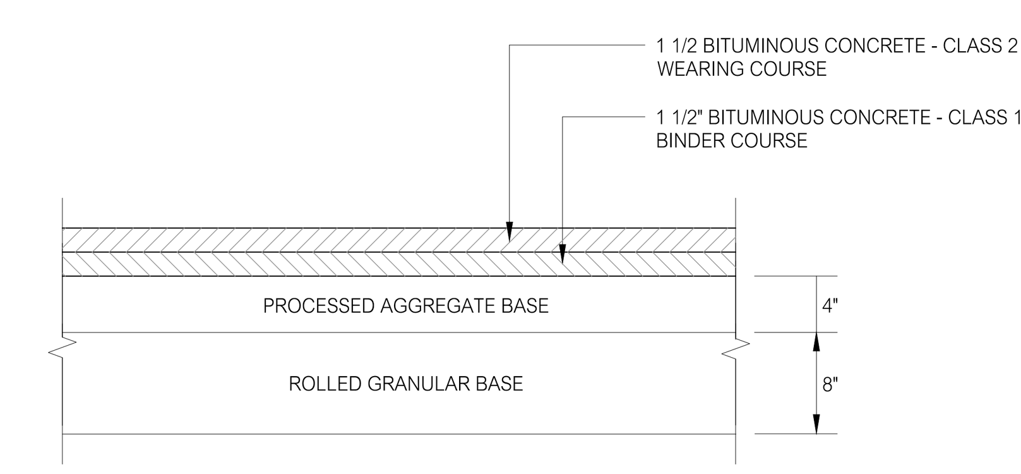
SUBGRADE ELEVATION
UNDER ALL PAVED AREAS:
SEE APPLICABLE PAVEMENT OR PAVEMENT REPAIR DETAIL ABOVE THIS ELEVATION UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR ORDERED BY THE ENGINEER
UNDER ALL UNPAVED AREAS:
6" TOPSOIL ABOVE THIS ELEVATION UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR ORDERED BY THE ENGINEER
GRANULAR FILL UNDER PAVED AREAS, OTHERWISE COMMON EARTH FILL EXCEPT AS ORDERED BY THE ENGINEER
WARNING TAPE
VARIES
2'-0" COVER MIN. TO FINISHED GRADE
EQ.
EQ.
12"
4"
CONDUIT(S), TYP.
SAND BEDDING
4" (12" MIN. IN ROCK EXCAVATION)
UNDISTURBED GROUND OR PREPARED SUBGRADE AND VERTICAL EXCAVATION LIMIT UNLESS OTHERWISE ORDERED BY THE ENGINEER
1'-6" MIN.

NOTES:

1. IN UNSUITABLE SOIL CONDITIONS OR ROCK, PROVIDE ADDITIONAL SAND BEDDING OR 3/4" CRUSHED STONE WRAPPED IN GEOTEXTILE BELOW THE VERTICAL EXCAVATION LIMIT.
2. PROVIDE 12" HORIZONTAL SEPARATION BETWEEN ELECTRICAL AND COMMUNICATIONS CONDUITS WHEN LOCATED WITHIN THE SAME TRENCH.

SECTION

POWER AND COMMUNICATIONS CONDUIT TRENCH
NOT TO SCALE



PARKING AREA PAVEMENT SECTION
NOT TO SCALE

REVISIONS:

NO.	DATE	DESCRIPTION
4	11-29-21	REVIEW COMMENTS
3	11-1-21	REVIEW COMMENTS
2	9-13-21	REVIEW COMMENTS
1	8-15-21	MISCELLANEOUS

REVISIONS

TITLE:

LAND
OF
GEORGE C. FIELD COMPANY, INC.
BOKUM ROAD
ESSEX, CONNECTICUT

SEAL:

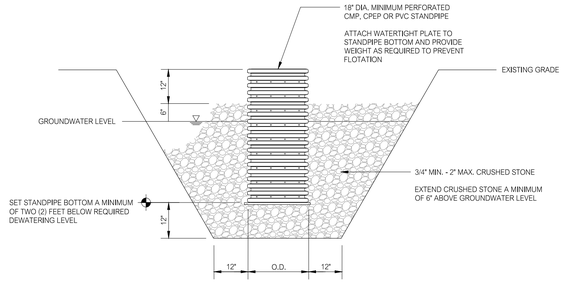
PREPARED BY:

Summer Hill
Civil Engineers & Land Surveyors, P.C.
60 Wall Street
P.O. Box 708
Madison, Connecticut 06443-0708
Telephone: (203) 245-0722

PROJECT:

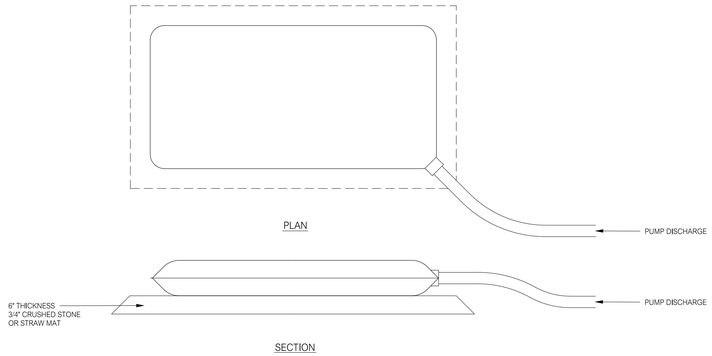
BOKUM ROAD BUSINESS PARK
BOKUM ROAD
ESSEX, CONNECTICUT

DATE: 7-1-21
SCALE: AS NOTED
DESIGNED: MJO
CHECKED: LJM
SHEET: DETAILS
FIELD BOOK: -
PROJECT NO.: 20-50
SHEET NO.: C3.5



SECTION

PUMP DEWATERING SUMP
NOT TO SCALE



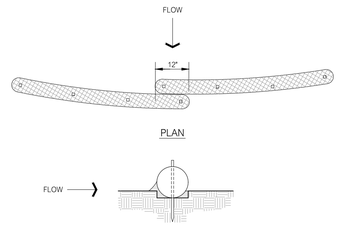
PLAN

SECTION

GEOTEXTILE FILTER BAG
NOT TO SCALE

NOTES:

1. GEOTEXTILE FILTER BAG SHALL BE PLACED IN A LOCATION THAT MINIMIZES INTERFERENCE WITH CONSTRUCTION ACTIVITIES, IS A MINIMUM OF FIFTY (50) FEET FROM WETLANDS, WATERCOURSES AND SURFACE WATER BODIES, IS RELATIVELY LEVEL, PROVIDES FOR THE RELEASE OF FILTERED WATER WITHOUT CAUSING EROSION, AND PROVIDES FOR EASE OF ACCESS BY EQUIPMENT FOR CLEANOUT AND DISPOSAL OF TRAPPED SEDIMENT.
2. PLACE GEOTEXTILE FILTER BAG ON A 6" THICKNESS OF 3/4" CRUSHED STONE OR A 6" THICKNESS STRAW MAT.
3. FILTER BAG SIZE AND GEOTEXTILE TYPE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS BASED ON THE ANTICIPATED PUMP DISCHARGE RATE.
4. GEOTEXTILE FILTER BAG SHALL BE CONSIDERED FULL AND REPLACED IN ACCORDANCE WITH THE MANUFACTURERS RECCOMENDATIONS.
5. DISPOSE OF GEOTEXTILE FILTER BAG BY REMOVING THE BAG AND DISPOSING OF IT OFF-SITE OR WHERE PERMITTED, TO AN APPROPRIATE DESIGNATED UPLAND AREA, CUTTING THE BAG OPEN AND REMOVING THE GEOTEXTILE FOR DISPOSAL, SPREADING THE SEDIMENT CONTENTS, AND SEEDING AND MULCHING THE SEDIMENT AREA.
6. UPON COMPLETION OF DEWATERING OPERATIONS, RESTORE DISTURBED AREAS WHERE GEOTEXTILE FILTER BAGS HAVE BEEN PLACED.



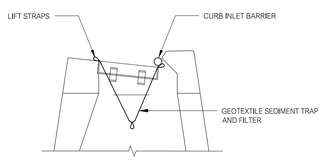
PLAN

SECTION

SW STRAW WATTLE BARRIER
NOT TO SCALE

1. EXCAVATE 4" DEEP TRENCH ALONG THE GROUND SURFACE CONTOUR AS WIDE AS WATTLE DIAMETER FOR LENGTH OF WATTLE.
2. PLACE AND STAKE WATTLE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
3. OVERLAP ADJACENT WATTLE SECTIONS 12" MINIMUM.
4. BACKFILL AND COMPACT THE EXCAVATED SOIL ON UPHILL SIDE OF BARRIER.

1. INSPECT BARRIER AT LEAST ONCE PER WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 1/2 INCH OR GREATER.
2. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/2 THE HEIGHT OF THE BARRIER.



SECTION

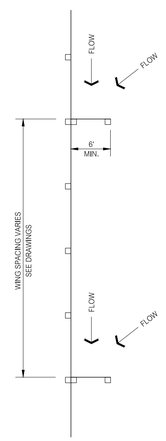
SC SEDIMENTATION CONTROL AT DRAINAGE STRUCTURE
NOT TO SCALE

1. PLACE GEOTEXTILE SEDIMENT TRAP AND FILTER UNDER GRATE AND SET IN FRAME.
2. PLACE CURB INLET BARRIER AGAINST CURB INLET OPENING.

1. INSPECT DRAINAGE STRUCTURE INLETS AT LEAST ONCE PER WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 1/2 INCH OR GREATER.
2. REMOVE SEDIMENT TRAP AND FILTER WHEN 1/2 FULL, DISPOSE OF SEDIMENT, CLEAN AND RE-INSTALL THE SEDIMENT TRAP.

NOTE:

TYPE "C" CATCH BASIN IN LET SHOWN. THIS DETAIL APPLIES TO ALL DRAINAGE STRUCTURE INLET TYPES SHOWN ON THE DRAWINGS.

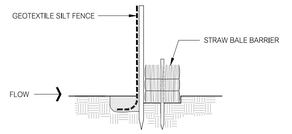


PLAN

WING INSTALLATION DETAIL

NOTES:

1. INSTALL WINGS AT THE STAKE LOCATIONS OF THE MAIN LINE OF GEOTEXTILE SILT FENCE.
2. WIRE STAKES TOGETHER TO PROVIDE TIGHT JOINT BETWEEN STAKES.
3. ORIENT WINGS AS REQUIRED TO INTERCEPT SURFACE WATER FLOW.

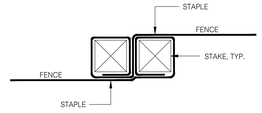


SECTION

GEOTEXTILE SILT FENCE AND STRAW BALE SEDIMENT CONTROL BARRIER
NOT TO SCALE

NOTES:

1. SEE GEOTEXTILE SILT FENCE AND STRAW BALE BARRIER DETAILS THIS SHEET.
2. WHERE A DOUBLE ROW OF BARRIER IS CALLED FOR ON THE PLANS THE DISTANCE BETWEEN THE FIRST LINE OF STRAW BALES AND THE SECOND LINE OF GEOTEXTILE SILT FENCE SHALL BE A MINIMUM OF 2 FEET.

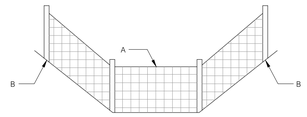


PLAN

FENCE JOINT DETAIL

NOTE:

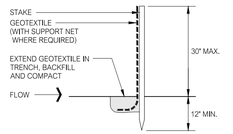
DRIVE STAKES TIGHTLY TOGETHER AND SECURE TOPS OF STAKES WITH CORD OR WIRE TO PREVENT FLOW-THROUGH OF SEDIMENT.



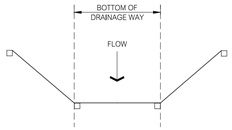
ELEVATION

NOTE:

WHEN NOT INSTALLED ON THE CONTOUR OR WHEN INSTALLED IN A DRAINAGE WAY, THE ELEVATION OF POINTS B SHALL BE HIGHER THAN POINT A.



SECTION

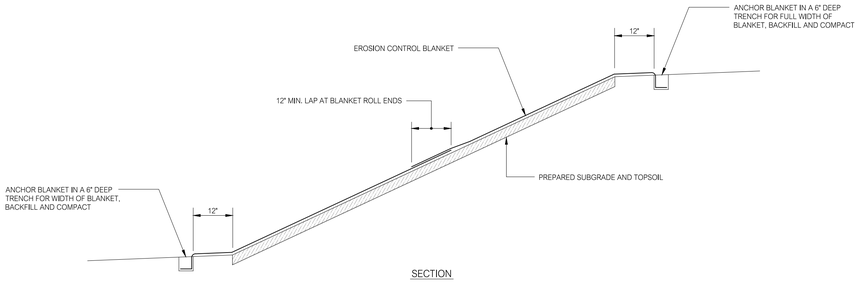


PLAN

GSF GEOTEXTILE SILT FENCE
NOT TO SCALE

1. EXCAVATE 6" DEEP TRENCH FOR LENGTH OF THE FENCE.
2. EXTEND 8" LENGTH OF GEOTEXTILE INTO TRENCH, BACKFILL AND COMPACT.
3. AS AN ALTERNATE METHOD, EXTEND LENGTH OF GEOTEXTILE HORIZONTALLY ON EXISTING GROUND, RAMP SOIL OVER GEOTEXTILE AND COMPACT.

1. INSPECT FENCE AT LEAST ONCE PER WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 1/2 INCH OR GREATER.
2. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/2 THE HEIGHT OF THE FENCE.

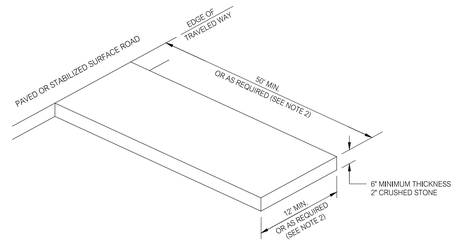


SECTION

ECB EROSION CONTROL BLANKETS FOR SLOPES
NOT TO SCALE

NOTES:

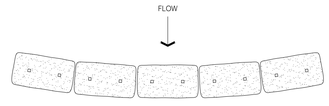
1. INSTALL EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 4 HORIZONTAL TO 1 VERTICAL.
2. AMEND TOPSOIL AS REQUIRED AND SEED PRIOR TO INSTALLATION OF EROSION CONTROL BLANKETS.
3. INSTALL EROSION CONTROL BLANKETS IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
4. SEE MANUFACTURERS INSTRUCTIONS FOR STAPLE AND STAPLE PATTERN REQUIREMENTS.



CE CONSTRUCTION ENTRANCE
NOT TO SCALE

NOTES:

1. CLEAR AND GRUB AREA AND REMOVE TOPSOIL BEFORE PLACEMENT OF CRUSHED STONE LAYER. A GEOTEXTILE MAY BE REQUIRED TO STRENGTHEN SUBGRADE SOILS AND TO PREVENT STONE MOVEMENT AND LOSS OF VOIDS WITHIN THE STONE ENTRANCE WHERE REQUIRED.
2. LENGTH OF ENTRANCE MAY BE LIMITED BY SITE CONDITIONS. PROVIDE ADEQUATE WIDTH OF ENTRANCE AT ROAD INTERSECTION TO ACOMMODATE THE TURNING MOVEMENTS OF CONSTRUCTION VEHICLES.
3. MAINTAIN ENTRANCE SO AS TO PREVENT TRACKING OR WASHING OF SEDIMENT ONTO ROAD. SEDIMENT THAT MAY BE TRACKED OR OTHERWISE DEPOSITED WITHIN THE ROAD SHALL BE REMOVED IMMEDIATELY.
4. MAINTENANCE MAY INCLUDE THE REQUIREMENT FOR TOP DRESSING THE CRUSHED STONE LAYER OR REPLACING THE FULL DEPTH OF THE CRUSHED STONE LAYER.
5. SHOULD SITE CONDITIONS BE SUCH THAT SOIL CANNOT BE REMOVED BY VEHICLES TRAVELING OVER THE ENTRANCE, THE TIRES OF VEHICLES MAY HAVE TO BE WASHED PRIOR TO VEHICLES ENTERING THE ROAD. ALL WASH WATER SHALL BE DIRECTED THROUGH AN APPROVED SEDIMENT FILTER OR TO A SEDIMENT BASIN.



PLAN

SECTION

HB STRAW BALE BARRIER
NOT TO SCALE

1. EXCAVATE 4" DEEP TRENCH FOR LENGTH OF BALES.
2. PLACE AND STAKE BALES, TWO (2) STAKES PER BALE.
3. PLACE BALES SUCH THAT BINDINGS ARE ORIENTED AROUND THE SIDES OF BALES RATHER THAN ALONG THE TOP AND BOTTOM OF BALES.
4. WEDGE LOOSE STRAW BETWEEN BALES.
5. BACKFILL AND COMPACT THE EXCAVATED SOIL ON UPHILL SIDE OF BARRIER.

1. INSPECT BARRIER AT LEAST ONCE PER WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 1/2 INCH OR GREATER.
2. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/2 THE HEIGHT OF THE BARRIER.

REVISIONS:

NO.	DATE	DESCRIPTION
4	11-29-21	REVIEW COMMENTS
3	11-1-21	REVIEW COMMENTS
2	9-13-21	REVIEW COMMENTS
1	8-15-21	MISCELLANEOUS

REVISIONS

TITLE:

LAND
OF
GEORGE C. FIELD COMPANY, INC.
BOKUM ROAD
ESSEX, CONNECTICUT

SEAL:

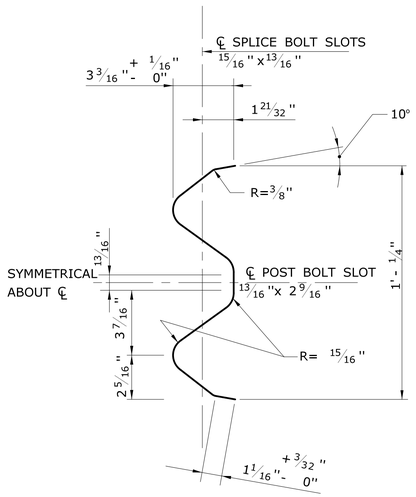
PREPARED BY:

Summer Hill
Civil Engineers & Land Surveyors, P.C.
60 Wall Street
P.O. Box 708
Madison, Connecticut 06443-0708
Telephone: (203) 245-0722

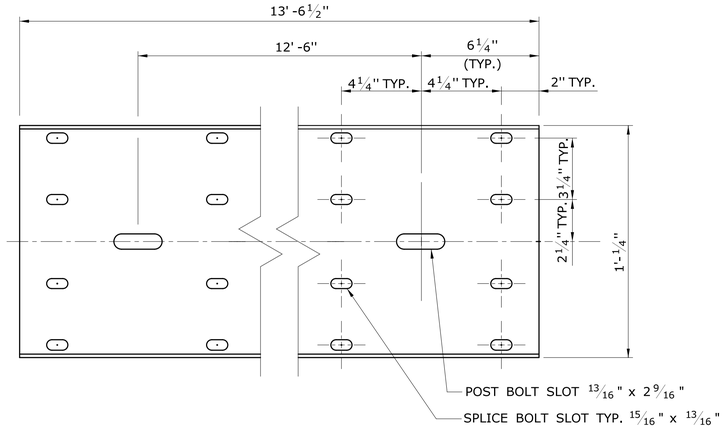
PROJECT:

BOKUM ROAD BUSINESS PARK
BOKUM ROAD
ESSEX, CONNECTICUT

DATE: 7-1-21	SHEET: DETAILS	SHEET NO.: C3.6
SCALE: AS NOTED		
DESIGNED: MJO		
CHECKED: LJM	FIELD BOOK: -	PROJECT NO.: 20-50

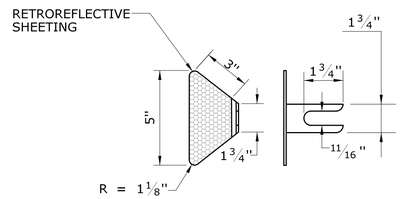


SECTION VIEW



ELEVATION VIEW

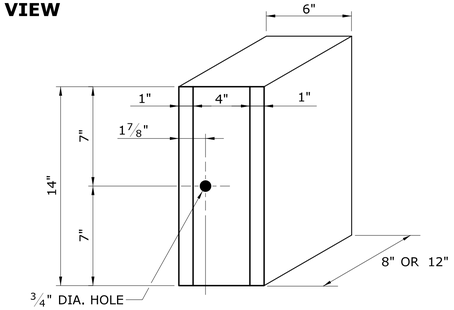
TYPICAL W-BEAM RAIL ELEMENT



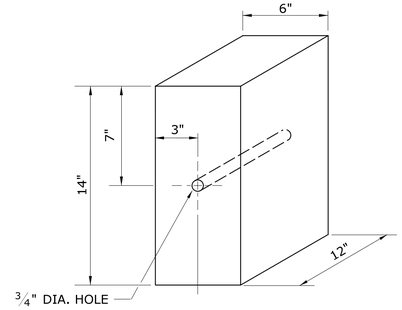
W-BEAM DELINEATOR

GENERAL NOTES:

1. W6 x 9 POSTS MAY BE USED IN PLACE OF W6 x 8.5 POSTS.
2. W-BEAM GUIDERAIL SHALL USE CLASS A (12 GAUGE), TYPE II W-BEAM RAIL ELEMENTS.
3. SEVEN FOOT LONG STEEL POSTS (W6 X 8.5) ARE TO BE INSTALLED WHERE INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
4. ALL DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES



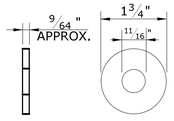
8" or 12" PLASTIC BLOCKOUT
NOMINAL DIMENSIONS



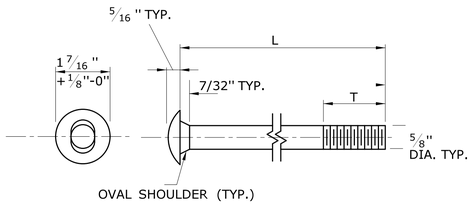
12" WOOD BLOCKOUT

W-BEAM DELINEATOR INSTALLATION NOTES:

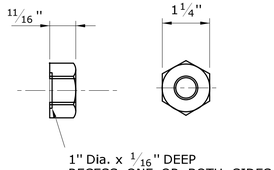
1. INSTALL W-BEAM DELINEATORS ON RAIL THAT IS PARALLEL TO AND NOT GREATER THAN 8' FROM THE EDGE OF THE ROADWAY. A MINIMUM OF THREE W-BEAM DELINEATORS SHALL BE INSTALLED ON ANY LENGTH OF GUIDERAIL.
2. THE SPACING OF W-BEAM DELINEATORS IS 50 FEET, INSTALLED AT RAIL SPLICE LOCATIONS. SPACING IS 25 FEET ON RADII LESS THAN 300 FEET.
3. NO W-BEAM DELINEATORS ARE PERMITTED WITHIN 75 FEET OF THE IMPACT HEAD OF ANY TANGENTIAL OR FLARED IMPACT ATTENUATION SYSTEM.
4. RETROREFLECTIVE SHEETING SHALL BE WHITE EXCEPT ON THE LEFT SIDE OF DIVIDED STREETS, HIGHWAYS, RAMPS, AND ONE WAY ROADS IN THE DIRECTION OF TRAVEL WHERE IT SHALL BE YELLOW.



WASHER
[FWC16a]



BUTTONHEAD BOLT

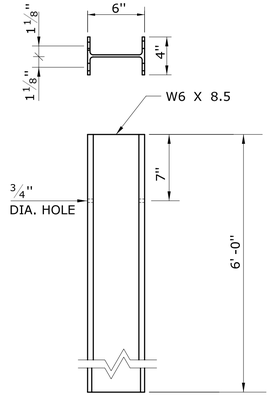


HEX NUT

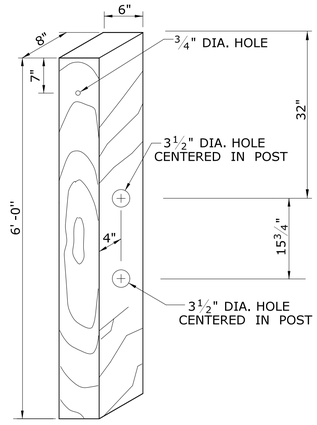
DESIGNATOR	L	T	INTENDED USE
FBB01	1-1/4"	1-1/8"	RAIL SPLICE BOLTS
FBB02	2"	1-3/4"	RUB RAIL BOLTS
FBB03	10"	4"	POST BOLTS (8" BLOCK OUTS)
	14"	4"	POST BOLT (12" BLOCK OUTS)
FBB04	18"	4"	POST BOLTS (2- 8"BLOCK OUTS)
	22"	4"	POST BOLT (CRT WOOD POST SYSTEM)

5/8" BUTTON HEAD BOLT(S) AND RECESSED NUT(S)

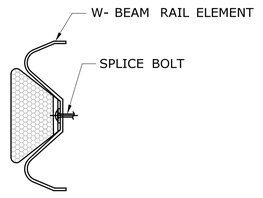
NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT. DIAMETER SHOWN IS TYPICAL FOR ALL GUIDERAIL BOLTS. SEE DETAILS ABOVE FOR SPECIFIC LENGTHS.



STEEL POST
6'-0" LONG



CONTROL RELEASE TIMBER (CRT) POST
6' - 0" LONG



W-BEAM DELINEATOR INSTALLATION

REV.	DATE	REVISION DESCRIPTION

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 1/3/2018

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD.dgn Model: 273 - HW-910_20

SUBMITTED BY: NAME/DATE/TIME:

APPROVED BY: NAME/DATE/TIME:

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

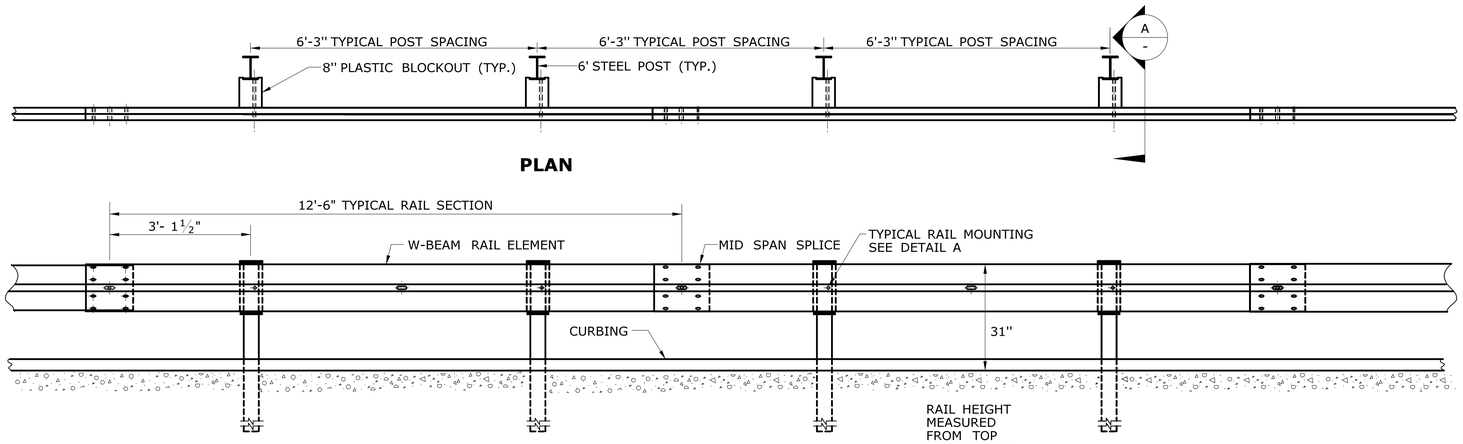
STANDARD SHEET TITLE:

MASH W-BEAM HARDWARE

STANDARD SHEET NO.:

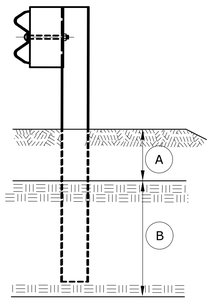
HW-910_20

C3.7



GENERAL NOTES:

1. SEE SHEET HW-910_20 FOR MASH W-BEAM HARDWARE AND W-BEAM DELINEATOR DETAILS.
2. THREE BLOCKOUTS MAY BE USED FOR ONE POST ONLY. TWO BLOCKOUTS MAY BE USED FOR A SERIES OF POSTS. THE COST OF ADDITIONAL BLOCKOUTS AND LONGER BOLTS SHALL BE INCLUDED IN THE PRICE PER FOOT OF GUIDERAIL. EXTRA BLOCKOUTS AT TRANSITIONS TO BRIDGE PARAPETS SHOULD BE AVOIDED. DO NOT USE ADDITIONAL BLOCKS IF IT CAUSES THE POST TO BE DRIVIEN BEYOND AN EMBANKMENT HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.
3. IF BLOCKOUTS DO NOT AVOID POST FROM OBSTRUCTION, ONE POST MAY BE OMITTED IF 50 FEET OF GUIDERAIL EXISTS ON BOTH SIDES OF LOCATION. USE METAL BEAM RAIL SPAN SECTION TYPE II OR III FOR MORE THAN ONE CONSECUTIVE OMITTED POST, SEE SHEET HW-910_24.
4. W-BEAM GUIDERAIL MAY BE PLACED 1' OR MORE FROM THE EDGE OF PAVEMENT ONLY ON SLOPES 10:1 OR FLATTER AND WITHOUT CURBING.
5. IF THE RAIL IS INSTALLED WITHIN 2' OF THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE SHOULDER SLOPE EXTENDED TO THE RAIL. IF THE RAIL IS INSTALLED BEYOND 2' FROM THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE GROUND DIRECTLY BELOW THE RAIL.
6. RAIL HEIGHT CONSTRUCTION TOLERANCE IS +/- 1 INCH.



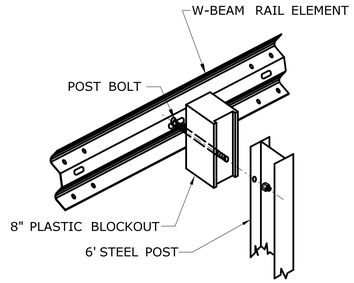
CONDITION 1 :

IF SOIL DEPTH IS ≤ 18" DEEP (A) DRILL 20" DIA. HOLE 24" INTO LEDGE. (B)

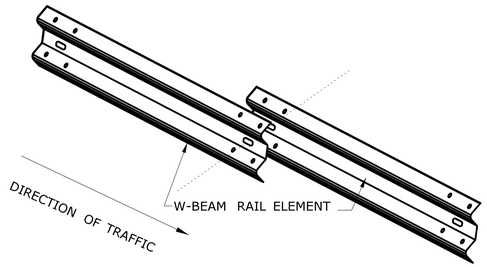
CONDITION 2 :

IF SOIL DEPTH IS > 18" DEEP (A) DRILL 8" DIA. HOLE 12" INTO LEDGE (B) OR TO THE DEPTH OF FULL EMBEDMENT WHICHEVER IS LESS.

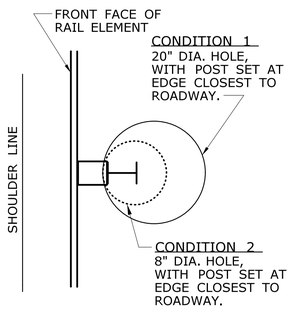
ELEVATION



DETAIL A
RAIL MOUNTING

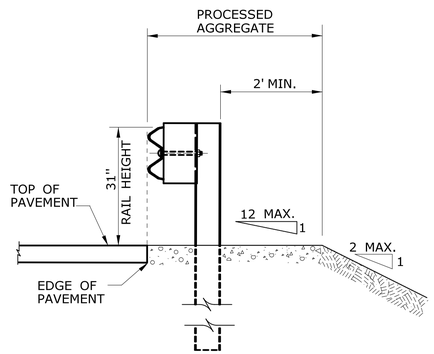


LAP W-BEAM RAIL SECTIONS
NOTE: EIGHT (8) SPLICE BOLTS PER JOINT



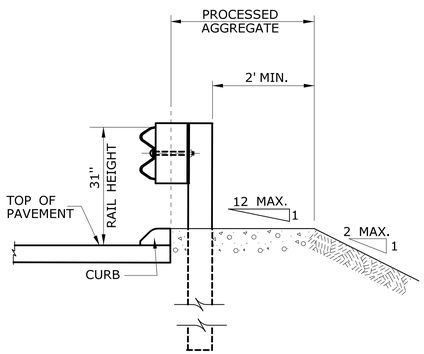
PLAN

GUIDERAIL POSTS IN ROCK



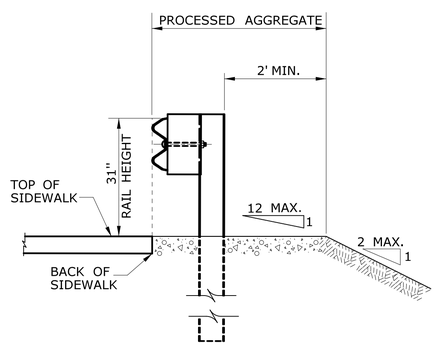
SECTION A / -

NO CURB APPLICATION



SECTION A / -

CURB APPLICATION



SECTION A / -

SIDEWALK APPLICATION

REV.	DATE	REVISION DESCRIPTION
1	1/19	ELIMINATED 1 FOOT RAIL OFFSET FOR NON CURB CONDITIONS
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

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Plotted Date: 1/23/2019

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD_[_1-23-19_].dgn Model: 274 - HW-910_21

SUBMITTED BY: NAME/DATE/TIME:

APPROVED BY: NAME/DATE/TIME:

CTDOT
STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

METAL BEAM RAIL (R-B MASH) GUIDERAIL

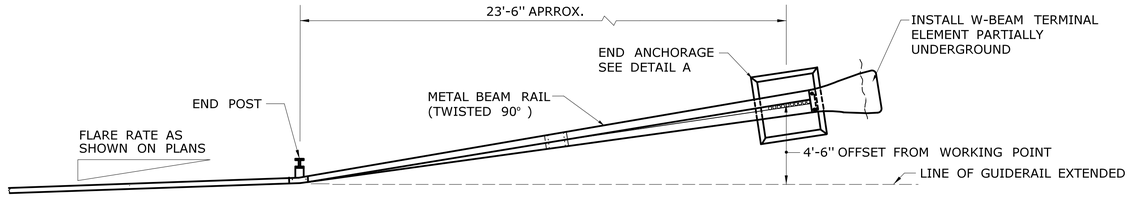
STANDARD SHEET NO.:

HW-910_21

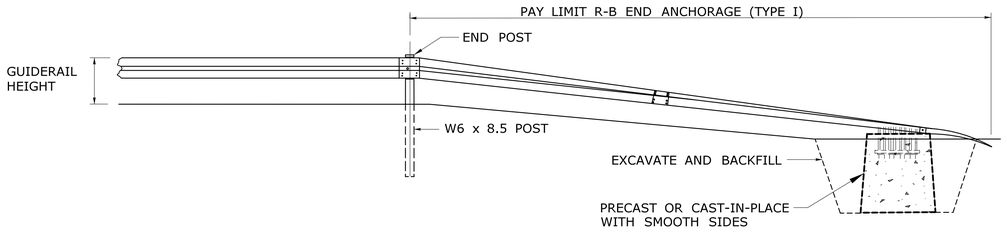
C3.8

GENERAL NOTES:

1. J-HOOK BOLTS MAY BE SUBSTITUTED FOR BOTTOM PLATE ANCHORAGE IN CONCRETE END ANCHORS USING THE SAME SIZE, STRENGTH, AND LENGTH AS NOTED ON THE PLANS.
2. INSTALLATION OF RADII DIFFERENT THAN WHAT IS SHOWN IN DETAIL "C" FOR R-B END ANCHORAGE TYPE II MUST BE APPROVED BY THE ENGINEER.

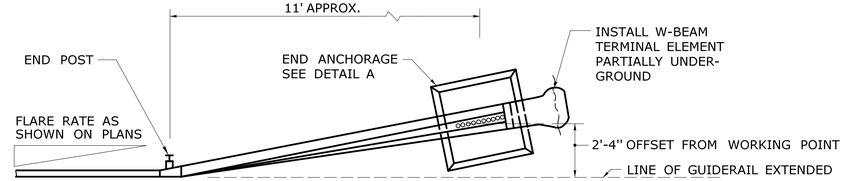


PLAN

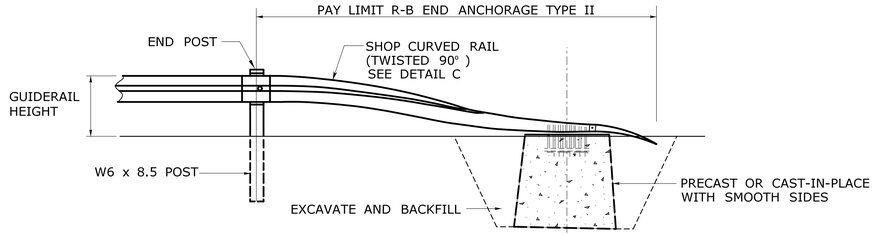


ELEVATION

R-B END ANCHORAGE TYPE I

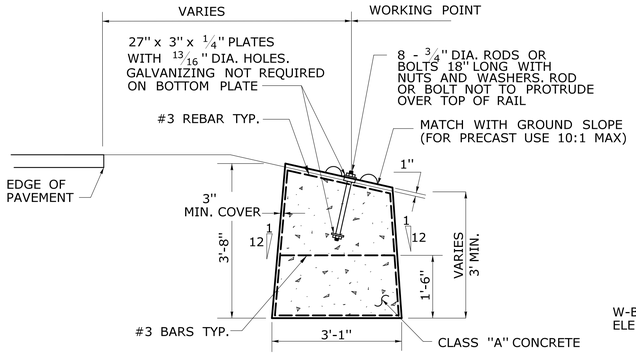


PLAN

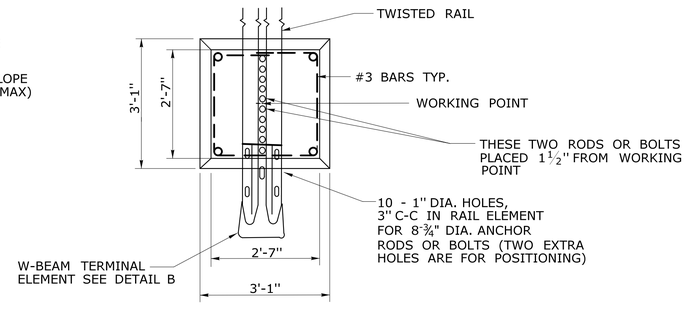


ELEVATION

R-B END ANCHORAGE TYPE II

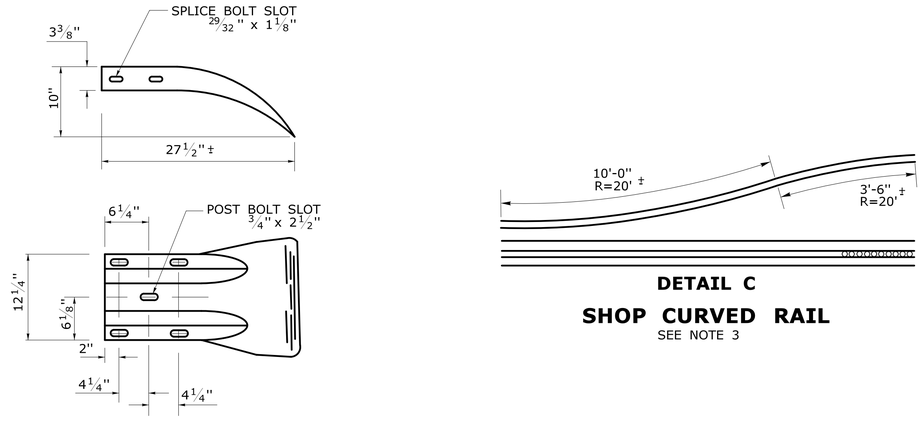


ELEVATION



PLAN

DETAIL A
ROADSIDE CONCRETE END ANCHOR
SEE NOTE 2



DETAIL B
W-BEAM TERMINAL ELEMENT

DETAIL C
SHOP CURVED RAIL
SEE NOTE 3

REV.	DATE	REVISION DESCRIPTION
1	6/11	REVISED TYPE I AND II ANCHOR FOR CLEAR ZONE PLACEMENT
2	7/13	ADD POST OFFSET DISTANCE
3	9/17	REVISED TYPE I AND II FOR R-B MASH OR R-B 350 RAIL
4	1/19	REMOVED GENERAL NOTE 1

Plotted Date: 1/23/2019

NOT TO SCALE

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: CTDOT_HIGHWAY_STD_[_1-23-19_].dgn Model: 282 - HW-911_01

SUBMITTED BY: NAME/DATE/TIME:

APPROVED BY: NAME/DATE/TIME:

CTDOT STANDARD SHEET

OFFICE OF ENGINEERING

STANDARD SHEET TITLE:

R-B END ANCHORAGE TYPE I AND II

STANDARD SHEET NO.:

HW-911_01