

# **STORMWATER POLLUTION CONTROL PLAN**

## **E COMMERCE DRIVE & ASSOCIATED SITE PREPARATION AREAS OXFORD, CONNECTICUT**

**Prepared by:**

**CIVIL 1  
43 Sherman Hill Road  
Suite D-101  
Woodbury, CT 06798**



**VOLUME 1  
AUGUST 14, 2015  
REVISED OCTOBER 21, 2015**

**TABLE OF CONTENTS**

<b>1.0</b>	<b>PROJECT INTRODUCTION</b> .....	<b>1-1</b>
1.1	SITE SUMMARY.....	1-1
1.1.1	Existing Conditions.....	1-1
1.1.2	Project Description.....	1-1
1.2	PROJECT OWNER AND OPERATOR.....	1-2
1.3	PERMIT COVERAGE AND ELIGIBILITY.....	1-2
1.4	CERTIFICATION REQUIREMENTS.....	1-3
1.5	COASTAL CONSISTENCY REVIEW.....	1-3
1.6	ENDANGERED OR THREATENED SPECIES.....	1-3
1.7	SOILS, SLOPES, DRAINAGE PATTERNS, AND VEGETATION.....	1-3
1.7.1	Soil Type(s).....	1-3
1.7.2	Slopes.....	1-4
1.7.3	Drainage Patterns.....	1-4
1.7.4	Vegetation.....	1-4
1.8	SITE FEATURES AND SENSITIVE AREAS TO BE PROTECTED.....	1-4
1.8.1	Receiving Waters and TMDL Applicability.....	1-4
1.8.2	Wetlands.....	1-4
1.9	FINAL STABILIZATION AND TERMINATION OF COVERAGE.....	1-4
1.10	RETENTION OF RECORDS.....	1-5
<b>2.0</b>	<b>CONSTRUCTION ACTIVITIES</b> .....	<b>2-1</b>
2.1	DESCRIPTION OF CONSTRUCTION ACTIVITY.....	2-1
2.2	CONSTRUCTION SITE ESTIMATES.....	2-1
2.3	PROPOSED STORMWATER MANAGEMENT PRACTICES.....	2-1
2.3.1	Stormwater Treatment Practices.....	2-1
2.3.2	Stormwater Conveyance and Management Practices.....	2-2
<b>3.0</b>	<b>BEST MANAGEMENT PRACTICES</b> .....	<b>3-1</b>
3.0	BEST MANAGEMENT PRACTICES.....	3-2
3.1	STRUCTURAL CONTROL PRACTICES.....	3-2
3.2	TEMPORARY EROSION CONTROL PRACTICES.....	3-2
3.2.1	Sediment Fence (GSF).....	3-2
3.2.2	Hay Bale Barrier (HB).....	3-3
3.2.3	Stone Check Dam (SCD).....	3-3
3.2.4	Temporary Diversion (TD).....	3-3
3.2.5	Temporary Soil Stockpile (ST).....	3-4
3.2.6	Temporary Sediment Trap (TST).....	3-4
3.2.7	Construction Entrance (CE).....	3-4
3.2.8	Tree Protection (TP).....	3-4

3.2.9	Temporary Erosion Control Blankets (ECB).....	3-5
3.3	SOIL STABILIZATION PRACTICES .....	3-5
3.4	MAINTENANCE AND INSPECTIONS .....	3-5
3.5	FINAL STABILIZATION.....	3-6
3.5.1	Seeding.....	3-6
3.5.2	Fertilizer .....	3-6
3.5.3	Mulching.....	3-6
3.5.4	Topsoiling.....	3-6
3.5.5	Temporary Control Removal.....	3-7
<b>4.0</b>	<b>GOOD HOUSKEEPING BMP'S .....</b>	<b>4-1</b>
4.1	POTENTIAL SOURCES OF POLLUTION.....	4-1
4.2	CONTROLS TO REDUCE POLLUTION FROM THE CONSTRUCTION SITE .....	4-1
4.2.1	Material Handling and Waste Management.....	4-1
4.2.2	Establish Proper Building Material Staging Area.....	4-1
4.2.3	Allowable Non-Stormwater Discharge Management.....	4-1
4.2.4	Maintenance of Controls.....	4-1
<b>5.0</b>	<b>HAZARDOUS SUBSTANCE OR SPILL REPORTING .....</b>	<b>5-1</b>
5.1	MATERIAL MANAGEMENT PRACTICES .....	5-1
5.2	NON-PETROLEUM PRODUCTS .....	5-1
5.3	PETROLEUM PRODUCTS.....	5-1
5.4	SPILL CONTROL AND CLEAN UP.....	5-2
<b>6.0</b>	<b>APPENDICES .....</b>	<b>6-1</b>

**APPENDICES**

VOLUME 1

Appendix A	Permit Coverage
Appendix B	Certifications
Appendix C	Pre-Construction Meeting
Appendix D	Location Maps and Soil Types
Appendix E	Inspection and Maintenance Records
Appendix F	Monitoring Reports
Appendix G	Hazardous Material or Oil Spill Records
Appendix H	Update Records
Appendix I	Copy of CT DEEP Notice of Termination
Appendix J	Connecticut General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities (DEEP-WPED-GP-015)

VOLUME 2

Appendix K	Supporting Calculations
Appendix L	Site Development Drawings

**Contact Information / Responsible Parties:**

Permitted:

Town of Oxford  
486 Oxford Road  
Oxford, CT  
(203) 888-2543

Contractor Co-Permittee:

To be determined

Contractor Operator(s):

To be determined

Stormwater Pollution Control Plan Contact(s):

Town of Oxford  
486 Oxford Road  
Oxford, CT  
(203) 888-2543

Civil 1

43 Sherman Hill Road  
Suite D-101  
Woodbury, CT 06798  
(203)266-0778

This Stormwater Pollution Control Plan was prepared by:

Curtis Jones, PE  
Civil 1  
43 Sherman Hill Road  
Suite D-101  
Woodbury, CT 06798  
(203)266-0778

**Section 1.0**  
**PROJECT INTRODUCTION**

## 1.0 PROJECT INTRODUCTION

### Project/Site Information:

Project/Site Name: E. Commerce Drive & Associated Site Preparation Areas

Location: Woodruff Hill Road & Juliano Drive  
Oxford, Connecticut

Latitude/Longitude: Latitude: 41° 28' 58" N Longitude: 73° 07' 21" W

Method for determining latitude/longitude: Google Earth

## 1.1 SITE SUMMARY

### 1.1.1 Existing Conditions

The project site contains approximately 38.1 acres north of Prokop Road, west of Woodruff Hill Road and east of Juliano Drive in the Town of Oxford. The property lies within the Industrial District zone.

There is an Algonquin Gas Transmission Company easement along the northern portion of the property as well as a CL&P easement for three existing 115-kV overhead transmission lines which run through the property. The property is mostly wooded and undeveloped currently with some large wetland areas.

The project site is located within the Little River Watershed Drainage Basin Number 6920. This watershed is located within the Naugatuck Regional Basin within the Housatonic Major Basin, identified on the Connecticut Department of Environmental Protection Atlas of Public Water Supply Sources and Drainage Basins.

### 1.1.2 Project Description

The proposal is to complete the construction of E Commerce Drive and to prepare several of the sites for future development, these sites include lots 2, 4, 5, 6, 14, 15 & 16. Approximately 4450 linear feet of new road, to be called E Commerce Drive, is being proposed east of the Oxford Airport that will connect Juliano Drive at the Oxford Airport to Woodruff Hill Road. These activities also include the storm drainage system within in the roadway and cross-culverts under E Commerce Drive to provide conveyance between wetland systems on-site.

The scope of lot preparation at this time consists of grading level pad areas on Lots 2, 4-6 and 14-16. These level areas will receive a temporary surface treatment of processed gravel and all other disturbed areas on the lots will be seeded for permanent stabilization. The grading and erosion & sediment control plans for the lot preparation were designed using the recommendations from the 2002 Connecticut Guidelines for Soil Erosion and Sediment

Control.

## **1.2 PROJECT OWNER AND OPERATOR**

The project owner and operator, the Town of Oxford, CT will be the responsible entity for completing the project. The address and telephone is:

Town of Oxford  
ATTN: George Temple, First Selectman  
486 Oxford Road  
Oxford, CT  
(203) 888-2543

## **1.3 PERMIT COVERAGE AND ELIGIBILITY**

The U.S. Environmental Protection Agency (EPA) requires a National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater discharges from construction sites that disturb more than one acre of land or from smaller sites that are part of a larger, common plan of development. For the purposes of the NPDES program, construction activities are defined as clearing, excavating, grading, or other land disturbing activities.

The General Permit for the Discharge of Stormwater and dewatering Wastewaters associated with Construction Activities (CGP) authorizes stormwater discharges from construction activities which result in the disturbance of one or more acres of land area on a site regardless of project phasing. In the case of a larger plan of development, the estimate of total acres of site disturbance shall include, but is not limited to, road and utility construction, individual lot construction, and all other construction associated with the overall plan, regardless of the individual parties responsible for the construction of these various elements. These conditions are subject to the conditions outlined in DEEP-WPED-GP-015. The effective date of this CGP is October 1, 2013, and covers all areas of Connecticut. This CGP includes provisions for the development of this Stormwater Pollution Control Plan to maximize the potential benefits of pollution prevention and sediment and erosion control measures at a construction site.

CGP eligibility is limited to discharges from “large” and “small” construction activity as defined in Section 3 Connecticut General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities. A copy of DEEP-WPED-GP-015 is included in Appendix J of this document. The permittee has requested coverage under this CGP by submission of a complete and accurate General Permit Registration Form and Transmittal. Copies of these are included in Appendix A. A map showing project site indicated on the registration form, and covered under this CGP, is included in Appendix D.

## **1.4 CERTIFICATION REQUIREMENTS**

The registrant, the design professional and the qualified professional in charge of reviewing plans are required to sign a Stormwater Pollution Control Plan certification as a condition of the CGP. These certifications are located in the complete CGP registration form in Appendix A.

Each contractor and subcontractor that will perform construction activities on the site must sign certifications confirming that they have been informed that a Stormwater Pollution Control Plan has been prepared for the project and they will be required to perform necessary actions that have been identified to comply with both the Stormwater Pollution Control Plan and the CGP. No permittee or operator shall commence work on this project site until they have familiarized themselves with this plan and signed the appropriate Stormwater Pollution Control Plan certification. It may be necessary for the contractor to implement additional erosion control and pollution prevention measures not previously identified to maintain compliance with the CGP. A copy of the Contractor's Certification form is included in Appendix B.

## **1.5 COASTAL CONSISTENCY REVIEW**

After review of the applicable policies and standards in Connecticut's Coastal Management Act (CCMA), codified in Sections 22a-90 through 22a-112 of the Connecticut General Statutes (CGS), as amended, it has been determined that this project does not require a coastal consistency review.

## **1.6 ENDANGERED OR THREATENED SPECIES**

Review of the Natural Diversity Data Base (NDDB) findings has been initiated by Tetra Tech with the CT DEEP. In a letter from the CT DEEP to Tetra Tech dated October 13, 2015 the DEEP made several recommendations for mitigation that have now been included in the proposed design. The NDDB Identification number for this project is 201502857 and the correspondence between Tetra Tech and the DEEP is included in Appendix A as part of the Stormwater General Permit registration form, along with the NDDB Map of the area.

## **1.7 SOILS, SLOPES, DRAINAGE PATTERNS AND VEGETATION,**

### **1.7.1 Soil Type(s)**

Based upon a review of typical geologic conditions and the National Cooperative Soil Survey, the soils have been classified as (1) Woodbridge fine sandy loam, 3 to 8 percent slopes; (2) Woodbridge fine sandy loam, 2 to 15 percent slopes – extremely stony; (3) Paxton and Montauk fine sand loams, 3 to 8 percent slopes; (4) Paxton and Montauk fine sandy loams, 8 to 15 percent slopes; (5) Paxton and Montauk fine sandy loams, 15 to 25 percent slopes; and (6) Paxton and Montauk fine sandy loams, 8 to 15 percent slopes – very stony.

### **1.7.2 Slopes**

The project site consists of varying slope conditions ranging from relatively flat conditions in the central portion of the property and the wetland areas to steep slopes property boundaries.

### **1.7.3 Drainage Patterns**

Existing site topography shows that overall drainage patterns flow from the west toward the east and south through the wetlands.

There are wetlands on the site that flow from north to south. Jack's Brook flows from the subject parcel in a southerly direction to the confluence with the Little River approximately 3 miles south of the property. There is also a pond of approximately ½ acre in size along the southern property line that flows under Prokop Road from north to south.

#### **1.7.4 Vegetation**

The site consists of primarily undeveloped industrial parcels that currently include large tracts of mature forest and a complex of mature, even-aged, hardwood forests and open fields with wetlands inclusions.

### **1.8 SITE FEATURES AND SENSITIVE AREAS TO BE PROTECTED**

#### **1.8.1 Receiving Waters and TMDL Applicability**

There are currently zero impaired waterways on the most current 303(d) listing of impaired waterways within the vicinity of the project site.

#### **1.8.2 Wetlands**

The wetlands on the property were originally flagged in 1998 by Mark. H. Sullivan Environmental Consulting and these delineations were used during the approval process of the subdivision by local land use commissions. Supplemental wetland delineation was completed in the areas of Lots 4-8 and the neighboring CPV Towantic property by All-Points Technology Corporation in a report dated August 22, 2014. The wetland impacts on site are subject to an Army Corps of Engineers permit which was renewed on June 22, 2012.

### **1.9 FINAL STABILIZATION AND TERMINATION OF COVERAGE**

At the completion of a construction project registered pursuant to Section 4 of the general permit, a Notice of Termination must be filed with the commissioner. The project shall be considered complete after the site has been stabilized for at least three months following the cessation of construction activities. The site is not considered stabilized until there is no active erosion or sedimentation present and no disturbed areas remain exposed for all phases.

The termination notice shall be filed on forms prescribed and provided by the commissioner and shall include the following:

- (1) The permit number as provided to the permittee on the permit certificate;
- (2) The name of the registrant as reported on the general permit registration form DEP- PED-REG-015;
- (3) The address of the completed construction site;
- (4) The dates when:
  - a) All storm drainage structures were cleaned of construction debris pursuant to “Other Controls” section (subsection 5 (b)(2)(d)) of the general permit,
  - b) The post construction inspection was conducted pursuant to subsection 6 (a)(1); and
  - c) The date of completion of construction, and;
  - d) The date of the final stabilization inspection pursuant to subsection 6(a)(2)
- (5) A description of the post-construction activities at the site; and;
- (6) Signature of the permittee and the post-construction inspection pursuant to subsection 6(a)(1).

The termination form should be filed with the commissioner at the following address:

Central Permits Processing Unit  
Bureau of Materials Management & Compliance Assurance  
Department of Environmental Protection  
79 Elm Street  
Hartford, CT 06106-5127

#### **1.10 RETENTION OF RECORDS**

The Stormwater Pollution Control Plan document will be maintained by the contractor in the appropriate construction office or location from the date the construction is initiated until the project is concluded.

Records will be maintained for at least five years from the date that construction is complete. The permittee shall retain copies of the Stormwater Pollution Control Plan and all reports required by the CGP, and records of all data used to complete the registration for the CGP, unless the Commissioner specifies another time period in writing. Inspection records must be retained as part of the Stormwater Pollution Control Plan for a period of five years after the date of inspection.

**Section 2.0  
CONSTRUCTION ACTIVITIES**

## **2.0 CONSTRUCTION ACTIVITIES**

### **2.1 DESCRIPTION OF CONSTRUCTION ACTIVITY**

Prior to construction, the Town of Oxford will complete all pre-construction planning activities. The town will continue to consult with local commissions, state agencies and federal agencies, as applicable, and will conduct site surveys to determine construction methodologies and procedures to minimize adverse effects to the environment and public.

Construction will typically consist of activities such as:

- Surveys to stake access roads and structural locations
- Wetland delineation
- Geotechnical investigations
- Establishment of construction staging area
- Installation of sediment and erosion control devices
- Excavation and installation of access roads
- Excavation and installation of lay-down and equipment assembly areas
- Excavation and installation of foundations and erection of new structures
- Restoration of site, including re-establishment of vegetative areas

### **2.2 CONSTRUCTION SITE ESTIMATES**

The following are estimates of the construction site:

Area to be disturbed: 38.1 acres

Total Project area: 38.1 acres

### **2.3 PROPOSED STORMWATER MANAGEMENT PRACTICES**

#### ***2.3.1 Stormwater Treatment Practices***

The two sources of potential surface runoff on the site under proposed conditions are E Commerce Drive itself and the individual building lots that are being graded out for future development; Lots 2, 4, 5, 6, 14, 15 & 16.

The stormwater from the proposed E Commerce Drive and Lots 2, 4, 5, 6, 14, 15 & 16 flows into a very large wetland swamp area that is capable of detaining the stormwater and mitigating any increase in peak flow rates that may occur as a result of the proposed improvements. Therefore, the objective for this watershed area was to design a storm drainage system maintains an adequate conveyance between portions of the wetland areas on either side of the road in order to replicate existing drainage patterns. This was done to preserve the existing conditions of the wetlands and watercourses in the area to the greatest extent practicable. Additionally, the proposed culverts were designed with engineered outlet protection in order to decrease the velocity of the stormwater and to trap any remaining silt or sediment.

The stormwater on Lots 2, 4, 5, 6, 14, 15 & 16 will be treated with riprap lined swales and

temporary sediment traps that will be converted to small stormwater renovation areas once grading is complete and the sites are permanently stabilized.

One of the goals of the stormwater management system is to ensure that the proposed construction will have no negative effect on the wetlands or areas down gradient of the project site.

### ***2.3.2 Stormwater Conveyance and Management Practices***

The primary method of predicting surface water runoff rates was Haestad Methods Design Software (QTR-55). The United States Soil Conservation Service (SCS) originally developed TR-55. The program forecasts the rate of surface water runoff as a function of time based upon several factors, including information on land use, vegetation, watershed areas, soil types, time of concentration, rainfall data, storage volumes, and hydraulic capacities of structures.

Rainfall events with a recurrence frequency 50 years were utilized as input data. The National Weather Service has developed 4 storm events to simulate rainfall around the country. The Type III rainfall pattern with a 24-hour duration is appropriate for use in Connecticut and has been utilized in this analysis.

Land Use for the analysis was determined from aerial mapping, field reconnaissance, and USGS Mapping. The types of land use utilized in the analysis include forest, grass, and impervious cover. Soil types on the property were determined from the soil survey of New Haven County, Connecticut prepared by the United States Department of Agriculture, Soil Conservation Service. The property was found to contain B, C, and D type soils, along with impervious areas.

The storm drainage system in the roadway was design based upon the 25-year storm event under proposed conditions. The system includes catch basins with sumps and riprap outlet protection to increase water quality and to decrease stormwater velocity in order to minimize the impact to the wetlands and the potential for erosion. The overall watershed was divided into sub-basins to determine the drainage area and stormwater runoff to each catch basin. The rational method was used to determine the runoff to each catch basin drainage area and a gutter flow analysis was completed in order to determine pipe sizing.

There are also six proposed cross-culverts, five of which are located within the wetland boundary. These cross culverts convey the storm water and do not change the drainage pattern of the watershed. They are designed to convey the peak flow rates from the 50-year storm event under proposed conditions and were analyzed using Haestad Methods Design Software as cited above. In addition, outlet protection was designed for all proposed discharge points in order to reduce velocities and prevent erosion in and adjacent to the wetlands. The supporting calculations are included with this report in Appendix L.

**Section 3.0**  
**BEST MANAGEMENT PRACTICES**

### **3.0 BEST MANAGEMENT PRACTICES**

Soil erosion and sediment controls are measures that are used to reduce the amount of soil particles that are carried from a land area and deposited in receiving waters. This section provides a general description of the most appropriate control measures proposed for the Project. The permittee's construction contractor(s) and their subcontractors will be responsible for amending the erosion and sediment controls in the SPCP for their portion(s) of the project. Based on field conditions at the time of construction, the contractors or subcontractors may adjust the locations and types of BMPs so that erosion and sedimentation are controlled to the maximum extent practicable. However, in no case will modifications to the SPCP result in any less stringent erosion and sedimentation control measures than specified herein.

Any revision to the SPCP will be recorded on the Record of Revisions form. The application of the techniques in the field will be determined by the professional judgment of the permittee's field construction personnel and will depend on site-specific conditions. All applicable soil erosion and sediment control measures will be implemented in accordance with this SPCP and the Permit prior to commencement of field construction activities. Measures will be maintained during and after the construction activity, until final stabilization of the soil is accomplished. Upon final stabilization of disturbed areas, all temporary soil erosion and sediment control measures will be removed.

#### **3.1 STRUCTURAL CONTROL PRACTICES**

Structural control practices divert flows from exposed soils, store water flow, or otherwise limit runoff from exposed areas of the site. Such practices may include silt fences, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, rock outlet protection (rip-rap), reinforced soil retaining systems, and temporary or permanent sediment basins. Some of these practices may be used as both temporary and permanent control measures. Structural control practices should be placed in upland areas to the degree practicable to prevent erosion and reduce sedimentation in lower elevation areas.

#### **3.2 TEMPORARY EROSION CONTROL PRACTICES**

Erosion and sediment control measures will be in place prior to the initiation of soil disturbing activities and will be maintained throughout construction. The contractor may need erosion control measures in other locations of the project as work progresses to keep sediment from leaving the construction site. These measures will be determined by the contractor in the field; if measures are changed in the field, the SPCP must be modified accordingly. All temporary erosion controls will be removed after the protected area is finally stabilized. The minimum temporary erosion and sediment control practices that will be used for the Project are discussed in the following sections.

##### **3.2.1 Sediment Fence (GSF)**

Will retain sediment from small disturbed areas. Sediment fence will be placed along slopes as shown on construction details. The contractor will use his best judgment to install additional sediment fence as necessary to prevent loss of sediment. In the proposal silt fence is used for the construction of E Commerce Drive, for the temporary laydown areas, and will be used on

each lot as it is developed. Refer to section 5-11 of 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

**Maintenance:** Inspect the silt fence at least once a week and within 24 hours of the end of a storm that generates a discharge to determine maintenance needs. When used for dewatering operations, inspect frequently before, during and after pumping operations. Remove the sediment deposits, or if room allows, install a second silt fence up slope from the existing fence when deposits reach approximately one half the height of the existing fence. Replace or repair within 24 hours of an observed failure. Refer to Connecticut Guidelines for Soil Erosion and Sediment Control figure GF-5 for troubleshooting failures. Maintain silt fence until the contributing area is stabilized.

### **3.2.2 Hay Bale Barrier (HB)**

Will retain sediment from small disturbed areas. Hay bales will be placed along slopes as shown on construction details. Hay bale filters shall also be placed around catch basin inlets to prevent siltation of storm drainage system during construction. The contractor will use his best judgment to install additional hay bales as necessary to prevent loss of sediment. In the proposal haybale barriers are used for the construction of E Commerce Drive, for the temporary laydown areas, and will be used on each lot as it is developed. Refer to section 5-11 of 2002 Connecticut Guidelines for Soil and Sediment Control. Additionally, staked straw wattles/compost filter socks may be used as sediment barriers in appropriate locations on site.

**Maintenance:** Inspect the hay bale barrier at least once a week and within 24 hours of the end of a storm that generates a discharge to determine maintenance needs. When used for dewatering operations, inspect frequently before, during and after pumping operations. Remove the sediment deposits, or if room allows, install a secondary barrier up slope from the existing barrier when deposits reach approximately one half the height of the barrier. Replace or repair within 24 hours of an observed failure. Refer to Connecticut Guidelines for Soil Erosion and Sediment Control figure HB-5 for troubleshooting failures. Maintain hay bale barrier until the contributing area is stabilized.

### **3.2.3 Stone Check Dam (SCD)**

Will be used to reduce velocity of concentrated flows, thus reducing of the drainage way. At a minimum, stone check dams will be used during the construction of the proposed temporary laydown areas per the construction plans.

**Maintenance:** Inspect the stone check dam at least once a week and a within 24 hours of the end of a storm that generates a discharge to determine maintenance needs. Remove the sediment deposits when deposits reach approximately one half the height of the check dam. Replace or repair within 24 hours of an observed failure. Maintain until the contributing area is stabilized.

### **3.2.4 Temporary Diversion (TD)**

Will be used to divert sediment laden runoff from a disturbed area to a sediment trapping facility. In the proposal temporary diversion ditches are used for the construction of E Commerce Drive and for the construction of the temporary laydown areas per the construction plans.

Maintenance: When the temporary diversion is located within close proximity to ongoing construction activities, inspect the diversion at the end of each work day and immediately repair damage caused by construction equipment. Otherwise, inspect the temporary diversion and associated measures at least once a week and within 24 hours of the end of a storm that generates a discharge to determine maintenance needs. Repair within 24 hours of an observed failure.

### **3.2.5 Temporary Soil Stockpile Areas (ST)**

Will be used to store natural topsoil for re-establishing stable ground cover upon construction completion. In the proposal silt fence is used for the construction of E Commerce Drive, for the temporary laydown areas, and will be used on each lot as it is developed.

Maintenance: Stockpile topsoil in such a manner that natural site drainage is not obstructed. Locate stockpiles to maximize distance from wetlands and /or watercourses. The side slopes of all stockpiles shall not exceed 2:1. Install silt fence (GSF) or other sediment barrier down slope to trap sediments. If stockpile is to remain for a period of 30 days or longer it shall be stabilized with temporary soil protection and seeding measures. See CT Guidelines for Soil Erosion and Sediment Control Page 5-2-3 for more information.

### **3.2.6 Temporary Sediment Trap (TST)**

Will be used to detain sediment laden runoff from small disturbed areas long enough to allow the majority of sediment to settle out. At a minimum, temporary sediment traps will be utilized during the construction of the temporary laydown areas and during the construction of the storm drainage systems on each building lot.

Maintenance: Inspect the temporary sediment trap and associated controls at least once a week and within 24 hours of the end of a storm that generates a discharge to determine maintenance needs. Check the outlet to verify that it is structurally sound and has not been damaged by erosion or construction equipment. The height of the stone outlet should be maintained at least 1 foot below the crest of the embankment. When sediment has accumulated more than one quarter of the minimum wet storage volume, dewater and remove sediment as necessary to restore the trap to its original dimensions.

### **3.2.7 Construction Entrance (CE)**

Will be used to reduce tracking of sediment off site to paved areas. Anti-tracking entrance pads are proposed to be used for the construction of E Commerce Drive, the access to the temporary laydown areas, and each proposed driveway for the individual building lots.

Maintenance: Maintain the entrance in a condition which will prevent tracking and washing of sediment onto paved surfaces. Provide periodic top dressing with additional stone or additional length as required. Immediately remove all sediment spilled, dropped, washed or tracked onto paved surfaces.

### **3.2.8 Tree Protection (TP)**

Will be used to ensure the survival of existing desirable trees for their effectiveness in soil erosion and sediment control during construction.

Maintenance: Inspect tree protection zones weekly during site construction for damage to the tree crown, trunk and root system. When trees have been damaged or the protection zone has been compromised, consult an arborist licensed in CT to determine how damage should be addressed.

### **3.2.9 Temporary Erosion Control Blankets (ECB)**

Will be used to provide temporary surface protection to disturbed soils to absorb raindrop impact and to reduce sheet and rill erosion. Erosion Control Blankets will be installed per the 2002 CT E&S Guidelines as necessary.

Maintenance: Inspect temporary erosion control blankets at least once a week and within 24 hours of the end of a storm that generates a discharge to determine maintenance needs. Repair any dislodged or failed blankets immediately.

## **3.3 SOIL STABILIZATION PRACTICES**

Soil stabilization involves covering disturbed soils with grass, mulch, straw, geotextiles, trees, vines, or shrubs. Stabilization practices for exposed disturbed soils are extremely important while conducting construction activities. Vegetative cover serves to reduce the erosion potential by absorbing the energy of raindrops, promoting infiltration in lieu of runoff, and reducing the velocity of runoff. Stabilization measures shall be initiated as soon as practicable, but no more than 14 days after construction activities have temporarily or permanently ceased on any portion of the site.

## **3.4 MAINTENANCE, INSPECTIONS AND MONITORING**

All erosion and sediment control devices shall be installed pursuant to the specifications in the construction details. They will be maintained so that they remain effective at all times.

Erosion and sediment control devices will be inspected by qualified personnel at least once every seven calendar days and within 24 hours of the end of a storm that generates a discharge. During each inspection, the construction inspector will complete the Inspection and Maintenance Report Form located in the appendix. This form will be copied and used as necessary. Ineffective temporary erosion control measures will be repaired or replaced before the next storm event or as soon as practicable. The permittee will immediately install additional temporary erosion control devices in any area deemed in need of protection.

In addition to regular erosion control inspections cited above the qualified personnel but monitor stormwater runoff for turbidity during the construction process. The monitoring requirements are as follows:

- Turbidity monitoring is required at least once a month at all outfalls until site is finally stabilized. (Sample Method consistent with 40 CFR Part 136).
- Samples shall be taken at least three times during a storm event at each outfall (multiple adjacent, similar outfalls can be combined to sample just one, representative outfall). Average the three results to determine turbidity value.

- Results of Stormwater Monitoring must be submitted to DEEP within 30 days of the end of each month using the appropriate SMR Form and submitted electronically using DEEPs' NetDMR web tool.

Following temporary or final stabilization, inspections must be conducted at least once a month for three months. If construction has been halted due to frozen conditions, regular inspections are not mandatory until one month before the expected thaw. If vegetation establishment is not satisfactory, special steps to correct the problem will be implemented such as over seeding, mulching, sodding, or the use of erosion control blankets. Once a definable area of the construction site has been finally stabilized, no further inspection requirements apply to that area.

### **3.5 FINAL STABILIZATION**

#### **3.5.1 Seeding**

The contractor will be responsible for labor, materials, tools, equipment, and other related items required for preparing ground, providing for sowing of seeds, fertilizing, mulching and top dressing, and other management practices required for erosion control and to achieve final stabilization. It will be the contractor's responsibility to make sure that the soil seedbed is not blown, washed, or otherwise removed from the site. The contractor will make repairs (including replacement of lost topsoil and mulch) to the seedbed preparation site in the event of heavy rain, wind, or other natural events that cause damage. When practicable, native plant species should be used for landscaping.

#### **3.5.2 Fertilizer**

Soil in areas of disturbance may need supplementation from fertilizer. Soil tests may be necessary to determine the most appropriate fertilizer for each location. Once applied, the fertilizer will be worked into the soil to limit exposure to stormwater. Fertilizer spills will be cleaned up immediately and will not be applied along or in a waterway.

#### **3.5.3 Mulching**

Mulching will be used in conjunction with both temporary and permanent seeding practices to enhance success by providing erosion protection prior to the onset of vegetative growth. Mulches enhance plant establishment by moderating soil temperatures and conserving moisture. After seeding, straw or hay mulch will be applied at a rate of two to three tons per acre on the disturbed areas. Other forms of mulch will be applied at a rate designated by the Project Engineer. Mulch will not be applied in wetlands, on lawns, and areas where hydro-mulch is used. Mulch will be anchored immediately after placement on steep slopes and stream banks. Mulch will be held in place by a very thin covering of topsoil, small brush, pins, stakes, wire mesh, asphalt binder, or other adhesive material approved by the project engineer.

#### **3.5.4 Topsoiling**

Topsoil should be applied in areas where the subsoil or existing surface soil does not provide an adequate growth medium for the desired vegetation, where soil is too shallow to provide adequate rooting depth, or where the soil contains substances toxic to the desired vegetation. Topsoil shall be reasonably free from subsoil and stumps, roots, brush, stones, and clay lumps or similar objects.

### ***3.5.5 Temporary Control Removal***

Temporary erosion controls will be left in place until the Project site is stabilized with a uniform vegetative cover of 70 percent density of the native background vegetative cover on all unpaved areas. Following re-vegetation, the permittee will conduct periodic site visits to make sure that vegetation establishment is satisfactory. If sufficient vegetative cover has not been achieved, additional restoration measures will be implemented. Inspection results will be documented using the Inspection and Maintenance Report Form found in the appendix. All temporary soil erosion and sediment control measures will be removed and disposed of after final site stabilization is achieved and before submitting the NOT.

**Section 4.0**  
**GOOD HOUSEKEEPING BMP'S**

## **4.0 GOOD HOUSEKEEPING BMP'S**

### **4.1 POTENTIAL SOURCES OF POLLUTION**

Potential exists for construction sediment to be contained in any runoff that occurs on the project site. This sediment is a result of clearing and grading activities.

### **4.2 CONTROLS TO REDUCE POLLUTION FROM THE CONSTRUCTION SITE**

Minimize Disturbed Area, Protect Natural Features, and Soil:

Only areas required for construction activities will be graded. This practice will reduce sediment transport into receiving bodies.

#### ***4.2.1 Material Handling and Waste Management***

The contractor will establish control measures to prevent discharge and dispose of construction and sanitary waste on site.

#### ***4.2.2 Establish Proper Building Material Staging Areas***

The contractor will establish a permanent staging area within the project site for materials and equipment storage.

#### ***4.2.3 Allowable Non-Stormwater Discharge Management***

Non-stormwater discharges are allowable provided the non-stormwater component of the discharge is in compliance applicable state regulation. Prior to any non storm discharge, the appropriate BMP will be installed and inspected.

#### ***4.2.4 Maintenance of Controls***

All erosion and sediment control practices will be checked for stability and operation following every runoff-producing rainfall, but in no case less than once every week. Any needed repairs will be made immediately to maintain all practices as designed.

All sediment control features shall be maintained until final stabilization has been obtained. Contractor will maintain appropriate recording keepings as required by DEEP-WPED-GP-015. Maintenance records shall describe repair, replacement, and maintenance of BMPs undertaken based on the inspections and maintenance procedures described above and the individual requirements of the BMPs. Actions related to the findings of inspections should reference the specific inspection report. Records should describe actions taken, dates completed, and note the party that completed the work.

During construction the contractor will be responsible for maintaining integrity of all permanent and temporary structures. Prior to submittal of NOT, the contractor and owner will inspect permanent structures to remain in place and correct all noted deficiencies. Upon acceptance from contractor, the owner will maintain responsibility for inspection of the structure semi-annually.

**Section 5.0**  
**HAZARDOUS SUBSTANCE OR OIL SPILL REPORTING**

## **5.0 HAZARDOUS SUBSTANCE OR OIL SPILL REPORTING**

The Spill Prevention Control and Countermeasure Plan (SPCC), describes measures to prevent, control, and minimize impacts from a spill of a hazardous, toxic, or petroleum substance during construction of the proposed project. This plan identifies the potentially hazardous materials to be used during this project, describes the transport, storage, and disposal procedures for these substances, and outlines the procedures to be followed in the event of a spill of a contaminating or toxic substance.

As per 40 CFR 112, a Spill Prevention Control and Countermeasures Plan (SPCC) must be prepared if the construction site will have 1,320 gallons of above ground storage capacity (or 42,000 gallons in underground storage not regulated by UST rules) or more in 55-gallon-sized (or larger) containers. This would include any temporary tanks or fueling trucks used to “store” petroleum on-site. The truck would be subject to the SPCC Plan rules when parked on the construction site and used for “storage.” If, at any time, a subcontractor’s cumulative above ground storage capacity on-site exceeds 1,320 gallons, the subcontractor shall maintain a certified SPCC Plan (40 CFR 112).

### **5.1 MATERIAL MANAGEMENT PRACTICES**

Properly managing materials on the construction site will greatly reduce the potential for stormwater pollution of materials. Good housekeeping, along with proper use and storage of construction materials, form the basis for proper management of potentially hazardous materials.

### **5.2 NON-PETROLEUM PRODUCTS**

Due to the chemical makeup of specific products, certain handling and storage procedures are required to promote the safety of handlers and prevent the possibility of pollution. Care shall be taken to follow all directions and warnings for products used on the site. All pertinent information can be found on the MSDS for each product. The MSDS will be kept on-site.

### **5.3 PETROLEUM PRODUCTS**

On-site vehicles will be monitored for leaks and receive regular maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers that are clearly labeled. Preferably, the containers will be stored in a covered truck or trailer that provides secondary containment for the products. Bulk storage tanks having a capacity of greater than 55 gallons will be provided with secondary containment. Containment can be provided by a temporary earthen berm or other means. After each rainfall event, the contractor shall inspect the contents of the secondary containment area for excess water. If no sheen is visible, the collected water can be pumped to the ground in a manner that does not cause scouring. If any sheen is present, it must be treated prior to discharging the water. Otherwise, the contaminated water must be transported and disposed off-site in accordance with local, state, and federal requirements. Bulk fuel or lubricating oil dispensers shall not have a self-locking mechanism that allows for unsupervised fueling. Fueling operations shall be observed to immediately detect and contain spills. No waste oil or other petroleum-based products will be disposed of on-site (e.g., buried, poured, etc.), but shall be taken off-site for proper disposal.

#### **5.4 SPILL CONTROL AND CLEAN UP**

In addition to the material management practices discussed previously, the following spill control and cleanup practices will be adhered to prevent stormwater pollution in the event of a spill:

- Personnel on-site will be made aware of cleanup procedures and the location of spill cleanup.
- Equipment spills will be contained and cleaned up immediately after discovery.
- Manufacturer methods for spill cleanup of a material will be followed as described on the material's MSDS.
- Materials and equipment needed for cleanup procedures will be kept readily available on the site, either at an equipment storage area or on contractor's trucks; equipment to be kept on the site will include, but not be limited to, brooms, dust pans, shovels, granular absorbents, sand, saw dust, absorbent pads and booms, plastic and metal trash containers, gloves, and goggles.
- Toxic, hazardous or petroleum product spills required to be reported by regulation will be documented to the appropriate federal, state, and local agencies.
- Spills will be documented and a record of the spills will be kept with this Stormwater Pollution Control Plan.

The federal reportable spill quantity for petroleum products is defined in 40 CFR 110 as any oil spill that:

- violates applicable water quality standards;
- causes a film or sheen upon or discoloration of the water surface or adjoining shoreline; or
- causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines.

**Section 6.0**  
**SPCP APPENDICES**

## **6.0 SPCPAPPENDICES**

Attach the following documentation to the SPCP in the following appendices.

### Appendix A – Permit Coverage

- Submitted General Permit Registration Form and Transmittal
- Other applicable permits

### Appendix B – Certifications

- Contractor Certifications

Appendix C – Pre-Construction Meeting – Items to be added upon completion of meeting includes:

- Agenda
- Attendees
- Minutes

### Appendix D – Maps and Drawings

- Site Location Map
- Soils Mapping and Data (NRCS)

### Appendix E – Inspection and Maintenance

- Construction Activities and Control Installation Log

### Appendix F – Inspection and Maintenance Records

- Inspection & Maintenance Log
- Inspection Report
- Maintenance Report

### Appendix G – Hazardous Material or Oil Spill Records

- Spill Report

Appendix H – Update Records

- Plan Update Description
- Plan Update Log

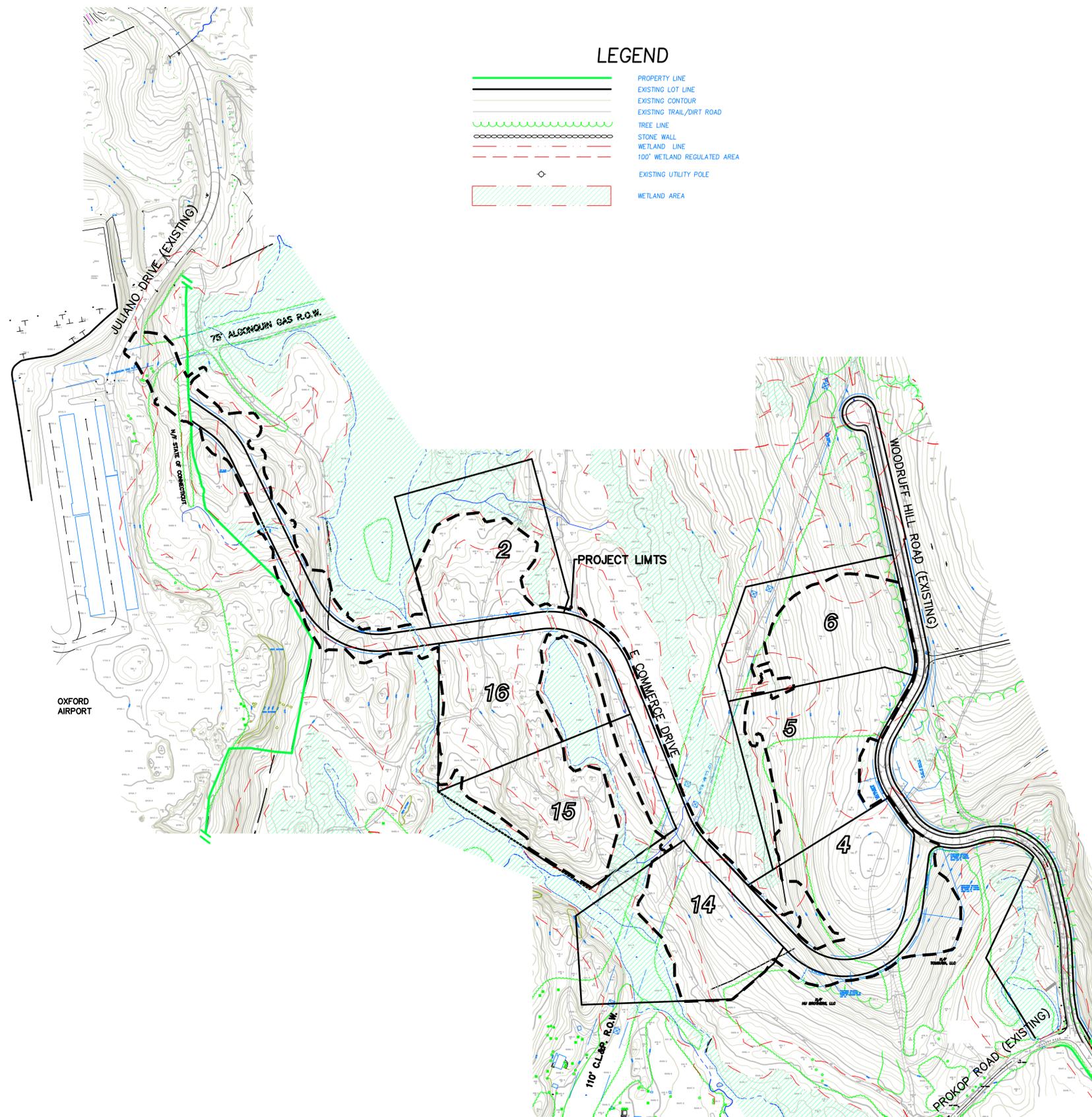
Appendix I – Copy of CT DEP Notice of Termination

Appendix J – Connecticut General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities (DEEP-WPED-GP-015)

Appendix K – Site Development Drawings

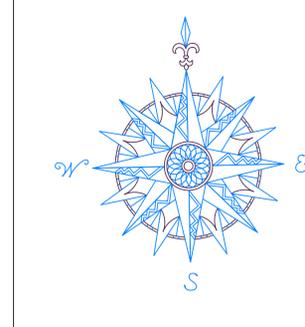
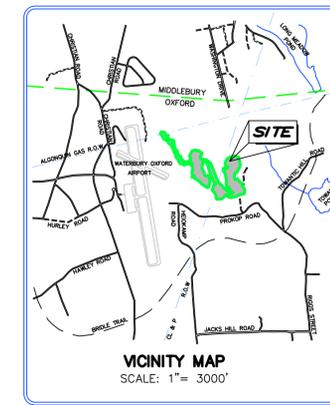
Appendix L – Supporting Calculations





**LEGEND**

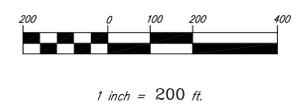
- PROPERTY LINE
- EXISTING LOT LINE
- EXISTING CONTOUR
- EXISTING TRAIL/DIRT ROAD
- TREE LINE
- STONE WALL
- WETLAND LINE
- 100' WETLAND REGULATED AREA
- EXISTING UTILITY POLE
- WETLAND AREA



NO.	REVISION	DATE
1	REVISED PER TOWN CONSULTANTS	20 JUL 06
2	EX. BEACON EASEMENT ADDED	9 AUG 06
3	REVISED FOR IWA SUBMISSION	14 FEB 09
4	REV. FOR IWA PERMIT MODIFICATION	10 JUL 15
5	REV. FOR STORMWATER GP APP.	21 OCT 15
<i>Previous Editions Obsolete</i>		

**NOTES**

1. THE SITE LIES WITHIN THE INDUSTRIAL DISTRICT IN THE TOWN OF OXFORD.
2. THE WETLANDS ON-SITE WERE DELINEATED BY MARK SULLIVAN, SOIL SCIENTIST AND LOCATED BY MIKE HEALY, L.S., LAND SURVEYOR. THE WETLANDS IN THE VICINITY OF LOTS 5-B AND 9B WERE RE-DELINEATED BY ALL-POINTS TECHNOLOGY AND LOCATED BY RIORDAN LAND SURVEYING IN JUNE, 2015.
3. FOR E COMMERCE DRIVE - TYPE RB GUIDE RAILS SHALL BE PLACED AT STATIONS 0+45 TO 6+20 LEFT, 7+90 TO 9+45 LEFT, 10+80 TO 13+50 LEFT, 14+20 TO 16+65 LEFT, 1+05 TO 3+80 RIGHT, 8+05 TO 9+30 RIGHT, 12+05 TO 13+45 RIGHT, 15+30 TO 16+85 RIGHT, 20+10 TO 22+60 RIGHT, 29+85 TO 31+15 RIGHT, 34+10 TO 37+85 RIGHT, 40+40 TO 42+60 RIGHT AND WHEREVER THE GRADE DROPS 4 FEET WITHIN 15 FEET OF EDGE OF ROAD.
4. CONCRETE MONUMENTS TO BE SET ALONG RIGHT-OF-WAY LINE AT THE BEGINNING AND ENDING OF ALL CURVES.
5. ALL WORK TO CONFORM TO CONN DOT FORM 816, 2014.
6. WATER AND SANITARY SEWER SERVICE CONNECTIONS SHALL EXTEND TO THE STREET LINE. WATER SERVICE CONNECTIONS TO EACH LOT SHALL CONSIST OF SEPARATE 2" AND 6" LINES. ALL WORK AND MATERIALS FOR THE WATER LINE MUST CONFORM TO THE RULES AND REGULATIONS OF THE HERITAGE VILLAGE WATER COMPANY.
7. LAYOUT SPECIFICATIONS FOR ALL UTILITIES ARE TO BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY BY THE ROAD CONTRACTOR PRIOR TO INSTALLATION.
8. ALL CONSTRUCTION SHALL COMPLY WITH THE TOWN OF OXFORD REQUIREMENTS, STATE OF CONNECTICUT BASIC BUILDINGS AND SPECIFICATIONS FOR OTHER INFORMATION.
9. INFORMATION ON EXISTING UTILITIES HAS BEEN COMPILED FROM INFORMATION INCLUDING UTILITY COMPANY, MUNICIPAL RECORD MAPS AND FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES INCLUDING SERVICE.
10. PRIOR TO ANY EXCAVATION THE CONTRACTOR AND/OR APPLICANT, IN ACCORDANCE WITH PUBLIC ACT 77-350, SHALL BE REQUIRED TO CONTACT "CALL BEFORE YOU DIG" AT 1-800-922-4455 FOR MARK-OUT OF UNDERGROUND UTILITIES. DIG TEST PIT(S) AT UTILITY CROSSING(S) TO CHECK ACTUAL CLEARANCE WITH NEW UTILITIES PRIOR TO CONSTRUCTION. IF CONFLICTS ARE FOUND THE CONTRACTOR SHALL NOTIFY THE ENGINEER, AT WHICH TIME THE UTILITY IN QUESTION SHALL BE REDESIGNED. IF REDESIGN IS NOT POSSIBLE, THE EXISTING PIPES OR UTILITIES SHALL BE RELOCATED TO AVOID THE CONFLICT. SUCH RELOCATION SHALL BE DONE WITH KNOWLEDGE OF AND IN ACCORDANCE WITH THE OWNER OF THE UTILITY.
12. INCLUDED IN THE ROAD CONSTRUCTION: WATER AND SEWER SERVICE LATERALS ARE TO BE CONSTRUCTED 5' INTO EACH LOT.



**TOWN OF OXFORD**

**EXISTING CONDITIONS**

**E COMMERCE DRIVE & ASSOCIATED SITE PREPARATION AREAS**  
E COMMERCE DRIVE

OXFORD CONNECTICUT



CORNERSTONE PROFESSIONAL PARK, SUITE D-101  
43 SHERMAN HILL ROAD  
WOODBURY CONNECTICUT (203) 266-0778

THIS SURVEY WAS PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTION 20-300b-1 THROUGH 20-300b-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC., ON SEPTEMBER 26, 1996.

TYPE OF SURVEY--TOPOGRAPHIC SURVEY

CLASS OF ACCURACY-- "T-2"

TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP AND SURVEY ARE SUBSTANTIALLY CORRECT AS NOTED HEREON;

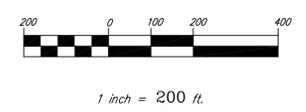
MICHAEL J. RIORDAN, L.S., REG.# 14666  
RIORDAN LAND SURVEYING  
701 MIDDLEROAD TURNPIKE  
WOODBURY, CT 06798  
PHONE~ 263-2727, FAX~ 263- 4139

DRAWN: BB APPROVED: CJ  
SCALE: 1" = 200'  
DATE: 09 JUNE 06  
PROJ. NO.: 98132  
CADD FILE NAME: 98132 WHIP  
DRAWING NO.:



**LEGEND**

- PROPERTY LINE
- EXISTING LOT LINE
- BUILDING SETBACK LINE
- EXISTING CONTOUR
- EXISTING SPOT GRADE
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE
- WATER VALVE
- EXISTING WATER MAIN
- PROPOSED 12" WATER MAIN
- PROPOSED 2" & 6" WATER SERVICE
- EXISTING SANITARY SEWER MAIN
- PROPOSED 4" SANITARY SEWER FORCE MAIN
- PROPOSED SANITARY 8" SEWER GRAVITY MAIN OR LATERAL
- EXISTING GAS MAIN
- PROPOSED 6" GAS MAIN
- EXISTING UNDERGROUND ELECTRIC, TELE., CABLE
- PROPOSED UNDERGROUND ELECTRIC, TELE., CABLE
- EXISTING STORM DRAINAGE PIPE
- PROPOSED STORM DRAINAGE PIPE
- PROPOSED UNDERDRAIN
- FOOTING DRAIN
- GUARDRAIL
- WETLAND LINE
- 100' WETLAND REGULATED AREA
- TEMPORARY SOIL STOCKPILE AREA
- HAY BALES-CATCH BASIN/PROTECTION
- STAKED HAY BALES
- WATERBAR WITH STAKED HAYBALES
- TEMPORARY SEDIMENT TRAP
- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- SYNCOPATED SILT FENCE - BREAKS EVERY 50' O.C.
- SYNCOPATED SILT FENCE - BREAKS EVERY 75' O.C.
- LIMIT OF CLEARING/DISTURBANCE
- PROJECT LIMITS
- EROSION CONTROL BLANKET
- TEMPORARY SEEDING



NO.	REVISION	DATE
1	REVISED PER TOWN CONSULTANTS	20 JUL 06
2	EX. BEACON EASEMENT ADDED	9 AUG 06
3	BOOSTER STATION LOCATION	13 SEP 06
4	FIRE HYDRANT LOCATIONS REVISED	06 OCT 06
5	REVISED PER WPCA	25 OCT 06
6	REV. WATER PUMP STATION AREA	16 NOV 06
7	WL DELIN. UPDATED-LOT 9	15 MAR 07
8	E-COMMERCE SHOULDER GRADING	17 DEC 08
9	REVISED FOR IWA SUBMISSION	14 FEB 09
10	REVISED PER TOWN STAFF	13 MAR 09
11	REVISED BOX CULVERT	24 MAR 09
12	REVISED PROPERTY LINE LOT 8	25 APR 12
13	REV. FOR IWA PERMIT MODIFICATION	10 JUL 15
14	REV. FOR STORMWATER GP APP.	21 OCT 15
<i>Previous Editions Obsolete</i>		

**NOTE**  
 1. SEE SHEETS 3 & 4 FOR DETAILS OF SITE PREPARATION ON LOTS 2, 4-6 & 14-16.

TOWN OF OXFORD

OVERALL SITE PLAN

**E COMMERCE DRIVE & ASSOCIATED SITE PREPARATION AREAS**  
 E COMMERCE DRIVE

OXFORD CONNECTICUT



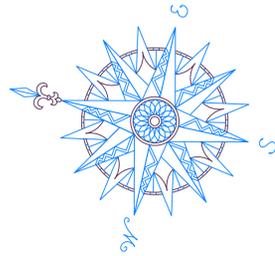
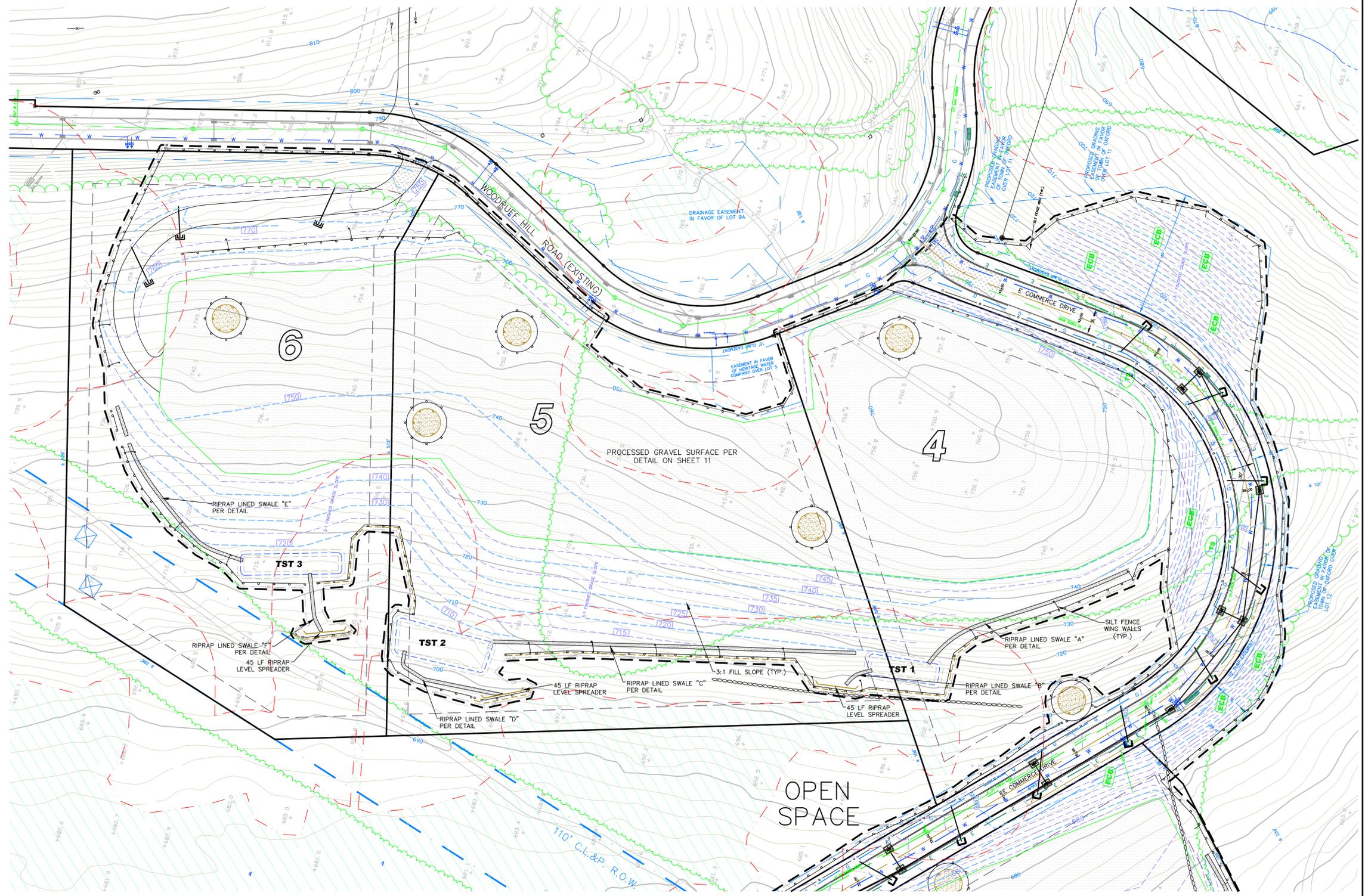
CORNERSTONE PROFESSIONAL PARK, SUITE D-101  
 43 SHERMAN HILL ROAD  
 (203) 266-0778  
 WOODBURY CONNECTICUT

DRAWN: BB APPROVED: CJ  
 SCALE: 1" = 200'  
 DATE: 09 JUNE 06  
 PROJ. NO.: 98132  
 CAD FILE NAME: 98132 WHIP  
 DRAWING NO.:

PROJECT LIMITS

**LEGEND**

- PROPERTY LINE
- EXISTING LOT LINE
- BUILDING SETBACK LINE
- EXISTING CONTOUR
- EXISTING SPOT GRADE
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE
- WATER VALVE
- EXISTING WATER MAIN
- PROPOSED 12" WATER MAIN
- PROPOSED 2" & 6" WATER SERVICE
- EXISTING SANITARY SEWER MAIN
- PROPOSED 4" SANITARY SEWER FORCE MAIN
- PROPOSED SANITARY 8" SEWER GRAVITY MAIN OR LATERAL
- EXISTING GAS MAIN
- PROPOSED 6" GAS MAIN
- EXISTING UNDERGROUND ELECTRIC, TELE., CABLE
- PROPOSED UNDERGROUND ELECTRIC, TELE., CABLE
- EXISTING STORM DRAINAGE PIPE
- PROPOSED STORM DRAINAGE PIPE
- PROPOSED UNDERDRAIN
- FOOTING DRAIN
- GUARDRAIL
- WETLAND LINE
- 100' WETLAND REGULATED AREA
- TEMPORARY SOIL STOCKPILE AREA
- HAY BALES-CATCH BASIN/PROTECTION
- STAKED HAY BALES
- WATERBAR WITH STAKED HAYBALES
- TEMPORARY SEDIMENT TRAP
- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- SYNCPATED SILT FENCE - BREAKS EVERY 50' O.C.
- SYNCPATED SILT FENCE - BREAKS EVERY 75' O.C.
- LIMIT OF CLEARING/DISTURBANCE
- PROJECT LIMITS
- EROSION CONTROL BLANKET
- TEMPORARY SEEDING



NO.	REVISION	DATE
1	LOTS 4-6 ADDED	10/21/15

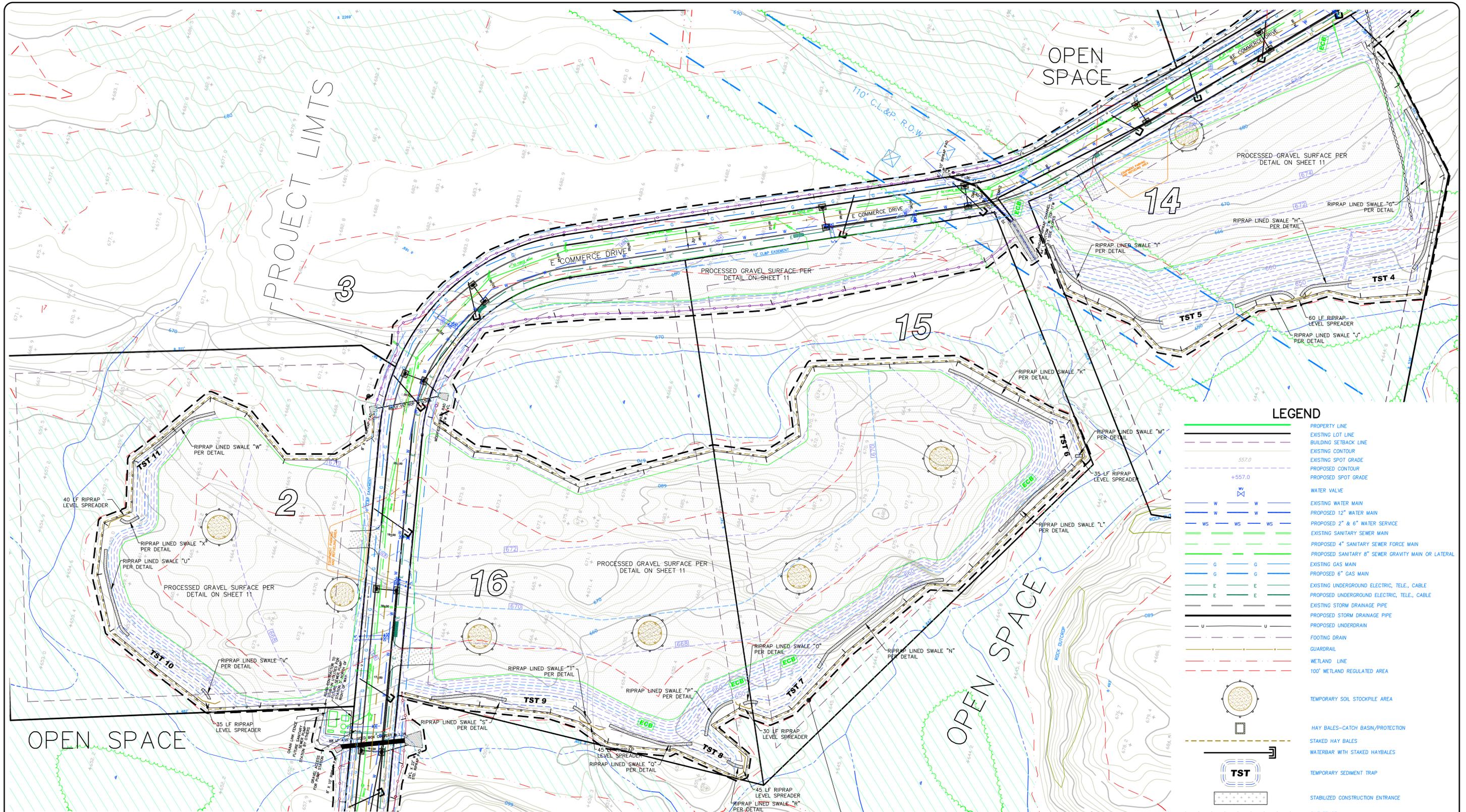
**E COMMERCE DRIVE & ASSOCIATED SITE PREPARATION AREAS**  
E COMMERCE DRIVE  
OXFORD CONNECTICUT

**LOTS 4 - 6**

**GRADING PLAN  
EROSION CONTROL PLAN**

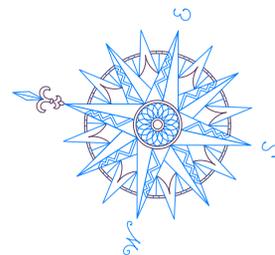
**CIVIL C1**  
CORNERSTONE PROFESSIONAL PARK, SUITE D-101  
43 SHERMAN HILL ROAD  
WOODBURY CONNECTICUT  
(203) 266-0778

DRAWN: BB APPROVED: CJ  
SCALE: 1" = 60'  
DATE: 09 JUNE 06  
PROJ. NO.: 98132  
CAD FILE NAME: 98132 WHIP.DWG  
DRAWING NO.:



### LEGEND

	PROPERTY LINE
	EXISTING LOT LINE
	BUILDING SETBACK LINE
	EXISTING CONTOUR
	EXISTING SPOT GRADE
	PROPOSED CONTOUR
	PROPOSED SPOT GRADE
	WATER VALVE
	EXISTING WATER MAIN
	PROPOSED 12" WATER MAIN
	PROPOSED 2" & 6" WATER SERVICE
	EXISTING SANITARY SEWER MAIN
	PROPOSED 4" SANITARY SEWER FORCE MAIN
	PROPOSED SANITARY 8" SEWER GRAVITY MAIN OR LATERAL
	EXISTING GAS MAIN
	PROPOSED 6" GAS MAIN
	EXISTING UNDERGROUND ELECTRIC, TELE., CABLE
	PROPOSED UNDERGROUND ELECTRIC, TELE., CABLE
	EXISTING STORM DRAINAGE PIPE
	PROPOSED STORM DRAINAGE PIPE
	PROPOSED UNDERDRAIN
	FOOTING DRAIN
	GUARDRAIL
	WETLAND LINE
	100' WETLAND REGULATED AREA
	TEMPORARY SOIL STOCKPILE AREA
	HAY BALES-CATCH BASIN/PROTECTION
	STAKED HAY BALES
	WATERBAR WITH STAKED HAYBALES
	TEMPORARY SEDIMENT TRAP
	STABILIZED CONSTRUCTION ENTRANCE
	SILT FENCE
	SYNCPATED SILT FENCE - BREAKS EVERY 50' O.C.
	SYNCPATED SILT FENCE - BREAKS EVERY 75' O.C.
	LIMIT OF CLEARING/DISTURBANCE
	PROJECT LIMITS
	EROSION CONTROL BLANKET
	TEMPORARY SEEDING



NO.	REVISION	DATE
1	LOTS 2, 14-16 ADDED	10/21/15

**E COMMERCE DRIVE & ASSOCIATED SITE PREPARATION AREAS**  
E COMMERCE DRIVE  
OXFORD CONNECTICUT

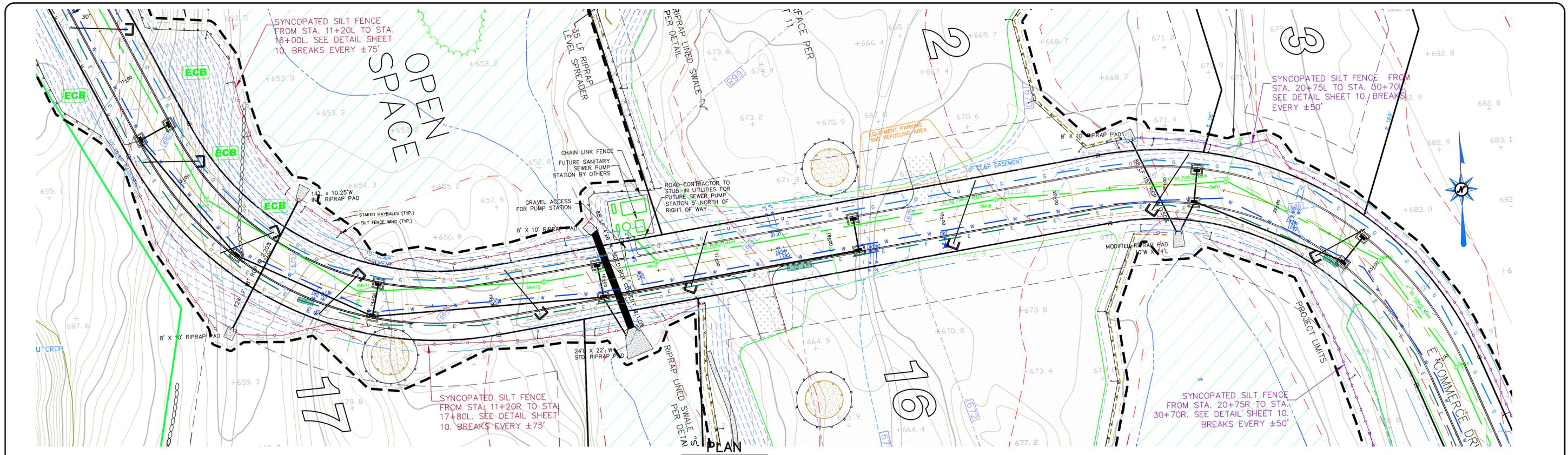
**LOTS 2, 14 - 16**

**GRADING PLAN  
EROSION CONTROL PLAN**

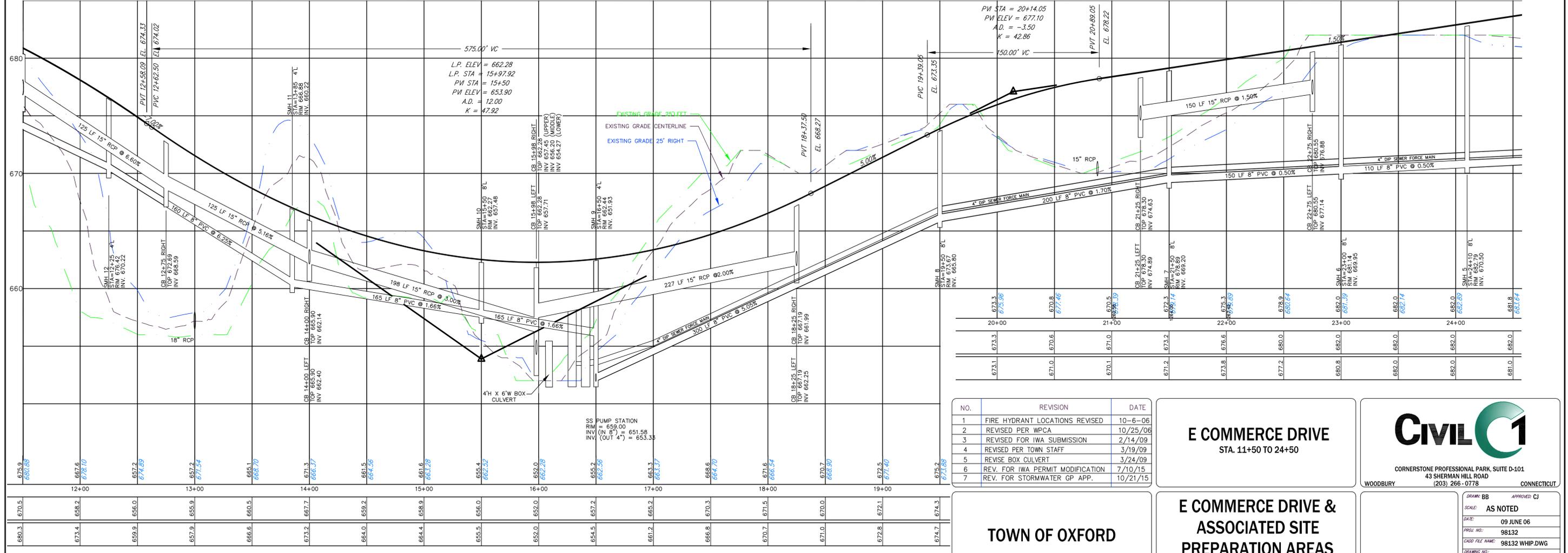
**CIVIL 1**  
CORNERSTONE PROFESSIONAL PARK, SUITE D-101  
43 SHERMAN HILL ROAD  
WOODBURY CONNECTICUT  
(203) 266-0778

DRAWN: BB	APPROVED: CJ
SCALE: 1" = 60'	
DATE: 09 JUNE 06	
PROJ. NO.: 98132	
CADD FILE NAME: 98132 WHIP.DWG	
DRAWING NO.: <b>4 OF 14</b>	





SCALE: 1" = 40'



PROFILE

SCALE: HORIZ. 1" = 40'  
VERT. 1" = 4'

NO.	REVISION	DATE
1	FIRE HYDRANT LOCATIONS REVISED	10-6-06
2	REVISED PER WPCA	10/25/08
3	REVISED FOR IWA SUBMISSION	2/14/09
4	REVISED PER TOWN STAFF	3/19/09
5	REVISE BOX CULVERT	3/24/09
6	REV. FOR IWA PERMIT MODIFICATION	7/10/15
7	REV. FOR STORMWATER GP APP.	10/21/15

**E COMMERCE DRIVE**  
STA. 11+50 TO 24+50

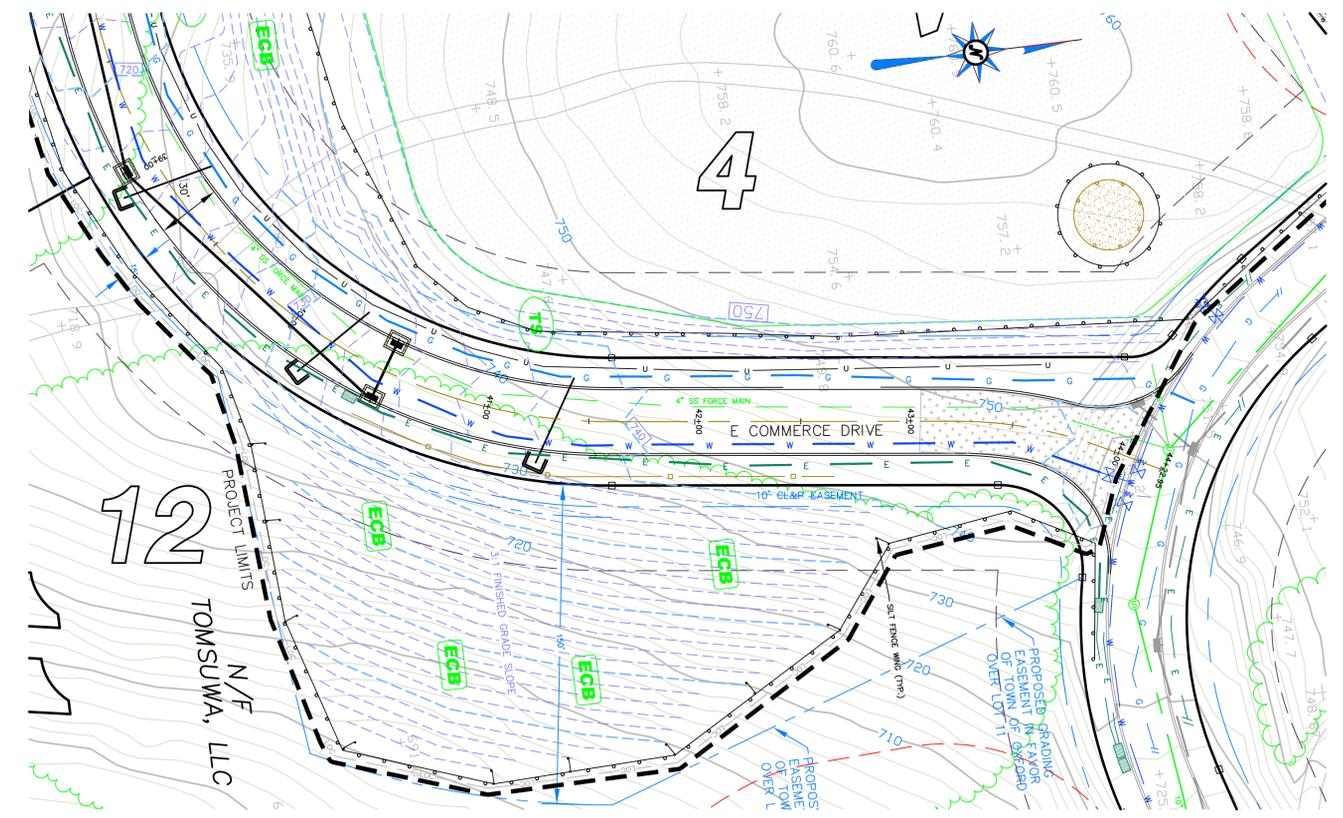
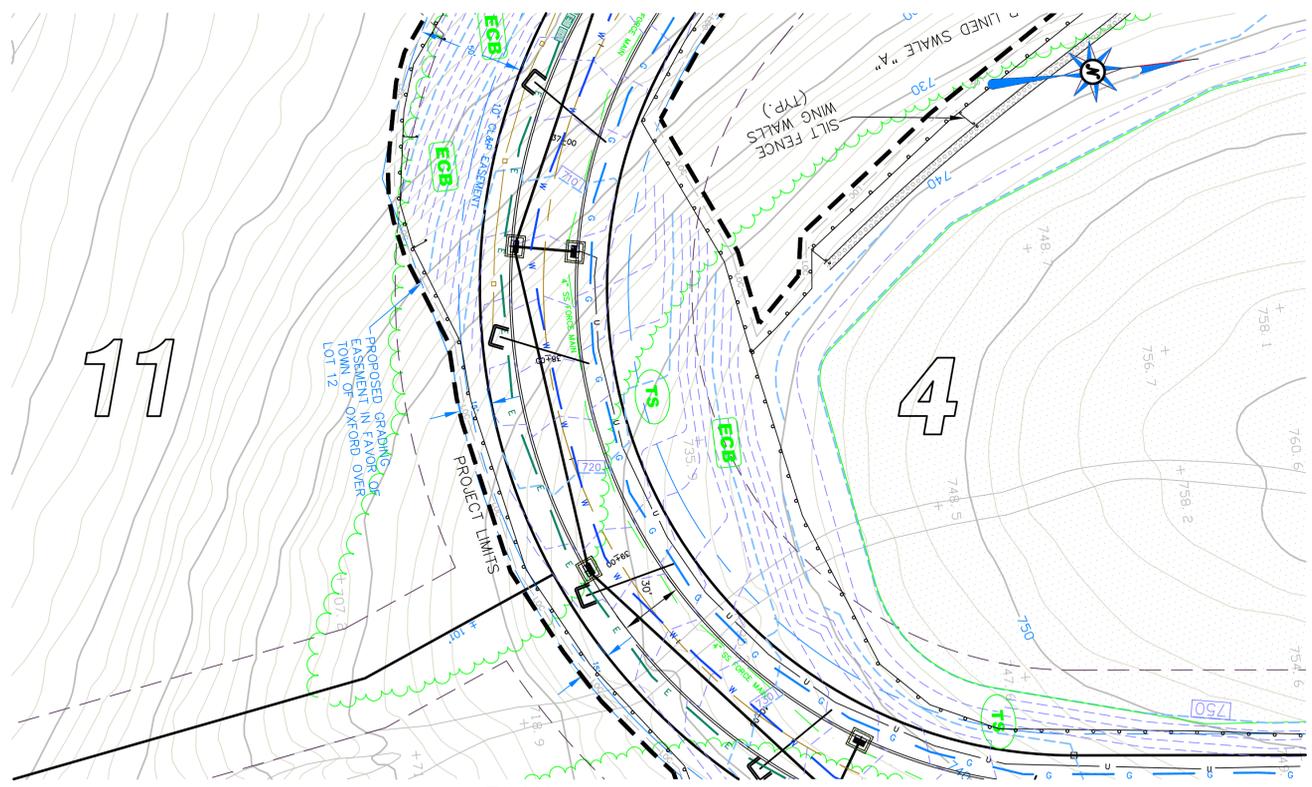
**CIVIL 1**  
CORNERSTONE PROFESSIONAL PARK, SUITE D-101  
43 SHERMAN HILL ROAD  
WOODBURY CONNECTICUT (203) 266-0778

**TOWN OF OXFORD**  
OXFORD CONNECTICUT

**E COMMERCE DRIVE & ASSOCIATED SITE PREPARATION AREAS**  
E COMMERCE DRIVE

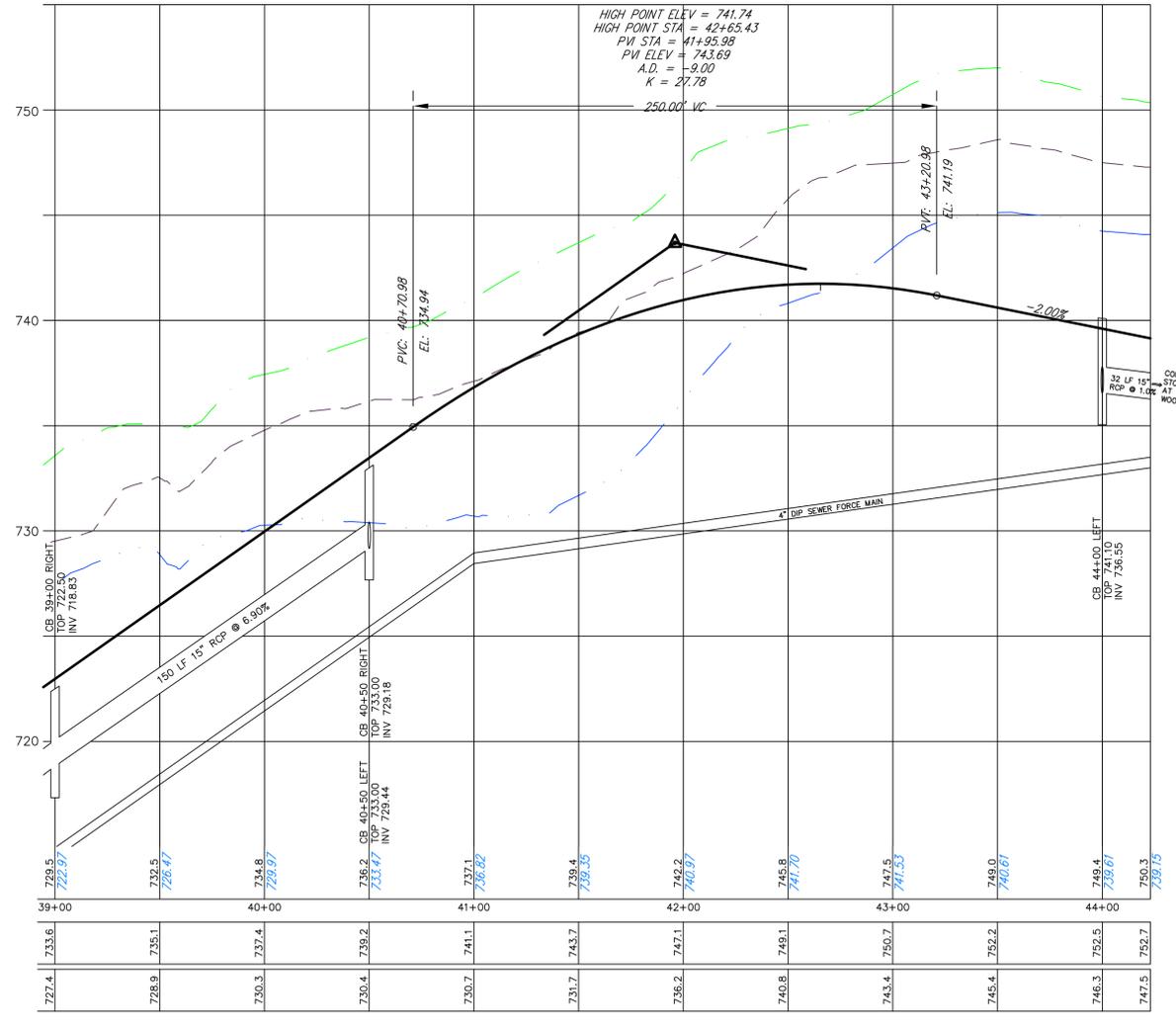
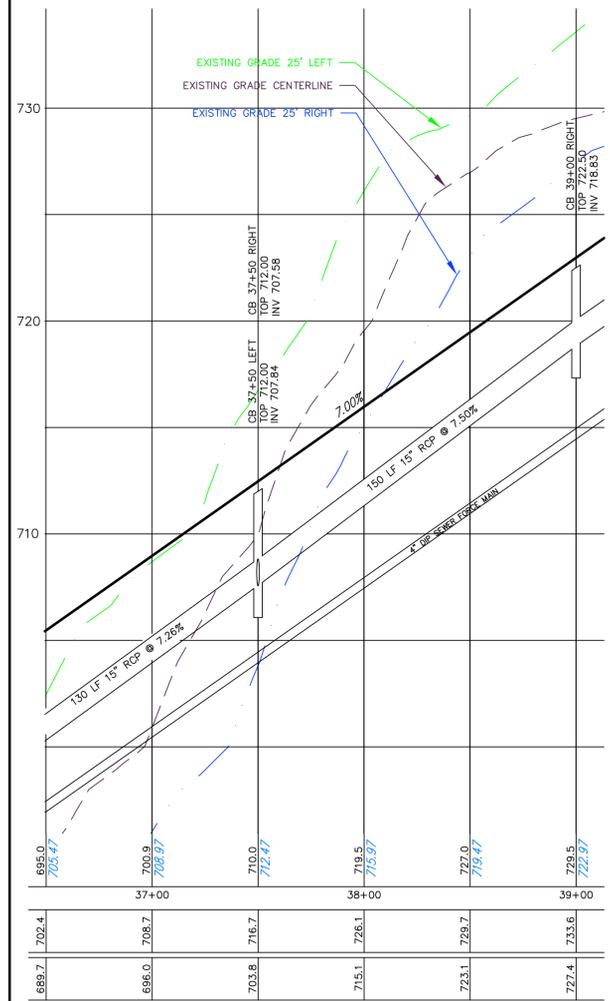
DRAWN: BB APPROVED: CJ  
SCALE: AS NOTED  
DATE: 09 JUNE 06  
PROJECT NO.: 98132  
CADD FILE NAME: 98132 WHIP.DWG  
DRAWING NO.: **6 OF 14**





PLAN

SCALE: 1" = 40'



PROFILE

SCALE: HORIZ. 1" = 40' VERT. 1" = 4'

NO.	REVISION	DATE
1	REVISED PER TOWN CONSULTANTS	7/20/06
2	FIRE HYDRANT LOCATIONS REV.	10/6/06
3	REVISED PER WPCA	10/25/06
4	E-COMM. DR SHOULDER GRADING	12/17/08
5	REVISED FOR IWA SUBMISSION	2/14/09
6	REV. FOR IWA PERMIT MOD.	7/10/15
7	REV. FOR STORMWATER GP APP.	10/21/15

TOWN OF OXFORD

**E COMMERCE DRIVE**  
STA. 36+50 TO WOODRUFF HILL ROAD

**E COMMERCE DRIVE & ASSOCIATED SITE PREPARATION AREAS**  
E COMMERCE DRIVE

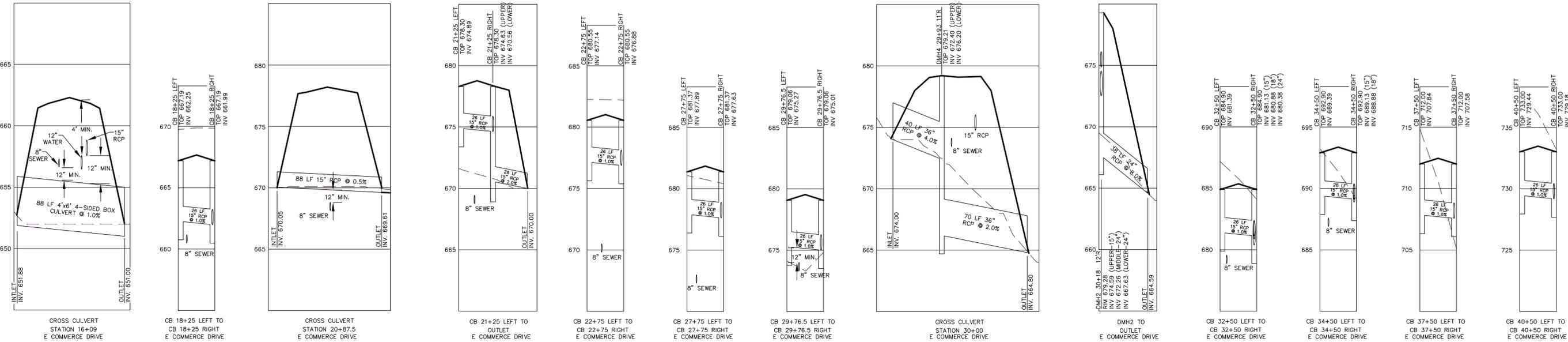
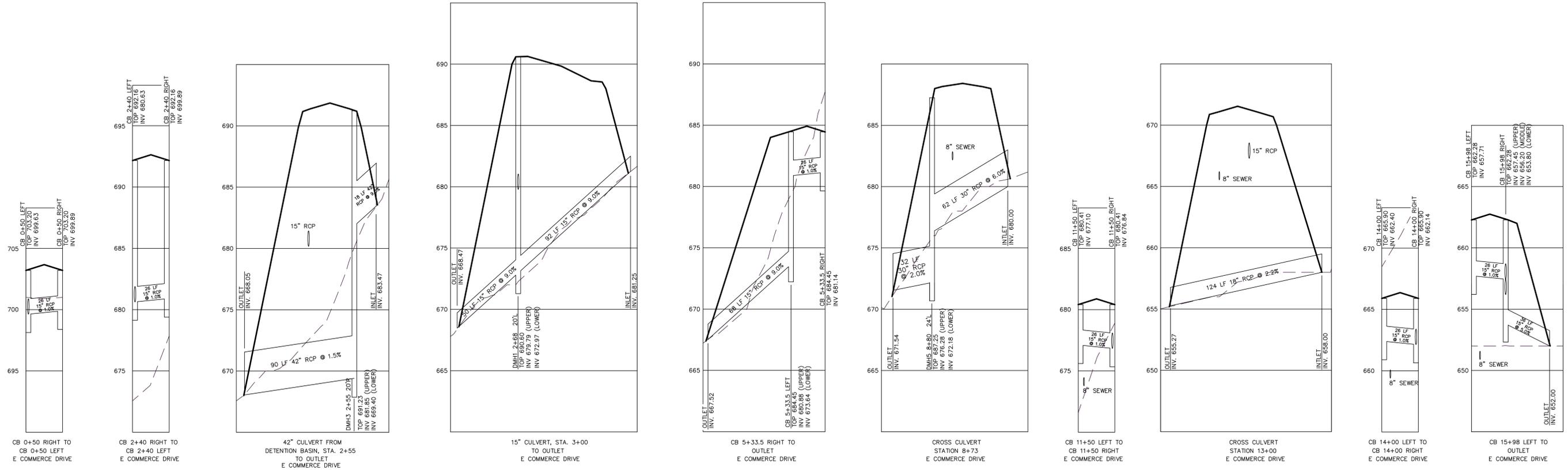


CORNERSTONE PROFESSIONAL PARK, SUITE D-101  
43 SHERMAN HILL ROAD  
WOODBURY CONNECTICUT (203) 266-0778

DRAWN: BB APPROVED: CJ  
SCALE: AS NOTED  
DATE: 09 JUNE 06  
PROJECT NO.: 98132  
CADD FILE NAME: 98132 WHIP.DWG  
DRAWING NO.:

8 OF 14

OXFORD CONNECTICUT



NO.	REVISION	DATE
1	REVISED FOR IWA SUBMISSION	2/14/09
2	REV. FOR IWA PERMIT MOD.	7/10/15
3	CROSS CULVERT REVISED	8/3/15
4	REV. FOR STORMWATER GP APP	10/21/15

**E COMMERCE DRIVE & ASSOCIATED SITE PREPARATION AREAS**  
 E COMMERCE DRIVE  
 OXFORD CONNECTICUT

**E COMMERCE DRIVE**

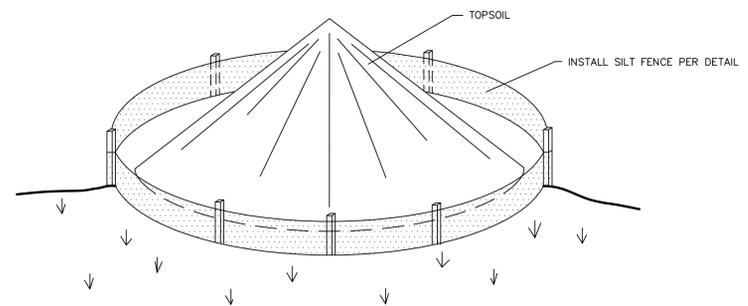
**STORM DRAINAGE PROFILES**

**CIVIL C1**  
 CORNERSTONE PROFESSIONAL PARK, SUITE D-101  
 43 SHERMAN HILL ROAD  
 WOODBURY CONNECTICUT (203) 266-0778

DRAWN: BB APPROVED: CJ  
 SCALE: AS NOTED  
 DATE: 09 JUNE 06  
 PROJ. NO.: 98132  
 CAD FILE NAME: 98132 WHIP.DWG  
 DRAWING NO.:

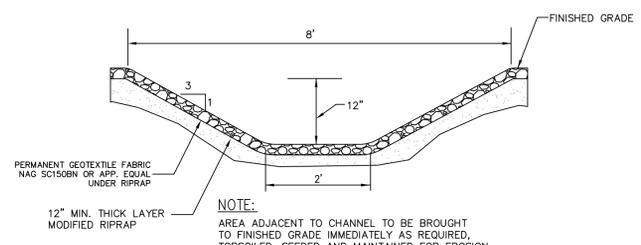


NO.	REVISION	DATE
1	REVISED FOR IWA SUBMISSION	14 FEB 09
2	REV. FOR IWA PERMIT MOD.	10 JUL 15
3	REV. FOR STORMWATER GP APP.	21 OCT 15
Previous Editions Obsolete		

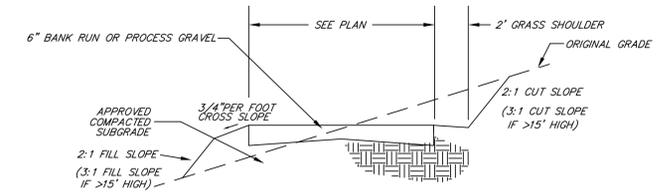


- STOCKPILE MANAGEMENT PER 2002 CT GUIDELINES FOR E & S CONTROL:
1. LOCATE STOCKPILE SO THAT NATURAL DRAINAGE IS NOT OBSTRUCTED.
  2. DIVERT RUNOFF WATER AWAY FROM OR AROUND THE STOCKPILE.
  3. INSTALL A GEOTEXTILE SILT FENCE OR HAY BALE BARRIER AROUND THE STOCKPILE AREA APPROXIMATELY 10 FEET FROM PROPOSED TOE OF THE SLOPE.
  4. THE SIDE SLOPES OF STOCKPILED MATERIAL SHOULD BE NO STEEPER THAN 2:1.
  5. STOCKPILES THAT ARE NOT TO BE USED WITHIN 30 DAYS NEED TO BE SEEDED AND MULCHED IMMEDIATELY AFTER FORMATION OF THE STOCKPILE.
  6. AFTER STOCKPILE HAS BEEN REMOVED, THE SITE SHOULD BE GRADED AND PERMANENTLY STABILIZED.

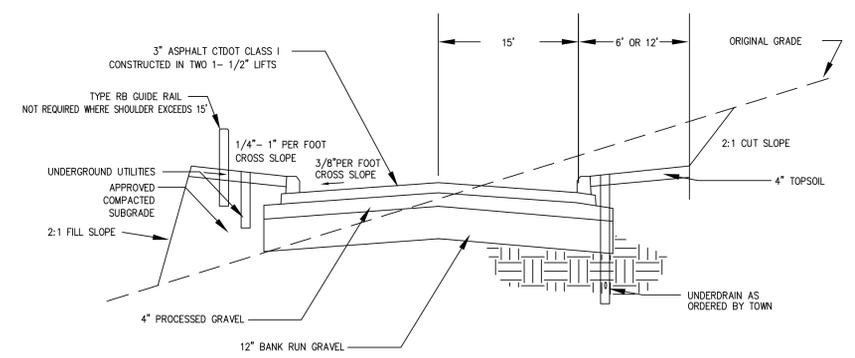
**TEMPORARY TOPSOIL STOCKPILE**  
N.T.S.



**RIPRAP DRAINAGE SWALE**  
N.T.S.

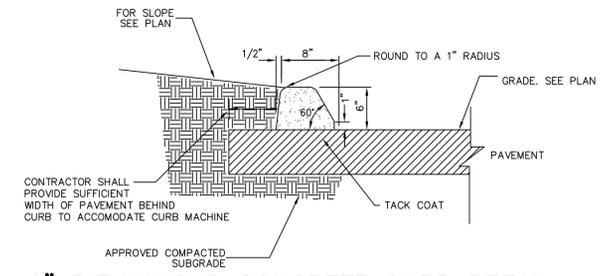


**SURFACE TREATMENT FOR DRIVEWAYS AND SITE PREPARATION AREAS**  
UNPAVED AREAS  
N.T.S.

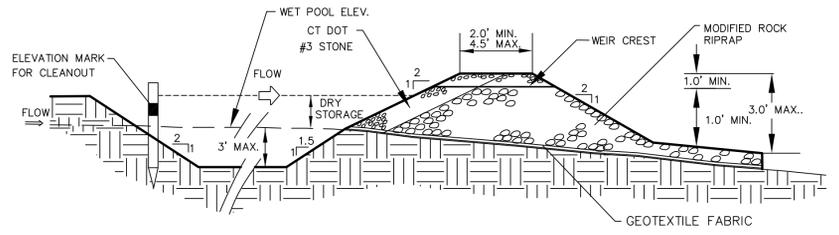


**TYPICAL STREET CROSS SECTION**  
N.T.S.

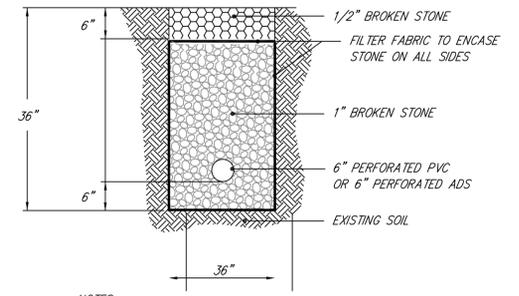
- NOTES:
1. ALL STREET CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE TOWN OF OXFORD STANDARDS OF ROAD CONSTRUCTION.
  2. SUBGRADE & SUBBASE SHALL BE 34' WIDE.
  3. PAVEMENT SHALL BE 32' WIDE.



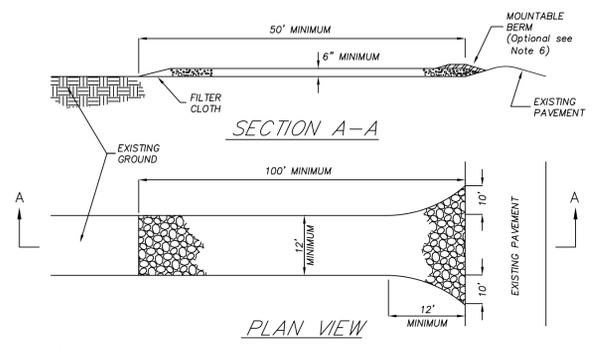
**6" BITUMINOUS CONCRETE CURB DETAIL**  
N.T.S.



**TEMPORARY SEDIMENT TRAP**  
N.T.S.

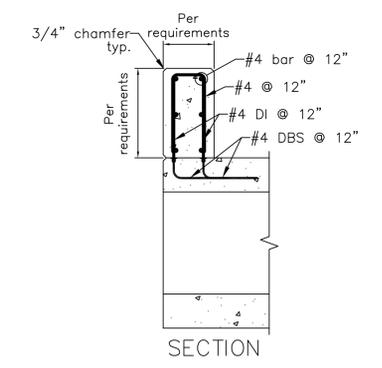


**UNDERDRAIN DETAIL**  
N.T.S.

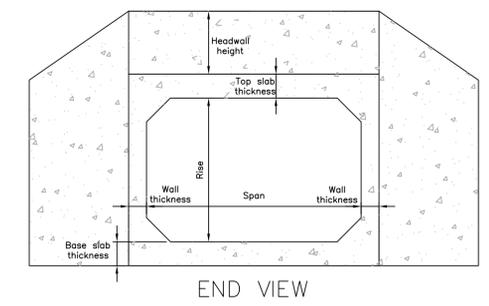


- NOTES:
1. STONE SIZE - USE 1" - 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
  2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 100 FEET.
  3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
  4. WIDTH - 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24 FOOT MINIMUM IF SINGLE ENTRANCE TO SITE.
  5. FILTER CLOTH - TO BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
  6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
  7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURE USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DRIPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
  8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
  9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

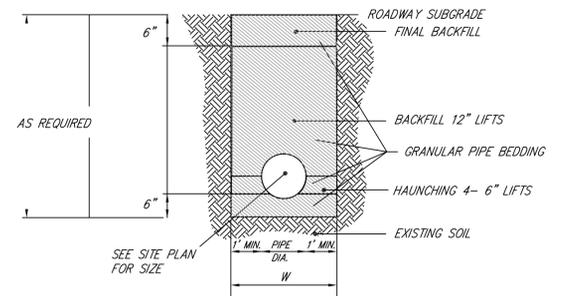
**STABILIZED CONSTRUCTION ENTRANCE**  
N.T.S.



**SECTION CONNECTION DETAIL**



**BOX CULVERT HEADWALL DETAIL**  
N.T.S.



**PIPE BEDDING DETAIL**  
N.T.S.

TOWN OF OXFORD

DETAILS

**E COMMERCE DRIVE & ASSOCIATED SITE PREPARATION AREAS**  
E COMMERCE DRIVE

OXFORD CONNECTICUT



CORNERSTONE PROFESSIONAL PARK, SUITE D-101  
43 SHERMAN HILL ROAD  
WOODBURY CONNECTICUT  
(203) 266-0778

DRAWN: EM APPROVED: CJ  
SCALE: N.T.S.  
DATE: 09 JUNE 06  
PROJ. NO.: 98132  
CADD FILE NAME: 98132 ECD & LAYDOWN  
DRAWING NO.:





