

Construction Management Plan (CMP)

For Construction Activities At:

91 Bagdad Road
The Crossings Subdivision
Durham, NH
(603)-828-2908

CMP Prepared For:

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CMP Preparation Date:

10 / 04 / 2021

**Estimated Project Dates:
For road and infrastructure construction**

**Project Start Date: 07 / 01 / 2022
Project Completion Date: 12 / 30 /2022**

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Appendix A – Construction Management Plan

SECTION 1: CONTACT INFORMATION/RESPONSIBLE PARTIES

1.1 *Project Management*

General Contractor:

Company: TBD
Contact: TBD
Address: -
City, State, Zip Code: -
Telephone Number: -
Fax/Email: -
Area of control (if more than one operator at site): N/A

Subcontractor(s):

Company or Organization Name: Unknown
Name:
Address:
City, State, Zip Code:
Telephone Number:
Fax/Email:
Area of control (if more than one operator at site):

Company or Organization Name: Unknown
Name:
Address:
City, State, Zip Code:
Telephone Number:
Fax/Email:
Area of control (if more than one operator at site):

1.2 *Civil Engineer of Record*

Position: CER
Name: Michael J. Sievert PE
Telephone Number: 603-828-6655
Email: msievert@horizonsengineering.com

SECTION 2: INTRODUCTION

This document outlines a Construction Management Plan for the construction of the pocket neighborhood development project at 91 Bagdad Road and associated offsite work on Gerrish Dr. and Ambler Way. The contents of this document include a brief description of the project, construction sequencing and phasing, installation and management of stormwater best management practices and erosion controls, noise and vibration, air quality, and pedestrian and vehicle traffic management, and parking.

SECTION 3: COMPLIANCE WITH OTHER LOCAL, STATE & FEDERAL REQUIREMENTS

This project requires permits from local, and state agencies. The following permits are required;

Permitting Authority	Permit/Approval Type	Permit Number/Approval Date
NHDES Wastewater Engineering Bureau	Sewer Connection Permit	Pending
Town of Durham Planning Board	Site Plan Approval	Pending
NHDES Alteration of Terrain Bureau	AoT Permit	Pending
NHDES Wetlands Bureau	Wetland Impact permit	Pending

All work completed for this project shall be in accordance with the CMP and all other plans, permits and approvals. Any conflicts shall be brought to the attention of the General Contractor (GC) and Civil Engineer of Record (CER). For general purposes the more stringent regulation shall apply.

SECTION 4: CONSTRUCTION MANAGEMENT

4.1 Storage and Loading Areas

There will be no available storage areas until the construction progresses past the first 300' of road. The trucking will deliver material that can be use immediately within the ROW for the road and utility construction. Once the sub-base area for the first 150' of roadway is constructed, this area can be used to store some pipe and small amounts of material to be used immediately. A larger storage and loading area will be opened up for use once the construction of the access gets beyond 300'. Unloading / Staging Area 1 will be located to the south of the roadway just past station 3+00. The unloading / staging area 2 will be located in the center area of the loop road known as the "green".

4.2 Traffic Management

Driveway Access: The driveway to the Kelley lot Map 10, Lot 8-10 at 11 Gerrish Dr. will be widened to the north side of the ROW to maintain access to this property during construction. The driveway will be widened prior to beginning the road construction. During reconstruction of the driveway, access will be limited. Proper notification of the work will be given to the property to schedule a temporary closure.

Road Closures: We do not anticipate any closures of the existing roadways during the construction. Temporary lane closures will be necessary during the tapping of the water main for the extension into the development, and during installation of the sewer force main along the northerly side of Gerrish Dr. In addition, a lane closure at Canney Road will be necessary during the installation of the force main into the existing sewer manhole.

4.3 General Construction Sequencing

Construction: There will be two clearing phases. The first phase of clearing will be completed by hand and minimal equipment. This area will include the first 225'+/- of the roadway. The brush and trees will be cut and then removed with an excavator into a truck or trailer for disposal offsite. Once this clearing is complete, the construction of the roadway will be completed to gravel grade to station 2+25+/- . The construction will include excavation, installation of fills, retaining walls, utilities and the first culvert. Upon completion of this section, access to the remainder of the property will be open. The second phase of clearing will be completed by providing temporary access across the second crossing channel. The access will be provided using construction matting to protect the stream and wetland. Grubbing will follow with complete construction of the road fills, utilities, arch pipe and retaining walls. Once the second culvert is complete, construction of the remaining stormwater system, road cuts/fills and utilities will be completed. Temporary drainage and erosion control will be installed to protect the downstream surface waters and to provide protection to the constructed stormwater system. The temporary stormwater controls will be removed once the permanent stormwater system is stabilized.

The following is the general construction timing:

The anticipated start of construction is July 1, 2022 and the estimated end of construction for the development infrastructure is December 31, 2022. This schedule is subject to change pending approval and weather.

- | | |
|---|---|
| • Road clearing and construction 0+00 - 2+25: | July 1 – August 15 (6 weeks+/-) |
| • Phase 2 clearing and grubbing: | August 15 – August 20 (1 week+/-) |
| • Road construction 2+25 – 4+50: | August 22 – September 23 (5 weeks+/-) |
| • Road construction 4+50 – 17+85: | September 23 – December 2 (10 weeks+/-) |
| • Construction of sewer FM on Gerrish Dr. | August 29 – September 9 (2 weeks+/-) |
| • Construction of residential units: | Begin late October 2022 |

The Construction Management Plan Appendix A gives a visual indication of the overall construction staging/storage areas and sequence of work.

If blasting is required for the construction of the project, all blasting shall follow the procedures as set forth in the Durham Site Plan Regulations, Article 3, Construction Practices, Section 3.8 Blasting.

SECTION 5: STORMWATER SYSTEMS & EROSION AND SEDIMENT CONTROLS

5.1 Temporary Best Management Practices

5.1.1 Perimeter Control

Temporary sediment control materials will be maintained on-site throughout the duration of the project, to allow implementation of temporary sediment controls in the event of predicted rain, and for rapid response to failures or emergencies. This includes implementation requirements for active areas and non-active areas before the onset of rain.

Locations of temporary sediment control BMPs are shown on the Erosion Control Plans in Attachment B. Silt sock will be used as the perimeter control during construction.

Silt sock shall be installed prior to earth moving operations for perimeter sediment control along those perimeter areas of the site that will receive stormwater from earth-disturbing activities. These locations are depicted on the Erosion Control and Construction Plans. The silt sock shall be in a functional condition at all times, and it shall be routinely inspected. If the silt sock has been damaged, it shall be repaired, or replaced if beyond repair. Remove sediment before it has accumulated to one-half of the above ground height of the silt sock.

5.1.2 Sediment Track-Out

A construction entrance will be installed on the road to remove sediment from construction vehicles. The contractor must remove the sediment from public ways by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. At a minimum, sweeping shall take place at the end of each workday during construction. The contractor is prohibited from hosing or sweeping tracked-out sediment into any stormwater conveyance (unless it is connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or surface water.

5.1.3 Stockpiled Sediment or Soil

No soil shall be stockpiled on the first 300' of ROW length of the project. All soil shall be stockpiled on the property in the designated areas. Soil delivered to the site may be temporarily dumped in the stockpile areas or put in place for the road construction as necessary. Do not hose down or sweep soil or sediment accumulated on pavement or other impervious surfaces into any stormwater conveyance (unless connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or surface water. During construction, repair damage silt sock surrounding stockpiles as necessary and remove sediment before it has accumulated to one-half of the above ground height of the silt sock.

5.1.4 Minimize Dust

Dust shall be controlled on site during construction by implementing various dust control measures to prevent blowing and movement of dust from exposed soil surfaces. The following dust control measures shall be implemented as necessary on-site during construction;

- Use mechanical sweepers on paved surfaces.
- Use fine water sprays. Fine water sprays are intended to dampen the surface of bare soils in order to reduce airborne dust associated with earth moving or demolition operations. It is important to establish an application rate suitable for each site that provides adequate dampening of the soils but does not generate runoff. The weather conditions will dictate the frequency of site watering needs.
- Cover surfaces with crushed stone or coarse gravel.

5.1.5 Culvert and Swale Protection

The purpose of culvert and swale protection is to collect and contain the majority of soil particles conveyed in storm water runoff prior to the runoff entering a drainage structure inlet (swale, culvert, etc.). This project employs the siltsoxx™, stone check dam or haybale dam which is to be installed at all culvert inlets, swales or ditches receiving runoff from the site construction. The siltsoxx™ or dams are placed in the inlets of culverts and swales, and at predetermined intervals along the swales and functions as a filter and sediment trap. Maintenance of these controls shall be in accordance with the specifications. The sediment control shall be cleaned once filled to ½ height and sediment disposed off site. A siltsoxx™ showing signs of any tears, rips, or punctures shall be immediately repaired or replaced with a new siltsoxx™ or other sediment dam.

5.1.6 Dewatering Practices

If during construction, site conditions dictate the need for dewatering, water will be pumped to a temporary constructed sediment basin. The basin shall be constructed using soil and erosion control fabric, or hay bales. Alternate systems must be approved by the CER.

5.1.7 Temporary Sediment Basins

Temporary sediment basins shall be constructed in the location of the stormwater detention pond, and at the first cell of the gravel wetland area. The second cell of the gravel wetland shall be constructed and stabilized but not used until construction is completed and disturbed areas have been stabilized. Temporary sediment basins shall be used in other areas as needed.

5.1.8 Site Stabilization

Site Stabilization Practice

- Vegetative Non-Vegetative
 Temporary Permanent

Description of Practice

- In areas to be paved, placement of base course gravels meeting the gradation requirements of NHDOT Standard Specification for Road and Bridge Construction, 2006, item no. 304.1 or 304.2 have been installed. These areas will comprise all proposed areas to be paved.

Installation

- Base course gravels will be placed, graded and compacted prior to final paving.

Site Stabilization Practice

- Vegetative Non-Vegetative
 Temporary Permanent

Description of Practice

- A minimum of 3" of pavement has been installed.

Installation

- All disturbed areas shall be paved or receive concrete as the final finished surface.

SECTION 6: POLLUTION PREVENTION STANDARDS

6.1 Spill Prevention and Response

The GM is responsible for the proper clean up of any accidental spills or leaks on site during construction. The necessary equipment and materials needed in the event of a spill or leak shall be kept on site. Do not clean surfaces or spills by hosing the area down. Containment, removal, and reporting of the spill shall be in conformance with all local, state and federal regulations. All spills shall be reported to the Town of Durham.

6.2 Fueling and Maintenance of Equipment or Vehicles

Fueling of construction equipment will occur on paved surfaces. A spill kit will be available during the refueling process. Fueling shall not be performed adjacent to surface water or stormwater collection BMP's.

6.3 Washing of Equipment and Vehicles

Vehicles shall not be washed on this site.

6.4 Storage, Handling, and Disposal of Construction Products, Materials, and Wastes

6.4.1 Building Products

Building products, which include but are not limited to asphalt sealants, adhesives, flashing, roofing materials and concrete admixtures shall be covered with plastic sheeting to prevent contact with rainwater.

6.4.2 Establish Proper Building Material Staging Area

Construction equipment and maintenance materials will be stored at storage and loading area # 2. Silt sock will be installed around the perimeter. A watertight container will be used to store hand tools, small parts, and other construction materials.

Nonhazardous building material such as packaging material (wood, glass, plastic) and construction scrap material (brick, wood, steel, metal scraps, and pipe cuttings) will be temporarily stored in the storage area and covered if required. All hazardous waste materials such as oil filters, petroleum products, paint and equipment fluids will be stored in structurally sound and sealed containers under cover or within the building for proper removal. Very large items, such as framing materials and stockpiled lumber, will be stored in the open in the material storage area. Such material shall be elevated on wood blocks to minimize contact with runoff. The storage area will be inspected weekly and after storm events. The storage areas will be kept clean and organized with proper functioning containment controls.

6.4.3 Diesel Fuel, Oil, Hydraulic Fluids, Other Petroleum Products, and Other Chemicals

Chemicals shall be stored in water-tight containers and covered with plastic sheeting to prevent these containers from coming into contact with rainwater. Spill kits shall be available in the event of a spill. Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.

6.4.4 Hazardous or Toxic Waste

Hazardous or toxic waste including but not limited to solvents, paints, and petroleum based products shall be stored in sealed containers, which are constructed of suitable materials to prevent leakage and corrosion, and which are labeled in accordance with applicable Resource Conservation and Recovery Act (RCRA) requirements and all other applicable federal, state, tribal, or local requirements. Containers shall be stored in a covered area and a spill kit shall be available on site. Dispose of hazardous or toxic waste in accordance with the manufacturer's recommended method of disposal and in compliance with federal, state, tribal, and local requirements. Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge.

6.4.5 Construction and Domestic Waste

Provide dumpsters of sufficient size and number to contain construction and domestic wastes. On workdays, clean up and dispose of waste in designated waste containers and clean up immediately if containers overflow.

6.4.6 Sanitary Waste

Provide a sufficient number of portable toilets and position portable toilets so that they are secure and will not be tipped or knocked over.

6.4.7 Washing of Applicators and Containers used for Paint, Concrete or Other Materials

Concrete equipment shall not be washed on site. Paint and other materials shall not be cleaned without directing waste into a proper sewer or container. Do not dump liquid wastes in storm sewers.

SECTION 7: CONSTRUCTION TRAFFIC/ ROAD CLOSURE MANAGEMENT PLAN

7.1 Objectives

To address traffic issues arising from construction of the project and to establish general guidelines and standards for road, lane and sidewalk closures. This section will also address notification of the public.

7.2 Management Issues

Construction will result in a workforce which will require off-site parking at least for the first two phases. The location of the site, consultation with the appropriate local enforcement personnel and careful management will ensure that conflicts between construction and local traffic and activities in the area will be avoided. Construction traffic at the project site is subject to constraints imposed by site conditions and public traffic movements. There will be no workforce parking on the site until at least the second phase

The primary issues that affect construction projects include:

- General site access and egress;
- Interaction with existing facilities and operations;
- Pedestrian re-routing around construction area; and
- Signage and directions;

It is therefore proposed to manage the impact of construction traffic through the provision of signage and minimizing the number of trucks delivering to the site at one time. The number of trucks delivering to the site will be small and timed to not have a long wait. These will be carefully coordinated to minimize conflicts with traffic and other activities.

7.3 Management of Parking

There is minimal parking at the site for the first and second phases. Once phase two is completed, parking will be made available on the property in the unloading/staging area #2. All other parking for construction workers will be offsite at a predetermined location or along the side of the road along Gerrish Dr. and Ambler Way near the corner. The parking along the street will be minimized to not cause a traffic problem. Deliveries will be made minimized in the first phase especially and timed to be used immediately. Deliveries in the second and third phases will be accommodated within the unloading/staging areas as noted on the construction management plan. Construction vehicles will load and unload within the site only.

7.4 Management of Lane Closures

Traffic management will be minimal as only lanes will not need to be closed during phase 1 and the installation of the sewer force main within Gerrish Dr. and Canney Rd. Signage shall be in place at during construction as shown on the construction management plan.

7.5 Materials Handling

Materials handling will be predominantly by trucks, lulls, cranes, or an excavators.

7.6 Pedestrian Movements

Pedestrian movement diversions will not be necessary during the site construction except for the work withing the Gerrish Dr. ROW during the installation of the force main. Appropriate directional signage will be provided to ensure pedestrians are diverted from areas of construction activity

7.7 Signage

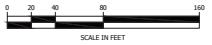
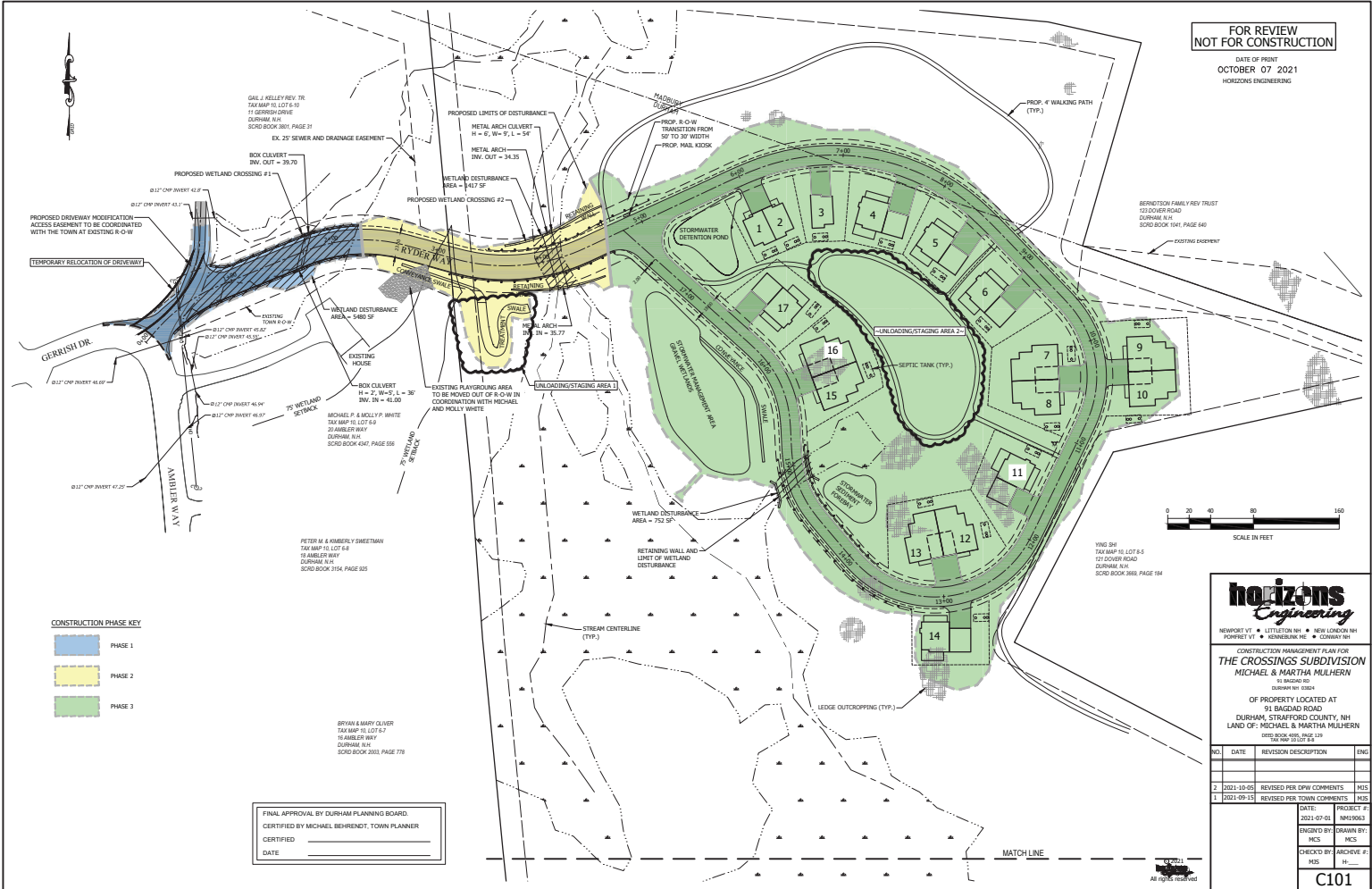
The General contractor will be responsible for providing the external directional signage regarding pedestrian and vehicle traffic management and the updating and maintenance of the signs as required. The signage shall be provided as required by the MUTCD and as shown on the Construction Staging Plan or as directed by the Town.

CMP APPENDICES

Appendix A – Construction Management Plan

**FOR REVIEW
NOT FOR CONSTRUCTION**

DATE OF PRINT
OCTOBER 07 2021
HORIZONS ENGINEERING



- CONSTRUCTION PHASE KEY**
- PHASE 1
 - PHASE 2
 - PHASE 3

FINAL APPROVAL BY DURHAM PLANNING BOARD:
CERTIFIED BY MICHAEL BEHRENDT, TOWN PLANNER
DATE _____

horizons Engineering
NEWPORT VT. • LITTLETON NH • HOELIANDER NH
POFFRET VT. • HENNESSY ME • CONWAY NH

CONSTRUCTION MANAGEMENT PLAN FOR
THE CROSSINGS SUBDIVISION
MICHAEL & MARTHA MULHERN
91 BAGGAD RD
DURHAM NH 03824

OF PROPERTY LOCATED AT
91 BAGGAD ROAD
DURHAM, STRAFFORD COUNTY, NH
LAND OF MICHAEL & MARTHA MULHERN
DEED BOOK 405, PAGE 139
DEED BOOK 388, PAGE 154

NO.	DATE	REVISION DESCRIPTION	ENG.
1	2021-09-15	REVISED PER TOWN COMMENTS	MKS
2	2021-10-05	REVISED PER OPW COMMENTS	MKS

DATE:	PROJECT #:
2021-07-01	2019-003
DRAWN BY:	DRAWN BY:
MCS	MCS
CHECKED BY:	CHECKED BY:
MKS	MKS

C101