

September 3, 2020

Mr. Bart McDonough
Town Planner
Kittery Planning & Development
200 Rogers Road
Kittery, ME 03904



Re: Revised Submission #3 – Kittery Car Wash
Tax Map 28 Lot 25D, Route 236
Job No. 19-134

Dear Mr. McDonough:

Tidewater Engineering & Surveying, Inc. has revised the plans and documents associated with the Kittery Car Wash site plan application to address further review comments by the Town staff, CMA Engineers and Planning Board members.

The following documents are provided for review.

1. Supplemental Narrative
 - a. On-Site Wetland and Drainage Ditch;
 - b. Existing Fill Material;
 - c. On-site Restroom.
2. Updated Site Plan Set – Revision 3 dated September 3, 2020
 - a. Added notes 14 and 15 to Sheet C3;
 - b. Added proposed sign detail on Sheet C6;
 - c. Revised note 4 on Sheet C7.

We look forward to continuing the review process of this application and pursuing final approval at the September 10, 2020 Board meeting if possible. If you have any questions, please do not hesitate to contact me at (207) 439-2222 or ryan@tidewatercivil.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ryan M. McCarthy", is written over a light blue horizontal line.

Ryan M. McCarthy, P.E., P.L.S.

President
Tidewater Engineering & Surveying, Inc.
(207) 439-2222
ryan@tidewatercivil.com
Enclosures

SUPPLEMENTAL NARRATIVE (9/3/2020)

At the request of the Kittery Planning Board, we offer the following additional information for consideration.

ON-SITE WETLANDS AND DRAINAGE DITCH

The subject parcel consists of a combination of wetlands, upland areas and filled land. At the onset of the design process, Joseph Noel, State of Maine Certified Soil Scientist #209, was contracted to delineate the upland edge of the wetlands and evaluate the existing soils. Mr. Noel summarized the results of his evaluation in a letter to Tidewater Engineering & Surveying dated March 2, 2020 which was submitted to the Planning Board within the site plan application dated March 5, 2020.

As described within Mr. Noel's letter, the drainage swale adjacent to MacKenzie Lane was identified as meeting the classification of a wetland per the US Army Corps of Engineers Wetland Delineation Manual of 1987. Portions of the swale, which widens out to the large wetland, also meet the Town's definition of a "drainage ditch" as follows...

A man-made, regularly maintained channel, trench or swale for conducting water that has a direction of flow to remove surface water or groundwater from land by means of gravity. For the purposes of this title, any new activity that reroutes a streambed or dredges a wetland is not considered to be a "drainage ditch." Where a drainage ditch widens out into a larger wetland, a route no more than 12 feet in width can be considered to be the drainage ditch. The remainder is considered wetlands unless it is demonstrated that the originally developed drainage ditch was designed to be greater than 12 feet in width.

The wetland delineation by Mr. Noel is depicted on the provided site plans. On Sheet C3, the location where the swale is twelve (12) feet in width is labeled on the plan and the portion of the swale that is less than twelve (12) feet in width is identified as the cross hatched area (see also Exhibit 1 attached hereto). The proposed entrance to the site from MacKenzie Lane crosses over this hatched area. The building setback to the car wash building is measured from the transition line between the portion classified as a wetland and the portion classified as a drainage ditch.

As Mr. Noel states in his letter, the hatched area is "a regularly maintained roadside ditch/swale along MacKenzie Lane that drains surface water into the rest of the delineated wetland." It should be noted that the runoff from MacKenzie Lane and Route 236 that currently flows untreated directly to the wetland via this drainage swale is proposed to be intercepted by a

culvert and routed to a stormwater treatment basin. By doing so, the runoff will now receive treatment and prevent road debris and sediment from washing into the wetland.

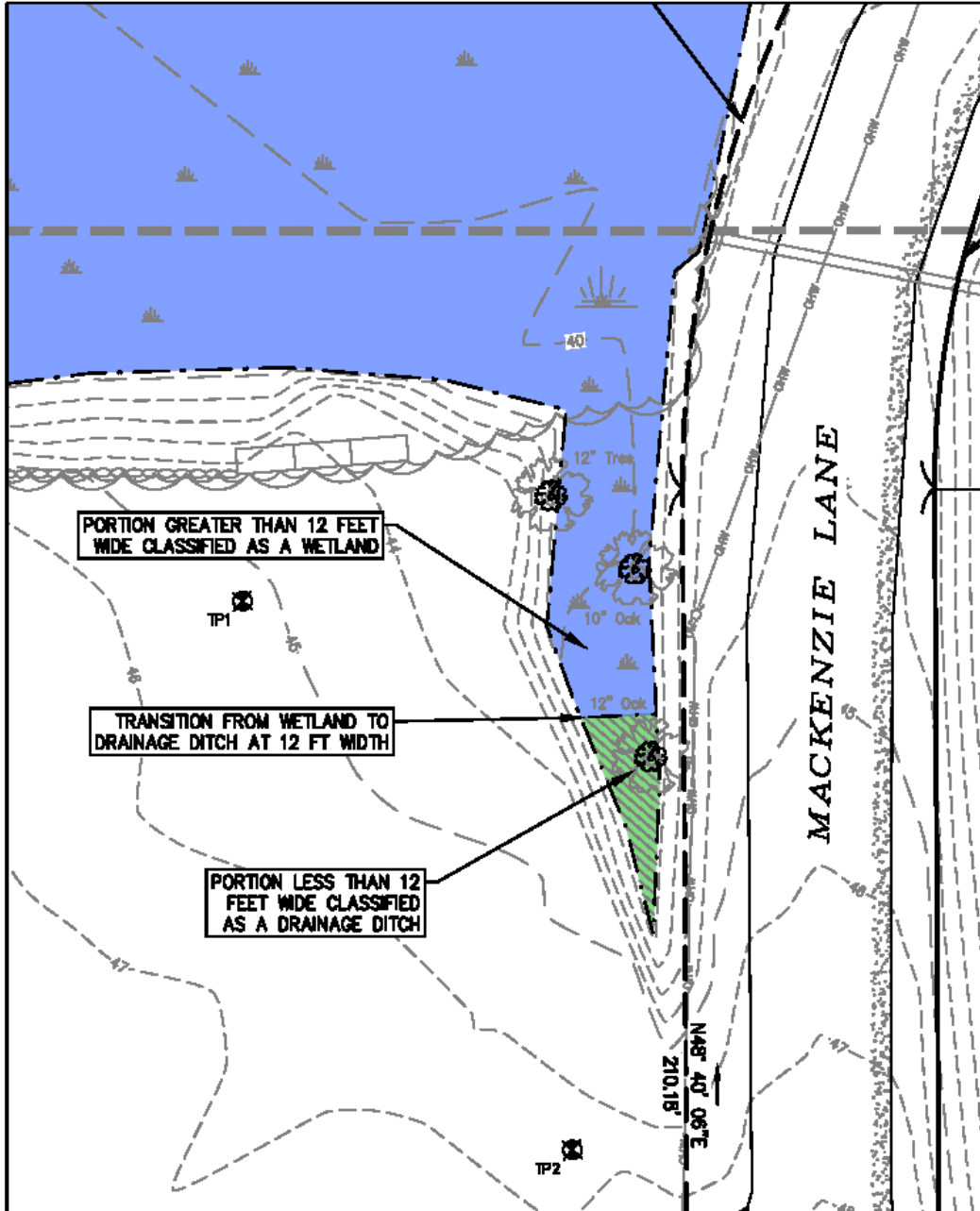


EXHIBIT 1: WETLAND VS. DRAINAGE DITCH



PHOTO 1: VIEW OF WETLAND/DRAINAGE DITCH LOOKING TOWARDS ROUTE 236



PHOTO 2: VIEW OF WETLAND AT TRANSITION FROM WETLAND TO DRAINAGE DITCH

EXISTING FILL MATERIAL

On February 28, 2020, three test pits were performed on-site to identify the soil characteristics of the existing fill material in the area of the proposed development. Joseph Noel, Maine Certified Soil Scientist, was present to document the soil classification and water table. The test pits found approximately 5 feet of dark colored coarse textured soil (i.e. cobbly to stony fine sandy loam to loamy sand). Construction debris consisting of concrete, asphalt, brick and metal was estimated to range from 8% to 25% by volume. See test pit logs within the enclosed letter dated March 2, 2020 from Joseph Noel.

Test pit 1 was excavated to a depth of 63 inches at which point the underlying natural soils were exposed along with the ground water table. The ground surface at this test pit is at elevation 45.2 feet, therefore the top of the native soil layer is estimated to be elevation 40.0 feet. This coincides with the elevation of the adjacent wetlands and saturation level and supports the assumption that the wetlands on the site were filled at some point of time in the past. No further documentation of the history of the site or fill has been found in the Town records.

Since the existing fill was found to contain various levels of debris, the Board has expressed concern regarding the potential impact of the fill as it relates to the adjacent wetland and the support of the proposed structures on-site. We offer the following for consideration...

1. Potential Impacts to the Wetland:
 - a. Stormwater Runoff: The site has been designed to collect the stormwater runoff from the proposed development and route it to an on-site stormwater basin. During a rainfall event, the stormwater from the site will pond within the basin and either infiltrate down into the underlying soils or be slowly released through the control outlet. To avoid the stormwater from infiltrating through the existing fill material, the design plans require the contractor to remove the existing fill and replace it with clean backfill. The composition of the clean backfill is specified as a filter media, in accordance with recommendations by Maine DEP, to provide stormwater treatment. The bottom of the stormwater basin is proposed to be elevation 43.0 feet, therefore approximately three (3) feet of filter media will separate the surface of the basin from the underlying native soil.
 - b. Soil Disturbance: Minimizing disturbance of the existing fill material is recommended as a best management practice for this site. An erosion and sediment control plan (Sheet C5) is provided for the contractor to follow during construction. An erosion control mix berm is specified to wrap around the proposed construction area to prevent sediment from reaching the wetland.

2. Structural Support:

-
- a. **Building Foundation:** The proposed car wash will be supported by foundation walls bearing on footings located below the frost level (typically 5 feet below grade) or at a depth in which the native underlying soils are reached. The exposed soils at the bottom of the excavation for the footings shall be inspected by an Engineer and Town of Kittery prior to pouring the concrete footings.
 - b. **Unsuitable Materials:** During excavation operations on the property for buildings, underground tanks or sub-base gravels, any unsuitable material encountered shall be removed and disposed of in accordance with all local, State and Federal regulations. Unsuitable materials shall include construction debris, organic matter, clumps of clay soils, muck, sod, stumps, roots, large rocks/boulders and any other material not suitable in the opinion of the Engineer.
 - c. **Inspections:** All sub-grade surface shall be inspected and approved by the Engineer and Town of Kittery prior to the placement of any structural backfill such as sub-base gravels, crushed stone and structural foundation backfill.
 - d. **Third Party Engineer:** The Town typically requires construction oversight and inspection by a third-party engineer as well to verify sub-grade conditions and construction in accordance with the plans and specifications.
 - e. **Disposal:** All construction debris and unsuitable materials encountered during excavation operations shall be stored on-site until they can be properly disposed of at an off-site location in accordance with the State's rules and regulations.
 - f. **Plan Notes:** We have added Note 14 "Special requirements pertaining to excavation of existing fill materials" to Sheet C3 that summarizes the requirements stated above.

ON-SITE RESTROOM

At this time, it has not been confirmed by the State whether there is an exception eliminating the need for an employee restroom for an automated car wash. To streamline the review process by the Planning Board, the applicant has chosen to provide an employee bathroom within the building that utilizes an incinerating toilet. An incinerating toilet is an acceptable "alternative toilet" per the State of Maine Subsurface Wastewater Disposal Rules Section 4.M. The waste produced by an incinerating toilet is a fine, sterile ash that can be disposed of as normal household waste according to EPA Publication 832-F-99-072. Note 15 has been added to Sheet C3 to require the on-site bathroom and incinerating toilet to meet all applicable building codes.

See enclosed product installation manual for an "Incinolet Electric Toilet System".

JOSEPH W. NOEL
P.O. BOX 174
SOUTH BERWICK, MAINE 03908
(207) 384-5587

CERTIFIED SOIL SCIENTIST * WETLAND SCIENTIST * LICENSED SITE EVALUATOR

March 2, 2020

Mr. Ryan M. McCarthy, P.E.
Tidewater Engineering & Surveying LLC
89 Route 236, Suite 3
Kittery, Maine 03904

RE: Wetland Delineation, Tax Map 28 - Lot 25D, Route 236, Kittery, Maine, JWN #19-129

Dear Ryan:

On November 4, 2019, February 28, 2020 and March 1, 2020, site visits were conducted at the above-referenced property. The purpose of the initial on-site was to identify and flag the wetland boundaries. The second visit was to conduct test pits where the commercial development is proposed and the third visit was to take pertinent photos.

Wetland Discussion

To determine the wetland boundary, the methodologies in the U.S. Army Corps of Engineers document *Corps of Engineers Wetlands Delineation Manual* (1987) along with the required *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*, (Version 2.0) were used. The wetland boundary was field delineated with sequentially numbered blue flagging. Flagged sequences were differentiated by the placement of a letter before the numbers (e.g., A1, A2, etc.). These flags were survey located by Tidewater Engineering & Surveying LLC and placed on the project plans.

On February 28, 2020, you requested my opinion on whether a portion of the wetland designated as the "A" series would meet the Town of Kittery's Land Use and Development Code definition of a drainage ditch for setback purposes. Provided for this review by Tidewater Engineering & Surveying LLC was a plan with a portion of the located wetland with the "A" series sequences that designated the area that was 12 feet or less (i.e., between wetland flags A3 and A4 to A7). Per Section 16.2.2, a Drainage Ditch is:

A man-made, regularly maintained channel, trench or swale for conducting water that has a direction of flow to remove surface water or groundwater from land by means of gravity. For the purpose of this title, any new activity that reroutes a streambed or dredges a wetland is not considered to be a "drainage ditch". Where a drainage ditch widens out into a larger wetland, a route no more than 12

feet in with can be considered to be the drainage ditch. The remainder is considered wetland unless it is demonstrated that the originally developed drainage ditch was designed to be greater than 12 feet in width.

A small portion of the "A" series wetland appears to meet the Town of Kittery's definition of a drainage ditch. This small area (that is ≤ 12 feet wide per the project plans) is a regularly maintained roadside ditch/swale along MacKenzie Lane that drains surface water into the rest of the delineated wetland. This small-maintained ditched area is also between two uplands (filled area of the property and MacKenzie Lane – refer to attached photos). It is important to note that this is my professional opinion and the Town of Kittery has the final say on drainage ditch interpretations.

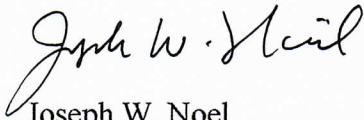
Test Pit Discussion

Three backhoe excavated test pits were conducted within the area planned for development. This area had been filled some time ago. You requested soil information for a better characterization of the fill material and the site's capacity for water infiltration. Specifically, determine the hydrologic soil group that would best fit these filled areas (i.e., anthropogenic landform).

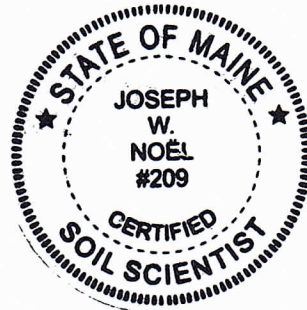
Three test pits logs are attached. These test pits found approximately 5 feet of dark colored, coarse textured soil (i.e., cobbly to stony fine sandy loam to loamy sand) with varying amounts of debris, such as: cement, asphalt, brick, metal, etc. (contained debris ranging from ~5% to ~30%). The undersigned estimated that the hydrologic soil group "B" would be a best fit to characterize the filled area. The surrounding wetland areas would classify as hydrologic soil group "D".

Please feel free to call with any questions or if you need additional information.

Sincerely,



Joseph W. Noel
Maine Certified Soil Scientist #209
Wetland Scientist



PHOTOS

Tax Map 28 - Lot 25D, Route 236, Kittery, Maine

(Photos taken by Joseph W. Noel on March 1, 2020)



View Of The Wetland Area That Meets The Town of Kittery's Definition Of A Drainage Ditch



Another View Of The Wetland Area That Meets The Local Definition Of A Drainage Ditch

SOIL PROFILE/CLASSIFICATION INFORMATION

Project Name:

Applicant Name:

Project Location (municipality)

TIDEWATER ENGINEERING & SURVEYING LLC

TAX MAP 28 - LOT 25D, ROUTE 236, KITTERY, ME

Observation Hole 1 Test Pit Boring

0 " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
COBBLY FINE SANDY LOAM TO SANDY LOAM FILL MATERIAL	FRIABLE	DARK YELLOWISH BROWN (10YR 3/4) & 10YR 3/6	NONE
~8% OF ASPHALT & METAL DEBRIS			
L.O.E. @ 63"		OBWT @ 63"	
Soil Classification <u>12</u> Profile <u>B</u> Condition	Slope <u>~3</u> %	Limiting Factor <u>63</u> "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Pit Depth

UDORTHERENTS - HYD GRP ESTIMATED B - NON-HYDRIC

Observation Hole 2 Test Pit Boring

0 " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
STONY SANDY LOAM FILL MATERIAL	FRIABLE	DARK BROWN (10YR 3/3) & DARK YELLOWISH BROWN (10YR 3/6)	NONE
~20% OF CONCRETE POSTS WITH REBAR AND STEEL DEBRIS			
L.O.E. @ 48"			
Soil Classification <u>12</u> Profile <u>B</u> Condition	Slope <u>~3</u> %	Limiting Factor <u>48</u> "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Pit Depth

UDORTHERENTS - HYD GRP ESTIMATED B - NON-HYDRIC

*Backhoe excavated test pits were conducted on February 28, 2020.
Refer to letter/report dated March 2, 2020 for additional information.*

Observation Hole 3 Test Pit Boring

0 " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
VERY COBBLY TO GRAVELLY SANDY LOAM TO LOAMY SAND FILL MATERIAL	FRIABLE	MOSTLY VERY DARK GRAYISH BROWN (10YR 3/2)	NONE
~25% OF COARSE FRAGMENTS WITH SOME DEBRIS (E.G., BRICKS)			
L.O.E. @ 40"			
Soil Classification <u>12</u> Profile <u>B</u> Condition	Slope <u>~3</u> %	Limiting Factor <u>40</u> "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Pit Depth

UDORTHERENTS - ESTIMATED HYD GRP B - NON-HYDRIC

Observation Hole _____ Test Pit Boring

_____ " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
L.O.E. @ _____"			
Soil Classification ____ Profile _____ Condition	Slope _____ %	Limiting Factor _____ "	<input type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth

Josh W. Nail
Signature

221 209
SE # SS#

3/2/2020
Date

INCINOLET

ELECTRIC TOILET SYSTEM

INSTALLATION / MAINTENANCE MANUAL

Models TR and WB - 240 volts (SN 41000 →)
Models CF, RV, and WB - 120 volts (SN 57200 →)



NSF Protocol P157
Electrical Incinerating Toilets - Health and Sanitation
(replaces 1983 edition of NSF Standard 41)

Model _____
Serial # _____
Voltage _____
Date installed _____
Please have this information handy when ordering parts. In can be found on ID plate on back of toilet.

WARNING: Do not operate INCINOLET until you have read thoroughly and understand completely all instructions and safety rules contained in this manual. Save this manual and review frequently for continuing safe operation, and instructing possible third-party users.

For questions or assistance call 1-800-527-5551

Thank you...

for purchasing INCINOLET electric toilet. We have manufactured your toilet with the finest materials and workmanship to give you many years of dependable service.

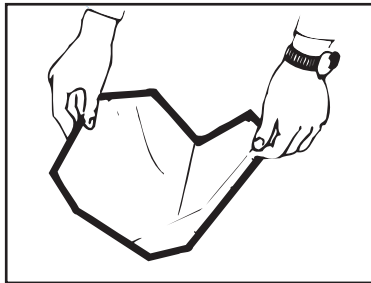
Manufacturer's Statement

INCINOLET toilets provide sanitation without pollution when used by persons familiar with its operation and responsible for its proper installation, use and maintenance. Not recommended for use by general public or in some rental properties.

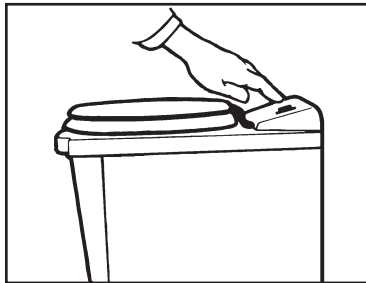
Warranty Information

A copy of the warranty will be furnished free of charge upon request.

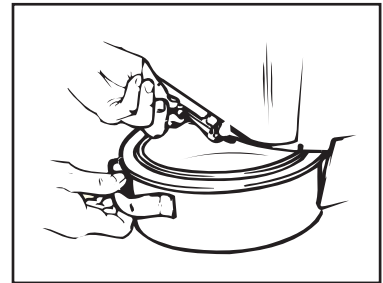
Tips for Success



Use a bowl liner for each and every use.



Push button to start after each use.



Empty ashpan OFTEN – when ash is 1/2 inch deep

Fig. 1

Read all instructions carefully.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards.

⚠ To avoid shock hazard:

1. Always unplug INCINOLET before doing any electrical maintenance.
2. Do not operate toilet if cord is damaged or you suspect electrical malfunction.
3. Competent personnel should do all tests or repair work. While many tests and repairs can be done by the owner, we recommend an electrician for anything you are not comfortable doing.

During incineration there is flame and high heat in the burn chamber. It is safe to use INCINOLET during the cycle and safe to push the pedal while standing, to drop waste into what is already burning.

⚠ To avoid burn hazard:

1. **Never** depress foot pedal while seated on toilet.
2. Do not remove ashpan until toilet has cooled completely.
3. Young children must be supervised when they use INCINOLET.
4. Do not install toilet in an explosive atmosphere.
5. Never burn trash or garbage in INCINOLET as it may produce a high flame that could damage the toilet or injure a person.

INCINOLET is designed to incinerate human feces, urine, tampons, and toilet paper only. Using INCINOLET to burn items of household trash or food scraps will void your warranty and could cause damage to the INCINOLET and possibly cause property damage or even personal injury.

Save These Instructions

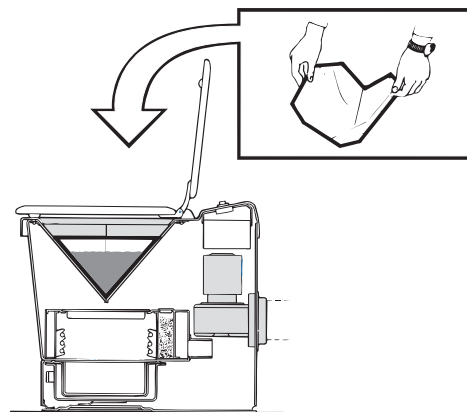
HOW TO USE INCINOLET

1 Place liner in bowl before each and every use.

(Using without a liner will cause urine to run out on the floor, damage to the unit, and odor.)

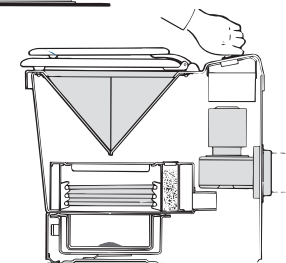
After use, face toilet, step on foot pedal to open bowl and allow waste to drop into incineration chamber.

Make certain that top edges of liner are below lid when lid closes.

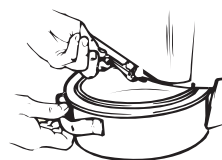


2 Push start button after each use. (Accumulated waste will cause odor.)

Unit may be used at any time, even while incinerating a prior deposit.



3 Empty ashpan frequently – usually when ash is no more than 1/2” deep. (Ash build-up shortens heater life.)



Note: Capacity of ashpan is about 1 gallon. Accumulating waste or allowing excessive ash build-up causes overload that can cause early heater failure, odor, and overflow of waste inside the toilet and onto floor.

Fig. 2

How INCINOLET Works

When you push the start button, heater and blower both come on. Heater alternates off and on for 1-1/4 hours. Blower stays on for an additional 10 to 45 minutes. **YOU CAN USE INCINOLET ANY TIME DURING THE INCINERATION CYCLE.** Push start button after each use.

YOU SHOULD INCINERATE WASTE AFTER EACH USE. ACCUMULATED WASTE, PARTICULARLY SOLIDS, RESULTS IN ODOR AND CAN REDUCE LIFE OF THE HEATER.

If INCINOLET is used primarily in the morning, with little or no use during the day, then reset the timer to 1-1/2 or 2 hours to insure complete incineration. (See page 8.)

Ash is germ-free and safe to handle when it has burned to a light color. If ash is dark or burn is incomplete, run an extra cycle to assure safe handling of ash. Ash is not suitable to use as fertilizer or compost. It should be disposed of in household trash in accordance with state and local codes.

Party Stress For times when you are having a party or house guests, when the INCINOLET may have to serve more than the stated capacity for a short time, follow these tips:

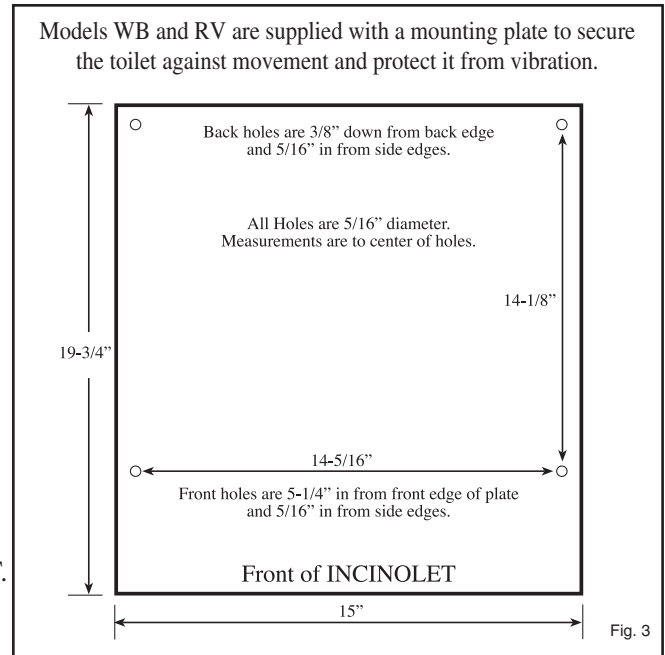
1. Empty the ashpan before guests arrive.
2. Be sure guests are instructed as to proper use and that a **bowl liner is required for each and every use.**
3. Push button after each use and check occasionally to be sure it's not over filled.
4. You may need to run an extra cycle or two to insure complete burn.

HOW TO INSTALL INCINOLET

1. Remove all packing materials.
2. Set unit on level floor in desired position:
Allow clearance at rear for wiring and vent-line connection. Allow at least 4" on left side and plenty of room on the right side to operate foot pedal.
3. Prepare electrical supply within 4 feet of toilet location.
(see instructions below)
4. Install mounting plate to floor (RV and WB only - Fig. 3).
5. Connect vent-line.
6. Plug INCINOLET into the proper receptacle on a 20-amp circuit. Dedicated circuit recommended.

⚠ Do not install in an explosive atmosphere.

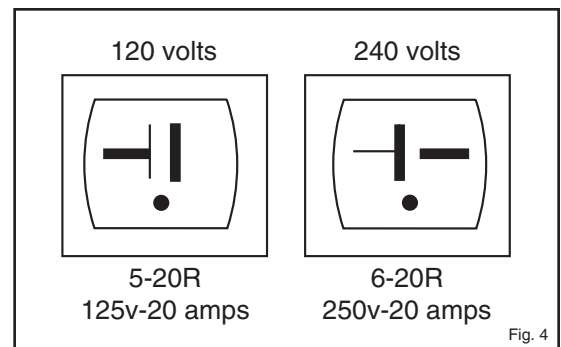
NOTES: Vinyl floors and some synthetic carpets may discolor. In such installations, you may want to put a sheet of aluminum under INCINOLET to dissipate heat. Keep bedding, curtains and other flammable materials away from contact with the INCINOLET.



Electrical Preparation

This appliance has a 20-amp plug and is meant to fit **only** into a 20-amp receptacle. (Fig. 4) If the outlet you intend to use for the INCINOLET is not the proper type, then change the receptacle. You must have a circuit suitable for 20 amps, headed by a 20-amp circuit breaker. Do not attempt to defeat this safety feature by modifying the plug in any way. Power cord is 4 feet long.

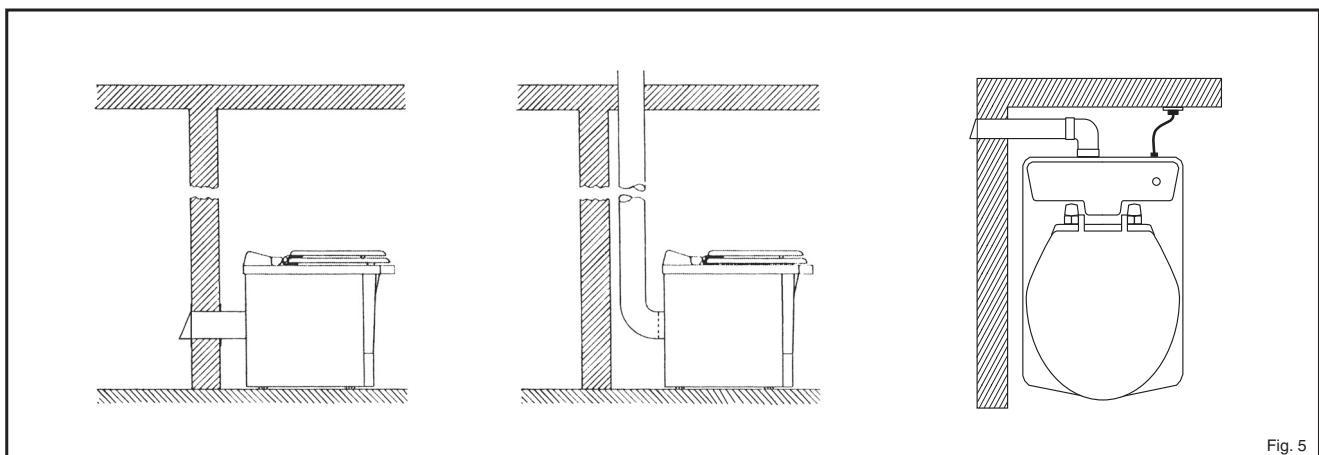
⚠ Extension cords should not be used with this appliance.



Preparing Vent-Line

Vent pipe can run horizontally or vertically. Venting materials can be placed within a wall and INCINOLET can be placed close to a wall at the back. Allow 6 to 8 inches on the right side (facing the toilet) to operate the foot pedal.

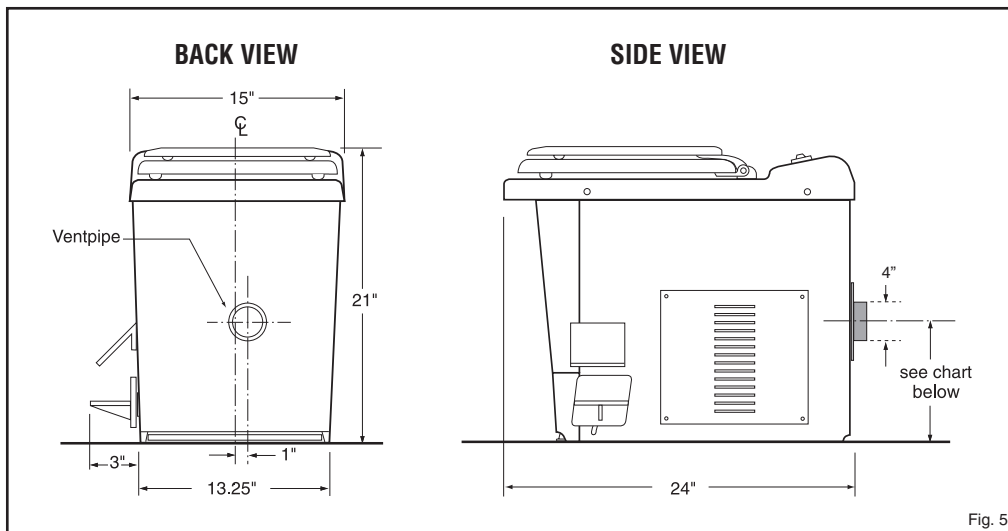
Vertical vent-line should terminate with a rain cap. For horizontal venting use a dryer flap or add a PVC elbow turned downward to prevent back-drafting.



Tips for Best Venting

1. Allow for plenty of make-up air into toilet room with door louvers or an air gap along bottom of room door.
2. **NEVER USE AN OVERHEAD EXHAUST FAN WHILE INCINOLET IS RUNNING.**
It might overpower the exhaust fan within the unit and cause smoke and odor to come into the room.
3. **DO NOT** cover the end of the vent-line with fine mesh window screen. Use 1/4 inch mesh (“hardware cloth”) if you must use something to keep “critters” out of the vent-line.
4. Increase diameter of vent pipe if 2 elbows or more than 10 feet of vent-line is required.

**Center of vent collar on the back of INCINOLET varies by model.
Use this chart to find the correct measurement for your toilet.**



Center of vent hole – up from floor:

Model CF	10"
Model RV	10 1/4"
Model TR	10"
Model WB, 120 v.	10 1/4"
Model WB, 240 v.	10 1/4"
Model WB, 208 v.	10 1/4"

For proper operation, vent-line must be as straight as possible with a minimum of elbows. Maximum length of pipe at the 4" diameter is 10 feet plus 2 elbows. Use larger diameter pipe for longer runs. Contact factory if you have questions about special installations.

Improper venting can cause odor within the room and overheating of the unit. This unit is equipped with an exhaust blower, which draws air from the room into the unit for cooling. The blower also draws smoke from the incinerator through the catalyst to remove odors. If the vent line is too small, too crooked or too long, the blower cannot push enough air through the vent-line to do its function. Overheating and odor will result.

For best performance, use the shortest possible run and a minimum number of elbows. Do not vent into an attic or crawl space. Assemble vent pipe pieces securely, gluing or taping all connections. Connect coupling and pipe to vent collar at the rear of the unit. To prevent animals entering vent pipe, you may use hardware cloth with 1/4" mesh. To prevent back drafting, use a 90 degree elbow turned down or a rain cap if vented vertically.

START-UP PROCEDURE - Once Incinolet is connected to vent line and plugged into a 20 amp receptacle on a 20 amp circuit of the appropriate voltage, it's a good idea to run a test cycle using a cup of water poured into a bowl liner.



September 16, 2020

Bart McDonough, Town Planner
Town of Kittery
200 Rogers Road
Kittery, Maine 03904

**RE: Town of Kittery, Planning Board Services
Site Plan Review No 2
Kittery Car Wash (Route 236) Tax Map 28, Lot 25D
CMA #591.131**

Dear Bart:

CMA Engineers has received the following additional information for the site plan for the proposed Kittery Car Wash at the intersection of Route 236 and MacKenzie Lane in Kittery, Tax Map 28, Lot 25D (our Assignment #132).

- 1) Site Plan Application Site Plan Drawings (Revised September 3, 2020) for Kittery Car Wash Route 236 Kittery, Maine, Prepared for Robert T. Brennan, Jr. 1991 SE 20th Street Cape Coral, FL 33990 by Tidewater Engineering & Surveying, Inc. of Kittery, ME.
- 2) Revised Submission #3 Date September 3, 2020 - Kittery Car Wash, Tax Map 28, Lot 25D Route 236 prepared by Ryan McCarthy of Tidewater Engineering & Surveying, Inc. of Kittery, ME.

We had previously provided a review letter dated August 18, 2020 of the application materials dated July 2020 for conformance with the Kittery Land Use and Development Code (LUDC) and general engineering practices and offered comments.

General

The project includes construction of a two-bay automatic car wash, four vacuum spaces and associated paved areas for vehicle movement. There are wetlands on the site, but all construction is outside of the wetlands with no direct impacts to them. The applicant has proposed that conveyance of a 10-foot wide easement (180-foot long) on MacKenzie Drive adjacent to the right turn lane to the Town of Kittery be a condition of site plan approval and be required to be completed prior to the issuance of an occupancy permit.

The facility is proposed to be located in an area that has received undesignated fill materials. The soils report notes that, and the topography indicates a history of filling. A more complete narrative has been provided describing some of the nature of the fill materials, indicating that construction and demolition debris is in the fill. No history of the fill is known or reported by the applicant.

There does not appear to be any local or Me DEP investigations of documentation of the site.

In cases like this, a Phase I site Assessment meeting baseline ASTM property assessment standards are often completed. Such assessments are often required by lending or financial interests, but they can be used to better understand site conditions, or to determine if any follow-up environmental evaluations are warranted relative to groundwater or other Impacts. It may be appropriate to request or require that the applicant complete a Phase I site assessment on the property prior to final action on the application.

Notwithstanding the above suggestion, as described below the applicant proposes several ways to address construction of the facility in these conditions. We suggest additional actions be considered as noted.

1. Stormwater features. The design specifies that the proposed pond be excavated to underlying native soils and volume replaced with select filler materials. This is appropriate.
2. The applicant proposes to over-excavate for the building foundations to underlying native soils. This is appropriate. However, we suggest that the applicant consider excavating the entire volume between foundation walls under the building and replaced with clean granular fill to assure satisfactory subsurface conditions for the entire structure. In addition, the volume of material between the bottom of the wash water tanks and native soil should be considered for removal and replacement with clean granular fill to assure satisfactory foundation and stability.

Article V: Acceptance of Streets and Ways

The applicant has proposed that conveyance of a 10-foot wide easement (180-feet long) on MacKenzie Drive adjacent to the right turn lane to the Town of Kittery be a condition of site plan approval and be required to be completed prior to the issuance of an occupancy permit. The design of the right-turn lane appears satisfactory. The Town should confirm that the proposed easement and related details are acceptable before site plan approval is considered.

Article VII. Sewage Disposal

16.8.7.2.D. The applicant now proposes use of an incineration toilet for employees (not the public) and has included manufacturers information on a unit. The applicant references the Maine Subsurface Wastewater Disposal Rules, Section M, which lists incineration toilets as a potential alternative to conventional subsurface wastewater systems where appropriate. We are not familiar with any installations of such facilities at residential or business applications.

- Is such a system approvable by Kittery Code Enforcement?
- Can the applicant provide examples of other similar installations?
- The placement of the toilet and location surrounding enclosure in the building, venting of incineration gases; as well as water supply and disposal for ancillary washing or other means of washing should be more fully described.

Article VIII. Surface Drainage

The applicant has presented a Stormwater Management Plan for the project. Stormwater management and treatment are accomplished through the use of a stormwater management pond and control structure.

The design is logical and meets the intent of the Kittery LUDC. All post construction flows are decreased from pre-construction conditions.

The applicant should demonstrate how compliance will be done with the post construction stormwater management plan requirements.

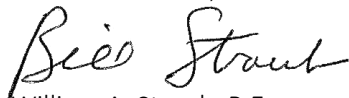
16.9 Design and Performance Standards-Built Environment

Article IV. Wetland Setbacks for Special Situations

The north wetland is greater than 1 acre and size and must meet Table 16.9 Setbacks of 150 feet. However, under Special Uses the setback for an auto wash may be reduced to 100 feet through the use of best management practices. The stormwater management plan uses storage and infiltration capacity to reduce stormwater flows to the wetland for a 24-hour storm before overflowing into the outlet structure. Additionally, erosion control mix berm is proposed around the construction area. These measures, if properly installed, inspected and maintained, should provide satisfactory measures to justify the reduction to a 100' setback.

Should you have any questions, please do not hesitate to call.

Very truly yours,
CMA ENGINEERS, INC.



William A. Straub, P.E.
Principal/Project Manager

cc: Ryan McCarthy, P.E., L.S., Tidewater Engineering & Surveying, Inc.

ABBREVIATIONS

BOTTOM OF CURB	BC
BITUMINOUS CONCRETE CURB	BCC
BEST MGMT PRACTICE	BMP
CATCH BASIN	CB
CAPE COD BERM	CCB
CORRUGATED METAL PIPE	CMP
CLEANOUT	CO
CHAIN LINK FENCE	CLF
CONCRETE SURFACE	CONC.
DOUBLE YELLOW LINE	DYL
DRILL HOLE FOUND/SET	DHF/DHS
DRAIN MANHOLE	DMH
IRON PIPE/PIN FOUND	IPF
IRON REBAR FOUND/SET	IRF/IRS
EMERGENCY SPILLWAY	ES
FLARED END SECTION	FES
HIGH DENSITY POLYETHYLENE	HDPE
INVERT ELEVATION	INV.=
LINEAL FEET	LF
LIMIT OF WORK	LOW
MATCH EXISTING	ME
METAL PICKET FENCE	MPF
NOW OR FORMERLY	N/F
OUTLET CONTROL STRUCTURE	OCS
RAILROAD SPIKE FOUND/SET	RRSF/RRSS
RIM ELEVATION	RIM=
ROOF DRAIN	RD
SINGLE WHITE LINE	SWL
SINGLE YELLOW LINE	SYL
SLIPFORM CONC. CURB	SFC
SLOPED GRANITE CURB	SOC
SLOPED CONCRETE CURB	SOC
SPLIT RAIL FENCE	SRF
TEMPORARY BENCHMARK	TBM
TOP OF CURB	TC
TOP OF FOUNDATION	TF
UNDERDRAIN	UD
UTILITY POLE	UP
VERTICAL GRANITE CURB	VGC
VINYL PICKET FENCE	VPF
VINYL STOCKADE FENCE	VSF
WOOD PICKET FENCE	WPF
WOOD STOCKADE FENCE	WSF

LEGEND

EXISTING	PROPOSED	DESCRIPTION
---	---	PROPERTY LINE
98	98	MINOR CONTOUR
100	100	MAJOR CONTOUR
---	---	EDGE OF PAVEMENT
---	---	FENCE
---	---	GUIDERAIL
---	---	CONSTRUCTION FENCE
---	---	STONE WALL
---	---	TREE LINE
+	+	SIGN
*	*	LIGHT POLE
2'R	2'R	CURB/PAVEMENT RADIUS
♿	♿	ACCESSIBLE PAVEMENT MARKINGS
○	○	IRON PIPE/IRON PIN
●	●	BOLLARD
○	○	UTILITY POLE
○	○	GUY WIRE
⊕	⊕	WATER VALVE
⊕	⊕	WATER SHUTOFF
⊕	⊕	HYDRANT
⊠	⊠	CATCH BASIN
⊙	⊙	DRAIN MANHOLE
⊙	⊙	SEWER MANHOLE
⊠	⊠	SEWER SERVICE CONNECTION
D	PD	DRAIN PIPE
G	PG	GAS LINE
OHW	OHW	OVERHEAD WIRES
UGU	UGU	UNDERGROUND UTILITIES
S	PS	SEWER LINE
W	PW	WATER LINE
FM	FM	FORCE MAIN
RD	RD	ROOF DRAIN
▭	▭	FLARED END SECTION
▭	▭	PROPOSED BUILDING PAD FOOTPRINT
▭	▭	RIPRAP AREA
▭	▭	CONSTRUCTION ENTRANCE
TP4	TP4	TEST PIT LOCATION
TC 101.5	TC 101.5	TOP/BOTTOM CURB ELEVATION
BC 100.5	BC 100.5	TOP/BOTTOM CURB ELEVATION
100.5x	100.5x	SPOT ELEVATION
W	W	WETLANDS
→	→	FLOW DIRECTION

SITE PLAN APPLICATION KITTERY CAR WASH ROUTE 236 KITTERY, MAINE

**PREPARED FOR:
ROBERT T. BRENNAN, Jr.
1911 SE 20TH STREET
CAPE CORAL, FL 33990**

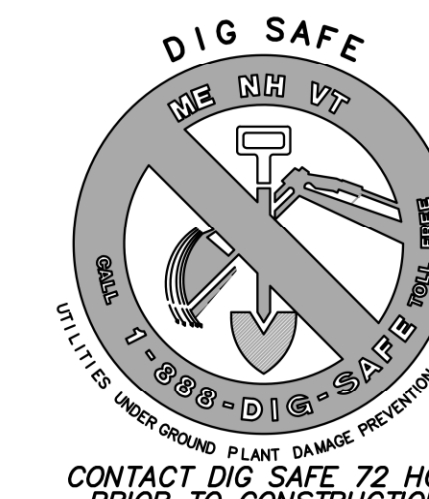


SCALE: 1" = 250'

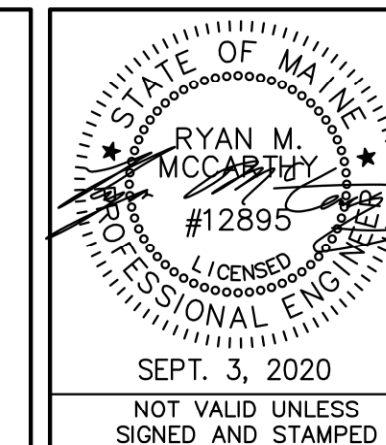


- SHEET INDEX:**
- C1 COVER SHEET
 - C2 BOUNDARY AND EXISTING CONDITIONS PLAN
 - C3 PROPOSED SITE & UTILITY PLAN
 - C4 PROPOSED GRADING & STORMWATER PLAN
 - C5 EROSION AND SEDIMENT CONTROL PLAN
 - C6 CONSTRUCTION DETAILS
 - C7 PROPOSED LANDSCAPE PLAN
 - C8 WB-40/WB-67 TURNING MANEUVERS
 - A1 BUILDING ELEVATIONS (BY J.W.H. DRAFTING & DESIGN)

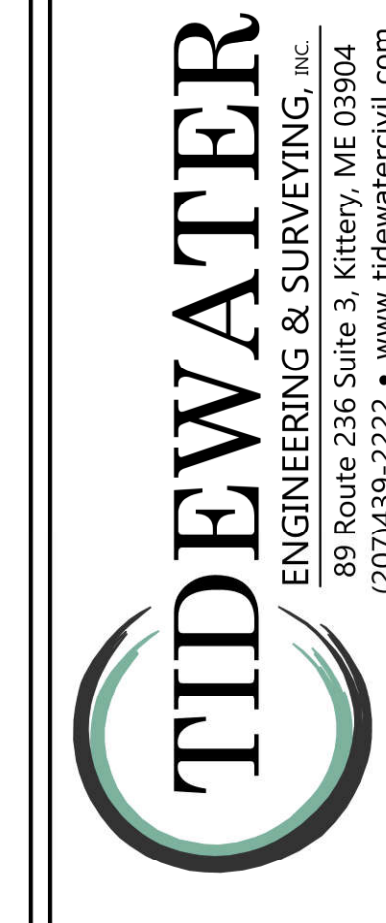
ISSUED FOR TOWN REVIEW
NOT FOR CONSTRUCTION



TAX MAP 28 LOT 25D



		MODIFIED PER TOWN REVIEW COMMENTS	9/3/20	NO.	DATE:
		ADDED RIGHT TURN LANE TO MACKENZIE LANE	7/31/20	2	
		ISSUED FOR REVIEW BY TOWN OF KITTERY	5/6/20	1	
		SUBMISSION/REVISION DESCRIPTION			



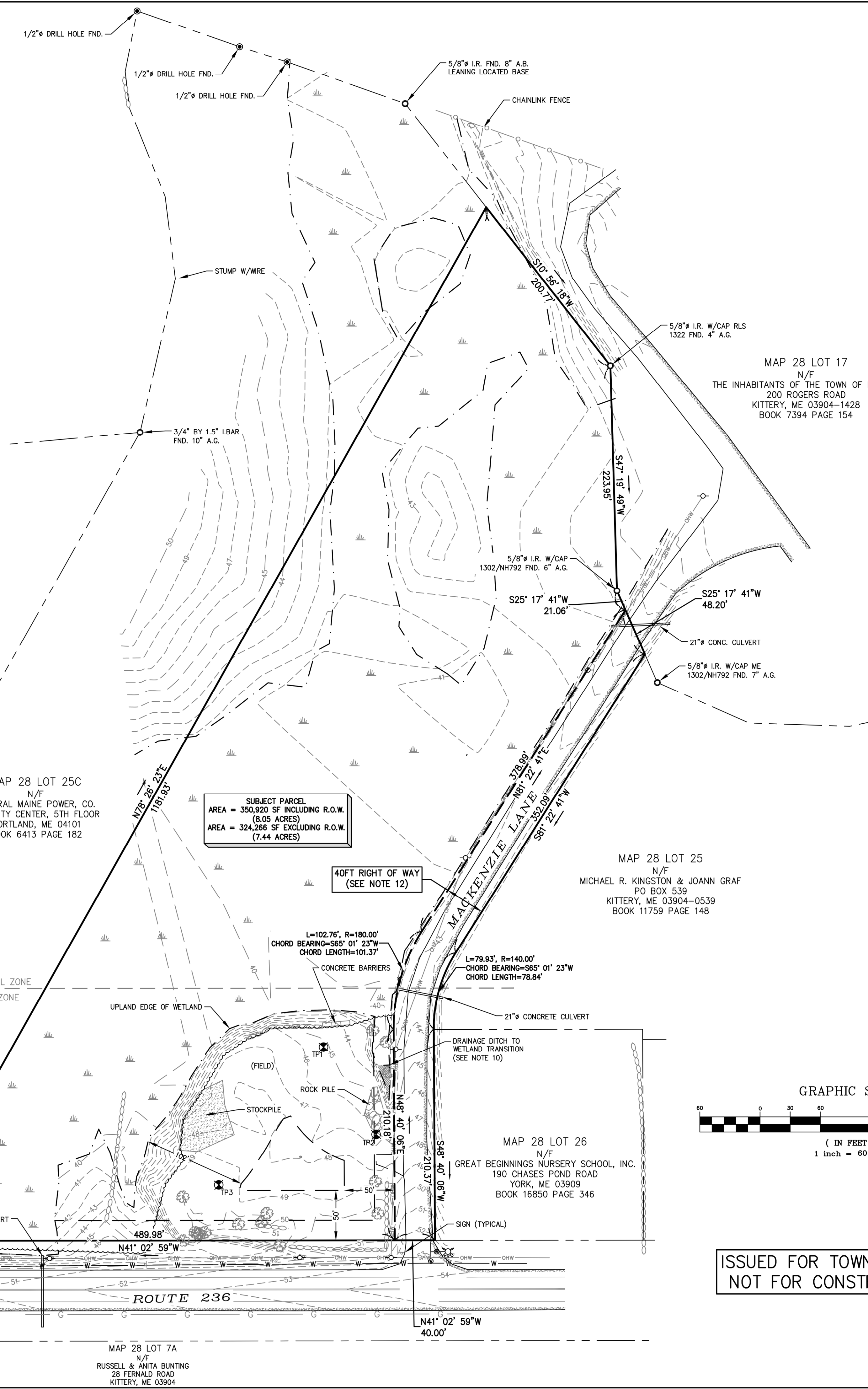
CLIENT: ROBERT T. BRENNAN, JR. 1911 SE 20TH STREET CAPE CORAL, FL 33990	PROJECT: KITTERY CAR WASH ROUTE 236, KITTERY, MAINE 03904	COVER SHEET
JOB #:	19-134	
DATE:	MARCH 2020	
SCALE:	AS NOTED	
DRAWING		
C1		



LOCUS MAP (NOT TO SCALE)

LEGEND

- SUBJECT PARCEL PROPERTY LINE
- APPROXIMATE ABUTTER'S LINE
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- EDGE OF WETLAND
- EXISTING STONE WALL
- WETLAND SYMBOL
- IRON PIPE, ROD, OR DISK FOUND
- DRILL HOLE FOUND
- UTILITY POLE
- SIGN
- WATER VALVE
- HYDRANT
- TREE

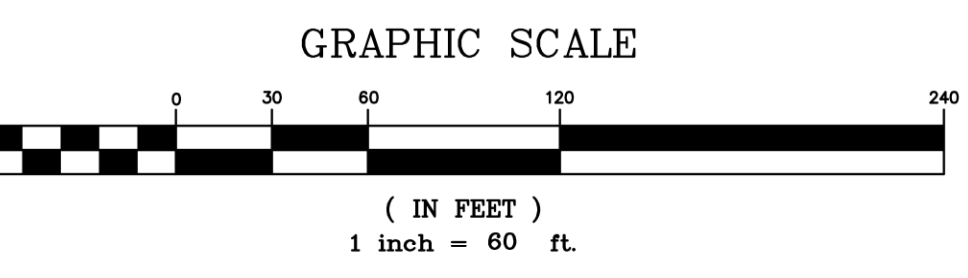


SUBJECT PARCEL
 AREA = 350,920 SF INCLUDING R.O.W.
 (8.05 ACRES)
 AREA = 324,266 SF EXCLUDING R.O.W.
 (7.44 ACRES)

MAP 28 LOT 25C
 N/F
 CENTRAL MAINE POWER, CO.
 ONE CITY CENTER, 5TH FLOOR
 PORTLAND, ME 04101
 BOOK 6413 PAGE 182

MAP 28 LOT 25
 N/F
 MICHAEL R. KINGSTON & JOANN GRAF
 PO BOX 539
 KITTERY, ME 03904-0539
 BOOK 11759 PAGE 148

MAP 28 LOT 26
 N/F
 GREAT BEGINNINGS NURSERY SCHOOL, INC.
 190 CHASES POND ROAD
 YORK, ME 03909
 BOOK 16850 PAGE 346



ISSUED FOR TOWN REVIEW
 NOT FOR CONSTRUCTION

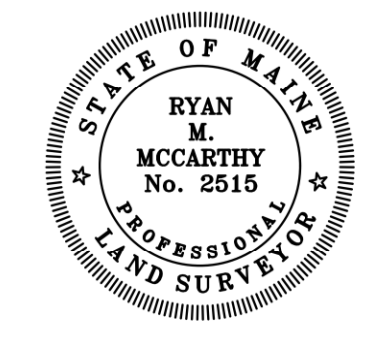
- GENERAL NOTES:
- THE PURPOSE OF THIS PLAN IS TO DEPICT A BOUNDARY RETRACEMENT AND EXISTING CONDITIONS SURVEY OF TAX MAP 28 LOT 25D IN THE TOWN OF KITTERY, MAINE.
 - OWNER OF RECORD:
 ROBERT T. BRENNAN, JR.
 1911 SE 20TH STREET CAPE CORAL, FL 33990
 Y.C.R.D. BOOK 18014 PAGE 294
 - THE PROPERTY IS LOCATED WITHIN THE COMMERCIAL C-2 & RURAL R-RL ZONING DISTRICTS. THE FOLLOWING DIMENSIONAL REGULATIONS ARE IN EFFECT AT THE TIME OF THIS SURVEY AND ARE SUBJECT TO THE REVIEW BY THE TOWN OF KITTERY.

COMMERCIAL C-2:	
MINIMUM LAND AREA:	40,000 SF
MINIMUM STREET FRONTAGE:	150 FEET
MINIMUM FRONT YARD SETBACK:	50 FEET
MINIMUM SIDE/REAR YARD SETBACK:	30 FEET
MAXIMUM COVERAGE:	40%
MAXIMUM BUILDING HEIGHT:	40 FEET
RURAL R-RL:	
MINIMUM LAND AREA:	40,000 SF
MINIMUM STREET FRONTAGE:	150 FEET
MINIMUM FRONT YARD SETBACK:	40 FEET
MINIMUM SIDE/REAR YARD SETBACK:	20 FEET
MAXIMUM COVERAGE:	15%
MAXIMUM BUILDING HEIGHT:	35 FEET

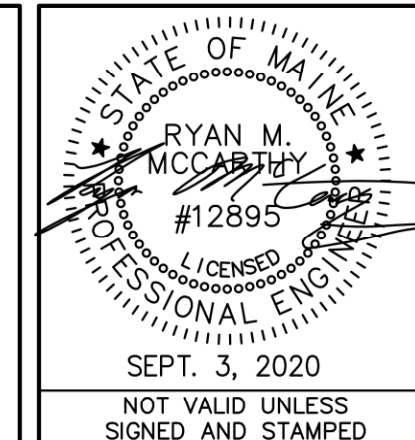
- ZONING REGULATIONS ARE SUBJECT TO CHANGE. OWNER SHALL CONFIRM ALL ZONING REGULATIONS WITH THE TOWN OF KITTERY PRIOR TO ANY DEVELOPMENT.
- BASIS OF BEARING IS MAINE STATE PLANE (NAD83) WEST ZONE, US FOOT. ELEVATIONS AND TOPOGRAPHY SHOWN HEREON CORRESPOND TO NAVD88.
- THE BOUNDARY SHOWN HEREON IS DETERMINED FROM WRITTEN RECORDS AND FIELD EVIDENCE RECOVERED AT THE TIME OF THIS SURVEY BY TIDEWATER ENGINEERING & SURVEYING, INC AND MAY BE SUBJECT TO CHANGE IF OTHER EVIDENCE BECOMES AVAILABLE.
- ABUTTER LINES SHOWN HEREON SHALL BE CONSIDERED APPROXIMATE AND ARE FOR REFERENCE PURPOSES ONLY. ABUTTER LINES SHALL NOT BE RELIED UPON AS BOUNDARY INFORMATION.
- EASEMENTS OR UNWRITTEN RIGHTS MAY EXIST THAT ENCUMBER OR BENEFIT THE PROPERTY NOT SHOWN HEREON.
- THE WETLANDS SHOWN HEREON WERE DELINEATED BY JOSEPH W. NOEL, STATE OF MAINE SOIL SCIENTIST #209, ON NOVEMBER 4, 2019. THE TEST PITS SHOWN HEREON WERE CONDUCTED BY JOSEPH W. NOEL ON FEBRUARY 28, 2020. REFERENCE IS MADE TO A REPORT BY JOSEPH W. NOEL DATED MARCH 2, 2020.
- A PORTION OF THE WETLAND DELINEATED BY JOSEPH W. NOEL MEETS THE DEFINITION OF A DRAINAGE DITCH PER THE TOWN OF KITTERY LAND USE AND DEVELOPMENT CODE. SEE LETTER FROM JOSEPH W. NOEL DATED MARCH 2, 2020 FOR FURTHER DETAIL.
- UTILITY LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE AND MAY NOT BE ENTIRELY ACCURATE OR COMPLETE.
- "PLAN OF 'FARMINGDALE ESTATES' FERNALD ROAD KITTERY MAINE" PREPARED BY ANDERSON ASSOCIATES DATED OCTOBER 1983 AND RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS (Y.C.R.D.) IN PLAN BOOK 127 PAGE 39.
- "STANDARD BOUNDARY SURVEY OF LAND OF THE TOWN OF KITTERY" PREPARED BY CIVIL CONSULTANTS DATED APRIL 23, 1993 AND RECORDED AT THE Y.C.R.D. IN PLAN BOOK 222 PAGE 28.
- "STANDARD BOUNDARY SURVEY OF LAND OF THE TOWN OF KITTERY" PREPARED BY CIVIL CONSULTANTS DATED APRIL 23, 1993 AND RECORDED AT THE Y.C.R.D. IN PLAN BOOK 223 PAGE 37.
- "MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP STATE HIGHWAY '100' KITTERY-ELIOT YORK COUNTY FEDERAL AID SECONDARY PROJECT S-0100(5) S.H.C. FILE NO. 16-112 SHEETS 3-4" DATED JANUARY 1956 AND RECORDED AT THE Y.C.R.D. IN PLAN BOOK 29 PAGE 30.
- "SUBDIVISION OF LAND OF PETER J. PAUL TRUSTEE OF THE PAOLUCCI REALTY TRUST" PREPARED BY CIVIL CONSULTANTS DATED APRIL 18, 2013 AND RECORDED AT THE Y.C.R.D. IN PLAN BOOK 366 PAGE 28.
- CENTRAL MAINE POWER CO. SECTION 141 115 KV BOLT HILL-YORK MILE 2 799-T141-2, FOUND AT THE KITTERY TOWN HALL.

- REFERENCE PLANS:
- "FARMINGDALE ESTATES" FERNALD ROAD KITTERY MAINE
 - "STANDARD BOUNDARY SURVEY OF LAND OF THE TOWN OF KITTERY"
 - "STANDARD BOUNDARY SURVEY OF LAND OF THE TOWN OF KITTERY"
 - "MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP STATE HIGHWAY '100' KITTERY-ELIOT YORK COUNTY FEDERAL AID SECONDARY PROJECT S-0100(5) S.H.C. FILE NO. 16-112 SHEETS 3-4"
 - "SUBDIVISION OF LAND OF PETER J. PAUL TRUSTEE OF THE PAOLUCCI REALTY TRUST"
 - CENTRAL MAINE POWER CO. SECTION 141 115 KV BOLT HILL-YORK MILE 2 799-T141-2, FOUND AT THE KITTERY TOWN HALL.
- REFERENCE DEEDS:
- YORK COUNTY REGISTRY OF DEEDS (Y.C.R.D.) BOOK 18014 PAGE 294: LAGASSE REMOVAL, LLC TO ROBERT T. BRENNAN, JR.
 - Y.C.R.D. BOOK 1408 PAGE 546, FRANK JEWETT & FRANCES JEWETT TO JOHN F. PERRY & THERESA H. PERRY.
 - Y.C.R.D. BOOK 6413 PAGE 182, HECTOR W. MACKENZIE, JR. TO CENTRAL MAINE POWER COMPANY.

APPROVAL OF THE PLANNING BOARD
 OF KITTERY, MAINE
 CHAIR _____ DATE _____



CERTIFICATION:
 I HEREBY CERTIFY THAT THIS SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION AND THAT THE RESULTS DEPICTED HEREON ARE IN COMPLIANCE WITH CHAPTER 90: STANDARDS OF PRACTICE, PARTS I AND II AS ADOPTED BY THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS, WITH THE EXCEPTION THAT A WRITTEN REPORT HAS NOT BEEN PRODUCED AT THIS TIME.
 RYAN M. MCCARTHY, P.E.S. 2515
 JULY 31, 2020
 DATE



SEPT. 3, 2020
 NOT VALID UNLESS SIGNED AND STAMPED

NO.	DATE	DESCRIPTION
3	9/3/20	MODIFIED PER TOWN REVIEW COMMENTS
2	7/31/20	ADDED RIGHT TURN LANE TO MACKENZIE LANE
1	5/6/20	ISSUED FOR REVIEW BY TOWN OF KITTERY



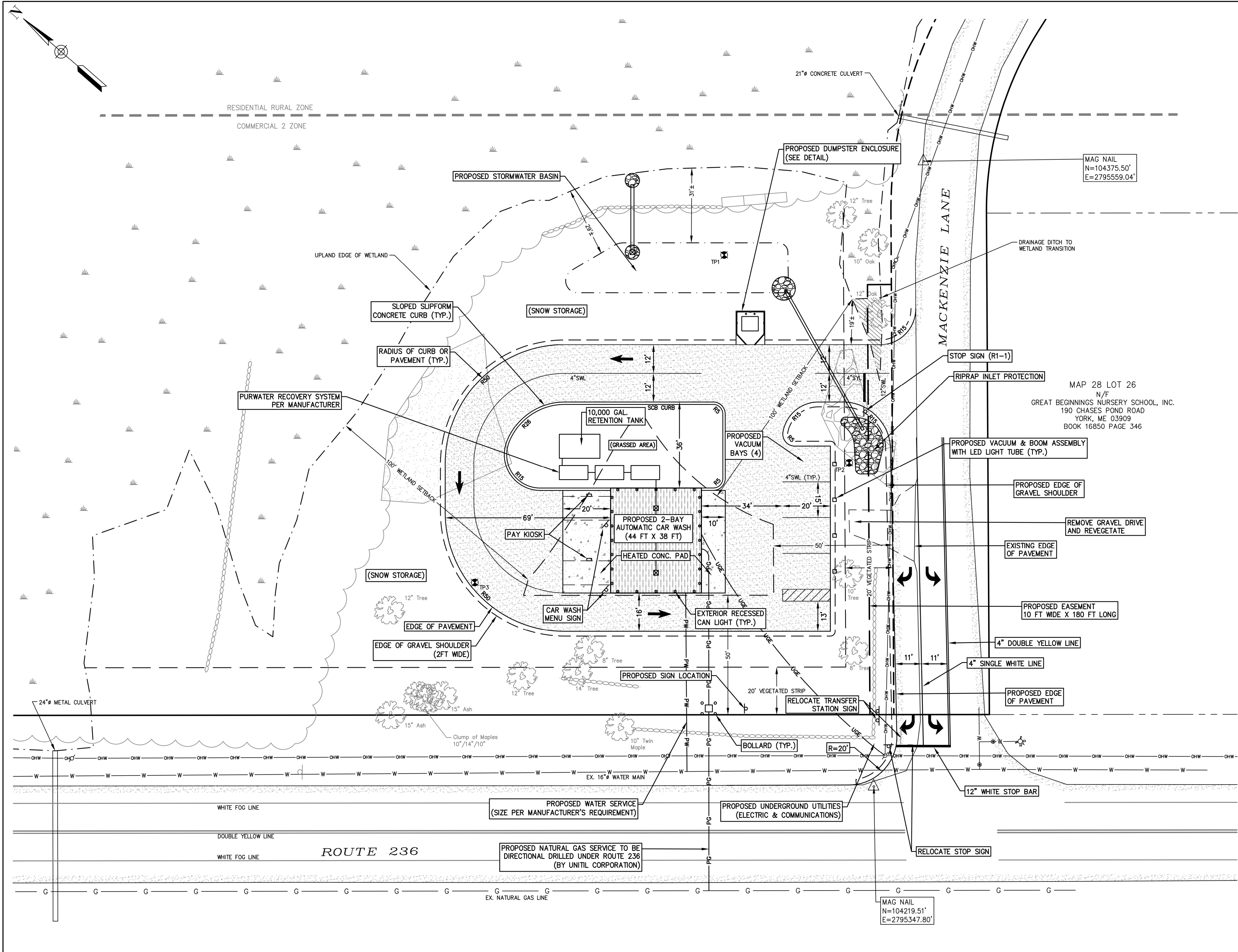
CLIENT: ROBERT T. BRENNAN, JR.
 1911 SE 20TH STREET
 CAPE CORAL, FL 33990

PROJECT: KITTERY CAR WASH
 ROUTE 236, KITTERY, MAINE 03904

SHEET: BOUNDARY & EXISTING CONDITIONS PLAN

JOB #:	19-134
DATE:	MARCH 2020
SCALE:	1" = 60'





GENERAL NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE PROPOSED COMMERCIAL DEVELOPMENT ON TAX MAP 28 LOT 250 IN THE TOWN OF KITTERY, MAINE.
2. OWNER OF RECORD:
ROBERT T. BRENNAN, JR.
1911 SE 20TH STREET CAPE CORAL, FL 33990
Y.C.R.D. BOOK 18014 PAGE 294
3. THE PROPOSED DEVELOPMENT IS LOCATED WITHIN THE COMMERCIAL C-2 ZONING DISTRICT. THE FOLLOWING DIMENSIONAL REGULATIONS ARE IN EFFECT AT THE TIME OF THIS SURVEY AND ARE SUBJECT TO THE REVIEW BY THE TOWN OF KITTERY.

COMMERCIAL C-2:
 MINIMUM LAND AREA: 40,000 SF
 MINIMUM STREET FRONTAGE: 150 FEET
 MINIMUM FRONT YARD SETBACK: 50 FEET
 MINIMUM SIDE/REAR YARD SETBACK: 30 FEET
 MAXIMUM COVERAGE: 40%
 MAXIMUM BUILDING HEIGHT: 40 FEET

4. ZONING REGULATIONS ARE SUBJECT TO CHANGE. OWNER SHALL CONFIRM ALL ZONING REGULATIONS WITH THE TOWN OF KITTERY PRIOR TO ANY DEVELOPMENT.
5. THE BASIS OF BEARING IS MAINE STATE PLANE (NAD83) WEST ZONE, US FOOT. ELEVATIONS AND TOPOGRAPHY SHOWN HEREON CORRESPOND TO NAVD88.
6. THE BOUNDARY SHOWN HEREON IS PER SHEET C2. SEE SHEET C2 FOR FURTHER DETAIL.
7. UTILITY LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE AND MAY NOT BE ENTIRELY ACCURATE OR COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES, BOTH OVERHEAD AND UNDERGROUND, THROUGHOUT THE COURSE OF THE WORK. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES.

8. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS, AND REPORT ANY DISCREPANCIES TO TIDEWATER ENGINEERING & SURVEYING, INC. THE CONTRACTOR SHALL PROCEED WITH THE WORK ONLY AFTER ANY DISCREPANCIES HAVE BEEN RESOLVED BY TIDEWATER ENGINEERING & SURVEYING, INC.
9. THE CONTRACTOR SHALL, ON A DAILY BASIS, THOROUGHLY SECURE ALL EXCAVATIONS UPON COMPLETION OF OPERATIONS IN THE IMMEDIATE AREA OF EXCAVATION.

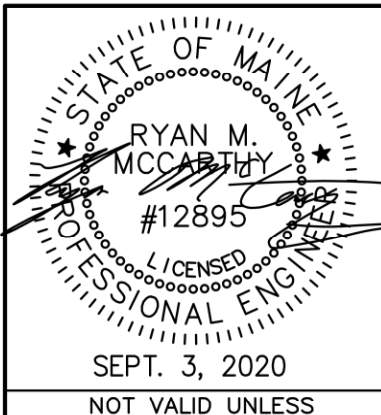
10. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL, STATE AND FEDERAL PERMITS REQUIRED FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT SHOWN WITHIN THIS PLAN SET. THE CONTRACTOR SHALL NOT PROCEED WITH SAID WORK UNTIL ALL CONDITIONS OF SAID PERMITS ARE MET.
11. ALL WATER UTILITY WORK AND MATERIALS SHALL COMPLY WITH THE KITTERY WATER DISTRICT'S REQUIREMENTS, SPECIFICATION AND THIS PLAN SET. THE PROPOSED WATER SERVICE SHALL BE SIZED BY THE MANUFACTURER TO MEET THE USAGE DEMANDS OF THE CAR WASH EQUIPMENT TO BE INSTALLED.
12. THE CONTRACTOR IS RESPONSIBLE FOR SEQUENCING OF WORK, MEANS AND METHODS OF CONSTRUCTION AND FOR IMPLEMENTATION OF A SAFETY PLAN.

THE PROPOSED DEVELOPMENT IS ANTICIPATED TO RESULT IN LESS THAN ONE ACRE OF DISTURBED AREA AND LESS THAN ONE ACRE OF IMPERVIOUS SURFACES, THEREFORE A MAINE DEP STORMWATER PERMIT IS NOT REQUIRED.

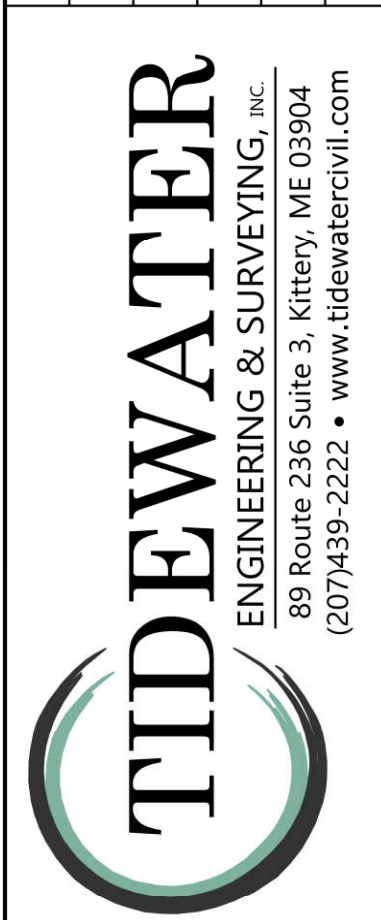
ESTIMATED DISTURBANCE AREA = 32,100 SF
 ESTIMATED IMPERVIOUS AREA = 16,097 SF

13. SEE LIGHTING PHOTOMETRIC PLAN AND PRODUCT SHEET BY R.A.B. LIGHTING SUBMITTED TO THE TOWN OF KITTERY AS PART OF THIS SITE PLAN APPLICATION FOR LIGHTING SPECIFICATIONS.
14. SPECIAL REQUIREMENTS PERTAINING TO EXCAVATION OF EXISTING FILL MATERIALS

- A. BUILDING FOUNDATION: THE PROPOSED CAR WASH SHALL BE SUPPORTED BY FOUNDATION WALLS BEARING ON FOOTINGS LOCATED BELOW THE FROST LEVEL (5 FEET BELOW GRADE AT MINIMUM) OR AT A DEPTH IN WHICH THE NATIVE UNDERLYING SOILS ARE REACHED, WHICHEVER IS GREATER. THE EXPOSED SOILS AT THE BOTTOM OF THE EXCAVATION FOR THE FOOTINGS SHALL BE INSPECTED BY AN ENGINEER AND THE TOWN OF KITTERY PRIOR TO POURING THE CONCRETE FOOTINGS.
 - B. UNSUITABLE MATERIALS: DURING EXCAVATION OPERATIONS FOR BUILDINGS, UNDERGROUND TANKS OR SUB-BASE GRAVELS, ANY UNSUITABLE MATERIAL ENCOUNTERED SHALL BE REMOVED AND DISPOSED OF PROPERLY IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS. UNSUITABLE MATERIALS SHALL INCLUDE CONSTRUCTION DEBRIS, ORGANIC MATTER, CLUMPS OF CLAY SOILS, MUCK, SOD, STUMPS, ROOTS, LARGE ROCKS/BOULDERS AND ANY OTHER MATERIAL NOT SUITABLE IN THE OPINION OF THE ENGINEER OR THE TOWN OF KITTERY.
 - C. INSPECTIONS: ALL SUB-GRADE SURFACES SHALL BE INSPECTED AND APPROVED BY THE ENGINEER OR TOWN OF KITTERY PRIOR TO THE PLACEMENT OF ANY STRUCTURAL BACKFILL SUCH AS SUB-BASE GRAVELS, CRUSHED STONE AND STRUCTURAL FOUNDATION BACKFILL.
 - D. DISPOSAL: ALL CONSTRUCTION DEBRIS AND UNSUITABLE MATERIALS ENCOUNTERED DURING EXCAVATION OPERATIONS SHALL BE STORED ON-SITE UNTIL THEY CAN BE PROPERLY DISPOSED OF AT AN OFF-SITE LOCATION IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
15. ONE EMPLOYEE BATHROOM SHALL BE INSTALLED WITHIN THE PROPOSED BUILDING THAT MEETS THE REQUIREMENTS OF THE UNIFORM PLUMBING CODE AND SHALL BE APPROVED BY THE LOCAL PLUMBING INSPECTOR. SAID BATHROOM SHALL UTILIZE AN INCINERATING TOILET AS AN ALTERNATE TOILET PER THE STATE OF MAINE SUBSURFACE WASTEWATER DISPOSAL RULES.



NO.	DATE	SUBMISSION/REVISION DESCRIPTION
3	9/3/20	MODIFIED PER TOWN REVIEW COMMENTS
2	7/31/20	ADDED RIGHT TURN LANE TO MACKENZIE LANE
1	5/6/20	ISSUED FOR REVIEW BY TOWN OF KITTERY



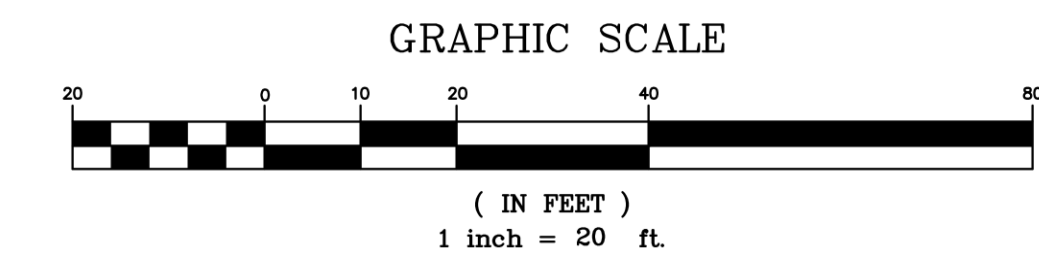
CLIENT: ROBERT T. BRENNAN, JR.
1911 SE 20TH STREET
CAPE CORAL, FL 33990

PROJECT: KITTERY CAR WASH
ROUTE 236, KITTERY, MAINE 03904

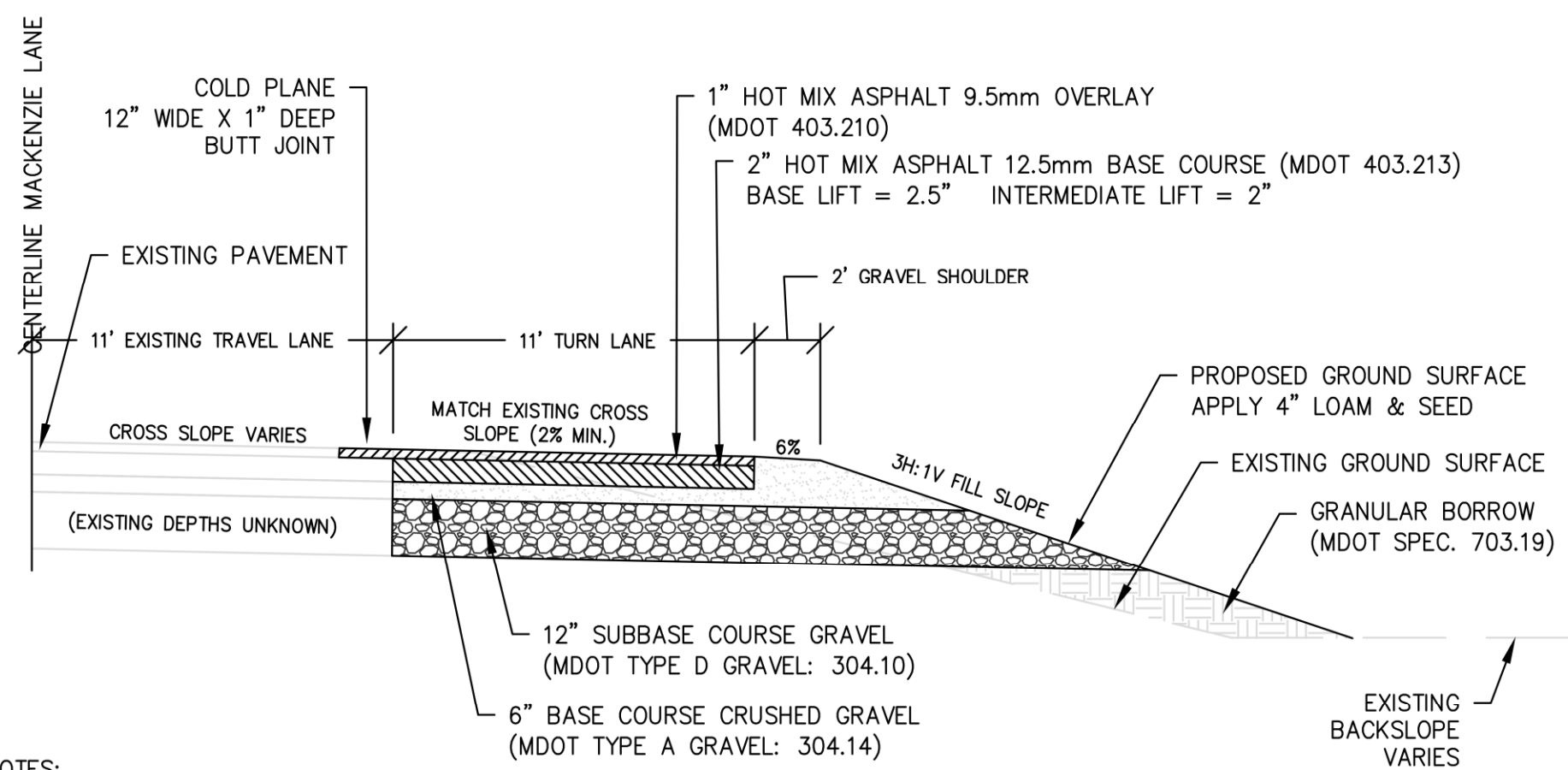
SHEET: PROPOSED SITE & UTILITY PLAN

JOB #:	19-134
DATE:	MARCH 2020
SCALE:	1" = 20'
DRAWING	

ISSUED FOR TOWN REVIEW
NOT FOR CONSTRUCTION



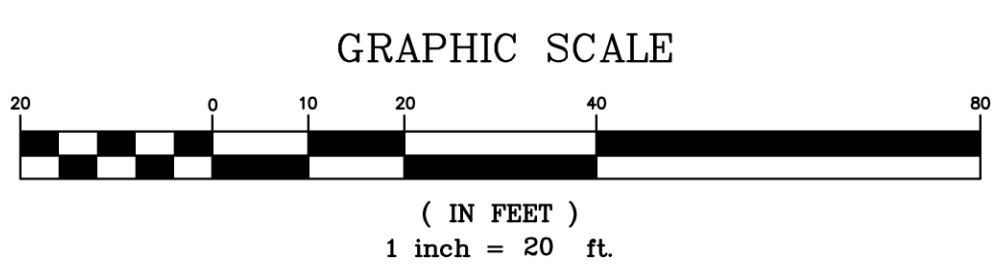
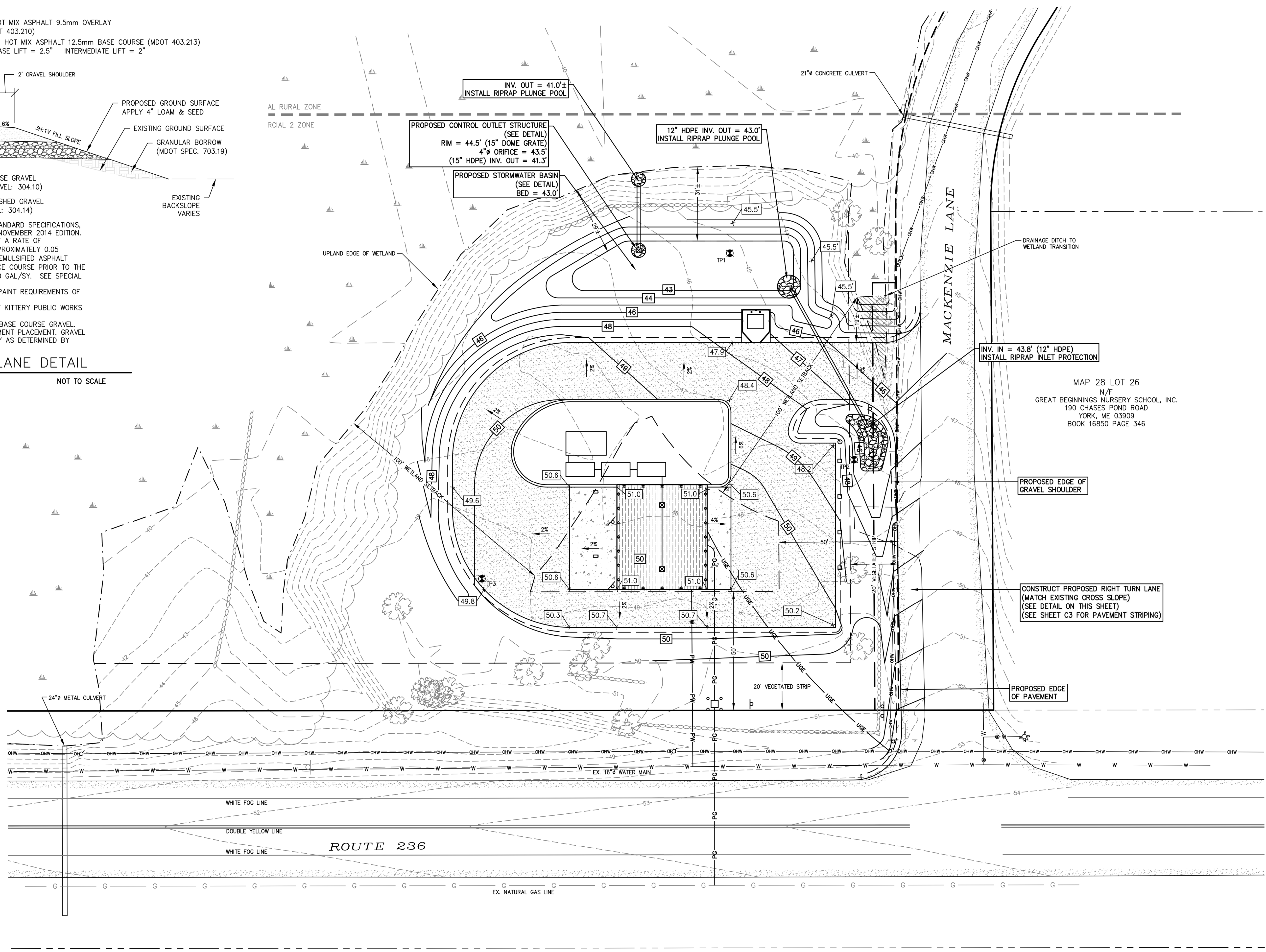
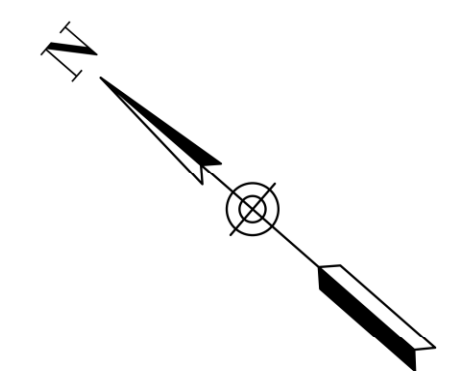
MAP 28 LOT 7A
N/F
RUSSELL & ANITA BUNTING
28 FERNALD ROAD
KITTERY, ME 03904
BOOK 3289 PAGE 298



- NOTES:
1. ALL WORK COMPLETED SHALL CONFORM TO THE MAINE DOT STANDARD SPECIFICATIONS, NOVEMBER 2014 EDITION AND MAINE DOT STANDARD DETAILS, NOVEMBER 2014 EDITION.
 2. APPLY BITUMINOUS TACK COAT TO ANY EXISTING PAVEMENT AT A RATE OF APPROXIMATELY 0.030 GAL/SY, AND ON MILLED PAVEMENT APPROXIMATELY 0.05 GAL/SY PRIOR TO PLACING A NEW COURSE. A FOG COAT OF EMULSIFIED ASPHALT SHALL BE APPLIED BETWEEN SHIM/BASE COURSES AND SURFACE COURSE PRIOR TO THE PLACEMENT OF HMA LAYERS AT A RATE NOT TO EXCEED 0.030 GAL/SY. SEE SPECIAL PROVISION 403 SPECIFIC TO THIS PROJECT.
 3. ALL PAVEMENT MARKINGS SHALL MEET THE APPLICATION AND PAINT REQUIREMENTS OF SECTION 627 OF THE MDT STANDARD SPECIFICATIONS.
 4. ALL TESTING TO BE COMPLETED AS DIRECTED BY THE TOWN OF KITTEERY PUBLIC WORKS DEPARTMENT. THIS WILL INCLUDE THE FOLLOWING...
 - a. SIEVE ANALYSIS/GRADATION REPORT ON BASE AND SUBBASE COURSE GRAVEL.
 - b. MINIMUM OF THREE COMPACTION TESTS PRIOR TO PAVEMENT PLACEMENT. GRAVEL MUST BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T180, METHOD C OR D.

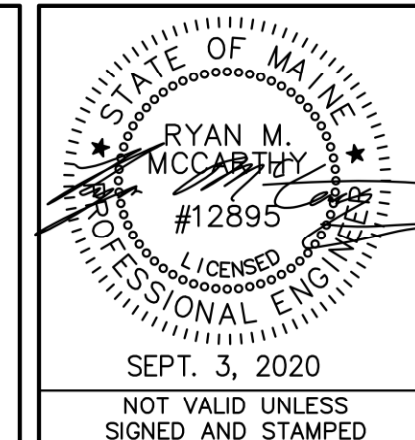
RIGHT-TURN LANE DETAIL

NOT TO SCALE



MAP 28 LOT 7A
N/F
RUSSELL & ANITA BUNTING
28 FERNALD ROAD
KITTEERY, ME 03904
BOOK 3289 PAGE 298

ISSUED FOR TOWN REVIEW
NOT FOR CONSTRUCTION



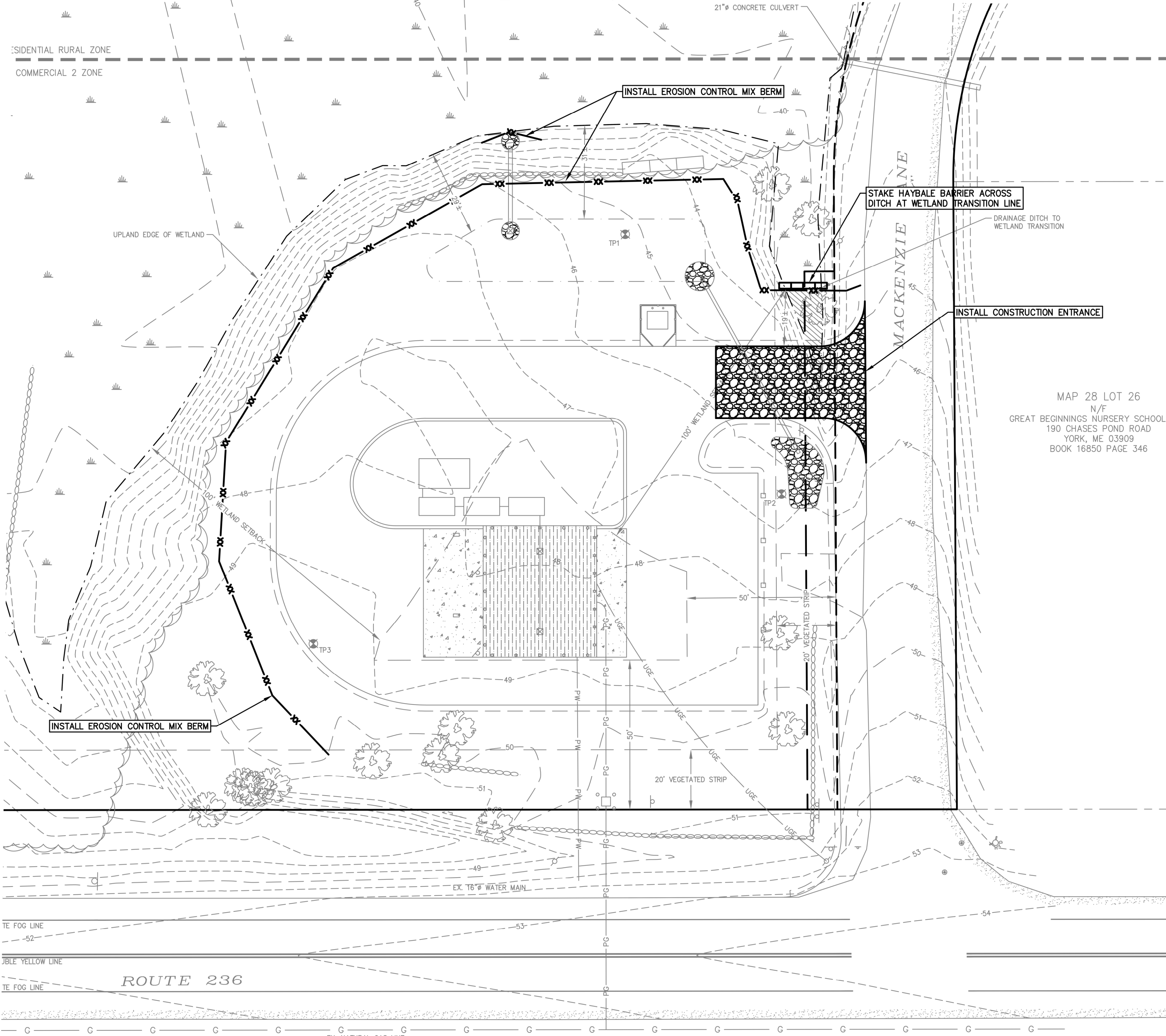
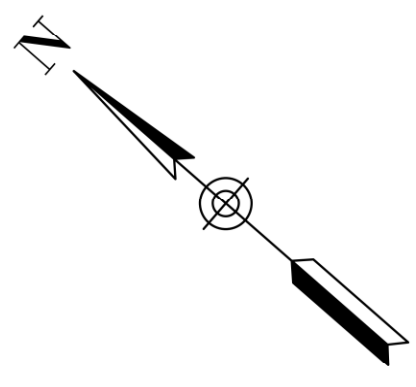
NO.	DATE:	ISSUED FOR REVIEW BY TOWN OF KITTEERY	SUBMISSION/REVISION DESCRIPTION
1	5/6/20	ISSUED FOR REVIEW BY TOWN OF KITTEERY	
2	7/31/20	ADDED RIGHT TURN LANE TO MACKENZIE LANE	
3	9/3/20	MODIFIED PER TOWN REVIEW COMMENTS	

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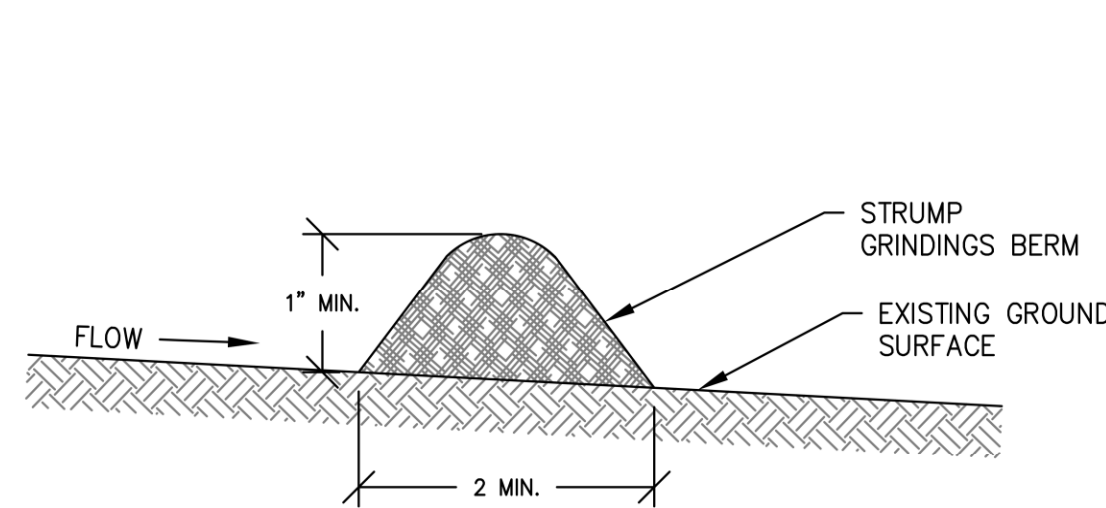
CLIENT: ROBERT T. BRENNAN, JR.
1911 SE 20TH STREET
CAPE CORAL, FL 33990
PROJECT: KITTEERY CAR WASH
ROUTE 236, KITTEERY, MAINE 03904
SHEET: PROPOSED GRADING & STORMWATER PLAN

JOB #:	19-134
DATE:	MARCH 2020
SCALE:	1" = 20'

DRAWING
C4

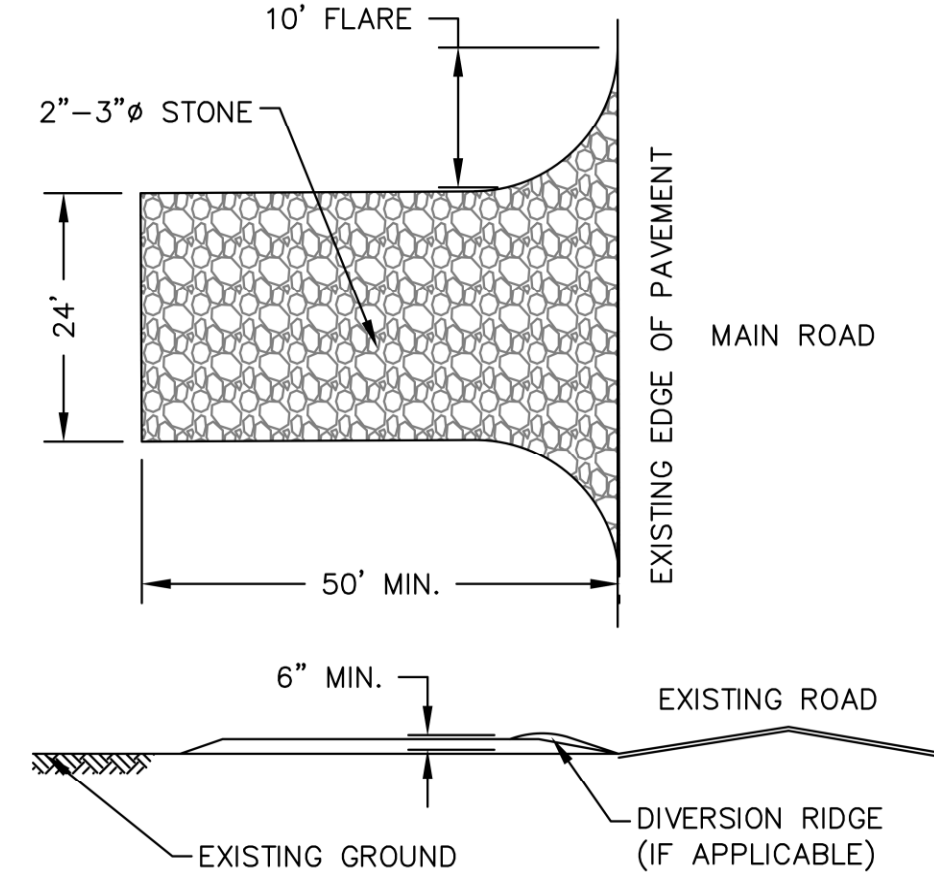


MAP 28 LOT 26
N/F
GREAT BEGINNINGS NURSERY SCHOOL, INC.
190 CHASES POND ROAD
YORK, ME 03909
BOOK 16850 PAGE 346



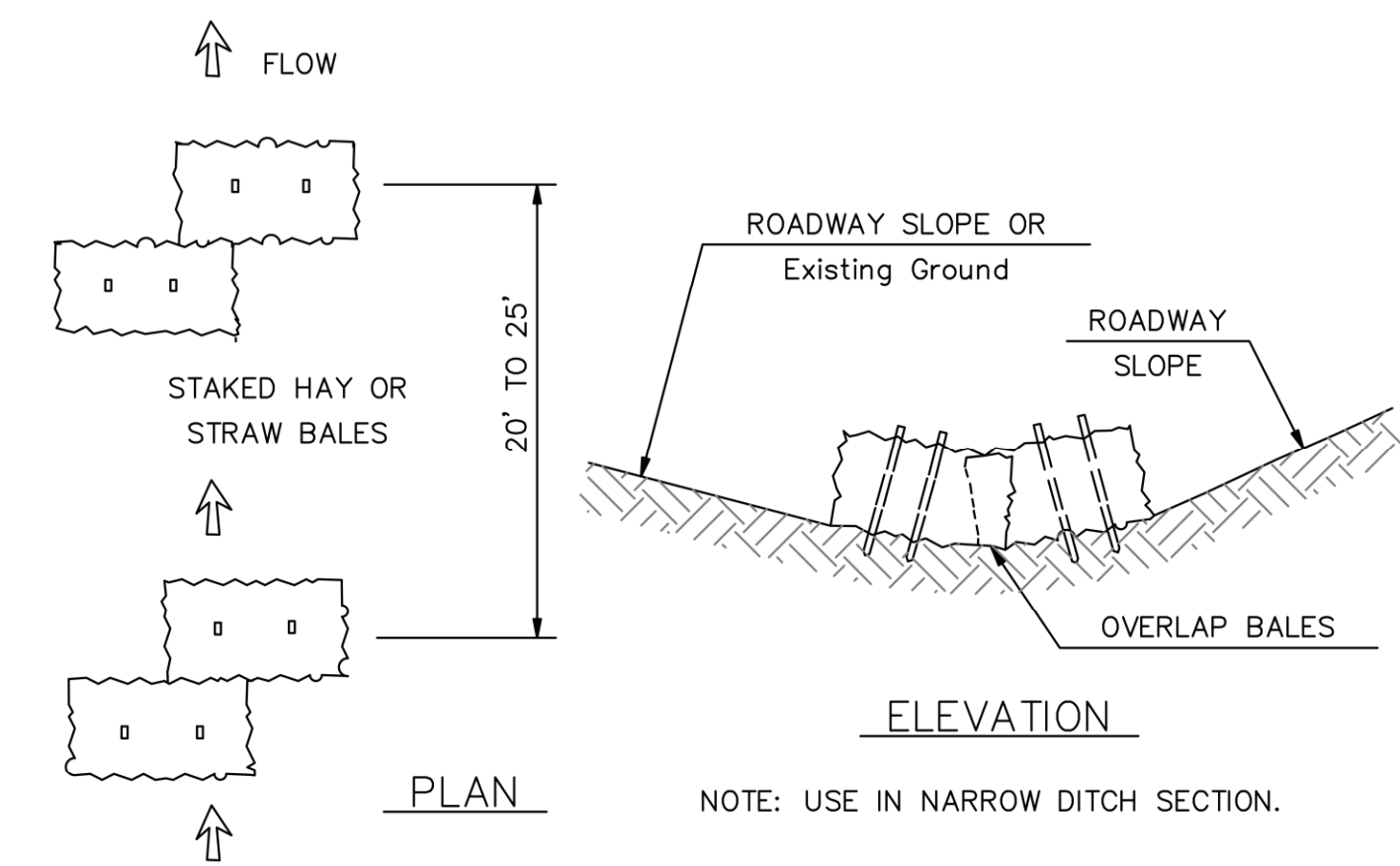
- NOTES:
- IT MAY BE NECESSARY TO CUT, PACK DOWN OR REMOVE TALL GRASSES, BRUSH OR WOODY VEGETATION TO AVOID VOIDS AND BRIDGES THAT ALLOW THE WASHING AWAY OF FINE SOIL PARTICLES.
 - THE ECM BERM SHOULD BE A MINIMUM OF 12" HIGH AND A MINIMUM OF 2' WIDE. ON LONGER OR STEEPER SLOPES, THE BERM WILL NEED TO BE WIDER AND HIGHER.
 - BERMS COMPOSED OF ECM CAN BE RESHAPED WHEN NECESSARY.

EROSION CONTROL MIX (ECM) BERM DETAIL
NOT TO SCALE



TEMPORARY CONSTRUCTION ENTRANCE
NOT TO SCALE

- NOTES:
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRED TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
 - WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAYS.
 - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP.
 - STONE SHALL BE 2"-3" COURSE AGGREGATE AND A MINIMUM OF 6" THICK.
 - DIVERSION BERM REQUIRED WHERE SLOPE OF DRIVEWAY EXCEED 2% TOWARDS MAIN ROAD.



TEMPORARY HAY BALE BARRIER
NOT TO SCALE

STANDARD EROSION AND SEDIMENTATION CONTROL MEASURES:

- ALL WORK SHALL COMPLY WITH THE CURRENT VERSION OF THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL PUBLISHED BY MAINE DEP. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH SAID MANUAL.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY SOIL DISTURBING ACTIVITIES.
- THE CONTRACTOR SHALL STRIP AND GRADE ONLY THOSE AREAS SUBJECT TO IMMEDIATE CONSTRUCTION. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN 7 DAYS OF FINAL GRADING. ANY EXPOSED SOIL THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS SHALL BE STABILIZED WITH MULCH. STABILIZE AREAS WITHIN 75 FEET OF A WETLAND OR WATER BODY WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.
- ALL TOPSOIL STRIPPED FROM THE AREA SHALL BE STOCKPILED, TEMPORARILY MULCHED WITH HAY AND SURROUNDED BY A HAY BALE BARRIER UNTIL IT IS SPREAD AND FINAL GRADING IS COMPLETE.
- PERMANENT STABILIZATION MUST BE IMPLEMENTED WITHIN 60 DAYS OF SOIL DISTURBANCE OR BY OCTOBER 1, WHICH EVER IS EARLIER.
- PERMANENT SEEDING WILL BE DONE AS EARLY AS POSSIBLE IN THE GROWING SEASON. PERMANENT SEEDING SHOULD BE MADE PRIOR TO AUGUST 15. IF SEEDING CANNOT BE DONE PRIOR TO OCTOBER 1, DORMANT SEEDING WILL BE DONE ACCORDING TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL WITH TEMPORARY MULCHING.
- TOPSOIL WILL BE UNIFORMLY SPREAD A MINIMUM OF 4 INCHED DEEP OVER ALL AREAS TO BE RE-VEGETATED. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
- LIME SHALL BE APPLIED AS FAR IN ADVANCE OF SEEDING AS POSSIBLE. WORK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF 4 INCHES EITHER BEFORE OR DURING FINAL SEED BED PREPARATION.
- IF SEEDING DOES NOT TAKE AT LEAST 80% IN ANY AREA WITHIN 30 DAYS IT SHOULD BE RESEEDED IMMEDIATELY OR TEMPORARILY MULCHED AND RESEEDED WITHIN ONE PLANTING SEASON.
- SEDIMENT CONTROL BARRIERS CAN BE REMOVED UPON STABILIZATION OF THE FINISHED GRADES AND USED AS ADDITIONAL MULCHING MATERIAL (IF APPLICABLE).
- THE SEEDED AREAS SHALL BE INSPECTED EVERY 15 DAYS AND MAINTAINED BY WATERING, WEEDING, MOWING, TRIMMING, REGRADING AND REPLANTING AS REQUIRED TO ESTABLISH A LAWN FREE OF ERODED OR BARE AREAS.
- BIODEGRADABLE EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL SLOPES TO BE VEGETATED THAT ARE GREATER THAN 3:1 SLOPE UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- MINIMUM APPLICATION RATES:
TEMPORARY HAY OR STRAW MULCH: 2 BALES PER 1,000 SF (DOUBLE IN WINTER)
EROSION CONTROL MIX: < 3:1 SLOPE = 2 INCHES
3:1-2:1 SLOPE = 4 INCHES
TEMPORARY SEEDING:
WINTER RYE 112 LB/ACRE (FALL)
OATS 80 LB/ACRE (SPRING)
ANNUAL RYEGRASS 40 LB/ACRE
SUDANGRASS 40 LB/ACRE (SUMMER)
PERENNIAL 40 LB/ACRE
- APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEED (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING.
- ALL TEMPORARY SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND RESTABILIZE IF NECESSARY.

MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

- A. GENERAL: THE FOLLOWING GENERAL INSPECTION AND MAINTENANCE PRACTICES SHALL BE USED THROUGHOUT THE PROJECT.
- ALL CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EACH WEEK AND FOLLOWING ANY STORM EVENT OF 0.5 INCHES OR GREATER.
 - ALL MEASURES SHALL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT SHALL BE COMPLETED WITHIN 24 HOURS.
 - BUILT UP SEDIMENT SHALL BE REMOVED FROM SILT FENCE OR SEDIMENT BARRIERS WHEN IT HAS REACHED ONE THIRD THE HEIGHT OF THE FENCE OR BALE, OR WHEN "BULGES" OCCURS.
 - ALL DIVERSION DIKES SHALL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
 - TEMPORARY SEEDING AND PLANTING SHALL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND UNHEALTHY GROWTH.
 - A MAINTENANCE INSPECTION REPORT SHALL BE MADE AFTER EACH INSPECTION.
 - THE CONTRACTOR'S SITE SUPERINTENDENT SHALL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.
 - THE OWNER'S AUTHORIZED REPRESENTATIVE SHALL INSPECT THE SITE ON A PERIODIC BASIS TO REVIEW COMPLIANCE WITH THE PLANS.
 - AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
a. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
b. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
c. A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED OR
d. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
 - SODDING - SODDING IS DONE WHERE IT IS DESIRABLE TO RAPIDLY ESTABLISH COVER ON A DISTURBED AREA. SODDING AN AREA MAY BE SUBSTITUTED FOR PERMANENT SEEDING PROCEDURES ANYWHERE ON SITE. PREPARATION, FERTILIZING, AND PLACEMENT OF SOD SHALL BE PERFORMED ACCORDING TO SUPPLIER'S SPECIFICATIONS. SODDING IS RECOMMENDED FOR STEEP SLOPED AREAS. AREAS IMMEDIATELY ADJACENT TO SENSITIVE WATER COURSES, EASILY ERODIBLE SOILS (FINE SAND/SILT) ETC.

ISSUED FOR TOWN REVIEW
NOT FOR CONSTRUCTION

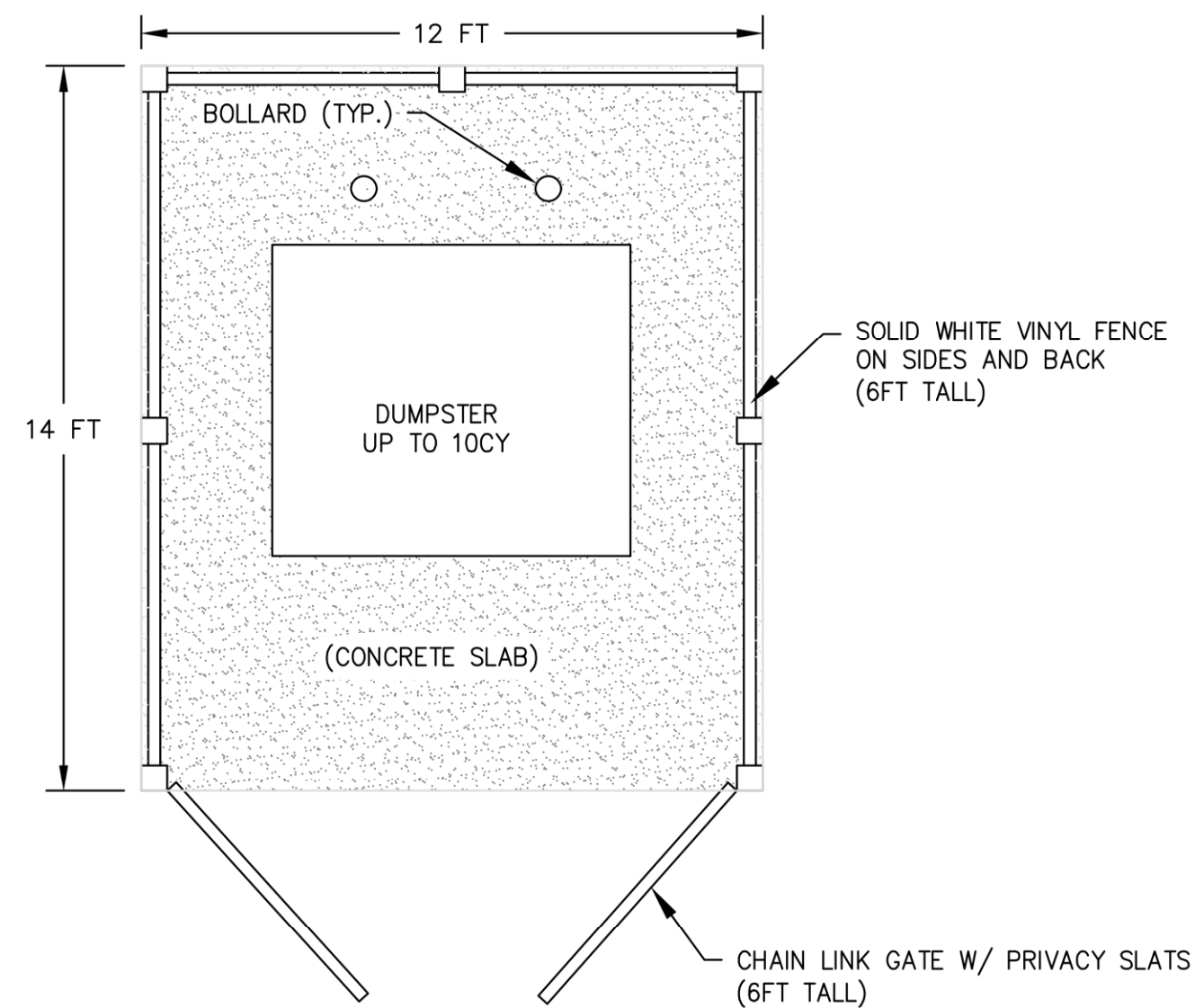
SEPT. 3, 2020
NOT VALID UNLESS
SIGNED AND STAMPED

NO.	DATE	SUBMISSION/REVISION DESCRIPTION
3	9/3/20	MODIFIED PER TOWN REVIEW COMMENTS
2	7/31/20	ADDED RIGHT TURN LANE TO MACKENZIE LANE
1	5/6/20	ISSUED FOR REVIEW BY TOWN OF KITTERY

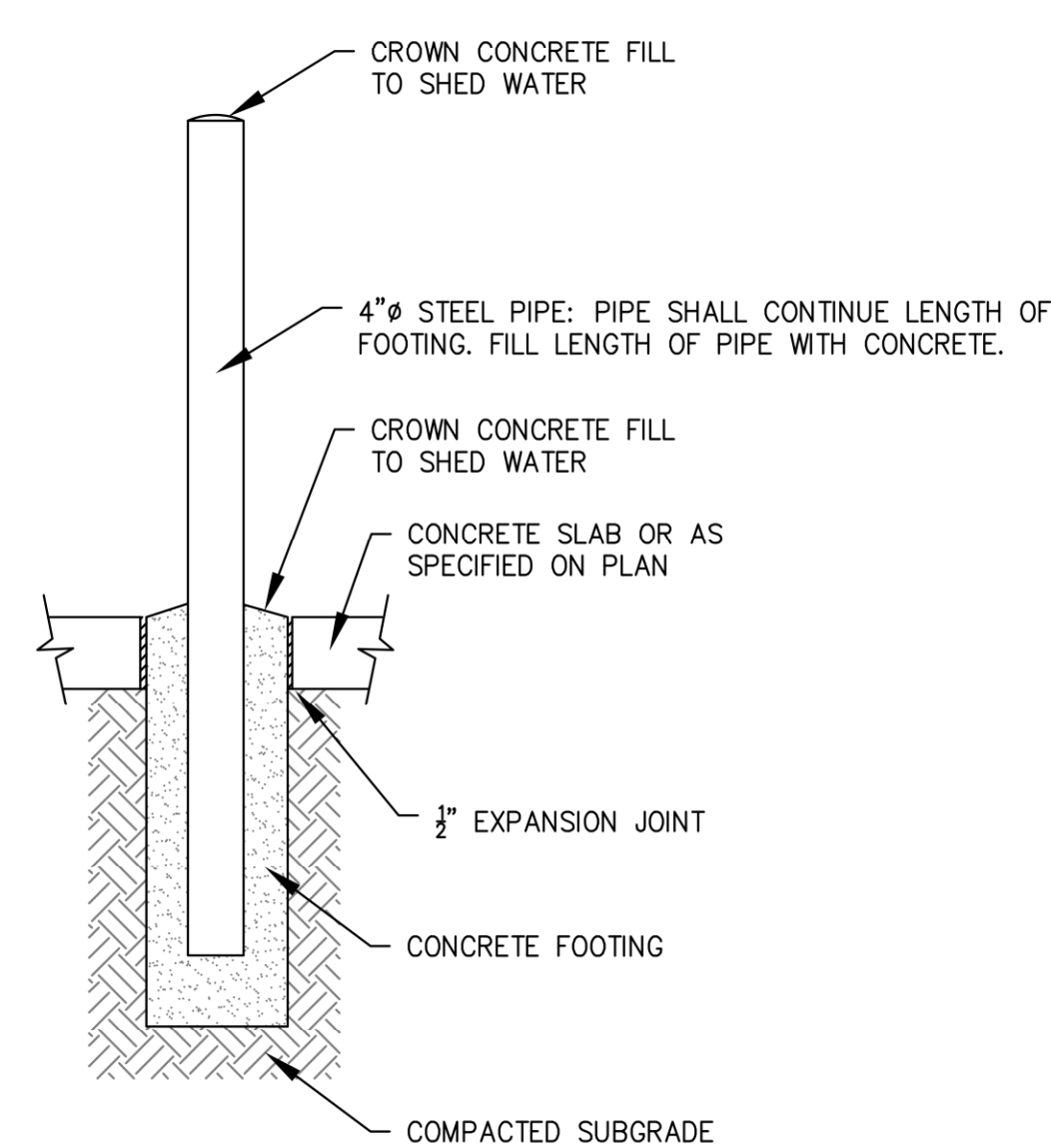
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CLIENT:	ROBERT T. BRENNAN, JR. 1911 SE 20TH STREET CAPE CORAL, FL 33990
PROJECT:	KITTERY CAR WASH ROUTE 236, KITTEY, MAINE 03904
SHEET:	EROSION AND SEDIMENT CONTROL PLAN
JOB #:	19-134
DATE:	MARCH 2020
SCALE:	1" = 20' DRAWING

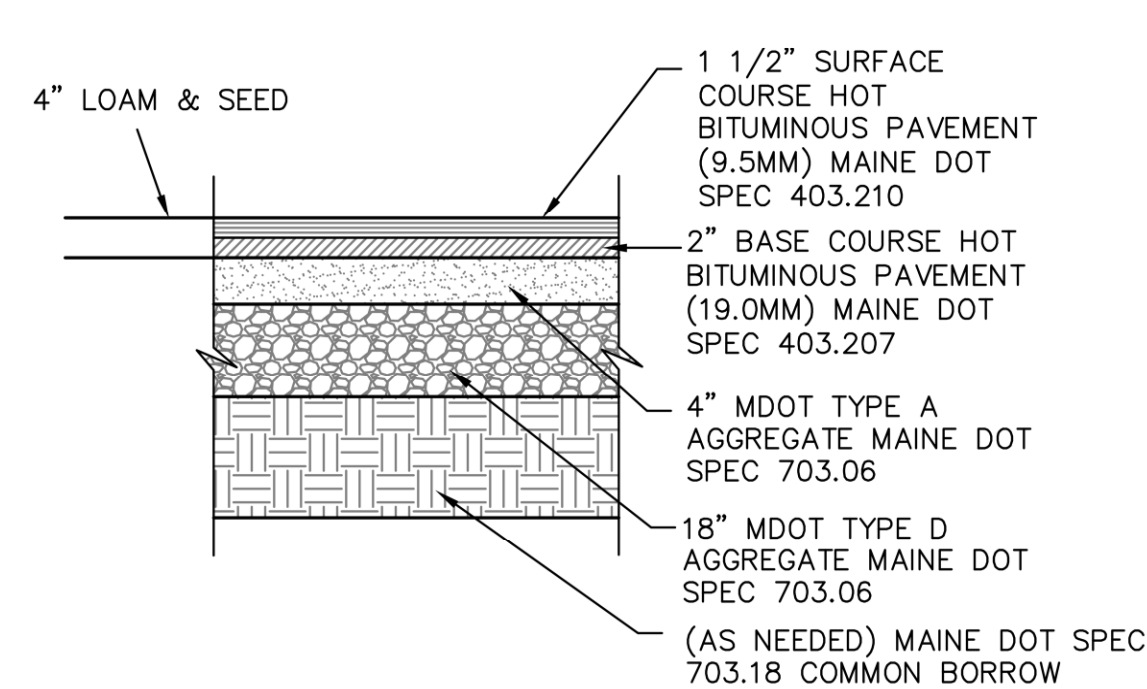
TAX MAP 28 LOT 25D



DUMPSTER ENCLOSURE DETAIL
NOT TO SCALE



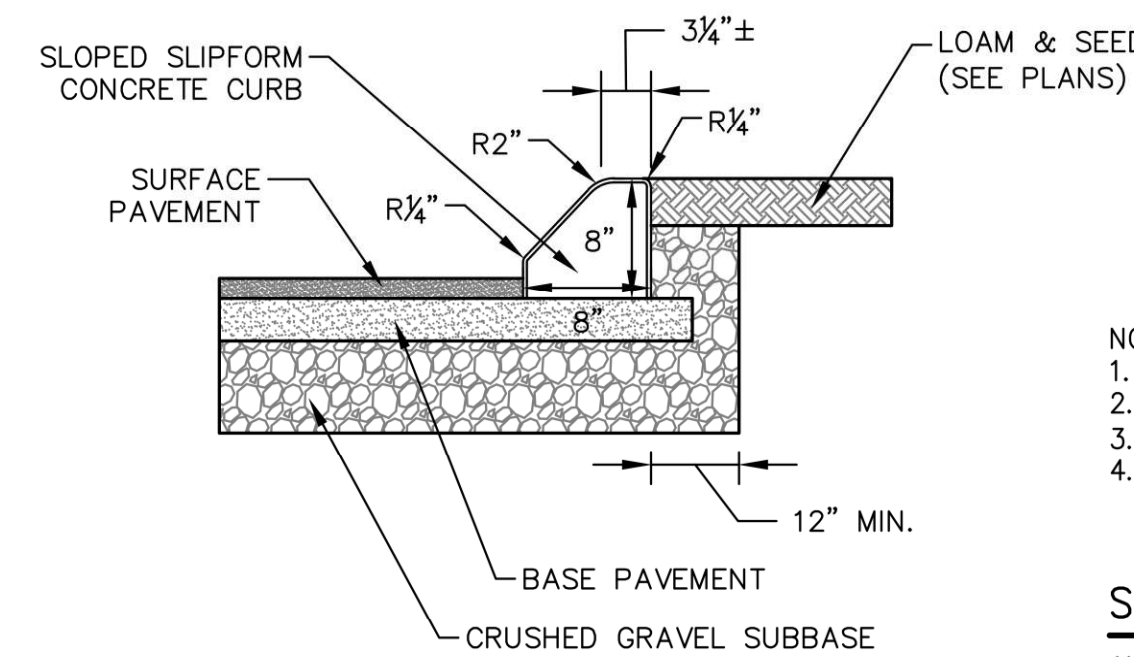
BOLLARD DETAIL
NOT TO SCALE



TYPICAL PAVEMENT SECTION
NOT TO SCALE

GENERAL MATERIAL NOTES – APPLIED TO ALL DETAILS UNLESS OTHERWISE NOTED.

1. MATERIAL AND CONSTRUCTION METHODS SHALL CONFORM TO THE STATE OF MAINE STANDARD SPECIFICATIONS REVISION OF NOV. 2014.
2. ALL ORGANIC MATERIALS, ROCKS, DEBRIS/RUBBISH AND BOULDERS WITHIN TWO FEET BELOW THE SUBGRADE OF THE ROAD MUST BE REMOVED AND REPLACED WITH SUITABLE COMPACTED FILL MEETING MAINE DOT SPEC 703.20 GRAVEL BORROW.
3. FILL UNDER PAVEMENT OR CONCRETE AREAS SHALL BE INSTALLED AND COMPACTED IN ACCORDANCE WITH THE STATE OF MAINE STANDARD SPECIFICATIONS.



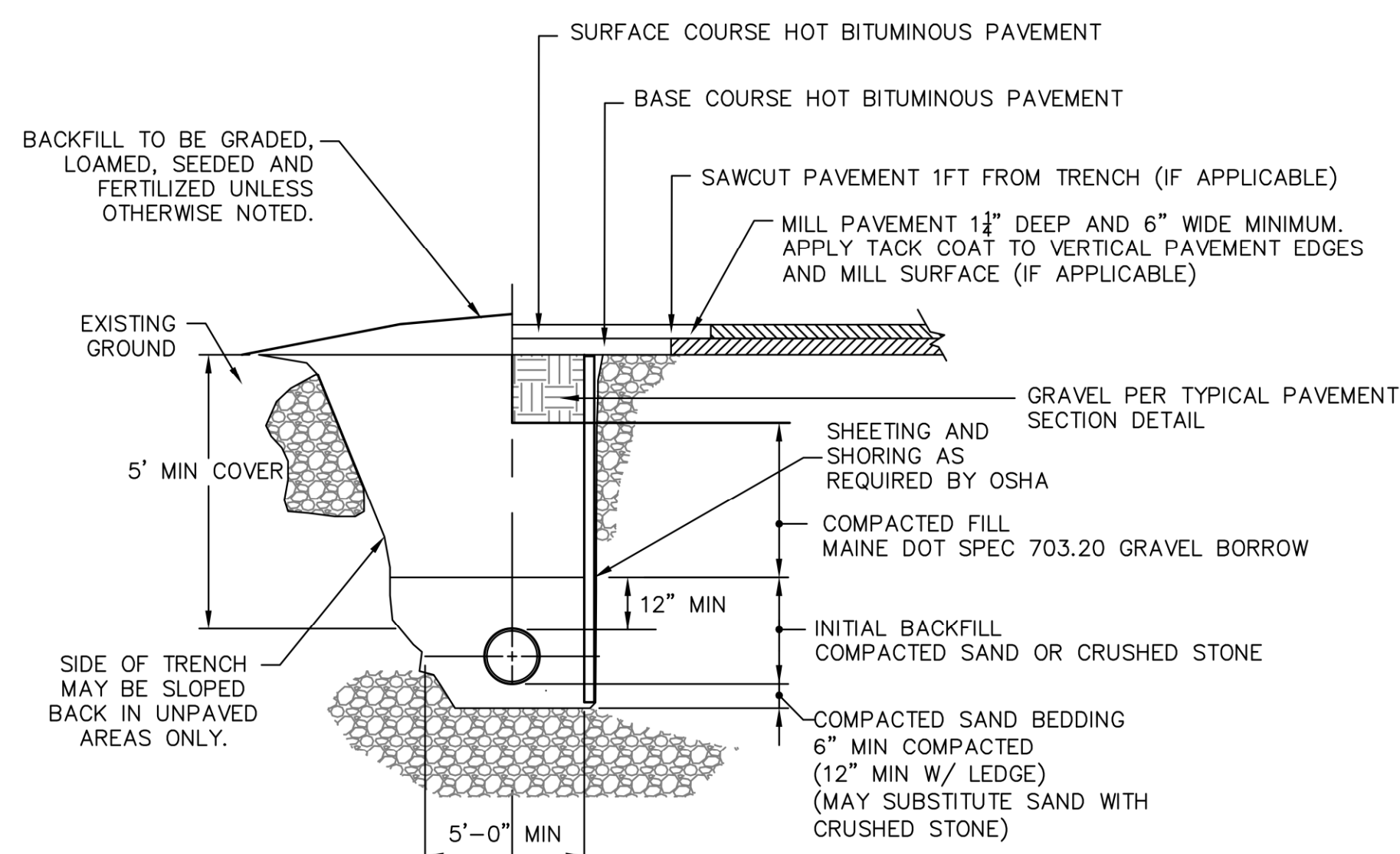
SLOPED SLIPFORM CONCRETE CURB DETAIL
NOT TO SCALE



STOP SIGN (R1-1)
NOT TO SCALE

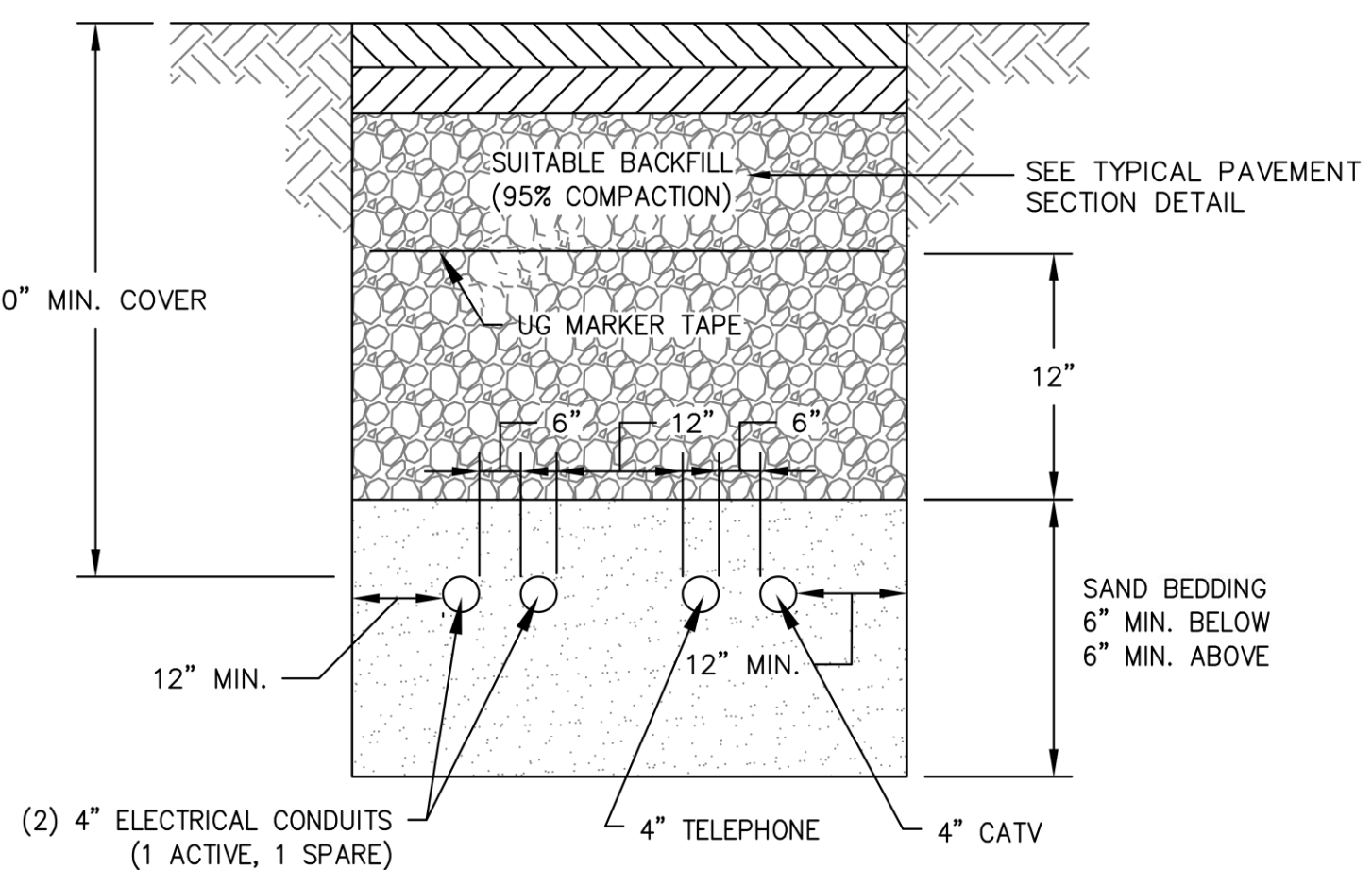
NOTES:

1. WHITE LEGEND & BORDER ON RED BACKGROUND
2. SIGN SHALL BE RETROREFLECTIVE
3. SIGN SHALL COMPLY W/ MUTCD STANDARDS DIMENSIONS
4. A = 30" FOR SIGN AT CAR WASH DRIVEWAY
5. A = 36" FOR SIGN ON MACKENZIE LANE



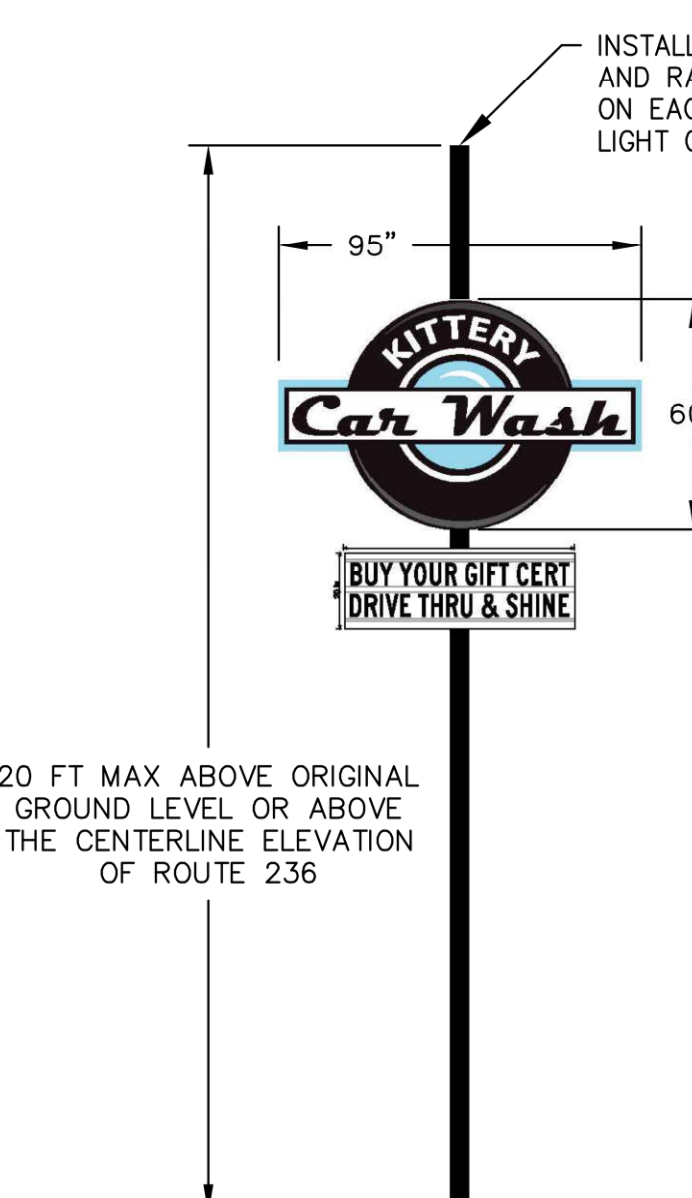
PIPE TRENCH DETAIL
NOT TO SCALE

NOTES: 1. ALL EXCAVATION MUST MEET OSHA STANDARDS.

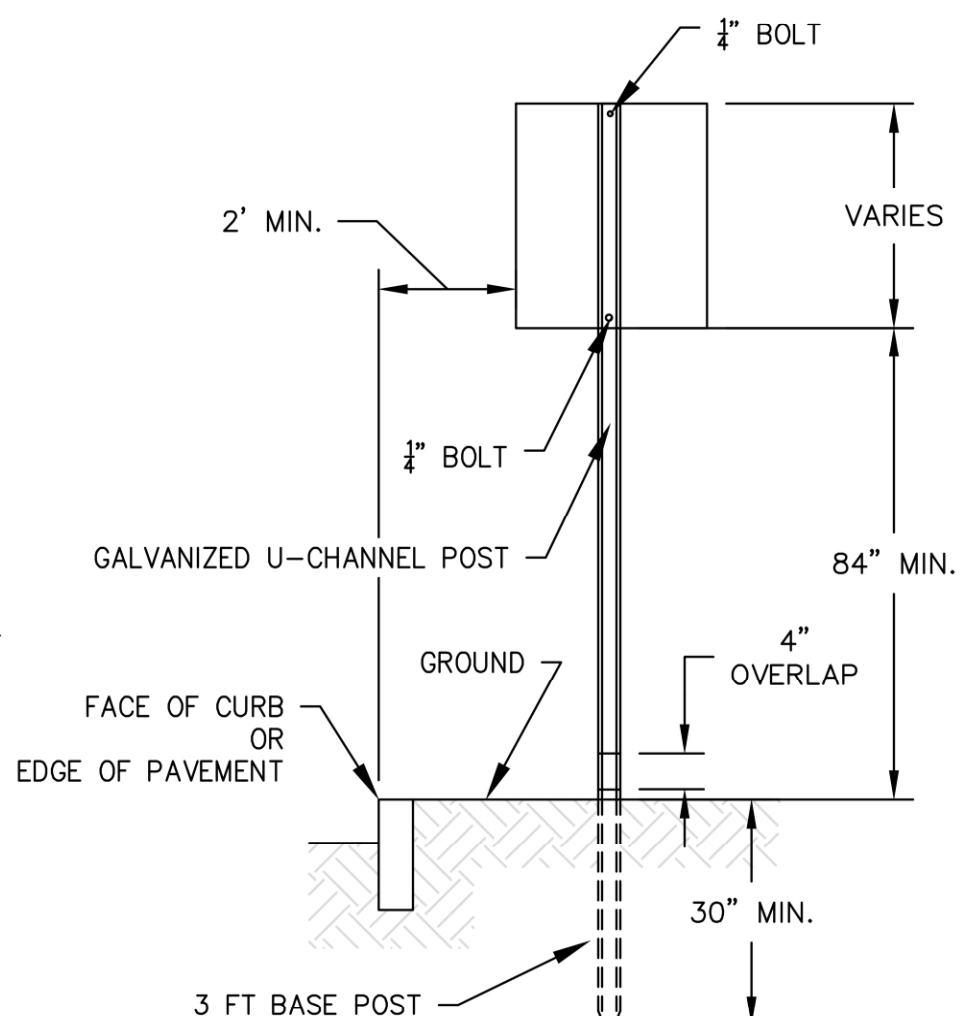


UNDERGROUND UTILITY TRENCH
NOT TO SCALE

1. INSTALL CONDUIT PER THE REQUIREMENTS AND SPECIFICATION OF RESPECTIVE UTILITY COMPANY.
2. CONDUIT SHALL BE SCH. 80 PIPE UNLESS OTHERWISE SPECIFIED BY UTILITY COMPANY.
3. ADDITIONAL SPARE CONDUITS MAY BE INSTALLED PROVIDED A MINIMUM OF 6" OF CLEARANCE IS PROVIDED BETWEEN CONDUIT.
4. BACKFILL MATERIAL SHALL CONFORM TO TYPICAL PAVEMENT SECTION DETAIL IF LOCATED UNDER THE ROAD.
5. ALL UTILITIES AND CONDUIT SHALL BE REVIEWED AND APPROVED PRIOR TO INSTALLATION AND INSPECTED PRIOR TO BACKFILLING.
6. CONCRETE ENCASEMENT MAY BE REQUIRED IN REPLACE OF THE SAND BEDDING PER THE UTILITY COMPANY.



FREESTANDING SIGN DETAIL
NOT TO SCALE



BREAK AWAY SIGN POST
NOT TO SCALE

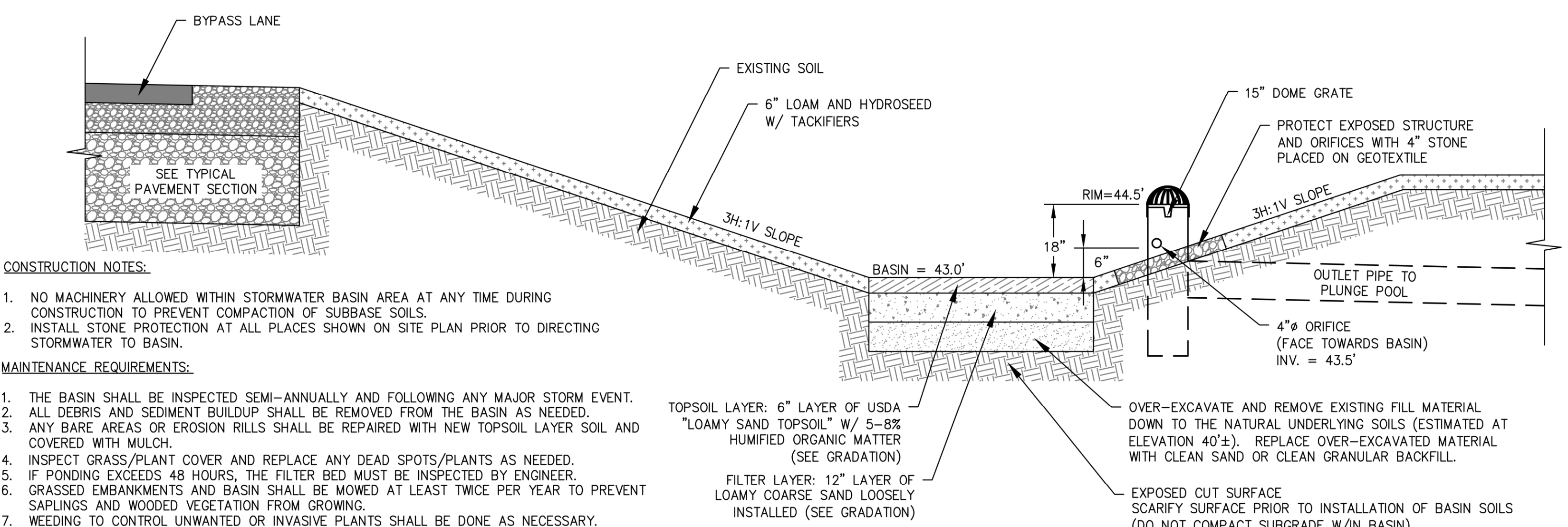
NOTES:

1. POSTS SHALL BE PLUMB; ANY POST BENT OR OTHERWISE DAMAGED SHALL BE REMOVED AND PROPERLY REPLACED.
2. POSTS MAY BE SET OR DRIVEN. WHEN POSTS ARE SET, HOLES SHALL BE DUG TO PROPER DEPTH. AFTER INSERTING POSTS, THE HOLES SHALL BE BACKFILLED WITH SUITABLE MATERIAL IN 6" LIFTS AND THOROUGHLY COMPACTED.
3. WHEN POSTS ARE DRIVEN, A SUITABLE DRIVING CAP SHALL BE USED. POSTS SHALL NOT BE DRIVEN WHILE SIGN IS ATTACHED.
4. SIGNS SHALL MEET THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND INSTALLED IN ACCORDANCE WITH THE MANUAL.
5. THE POST SHALL NOT EXTEND ABOVE THE TOP OF THE SIGN. POST SHALL BE GALVANIZED GRADE 60 STEEL (ASTM A-499) OR GRADE 1070-1080 (ASTM A-576).
6. ALL POST SHALL UTILIZE BREAKAWAY DEVICES AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

PLUNGE POOL SIZING (MINIMUM)				
SIZE	RIPRAP SIZING D50	WIDTH OF PLUNGE POOL OR APRON	LENGTH FOR SLOW FLOWS (NO PRESSURE HEAD)	LENGTH FOR HIGH FLOWS (WITH PRESSURE HEAD)
12"	5"	3-4'	4-6'	8-10'
18"	8"	4-6'	6-8'	12-18'
24"	10"	6-8'	8-10'	18-22'
30"	12"	8-10'	12-14'	22-28'
36"	14"	10-12'	14-16'	28-32'

THE DIAMETER OF THE LARGEST STONE SIZE IN THE MIX SHOULD BE ABOUT 1.5 TIMES THE D50 AND THE SMALLEST ONE ABOUT ONE HALF THE SIZE. THE THICKNESS OF RIPRAP SHOULD NEVER BE LESS THAN 2 TIMES THE ROCK D50.

- CONSTRUCTION SPECIFICATIONS**
- IF THE PIPE DISCHARGES ONTO A FLAT AREA THE APRON SHOULD HAVE A WIDTH THAT IS THREE TIMES THE PIPE'S DIAMETER. IF THE PIPE FLOWS HAVE THE POTENTIAL OF CAUSING A GULLY, A LEVEL SPREADER SHOULD BE PROVIDED.
 - THE CHANNEL SIDE SLOPES SHOULD BE NO STEEPER THAN 2:1. RIPRAP ON THE SIDES OF THE PLUNGE POOL SHOULD EXTEND TO THE TOP OF THE CHANNEL.
 - THE PLUNGE POOL SIZING AND THE MEDIAN SIZED RIPRAP CAN BE DETERMINED FROM THE FOLLOWING TABLE. THE THICKNESS OF RIPRAP SHOULD NOT BE LESS THAN 2 TIMES THE ROCK D50
 - A GEOTEXTILE OR APPROPRIATE GRAVEL FILTER SHOULD BE USED TO PROTECT AGAINST PIPING OF SOIL FINES FROM BENEATH THE ROCK.
 - IN A CHANNEL THAT CAN BE REVEGETATED, SEED AND MULCH SHOULD BE APPLIED WITHIN 7 DAYS FROM FINAL CONSTRUCTION.

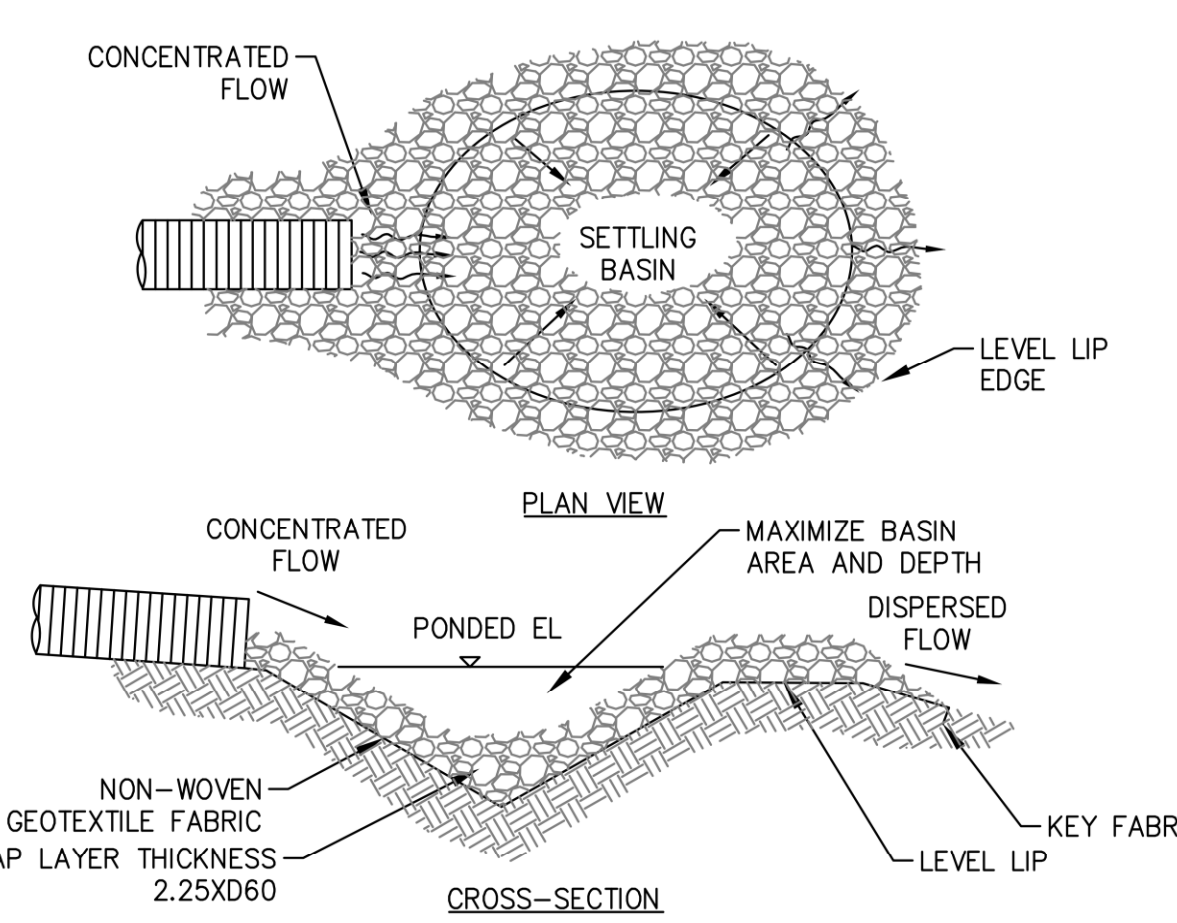


- CONSTRUCTION NOTES:**
1. NO MACHINERY ALLOWED WITHIN STORMWATER BASIN AREA AT ANY TIME DURING CONSTRUCTION TO PREVENT COMPACTION OF SUBBASE SOILS.
 2. INSTALL STONE PROTECTION AT ALL PLACES SHOWN ON SITE PLAN PRIOR TO DIRECTING STORMWATER TO BASIN.
- MAINTENANCE REQUIREMENTS:**
1. THE BASIN SHALL BE INSPECTED SEMI-ANNUALLY AND FOLLOWING ANY MAJOR STORM EVENT.
 2. ALL DEBRIS AND SEDIMENT BUILDUP SHALL BE REMOVED FROM THE BASIN AS NEEDED.
 3. ANY BARE AREAS OR EROSION RILLS SHALL BE REPAIRED WITH NEW TOPSOIL LAYER SOIL AND COVERED WITH MULCH.
 4. INSPECT GRASS/PLANT COVER AND REPLACE ANY DEAD SPOTS/PLANTS AS NEEDED.
 5. IF PONDING EXCEEDS 48 HOURS, THE FILTER BED MUST BE INSPECTED BY ENGINEER.
 6. GRASSSED EMBANKMENTS AND BASIN SHALL BE MOWED AT LEAST TWICE PER YEAR TO PREVENT SAPLINGS AND WOODED VEGETATION FROM GROWING.
 7. WEEDING TO CONTROL UNWANTED OR INVASIVE PLANTS SHALL BE DONE AS NECESSARY.

STORMWATER BASIN CROSS SECTION
NOT TO SCALE

TOPSOIL LAYER GRADATION	
SIEVE #	% PASSING BY WEIGHT
4	75-95
10	60-90
40	35-85
200 (CLAY)	25-70
200 (CLAY)	< 5.0

FILTER LAYER GRADATION	
SIEVE #	% PASSING BY WEIGHT
10	85-100
20	70-100
60	15-40
200	8-15
200 (CLAY)	< 5.0



PLUNGE POOL DETAIL
NOT TO SCALE

ISSUED FOR TOWN REVIEW
NOT FOR CONSTRUCTION

TAX MAP 28 LOT 25D

STATE OF MAINE
RYAN M. MCCANN
LICENSED PROFESSIONAL ENGINEER
#12895
SEPT. 3, 2020
NOT VALID UNLESS SIGNED AND STAMPED

MODIFIED PER TOWN REVIEW COMMENTS
ADDED RIGHT TURN LANE TO MACKENZIE LANE
ISSUED FOR REVIEW BY TOWN OF KITTERY
SUBMISSION/REVISION DESCRIPTION

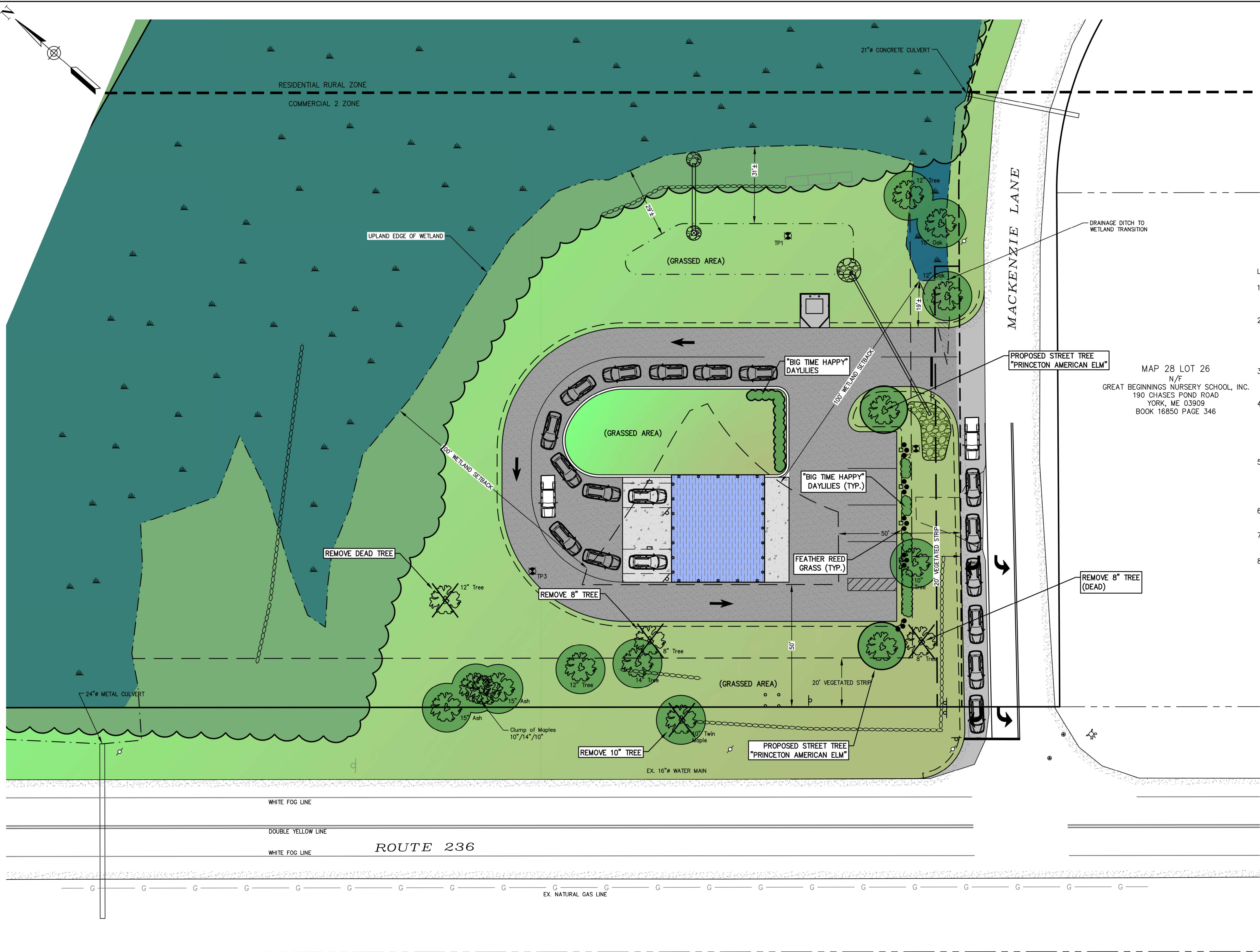
NO. DATE: 3 9/3/20 2 7/31/20 1 5/6/20

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CLIENT: ROBERT T. BRENNAN, JR.
1911 SE 20TH STREET
CAPE CORAL, FL 33990
PROJECT: KITTERY CAR WASH
ROUTE 236, KITTERY, MAINE 03904
SHEET: CONSTRUCTION DETAILS

JOB # 19-134
DATE: MARCH 2020
SCALE: 1" = 20'
DRAWING

C6



MAP 28 LOT 26
N/F
GREAT BEGINNINGS NURSERY SCHOOL, INC.
190 CHASES POND ROAD
YORK, ME 03909
BOOK 16850 PAGE 346

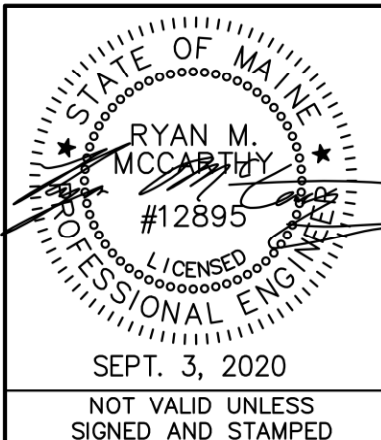
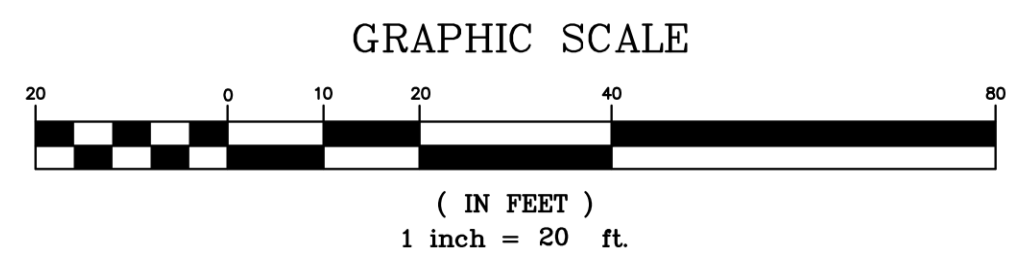
- LANDSCAPING NOTES:
1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING WOODED AREAS, EXISTING TREES AND PROPOSED ADDITIONAL LANDSCAPING ASSOCIATED WITH THE PROPOSED KITTERY CAR WASH DEVELOPMENT.
 2. ALL EXISTING TREES WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED FROM DAMAGE BY INSTALLING SNOW FENCE OR SIMILAR MATERIAL AROUND EACH TREE. SAID SNOW FENCE SHALL BE LOCATED ALONG THE DRIP EDGE OF THE TREE'S CANOPY. CONTRACTOR TO AVOID SOIL COMPACTION OVER THE TREE'S ROOT SYSTEM.
 3. THE STUMPS OF ALL TREES SHOWN ON THIS PLAN TO BE REMOVED SHALL BE GROUND TO AT LEAST 6 INCHES BELOW GRADE OR REMOVED BY EXCAVATION.
 4. ALL PROPOSED TREES AND PLANTS MUST BE MAINTAINED FOR THE LIFETIME OF THE PROPOSED CAR WASH DEVELOPMENT. ANY PROPOSED TREE OR PLANTING THAT DOES NOT SURVIVE SHALL BE REPLACED BY THE OWNER AT THE EARLIEST SUITABLE PLANTING SEASON. THIS NOTE IS NOT INTENDED TO RELIEVE THE OWNER'S CONTRACTOR FROM ANY WARRANTY PERIOD PROVIDED AS PART OF THE INITIAL INSTALLATION.
 5. ALL AREAS TO BE MAINTAINED AS GRASS SHALL BE COVERED WITH SIX INCHES OF LOAM AND HYDROSEEDDED. HYDROSEED SHALL INCLUDE TACKIFIERS. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING HYDROSEEDED AREAS ON A DAILY BASIS OR AS RECOMMENDED BY INSTALLER.
 6. REFERENCE IS MADE TO SHEET C5 FOR EROSION AND SEDIMENT CONTROL REQUIREMENTS.
 7. PROPOSED PLANTS SELECTED FROM THE APPROVED PLANT MATERIALS LIST FOUND WITHIN SECTION III OF THE KITTERY DESIGN HANDBOOK.
 8. LANDSCAPE REQUIREMENTS PER §16.3.2.11.D(4) C-2 ZONE STANDARDS:
 - (a) PARKING: THE PROPOSED VACUUM BAY PARKING STALLS TO BE SCREENED AS SHOWN ON THE PLAN.
 - (c) LANDSCAPING SITE IMPROVEMENTS:
 - [1] LANDSCAPE PLANTER STRIP: A 20 FOOT DEEP VEGETATED LANDSCAPE PLANTER STRIP IS PROVIDED ALONG BOTH ROUTE 236 AND MACKENZIE LANE. THIS LANDSCAPE STRIP INCLUDES A COMBINATION OF MOWED GRASS SURFACES, TREES AND PLANTS. ALL VEGETATION SHALL BE MAINTAINED IN GOOD CONDITION.
 - [1]b STREET-SIDE TREES: A MINIMUM OF ONE STREET TREE PER 50 FEET OF STREET FRONTAGE REQUIRED.

ROUTE 236:
240 LF OF OPEN FRONTAGE / 50 = 5 TREES REQUIRED
NUMBER OF EXISTING TREES = 11 TREES
NUMBER OF TREES TO BE REMOVED = 4 TREES
NUMBER OF TREES TO BE PLANTED = 1 TREE
TOTAL NUMBER OF TREES PROVIDED = 8 TREES

MACKENZIE LANE:
220 LF OF OPEN FRONTAGE / 50 = 5 TREES REQUIRED
NUMBER OF EXISTING TREES = 6 TREES
NUMBER OF TREES TO BE REMOVED = 1 TREES
NUMBER OF TREES TO BE PLANTED = 1 TREE
TOTAL NUMBER OF TREES PROVIDED = 6 TREES

TREE AND PLANT SCHEDULE:

BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE
ULMUS AMERICANA	PRINCETON AMERICAN ELM	2	2-2 1/2" CALIPER
CALAMOGROSTIS ACUTIFLORA	REED GRASS	15	1 GALLON
HEMEROCALLIS	BIG TIME HAPPY DAYLILY	50	1 GALLON



NOT VALID UNLESS SIGNED AND STAMPED

NO.	DATE	SUBMISSION/REVISION DESCRIPTION
3	9/3/20	MODIFIED PER TOWN REVIEW COMMENTS
2	7/31/20	ADDED RIGHT TURN LANE TO MACKENZIE LANE
1	5/6/20	ISSUED FOR REVIEW BY TOWN OF KITTERY



CLIENT: ROBERT T. BRENNAN, JR.
1911 SE 20TH STREET
CAPE CORAL, FL 33990

PROJECT: KITTERY CAR WASH
ROUTE 236, KITTERY, MAINE 03904

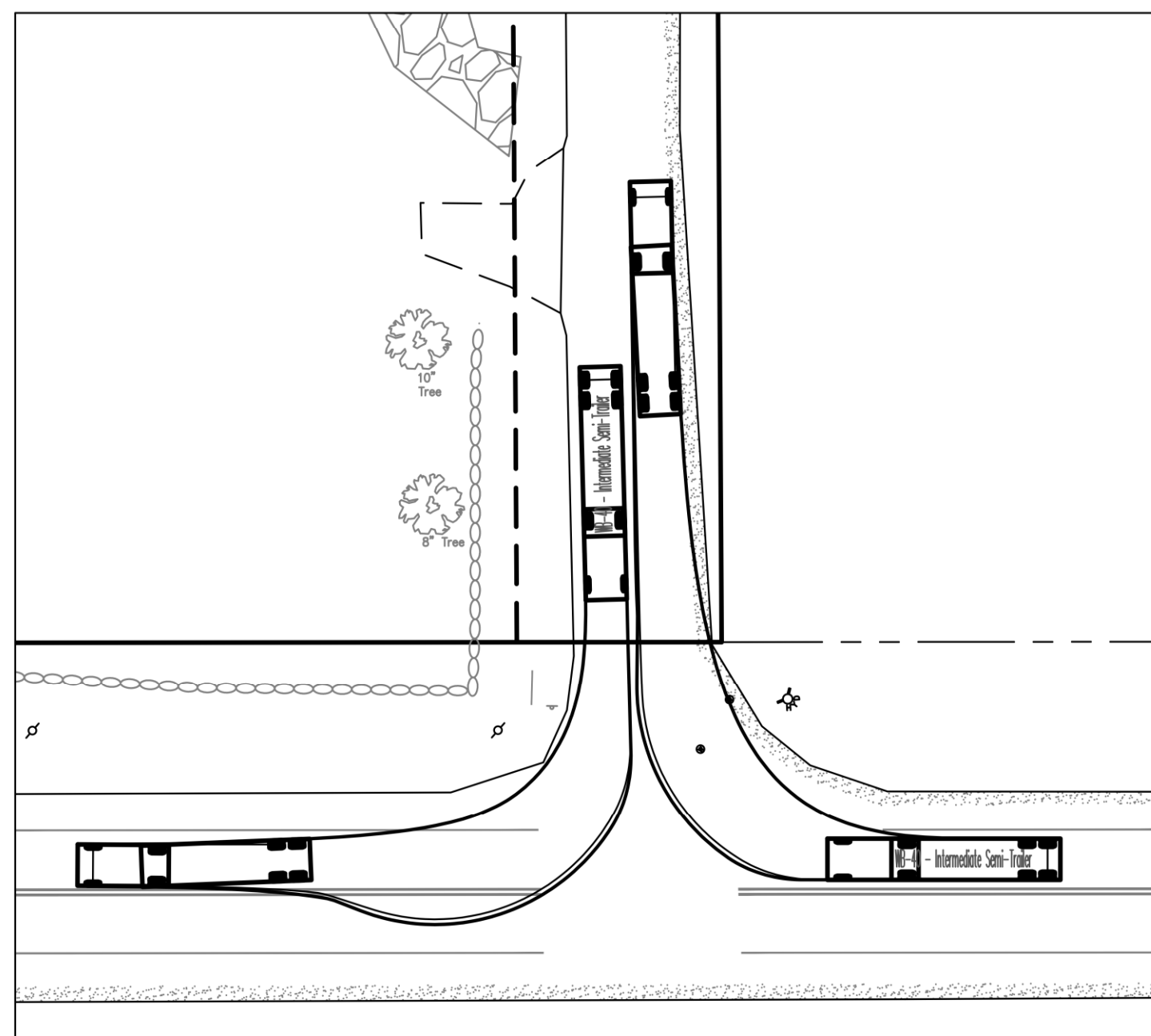
SHEET: PROPOSED LANDSCAPING PLAN

JOB #:	19-134
DATE:	MARCH 2020
SCALE:	1" = 20'

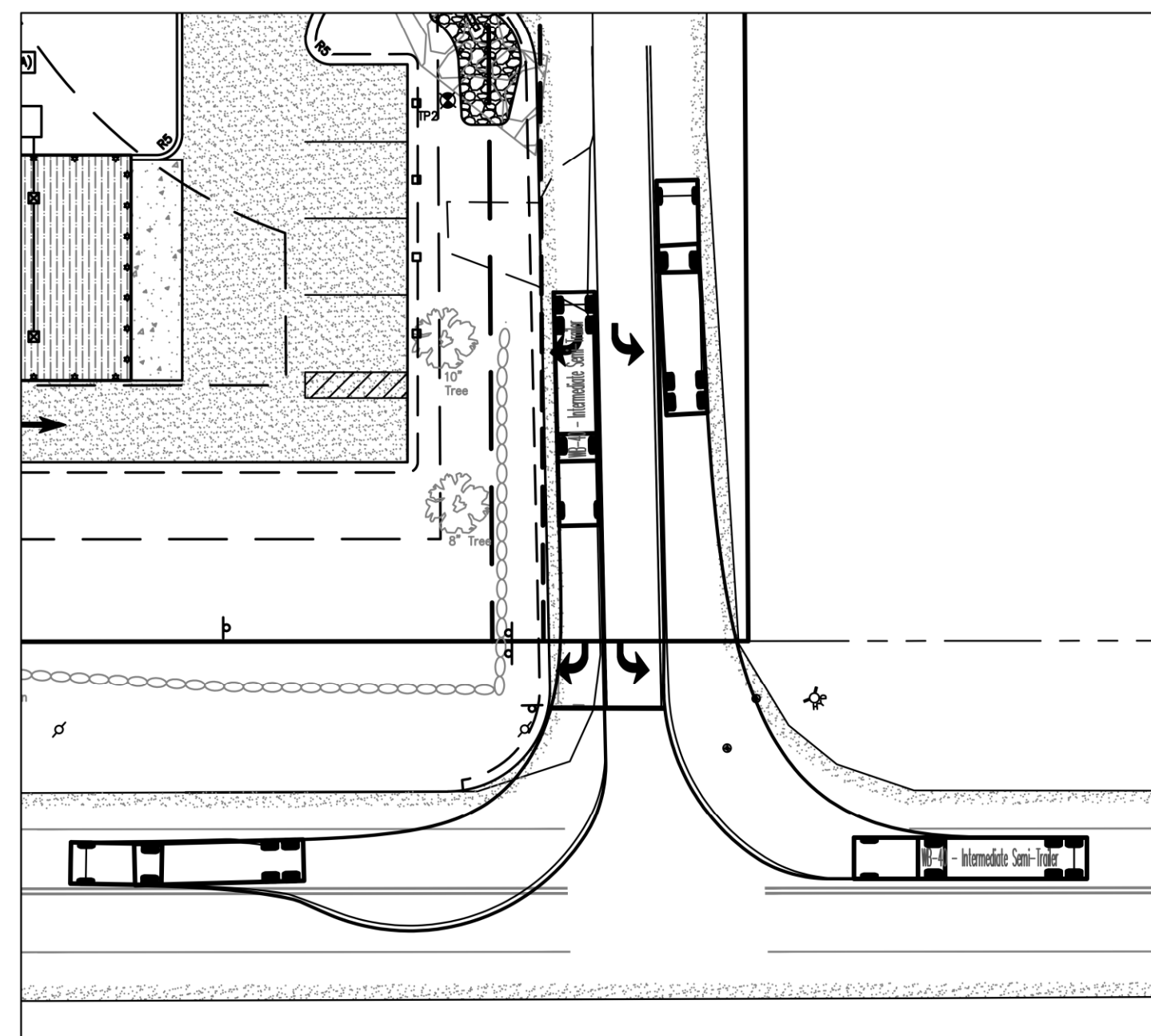
DRAWING

ISSUED FOR TOWN REVIEW
NOT FOR CONSTRUCTION

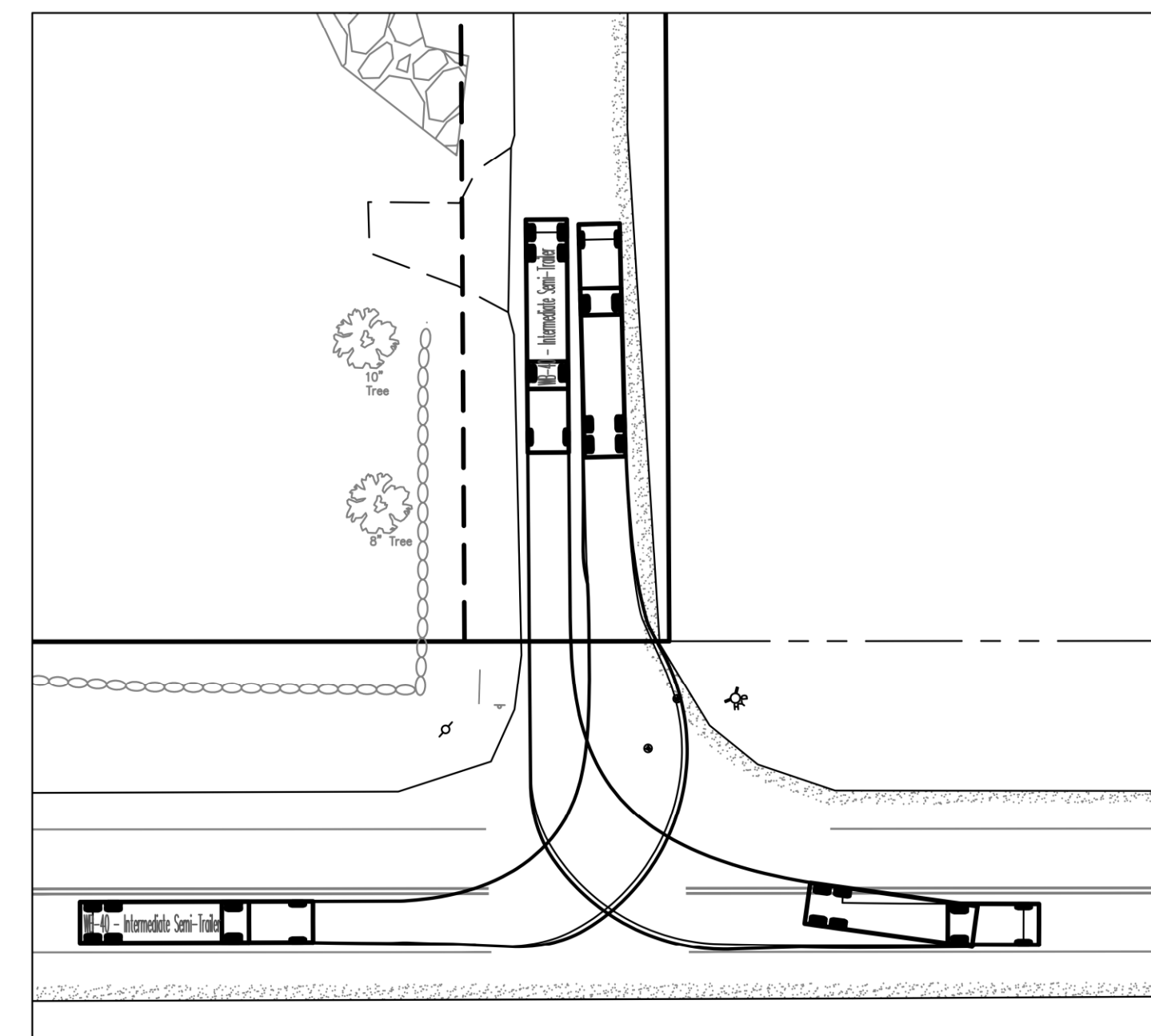




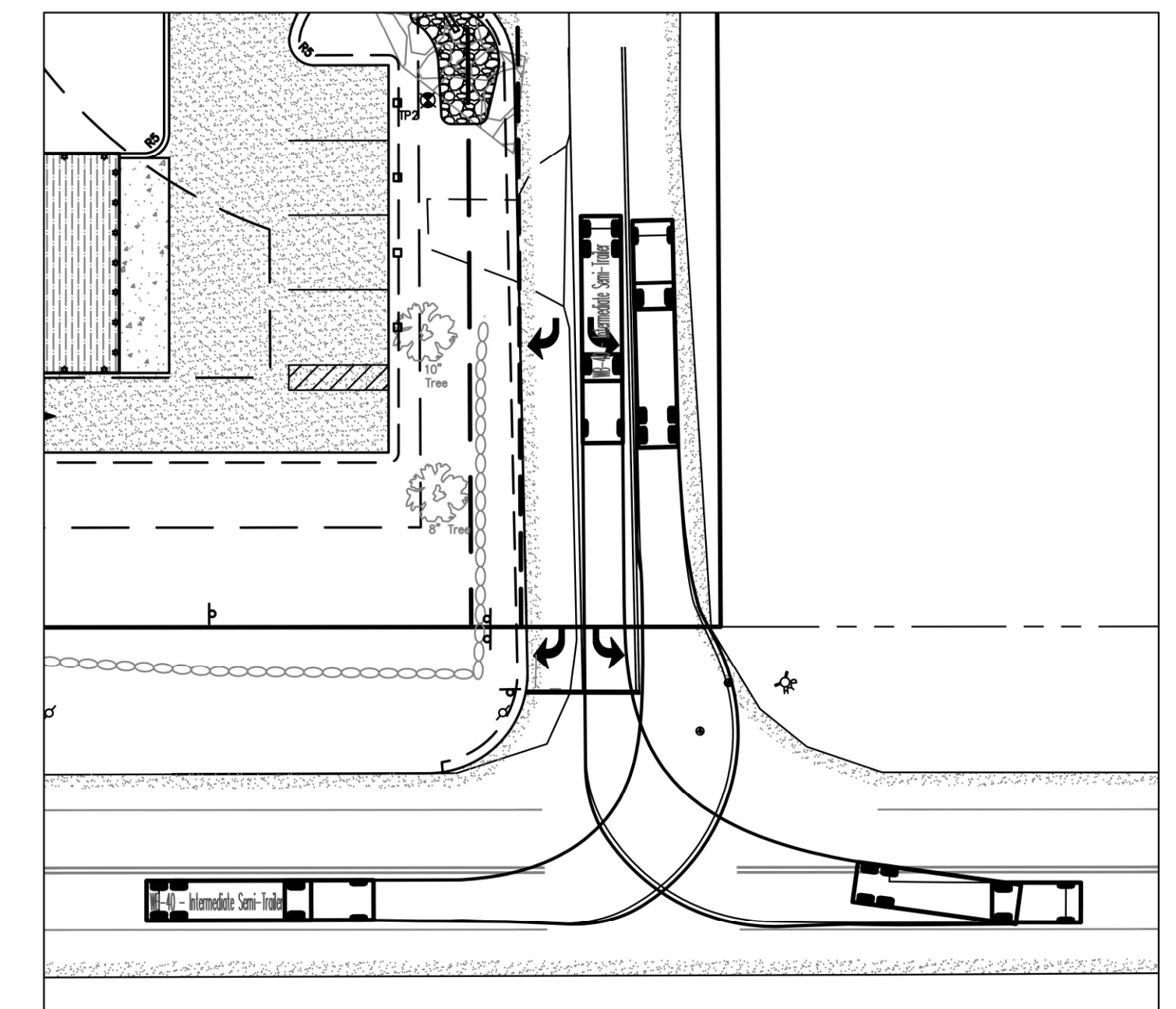
WB-40: RIGHT TURN MOVEMENTS (EXISTING CONDITIONS)



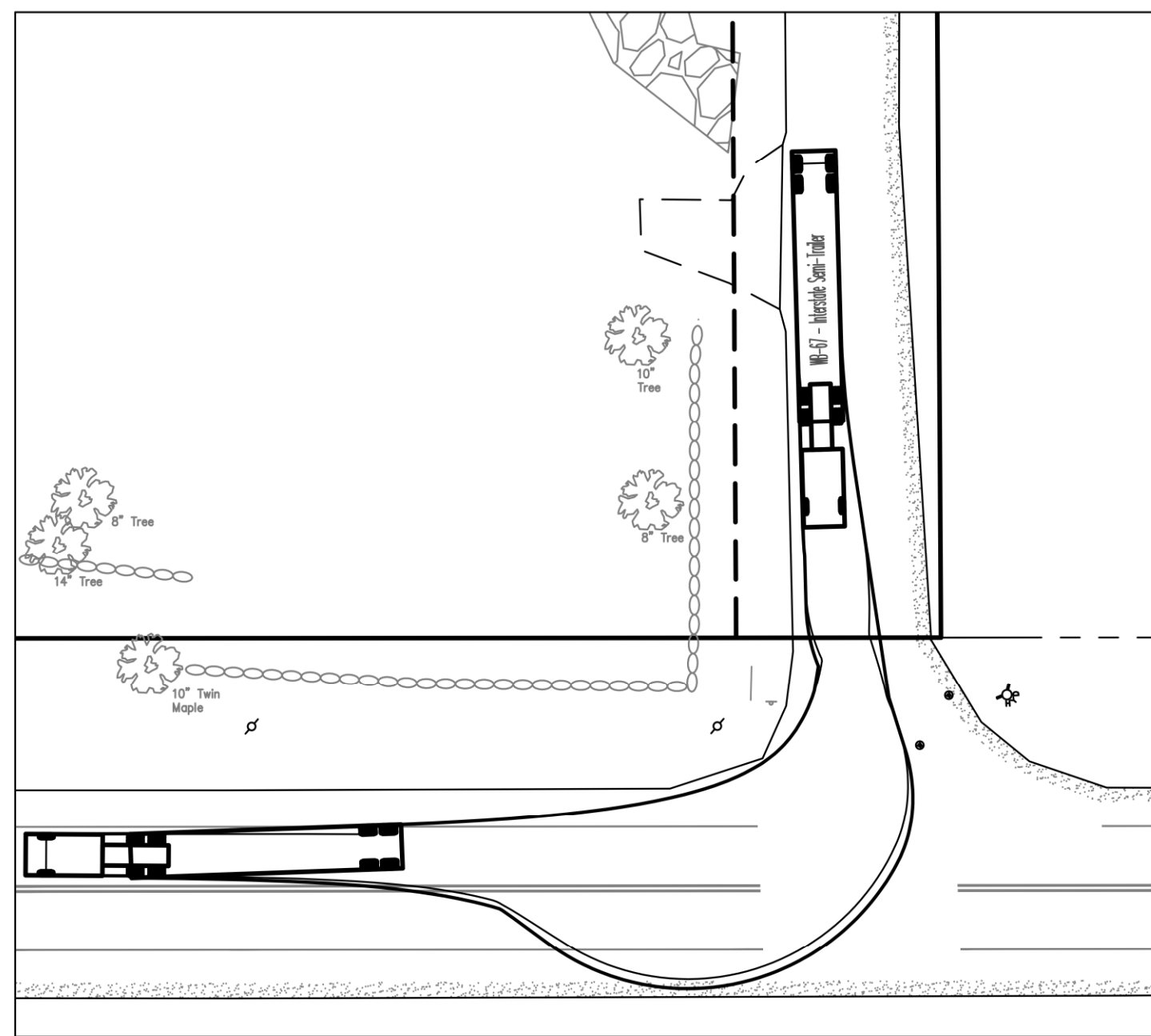
WB-40: RIGHT TURN MOVEMENTS (PROPOSED CONDITIONS)



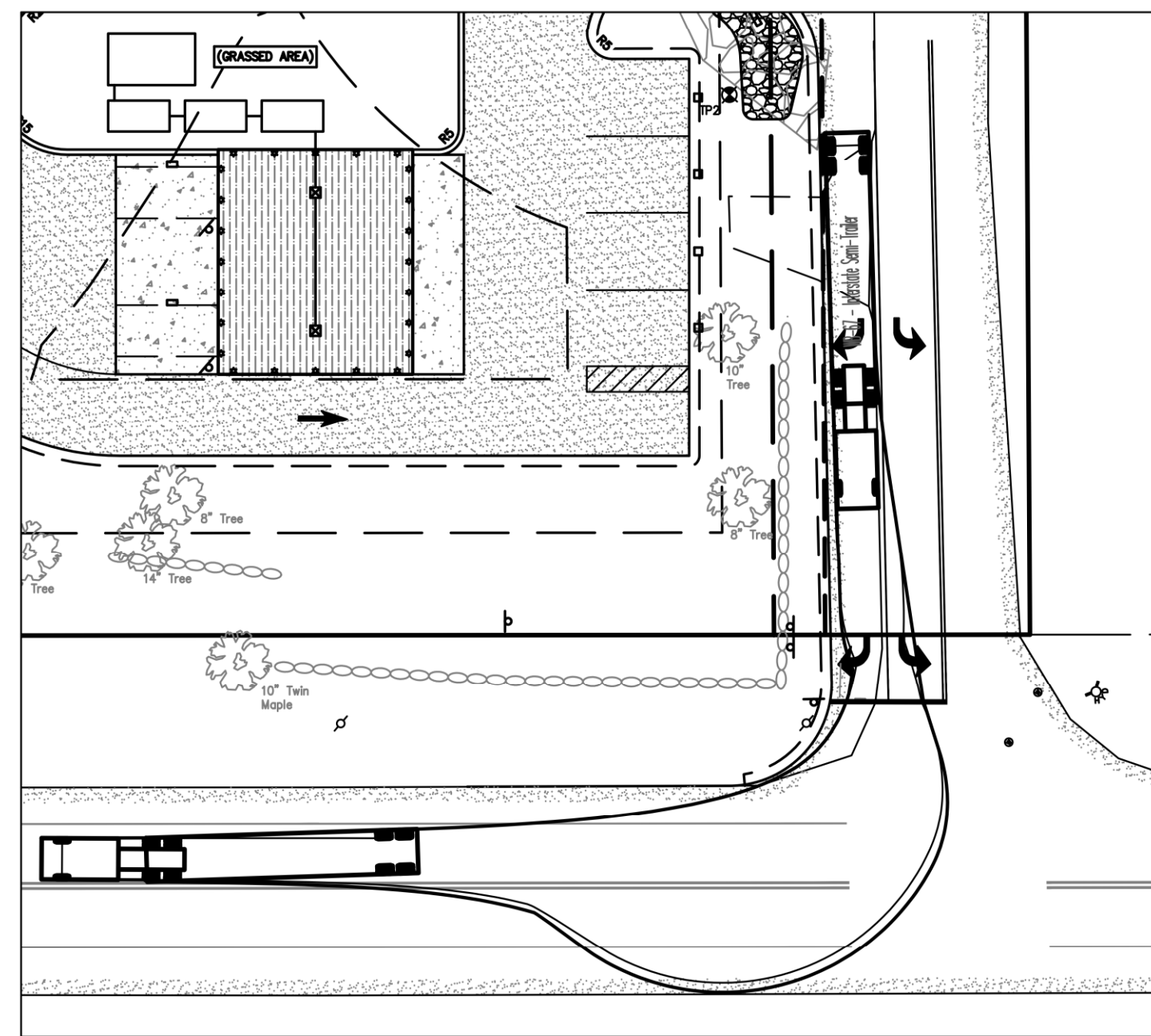
WB-40: LEFT TURN MOVEMENTS (EXISTING CONDITIONS)



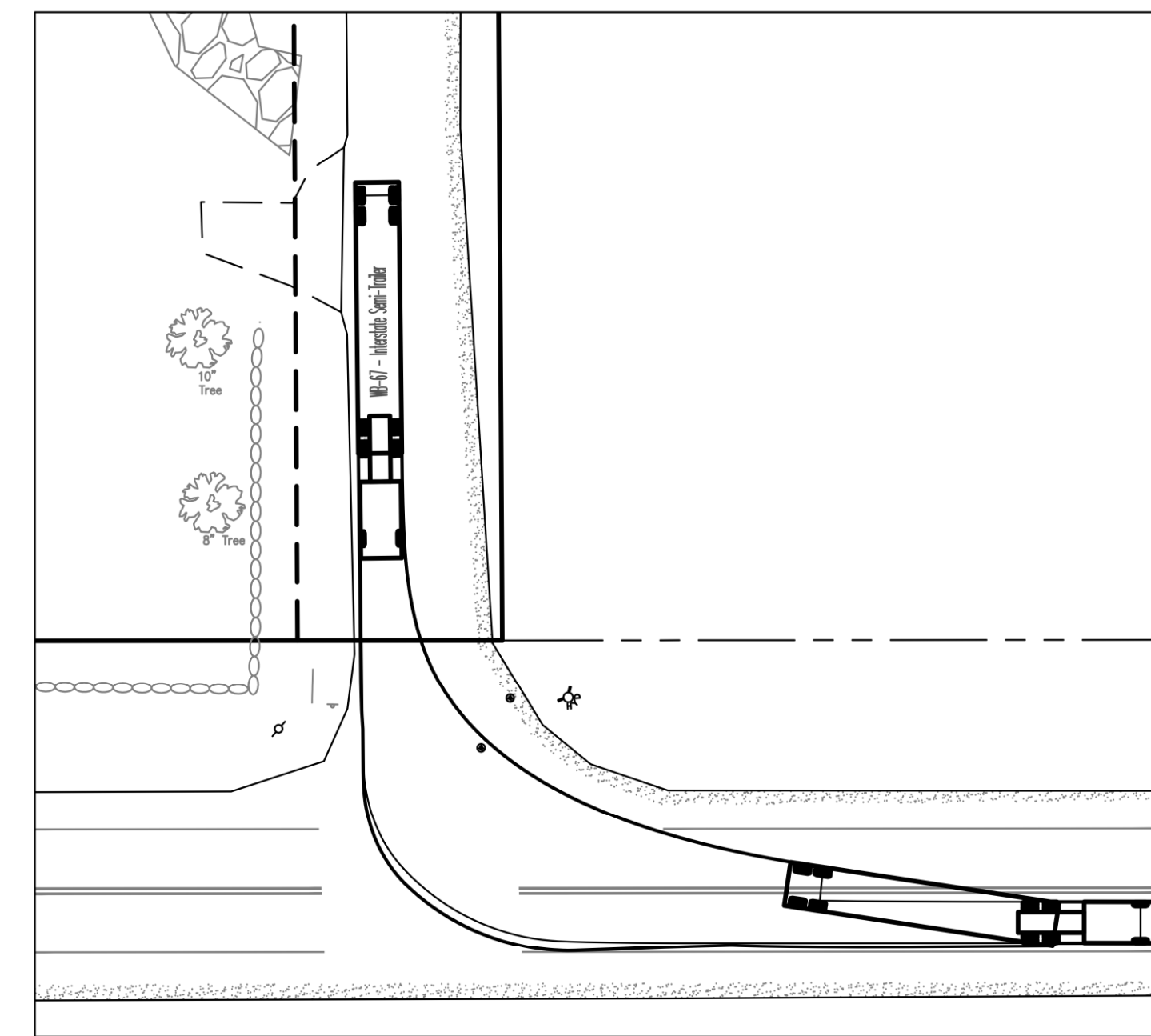
WB-40: LEFT TURN MOVEMENTS (PROPOSED CONDITIONS)



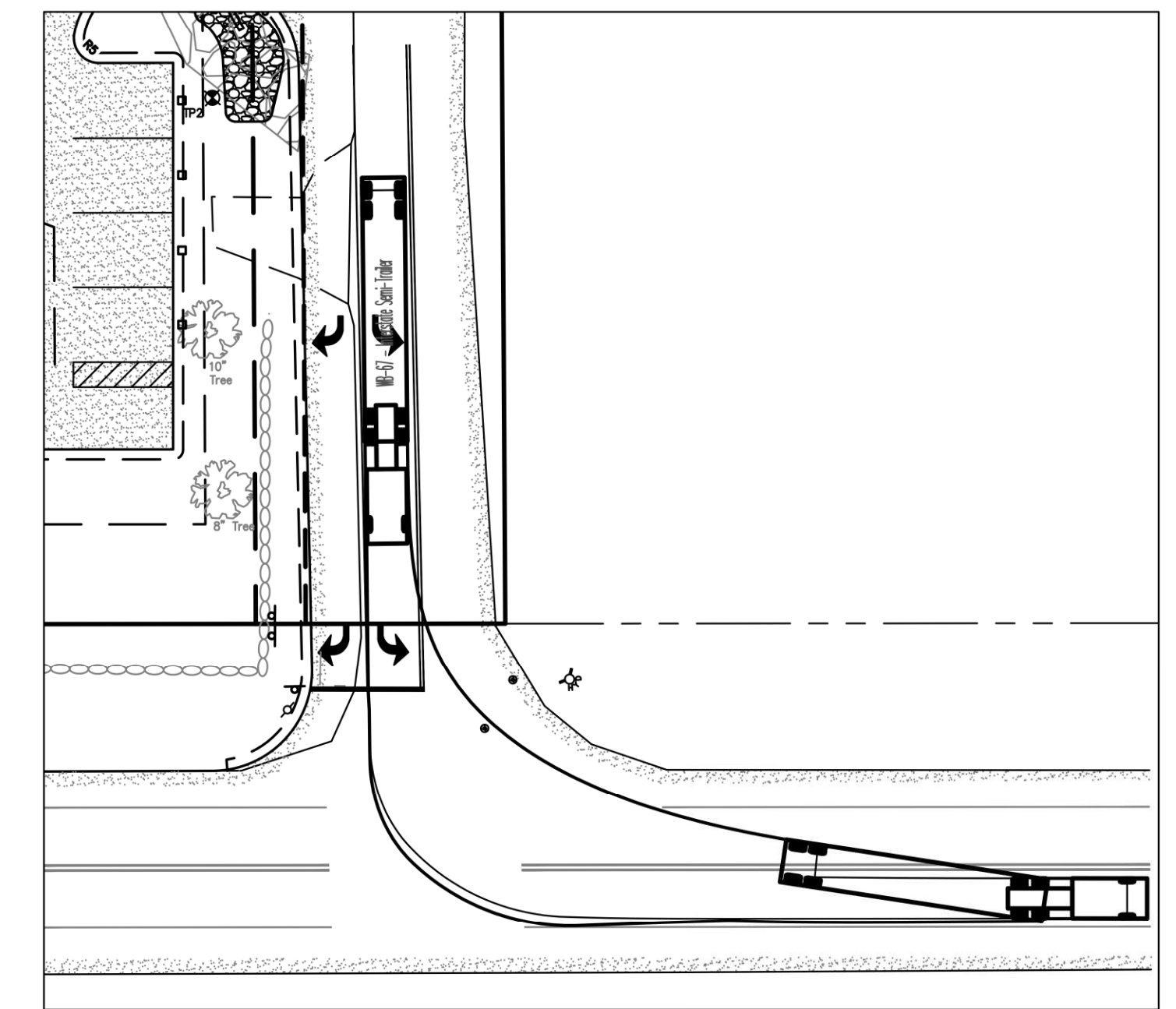
WB-67: RIGHT TURN MOVEMENT (EXISTING CONDITIONS)



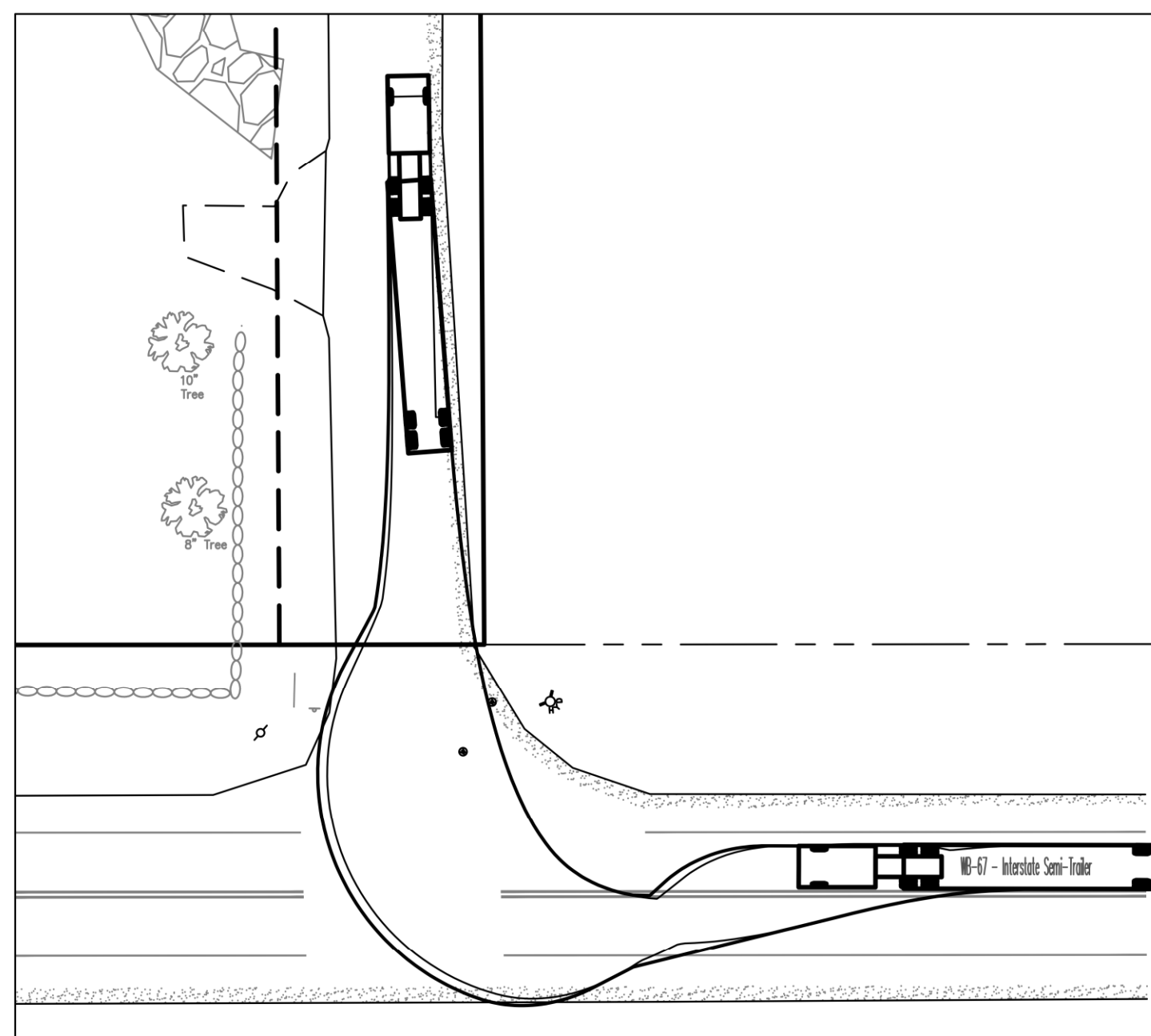
WB-67: RIGHT TURN MOVEMENT (PROPOSED CONDITIONS)



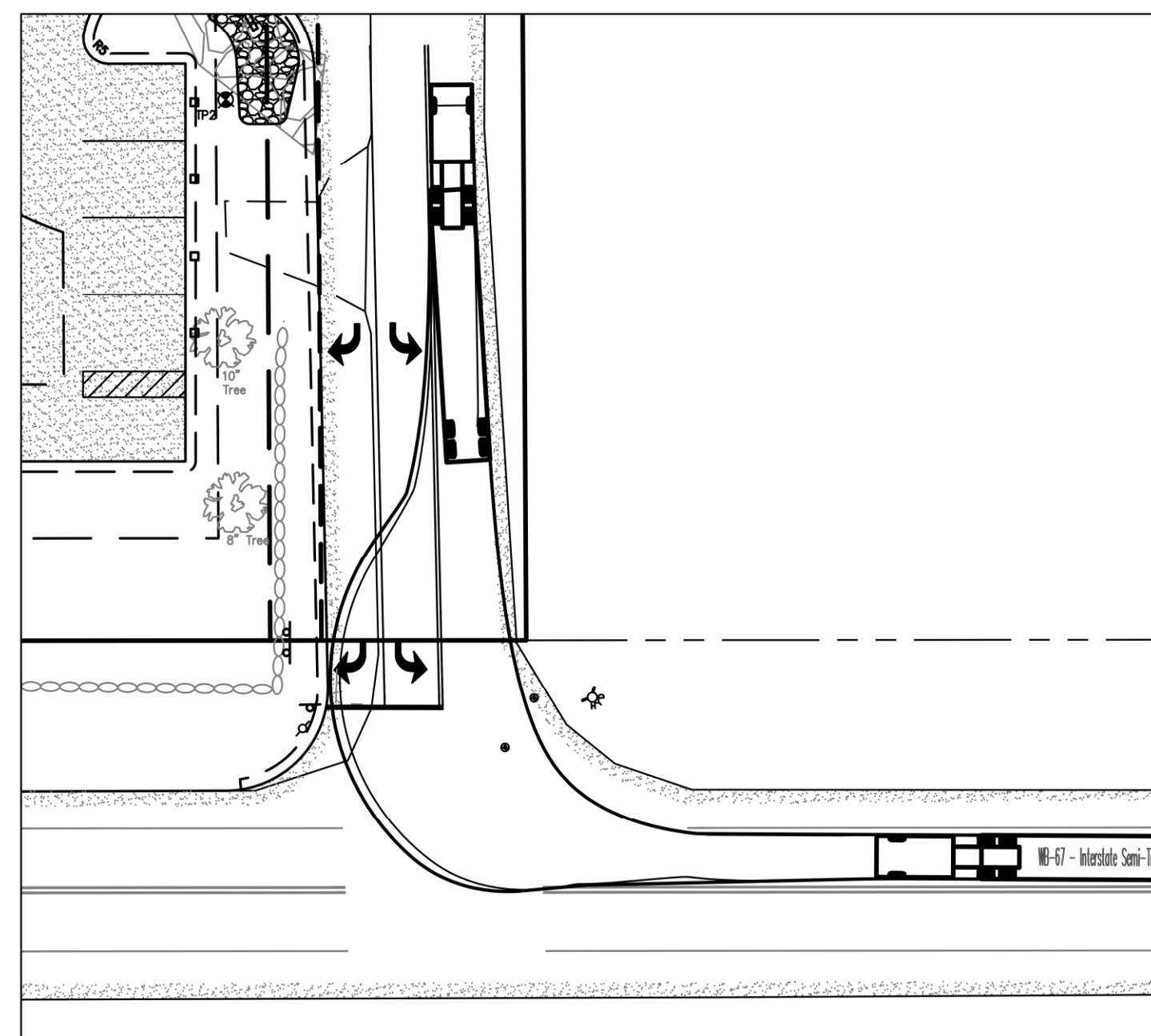
WB-67: LEFT TURN MOVEMENT (EXISTING CONDITIONS)



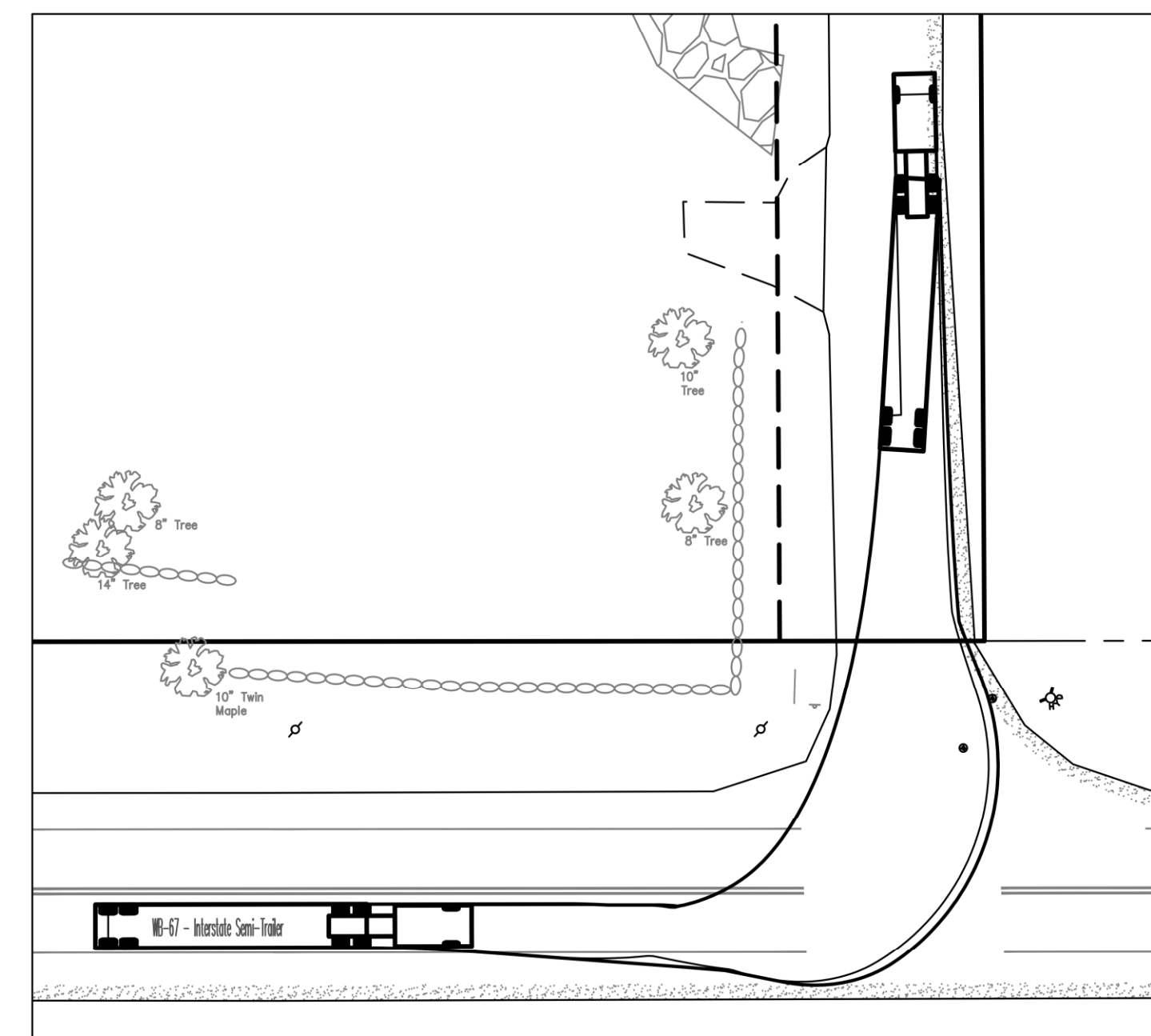
WB-67: LEFT TURN MOVEMENT (PROPOSED CONDITIONS)



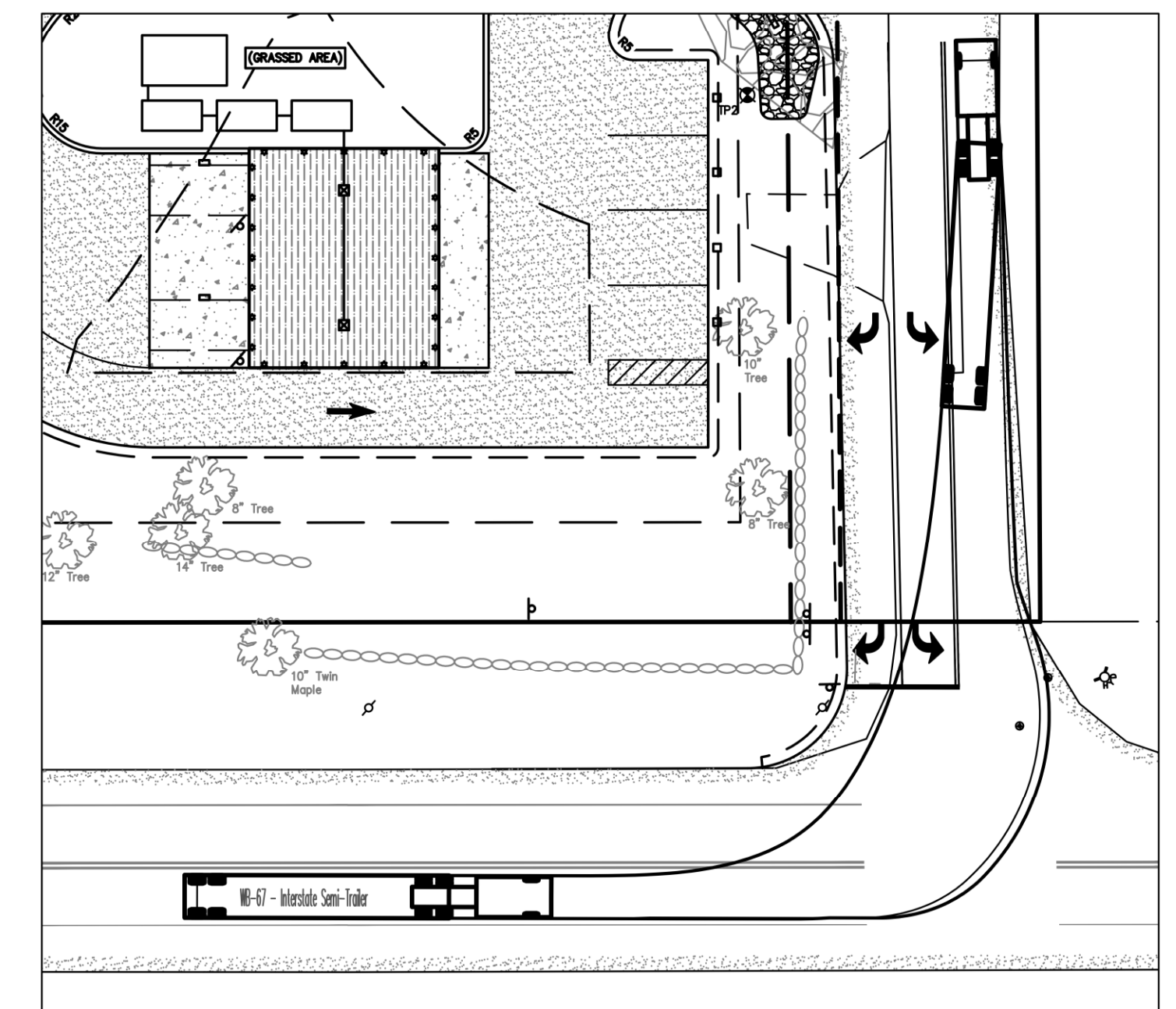
WB-67: RIGHT TURN MOVEMENT (EXISTING CONDITIONS)



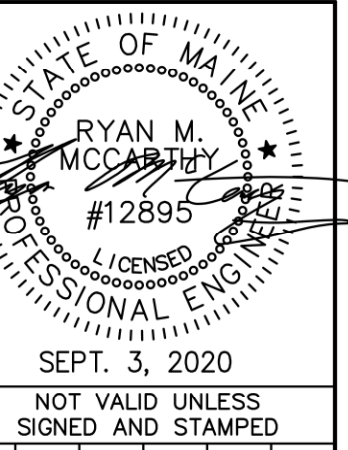
WB-67: RIGHT TURN MOVEMENT (PROPOSED CONDITIONS)



WB-67: LEFT TURN MOVEMENT (EXISTING CONDITIONS)



WB-67: LEFT TURN MOVEMENT (PROPOSED CONDITIONS)



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(207) 939-2222 • www.tidewatercivil.com

CLIENT: ROBERT T. BRENNAN, JR.
1911 SE 20TH STREET
CAPE CORAL, FL 33990

PROJECT: KITTERY CAR WASH
ROUTE 236, KITTERY, MAINE 03904

SHEET: WB-40 & WB-67 TURNING MANEUVERS

JOB #: 19-134
DATE: MARCH 2020
SCALE: 1" = 20'
DRAWING

John W. Hutchins
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A: 455 Main Street
Springvale, ME 04083

PROJECT LOCATION:
McKenzie Lane
Kittery, Maine

CLIENT:
Aaron Wiswell
P.O. Box 623
North Berwick 03906

PROJECT NAME
Two Bay Carwash

DISCLAIMER:
All plans provided are based on information given by the client. Dimensions and specifications shown hereon should be verified by a contractor before construction begins. Client and contractor are responsible for errors or omissions. Contractor assumes all liability for building construction. Plans and specifications have not been prepared by a registered architect or engineer of their choice if stamp is required.

ISSUED: 03/04/2020
RE: 07/29/2020

SHEET:
A1

SCALE:
1/4" = 1'

