

# Location Plan

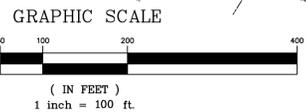
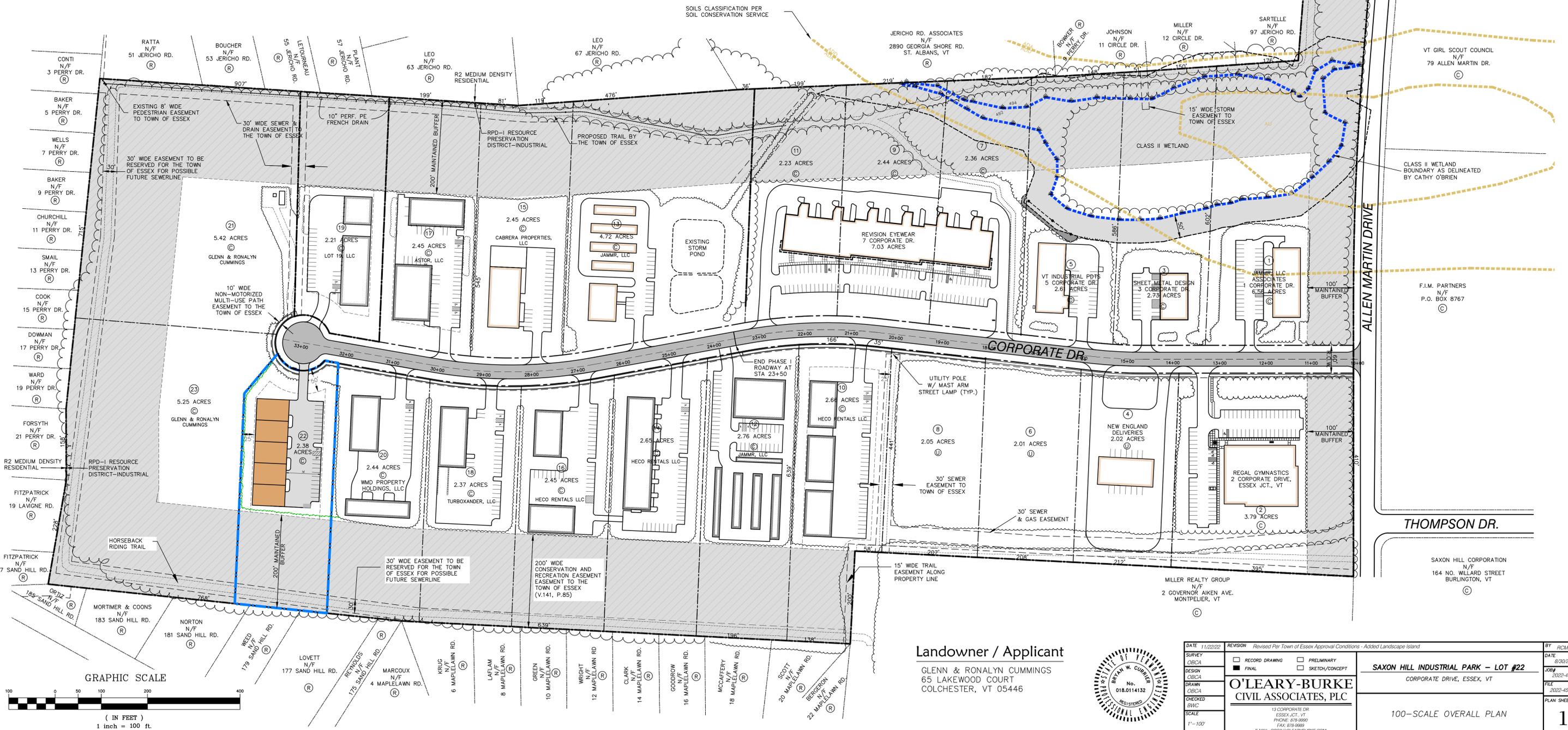
NTS

## Legend

PROJECT BOUNDARY	---
EXISTING TREELINE	~~~~~
PROPOSED TREELINE	~~~~~
EXISTING TRAIL	---
EXISTING GRADE CONTOUR	---500---
FINISH GRADE CONTOUR	---500---
SPOT FINISH GRADE	x494
LOT NUMBER	①
SETBACK LIMIT	---
NEW WATER SERVICE	—W—
NEW SEWER SERVICE AND CLEANOUT	—S—
EXISTING WATERLINE SERVICE AND GATEVALVE	—W—
EXISTING SEWER MAIN SERVICE & MANHOLE	—S—
ELECTRIC & TELEPHONE LINE	—E&T—
NEW DRAINAGE SWALE	---
SOIL TYPE & BOUNDARY	ADD
RESIDENTIAL USE	(R)
COMMERCIAL USE	(C)
UNDEVELOPED	(U)

## Project Narrative

THIS PROJECT IS LOCATED ON LOT 22 OF THE SAXON HILL INDUSTRIAL PARK ON CORPORATE DRIVE, ESSEX IN THE RESOURCE PRESERVATION DISTRICT - INDUSTRIAL (RPD-I) ZONING DISTRICT. THE APPLICANT IS PROPOSING THE CONSTRUCTION OF A COMMERCIAL WAREHOUSE BUILDING TOTALING 16,100 S.F. WITH ASSOCIATED PARKING. THE NEW BUILDING WILL BE CONNECTED TO EXISTING MUNICIPAL WATER, SEWER, AND STORM STUBS OFF CORPORATE DRIVE. THE LOT WILL PRESERVE A 200 FT RESIDENTIAL BUFFER IN THE REAR, CREATE A 50 FT FRONT YARD BUFFER AND MAINTAIN A 25 FT SIDE YARD SETBACK.



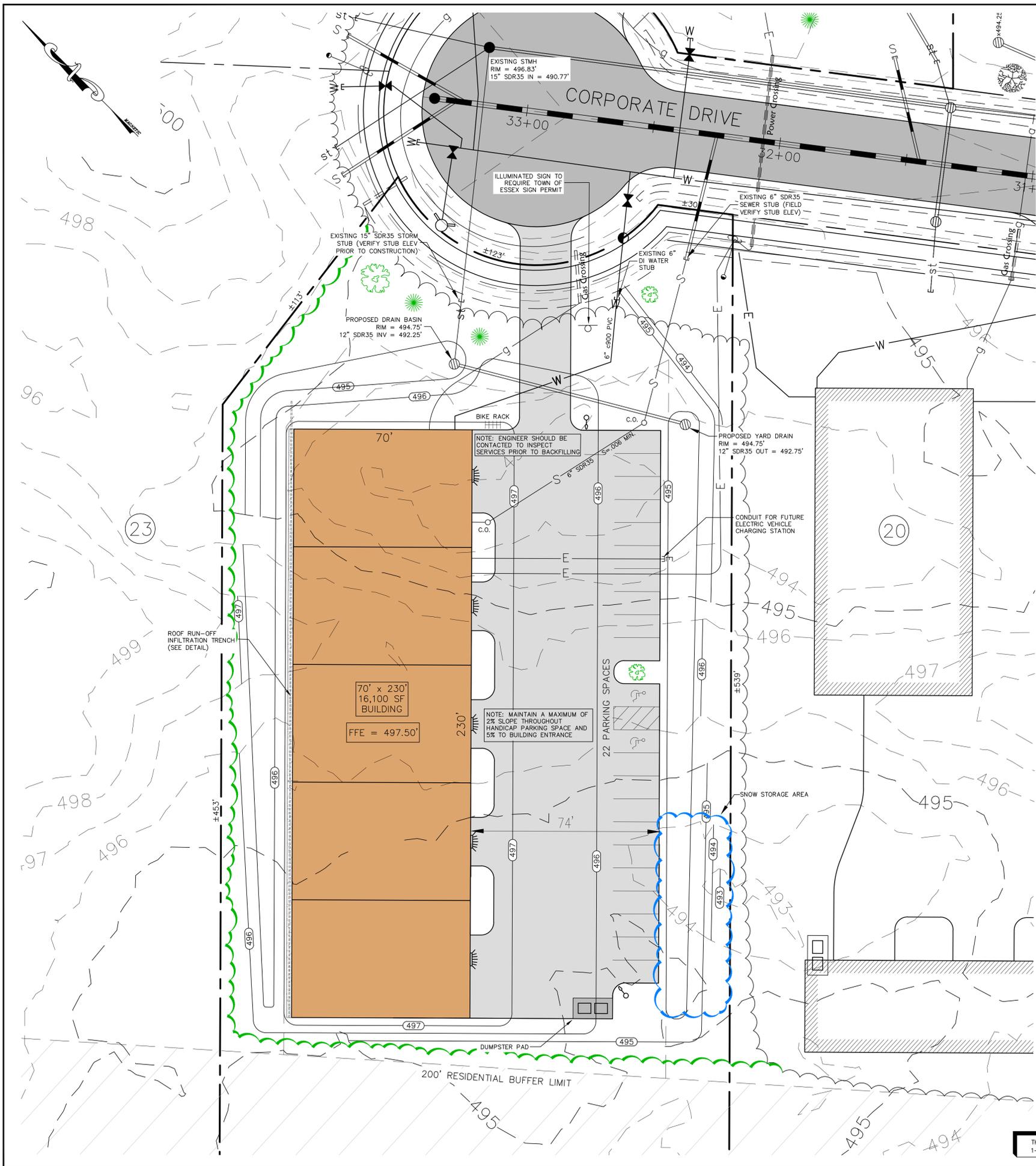
**Landowner / Applicant**  
 GLENN & RONALYN CUMMINGS  
 65 LAKEWOOD COURT  
 COLCHESTER, VT 05446



DATE: 11/22/22	REVISION: Revised Per Town of Essex Approval Conditions - Added Landscape Island	BY: RCM
SURVEY: OBCA	RECORD DRAWING	DATE: 8/30/22
DESIGN: OBCA	FINAL	DATE: 2022-45
DRAWN: OBCA	PRELIMINARY	FILE: 2022-45-S1
CHECKED: BWC	SKETCH/CONCEPT	PLAN SHEET #
SCALE: 1"=100'		1

**SAXON HILL INDUSTRIAL PARK - LOT #22**  
 CORPORATE DRIVE, ESSEX, VT

100-SCALE OVERALL PLAN



### Zoning Information

PARCEL INFO: LOT #22 SAXON HILL INDUSTRIAL PARK (2.38 ACRES)  
RESOURCE PRESERVATION DISTRICT - INDUSTRIAL (RPD-I)

DIMENSIONAL REQUIREMENTS		TOWN OF ESSEX	SAXON HILL INDUSTRIAL PARK
BUFFERS	(A)	200' ALONG ADJACENT RESIDENTIAL AREA AND STREETS INCLUDING ROUTE 15, SAND HILL ROAD AND SAXON HILL ROAD	
SIDE YARD	(A)	100' ALLEN MARTIN DR. 50' ALL OTHER ROADS	
REAR YARD	(A)	25'	

(A) AS APPROVED BY PLANNING COMMISSION

#### COVERAGE:

TOTAL LOT AREA = 2.38 ACRES  
MAXIMUM ALLOWED COVERAGE: 60%  
PROPOSED BUILDING FOOTPRINT: ±16,100 SF

PROPOSED TOTAL BUILDING COVERAGE: 15.5%  
PROPOSED TOTAL COVERAGE: 31.9% (0.76 ACRES)

#### PARKING REQUIREMENTS:

REQUIRED:  
MANUFACTURING/WAREHOUSE: 1 SPACE / 400 SF  
-13,800 SF = 35 SPACES  
OR  
2 SPACES / 3 EMPLOYEES: 10 EMPLOYEES = 7 SPACES  
PROPOSED: 22 SPACES

### Legend

PROJECT BOUNDARY	
EXISTING TREELINE	
PROPOSED TREELINE	
EXISTING TRAIL	
EXISTING GRADE CONTOUR	
FINISH GRADE CONTOUR	
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EXISTING WATERLINE SERVICE AND GATEVALVE	
EXISTING SEWER MAIN SERVICE & MANHOLE	
PROPOSED STORM DRAIN	
ELECTRIC & TELEPHONE LINE	
SOIL TYPE & BOUNDARY	
RESIDENTIAL USE	
COMMERCIAL USE	
UNDEVELOPED	
BUILDING MOUNTED LIGHT	
DUMPSTER PAD WITH FENCE	
BIKE RACK	
PROPOSED FENCE	
POLE MOUNTED FIXTURE	

### Proposed Landscaping Schedule

Symbol	Quantity	Common Name	Botanic Name	Size
	1	Northern Red Oak	Quercus Rubra	2-2 1/2" Caliper
	2	Pagoda Dogwood	Cornus Alternifolia	10 Gal
	2	Common Witchhazel	Hamamelis Virginiana	10 Gal

### LANDSCAPING SPECIFICATIONS

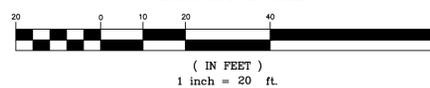
ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEEDING AND MULCHING PRIOR TO NOVEMBER 1 OF EACH YEAR. ANY DISTURBED AREAS SHALL BE IMMEDIATELY SEEDED AND MULCHED WITHIN 15 DAYS. ANY WORK PERFORMED AFTER NOVEMBER 1 OF EACH YEAR SHALL BE STABILIZED WITH MULCH OR NETTING SUFFICIENT TO PREVENT EROSION AND SHALL BE IMMEDIATELY SEEDED AND REMULCHED AS SOON AS WEATHER PERMITS IN THE SPRING. ALL DISTURBED AREAS SHALL RECEIVE A MINIMUM OF 4" OF TOPSOIL AND BE SEEDED, FERTILIZED, LIMED, AND MULCHED IN ACCORDANCE WITH THE FOLLOWING:

- SEED MIXTURE IN ALL AREAS SHALL BE URBAN MIX CONFORMING TO THE TABLE SHOWN ON THE PLANS. FOR SEEDING BETWEEN SEPTEMBER 1 AND NOVEMBER 1, WINTER RYE SHALL BE USED AT AN APPLICATION RATE OF 100 POUNDS PER ACRE.
- FERTILIZER SHALL BE STANDARD COMMERCIAL GRADE CONFORMING TO THE STATE FERTILIZER LAW AND TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. DRY FERTILIZER, IF USED, SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. LIQUID FERTILIZER, IF USED, SHALL BE APPLIED IN A 1-2-1 RATIO WITH THE MINIMUM RATE TO INCLUDE 100 POUNDS OF NITROGEN, 200 POUNDS OF PHOSPHATE, AND 100 POUNDS OF POTASH PER ACRE.
- LIMESTONE SHALL CONFORM TO ALL STATE AND FEDERAL REGULATIONS AND TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. THE LIMESTONE SHALL BE APPLIED AT A RATE OF TWO TONS PER ACRE OR AS DIRECTED.
- WITHIN 24 HOURS OF APPLICATION OF FERTILIZER, LIME, AND SEED, THE SURFACE SHALL BE MULCHED WITH A HAY MULCH. MULCH SHALL BE SPREAD UNIFORMLY OVER THE AREA AT A RATE OF TWO TONS PER ACRE OR AS ORDERED BY THE ENGINEER.

#### URBAN MIX GRASS SEED

% BY WEIGHT	LBS. LIVE SEED PER ACRE	TYPE OF SEED
37.5	45	CREeping RED FESCUE
31.25	37.5	KENTUCKY BLUEGRASS
31.25	37.5	WINTER HARDY, PERENNIAL RYE
100	120 # LIVE SEED PER ACRE	

#### GRAPHIC SCALE

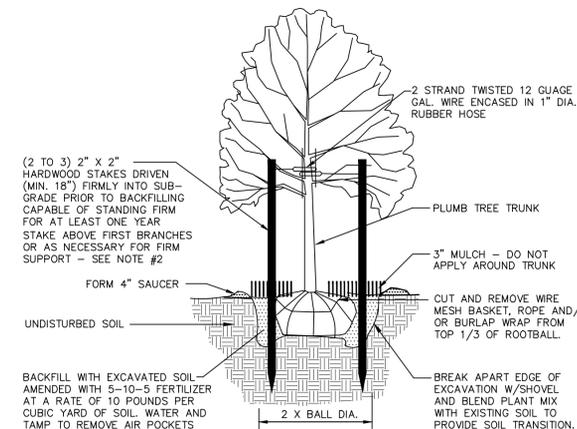


### Landowner / Applicant

GLENN & RONALYN CUMMINGS  
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DRAWN: RCM		FILE: 2022-45-S1
CHECKED: EWV		PLAN SHEET #
SCALE: 1"=20'	13 CORPORATE DR. ESSEX, VT PHONE: 878-9889 FAX: 878-9889 E-MAIL: ocbca@olearyburke.com	
<b>O'LEARY-BURKE CIVIL ASSOCIATES, PLC</b>		<b>SAXON HILL INDUSTRIAL PARK - LOT #22</b> CORPORATE DRIVE, ESSEX, VT
		<b>SITE PLAN</b>
		<b>2</b>

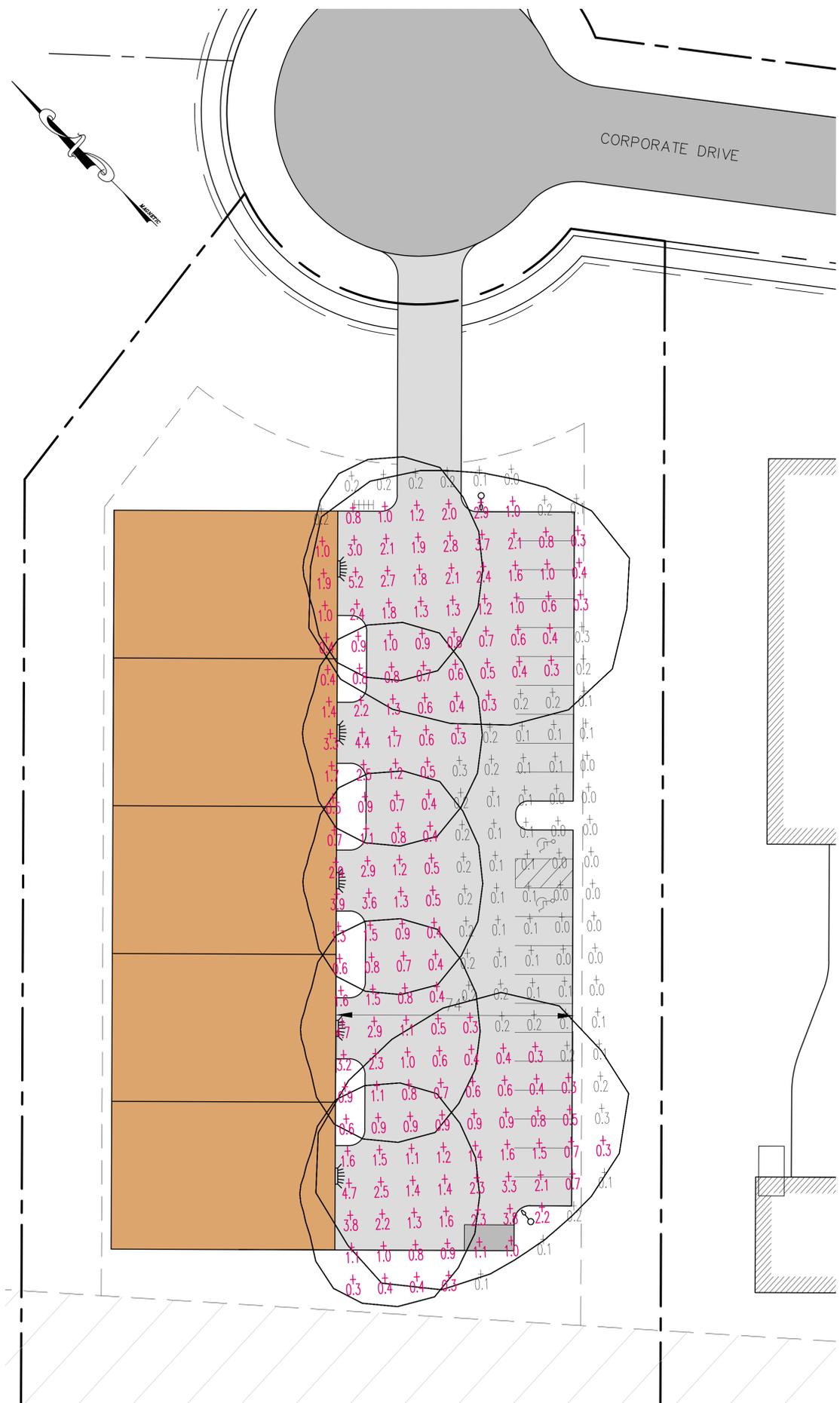


- NOTE:
- PLANT TREE SO THAT TOP OF ROOT BALL IS EVEN WITH THE FINISHED GRADE.
  - STAKING AS REQUIRED ONLY IN SITUATIONS WHERE TREES WILL BE SUBJECTED TO WINDY CONDITIONS AS DETERMINED BY THE PROJECT LANDSCAPE ARCHITECT.
  - TREES SHALL BE GUARANTEED FOR A PERIOD OF THREE YEARS AFTER PLANTING.
  - EXAMINE ENTIRE TREE AND REMOVE ALL NURSERY TAGS, ROPE, STRING AND SURVEYORS TAPE PRIOR TO PLANTING TO PREVENT GIRDLING.

### TREE PLANTING DETAIL

NTS

THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE PRIOR TO ANY EXCAVATION.



### WPLED26

**Project:** \_\_\_\_\_ **Type:** \_\_\_\_\_  
**Prepared By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Driver Info**

Type	Constant Current	Watts	26W
150V	0.26A	Color Temp	5000K
200V	0.16A	Color Accuracy	70 CRI
240V	0.14A	L70 lifespan	100,000
277V	0.12A	Lumens	2,662
Input Voltage	200V	Efficacy	90 LPW
Efficiency	88%		

LED 26W Waipaka. Patent Pending thermal management system. 100,000 hour L70 lifespan. 5 Year Warranty.  
 Color: Bronze Weight: 7.5 lbs

**Technical Specifications**

**UL Listing:** Suitable for wet locations. Suitable for mounting within 1/2 inch (13mm) of the ground.

**Dark Sky Approved:** The International Dark Sky Association has approved this product as a full cutoff, fully enclosed luminaire.

**DLC Listed:** This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities.

**Lifespan:** 100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

**Color Consistency:** 7-step MacAdam Ellipse binning to achieve consistent foot-candle color.

**Color Stability:** LED color temperature is warranted to shift no more than 200K in CCT over a 5 year period.

**Color Uniformity:** RAB's range of CCT (Correlated Color Temperature) follows the guidelines of the American National Standards Institute for the Illumination of Workplaces (ANSI C78.377-2017).

**Construction:** Ingress Protection rating of IP66 for dust and water.

**Finish:** Our environmentally friendly polyester powder coatings are formulated for high durability and long-lasting color, and contain no VOC or lead heavy metals.

**Ambient Temperature:** Suitable for use in -40°C ambient temperatures.

**Cold Weather Starting:** The minimum starting temperature is -40°C.

**Thermal Management:** Cast aluminum Thermal Management system for optimal heat sinking. The LPRAC is designed for cool operation, most efficient output and maximum LED life by minimizing LED junction temperature.

**Green Technology:** Mercury and UV free. RoHS compliant components. Polyester powder coat finish formulated without the use of VOC or lead heavy metals.

**For use on LEED Buildings:** IES Dark Sky Approved means that this fixture can be used to achieve LEED Credits for Light Pollution Reduction.

**Electrical:** Driver: Multi-chip 26W high output long life LED Driver. Constant Current, 120/240V, Class 2, 8W Surge Protection, 100V-277V, 50-60 Hz, 100-240V/A Amps.

**THD:** 7.5% at 100%, 11% at 277V

**Other:** See WPLD26EPC for a 2013 California Title 24 compliant model.

**California Title 24:** See WPLD26EPC for a 2013 California Title 24 compliant model.

**Equivalency:** The WPLD26 is Equivalent in delivered lumens to a 175W Metal Halide Waipaka.

**HID Replacement Range:** The WPLED26 can be used to replace 150W-200W Metal Halide Waipakas based on delivered lumens.

**Patents:** The WPLED design is protected by U.S. Pat. 6,293,878; Canada Pat. 1,348,778; China Pat. 2,429,916/69465.

**Country of Origin:** Designed by RAB in New Jersey and assembled in the USA by RAB's SBEV plant in Taiwan.

**Trade Agreements Act Compliant:** This product is a product of Taiwan and a "designated country" and product that complies with the Trade Agreements Act.

**USA Schedules:** Suitable in accordance with FAR Subject 25.4.

**Optical:** BUG Rating: 81 LG G2

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### WPLED26

**Dimensions**

**Features**

- High performance LED light engine
- Maintains 70% of initial lumens at 100,000 hours
- Weatherproof high temperature silicone gaskets
- Superior heat sinking with the cast aluminum housing and external fins
- 100 up to 277 Volts
- 5 year warranty

**Ordering Matrix**

Family	Watts	Color Temp	Sensor	Finish	Photocell	Dimming
WPLED26	26 = 26W	Blank = 5000K (Cool) Y = 3000K (Warm) N = 4000K (Neutral)	Blank = No Sensor MS = Motion Sensor	Blank = Bronze W = White	Blank = No Photocell IPC = 120V Button IPCS = 120V Switch IPCC = 277V Button	Blank = No Dimming D10 = Dimmable

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### ALED4T50NK/480/D10

**Project:** \_\_\_\_\_ **Type:** \_\_\_\_\_  
**Prepared By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Color: Black Weight: 3.2 lbs

**Technical Specifications**

**Compliance:** UL Listed: Suitable for wet locations as a downlight.

**ESNA LM-79 & LM-80 Testing:** RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with ESNA LM-79 and LM-80.

**DLC Listed:** This product is listed by Design Lights Consortium (DLC) as an energy efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities.

**Lifespan:** 100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

**Construction:** The Type IV distribution (also known as a Flood Threat) is especially suited for mounting on the sides of buildings and walls, and for illuminating the perimeter of parking areas. It produces a penicular distribution with asymmetry to the same candpower at lateral angles from 90° to 270°.

**IP Rating:** Ingress protection rating of IP66 for dust and water.

**Ambient Temperature:** Suitable for use in up to 40°C (104°F).

**Cold Weather Starting:** The minimum starting temperature is -40°C (-40°F).

**Thermal Management:** Superior thermal management design with external Air-Flow fins provides maximum operational life, even in high ambient temperature environments.

**Housing:** Die-cast aluminum housing, lens frame and mounting arm.

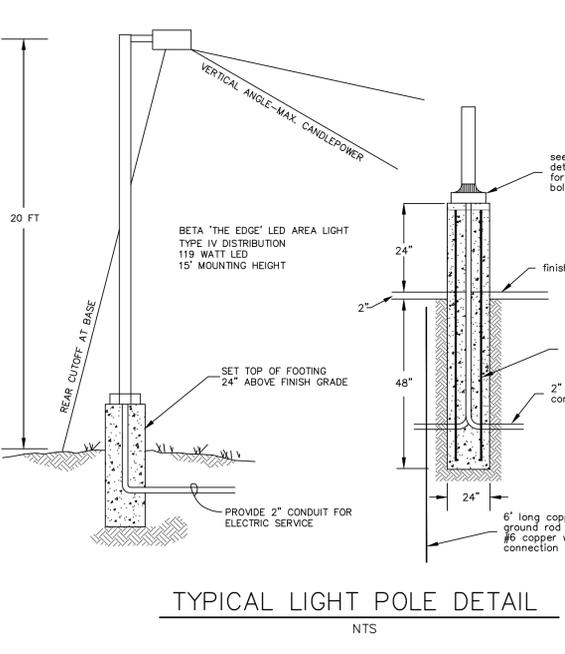
**Mounting:** Universal mounting arm compatible for hole spacing patterns from 1" to 3 1/2" center to center. Round Pole Adaptor plate included as a standard. Easy slide and lock to mount fixture with ease. Round pole diameter must be 2" to mount fixture at 90° orientation.

**Specular:** Specular vacuum metallized polycarbonate.

**Gaskets:** High-temperature silicone gaskets.

**EPA:** 1 Fixture: 0.75  
2 Fixtures at 90°: 1.2  
3 Fixtures at 180°: 2.4  
4 Fixtures at 90°: 1.8

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### ALED4T50NK/480/D10

**Technical Specifications (continued)**

**Construction:** Formulated for high durability and long lasting color.

**Green Technology:** Mercury and UV free. RoHS compliant components.

**LED Characteristics:** Multi-chip, high output, long life LEDs.

**Color Consistency:** 3-step MacAdam Ellipse binning to achieve consistent foot-candle color.

**Color Stability:** LED color temperature is warranted to shift no more than 200K in color temperature over a 5 year period.

**Color Uniformity:** RAB's range of Correlated Color Temperature follows the guidelines of the American National Standards Institute for the Illumination of Workplaces (ANSI C78.377-2017).

**Electrical:** Driver: Constant Current, Class 2, 1400mA, 347-480V, 50/60Hz, 0.13A, Power Factor 99%.

**Dimming Driver:** Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Dimm down to 10%. See dimmer compatibility guide here.

**THD:** 15.2% at 480V

**Power Factor:** 98.8% at 480V

**Ballast Volt:** 492V

**Surge Protection:** 60V surge suppression protection tested in accordance with IEEE/ANSI C62.41.2.

**Other:** Equivalency: Equivalent to 150W Metal Halide.

**Patents:** The ALED design is protected by patents pending in the USA, Canada, China, Taiwan and Mexico.

**Warranty:** RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at rablighting.com/warranty.

**Buy American Act Compliance:** RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

**Optical:** BUG Rating: 80 LG G1

**Dimensions:** 66% energy cost savings vs. HID. 100,000-hour LED lifespan. 5 Year, No-Compromise Warranty.

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### CALCULATION SUMMARY

AREA NAME	DIMENSIONS	GRID NAME	Avg	MAX	MIN	MAX/MIN	Avg./MIN
SITE PLAN	200' x 336'	New Grid	<+>	1.34	5.16	.28	18.52

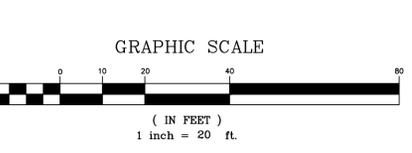
  

### LUMINAIRE SCHEDULE

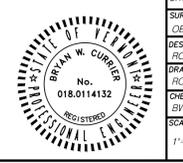
TYP	SYMB.	DESCRIPTION	LAMP	LUMENS	MOUNTING	LLF	QTY
POLE	○	RAB LIGHTING ALED4T50N	50W	4,559	20' POLE MOUNT	1.00	2
BLDG	■	RAB LIGHTING WPLED26	26W	2,660	15' BUILDING MOUNT	1.00	5

**\*NOTE:** LIGHTING VALUES SHOWN IN BLACK ILLUSTRATE THE LIGHTING COVERAGE. WHILE LIGHTING VALUE SHOWN IN RED HAVE BEEN USED TO CALCULATE THE UNIFORMITY RATIO (AVG./MIN.)

**\*\*NOTE:** LIGHTING FIXTURE WILL ONLY TURN ON VIA MOTION DETECTORS



THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE PRIOR TO ANY EXCAVATION.



DATE: 1/22/22  
 SURVEY: OBCA  
 DESIGN: RCM  
 DRAWN: RCM  
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 SCALE: 1"=20'

REVISION: Revised Per Town of Essex Approval Conditions - Added Landscape Island

RECORD DRAWING  
 FINAL  
 PRELIMINARY  
 SKETCH/CONCEPT

**O'LEARY-BURKE CIVIL ASSOCIATES, PLC**

13 CORPORATE DR  
 ESSEX, VT  
 PHONE: 878-9989  
 FAX: 878-9989  
 E-MAIL: ocbca@olearyburke.com

BY: RCM  
 DATE: 8/30/22  
 JOB#: 2022-45  
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 PLAN SHEET #

**SAXON HILL INDUSTRIAL PARK - LOT #22**

CORPORATE DRIVE, ESSEX, VT

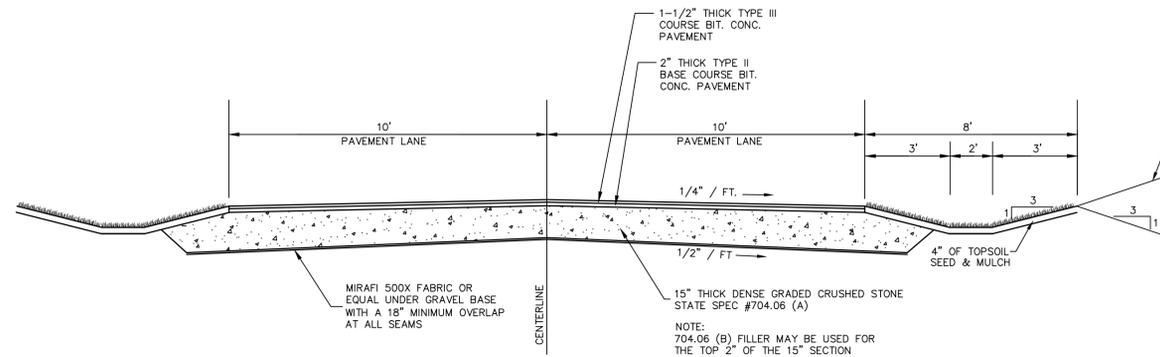
**LIGHTING PLAN**

**3**



# GENERAL CONSTRUCTION NOTES

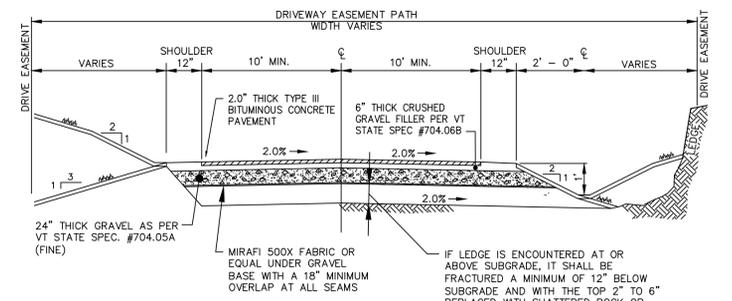
- ALL WORK AND MATERIALS SHALL BE APPROVED BY AND IN ACCORDANCE WITH THE LATEST VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE TOWN OF ESSEX REQUIREMENTS, THE WRITTEN TECHNICAL SPECIFICATIONS, AND THESE PLANS.
- THE CONTRACTOR SHALL CONTACT ALL UTILITIES BEFORE EXCAVATION TO VERIFY THE LOCATION OF ANY UNDERGROUND LINES. THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-800-225-4977 PRIOR TO ANY EXCAVATION.
- UTILITIES INFORMATION SHOWN HEREON WERE OBTAINED FROM BEST AVAILABLE SOURCES AND MAY OR MAY NOT BE EITHER ACCURATE OR COMPLETE. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN HEREON. THE CONTRACTOR SHALL CONNECT OR RECONNECT ALL UTILITIES TO THE NEAREST SOURCE THROUGH COORDINATION WITH UTILITY OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND REMOVAL OF ALL EXISTING VEGETATION, PAVEMENT AND STRUCTURES NECESSARY TO CONSTRUCT THIS PROJECT UNLESS OTHERWISE NOTED ON THESE PLANS. THE CONTRACTOR SHALL REMOVE ALL EXCESS MATERIAL, DEBRIS AND TRASH FROM THE SITE UPON COMPLETION OF CONSTRUCTION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS OWN EXPENSE FOR ENSURING THAT THE DUST CREATED AS A RESULT OF CONSTRUCTION DOES NOT CREATE A NUISANCE OR A SAFETY HAZARD. WHERE AND WHEN DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL BE REQUIRED TO WET SECTIONS OF THE CONSTRUCTION AREA WITH WATER, APPLY CALCIUM CHLORIDE OR SHEEP ASPHALT ROADS WITH A POWER BROOM AS DUST CONTROL.
- ANY SURFACES, LINES OR STRUCTURES WHICH HAVE BEEN DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO THE CONDITION AT LEAST EQUAL TO THAT IN WHICH THEY WERE FOUND IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS.
- THE DESIGN ON THESE PLANS SHALL BE INSPECTED BY O'LEARY-BURKE CIVIL ASSOCIATES, P.C. OF ESSEX JUNCTION, VERMONT, TO ENSURE COMPLIANCE WITH THE APPROVED PLANS AND REQUIREMENTS. O'LEARY-BURKE WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT MAY ARISE FROM THE FAILURE OF THE CONTRACTOR TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THAT THE PLANS CONVEY, AND FROM FAILURE TO HAVE BEEN NOTIFIED TO INSPECT THE WORKS AND TESTS IN PROGRESS.
- FOR ANY WORK WITHIN THE HIGHWAY RIGHT-OF-WAY A MINIMUM OF ONE-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. CONTINUOUS TWO-WAY TRAFFIC WILL BE REQUIRED AT NIGHT, DURING PEAK HOURS, AND WHENEVER POSSIBLE DURING ACTUAL CONSTRUCTION ACTIVITIES. UNIFORMED TRAFFIC CONTROL OFFICERS SHALL DIRECT TRAFFIC DURING PEAK HOURS WHEN THERE IS ONE-WAY TRAFFIC OR WHEN DEEMED NECESSARY BY THE TOWN OR STATE. TEMPORARY CONSTRUCTION SIGNS AND TRAFFIC CONTROL SIGNS SHALL BE ERECTED BY THE CONTRACTOR IN ACCORDANCE WITH STATE AND TOWN STANDARDS.
- TO ASSURE COMPLIANCE WITH THE PLANS, THE CONTRACTOR SHALL NOTIFY THE TOWN ENGINEER AND THE CONSULTING ENGINEER 48 HOURS IN ADVANCE OF STARTING ANY WORK, CUTTING THE PAVEMENT, BEGINNING THE INSTALLATION OF ANY UTILITIES, BRINGING IN ANY NEW GRAVEL FOR THE NEW BASE, PAVING AND FINAL INSPECTION.
- THE HORIZONTAL AND VERTICAL SEPARATION FOR SEWER AND WATER LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE "TEN STATE STANDARDS - RECOMMENDED STANDARDS FOR WATER".
- TOPSOIL SHALL BE STOCKPILED, SEED, AND MULCHED UNTIL REUSED. HAY BALES SHALL BE PLACED AND STAKED CONTINUOUSLY AROUND THE BOTTOM OF THE TOPSOIL PILES.
- HEALTHY EXISTING TREES AS SHOWN ON THE SITE PLAN TO BE SAVED SHALL BE PROTECTED BY THE CONTRACTOR.
- OPEN CUT AREAS SHALL BE MULCHED OUTSIDE OF ACTUAL WORK AREAS, AND HAY BALES SHALL BE EMPLOYED TO CONFINE SHEET WASH AND RUNOFF TO THE IMMEDIATE OPEN AREA AS ORDERED BY THE ENGINEER.
- AT COMPLETION OF GRADING, SLOPES, DITCHES, AND ALL DISTURBED AREAS SHALL BE SMOOTH AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.
- ALL FILL SHALL BE PLACED IN 6 INCH LIFTS AND THOROUGHLY COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D699 STANDARD PROCTOR, UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR SHALL INSTALL EROSION CONTROL DEVICES AS NEEDED TO PREVENT SEDIMENTATION. THE AVAILABLE DAMS, SILT FENCES, DITCHES, AND OTHER EROSION CONTROL DEVICES, SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR AFTER EVERY RAINFALL OF 1/2 INCH OR MORE UNTIL ALL DISTURBED AREAS HAVE BEEN GRASSED AND APPROVED BY THE ENGINEER. THE MAINTENANCE OF THE EROSION CONTROL DEVICES WILL INCLUDE REMOVAL OF ANY ACCUMULATED SEDIMENTATION.



TYPICAL ON BOTH SIDES THE CUT OR FILL SHALL NOT BE STEEPER THAN 3 ON 1 EXTENDED ON TO LOT TO MEET ORIGINAL GROUND WITH 4" OF COMPACTED TOPSOIL AND DENSE GRASS COVER (URBAN MIX)

## TYPICAL ENTRY DRIVE

NTS



### NOTES:

- THE TYPE B STANDARD DRIVEWAY SECTION IS TO BE USED FOR DRIVEWAYS SERVING THREE TO FOUR DWELLINGS.
- INSTALL SURFACE DRAINAGE AS REQUIRED. REFER TO DETAIL 200.06 FOR SPECIFIC INFORMATION REGARDING DRAINAGE.
- THE DRIVEWAY GRADES SHALL NOT EXCEED 3.0% WITHIN THE FIRST 20' OF THE EDGE OF THE TRAVELED WAY.
- DRIVEWAYS EXCEEDING 90' IN LENGTH SHALL INCLUDE PULL-OFFS FOR EMERGENCY VEHICLES. THE NUMBER AND PLACEMENT OF PULL-OFFS SHALL BE DETERMINED BY THE TOWN OF ESSEX.
- ALL CURB CUT DRIVE APRONS SHALL BE PAVED. FOR DRIVES WITH SIDEWALKS WITHIN THE RIGHT-OF-WAY, THE PAVED APRON SHALL EXTEND 30' BACK FROM THE BACK EDGE OF THE SIDEWALK. FOR DRIVES WITH NO PEDESTRIAN FACILITY, THE APRON SHALL EXTEND 50' FROM THE EDGE OF THE TRAVELED WAY.

## DRIVEWAY (TYPE B)\*

\*TO BE USED UP TO RIGHT-OF-WAY EXTENT

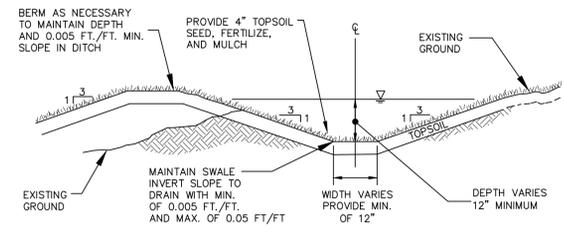
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## STORM SYSTEM MAINTENANCE

### MAINTENANCE PLAN

SYSTEM MAINTENANCE IS IMPORTANT FOR TREATMENT AND CONTROL OF STORM RUNOFF FROM THE IMPERVIOUS SURFACES (ROAD, PARKING, BUILDING, ETC.) THE FOLLOWING ELEMENTS FORM THE MINIMUM REQUIREMENTS:

- THE OWNER (OR REPRESENTATIVE) SHALL PERFORM INSPECTIONS BI-ANNUALLY AND FOLLOWING SIGNIFICANT (LARGE) STORM EVENTS. THE FOLLOWING ITEMS SHALL BE REVIEWED: CONDITION OF THE VEGETATION, CONDITION OF THE DITCH SURFACES, DEPTH OF ACCUMULATED SEDIMENT (IF ANY), THE PRESENCE OF EROSION (IF ANY), CONDITION OF THE STORM PIPES, AND THE CONDITION OF THE PIPE INLETS AND OUTLETS. ANY OBSERVABLE DEGRADATION OF THE STORM SYSTEM SHALL BE NOTED.
- THE OWNER (OR REPRESENTATIVE) SHALL COMPLETE REPAIR OF ANY ITEMS, AS REQUIRED TO MAINTAIN OPTIMAL SYSTEM OPERATION. AT A MINIMUM, THE FOLLOWING ITEMS SHALL BE INCLUDED:
  - ANY EROSION GULLIES 6 INCHES OR DEEPER SHALL BE FILLED AND VEGETATION ESTABLISHED IN THE DISTURBED AREA.
  - SEDIMENT ACCUMULATED TO A DEPTH OF MORE THAN 6 INCHES IN THE ROAD DITCHES SHALL BE REMOVED AND DISPOSED OF IN AN UPLAND AREA THAT IS NOT WITHIN 100 FEET OF WATERS OF THE STATE. VEGETATION SHALL BE ESTABLISHED IN ALL DISTURBED AREAS.
  - VEGETATION SHALL BE ESTABLISHED AS NEEDED, IN AREAS OF BARE SOIL. THIS IS PARTICULARLY IMPORTANT IN FLOW AREAS WHERE VEGETATION PROVIDES SEDIMENT REMOVAL.
  - SILT FENCES SHALL BE USED IF NEEDED TO PREVENT EROSION AND AID IN THE ESTABLISHMENT OF VEGETATION. THESE TEMPORARY MEASURES SHALL BE REMOVED AFTER THE SITE IS STABILIZED AND THE RISK OF EROSION IS REDUCED.
  - THE GRASSED AREAS SHALL BE MOWED AS NEEDED TO PREVENT THE ESTABLISHMENT OF WOODY VEGETATION.



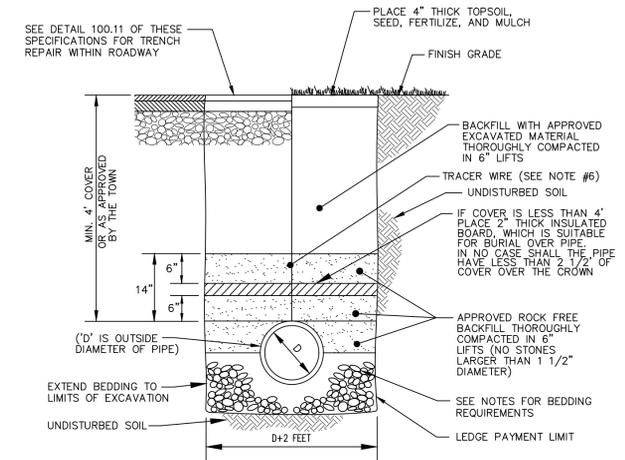
### GRASS LINED SWALE

### NOTES:

- THE CONTRACTOR SHALL MAINTAIN THE GRASS LINED SWALE AND RESTORE EROSION PREVENTION MEASURES AFTER EACH STORM EVENT. SEE SECTION 500 OF THESE SPECIFICATIONS FOR FURTHER DIRECTION ON EROSION AND SEDIMENT CONTROL MEASURES.
- STONE LINED SWALES SHALL BE USED FOR GRADES IN EXCESS OF 0.05 FT/FT (5.0%)
- DITCHES SHALL BE LINED WITH A COMBINATION OF TYPE 1 STONE & 8" MINUS AS APPROVED BY THE TOWN OF ESSEX PUBLIC WORKS DEPARTMENT.

## GRASS DRAINAGE SWALE

NTS



### NOTES:

- THE CONTRACTOR SHALL AT ALL TIMES KEEP THE TRENCHES ENTIRELY FREE OF WATER UNTIL ALL WORK IS FINISHED AND READY FOR BACKFILLING.
- REFER TO THE WRITTEN SPECIFICATIONS FOR BACKFILL AND COMPACTION REQUIREMENTS.
- REFER TO THE WRITTEN SPECIFICATIONS FOR STORM DRAINAGE PIPE REQUIREMENTS.
- THE SIDES OF THE TRENCHES 4 FEET OR MORE IN DEPTH TO BE ENTERED BY PERSONNEL SHALL BE SHEETED, SLOPED, OR PROPERLY SUPPORTED, CONFORMING TO VOSHA REQUIREMENTS.
- PIPE BEDDING SHALL BE CRUSHED STONE, FROM 6" BELOW THE INVERT, TO THE SPRINGLINE OF THE PIPE.
- INSTALL A CONTINUOUS SHEATHED SOLID CONDUCTOR COPPER TRACER WIRE OVER PIPE. THE WIRE SHALL BEGIN INSIDE ONE CATCH BASIN OR MANHOLE AND RUN TO THE NEXT CATCH BASIN OR MANHOLE. INSIDE THE BASINS AND/OR MANHOLES, A COIL OF WIRE LONG ENOUGH TO REACH THE COVER SHALL BE ATTACHED TO THE INSIDE OF THE STRUCTURE. SEE DETAILS 200.01 - 200.03.

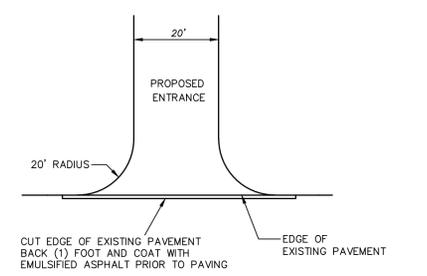
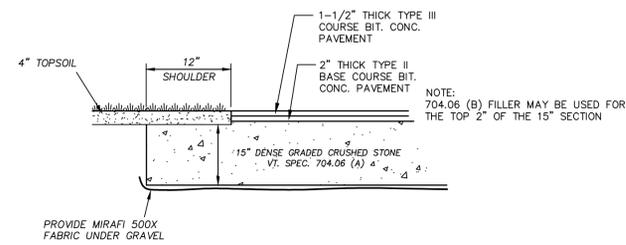
## STORM PIPE TRENCH

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THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE PRIOR TO ANY EXCAVATION.

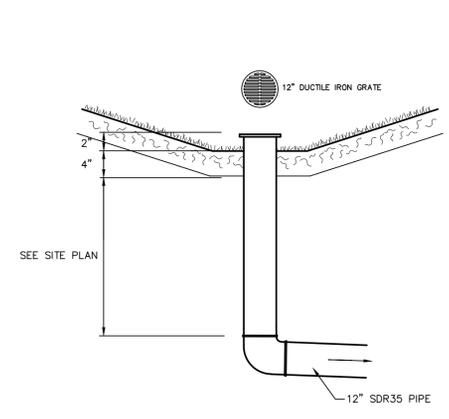
## PARKING AREA CROSS-SECTION

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## INTERSECTION DETAIL

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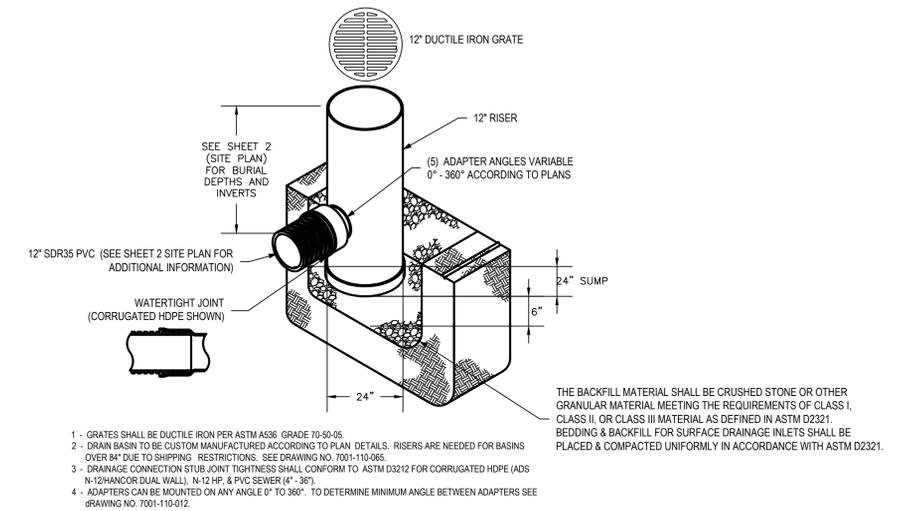


## YARD DRAIN

NTS

## ROOF RUN-OFF INFILTRATION TRENCH DETAIL

NTS



## NYLOPLAST DRAIN BASIN

NTS

DATE: 12/3/25	REVISION: Updated to include Town of Essex Public Works Details and Specifications	BY: RCM
SURVEY: OBCA	RECORD DRAWING	DATE: 8/30/22
DESIGN: OBCA	PRELIMINARY	DATE: 2022-45
DRAWN: RCM	SKETCH/CONCEPT	FILE: 2022-45-S1
CHECKED: BWC		PLAN SHEET #
SCALE:		5



O'LEARY-BURKE CIVIL ASSOCIATES, PLC  
13 CORPORATE DR. ESSEX, VT 05730  
PHONE: 878-9989 FAX: 878-9989  
E-MAIL: ocbca@olearyburke.com

SAXON HILL INDUSTRIAL PARK - LOT #22  
CORPORATE DRIVE, ESSEX, VT

ROADWAY & STORMWATER DETAILS

# GENERAL SEWER SPECIFICATIONS

ALL CONNECTIONS TO THE TOWN OF ESSEX SEWER SYSTEM MUST ADHERE TO SECTION 514, SANITARY SEWER SPECIFICATIONS, OF THE TOWN OF ESSEX STANDARD SPECIFICATIONS FOR CONSTRUCTION. A REPRESENTATIVE OF THE TOWN OF ESSEX PUBLIC WORKS DEPARTMENT SHALL Witness ALL OPENINGS TO THE PIPELINES SHALL BE PROTECTED FROM THE ENTERING OF EARTH OR OTHER MATERIALS.

## 512.2. GRAVITY SEWER

GRAVITY SEWERS SHALL BE PVC SOLID WALL PIPE MEETING ASTM SPECIFICATIONS D-3034 OR F679, DUCTILE IRON PIPE, OR APPROVED EQUAL.

## 512.4. MATERIALS

### 512.4.2. POLYVINYL CHLORIDE PIPE (PVC)

- PVC SEWER PIPE SHALL CONFORM IN ALL RESPECTS TO THE LATEST REVISION OF ASTM SPECIFICATIONS D-3034 OR F679, TYPE PSM. POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, SDR35, WALL THICKNESS OF ALL PVC PIPE SHALL MEET ASTM SPECIFICATIONS FOR SDR35 PIPE. ALL PIPE AND FITTINGS SHALL BE CLEARLY MARKED AS FOLLOWS:
1. MANUFACTURER'S NAME AND TRADEMARK
  2. NOMINAL PIPE SIZE
  3. MATERIAL DESIGNATION 12454C PVC
  4. LEGEND TYPE PSM SDR35 PVC SEWER PIPE
  5. DESIGNATION ASTM D-3034 OR F679

JOINTS SHALL BE PUSH-ON TYPE USING ELASTOMERIC GASKETS AND SHALL CONFORM TO ASTM D-3212. THE GASKETS SHALL BE FACTORY INSTALLED

THE PIPE SHALL BE FURNISHED IN NOMINAL 13 OF 14 FOOT LENGTHS. ALL CONNECTIONS WILL REQUIRE THE USE OF MANUFACTURERS FITTINGS. FIELD FABRICATED, SADDLE TYPE CONNECTIONS WILL NOT BE CONSIDERED ACCEPTABLE.

ANY PIPE OR FITTING HAVING A CRACK OR OTHER DEFECT OR WHICH HAS RECEIVED A SEVERE BLOW SHALL BE MARKED REJECTED AND REMOVED AT ONCE FROM THE WORK SITE.

ALL FIELD CUTS ARE TO BE MADE WITH SAW AND 90 DEGREE MITRE BOX. THE CUT END SHALL BE BEVELED TO THE SAME AS THE FACTORY BEVEL AND ALL INTERIOR BURRS SHALL BE REMOVED. A HOMING MARK SHALL BE PLACED ON THE PIPE BEFORE ASSEMBLING. THE PIPE INSTALLED UNDER THIS SPECIFICATION SHALL BE INSTALLED SO THE INITIAL DEFLECTION, MEASURED AS DESCRIBED BELOW, SHALL BE LESS THAN 5%.

THE CONTRACTOR WILL SUBMIT CERTIFICATION TO THE PROJECT ENGINEER THAT THE MATERIALS OF CONSTRUCTION HAVE BEEN SAMPLED, TESTED, INSPECTED, AND MEET ALL THE REQUIREMENTS INCLUDING WALL THICKNESS IN ACCORDANCE WITH ASTM D-3034 OR ASTM F679 FOR ALL PIPE AND FITTINGS TO BE INCLUDED IN THE PROJECT WORK.

PVC PIPE SHALL NOT BE INSTALLED WHEN THE TEMPERATURE DROPS BELOW 32 DEGREES FAHRENHEIT OR GOES ABOVE 100 DEGREES FAHRENHEIT WITHOUT PRIOR APPROVAL. DURING COLD WEATHER, THE FLEXIBILITY AND IMPACT RESISTANCE OF PVC PIPE IS REDUCED. EXTRA CARE IS REQUIRED WHEN HANDLING PVC PIPE DURING COLD WEATHER.

PVC PIPE SHALL NOT BE STORED OUTSIDE AND EXPOSED TO PROLONGED PERIODS OF SUNLIGHT, AS PIPE DISCOLORATION AND REDUCTION IN PIPE IMPACT STRENGTH WILL OCCUR. CANVAS OR OTHER OPAQUE MATERIAL SHALL BE USED TO COVER PVC PIPE STORED ONSITE.

### 512.0.4. PIPE BEDDING

FOR GRAVITY SEWER, THE BEDDING MATERIAL SHALL CONSIST OF CRUSHED STONE OR CRUSHED GRAVEL, UNIFORMLY GRADED FROM 1/2" TO 1 1/2" EXTENDING FROM THE TRENCH BOTTOM, 6" BELOW THE PIPE INVERT TO THE CROWN OF THE PIPE. FOR DUCTILE IRON GRAVITY SEWERS AND FORCE MAINS, THE BEDDING MATERIAL SHALL CONSIST OF SAND OR GRAVEL FROM THE TRENCH BOTTOM, 6" BELOW THE PIPE INVERT TO THE CENTERLINE OF THE PIPE. GRAVEL SHALL MEAN A MATERIAL REASONABLY FREE FROM SILT, LOAM, CLAY OR ORGANIC MATERIAL CONTAINING NO MORE THAN 2% WEIGHT PASSING THE #200 SIEVE, UNIFORMLY GRADED AND THE LARGEST STONE SHALL NOT EXCEED 1" IN ANY DIMENSION.

FOR PIPE MATERIALS DIFFERENT FROM THOSE LISTED, THE TOWN ENGINEER SHALL MAKE A DETERMINATION AS TO THE EQUIVALENT LEVEL OF BEDDING CONSTRUCTION, BASED ON INFORMATION SUBMITTED PRIOR TO CONSTRUCTION BY THE CONTRACTOR.

WHEN AN UNSTABLE TRENCH BOTTOM IS ENCOUNTERED AND IN THE OPINION OF THE TOWN ENGINEER, IT CANNOT SUPPORT THE PIPE ADEQUATELY, AN ADDITIONAL DEPTH SHOULD BE EXCAVATED AND REFILLED TO THE PIPE INVERT WITH APPROVED MATERIAL.

ALL PIPE TRENCHES SHALL BE DRY DURING THE LAYING OF THE PIPE.

### 512.4.9. SERVICE CONNECTIONS

AS NOTED ON DETAIL 300.06 OF THESE SPECIFICATIONS, SEWER SERVICE CONNECTIONS WITHIN THE TOWN RIGHT-OF-WAY FOR ONE HOUSE SHALL BE CONSTRUCTED OF SIX INCH (6") PIPE TO THE PROPERTY LINE, UNLESS OTHERWISE NOTED ON THE PLAN, OF THE TYPE MATERIAL SPECIFIED UNDER THIS SECTION. THE PIPE SHALL BE LAID AND ITS JOINTS MADE AS REQUIRED FOR SEWER CONSTRUCTION IN THIS SPECIFICATION. LARGER SERVICE CONNECTIONS MAY BE REQUIRED FOR COMMERCIAL OR INDUSTRIAL APPLICATIONS.

AS NOTED IN DETAIL 300.06 OF THESE SPECIFICATIONS, OPEN ENDS OF PIPES SHALL BE PROPERLY SEALED WITH A WATER TIGHT CAP OR PLUG TO PREVENT DAMAGE AND INTRUSION OF FOREIGN MATTER WHERE HOOKUP TO THE BUILDING SEWER IS NOT COINCIDENT WITH SEWER MAIN CONSTRUCTION. ADDITIONAL SEWER SERVICE CONNECTIONS APPROVED BY THE PROJECT ENGINEER SHALL BE PROVIDED PROVIDED FROM THE SEWER SERVICE INVERT UP TO SIX INCHES (6") ABOVE THE FINISHED GRADE AND SEALED SECURELY INTO THE GROUND FOR EASE IN RELOCATING THE END OF SEWER SERVICE CONNECTION FOR HOOKUP TO THE BUILDING SEWER.

IN THE CASE OF RECONNECTION OF EXISTING SERVICES, SUCH RECONNECTIONS WILL BE MADE ONLY AFTER THE NEW SEWER MAIN HAS BEEN COMPLETED, TESTED, AND ACCEPTED BY THE TOWN. THE EXCAVATION, BEDDING MATERIAL, INSTALLATION, AND BACKFILL FOR SERVICE CONNECTIONS SHALL BE SAME AS FOR SEWER MAINS.

### 512.4.10. SEWER CLEANOUTS

AS NOTED ON DETAIL 300.07 OF THESE SPECIFICATIONS, CLEANOUTS FOR GRAVITY SEWER AND FORCE MAINS SHALL BE PROVIDED AT LOCATIONS INDICATED ON THE PLANS OR AS DIRECTED BY THE PROJECT ENGINEER. CLEANOUT FRAMES AND COVERS SHALL BE OF TOUGH GRAY CAST IRON. CASTINGS SHALL BE TRUE TO PATTERNS AND FREE FROM FLAWS. THE BEARING SURFACE OF CLEANOUT FRAMES AND COVERS AGAINST EACH OTHER SHALL BE MACHINED TO GIVE CONTINUOUS CONTACT THROUGHOUT THEIR CIRCUMFERENCE. ALL IRON CASTINGS SHALL BE THOROUGHLY CLEANED AND THEN COATED WITH HOT COAL TAR BEFORE BEING DELIVERED.

CLEANOUTS SHALL BE INSTALLED WHERE THE DISTANCE FROM THE BUILDING TO THE MAIN SEWER IS GREATER THAN ONE HUNDRED (100) FEET OR WHERE BENDS GREATER THAN OR EQUAL TO THE SUM OF FORTY-FIVE (45) DEGREES ARE USED IN THE BUILDING SEWER. CLEANOUTS SHALL BE MADE BY INSTALLING A "Y" AND ONE-EIGHTH (1/8) BENDS OF THE SAME DIAMETER AS THE BUILDING SEWER. THE CLEANOUTS SHALL ORDINARILY BE INSTALLED AT THE POINT OF CONNECTION BETWEEN THE BUILDING SEWER AND THE OUTSIDE PART OF THE HOUSE PLUMBING SYSTEM, AT CURVES ON THE BUILDING SEWER AND ON THE STRAIGHT PART OF THE HOUSE SEWER TO THE MAIN SEWER. THE CLEANOUT SHALL BE BROUGHT UP FROM THE BUILDING SEWER TO FOUR (4) INCHES BELOW GROUND LEVEL AND BE PROPERLY CAPPED. THE LOCATIONS OF ALL CLEANOUTS SHALL BE RECORDED AND COPIES OF THOSE RECORDS SHALL BE TURNED OVER TO THE TOWN.

512.5. METHODS OF INSTALLATION  
512.5.1. EXCAVATION  
BEFORE ANY CONSTRUCTION TAKES PLACE WITHIN THE TOWNS RIGHT-OF-WAY, OR WITHIN 15' OF THE EDGE OF THAT RIGHT-OF-WAY, ALL CONSTRUCTION WARNING SIGNS AND SAFETY MEASURES SHALL BE INSTALLED AND APPROVED. THE SIGNS AND SAFETY MEASURES SHALL MEET OR EXCEED THE REQUIREMENTS OF THE LATEST EDITION OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

EXCAVATIONS SHALL BE MADE TO A POINT AT LEAST SIX INCHES (6") BELOW THE PIPE INVERT TO ACCOMMODATE THE BEDDING MATERIAL. ALL EXCAVATIONS ARE TO BE KEPT DRY WHILE PIPE IS BEING LAID. WHEREVER BOULDERS OR LEDGE ROCK ARE ENCOUNTERED IN EXCAVATIONS FOR PIPELINES OR STRUCTURES, SUCH BOULDERS OR LEDGE ROCK SHALL BE REMOVED TO A DEPTH OF SIX INCHES BELOW GRADE AND SPACE OCCUPIED BY THEM SHALL BE REFILLED TO GRADE WITH THE SPECIFIED BEDDING MATERIAL. TRENCHES SHALL BE OPENED AT SUCH TIMES AND TO SUCH EXTENT ONLY AS MAY BE PERMITTED BY THE PROJECT ENGINEER OR THE TOWN. ALL DRIVEWAYS, CROSSWALKS, SOD, SHRUBS, TREES AND ANY OTHER SURFACE MATERIAL AFFECTED BY THE WORK SHALL BE CAREFULLY TAKEN UP AND KEPT SEPARATE FROM OTHER EXCAVATED MATERIAL. IF SUITABLE, EXCAVATED MATERIAL SHALL BE USED FOR EMBANKMENTS, BACKFILL, AND FILL. SIDE SLOPES OF EXCAVATIONS SHALL BE AS REQUIRED BY VOSH.

WHEREVER MATERIAL AT OR BELOW GRADE LINE OF PIPE OR STRUCTURE PLUS DEPTH OF BEDDING MATERIAL IS UNSUITABLE FOR FOUNDATIONS, IT SHALL EITHER BE EXCAVATED TO SUCH ADDITIONAL DEPTHS AS DIRECTED BY THE PROJECT ENGINEER AND THEN REFILLED WITH WELL COMPACTED CRUSHED STONE OR THE PROJECT ENGINEER MAY DIRECT THAT A FILTER FABRIC BE UTILIZED. IT SHALL BE INSTALLED AND THE EXCAVATION THEN BROUGHT TO GRADE LINE OF PIPE WITH WELL-COMPACTED BEDDING.

### 512.5.2. SEWER PIPE INSTALLATION

THE BELL END OF THE PIPE SHALL FACE UPGRADE AT ALL TIMES AND BE PLACED IN SUCH A POSITION AS TO MAKE THE INVERT EVEN WHEN THE SUCCEEDING SECTION IS INSERTED. WHERE REQUIRED BY ADVERSE GRADING CONDITIONS, THE DEVELOPER/CONTRACTOR SHALL FILL ANY GULLY TO MAKE A SUITABLE BEDDING FOR THE SEWER PIPE. THE FILL SHALL BE COMPACTED TO A 95% DRY DENSITY BY THE AASHTO-T-99, METHOD A (STANDARD PROCTOR) TEST, UPON WHICH SIX INCHES (6") OF BEDDING MATERIAL SHALL BE PLACED.

ANY PIPE WHICH IS NOT LAID TO GRADE AND ALIGNMENT SHALL BE RE-LAID TO THE SATISFACTION OF THE PROJECT ENGINEER. THE ALLOWABLE HORIZONTAL AND/OR VERTICAL DEFLECTION SHALL AS PER THE MANUFACTURERS SPECIFICATIONS. THE BEDDING MATERIAL SHALL BE PLACED AND COMPACTED ON EACH SIDE OF THE PIPE TO A HEIGHT AS REQUIRED FOR THE TYPE OF PIPE AND FOR THE FULL WIDTH OF THE EXCAVATED TRENCH AND AS SHOWN ON THE ACCEPTED PLANS.

ALL PIPING SHALL BE LAID IN THE DRY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DEWATER THE SITE PRIOR TO AND DURING PIPE INSTALLATION. THE INTERIOR OF THE PIPE SHALL BE EMPTIED OF ANY DEBRIS AND CLEANED PRIOR TO INSTALLATION. ALL GRAVITY SEWER MAINS SHALL HAVE A MANDREL PULLED BETWEEN EACH SUCCESSIVE MANHOLE.

A CONTINUOUS SHEATHES SOLID CONDUCTOR COPPER TRACER WIRE SHALL BE INSTALLED OVER ALL SANITARY SEWER PIPES AS SHOWN ON THE SEWER TRENCH DETAIL ON THIS SHEET.

512.5.5. BACKFILL  
ALL MATERIAL FOR BACKFILLING SHALL BE FREE OF ROOTS, STUMPS, AND FROST. BACKFILL FOR ALL PIPE LINES SHALL BE EITHER NATIVE MATERIAL OR SELECT BACKFILL PLACED IN SIX INCH (6") LIFTS WITH EACH LIFT BEING COMPACTED TO NOT LESS THAN 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY THE AASHTO-T-99, METHOD A, STANDARD PROCTOR. PIPE BEDDING SHALL BE AS SHOWN ON THE SEWER TRENCH DETAIL ON THIS SHEET. NO STONES IN EXCESS OF ONE AND ONE-HALF INCH (1 1/2") DIAMETER SHALL BE PLACED WITHIN TWO FEET (2') OF THE OUTSIDE OF THE PIPE. PARTICULAR PRECAUTIONS SHALL BE TAKEN IN PLACEMENT AND COMPACTION OF THE BACKFILL MATERIAL IN ORDER NOT TO DAMAGE AND/OR BREAK THE PIPE. THE BACKFILL SHALL BE BROUGHT UP EVENLY ON BOTH SIDES OF THE PIPE FOR ITS FULL LENGTH.

WALKING OR WORKING ON THE COMPLETED PIPELINE EXCEPT AS NECESSARY IN TAMPING AND BACKFILLING, SHALL NOT BE PERMITTED UNTIL THE TRENCH HAS BEEN BACKFILLED TO A HEIGHT OF AT LEAST TWO FEET (2') ON THE TOP OF THE PIPES. DURING CONSTRUCTION, ALL OPENINGS TO THE PIPELINES SHALL BE PROTECTED FROM THE ENTERING OF EARTH OR OTHER MATERIALS.

512.5.6. FROST PROTECTION  
AS NOTED IN THE SEWER TRENCH DETAIL ON THIS SHEET, SEWER WITH LESS THAN 5' OF COVER OVER THE CROWN OR WHERE INDICATED ON THE PLANS SHALL BE PROTECTED AGAINST FREEZING BY INSTALLING 2" THICK STYROFOAM SM INSULATING SHEETS WITH A WIDTH OF 3' OR TWICE THE PIPE DIAMETER, WHICHEVER IS GREATER. THE SHEETS SHALL BE PLACED ABOVE THE CROWN OF THE SEWER AFTER COMPACTION OF THE 6" LIFT IMMEDIATELY ABOVE THE CROWN. CARE SHALL BE EXERCISED DURING BACKFILL AND DURING COMPACTION OVER THE STYROFOAM. SM SHEETS SHALL MEET THE COMPREHENSIVE STRENGTH REQUIREMENTS OF ASTM D1621-73. THE STYROFOAM SHALL BE MANUFACTURED BY DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN OR EQUAL.

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### 512.4.10. SEWER CLEANOUTS

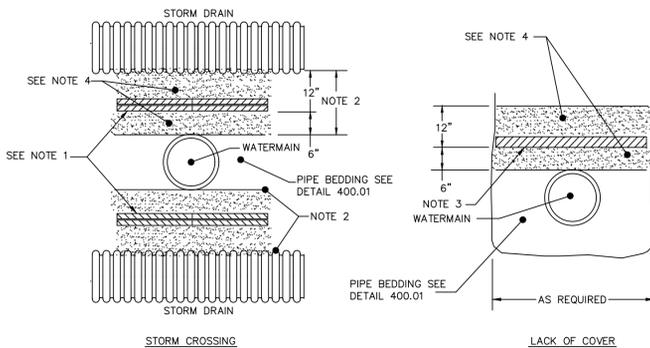
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## SANITARY SEWER TRENCH

NTS

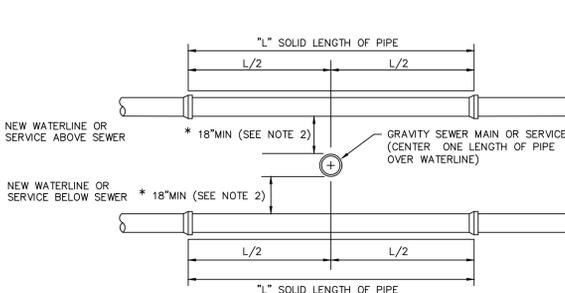


### NOTES :

1. INSULATION THICKNESS BETWEEN WATER MAINS AND STORM DRAINS SHALL BE A MINIMUM OF 4" IN THICKNESS. EACH SHEET SHALL BE OFFSET ON EACH LAYER SO AS TO NOT CREATE VOIDS. INSULATION IS REQUIRED IF THE SEPARATIONS IS LESS THAN 18".
2. THE ISOLATION DISTANCES FOR INSULATING STORM DRAINS UNDER WATER MAINS ARE THE SAME AS CROSSING OVER.
3. IF COVER OVER SERVICE IS BETWEEN 5'-6", PLACE 2" THICK INSULATION BOARD OVER PIPE. IF COVER IS BETWEEN 4'-5" THEN PLACE 4" THICK INSULATION BOARD OVER PIPE. IN NO CASE SHALL THERE BE LESS THAN 5' OF COVER IN PAVED AREAS OR 4' OF COVER IN GRASS AREAS.
4. BACKFILL WITH APPROVED EXCAVATED MATERIAL IN 6" LIFTS AND COMPACT EACH LIFT TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE. BACKFILL SHALL HAVE NO STONES LARGER THAN 1.5-INCHES, IN ORDER TO AVOID DAMAGING INSULATION.
5. ALL WORK SHALL CONFORM TO THESE SPECIFICATIONS AND PLANS UNLESS OTHERWISE SPECIFIED.

## PIPE INSULATION

NTS

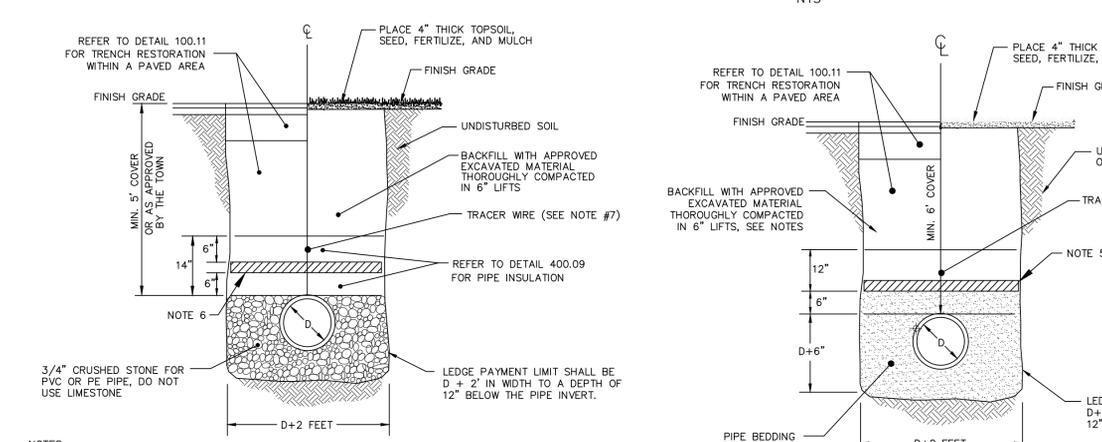


### NOTES :

1. ALL WATER LINES CONSTRUCTED SHALL HAVE A MINIMUM OF 10' HORIZONTAL SEPARATION.
2. IF 18" OF VERTICAL SEPARATION CANNOT BE MAINTAINED, THE SEWER SHALL BE CONSTRUCTED TO WATERLINE STANDARDS, A MINIMUM OF 20 FEET CENTERED ON THE CROSSING.
3. ALL WORK SHALL CONFORM TO THESE SPECIFICATIONS, THE PROJECT PLANS, AND AWWA STANDARDS, UNLESS OTHERWISE SPECIFIED.

## WATER & SEWER CROSSING

NTS

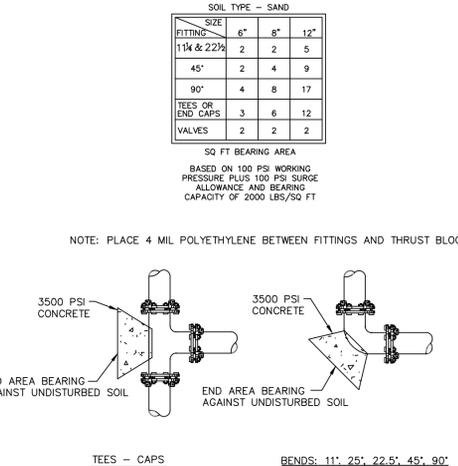


### NOTES :

1. THE CONTRACTOR SHALL KEEP THE TRENCH ENTIRELY FREE OF WATER AT ALL TIMES UNTIL THE WORK IS COMPLETE AND READY FOR BACKFILLING.
2. THE SIDES OF THE TRENCHES SHALL BE SHEETED OR SLOPED TO THE ANGLE OF REPOSE IF THE TRENCH IS 4' OR MORE IN DEPTH.
3. BACKFILL TRENCH IN 6" LIFTS AND COMPACT EACH LIFT TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698 STANDARD PROCTOR.
4. BACKFILL SHALL HAVE NO STONES LARGER THAN 1.5-INCHES IN DIAMETER.
5. SEE DETAIL 400.09 FOR PIPE INSULATION REQUIREMENTS.
6. ALL WORK SHALL CONFORM TO THESE SPECIFICATIONS AND PLANS UNLESS OTHERWISE SPECIFIED.
7. THE PIPE BEDDING FOR DUCTILE IRON PIPE SHALL BE THOROUGHLY COMPACTED SAND OR GRAVEL. 3/4" STONE BEDDING SHALL BE USED AS PIPE BEDDING FOR PVC OR PE PIPE.
8. INSTALL A CONTINUOUS SHEATHES SOLID CONDUCTOR COPPER TRACER WIRE OVER PIPE. THE WIRE SHALL BEGIN IN A TEST BOX ADJACENT TO ONE HYDRANT AND RUN TO A TEST BOX ADJACENT TO THE NEXT HYDRANT. SEE DETAIL 400.02.

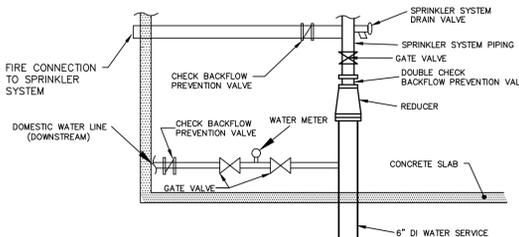
## TYPICAL WATER TRENCH

NTS



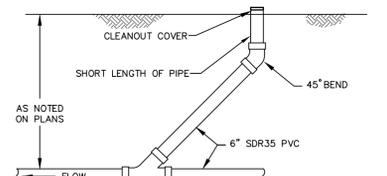
## THRUST BLOCK DETAIL

NTS



## WATER / SPRINKLER CONNECTION

NTS



## CLEANOUT DETAIL

NTS

# GENERAL WATER SPECIFICATIONS

ALL CONNECTIONS TO THE TOWN OF ESSEX WATER SYSTEM MUST ADHERE TO SECTION 514, POTABLE WATER SPECIFICATIONS, OF THE TOWN OF ESSEX STANDARD SPECIFICATIONS FOR CONSTRUCTION. A REPRESENTATIVE OF THE TOWN OF ESSEX PUBLIC WORKS DEPARTMENT SHALL Witness ALL OPENINGS TO THE PIPELINES SHALL BE PROTECTED FROM THE ENTERING OF EARTH OR OTHER MATERIALS.

## 514.2. MATERIALS

514.2.1. PIPE SHALL CONFORM TO AWWA SPECIFICATION C900, CLASS 150 C-900 POLYVINYLCHLORIDE PIPE (PVC). PIPE SHALL BE INSTALLED WITH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. THIS VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF THE WATER MAIN LOCATED WITHIN TEN FEET (10') HORIZONTALLY OF ANY SEWER IT CROSSES. WHEN IT IS IMPOSSIBLE TO OBTAIN HORIZONTAL AND VERTICAL SEPARATION, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED WITH WATER TIGHT JOINTS AND SHALL BE PRESSURE TESTED TO ASSURE WATER TIGHTNESS BEFORE BACKFILLING. NO WATER MAIN SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER MANHOLE.

PVC PIPE SHALL NOT BE INSTALLED WHEN THE TEMPERATURE DROPS BELOW 32°F OR GOES ABOVE 100°F WITHOUT TOWN APPROVAL. DURING COLD WEATHER, THE FLEXIBILITY AND IMPACT RESISTANCE OF PVC PIPE IS REDUCED. EXTRA CARE IS REQUIRED WHEN HANDLING PVC PIPE DURING COLD WEATHER.

PVC PIPE SHALL NOT BE EXPOSED TO PROLONGED PERIODS OF SUNLIGHT, AS PIPE DISCOLORATION AND REDUCTION IN PIPE IMPACT STRENGTH WILL OCCUR. CANVAS OR OTHER OPAQUE MATERIAL SHALL BE USED TO COVER PVC PIPE STORED ONSITE.

### 514.2.2. FITTINGS

DUCTILE IRON FITTINGS SHALL CONFORM TO ANSI/AWWA C153/A21.53, CLASS 350 WORKING PRESSURE.

ANCHOR TEES SHALL BE A STANDARD MECHANICAL JOINT TEE EXCEPT THAT THE BRANCH IS PLAIN END WITH AN INTEGRAL RETAINING RING AND SPLIT GLAND. TEE WILL BE CLASS 350 DUCTILE IRON, CEMENT LINED, CONFORMING TO AWWA STANDARDS C110, C111, AND C104 (LATEST VERSIONS).

PIPELINE COUPLINGS SHALL CONFORM TO AWWA STANDARDS C110 AND ANSI A21.10 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION AND AT LOCATIONS DIRECTED BY THE PROJECT ENGINEER.

ALL NUTS AND BOLTS SHALL CONFORM TO AWWA/ANSI - C111/A21.11 AND SHALL BE TYPE 16-8 STAINLESS STEEL.

### 514.6. THRUST BLOCKS AND ANCHORS

FOR PRESSURE PIPING, CONCRETE THRUST BLOCKS SHALL BE INSTALLED AT ALL FITTINGS AND BENDS. JOINTS MUST BE PROTECTED BY POLYETHYLENE PRIOR TO PLACING CONCRETE. CONCRETE SHALL BE PLACED AGAINST THE FITTING AND SHALL NOT COVER JOINTS. BOLTS, OR NUTS, OR INTERFERE WITH THE REMOVAL OF ANY JOINT. EXCESS CONCRETE SHALL NOT BE DISCARDED IN THE TRENCH.

### 515. METHODS OF INSTALLATION

#### 515.1. EXCAVATION

EXCAVATIONS SHALL BE MADE TO A POINT AT LEAST SIX INCHES (6") BELOW THE PIPE INVERT TO ACCOMMODATE THE BEDDING MATERIAL. ALL EXCAVATIONS ARE TO BE KEPT DRY WHILE PIPE IS BEING LAID.

WHEREVER BOULDERS OR LEDGE ROCK ARE ENCOUNTERED IN EXCAVATIONS FOR PIPELINES OR STRUCTURES, SUCH BOULDERS OR LEDGE ROCK SHALL BE REMOVED TO A DEPTH OF SIX INCHES BELOW GRADE AND SPACE OCCUPIED BY THEM SHALL BE REFILLED TO GRADE WITH THE SPECIFIED BEDDING MATERIAL. TRENCHES SHALL BE OPENED AT SUCH TIMES AND TO SUCH EXTENT ONLY AS MAY BE PERMITTED BY THE DESIGN/PROJECT ENGINEER. ALL DRIVEWAYS, CROSSWALKS, SOD, SHRUBS, TREES AND ANY OTHER SURFACE MATERIAL SHALL BE CAREFULLY TAKEN UP AND KEPT SEPARATE FROM OTHER EXCAVATED MATERIAL. IF SUITABLE, EXCAVATED MATERIAL SHALL BE USED FOR EMBANKMENTS, BACKFILL AND FILL. EXCAVATIONS SHALL BE AS REQUIRED BY VOSH.

WHEREVER MATERIAL AT OR BELOW THE GRADE LINE OF THE PIPE OR STRUCTURE PLUS DEPTH OF BEDDING MATERIAL IS UNSUITABLE FOR FOUNDATIONS, IT SHALL EITHER BE EXCAVATED TO SUCH ADDITIONAL DEPTHS AS DIRECTED BY THE DESIGN/PROJECT ENGINEER AND THEN REFILLED WITH WELL COMPACTED CRUSHED STONE OR THE DESIGN/PROJECT ENGINEER MAY DIRECT THAT A FILTER FABRIC BE UTILIZED. IT SHALL BE INSTALLED AND THE EXCAVATION THEN BROUGHT TO GRADE LINE OF PIPE WITH WELL-COMPACTED BEDDING.

### 515.3. WATER SERVICE CONNECTION

NO HOUSE SERVICE CONNECTION SHALL BE MADE UNTIL THE WATER MAIN HAS BEEN INSTALLED, DISINFECTED, TESTED AND TURNED OVER TO THE TOWN FOR POTABLE WATER USE. ALL WATER SERVICE INITIATION FEES MUST ALSO BE PAID PRIOR TO ANY HOUSE SERVICE CONNECTION BEING MADE. A HOUSE SERVICE CONNECTION SHALL BE CONSIDERED WHEN THERE IS COMPLETE AND SERVICEABLE LINK BETWEEN THE HOUSE PLUMBING AND THE WATER MAIN.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY TAPS ONTO THE WATERMANS, INSTALLING AN APPROVED CORPORATION STOP FOR EACH SERVICE, INSTALLING THE SERVICE PIPE TO THE CURBSTOP AND FROM THE CURBSTOP TO THE BUILDING PLUMBING, INSTALLING THE CURBSTOP AND VALVE BOX AND FOR OBTAINING A SPACER BAR (ON LOAN FROM THE TOWN). AS NOTED ON DETAIL 400.10 OF THESE SPECIFICATIONS, THERE SHALL BE A BALL VALVE INSTALLED ON BOTH THE INLET SECTION LEADING TO AND THE OUTLET SECTION LEADING FROM THE HOUSE WATER METER AS WELL AS A CHECK VALVE (BACKFLOW PREVENTER) DOWNSTREAM OF THE METER.

UPON INSTALLATION OF A METER BY THE TOWN, THE SPACER BAR SHALL BE RETURNED TO THE TOWN OR THE CONTRACTOR SHALL BE BILLED FOR THE REPLACEMENT OF THE SPACER BAR.

### 515.4. BACKFILL

BACKFILL SHALL CONSIST OF APPROVED MATERIAL PLACED IN TWELVE INCH (12") LAYERS WITH EACH LAYER BEING THOROUGHLY COMPACTED TO NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE AASHTO-T-99 STANDARD PROCTOR BY MEANS APPROVED BY THE DESIGN/PROJECT ENGINEER. NO STONES IN EXCESS OF ONE INCH (1") DIAMETER SHALL BE PLACED WITHIN TWO FEET (2') OF THE OUTSIDE OF THE PIPE. PARTICULAR PRECAUTIONS SHALL BE TAKEN IN PLACEMENT AND COMPACTION OF THE BACKFILL MATERIAL IN ORDER NOT TO DAMAGE AND/OR BREAK THE PIPE. THE BACKFILL SHALL BE BROUGHT UP EVENLY ON BOTH SIDES OF THE PIPE FOR ITS FULL LENGTH.

DATE: 12/2/25  
SURVEY: OBCA  
DESIGN: OBCA  
DRAWN: RCM  
CHECKED: BWC  
SCALE:

REVISION Updated to include Town of Essex Public Works Details and Specifications  
 RECORD DRAWING  
 PRELIMINARY  
 FINAL  
 SKETCH/CONCEPT

O'LEARY-BURKE  
CIVIL ASSOCIATES, PLC  
13 CORPORATE DR.  
ESSEX, CT, VT  
PHONE: 878-9989  
FAX: 878-9989  
E-MAIL: ocbca@olearyburke.com

WALKING OR WORKING ON THE COMPLETED PIPELINE, EXCEPT AS MAY BE NECESSARY IN TAMPING OR BACKFILLING, SHALL NOT BE PERMITTED UNTIL THE TRENCH HAS BEEN BACKFILLED TO A HEIGHT OF AT LEAST TWO FEET (2') ON THE TOP OF THE PIPES. DURING CONSTRUCTION, ALL OPENINGS TO THE PIPELINES SHALL BE PROTECTED FROM THE ENTERING OF EARTH OR OTHER MATERIALS.

## 515.5. WATER AND SEWER SEPARATION

AS SHOWN ON DETAIL 400.04 OF THESE SPECIFICATIONS, WHENEVER SEWERS CROSS UNDER WATER MAINS, THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. THIS VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF THE WATER MAIN LOCATED WITHIN TEN FEET (10') HORIZONTALLY OF ANY SEWER IT CROSSES. WHEN IT IS IMPOSSIBLE TO OBTAIN HORIZONTAL AND VERTICAL SEPARATION, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED WITH WATER TIGHT JOINTS AND SHALL BE PRESSURE TESTED TO ASSURE WATER TIGHTNESS BEFORE BACKFILLING. NO WATER MAIN SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER MANHOLE.

THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN THE DISTRICTION WATER MAINS AND ANY SYSTEMS, PUMPS, HYDRANTS, OR TANKS WHICH ARE SUPPLIED OR MAY BE SUPPLIED WITH WATER THAT IS, OR MAY BE, CONTAMINATED. IN INSTANCES WHERE THE USE OF DIFFERENT TYPES OF PIPES REQUIRE JOINING, THE DEVELOPER/CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY ADAPTERS.

### 515.6. FROST PROTECTION

IN NO CASE THERE BE LESS THAN SIX FEET (6') OF COVER OVER NEW WATERLINES INSTALLED IN THE TOWN OF ESSEX. WATERLINES WITH LESS THAN SIX FEET (6') OF COVER OVER THE CROWN MUST BE PROVIDED BY THE TOWN PUBLIC WORKS DEPARTMENT. AS SHOWN ON DETAIL 400.09 OF THESE SPECIFICATIONS, PROTECTION AGAINST FREEZING SM INSULATING SHEETS WITH A WIDTH OF 3 FEET OR TWICE THE PIPE DIAMETER, WHICHEVER IS GREATER, IN NO CASE SHALL THERE BE LESS THAN FIVE FEET (5') OF COVER.

THE SHEETS SHALL BE PLACED SIX INCHES (6") ABOVE THE CROWN OF THE MAIN. THE PROTECTION OF THE 6" LIFT IMMEDIATELY ABOVE THE CROWN, CARE SHALL BE EXERCISED BY THE DEVELOPER/CONTRACTOR DURING BACKFILL AND COMPACTION OVER THE STYROFOAM SHEETS TO PREVENT DAMAGE TO THE SHEETS.