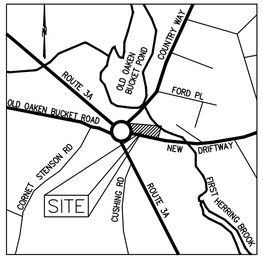
SITE DEVELOPMENT PLANS
PROPOSED RESIDENTIAL DEVELOPMENT
7 NEW DRIFTWAY
IN
SCITUATE, MASSACHUSETTS



Locus Map
Not to Scale

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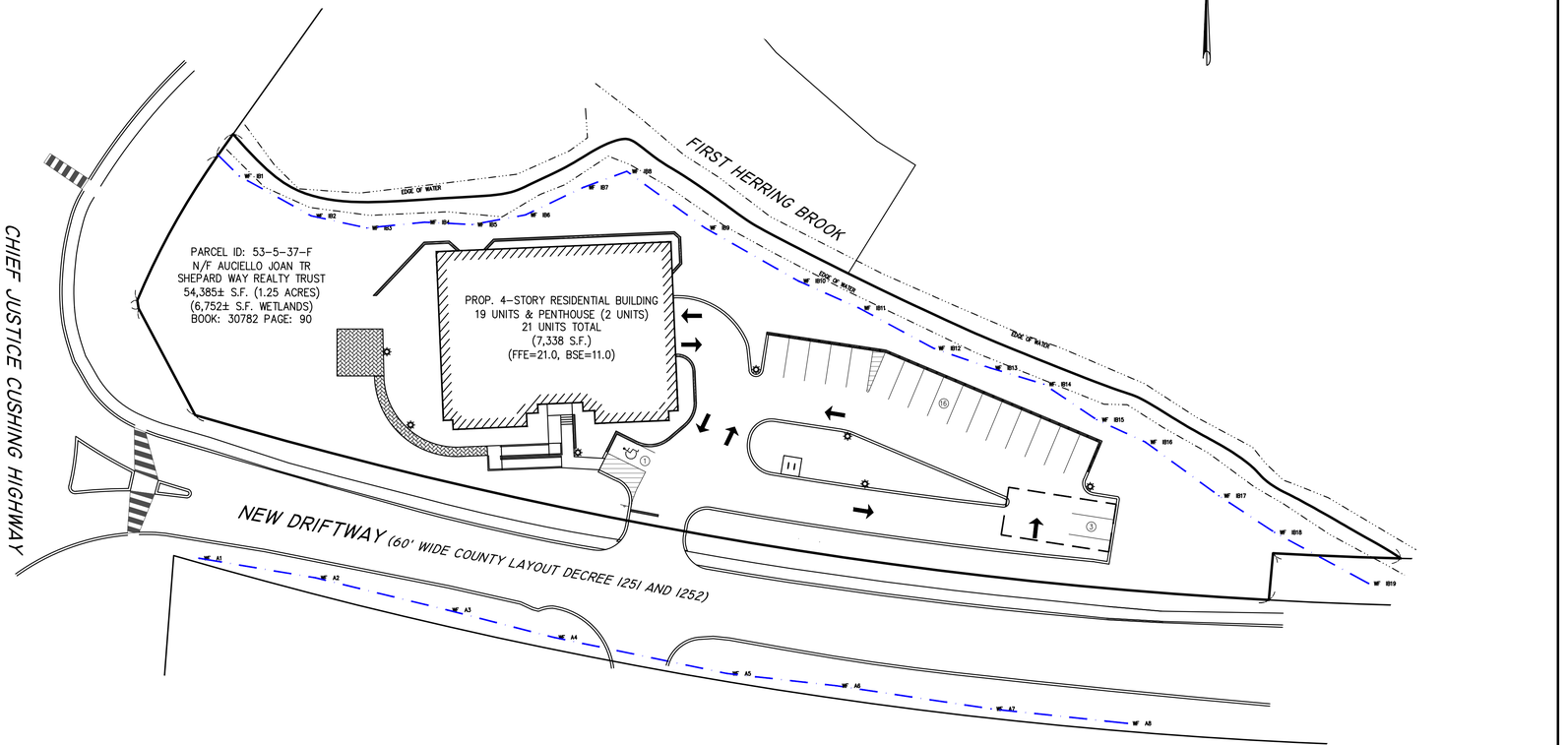


SCALE: 1" = 30'
0 15 30 60 120

Applicant:

DRIFT-WAY, LLC
P.O. 378
TYNGSBORO, MA 01879

Engineer/Surveyor:

MCKENZIE ENGINEERING GROUP, INC.
150 LONGWATER DRIVE
SUITE 101
NORWELL, MASSACHUSETTS 02061

REV	DATE	DESCRIPTION	BY	APP
-	-	-	-	-

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
P: 781.792.3900
F: 781.792.0333
www.mckeng.com

SITE DEVELOPMENT PLAN
(ASSESSOR'S MAP 53, BLOCK 5, LOT 37F)
7 NEW DRIFTWAY
SCITUATE, MASSACHUSETTS

PROFESSIONAL ENGINEER:
BRADLEY C McKENZIE
CIVIL
No. 39917
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS

PERMIT PLAN SET

APPLICANT:
DRIFT-WAY, LLC
PO BOX 378
TYNGSBORO, MA 01879

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	JULY 12, 2021
SCALE:	1"=30
PROJECT NO.:	218-153

DWG. TITLE:
COVER SHEET

DWG. No:
CS-1

M:\MEG\2018 PROJECTS\218-153 POLAK - NEW DRIFTWAY, SCITUATE\DWGS\218-153 MAIN6.DWG

ABBREVIATIONS

ABAN	ABANDONED
ACP	ASBESTOS CEMENT PIPE
ACR	ACCESSIBLE CURB RAMP
ADJ	ADJUST
APPROX	APPROXIMATE
ASPH	ASPHALT
ACCMP	ASPHALT COATED CORRUGATED METAL PIPE
B	BOLLARD
BD	BOUND
BLDG	BUILDING
BIT CONC	BITUMINOUS CONCRETE
BM	BENCHMARK
BS	BOTTOM OF SLOPE
CAP	CORRUGATED ALUMINUM PIPE
CB	CATCH BASIN
C&C	CUT AND CAPPED
CB/DH	CONC. BOUND/DRILL HOLE
CB/EPLP	CB/ESCUTCHEON
CCB	CAPE COD BERM
CIP	CAST IRON PIPE
CIT	CHANGE IN TYPE
℄	CENTERLINE
CLF	CHAIN LINK FENCE
CO	CLEAN OUT
CONC	CONCRETE
COND	CONDUIT
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
CS	COMBINED SEWER
CSMH	COMBINED SEWER MANHOLE
CULV	CULVERT
Δ	DELTA ANGLE
D	DRAIN
DCB	DOUBLE CATCH BASIN
DIP	DUCTILE IRON PIPE
DMH	DRAIN MANHOLE
E	ELECTRIC
ECC	EXTRUDED CONCRETE CURB
ELEV	ELEVATION
EMH	ELECTRIC MANHOLE
E/T/C	ELECTRIC, TELEPHONE, & CABLE TV
EW	END WALL
EXIST	EXISTING
FAB	FIRE ALARM BOX
FES	FLARED END SECTION
FND.	FOUND
FND	FOUNDATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
G	GAS
GD	GROUND
GG	GAS GATE
GIP	GALVANIZED IRON PIPE
GP	GUARD POST
GS	GAS SERVICE
GR	GUARD RAIL
GRAN.	GRANITE
HDPE	HIGH-DENSITY POLYETHYLENE PIPE
HH	HANDHOLE
HOR	HORIZONTAL
HP	HIGH PRESSURE
HWL	HEADWALL
HYD	HYDRANT
INV	INVERT
I.P.	IRON PIN
I.R.	IRON ROD
L	LEAD
LSA	LANDSCAPED AREA
LP	LIGHT POLE
MAX	MAXIMUM
MC	METAL COVER
MCC	MONOLITHIC CONCRETE CURB
MH	MANHOLE
MHB	MASS. HIGHWAY BOUND
MIN	MINIMUM
MLP	METAL LIGHT POLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OHW	OVERHEAD WIRE
PB	PULL BOX
PE	POLYETHYLENE PIPE
P	PROPERTY LINE
PROP	PROPOSED
PVC	POLYVINYL CHLORIDE PIPE
PVMT	PAVEMENT
PWW	PAVED WATER WAY
RCP	REINFORCED CONCRETE PIPE
REM	REMOVE
REMOD	REMODEL
RET	RETAIN
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
S	SEWER
SB	STONE BOUND
SB/DH	STONE BOUND/DRILL HOLE
SGE	SLOPED GRANITE EDGING
SMH	SEWER MANHOLE
STA	STATION
SS	SEWER SERVICE
STL	STEEL
SW	SIDEWALK
T	TELEPHONE
TCB	TRAFFIC CONTROL BOX
TL	TRAFFIC LIGHT
TMH	TELEPHONE MANHOLE
Tr	TREE
TRANS	TRANSFORMER
TS	TOP OF SLOPE
TSV	TAPPING SLEEVE, VALVE AND BOX
TYP	TYPICAL
UP	UTILITY POLE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VGC	VERTICAL GRANITE CURB
W	WATER MAIN
WG	WATER GATE

LEGEND

Existing	Proposed	Description
× 100.50	+100.50	SPOT ELEVATIONS
100.50 / 100.00	100.50 / 100.00	TOP & BOTTOM ELEVATIONS
100.50	100.50	SPOT ELEVATIONS WITH LEADER
		HYDRANT
		WATER GATE VALVE
		WELL
		GAS GATE
		ELECTRIC HANDHOLE
		LIGHT POLE
		UTILITY POLE
		GUY POLE
		GUY ANCHOR
		DRAIN MANHOLE
		SEWER MANHOLE
		CATCH BASIN
		DOUBLE CATCH BASIN
		TEST PIT
		BORING
		SIGN SINGLE POST
		GRANITE OR CONCRETE BOUND
		WETLAND FLAG
		EXISTING BUILDING
		PROPOSED BUILDING
		MAJOR CONTOUR
		MINOR CONTOUR
X	X	CHAINLINK FENCE
CTV	CTV	CABLE TV LINE
E/T/C	E/T/C	ELECTRIC, TELEPHONE, CABLE TV DUCTBANK
OHW	OHW	OVERHEAD ELECTRIC
G	G	NATURAL GAS LINE
S	S	SANITARY SEWER MAIN
D	D	DRAIN PIPE
T	T	TELEPHONE LINE
W	W	WATER MAIN
	FP	FIRE PROTECTION LINE
		RETAINING WALL
		TREELINE
		HAYBALE & SILT FENCE
		LIMIT OF INLAND BANK WETLAND RESOURCE(1)
		100' WETLAND BUFFER ZONE

GENERAL NOTES

SURVEY NOTES:

1. THIS SURVEY WAS MADE ON THE GROUND IN NOVEMBER OF 2015 BY MCKENZIE ENGINEERING GROUP, INC.
2. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.
3. A PORTION OF THE PROPERTY SHOWN HEREON IS LOCATED IN ZONE AE OF THE FLOOD INSURANCE RATE MAP COMMUNITY PANEL Nos. 25023C0117L AND 25023C0136L, WHICH BEARS AN EFFECTIVE DATE OF JULY 6, 2021.
4. THE PROPERTY SHOWN HEREON IS LOCATED IN THE VILLAGE CENTER & NEIGHBORHOOD DISTRICT, GREENBUSH-DRIFTWAY GATEWAY DISTRICT (GDG), GATEWAY BUSINESS SUBDISTRICT (GDG-GWB).
5. THE INLAND BANK WETLAND RESOURCE AREA WAS DELINEATED BY ENVIRONMENTAL CONSULTING & RESTORATION, LLC ON APRIL 9, 2021 AND FIELD LOCATED BY MCKENZIE ENGINEERING GROUP, INC. ON APRIL 12, 2021.
6. A PORTION OF THE PROPERTY SHOWN HEREON IS LOCATED IN A DEP ZONE 2 AND TOWN OF SCITUATE WATER RESOURCE PROTECTION ZONE, FLOODPLAIN & WATERSHED PROTECTION DISTRICT AND SALTMARSH AND TIDELAND CONSERVATION DISTRICT.
7. UTILITY INFORMATION FROM ABOVE GROUND OBSERVED EVIDENCE IN CONJUNCTION WITH DIG SAFE MARKINGS AND RECORD PLANS. THE LAND SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE LAND SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION AND CONSTRUCTION AS THE LAND SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. BEFORE CONSTRUCTION CALL DIG SAFE SYSTEMS, INC. AT 1-888-344-7233.

UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCHMARKS NECESSARY FOR THE WORK.
3. THE CONTRACTOR SHALL COORDINATE ALL STREET WORK WITH THE SCITUATE DPW.
4. THE CONTRACTOR SHALL EXCAVATE THE TEST PITS PRIOR TO INSTALLING THE DOMESTIC WATER AND FIRE SERVICES TO VERIFY THE ELEVATIONS AND LOCATIONS OF EXISTING UTILITIES. THE CONTRACTOR SHALL PROVIDE THE OWNER AND ENGINEER WITH THE RESULTS PRIOR TO COMMENCING ANY WORK.
5. ALL WATER AND FIRE SERVICES SHALL BE INSTALLED WITH 5' OF COVER EXCEPT AS NOTED OR DETAILED OTHERWISE.
6. ALL WATER AND FIRE SERVICE APPURTENANCES, MATERIALS, METHODS OF INSTALLATION SHALL MEET OR EXCEED ALL LOCAL MUNICIPAL REQUIREMENTS.
7. THE FIRE SERVICE AND DOMESTIC WATER SERVICE SHALL BE ADEQUATELY PROTECTED AGAINST BACKFLOW (BACKFLOW PREVENTION) AT THE BUILDING.
8. THE FIRE SERVICE AND DOMESTIC WATER SERVICE SHALL BE TESTED IN ACCORDANCE WITH DEPARTMENT OF ENVIRONMENTAL PROTECTION REGULATIONS. A MINIMUM OF 2 SEPARATE WATER SAMPLES SHALL BE TESTED AT A STATE CERTIFIED LABORATORY.
9. A MINIMUM OF 10 FEET CLEAR HORIZONTALLY SHALL BE MAINTAINED BETWEEN SANITARY SEWER SERVICES AND WATER SERVICES. WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET TO A WATER SERVICE THE ELEVATION OF THE CROWN OF THE SEWER SHALL BE AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER SERVICE. ALL OTHER UTILITIES REQUIRE MINIMUM 5' SEPARATION FROM OTHER UTILITIES.
10. ALL GRAVITY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) SDR-35 UNLESS OTHERWISE NOTED.
11. WHERE SANITARY SEWERS CROSS WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN. IF THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT, THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL-JOINT PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER MAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. WHENEVER IT IS IMPOSSIBLE TO OBTAIN VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE ENCASED IN CONCRETE FOR A MINIMUM DISTANCE OF 10 FEET FROM THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
12. THE LOCATIONS OF PROPOSED ELECTRIC, TELEPHONE AND COMMUNICATION (E.T.C.) SERVICES ARE APPROXIMATE. THE PROJECT ELECTRICAL ENGINEER SHALL VERIFY THESE LOCATIONS PRIOR TO THE START OF CONSTRUCTION. COORDINATE ALL E.T.C. WORK WITH THE APPROPRIATE UTILITY COMPANIES.
13. THE PROPOSED GAS SERVICE LOCATION IS APPROXIMATE ONLY. THE CONTRACTOR SHALL COORDINATE THE GAS SERVICE INSTALLATION WITH NATIONAL GRID.
14. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN ACCORDANCE WITH SCITUATE DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS.
15. ALL EXISTING UTILITIES WITHIN THE SITE ARE TO BE REMOVED UNLESS OTHERWISE STATED TO REMAIN. REMOVE UTILITIES IN ACCORDANCE WITH SCITUATE DPW SPECIFICATIONS.

CONSTRUCTION PHASE BMP OPERATION AND MAINTENANCE NOTES:

1. STRUCTURAL PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE SILT SOCK EROSION CONTROL BARRIERS, STABILIZED CONSTRUCTION ENTRANCES, CONCRETE WASH STATIONS, STOCKPILE AREAS, AND INLET PROTECTION.
2. STABILIZATION PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE TEMPORARY SEEDING, GEOTEXTILES (JUTE MESH), MULCHING, AND PERMANENT SEEDING.
3. OPERATOR PERSONNEL AND/OR ITS CONSULTANTS MUST INSPECT THE CONSTRUCTION SITE AT LEAST ONCE EVERY 7 CALENDAR DAYS OR EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT ¼ INCH OR GREATER. THE INSPECTOR SHOULD REVIEW THE EROSION AND SEDIMENT CONTROLS WITH RESPECT TO THE FOLLOWING:
   A. WHETHER OR NOT THE BMP WAS INSTALLED/PERFORMED CORRECTLY.
   B. WHETHER OR NOT THERE HAS BEEN DAMAGE TO THE BMP SINCE IT WAS INSTALLED OR PERFORMED.
   C. WHAT SHOULD BE DONE TO CORRECT ANY PROBLEMS WITH THE BMP.
4. THE INSPECTOR SHALL COMPLETE THE INSPECTION SCHEDULE AND EVALUATION CHECKLIST FOR FINDINGS AND SHOULD REQUEST THE REQUIRED MAINTENANCE OR REPAIR.
5. ALL SLOPES EXCEEDING 15% RESULTING FROM SITE GRADING SHALL BE BOTH COVERED WITH FOUR INCHES OF TOPSOIL AND PLANTED WITH A VEGETATED COVER SUFFICIENT TO PREVENT EROSION.

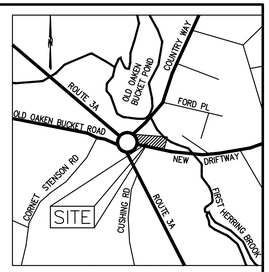
SCITUATE NEW WATER MAIN TESTING NOTES:

1. ALL TESTING SHALL BE PERFORMED WITH A WATER DIVISION EMPLOYEE OR THEIR REPRESENTATIVE.
2. CHLORINATION WHIP SHALL BE 1' FROM TAP CONNECTION.
3. SAMPLE WHIP SHOULD BE AT END OF MAIN OR BEFORE LAST HYDRANT.
4. AFTER PRESSURE TESTING AND CHLORINATION IS COMPLETED, SAMPLES SHALL BE TAKEN FROM THE FIRE SERVICE AND DOMESTIC WATER SERVICE AND SHALL BE TESTED AT 150 PSI FOR A MINIMUM OF 1 HOURS. THE CONTRACTOR IS REQUIRED TO NOTIFY THE SCITUATE DEPARTMENT OF PUBLIC WORKS AND SCITUATE WATER DIVISION AT LEAST 24 HOURS PRIOR TO THE TESTING.
5. CHLORINATE MAIN >50 MG/L.
6. FLUSH CHLORINE OFF AFTER 24 HOURS. RESIDUAL MUST BE >25 MG/L BEFORE FLUSHING.
7. 2 SAMPLES MUST BE TAKEN FOR ALL MAINS AFTER 16-24 HOURS OF REST.

CHLORINE RESIDUAL MUST BE LESS THAN SYSTEM RESIDUAL ADDITIONAL SAMPLE SETS FOR EVERY ADDITIONAL 1000' OF MAIN.

8. TAKE 2ND SAMPLE >16 HOURS FROM 1ST SAMPLE TIME.
9. SAMPLE TESTING SHALL INCLUDE COLIFORM & HPC.
10. CONTRACTOR IS RESPONSIBLE FOR TRANSPORTING SAMPLES TO CERTIFIED LAB.
11. RESULTS ON DEP FORMS SHALL BE SENT TO:

EMAIL- SANDERSON@SCITUATEMA.GOV
MCLOUD@SCITUATEMA.GOV
OR
MAIL- SCITUATE WATER DIVISION
4 OLD OAKEN BUCKET RD.
SCITUATE, MA. 02066



Locus Map
Not to Scale

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
P: 781.792.3900
F: 781.792.0333
www.mckeng.com

REV	DATE	DESCRIPTION	BY	APP
1				

SITE DEVELOPMENT PLAN

(ASSESSOR'S MAP 53, BLOCK 5, LOT 37F)
7 NEW DRIFTWAY
SCITUATE, MASSACHUSETTS

PROFESSIONAL ENGINEER:

COMMONWEALTH OF MASSACHUSETTS
BRADLEY C. McKENZIE
CIVIL
No. 39017
REGISTERED PROFESSIONAL ENGINEER

APPLICANT:
DRIFT-WAY, LLC
PO BOX 378
TYNGSBORO, MA 01879

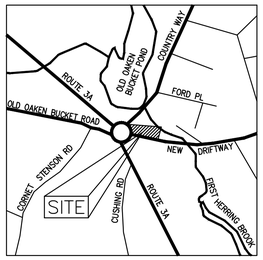
PERMIT PLAN SET

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	JULY 12, 2021
SCALE:	NO SCALE
PROJECT NO.:	218-153

DWG. TITLE:
LEGEND, ABBREVIATIONS AND GENERAL NOTES

DWG. No:
L-1

M:\MEG\2018 PROJECTS\218-153 POLAK - NEW DRIFTWAY, SCITUATE\DWGS\218-153 MAIN6.DWG



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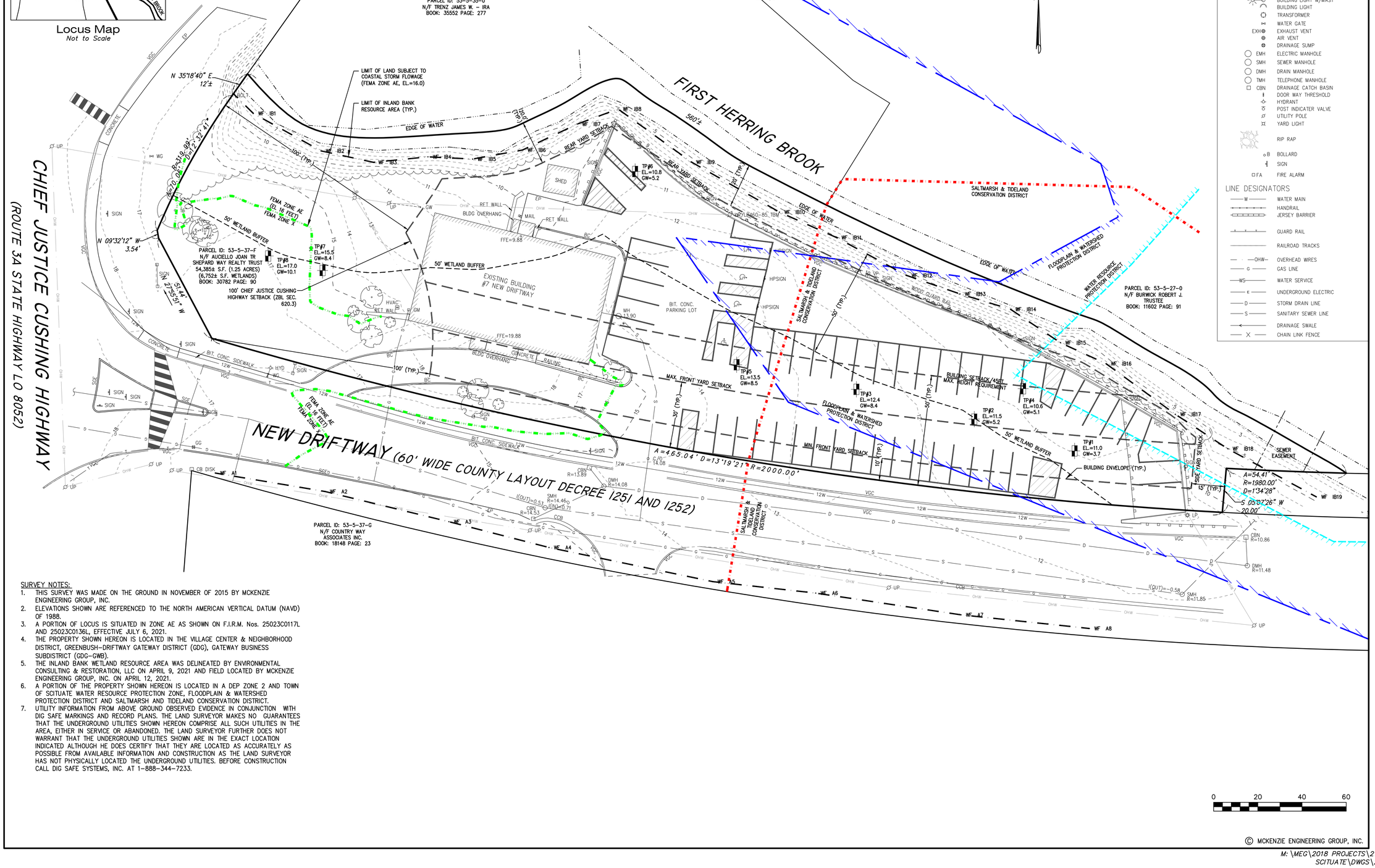

ABBREVIATIONS

FFE	FIRST FLOOR ELEVATION
BIT CONC.	BITUMINOUS CONCRETE PAVEMENT
CCB	CAPE COD BERM
EP	EDGE OF PAVEMENT
BC	BITUMINOUS CONCRETE CURB
(AM)	AS MEASURED
RET WALL	RETAINING WALL
CONC.	CONCRETE
RCP	REINFORCED CONCRETE PIPE
VGC	VERTICAL GRANITE CURB
ETW	EDGE OF TRAVEL WAY
MTL	METAL BERM
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CMP	CORRUGATED METAL PIPE

LEGEND

SURVEY SYMBOLS
- REBAR
- ANGLE IRON
- CB/DH — CONCRETE BOUND WITH DRILL HOLE
- SB — STONE BOUND
- SB/DH — STONE BOUND

UTILITY SYMBOLS
- CHIMNEY
- ELECTRIC HAND HOLE
- GUY POLE
- GW — GUY WIRE
- HVAC UNIT
- BUILDING LIGHT W/MAST
- BUILDING LIGHT
- TRANSFORMER
- WATER GATE
- EXH — EXHAUST VENT
- AIR VENT
- DRAINAGE SUMP
- EMH — ELECTRIC MANHOLE
- SMH — SEWER MANHOLE
- DMH — DRAIN MANHOLE
- TMH — TELEPHONE MANHOLE
- CBN — DRAINAGE CATCH BASIN
- DOOR WAY THRESHOLD
- HYDRANT
- POST INDICATER VALVE
- UTILITY POLE
- YARD LIGHT
- RIP RAP
- B — BOLLARD
- SIGN
- FA — FIRE ALARM

LINE DESIGNATORS
- W — WATER MAIN
- HANDRAIL
- JERSEY BARRIER
- GUARD RAIL
- RAILROAD TRACKS
- OHW — OVERHEAD WIRES
- G — GAS LINE
- WS — WATER SERVICE
- E — UNDERGROUND ELECTRIC
- D — STORM DRAIN LINE
- S — SANITARY SEWER LINE
- DRAINAGE SWALE
- X — CHAIN LINK FENCE

SURVEY NOTES:
1. THIS SURVEY WAS MADE ON THE GROUND IN NOVEMBER OF 2015 BY MCKENZIE ENGINEERING GROUP, INC.
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REV	DATE	DESCRIPTION	BY	APP
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Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
P: 781.792.3900
F: 781.792.0333
www.mckeng.com

EXISTING CONDITIONS PLAN

(ASSESSOR'S MAP 53, BLOCK 5, LOT 37F)

7 NEW DRIFTWAY

SCITUATE, MASSACHUSETTS

PROFESSIONAL SURVEYOR:

COMMONWEALTH OF MASSACHUSETTS
RICHARD J. HOOD No. 35031 REGISTERED PROFESSIONAL LAND SURVEYOR
7/6/21

APPLICANT:
DRIFT-WAY, LLC
PO BOX 378
TYNGSBORO, MA 01879

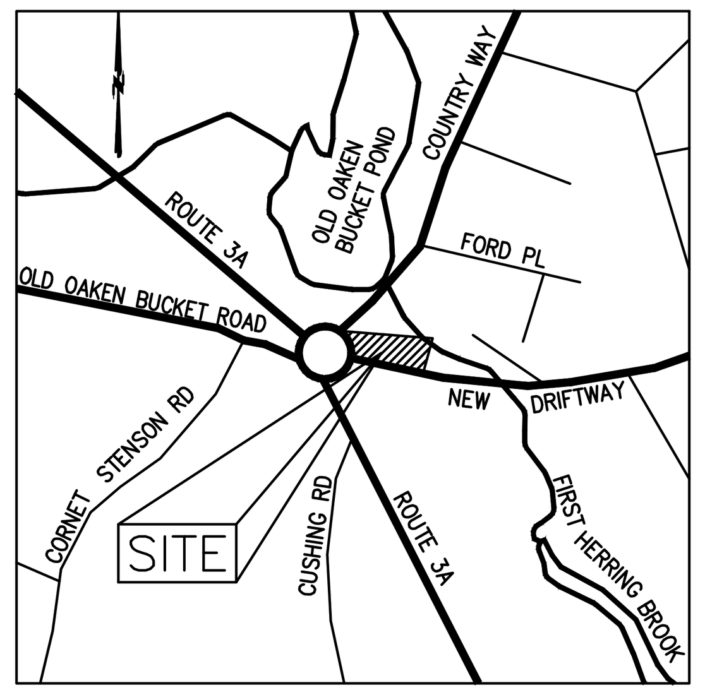
NOT FOR CONSTRUCTION

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	JULY 12, 2021
SCALE:	1"=20
PROJECT NO.:	215–170

DWG. TITLE:
EXISTING CONDITIONS PLAN

DWG. No:
EX-1

M:\MEG\2018 PROJECTS\218–153 POLAK – NEW DRIFTWAY, SCITUATE\DWGS\215–170 EX BUSINESS PLAN.DWG



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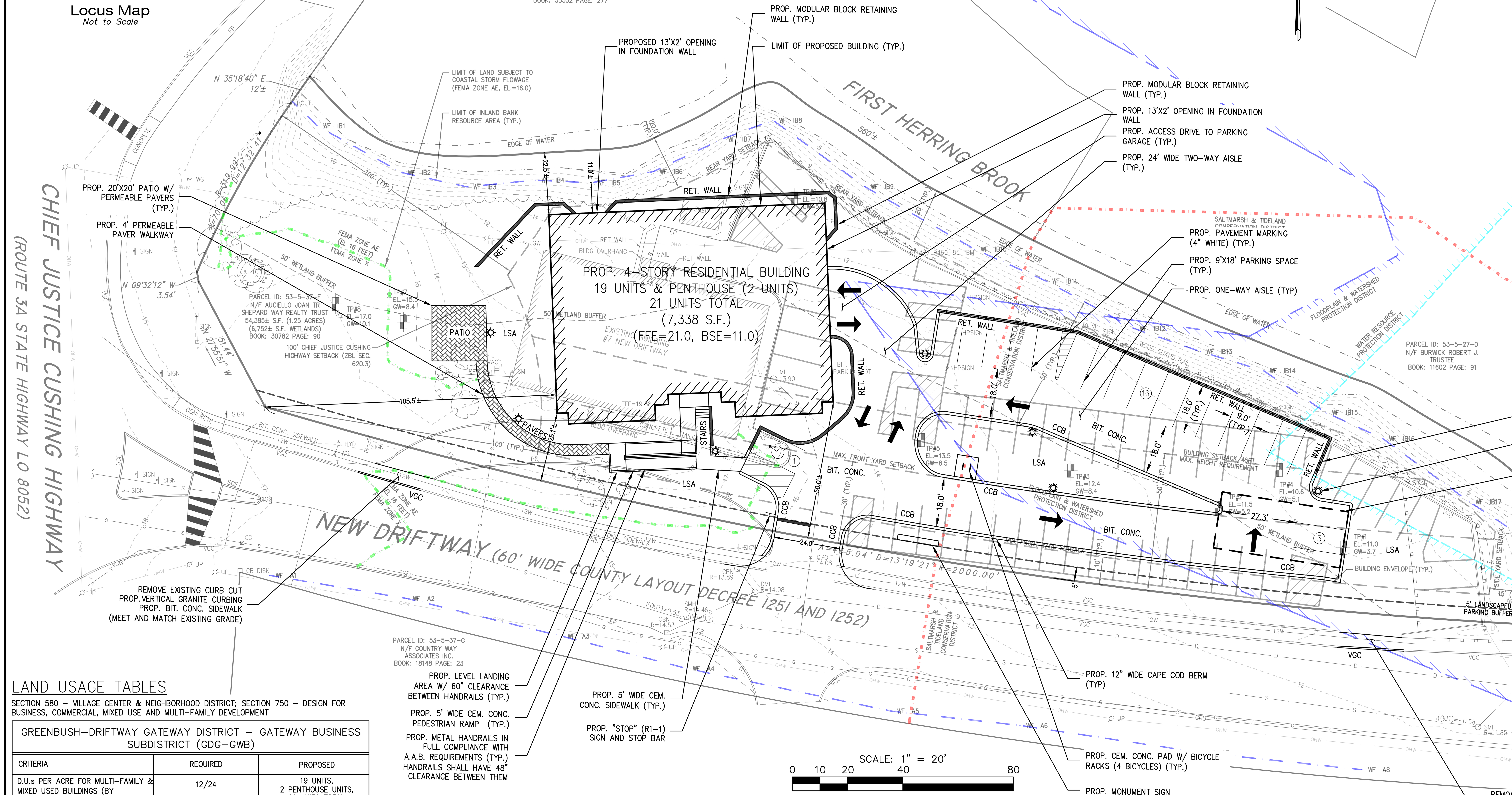

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LEGEND

SURVEY SYMBOLS

REBAR
ANGLE IRON
CB/DH CONCRETE BOUND WITH DRILL HOLE
SB STONE BOUND
SB/DH STONE BOUND

UTILITY SYMBOLS

CHIMNEY
ELECTRIC HAND HOLE
GUY POLE
GW GUY WIRE
HVAC UNIT
BUILDING LIGHT W/MAST
BUILDING LIGHT
TRANSFORMER
WATER GATE
EXH EXHAUST VENT
AIR VENT
DRAINAGE SUMP
EMH ELECTRIC MANHOLE
SMH SEWER MANHOLE
DMH DRAIN MANHOLE
TMH TELEPHONE MANHOLE
CBN DRAINAGE CATCH BASIN
DOOR WAY THRESHOLD
HYDRANT
POST INDICATER VALVE
UTILITY POLE
YARD LIGHT
RIP RAP
BOLLARD
SIGN
FA FIRE ALARM

LINE DESIGNATORS

W WATER MAIN
HANDRAIL
JERSEY BARRIER
GUARD RAIL
OHW OVERHEAD WIRES
G GAS LINE
WS WATER SERVICE
E UNDERGROUND ELECTRIC
D STORM DRAIN LINE
S SANITARY SEWER LINE
DRAINAGE SWALE
X CHAIN LINK FENCE

LAND USAGE TABLES

SECTION 580 – VILLAGE CENTER & NEIGHBORHOOD DISTRICT; SECTION 750 – DESIGN FOR BUSINESS, COMMERCIAL, MIXED USE AND MULTI-FAMILY DEVELOPMENT

GREENBUSH-DRIFTWAY GATEWAY DISTRICT – GATEWAY BUSINESS SUBDISTRICT (GDG-GWB)

CRITERIA	REQUIRED	PROPOSED
D.U.s PER ACRE FOR MULTI-FAMILY & MIXED USED BUILDINGS (BY RIGHT/SPECIAL PERMIT)	12/24	19 UNITS, 2 PENTHOUSE UNITS, 21 UNITS TOTAL
FRONT YARD BUILD-TO ZONE (MIN./MAX.)	10 FT./30 FT.	25.1 FT./50.0 FT.
LOT DEPTH	NOT REQUIRED	NOT REQUIRED
SIDE YARD (MIN.)	15 FT.	260.6 FT.
REAR YARD (MIN.)	20 FT.	22.5 FT.
STREET FRONTAGE (MIN.)	80 FT.	602 FT.
LOT SIZE (MIN.)	NOT REQUIRED	54,385 S.F.
OUTDOOR AMENITY SPACE (MIN.)	20%	±21.5%
BUILDING HEIGHT (MAX.)	4 STORIES/40 FT.	SEE BUILDING HEIGHT TABLE
BUILDING FOOTPRINT (MAX.)	NOT APPLICABLE	NOT APPLICABLE
STREET FACING ENTRANCE	REQUIRED	PROVIDED
STREET FACING WALL WIDTH (MIN./MAX.)	60 FT./100 FT.	96 FT.

SECTION 750.5.A.3 – BUILDING STEPBACK AND STREET ENCLOSURE

BUILDING SETBACK, STEPBACK, AND STREET ENCLOSURE

DISTANCE FROM STREET ROW	MAXIMUM BUILDING HEIGHT	PROPOSED
0'	25'	N/A
25'	35'	45.5'
50'	45'	45.5'

* AVERAGE GRADE PLANE FOR PROPOSED BUILDING: ELEVATION = 18.01

SECTION 750.6.B – SPECIAL DWELLING UNIT TYPES

PENTHOUSE DESIGN CRITERIA

CRITERIA	REQUIRED	PROPOSED
SETBACK FROM EDGE OF ROOF (RATIO)	1:1 HEIGHT TO SETBACK	1:1 FRONT, 2.5:1 REAR
HEIGHT (MAX.)	10 FT.	10 FT.
FLOOR PLATE AREA (MAX.)	50% OF PRINCIPAL BLDG	≤ 50%

LAND USAGE TABLE NOTES:
(1) HABITABLE SPACE IN A PENTHOUSE MAY INCLUDE RESIDENTIAL LIVING SPACE, OFFICE SPACE, COMMON RECREATION SPACE (WHICH COULD BE ASSOCIATED WITH A ROOFTOP TERRACE), OR COMMERCIAL SPACE SUCH AS A LOUNGE OR A RESTAURANT ON THE ROOF.
(2) NON-HABITABLE SPACE MAY INCLUDE MECHANICAL EQUIPMENT, STAIR OR ELEVATOR OVERRUNS, OR STORAGE.
(3) HEIGHT LIMITS DO NOT APPLY TO PENTHOUSE DWELLING UNITS AS LONG AS THEY ARE NOT VISIBLE FROM ANY SIDEWALK ON THE PERIMETER OF THE PROPERTY LINE AND MEET THE DESIGN STANDARDS OF SEC 750.6.

PARKING CALCULATIONS

SECTION 760.8.B – BUSINESS AND MIXED USE DISTRICT PARKING REQUIREMENTS AND WAIVERS

COMPONENT	REQUIRED (SCITUATE ZONING BYLAW)	REQUIRED	PROPOSED
RESIDENTIAL USE	1 BEDROOM UNIT IN MULTI-FAMILY BUILDING = 1 SPACE 2 BEDROOM UNIT IN MULTI-FAMILY BUILDING = 1.5 SPACES 3 BEDROOM UNIT IN MULTI-FAMILY BUILDING = 2 SPACES	1 BEDROOM UNIT = 3 (3 SPACES) 2 BEDROOM UNIT = 18 (27 SPACES) 3 BEDROOM UNIT = 0 (0 SPACES)	LOWER LEVEL PARKING GARAGE = 16 SPACES EXTERIOR PARKING LOT = 20 SPACES
		TOTAL: 30 SPACES	TOTAL: 36 SPACES

PARKING NOTES:
1. 20 TOTAL EXTERIOR PARKING SPACES INCLUDES 1 AAB ACCESSIBLE SPACES 9' X 18' WITH 8' X 18' ACCESS AREA (VAN ACCESSIBLE SPACE) (521 CMR: ARCHITECTURAL ACCESS BOARD) ACCESSIBLE SPACES REQUIRED = 1 (0-25 TOTAL SPACES)
2. OFF-STREET PARKING AREAS SHALL BE SET BACK A MINIMUM OF 5 FEET FROM ALL BUILDINGS AND LOT LINES.

REV	DATE	DESCRIPTION	BY	APP
-	-	-	-	-

MCKENZIE ENGINEERING GROUP
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150 Longwater Drive, Suite 101
Norwell, MA 02061
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F: 781.792.0333
www.mckeng.com

SITE DEVELOPMENT PLAN
(ASSESSOR'S MAP 53, BLOCK 5, LOT 37F)
7 NEW DRIFTWAY
SCITUATE, MASSACHUSETTS

PROFESSIONAL ENGINEER: COMMONWEALTH OF MASSACHUSETTS BRADLEY C. MCKENZIE CIVIL No. 36917 REGISTERED PROFESSIONAL ENGINEER

APPLICANT:
DRIFT-WAY, LLC
PO BOX 378
TYNGSBORO, MA 01879

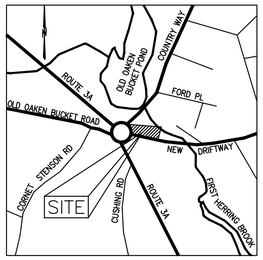
PERMIT PLAN SET

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	JULY 12, 2021
SCALE:	1"=20
PROJECT NO.:	218-153

DWG. TITLE: SITE LAYOUT PLAN

DWG. No: C-1

M: \MEG\2018 PROJECTS\218-153 POLAK – NEW DRIFTWAY, SCITUATE\DWGS\218-153 MAIN6.DWG



Locus Map
Not to Scale

ABBREVIATIONS

FFE	FIRST FLOOR ELEVATION
BIT CONC.	BITUMINOUS CONCRETE PAVEMENT
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(AM)	AS MEASURED
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CONC.	CONCRETE
RCP	REINFORCED CONCRETE PIPE
VGC	VERTICAL GRANITE CURB
ETW	EDGE OF TRAVEL WAY
MTL	METAL BERM
VCC	VERTICAL CONCRETE CURB
CMP	CORRUGATED METAL PIPE

LEGEND

SURVEY SYMBOLS
- REBAR
- ANGLE IRON
- CB/DH — CONCRETE BOUND WITH DRILL HOLE
- SB — STONE BOUND
- SB/DH — STONE BOUND

UTILITY SYMBOLS
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- ELECTRIC HAND HOLE
- GUY POLE
- GW — GUY WIRE
- HVAC UNIT
- BUILDING LIGHT W/MAST
- BUILDING LIGHT
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- WATER GATE
- EXH — EXHAUST VENT
- AIR VENT
- DRAINAGE SUMP
- EMH — ELECTRIC MANHOLE
- SMH — SEWER MANHOLE
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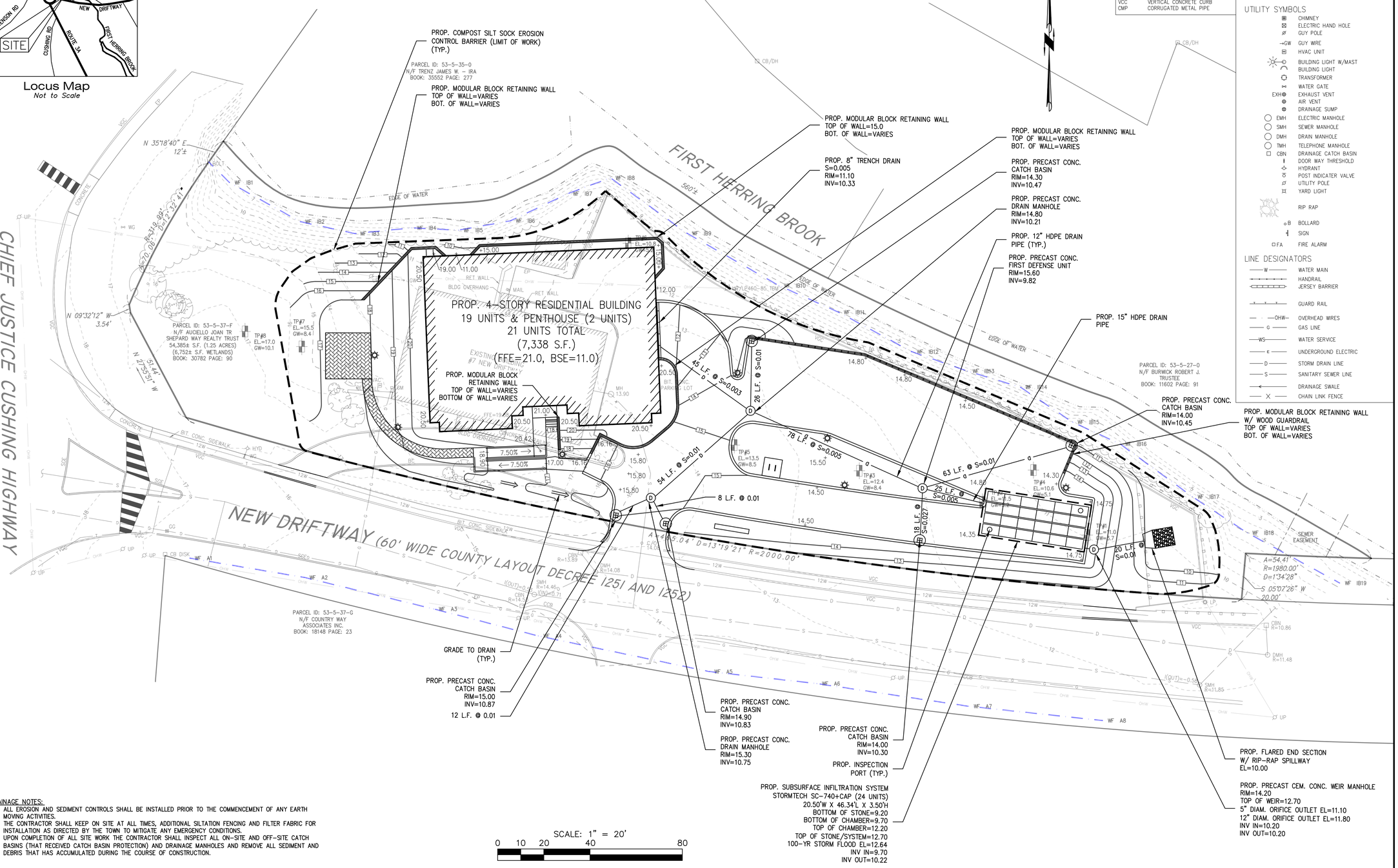

DRAINAGE NOTES:
1. ALL EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY EARTH MOVING ACTIVITIES.
2. THE CONTRACTOR SHALL KEEP ON SITE AT ALL TIMES, ADDITIONAL SILTATION FENCING AND FILTER FABRIC FOR INSTALLATION AS DIRECTED BY THE TOWN TO MITIGATE ANY EMERGENCY CONDITIONS.
3. UPON COMPLETION OF ALL SITE WORK THE CONTRACTOR SHALL INSPECT ALL ON-SITE AND OFF-SITE CATCH BASINS (THAT RECEIVED CATCH BASIN PROTECTION) AND DRAINAGE MANHOLES AND REMOVE ALL SEDIMENT AND DEBRIS THAT HAS ACCUMULATED DURING THE COURSE OF CONSTRUCTION.

REV	DATE	DESCRIPTION	BY	APP
1	1	1	1	1

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(ASSESSOR'S MAP 53, BLOCK 5, LOT 37F)
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APPLICANT:
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PO BOX 378
TYNGSBORO, MA 01879

PERMIT PLAN SET

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	JULY 12, 2021
SCALE:	1"=20
PROJECT NO.:	218-153

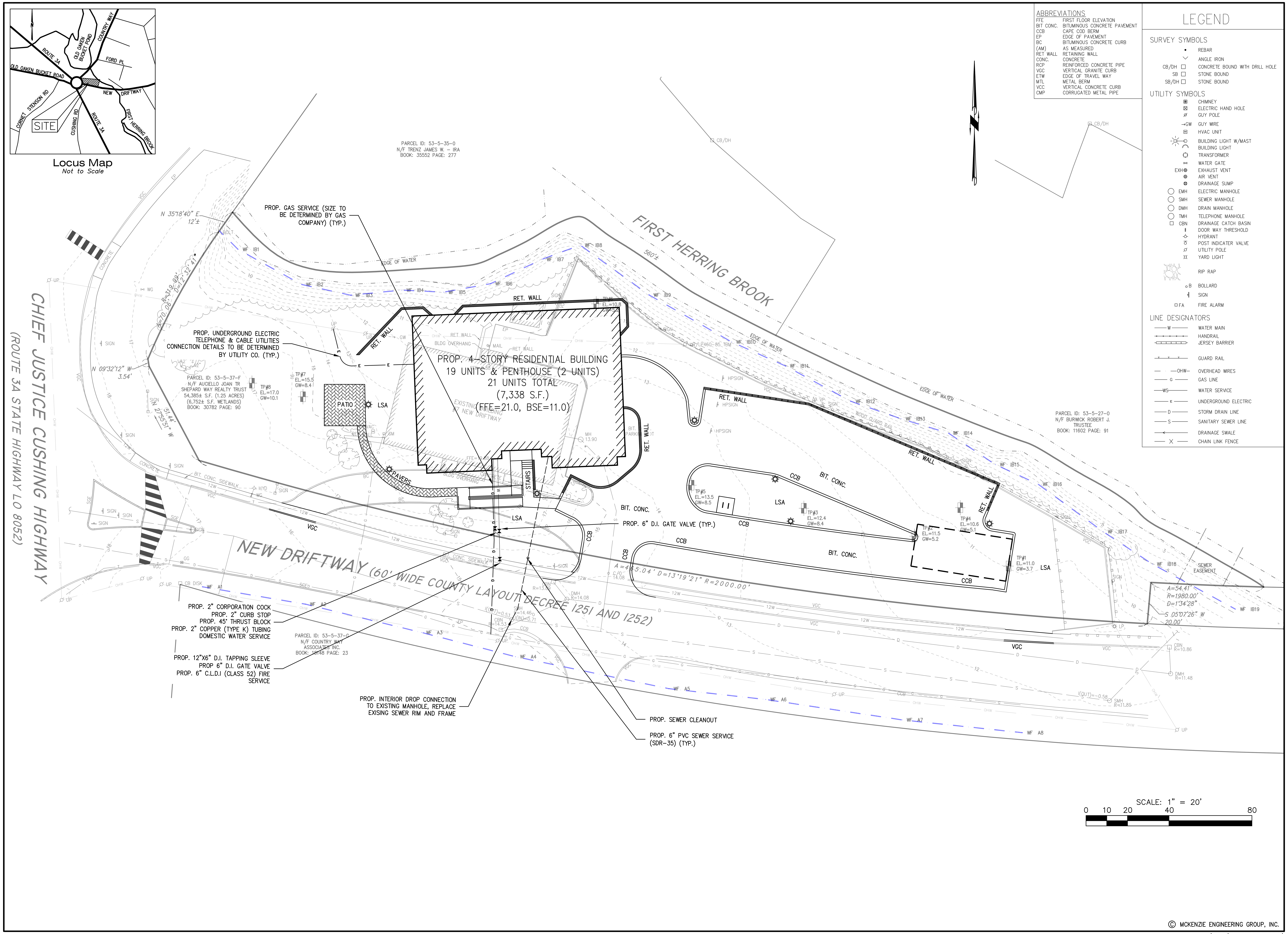
DWG. TITLE:

GRADING AND DRAINAGE PLAN

DWG. No:

C-2

M:\MEG\2018 PROJECTS\218-153 POLAK – NEW DRIFTWAY, SCITUATE\DWGS\218-153 MAIN6.DWG



M: \MEG\2018 PROJECTS\218-153 POLAK – NEW DRIFTWAY, SCITUATE\DWGS\218-153 MAIN6.DWG

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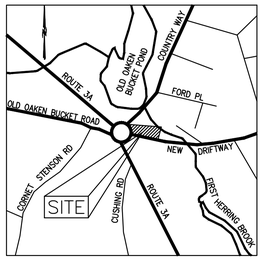
DATE:	JULY 12, 2021
SCALE:	1"=20
PROJECT NO.:	218-153

DWG. TITLE:

UTILITY PLAN

DWG. No:
C-3



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- DRAINAGE SWALE
- CHAIN LINK FENCE

PROP. COMPOST SILT SOCK EROSION CONTROL BARRIER (LIMIT OF WORK) (TYP.)

PARCEL ID: 53-5-35-0
N/F TRENZ JAMES W. – IRA
BOOK: 35552 PAGE: 277

PROP. TEMPORARY SEDIMENTATION BASIN
CONTRIBUTORY AREA=5,900 S.F.
REQUIRED VOLUME=(5,900 X 3,600 CUBIC FEET/ACRE) / 43,560 S.F./ACRE =488 CUBIC FEET OF STORAGE (MIN.)
TOP OF BASIN=13.0
BOT. OF BASIN=12.0

PROP. STAGING/MATERIAL STORAGE AREA FOR CONSTRUCTION

PROP. TEMPORARY SEDIMENTATION BASIN
CONTRIBUTORY AREA=19,500 S.F.
REQUIRED VOLUME=(19,500 X 3,600 CUBIC FEET/ACRE) / 43,560 S.F./ACRE =1,620 CUBIC FEET OF STORAGE (MIN.)
TOP OF BASIN=11.0
BOT. OF BASIN=9.0

PROP. RIP-RAP EMERGENCY SPILLWAY (TYP.)

PROP. 4-STORY RESIDENTIAL BUILDING
19 UNITS & PENTHOUSE (2 UNITS)
21 UNITS TOTAL
(7,338 S.F.)
(FFE=21.0, BSE=11.0)

PROP. STOCKPILE AREA

PARCEL ID: 53-5-37-F
N/F AUCIELLO JOAN TR
SHEPARD WAY REALTY TRUST
54,385± S.F. (1.25 ACRES)
(6,752± S.F. WETLANDS)
BOOK: 30782 PAGE: 90

PARCEL ID: 53-5-27-0
N/F BURWICK ROBERT J. TRUSTEE
BOOK: 11602 PAGE: 91

PARCEL ID: 53-5-37-G
N/F COUNTRY WAY ASSOCIATES INC.
BOOK: 18148 PAGE: 23

CHIEF JUSTICE CUSHING HIGHWAY
(ROUTE 3A STATE HIGHWAY LO 8052)

NEW DRIFTWAY (60' WIDE COUNTY LAYOUT DECREE 1251 AND 1252)

FIRST HERRING BROOK

PROP. SILT SACK CATCH BASIN INLET PROTECTION (TO BE REMOVED UPON COMPLETION) (TYP.)

PROP. STABILIZED CONSTRUCTION ENTRANCE (TYP.)

PROP. FUELING AND MAINTENANCE AREA (TYP.)

PROP. CONCRETE WASHOUT AREA (TYP.)

PROP. CONSTRUCTION FENCING (TYP.)

APPROX. LIMIT OF SUBSURFACE INFILTRATION SYSTEM (TYP.)

SCALE: 1" = 20'
0 10 20 40 80

CONSTRUCTION SEQUENCE

TO PREVENT EXCESSIVE EROSION AND SILTING, THE FOLLOWING CONSTRUCTION SEQUENCE COUPLED WITH OTHER WIDELY ACCEPTED PRINCIPALS FOR REDUCING EROSION AND SEDIMENTATION SHALL BE IMPLEMENTED IN THE DEVELOPMENT OF THE SITE.

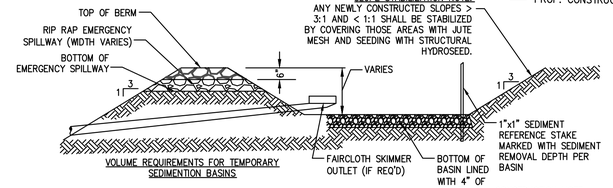
1. THE CONTRACTOR SHALL COORDINATE A PRE-CONSTRUCTION MEETING PRIOR TO ANY CONSTRUCTION ACTIVITY.
2. STABILIZATION PRACTICES FOR EROSION AND SEDIMENT CONTROL SHALL BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. REFER TO "EROSION AND SEDIMENTATION CONTROL" SECTION OF THIS PLAN & PLACE SILTATION FENCE ON THE SITE PLANS.
3. CLEAR AND GRUB UP AS REQUIRED FOR THE CONSTRUCTION OF THE DRIVEWAY AND RELATED INFRASTRUCTURE.
4. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE.
5. EXCAVATE TOPSOIL AND SUBSOIL FROM CUT AND FILL AREAS AND STOCKPILE ON SITE IN LOCATIONS SHOWN ON THE PLAN. CONSIDERATION SHOULD BE GIVEN TO LOCATING STOCKPILES ON THE UPHILL SIDE OF DISTURBED AREAS, WHERE POSSIBLE, TO ACT AS TEMPORARY DIVERSIONS.
6. CONSTRUCT CUT AND FILL AREAS, INSTALLING HAYBALE CHECK DAMS AT TOES OF ALL 3:1 OR GREATER SLOPES, AND AT ENDS OF ALL CUT AREAS. ALL FILL WILL BE INSTALLED USING 12" MAXIMUM COMPACTION LIFTS. PLACE ALL SLOPE PROTECTION WHERE INDICATED ON THE PLAN. THE SUBSURFACE INFILTRATION SYSTEM SHALL BE CONSTRUCTED IMMEDIATELY AFTER THE DRIVEWAY ROUGH GRADING IS COMPLETED AND THE AREA HAS BEEN CLEARED OF VEGETATION.
7. INSTALL CLOSED DRAINAGE SYSTEM AND OTHER UTILITIES. ALL CATCH BASINS SHALL BE COVERED WITH SILTSACK OR EQUIVALENT INLET PROTECTION.
8. GRADE DRIVEWAY TO SUBGRADE ELEVATION AND CONSTRUCT SIDE SLOPES. APPLY TEMPORARY STABILIZATION MEASURES WHERE WARRANTED. REFER TO "EROSION AND SEDIMENTATION CONTROL" SECTION OF THIS PLAN.
9. PLACE GRAVEL SUBBASE.
10. PLACE THE BITUMINOUS CONCRETE BINDER COURSE ON DRIVEWAY AND PARKING LOT.
11. GRADE SLOPES AND STABILIZE CUT AREAS AT TOE OF SLOPES. BLEND ALL SLOPES INTO EXISTING TOPOGRAPHY AND LOAM AND SEED ALL DISTURBED AREAS. SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH JUTE MESH.
12. PLACE THE FINAL WEARING COURSE OF PAVEMENT.
13. COMPLETE FINE GRADING OF SHOULDERS AND PLACE PAVEMENT IN MISCELLANEOUS AREAS.
14. REMOVE TEMPORARY EROSION CONTROL DEVICES ONCE ADEQUATE GROWTH IS ESTABLISHED. ADEQUATE GROWTH IS DEFINED AS VEGETATION COVERING 75% OR MORE OF THE GROUND SURFACE.

GENERAL CONSTRUCTION NOTES

1. SUBSURFACE INFILTRATION SYSTEM WILL BE DELINEATED BY STAKES WITH CAUTION TAPE AND/OR CONSTRUCTION FENCING PRIOR TO CONSTRUCTION TO PROTECT FROM SOIL COMPACTION. NO HEAVY EQUIPMENT WILL BE ALLOWED IN THIS AREA.
2. TOPSOIL AND EXCAVATED STOCKPILES WILL BE STORED IN SEPARATE STOCKPILE AREAS. THE CONTRACTOR MAY ADJUST THE SIZE AND LOCATION OF STOCKPILE AREAS AS NEEDED.
3. STUMPS, LOGS AND DEBRIS HINDERING CONSTRUCTION ACTIVITY SHALL BE REMOVED PRIOR TO CONSTRUCTION AND DISPOSED OF IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.
4. UNSUITABLE MATERIAL INCLUDING THE EXISTING STOCKPILE WILL BE REMOVED AND/OR RELOCATED FROM SITE PRIOR TO CONSTRUCTION OF INDIVIDUAL LOTS.

CONSTRUCTION PHASE BMP OPERATION AND MAINTENANCE NOTES:

1. STRUCTURAL PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE SILT SOCK EROSION CONTROL BARRIERS, STABILIZED CONSTRUCTION ENTRANCES, CONCRETE WASH STATIONS, STOCKPILE AREAS, AND INLET PROTECTION.
2. STABILIZATION PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE TEMPORARY SEEDING, GEOTEXTILES (JUTE MESH), MULCHING, AND PERMANENT SEEDING.
3. OPERATOR PERSONNEL AND/OR ITS CONSULTANTS MUST INSPECT THE CONSTRUCTION SITE AT LEAST ONCE EVERY 7 CALENDAR DAYS OR EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT ≥ INCH OR GREATER. THE INSPECTOR SHOULD REVIEW THE EROSION AND SEDIMENT CONTROLS WITH RESPECT TO THE FOLLOWING:
   A. WHETHER OR NOT THE BMP WAS INSTALLED/PERFORMED CORRECTLY.
   B. WHETHER OR NOT THERE HAS BEEN DAMAGE TO THE BMP SINCE IT WAS INSTALLED OR PERFORMED.
   C. WHAT SHOULD BE DONE TO CORRECT ANY PROBLEMS WITH THE BMP.
4. THE INSPECTOR SHALL COMPLETE THE INSPECTION SCHEDULE AND EVALUATION CHECKLIST FOR FINDINGS AND SHOULD REQUEST THE REQUIRED MAINTENANCE OR REPAIR.
5. ALL SLOPES EXCEEDING 15% RESULTING FROM SITE GRADING SHALL BE BOTH COVERED WITH FOUR INCHES OF TOPSOIL AND PLANTED WITH A VEGETATED COVER SUFFICIENT TO PREVENT EROSION.



VOLUME REQUIREMENTS FOR TEMPORARY SEDIMENTION BASINS

TEMPORARY SEDIMATATION BASINS SHALL HAVE A MINIMUM VOLUME BASED ON 3,600 Cu. Ft. OF STORAGE FOR EACH ACRE DRAINED TO BASIN.

SLOPE STABILIZATION NOTE:
ANY NEWLY CONSTRUCTED SLOPES > 3:1 AND < 1:1 SHALL BE STABILIZED BY COVERING THOSE AREAS WITH JUTE MESH AND SEEDING WITH STRUCTURAL HYDROSEED.

CONSTRUCTION NOTE:
TEMPORARY SEDIMENTATION BASINS SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO LOCATIONS SHOWN ON THE PLAN, BUT SITE CONDITION SUCH AS SOILS, POOL AREA, AND SPILLWAY CONDITIONS SHALL BE CONSIDERED. CONTRACTOR SHALL HAVE THE FLEXIBILTY TO ADJUST LOCATIONS AS LONG AS REQUIRED VOLUME IS PROVIDED.

TEMPORARY SEDIMENTATION BASIN
NOT TO SCALE

REV	DATE	DESCRIPTION	BY	APP
1	1	1	1	1

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(ASSESSOR'S MAP 53, BLOCK 5, LOT 37F)
7 NEW DRIFTWAY
SCITUATE, MASSACHUSETTS

PROFESSIONAL ENGINEER:

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PERMIT PLAN SET

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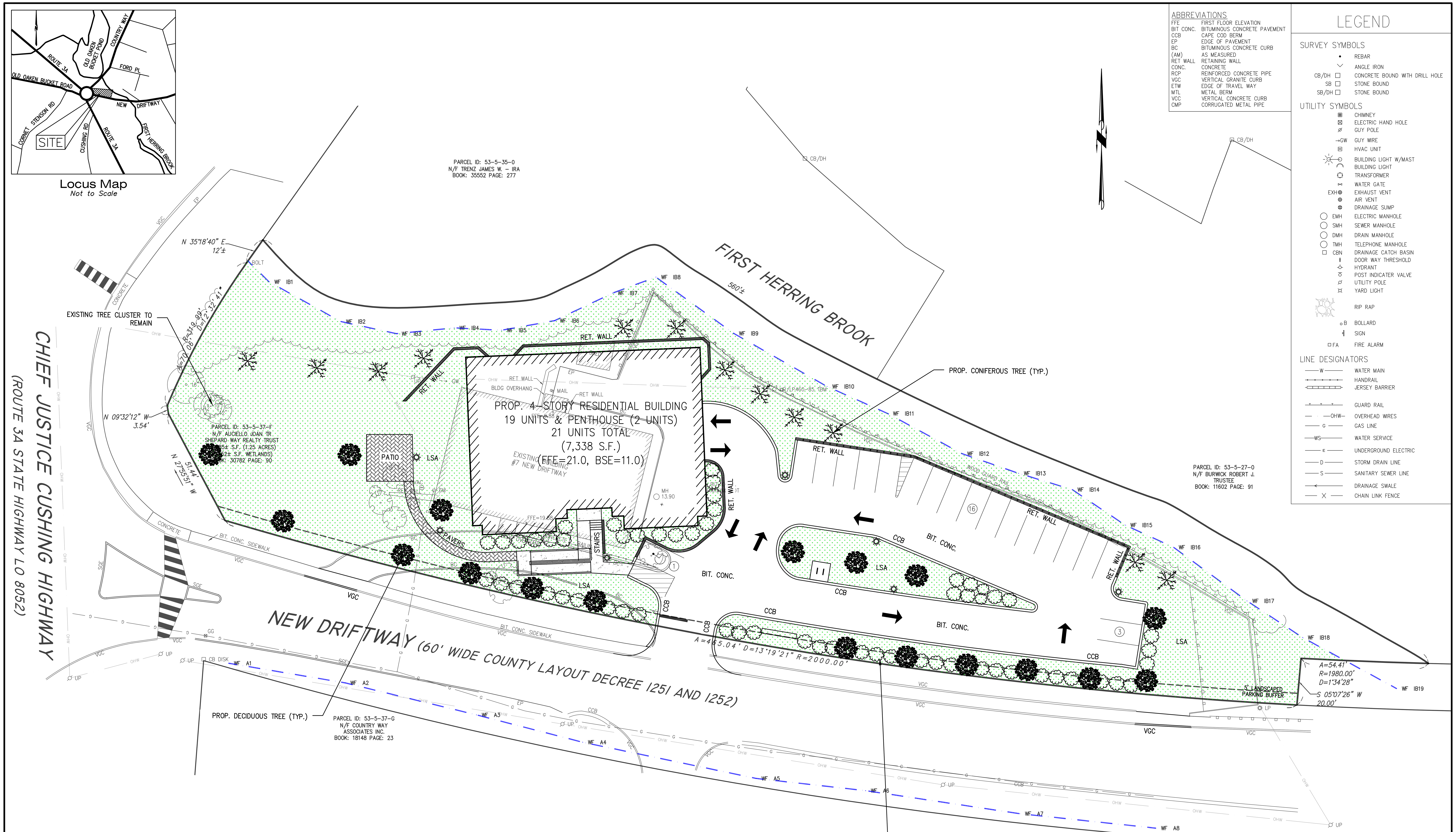
DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	JULY 12, 2021
SCALE:	1"=20
PROJECT NO.:	218-153

DWG. TITLE:
EROSION AND SEDIMENT CONTROL PLAN

DWG. No:
ESC-1

M:\MEG\2018 PROJECTS\218-153 POLAK – NEW DRIFTWAY, SCITUATE\DWGS\218-153 MAIN6.DWG



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PROPOSED SURFACE TREATMENTS TABLE

	PERMEABLE PAVERS (GRASS PAVE SYSTEM)
	CEMENT CONCRETE
	LANDSCAPED AREA (LOAM AND SEED)
	PROPOSED BUILDING

LANDSCAPING NOTES:
1. TO THE GREATEST EXTENT POSSIBLE, EXISTING NATIVE TREES AND SHRUBS SHALL BE MAINTAINED.
2. NO TREE, SHRUB OR PLANT SHALL BE USED THAT HAS BEEN IDENTIFIED AS AN INVASIVE SPECIES BY THE MASSACHUSETTS PLANT ADVISORY GROUP IN THE MOST RECENT VERSION OF "THE EVALUATION OF NON-NATIVE PLANT SPECIES FOR INVASIVENESS IN MASSACHUSETTS" (WITH ANNOTATED LIST) OR HAS BEEN IDENTIFIED AS INVASIVE OR BANNED ON THE "MASSACHUSETTS PROHIBITED PLANT LIST" AS PERIODICALLY UPDATED BY THE MASSACHUSETTS DEPARTMENT OF AGRICULTURE.
3. EXISTING INVASIVE PLANTS SHALL BE REMOVED.
4. NATIVE LANDSCAPING APPROPRIATE TO A BEACH AND DUNE ENVIRONMENT SHALL BE USED, WITH PLANTS TOLERANT OF LOW WATERING AND LOW MAINTENANCE.

SCALE: 1" = 20'
0 10 20 40 80

REV	DATE	DESCRIPTION	BY	APP
-	-	-	-	-

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
P: 781.792.3900
F: 781.792.0333
www.mckeng.com

SITE DEVELOPMENT PLAN
(ASSESSOR'S MAP 53, BLOCK 5, LOT 37F)
7 NEW DRIFTWAY
SCITUATE, MASSACHUSETTS

PROFESSIONAL ENGINEER:
COMMONWEALTH OF MASSACHUSETTS BRADLEY C. McKENZIE CIVIL No. 30917 REGISTERED PROFESSIONAL ENGINEER

APPLICANT:
DRIFT-WAY, LLC
PO BOX 378
TYNGSBORO, MA 01879

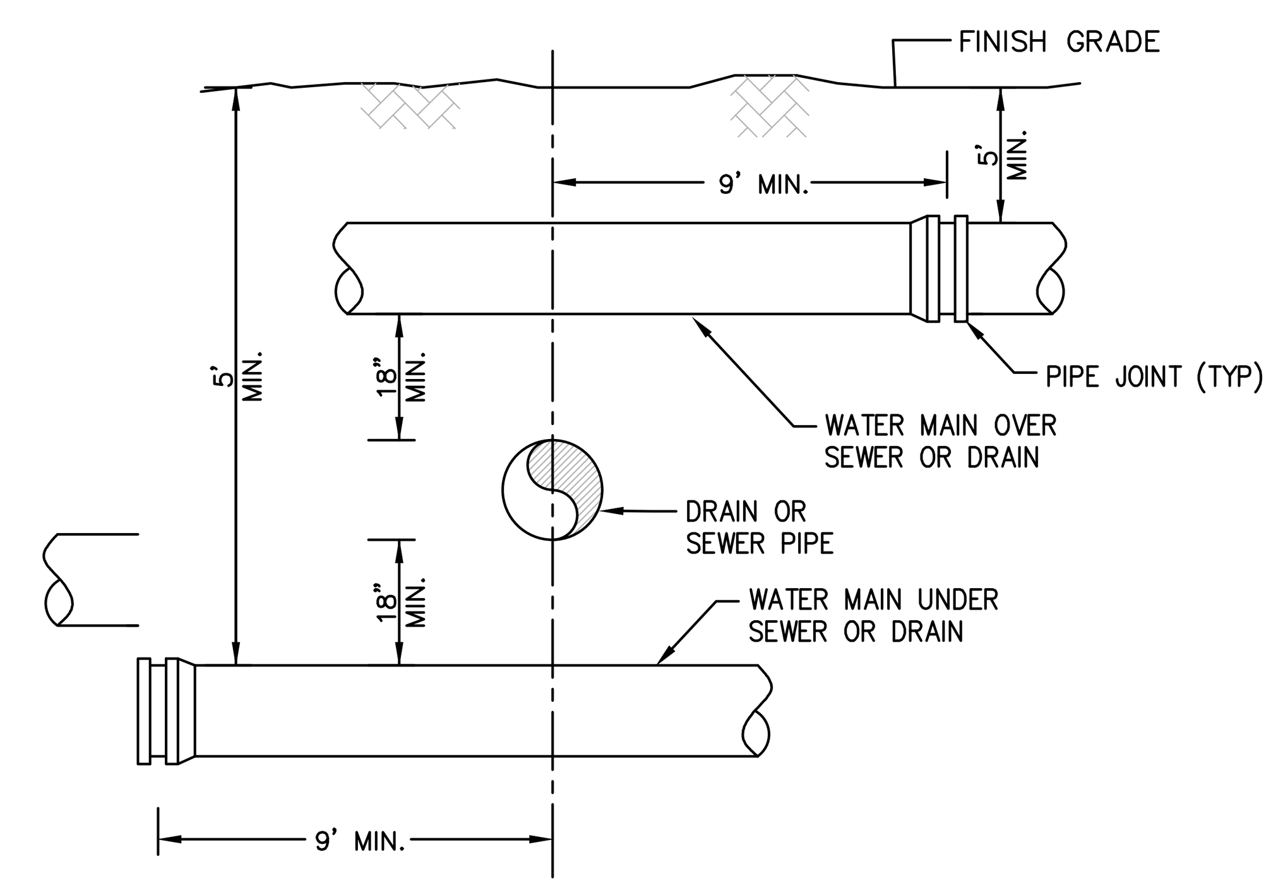
PERMIT PLAN SET

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	JULY 12, 2021
SCALE:	1"=20
PROJECT NO.:	218-153

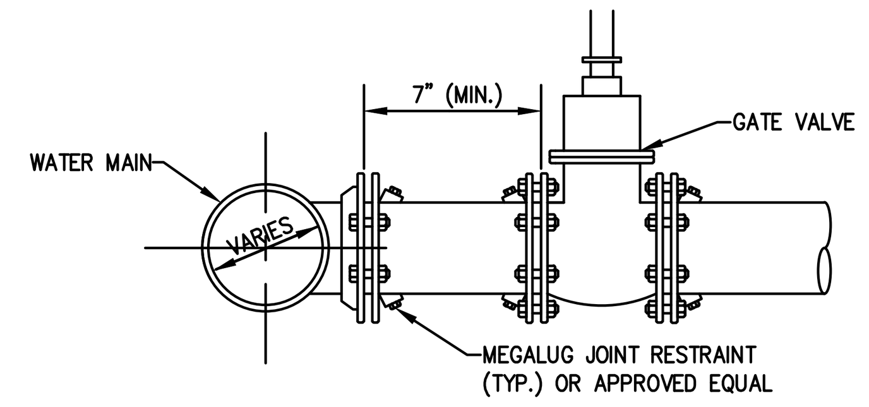
DWG. TITLE:
LANDSCAPING PLAN

DWG. No:
LA-1

M:\MEG\2018 PROJECTS\218-153 POLAK - NEW DRIFTWAY, SCITUATE\DWGS\218-153 MAIN6.DWG



SEWER OR DRAIN CROSSING DETAIL
N.T.S.



MECHANICAL JOINT RESTRAINT DETAIL
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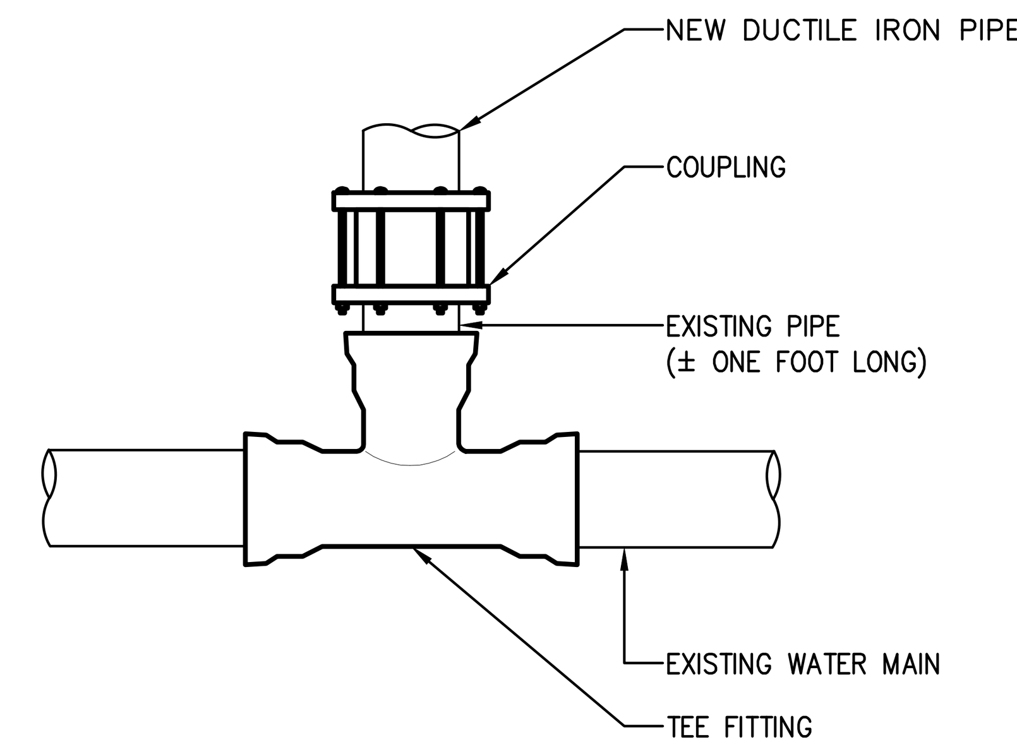
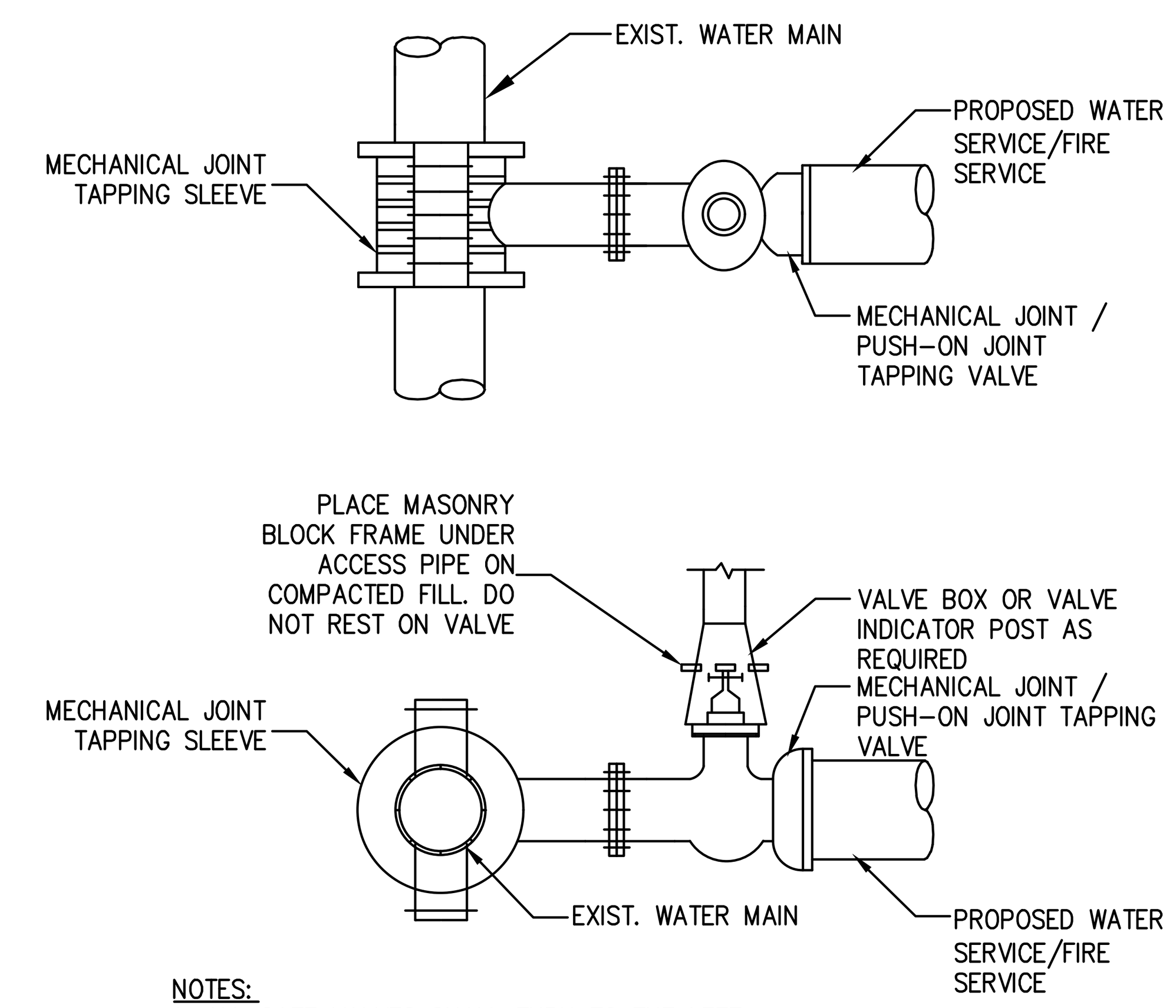


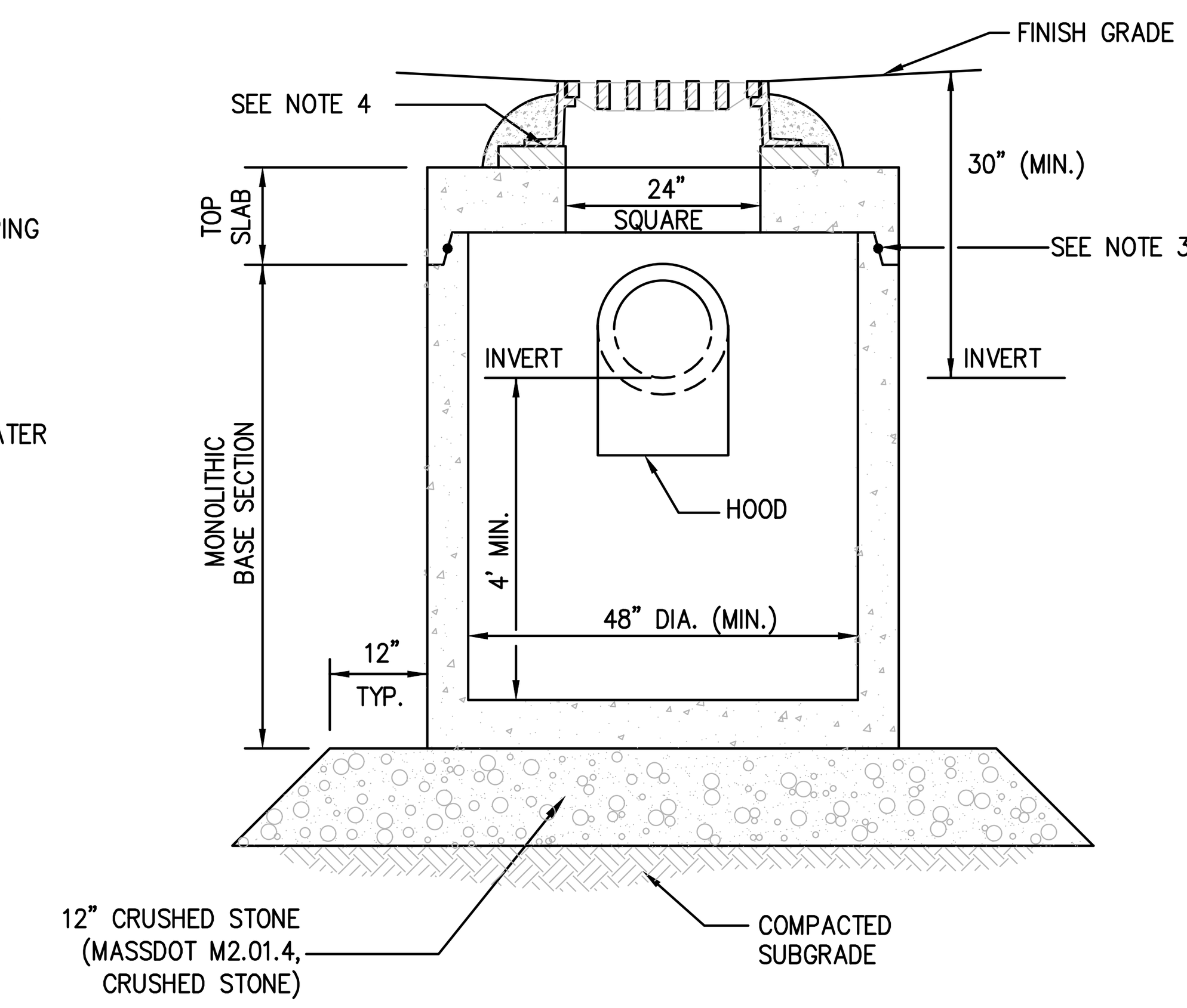
TEE CONNECTION DETAIL
N.T.S.



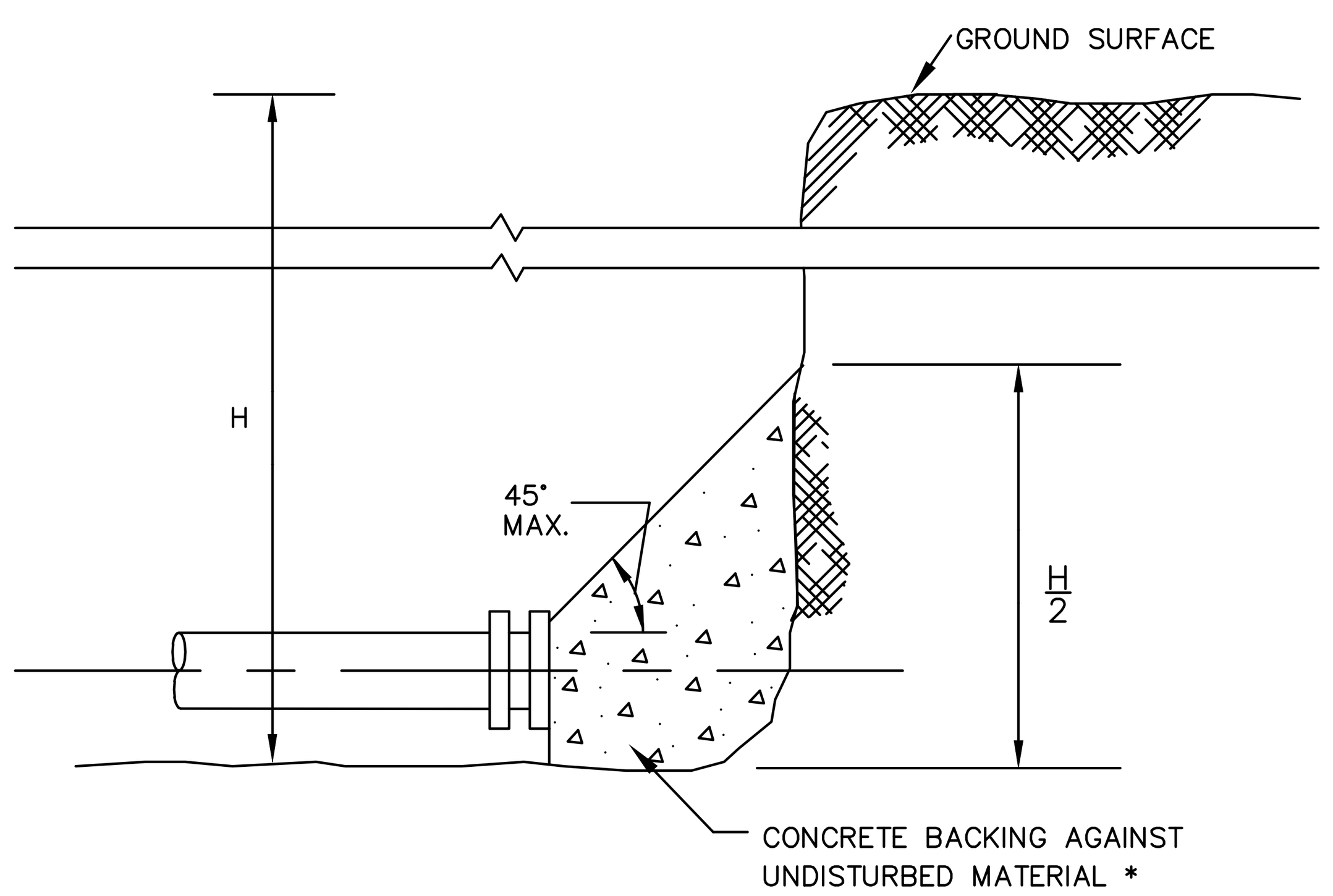
NOTES:
1. ALL GATE VALVES SHALL TURN TO THE LEFT.
2. ALL GATE VALVES TO BE RESILIENT SEAT, EPOXY COATED.

TYPICAL TAPPING SLEEVE AND VALVE BOX
SCALE: N.T.S.

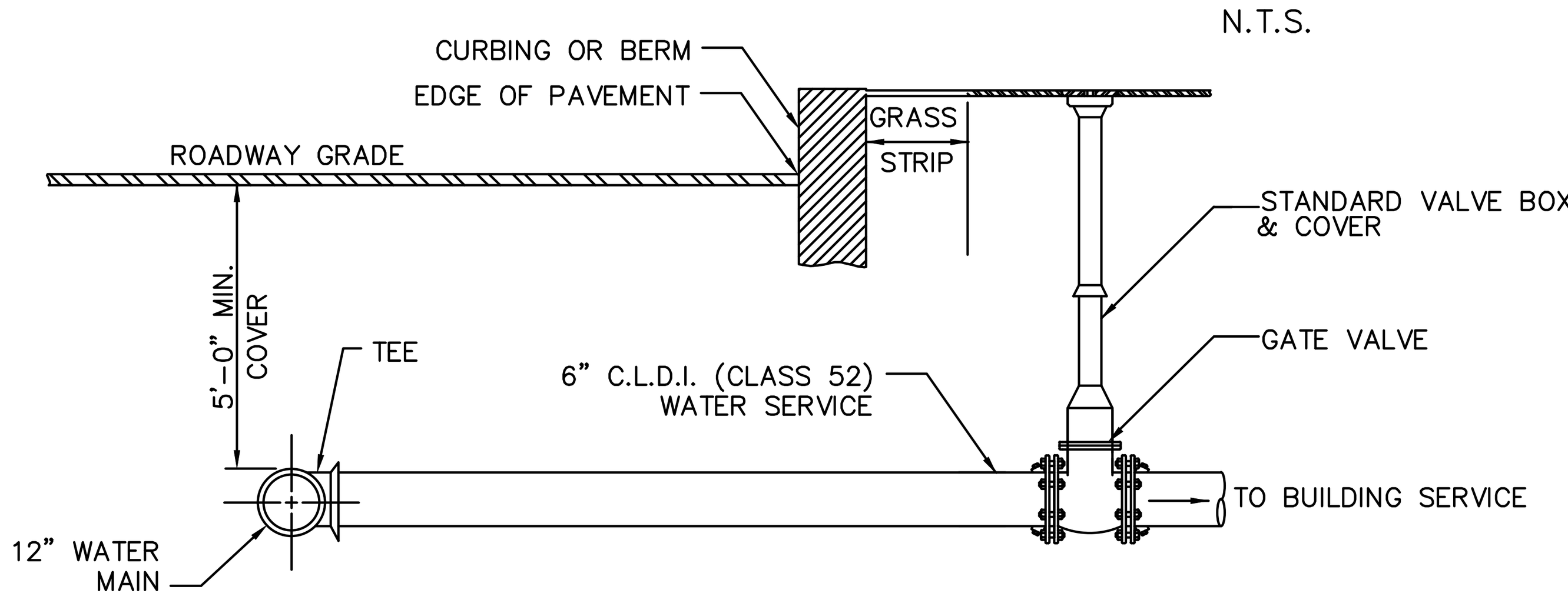
NOTES:
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE DOGHOUSE OPENING FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. TOP SLAB SHALL NOT REST DIRECTLY ON PIPE. GROUT ALL PIPE CONNECTIONS (NON-SHRINK GROUT).
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE (4" DEPTH) SHALL BE SET IN FULL MORTAR BED.
5. ADJUST TO FINISH GRADE WITH CLAY BRICK AND MORTAR AS REQUIRED.



SHALLOW CATCH BASIN
SCALE: N.T.S.



TYPICAL WATER MAIN PLUG
NOT TO SCALE



MAXIMUM SIZE TAPPED CONNECTION *

WATER MAIN DIAMETER	MAXIMUM TAP DIAMETER
4"	1/2"
6"	3/4"
8"	3/4"
12"	1"

NOTE:
WHERE NO PAVED SIDEWALKS EXIST, CURB STOPS AND VALVE BOXES SHALL BE INSTALLED IN THE STREET.

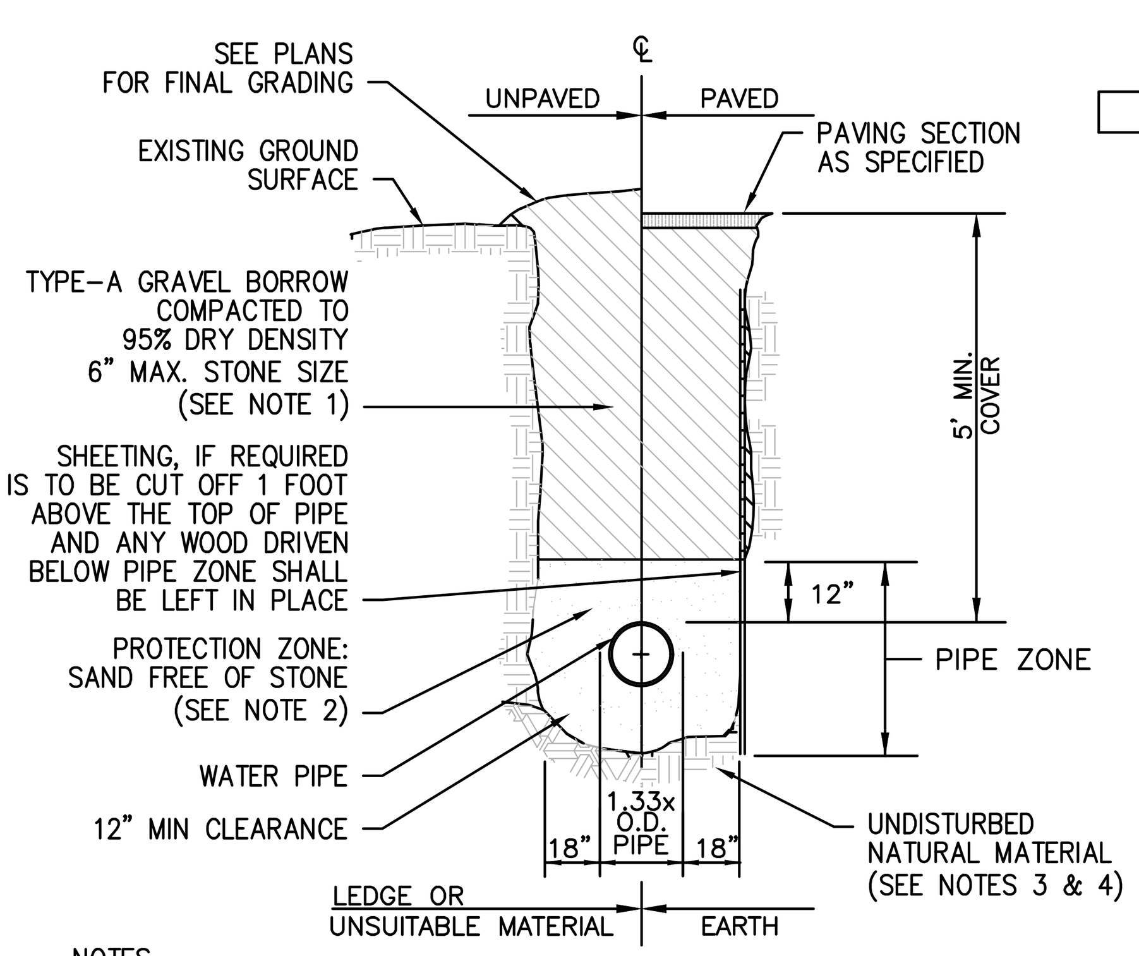
* WHERE THE SIZE OF THE CONNECTION EXCEEDS THAT GIVEN IN THE TABLE A BOSS SHALL BE PROVIDED OR THE TAP SHALL BE MADE BY MEANS OF MUTIPLE CORP. STOPS AND BRANCH FITTINGS, TAPPED TEE, OR TAPPED SADDLE.

WATER SERVICE CONNECTION
N.T.S.

GENERAL NOTES

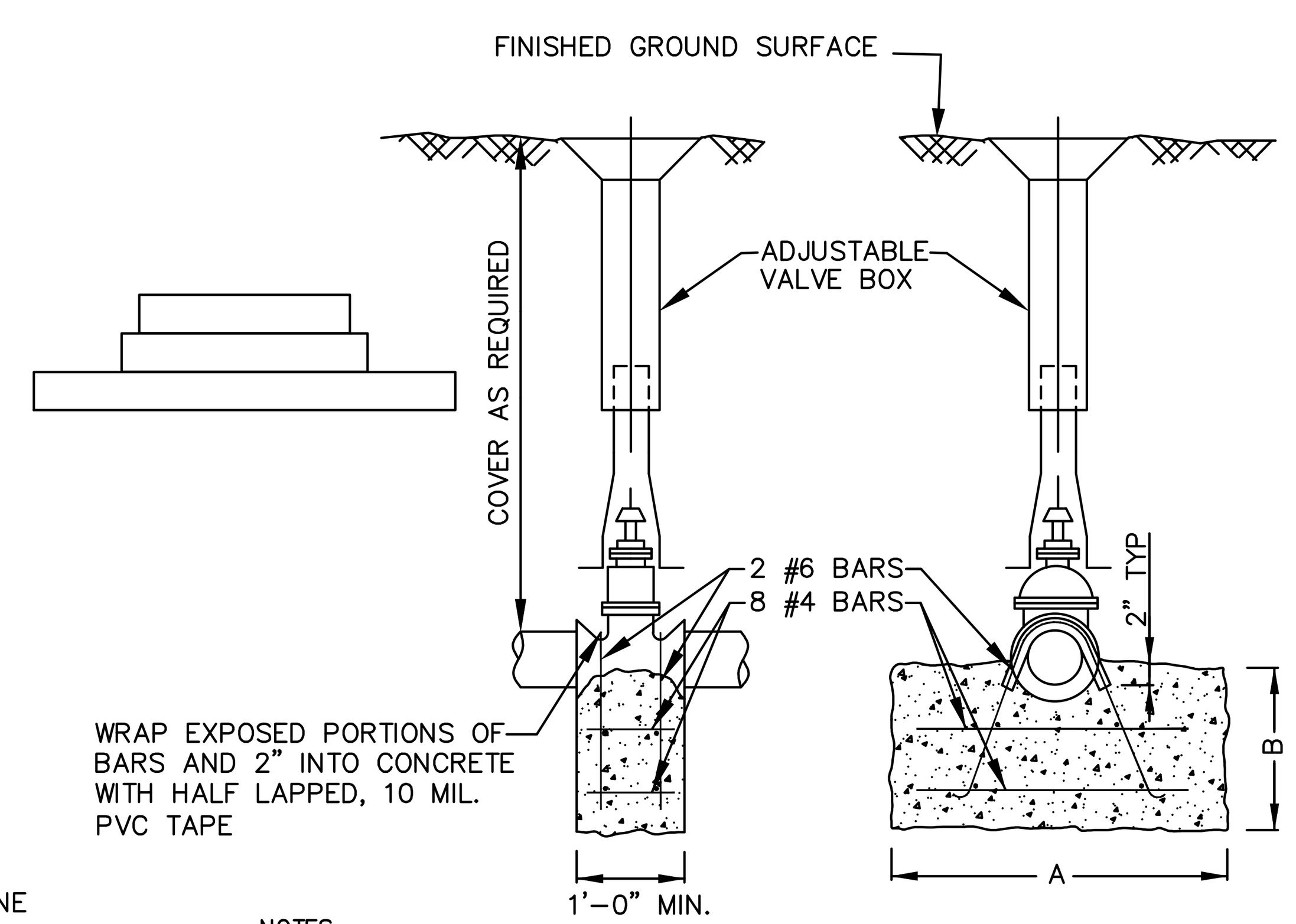
ALL WATER MAIN MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE SCITUATE WATER DEPARTMENT RULES AND REGULATIONS.

1. IF SHEETING IS USED, IT SHALL BE CUT OFF NO MORE THAN 12" ABOVE TOP OF PIPE.
2. ALL PIPES SHALL BE PRESSURE TESTED AT 150 PSI WORKING PRESSURE FOR A MINIMUM DURATION OF ONE HOUR.
3. WATER SYSTEM IS TO BE DISINFECTED TO 50 P.P.M. AVAILABLE CHLORINE AND AFTER 24 HOURS TO 25 P.P.M. OR AS REQUIRED BY SCITUATE WATER DEPARTMENT SUPERINTENDENT/ENGINEER.
4. WATER PIPE IS TO BE CEMENT LINED DUCTILE IRON "TYTON" OR EQUAL TYPE JOINT, CONFORMING TO A.N.S.I./A.W.W.A. C150/A21.50, CLASS 52, AS APPROVED BY THE SCITUATE WATER DEPARTMENT SUPERINTENDENT/ENGINEER.
5. ALL PIPING SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH A.W.W.A. STANDARDS PRIOR TO PAVING IF PAVING ABOVE TRENCH IS REQUIRED.
6. BACKFILL IS TO BE COMPACTED TO 90% MAXIMUM DRY DENSITY BY AASHTO T-180 D.
7. ALL WATER PIPE SHALL BE LAID WITH A MINIMUM OF 5 FEET OF COVER OF APPROVED MATERIALS.
8. ALL HYDRANT LOCATIONS ARE TO BE APPROVED BY FIRE DEPARTMENT.
9. RESULTS FROM PRESSURE TESTING AND DISINFECTION SHALL BE FURNISHED TO THE DIRECTOR OF PUBLIC WORKS FOR APPROVAL PRIOR TO WATER BEING TURNED ON.
10. ALL WORK SHALL BE IN CONFORMANCE WITH SCITUATE WATER DEPARTMENT STANDARDS.
11. ALL PERMITS REQUIRED FOR STREET OPENINGS AND WATER MAIN TAPPING MUST BE OBTAINED.
12. NO WATER WILL BE TURNED ON IN THE PROJECT WITHOUT SCITUATE WATER DEPARTMENT APPROVAL.



NOTES
1. GRAVEL BORROW SHALL CONFORM TO MASSDOT SPECIFICATION M1.03.0.
2. SAND BEDDING SHALL CONFORM TO MASSDOT SPECIFICATIONS.
3. SUBGRADE SHALL CONSIST OF NATIVE SOIL OR IMPORTED SOIL CONFORMING TO THE MASSDOT SPECIFICATION FOR ORDINARY BORROW AND SHALL BE FREE OF ANY UNSUITABLE SOILS OR MATERIAL.
4. UNSUITABLE SOIL OR MATERIAL SHALL INCLUDE BUT NOT BE LIMITED TO PEAT, MUCK, BROKEN PAVEMENT, STUMPS, LOGS, CONSTRUCTION DEBRIS OR ANY OTHER DELETERIOUS MATERIAL.

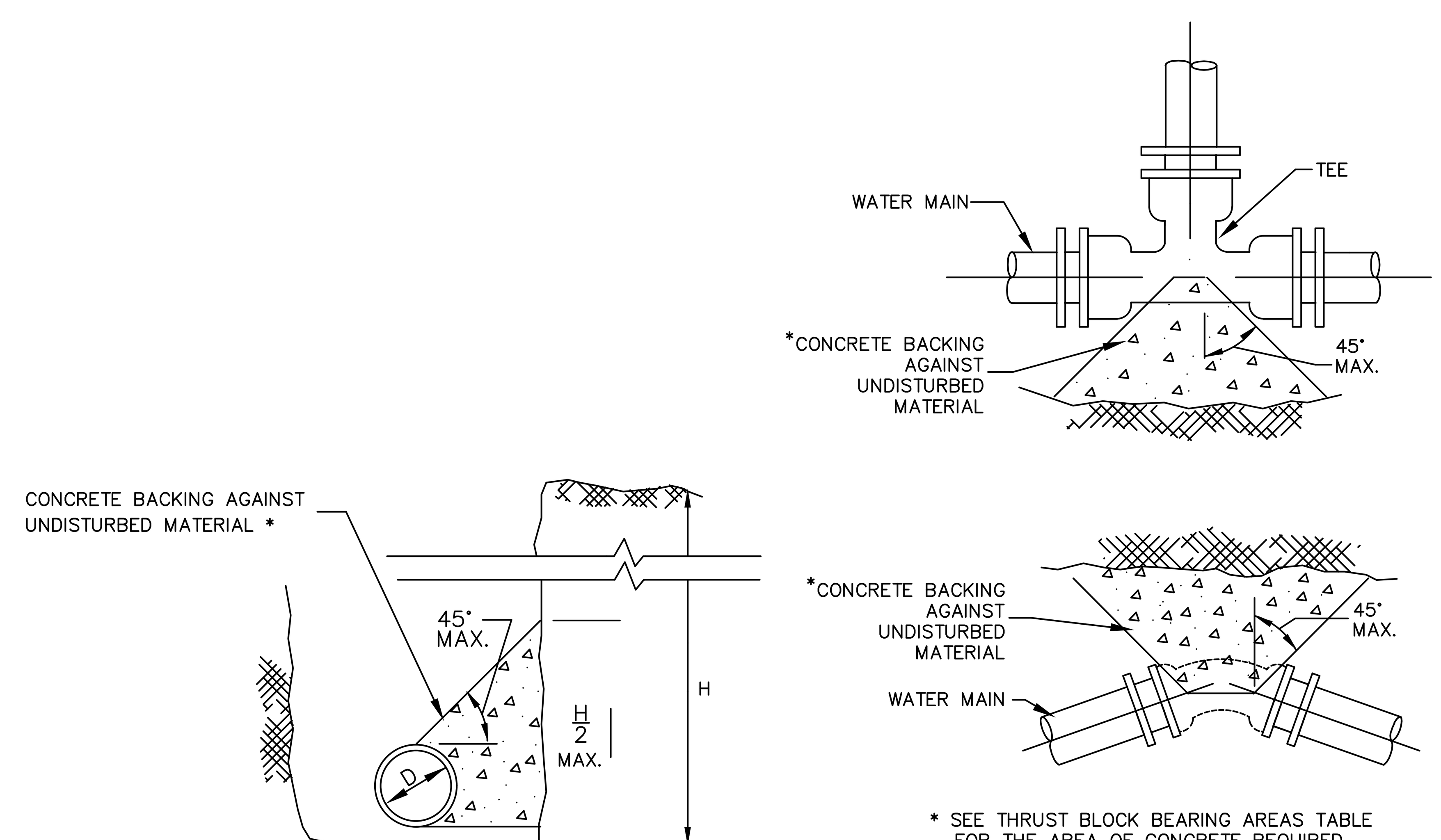
TYPICAL WATER TRENCH DETAIL
SCALE: N.T.S.



NOTES
1. FLANGES, BOLTS, & NUTS SHALL BE KEPT CLEAR OF CONCRETE
2. VALVES SHALL OPEN TO THE LEFT.

SIZE OF GATE VALVE	ANCHOR BLOCK DIMENSIONS (FT.)		
	A	B	
		200 PSI TEST	250 PSI TEST
3"	1.5	1.5	2.0
4"	2.0	1.5	2.0
6"	3.0	1.5	2.0
8"	3.0	1.5	2.0
10"	3.0	2.0	2.5
12"	3.5	2.0	2.5

WATER GATE DETAIL
NOT TO SCALE



* SEE THRUST BLOCK BEARING AREAS TABLE FOR THE AREA OF CONCRETE REQUIRED.

TYPICAL WATER MAIN THRUST BLOCK DETAILS
NOT TO SCALE

THRUST BLOCK BEARING AREAS FOR WATER PIPE

TABLE OF BEARING AREAS IN SQ. FT. AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS*

SIZE OF MAIN (IN.)	90° BEND	TEES AND PLUGS	45° BEND
6	4	2.5	2
8	6	4	3
12	12	9	7
16	21	16	12

* TYPE OF SOIL IS MEDIUM CLAYEY, 6 OR MORE BLOWS PER FOOT, OR LOOSE GRANULAR, 9 OR MORE BLOWS PER FOOT. SOIL CONDITIONS OTHER THAN THOSE GIVEN WILL REQUIRE LARGER BEARING AREAS.

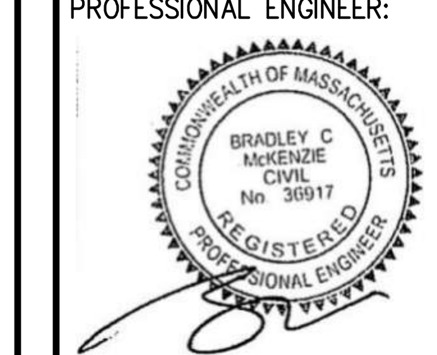
NOTES:
1. FOR FITTINGS WITH LESS THAN 45 DEFLECTION, USE BEARING AREAS FOR 45 BEND.
2. BEARING AREAS BASED ON HORIZONTAL PASSIVE SOIL PRESSURE OF 2000 P.S.F AND INTERNAL WATER PRESSURE OF 150 P.S.I.G. JOINTS SHALL NOT BE ENCASED IN CONCRETE. BEARING AREAS MAY BE DIREGARDED FOR TRENCHES IN ROCK WHERE THE TOP OF THE ROCK FACE IS AT OR ABOVE THE CROWN OF THE PIPE. HOWEVER, CONCRETE BACKING SHALL BE PLACED BETWEEN THE PIPE AND THE ROCK FACE.
3. THE CONTRACTOR SHALL SUBMIT 2 WEEKS IN ADVANCE OF PLACEMENT, WORKING DRAWINGS FOR EACH THRUST BLOCK TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
4. ALL TEES, GATE VALVES, HYDRANTS AND FITTINGS SHALL BE MECHANICAL JOINTS WITH MEGA-LUGS.
5. THRUST BLOCKS SHALL BE BARREL BLOCKS.

REV	DATE	DESCRIPTION	BY	APP

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
P: 781.792.3900
F: 781.792.0333
www.mckeng.com

SITE DEVELOPMENT PLAN
(ASSESSOR'S MAP 53, BLOCK 5, LOT 37F)
7 NEW DRIFTWAY
SCITUATE, MASSACHUSETTS

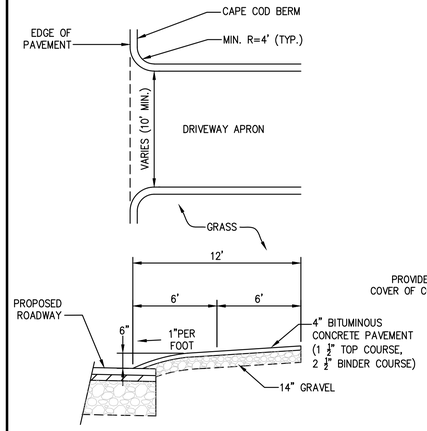
PROFESSIONAL ENGINEER:



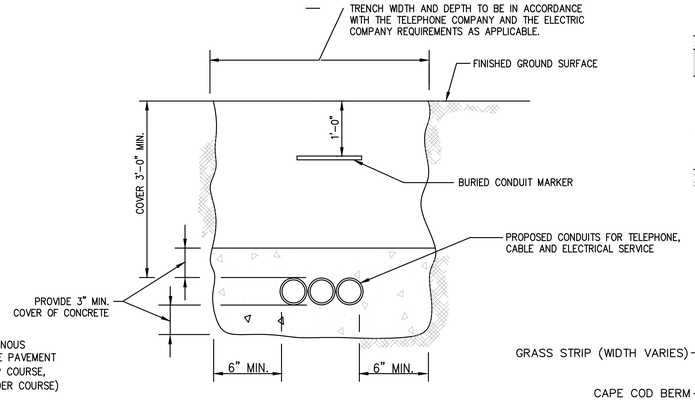
APPLICANT:
DRIFT-WAY, LLC
PO BOX 378
TYNGSBORO, MA 01879

PERMIT PLAN SET

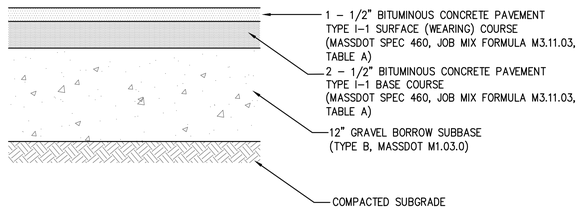
DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	JULY 12, 2021
SCALE:	
PROJECT NO.:	218-153
DWG. TITLE:	CONSTRUCTION DETAILS
DWG. NO:	D-1



DRIVEWAY APRON DETAIL
SCALE: NOT TO SCALE



TYPICAL ELECTRIC/TELEPHONE/CABLE CONDUIT (US-UTILITY SERVICE)
SCALE: N.T.S.



PARKING AREA PAVEMENT DETAIL
SCALE: N.T.S.

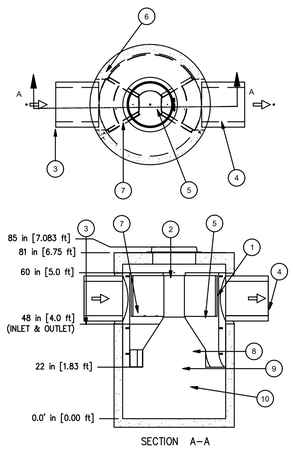
Hydro International
Stormwater Solutions
94 Hutchins Drive
Portland, Maine 04102
Tel: (207) 756-6200
Fax: (207) 756-6212
stormwaterinquiry@hydro-int.com

MANHOLE WALL AND SLAB THICKNESS ARE NOT TO SCALE.

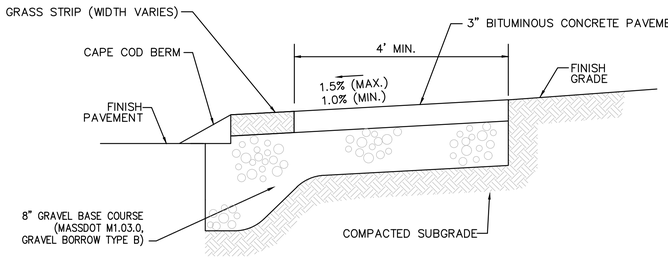
CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.

CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASING UNIT TO FABRICATION.

Parts List			
ITEM	QTY.	DESCRIPTION	SIZE (in)
1	2	I.D. CONCRETE MANHOLE	48
2	2	INLET CHUTE (W/ FLOATABLES TRAP)	
3	2	OUTLET CHUTE	
4	2	INLET PIPE (BY OTHERS)	12
5	2	OUTLET PIPE (BY OTHERS)	12
6	2	HIGH FLOW BYPASS	
7	2	FRAME AND COVER (OR GRATE)	

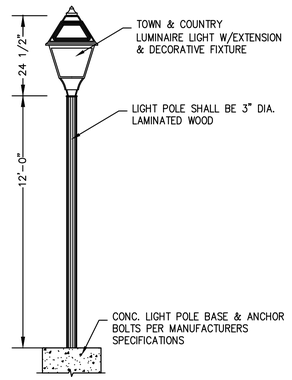


4' DIAMETER FIRST DEFENSE UNIT (FD-4HC)
N.T.S.



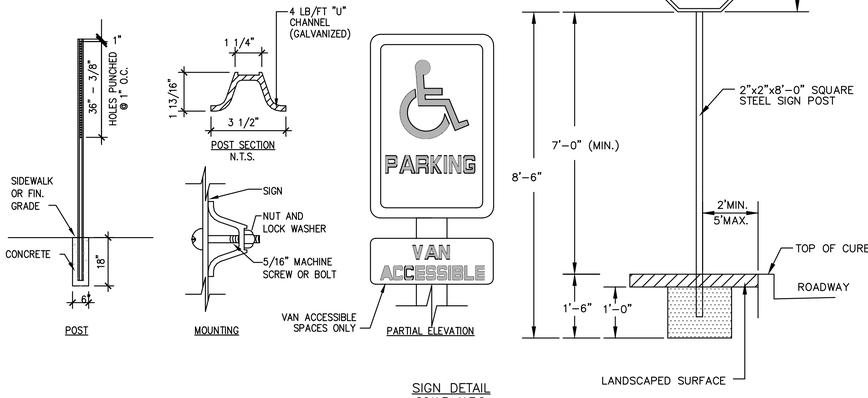
NOTES
1. ALL WORK SHALL COMPLY WITH TOWN OF SCITUATE SPECIFICATION FOR BITUMINOUS CONCRETE SIDEWALKS. LATEST REVISION.
2. SUBGRADE SHALL CONSIST OF NATIVE SOIL OR IMPORTED SOIL CONFORMING TO MASSDOT SPECIFICATION FOR ORDINARY BORROW AND SHALL BE FREE OF ANY UNSUITABLE MATERIALS.

BITUMINOUS CONCRETE SIDEWALK DETAIL
SCALE: N.T.S.

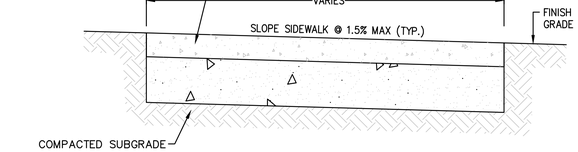


TYPICAL LIGHT POST DETAIL
SCALE: N.T.S.
NOTE: ALL LIGHT BULBS SHALL BE DARK-SKY COMPLIANT AND REFLECTED DOWN TO PREVENT LIGHT POLLUTION.

NOTES:
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

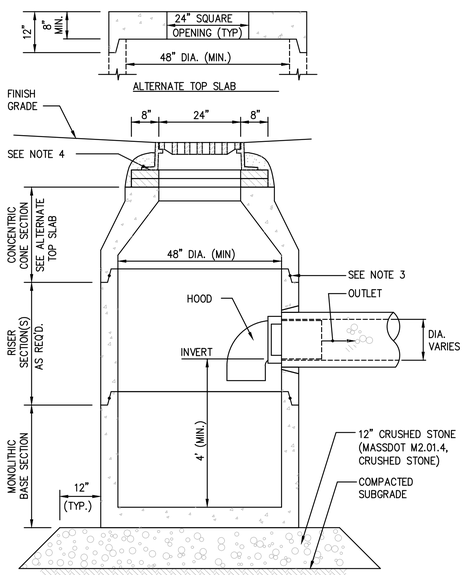


SIGN DETAIL
SCALE: N.T.S.

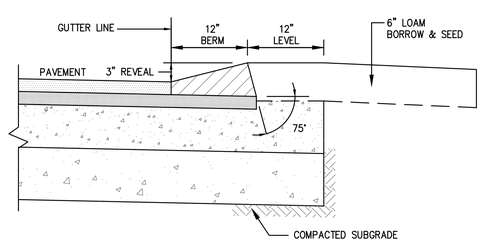


NOTES
1. ALL WORK SHALL COMPLY WITH TOWN OF SCITUATE SPECIFICATION FOR PORTLAND CEMENT CONCRETE SIDEWALKS. LATEST REVISION.
2. SUBGRADE SHALL CONSIST OF NATIVE SOIL OR IMPORTED SOIL CONFORMING TO MASSDOT SPECIFICATION FOR ORDINARY BORROW AND SHALL BE FREE OF ANY UNSUITABLE MATERIALS.
3. PROP. 6" THICK 4,000 PSI CEMENT CONCRETE AT ALL DRIVEWAYS AND ACCESSIBLE RAMPS.
4. ALL CONCRETE SHALL BE BROOM FINISHED WITHOUT TOOLING MARKS.

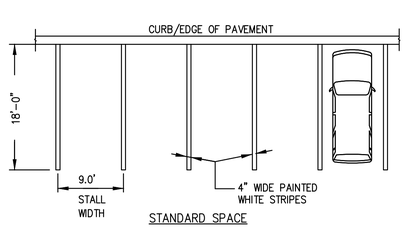
CEMENT CONCRETE SIDEWALK DETAIL
N.T.S.



CATCH BASIN W/HOOD
SCALE: N.T.S.

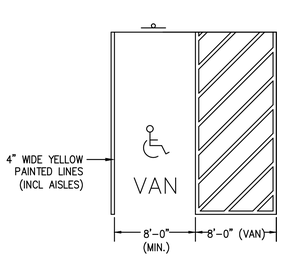


MONOLITHIC BITUMINOUS CONCRETE BERM (CAPE COD BERM) DETAIL
SCALE: N.T.S.

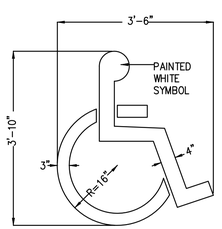


STANDARD SPACE

TYPICAL STRIPING DETAILS
SCALE: N.T.S.



HANDICAP PARKING STALL DETAIL
SCALE: N.T.S.



PAINTED HANDICAP SYMBOL DETAIL
SCALE: N.T.S.

REV	DATE	DESCRIPTION	BY	APP

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
P: 781.792.3900
F: 781.792.0333
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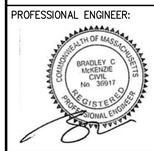
SITE DEVELOPMENT PLAN

(ASSESSOR'S MAP 53, BLOCK 5, LOT 37F)
7 NEW DRIFTWAY
SCITUATE, MASSACHUSETTS

PROFESSIONAL ENGINEER:



APPLICANT:
DRIFT-WAY, LLC
PO BOX 378
TYNGSBORO, MA 01879

PERMIT PLAN SET

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	JUNE 22, 2021
SCALE:	
PROJECT NO.:	218-153

DWG. TITLE:
CONSTRUCTION DETAILS

DWG. NO:
D-2

SEEDING SPECIFICATIONS

SEEDING RECOMMENDATIONS

1. SEEDBED PREPARATION

   A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.

   B. STONES LARGER THAN FOUR INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT FOUR INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

2. ESTABLISHING A STAND

   A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:

AGRICULTURAL LIMESTONE:	2 TONS PER ACRE OR 100 LBS. PER SQ. FT.
NITROGEN (N):	50 LBS. PER ACRE OR 1.1 LBS. PER 1000 SQ. FT.
PHOSPHATE (P O):	100 LBS. PER ACRE OR 2.2 LBS. PER 1000 SQ. FT.
POTASH (K O):	100 LBS. PER ACRE OR 2.2 LBS. PER 1000 SQ. FT.

   (NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10 FERTILIZER)

   B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING, AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH 0.25 INCH OF SOIL OR LESS, BY CULTIVATING OR RAKING.

   C. REFER TO SEEDING RATES AND SEEDING GUIDES FOR APPROPRIATE SEED MIXTURES AND RATES OF SEEDING.

   D. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.

3. MULCH

   A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.

   B. MULCH WILL BE HELD IN PLACE USING TECHNIQUES AS SPECIFIED IN THE "BEST MANAGEMENT PRACTICES OPERATION AND MAINTENANCE PLAN"

4. MAINTENANCE TO ESTABLISH A STAND

   A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.

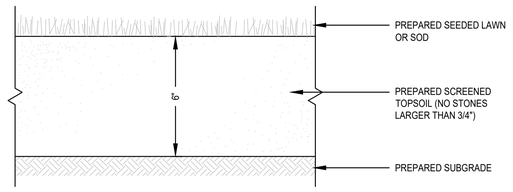
   B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.

   C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

NOTES:

1. TOP OF LOAM (TOPSOIL) IS FINISHED GRADE.
2. TOPSOIL SHALL CONTAIN BETWEEN 5% AND 12% ORGANIC MATTER AND SHALL HAVE A MAXIMUM STONE SIZE OF 3/4" AND SHALL CONFORM TO THE FOLLOWING GRADATION:

SIEVE	% PASSING
1 1/4 INCH	100
No.4	85-100
No.40	60-85
No.100	38-60
No.200	28-40



SEEDED OR SODDED LAWN DETAIL
SCALE: N.T.S.

SEEDING RATES

	POUND / ACRE	POUNDS / 1,000 S.F.
A. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
REDTOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
BIRDSFOOT TREFOIL	15	0.35
TOTAL	40	0.95
C. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDSFOOT TREFOIL	8	0.20
TOTAL	48	1.10
D. BIRDSFOOT TREFOIL	10	0.25
REDTOP	5	0.10
REED CANARY GRASS	15	0.35
TOTAL	30	0.70
E. TALL FESCUE	20	0.45
FLATPEA	30	0.75
TOTAL	50	1.20
F. CREEPING RED FESCUE 1/	85	2.00
KENTUCKY BLUEGRASS 1/	85	2.00
TOTAL	170	4.00
G. TALL FESCUE 1/	150	3.60

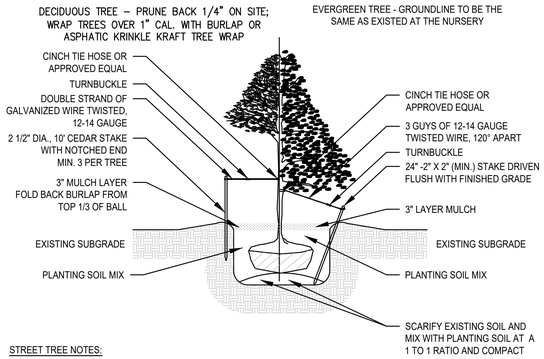
TEMPORARY SEEDING RATES

H. WINTER RYE	112	2.50	(BEST FOR FALL SEEDING, AUG 15 TO SEPT. 5)
OATS	80	2.00	(BEST FOR SPRING SEEDING, BEFORE MAY 15)
ANNUAL RYEGRASS	40	1.00	(BEST FOR FALL SEEDING, AUG 15 TO SEPT. 15)
TOTAL	232	5.50	(MAY BE USED EARLY SPRING ALSO)

1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

SEEDING GUIDE

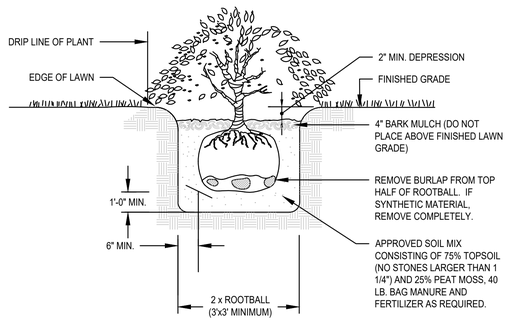
USE	SEEDING MIXTURE 1/
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	E
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	D
LAWN AREAS	F



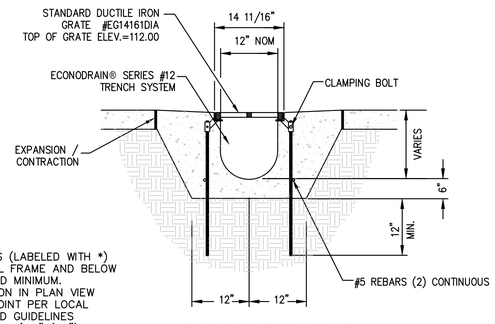
STREET TREE NOTES:

1. NEW TREES SHALL BE NURSERY GROWN AND COMPLY WITH THE ASSOCIATION OF AMERICAN NURSRIES SPECIFICATIONS AND BE AT LEAST 3 INCHES IN CALIPER.
2. THE PRESERVATION OF EXISTING TREES AND THE VARIETIES OF NEW TREES FOR PLANTING SHALL BE SUBJECT TO THE APPROVAL OF THE PLANNING BOARD WHICH SHALL BE GUIDED BY THE RECOMMENDATION OF THE TOWN'S DIRECTOR OF LANDS AND NATURAL RESOURCES AS TO THE NUMBER, LOCATION, CONDITION AND SPECIES OF SUCH TREES AND UNDER APPENDIX III 0 DETAIL B.

DECIDUOUS AND EVERGREEN TREE PLANTING DETAIL
SCALE: N.T.S.

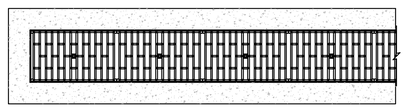


TYPICAL SHRUB PLANTING DETAIL
SCALE: N.T.S.

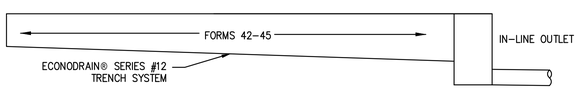


NOTES TO THE SPECIFIER:
1. ADD REBAR AS REQUIRED
2. SPECIFY REQUIRED DIMENSIONS (LABELED WITH *) USING 6" EACH SIDE OF STEEL FRAME AND BELOW EPS FORM AS A RECOMMENDED MINIMUM.
3. SHOW TOP OF GRATE ELEVATION IN PLAN VIEW
4. EXPANSION / CONTRACTION JOINT PER LOCAL ENGINEERING REGULATIONS AND GUIDELINES
5. STANDARD CHANNEL LENGTH IS 8'-0" (96")
6. STANDARD CHANNEL SLOPE IS 0.5%

MONOLITHIC POUR INSTALLATION DETAIL

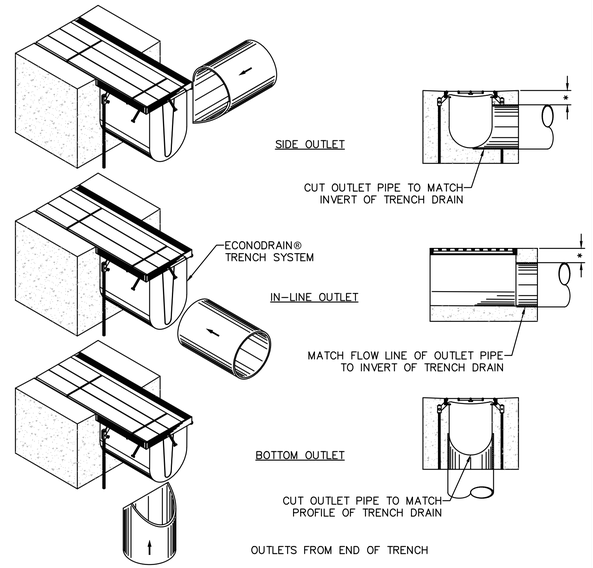


PLAN VIEW



	EPS FORM	DEPTH MIN	DEPTH MAX	FLOW GPM
SHALLOW EPS FORMS	10	8"	8 1/2"	743
	11	8 1/2"	9"	829
	12	9"	9 1/2"	915
	13	9 1/2"	10"	1003
	14	10"	10 1/2"	1091
	15	10 1/2"	11"	1180
	16	11"	11 1/2"	1269
	17	11 1/2"	12"	1359
	18	12"	12 1/2"	1450
	19	12 1/2"	13"	1541
	20	13"	13 1/2"	1633
	21	13 1/2"	14"	1725
	22	14"	14 1/2"	1817
	23	14 1/2"	15"	1910
DEEP EPS FORMS	24	15"	15 1/2"	2002
	25	15 1/2"	16"	2095
	26	16"	16 1/2"	2189
	27	16 1/2"	17"	2282
	28	17"	17 1/2"	2376
	29	17 1/2"	18"	2470
	30	18"	18 1/2"	2564
	31	18 1/2"	19"	2658
	32	19"	19 1/2"	2753
	33	19 1/2"	20"	2847
	34	20"	20 1/2"	2942
	35	20 1/2"	21"	3036
	36	21"	21 1/2"	3131
	37	21 1/2"	22"	3226
	38	22"	22 1/2"	3321
	39	22 1/2"	23"	3416
	40	23"	23 1/2"	3511
	41	23 1/2"	24"	3607
	42	24"	24 1/2"	3702
	43	24 1/2"	25"	3798
	44	25"	25 1/2"	3893
	45	25 1/2"	26"	3989

EPS FORM CHART



NOTES TO THE SPECIFIER:
1. ADD REBAR AS REQUIRED.
2. SPECIFY MINIMUM CONCRETE ENCASEMENT.
3. 4" MINIMUM CONCRETE COVERAGE OF OUTLET PIPE IS RECOMMENDED (LABELED WITH *).
4. FINAL CONCRETE THICKNESS PER LOCAL ENGINEERING REGULATIONS AND GUIDELINES.

CONSTRUCTION NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
2. SECURE OUTLET PIPE PRIOR TO CONCRETING OPERATIONS.
3. FOR ILLUSTRATION ONLY – DO NOT SCALE

ECONODRAIN® SERIES #12 TRENCH DRAIN
SCALE: N.T.S.

REV	DATE	DESCRIPTION	BY	APP

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
P: 781.792.3900
F: 781.792.0333
www.mckeng.com

SITE DEVELOPMENT PLAN

(ASSESSORS MAP 53, BLOCK 5, LOT 37F)
7 NEW DRIFTWAY
SCITUATE, MASSACHUSETTS

PROFESSIONAL ENGINEER:

BRADLEY C McKENZIE CIVIL No. 39917 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

APPLICANT:
DRIFT-WAY, LLC
PO BOX 378
TYNGSBORO, MA 01879

PERMIT PLAN SET

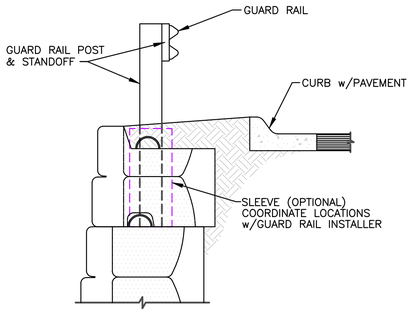
DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	JUNE 22, 2021
SCALE:	
PROJECT NO.:	218-153

DWG. TITLE:

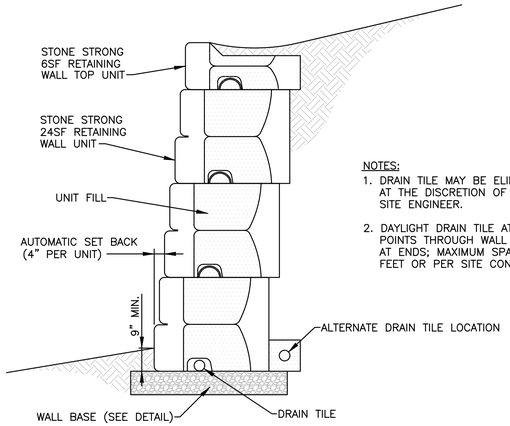
CONSTRUCTION DETAILS

DWG. NO:

D-3

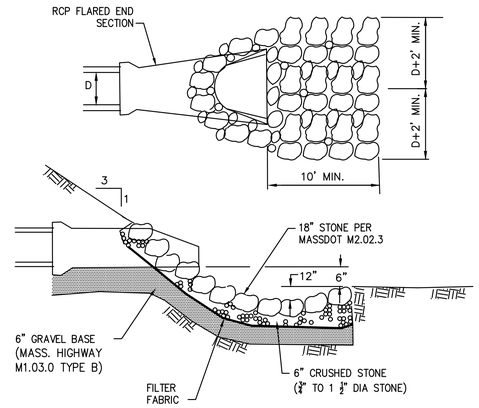


RETAINING WALL w/GUARD RAIL
NOT TO SCALE

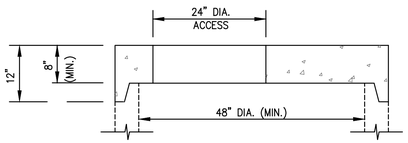


NOTES:
1. DRAIN TILE MAY BE ELIMINATED AT THE DISCRETION OF THE SITE ENGINEER.
2. DAYLIGHT DRAIN TILE AT LOW POINTS THROUGH WALL FACE OR AT ENDS; MAXIMUM SPACING 100 FEET OR PER SITE CONDITIONS.

GRAVITY RETAINING WALL CROSS SECTION
NOT TO SCALE

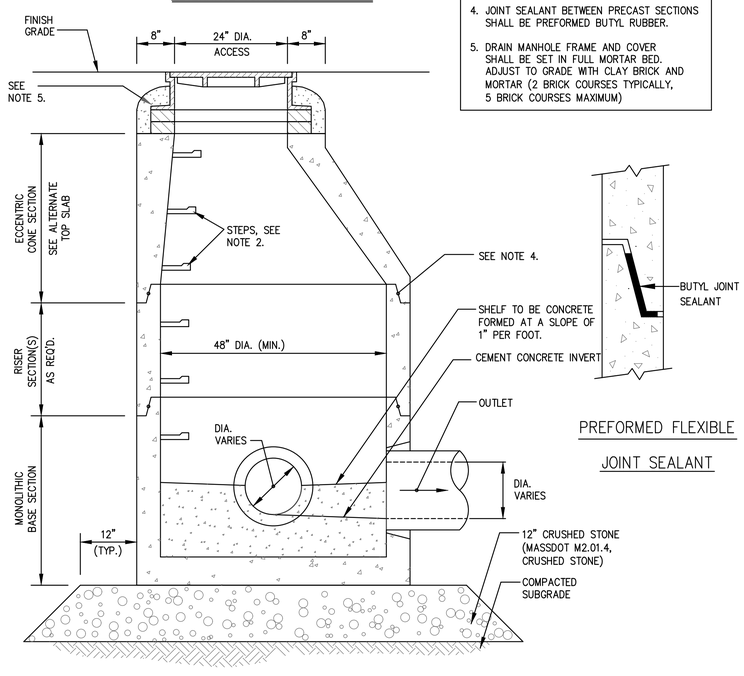


TYPICAL SEDIMENT TRAP DETAIL
SCALE: N.T.S.



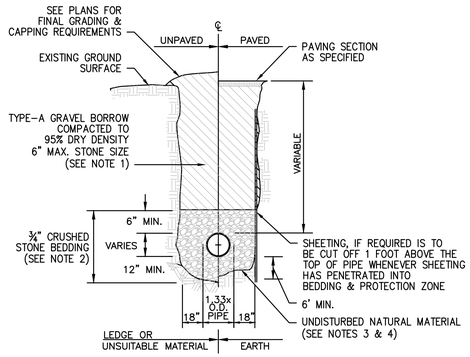
ALTERNATE TOP SLAB

NOTES:
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)



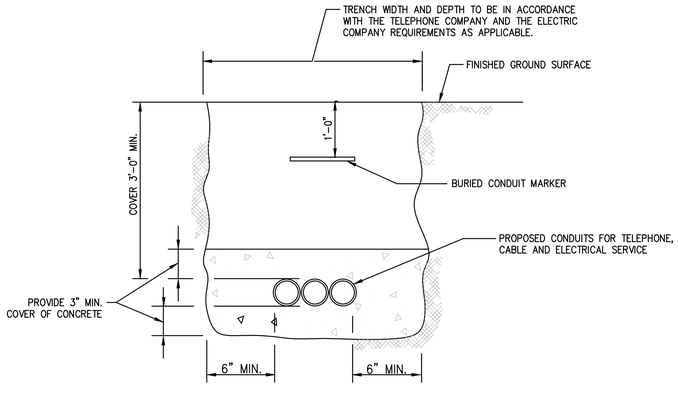
DRAIN MANHOLE DETAIL
SCALE: N.T.S.

PREFORMED FLEXIBLE JOINT SEALANT

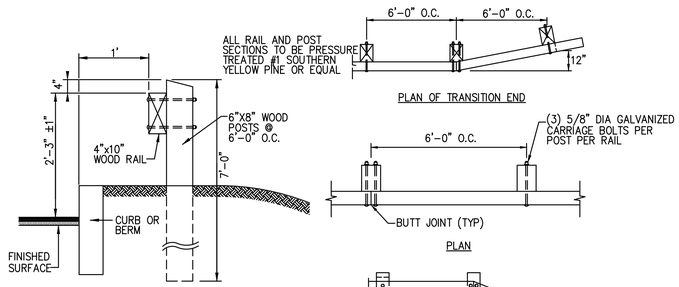


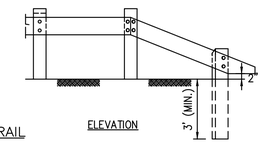
NOTES
1. GRAVEL BORROW SHALL CONFORM TO MASSDOT SPECIFICATION M1.03.0.
2. CRUSHED STONE BEDDING SHALL CONFORM TO MASSDOT SPECIFICATION M2.01.1.
3. SUBGRADE SHALL CONSIST OF NATIVE SOIL OR IMPORTED SOIL CONFORMING TO THE MASSDOT SPECIFICATION FOR ORDINARY BORROW AND SHALL BE FREE OF ANY UNSUITABLE SOILS OR MATERIAL.
4. UNSUITABLE SOIL OR MATERIAL SHALL INCLUDE BUT NOT BE LIMITED TO PEAT, MUCK, BROKEN PAVEMENT, STUMPS, LOGS, CONSTRUCTION DEBRIS OR ANY OTHER DELETERIOUS MATERIAL.

GRAVITY SEWER TRENCH DETAIL
SCALE: N.T.S.



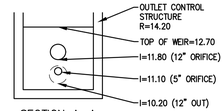
TYPICAL ELECTRIC/TELEPHONE/CABLE CONDUIT (US-UTILITY SERVICE)
SCALE: N.T.S.





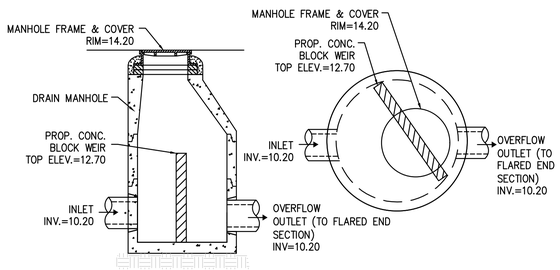
WOOD GUARDRAIL
SCALE: N.T.S.

ELEVATION



SECTION A-A
NOT TO SCALE

OUTLET CONTROL STRUCTURE MANHOLE CROSS SECTION
SCALE: N.T.S.



WEIR DRAINAGE MANHOLE
SCALE: N.T.S.

REV	DATE	DESCRIPTION	BY	APP

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
P: 781.792.3900
F: 781.792.0333
www.mckeng.com

SITE DEVELOPMENT PLAN

(ASSESSOR'S MAP 53, BLOCK 5, LOT 37F)
7 NEW DRIFTWAY
SCITUATE, MASSACHUSETTS

PROFESSIONAL ENGINEER:

BRADLEY C McKENZIE CIVIL No. 39017 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

APPLICANT:
DRIFT-WAY, LLC
PO BOX 378
TYNGSBORO, MA 01879

PERMIT PLAN SET

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	JUNE 22, 2021
SCALE:	
PROJECT NO.:	218-153

DWG. TITLE:

CONSTRUCTION DETAILS

DWG. NO:

D-4

EROSION AND SEDIMENTATION CONTROL

1. WIDELY ACCEPTED PRACTICES FOR REDUCING EROSION AND SEDIMENTATION WILL BE EMPLOYED IN THE DEVELOPMENT OF THIS SITE.
2. THE DEVELOPMENT OF THE SITE HAS BEEN PLANNED TO ENHANCE THE EXISTING TOPOGRAPHY AND VEGETATIVE COVER. ALL NATURAL DRAINAGE PATTERNS OF THE SITE HAVE BEEN MAINTAINED.
3. STEEP SLOPES, WHERE POSSIBLE, WILL NOT BE DISTURBED.
4. NATURAL WATERWAYS WILL BE PRESERVED AND PROTECTED, AND EXISTING VEGETATION WILL BE RETAINED AND PROTECTED TO THE EXTENT POSSIBLE.
5. THE ROADWAY CONFORMS TO EXISTING LAND CONTOURS WHERE PRACTICAL.
6. THE CONTRACTOR SHALL MINIMIZE THE AREA OF DISTURBED LAND TO THE EXTENT FEASIBLE.
7. SEDIMENT CONTROL MEASURES WILL BE APPLIED TO CONTROL ANY SEDIMENTS THAT MAY BE PRODUCED AS A RESULT OF SITE CONSTRUCTION ACTIVITIES. EROSION AND DEPOSITION OF SEDIMENT WILL BE CLOSELY MONITORED DURING CONSTRUCTION.
8. TEMPORARY EROSION CONTROL MEASURES WILL INCLUDE, BUT NOT BE LIMITED TO, STRAWBALE CHECK DAMS, SEDIMENT FOREBAYS, STABILIZED CONSTRUCTION ENTRANCES, FILTER FABRIC SILT FENCES, SEEDING AND MULCHING, AND SEEDED FILTER STRIPS.
9. TOPSOIL STRIPPED FROM CUT AND FILL AREAS WILL BE STOCKPILED FOR LOAMING AND SEEDING AT LATER CONSTRUCTION STAGES. THE STOCKPILES SHALL BE LOCATED SO AS TO ACT AS TEMPORARY DIVERSIONS, GENERALLY ON THE UPHILL SLOPE.
10. ALL CUT AREAS LOCATED AT TOES OF SLOPES AND DITCHES THAT HAVE GRADES EXCEEDING 5% SHALL BE STABILIZED WITH RIP-RAP. THE RIP-RAP SHALL CONSIST OF 50% STONES GREATER THAN 6" IN SIZE. SWALES SHALL BE 6" IN DEPTH AND APPROXIMATELY 5' IN WIDTH. ALL SLOPES WILL BE BLENDED INTO THE EXISTING TOPOGRAPHY TO MINIMIZE IMPACT.
11. SITE DEVELOPMENT WILL NOT COMMENCE UNTIL ALL TEMPORARY EROSION CONTROL MEASURES ARE IN PLACE. THESE MEASURES SHALL BE EMPLOYED UNTIL FINAL PAVING AND ADEQUATE VEGETATION HAS BEEN ESTABLISHED.
12. REFER TO CONSTRUCTION PHASE BEST MANAGEMENT PRACTICES AS SPECIFIED IN "BEST MANAGEMENT PRACTICES OPERATION AND MAINTENANCE PLAN" PREPARED BY MCKENZIE ENGINEERING GROUP, INC. FOR STRUCTURAL STABILIZATION AND DUST CONTROL EROSION AND SEDIMENTATION CONTROL MEASURES.
13. STABILIZATION PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE TEMPORARY SEEDING, GEOTEXTILES (JUTE MESTH), MULCHING, AND PERMANANT SEEDING.

CONSTRUCTION PHASE BMP OPERATION & MAINTENANCE:

STRUCTURAL PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE SILT SOCK EROSION CONTROL BARRIERS, STABILIZED CONSTRUCTION ENTRANCES, TEMPORARY DIVERSION SWALES WITH CHECK DAMS, TEMPORARY SEDIMENT BASINS, AND INLET PROTECTION.

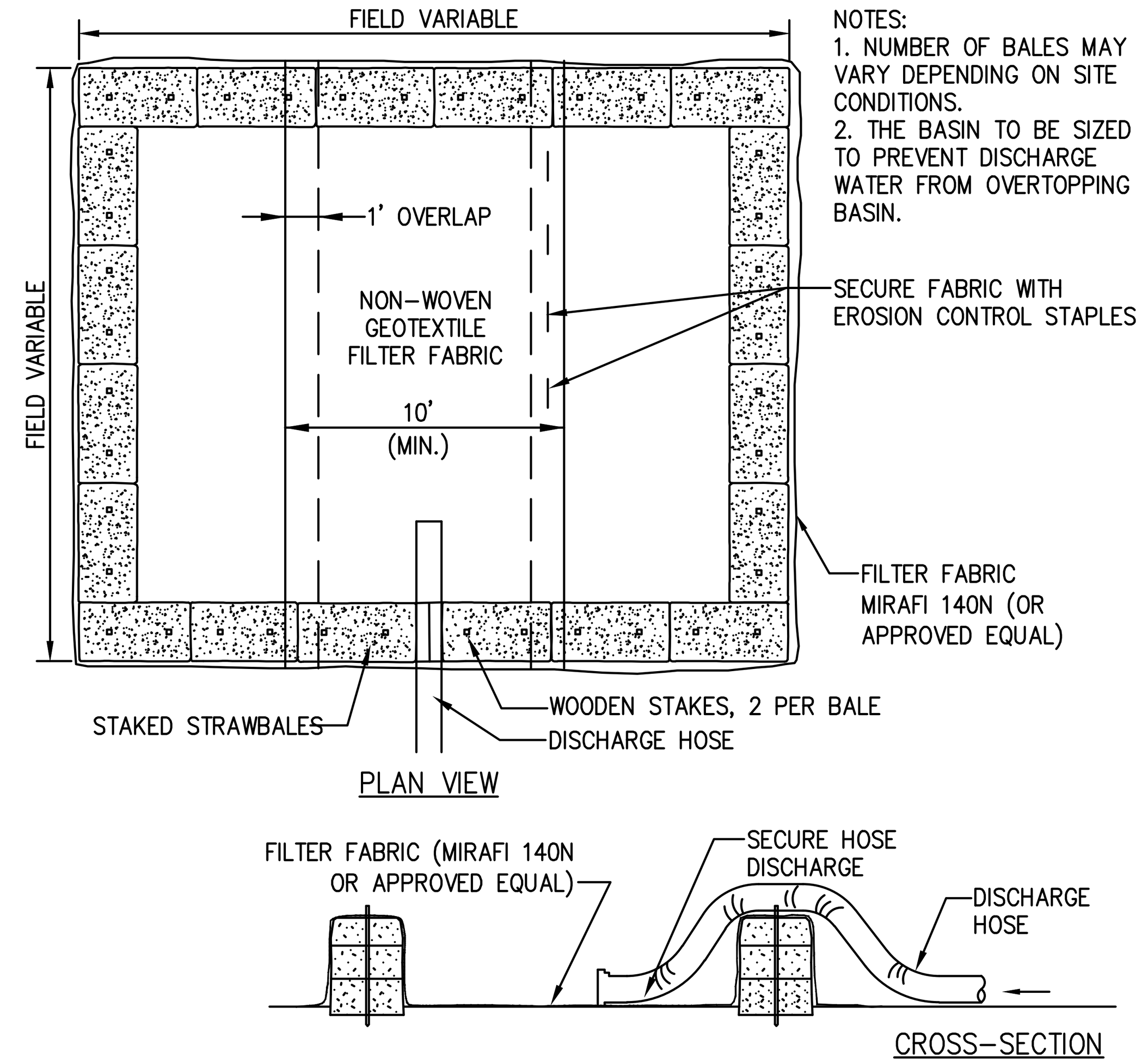
STABILIZATION PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE TEMPORARY SEEDING, GEOTEXTILES (JUTE MESH), MULCHING, AND PERMANENT SEEDING.

OPERATOR PERSONNEL AND/OR ITS CONSULTANTS MUST INSPECT THE CONSTRUCTION SITE AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT OF 1/2 INCH OR GREATER.
THE INSPECTOR SHOULD REVIEW THE EROSION AND SEDIMENT CONTROLS WITH RESPECT TO THE FOLLOWING:
A. WHETHER OR NOT THE BMP WAS INSTALLED/PERFORMED CORRECTLY.
B. WHETHER OR NOT THERE HAS BEEN DAMAGE TO THE BMP SINCE IT WAS INSTALLED OR PERFORMED.
C. WHAT SHOULD BE DONE TO CORRECT ANY PROBLEMS WITH THE BMP.

THE INSPECTOR SHALL COMPLETE THE INSPECTION SCHEDULE AND EVALUATION CHECKLIST FOR FINDINGS AND SHOULD REQUEST THE REQUIRED MAINTENANCE OR REPAIR. THE CHECKLIST IS PROVIDED WITHIN THE OPERATION AND MAINTENANCE PLAN.

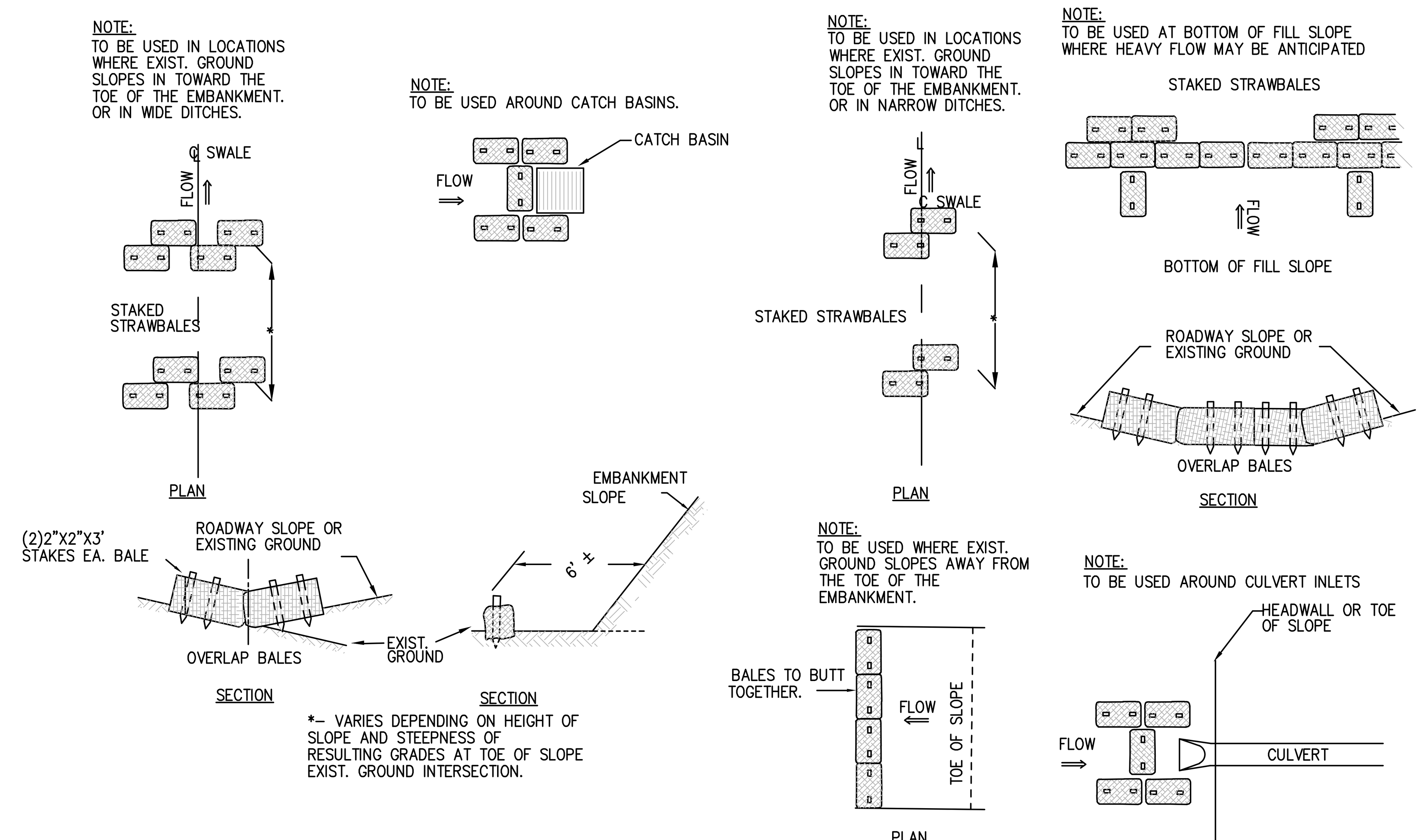
THE TEMPORARY SEDIMENT BASINS SHALL BE INSPECTED AND CLEANED IF REQUIRED PRIOR TO ANY PREDICTED LARGE STORM EVENT.

ALL SLOPES EXCEEDING 15% RESULTING FROM SITE GRADING SHALL BE BOTH COVERED WITH FOUR INCHES OF TOPSOIL AND PLANTED WITH A VEGETATED COVER SUFFICIENT TO PREVENT EROSION.

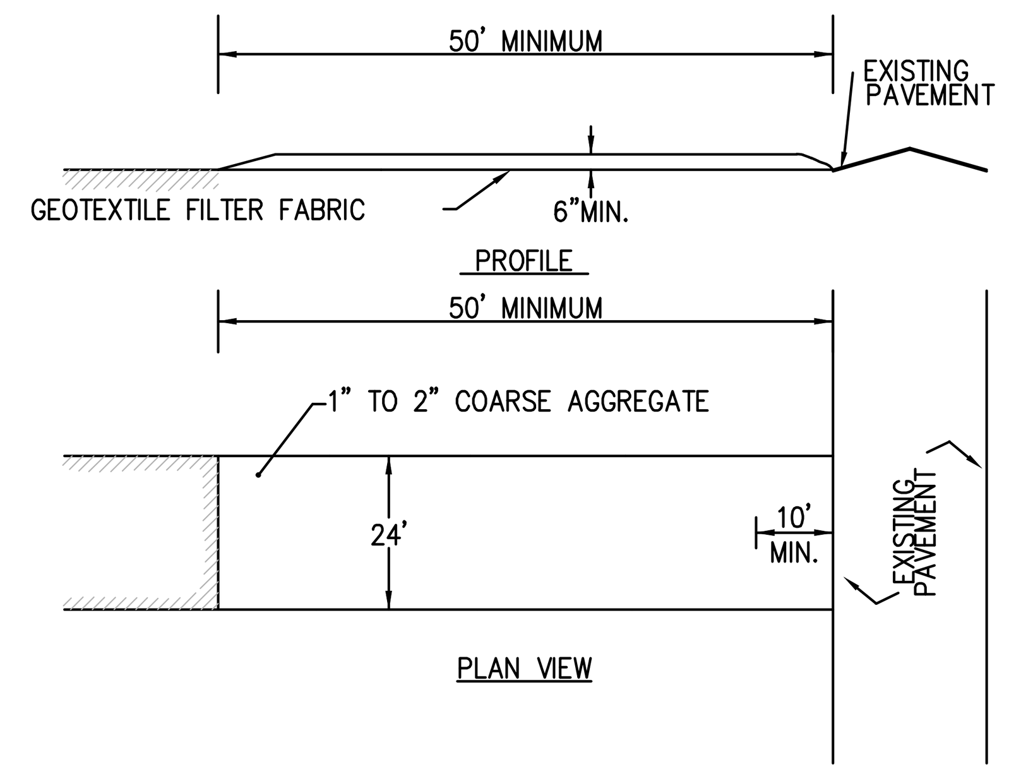


NOTES:
1. NUMBER OF BALES MAY VARY DEPENDING ON SITE CONDITIONS.
2. THE BASIN TO BE SIZED TO PREVENT DISCHARGE WATER FROM OVERTOPPING BASIN.

DEWATERING STRAWBALE BASIN DETAIL
SCALE: N.T.S.



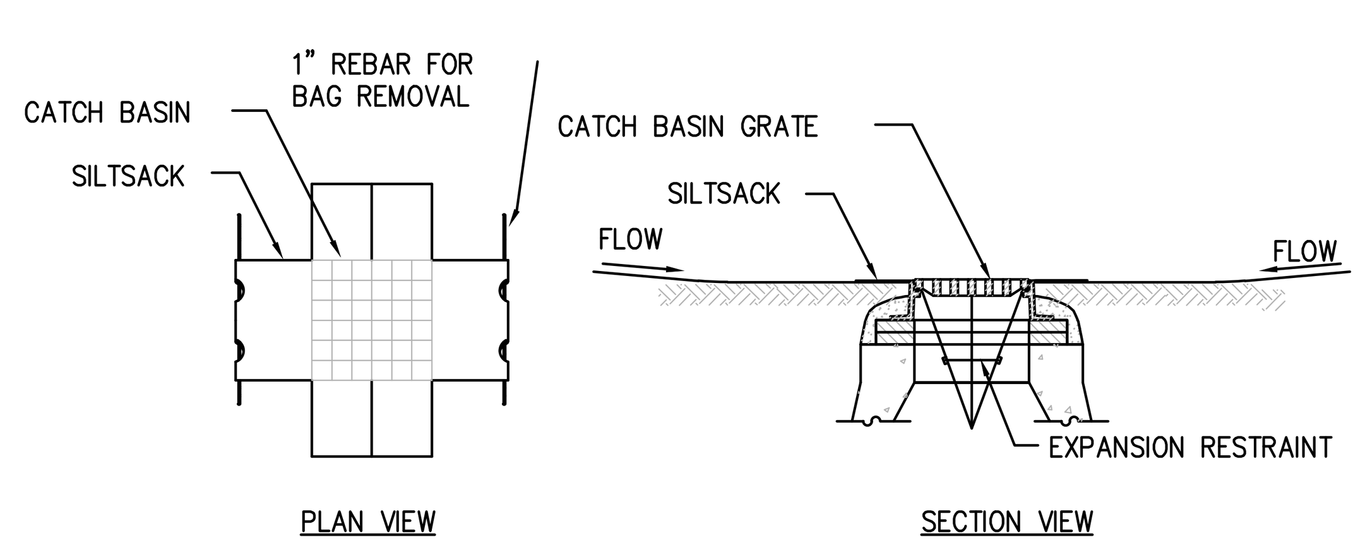
TEMPORARY EROSION CONTROL
SCALE: N.T.S.



(SCE) CONSTRUCTION SPECIFICATIONS:

1. STONE FOR A STABILIZATION CONSTRUCTION ENTRANCE SHALL BE 1 TO 2 INCH STONE, RECLAIMED STONE.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN A FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DEVERTED TOWARDS THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED PROMPTLY.

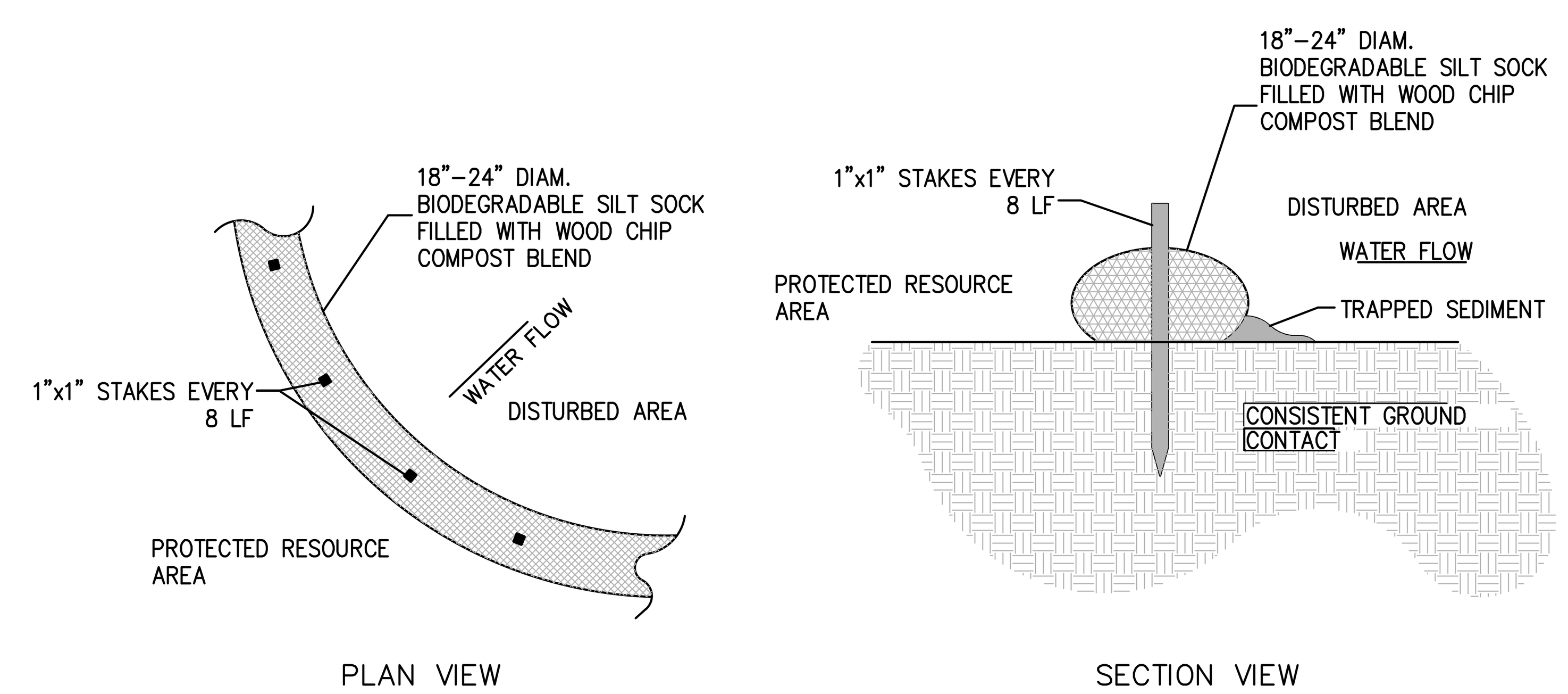
STABILIZED CONSTRUCTION ENTRANCE (SCE) DETAIL
SCALE: N.T.S.



SILT SACK SEDIMENT TRAP CONTRUCTION NOTES:

1. INSTALL SILTSACK IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND STRAWBALES HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED

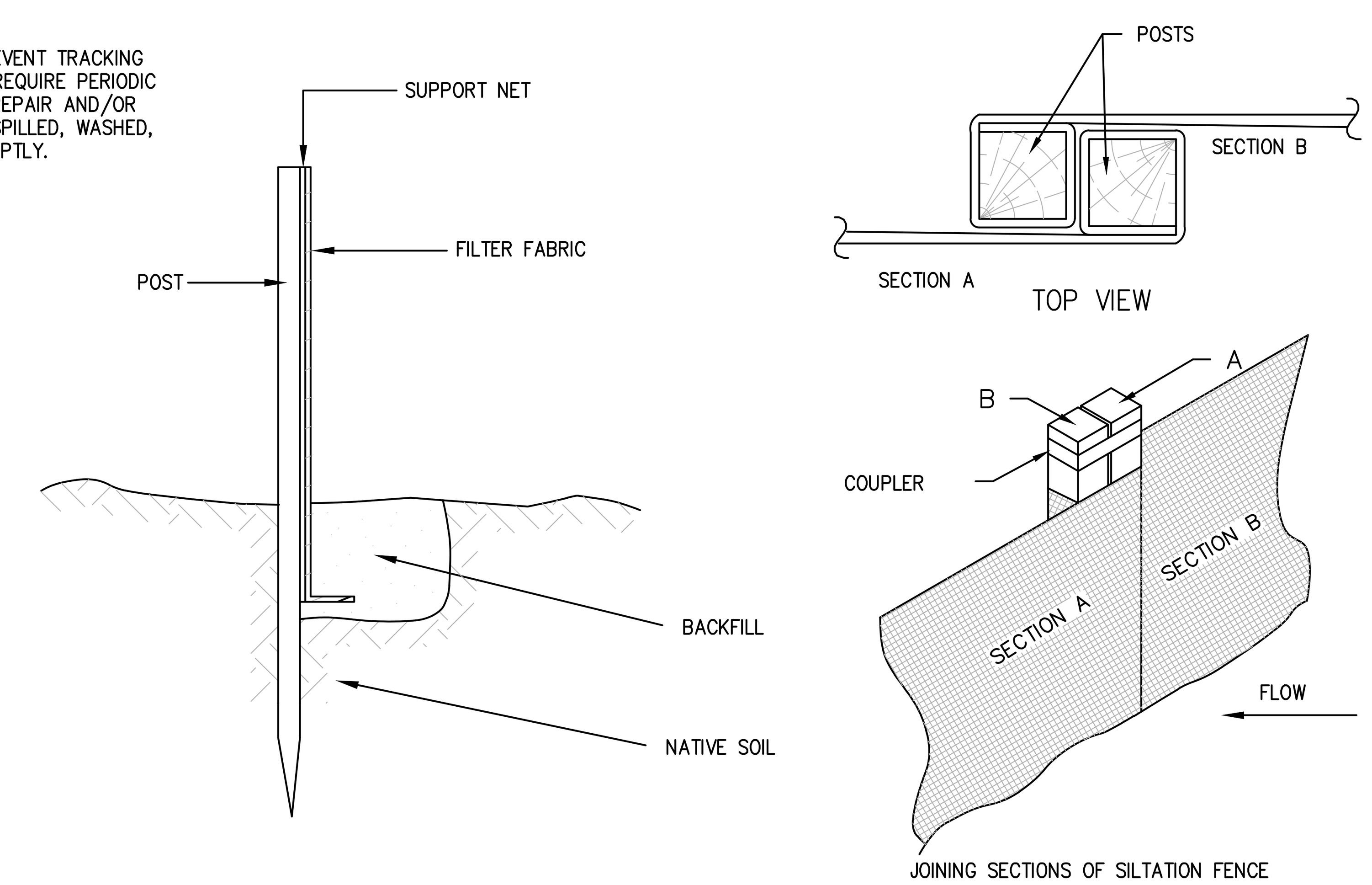
SILTSACK SEDIMENT TRAP
SCALE: N.T.S.



CONSTRUCTION NOTES:

1) SILT SOCKS SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING OR LAPPING THE ADJACENT SECTIONS.
2) SILT SOCKS SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN EVERY 8 LF.
3) INSPECTION SHALL BE FREQUENT, AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS REQUIRED.
4) SILT SOCKS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS, SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

SILT SOCK DETAIL
SCALE: N.T.S.



CONSTRUCTION NOTES:

1) WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2) FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3) WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES AND FOLDED.
4) MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

NOTES:

1. INSTALL SILTSACK IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND STRAWBALES HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED.

SILTATION FENCE
SCALE: N.T.S.

REV	DATE	DESCRIPTION	BY	APP

MCKENZIE ENGINEERING GROUP
Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
P: 781.792.3900
F: 781.792.0333
www.mckeng.com

SITE DEVELOPMENT PLAN
(ASSESSOR'S MAP 53, BLOCK 5, LOT 37F)
7 NEW DRIFTWAY
SCITUATE, MASSACHUSETTS

PROFESSIONAL ENGINEER:
COMMONWEALTH OF MASSACHUSETTS
BRADLEY C. McKENZIE
CIVIL
No. 36917
REGISTERED PROFESSIONAL ENGINEER

APPLICANT:
741 CORPORATION
PO BOX 378
TYNGSBORO, MA 01879

PERMIT PLAN SET

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	JUNE 22, 2021
SCALE:	
PROJECT NO.:	218-153

DWG. TITLE:
CONSTRUCTION DETAILS

DWG. NO:
D-5

ADVANCED DRAINAGE SYSTEMS, INC.

STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740 OR SC-310.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418-16 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET, THE 60 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

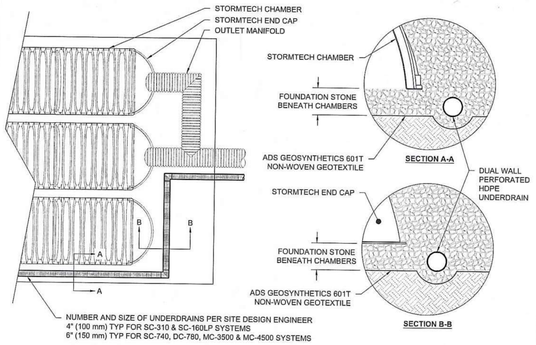
1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4"-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

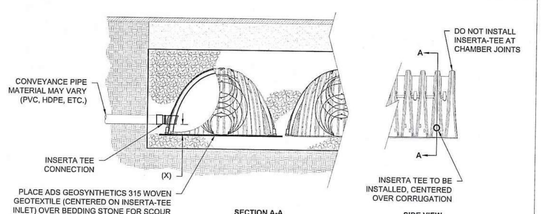
1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



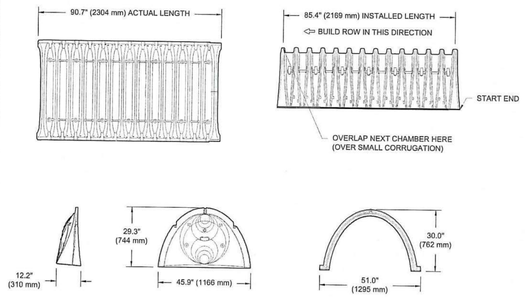
5 UNDERDRAIN DETAIL



CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

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

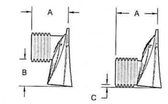
6 INSERTA-TEE SIDE INLET DETAIL



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

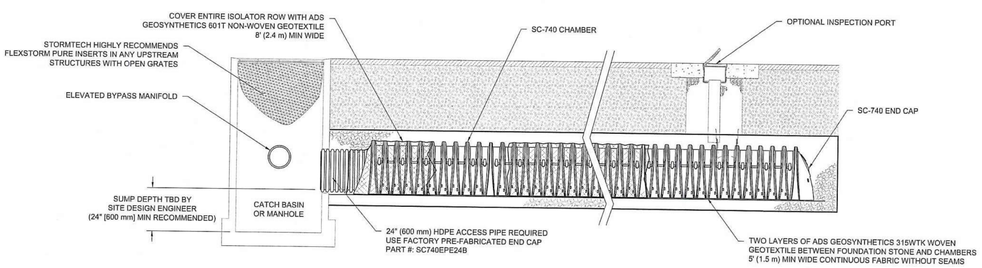
PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

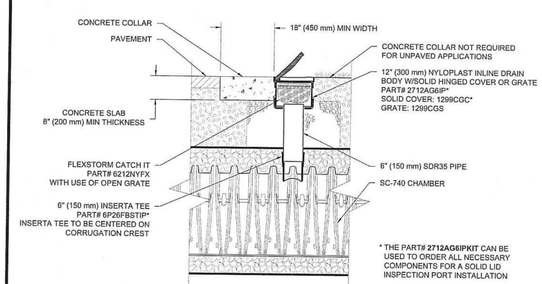
* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

2 SC-740 TECHNICAL SPECIFICATIONS



3 SC-740 ISOLATOR ROW DETAIL



4 SC-740 6" (150 mm) INSPECTION PORT DETAIL

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

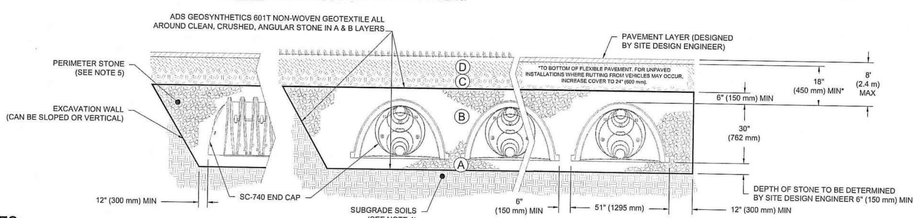
NOTES

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

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
7. SUBSOILS SHALL BE OVERECAVATED UNTIL THE NATIVE SAND AND GRAVEL MATERIALS ARE ENCOUNTERED.

1 SC-740 CROSS SECTION DETAIL

DRAWN: JLM | DATE: 08/28/18
REVIEWED: JLM | PROJECT NO:
REV: | NOT TO SCALE

SC-740 STANDARD DETAILS

StormTech
70 INNOVATION DR. | SUITE 3 | ROCKY HILL, CT | 06067
888-892-2694 | 888-892-2694 | WWW.STORMTECH.COM

4640 TRUEMAN BLVD
HILLIARD, OH 43026

ADVANCED DRAINAGE SYSTEMS, INC.

SHEET
D-6