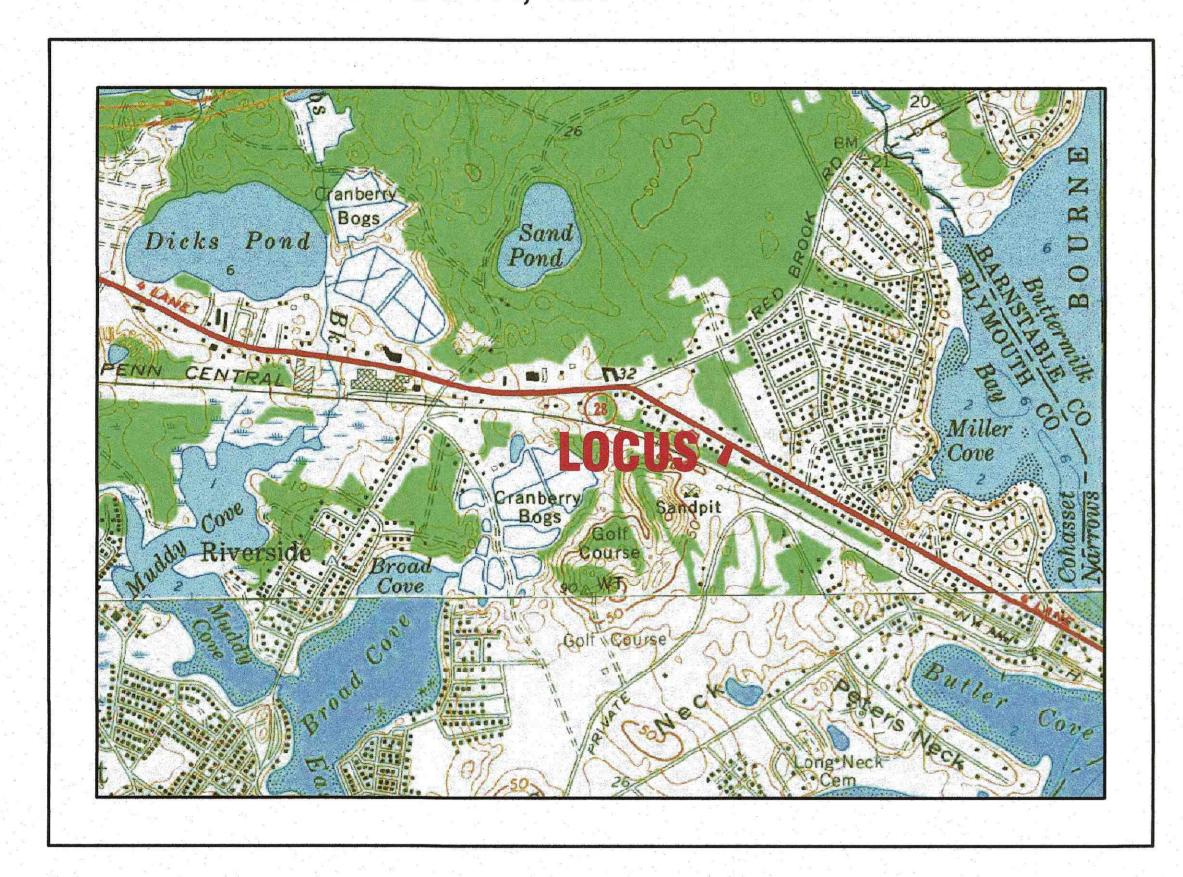
## PLAN REFERENCE:

REFER TO A PLAN PREPARED BY G.A.F. ENGINEERING, INC. ENTITLED "APPROVAL NOT REQUIRED PLAN, 3127 CRANBERRY

## PETER KOULOURAS

## SITE DEVELOPMENT PLAN 3127 CRANBERRY HIGHWAY WAREHAM, MASSACHUSETTS

OWNER: PETER KOULOURAS P.O. BOX 961 N. FALMOUTH, MA



- U.S.G.S. LOCUS PLAN -

SCALE: 1"=1000'

## SITE DATA

ZONING DISTRICT: STRIP COMMERCIAL ASSESSOR'S MAP: 8 ASSESSOR'S LOTS: PARCEL 'B'

FORMERLY PART OF LOT 1022.A MIN. LOT AREA: 30,000 S.F. MIN. ROAD FRONTAGE: 150' MIN. FRONT SETBACK: 20' MIN. SIDE & REAR SETBACK: 10'

MAX. BUILDING HEIGHT: 40' MAX. BUILDING COVERAGE: 40% MAX. IMPERVIOUS COVERAGE: 65% WATER SUPPLY: TOWN WATER SANITARY SEWER: TOWN SEWER

DISTANCE FROM RESIDENTIAL DISTRICT: 40'

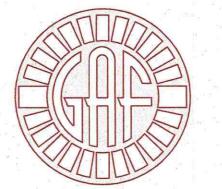
## **ZONING DATA:**

ZONING TABLE	ALLOWED	EXISTING	PROVIDED	
LOT AREA:	30,000 S.F.	15,881± S.F.	SAME AS EXISTING	
FRONTAGE:	150'	69.11	SAME AS EXISTING	
FRONT SETBACK:	20'	N/A	105.3'	
SIDE SETBACK:	10'	N/A	10.5'	
REAR SETBACK:	10'	N/A	56.5	
MAX. BUILDING COVERAGE:	40%	N/A	8.8%	
X. IMPERVIOUS COVERAGE:	65%	99.5%	63.8%	

## PARKING DATA:

REQUIRED: 5 PARKING SPACES FOR EACH LIFT OR BAY 2 BAYS=10 PARKING SPACES TOTAL REQUIRED=10 PARKING SPACES

TOTAL PROVIDED=14 PARKING SPACES



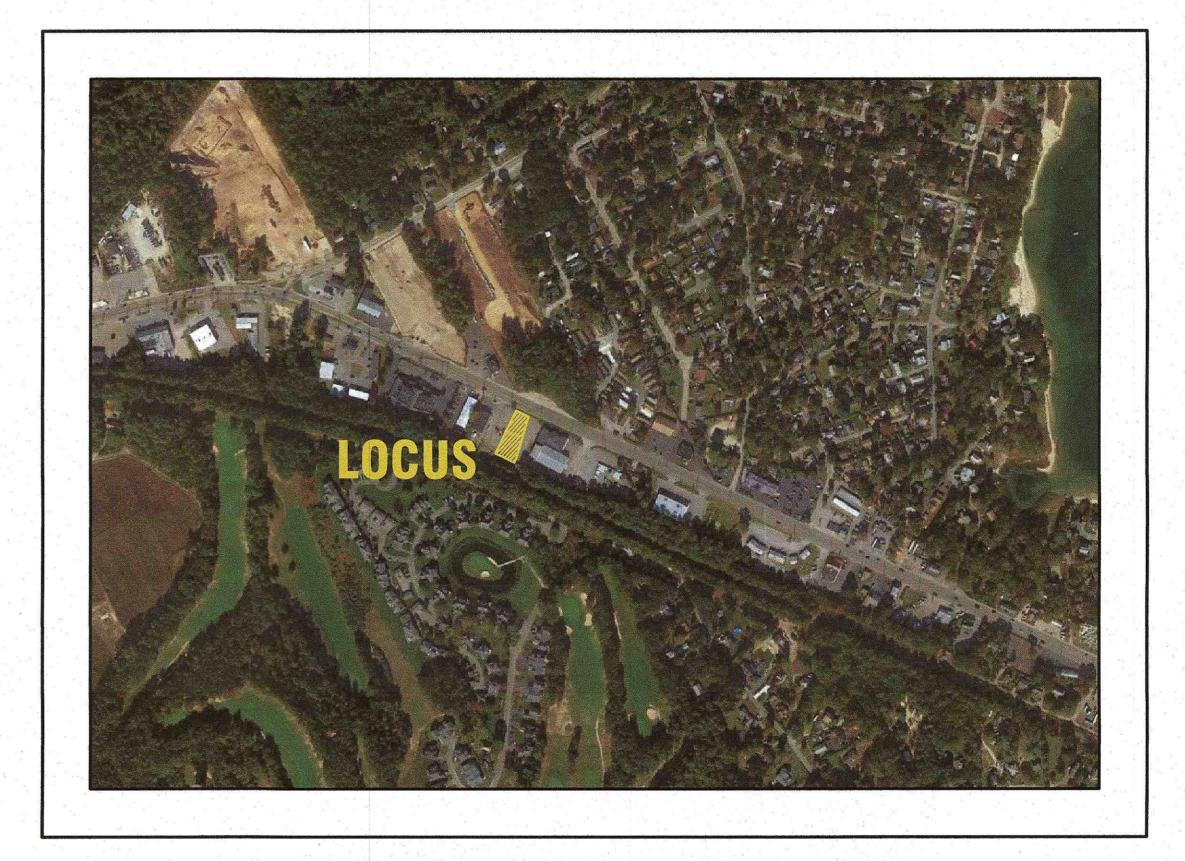
# G.A.F. ENGINEERS, INC. PROFESSIONAL ENGINEERS & LAND SURVEYORS 266 MAIN STREET, WAREHAM, MA 02571

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

MAY 25, 2023

APPLICANT: PETER KOULOURAS

P.O. BOX 961 N. FALMOUTH, MA



- AERIAL OVERVIEW -

SCALE: 1"=400'

## PLAN INDEX:

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

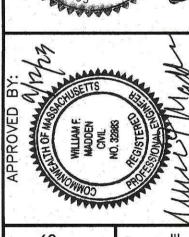
## FLOOD ZONE DATE:

THE PROJECT IS LOCATED WITHIN FLOOD ZONE X. REFER TO THE F.E.M.A. FLOOD INSURANCE RATE MAP PANEL NUMBER 25023C0494-K, DATED: JULY 6, 2021.

PERMIT SET (NOT FOR CONSTRUCTION)

H:\GAF DRAWNGS\2022 DRAWNGS\22-9890 (KOULOURS)\9890\dwg\9890-SITE-PLAN\_ALT-1\_REV.-2.dwg





JOB NO.: 22-9890

## **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. ACTUAL FIELD SURVEY WAS PERFORMED BY G.A.F. ENGINEERING, INC. ON VARIOUS DATES AND MOST RECENTLY IN MAY OF 2023.
- 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 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.
- 8. 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.
- 9. THE CONTRACTOR WILL ALSO NEED TO COMPLY TO FINAL CURB CUT DEISGN, CONSTRUCTION DETAILS AND ANY CONDITIONS ISSUED FOR THE CURB CUT PERMIT THAT WILL BE ISSUED BY MassDOT. CONTRACTOR SHALL COORDINATE WITH ENGINEER PRIOR TO CONSTRUCTION.

## **CONSTRUCTION NOTES:**

- IN GENERAL, THE PLANS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EVERY FITTING, CHANGE IN DIRECTION OR DETAIL OF CONSTRUCTION.
- 2. 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.
- 5. 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.
- 7. 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.
- 10. SIDE SLOPE GRADING SHALL BE AS NOTED ON THE SITE PLANS.
- 11. 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.
- 12. ALL SEWER AND PLUMBING WORK SHALL CONFORM WITH 248 CMR 10.00 UNIFORM STATE PLUMBING CODE AND THE TOWN OF WAREHAM SEWER DEPARTMENTS SPECIFICATIONS.
- 13. ALL METHODS AND MATERIALS SHALL CONFORM WITH MossDOT STANDARDS AND SPECIFICATIONS. AND THE REQUIREMENTS OF THE TOWN OF WAREHAM MUNICIPAL MAINTENANCE DEPARTMENT.
- 14. ALL UTILITY INSTALLATIONS SHALL BE IN CONFORMANCE WITH ALL APPLICABLE TOWN. STATE AND FEDERAL REQUIREMENTS & REGULATIONS.
- 15. DEWATERING IF REQUIRED SHALL BE DIRECTED TO A 15'x15' MIN. SQUARE OF HAYBALES OR A DIRTBAG. 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.

## **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.
- 4. 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.
- 6. 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.
- 8. 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.
- 9. 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.
- 10. SPRINKLE OR APPLY DUST SUPPRESSERS TO MINIMIZE DUST AT THE CONSTRUCTION SITE, MAINTAIN DUST CONTROL MEASURES UNTIL ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

## 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.
- 2. EROSION CONTROL SHALL BE PLACED ALONG THE LIMITS OF WORK WHERE SHOWN ON THE PLANS.
- 3. 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.
- 4. 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.
- 2. ALL ROOF DRAIN PIPES, UNLESS OTHERWISE NOTED, ARE TO BE 4" 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.
- 4. ALL PERFORATED PIPE SHALL BE ADS HOPE 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.
- SOIL CONDITIONS IN THE AREA OF THE PROPOSED LEACHING GALLEYS SHALL BE CONFIRMED PRIOR TO CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH DESIGN ENGINEER.

## **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.
- 2. 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
- 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.
- 5. 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.
- 10. THE CONTRACTOR SHALL PROMPTLY REPAIR DAMAGES CAUSED BY DEMOLITION OPERATIONS TO ADJACENT FACILITIES AT NO COST TO THE OWNER.

## WATER INSTALLATION NOTES:

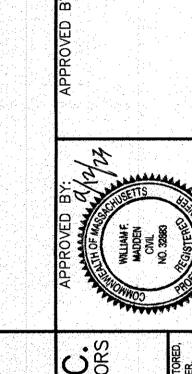
INSTALLATION OF THE WATER SYSTEM.

- ALL WATER MAINS, SERVICES, GATE VALVES/GATE BOX, CURB STOPS, HYDRANTS, FITTINGS, ETC. & METHOD OF INSTALLATION SHALL CONFORM TO THE ONSET FIRE DISTRICT AND ONSET WATER DEPARTMENTS RULES & REGULATIONS.
- WATER SERVICE SHALL BE PRESSURE TESTED, FLUSHED, DISINFECTED & SAMPLED FOR BACTERIOLOGICAL ANALYSIS IN ACCORDANCE WITH THE ONSET FIRE DISTRICT AND ONSET WATER DEPARTMENTS REQUIREMENTS.
- CONTRACTOR TO COORDINATE WITH THE ONSET FIRE DISTRICT AND THE ONSET WATER DEPARTMENT FOR THE INSPECTIONS OF THE WATER SERVICE INSTALLATION.
- 4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS TO COMPLETE THE
- THE CONTRACTOR SHALL OBTAIN A COPY OF THE "ONSET FIRE DISTRICT, WATER DEPARTMENT GENERAL PROCEDURES, CONSTRUCTION SPECIFICATIONS & MATERIAL SPECIFICATIONS" FROM THE ONSET WATER DEPARTMENT BEFORE PROCEEDING WITH THE INSTALLATION OF THE WATER SYSTEM.
- 6. ALL WATER MAINS SHALL BE RESTRAINED JOINT 8" CLASS 52 DOUBLE CEMENT LINED DUCTILE IRON PIPE WITH PUSH-ON JOINTS AND MECHANICAL JOINT FITTINGS OR APPROVED EQUAL.
- ALL WATER SERVICE LINES SHALL BE INSTALLED A MINIMUM OF 10' FROM SEWER SERVICE LINES.

	DIVE WATERONG	결화가 무네 들기관한 동말 지역 회결인
AC	ASBESTIC CONCRET	
ADS APPROX.	ADVANCED DRAINA( APPROXIMATE	GE SYSTEM
BC	BOTTOM OF CURB	
BIT. CONC.	BITUMINOUS CONCR BOULDERS	ETE
BLDRS BW	BOTTOM OF WALL	
BVW	BORDERING VEGETA	TED WETLANDS
CB CB/DH	CATCH BASIN CONCRETE BOUND/	DRILL HOLE
CCB	CAPE COD BERM	DIVILL HOLL
СЕМ.	CEMENT	
C.I. CONC.	CAST IRON CONCRETE	
C.O.	CLEAN OUT	
	CEMENT LINED DUC	
CMP CPP	CORRUGATED META CORRUGATED PLAS	
DIA	DIAMETER	
	DRAIN MANHOLE DUCTILE IRON	
D.I. DCS	DRAINAGE CONTROL	STRUCTURE
E	ELECTRIC	
ELEV.,EL. EOP	ELEVATION EDGE OF PAVEMEN	
EX.	EXISTING	
F.D.C.	FIRE DEPARTMENT	
F.E.S. F.F.E.	FLARED END SECTION FINISHED FLOOR EL	
FND.	FOUND	EVANON
FP .	FIRE PROTECTION	
G GG,GV	GAS GAS GATE, GAS VA	I VE
H.C.	HANDICAP PARKING	
H.D.P.E.	HIGH DENSITY POLY	(ETHYLENE
H.P. HYD	HIGH POINT HYDRANT	
INV.	INVERT	
L.P. MAX	LOW POINT MAXIMUM	
MED	MEDIUM	
MIN.	MINIMUM	
N.T.S. N/F	NOT TO SCALE NOW OR FORMERLY	
OHW	OVERHEAD WIRE	
PCC PVC	PRECAST CONCRETE POLYVINYL CHLORIC	
PROP.	PROPOSED	
PWW RCP	PAVED WATERWAY REINFORCED CONCR	PETE DIDING
R	RADIUS	선생님 가장 보다 되게 했습니다.
R&D	REMOVE AND DISPO	
R&S SB/DH	REMOVE AND STOC STONE BOUND/DRIL	
S	SEWER	불편하면 하루 되었는데 비즈
SGC SMH	SLOPED GRANITE C SEWER MANHOLE	URBING
STA	STATION	
TC	TOP OF CURB	
TW TYP.	TOP OF WALL TYPICAL	
T/0/F	TOP OF FOUNDATIO	N
UP	UTILITY POLE UNDERGROUND ELE	CTDIC
UE VGC	VERTICAL GRANITE	
W	WATER	
WG,WV WQS	WATER GATE, WATE	
WQS WQ CB	WATER QUALITY CA	
	LEGEND	
STING	DESC.	PROPOSED
15	CONTOURS	45

**ABBREVIATIONS** 

S CONCRETE			
F WALL			
VEGETATED WETLANDS SIN			
BOUND/DRILL HOLE BERM			
BERM			: : 1
			÷
			: :
NED DUCTILE IRON	1.4		
ED METAL PIPE ED PLASTIC PIPE			1.
			j.,
NHOLE PON			
CONTROL STRUCTURE			
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LOOR ELEVATION			
ECTION			
GAS VALVE PARKING			: "
PARKING SITY POLYETHYLENE			
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WIRE CONCRETE CURBING		+	אור
CHLORIDE PIPE		_	
TERWAY		,	
D CONCRETE PIPING		ВУ	
ND DISPOSE ND STOCK		APPROVED	
JND/DRILL HOLE		PRO	
RANITE CURBING		APF	
NHOLE		iga (sur Cartier	
JRB			
ALL		`	$\mathcal{I}_{i}$
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LE UND ELECTRIC		10.00	//
GRANITE CURB		OVE	THOP MAG
TE, WATER VALVE		APPROVED	
ALITY STRUCTURE ALITY CAYCH BASIN			7
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PROPOSED		) N	



JOB NO.: 22-9890

DWG.

W WG, WQS WQ	WATER WV WATER GATE, WATE WATER QUALITY ST	R VALVE RUCTURE	APPROVA MALLAN OF THE PROPERTY
	LEGEND		G.A.F. ENGINEERS & LAND SURVEYORS PROFESSIONAL ENGINEERS & LAND SURVEYORS 266 MAIN STREET — WAREHAM, MA 02571 TEL: (508) 295—6600 FAX: (508) 295—6634 E—MAIL: info@gafenginc.com copyright@2022 G.A.F. ENGINEERING, INC. NO PART OF THIS DOCUMENT MAY BE REPRODUCED, STORED, OR TRANSMITTED BY ANY MEANS, ELECTRONIC AND MECHANICAL PHOTOCOPYING, WHAT-SOEVER, WITHOUT THE EXPRESS WRITTEN CONSENT OF G.A.F. ENGINEERING, INC. WITH THE EXCEPTION OF ANY REGULATORY ALTHORITY WHICH MAY REPRODUCE IT IN CONJUNCTION WITH THE PERFORMANCE OF OFFICIAL BUSINESS UNDER ITS JURISDICTION. ANY MODIFICATIONS MADE TO THIS DOCUMENT WITHOUT THE EXPRESS WRITTEN CONSENT OF G.A.F. ENGINEERING, INC. SHALL RENDER IT UNISEABLE.
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	·· F.E.M.A. FLOOD ZONE		GINEERS & LAND SURVEYOR GINEERS & LAND SURVEYOR EET – WAREHAM, MA 02571 –6600 FAX: (508) 295–6634 .: info@gafenginc.com inco@arfordinc.com inco part of this document may be reproduced, store roung or any produce it in conjunction with the exception of any produce it in conjunction with the performance of this may modifications made to this document without naineering, inc. shall render it unuseable.
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	ROOF DRAIN LINE	RD	G.A.F. ENGINEERS & LAND SURVEYOR 266 MAIN STREET — WAREHAM, MA 02571 TEL: (508) 295—6600 FAX: (508) 295—6634 E—MAIL: info@gafenginc.com copyright@ 2022 G.A.F. ENGINEERING, INC. NO PART OF THIS DOCUMENT MAY BE REPRODUCED, STOING TRANSMITTED BY ANY MEANS, ELECTRONIC AND/OR MECHANICAL PHOTOCOPYING, WHAT-SOEVER, WITHOUT THE EXCEPTION OF G.A.F. ENGINEERING, INC. WITH THE PERFORMANCE OF OFFICIAL BUSINESS WRITTEN CONSENT OF G.A.F. ENGINEERING, INC. WITH THE PERFORMANCE OF OFFICIAL BUSINESS UNDER ITS JURISDICTION. ANY MODIFICATIONS MADE TO THIS DOCUMENT WITHOUT EXPRESS WRITTEN CONSENT OF G.A.F. ENGINEERING, INC. SHALL RENDER IT UNUSEABLE.
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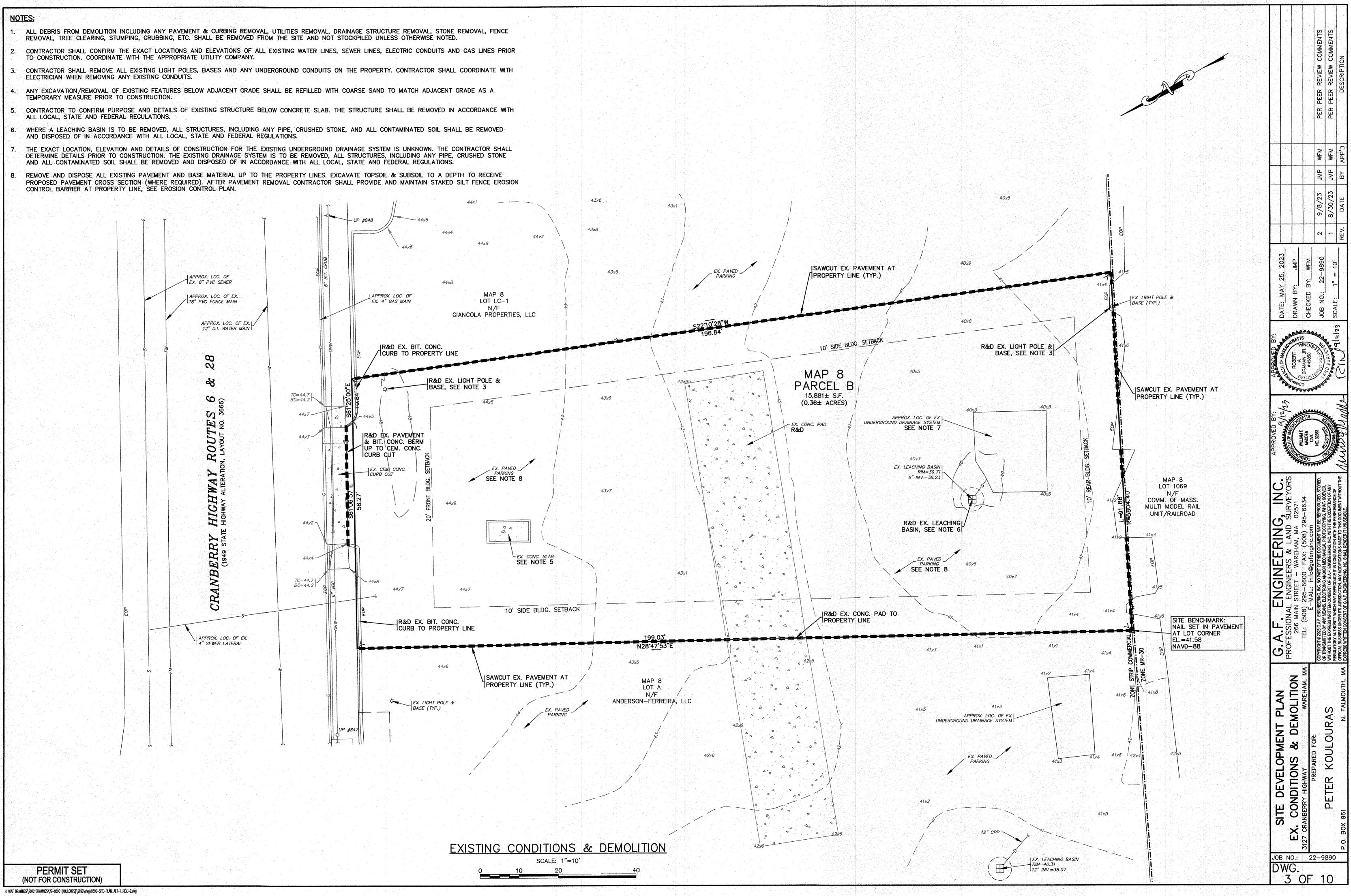
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STONE WALL

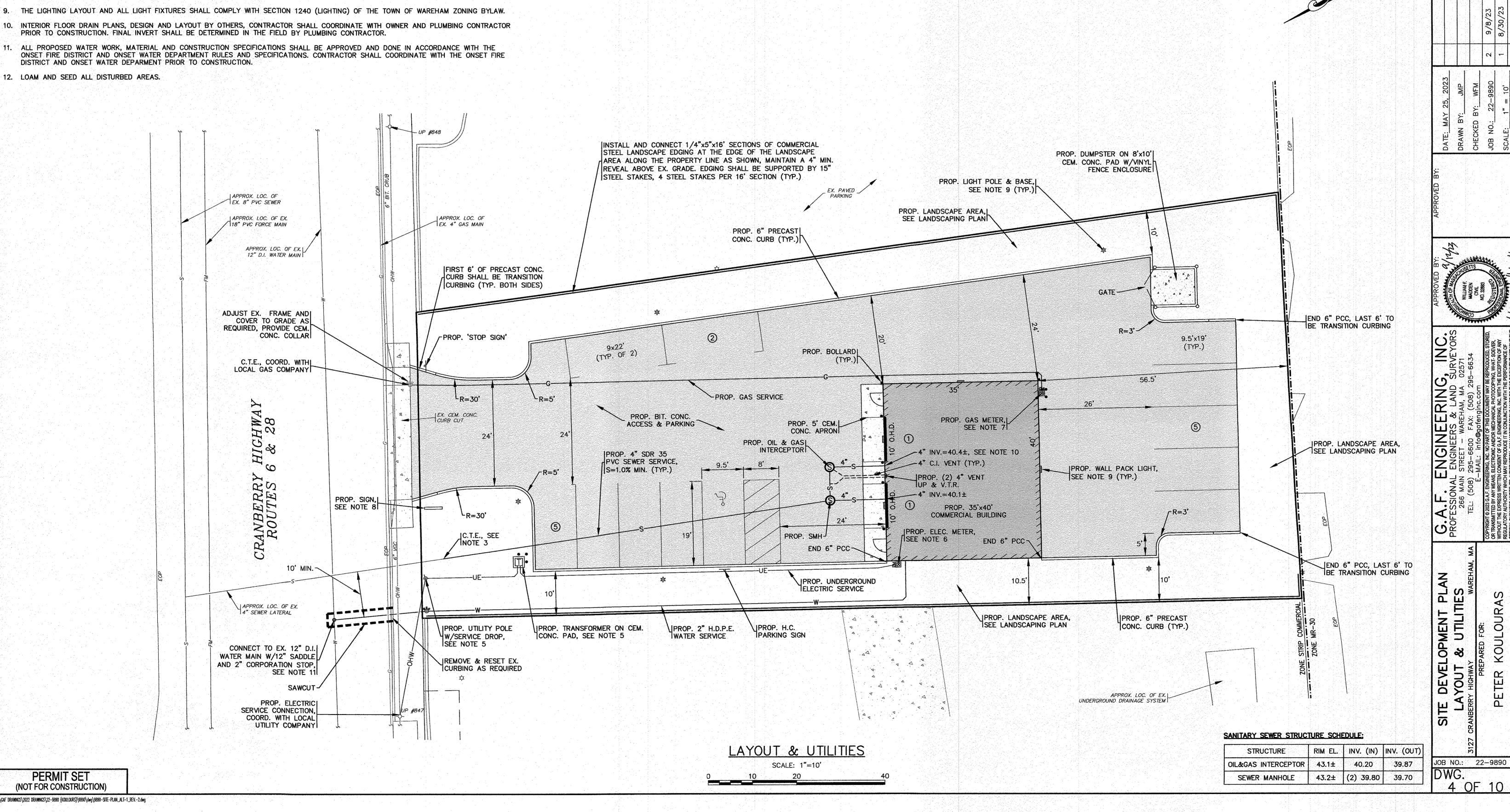
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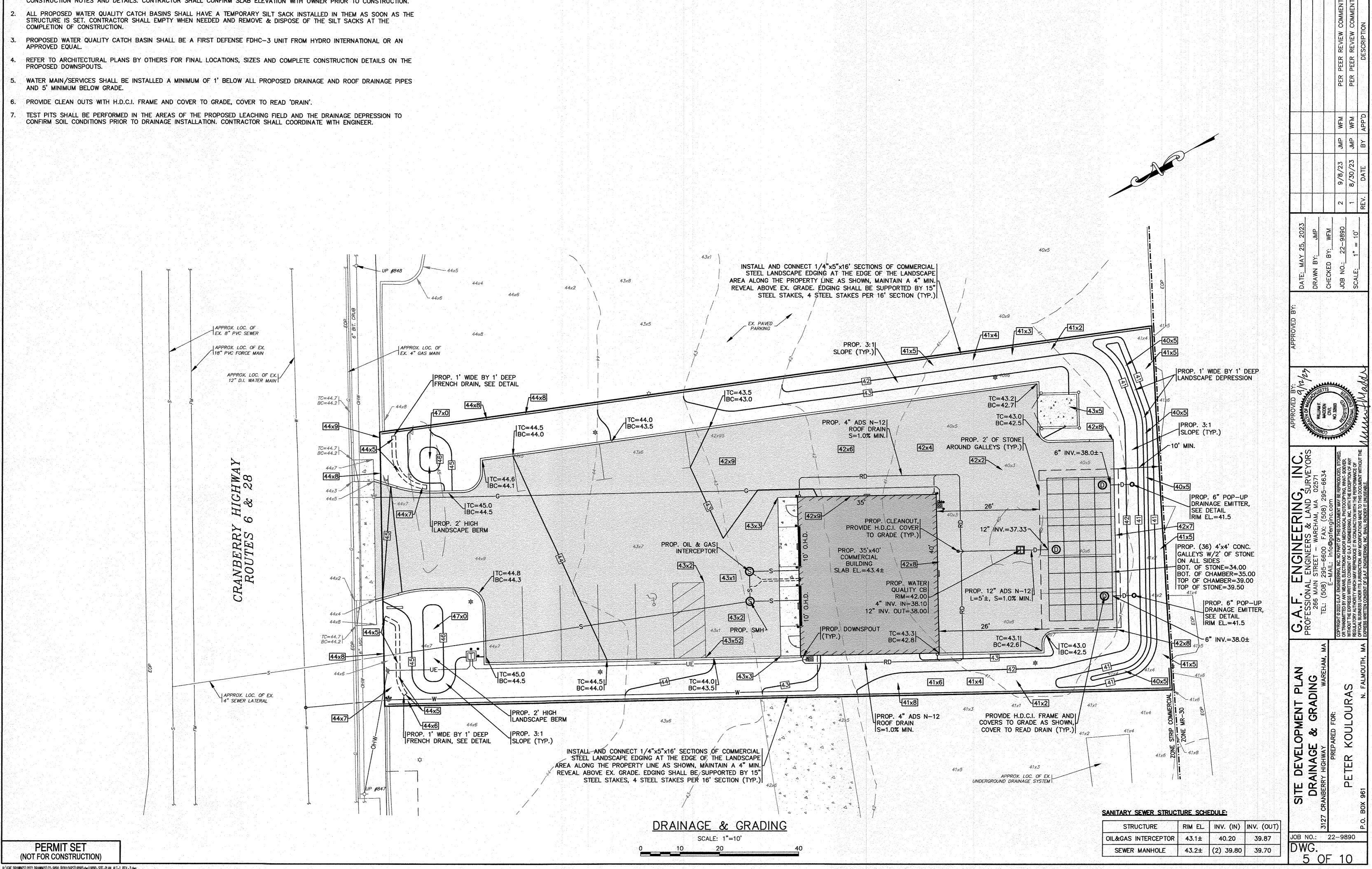


- REFER TO ARCHITECTURAL PLANS PREPARED BY OTHERS FOR ALL PROPOSED COMMERCIAL BUILDING DIMENSIONS, CONSTRUCTION NOTES AND DETAILS, CONTRACTOR SHALL CONFIRM SLAB ELEVATION WITH OWNER PRIOR TO CONSTRUCTION.
- 2. ALL SEWER WORK SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF WAREHAM SEWER COMMISSIONERS RULES AND REGULATIONS.
- 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 BY THE PLUMBING CONTRACTOR AT TIME OF CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH PLUMBING CONTRACTOR.
- CONTRACTOR SHALL COORDINATE WITH THE LOCAL UTILITY COMPANY AND ELECTRICIAN FOR ALL DETAILS ON THE ELECTRIC SERVICE CONNECTION AND FOR FINAL LOCATION, SIZE, CONFIGURATION AND ALL CONSTRUCTION DETAILS OF THE PROPOSED UTILITY POLE WITH SERVICE DROP AND THE PROPOSED TRANSFORMER.
- 6. THE FINAL LOCATIONS, DEPTH AND CONSTRUCTION DETAILS OF THE PROPOSED UNDERGROUND ELECTRIC SERVICE AND ELECTRIC METER SHALL BE DETERMINED BY THE LOCAL UTILITY COMPANY. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY AND ELECTRICIAN
- THE FINAL LOCATIONS, DEPTH'S AND CONSTRUCTION DETAILS OF THE PROPOSED GAS SERVICE AND GAS METER HALL BE DETERMINED BY THE LOCAL GAS COMPANY. CONTRACTOR SHALL COORDINATE WITH LOCAL GAS COMPANY PRIOR TO CONSTRUCTION.
- PROPOSED SIGN SHALL MEET ALL REQUIREMENTS OF SECTION 11 (SIGNS) OF THE TOWN OF WAREHAM ZONING BYLAW. SIGN DESIGN BY OTHERS, CONTRACTOR SHALL COORDINATE WITH OWNER FOR DETAILS.
- DISTRICT AND ONSET WATER DEPARMENT PRIOR TO CONSTRUCTION.



## NOTES:

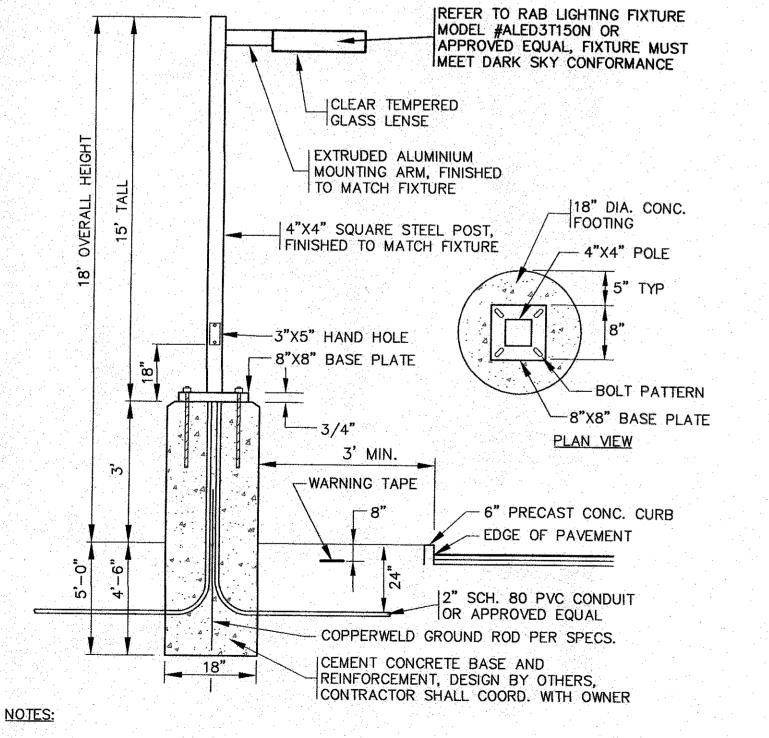
REFER TO ARCHITECTURAL PLANS PREPARED BY OTHERS FOR ALL PROPOSED COMMERCIAL BUILDING DIMENSIONS, CONSTRUCTION NOTES AND DETAILS. CONTRACTOR SHALL CONFIRM SLAB ELEVATION WITH OWNER PRIOR TO CONSTRUCTION.



## NOTES: CATCH BASIN GRATE CONTRACTOR SHALL PROVIDE AND MAINTAIN STAKED SILT FENCE EROSION CONTROL BARRIERS WHERE SHOWN ON THE PLAN. SEE DETAIL ON SIZE VARIES SHEET 10. REFER TO THE COMPLETE SET OF EROSION CONTROL NOTES ON SHEET 2. EROSION CONTROL MEASURES SHALL BE MAINTAINED 1" REBAR FOR UNTIL ALL VEGETATION IS ESTABLISHED. 2 EACH BAG REMOVAL DUMP STRAPS DUMP THE PROPOSED WATER QUALITY CATCH BASIN SHALL HAVE A TEMPORARY SILT SACK INSTALLED IN THEM AS SOON AS THE STRUCTURE IS FROM INLET (TYP.) SET. CONTRACTOR SHALL EMPTY WHEN NEEDED AND REMOVE & DISPOSE OF THE SILT SACKS AT THE COMPLETION OF CONSTRUCTION. EXPANSION RESTRAINT | THE LOCATION AND ALL DETAILS OF CONTRACTORS STAGING AREA SHALL BE DETERMINED BY THE CONTRACTOR AT TIME OF CONSTRUCTION. (1/4" NYLON ROPE, CONTRACTOR SHALL COORDINATE WITH OWNER ON LOCATION. 2" FLAT WASHERS) DUMP STRAP USE HIGH FLOW 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 INSTALLATION DETAIL BAG DETAIL SILT SACK, TYPE A BY ACF ENVIRONMENTAL OR TEMPORARY STOCKPILE AREA SHALL BE INSPECTED AND APPROVED BY THE SITE ENGINFER. AN APPROVED EQUAL 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 CONTRACTOR SHALL EMPTY SILT SACKS WHEN NEEDED. FIELD BY THE CONTRACTOR AT TIME OF CONSTRUCTION. SILT SACKS SHALL BE INSPECTED AFTER EVERY MAJOR CATCH BASIN RAIN EVENT, REMOVE SILT SACK TO EMPTY SEDIMENT CEMENT CONCRETE WASHOUT AREA SHALL BE A SQUARE OF DOUBLE STAKED HAY BALES WITH SILTATION FENCE AND LINED WITH A 40 MIL. AND THEN REINSTALL. SILT SACKS SHALL BE REMOVED POLYETHYLENE BARRIER, SEE DETAIL. FINAL WASHOUT LOCATION SHALL DETERMINED IN THE FIELD BY THE CONTRACTOR AT THE TIME OF & DISPOSED OF AT THE COMPLETION OF CONSTRUCTION. SILT SACK DETAIL CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH OWNER ON LOCATION. N.T.S. 7. 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. 8. THE PROPOSED LIMIT OF WORK LINE IS SHOWN OFFSET IN SOME AREAS FOR PLAN CLARITY. 9. ONCE ESTABLISHED ALL EROSION CONTROL MEASURES AND LOCATION OF STOCKPILED MATERIAL SHALL BE INSPECTED AND APPROVED BY THE SITE ENGINEER. 10. THE LOCATION AND ALL DETAILS OF THE TEMPORARY CHAIN LINK CONSTRUCTION FENCE SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH OWNER. PROP. LIMIT OF WORK, SEE NOTE 8 (TYP.) [AFTER EX. PAVEMENT REMOVAL CONTRACTOR SHALL PROVIDE & MAINTAIN STAKED SILT TENCE EROSION CONTROL BARRIER ALONG THE PROPERTY LINES AS SHOWN EX. PAVED \_/ APPROX. LOC. OF PARKING EX. 8" PVC SEWER APPROX. LOC. OF EX. APPROX. LOC. OF 18" PVC FORCE MAIN TEX. 4" GAS MAIN AFTER EX. PAVEMENT IS REMOVED! CONTRACTOR SHALL PROVIDE & APPROX. LOC. OF EX. 12" D.I. WATER MAIN MAINTAIN A TEMPORARY STABILIZED CONSTRUCTION ENTRANCE UP TO SIDEWALK AS SHOWN, SEE DETAIL SET CONSTRUCTION! ENTRANCE FLUSH TO BACK SIDE OF EX. CEM. CONC. CURB CUT ANY DAMAGE TO EX. CEM. CONC. CURB CUT DURING SEE NOTE 7-CONSTRUCTION SHALL BE REPAIRED TO MATCH PRE CONSTRUCTION CONDITIONS PROP. 35'x40'

## **PLANTING STANDARDS:**

- 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.
- 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.
- 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.
- MINIMUM BRANCHING HEIGHT FOR ALL SHADE TREES SHALL BE SIX (6) FEET.
- 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
- 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 BEDS SHALL BE PROVIDED WITH A THREE (3) INCH LAYER OF 3/4"-1" DIA. ROUNDED STONE 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.

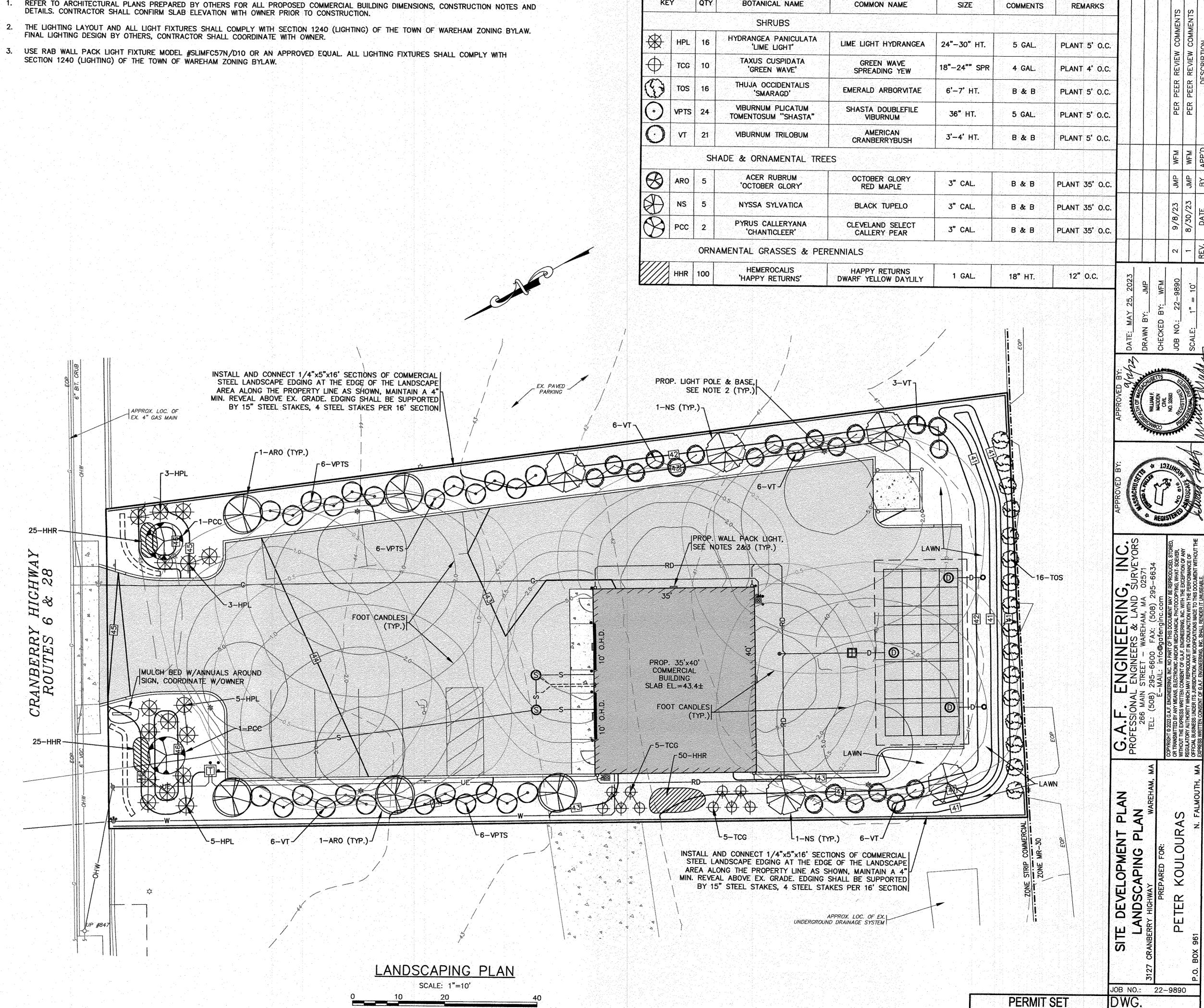


- CIRCUIT CONDUCTORS TO BE PULLED AND TERMINATED BY ELECTRIC CONTRACTOR
- 2. CONTRACTOR TO COORDINATE WITH OWNER ON FINAL LIGHT FIXTURE SPECIFICATIONS.
- ALL MOUNTING HARDWARE AND INSTALLATION SHALL BE PER MANUFACTURER SPECIFICATIONS.
- ALL LIGHTING LAYOUT & FIXTURES SHALL COMPLY WITH SECTION 1240 (LIGHTING) OF THE TOWN OF WAREHAM ZONING BYLAW. FINAL SITE LIGHTING DESIGN BY OTHERS, CONTRACTOR SHALL COORDINATE WITH OWNER.

## STANDARD LIGHT POLE W/BASE

## **NOTES:**

- REFER TO ARCHITECTURAL PLANS PREPARED BY OTHERS FOR ALL PROPOSED COMMERCIAL BUILDING DIMENSIONS, CONSTRUCTION NOTES AND DETAILS. CONTRACTOR SHALL CONFIRM SLAB ELEVATION WITH OWNER PRIOR TO CONSTRUCTION.



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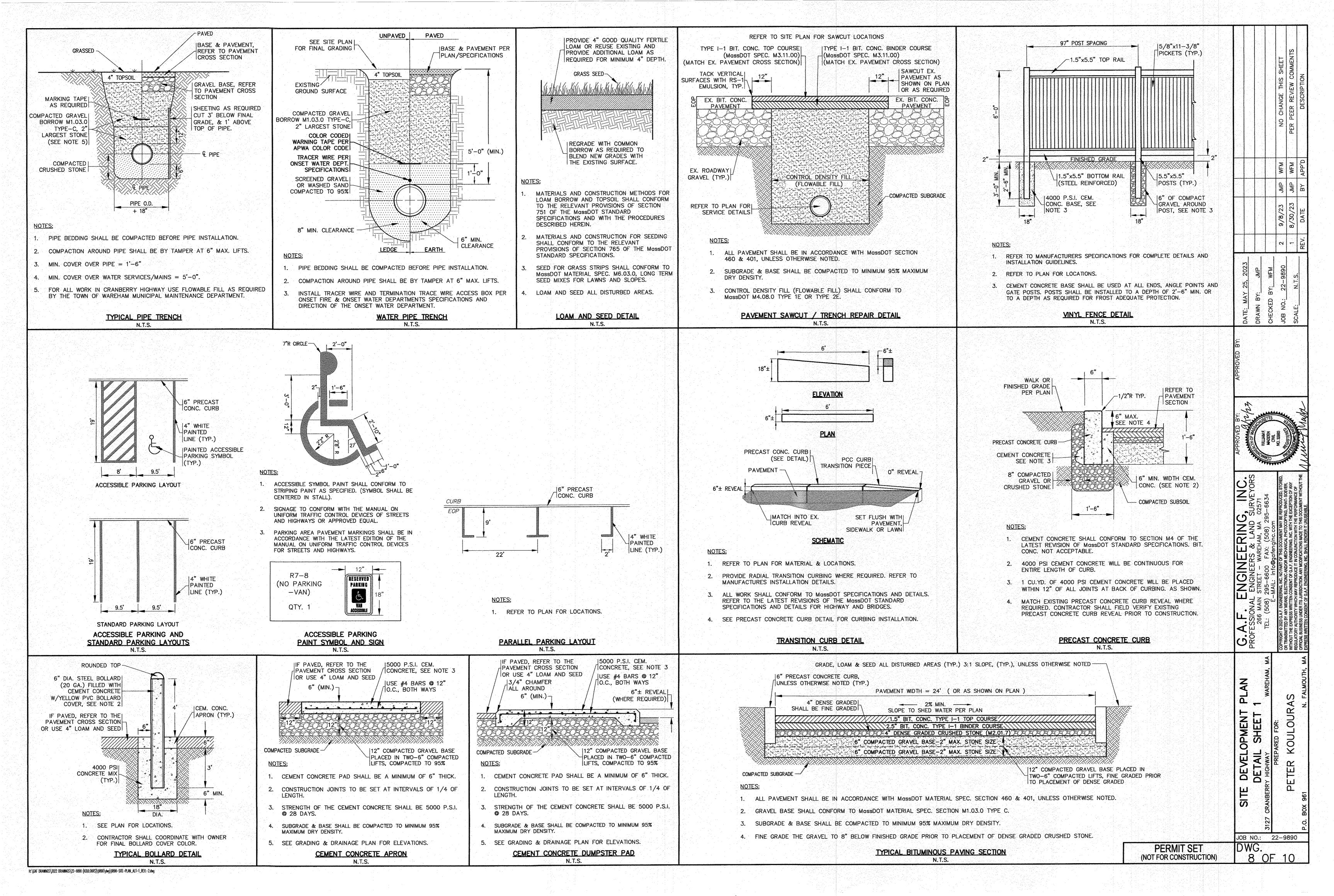
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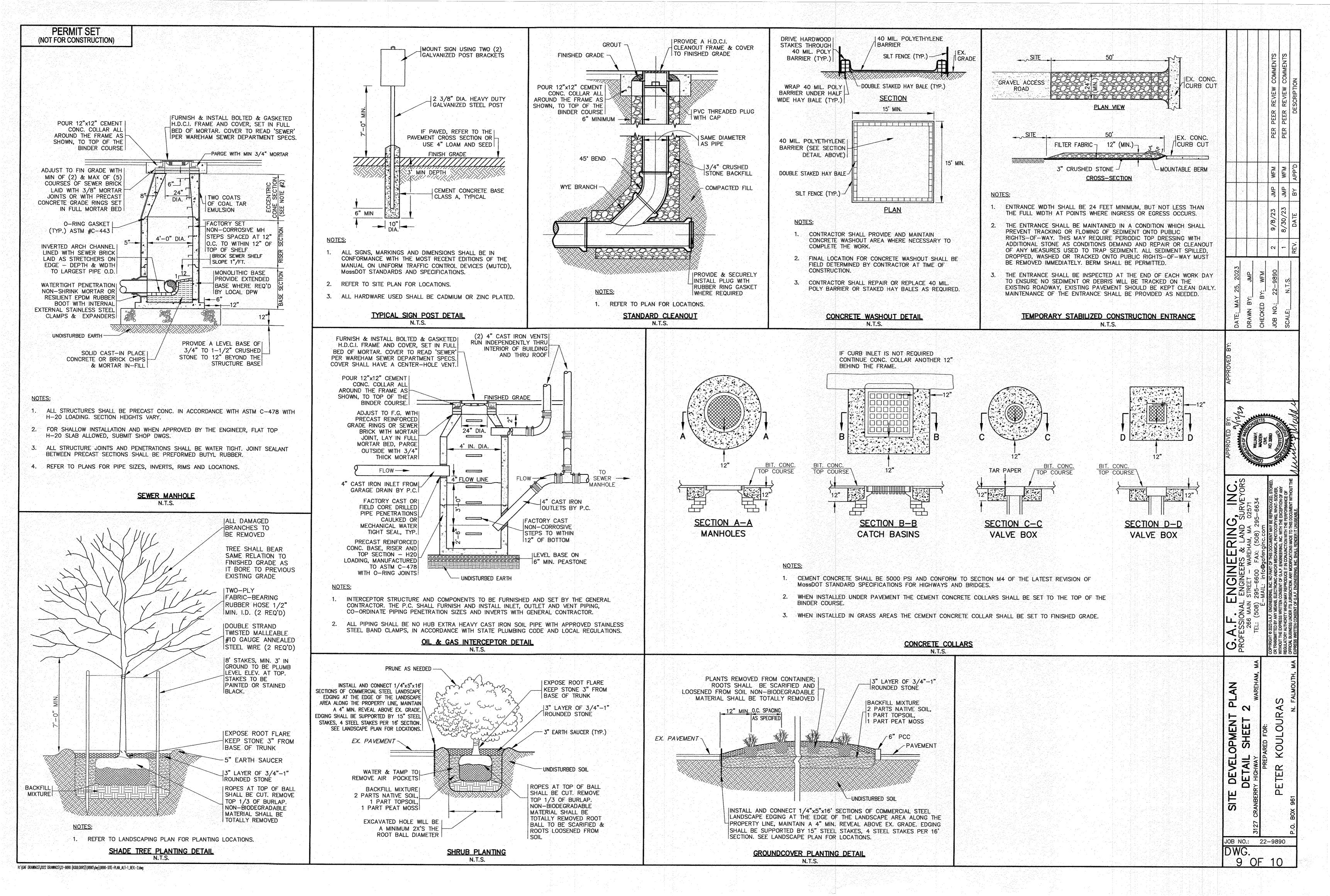
BOTANICAL NAME

PLANT LIST

COMMON NAME

(NOT FOR CONSTRUCTION)





## IFRAME & GRATE PER CONTRACTOR TO GROUT MANUFACTURERS SPECS. TO FINISHED GRADE POUR 12"x12" CEMENT CONC. COLLAR ALL AROUND THE FRAME AS SHOWN, TO TOP OF THE BINDER COURSE MINIMI INLET PIPE, IF REQUIRED (MULTIPLE INLET PIPES MAY BE ACCOMMODATED) -OUTLET PIPE INTERNAL BYPASS WEIR OIL & FLOATABLES STORAGE -OUTLET CHUTE INLET CHUTE 1.83' TO BOT. OF SEDIMENT INTERNALS STORAGE SUMP 3' DIA.

PROVIDE A LEVEL BASE OF 3/4"

TO 1-1/2" CRUSHED STONE TO 112" BEYOND THE STRUCTURE BASE

PERMIT SET (NOT FOR CONSTRUCTION)

NOTE: CONTRACTOR SHALL OBTAIN SHOP

DRAWINGS FROM MANUFACTURER

PRIOR TO CONSTRUCTION.

## **GENERAL NOTES:**

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

## INSTALLATION NOTES:

FIRST DEFENSE FDHC-3 UNIT (WATER QUALITY CATCH BASIN)

N.T.S.

- 1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF
- 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.
- 4. FOR COMPLETE INSTALLATION DETAILS REFER TO THE MANUFACTURERS INSTALLATION SPECIFICATIONS.
- 5. REFER TO GRADING & DRAINAGE PLAN FOR LOCATION, ELEVATIONS AND INVERTS.

PRECAST CONCRETE LEACHING GALLEYS

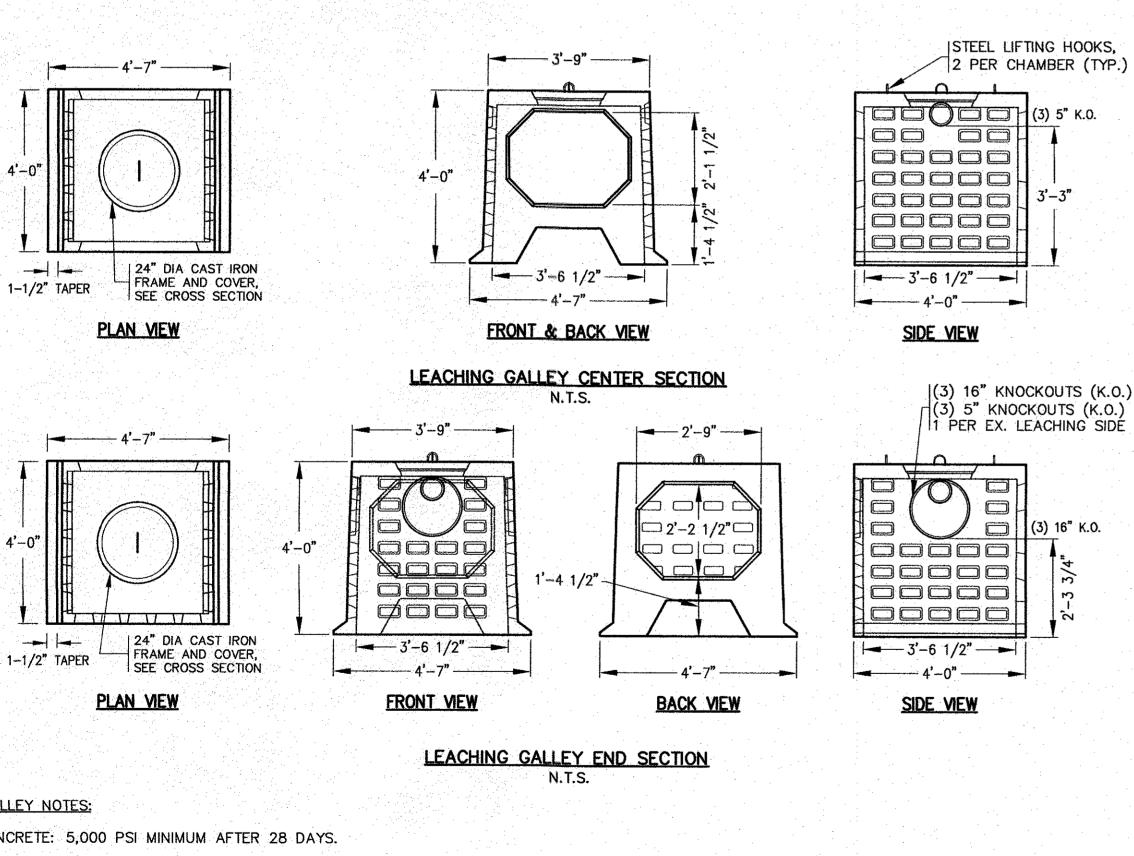
N.T.S.

## I FACE OF FABRIC STAPLED TO STAKES ACF ENVIRONMENTAL LS125 SILT FENCE FLOW -4" x 4" TRENCH WITH COMPACTED BACKFILL UNDIST. SUBGRADE

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

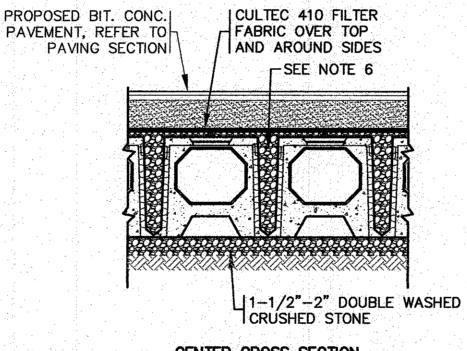
## EROSION CONTROL BARRIER DETAIL N.T.S.

STORM EVENT	ELEVATION
2 YEAR STORM	35.44
10 YEAR STORM	36.51
25 YEAR STORM	37.21
100 YEAR STORM	38.36

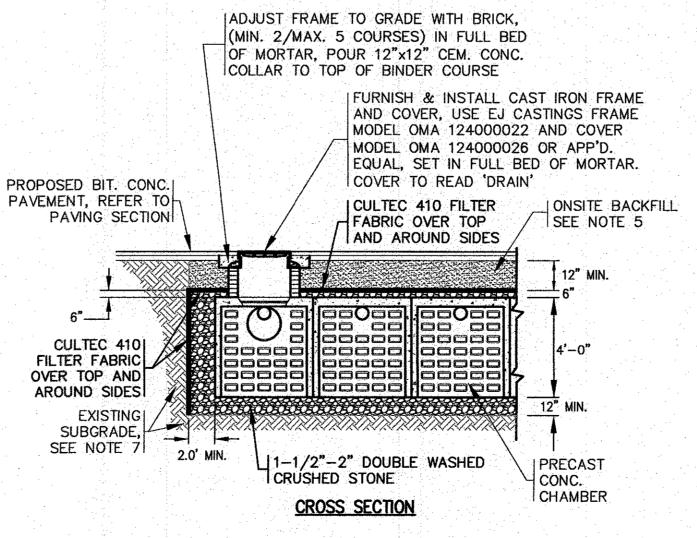


## 4'x4' GALLEY NOTES:

- 1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
- 2. DESIGNED FOR HS-20 LOADING.
- GALLEY AVAILABLE IN BOTH END AND CENTER SECTIONS. CENTER SECTIONS HAVE LARGE OPENING IN BOTH THE BACK AND FRONT SIDES.
- REFER TO THE DRAINAGE & GRADING SHEET FOR INVERTS AND ELEVATIONS.
- USE ON SITE BACKFILL OVER CONC. GALLEYS WHERE GALLEYS ARE NOT UNDER PAVEMENT. WHEN GALLEYS ARE UNDER PAVEMENT REFER TO PAVEMENT CROSS SECTION.
- 6. FILL ANY GAPS BETWEEN GALLEY CHAMBERS WITH 1-1/2"-2" DOUBLE WASHED CRUSHED STONE.
- CONTRACTOR TO REMOVE ALL UNSUITABLE SOILS 2' MINIMUM BENEATH AND AROUND ALL SIDES OF THE LEACHING GALLEYS. THIS INCLUDES ORGANICS, TOPSOIL, ROOTS AND OTHER UNSUITABLE SOILS, REPLACE WITH CLEAN SOIL, SAND AND GRAVEL APPROVED BY DESIGN ENGINEER.



## CENTER CROSS SECTION



## SYSTEM ELEVATIONS:

BOTTOM OF STONE	BOTTOM OF GALLEY	TOP OF GALLEY	TOP OF STONE
34.00	35.00	39.00	39.50

## 6" NDS POLYOLEFIN POP-UP DRAINAGE EMITTER WITH U.V. INHIBITOR, SEE NOTE 3 PROVIDE 4"x6" CEM. CONC. COLLAR TO FINISHED GRADE 6" PVC RISER SECTION, LENGTH VARIES FINISHED GRADE-16" NDS 90" ELBOW WITH 1/4" DRAIN PORT, SEE NOTE 2 6" NDS POLYETHYLENE CORRUGATED ADAPTER KNOCKOUT AT EXISTING LEACHING GALLEYS SUBGRADE SEE NOTE 5 SURROUND WITH CULTEC 410 \_6" ADS N-12 FILTER FABRIC DRAIN PIPE 3/4" - 1 1/2"1/4" DRAIN PORT. DOUBLE WASHED SEE NOTE 2 CRUSHED STONE 3' WIDE x 3' LONG x 2' DEEP ENGINEERS & LAND (MIN.) STONE FILLED TRENCH CENTERED UNDER DRAIN PORT REFER TO SITE PLAN FOR LOCATION 2. INCREASE THE 1/4" DRAIN PORT TO 1" DIA. 3. PROTECT THE POP-UP DRAINAGE EMITTER DURING CONSTRUCTION WITH A 12" PERFORATED PIPE PLACE AROUND THE UNIT. 4. FOR COMPLETE DETAILS AND INSTALLATION GUIDELINES REFER TO THE MANUFACTURER'S SPECIFICATIONS. 5. SLOPE PIPE FROM CULTEC CHAMBERS DOWN TO DRAINAGE EMITTER AT A MINIMUM OF 2.0%. DRAINAGE EMITTER N.T.S.

AT EL. 40.50

GRASS SHALL BE MAINTAINED A MINIMUM OF 4" HIGH WITHIN THE DRAINAGE AREAS.

3. REFER TO DRAINAGE AND GRADING PLAN FOR LOCATION AND ELEVATIONS.

2. CONTRACTOR TO REMOVE ALL UNSUITABLE SOILS 2' MINIMUM BENEATH AND AROUND ALL SIDES OF THE LANDSCAPE DEPRESSION. THIS INCLUDES ORGANICS, TOPSOIL, ROOTS AND OTHER UNSUITABLE

LANDSCAPE DEPRESSION

N.T.S.

SOILS, REPLACE WITH CLEAN SOIL, SAND AND GRAVEL APPROVED BY DESIGN ENGINEER.

12" MIN

IEX. SUBGRADE

SEE NOTE 2

CONNECT DOWNSPOUT TO THE CAST IRON-

36" CAST IRON

DOWNSPOUT BOOT

COORD INLET SIZE

WITH DOWNSPOUT

CLEAN OUT COVER

SECURE TO BLDG.

FINISHED GRADE-

RUBBER ADAPTER

WATER QUALITY CB

AS REQUIRED

90° BEND

ADS N-12 PIPE, REFER TO PLAN FOR PIPE SIZE & ELEVATION

OPMENT SHEET

DET

JOB NO.:

DWG.

22-9890

10 OF 10

REFER TO SITE PLAN FOR LOCATIONS,

REFER TO ARCHITECTURAL PLANS FOR

DOWNSPOUT SIZES AND LOCATIONS.

DOWNSPOUT DETAIL

N.T.S.

PIPE SIZES, INVERTS. ETC.

OR PORCH COLUMNS

WITH GASKET

50/50 SAND &

1'-0"

**IEXISTING SUBGRADE.** 

SEE NOTE 2

TOPSOIL MIX

OVERLAF

REFER TO PLAN FOR LOCATIONS AND ELEVATIONS.

WHERE REQUIRED CONTRACTOR TO REMOVE ALL UNSUITABLE

FRENCH DRAIN DETAIL

**ELEVATION** 

40.50

40.51

40.63

40.85

4" LOAM &

SEED (TYP.)

STORM EVENT

2 YEAR STORM

10 YEAR STORM

25 YEAR STORM

100 YEAR STORM

SOILS 2' AROUND AND BENEATH STONE TRENCH AND REPLACE

WITH CLEAN SAND AND GRAVEL APPROVED BY DESIGN ENGINEER

LOAM AND

(TYP.)

CULTEC 410

3/4" - 1 1/2" DOUBLE

WASHED CRUSHED STONE

FILTER FABRIC

SEED SLOPES

DOWNSPOUT BOOT