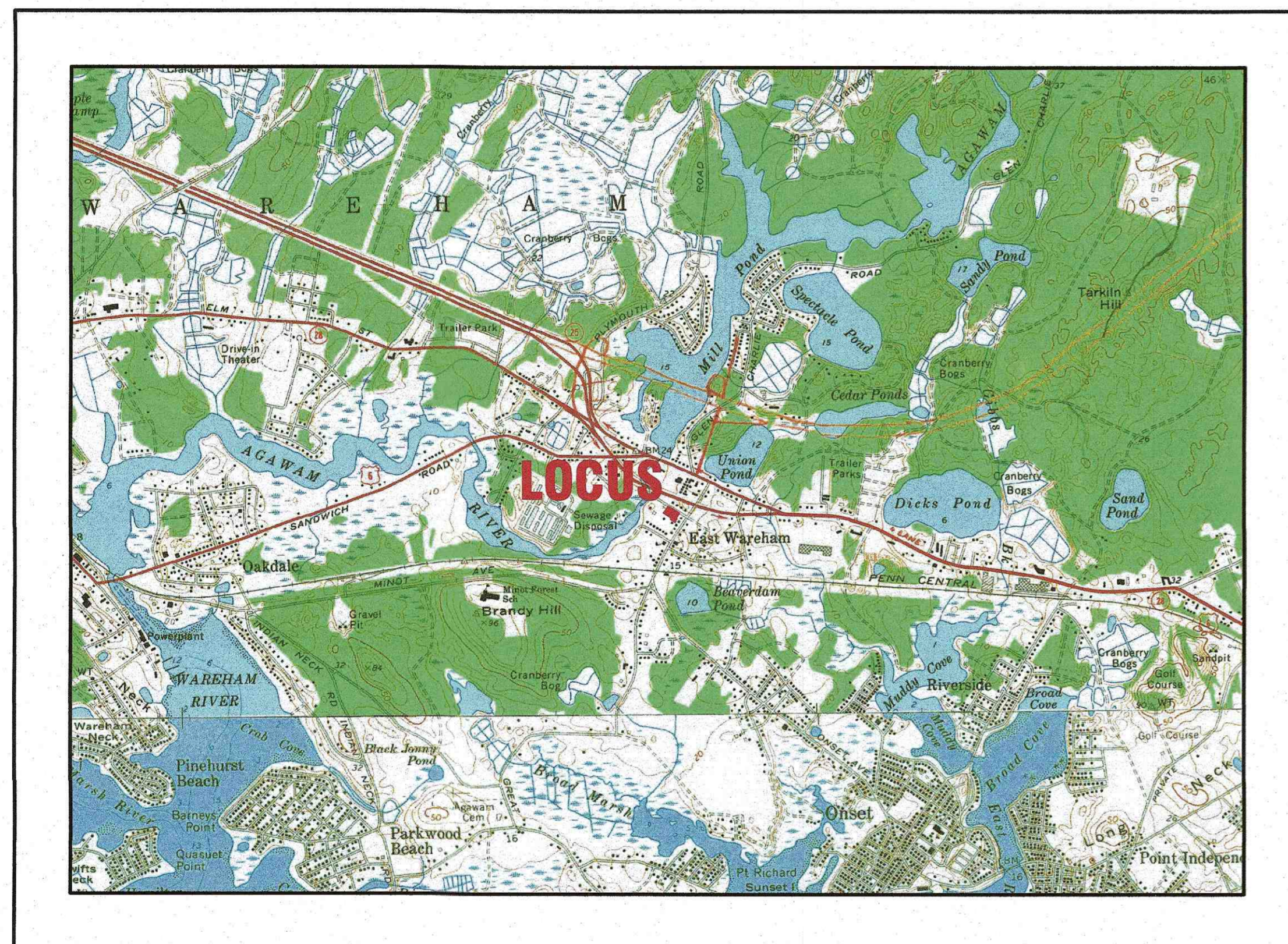


# SITE DEVELOPMENT PLAN

6 CHAPEL LANE  
WAREHAM, MASSACHUSETTS

OWNER: 6 CHAPEL LANE, LLC  
19 DEPOT STREET  
WAREHAM, MA 02571

APPLICANT: 6 CHAPEL LANE, LLC  
19 DEPOT STREET  
WAREHAM, MA 02571



— U.S.G.S. LOCUS PLAN —  
SCALE: 1"=2000'



— AERIAL OVERVIEW —  
SCALE: 1"=500'

**SITE DATA**

ZONING DISTRICT: MULTIPLE RESIDENCE 30  
ASSESSOR'S MAP: 43  
ASSESSOR'S LOTS: 1036, 1037.A, 1039,  
1040.A & 1041.A  
MIN. LOT AREA (2-FAMILY): 45,000 S.F.\*  
MIN. ROAD FRONTAGE: 250'  
MIN. FRONT SETBACK: 30'  
MIN. SIDE & REAR SETBACK: 20'  
MAX. PRINCIPAL BUILDING HEIGHT: 35'  
MAX. BUILDING COVERAGE: 25%  
MAX. LOT COVERAGE: NR  
WATER SUPPLY: TOWN WATER  
SANITARY SEWER: TOWN SEWER

**ZONING DATA:**

ZONING TABLE	ALLOWED	PROVIDED
LOT AREA:	165,000 S.F.*	36,180± S.F. (EXISTING)
FRONTAGE:	250'	233.93 (EXISTING)
FRONT SETBACK:	30'	62.9'
SIDE SETBACK:	20'	28.4'
REAR SETBACK:	20'	23.6'
MAX. BUILDING COVERAGE:	25%	14.3%

**PARKING DATA:**

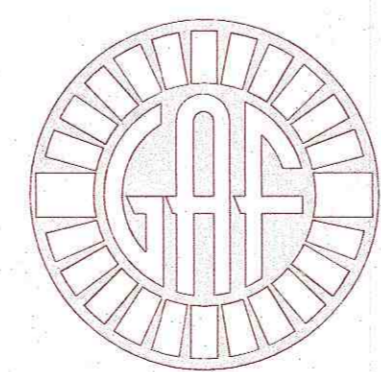
REQUIRED: 2 PARKING SPACES FOR EACH DWELLING UNIT  
6 DWELLING UNITS=12 PARKING SPACES  
TOTAL REQUIRED=12 PARKING SPACES  
PROVIDED:  
TOTAL PROVIDED=12 PARKING SPACES

**PLAN INDEX:**

SHEET NO.	DESCRIPTION:
1	COVER SHEET
2	GENERAL NOTES & LEGEND
3	EX. CONDITIONS & DEMOLITION
4	SITE OVERVIEW PLAN
5	LAYOUT & UTILITIES
6	GRADING & DRAINAGE
7	EROSION CONTROL PLAN
8	LANDSCAPING PLAN
9	DETAIL SHEET 1
10	DETAIL SHEET 2
11	DETAIL SHEET 3

**FLOOD ZONE DATE:**

THE PROJECT IS LOCATED WITHIN FLOOD ZONE X (SHADED). REFER TO THE F.E.M.A. FLOOD INSURANCE RATE MAP PANEL NUMBER 25023C0493J, DATED JULY 17, 2012.



**G.A.F. ENGINEERING, INC.**  
PROFESSIONAL ENGINEERS & LAND SURVEYORS  
266 MAIN STREET, WAREHAM, MA 02571  
TEL: (508) 295-6600 FAX: (508) 295-6634  
E-MAIL: info@gafenginc.com

NOVEMBER 14, 2022

\* 45,000 S.F. MIN. AND AN ADDITIONAL 30,000 S.F. FOR EACH ADDITIONAL UNIT

DATE	REV.	DATE	BY	DESCRIPTION
NOV. 14, 2022	1		JMP	NO CHANGES THIS SHEET
	2	4/24/23	WFM	NO CHANGES THIS SHEET
	3	4/24/23	JMP	PER INITIAL PEER REVIEW

DATE: NOV. 14, 2022	DATE: NOV. 14, 2022
DRAWN BY: JMP	DATE: NOV. 14, 2022
CHECKED BY: WFM	DATE: NOV. 14, 2022
JOB NO.: 20-9499	DATE: NOV. 14, 2022
SCALE: AS NOTED	DATE: NOV. 14, 2022

APPROVED BY:	APPROVED BY:

G.A.F. ENGINEERING, INC. PROFESSIONAL ENGINEERS & LAND SURVEYORS 266 MAIN STREET - WAREHAM, MA 02571 TEL: (508) 295-6600 FAX: (508) 295-6634 E-MAIL: info@gafenginc.com	WAREHAM, MA
PREPARED FOR: 6 CHAPEL LANE, LLC	WAREHAM, MA

SITE DEVELOPMENT PLAN COVER SHEET	WAREHAM, MA
6 CHAPEL LANE	WAREHAM, MA
19 DEPOT STREET	WAREHAM, MA

JOB NO.: 20-9499	DATE: NOV. 14, 2022
DWG. 1 OF 11	DATE: NOV. 14, 2022

PERMIT SET  
(NOT FOR CONSTRUCTION)



**GENERAL NOTES:**

- ALL UNDERGROUND UTILITIES SHOWN OR NOT SHOWN WERE COMPILED ACCORDING TO AVAILABLE RECORD PLANS AND IN PART FROM FIELD SURVEY AND ARE APPROXIMATE ONLY. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD BEFORE EXCAVATING, BLASTING, INSTALLING, BACKFILLING, GRADING, PAVEMENT RESTORATION, OR REPAIRING. ALL UTILITY COMPANIES, PUBLIC AND PRIVATE, MUST BE CONTACTED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN. SEE MGL CHAPTER 370, ACTS OF 1963. CONTRACTORS MUST CALL DIG-SAFE AT (1-888-DIG-SAFE OR 811) G.A.F. ENGINEERING, INC. ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN.
- EXISTING CONDITIONS INFORMATION IS BASED ON ACTUAL FIELD SURVEY, PRIVATE UTILITY PLANS, AND OTHER AVAILABLE SOURCES. FIELD SURVEY WAS PERFORMED BY G.A.F. ENGINEERING, INC., ON VARIOUS DATES AND MOST RECENTLY IN JANUARY OF 2021.
- THE CONTRACTOR SHALL COORDINATE AND OBTAIN ALL REQUIRED PERMITS, GIVE ALL NOTICES, COMPLY WITH ALL LAWS AND REGULATIONS, AND PAY ALL FEES ASSOCIATED WITH THE INSTALLATION OF THIS WORK.
- THE CONTRACTOR SHALL FIELD VERIFY, PRIOR TO CONSTRUCTION ALL EXISTING UNDERGROUND UTILITY LOCATIONS AND POINTS OF INTERCONNECTION.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, SUPERVISION, TOOLS, EQUIPMENT, FUEL, POWER, SANITARY FACILITIES AND INCIDENTALS NECESSARY FOR THE FURNISHING, PERFORMANCE, TESTING, START-UP AND COMPLETION OF THIS WORK.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER OF ANY CONFLICTS DISCOVERED IN THE FIELD.
- ANY CHANGES TO THESE SITE PLANS THAT ARE MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE CONTRACTOR ON RECORD DOCUMENTS AND REPORTED TO THE OWNER AND ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AN EXCAVATION AND TRENCH PERMIT PURSUANT TO 520 CMR 14.00 AS APPLICABLE PRIOR TO THE START OF CONSTRUCTION.

**CONSTRUCTION NOTES:**

- IN GENERAL, THE PLANS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EVERY FITTING, CHANGE IN DIRECTION OR DETAIL OF CONSTRUCTION.
- THE LOCATION OF UTILITIES WERE OBTAINED FROM VARIOUS SOURCES OF INFORMATION. THE EXACT LOCATION AND COMPLETENESS IS NOT GUARANTEED. THE CONTRACTOR MUST NOTIFY DIG SAFE PRIOR TO THE START OF CONSTRUCTION (1-888-DIG-SAFE OR 811). G.A.F. ENGINEERING, INC. ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE SAFETY OF PERSONNEL AND PROTECTION OF PROPERTY AT THE SITE OR ADJACENT THERETO INCLUDING TREES, SHRUBS, LAWNS, PAVEMENTS, ROADWAYS, STRUCTURES AND UNDERGROUND UTILITIES NOT DESIGNED FOR REMOVAL, RELOCATION, OR REPLACEMENT.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION REQUIRED FOR THE INSTALLATION OF THIS WORK.
- ALL MATERIALS SHALL BE NEW AND FREE FROM DEFECTS AND OF GOOD QUALITY.
- THE CONTRACTOR SHALL KEEP THE PREMISES FREE FROM THE ACCUMULATION OF WASTE MATERIAL AND OTHER DEBRIS RESULTING FROM THIS WORK.
- ALL PAVEMENT MARKINGS DISTURBED BY CONSTRUCTION SHALL BE RESTORED AS PART OF THIS WORK.
- THE CONTRACTOR SHALL INSTITUTE ALL SAFETY MEASURES NECESSARY TO PROTECT THE PUBLIC SAFETY. THIS SHALL INCLUDE, BUT NOT LIMITED TO, BARRICADES, SIGNS, LIGHTING, FENCES, POLICE DETAILS, AND ANY OTHER MEANS AS DIRECTED. NO TRENCHES ARE TO REMAIN OPEN OVERNIGHT.
- ELEVATIONS ARE IN FEET AND TENTHS AND ARE BASED ON THE DATUM OF NAVD-88.
- SIDE SLOPE GRADING SHALL BE AS NOTED ON THE SITE PLANS.
- ALL SIDE SLOPES SHALL BE DRESSED WITH 4 INCHES OF TOPSOIL. WHERE SIDE SLOPES EXCEED 3:1, PROVIDE AN EROSION CONTROL BLANKET OVER THE PLANTED SEED BED. SEE PLAN FOR LOCATIONS.
- ALL SEWER AND PLUMBING WORK SHALL CONFORM WITH 248 CMR 10.00 UNIFORM STATE PLUMBING CODE AND THE TOWN OF WAREHAM SEWER DEPARTMENTS SPECIFICATIONS.
- ALL METHODS AND MATERIALS SHALL CONFORM WITH MassDOT STANDARDS AND SPECIFICATIONS, AND THE REQUIREMENTS OF THE TOWN OF WAREHAM MUNICIPAL MAINTENANCE DEPARTMENT.
- ALL UTILITY INSTALLATIONS SHALL BE IN CONFORMANCE WITH ALL APPLICABLE TOWN, STATE AND FEDERAL REQUIREMENTS & REGULATIONS.
- DEWATERING IF REQUIRED SHALL BE DIRECTED TO A 8'x10' MIN. RECTANGLE OF HAYBALES OR A DIRTBAG. CONTRACTOR SHALL PROVIDE AND MAINTAIN DEWATERING EQUIPMENT FOR THE CONTROL, COLLECTION AND DISPOSAL OF GROUND AND SURFACE WATER WHERE NECESSARY TO COMPLETE THE WORK.

**EROSION CONTROL NOTES:**

- THE SITE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SUITABLE EROSION AND SEDIMENTATION CONTROL DEVICES ON SITE DURING CONSTRUCTION AS REQUIRED TO PREVENT SILT FROM LEAVING THE SITE. SILT WILL NOT BE ALLOWED BEYOND CONSTRUCTION LIMITS. ADDITIONAL PROTECTION: ON-SITE PROTECTION MUST BE PROVIDED THAT WILL NOT PERMIT SILT TO LEAVE THE PROJECT CONFINES DUE TO UNFORESEEN CONDITIONS OR ACCIDENTS.
- EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLANS DOES NOT PROVIDE SUFFICIENT EROSION AND SEDIMENT CONTROL, ADDITIONAL CONTROL MEASURES SHALL BE IMPLEMENTED. CONTRACTOR IS RESPONSIBLE FOR REPAIRING OR REPLACING EROSION CONTROL DEVICES WHICH BECOME INEFFECTIVE.
- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR ALL GRADING AND OTHER LAND DISTURBING ACTIVITIES PRIOR TO CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR THE CLEANUP AND REMOVAL OF ANY BUILDUP OF SEDIMENT WHICH ESCAPES FROM THE SITE.
- CONTRACTOR IS RESPONSIBLE FOR CLEANING SILT AND DEBRIS OUT OF ALL STORM DRAINAGE STRUCTURES UPON THE COMPLETION OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL TEMPORARY EROSION CONTROL MEASURES AFTER CONSTRUCTION IS COMPLETE AND ALL DISTURBED AREAS HAVE BEEN STABILIZED.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ANY FINES LEVIED AGAINST THE SITE FOR VIOLATIONS OF EROSION CONTROL REGULATIONS.
- CONTRACTOR SHALL PROVIDE TEMPORARY GROUND COVER FOR ALL AREAS WITH EXPOSED SOIL WHICH WILL NOT BE DISTURBED BY GRADING OPERATIONS FOR A PERIOD OF THIRTY DAYS OR MORE.
- IF WORK ON THIS PROJECT IS SUSPENDED FOR ANY REASON, THE CONTRACTOR SHALL MAINTAIN THE SOIL EROSION AND SEDIMENTATION CONTROL FACILITIES IN GOOD CONDITION DURING THE SUSPENSION OF WORK.
- SPRINKLE OR APPLY DUST SUPPRESSERS TO MINIMIZE DUST AT THE CONSTRUCTION SITE. MAINTAIN DUST CONTROL MEASURES UNTIL ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
- THE CONTRACTOR WILL ALSO NEED TO COMPLY TO ANY ORDER OF CONDITIONS THAT MAY BE ISSUED BY THE TOWN OF WAREHAM CONSERVATION COMMISSION.

**DRAINAGE OPERATION AND MAINTENANCE SCHEDULE:**

THE OPERATION AND MAINTENANCE (O&M) SCHEDULE DURING THE CONSTRUCTION PERIOD IS THE RESPONSIBILITY OF THE CONTRACTOR. THE OUTLINE BELOW SHALL BE FOLLOWED TO ENSURE THE PROPER CONSTRUCTION AND FUNCTION OF THE DRAINAGE FACILITIES.

- IN CONJUNCTION WITH THE SITE CONSTRUCTION, ALL DRAINAGE STRUCTURES SHALL BE INSTALLED AND THE AFFECTED AREAS STABILIZED (LOAM AND SEED, HYDROSEED, PLANTED, RIP-RAP, ETC.). PERMANENT STABILIZATION OF THESE AREAS SHALL BE STARTED AS SOON AS POSSIBLE.
- EROSION CONTROL SHALL BE PLACED ALONG THE LIMITS OF WORK WHERE SHOWN ON THE PLANS.
- ALL EXISTING CATCH BASINS SHALL HAVE A TEMPORARY SILT SACK INSTALLED IN THEM PRIOR TO CONSTRUCTION. ALL PROPOSED WATER QUALITY CATCH BASINS SHALL HAVE TEMPORARY SILT SACK INSTALLED IN THEM AS SOON AS THE STRUCTURE IS SET. CONTRACTOR SHALL EMPTY WHEN NEEDED AND REMOVE & DISPOSE OF THE SILT SACKS AT THE COMPLETION OF CONSTRUCTION. ALL PROPOSED WATER QUALITY CATCH BASINS SHALL BE INSPECTED WEEKLY DURING CONSTRUCTION. IF THERE IS ANY SEDIMENT BUILDUP, THE AFFECTED STRUCTURES SHALL BE CLEANED IMMEDIATELY, AND ALL MATERIAL REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS.
- THE INFILTRATION CHAMBERS SHALL BE INSPECTED WEEKLY DURING CONSTRUCTION. IF THERE IS ANY SEDIMENT BUILDUP, THE AFFECTED STRUCTURES SHALL BE CLEANED IMMEDIATELY, AND ALL MATERIAL REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS.
- ALL AREAS SHALL BE INSPECTED WEEKLY, AND AFTER ANY LARGE STORMS. IF THERE IS EVIDENCE OF EROSION, THE ERODED AREA SHALL BE RE-STABILIZED, AND MEASURES SHALL BE TAKEN TO PREVENT REOCCURRENCE. THIS SCHEDULE MUST BE ADHERED TO BY THE CONTRACTOR UNTIL THE PROJECT IS ACCEPTED BY THE OWNER.

**POST-CONSTRUCTION OPERATION AND MAINTENANCE PLAN:**

UPON THE COMPLETION OF CONSTRUCTION, MAINTENANCE SHALL BE CONDUCTED BY THE OWNER OR OWNER'S AGENT ON THE SITE. THE FOLLOWING SHALL BE CARRIED OUT BY THE RESPONSIBLE PARTY AND SHALL BE ADHERED TO ENSURE THE PROPER OPERATION OF THE DRAINAGE FACILITIES.

- PARKING LOT SWEEPING IS AN EFFECTIVE NONSTRUCTURAL SOURCE CONTROL THAT WILL REMOVE SEDIMENT FROM PAVED SURFACES. PARKING LOT SWEEPING SHOULD BE DONE BY THE USE OF A HIGH EFFICIENCY VACUUM SWEEPER OR REGENERATIVE AIR SWEEPER. PARKING LOT SWEEPING SHALL BE DONE TWICE PER YEAR. ONCE REMOVED FROM PAVED SURFACES, THE SWEEPINGS MUST BE HANDLED AND DISPOSED OF PROPERLY IN ONE OF THE WAYS APPROVED BY MASSDEP (SEE POLICY # BAW-18-001: REUSE & DISPOSAL OF STREET SWEEPINGS).
- PROPRIETARY CATCH BASINS (WATER QUALITY CATCH BASINS) ARE UNDERGROUND RETENTION SYSTEMS DESIGNED TO REMOVE TRASH, DEBRIS AND COARSE SEDIMENT FROM STORMWATER RUNOFF AND SERVE AS TEMPORARY SPILL CONTAINMENT DEVICES FOR FLOATABLES SUCH AS OILS AND GREASE. INSPECT THE UNITS MONTHLY AND CLEAN AT LEAST TWO TIMES PER YEAR AND AT THE END OF THE FOLIAGE AND SNOW-REMOVAL SEASONS. SEDIMENTS MUST ALSO BE REMOVED WHENEVER THE DEPTH OF DEPOSITS IS GREATER THAN OR EQUAL TO ONE HALF THE DEPTH FROM THE BOTTOM OF THE INVERT. SEDIMENT SHALL BE REMOVED THROUGH THE USE OF A VACUUM TRUCK. SEDIMENT MUST BE HANDLED AND DISPOSED OF PROPERLY IN ONE OF THE WAYS ALREADY APPROVED BY MASSDEP (SEE MASSDEP POLICY ON MANAGEMENT OF CATCH BASIN CLEANINGS). IF THERE IS EVIDENCE THAT THEY HAVE BEEN CONTAMINATED BY A SPILL OR OTHER MEANS, THE CLEANINGS MUST BE EVALUATED IN ACCORDANCE WITH THE MASSDEP HAZARDOUS WASTE REGULATIONS, 310 CMR 30.00 AND HANDLED AS HAZARDOUS WASTE.
- INFILTRATION CHAMBERS SHALL BE INSPECTED AFTER EVERY MAJOR STORM EVENT IN THE FIRST FEW MONTHS AFTER CONSTRUCTION TO ENSURE PROPER STABILIZATION AND FUNCTION. THEREAFTER, THE INFILTRATION CHAMBERS SHALL BE INSPECTED AT LEAST FOUR TIMES PER YEAR. WATER DEPTH IN THE INFILTRATION CHAMBERS SHOULD BE OBSERVED AND MEASURED AT 0, 24, AND 48-HOUR INTERVALS AFTER A MAJOR STORM EVENT AT LEAST ONCE PER YEAR. CLEARANCE RATES ARE CALCULATED BY DIVIDING THE DROP IN THE WATER LEVEL (INCHES) BY THE ELAPSED TIME (HOUR). A COMPARISON OF CLEARANCE RATE MEASUREMENTS TAKEN OVER THE YEARS PROVIDE A USEFUL TOOL TRACKING ANY CLOGGING PROBLEMS WITH THE UNDERGROUND INFILTRATION SYSTEM.
- INSPECT POP-UP DRAINAGE EMITTERS DURING AND 24 HOURS AFTER ALL MAJOR STORM EVENTS. KEEP POP-UP DRAINAGE EMITTERS FREE AND CLEAR FROM BUILD UP OF DEBRIS ON THE LID. REMOVE SNOW WHEN REQUIRED. INSPECT THE POP-UP DRAINAGE EMITTER LID MONTHLY. REPAIR OR REPLACE AS NEEDED.

**DRAINAGE INSTALLATION NOTES:**

- ALL DRAINAGE PIPES, UNLESS OTHERWISE NOTED, ARE TO BE ADS N-12 PIPE AND FITTINGS WITH SOIL TIGHT JOINTS REFER TO PLAN FOR LOCATION, SIZES AND SLOPES.
- ALL ROOF DRAIN PIPES, UNLESS OTHERWISE NOTED, ARE TO BE 6" ADS N-12 PIPE AND FITTINGS WITH SOIL TIGHT JOINTS. MINIMUM SLOPE TO BE 1.00%. REFER TO PLAN FOR LOCATIONS.
- MINIMUM COVER ON PIPES SHALL NOT BE LESS THAN 1.5 FEET.
- ALL PERFORATED PIPE SHALL BE ADS HDPE PIPE WITH AASHTO CLASS II PERFORATION PATTERN.
- ALL WORK AND MATERIAL SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF WAREHAM MUNICIPAL MAINTENANCE DEPARTMENT.

**DEMOLITION NOTES:**

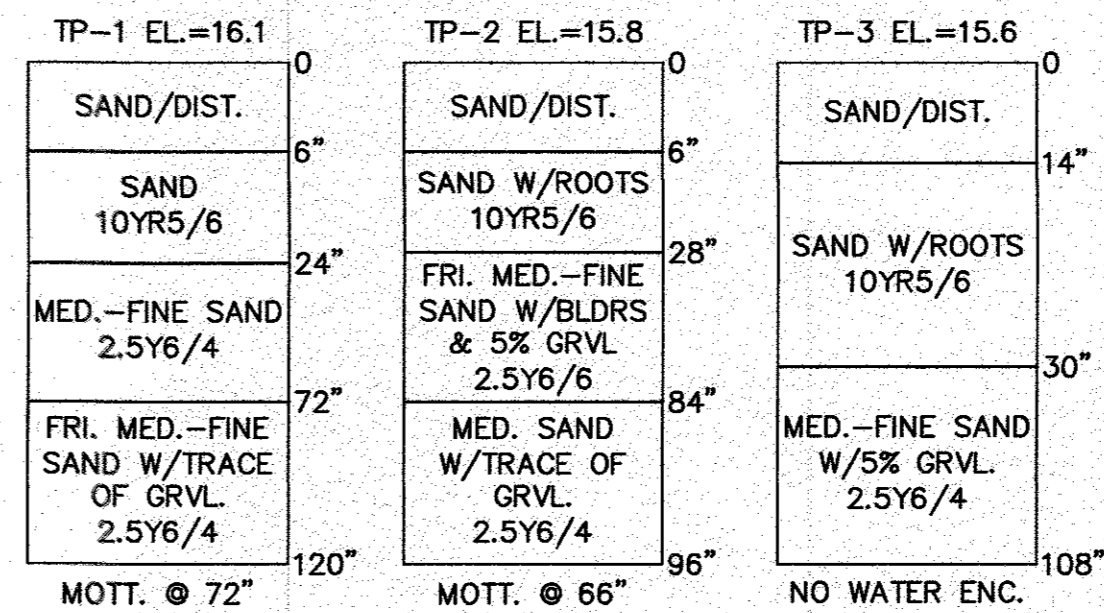
- IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE HIS/HER OWN DETERMINATION OF SUBSURFACE CONDITIONS, INCLUDING THE LOCATION OF ROCK AND THE ACTUAL LOCATION OF UTILITIES OR OTHER FEATURES WHICH MAY AFFECT HIS/HER WORK. ANY UNSUITABLE MATERIAL ENCOUNTERED DURING CONSTRUCTION WILL BE REPORTED TO THE ENGINEER OF RECORD FOR RESOLUTION AND CONSTRUCTION METHOD.
- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND APPARATUS NECESSARY AND SHALL DO ALL WORK REQUIRED TO COMPLETE THE DEMOLITION, REMOVAL, AND ALTERATIONS OF EXISTING FACILITIES, INCLUDING PIPING SYSTEMS AND APPURTENANCES, DRAINAGE, PAVEMENT, LANDSCAPE AND SITE FEATURES ENCOUNTERED DURING THE INSTALLATION AS INDICATED ON THE DRAWINGS, AS HEREIN SPECIFIED, AND/OR AS DIRECTED BY THE DESIGN ENGINEER.
- ALL EQUIPMENT, PIPING, AND OTHER MATERIALS THAT ARE NOT TO BE RELOCATED OR TO BE RETURNED TO THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM, AWAY FROM THE SITE OF THE WORK AND AT HIS OWN EXPENSE.
- ALL DEMOLITION OR REMOVAL OF EXISTING STRUCTURES, PAVEMENT, UTILITIES, EQUIPMENT, AND APPURTENANCES, LANDSCAPE AND SITE FEATURES SHALL BE ACCOMPLISHED WITHOUT DAMAGING THE INTEGRITY OF EXISTING STRUCTURES, EQUIPMENT, PAVEMENT, APPURTENANCES, AND TREES TO REMAIN.
- SUCH ITEMS THAT ARE DAMAGED SHALL BE EITHER REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE TO A CONDITION AT LEAST EQUAL TO THAT WHICH EXISTED PRIOR TO THE START OF HIS WORK TO THE SATISFACTION OF THE DESIGN ENGINEER AND/OR THE OWNER.
- PROVIDE TWO (2) COPIES OF PROPOSED METHODS AND OPERATIONS OF DEMOLITION TO THE OWNER AND ENGINEER FOR REVIEW PRIOR TO THE START OF WORK. INCLUDE IN THE SCHEDULE THE COORDINATION FOR SHUTOFF, CAPPING AND CONTINUATION OF UTILITY SERVICES AS REQUIRED.
- PROVIDE A DETAILED SEQUENCE OF WORK TO THE DESIGN ENGINEER AND THE OWNER FOR DEMOLITION AND REMOVAL WORK TO ENSURE THE UNINTERRUPTED PROGRESS OF THE OWNER'S OPERATIONS.
- ENSURE THE SAFE PASSAGE OF PERSONS AROUND THE AREA OF DEMOLITION. CONDUCT OPERATIONS TO PREVENT INJURY TO ADJACENT BUILDINGS, STRUCTURES, OTHER FACILITIES AND PERSONS.
- PROVIDE INTERIOR AND EXTERIOR SHORING, BRACING, OR SUPPORT TO PREVENT MOVEMENT, SETTLEMENT OR COLLAPSE OF STRUCTURES TO BE DEMOLISHED AND ADJACENT FACILITIES TO REMAIN.
- THE CONTRACTOR SHALL PROMPTLY REPAIR DAMAGES CAUSED BY DEMOLITION OPERATIONS TO ADJACENT FACILITIES AT NO COST TO THE OWNER.

**WATER INSTALLATION NOTES:**

- ALL WATER MAINS, SERVICES, GATE VALVES/GATE BOX, CURB STOPS, HYDRANTS, FITTINGS, ETC. & METHOD OF INSTALLATION SHALL CONFORM TO THE WAREHAM FIRE DISTRICT RULES & REGULATIONS.
- WATER SERVICE SHALL BE FLUSHED TESTED & DISINFECTED IN ACCORDANCE WITH THE WAREHAM FIRE DISTRICT REQUIREMENTS.
- CONTRACTOR TO COORDINATE WITH THE WAREHAM FIRE DISTRICT FOR THE INSPECTIONS OF THE WATER MAIN INSTALLATION.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS TO COMPLETE THE INSTALLATION OF THE WATER SERVICE.
- THE CONTRACTOR SHALL OBTAIN A COPY OF THE REGULATIONS FROM THE WAREHAM FIRE DISTRICT BEFORE PROCEEDING WITH THE INSTALLATION OF THE WATER SERVICE.

**TEST PIT DATA**

DATE OF TESTING: JULY 28, 2022  
PERFORMED BY: BRIAN GRADY, G.A.F. ENGINEERING INC.  
REFER TO SHEET 3 FOR TEST PIT LOCATIONS

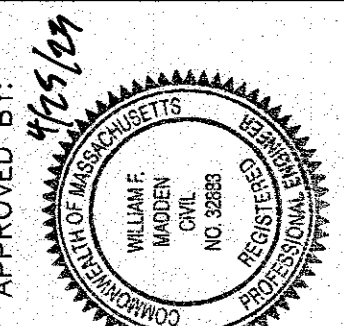


**ABBREVIATIONS**

AC	ASBESTIC CONCRETE
ADS	ADVANCED DRAINAGE SYSTEM
APPROX.	APPROXIMATE
BC	BOTTOM OF CURB
BIT. CONC.	BITUMINOUS CONCRETE
BLDRS	BOLDERS
BW	BOTTOM OF WALL
B/VW	BORDERING VEGETATED WETLANDS
CB	CATCH BASIN
CB/DH	CONCRETE BOUND/DRILL HOLE
CCB	CAPE COD BERM
CEM.	CEMENT
C.I.	CAST IRON CONCRETE
CONC.	CONCRETE
C.O.	CLEANOUT
C.L.D.I.	CEMENT LINED DUCTILE IRON
CMF	CORRUGATED METAL PIPE
CPP	CORRUGATED PLASTIC PIPE
C.T.B.	CONCRETE THRUST BLOCK
DIA	DIAMETER
DMH	DRAIN MANHOLE
D.I.	DUCTILE IRON
DCS	DRAINAGE CONTROL STRUCTURE
E	ELECTRIC
ELEV., EL.	ELEVATION
EOP	EDGE OF PAVEMENT
EX	EXISTING
F.D.C.	FIRE DEPARTMENT CONNECTION
F.E.S.	FLARED END SECTION
F.F.E.	FINISHED FLOOR ELEVATION
FND.	FOUND
FP	FIRE PROTECTION
G	GAS
GG/GV	GAS GATE, GAS VALVE
H.C.	HANDICAP PARKING
H.D.P.E.	HIGH DENSITY POLYETHYLENE
HYD	HYDRANT
INV.	INVERT
MAX	MAXIMUM
MED	MEDIUM
MIN.	MINIMUM
N.T.S.	NOT TO SCALE
N/F	NOW OR FORMERLY
OHW	OVERHEAD WIRE
PCC	PRECAST CONCRETE CURBING
PVC	POLYVINYL CHLORIDE PIPE
PROP.	PROPOSED
PWW	PAVED WATERWAY
RAP	RECYCLED ASPHALT PRODUCT
RCP	REINFORCED CONCRETE PIPING
R	RADIUS
R&D	REMOVE AND DISPOSE
R&S	REMOVE AND STOCK
SB/DH	STONE BOUND/DRILL HOLE
S	SEWER
SGC	SLOPED GRANITE CURBING
SMH	SEWER MANHOLE
STA	STATION
TC	TOP OF CURB
TW	TOP OF WALL
TYPICAL	TYPICAL
T/O/F	TOP OF FOUNDATION
UP	UTILITY POLE
UE	UNDERGROUND ELECTIC
VCC	VERTICAL GRANITE CURB
W	WATER
WG/WV	WATER GATE, WATER VALVE
WQS	WATER QUALITY STRUCTURE

DATE: NOV. 14, 2022
DRAWN BY: JMP
CHECKED BY: WFM
JOB NO.: 20-9499
SCALE: N.T.S.

APPROVED BY:



EXISTING	DESC.	PROPOSED
15	CONTOURS	15
15x5	SPOT GRADES	15x5
	WETLANDS	
---	30' NO ACTIVITY ZONE	
---	100' BUFFER ZONE	
---	200' RIVERFRONT AREA	
---	F.E.M.A. FLOOD ZONE	
D	DRAIN LINE	D
RD	ROOF DRAIN LINE	RD
CB	CATCH BASIN (CB)	CB
DMH	DRAIN MANHOLE (DMH)	DMH
EMH	ELECTRIC MANHOLE (EMH)	EMH
UE	UNDERGROUND UTILITIES	UE
OHW	OVERHEAD WIRES	OHW
UP	UTILITY POLE	UP
GUY	GUY POLE	GUY
WGV	WATER GATE VALVE	WGV
WSS	WATER SHUTOFF/CURB STOP	WSS
H	HYDRANT	H
P	POST INDICATOR VALVE	P
W	WATER LINE	W
FP	FIRE PROTECTION LINE	FP
S	SEWER MANHOLE (SMH)	S
S	SEWER LINE	S
T	TREE/BRUSH LINE	T
L	LIGHT POST	L
G	GAS LINE	G
GV	GAS GATE/VALVE	GV
GS	GAS SHUTOFF	GS
GM	GAS METER	GM
S	SIGN	S
F	FENCE	F
B	BOUND	B
TP	TEST PIT/PERC TEST	TP
SF	SILT FENCE	SF
GR	GUARD RAIL	GR
FL	FLARED END SECTION	FL
SW	STONE WALL	SW
W	WELL	W

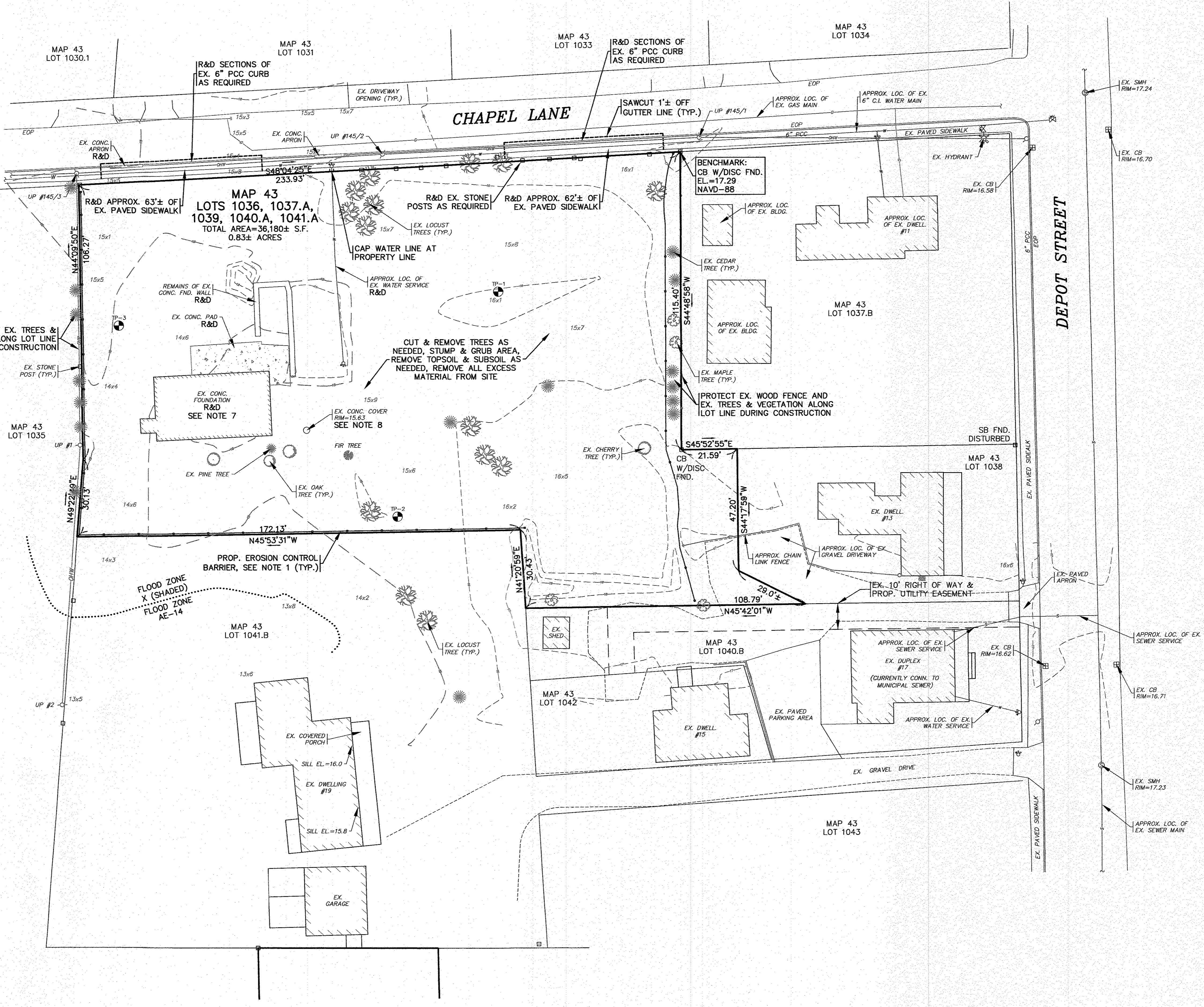
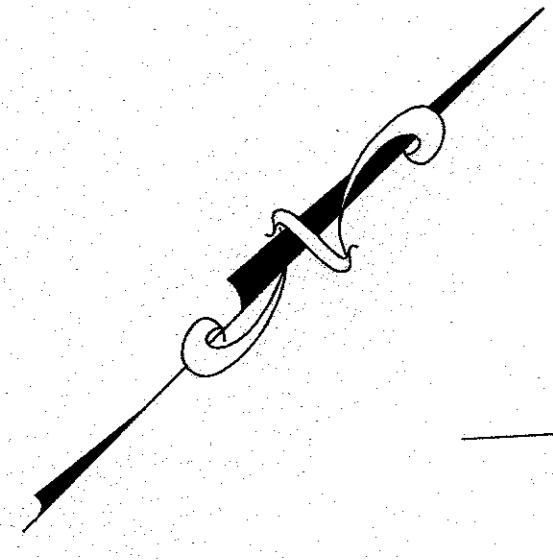
**G.A.F. ENGINEERING, INC.**  
PROFESSIONAL ENGINEERS & LAND SURVEYORS  
266 MAIN STREET - WAREHAM, MA 02571  
TEL: (508) 295-6600 FAX: (508) 295-6634  
E-MAIL: info@gafeng.com

**SITE DEVELOPMENT PLAN**  
**GENERAL NOTES & LEGEND**  
6 CHAPEL LANE, LLC  
6 CHAPEL LANE, WAREHAM, MA  
19 DEPOT STREET, WAREHAM, MA  
JOB NO.: 20-9499  
DWG. 2 OF 11

PERMIT SET  
(NOT FOR CONSTRUCTION)

**NOTE:**  
WHERE REQUIRED THE CONTRACTOR TO REMOVE ALL UNSUITABLE SOILS AND REPLACE WITH CLEAN SAND AND GRAVEL APPROVED BY DESIGN ENGINEER. SEE PLANS FOR DEPTHS AND LOCATIONS.





- NOTES:**
- CONTRACTOR SHALL PROVIDE AND MAINTAIN STAKED SILT FENCE EROSION CONTROL BARRIERS WHERE SHOWN ON THE PLAN. SEE DETAIL ON SHEET 8. REFER TO THE COMPLETE SET OF EROSION CONTROL NOTES ON SHEET 2. EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL VEGETATION IS ESTABLISHED.
  - ALL DEBRIS FROM DEMOLITION INCLUDING ANY PAVEMENT & CURBING REMOVAL, UTILITIES REMOVAL, STONE REMOVAL, FENCE REMOVAL, TREE CLEARING, STUMPING, GRUBBING, ETC. SHALL BE REMOVED FROM THE SITE AND NOT STOCKPILED UNLESS OTHERWISE NOTED.
  - CONTRACTOR SHALL CONFIRM THE EXACT LOCATIONS AND ELEVATIONS OF ALL EXISTING WATER LINES, SEWER LINES, ELECTRIC CONDUITS AND GAS LINES PRIOR TO CONSTRUCTION. ALL EXISTING UTILITY SERVICES SHALL BE REMOVED UNLESS OTHERWISE NOTED, COORDINATE WITH THE APPROPRIATE UTILITY COMPANY.
  - CONTRACTOR SHALL CONFIRM TYPE, SIZE AND ELEVATION OF EXISTING SEWER SERVICE PRIOR TO CONSTRUCTION. CONFIRM WITH WAREHAM SEWER DEPARTMENT AND ENGINEER.
  - REFER TO THE COMPLETE SET OF DEMOLITION NOTES ON SHEET 2.
  - ANY EXCAVATION/REMOVAL OF EXISTING FEATURES BELOW ADJACENT GRADE SHALL BE REFILLED WITH COARSE SAND TO MATCH ADJACENT GRADE AS A TEMPORARY MEASURE PRIOR TO CONSTRUCTION.
  - AFTER REMOVAL OF THE EXISTING CONCRETE FOUNDATION THE AREA SHALL BE BACKFILLED WITH STRUCTURAL FILL AND COMPACTED TO MATCH ADJACENT GRADE.
  - CONTRACTOR TO CONFIRM PURPOSE OF EXISTING STRUCTURE BELOW CONCRETE COVER. THE STRUCTURE SHALL BE REMOVED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
  - AFTER SIDEWALK REMOVAL THE CONTRACTOR SHALL PROVIDE A 3' MIN. WIDE TEMPORARY PEDESTRIAN DETOUR IF REQUIRED. CONTRACTOR SHALL COORDINATE WITH OWNER. WHENEVER POSSIBLE, WORK SHOULD BE DONE IN A MANNER THAT DOES NOT CREATE A NEED TO DETOUR PEDESTRIANS FROM EXISTING ROUTES OR CROSSINGS.

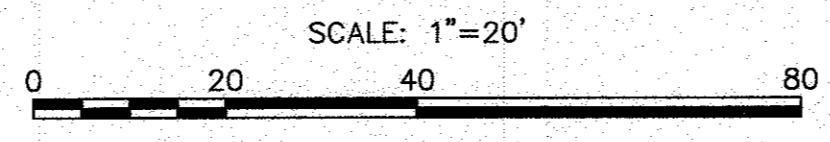
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	2	4/24/23	JMP	NO CHANGES THIS SHEET
	3	4/5/23	JMP	PER INITIAL PEER REVIEW
	4	3/14/23	JMP	DATE
	5			APP'D

DATE: NOV. 14, 2022  
 DRAWN BY: JMP  
 CHECKED BY: WFM  
 JOB NO.: 20-9499  
 SCALE: 1" = 20'

APPROVED BY: *[Signature]*  
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 PROFESSIONAL ENGINEERS & LAND SURVEYORS  
 266 MAIN STREET - WAREHAM, MA 02571  
 TEL: (508) 295-6600 FAX: (508) 295-6634  
 E-MAIL: info@gafengrinc.com

PREPARED FOR:  
 6 CHAPEL LANE, LLC  
 19 DEPOT STREET  
 WAREHAM, MA

**EX. CONDITIONS & DEMOLITION PLAN**

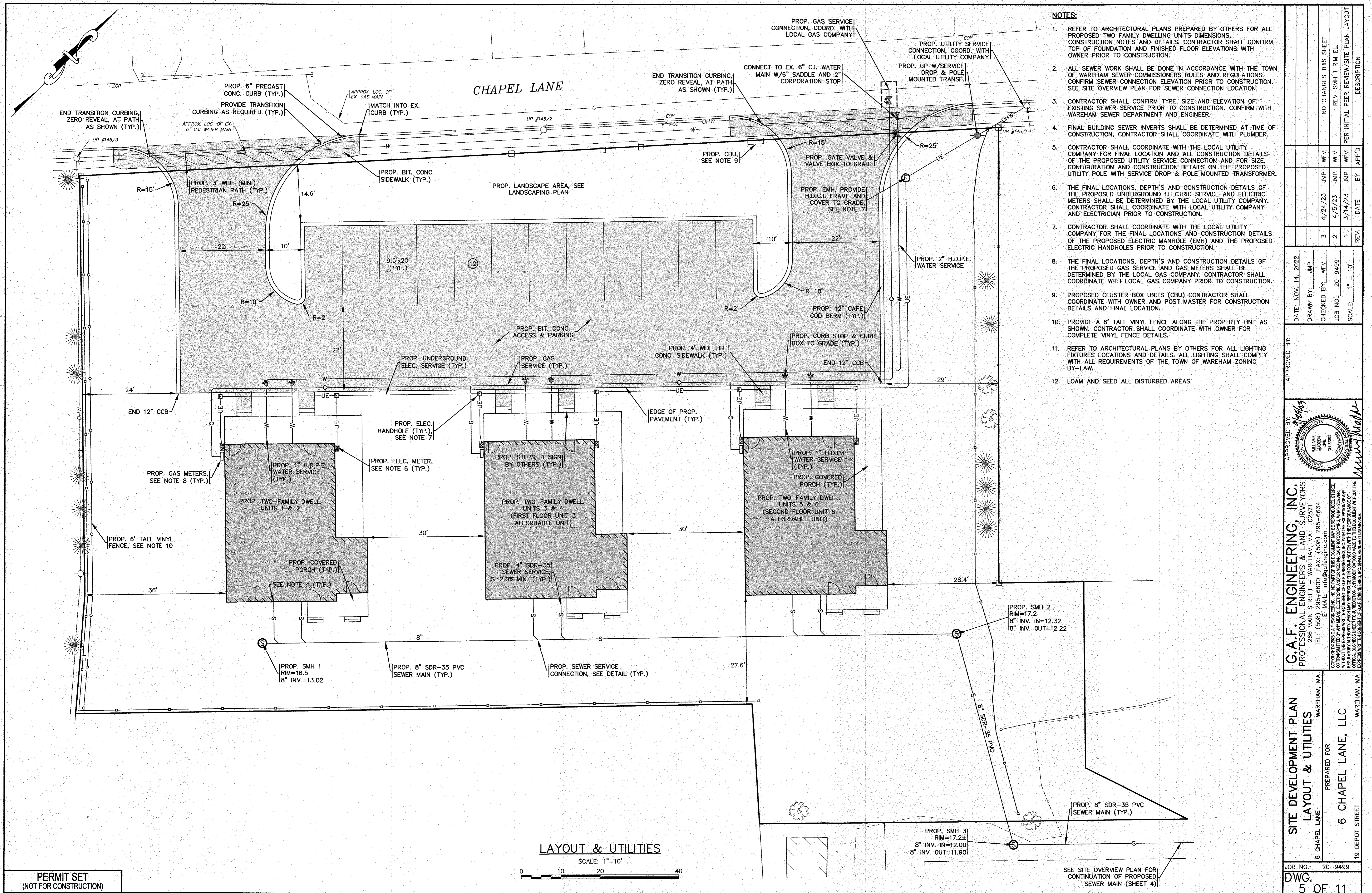


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- NOTES:**
- REFER TO ARCHITECTURAL PLANS PREPARED BY OTHERS FOR ALL PROPOSED TWO FAMILY DWELLING UNITS DIMENSIONS. CONSTRUCTION NOTES AND DETAILS. CONTRACTOR SHALL CONFIRM TOP OF FOUNDATION AND FINISHED FLOOR ELEVATIONS WITH OWNER PRIOR TO CONSTRUCTION.
  - ALL SEWER WORK SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF WAREHAM SEWER COMMISSIONERS RULES AND REGULATIONS. CONFIRM SEWER CONNECTION ELEVATION PRIOR TO CONSTRUCTION. SEE SITE OVERVIEW PLAN FOR SEWER CONNECTION LOCATION.
  - CONTRACTOR SHALL CONFIRM TYPE, SIZE AND ELEVATION OF EXISTING SEWER SERVICE PRIOR TO CONSTRUCTION. CONFIRM WITH WAREHAM SEWER DEPARTMENT AND ENGINEER.
  - FINAL BUILDING SEWER INVERTS SHALL BE DETERMINED AT TIME OF CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH PLUMBER.
  - CONTRACTOR SHALL COORDINATE WITH THE LOCAL UTILITY COMPANY FOR FINAL LOCATION AND ALL CONSTRUCTION DETAILS OF THE PROPOSED UTILITY SERVICE CONNECTION AND FOR SIZE, CONFIGURATION AND CONSTRUCTION DETAILS ON THE PROPOSED UTILITY POLE WITH SERVICE DROP & POLE MOUNTED TRANSFORMER.
  - THE FINAL LOCATIONS, DEPTH'S AND CONSTRUCTION DETAILS OF THE PROPOSED UNDERGROUND ELECTRIC SERVICE AND ELECTRIC METERS SHALL BE DETERMINED BY THE LOCAL UTILITY COMPANY. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY AND ELECTRICIAN PRIOR TO CONSTRUCTION.
  - CONTRACTOR SHALL COORDINATE WITH THE LOCAL UTILITY COMPANY FOR THE FINAL LOCATIONS AND CONSTRUCTION DETAILS OF THE PROPOSED ELECTRIC MANHOLE (EMH) AND THE PROPOSED ELECTRIC HANDHOLES PRIOR TO CONSTRUCTION.
  - THE FINAL LOCATIONS, DEPTH'S AND CONSTRUCTION DETAILS OF THE PROPOSED GAS SERVICE AND GAS METERS SHALL BE DETERMINED BY THE LOCAL GAS COMPANY. CONTRACTOR SHALL COORDINATE WITH LOCAL GAS COMPANY PRIOR TO CONSTRUCTION.
  - PROPOSED CLUSTER BOX UNITS (CBU) CONTRACTOR SHALL COORDINATE WITH OWNER AND POST MASTER FOR CONSTRUCTION DETAILS AND FINAL LOCATION.
  - PROVIDE A 6' TALL VINYL FENCE ALONG THE PROPERTY LINE AS SHOWN. CONTRACTOR SHALL COORDINATE WITH OWNER FOR COMPLETE VINYL FENCE DETAILS.
  - REFER TO ARCHITECTURAL PLANS BY OTHERS FOR ALL LIGHTING FIXTURES LOCATIONS AND DETAILS. ALL LIGHTING SHALL COMPLY WITH ALL REQUIREMENTS OF THE TOWN OF WAREHAM ZONING BY-LAW.
  - LOAM AND SEED ALL DISTURBED AREAS.

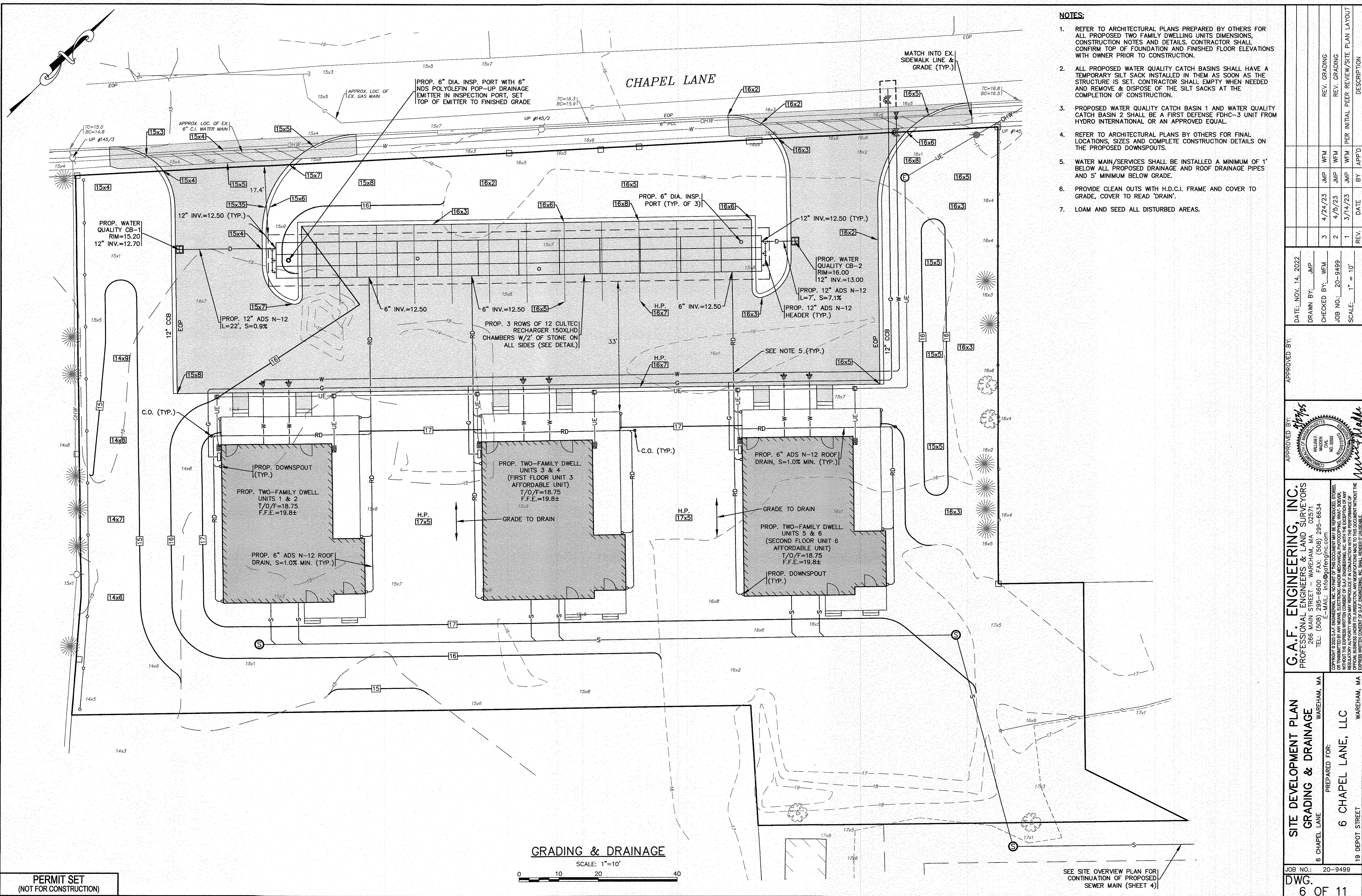
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<b>G.A.F. ENGINEERING, INC.</b> PROFESSIONAL ENGINEERS & LAND SURVEYORS 266 MAIN STREET - WAREHAM, MA 02571 TEL: (508) 295-6600 FAX: (508) 295-6634 E-MAIL: info@gafenginc.com									
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<b>SITE DEVELOPMENT PLAN</b> <b>LAYOUT &amp; UTILITIES</b> WAREHAM, MA PREPARED FOR: <b>6 CHAPEL LANE, LLC</b> WAREHAM, MA									
JOB NO.: 20-9499 <b>DWG. 5 OF 11</b>									

PERMIT SET  
(NOT FOR CONSTRUCTION)

**LAYOUT & UTILITIES**  
SCALE: 1"=10'

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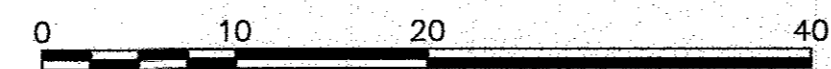




- NOTES:**
- REFER TO ARCHITECTURAL PLANS PREPARED BY OTHERS FOR ALL PROPOSED TWO FAMILY DWELLING UNITS DIMENSIONS. CONSTRUCTION NOTES AND DETAILS. CONTRACTOR SHALL CONFIRM TOP OF FOUNDATION AND FINISHED FLOOR ELEVATIONS WITH OWNER PRIOR TO CONSTRUCTION.
  - ALL PROPOSED WATER QUALITY CATCH BASINS SHALL HAVE A TEMPORARY SILT SACK INSTALLED IN THEM AS SOON AS THE STRUCTURE IS SET. CONTRACTOR SHALL EMPTY WHEN NEEDED AND REMOVE & DISPOSE OF THE SILT SACKS AT THE COMPLETION OF CONSTRUCTION.
  - PROPOSED WATER QUALITY CATCH BASIN 1 AND WATER QUALITY CATCH BASIN 2 SHALL BE A FIRST DEFENSE FDHC-3 UNIT FROM HYDRO INTERNATIONAL OR AN APPROVED EQUAL.
  - REFER TO ARCHITECTURAL PLANS BY OTHERS FOR FINAL LOCATIONS, SIZES AND COMPLETE CONSTRUCTION DETAILS ON THE PROPOSED DOWNSPOUTS.
  - WATER MAIN/SERVICES SHALL BE INSTALLED A MINIMUM OF 1' BELOW ALL PROPOSED DRAINAGE AND ROOF DRAINAGE PIPES AND 5' MINIMUM BELOW GRADE.
  - PROVIDE CLEAN OUTS WITH H.D.C.I. FRAME AND COVER TO GRADE, COVER TO READ 'DRAIN'.
  - LOAM AND SEED ALL DISTURBED AREAS.

**GRADING & DRAINAGE**

SCALE: 1"=10'



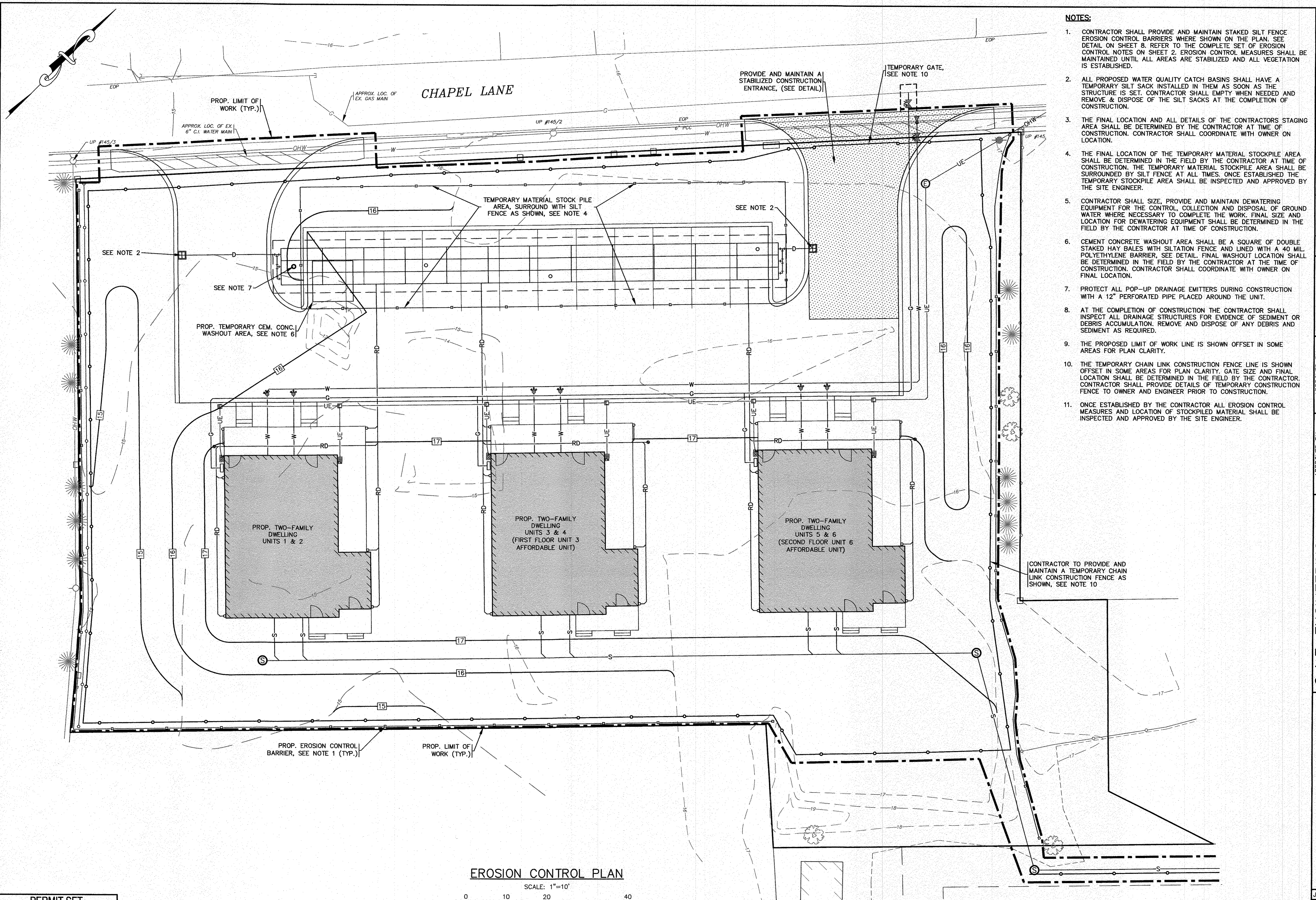
SEE SITE OVERVIEW PLAN FOR CONTINUATION OF PROPOSED SEWER MAIN (SHEET 4)

PERMIT SET  
(NOT FOR CONSTRUCTION)

DATE: NOV. 14, 2022		REV. GRADING	
DRAWN BY: JMP		REV. GRADING	
CHECKED BY: WFM		REV. GRADING	
JOB NO.: 20-9499		PER INITIAL PEER REVIEW/SITE PLAN LAYOUT	
SCALE: 1" = 10'		REV. DATE BY APP'D	
APPROVED BY: <i>[Signature]</i>		REV. DATE BY APP'D	
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<b>SITE DEVELOPMENT PLAN</b> <b>GRADING &amp; DRAINAGE</b> 6 CHAPEL LANE WAREHAM, MA		PREPARED FOR: <b>6 CHAPEL LANE, LLC</b> 19 DEPOT STREET WAREHAM, MA	
JOB NO.: 20-9499		DWG. NO.: 20-9499	
6 OF 11		6 OF 11	

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- NOTES:**
- CONTRACTOR SHALL PROVIDE AND MAINTAIN STAKED SILT FENCE EROSION CONTROL BARRIERS WHERE SHOWN ON THE PLAN. SEE DETAIL ON SHEET B. REFER TO THE COMPLETE SET OF EROSION CONTROL NOTES ON SHEET 2. EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL AREAS ARE STABILIZED AND ALL VEGETATION IS ESTABLISHED.
  - ALL PROPOSED WATER QUALITY CATCH BASINS SHALL HAVE A TEMPORARY SILT SACK INSTALLED IN THEM AS SOON AS THE STRUCTURE IS SET. CONTRACTOR SHALL EMPTY WHEN NEEDED AND REMOVE & DISPOSE OF THE SILT SACKS AT THE COMPLETION OF CONSTRUCTION.
  - THE FINAL LOCATION AND ALL DETAILS OF THE CONTRACTORS STAGING AREA SHALL BE DETERMINED BY THE CONTRACTOR AT TIME OF CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH OWNER ON LOCATION.
  - THE FINAL LOCATION OF THE TEMPORARY MATERIAL STOCKPILE AREA SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AT TIME OF CONSTRUCTION. THE TEMPORARY MATERIAL STOCKPILE AREA SHALL BE SURROUNDED BY SILT FENCE AT ALL TIMES. ONCE ESTABLISHED THE TEMPORARY STOCKPILE AREA SHALL BE INSPECTED AND APPROVED BY THE SITE ENGINEER.
  - CONTRACTOR SHALL SIZE, PROVIDE AND MAINTAIN DEWATERING EQUIPMENT FOR THE CONTROL, COLLECTION AND DISPOSAL OF GROUND WATER WHERE NECESSARY TO COMPLETE THE WORK. FINAL SIZE AND LOCATION FOR DEWATERING EQUIPMENT SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AT TIME OF CONSTRUCTION.
  - CEMENT CONCRETE WASHOUT AREA SHALL BE A SQUARE OF DOUBLE STAKED HAY BALES WITH SILTATION FENCE AND LINED WITH A 40 MIL POLYETHYLENE BARRIER. SEE DETAIL. FINAL WASHOUT LOCATION SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH OWNER ON FINAL LOCATION.
  - PROTECT ALL POP-UP DRAINAGE EMITTERS DURING CONSTRUCTION WITH A 12" PERFORATED PIPE PLACED AROUND THE UNIT.
  - AT THE COMPLETION OF CONSTRUCTION THE CONTRACTOR SHALL INSPECT ALL DRAINAGE STRUCTURES FOR EVIDENCE OF SEDIMENT OR DEBRIS ACCUMULATION. REMOVE AND DISPOSE OF ANY DEBRIS AND SEDIMENT AS REQUIRED.
  - THE PROPOSED LIMIT OF WORK LINE IS SHOWN OFFSET IN SOME AREAS FOR PLAN CLARITY.
  - THE TEMPORARY CHAIN LINK CONSTRUCTION FENCE LINE IS SHOWN OFFSET IN SOME AREAS FOR PLAN CLARITY. GATE SIZE AND FINAL LOCATION SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. CONTRACTOR SHALL PROVIDE DETAILS OF TEMPORARY CONSTRUCTION FENCE TO OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
  - ONCE ESTABLISHED BY THE CONTRACTOR ALL EROSION CONTROL MEASURES AND LOCATION OF STOCKPILED MATERIAL SHALL BE INSPECTED AND APPROVED BY THE SITE ENGINEER.

**EROSION CONTROL PLAN**  
SCALE: 1"=10'  
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PERMIT SET  
(NOT FOR CONSTRUCTION)

DATE: NOV. 14, 2022	APPROVED BY:	
DRAWN BY: JMP	APPROVED BY: <i>William A. Mader</i>	
CHECKED BY: WFM	DATE: 4/24/23	REV. GRADING
JOB NO.: 20-9499	DATE: 4/15/23	REV. GRADING
SCALE: 1" = 10'	DATE: 3/14/23	PER INITIAL PEER REVIEW/SITE PLAN LAYOUT
	DATE: 1/1/23	BY: APP'D
	DATE: 1/1/23	REV. 1

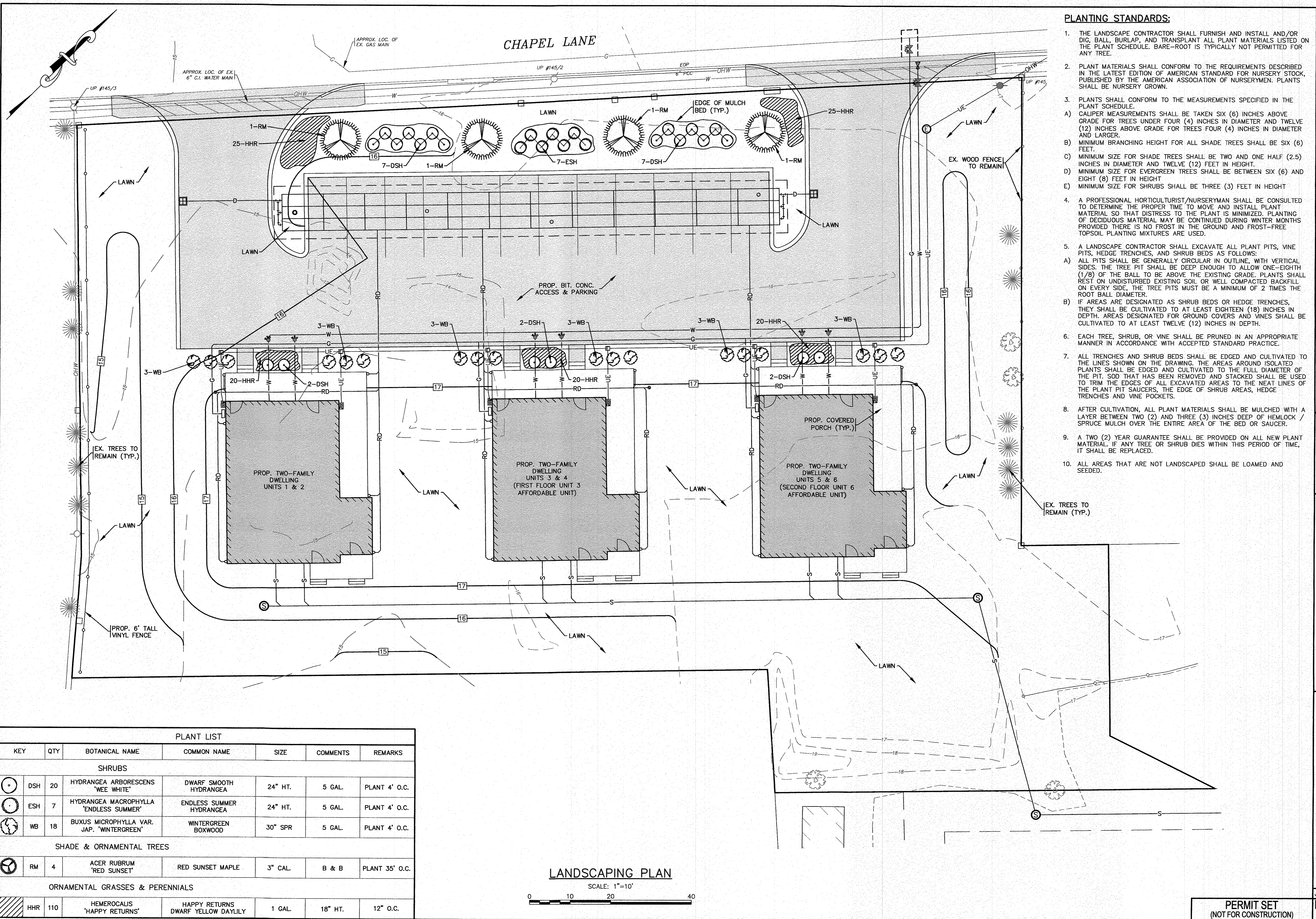
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TEL: (508) 295-6600 FAX: (508) 295-6634  
E-MAIL: info@gafinc.com

PREPARED FOR:  
**6 CHAPEL LANE, LLC**  
19 DEPOT STREET WAREHAM, MA

JOB NO.: 20-9499  
DWG. 7 OF 11

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- PLANTING STANDARDS:**
1. THE LANDSCAPE CONTRACTOR SHALL FURNISH AND INSTALL AND/OR DIG, BALL, BURLAP, AND TRANSPLANT ALL PLANT MATERIALS LISTED ON THE PLANT SCHEDULE. BARE-ROOT IS TYPICALLY NOT PERMITTED FOR ANY TREE.
  2. PLANT MATERIALS SHALL CONFORM TO THE REQUIREMENTS DESCRIBED IN THE LATEST EDITION OF AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN. PLANTS SHALL BE NURSERY GROWN.
  3. PLANTS SHALL CONFORM TO THE MEASUREMENTS SPECIFIED IN THE PLANT SCHEDULE.
    - A) CALIPER MEASUREMENTS SHALL BE TAKEN SIX (6) INCHES ABOVE GRADE FOR TREES UNDER FOUR (4) INCHES IN DIAMETER AND TWELVE (12) INCHES ABOVE GRADE FOR TREES FOUR (4) INCHES IN DIAMETER AND LARGER.
    - B) MINIMUM BRANCHING HEIGHT FOR ALL SHADE TREES SHALL BE SIX (6) FEET.
    - C) MINIMUM SIZE FOR SHADE TREES SHALL BE TWO AND ONE HALF (2.5) INCHES IN DIAMETER AND TWELVE (12) FEET IN HEIGHT.
    - D) MINIMUM SIZE FOR EVERGREEN TREES SHALL BE BETWEEN SIX (6) AND EIGHT (8) FEET IN HEIGHT.
    - E) MINIMUM SIZE FOR SHRUBS SHALL BE THREE (3) FEET IN HEIGHT.
  4. A PROFESSIONAL HORTICULTURIST/NURSERYMAN SHALL BE CONSULTED TO DETERMINE THE PROPER TIME TO MOVE AND INSTALL PLANT MATERIAL SO THAT DISTRESS TO THE PLANT IS MINIMIZED. PLANTING OF DECIDUOUS MATERIAL MAY BE CONTINUED DURING WINTER MONTHS PROVIDED THERE IS NO FROST IN THE GROUND AND FROST-FREE TOPSOIL PLANTING MIXTURES ARE USED.
  5. A LANDSCAPE CONTRACTOR SHALL EXCAVATE ALL PLANT PITS, VINE PITS, HEDGE TRENCHES, AND SHRUB BEDS AS FOLLOWS:
    - A) ALL PITS SHALL BE GENERALLY CIRCULAR IN OUTLINE, WITH VERTICAL SIDES. THE TREE PIT SHALL BE DEEP ENOUGH TO ALLOW ONE-EIGHTH (1/8) OF THE BALL TO BE ABOVE THE EXISTING GRADE. PLANTS SHALL REST ON UNDISTURBED EXISTING SOIL OR WELL COMPACTED BACKFILL ON EVERY SIDE. THE TREE PITS MUST BE A MINIMUM OF 2 TIMES THE ROOT BALL DIAMETER.
    - B) IF AREAS ARE DESIGNATED AS SHRUB BEDS OR HEDGE TRENCHES, THEY SHALL BE CULTIVATED TO AT LEAST EIGHTEEN (18) INCHES IN DEPTH. AREAS DESIGNATED FOR GROUND COVERS AND VINES SHALL BE CULTIVATED TO AT LEAST TWELVE (12) INCHES IN DEPTH.
  6. EACH TREE, SHRUB, OR VINE SHALL BE PRUNED IN AN APPROPRIATE MANNER IN ACCORDANCE WITH ACCEPTED STANDARD PRACTICE.
  7. ALL TRENCHES AND SHRUB BEDS SHALL BE EDGED AND CULTIVATED TO THE LINES SHOWN ON THE DRAWING. THE AREAS AROUND ISOLATED PLANTS SHALL BE EDGED AND CULTIVATED TO THE FULL DIAMETER OF THE PIT. SOD THAT HAS BEEN REMOVED AND STACKED SHALL BE USED TO TRIM THE EDGES OF ALL EXCAVATED AREAS TO THE NEAT LINES OF THE PLANT PIT SAUCERS, THE EDGE OF SHRUB AREAS, HEDGE TRENCHES AND VINE POCKETS.
  8. AFTER CULTIVATION, ALL PLANT MATERIALS SHALL BE MULCHED WITH A LAYER BETWEEN TWO (2) AND THREE (3) INCHES DEEP OF HEMLOCK / SPRUCE MULCH OVER THE ENTIRE AREA OF THE BED OR SAUCER.
  9. A TWO (2) YEAR GUARANTEE SHALL BE PROVIDED ON ALL NEW PLANT MATERIAL. IF ANY TREE OR SHRUB DIES WITHIN THIS PERIOD OF TIME, IT SHALL BE REPLACED.
  10. ALL AREAS THAT ARE NOT LANDSCAPED SHALL BE LOAMED AND SEEDED.

DATE: MARCH 14, 2023  
 DRAWN BY: JMP  
 CHECKED BY: WFM  
 JOB NO.: 20-9499  
 SCALE: 1" = 10'

APPROVED BY: [Signature]

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 TEL: (508) 295-8600 FAX: (508) 295-6634  
 E-MAIL: info@gafeng.com

**SITE DEVELOPMENT PLAN**  
**LANDSCAPING PLAN**

WAREHAM, MA  
 6 CHAPEL LANE  
 19 DEPOT STREET

PREPARED FOR:  
**6 CHAPEL LANE, LLC**

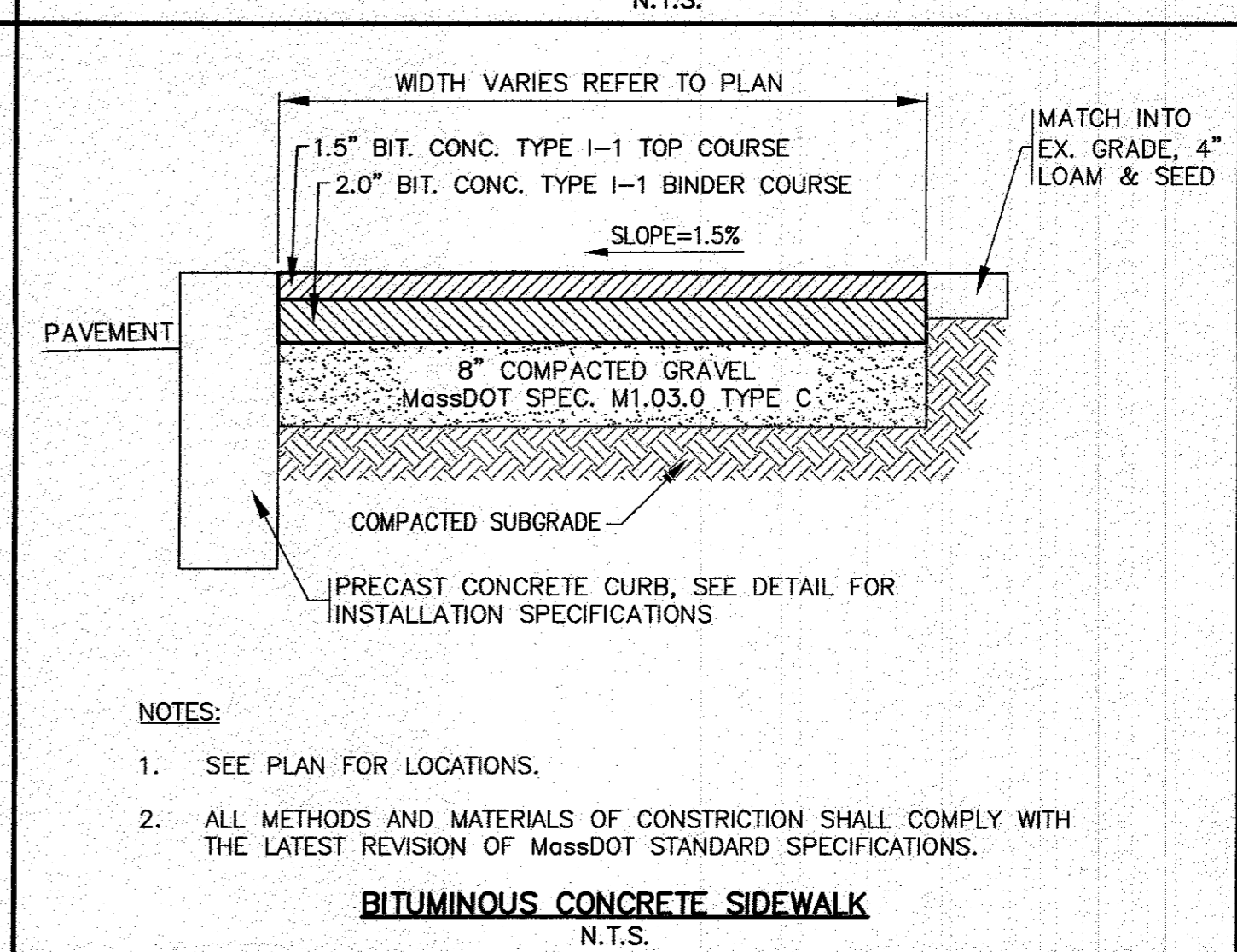
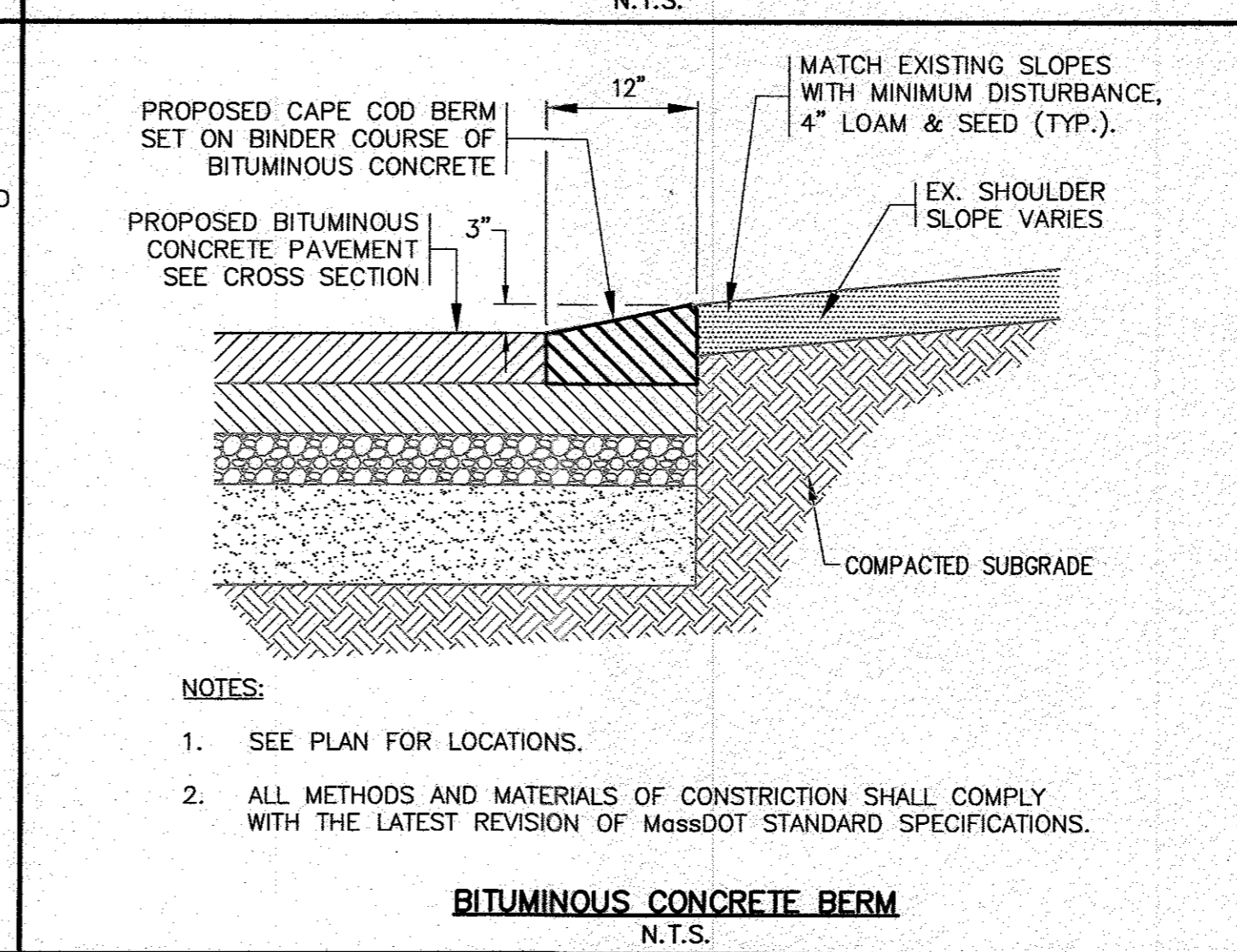
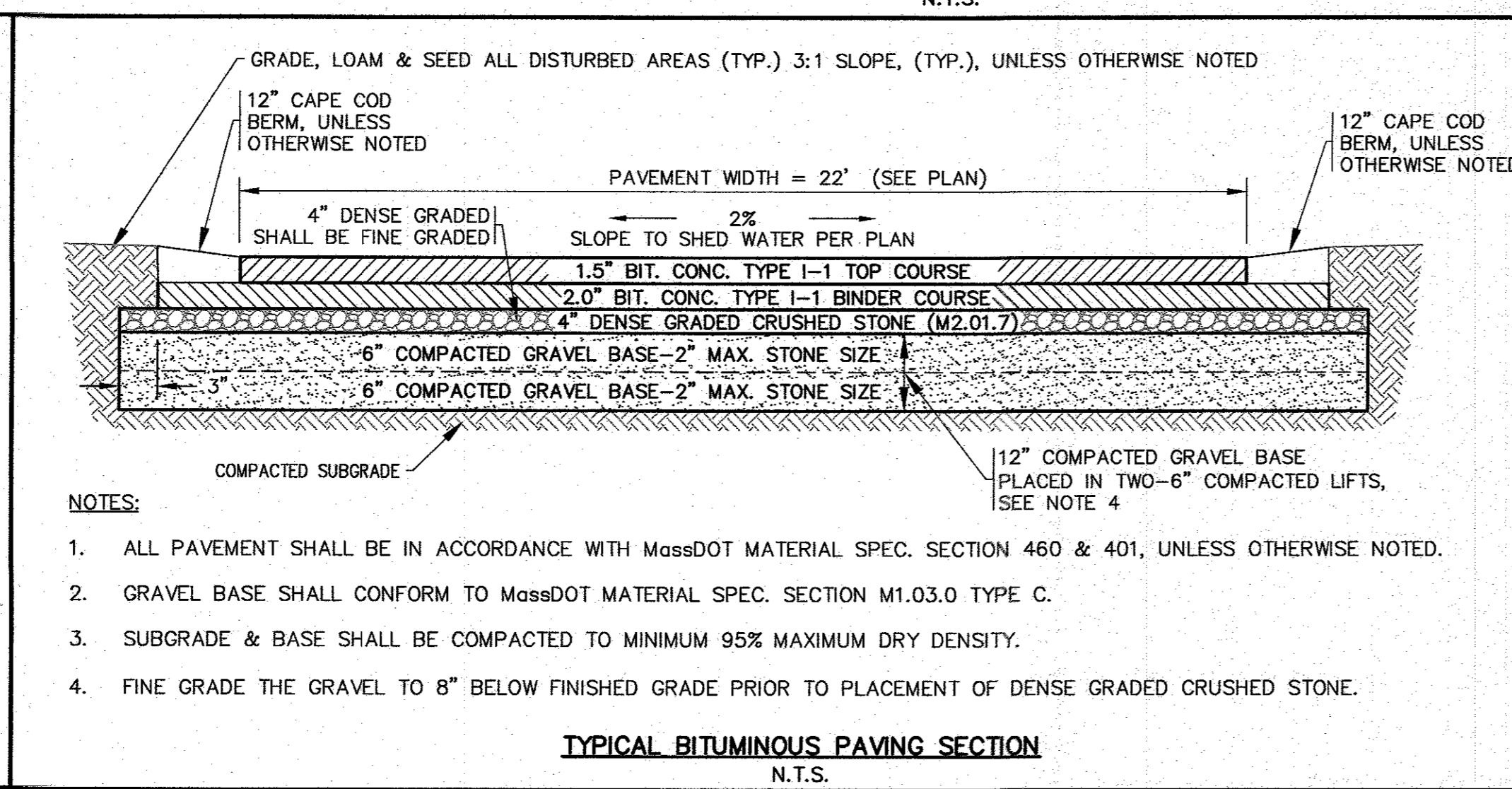
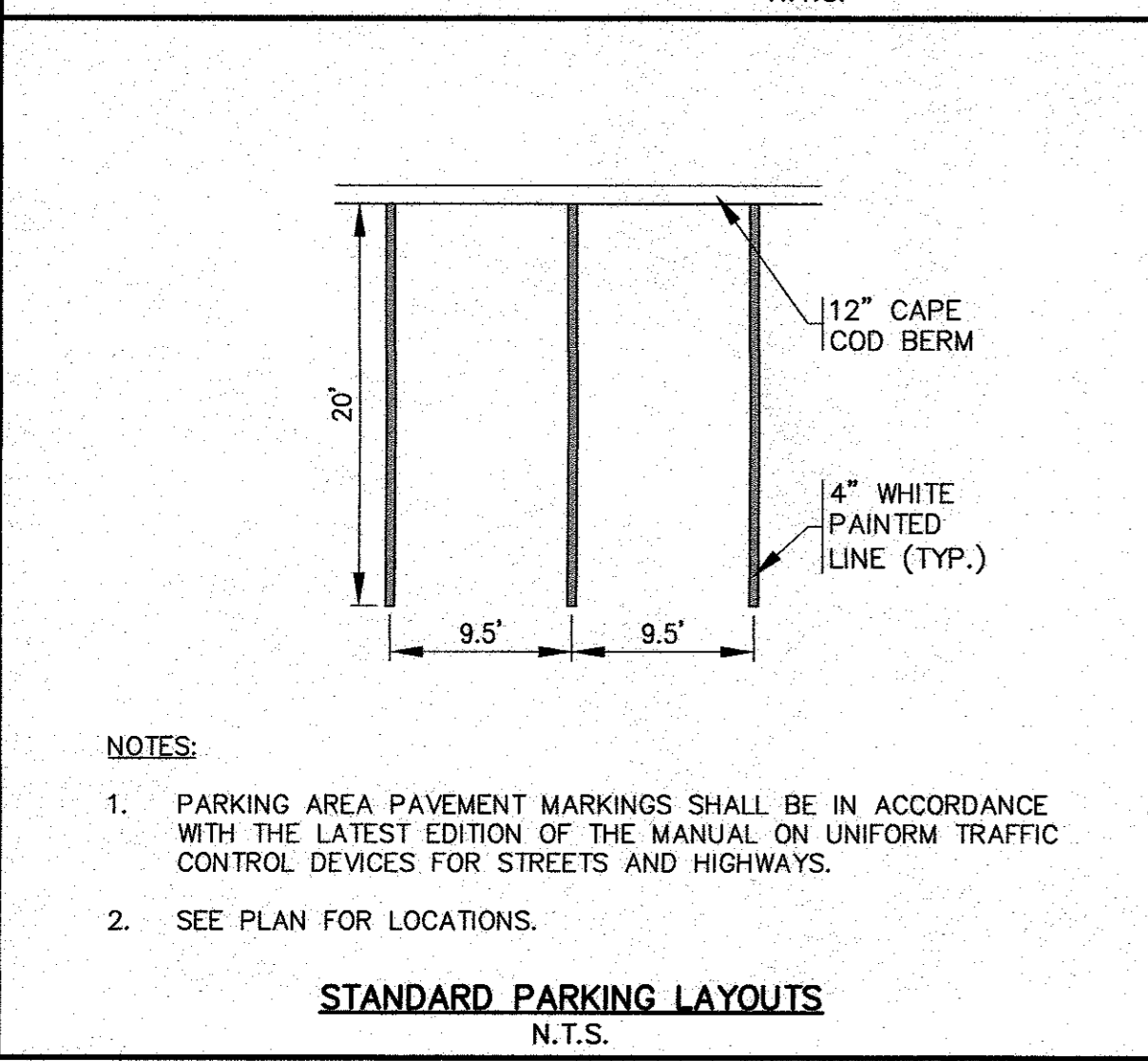
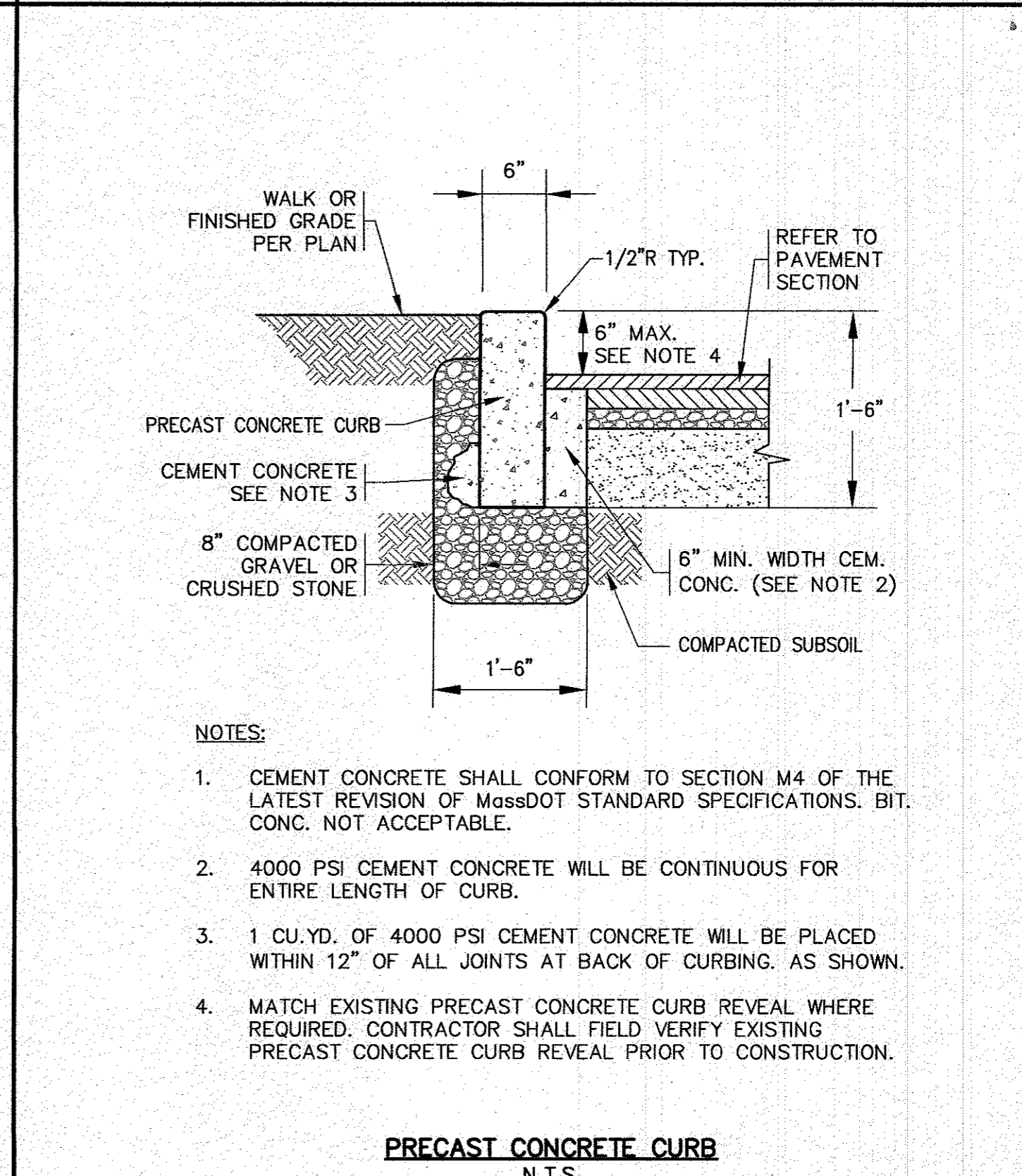
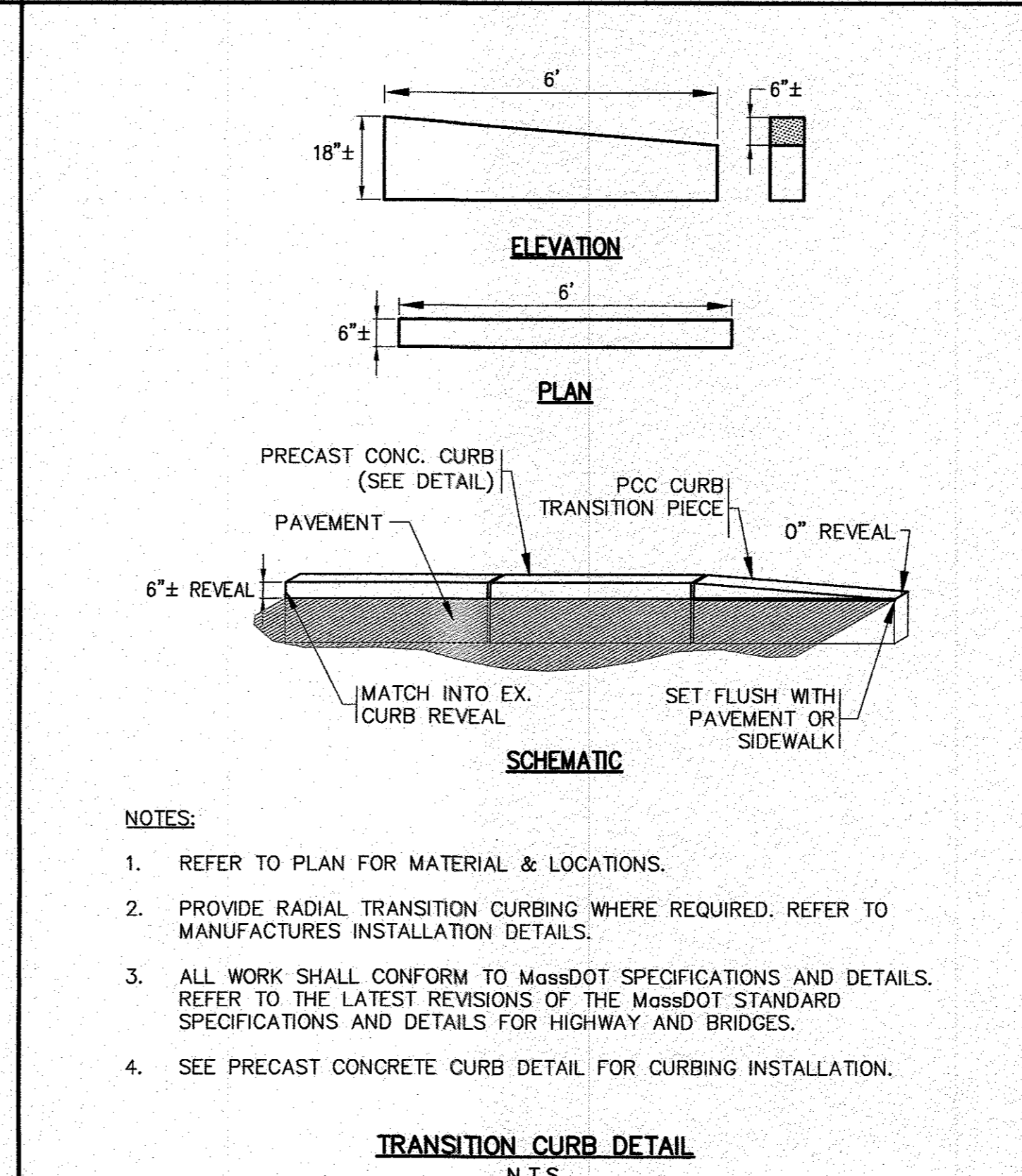
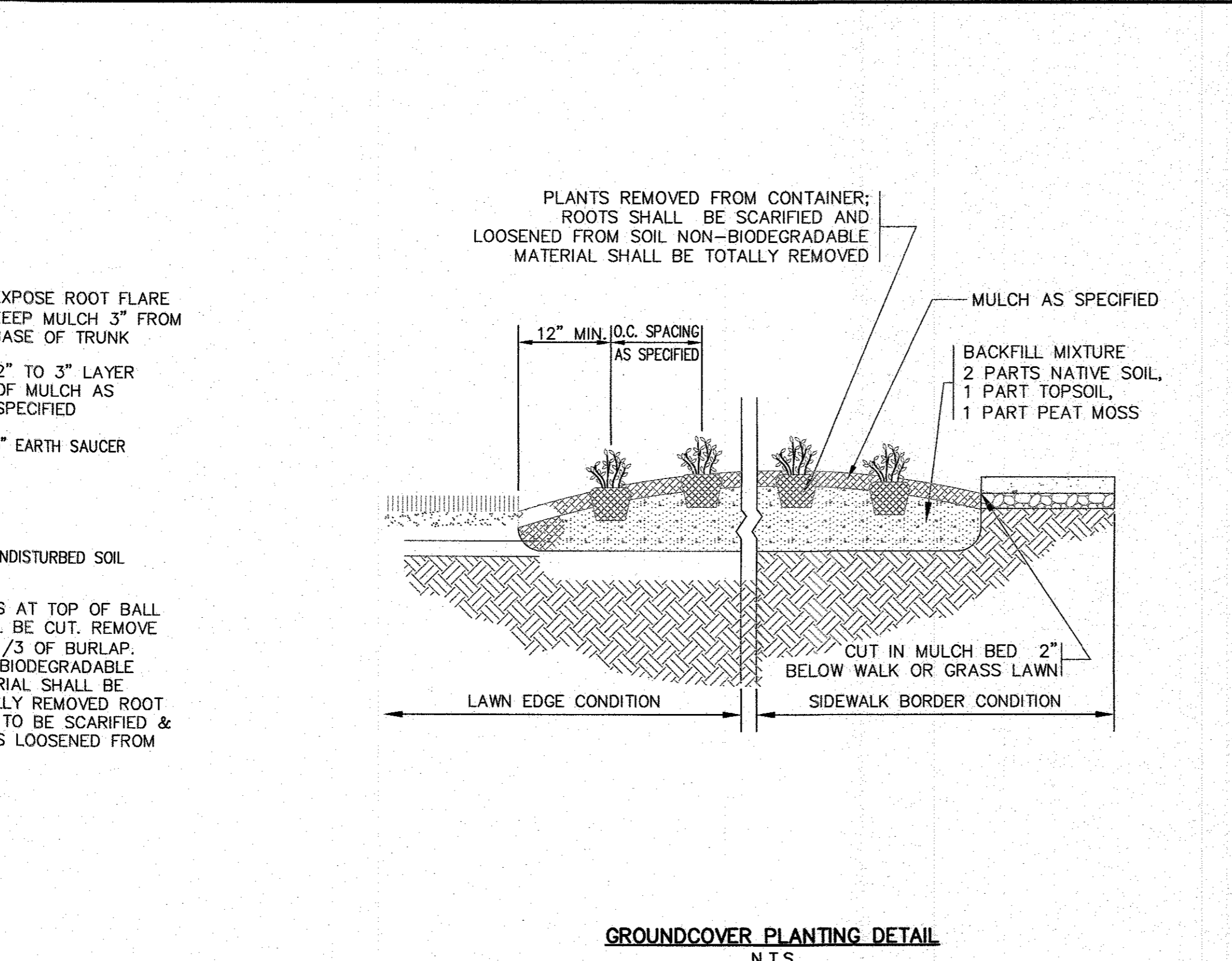
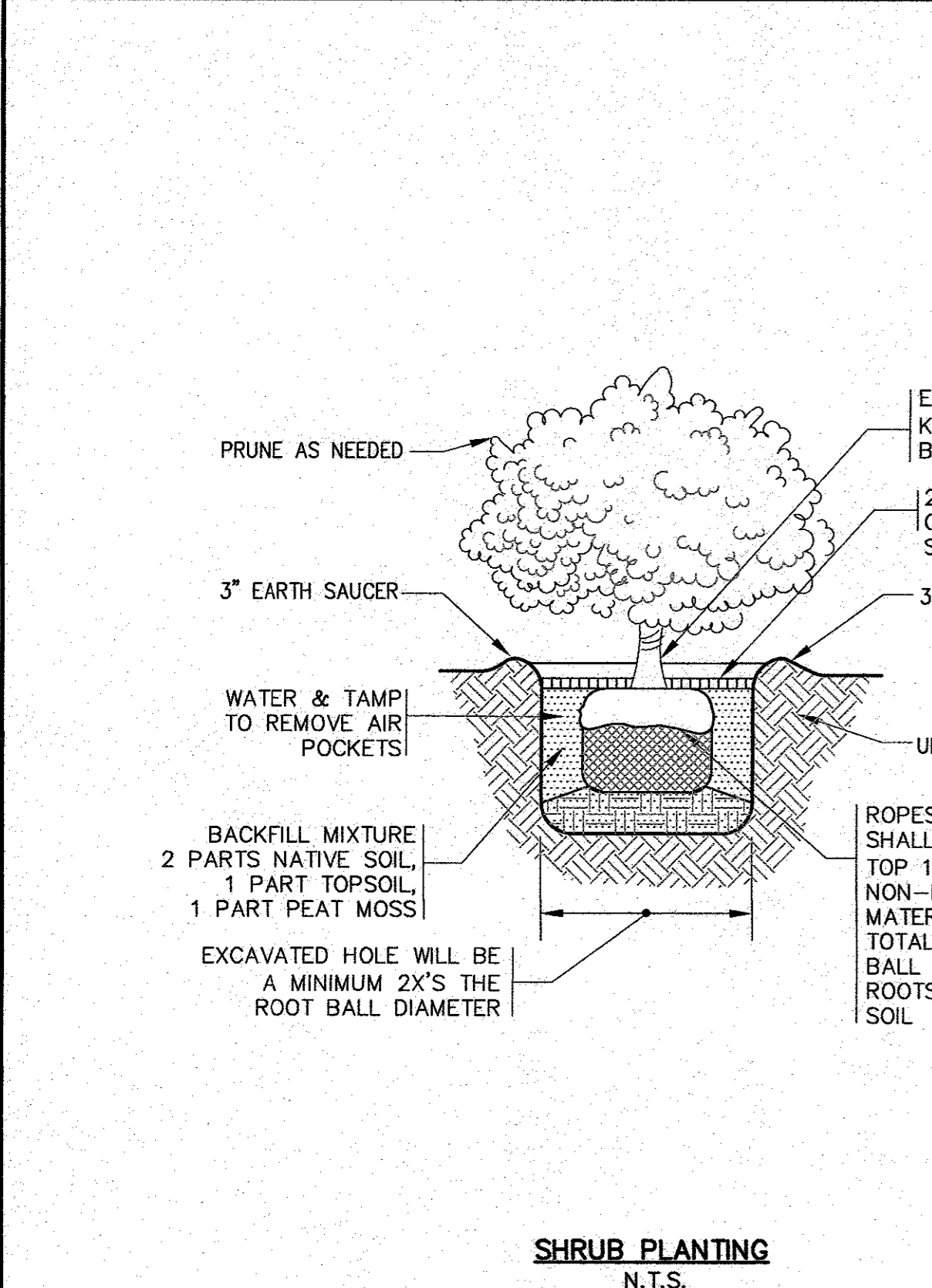
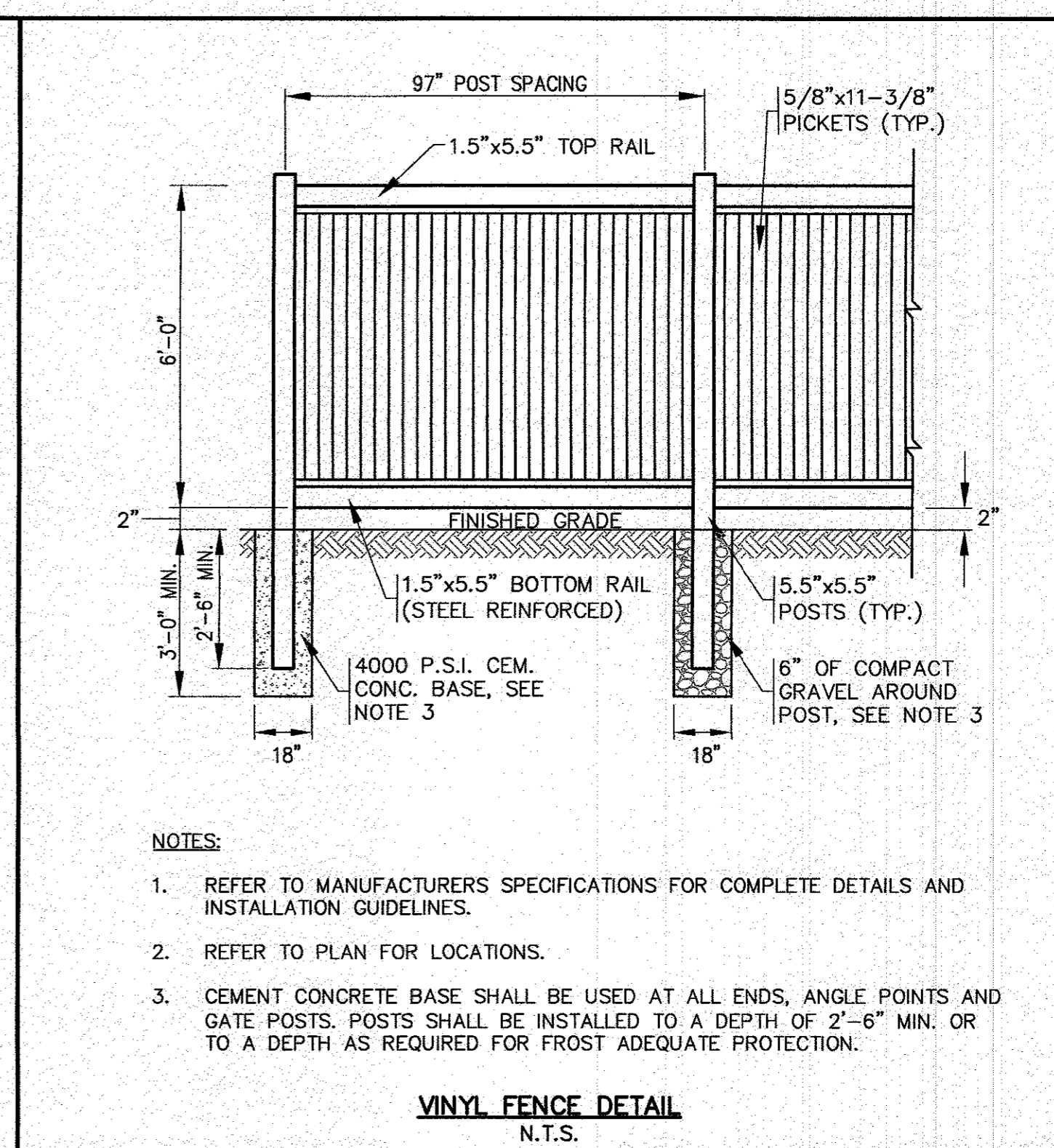
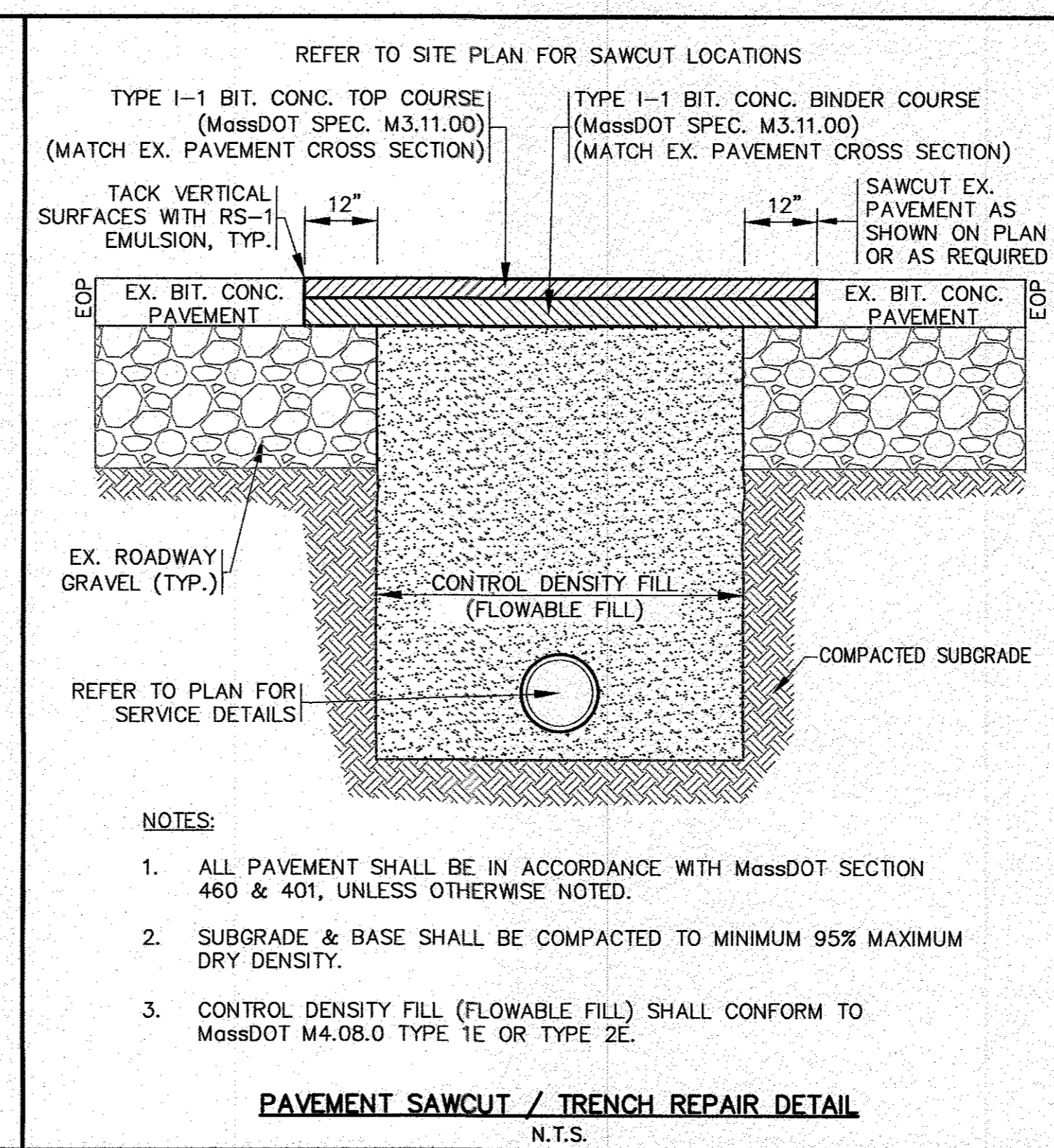
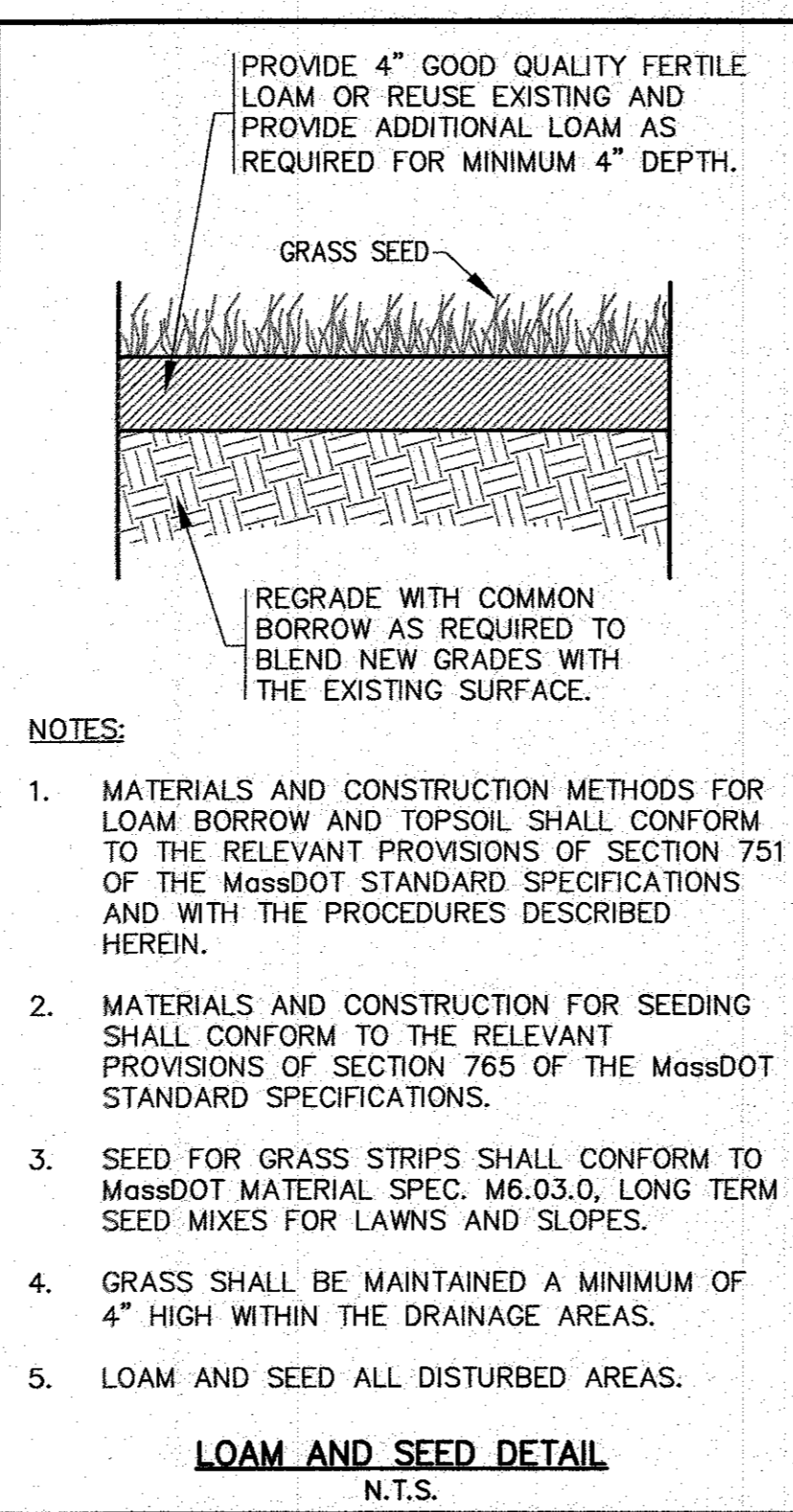
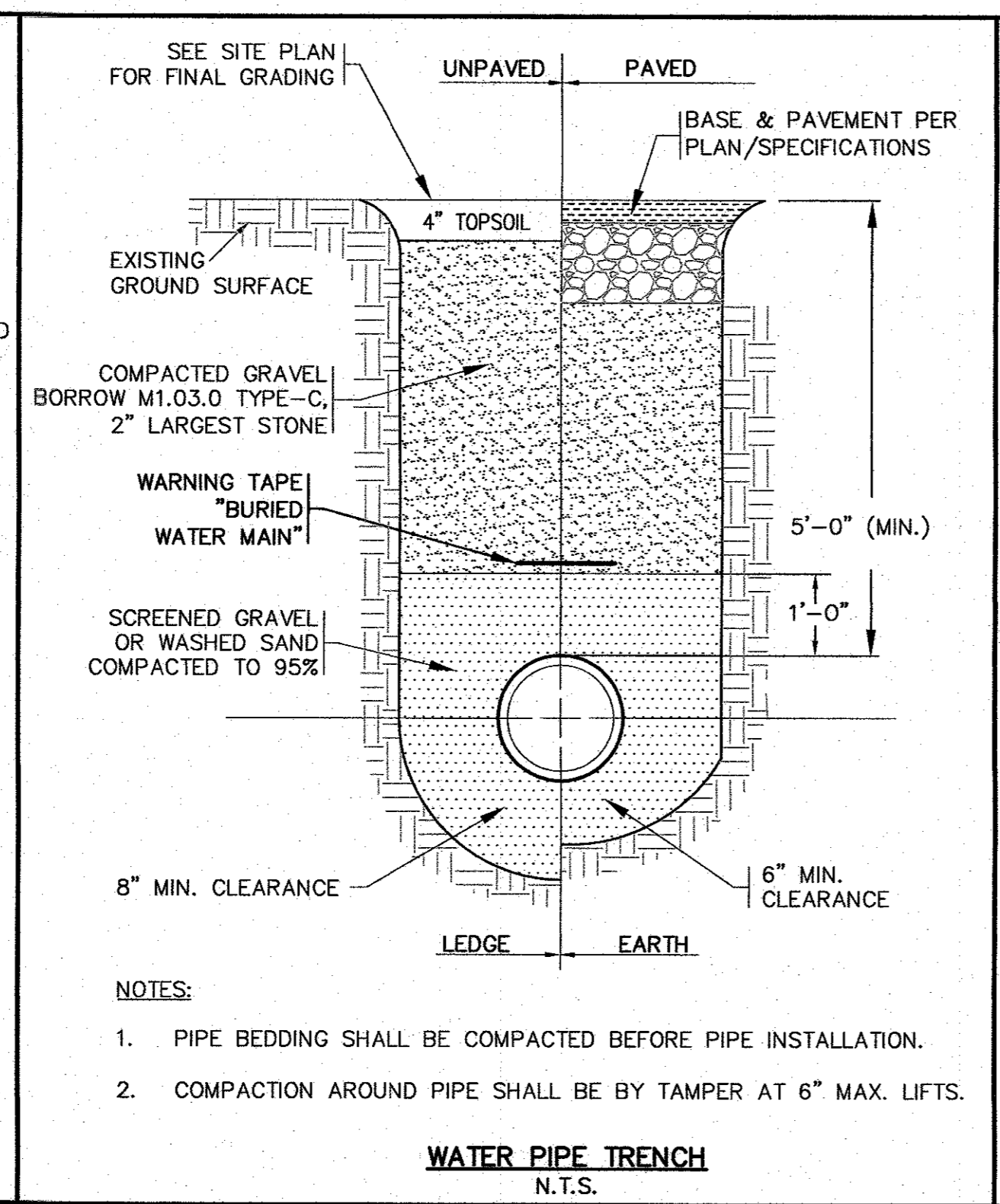
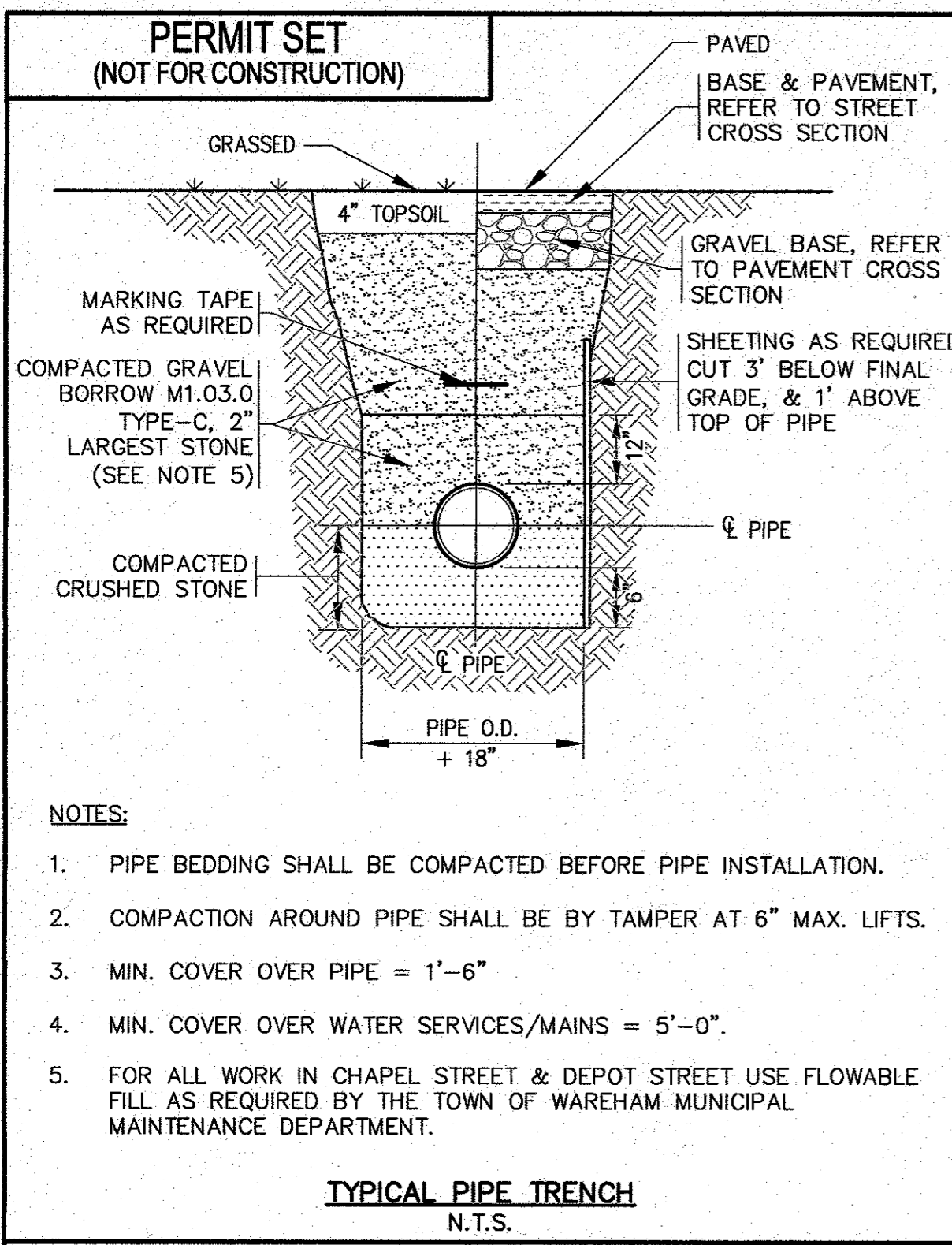
JOB NO.: 20-9499  
 DWG. 8 OF 11

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS	REMARKS
<b>SHRUBS</b>						
DSH	20	HYDRANGEA ARBORESCENS 'WEE WHITE'	DWARF SMOOTH HYDRANGEA	24" HT.	5 GAL.	PLANT 4' O.C.
ESH	7	HYDRANGEA MACROPHYLLA 'ENDLESS SUMMER'	ENDLESS SUMMER HYDRANGEA	24" HT.	5 GAL.	PLANT 4' O.C.
WB	18	BUXUS MICROPHYLLA VAR. JAP. 'WINTERGREEN'	WINTERGREEN BOXWOOD	30" SPR	5 GAL.	PLANT 4' O.C.
<b>SHADE &amp; ORNAMENTAL TREES</b>						
RM	4	ACER RUBRUM 'RED SUNSET'	RED SUNSET MAPLE	3" CAL.	B & B	PLANT 35' O.C.
<b>ORNAMENTAL GRASSES &amp; PERENNIALS</b>						
HHR	110	HEMEROCALIS 'HAPPY RETURNS'	HAPPY RETURNS DWARF YELLOW DAYLILY	1 GAL.	18" HT.	12" O.C.

**LANDSCAPING PLAN**  
 SCALE: 1"=10'  
 0 10 20 40

PERMIT SET  
 (NOT FOR CONSTRUCTION)





DATE: NOV. 14, 2022	NO CHANGES THIS SHEET
DRAWN BY: JMP	NO CHANGES THIS SHEET
CHECKED BY: WFM	PER INITIAL PEER REVIEW
JOB NO.: 20-9499	REV. DATE BY / APP'D
SCALE: N.T.S.	

APPROVED BY: *[Signature]*

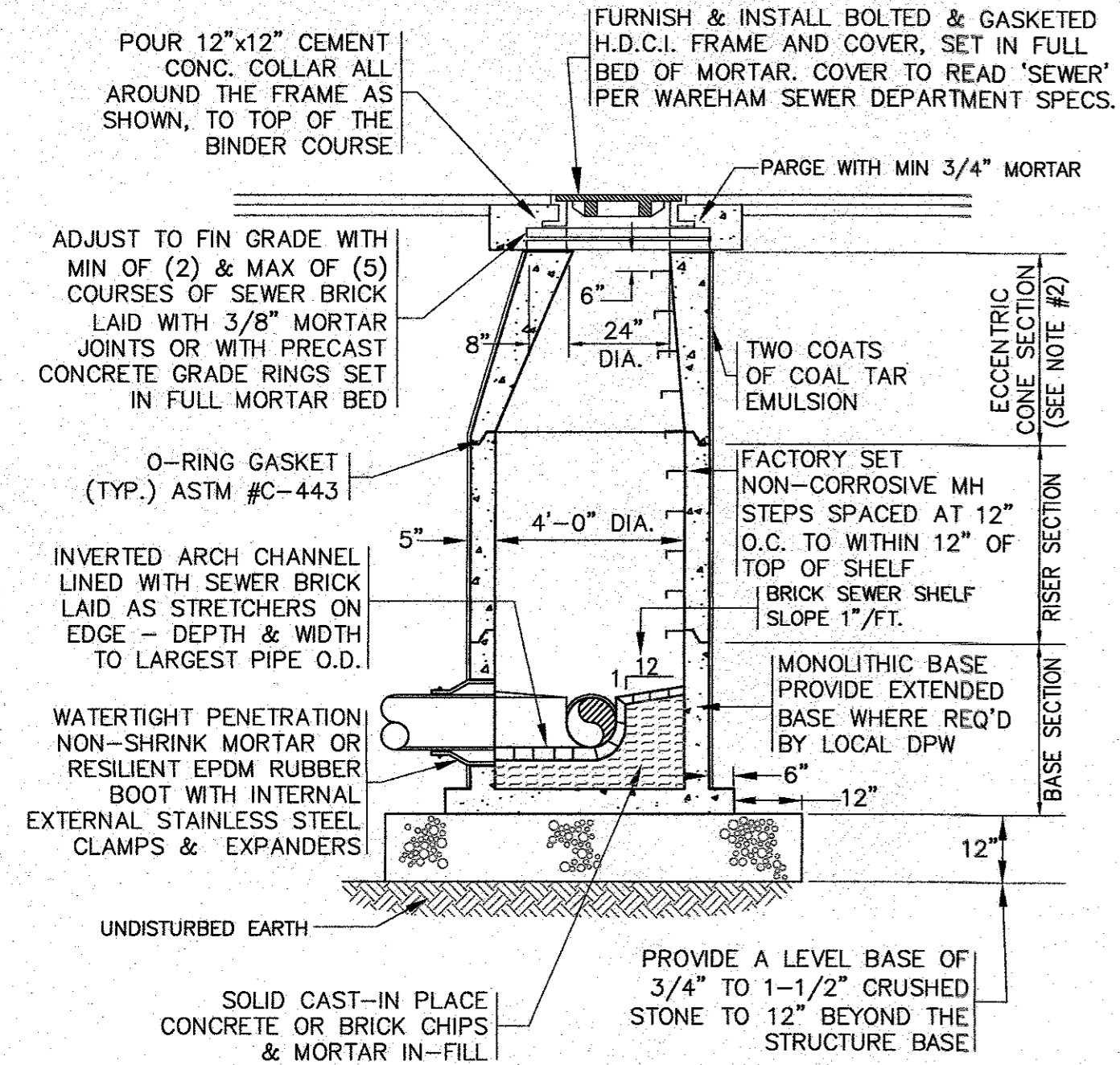
**G.A.F. ENGINEERING, INC.**  
PROFESSIONAL ENGINEERS & LAND SURVEYORS  
266 MAIN STREET - WAREHAM, MA 02571  
TEL: (508) 295-6600 FAX: (508) 295-6634  
E-MAIL: info@gafenginc.com

**SITE DEVELOPMENT PLAN**  
**DETAIL SHEET 1**

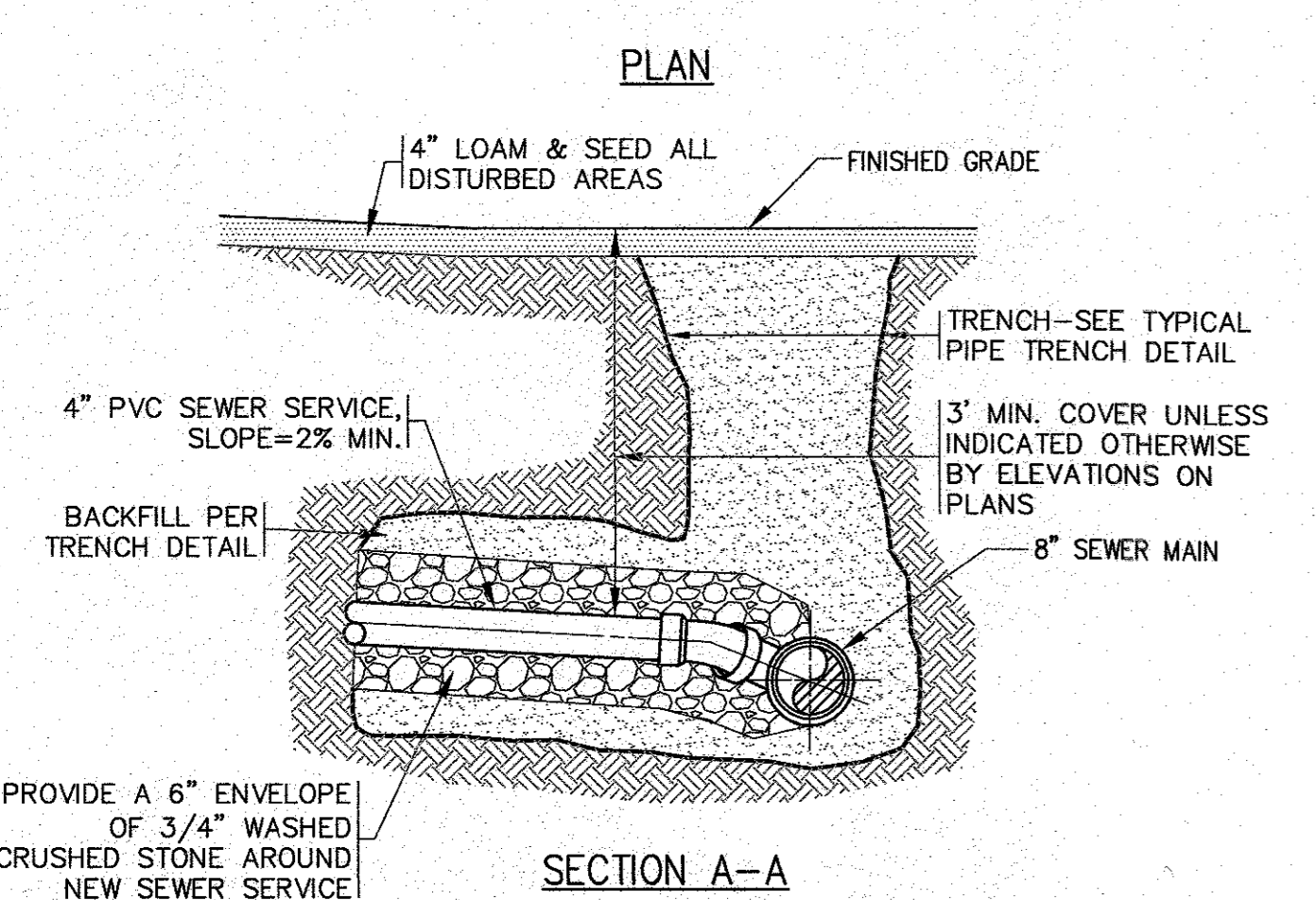
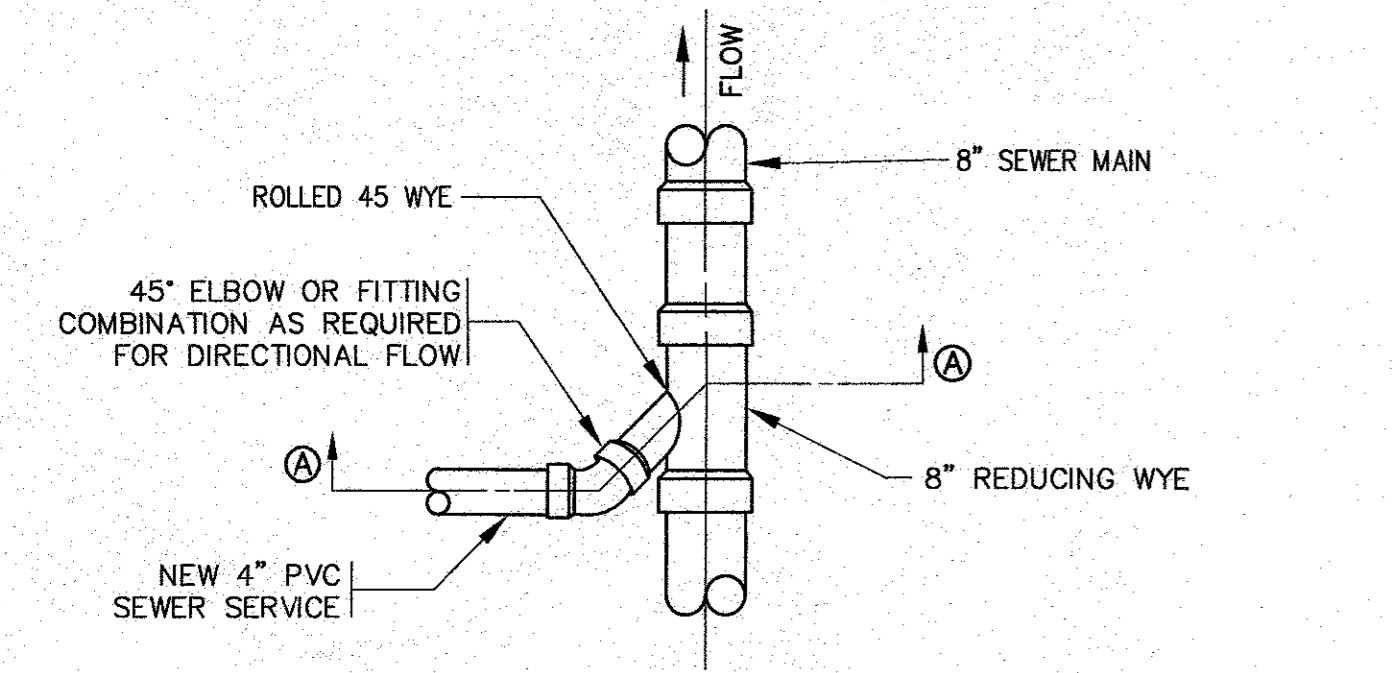
PREPARED FOR:  
**6 CHAPEL LANE, LLC**  
19 DEPOT STREET  
WAREHAM, MA

JOB NO.: 20-9499  
**DWG. 9 OF 11**



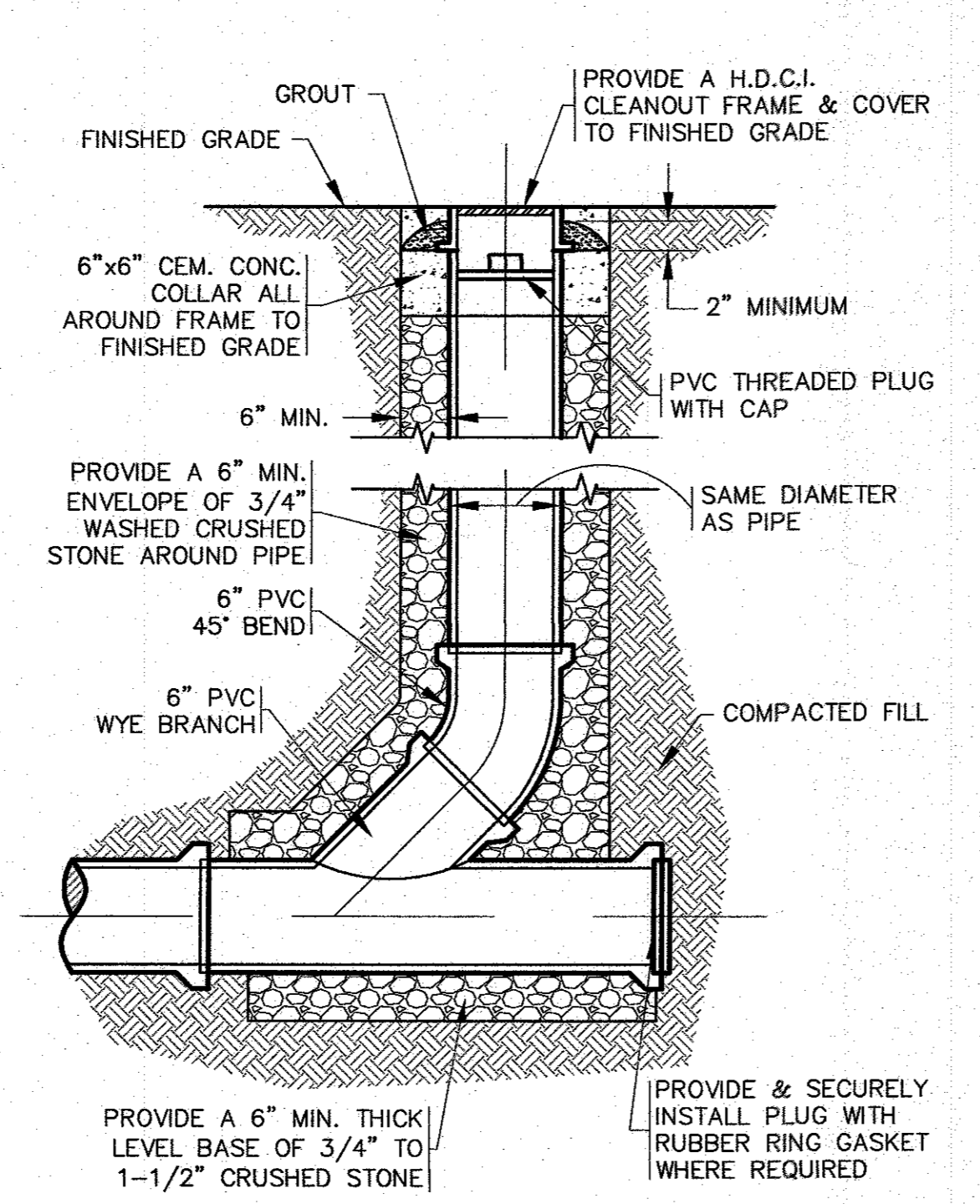


- NOTES:**
1. ALL STRUCTURES SHALL BE PRECAST CONC. IN ACCORDANCE WITH ASTM C-478 WITH H-20 LOADING. SECTION HEIGHTS VARY.
  2. FOR SHALLOW INSTALLATION AND WHEN APPROVED BY THE ENGINEER, FLAT TOP H-20 SLAB ALLOWED, SUBMIT SHOP DWGS.
  3. ALL STRUCTURE JOINTS AND PENETRATIONS SHALL BE WATER TIGHT. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
  4. REFER TO PLANS FOR PIPE SIZES, INVERTS, RIMS AND LOCATIONS.



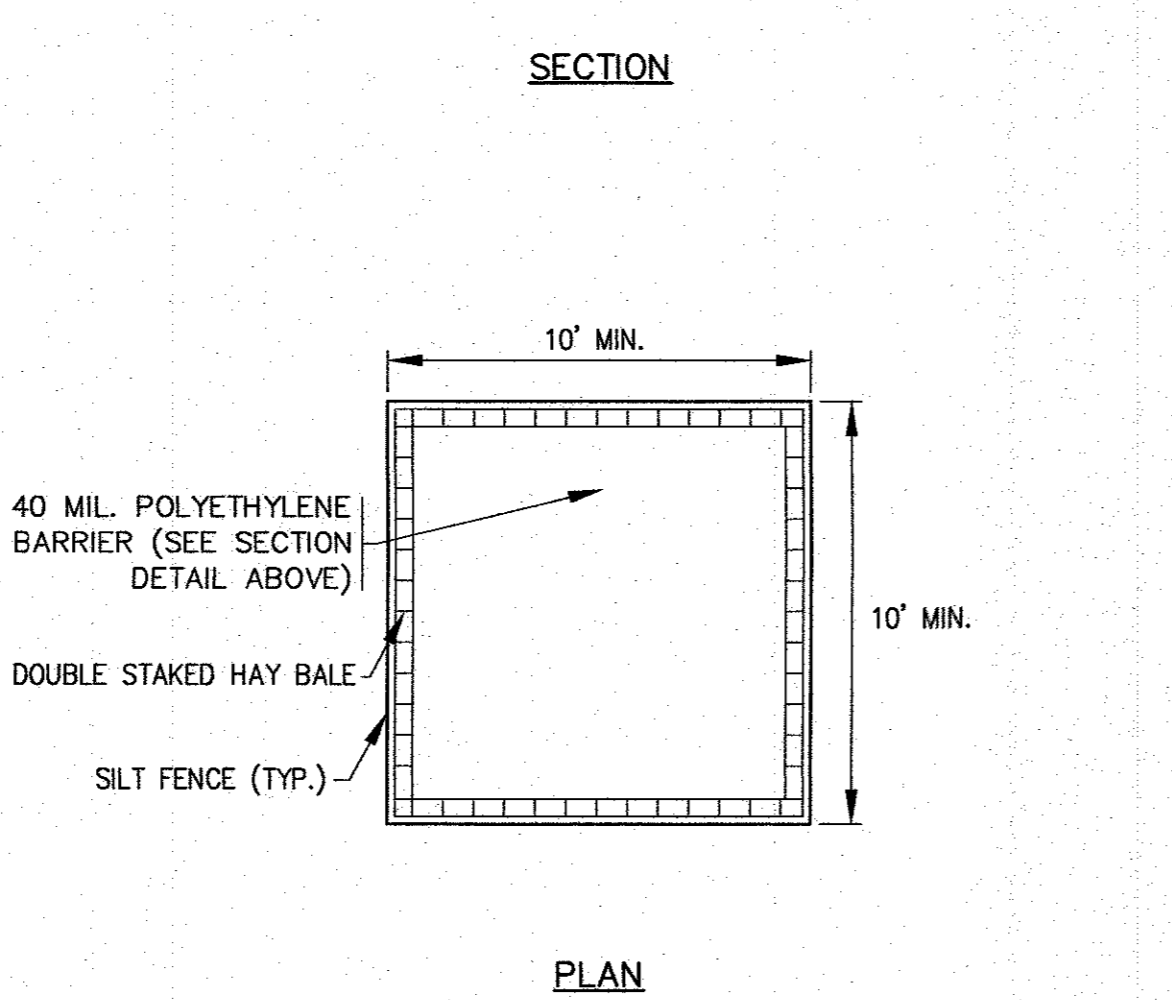
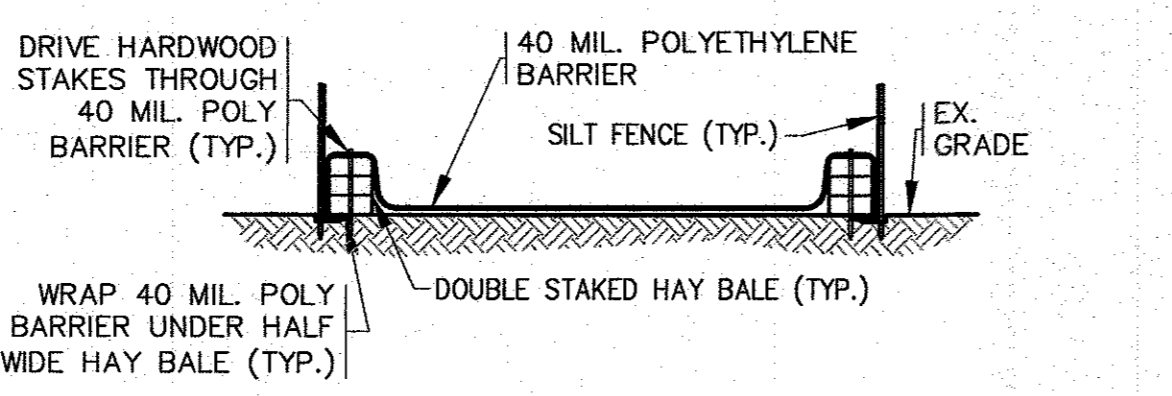
- NOTES:**
1. REFER TO PLAN FOR LOCATIONS.
  2. EXISTING SANITARY SEWER MAIN SHALL BE SAWCUT AND REDUCING WYE SHALL BE INSTALLED AT PROPER ANGLE TO ALLOW 1% OR GREATER SLOPE TO THE NEW SANITARY SEWER SERVICE PIPE.
  3. ALL SEWER WORK SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF WAREHAM SEWER COMMISSIONERS RULES AND REGULATIONS.
  4. CONTRACTOR TO COORDINATE WITH THE TOWN OF WAREHAM SEWER DEPARTMENT PRIOR TO CONSTRUCTION.
  5. A SERVICE CHIMNEY MAY BE SUBSTITUTED AS REQUIRED. CONTRACTOR SHALL COORDINATE WITH THE WAREHAM SEWER DEPARTMENT AND ENGINEER.

**WYE SANITARY SEWER CONNECTION DETAIL**  
N.T.S.



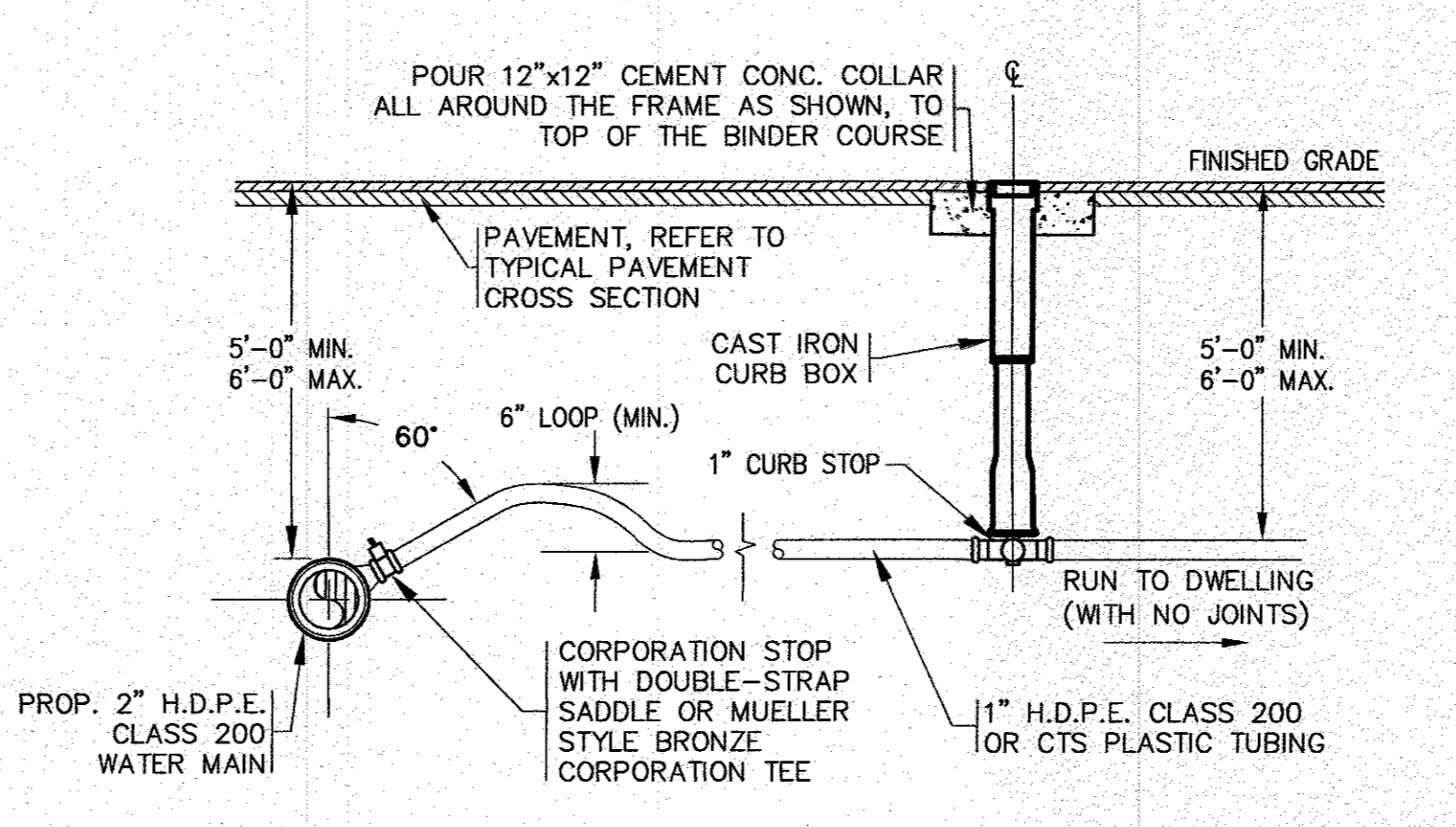
- NOTES:**
1. REFER TO PLAN FOR LOCATIONS.

**STANDARD CLEANOUT**  
N.T.S.



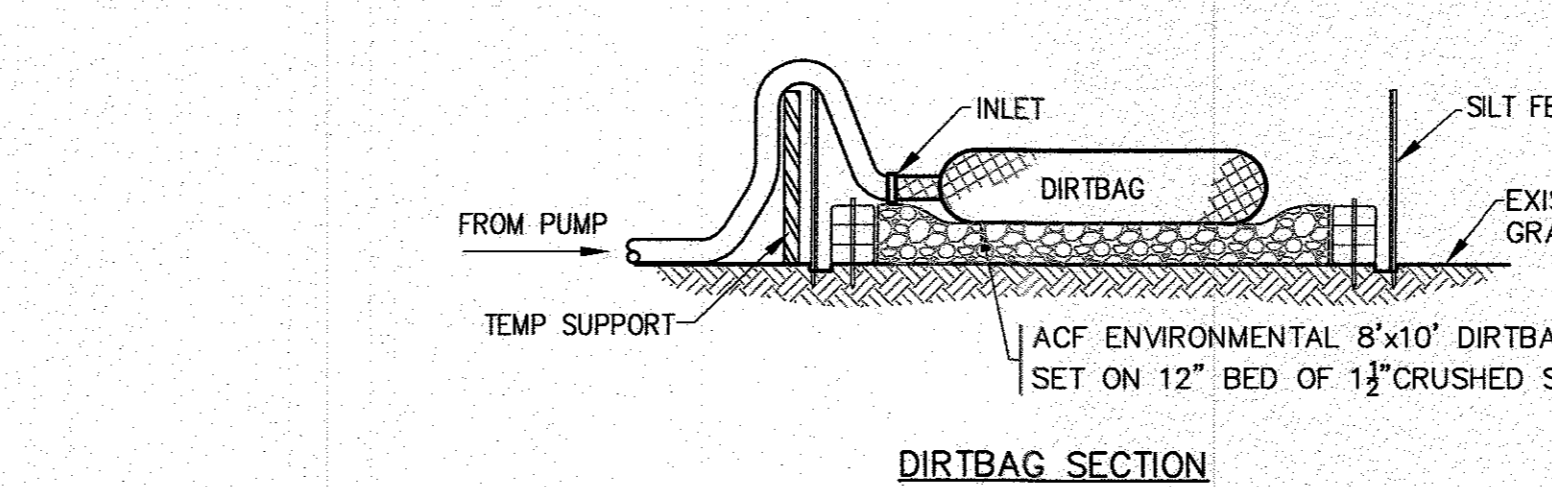
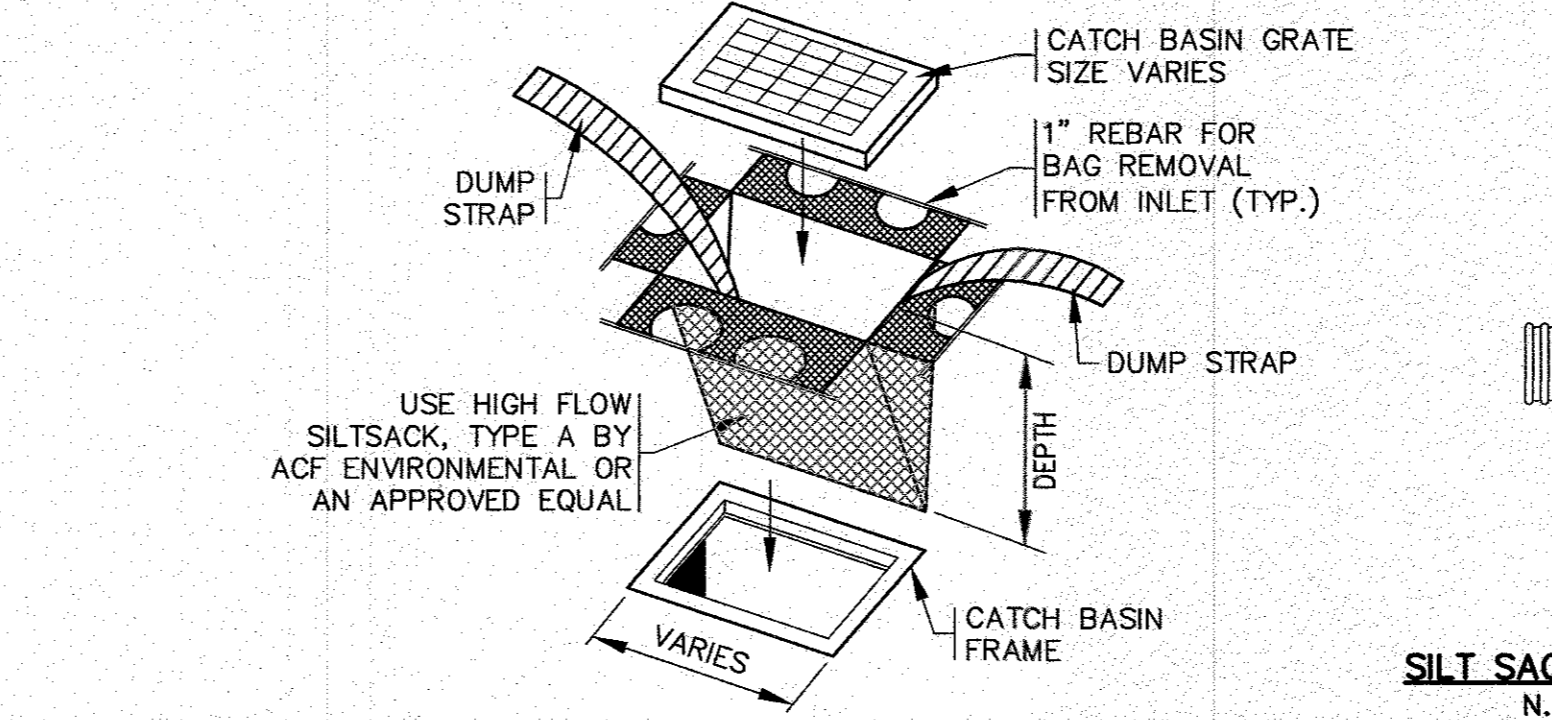
- NOTES:**
1. CONTRACTOR SHALL PROVIDE AND MAINTAIN CONCRETE WASHOUT AREA WHERE NECESSARY TO COMPLETE THE WORK.
  2. FINAL LOCATION FOR CONCRETE WASHOUT SHALL BE FIELD DETERMINED BY CONTRACTOR AT TIME OF CONSTRUCTION.
  3. CONTRACTOR SHALL REPAIR OR REPLACE 40 MIL. POLY BARRIER OR STAKED HAY BALES AS REQUIRED.

**CONCRETE WASHOUT DETAIL**  
N.T.S.



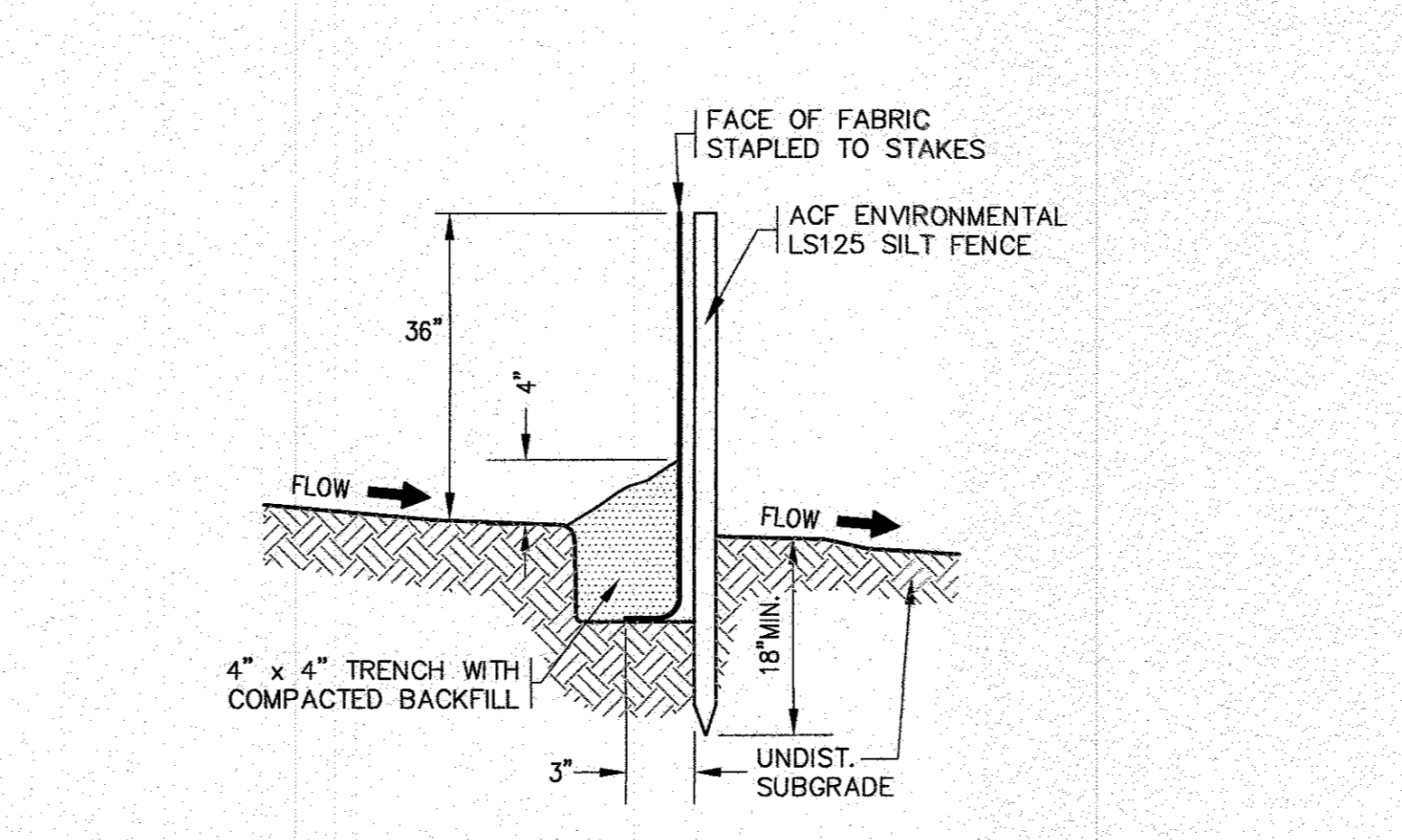
- NOTES:**
1. CURB STOPS AND CORPORATION STOPS MUST BE BRASS AND CONFORM TO THE LATEST REVISION OF AWWA STANDARD C-800, (OPEN LEFT).
  2. ALL CURB BOXES SHALL BE NORTH AMERICAN MADE "BUFFALO" STYLE 2.5" TO INCLUDE COVER, SLIDE TOP, AND BASE.
  3. ALL PROPOSED WORK, MATERIAL AND CONSTRUCTION SPECIFICATIONS SHALL BE APPROVED AND DONE IN ACCORDANCE WITH THE WAREHAM FIRE DISTRICTS RULES AND REGULATIONS.
  4. SEE WATER PIPE TRENCH DETAIL FOR BACKFILL MATERIAL.
  5. WATER MAIN/SERVICES SHALL BE INSTALLED A MINIMUM OF 1' BELOW ALL PROPOSED DRAINAGE AND ROOF DRAINAGE PIPES AND 5' MINIMUM BELOW GRADE.

**WATER SERVICE CONNECTION / CURB STOP**  
N.T.S.

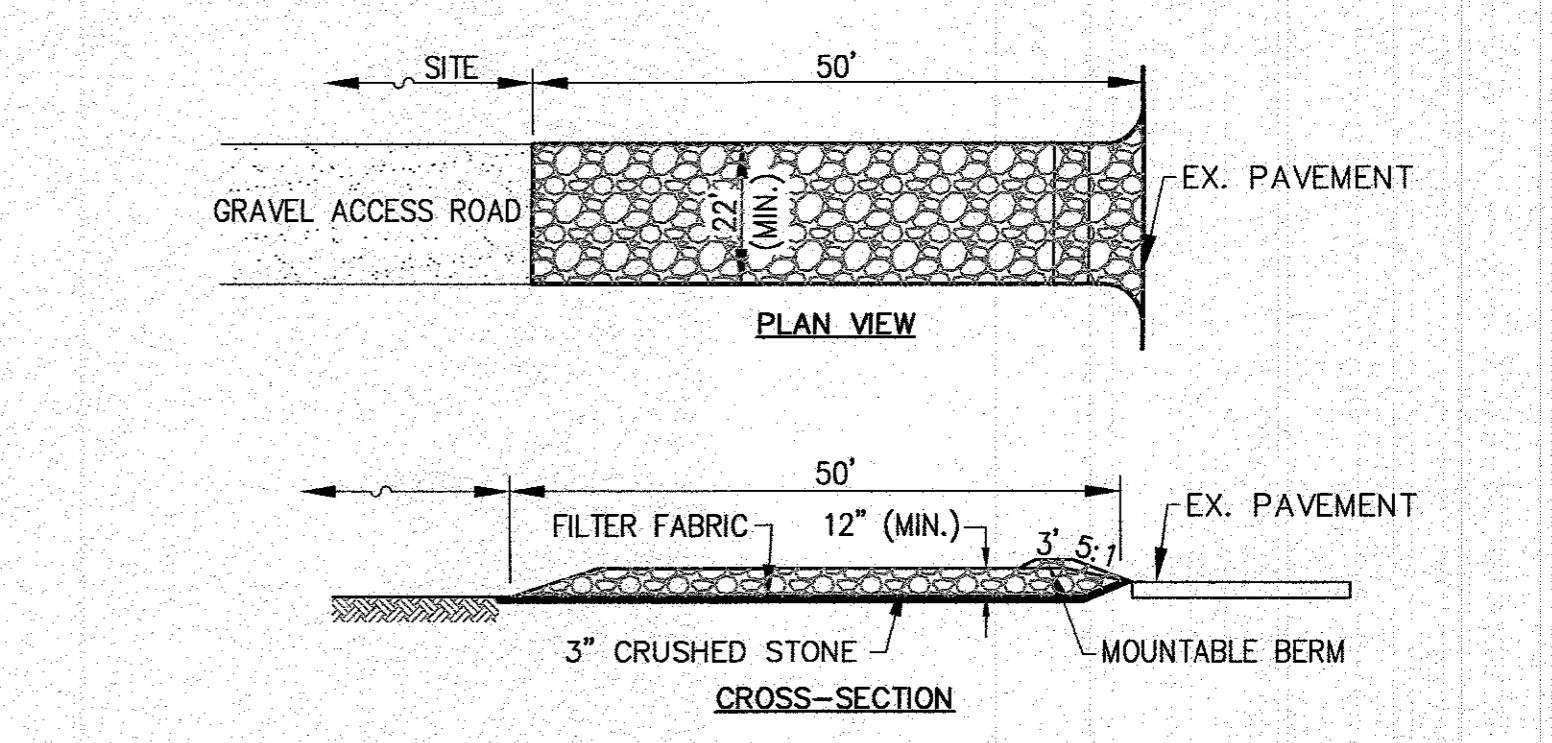


- NOTES:**
1. CONTRACTOR SHALL SIZE, PROVIDE AND MAINTAIN DEWATERING EQUIPMENT FOR THE CONTROL, COLLECTION AND DISPOSAL OF GROUND AND SURFACE WATER WHERE NECESSARY TO COMPLETE THE WORK.
  2. FINAL LOCATION AND SIZE FOR DEWATERING EQUIPMENT SHALL BE FIELD DETERMINED BY CONTRACTOR AT TIME OF CONSTRUCTION.

**DIRTBAG SECTION**  
N.T.S.

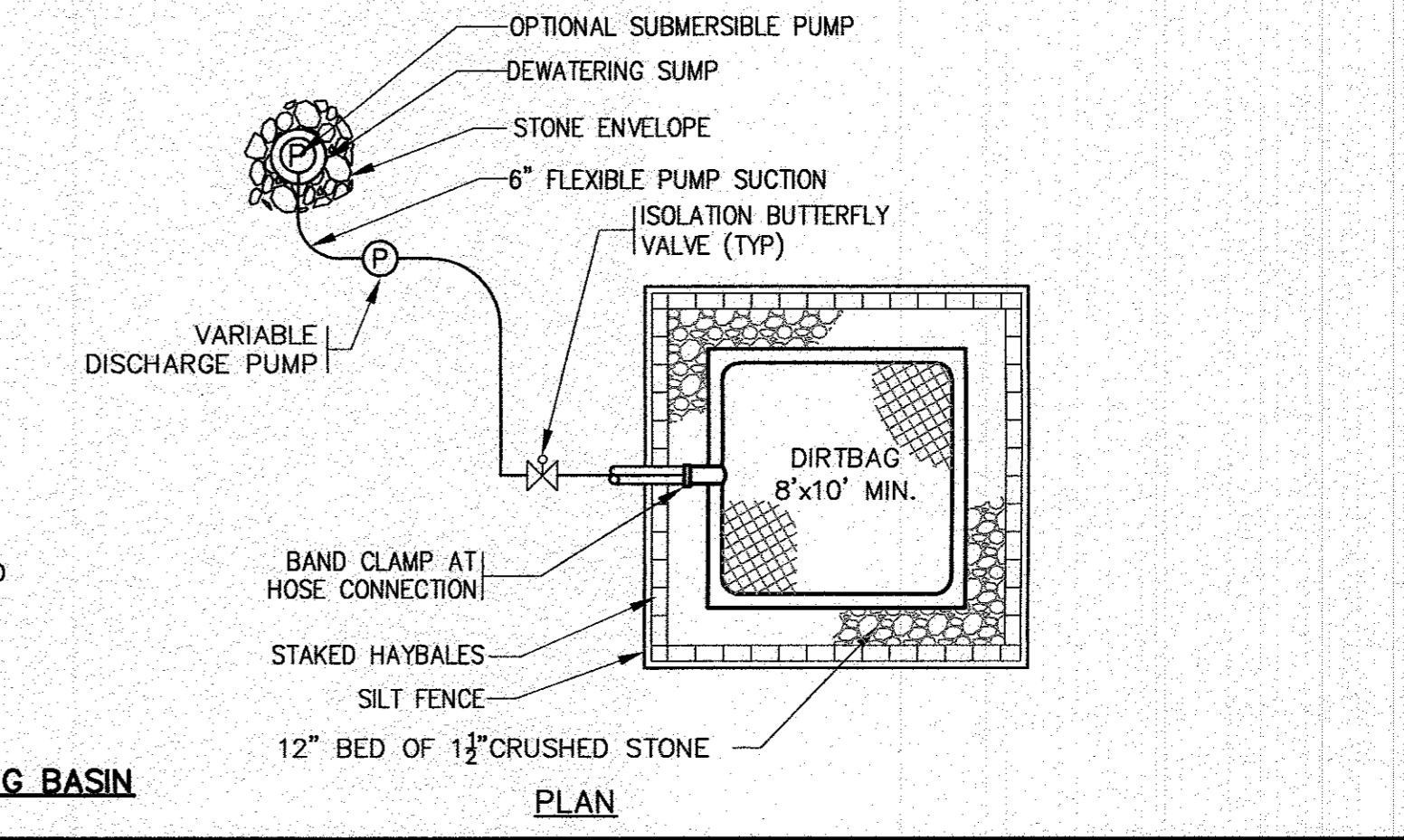
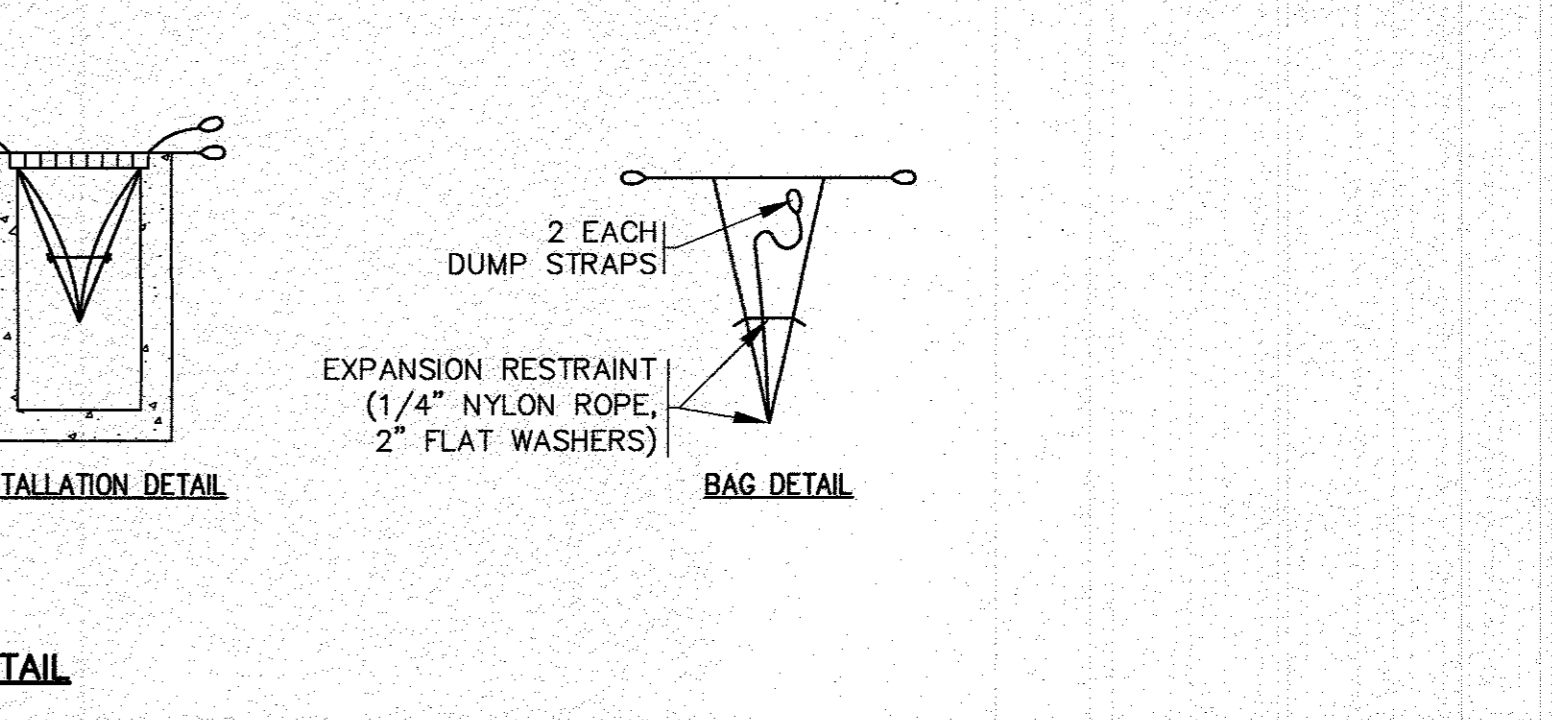


**EROSION CONTROL BARRIER DETAIL**  
N.T.S.



- NOTES:**
1. ENTRANCE WIDTH SHALL BE 22 FEET MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
  2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY OR ONTO THE EXISTING PARKING LOT MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED.
  3. THE ENTRANCE SHALL BE INSPECTED AT THE END OF EACH WORK DAY TO ENSURE NO SEDIMENT OR DEBRIS WILL BE TRACKED ON CHAPEL LANE. EXISTING PAVEMENT SHOULD BE KEPT CLEAN DAILY. MAINTENANCE OF THE ENTRANCE SHALL BE PROVIDED AS NEEDED.

**TEMPORARY CONSTRUCTION ENTRANCE**  
N.T.S.

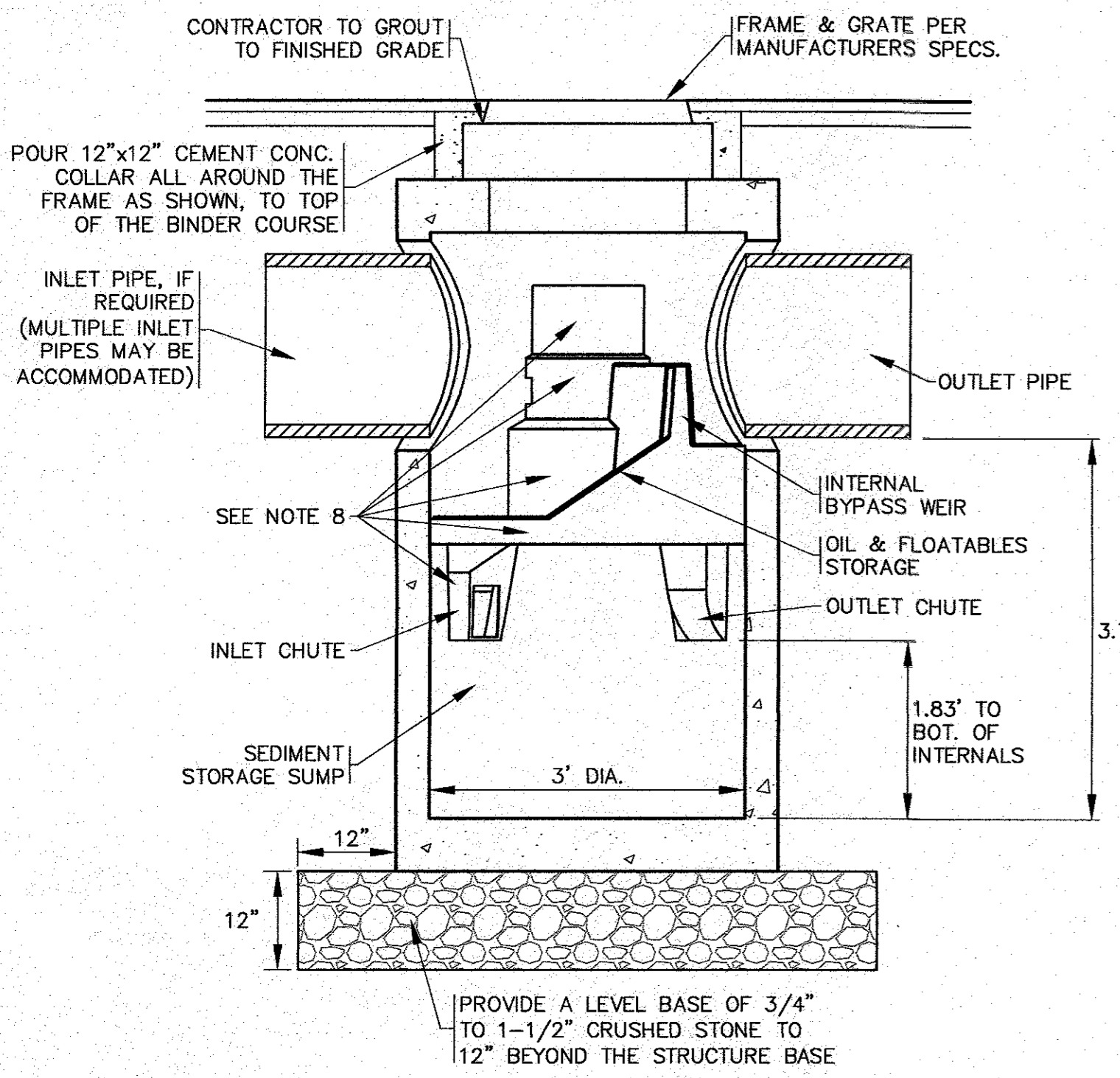


- NOTES:**
1. SILTATION FENCE SHALL BE ACF ENVIRONMENTAL LS125 SILT FENCE OR AN APPROVED EQUAL.
  2. SILTATION FENCING SHALL BE INSTALLED DOWNSLOPE OF ALL PROPOSED AND EXISTING DISTURBED AREAS, OR AS SHOWN ON THE PLANS.
  3. EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL VEGETATIVE OR STABILIZED COVER HAS BEEN FIRMLY ESTABLISHED.
  4. EROSION CONTROL MEASURES SHALL FOLLOW THE PERFORMANCE STANDARDS OF THE USDA SOIL CONSERVATION SERVICE, AND ANY APPLICABLE STATE/LOCAL CONSERVATION AUTHORITY.

**EROSION CONTROL BARRIER DETAIL**  
N.T.S.

DATE: NOV. 14, 2022	NO CHANGES THIS SHEET	DATE	BY	APP'D
DRAWN BY: JMP	NO CHANGES THIS SHEET	4/24/23	JMP	WFM
CHECKED BY: WFM	NO CHANGES THIS SHEET	4/5/23	JMP	WFM
JOB NO.: 20-9499	PER INITIAL PEER REVIEW	3/14/23	JMP	WFM
SCALE: N.T.S.				
APPROVED BY: <i>[Signature]</i>				
<b>G.A.F. ENGINEERING, INC.</b> PROFESSIONAL ENGINEERS & LAND SURVEYORS 266 MAIN STREET - WAREHAM, MA 02571 TEL: (508) 295-6600 FAX: (508) 295-6634 E-MAIL: info@gafenginc.com				
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<b>SITE DEVELOPMENT PLAN</b> <b>DETAIL SHEET 2</b>		PREPARED FOR: <b>6 CHAPEL LANE, LLC</b> 19 DEPOT STREET WAREHAM, MA		
JOB NO.: 20-9499		DWG. 10 OF 11		
<b>PERMIT SET</b> (NOT FOR CONSTRUCTION)				



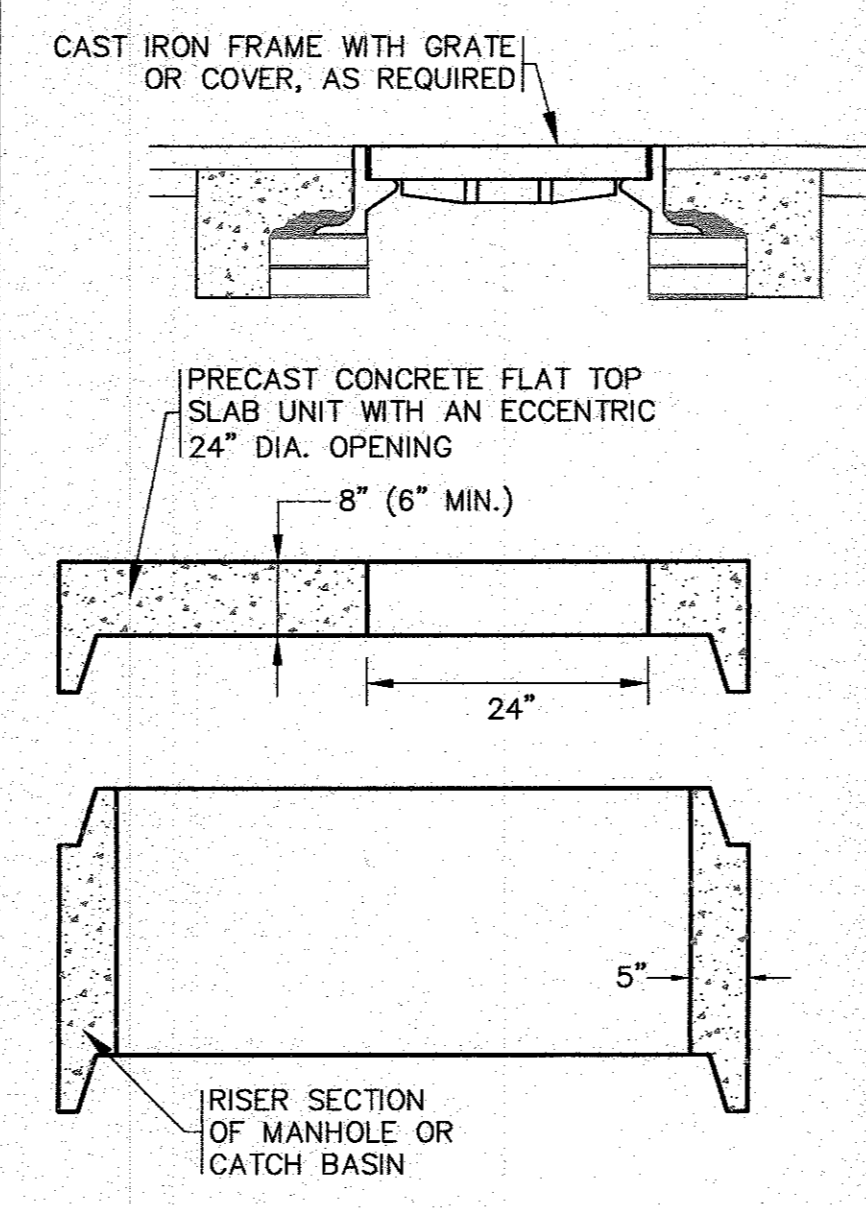


NOTE:  
CONTRACTOR SHALL OBTAIN SHOP DRAWINGS FROM MANUFACTURER PRIOR TO CONSTRUCTION.

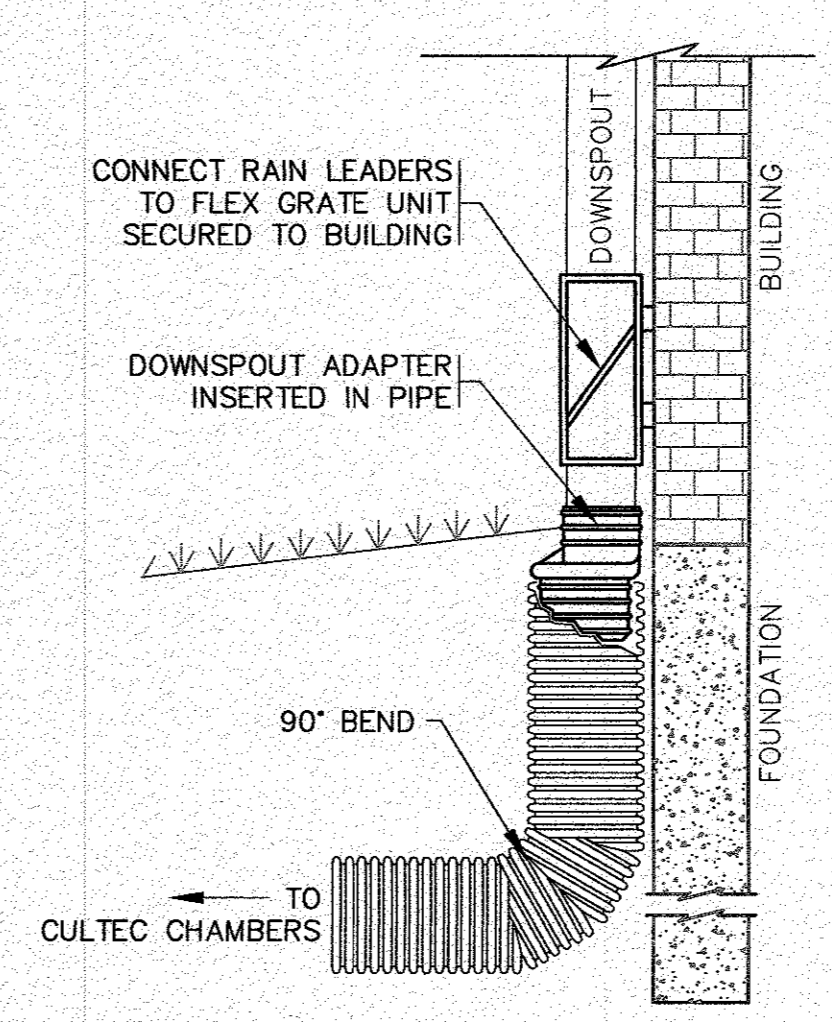
**FIRST DEFENSE FDHC-3 UNIT (WATER QUALITY CATCH BASIN-1 & 2)**  
N.T.S.

- GENERAL NOTES:**
- GENERAL ARRANGEMENT DRAWINGS ONLY. CONTACT HYDRO INTERNATIONAL FOR SITE SPECIFIC DRAWINGS.
  - THE DIAMETER OF THE INLET AND OUTLET PIPES MAY BE NO MORE THAN 18". REFER TO PLAN FOR PIPE SIZES.
  - MULTIPLE INLET PIPES POSSIBLE (REFER TO PROJECT PLAN).
  - INLET/OUTLET PIPE ANGLE CAN VARY TO ALIGN WITH DRAINAGE NETWORK (REFER TO PROJECT PLANS).
  - PEAK FLOW RATE AND MINIMUM HEIGHT LIMITED BY AVAILABLE COVER AND PIPE DIAMETER.
  - LARGER SEDIMENT STORAGE CAPACITY MAY BE PROVIDED WITH DEEPER SUMP DEPTH.
  - THE TREATMENT SYSTEM SHALL USE AN INDUCED VORTEX TO SEPARATE POLLUTANTS FROM STORMWATER RUNOFF.
  - REFER TO MANUFACTURERS SHOP DRAWINGS FOR COMPLETE DETAILS, DIMENSIONS AND SYSTEM PARTS.
  - FIRST DEFENSE STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING. ALL CASTINGS SHALL MEET AASHTO M306 AND HYDRO INTERNATIONAL SPECIFICATIONS.
  - FIRST DEFENSE UNIT SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.

- INSTALLATION NOTES:**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
  - 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.
  - FOR COMPLETE INSTALLATION DETAILS REFER TO THE MANUFACTURERS INSTALLATION SPECIFICATIONS.
  - REFER TO GRADING & DRAINAGE PLAN FOR LOCATION, ELEVATIONS AND INVERTS.



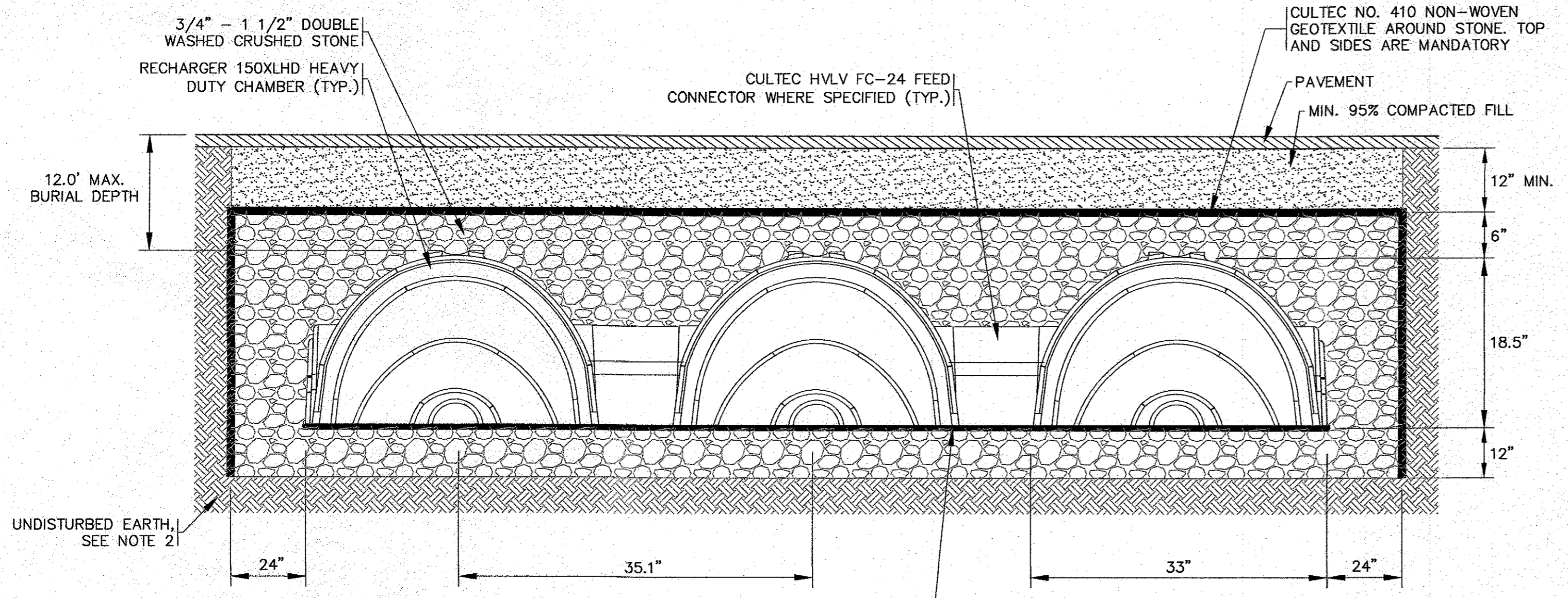
**FLAT TOP SLAB**  
N.T.S.



**DOWNSPOUT DETAIL**  
N.T.S.

- NOTES:**
- FOR COMPLETE DETAILS REFER TO MANUFACTURERS SPECIFICATIONS.
  - CONTRACTOR TO SUBMIT SHOP DRAWINGS.

- NOTES:**
- REFER TO SITE PLAN FOR LOCATIONS, PIPE SIZES, INVERTS, ETC.
  - REFER TO ARCHITECTURAL PLANS FOR DOWNSPOUT SIZES AND LOCATIONS.

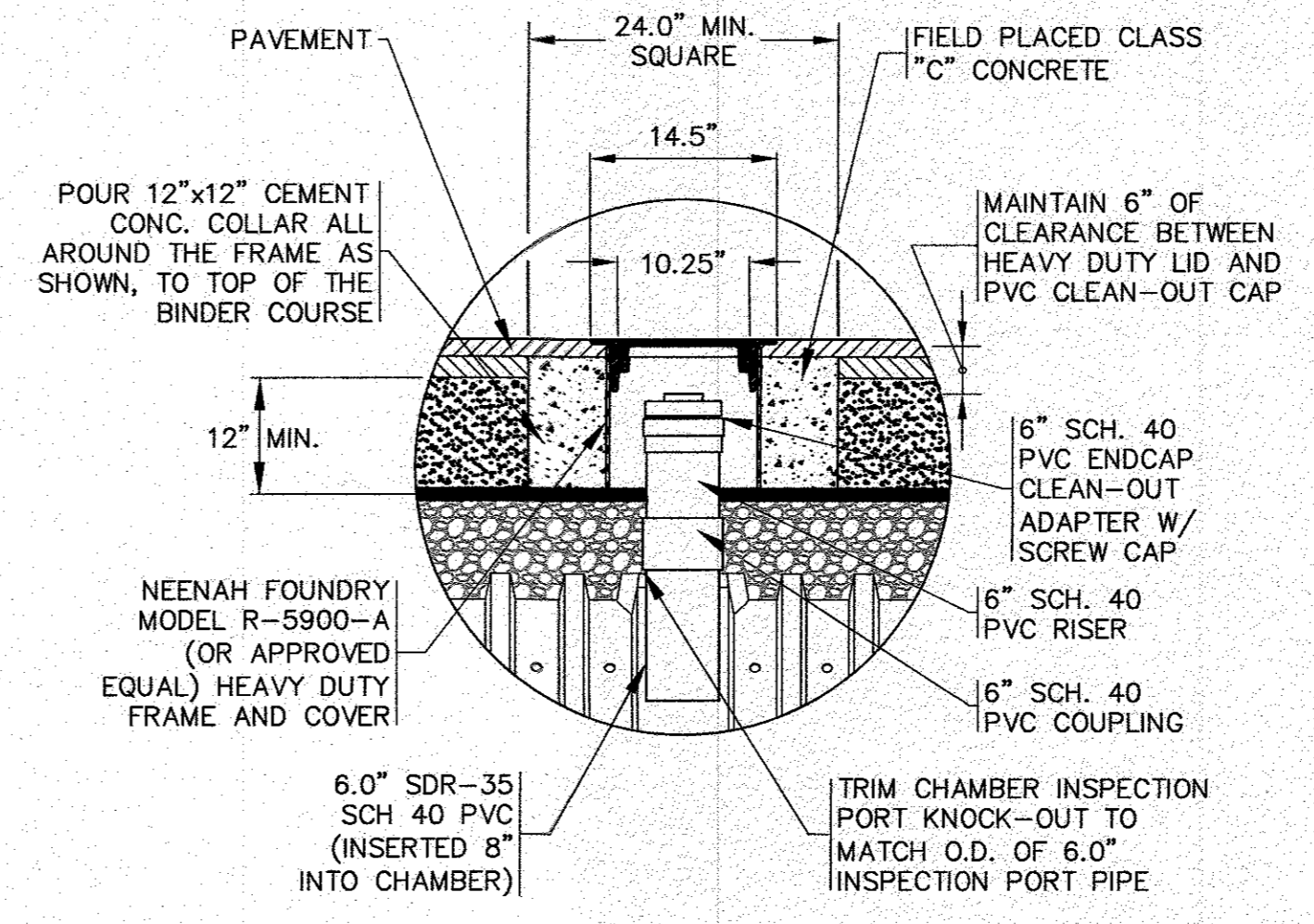


**SYSTEM ELEVATIONS:**

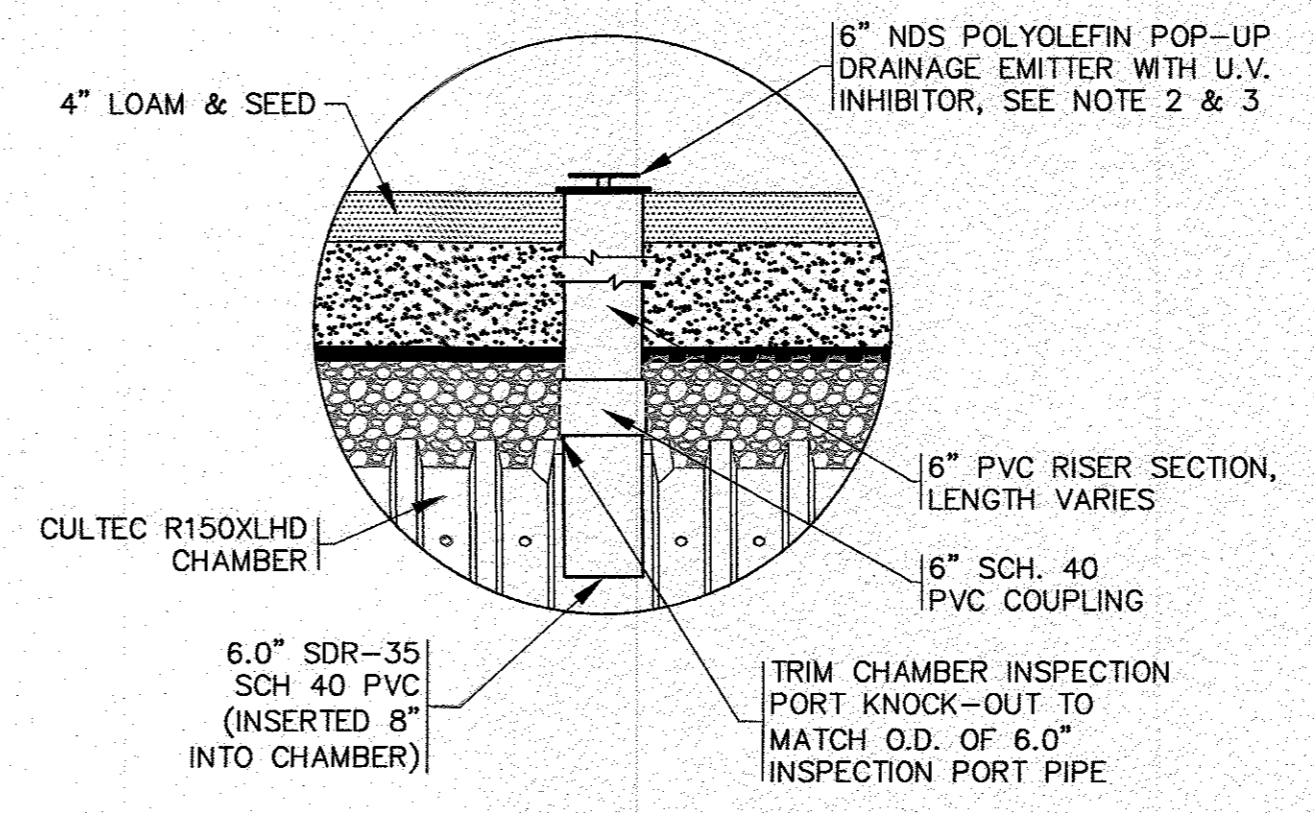
BOTTOM OF STONE	BOTTOM 150XLHD'S	TOP 150XLHD'S	TOP OF STONE
11.50	12.50	14.00	14.50

- NOTES:**
- REFER TO PLAN FOR LOCATIONS.
  - REMOVE ALL UNSUITABLE SOIL 2' MINIMUM BENEATH AND AROUND ALL SIDES OF THE PROPOSED LEACHING CHAMBERS & CRUSHED STONE. THIS INCLUDES ORGANICS, TOPSOIL, ROOTS AND OTHER UNSUITABLE SOILS REPLACE WITH CLEAN SAND AND GRAVEL APPROVED BY DESIGN ENGINEER.
  - FOR COMPLETE INSTALLATION DETAILS REFER TO CULTEC SPECIFICATIONS.

**CULTEC R150XLHD DETAIL**  
N.T.S.



**CULTEC INSPECTION PORT DETAIL**  
N.T.S.



**DRAINAGE EMITTER IN INSPECTION PORT DETAIL**  
N.T.S.

- NOTES:**
- REFER TO PLAN FOR LOCATIONS.
  - PROTECT THE POP-UP DRAINAGE EMITTER DURING CONSTRUCTION WITH A 12" PERFORATED PIPE PLACED AROUND THE UNIT.
  - FOR COMPLETE DETAILS AND INSTALLATION GUIDELINES REFER TO THE MANUFACTURER'S SPECIFICATIONS.

DATE: NOV. 14, 2022  
 DRAWN BY: J.M.P.  
 CHECKED BY: W.F.M.  
 JOB NO.: 20-9499  
 SCALE: N.T.S.

APPROVED BY: [Signature]

**G.A.F. ENGINEERING, INC.**  
 PROFESSIONAL ENGINEERS & LAND SURVEYORS  
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 TEL: (508) 295-6600 FAX: (508) 295-6634  
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**SITE DEVELOPMENT PLAN**  
**DETAIL SHEET 3**

6 CHAPEL LANE WAREHAM, MA  
 PREPARED FOR:  
**6 CHAPEL LANE, LLC**  
 19 DEPOT STREET WAREHAM, MA

NO CHANGES THIS SHEET  
 NO CHANGES THIS SHEET  
 PER INITIAL PEER REVIEW

DATE BY APP'D  
 4/24/23 J.M.P.  
 4/5/23 J.M.P.  
 3/14/23 J.M.P.

JOB NO.: 20-9499

PERMIT SET (NOT FOR CONSTRUCTION)  
 DWG. 11 OF 11