



ENVIRONMENTAL PROTECTION PLAN

Ludlow Construction Company, Inc.

Contract # W912WJ19C0002

Middletown and Durham, CT

In accordance with the Contract - FAR 52-236-13, 29 CFR and EM 385; we are pleased to submit the following plan for use on the contract entitled:

Contract # W912WJ190002: Middletown and Durham, CT

Environmental Protection Plan SIGNATURE SHEET

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Plan Concurrence (1c): [Signature]
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In accordance with project drawings and specifications, we are pleased to submit this plan for use on the project titled:

Durham Meadow Waterline Remedial Design, Durham CT

This plan will be used by Ludlow Construction Company Inc., its vendors, subcontractors, and suppliers, for use relative to Environmental Protection.

ENVIRONMENTAL PROTECTION PLAN (EPP)

EPP - Table of Contents

Overview of EPP

GENERAL OVERVIEW AND PURPOSE

Environmental Protection Plan (EPP) Requirements

Environmental Protection Plan (EPP) Purpose

PRECONSTRUCTION

Preconstruction Site Pictures

COMPLIANCE ISSUES

Non-Compliance Issues

Outline of EPP

Section A: Applicable Federal, State, and Local Laws, Regulations, and Permit Requirements

Section B: Protection of Features Plan & Historical, Archaeological, Cultural/Biological Resources & Wetlands Plan

Section C: Planned Environmental Controls

Section D: Sediment and Erosion Control Measures

Section E: Environmental Monitoring

Section F: Containment Plan

Section G: Maintenance of Hazardous Material SDS

Section H: Environmental Protection Point of Contact Name (Adherence to the Environmental Protection Plan)

Section I: Manifesting Hazardous Waste

Section J: Description of Contractor's Environmental Training Program

Section K: Non-Hazardous Solid Waste Disposal Plan

Plan Appendix

Appendix A – Project Drawings

Appendix B – Project Specifications

Appendix C - Permits, Notifications, Certifications, Reports, and Termination Documents.

Abbreviations

POC: Point of Contact

KO: Contracting Officer

COR: Contracting Officer's Technical Representative

GC: General Contractor / Contractor

CDL: Construction, Demolition, and Land clearing

EPP: Environmental Protection Plan

EPM: Environmental Point of Contact

OVERVIEW OF EPP

General Overview and Purpose

Environmental Control Plan (ECP) Requirements: Ludlow Construction Company, Inc. (LCC) will perform the contract work in compliance with all EPA, City of Middletown, Town of Durham, environmental regulations minimizing environmental pollution and damage as the result of construction operations. Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare, unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the utility of the environment for aesthetic, cultural and /or historical purposes. The control of environmental pollution and damage requires consideration of land, water, and air and includes management of visual aesthetics, noise, solid waste, as well as other pollutants. The environmental resources within the project boundaries and those affected outside the limits of permanent work will be protected during the entire duration of a task order issued under this contract.

Environmental Protection Plan (EPP) Overview and Purpose: The purpose of this Environmental Protection Plan (EPP) is to present an overview discussion of known or potential environmental issues and/or contaminants that according to the Government will be present on one or more sites presented in this contract. Issues of concern shall be individually addressed as necessary to fulfill the requirements of the proposal documents. As with any project, the goal of LCC is to minimize the release of pollutants into the environment and will absolutely comply with any restrictions, laws, and regulations that have been imposed by Federal, State, and/or local authorities.

Operation's shall comply with all environmental protection requirements for Federal, State, and local regulations and all applicable provisions of the contract pertaining to, but not limited to: land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants. The goal of the Environmental Protection Plan is the prevention/control of pollution and habitat disruption that may occur to the environment during construction.

No requirement in this document will relieve LCC of any applicable Federal, State, and local environmental protection laws and regulations. During construction, Forrest Brown (EPM) and Jonathan Pio (Alt. EPM) will be responsible for identifying, implementing, and submitting for approval any additional requirements.

Ludlow Construction will submit an additional EPP to address the areas of construction that will take place in known contaminated soils and water. An EPP outlining procedures to mitigate contaminated soils and contaminated water will be developed, submitted and approved prior to any work beginning in area that are known to be contaminate.

Sequence of Work: Mobilization operations will begin at the end June 2019 and conclude on as shown in Appendix A of the MAPO. Upon completion of Mobilization, all Environmental and Safety controls will be established by the Environmental Protection Manager and the SSHO (Forrest Brown) in accordance with Federal, CT, and local requirements. As well as those set forth in the EM 385-1-1, Environmental Protection Plan, and the Accident Prevention Plan. Upon completion of implementing all Environmental and Safety controls Ludlow Construction will begin set up of the proposed lay down

areas. Once all preliminary work has been completed Ludlow Construction will begin with the installation of 16" inch water line.

The proposed sequence of construction and installation can be seen in the attached schedule (Appendix A). In July of 2019, a Ludlow crew will perform the connection to the existing 12" DI Water main at the intersection of Talcott Ridge Dr and install the 16" DI water main all the way to Old Cemetery Rd, which goes from Station 100+00 to 209+25. As work progresses down Rt. 17 the main will be pressure tested.

Also, in July of 2019, another Ludlow crew will work on installing the water main up Talcott Ridge Dr. and up to the tank site. The tank road will be built and the water main installed, as well as the altitude vault. The crew will then install the booster station, water meter vault and pressure reducing vault. The Long Hill pump station modifications will also occur in the fall of 2019.

In spring of 2020, Ludlow Construction crews will be installing main water lines on Maple Ave, Wallingford Ave, and then to Pickett Lane and Maiden Lane. Disinfecting and sampling of the 16 DI water main that was installed on Rt. 17 will take place. Disinfecting and sampling operations of the water main will be detailed in the QAPP to be submitted and accepted prior to commencement of the operations. Once the disinfecting and sampling is complete, water services will be installed to the curb stops on Rt. 17 as detailed in the construction schedule (Appendix A of MAPO). Construction of the Cherry Hill Storage Tank will begin in the May of 2020 and is scheduled for completion in August 2020. Once the tank and vaults are fully operational, water services to the houses can commence. Bringing the storage tank on line will be fully coordinated with the Contracting Officer, Middletown Water Department, Town of Durham, and the CT DPH.

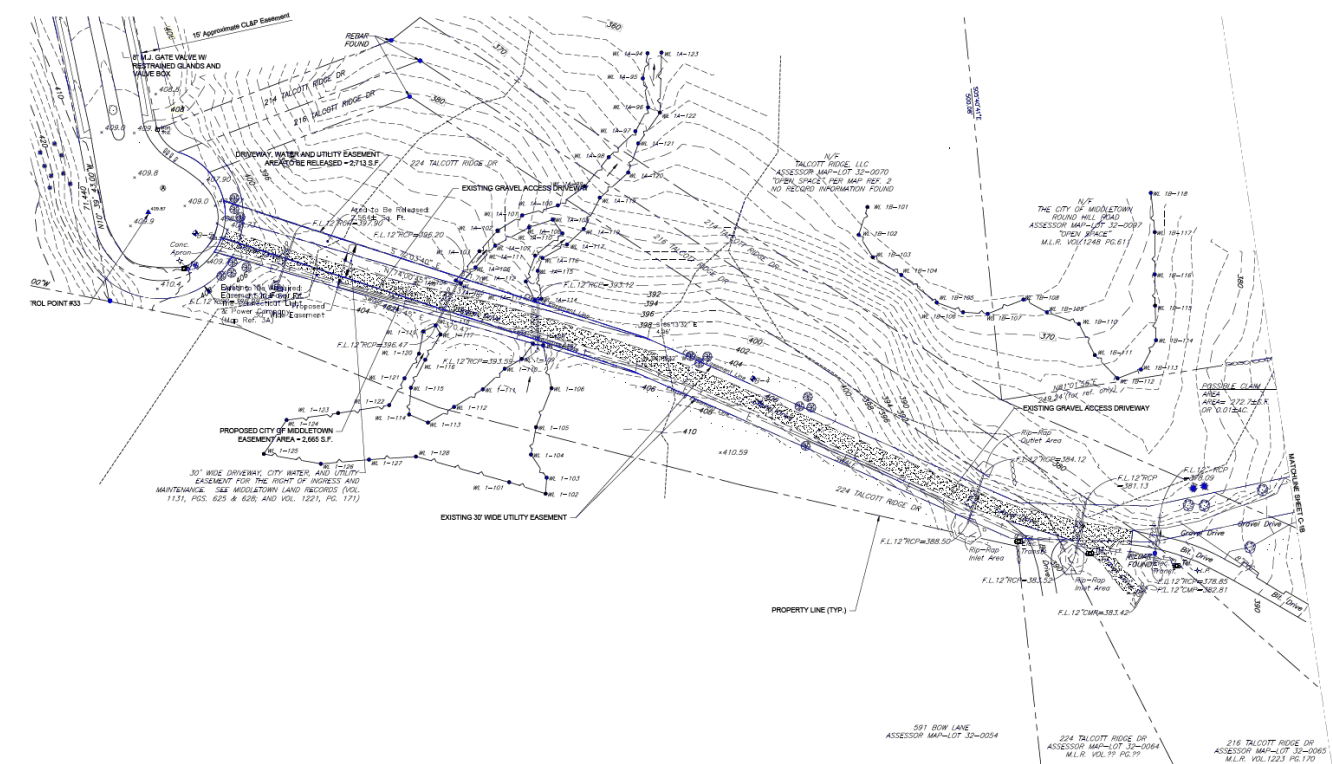
The sequence of construction operations has been developed to minimize the residence time of water in the newly installed pipelines and the Cherry Hill storage tank. Once the Cherry Hill storage is near completion in 2020, the newly installed water lines on Rt 17, and Talcott Ridge Drive will be chlorinated, disinfected and sampled. Once acceptable samples have been received, there will be a period of time until the Cherry Hill Storage tank is complete. During this period, water lines on Rt 17 and Talcott Ridge will be flushed weekly to maintain water quality. Once the tank is complete and tested, it will then be chlorinated, disinfected, and sampled. After the water in the tank is deemed acceptable and operational, it will be put into service. Then the connection at STA 209+25 to the existing Durham water main can occur, and water services to the houses can begin. This will provide redundancy and a draw of water in the tank. In the event draw down of the tank water to the existing Durham water system is not enough, Ludlow will continually flush the newly installed water main to maintain water quality in the tank and the existing water lines, until there are enough house services connected on Rt 17 to provide proper draw down of tank.

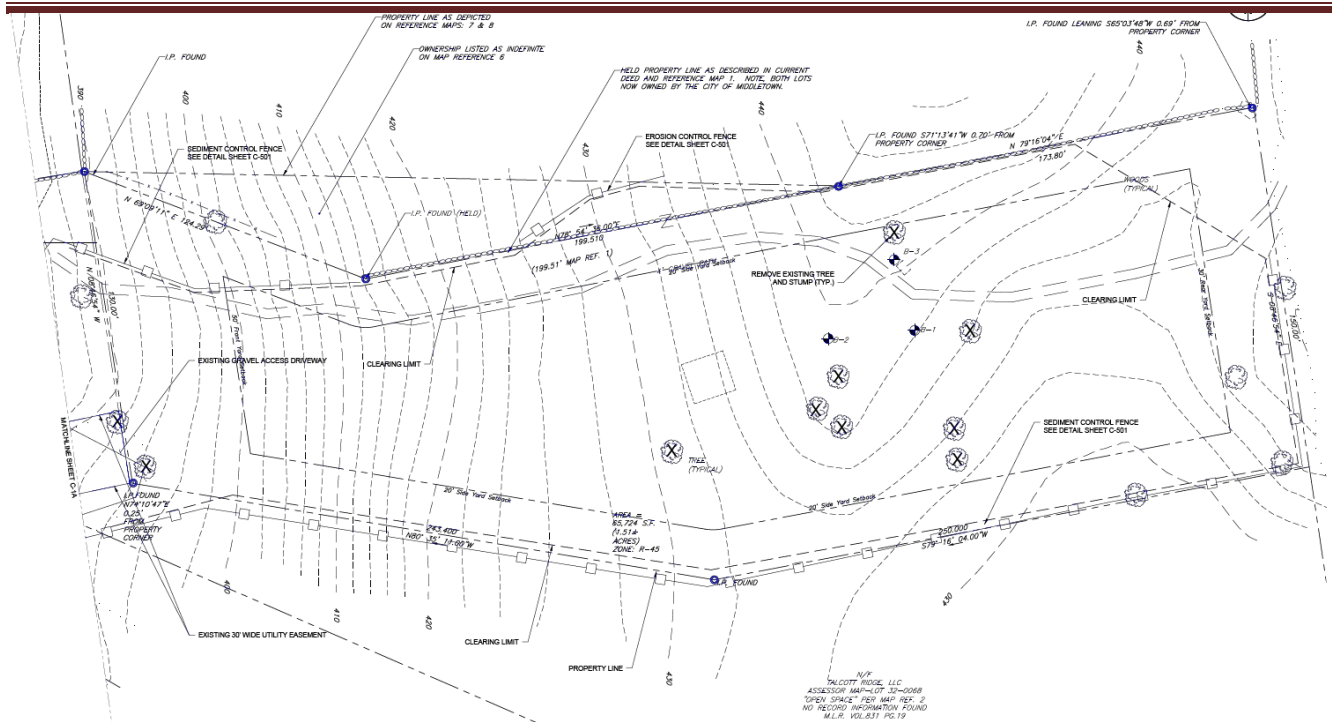
The water main on Talcott Ln and Maple Ave will then be disinfected, chlorinated, sampled. The tie in at Maple Ave STA 90+00 to the existing water system can then be completed. This will allow for the water in the newly installed lines on Talcott Ln and Maple Ave to flow and become redundant. Lastly, the water main on Maiden Ln and Pickett Ln will disinfected and sampled and then turned on to Rt 17. This will allow the water to continually flow through the Maiden Ln and Pickett Ln loop making it redundant. After each segment is activated the water services to the houses will be installed. When connecting to the houses, loss of service will be minimal. The service will be stubbed into the houses as the existing water well remains active. A date and time will then be set for a certified plumber to enter the houses and tie the new existing service into the house piping. This time and date will be scheduled with the homeowner, and each house will be out of water for a scheduled 2 hour time period, as they are permanently connected to the new water service.

No portion of the completed water system shall be brought on line without being fully coordinated with the Contracting Officer's Representative, and the appropriate water distribution representatives from the City of Middletown, the Town of Durham, and the CT DPH.

Work will be performed on the State Roads, Rt. 17 and Rt. 68 during the night hours from 7 PM- 5 AM, Sunday night-Thursday. One-way alternating traffic will be implemented. Work on the side streets will be done between 7AM-4PM. These roads will be closed to through traffic during work hours if granted. Work will not occur on roadway during late September of each year during the Durham Fair as stated in specifications.

Preconstruction Site Pictures





Compliance Issues

Non-Compliance Issues: The EPM Forrest Brown or Alt. EPM Jonathan Pio will notify Project Manager Mike Pio in writing of any observed noncompliance with Federal, State, or local environmental laws or regulations, permits, and other elements of the Durham Meadows Waterline Remedial Design Environmental Protection Plan. The Project Manager shall, after receipt of such notice, inform the COR of the proposed corrective action and take such action when approved by the KO. The EPM may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or equitable adjustments allowed to LCC for any such suspensions. This is in addition to any other actions the KO may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law. For the protection of public health, EPM shall monitor and control contaminant emissions to minimize short term risks that might be posed to the community during implementation of the remedial alternative.

Contaminated materials could potentially be encountered at the Durham Manufacturing Company Facility work area, and a separate plan will be created to address all the potential issues facing this area.

Section A: Applicable Federal, State, and Local Laws, Regulations, and Permit Requirements

Federal, State, and local laws, regulations, and permits concerning environmental protection, pollution control, noise control and abatement that are applicable to the Contractor's proposed operations and the requirements imposed by those laws, regulations and permits.

The EPM at the Durham Meadows Waterline Remedial Design project is responsible for the administration and enforcement of the Environment Compliance Laws. The EPM's major responsibilities are as follows:

- Regulate the disposal, transport and treatment of hazardous and toxic waste in an environmentally sound manner.
- Manage state program for oil and chemical spills.
- Manage the abatement of water, land and air pollution
- Monitor environmental conditions and tests for contaminants.
- Encourage recycling, recovery, and reuse of as much solid waste as possible to conserve resources and reduce waste.

This project will involve soil disturbance over a large area and therefore CTDEEP require coverage under the Connecticut National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from construction activity. Copy of permit will be displayed at jobsite.

List of Federal Laws, Regulations and Permits for this Project

United States Codes 7661 [b]: Federal Clean Air Act 160-169, 171-193 [42 USC 7470-7479, 7501-7515]

Environmental Protection Specifically Related to Government Construction -

<https://www.epa.gov/eg/construction-and-development-effluent-guidelines>

Clean Air Act (CAA)

Clean Water Act (CWA)

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA aka Superfund)

Emergency Planning and Community Right-to-Know Act (EPCRA)

Endangered Species Act

National Environmental Policy Act (NEPA)

Federal Insecticide, Fungicide, Rodenticide Act (FIFRA)

Occupational Safety and Health Act (OSHA)

Oil Pollution Act, Pollution Prevention Act (PPA)

Resource Conservation and Recovery Act (RCRA)

Safe Drinking Water Act

Toxic Substance Control Act (TSCA)

List of State & Local Laws, Regulations and Permits for this Project

Signed City of Middletown Erosion and Sediment Control Agreement

Connecticut National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharge for Construction Activities

Section B: Protection of Features Plan & Historical, Archaeological, Cultural/Biological Resources and Wetlands Plan

Methods for protection of features to be preserved within authorized work area including trees, shrubs, vines, grasses, ground cover, landscape features, air and water quality, fish and wildlife, soil, historical, and archaeological and cultural resources.

LCC will confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any construction, LCC, in coordination with the COR, shall identify any resources to be preserved within the work area. LCC shall not remove, cut, deface, injure, or destroy land resources without approval. LCC shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs. Stone, soil, or other materials displaced into non-cleared areas shall be removed by LCC

All work areas will be as identified within the limits which are included in the contract drawings. Prior to commencing any construction activity, all work areas that do not need to be disturbed under this contract will be marked and cordoned off. All barricades and markers will be of a bright construction in accordance with CT DOT and will be visible at all times. All employees working around these areas will be knowledgeable as to why these areas are marked and they will be strictly adhered to.

Protection of Land Resources: Prior to construction, identify all land resources to be preserved within the work area. Do not remove, cut, deface, injure, or drop land resources including trees, shrubs, grasses, top soil, and land forms without permission from the KO. Do not fasten or attach ropes, cables, or guys to trees for anchorage unless specifically authorized, or where special emergency use is permitted.

1. Work Area limits: Prior to any construction, mark the areas that require work to be performed under this contract. Mark or fence isolated areas within the general work area that are saved and protected. Protect monuments, works of art, and markers before construction operations begin. Convey to all personnel the purpose of marking and protecting all necessary objects.
2. Protection of Landscape: Protect trees, shrubs, vines, grasses, land forms, and other landscape features shown on the drawings to be preserved by marking, fencing, or using any other approved techniques.
 - a. Box and protect from damage existing trees and shrubs to remain on the construction site.
 - b. Immediately repair all damage to existing trees and shrubs by trimming, cleaning, and painting with antiseptic tree paint.
 - c. Do not store building materials or perform construction activities closer to existing trees or shrubs than the farthest extension of their limbs.
3. Temporary Protection of Disturbed Areas: Provide silt fencing or approved equal where there is potential runoff from disturbed areas. Also provide hay or straw mulching including loam and deed as needed where soil has been disturbed, consult the requirements for short term non-living soil protection in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control figure TSP-1

4. Erosion and Sediment Control Devices: The erosion and sediment controls selected (Appendix A) and maintained by LCC shall be in accordance with the “2002 Connecticut Guidelines for Soil Erosion and Sediment Control”, as amended. Construct or install all temporary and permanent erosion and sedimentation control features on the EPP. Maintain temporary erosion and sediment control measures for dewatering with sediment filter bags, protection of vegetative areas with compost silt sock and/or silt fence erosion barriers, and areas of excavation with silt fencing. All of the erosion control devices are described in the “2002 Connecticut Guidelines for Soil Erosion and Sediment Control”, and detail drawings are shown in the drawings C-501 titled Erosion and Sedimentation Control Details. In addition to controls and procedure identified in this plan, all erosion control requirements identified on the Contract plans will be adhered to.

In an effort to reduce the erosion of temporary roadbeds by construction traffic, these temporary roads will be paved with rip rap for stabilization. The use of the rip rap will also aid in the removal of mud from the tires of construction equipment before entering paved roads during wet seasons.

5. Handle and dispose of solid wastes in such a manner that will prevent contamination of the environment. Solid wastes (excluding clearing debris) will be placed in a delivered on site dumpster that are emptied on a regular schedule by USA Hauling and Recycling of Waterbury, CT (contact info found in the Waste Management Plan pg. 5 for this project). All solid waste will be transported and dispose of waste in accordance with Federal, State, and local regulations. The adherence to Federal, State of CT, and City of Middletown regulations will be the responsibility of USA Hauling and Recycling. The EMP will ensure waste tickets from USA Hauling are created and a copy is given and stored on site throughout the life of the project.

6. Store hazardous waste away from the work areas in compliance with Federal, State, and local regulations.

7. Handle discarded materials other than those included in the solid waste category (Section K of this Plan) as directed by the EPM.

Protection of Fish and Wildlife Resources: Keep construction activities under surveillance, management, and control to minimize interference with, disturbance of, or damage to fish and wildlife.

Protection of Air Resources: Keep construction activities under surveillance, management and control to minimize pollution of air resources. Burning is not permitted on the job site. Keep activities, equipment, processes, and work operated or performed, in strict accordance with the Connecticut Department of Energy and Environmental Protection at the State of Connecticut Air Pollution Control Rules and Federal emission and performance laws and standards. Maintain ambient air quality standards set by the Environmental Protection Agency, for those construction operations and activities specified.

1. Particulates: Control dust particles, aerosols, and gaseous by-products from all construction activities, processing, and preparation of materials at all times, including weekends, holidays, and hours when work is not in progress.

2. Hydrocarbons and Carbon Monoxide: Control monoxide emissions from equipment to Federal and State allowable limits.

Air Pollution Control Plan

CTDEEP Air Quality Management Rules will be adhered to. LCC shall comply with all the applicable air quality requirements. LCC will comply with the environmental requirements when performing the

following work:

Excavation and trenching operations

Clearing operations

Hauling operations

LCC will comply with Visible Emissions, Nuisance, Fugitive Emissions and Particulate Matter, during demolition. LCC will keep dust from migrating offsite by wetting materials to ensure there are minimal airborne dust particles. The waste will be loaded directly into an enclosed on site container and removed from site by USA Hauling and Recycling. Good housekeeping will minimize dust, debris, materials, trash, etc., from becoming airborne. Burning of waste as a mean of disposal will not be allowed. All solid waste containers will be covered before transportation. Trashcans will be placed throughout the area for small trash and will all have lids for closing. All cement concrete and bituminous concrete materials that must be cut will be thoroughly wetted before and during cutting operations.

Air Resources: Equipment operations and activities or processes performed by LCC in accomplishing the specified construction will be in accordance with the Connecticut Particulate Emissions Regulation CT 19-508-18 (b) Fugitive Dust. Monitoring of air quality will be the EPM's or Alt. EPM's responsibility and will monitor all air areas affected by the construction activities visually/daily for dust control needs. This visual monitoring will be documented in the QC Daily Report under Safety Inspections. Special attention will be paid to monitoring air quality in higher populated work area such as South Main St. (Route 17) STA. 45+97 to STA. 209+25 drawings C-9 to C-26. Monitoring results will be periodically reviewed by the Government to ensure compliance to the following CT 19-508-18 (b) Fugitive Dust:

- (1) No person shall cause or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall be in accordance with good industrial practice as determined by the Commissioner and shall include, but not be limited to, the following:**
 - i. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;**
 - ii. Application of asphalt, oil, water, suitable chemicals or coverage on materials stockpiles and other surfaces which can give rise to airborne dusts;**
 - iii. Covering, at all times when in motion, open-bodied trucks and trains transporting materials likely to give rise to airborne dusts;**
 - iv. The prompt removal of earth or other material from paved streets onto which earth or other material has been deposited by trucking or earth-moving equipment, erosion by water, or other means.**
- (2) No person shall cause or permit the discharge of visible emissions beyond the lot line of the property on which the emissions originate when:**
 - i. The emissions remain visible and exist near ground level outside the property boundaries; or**
 - ii. The emissions remain visible and impinge on a building or structure so the health, safety, or enjoyment of life of the public may be diminished.**
- (3) No particulate matter shall be emitted into the open air in such a manner as to cause a nuisance.**

Hydrocarbons, and carbon monoxide emission from equipment will be controlled to Federal and State allowable limits at all times. Odors will be controlled at all times for all construction activities, processing, and preparation of materials.

LCC will keep construction activities under surveillance and control to minimize environment damage by noise. LCC will utilize low-noise emission products, as certified by EPA.

The EPM will at a minimum, maintain records indicating dust control measures taken. Information provided shall be sufficient to answer any questions regarding control methods utilized, products used, application rates, inspections performed. Additional information to be recorded, but not limited to reporting, includes treated area, operator, date and time of treatment, meteorological conditions and inspection and monitoring reports. Records shall be submitted every 30 days to the COR.

Restoration of Damaged Property: If any direct or indirect damage is done to public or private property resulting from any act, omission, neglect, or misconduct, the contractor shall restore the damaged property to a condition equal to that existing before the damage.

Protection of Water Resources: LCC will keep construction activities under surveillance, management and control to avoid pollution of surface and ground waters, storm and sewer systems. Implement management techniques to control water pollution by the listed construction activities that are in this contract. A separate plan to address issues facing stream crossings will be created as an addendum to this EPP for this project. A separate SWPP has been created to address issues specific to storm water and wetland management.

1. Water: Do not allow wastewater directly derived from construction activities to enter water areas.
2. Monitor water areas affected by construction.
3. Use protection method in accordance with CTDEEP Water Resources Guide

Amphibians and Reptiles (except turtles): If possible, stream crossings will not be constructed during the months of late August through September or from Mid-March through May, as these are the times that amphibians and reptiles are most active near wetlands. If possible, stream crossings will be constructed in November when stream flows are low and amphibian activity has slowed.

Turtle Protection: work should be done when the turtles are active April 1 through September 30th.

Slimy Sculpin: As a best management practice, any “unconfined” instream work within Allyn Brook and Hersig Brook should be restricted to the period from June 1 to September 30, inclusive. A June 1 through September 30 timeframe can be utilized as an effective mitigation measure for construction related disturbances due to the following reasons:

1. Timeframe will serve to protect the spawning, egg incubation, and fry development of resident fishes,
2. Timeframe does not interfere with seasonal migratory behaviors, and
3. Timeframe coincides with historic low rainfall levels in Connecticut a period in which instream construction activities such as dewatering, excavation, trenching, and cofferdam placement are most effective.

More detail can be found in the SWPP created for this project.

Sound Intrusions: LCC shall keep construction activities under surveillance and control to minimize environment damage by noise. LCC will attempt to control the noise from machinery as much as reasonably possible.

For the purpose of measuring noise levels, the following guidelines shall be used:

- (1) The project SSHO Forrest Brown will be trained in the techniques and principles of sound measuring equipment and instrumentation prior to equipment being brought onsite.
- (2) Instruments used to determine sound-level measurement shall be sound level meters and analyzers, which are defined as: Sound-Level Meter – An instrument used to measure sound levels. A sound – level meter shall conform, at a minimum, to the American National Standards Institute Operation specification for sound level meters S1.4-1983 (R1993).
Sound Analyzer – A device, generally used in conjunction with a sound level meter, for measuring the sound-pressure level of a noise as a function of frequency, expressed in hertz (Hz), in octave band, one-third octave bands or other standard ranges. The sound analyzer shall conform, as a minimum, to Type E, Class II, as specified in ANSI S1.11-1986 (R1994)
- (3) The following steps should be taken when preparing to take sound-level measurements.
 - a. The instrument manufacturer's specific instructions for the preparation and use of the instrument shall be followed.
 - b. Measurements to determine compliance with § 11-45 shall be taken at a point that is located more or less one-foot beyond the project site line.

All night work shall comply with the Town of Durham Code of Ordinances for Class A receptor, nighttime. It shall be unlawful to emit or cause to be emitted any noise beyond the work area, to a Class A receptor noise zone during nighttime hours, in excess of the following noise levels:

Octave Band Sound-Pressure Levels (dB) Emitted to Class A Receptor by Emitters in the Following Zones

Octave Band Center Frequency (Hz)	Class C	Class B	Class A
31.5	69	63	63
63	67	61	61
125	62	55	55
250	54	47	47
500	47	40	40
1000	41	35	35
2000	36	30	30
4000	32	25	25
8000	32	25	25

The following noise mitigating actions may be used while performing night work:

- Only use required power and size of equipment.
- Fit engine exhausts with silencers.
- Do not leave equipment idling unnecessarily.
- Regularly inspect and maintain equipment.
- Provide respite periods by limiting the number of consecutive days worked near residences.
- Operational noise barriers may be installed at an early stage.
- Schedule particularly noisy activities for weekday afternoons as not to disturb residents.

- Use quiet reversing alarms/methods.

Odors: Odors from construction activities shall be controlled at all times. The odors shall not cause a health hazard and shall be in compliance with State regulations and/or local ordinances. Use of ventilation and low odor emitting materials shall be used to control odors in higher populated areas such as South Main St. (Route 17) STA. 45+97 to STA. 209+25 drawings C-9 to C-26, Maple Ave. STA. 900+00 to 933+50 drawings C-27 to C-34 Maple Ave. and Talcott Lane STA 933.50 to 940.88 and 306+13 drawing C-35, and Maiden Ln. STA. 403+25 to STA/ 409+50.

Maintenance: During the life of this contract, LCC shall maintain all facilities constructed for pollution control under this Contract as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created. During the construction period EPM shall conduct frequent training courses for their maintenance personnel. The curricula shall include methods of dust control, familiarity with pollution standards, and care of controls and measures to prevent and correct fugitive dust pollution. LCC shall furnish daily services for the temporary control measures at the project site and perform any required maintenance as deemed necessary by and to the satisfaction of the KO during the entire life of the Contract. Services shall be performed at such a time and in such a manner to least interfere with the operations. EPM Site Inspector shall inspect all pollution prevention measures. LCC shall maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

Final Cleanup: On completion of the contract and after removal of all debris, rubbish, and temporary construction, LCC shall leave the construction area in a clean condition satisfactory to the KO. Cleaning shall include off station disposal of all items and materials not required to be salvaged, as well as all debris and rubbish resulting from demolition and new work operations.

Historical, Archeological, Culture Resources Biological and Wetlands Plan

Objectives: The objective of this plan will be to preserve historical, archeological, cultural resources. This will be under the review of the EPM as well as the project SSHO.

Methods: LCC will not, disturb any cultural sites or collect any prehistoric and historic artifacts of the project site. If any previously unidentified materials of these types are found individually or in concentrated deposits within the project area, the EPM shall report these to the CO, who will implement any cultural resources avoidance or mitigation measures assigned to projects as a condition of approval; these measures can include literature searches, areas, archaeological testing, data recovery, and report preparation. Work will be temporarily suspended within 100 feet of the discovery of the cultural resources until it has been properly evaluated and secured. The area will be protected with temporary fencing; LCC shall immediately report any discovery of previously unidentified cultural resources to the COR or KO. LCC shall halt work and immediately and notify the COR or KO if LCC or their biological monitors suspect the presence of any federally listed endangered or threatened species or their habitat.

LCC will not destroy or allow discharge of contaminants into any wetlands. Authorization to enter specific wetlands identified will not relieve LCC from any obligations to protect other wetlands within, adjacent to, or in the vicinity of the construction site and associated boundaries. LCC will ensure wetland boundaries are clearly marked prior to any construction on or near the wetland areas.

Existing historical, archeological and cultural resources within LCC's work area will be preserved in their original condition. LCC will install all protection for these resources and will be responsible for their

preservation during this contract. All items having any apparent historical or archeological interest, which are discovered in the course of any construction activities will be carefully preserved. LCC will leave the archeological find undisturbed and will immediately report via verbal and formal correspondence the find to the COR or KO so that the proper authorities can be notified.

Section C: Planned Environmental Controls

Planned Environmental Control activities including responsibility for surveillance of work, acceptance, rejection, documentation and resolution of deficiencies, trends analysis, corrective actions, EC processes and interface with Government inspector and closeout procedures.

Environmental Controls: Prior to starting any onsite construction activities, LCC and the EPM (Forrest Brown) or Alt. EMP (Jonathan Pio) will make a joint condition survey (while documenting with photos), after which LCC will prepare a brief report indicating the layout plan, the condition of site areas immediately adjacent to work sites and adjacent to the assigned storage area and access routes. Both the PM and EPM will sign the report upon mutual agreement as to its accuracy and completeness. LCC will protect those areas of environmental importance regardless of any interference that the necessary protection and preservation may cause to LCC's work under this contract. Any deviations, requested by LCC, from the drawings, plans, and specifications which may have an environmental impact will be subject to approval by the KO and may require an extended review, processing, and approval time. LCC understands that the KO reserves the right to disapprove alternate methods, even if they are more cost effective, if the KO determines that the proposed alternate method will have an adverse environmental impact.

To ensure that proper environmental controls are present through all phases of construction, a three-phase environmental control system will be implemented. LCC staff, subcontractors, and all other necessary persons will participate in and perform three phases of control for all definable features of work located in the specifications and quality control plan. The Environmental Protection Point of Contact will keep complete records of all material submittals, shop drawing submittals and have them readily available for review and inspection by Government and subcontractor for environmental purposes. Below is a detailed description of the three-phase environmental control process:

EPM will adequately review every environmental issue and/or concern both on-site and off-site with the Three-Phases of Control and include the following for each definable feature of work.

Preparatory Phase - This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.
- b. A review of the contract drawings.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. Review of provisions that have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- i. A check to ensure that the portion of the plan for the work to be performed has been accepted by

the KO.

j. Discussion of the initial control phase.

k. The Government shall be notified at least 24 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

Initial Phase - This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

- a) A check of work to ensure that it is in full compliance with environmental control requirements. Review minutes of the preparatory meeting.
- b) Verify adequacy of environmental controls to ensure full contract compliance. Verify required control inspection and testing.
- c) Establish level of environmental control and verify that it meets minimum standards.
- d) Resolve all differences.
- e) Check environmental protection to include compliance with and upgrading of the environmental protection plan and Activity Hazard Analysis. Review the activity analysis and environmental controls with all workers.
- f) The Government shall be notified at least 24 hours in advance of beginning the Initial Phase. Separate minutes of this phase shall be prepared by the Environmental Protection Point of Contact and attached to the daily QC report. Exact location of Initial Phase shall be indicated for future reference and comparison with Follow-up Phases.
- g) The Initial Phase should be repeated for each new crew to work onsite, or any time acceptable specified environmental standards are not being met.

Follow-Up Phase - Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the QC documentation. Final follow-up checks shall be conducted and all environmental deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work.

Additional Preparatory and Initial Phases - Additional Preparatory and Initial Phases shall be conducted on the same definable features of work if the environmental standard is unacceptable, if there are changes in the applicable staff, onsite production supervision, or work crew, if work on a definable feature is resumed after a substantial period of inactivity, or if other problems develop.

Surveillance of Work: The Environmental Protection Point of Contact (EPM) is responsible to observe all construction activities to ensure that all applicable environmental laws are absolutely adhered to and enforced. The EPM or the assistant EPM is required to be on site at all times throughout all stages of construction. The EPM or the assistant EPM in his absence is permitted to stop work until all environmental issues are addressed. The Project Manager, Quality Control Manager, and Site Safety Officer are all also permitted to stop work if all applicable environmental laws aren't being adhered to. Surveillance of work will be visual, and performed by the EPM and SSHO for the project.

Trends Analysis: The EPM will compile the weekly reports and reconcile any environmental issues with the previous periods. This process will be focused on identifying trends that are occurring in the environment. This trend analysis will be forwarded via a narrative to the government for review bi-weekly, to be discussed at regularly schedule meetings. The goal of this root cause analysis will be to detect

environmental issues not readily apparent in the day to day construction operations. Photography and on-site readings will be compiled in developing this report for review and approval.

Corrective Actions: LCC will comply with all Federal, State, and local laws and regulations relative to environmental protection. If the EPM, PM, QCM, or Corporate Safety Manager observe a deficiency or violation, work will stop until corrective action is taken. If the EPM observes a deficiency, the EPM will notify COR or KO. EPM is then required to correspond with the COR or KO regarding which corrective action that will be taken. Once the KO has approved an action, work may resume after the corrective action is accomplished to the satisfaction of the KO and EPM.

Environmental Control Processes: In addition to requirements specified elsewhere for environmental protection, provide coating materials that conform to the restrictions of the local Air Pollution Control District and regional jurisdiction (Below VOC Levels). Odors from construction activities shall be controlled at all times. The odors shall not cause a health hazard and shall be in compliance with State regulations and/or local ordinances. Use of ventilation and low odor emitting materials shall be used to control odors.

During the life of this contract, LCC shall maintain all facilities constructed for pollution control under this Contract as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created. LCC shall furnish daily services for the temporary control measures at the project site and perform any required maintenance as deemed necessary by and to the satisfaction of the KO during the entire life of the Contract. Services shall be performed at such a time and in such a manner to cause the least interference with the operations. LCC EPM shall inspect all pollution prevention measures. LCC shall maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

Confine demolition and construction activities to work area limits indicated on the Drawings. Remove debris, rubbish, and other waste materials resulting from demolition and construction operations from site. Transport materials with appropriate vehicles and dispose of them off site to areas that are approved for disposal by governing authorities having jurisdiction. Avoid spillage by covering and securing loads when hauling on or adjacent to public streets or highways. Remove spillage and sweep, wash, or otherwise clean project site, streets, or highways. Burning of debris on site is prohibited.

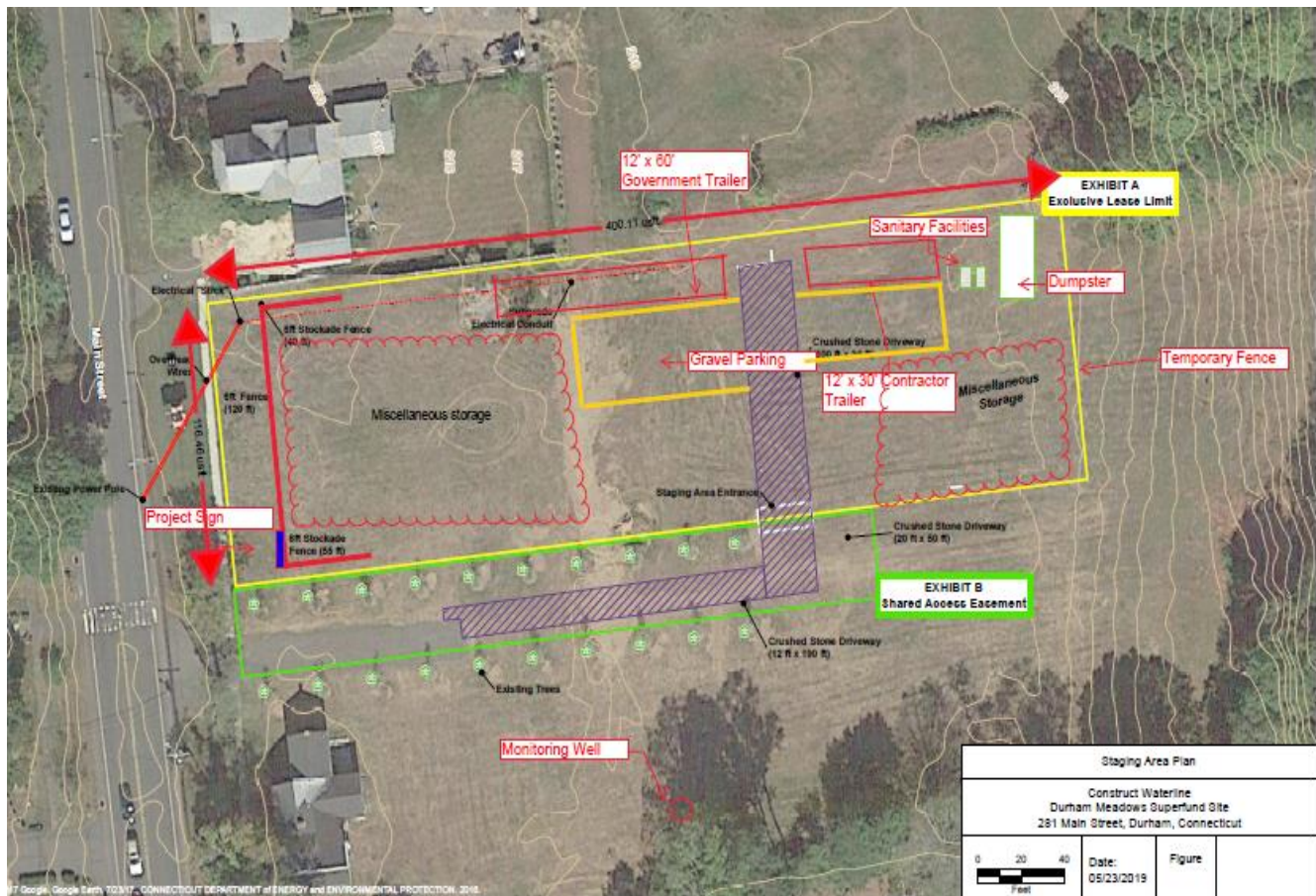
LCC will implement reuse and recycling procedures to reduce landfill disposal. LCC will increase landfill diversions by ensuring that debris management will be incorporated into the scope of this project. LCC will author and implement procedures to keep solid waste from being contaminated and in a condition required for acceptance by a designated reuse, recycling, or disposal facility. Solid waste, rubbish, debris, and other discarded solid materials will be placed in containers that are emptied on a regular schedule by USA **Hauling and Recycling** – Shall be addressed in the additional EPP that will be submitted addressing contaminated soils and water.

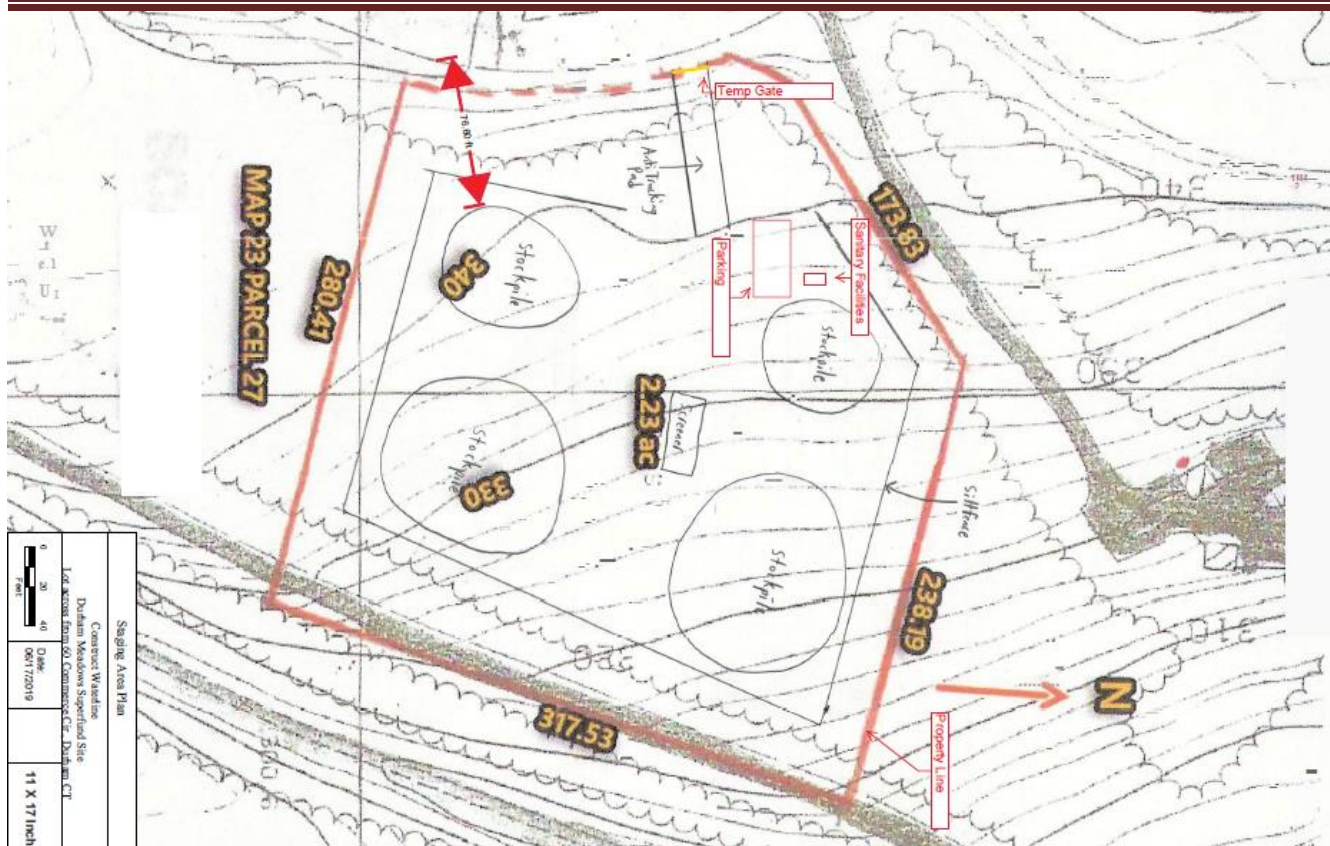
Interface with Government Inspector: The EPM will be the point of contact for interface with regulatory agencies and will coordinate inspections with the required parties. The EPM will notify the KO of any regulatory inspections, meetings, inquiries, issues or requests for information specific to the operations being conducted by LCC. The EPM will immediately investigate all practices cited in Notices of Violations (NOVs)/Notices of Noncompliance (NONs)/enforcement actions and take immediate actions to remedy infractions to come into compliance. The EPM will provide the KO a written response identifying the alleged violation, investigation results, the cause generating the need for a response, remedial actions taken and preventative actions LCC intends to take to prevent a recurrence.

Contract Closeout Procedures: Before completing the work, LCC and its Subcontractors shall remove from the work site and premises any rubbish, tools, scaffolding, equipment, and materials. Upon completion of the work, LCC and their Subcontractors shall leave the work area in a clean, neat, and orderly condition satisfactory to the KO. All environmental related documentation will be submitted to the KO upon final completion.

Section D: Sediment and Erosion Control Measures

Drawings showing locations of sediment and erosion control measures. Additional detail is provided in the Storm Water Protection Plan (SWPP). No construction activities will be conducted within 25 feet of the monitoring well at 281 Main St.





Section E: Environmental Monitoring

Environmental monitoring plans for the job site, including land, water, air, and noise monitoring.

Protection of Land Resources: Prior to construction, identify all land resources to be preserved within the work area. Do not remove, cut, deface, injure, or drop land resources including trees, shrubs, grasses, top soil, and land forms without permission from the KO. Do not fasten or attach ropes, cables, or guys to trees for anchorage unless specifically authorized, or where special emergency use is permitted.

1. **Work Area limits:** Prior to any construction, mark the areas that require work to be performed under this contract. Mark or fence isolated areas within the general work area that are saved and protected. Protect monuments, works of art, and markers before construction operations begin. Convey to all personnel the purpose of marking and protecting all necessary objects.
2. **Protection of Landscape:** Protect trees, shrubs, vines, grasses, land forms, and other landscape features shown on the drawings to be preserved by marking, fencing, or using any other approved techniques.
 - a. Box and protect from damage existing trees and shrubs to remain on the construction site.
 - b. Immediately repair all damage to existing trees and shrubs by trimming, cleaning, and painting with antiseptic tree paint.
 - c. Do not store building materials or perform construction activities closer to existing trees or shrubs than the farthest extension of their limbs.
3. **Temporary Protection of Disturbed Areas:** Provide silt fencing where there is potential runoff from disturbed areas.
4. **Erosion and Sediment Control Devices:** The erosion and sediment controls selected and

maintained by LCC shall be such that the water quality standards are not violated as a result of the Contractor's activities. Construct or install all temporary and permanent erosion and sedimentation control features on the EPP. Maintain temporary erosion and sediment control measures disturbed areas are restored.

5. Handle and dispose of solid wastes in such a manner that will prevent contamination of the environment. Place solid wastes (excluding clearing debris) in containers that are emptied on a regular schedule. Transport all solid waste off site and dispose of waste in accordance with Federal, State, and local regulations.

6. Store hazardous waste away from the work areas in compliance with Federal, State, and local regulations.

7. Handle discarded materials other than those included in the solid waste category as directed by the EPM

8. All Management of hazardous waste must comply with federal and state hazardous waste regulations.

Protection of Fish and Wildlife Resources: Keep construction activities under surveillance, management, and control to minimize interference with, disturbance of, or damage to fish and wildlife.

Protection of Air Resources: Keep construction activities under surveillance, management and control to minimize pollution of air resources. Burning is not permitted on the job site. Keep activities, equipment, processes, and work operated or performed, in strict accordance with the CTDEEP, the State of Connecticut Air Pollution Control Rules and Federal emission and performance laws and standards. Maintain ambient air quality standards set by the Environmental Protection Agency, for those construction operations and activities specified.

Section F: Contaminant Plan

Procedures to provide the environmental protection that comply with the applicable laws and regulations. Describe the procedures to correct pollution of the environment due to accident, natural causes, or failure to follow the procedures in the Environmental Protection Plan.

LCC shall provide the Safety Data Sheets (SDS) when materials are brought on site (none known at this time). The SDS for construction materials and products shall be provided through the COR to the necessary entities.

Dust particles; aerosols and gaseous by-products from construction activities; and processing and preparation of materials, shall be controlled at all times, including weekends, holidays and hours when work is not in progress. Particulate control shall be performed as the work proceeds and whenever a particulate nuisance or hazard occurs. LCC shall comply with all State and local visibility regulations.

SDS will be provided for each material when initially delivered to the jobsite The SSHO will maintain these documents and train site staff during the weekly tool-box meeting on their use and control in case of a spill. All these materials will be stored in hazardous control lockers near sanitation Berms around lockers and waterproof membranes will be placed under storage facilities to prevent leakage into water or ground. Using the EM 385-1-1 as guidance the SSHO will verify compliance daily with all Federal, State, and local laws and regulations for storage and handling of these materials. This plan will be update, if or when hazardous materials outside the ones identified above are brought onsite or removed from the site.

Equipment washing and maintenance will not occur on project site. If equipment needs to be washed or receive routine maintenance, these activities will be located away from project site.

Chemical Waste: Chemicals will be dispensed ensuring no spillage to ground, or water. Periodic inspection of dispensing areas to identify leakage, and initiate corrective action will be performed and documented. The Government will periodically review this documentation. Chemical waste will be collected in corrosion resistant, compatible containers. Collection drums will be monitored and removed to a staging or storage area when contents are within 6 inches of the top. Wastes will be disposed of in accordance with Federal, state and local laws and regulations.

Hazardous Wastes: LCC will take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing, and will collect waste in suitable containers observing compatibility. USA Hauling and Recycling will transport hazardous waste off project property and dispose of it in compliance with Federal and local laws and regulations. Spills composed of hazardous and/or toxic materials will be immediately reported to the COR or KO. Cleanup and cleanup costs due to spills will be LCC's responsibility. Storage, fueling and lubrication of equipment and motor vehicles must be conducted in a manner that affords the maximum protection against spill and evaporation. Used lubricants and used oil to be discarded must be stored in marked corrosion resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations. Storage of fuel on the project site will be in accordance with all Federal, State, and local laws and regulations. Hazardous wastes are defined in 40 CFR 261, or are as defined by applicable State and local regulations. LCC shall, at a minimum, manage and store hazardous waste in compliance with 40 CFR 262 and shall manage and store hazardous waste in accordance with the Installation hazardous waste management plan. LCC shall take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing. LCC shall segregate hazardous waste from other materials and wastes, shall protect it from the weather by placing it in a safe covered location, and shall take precautionary measures such as berming or other appropriate measures against accidental spillage. LCC shall be responsible for storage, describing, packaging, labeling, marking, and placarding of hazardous waste and hazardous material in accordance with 49 CFR 171 - 178, State, and local laws and regulations.

Spill Control Plan

The Spill Control plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or Local laws and regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan includes:

Spill Control and Response Plan: LCC will manage and provide the necessary spill equipment and supplies to control the situation should a hazardous waste or hazardous material spill occur. If only small amounts of hazardous material or hazardous waste are present, then only those items needed to mitigate the spills are required. Personal protective equipment and appropriate fire and safety equipment will also be readily available and sized/stocked based upon the amount and type of hazardous materials and hazardous waste present.

Should a spill occur, equipment and supplies will already be on hand to mitigate its impacts. Hazardous Material Spill/Release Reporting Form will be filed with the KO. Emergency shut-off devices overflow prevention controls, and other measures are all part of the process controls used to prevent spills. Spill kits, over-pack drums, leak/patch kits, tools, personal protective equipment, etc. are items used when responding to spills and mitigating impacts on human health and the

environment.

All small hazardous spills/environmental releases will be contained as close to the source as possible. Whenever possible, the SDS will be consulted to assist in determining the best means of containment and cleanup. For small spills, absorbent materials such as sand, sawdust or commercial absorbents will be placed directly on the substance to contain the spill and aid recovery. Berms of earthen or absorbent materials may be used to contain the leading edge of the spills. Drains or drainage areas will be blocked. All spill containment materials will be properly disposed of as potentially hazardous waste. An exclusion zone of 50 to 100 feet around the spill area will be established depending on the size of the spill. The following seven steps will be taken:

1. Determine the nature, identity and amounts of major spill components;
2. Make sure all unnecessary persons are removed from the spill area;
3. Notify appropriate response teams and authorities;
4. Use of proper PPE;
5. If a flammable liquid, gas or vapor is involved, remove all ignition sources and use non-sparking and/or explosive proof equipment to contain or clean up the spill (diesel only vehicles, air operated pumps, etc.);
6. If possible, try to stop the leak with appropriate material; and
7. Remove all surrounding materials that can react or compound with the spill.

LCC will manage and provide the necessary spill equipment and supplies to control the situation should a hazardous waste or hazardous material spill occur. If only small amounts of hazardous material or hazardous waste are present, then only those items needed to mitigate the spills are required. Personal protective equipment and appropriate fire and safety equipment will also be readily available and sized/stocked based upon the amount and type of hazardous materials and hazardous waste present. Should a spill occur, equipment and supplies will already be on hand to mitigate its impacts. Hazardous Material Spill/Release Reporting Form will be filed with the KO. Emergency shut-off devices overflow prevention controls, and other measures are all part of the process controls used to prevent spills. Spill kits, over-pack drums, leak/patch kits, tools, personal protective equipment, etc. are items used when responding to spills and mitigating impacts on human health and the environment. Should a spill occur, equipment and supplies are already on hand to mitigate its impacts. Emergency shut-off devices overflow prevention controls, and other measures are all part of the process controls used to prevent spills. Sumps, impervious surfaces, dikes, secondary containment structures, etc. are site components designed to mitigate spills. Spill kits, over-pack drums, leak/patch kits, tools, personal protective equipment, etc. are items used when responding to spills and mitigating impacts on human health and the environment.

All small hazardous spills/environmental releases will be contained as close to the source as possible (fuel, grease, or transmission fluid). Whenever possible, the SDS will be consulted to assist in determining the best means of containment and cleanup. For small spills, absorbent materials such as sand, sawdust or commercial absorbents will be placed directly on the substance to contain the spill and aid recovery. Berms of earthen or absorbent materials may be used to contain the leading edge of the spill. Drains or drainage areas will be blocked. All spill containment materials will be properly disposed of as potentially hazardous waste. An exclusion zone of 50 to 100 feet around the spill area will be established depending on the size of the spill. The following seven steps will be taken:

1. Determine the nature, identity and amounts of major spill components;
2. Make sure all unnecessary persons are removed from the spill area;
3. Notify appropriate response teams and authorities;
4. Use of proper PPE;
5. If a flammable liquid, gas or vapor is involved, remove all ignition sources and use non-sparking, explosive proof equipment to contain or clean up the spill (diesel only vehicles, air operated pumps)

6. If possible, try to stop the leak with appropriate material; and
7. Remove all surrounding materials that can react or compound with the spill.

In the event of a spill, the EPM will contact the COR or KO and the Connecticut Department of Energy and Environmental Protection Management at (860) 424-3338. Additionally, the National Response Hotline will be contacted at (800) 424-8802. The Middlesex County Health Department can also be contacted at (860) 638-4960. The local fire department will be notified by dialing 911.

Small spills will be cleaned up by on site personnel and placed into sealed containers as prescribed by the SDS sheets and disposed of off site at: *A facility to me named in the follow up EPP to be submitted addressing contaminated soils and water.*

The facility we will choose will be permitted by the EPA to store and treat a wide variety of D, F, K, P, U and M listed wastes.

Spills of a larger nature will be contained by mechanical berms, earthen berms, or spill containment kits, depending on the nature of the spill and cleanup will be performed by: *A facility to me named in the follow up EPP to be submitted addressing contaminated soils and water.*

Existing soil will be the predominantly used material for absorbing site wide spills for disposal, such as diesel, gas, oil, hydraulics etc. The impacted soil must be removed and measures must be taken to confirm that the area is clean and meets applicable state regulations. Other items to be available on site for immediate use are: wipers, spill kits, granulated absorbents, containment booms and absorbent pads.

A list of materials and equipment to be immediately available at the job site, tailored to neutralize, contain, and remove all contaminants and/or hazardous materials:

1. Fire extinguisher(s) appropriate to the wastes (inert gas, water, and dry chemical)
2. Spill control equipment appropriate to the wastes, as listed below.
3. First aid kit
4. Personal protective equipment appropriate to the wastes
5. Bung wrench(s), non-sparking, as appropriate to the wastes
6. Shovel(s), non-sparking, as appropriate to the wastes
7. Broom(s) & Dust pan(s)
8. Polyethylene bags, heavy duty
9. Over pack drum(s), 55-gallon or smaller, as appropriate to the wastes
10. Extra drum(s) appropriate to the wastes

LCC will submit an Emergency Planning and Community Right-to-Know notification and other reports to the KO and to the Facility Emergency Coordinator (FEC) as specified in the *EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW REQUIREMENTS*. LCC shall also perform in accordance with *Specification Section 1 11 00 1.25 EPA Off-Site Rule for this contract*.

Reporting Responsibilities: In the event of a spill, the EPM will contact the KO and/or the COR and the CTDEEP. Additionally, the National Response Hotline will be contacted at (800) 424-8802. The local fire department will also be contacted by dialing 911.

Cleanup Responsibilities: Small spills will be cleaned up by on site personnel and placed into sealed containers as prescribed by the SDS sheets and disposed of off site at: *A facility to me named in the follow up EPP to be submitted addressing contaminated soils and water.*

The facility we will choose will be permitted by the EPA to store and treat a wide variety of D, F, K, P, U and M listed wastes.

Spills of a larger nature will be contained by mechanical berms, earthen berms, or spill containment kits, depending on the nature of the spill and cleanup will be performed by: *A facility to me named in the follow up EPP to be submitted addressing contaminated soils and water.*

Existing soil will be the predominantly used material for absorbing site wide spills for disposal, such as diesel, gas, oil, hydraulics etc. Other items to be available on site for immediate use are: wipers, spill kits, granulated absorbents, containment booms and absorbent pads.

- (1) The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the KO and the local Fire Department in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity is released to the environment. The plan shall contain a list of the required reporting channels and telephone numbers.

Environmental Protection Manager: Forrest Brown

Key Points of Contact – Spill Control

Environmental Protection Agency: **(800) 424-8802**

Environmental Protection Point of Contact: **Forrest Brown (985) 317-1087**

Alt Environmental Protection Point of Contact: **Jonathan Pio (413) 313-2428**

DEEP Spill Reporting 24/7 hotline: (860) 424-3338

- (2) The name and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.

Environmental Protection Point of Contact: Forrest Brown

- (3) Training requirements for Contractor's personnel and methods of accomplishing the training.

It is the Environmental Protection Point of Contact responsibility for the project to ensure that all Employees have been trained for appropriate environmental control. It is part of our Quality Control and safety to review all issues as part of our preparatory meetings and weekly meetings upon the start of all definable features of work. All employees shall be required to know and understand EPA, and the State of Connecticut Environmental compliance requirements.

The Environmental Protection Point of Contact is responsible for the employee training program. He will ensure that elements specified below are carried out. Prior to starting work, each new employee will attend a health and safety orientation and receive information and training on the following:

- An overview or the requirements contained in the Hazard Communication Standard, 29 CFR 1910.1200;
- Chemicals present in their workplace operations, such as contaminants in soil, groundwater, and potable well water at the site;

- Location and availability of our written hazard program; Physical and health Effects of the hazardous chemical;
- Methods and observation techniques used to determine the presence or release of hazardous chemicals in the work area;
- How to lessen or prevent exposure to these hazardous chemicals through usage of control/work practices and personal protective equipment;
- Steps the company has taken to lessen/prevent exposure to the chemicals;
- How to read labels and review SDS sheets to obtain hazard information;
- Location of SDS file and location of hazardous chemical list;

After attending the training class, each new employee will sign an acknowledgement form to verify that they attended the training, received written materials, and understood company policies on Hazard Communication. Prior to a new chemical hazard being introduced into any section of this, each employee of that section will be given information as outlined above. The Environmental Protection Point of Contact is responsible for ensuring that SDS sheets on the new chemical(s) are available.

Hazard communication training will be provided and documented in accordance with regulatory requirements. A copy of the requirements will be maintained on site. This training will be included, at a minimum, during the initial site briefing and additionally during daily site safety briefings as necessary or indicated.

(4) A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified:

1. Fire extinguisher(s) appropriate to the wastes (inert gas, water, and dry chemical)
2. Spill control equipment appropriate to the wastes, as listed below.
3. First aid kit
4. Personal protective equipment appropriate to the wastes
5. Bung wrench(s), non-sparking, as appropriate to the wastes
6. Shovel(s), non-sparking, as appropriate to the wastes
7. Broom(s)
8. Dust pan(s)
9. Tool box
10. Polyethylene bags, heavy duty
11. Over pack drum(s), 55-gallon or smaller, as appropriate to the wastes
12. Extra drum(s) appropriate to the wastes

(5) The methods and procedures to be used for expeditious contaminant cleanup.

Spill Control: Spills related to the project activities will be reported to the COR or KO immediately by the Environmental Protection Point of Contact. The Fire Dept., Facility Response Personnel, and Facility Environmental Office will also be notified of the spill. Following the discovery, the

Environmental Protection POC's will implement and supervise the immediate containment and cleanup. Spill control measures and material to be used (e.g. booms, vermiculite, absorbents materials, and drums) will be used to assist in immediate response to control further exposure to the environment. Immediate spill control measures shall be focus on containment, using materials such as absorbents that will be place in water-tight containers such as drums. If contaminant becomes water-borne then boom will be deployed to prevent downstream flow and eventual spread. Material-placement equipment shall be available in case of an unforeseen spill emergency. This equipment includes:

1. Brooms and Shovels
2. Watertight Enclosures

Spill Reporting Personnel: Forrest Brown

Spill Clean-up Supervisor: Jonathan Pio

Spill Reporting: A written follow-up will be submitted to the KO not later than 7 days after the initial report. The written report will be in narrative form, and as a minimum include the following:

1. Description of the material spilled (including identity, quantity, and manifest number).
2. Whether amount spilled is EPA/State reportable and when and to whom it was reported, ex. National Response Center, 1-800-424-8802.
3. Exact time, and location of spill, including description of the area involved.
4. Receiving stream, or waters.
5. Cause of incident and equipment and personnel involved.
6. Injuries and/or property damage.
7. Duration of discharge.
8. Containment procedures initiated. These procedures and equipment utilizes prevention measures, such as building berms, or dikes; spill control measures and material to be used (e.g. booms, vermiculite, absorbents).
9. Description of cleanup procedures employed (or to be employed at the site), including disposal location of spill residue.

Within 5 days of the release, a written follow-up notice of the release shall be provided to the FEC and the KO. The written notice shall update information provided in the initial report, provide detailed information on the response actions taken, and provide advice regarding medical attention necessary for exposed individuals.

Section G: Maintenance of Hazardous Material SDS

Means and methods for maintaining current Safety Data Sheets (SDS) for all hazardous materials delivered to the site.

LCC, as a matter of company policy will provide their employees with information about hazardous chemicals on the worksite through its Hazardous Communication Program, which includes container labeling, Safety Data Sheets (SDS), and employee information/training.

Responsibilities: The EPM will have overall responsibility for coordinating the Hazard Communication program for the above referenced project. The EPM will author the Written Hazard Communication Program, with the goal of making available SDS to employees.

List of Hazardous Chemicals: The EPM will compile a list of all hazardous chemicals that will be used on the worksite by reviewing container labels, collecting Safety Data Sheets, and from information received from other contractors. It is company policy to record the receipt of all incoming hazardous material into the HazCom File Log. Since this log shall be kept current throughout the duration of the project, it will also serve as the list of hazardous materials. It will be kept in the Site Office in the SDS binder. No pesticides will be used on this project.

Labeling: It is the policy of this company to ensure that each container of hazardous substance used by LCC or their Subcontractors are properly labeled. The labels will list the following items as a minimum:

- A. The identity of the hazardous chemical in the container.
- B. Appropriate hazard warning such as words, pictures, symbols or combinations.
- C. Name and address of the chemical manufacturer, importer, or other responsible party.

It is also the policy to request additional labels for hazardous products that are confined to containers. The request for a sticker or label shall be attached or written on the purchase order. When received, place the additional label in the HazCom File; when the label is used, a replacement label is again ordered. All secondary containers (containers into which hazardous substances are transferred for temporary use) shall be labeled with the same label as the source container. To ensure that every incoming Hazardous product in a container is accompanied by a complete and accurate label identifying the chemical content with the appropriate names and hazard warning, a "SDS Label-Completeness Worksheet" shall be completed. The above responsibilities have been assigned to the EPM.

Material Safety Data Sheets: Copies of Material Safety Data Sheets for all hazardous chemical materials to which employees may be exposed are kept in the Field Office, and are readily accessible to employees and other contractors in the work area during each work shift. The EPM is responsible for obtaining and maintaining the file of Material Data Sheets.

Although it is the responsibility of the supplier/manufacturer to provide an SDS with the products they sell, the SDS may not contain all the information required by the HazCom Standard. Therefore, the EPM will follow a routing procedure for:

1. Checking completeness of incoming SDS.
2. Copying information from the SDS.
3. Filing SDS in HazCom file.
4. Obtaining SDS, if one did not accompany the product

If the SDS does not contain adequate information:

1. Phone the supplier/manufacturer immediately and follow up with written correspondence requesting a complete and accurate SDS.
2. Copy in "Request for SDS Log" with date sent
3. Record the receipt of the SDS in the request for SDS log and file SDS in the file. If hazardous material should arrive at the Field Office without an SDS attached:
 - a. Send a letter to the supplier/manufacturer requesting SDS

- b. File the copy in the request for SDS folder. Document the date sent in the request for SDS log. This log is kept in the request for SDS Log and request file.
- c. Send a follow up letter in 30 days and document the action.
- d. Record the receipt of the SDS in the request log file, the SDS in the appropriate file.

Under the HazMat Standard, LCC is required to perform many tasks which can be expedited by copying information from the SDS. These requirements include educating employees on hazardous materials, educating employees on non-routine tasks, and informing contractors of hazardous material their employees might come in contact with. Therefore, the EPM should photocopy the following from each SDS:

1. Control measures
2. Precautions for Safe Handling and use.
3. Signs/Symptoms for Exposure.
4. Cover page with name and reference number.
5. Copy for each subcontractor's folder.
6. Distribute as necessary.

When a new type of product is introduced into a work area, or the chemical composition changes, the EPM will review the items as they relate the chemicals on hand and insure compliance with the Hazard Communication program.

To ensure that the employees of other contractors have access to the information regarding hazardous chemicals on the job site, it is the responsibility of the EPM to provide the subcontractors with the following:

1. Where the SDS are available (Field Office).
2. The name and location of the hazardous chemicals to which their employees may be exposed, and any appropriate protective measures required to minimize their exposure.
3. An explanation of the labeling system at the job site.
4. Complete a HazCom Information Form
5. SDS in the worker's native language

Section H: Environmental POC Name (Adherence to the Environmental Protection Plan)

Name(s) of person(s) within the Contractor's organization who is(are) responsible for ensuring adherence to the Environmental Protection Plan.

Environmental Protection Manager: **Forrest Brown**

Alternate Environmental Protection POC: **Jonathan Pio**

Roles and Responsibilities: Forrest Brown is designated as the Environmental Protection POC and Environmental Instructor for training purposes. A general description of his duties including the specific responsibilities as the Environmental Protection POC is listed below:

- Being responsible for the implementation, oversight and enforcement of the Environmental Plan and Waste Management.
- Conducting LCC's Employee and Subcontractor environmental protection compliance training, when conducting site orientation for each new worker.
- Having authority and responsibilities to ensure site compliance with specified environmental compliance requirements, Federal, State and EPA regulations.
- Having authority to stop work if unacceptable environmental protection conditions exist, and take any necessary actions to re-establish and maintain safe working conditions.
- Being assigned to the site for the duration of field activities.
- Conducting daily onsite environmental inspection/monitoring of field activities. Monitoring will be conducted by providing oversight of testing agency that will utilizing direct-reading monitoring, time-integrated sampling instruments, and dosimeters and by collecting samples (detail of monitoring can be

found in the QAPP).

- Coordinate with local and state environmental departments, recommending corrective actions for identified deficiencies and oversee the corrective actions
- Consulting with and coordinating any modifications to the EPP with the KO, Corporate Environmental Officer, and the Project Manager.
- Train project workers on correct environmental protection policies and procedures using documents such as the AHA for each construction activity.
- Maintain an Environmental Records Binder.
- Ensure that all environmental requirements delineated in the Contract Specification are complied with and closed out.
- Ensure that all environmental permits are obtained, maintained and closed out.
- Ensure compliance with Storm Water Management regulations and inspection requirements.
- Ensure that waste segregation and storage compatibility requirements are met.
- Ensure only authorized personnel add wastes to containers
- Ensure all LCC and subcontractor personnel are trained in 40 CFR requirements in accordance with their position requirements
- Ensure compliance with Hazardous Waste Identification, handling, storage, documentation and disposal requirements by contacting the Environmental Management Division.
- Inspect and manage satellite site accumulation (Waste off of main site).
- Responsible for manifesting hazardous waste to be removed from the site by subcontractor (what hazardous material is removed from site and by whom).
- Ensure authorized personnel are trained in Connecticut environmental requirements in accordance with their position requirements.
- Coordinate removal of waste containers.
- Prior to initiating any work on site, meet with the COR to do a preconstruction environmental survey to discuss the proposed Environmental Protection Plan and develop a mutual understanding relative to the details of environmental protection, including measures for protecting natural resources, required reports, and other measures to be taken.

Jobsite Representation: LCC's EPP staff shall maintain a presence at the site during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance. LCC shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional environmental protection. LCC's staff shall coordinate the prompt completion and furnishing of all letters, material submittals, and shop drawing submittals, schedules and all other project documentation to the Environmental POC. LCC's Environmental POC shall be responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the KO.

Meetings: EPM will meet with the representatives of the KO to revise the environmental protection plan in order to ensure compliance with Environmental Protection Guidelines.

Robert Peddicord

Ph: 859-310-2377

July 18, 2019

Project: Durham Meadows Waterline Remedial Design
W912WJ19C0002

Designation Letter (Environmental Protection Manager)

Mr. Peddicord,

You are assigned the responsibility to ensure that the environmental protection provisions of the contract are performed in accordance with the special contract requirements and the implementation of the Environmental Protection Plan for the above project. Your duties are outlined in the project specifications and further identified in the Environmental Protection Plan of which this is a part. Additionally, it will be your responsibility to ensure that all hazardous materials have Material Safety Data Sheets, OSHA approved labels and employee environmental training has been conducted.

You are directed to ensure, through monitoring, that all portions of the contract are administered in an environmentally safe manner and in accordance with the General, Special and Technical Sections of the contract. In the event that the work is not in accordance with the documents, you are empowered to reject, correct, replace, modify, or STOP work, until it is in compliance with the contract, state and federal environmental requirements.

You will be required to provide oversight on inspections, tests, controls and like on a daily basis, or more often, as necessary to fully implement the Environmental Protection Portion of the contract. You shall on a daily basis make up the Contractors Daily Construction Report and sign this report. You shall be responsible to me, the President of this company for implementation of this plan.

Very Respectively,
Scott Pio, President, Ludlow Construction Company, Inc.



Jonathan Pio

Telephone: (413) 313-2428

July 18, 2019

Project: Durham Meadow Waterline Remedial Design
W912WJ19C0002

Designation Letter: Alternate Environmental Protection Manager

Mr. Pio:

As an alternate, you are assigned the responsibility to insure that the environmental protection provisions of the contract are performed in accordance with the special contract requirements and the implementation of the Environmental Protection Plan for the above project. Your duties are outlined in the project specifications and further identified in the Environmental Protection Plan of which this is a part. Additionally, it will be your responsibility to ensure that all hazardous materials have Material Safety Data Sheets, OSHA approved labels and employee environmental training has been conducted.

You are directed to ensure, through monitoring, that all portions of the contract are administered in an environmentally safe manner and in accordance with the General, Special and Technical Sections of the contract. In the event that the work is not in accordance with the documents, you are empowered to reject, correct, replace, modify, or STOP work, until it is in compliance with the contract, state and federal environmental requirements.

You will be required to provide oversight on inspections, tests, controls and like on a daily basis, or more often, as necessary to fully implement the Environmental Protection Portion of the contract. You shall on a daily basis make up the Contractors Daily Construction Report and sign this report. In the absence of the primary Environmental Protection Point of Contact, Jeremiah Anderson, you shall be responsible to me, the Vice President of this company for implementation of this plan.

Very Respectively,
Scott Pio, President, Ludlow Construction Company, Inc.

A handwritten signature in black ink, appearing to read "Scott Pio", is written over a horizontal line.

Section I: Manifesting Hazardous Waste

Name(s) of person(s) responsible for manifesting hazardous waste to be removed from the site.

Subcontractors responsible for manifesting hazardous waste to be removed from the site:

USA Hauling & Recycling
260 Railroad Hill St.
Waterbury, CT 06708
(203) 596-8913

EMERGENCY SPILL RESPONSE:
Environmental Group Inc.
18 Roberts St.
Middletown, CT 06457
(860) 259-5257

Hazardous Waste

LCC is responsible for ensuring compliance with all requirements governing the handling of hazardous waste shall complete a Waste Determination Form. The disposal of all hazardous/potentially hazardous materials (i.e. paints, solvents, thinners, rags, brushes, rollers, used abrasive materials, propellants, etc.) shall be accomplished in accordance with the CTDEEP environmental laws and regulations and in compliance with all applicable Federal regulations and laws.

- Hazardous waste will be managed and collected in strict accordance with the Waste Management Plan.
- LCC and their Subcontractors will not remove hazardous waste from the project site without prior consultation and approval from the KO. The COR will direct the contractor on the disposal/transfer of hazardous waste generated by the contract utilizing the Waste Transfer Document.
- LCC and all of their Subcontractors will appoint a qualified environmental representative that will be responsible for the proper segregation, packaging, and handling of hazardous waste under the guidance and direction of the CTDEEP.
- All waste classifications will be coordinated through the EPM. All containerization, labeling, and storage of waste will be in accordance with the LCC Waste Management Plan.
- LCC will coordinate with the EMP, who will provide guidance and assistance on identification of waste streams and disposal procedures.
 - All waste disposals will be the responsibility LCC, under the guidance of the EPM.
- LCC will contact the EPM Hazardous Waste Program Manager to schedule training. This training

will include policies and procedures as they relate to the management and disposal of hazardous waste, in accordance with and as required by the CTDEEP's Hazardous Waste Management Training Plan.

- LCC will provide the EPM with a copy of all hazardous waste documentation upon completion of the contract
- LCC and all Subcontractors will make every attempt to reduce quantities of hazardous waste by source reduction, recycling, reclamation, reuse, or an approved process, change, or material substitution.
- All work will comply with Specification Section 1 11 00 para 1.25 EPA Off-Site Rule.

Section J: Description of Contractor's Environmental Training Program

Description of the Contractor's environmental protection personnel training program.

Environmental Protection Training: The Environmental Protection POC, Mr. Brown, will train LCC's personnel in all phases of environmental protection during contractor site orientation. The training will be completed before work begins and when conditions change. This training shall include methods of detecting and avoiding pollution; familiarization with pollution standards, both statutory and contractual; and installation and care of devices, and instruments that a testing agency will use for the purpose of monitoring possible contaminants to ensure adequate and continuous environmental pollution control. Here are the project specific learning objectives of this training:

- A. Provide an overview of environmental and sustainability issues.
- B. Ensure compliance with federal, state, and local environmental laws.
- C. Review of site specific procedures and management plans to establish expectations.
(Waste Management Plan, Environmental Protection Plan and procedures for noise management).
- D. Methods of detecting and avoiding pollution
- E. Familiarization with statutory and contractual pollution standards.
- F. Provide oversight on installation and care of devices, instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control.
- G. Anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants.
- H. Recognition and protection of archaeological sites, artifacts, and endangered species and their habitat that are known to be in the area.
- I. Spill containment exercise will occur monthly as part of weekly toolbox meetings establishing a familiarity with a plan in case a spill occurs.

Training Objectives: LCC's personnel shall be trained in all phases of environmental protection and pollution control. EPM shall conduct environmental protection/pollution control meetings for all LCC personnel prior to commencing construction activities. Additional meetings shall be conducted for new personnel and when site conditions change. The training and meeting agenda shall include: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, and endangered species and their habitat that are known to be in the area. LCC will maintain documentation for all personnel that have been trained in environmental compliance.

Training Requirements: The Environmental Protection POC is responsible for the employee training program. He will ensure that elements specified below are carried out. Prior to starting work, each new employee will attend a health and safety orientation and receive information and training on the following:

- An overview or the requirements contained in the Hazard Communication Standard, 29 CFR 1910.1200;
- Chemicals present in their workplace operations;
- Location and availability of our written hazard program; Physical and health

Effects of the hazardous chemical;

- Methods and observation techniques used to determine the presence or release of hazardous chemicals in the work area;
- How to lessen or prevent exposure to these hazardous chemicals through usage of control/work practices and personal protective equipment;
- Steps the company has taken to lessen/prevent exposure to the chemicals;
- How to read labels and review SDS sheets to obtain hazard information;
- Location of SDS file and location of hazardous chemical list;

After attending the training class, each new employee will sign an acknowledgement form to verify that they attended the training, received written materials, and understood. LCC's policies on Hazard Communication, via site specific orientation.

Prior to a new chemical hazard being introduced into any section of this project, each employee of that section will be given information as outlined above. The site safety officer is responsible for ensuring that SDS sheets on the new chemical(s) are available.

Hazard communication training will be provided and documented in accordance with regulatory requirements. A copy of the requirements will be maintained on site. This training will be included, at a minimum, during the initial site briefing and additionally during daily site safety briefings as necessary or indicated.

Training Plan:

Frequency	Topic	Attendees	Trainer
Prior to Mobilization	Overview of EPP requirements	Subcontractor PM	EPM
1 st Day of Mobilization	EPP Duties & Responsibilities	100% Subcontractor Staff	EPM
Weekly	Current Environmental Issues	GC & Sub Project Manager	EPM
Monthly	Current and Upcoming Env.Reg	100% of GC & Sub Staff	EPM
Quarterly	Current and Upcoming Env.Reg	100% of GC & Sub Staff	EPM

Environmental Hazard Analysis

EPM (Forrest Brown) will train SSHO, Alt. SSHO, QCM, Alt. QCM, EPM, Alt. EPM, and Superintendent in the development of Activity Environmental Analysis. These AEA's will be reviewed at each respective preparatory meeting.

Section K: Non-Hazardous Solid Waste Disposal Plan

k. Permits, licenses, and the location of the solid waste disposal area.

The following plan will be taken for waste materials that are non-hazardous.

Analysis of the solid waste materials to be generated, including types and quantities. LCC will generate construction waste and packing materials related to general construction activities. Solid waste will be picked up and placed in covered containers, which are emptied on a regular schedule. All handling and disposal will be conducted as to prevent contamination of the site or materials. Solid waste is often segregated on site for reuse or recycling. LCC will implement procedures to reduce solid waste such as source reduction, reuse, and recycling materials to avoid disposal in landfills or as hazardous waste. LCC will implement procedures to keep solid waste from being contaminated and in a condition required for acceptance by a designated reuse, recycling, or disposal facility.

Solid waste, rubbish, debris, and other discarded solid materials will be placed in covered containers that are emptied on a regular schedule. Handling and disposal will be conducted to prevent contamination. Segregation measures will be employed so that no hazardous or toxic waste will become co-mingled with solid waste. The solid waste will be transported off of public property, and disposed of in compliance with Federal, State and local laws and regulations pertaining to the use of landfill areas. Proper disposal will be completed by USA Hauling and Recycling contracted waste disposal company. Subcontracts will utilize LCC's dumpsters for waste disposal to ensure proper disposal is utilized. Licensed waste disposal USA Hauling and Recycling will haul all material offsite to commercial landfill for disposal.

LCC and its Subcontractors will be responsible for properly collecting and disposing of all solid waste material generated due to construction activities. This will be in accordance with Local, State, and Federal regulations governing such activities. Construction debris such as block, brick, scrap lumber, sheetrock, etc., will be placed in dumpsters and hauled to an approved permitted landfill. (Trip tickets to be turned into the Environmental Program Manager along with the Solid Waste Diversion Report quarterly). The Hauling Agent will be USA Hauling and Recycling

Any excess soil generated on this project must be handled in accordance with the CT DEEP Guidance for Utility Company Excavation.

EPM will maintain records of non-hazardous solid waste and submit a Solid Waste Diversion Report and trip tickets.

Recycling and Solid Waste Minimization Plan: LCC will maintain an inventory of non-hazardous solid waste diversion and disposal of construction and demolition debris. LCC shall submit a report to COR Environmental Department through the EPM on the first working day after each fiscal year quarter, starting the first quarter that non-hazardous solid waste has been generated.

Recycling of solid waste will be evaluated as to cost effectiveness, such as, recycling waste steel for scrap. No solid waste is to be disposed on the job-site. All waste management accumulated due to the construction process will be accounted for by record keeping and providing the Non-Hazardous Solid Waste Diversion Report and trip tickets the first working day each quarter during the duration of the project.

This solid waste minimization plan is designed to reduce consumption of energy and natural resources. The criteria listed below shall detail the Contractor's actions to comply with and to participate in Federal, State, Regional, and Local government sponsors.

- a. Covered containers shall be provided for CDL waste by the waste disposal company, and once containers are collected waste shall be separated into recyclable and non-recyclable materials.
- b. Waste records will be collected from the waste disposal company to indicate quantities of waste

diverted from the landfill as recyclable materials and the remaining volumes placed in the landfill.

- c. Covered containers shall be provided for CDL waste, clearly labeled as such. Area for materials such as scrap metals and masonry debris will be separated from the other waste areas to prevent co-mingling.
- d. Detailed material estimates shall be used to reduce risk of unplanned and potentially wasteful cuts.
- e. To the greatest extent possible, material purchasing agreements shall include a waste reduction provision requesting that materials and equipment be delivered in packaging made of recyclable materials, so that they may reduce the amount of packaging and that packaging will be taken back for reuse or recycling, and will take back all unused products. The contractor shall insure that subcontractors require the same provisions in their purchasing agreements.
- f. Weekly visual inspections of dumpsters and recycling areas shall be conducted to remove contaminants.
- g. LCC shall at all times keep the work area, including storage areas, free from accumulations of waste materials.
- h. Before completing the work, LCC and its Subcontractors shall remove from the work and premises any rubbish, tools, scaffolding, equipment, and materials.
- i. Upon completing the work, LCC and their subcontractors shall leave the work area in a clean, neat, and orderly condition satisfactory to the KO.
- j. Waste shall be placed in containment areas daily and recycled or disposed once containers meant for collection are full. Inspections of these containment areas will be conducted weekly by the site Environmental Protection Point of Contact to determine if removal of waste from project site is necessary.
- k. Handling, storage, and disposal shall be conducted to prevent contamination, so separation of waste should be a prime focus. Segregation measures shall be employed so that no hazardous or toxic waste will become co-mingled with solid waste.
- l. USA Hauling and Recycling shall transport solid waste to the appropriate disposal site in compliance with requirements for solid waste disposal.
- m. EMP will take measures to prevent spillage of hazardous and toxic materials during dispensing by the use of funnels and containment measures.
- n. Hazardous materials shall be protected from the weather by placing it in a safe covered location, with berming or other appropriate measures against accidental spillage. These materials should be described, packaged, labeling and marked with placarding. Reference 49 CFR 171 – 178 for specific criteria.
- o. Any spills of hazardous or toxic materials shall be immediately reported to the KO and the Facility Environmental Office. Cleanup and cleanup costs due to spills will be LCC's responsibility.

- p. Storage, fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spill and evaporation by the use of such items as funnels and designating fueling zones that have containment measures.
- q. The Contractor shall clean up all areas used for construction, which include temporary construction facilities such as work areas, structures, foundations of temporary structures, and other vestiges of construction prior to final acceptance of the work.

SOURCE SEPARATION

- a. General: Recyclable materials from CDL waste shall be separated to the maximum extent possible. Recyclable materials shall be separated by type.
 - 1. All masonry and metal waste/debris will be stockpiled and separated from the general construction waste
 - 2. All other materials will be separated off-site by the waste disposal company and proper manifests indicating the designation of all waste materials whether recyclable or non-recyclable will be indicated by said manifest.

CO-MINGLED RECYCLING

- a. CDL waste will be co-mingled on-site since off-site partners will separate the waste as necessary. The only materials to be separated on site will be metal scraps and masonry debris, these materials will be separated by the construction crews

COLLECTION

- a. Haynes Materials will separate, store, protect, and handle site identified recyclable and salvageable waste products. By providing the necessary covered containers, bins and storage areas to facilitate effective waste management LCC will drive the necessity for recycling materials. These containment areas will be located out of the way of construction traffic and provide adequate space for disposal, pick-up and delivery.
- b. Waste bin areas are to be kept neat and clean, and recyclable materials shall be handled to prevent contamination of materials from incompatible products and materials. After each pick-up the containment areas will be cleaned, preventing contaminated materials to become intermixed with other recyclable materials. All cleaning materials will be nonhazardous and biodegradable. Handle hazardous waste and hazardous materials as per the guidelines outline in the Environmental plan and spec section.

REMOVAL OF CONSTRUCTION WASTE MATERIAL

- a. CDL waste material shall be removed from project site on a regular basis. CDL waste shall not be allowed to accumulate on-site. When containment bins are full disposal must occur.
- b. CDL waste materials shall be transported off site
- c. and legally disposed.
- d. Burning of CDL waste shall not be permitted.
- e. Disposal shall control accumulation of waste materials and trash. Recycle or dispose of collected

materials off-site when containment areas are deemed full by the site management staff.

- f. The following classes of materials are NOT authorized in the landfill. This Solid Waste shall divert the following materials described below:

Recyclable Materials: Cardboard and paperboard, light metal, aluminum and steel containers, paper, plastic containers, and serviceable pallets shall be delivered to a recycling center.

Inert Constructions and Demolition Debris: Inert C&D debris includes: concrete. This material shall be delivered to the Inert Landfill unless otherwise directed by the KO.

Salvageable Items: Bulk scrap metal shall be recycled at closest recycling center

SITE WASTE DISPOSAL AND RECYCLING

a. General: Licenses, permits or costs are the responsibility of the contractor for solid waste disposal sites. For evidence of the disposal facility's acceptance of the solid waste contact the Landfill identified in this document.

b. Waste Disposal Center:

USA Hauling & Recycling
260 Railroad Hill St.
Waterbury, CT 06708
(203) 596-8913

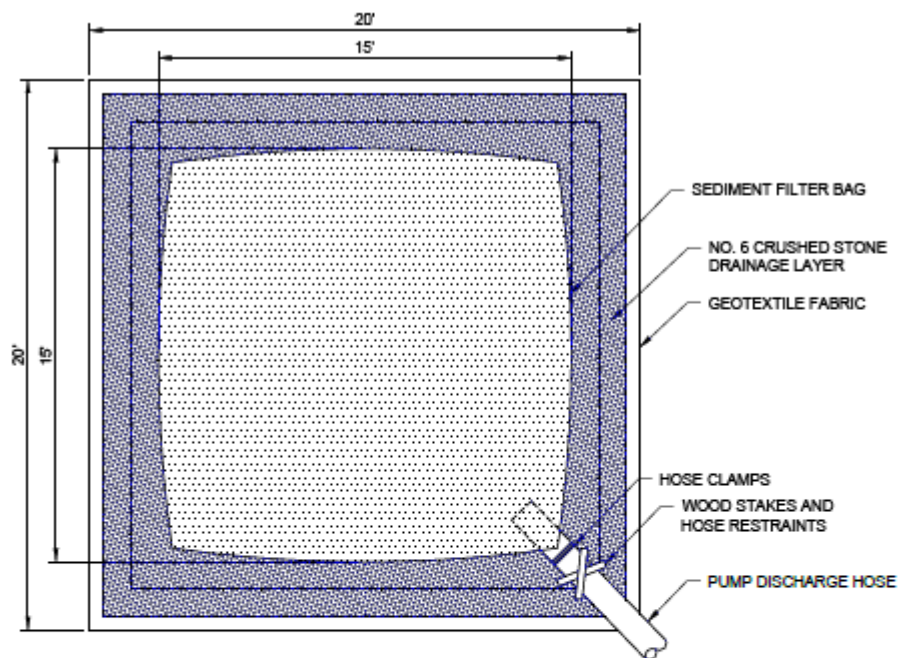
USA Hauling and Recycling is subject to the operating requirements imposed on the landfill by the Landfill Operating Permit. All waste delivered to the landfill will be secured and covered and will be inspected by the landfill operating Contractor for materials that are not authorized for disposal in the landfill before entry into the landfill is allowed. Containers that contain unauthorized waste will be diverted for removal of unauthorized material before entry into the landfill.

Recycled and or reuse of all construction material is feasible, so no known material is deemed to be unusable at this time. Recyclable and reusable material identified during construction will be segregated to protect from contamination. EPM will distribute copies of this Waste Management Plan to each subcontractor and vendor. USA Hauling and Recycling will dispose of municipal waste, and will recycle all paper products including cardboard, shrink wrap, and wood pallets. USA Hauling and Recycling will recycle all construction debris including concrete, rock, and asphalt.

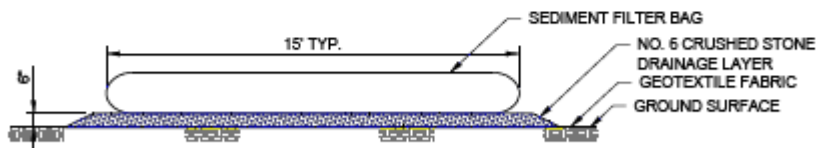
Location of all waste containers shall be agreed upon by LCC and the COR.

APPENDIX A – PROJECT DRAWINGS

Erosion and Sediment Control (Refer to drawings beginning on pg. 44 for location of erosion and sediment control features)



PLAN



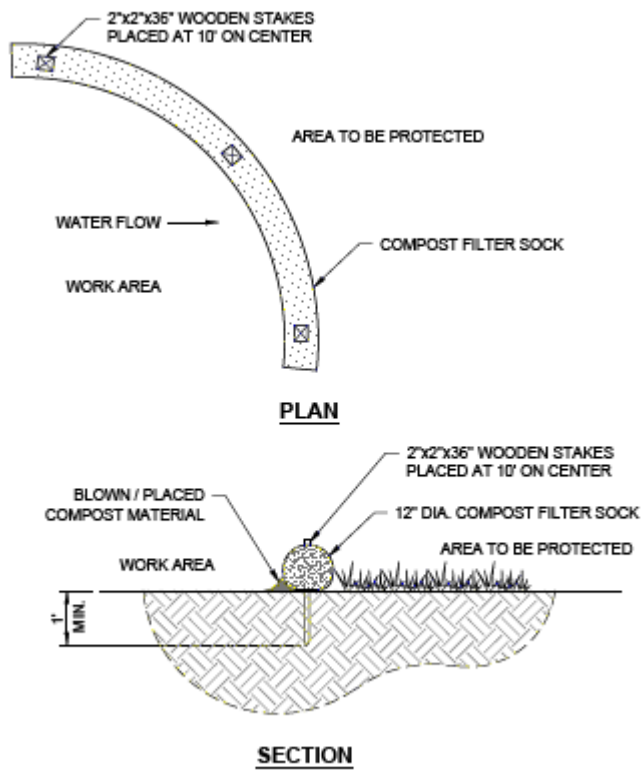
SECTION

NOTES:

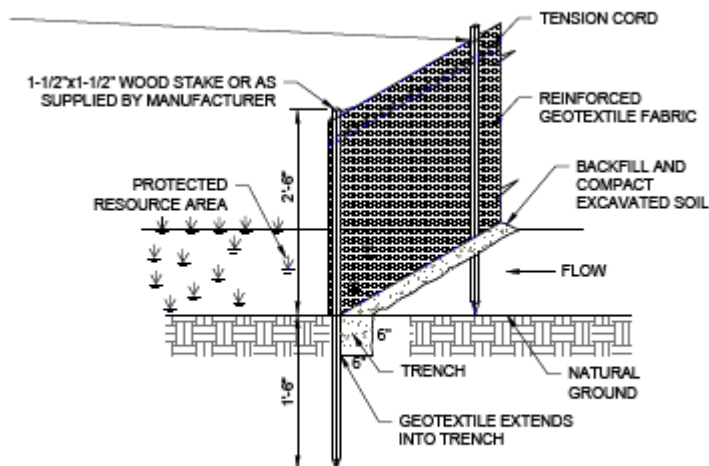
1. ONE DISCHARGE HOSE PER FILTER BAG.
2. CONTRACTOR TO REMOVE FILTER BAG AND ACCUMULATED SEDIMENT UPON PROJECT COMPLETION.

SEDIMENT FILTER BAG DETAIL

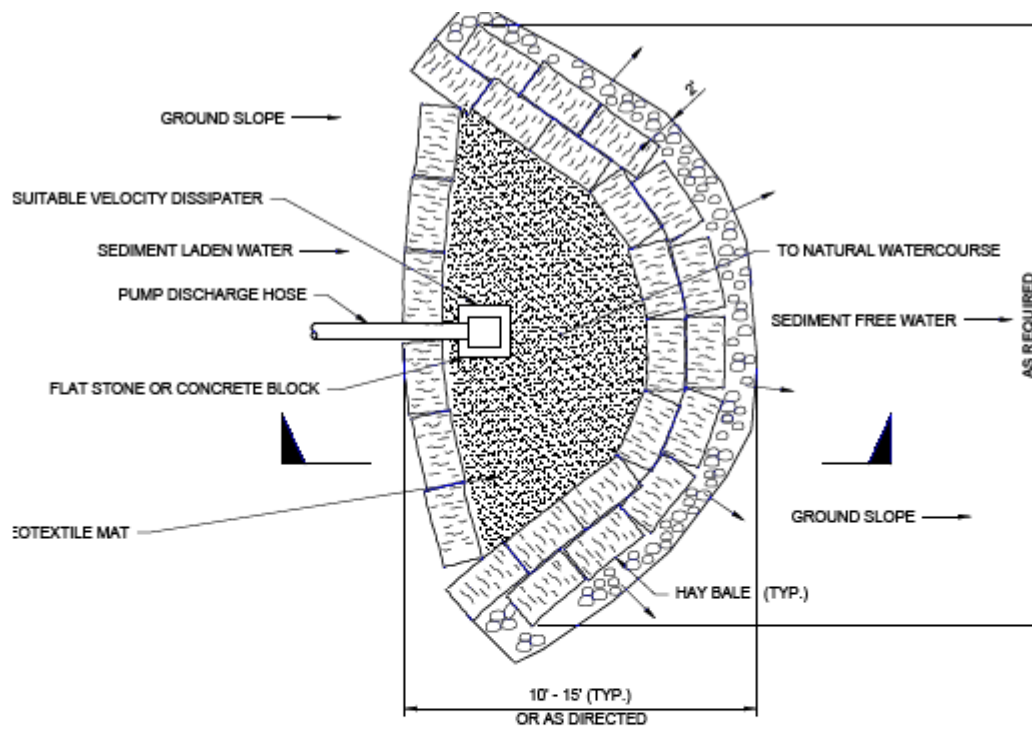
NOT TO SCALE



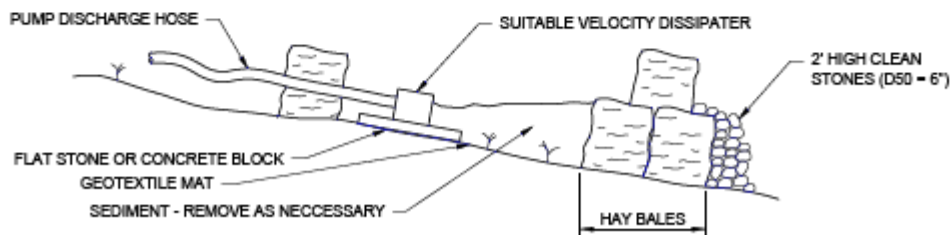
COMPOST SILT SOCK EROSION BARRIER DETAIL



SEDIMENT CONTROL FENCE DETAIL



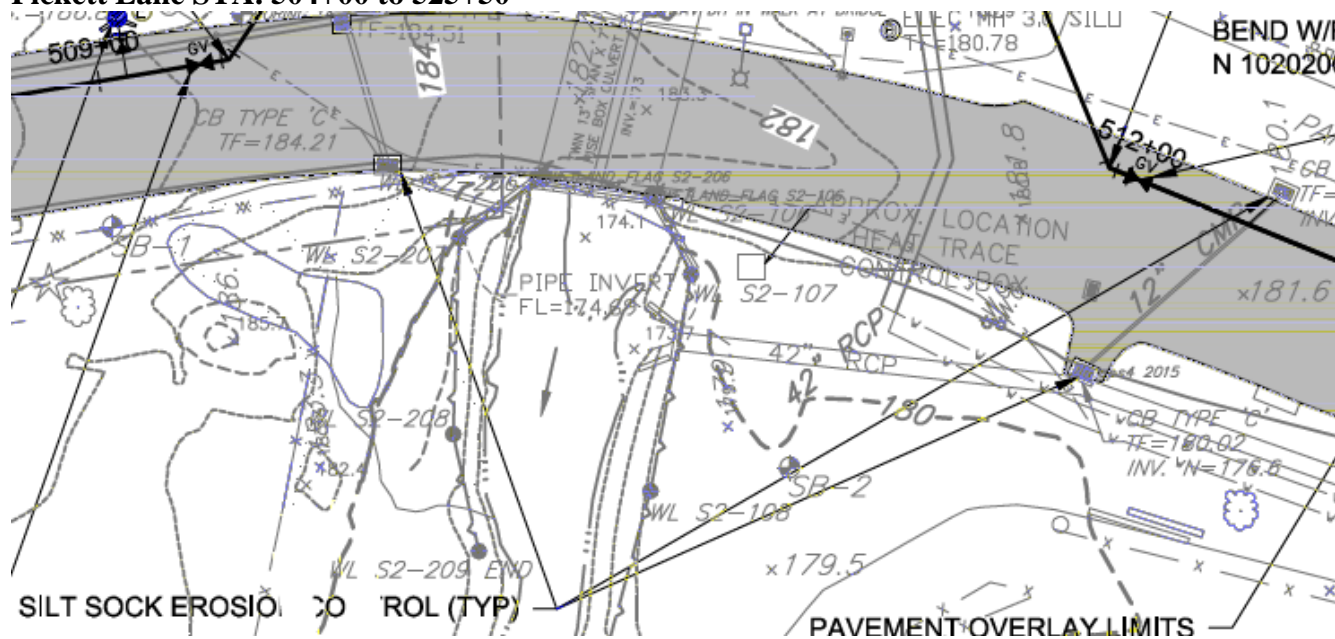
PLAN



SECTION

SEDIMENT TRAP DETAIL

Pickett Lane STA. 504+00 to 525+50



N 734221.75, E 1021522.11

STA. 525+80 - 12" 45° M.J. BEND
W/RESTRAINED GLANDS
N 734225.26, E 1021525.6

STA. 526+00 - 12" M.J. R.S. GATE VALVE
W/RESTRAINED GLANDS AND VALVE BOX

MATCHLINE SHEET C-41 BOTTOM

12" RCP

CB TYPE 'CL'
TF=199.94

CB TYPE 'TR'
TF=199.94

200.6

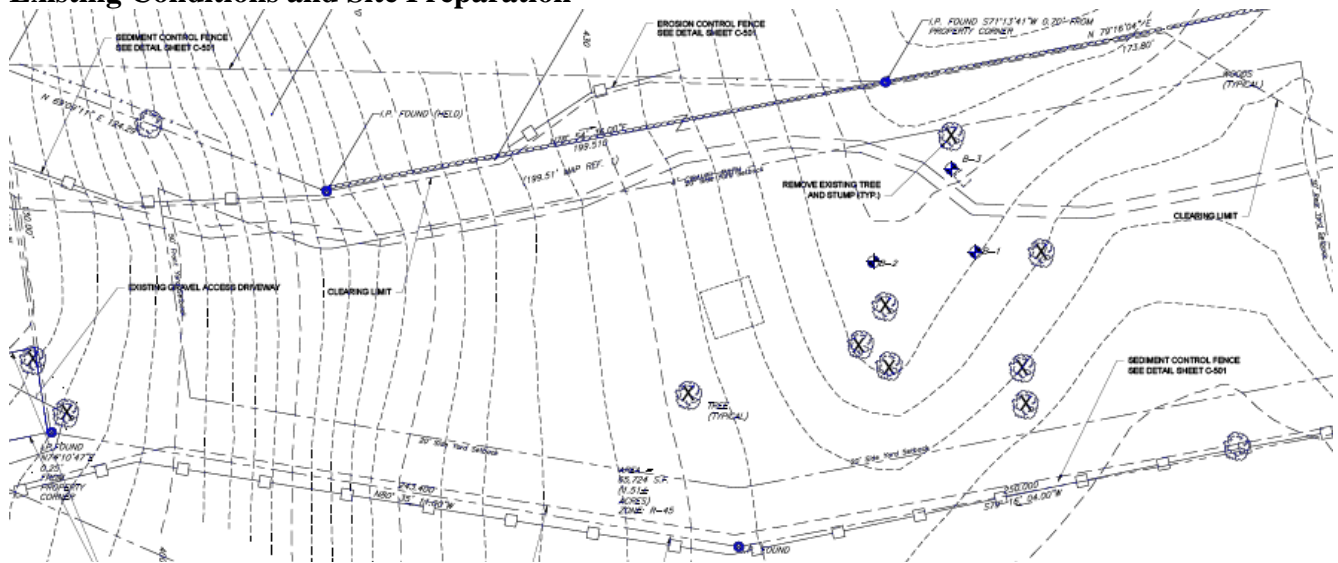
525+00

526+00

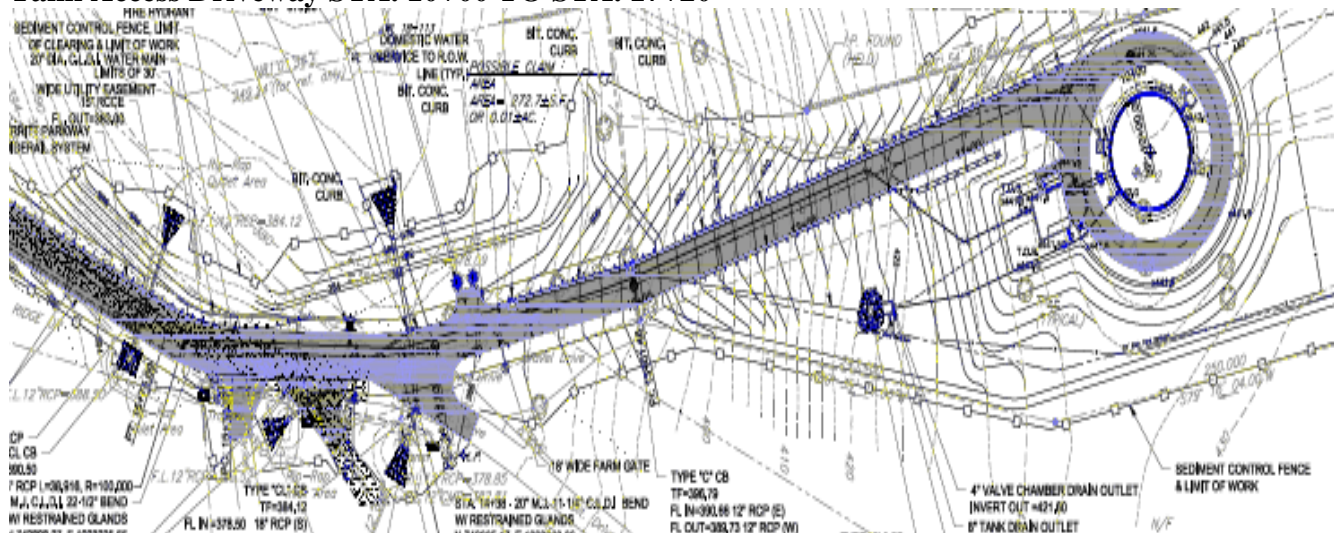
527+00

SILT SOCK (TYP)

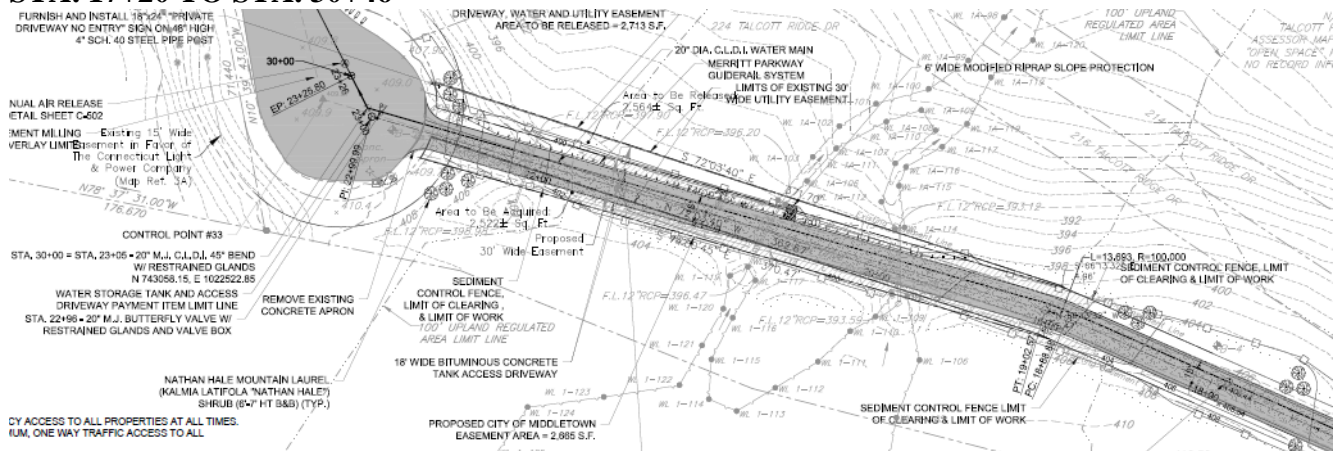
Project Sediment Control Fencing: Existing Conditions and Site Preparation



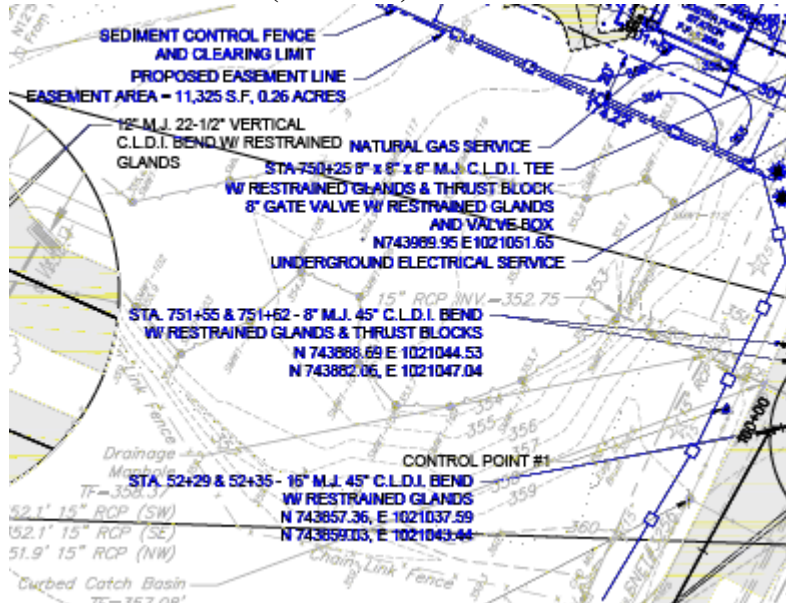
Tank Access Driveway STA. 10+00 TO STA. 17+20



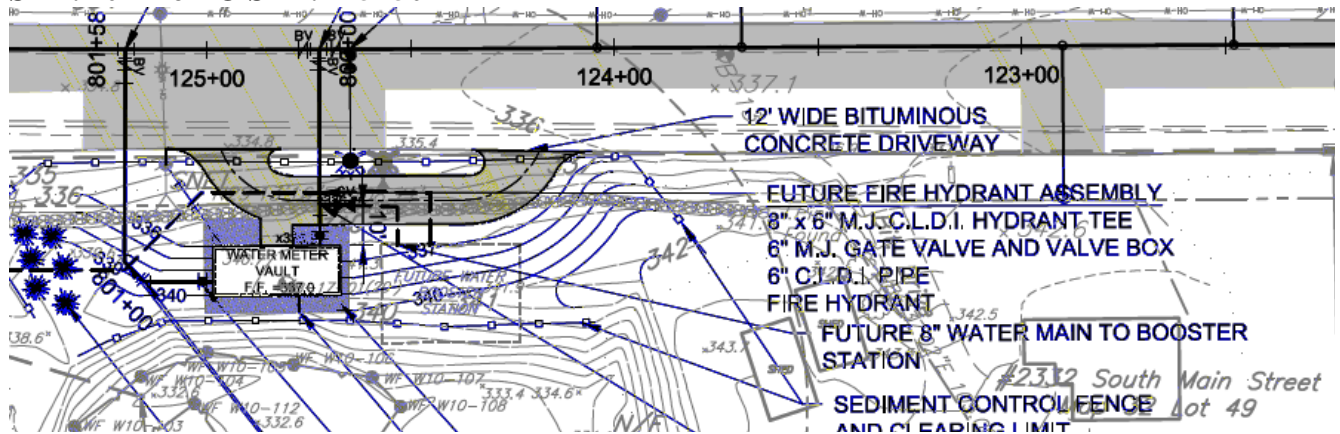
STA. 17+20 TO STA. 30+46



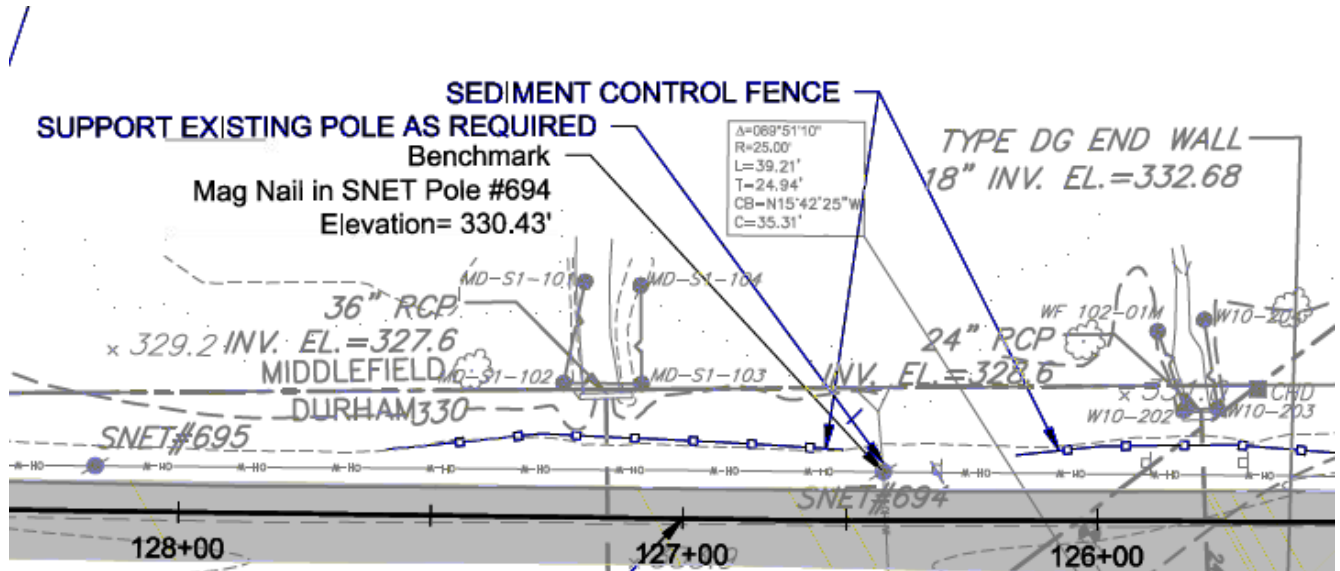
South Main Street (Route 17) STA. 45+97 TO STA. 52+35 & STA. 100+00 to STA. 104+76



STA. 104+76 TO STA. 125+50



STA. 125+50 TO 146+11



STA. 904+57 & 904+74 - 12" M.J. C.L.D.I.
 22-1/2° VERTICAL BEND W/ RESTRAINED GLANDS
 N 733370.40, E 1018433.42
 N 733386.03, E 1018440.11

SEDIMENT CONTROL FENCE 36" DIA. STEEL CASING PIPE

12" DIA. C.L.D.I. WATER MAIN PIPE

WATER METER PIT

Double Catch Basin
 TF=175.40
 FL=170.35 15" RCP E
 FL=170.25 15" RCP N

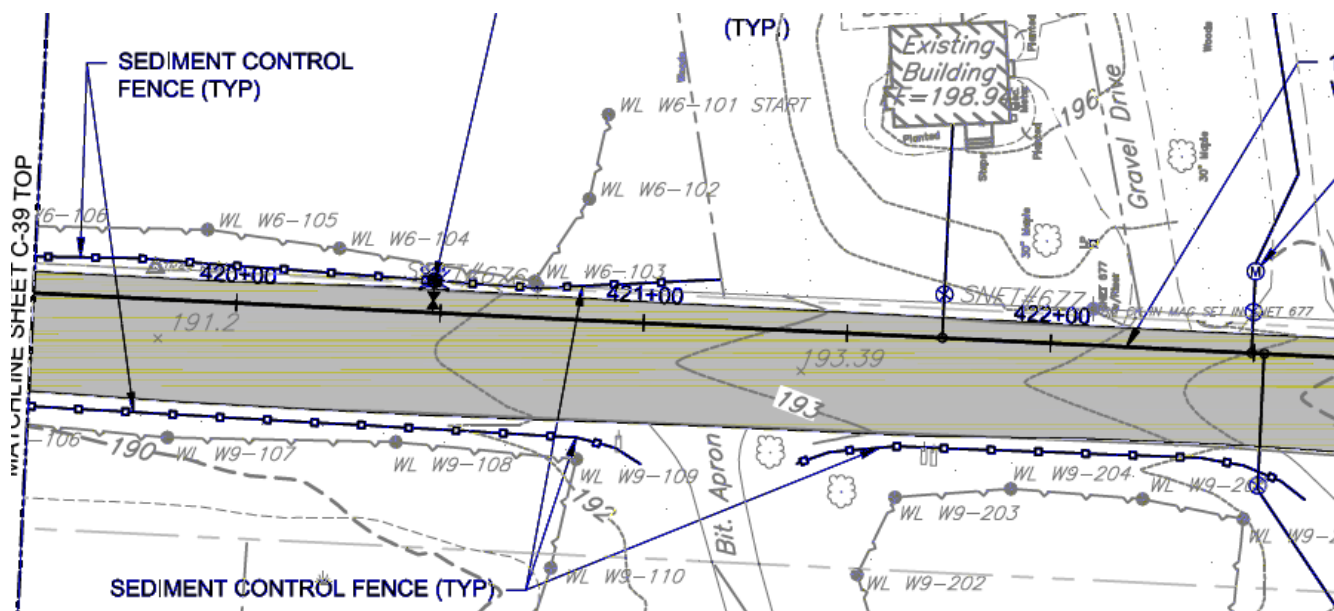
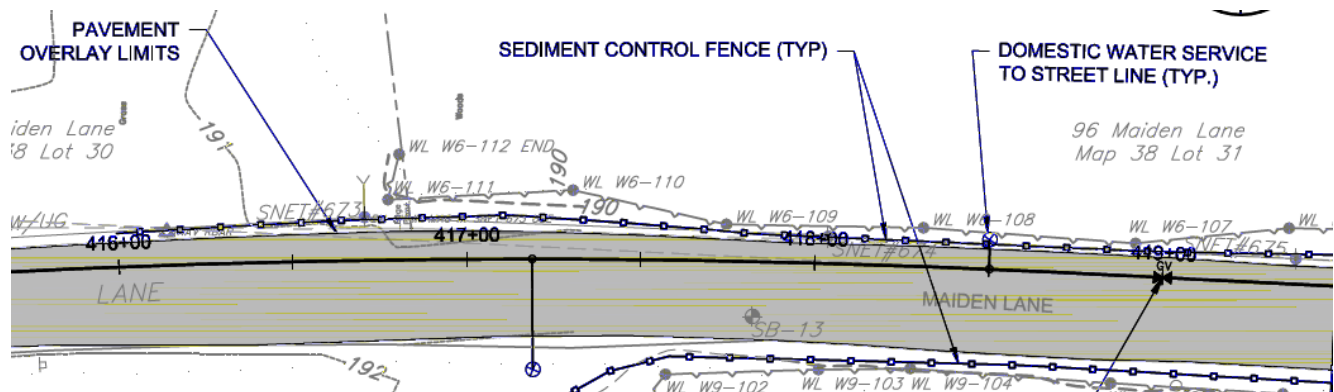
Curbed Catch Basin

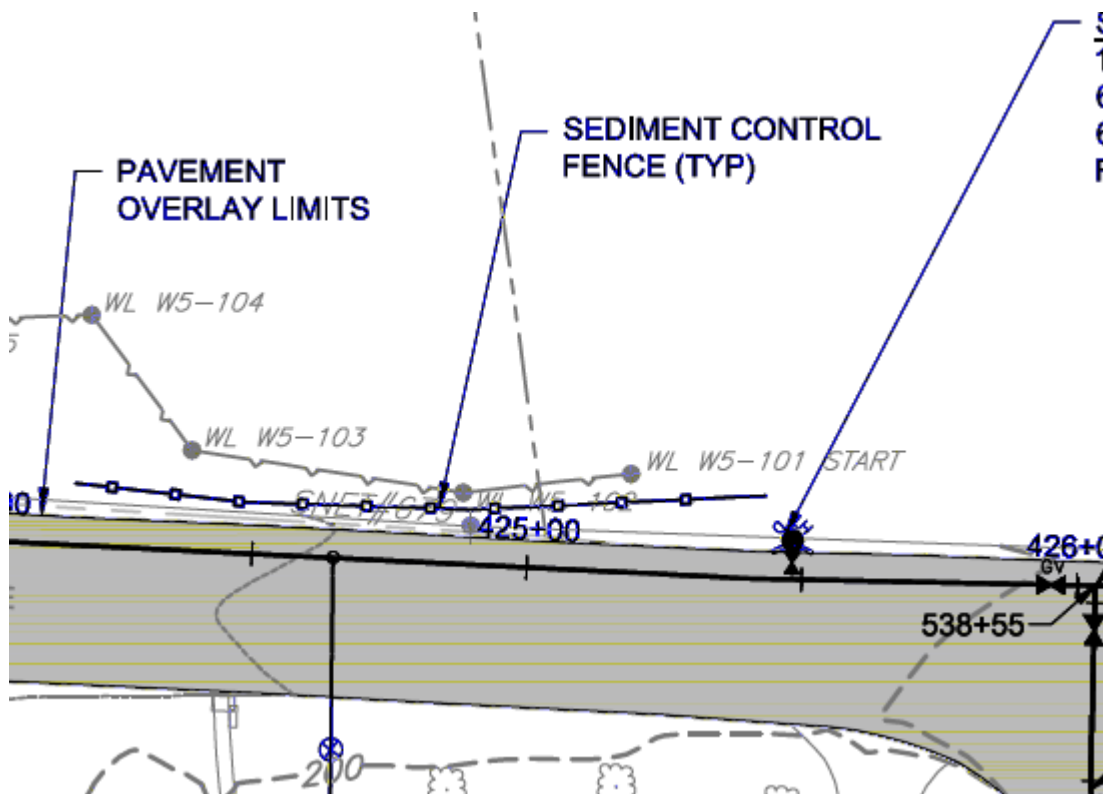
ALLYN BROOK

Stationing: 902+00, 903+00, 904+00, 905+00

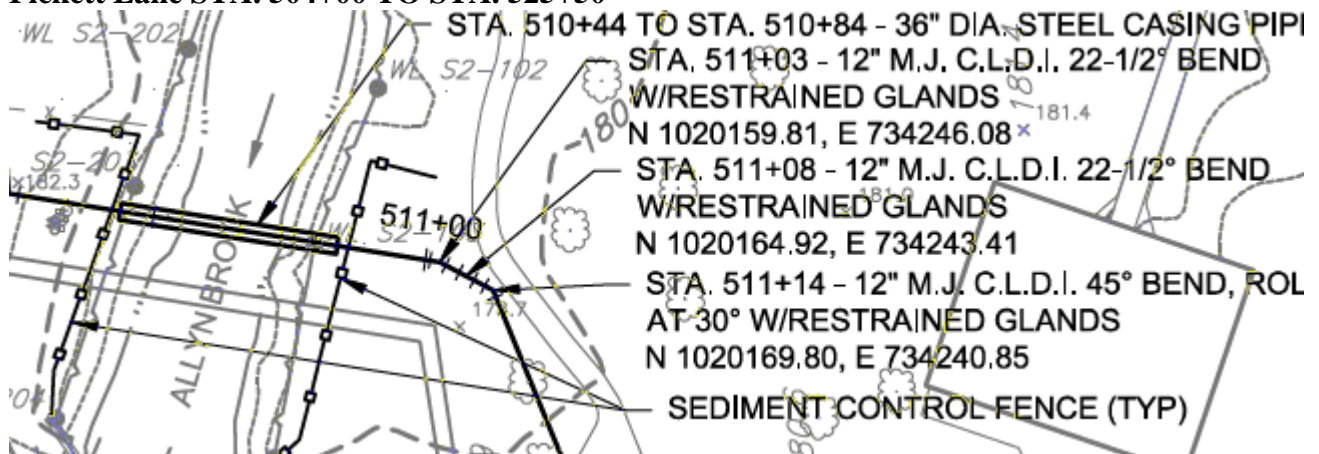
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Pickett Lane STA. 504+00 TO STA. 525+50



RANT TEE
 ALVE BOX
 C.D.I. PIPE
 HYDRANT

STA. 529+64 - 12" x 12" M.J. TEE W/RESTRAINED GLANDS
 1-4" M.J. R.S. GATE VALVE AND VALVE BOX WITH
 RESTRAINED GLANDS
 (DOMESTIC SERVICE)

SEDIMENT CONTROL
 FENCE (TYP)

STA. 531+52 & STA. 531+57 - 12" M.J. 45° VERTICAL BEND
 W/RESTRAINED GLANDS

4" RESTRAINED JOINT C.D.I.
 DOMESTIC SERVICE

SEDIMENT CONTROL FENCE (TYP)

STA. 529+00

STA. 531+00

STA. 532+00

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STA. 725+00

SEDIMENT CONTROL FENCE AND CLEARING LIMIT

PROPOSED EASEMENT LINE
 EASEMENT AREA = 11,326 S.F., 0.26 ACRES
 STA. 701+54 - 8" M.J., 90° C.L.D.I. BEND
 W/ RESTRAINED GLANDS & THRUST BLOCK
 N744006.58 E1020994.40

NATURAL GAS SERVICE
 STA 750+25 8" x 8" x 8" M.J. C.L.D.I. TEE
 W/ RESTRAINED GLANDS & THRUST BLOCK
 8" GATE VALVE W/ RESTRAINED GLANDS
 AND VALVE BOX
 N743989.95 E1021051.65

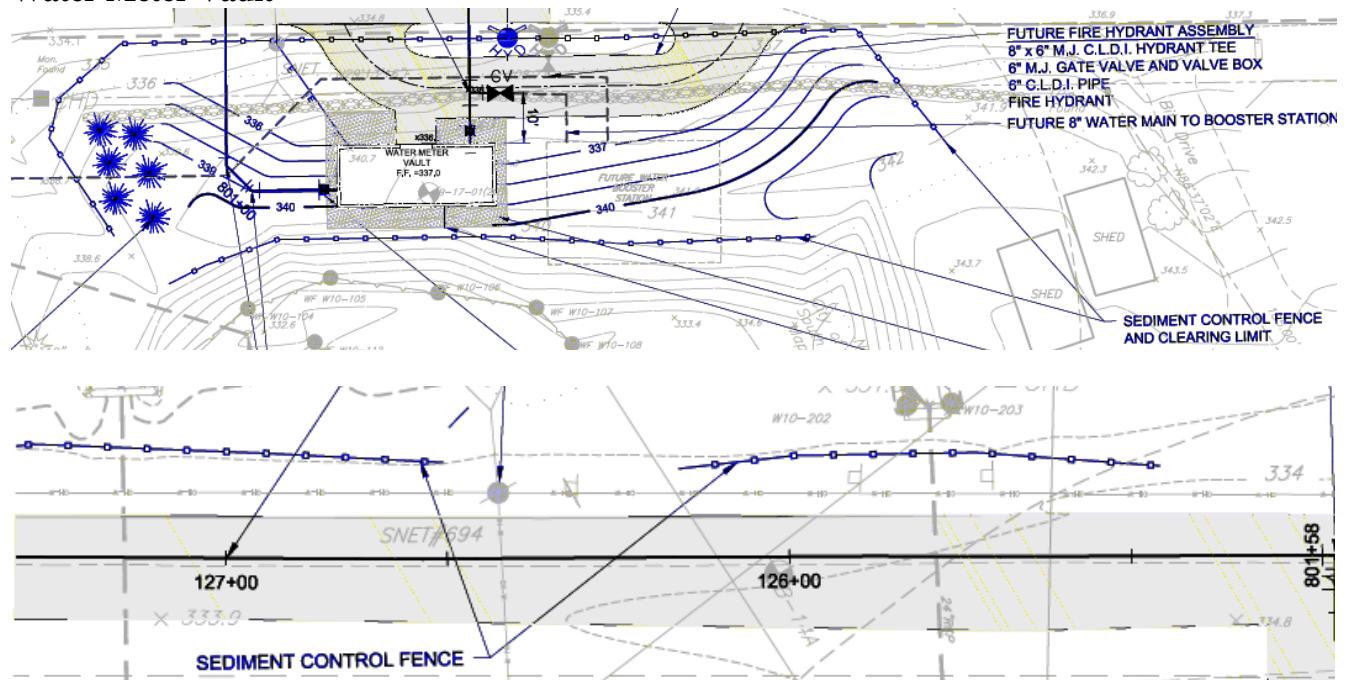
UNDERGROUND ELECTRICAL SERVICE
 CONTROL POINT #1

ROCKET PUMP STATION
 P.I. = 205.0

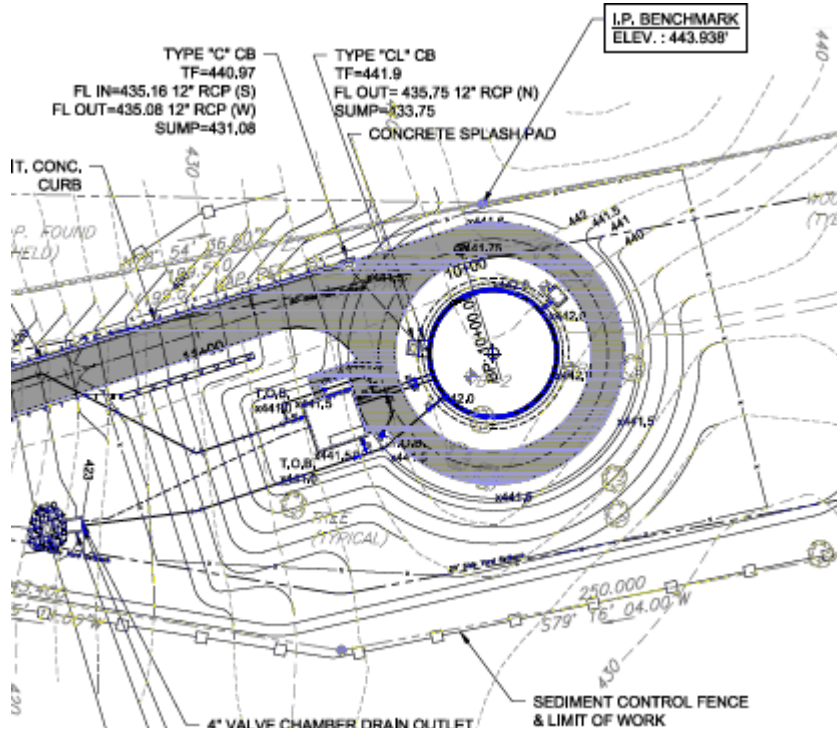
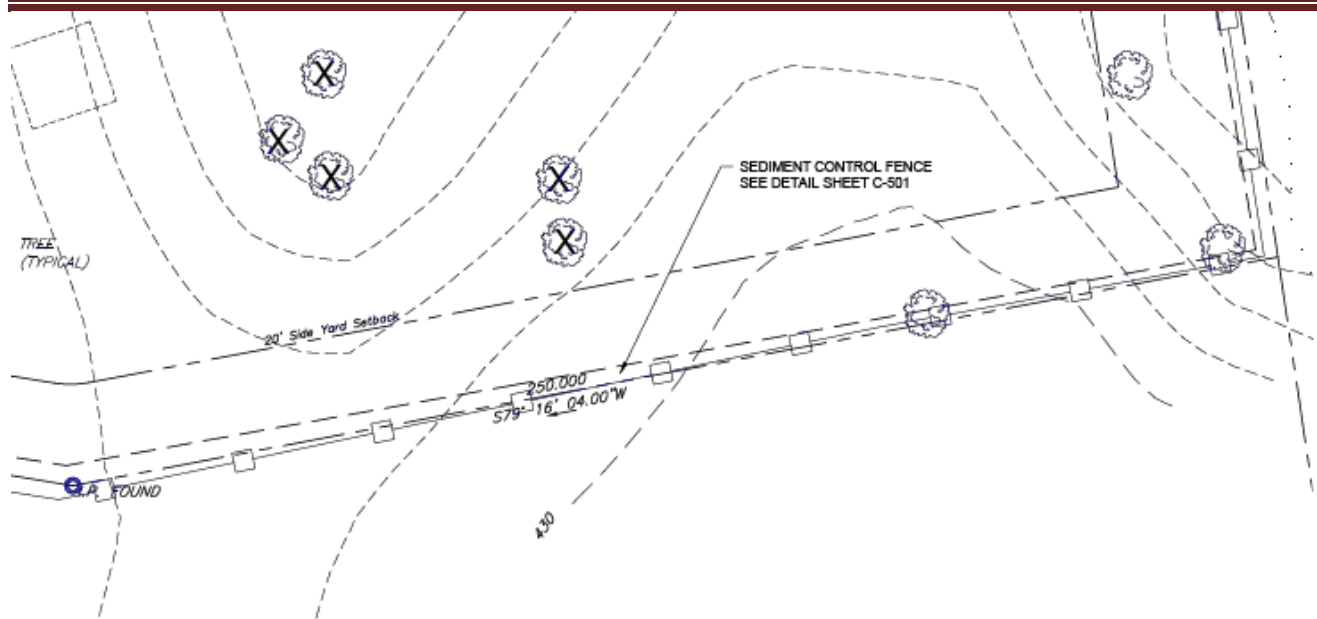
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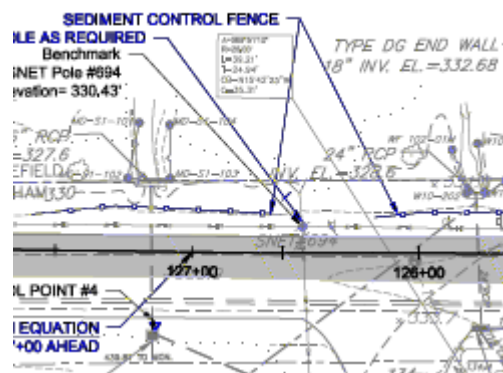
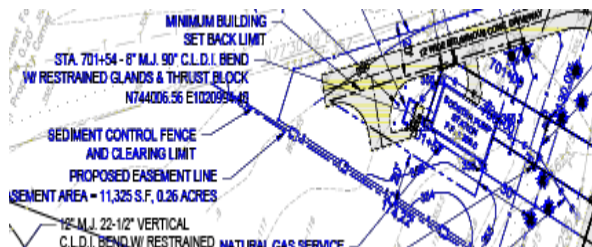
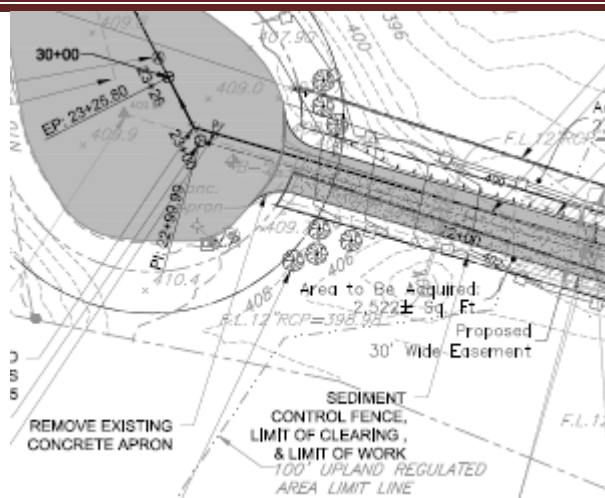
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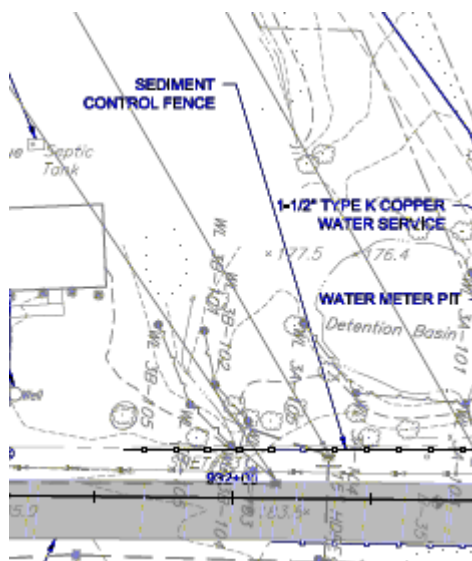
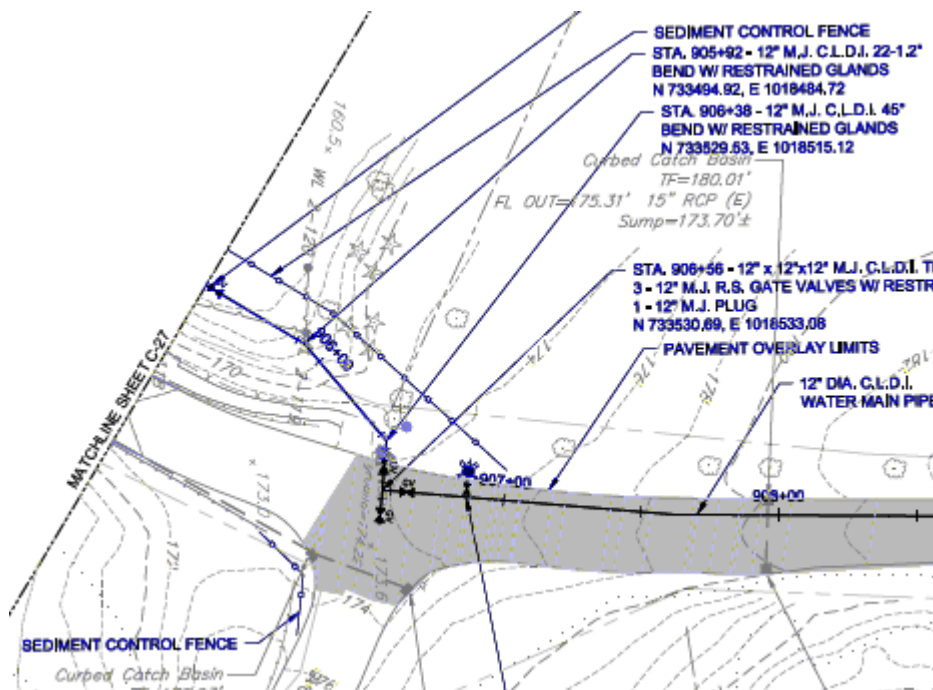
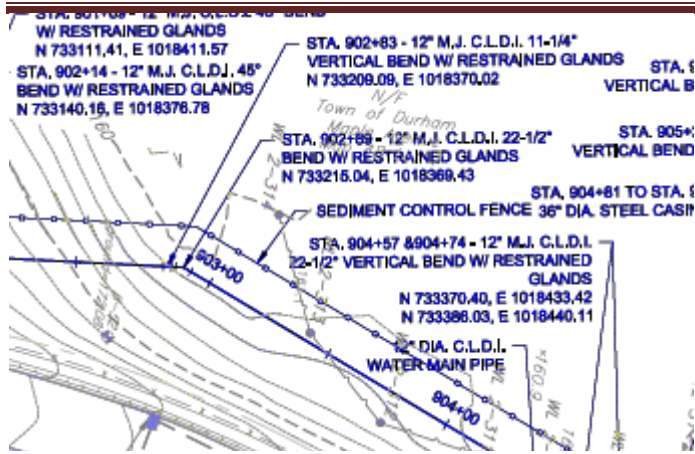
Water Meter Vault

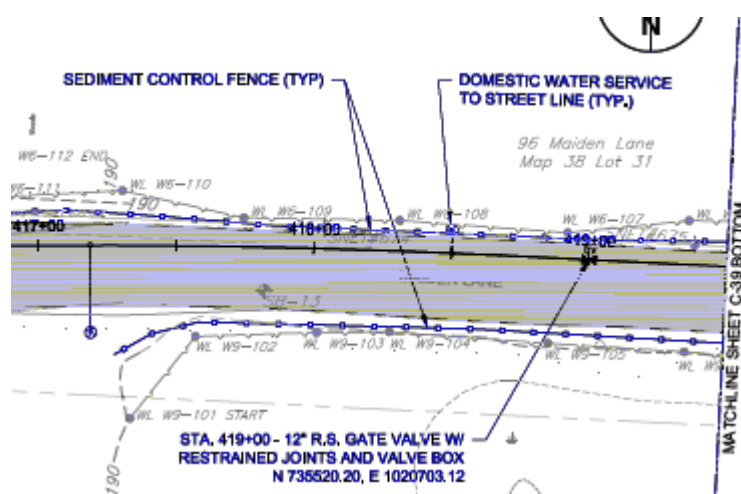
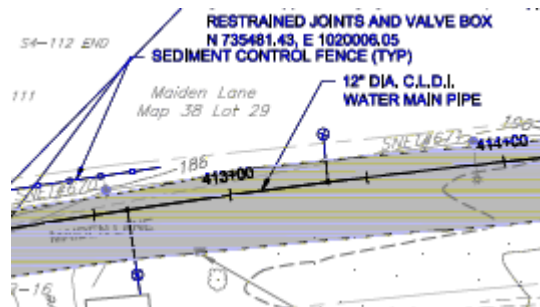
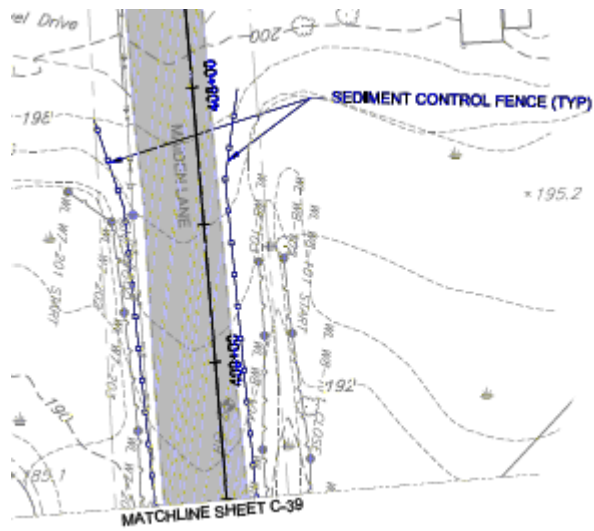


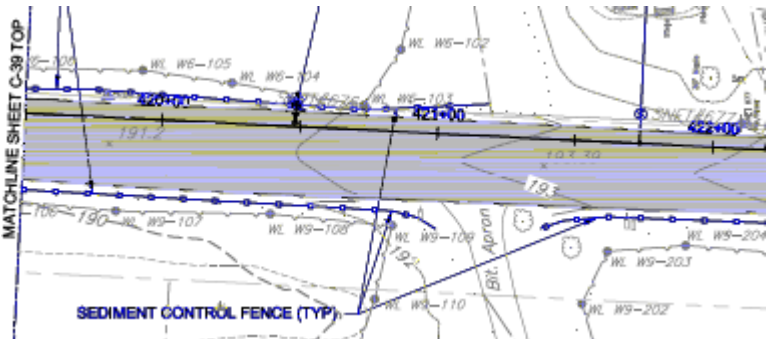
Sediment Control Fencing











APPENDIX B – PROJECT PERMITS

WILL BE ADDED AS THEY ARE OBTAINED BY LUDLOW CONSTRUCTION COMPANY, INC.

ORIGINAL

TOWN MIDDLETOWN	ROUTE NO. 17	PMT 2B-REV 8/00 (302-06-0386) DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS STATE OF CONNECTICUT ENCROACHMENT PERMIT	DATE OF ISSUE 3/6/2019	PERMIT NO. 1018048
NAME OF HIGHWAY South Main Street			DATE EFFECTIVE	Page 1 of 3
LOCATION OF WORK OR BEGINNING AND ENDING POINTS Rt. 17, S. Main St, 150 ft. n/o Talcott Ridge Dr. to the Middletown/ Durham townline.			DATE OF EXPIRATION 3/6/2020	AMT. OF SURETY BOND CERTIFY CHECK 1,000,000.00
			SURETY COMPANY/BANK Travelers Casualty & Surety Co of America	
TO: LUDLOW CONSTRUCTION CO., INC. OF MA 19 CARMELINA'S CIRCLE LUDLOW, MA 01056			BOND NUMBER: 106956424	
CITY OF MIDDLETOWN 82 BERLIN STREET MIDDLETOWN, CT 06547			PERMIT IS NOT VALID UNTIL SIGNATURE COPY IS SIGNED AND RETURNED TO THE OFFICE.	
			PLEASE RETURN AT ONCE.	
			FEE: pd DATE REC'D: PO/NO NO:	

Permission is hereby granted to do the following work under the control and direction of the Department of Transportation, Bureau of Engineering and Highway Operations at the location designated hereon, subject to the statements made on the application for permit, and to the pertinent provisions of the current Highway Encroachment Permit Regulations manual, including amendments thereto.

This permit does not become effective until all necessary local and State licenses and permits are obtained by the Permittee or designated agent, and further the Permittee shall be subject to all Federal, State and local regulations.

This permit is issued in strict compliance with, but not limited by, the following specific requirements, referenced attachments, and the current edition of Department of Transportation's Standard Specifications for Roads, Bridges and Incidental Construction as applicable.

The Department of Transportation Permit Inspector, Dale Ethier 860-209-5406, MUST BE NOTIFIED AND THE CALL BEFORE YOU DIG REQUEST NUMBER RECORDED 48 HOURS IN ADVANCE OF STARTING WORK ON THE PROJECT. REQUEST NO. _____

Permission is granted to excavate to install new water main and water services on Route 17 from Talcott Ridge Road to Middletown/Durham Town line within the highway right of way as delineated on the plans entitled "MIDDLETOWN AND DURHAM, CT DURHAM MEADOWS WATERLINE RD, EPA CONTRACT NO. EP-S1-06-01 TASK ORDER NO. 0060-RD-RD-01D5 dated April 2018, with last revisions dated July 2018 on sheet C-505 and permit application received on 2/15/19. All work shall be in accordance with the current publication of the Department of Transportation "Standard Specifications for Roads, Bridges, and Incidental Construction", the latest Department Standard Details, and the following stipulations:

-A copy of this permit must be available on site at all times.

-Vehicular and pedestrian traffic must be adequately protected through the use of appropriate traffic control patterns. Uniformed police officers or personnel who are certified for traffic control to a level equivalent to the National Safety Council shall be utilized to direct traffic through the work area. All traffic control signing and appurtenances shall be in accordance with the latest edition of the "Manual on Uniform Traffic Control Devices" and must meet NCHRP 350 requirements.

-No work that will interfere with the flow of traffic shall be permitted before or after the hours listed below based on the traffic control pattern needed:

Two way traffic - 8:00 am to 3:00 pm, Monday through Friday.

Alternating one lane traffic pattern 9:00 am to 2:00 pm, Monday through Friday

Alternating or two way traffic at nights 7:00 pm to 5:00 am Sunday thru Thursday

-Holiday Restrictions- No permit work within the highway right of way will be permitted the day before a legal holiday and no work shall be resumed until 12:00 noon the day following the holiday, unless otherwise approved or indicated. Weekends shall be considered as part of the holiday when the legal holiday falls on either Friday or Monday.

-The pavement shall be cut in neat, straight lines to a depth necessary to remove the pavement to the subbase. The saw cutting slurry must not be allowed to enter the State's drainage system.

-The contractor shall maintain access to all egress from all commercial and residential driveways throughout the project limits unless permission is granted from the property owners.

The Permit Inspector must be notified upon completion of work for final inspection and approval.

CALL Before you DIG! TOLL FREE, STATEWIDE 1-800-922-4455

Any and all liability for injury, damage or loss resulting from such work as may be undertaken under the terms of this permit is assumed by the Permittee. The Permittee is hereby designated responsible for all future maintenance of all installations or encroachments constructed under this Permit, which in the sole judgement of the State are not part of the highway appurtenances normally maintained by the State.

The Permittee hereby agrees to indemnify and hold harmless the State of Connecticut for any and all such injury, damage, or loss that may be incurred, either directly, or as a result of said work, and to reimburse the Department of Transportation for any expenses incurred due to the performance of any such work undertaken under the terms of this permit.

This permit is revocable at the discretion of the Department of Transportation Commissioner or designated representative.

ORIGINAL

TOWN MIDDLETOWN	ROUTE NO. 17	PMT 2B-REV 8/00 (302-06-0386) DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS STATE OF CONNECTICUT ENCROACHMENT PERMIT	DATE OF ISSUE 3/6/2019	PERMIT NO. 1018048
NAME OF HIGHWAY South Main Street			DATE EFFECTIVE	Page 2 of 3
LOCATION OF WORK OR BEGINNING AND ENDING POINTS Rt. 17, S. Main St, 150 ft. n/o Talcott Ridge Dr. to the Middletown/ Durham townline.			DATE OF EXPIRATION 3/6/2020	AMT. OF SURETY BOND CERTIFY CHECK 1,000,000.00
			SURETY COMPANY/BANK Travelers Casualty & Surety Co of America	
TO: LUDLOW CONSTRUCTION CO., INC. OF MA 19 CARMELINA'S CIRCLE LUDLOW, MA 01056			BOND NUMBER: 106956424	
CITY OF MIDDLETOWN 82 BERLIN STREET MIDDLETOWN, CT 06547			PERMIT IS NOT VALID UNTIL SIGNATURE COPY IS SIGNED AND RETURNED TO THE OFFICE.	
			PLEASE RETURN AT ONCE.	
			FEE: pd DATE REC'D: PO/WO NO:	
<p>-The temporary trench pavement shall be smooth and flat. The trench must be maintained on a regularly basis throughout the project.</p> <p>-The temporary trench pavement shall be a MINIMAL of 4" hot bituminous concrete to be installed in two equal lifts compacted and placed with strict conformance with Form 817 State standards.</p> <p>-Full depth pavement replacement will be required in all roadway trench excavations. This will include 10" (compacted) of processed gravel base, 6" of Hot Mix Asphalt Superpave 1.0 Design Level 2 and 3" of Hot Mix Asphalt Superpave 0.50 Design Level 2 top course, installed in 2 equal lifts. All edges must be tack coated and the surface joints sealed. If the pavement depth measures less than 9", the requirements for binder and top course depths will be determined by the permit inspector.</p> <p>-Hot bituminous will be required for all pavement excavations. The permittee will make certain that hot bituminous concrete is available before starting the work. If it is not available, NO excavation will be allowed within the right-of-way until such time as it is available.</p> <p>-Permanent full depth pavement replacement will be required in all excavations. Temporary pavement restoration will not be allowed through the winter season. Excavations performed after November 1st will be at the discretion of the inspector and will require a MINIMAL of 4" of hot bituminous concrete to be installed in two equal lifts, and may require complete replacement the following spring. Asphalt from plants which have not received state certification will be regarded as temporary and must be replaced regardless of depth installed.</p> <p>- The permittee will be required to have a consultant inspector on site at all times during any and all construction within the state ROW to perform inspections and to verify required materials testing in accordance with Form 817 standards. All compaction and density testing shall be performed by NETTCP qualified testing personnel using a nuclear density gauge that has been received its annual certification from CTDOT. Compaction tests on soils and Density tests on asphalt shall be performed once per lift of material installed, once every 25' L.F. of the excavation or at the discretion of the permit inspector to assure that a rate of 95% is achieved unless otherwise advised by the Permit Inspector.. Daily inspection reports which have been reviewed/verified/stamped by a licensed CT Professional Engineer shall be submitted to the District on a weekly basis.</p> <p>-All construction materials and methods shall confirm to the Department's Specification Form 817 and land supplemental there too.</p> <p>-The limits of the final pavement restoration will be determined by the inspector. This shall include milling and paving of the asphalt surface, surrounding and including the excavation, to a depth of 2". The milled area shall extend a minimum of 10 feet beyond the edges of the original trench line with vertically faced edges, not tapered. The entire milled area including the edges shall be swept and tack coated with an approved material at the appropriate rate. The area will then be paved with Hot Mix Asphalt Superpave 0.50 (machine laid) and compacted to a depth of 2". All excavations may be included into one milled area.</p> <p>-At the end of each workday all trenches will be back filled and patched. The use of steel plates to cover open trenches within the highway right of way will NOT be allowed.</p> <p>-Catch basins and drainage pipe damaged or filled with sediment during construction must be repaired, cleaned and flushed at contractor's expense. A minimum vertical clearance of 12" shall be maintained between facilities. Metal pipes damaged during construction must be repaired using the attached "concrete pipe connection" detail as directed and approved by the permit inspector. Repair must be performed utilizing solid section of existing pipe. Where this can not be achieved full metal pipe replacement may be required.</p> <p>-The storing of pipe, excavation materials, or other construction materials within the highway right of way will not be allowed. Equipment shall be removed from the right of way when not in use.</p> <p>- Roadway must be kept clean of debris and construction materials and machine swept as needed.</p> <p>-The driveway shall be paved with hot bituminous concrete to the state's right of way property line.</p> <p>-Pavement markings must be replaced using epoxy paint. Turf must be established prior to this permit considered complete.</p>				

ORIGINAL

TOWN MIDDLETOWN	ROUTE NO. 17	PMT 2B-REV 8/00 (302-06-0386) DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS STATE OF CONNECTICUT ENCROACHMENT PERMIT	DATE OF ISSUE 3/6/2019	PERMIT NO. 1018048
NAME OF HIGHWAY South Main Street			DATE EFFECTIVE	Page 3 of 3
LOCATION OF WORK OR BEGINNING AND ENDING POINTS Rt. 17, S. Main St, 150 ft. n/o Talcott Ridge Dr. to the Middletown/ Durham townline.			DATE OF EXPIRATION 3/6/2020	AMT. OF SURETY BOND CERTIFY CHECK 1,000,000.00
			SURETY COMPANY/BANK Travelers Casualty & Surety Co of America	
TO: LUDLOW CONSTRUCTION CO., INC. OF MA 19 CARMELINA'S CIRCLE LUDLOW, MA 01056			BOND NUMBER: 106956424	
CITY OF MIDDLETOWN 82 BERLIN STREET MIDDLETOWN, CT 06547			PERMIT IS NOT VALID UNTIL SIGNATURE COPY IS SIGNED AND RETURNED TO THE OFFICE.	
			PLEASE RETURN AT ONCE.	
			FEE: pd DATE REC'D: PO/WO NO:	
<p>-All liability is assumed by the permittee. All areas disturbed as a result of this operation will be restored to the equivalency of their original condition or better at permittee's expense. The permittee will be billed in full by the Department for engineering and replacement costs of any area disturbed or destroyed by the permitted operations.</p> <p>- The Department reserves the right to require the permittee to reimburse the State for all expenses incurred in connection with this permit including but not necessarily limited to inspection, State-owned equipment, supplies, etc. as outlined under regulation 13b-17-11.</p> <p>-Requirements of the permit are subject to change as field condition warrant. Any change will require a review and prior approval by the District Office.</p> <p>INSURANCE EXPIRES: 1/1/2020 PRIOR TO THE INSURANCE EXPIRATION DATE, THE PERMITEE MUST SUBMIT AN UPDATED CERTIFICATE OF INSURANCE TO DOCUMENT APPROPRIATE CONTINUING INSURANCE COVERAGE.</p>				
PERMITTEE'S SIGNATURE		DATE	DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS BY Richard Reagan	
<i>Michael J. Pa</i>		3-11-19	<i>[Signature]</i> DISTRICT MAINTENANCE DIRECTOR	

ORIGINAL

TOWN DURHAM	ROUTE NO. 17	PMT 2B-REV 8/00 (302-06-0386) DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS STATE OF CONNECTICUT ENCROACHMENT PERMIT	DATE OF ISSUE 3/6/2019	PERMIT NO. 1018047 Page 1 of 3
NAME OF HIGHWAY Main Street			DATE EFFECTIVE	
LOCATION OF WORK OR BEGINNING AND ENDING POINTS Rt. 17, Main St, Middletown/ Durham line to Maple Ave, 1000 ft. on Rt. 68 from Rt. 17.			DATE OF EXPIRATION 3/6/2020	AMT. OF SURETY BOND CERTIFY CHECK 1,000,000.00
			SURETY COMPANY/BANK Travelers Casualty & Surety Co of America	
TO: LUDLOW CONSTRUCTION CO., INC. TOWN OF DURHAM OF MA 30 TOWN HOUSE ROAD PO BOX 19 CARMELINA'S CIRCLE 438 LUDLOW, MA 01056 DURHAM, CT 06422			BOND NUMBER: 106956424	
			PERMIT IS NOT VALID UNTIL SIGNATURE COPY IS SIGNED AND RETURNED TO THE OFFICE.	
			PLEASE RETURN AT ONCE.	
			FEE: 100.00 DATE REC'D: 2/27/2019 PO/WO NO:	

Permission is hereby granted to do the following work under the control and direction of the Department of Transportation, Bureau of Engineering and Highway Operations at the location designated hereon, subject to the statements made on the application for permit, and to the pertinent provisions of the current Highway Encroachment Permit Regulations manual, including amendments thereto.

This permit does not become effective until all necessary local and State licenses and permits are obtained by the Permittee or designated agent, and further the Permittee shall be subject to all Federal, State and local regulations.

This permit is issued in strict compliance with, but not limited by, the following specific requirements, referenced attachments, and the current edition of Department of Transportation's Standard Specifications for Roads, Bridges and Incidental Construction as applicable.

The Department of Transportation Permit Inspector, Dale Ethier 860-209-5406, MUST BE NOTIFIED AND THE CALL BEFORE YOU DIG REQUEST NUMBER RECORDED 48 HOURS IN ADVANCE OF STARTING WORK ON THE PROJECT. REQUEST NO. _____

Permission is granted to excavate to install new water main and water services on Route 17 from Middletown/Durham Town line to Old Cemetery Road, on Route 68 1000' west of Route 17, and to install temporary access driveway within the highway right of way as delineated on the plans entitled "MIDDLETOWN AND DURHAM, CT DURHAM MEADOWS WATERLINE RD, EPA CONTRACT NO.EP-S1-06-01 TESK ORDER NO.0060-RD-RD-01D5 dated April 2018, with last revisions dated July 2018 on sheet C-505 and permit application received on 2/15/19. All work shall be in accordance with the current publication of the Department of Transportation "Standard Specifications for Roads, Bridges, and Incidental Construction", the latest Department Standard Details, and the following stipulations:

-A copy of this permit must be available on site at all times.

-Vehicular and pedestrian traffic must be adequately protected through the use of appropriate traffic control patterns. Uniformed police officers or personnel who are certified for traffic control to a level equivalent to the National Safety Council shall be utilized to direct traffic through the work area. All traffic control signing and appurtenances shall be in accordance with the latest edition of the "Manual on Uniform Traffic Control Devices" and must meet NCHRP 350 requirements.

-No work that will interfere with the flow of traffic shall be permitted before or after the hours listed below based on the traffic control pattern needed:

Two way traffic - 8:00 am to 3:00 pm, Monday through Friday.
Alternating one lane traffic pattern 9:00 am to 2:00 pm, Monday through Friday
Alternating or two way traffic at nights 7:00 pm to 5:00 am Sunday thru Thursday

-Holiday Restrictions- No permit work within the highway right of way will be permitted the day before a legal holiday and no work shall be resumed until 12:00 noon the day following the holiday, unless otherwise approved or indicated. Weekends shall be considered as part of the holiday when the legal holiday falls on either Friday or Monday.

-The pavement shall be cut in neat, straight lines to a depth necessary to remove the pavement to the subbase. The saw cutting slurry must not be allowed to enter the State's drainage system.

The Permit Inspector must be notified upon completion of work for final inspection and approval.

CALL Before you DIG! TOLL FREE, STATEWIDE 1-800-922-4455

Any and all liability for injury, damage or loss resulting from such work as may be undertaken under the terms of this permit is assumed by the Permittee. The Permittee is hereby designated responsible for all future maintenance of all installations or encroachments constructed under this Permit, which in the sole judgement of the State are not part of the highway appurtenances normally maintained by the State.

The Permittee hereby agrees to indemnify and hold harmless the State of Connecticut for any and all such injury, damage, or loss that may be incurred, either directly, or as a result of said work, and to reimburse the Department of Transportation for any expenses incurred due to the performance of any such work undertaken under the terms of this permit.

This permit is revocable at the discretion of the Department of Transportation Commissioner or designated representative.

ORIGINAL

TOWN DURHAM	ROUTE NO. 17	PMT 2B-REV 8/00 (302-06-0386) DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS STATE OF CONNECTICUT ENCROACHMENT PERMIT	DATE OF ISSUE 3/6/2019	PERMIT NO. 1018047 Page 2 of 3
NAME OF HIGHWAY Main Street			DATE EFFECTIVE	
LOCATION OF WORK OR BEGINNING AND ENDING POINTS Rt. 17, Main St, Middletown/ Durham line to Maple Ave, 1000 ft. on Rt. 68 from Rt. 17.			DATE OF EXPIRATION 3/6/2020	AMT. OF SURETY BOND CERTIFY CHECK 1,000,000.00
			SURETY COMPANY/BANK Travelers Casualty & Surety Co of America	
TO: LUDLOW CONSTRUCTION CO., INC. TOWN OF DURHAM OF MA 30 TOWN HOUSE ROAD PO BOX 19 CARMELINA'S CIRCLE 438 LUDLOW, MA 01056 DURHAM , CT 06422			BOND NUMBER: 106956424 PERMIT IS NOT VALID UNTIL SIGNATURE COPY IS SIGNED AND RETURNED TO THE OFFICE. PLEASE RETURN AT ONCE. FEE: 100.00 DATE REC'D: 2/27/2019 PO/WO NO:	

-Traffic signal equipment damaged during construction will be replaced in accordance with the current publication of the Department of Transportation "Standard Specifications for Roads, Bridges, and Incidental Construction." Damaged loop detection will require milling and paving of the asphalt surface to a depth of 2" to encompass the area where new traffic loops are to be installed. The approved signal plan for this specific intersection should be obtained to insure the proper installation of the signal equipment.

-Sidewalk must be in conformance with the most current ADA Requirements. Ownership and maintenance responsibility of the sidewalk shall be that of parties other than the State.

-The D.O.T. Electrical Division must be notified 24 Hours in advance of disturbing any existing traffic loops, signalization or other traffic control devices that may be affected by this project. They can be reached at (860) 566-3156.

-All traffic signal loop detectors damaged during construction shall remain operational and must be repaired within 24 hours of being damaged.

-The contractor shall maintain access to all egress from all commercial and residential driveways throughout the project limits unless permission is granted from the property owners.

-The traffic signal loop detectors are to be replaced within 10 days following the last day of paving.

- The permittee will be required to have a consultant inspector on site at all times during any and all construction within the state ROW to perform inspections and to verify required materials testing in accordance with Form 817 standards. All compaction and density testing shall be performed by NETTCP qualified testing personnel using a nuclear density gauge that has been received its annual certification from CTDOT. Compaction tests on soils and Density tests on asphalt shall be performed once per lift of material installed, once every 25' L.F. of the excavation or at the discretion of the permit inspector to assure that a rate of 95% is achieved unless otherwise advised by the Permit Inspector.. Daily inspection reports which have been reviewed/verified/stamped by a licensed CT Professional Engineer shall be submitted to the District on a weekly basis.

-The temporary trench pavement shall be smooth and flat. The trench must be maintained on a regularly basis throughout the project.

-The temporary trench pavement shall be a MINIMAL of 4" hot bituminous concrete to be installed in two equal lifts compacted and placed with strict conformance with Form 817 State standards.

-Full depth pavement replacement will be required in all roadway trench excavations. This will include 10" (compacted) of processed gravel base, 6" of Hot Mix Asphalt Superpave 1.0 Design Level 2 and 3" of Hot Mix Asphalt Superpave 0.50 Design Level 2 top course, installed in 2 equal lifts. All edges must be tack coated and the surface joints sealed. If the pavement depth measures less than 9", the requirements for binder and top course depths will be determined by the permit inspector.

-Hot bituminous will be required for all pavement excavations. The permittee will make certain that hot bituminous concrete is available before starting the work. If it is not available, NO excavation will be allowed within the right-of-way until such time as it is available.

-Permanent full depth pavement replacement will be required in all excavations. Temporary pavement restoration will not be allowed through the winter season. Excavations performed after November 1st will be at the discretion of the inspector and will require a MINIMAL of 4" of hot bituminous concrete to be installed in two equal lifts, and may require complete replacement the following spring. Asphalt from plants which have not received state certification will be regarded as temporary and must be replaced regardless of depth installed.

-All construction materials and methods shall confirm to the Department's Specification Form 817 and supplemental there too..

ORIGINAL

TOWN DURHAM	ROUTE NO. 17	PMT 2B-REV 8/00 (302-06-0386) DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS STATE OF CONNECTICUT ENCROACHMENT PERMIT	DATE OF ISSUE 3/6/2019	PERMIT NO. 1018047
NAME OF HIGHWAY Main Street			DATE EFFECTIVE	Page 3 of 3
LOCATION OF WORK OR BEGINNING AND ENDING POINTS Rt. 17, Main St, Middletown/ Durham line to Maple Ave, 1000 ft. on Rt. 68 from Rt. 17.			DATE OF EXPIRATION 3/6/2020	AMT. OF SURETY BOND CERTIFY CHECK 1,000,000.00
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-The limits of the final pavement restoration will be determined by the inspector. This shall include milling and paving of the asphalt surface, surrounding and including the excavation, to a depth of 2". The milled area shall extend a minimum of 10 feet beyond the edges of the original trench line with vertically faced edges, not tapered. The entire milled area including the edges shall be swept and tack coated with an approved material at the appropriate rate. The area will then be paved with Hot Mix Asphalt Superpave 0.50 (machine laid) and compacted to a depth of 2". All excavations may be included into one milled area.

-At the end of each workday all trenches will be back filled and patched. The use of steel plates to cover open trenches within the highway right of way will NOT be allowed.

-All slopes shall be stabilized with an approved erosion control method. A State standard anti-tracking pad shall be installed and maintained throughout the construction project.

-Catch basins and drainage pipe damaged or filled with sediment during construction must be repaired, cleaned and flushed at contractor's expense. A minimum vertical clearance of 12" shall be maintained between facilities. Metal pipes damaged during construction must be repaired using the attached "concrete pipe connection" detail as directed and approved by the permit inspector. Repair must be performed utilizing solid section of existing pipe. Where this can not be achieved full metal pipe replacement may be required.

-The storing of pipe, excavation materials, or other construction materials within the highway right of way will not be allowed. Equipment shall be removed from the right of way when not in use.

-Roadway must be kept clean of debris and construction materials and machine swept as needed.

-The driveway shall be paved with hot bituminous concrete to the state's right of way property line.

-Upon completion of the job, the anti-tracking pad shall be removed and the excavated area must be restored with loam/seed and stabilized with mulch hay.



-Pavement markings must be replaced using epoxy paint. Turf must be established prior to this permit considered complete.

-All liability is assumed by the permittee. All areas disturbed as a result of this operation will be restored to the equivalency of their original condition or better at permittee's expense. The permittee will be billed in full by the Department for engineering and replacement costs of any area disturbed or destroyed by the permitted operations.

-The Department reserves the right to require the permittee to reimburse the State for all expenses incurred in connection with this permit including but not necessarily limited to inspection, State-owned equipment, supplies, etc. as outlined under regulation 13b-17-11.

-Requirements of the permit are subject to change as field condition warrant. Any change will require a review and prior approval by the District Office.

INSURANCE EXPIRES: 1/1/2020
PRIOR TO THE INSURANCE EXPIRATION DATE, THE PERMITEE MUST SUBMIT AN UPDATED CERTIFICATE OF INSURANCE TO DOCUMENT APPROPRIATE CONTINUING INSURANCE COVERAGE.

PERMITEE'S SIGNATURE 	DATE 3-11-19	DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS BY Richard Reagan 
		DISTRICT MAINTENANCE DIRECTOR

APPENDIX C: PERMITS/CERTIFICATES/PLANS

Copies of all environmental permits, permit application packages, approvals to construct, notifications, certifications, reports, and termination documents will be attached to the Environmental Protection Plan, once they are processed and approved. The required permits are listed below:

- Environmental permits
- Permit Application Packages
- Disposal Permits
- HAZMAT Permits
- Landfill Permit
- Hot Work Permit
- Disposal Certificates
- Approvals to Construct
- Notifications
- Certificates
- Reports
- Signed copy of the City of Middletown Erosion and Sediment Control Agreement

REFERENCE

References: This publication listed below form a part of this plan to the extent referenced.

CODE OF FEDERAL REGULATION (CFR)

40 CFR 125	Criteria and Standards for the National Discharge Elimination System
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 403	General Pretreatment Reg. for Existing-New Sources of Pollution
33 CFR 328	Definitions
40 CFR 61	SUBPART M National Emission Standard for Asbestos
40 CFR 68	Chemical Accident Prevention Provisions
40 CFR 152	186 Pesticide Programs
40 CFR 260	Hazardous Waste Management System: General
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 279	Standards for the Management of Used Oil
40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 355	Emergency Planning and Notification
49 CFR 171	Hazardous Materials Regulations
40 CFR 178	Protection of Environment
40 CFR 261	Identification and Listing of Hazardous Waste

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPAPL-96-510	Comprehensive Environmental Response Compensation and Liability Act of 1980
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CONNECTICUT DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Sediment and Erosion Control and Environmental Regulations Solid Waste Management

CITY OF MIDDLETOWN EROSION AND SEDIMENTATION CONTROL GUIDELINES

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z400.1 (2010) Hazardous Industrial Chemicals - SDS - Preparation

ASTM INTERNATIONAL (ASTM)

ASTM D 4840 (1999; R 2018) Sampling Chain-Of-Custody Procedures

ASTM D 5663 (2015) Validating Recycled Content in Packaging

ASTM E 2114 (2017) Standard Terminology for Bldg Sustainability

U.S. DEPARTMENT OF AGRICULTURE (USDA)

Biomass R&D Act (2000) Biomass Research and Development Act

U.S. Farm Bill (2014) U.S. Farm Bill of 2014

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

NPDES (1972; R 2017) National Pollutant Discharge Elimination System

U.S. GREEN BUILDING COUNCIL (USGBC)

LEED (2002; R 2013) Leadership in Energy and Environmental Design (LEED-MD)

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

U.S. ARMY CORPS OF ENGINEERS (US ARMY COMMAND-APG)

EM 385-1-1 (Latest Version) U.S. Army Corps on Engineers

Safety and Health Requirements Manual

EM 200-1 U.S. Army Corps of Engineers Environmental Quality Manual

EM 1110-1-502 U.S. Army Corps of Engineers Technical Guidelines for Hazardous and Toxic
Wastes Treatment and Cleanup Activities.