Construction Management Plan

Merrimack Premium Outlets

Merrimack,
New Hampshire

Prepared for **Chelsea Property Group**
Roseland, New Jersey

Prepared by ***VHB*/Vanasse Hangen Brustlin, Inc.**
Bedford, New Hampshire

Revised September 16, 2008

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This plan is part of the Site Plan for the Monahan/Chelsea Property Group application, Tax Map Parcels 3C/191-1 through 191-6, 3D/028 and 3D/034.

Approved by Merrimack Planning Board

Chairman Date

Secretary Date

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Construction Management Plan

General Construction Operations

It is anticipated that construction activities at the site will be conducted during the 7:00AM to 7:00 PM timeframe, Monday through Saturday. While regular Sunday work is not anticipated, it is not unusual, based on weather and schedule, to have some requirement for reduced workforce work on Sundays, particularly toward the end of the project (close to opening). It is anticipated that the Sunday work would be largely interior fit-up and finish work, and would have little impact on surrounding areas. As indicated in the Blasting Plan, blasting operations will be limited to 9:00 AM to 4:00 PM, Monday through Friday only. Rock processing operations will be limited to the hours of 8:30 AM to 5:00 PM Monday through Friday, and 9:00 AM to 1:00 PM on Saturdays, with no rock processing allowed on Sundays or Holidays.

Temporary electric service will be brought to the site from the existing power poles located along Industrial Drive, and will begin by servicing the construction staging area at the top of the existing access road.

It is not anticipated that there will be extensive storage of hazardous materials at the construction site. However, the applicant does anticipate that there will be a need to have some small oil and fuel tanks in the staging area for fueling vehicles, as well as some construction gasses, such as those used in welding and iron work. These materials will be stored and handled consistent with NHDES and Town regulations.

Site security, debris and trash removal, emergency communication, and dust and smoke control will be the responsibility of the General Contractor. Standard industry procedures will be used to minimize dust and smoke. Fugitive dust will be minimized through a combination of dust recovery systems on rock drill equipment, and regular application of water to haul roads, stockpiles and rock processing equipment as appropriate. Debris and trash will be containerized and removal will be done under contract to the General Contractor. Site security and emergency communication will be coordinated with the Merrimack Fire and Police Departments.

Construction Sequence

Construction on the site will be conducted in stages, consistent with requirements of the State of New Hampshire in the Alteration of Terrain program. This permit program regulates the amount of land alteration, stabilization of altered portions of the property, erosion control, and water quality both during and after construction. New regulations for Alteration of Terrain have been in development for the last few years, but while the regulations have not been formally adopted, VHB has used the latest version of the draft regulations in developing design plans for the project.

Generally, site construction activities will be conducted in 5 stages as depicted in the construction sequence plans. The goal of this sequencing is to limit the disturbance of the overall 85+ acres of proposed development area to manageable areas of 12 – 15 acres prior to stabilization in order to minimize the potential for erosion and water quality impacts.

The primary construction staging area, to be used for temporary construction offices and temporary parking for construction workers and vehicles, will be developed in the cleared area at the top of the existing access road and previously filled with blast rock. This area may be further leveled with crushed stone, and can be used as the construction staging area until other areas of the site are brought to grade. The contractor for Chelsea Property Group (CPG) proposes to begin earthwork operations by clearing an area toward the north of the proposed building development pad, and constructing and stabilizing the slope adjacent to Whittier Place. This will establish the finished edge of the development, and create a berm that will contain runoff from the construction area. Construction staging and material processing will take place as indicated in the plans, approximately 800 feet from the nearest residential property line. Once these areas are stabilized, construction will proceed southerly with the outermost slopes being cleared, grubbed, constructed and stabilized. Mass earthwork will follow behind, after stabilization has been achieved. Construction routes are generally indicated in the Construction Management Plans.

This approach is consistent with NHDES requirements, USEPA guidelines and best management practices. Please refer to Construction Management Plans for additional detail.

Construction Traffic Management

During the Conditional Use Permit (CUP) process for the Merrimack Premium Outlets Project, there was an extensive traffic review conducted by Fay, Spofford & Thorndike, LLC (FST) on behalf of the Merrimack Planning Board. As a result, there were several items that FST recommended deferring to the Site Plan review process. At this time, Vanasse Hangen Brustlin, Inc. (VHB) has prepared this document to address the item concerning construction traffic and temporary traffic control. This

memorandum discusses various levels of traffic activity anticipated to occur at the site and traffic control measures proposed to be in place during the construction process.

Construction Traffic

In general, Premium Outlet sites take approximately 18-21 months to construct. Similar to most construction sites, activity on-site tends to be slightly off-peak from normal commuter hours. Normal daily general construction activity tends to be slightly off peak where workers tend to arrive and depart the site earlier than the normal morning and evening commuter peak hours. This is anticipated to be the case for the Merrimack site for the first 15-18 months. In preparation for addressing this matter, Chelsea Properties has been monitoring construction traffic activity at another Premium Outlets project currently under construction in New Jersey. The Jersey Shore Premium Outlet site has been under construction since August 2007 and is approximately 50% complete. The site's general contractor has been counting the number of people entering the site each day since construction began. Copies of their count data are provided herein (Attachment A).

As shown on the count sheets, normal construction activity during the first six months typically resulted in fewer than 100 people traveling to the site each weekday. Construction activity in the following months increased and leveled off at approximately 200 people traveling to the site per weekday.

During the final 3 months of construction, activity on the site substantially increases where the individual tenants bring in their own contractors to build out their stores and then employees to stock their shelves. During this phase, the work days tend to be much longer than standard work days with employees arriving and departing throughout the day. Projections provided by Chelsea's construction group suggest that during the final 3 months of construction, activity on the site could increase to approximately 900 people entering the site per day.

Temporary Traffic Control Measures

For the first 15-18 months of construction, it is recommended that the existing signalized intersection of Industrial Drive and Spartan Way be modified to accommodate construction traffic entering and exiting the site. Roadway modifications should include constructing separate left and right-turn lanes along Industrial Drive for vehicles entering the site. The temporary site driveway should be constructed to accommodate one lane entering the site and two lanes exiting (left and right turn lanes). The existing signal at this location should be modified to incorporate the additional turning movements at this location. A conceptual plan delineating the recommended improvements is attached.

During the final three months of site construction, it is anticipated that the formal off-site improvements for the intersection of Industrial Drive, Spartan Way, and the site driveway as previously presented to the Town during the CUP process will be substantially complete and functional to accommodate the increased activity that occurs during this phase. Whereas the number of vehicles entering and exiting the site during the peak hour conditions during this phase will be less than those anticipated for the site when fully occupied and operating, the final intersection improvements will provide sufficient capacity for the traffic associated with the final phase of construction. For example, even under a worst case scenario where 50% of the 900 people entering the site over the course of the day exited during the critical weekday evening peak hour, the resulting 450 trips would still be less than the 650 trips estimated to exit the site when the retail is fully built out and operational.

Analysis Assumptions and Results

In order to evaluate the recommended temporary traffic control measures at the site driveway, signalized intersection capacity analyses were conducted for the worst case weekday evening peak hour condition. Since the person counts conducted by Jersey Shore General Contractor represent daily volumes, several assumptions were necessary for the analysis of peak hour conditions. The following summarizes the assumptions. It is important to note that many of the assumptions are intentionally overly conservative (and perhaps somewhat unrealistic). Trip generation, distribution and assignment summaries for the construction traffic are shown in Attachment B.

- Data shows approximately 200 people entering the site each day. For analysis purposes, it will be assumed that this number increases to 300 people per day.
- Approximately 75% of these people will enter and exit the site during the normal weekday morning and evening commuter peak hours (230 people). An additional 50 people are assumed to also enter the site during the weekday evening peak hour when the majority of the traffic is exiting.
- Each person entering the site will drive to the site individually.
- Approximately 20% of the people entering and exiting the site during the peak hours will drive construction vehicles.

Based on these overly conservative assumptions, construction traffic was assigned to the 2009 No-Build traffic volume networks using standard trip generation, distribution and assignment procedures. Signalized intersection capacity analyses were performed for the study area intersections using the 2009 Construction Build Weekday PM (critical) peak hour traffic volume networks. The results of the analyses in comparison to the No Build condition are shown in the following table. Hard copies of the analysis are provided in Attachments C and D.

Table 1.1

Signalized Intersection Capacity Analysis Summary

Location	Peak Hour	2009 No Build			2009 Construction Build		
		v/c*	Delay+	LOS^	v/c	Delay	LOS
Spartan Way/Site Driveway at Industrial Drive	PM	0.92	19	B	0.96	55	D

Location	Peak Hour	2009 No Build			2009 Construction Build		
		v/c	Delay	LOS	v/c	Delay	LOS
FEET SB Ramps at Industrial Drive	PM	0.58	7	A	0.63	8	A

Location	Peak Hour	2009 No Build			2009 Construction Build		
		v/c	Delay	LOS	v/c	Delay	LOS
FEET NB Ramps at Industrial Drive	PM	0.35	8	A	0.38	8	A

Location	Peak Hour	2009 No Build			2009 Construction Build		
		v/c	Delay	LOS	v/c	Delay	LOS
Industrial Drive at US Route 3	PM	0.49	11	B	0.49	11	B

Location	Peak Hour	2009 No Build			2009 Construction Build		
		v/c	Delay	LOS	v/c	Delay	LOS
Continental Boulevard at Industrial Drive	PM	0.70	18	B	0.71	19	B

Location	Peak Hour	2009 No Build			2009 Construction Build		
		v/c	Delay	LOS	v/c	Delay	LOS
Continental Boulevard at Contra Way/Camp Sargent	PM	0.99	59	E	1.01	62	E

Location	Peak Hour	2009 No Build			2009 Construction Build		
		v/c	Delay	LOS	v/c	Delay	LOS

Continental Boulevard at Tinker Road	PM	0.88	17	B	0.89	19	B

Location	Peak Hour	2009 No Build			2009 Construction Build		
		v/c	Delay	LOS	v/c	Delay	LOS
Continental Boulevard at NH Route 101A	PM	0.93	34	C	0.93	34	C

* Volume to capacity ratio.

+ Average delay per vehicle in seconds.

^ Intersection level of service.

As shown in the signalized intersection capacity analysis table, minimal increases in delay are projected at all study area intersections with the exception of the site driveway. However, with the recommended traffic control measures, the intersection of Industrial Drive, Spartan Way, and the site driveway will continue to operate at acceptable levels of service and below capacity during this temporary construction period.

Conclusions

The analysis results presented herein indicate that the proposed temporary traffic control measures will adequately accommodate and service construct traffic entering and exiting the site for the first 15-18 months. Even with the overly conservative analysis assumptions, the intersections surrounding the site will continue to operate at the same levels of service during the construction period.

For the final 3 months of construction, it is anticipated that the formal off-site roadway improvement plan previously presented to the Town during the CUP process will be substantially complete and functional. Although the peak hour construction traffic demands are not anticipated to exceed those of the site when fully built out with the retail project, the additional capacity provided by the improvements will minimize impacts associated with the traffic increases that will occur during the final phase.

Water Quality

As indicated in the Site Plans and the Construction Management Plans, Chelsea Property Group plans to construct erosion and sedimentation controls consistent with State of New Hampshire and Town requirements. The general plan is to

construct and stabilize the perimeter of the construction site prior to significant clearing and grubbing of existing vegetation. CPG will locate and define the limits of construction with appropriate silt fencing or other approved controls prior to significant construction activity, so that limits of clearing are in accordance with approved plans, and buffer areas are maintained.

Water Quality Sampling

Water Quality Sampling Procedure

The following outlines the sampling locations and procedures that will be used during the duration of the monitoring program. This program was developed to utilize the same sample collection, handling, analytical and reporting procedures during the pre-construction (i.e., baseline), construction and post-construction monitoring periods. The program addresses both water quality sampling and water level monitoring in the groundwater monitoring wells, and water quality sampling at the surface water stations.

Sampling Stations

Figure WQ-1 shows the established locations of the surface water stations (SS-1 to SS-5) and groundwater monitoring wells around the site. Sampling locations were selected to collect representative surface water and groundwater samples within the primary flow paths and discharge points throughout the site and, particularly, around the site perimeter. Five (5) surface water sampling stations and eighteen(18) groundwater monitoring wells have been established.

Surface Water Sampling Stations

The following lists the five (5) surface water sampling stations:

SS-1: outlet to natural wetland draining north through adjacent power line;

SS-2: intermittent stream draining into 24" culvert beneath Everett Turnpike

SS-3: groundwater seepage flow from or adjacent to existing artesian well.

SS-4: vernal pool at head of natural wetland complex near Well MW-5;

SS-5: outlet of existing detention basin at base of Commerce Drive;

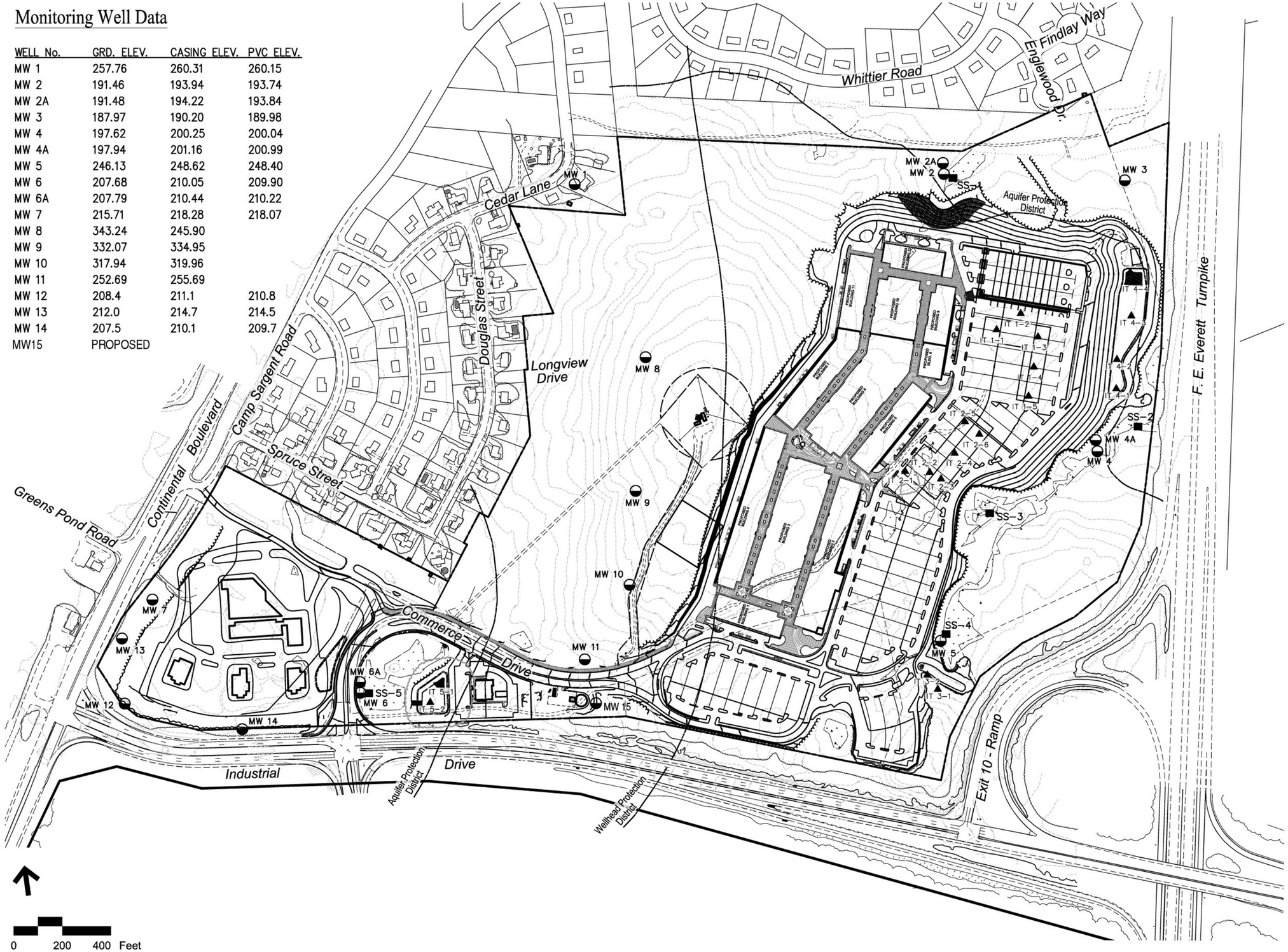
Groundwater Monitoring Wells

The following lists the eighteen (18) groundwater monitoring well locations:

MW-1: At the northwest corner of site near the entrance to emergency access road and inside Wellhead Protection District

Monitoring Well Data

WELL No.	GRD. ELEV.	CASING ELEV.	PVC ELEV.
MW 1	257.76	260.31	260.15
MW 2	191.46	193.94	193.74
MW 2A	191.48	194.22	193.84
MW 3	187.97	190.20	189.98
MW 4	197.62	200.25	200.04
MW 4A	197.94	201.16	200.99
MW 5	246.13	248.62	248.40
MW 6	207.68	210.05	209.90
MW 6A	207.79	210.44	210.22
MW 7	215.71	218.28	218.07
MW 8	343.24	245.90	
MW 9	332.07	334.95	
MW 10	317.94	319.96	
MW 11	252.69	255.69	
MW 12	208.4	211.1	210.8
MW 13	212.0	214.7	214.5
MW 14	207.5	210.1	209.7
MW15	PROPOSED		



MW ◒ Existing Monitoring Well Locations

SS ■ Proposed Surface Water Sampling Locations

IT ▲ Proposed Infiltration Test Locations

Vanasse Hangen Brustlin, Inc.

Figure WQ-1 June, 2007

Water Quality (Rev. 8/18/08)
Sampling Plan (Surveyed)
Merrimack, New Hampshire

MW-4/MW-4A:	At base of eastern slope embankment adjacent to wetland draining to 24" culvert.
MW-5:	Adjacent to proposed detention basin and upper end of existing wetland /vernal pool complex.
MW-6/MW-6A:	Adjacent to existing detention basin at base of Commerce Drive, and within Wellhead Protection District.
MW-7:	At western end of site downstream of proposed hotel/ restaurant area, adjacent to Continental Blvd, and within Wellhead Protection District.
MW-8:	On western side of the hill below the existing cell tower location, and within Wellhead Protection District.
MW-9	On western side of the hill below the existing cell tower location, south of MW-8, and within Wellhead Protection District.
MW-10	On western side of the hill below the existing cell tower location, south of MW-9, and within Wellhead Protection District.
MW-11	Adjacent to proposed access drive, westerly of proposed site construction area and water storage tank location, and within Wellhead Protection District.
MW-12	Adjacent to the intersection of Industrial Drive and Continental Boulevard, and within Wellhead Protection District.
MW-13	Adjacent to Continental Boulevard between MW-12 and MW-7, and within Wellhead Protection District.
MW-14	Adjacent to Industrial Drive between MW-12 and the main site entry drive, and within Wellhead Protection District.
MW-15	Adjacent to proposed entrance drive, down gradient of the blasting area, and within Wellhead Protection District.

Sampling Schedule

Water Quality Sampling

Table 1.2 presents a summary of the proposed sampling frequency, timing and duration for the pre-construction period, construction period, and the post-construction period. The pre-construction period will be conducted up to one year prior to construction while the post-construction period will continue for five (5)

Table 1.2 presents a summary of the proposed sampling frequency, timing and duration for the pre-construction period, construction period, and the post-construction period. The pre-construction period will be conducted up to one year prior to construction while the post-construction period will continue for five (5) years following issuance of a certificate of occupancy. If the testing results following construction indicate a significant ongoing impact to water quality (i.e. exceeding notification levels) due to construction activities at one or more of the sampling locations, some level of continued sampling will be proposed by the property owner for a specified period of time to be discussed and agreed upon by the Town, Merrimack Village District (MVD) and their consultants. The sampling schedule will not be modified without prior approval by the Town, MVD and their consultants.

Table 1.2

Summary of Proposed Sampling Frequency, Timing and Duration

Sample Period	Sample Frequency	Sample Timing	Duration
Pre-Construction	Twice per year Once in late spring and again early fall	Samples will be collected alternatively following both dry and wet-weather conditions	Initiated approximately one year prior to construction
Construction	Monthly	Same as Above	Initiated at least one month prior to construction and will continue until a certificate of occupancy is granted for the buildings.
Post-Construction	Twice per year	Same as above	Five years following issuance of a Certificate of Occupancy** (See Note)

Notes: * Dry weather sampling will be targeted for periods with at least 3 days (72 hours) with less than trace amounts of rainfall. Wet weather sampling will be targeted to start within four (4) hours following a rainfall event producing at least 0.5-inch of rain.

** If the testing results following construction indicate a significant ongoing impact to water quality (i.e. exceeding notification levels) due to construction activities at one or more of the sampling locations, some level of continued sampling will be proposed by the property owner for a specified period of time to be discussed and agreed upon by the Town, Merrimack Village District (MVD) and their consultants.

Surface water sampling dates will be targeted toward alternating dry and wet weather conditions. Dry weather sampling will be targeted for periods with as at

least 3 days (72 hours) with less than trace amounts of rainfall. Wet weather sampling will be targeted to start within four (4) hours following a rainfall event producing at least 0.5-inch of rain. Efforts will be made to collect ground water and surface water samples within the same general time period and within a span of no more than 48 hours.

Water Level Monitoring

Water level monitoring will be conducted at the same eighteen (18) groundwater monitoring wells. The depth to water level in each well will be measured manually using an electronic water level meter (or equivalent). Water level monitoring will be conducted on a monthly basis from April through November beginning prior to construction, monthly during construction, and biannually for five years following construction. It should be noted that the water level at MW-11 will be monitored continuously with an automated data recorder to assess possible water level changes due to pumping of the proposed on-site irrigation well. The reader is referred to the Operations and Management Plan for further discussion of this matter.

Access Easements to Monitoring Wells and Stations

The property owner will provide easements to the Town and MVD to all surface water monitoring stations and groundwater monitoring wells located in the area west of the Wellhead Protection District boundary, to provide access for continued water level and water quality monitoring at the expense of the Town/MVD after the five year post-construction monitoring period is completed. These include 12 monitoring well locations: MW-1, 6, 6A, 7, 8, 9, 10, 11, 12, 13, 14 and15; and one surface water sampling station, SS-5, as shown on Figure WQ-1.

Sample Collection Methods

The following sample collection methods will be used for the surface water and groundwater sampling.

Surface Water

- Surface water samples will be collected by directly filling clean pre-labeled, and laboratory prepared, sample bottles or through transfer from clean, multiple rinsed (3 times) stainless steel sample ladle, or other equivalent sampling device.
- Surface water samples will be collected from flowing water and at the natural outlet of targeted wetlands and ponds to the extent feasible.
- Samples will be collected at approximately the mid-channel and mid-depth of the water column.

- Samplers should be careful not to disturb bottom sediments with the samplingapparatus, sample bottle or in accessing the sample location, so as to prevent increasing the turbidity and suspended sediment in the water column.
- The sampler shall position themselves downstream of the sampling point and will collect samples in a sequence from downstream to upstream so as to avoid influencing the samples by disturbing bottom sediments.
- Measurements of water temperature, specific conductance, pH and turbidity shall be performed and recorded in the field using hand-held meters.
- Perchlorate samples will be field-filtered using a dedicated 0.2 um filter and syringe type apparatus, and collected in sterile containers.
- The estimated channel depth, width and flow velocity will be recorded in the field as well as observed physical water quality conditions such as increased turbidity, oil sheens, odors, foam, floating debris, algae growth, etc.
- Each bottle will be clearly marked with the sampling station, analysis parameter, and date on a waterproof label.
- A Chain of Custody Record will be prepared for all samples and will accompany each set of water samples to the testing laboratory.

Sample preservation and holding time will comply with the following:

- Sample containers will be placed immediately into an ice filled cooler or refrigerator until analyzed (At or below 4°C, do not freeze).
- Samples will be delivered within 24 hours of collection to an accredited laboratory.

Groundwater Sampling

Groundwater sampling will be performed by CPG's consultant.

- Groundwater samples will be collected following the methods described in Table 1 of Attachment C, including peristaltic pump (with dedicated tubing), dedicated bailer and dedicated submersible pumps.
- The depth to water will be recorded and the standing water volume will be estimated in each well prior to purging/sampling.
- A water volume consisting of 3 times the well volume will be purged from each well prior to sampling using the above-described sampling equipment. In the case of wells that "purge dry," the well will be sampled upon sufficient recharge.

- Samples will be transferred directly to clean, laboratory prepared and pre-labeled sample bottles following collection.
- Perchlorate sampling will be field-filtered using a dedicated filter and syringe apparatus.
- Each bottle will be clearly marked with the sampling station, analysis parameter, and date on a waterproof label.
- A Chain of Custody Record will be prepared for all samples and will accompany each set of water samples to the testing laboratory.

Sample preservation and holding time will comply with the following:

- Sample containers will be placed immediately into an ice filled cooler or refrigerator until analyzed (At or below 4°C, do not freeze).
- Samples will be delivered within 24 hours of sampling to an accredited laboratory.

Sampling Parameters

Analytical parameters and methods for surface water and groundwater for pre-construction, construction and post –construction sampling are indicated in Attachment C. In general, these parameters include: conductivity, total suspended solids (TSS), total phosphorus, nitrate and nitrite, TKN, chloride, sodium, TPH-DRO, perchlorate, VOCs and potentially SVOCs (PAHs). It should be noted that there is a distinction between notification levels and action levels. Where both are established, action levels are commonly higher.

Reporting

In general, CPG will send to the Town and to MVD a copy of groundwater and surface water quality results within 30 days of receiving the final analytical data report. These results will include tabulated water quality data with comparison to notification and action levels, tabulated groundwater level data, field sampling forms that document sampling events and include results of field screening parameters (as listed in Attachemnt C, Table 1), and analytical laboratory data reports. In addition, an annual report will also be provided which will include a summary of both the water quality data and the monthly water level data.

If notification or action levels as specified in Attachment C, Tables 2 and 3 are exceeded, Analytical results will be reported to the Town and to MVD in no more than 1 to 7 days as specified in these tables. Commonly, notification and/or action levels are lower inside the Wellhead Protection District as compared to outside the Wellhead Protection District. Also, it should be noted that there is a distinction

between notification levels and action levels. Where both are established, action levels are commonly higher.

CONSTRUCTION NOISE MONITORING

Noise Impact Criteria

Typically, city/town, state, and/or federal noise criteria are evaluated to determine if there are any noise impacts. The Town of Merrimack and the New Hampshire Department of Environmental Services (DES) have not established noise criteria. However, the New Hampshire Department of Transportation (DOT) has developed noise criteria and guidance in evaluating noise impacts.

Town

The Town of Merrimack has not established specific numerical noise criterion.

State

The NHDOT and the Federal Highway Administration (FHWA) have established Noise Abatement Criteria (NAC) to help protect the public health and welfare from excessive traffic noise. Recognizing that different areas are sensitive to noise in different ways, the NAC varies according to land use. The NAC are described in Table 1.3. NHDOT endorses the FHWA procedures and considers noise impacts to occur when existing or future sound levels approach (within 1 dBA) or exceed the NAC (the NAC is 67 dBA for residential land uses), or when future sound levels exceed existing sound levels by 15 dBA or more. Absent other adopted criteria, the NHDOT noise criteria were used to evaluate noise impacts from the Project.

For the purpose of monitoring potential construction impacts, the construction noise impact criteria was set to an hourly Leq of 70 dBA.

Table 1.3
Noise Abatement Criteria (NAC)
One-Hour, A-Weighted Sound Levels
in Decibels (dBA)

Activity Category	$L_{eq}(h)$[1]	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purposes.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	Undeveloped lands
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

1. $L_{eq}(h)$ is an energy-averaged, one-hour, A-weighted sound level in decibels (dBA).

Source: 23 CFR Part 772 - *Procedures for Abatement of Highway Traffic Noise and Construction Noise.*

Methodology

The noise analysis evaluated mechanical equipment, building operations, and vehicle traffic sound levels from the Project. The existing and future sound levels were measured and calculated for six receptor locations surrounding the Project. These receptor locations represent the nearest residences adjacent to the Project site. Residences located further away would experience lower sound levels. Noise sources included mechanical equipment and vehicle traffic. Manufacturers' sound level data for mechanical equipment were used to calculate sound levels for the receptor locations using the properties of sound propagation over distance and terrain. Vehicle traffic data were used to calculate highway sound levels using the FHWA Traffic Noise Model (TNM)[1]. A noise monitoring program was conducted to establish existing sound levels. The total sound levels from all the noise sources were

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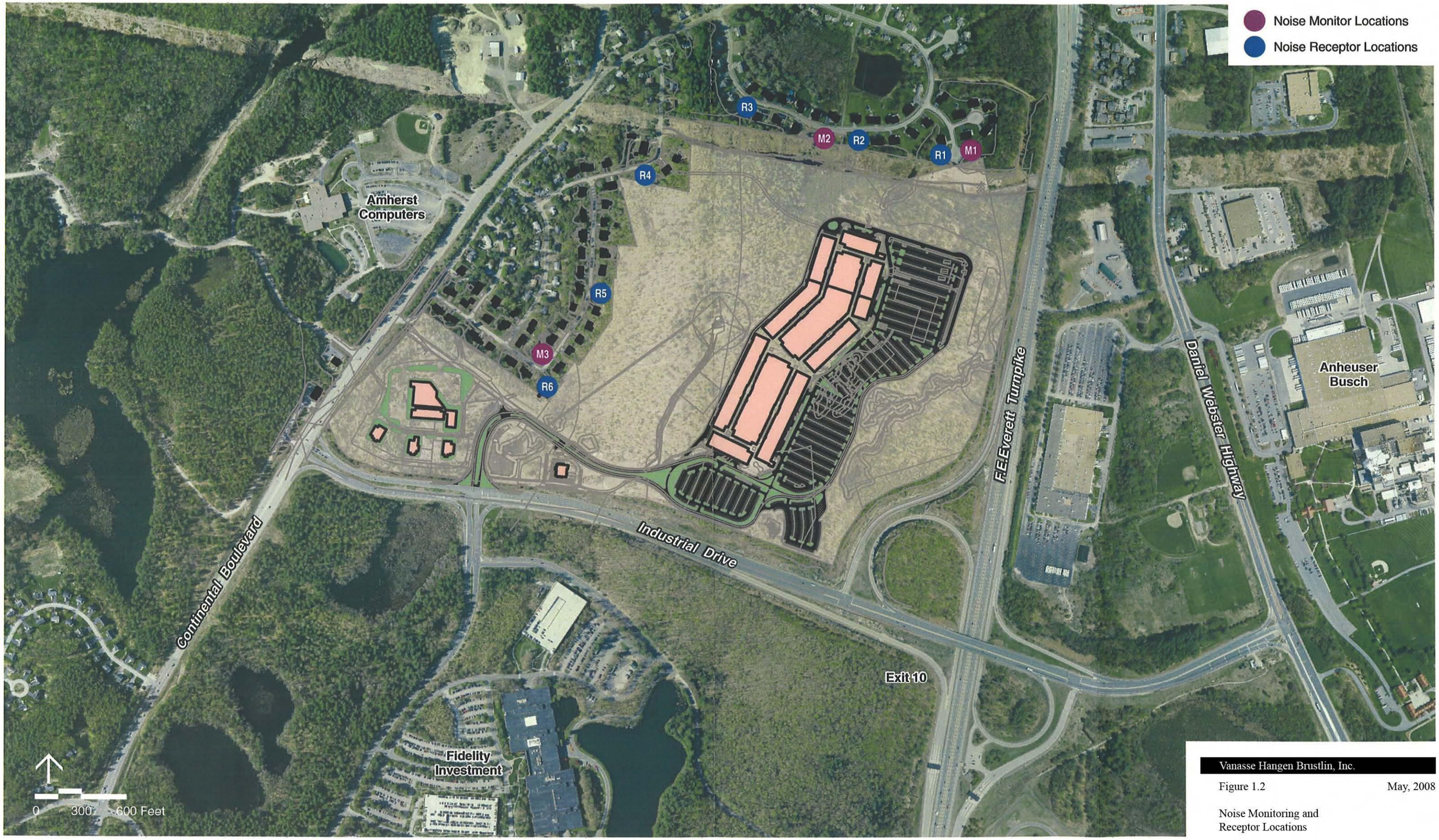
1 *Traffic Noise Model 2.5 (TNM): User's Manual*, Federal Highway Administration, FHWA-PD-96-009, February 2004



Vanasse Hangen Brustlin, Inc.

Figure 1.2 May, 2008

Noise Monitoring and Receptor Locations

Merrimack Premium Outlets
Merrimack, New Hampshire

calculated for the receptor locations using noise addition of each noise source, including existing sound levels, to determine the future sound levels. The build sound levels were compared to the noise impact criterion to determine compliance.

Receptor Locations

The study area was evaluated to identify receptor locations that have outdoor activities and that might be sensitive to project-related noise. The noise analysis identified six receptor locations in the vicinity of the Project. The receptor locations chosen for this analysis included residential properties located closest to the Project and represent the locations that are likely to experience the highest changes in sound levels due to the proposed Project. Figure 1.2 presents the receptor locations used in the noise analysis.

Existing Conditions

The Project Site is located in a suburban area in Merrimack adjacent to the FE Everett Turnpike. Noise sources included typical neighborhood sounds and traffic from local roadways and the Everett Turnpike. The noise analysis developed existing sound levels based upon a noise monitoring program. The noise monitoring program was conducted during daytime and nighttime periods in July 2007. Noise monitoring locations included the nearest residential areas surrounding the proposed project. The noise monitoring data was used to establish the existing sound levels at similar receptor locations. The Leq sound levels during the weekday afternoon ranged from 46 dBA and 59 dBA. The Leq sound levels during the nighttime period ranged from 43 dBA and 53 dBA. The sound level data for the existing conditions are presented in Table 1.4.

Table 1.4
Existing Sound Levels

Receptor Number	A-Weighted Sound Level in Decibels (dBA)	
	L_{eq} Day Time	L_{eq} Night Time
Receptor 1	59	53
Receptor 2	46	46
Receptor 3	46	46
Receptor 4	46	43
Receptor 5	46	43
Receptor 6	46	43

Source: VHB, Inc.

Construction Noise Monitoring Program

The purpose of this section is to establish construction noise impact criteria for the Merrimack Premium Outlets project (Project). A noise monitoring program will be conducted to demonstrate that all construction activities (such as earth moving, blasting, pumping, diesel generators, excavation, material processing and construction traffic) meet the noise criteria established for the proposed Project.

Procedures:

1) The Developer has committed to conducting noise monitoring during construction of the Project to demonstrate that construction activities are in compliance with the noise criteria established for the project. The noise monitoring program is outlined below:

   a. **Monitoring Locations –** Noise monitoring is to be conducted at the residential areas nearest to the location of the crusher equipment. The Town may request different noise monitoring locations. Every effort will be made to use the same locations where measurements were taken prior to construction as listed below:
      - M1 – Located at the cul-de-sac at the end of Englewood Drive
      - M2 – Located near the center of the frontage of Whittier Road adjacent to the Chelsea property
      - M3 – Located at the intersection of Douglas Street and Spruce Street

   b. **Duration –** Noise monitoring will be conducted at each monitoring location for a day time period consistent with the construction activities.

   c. **Day of week –** The noise monitoring will be conducted during a day of the week that construction activities are in operation.

   d. **Frequency –** The noise monitoring program will be initiated within two days of the start of the construction activities and while the crusher equipment is in full operation. Noise monitoring will be initiated within two days for each time the crusher equipment is relocated.

e. **Reporting –** The project proponent will submit the results of the noise monitoring to the Town by email, during the same day of the noise monitoring and a memorandum documenting the results within two weeks of the completion of the noise monitoring.

f. **Process –** If the monitoring data indicates that the project is not in compliance with the noise criteria, as measured at the property line receptors, then the project proponent will contact the town within 2 days to discuss the source of the noise and proposed mitigation measures. The project proponent will coordinate with the Town to establish appropriate mitigation measures and a schedule to implement them. In any case, the Project Proponent will have no more than 10 days to prepare a report that identifies the reason for the exceedances, identifies the mitigation measures to be implemented to reduce sound levels, and provides a schedule for implementation of mitigation measures acceptable to the Town (e.g., quieter equipment, quieter procedures, noise shielding, etc.). Mitigation measures will be implemented, and additional noise monitoring will be conducted within 14 days of the implementation to demonstrate their effectiveness. If for any reason, the project proponent does not perform the noise monitoring as indicated, the Town will perform it at the expense of the project proponent.

g. **Construction Criteria –** The construction noise impact criteria is presented in Table 1. 5.

Table 1.5 – Construction Noise Impact Criteria

	A-Weighted Sound Level in Decibels (dBA)
Hourly Leq	70 dBA
Peak Lmax	80 dBA

h. **Special Noise Monitoring** - The Town may request additional noise monitoring, as needed, to respond to unique construction issues.

Attachment A

Traffic Data

Attachment B

Construction Sequence &
Temporary Construction Entrance

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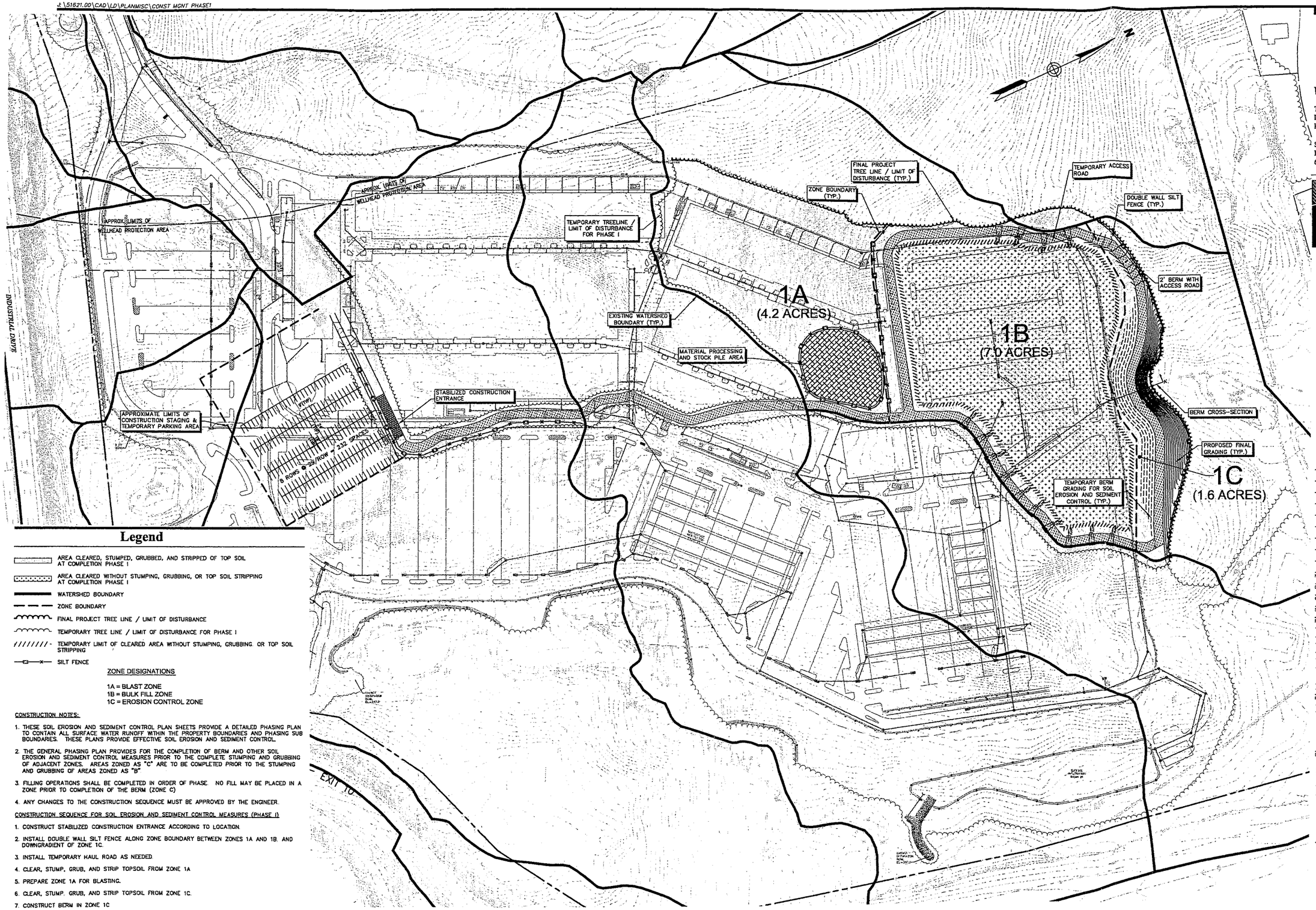

Legend

- AREA CLEARED, STUMPED, GRUBBED, AND STRIPPED OF TOP SOIL AT COMPLETION PHASE I
- AREA CLEARED WITHOUT STUMPING, GRUBBING, OR TOP SOIL STRIPPING AT COMPLETION PHASE I
- WATERSHED BOUNDARY
- ZONE BOUNDARY
- FINAL PROJECT TREE LINE / LIMIT OF DISTURBANCE
- TEMPORARY TREE LINE / LIMIT OF DISTURBANCE FOR PHASE I
- TEMPORARY LIMIT OF CLEARED AREA WITHOUT STUMPING, GRUBBING OR TOP SOIL STRIPPING
- SILT FENCE

ZONE DESIGNATIONS

1A = BLAST ZONE
1B = BULK FILL ZONE
1C = EROSION CONTROL ZONE

CONSTRUCTION NOTES:

1. THESE SOIL EROSION AND SEDIMENT CONTROL PLAN SHEETS PROVIDE A DETAILED PHASING PLAN TO CONTAIN ALL SURFACE WATER RUNOFF WITHIN THE PROPERTY BOUNDARIES AND PHASING SUB BOUNDARIES. THESE PLANS PROVIDE EFFECTIVE SOIL EROSION AND SEDIMENT CONTROL.
2. THE GENERAL PHASING PLAN PROVIDES FOR THE COMPLETION OF BERM AND OTHER SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO THE COMPLETE STUMPING AND GRUBBING OF ADJACENT ZONES. AREAS ZONED AS "C" ARE TO BE COMPLETED PRIOR TO THE STUMPING AND GRUBBING OF AREAS ZONED AS "B"
3. FILLING OPERATIONS SHALL BE COMPLETED IN ORDER OF PHASE. NO FILL MAY BE PLACED IN A ZONE PRIOR TO COMPLETION OF THE BERM (ZONE C)
4. ANY CHANGES TO THE CONSTRUCTION SEQUENCE MUST BE APPROVED BY THE ENGINEER.

CONSTRUCTION SEQUENCE FOR SOIL EROSION AND SEDIMENT CONTROL MEASURES (PHASE I)

1. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE ACCORDING TO LOCATION.
2. INSTALL DOUBLE WALL SILT FENCE ALONG ZONE BOUNDARY BETWEEN ZONES 1A AND 1B, AND DOWNGRADIENT OF ZONE 1C.
3. INSTALL TEMPORARY HAUL ROAD AS NEEDED
4. CLEAR, STUMP, GRUB, AND STRIP TOPSOIL FROM ZONE 1A
5. PREPARE ZONE 1A FOR BLASTING.
6. CLEAR, STUMP, GRUB, AND STRIP TOPSOIL FROM ZONE 1C.
7. CONSTRUCT BERM IN ZONE 1C
8. CLEAR ZONE 1B WITHOUT STUMPING, GRUBBING, OR STRIPPING TOPSOIL. TREES AND SHRUBS (SAW CUT OF TREES AND SHRUBS ONLY)
9. COMPLETE AND STABILIZE ZONE 1C, INLCUDING THE CONSTRUCTION OF THE BERM

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No.	Revision	Date	Appvd.

Designed by | Drawn by MJK | Checked by
CAD checked by | Approved by
Scale 1"=100' | Date May 22, 2008

Project Title
Merrimack Premium Outlets Industrial Drive
Merrimack, New Hampshire

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Drawing Title
Construction Management Phasing Plans - Phase I

Drawing Number
CM-1

Sheet 1 of 4

Project Number
51621

CONST MGNT PHASE1.DWG

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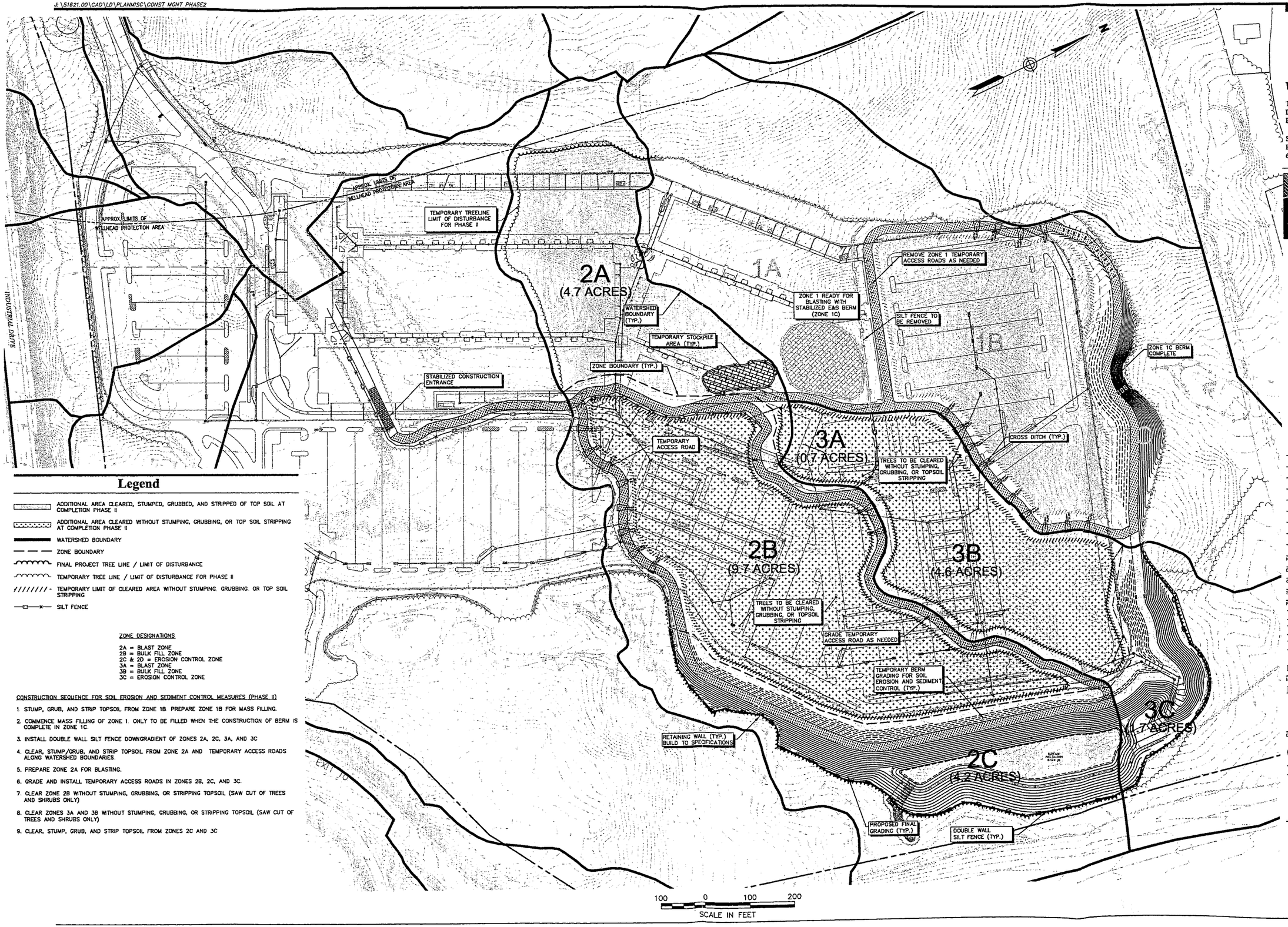

Legend

- ADDITIONAL AREA CLEARED, STUMPED, GRUBBED, AND STRIPPED OF TOP SOIL AT COMPLETION PHASE II
- ADDITIONAL AREA CLEARED WITHOUT STUMPING, GRUBBING, OR TOP SOIL STRIPPING AT COMPLETION PHASE II
- WATERSHED BOUNDARY
- ZONE BOUNDARY
- FINAL PROJECT TREE LINE / LIMIT OF DISTURBANCE
- TEMPORARY TREE LINE / LIMIT OF DISTURBANCE FOR PHASE II
- TEMPORARY LIMIT OF CLEARED AREA WITHOUT STUMPING, GRUBBING, OR TOP SOIL STRIPPING
- SILT FENCE

ZONE DESIGNATIONS

2A = BLAST ZONE
2B = BULK FILL ZONE
2C & 2D = EROSION CONTROL ZONE
3A = BLAST ZONE
3B = BULK FILL ZONE
3C = EROSION CONTROL ZONE

CONSTRUCTION SEQUENCE FOR SOIL EROSION AND SEDIMENT CONTROL MEASURES (PHASE II)

1. STUMP, GRUB, AND STRIP TOPSOIL FROM ZONE 1B. PREPARE ZONE 1B FOR MASS FILLING.
2. COMMENCE MASS FILLING OF ZONE 1. ONLY TO BE FILLED WHEN THE CONSTRUCTION OF BERM IS COMPLETE IN ZONE 1C.
3. INSTALL DOUBLE WALL SILT FENCE DOWNGRADIENT OF ZONES 2A, 2C, 3A, AND 3C
4. CLEAR, STUMP/GRUB, AND STRIP TOPSOIL FROM ZONE 2A AND TEMPORARY ACCESS ROADS ALONG WATERSHED BOUNDARIES.
5. PREPARE ZONE 2A FOR BLASTING.
6. GRADE AND INSTALL TEMPORARY ACCESS ROADS IN ZONES 2B, 2C, AND 3C.
7. CLEAR ZONE 2B WITHOUT STUMPING, GRUBBING, OR STRIPPING TOPSOIL (SAW CUT OF TREES AND SHRUBS ONLY)
8. CLEAR ZONES 3A AND 3B WITHOUT STUMPING, GRUBBING, OR STRIPPING TOPSOIL (SAW CUT OF TREES AND SHRUBS ONLY)
9. CLEAR, STUMP, GRUB, AND STRIP TOPSOIL FROM ZONES 2C AND 3C

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No.	Revision	Date	Appvd.

Designed by	Drawn by MJK	Checked by
CAD checked by	Approved by	
Scale 1"=100'	Date May 22, 2008	

Project Title
Merrimack Premium Outlets Industrial Drive
Merrimack, New Hampshire

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Drawing Title
Construction Management Phasing Plans - Phase II

Drawing Number
CM-2

Sheet 2 of 4

Project Number
51621

CONST MGNT PHASE2.DWG

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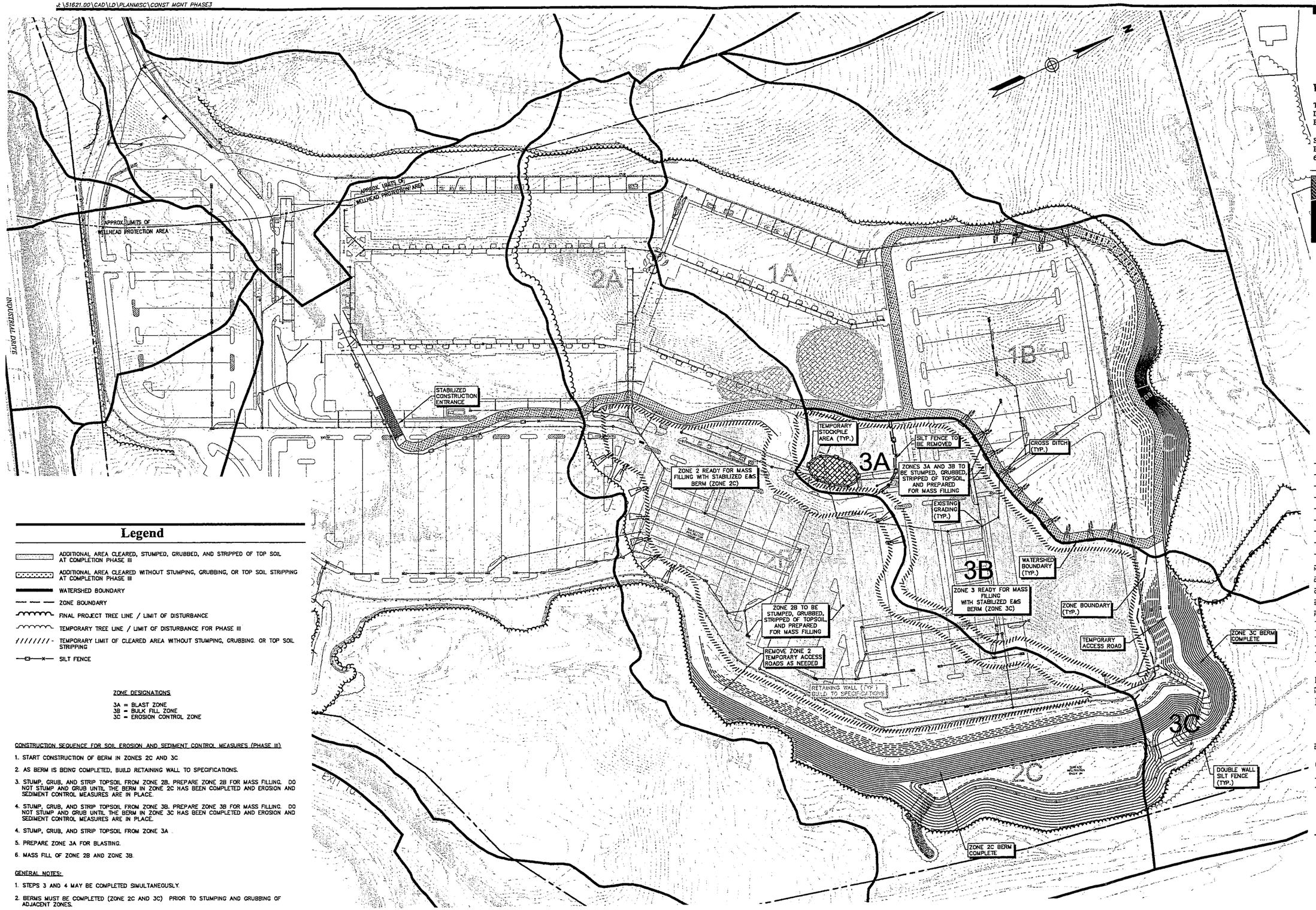

Legend

- ADDITIONAL AREA CLEARED, STUMPED, GRUBBED, AND STRIPPED OF TOP SOIL AT COMPLETION PHASE III
- ADDITIONAL AREA CLEARED WITHOUT STUMPING, GRUBBING, OR TOP SOIL STRIPPING AT COMPLETION PHASE III
- WATERSHED BOUNDARY
- ZONE BOUNDARY
- FINAL PROJECT TREE LINE / LIMIT OF DISTURBANCE
- TEMPORARY TREE LINE / LIMIT OF DISTURBANCE FOR PHASE III
- TEMPORARY LIMIT OF CLEARED AREA WITHOUT STUMPING, GRUBBING, OR TOP SOIL STRIPPING
- SILT FENCE

ZONE DESIGNATIONS

3A = BLAST ZONE
3B = BULK FILL ZONE
3C = EROSION CONTROL ZONE

CONSTRUCTION SEQUENCE FOR SOIL EROSION AND SEDIMENT CONTROL MEASURES (PHASE III)

1. START CONSTRUCTION OF BERM IN ZONES 2C AND 3C.
2. AS BERM IS BEING COMPLETED, BUILD RETAINING WALL TO SPECIFICATIONS.
3. STUMP, GRUB, AND STRIP TOPSOIL FROM ZONE 2B. PREPARE ZONE 2B FOR MASS FILLING. DO NOT STUMP AND GRUB UNTIL THE BERM IN ZONE 2C HAS BEEN COMPLETED AND EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE.
4. STUMP, GRUB, AND STRIP TOPSOIL FROM ZONE 3B. PREPARE ZONE 3B FOR MASS FILLING. DO NOT STUMP AND GRUB UNTIL THE BERM IN ZONE 3C HAS BEEN COMPLETED AND EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE.
4. STUMP, GRUB, AND STRIP TOPSOIL FROM ZONE 3A.
5. PREPARE ZONE 3A FOR BLASTING.
6. MASS FILL OF ZONE 2B AND ZONE 3B.

GENERAL NOTES:

1. STEPS 3 AND 4 MAY BE COMPLETED SIMULTANEOUSLY.
2. BERMS MUST BE COMPLETED (ZONE 2C AND 3C) PRIOR TO STUMPING AND GRUBBING OF ADJACENT ZONES.

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Designed by | Drawn by MJK | Checked by
CAD checked by | Approved by
Scale 1"=100' | Date May 22, 2008

Project Title
Merrimack Premium Outlets Industrial Drive
Merrimack, New Hampshire

Issued for
Permitting

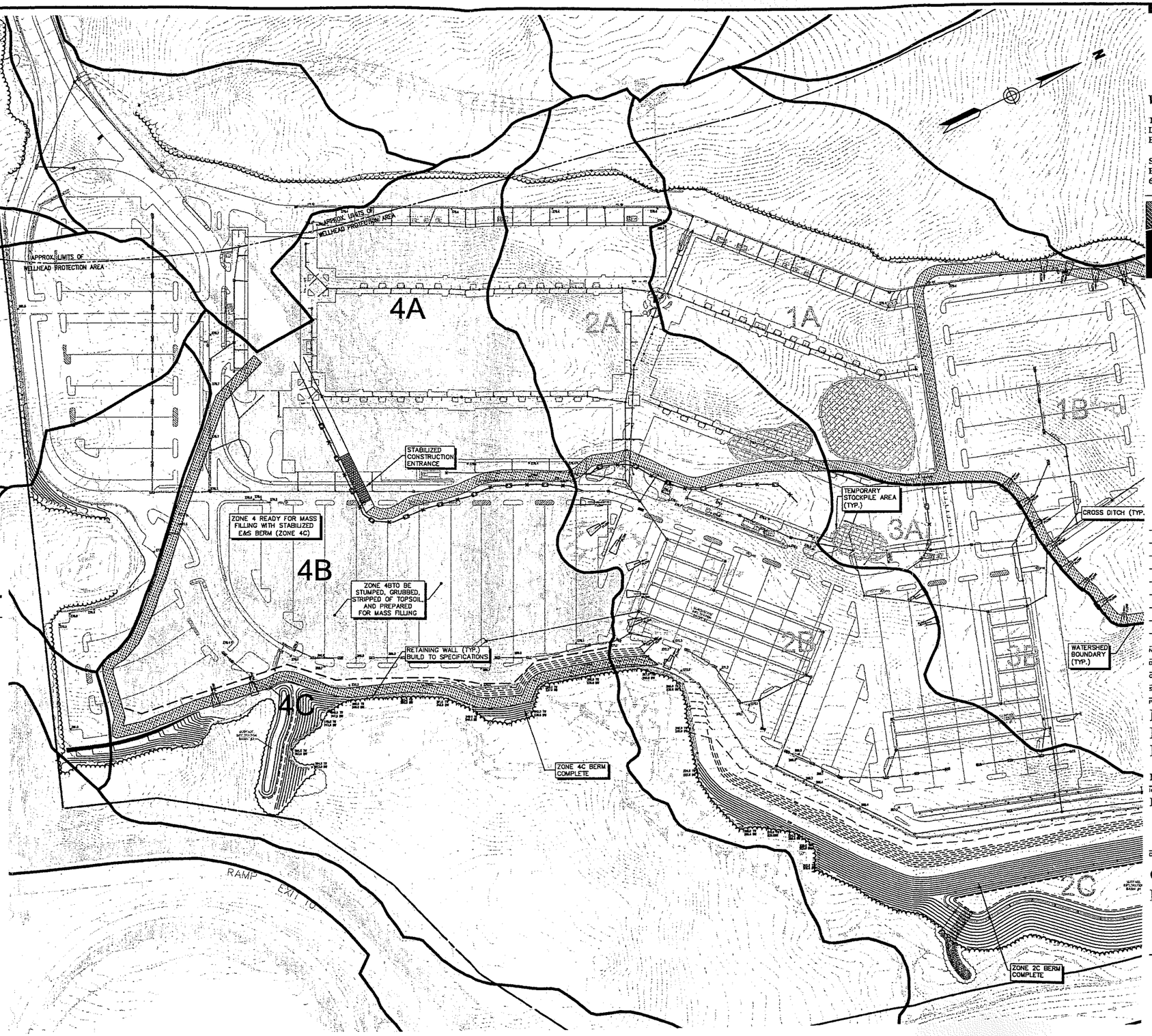
Drawing Title
Construction Management Phasing Plans - Phase III

Drawing Number
CM-3

Sheet 3 of 4

Project Number
51621

CONST MGNT PHASE3.DWG



Legend

- ADDITIONAL AREA CLEARED, STUMPED, GRUBBED, AND STRIPPED OF TOP SOIL AT COMPLETION PHASE IV
- ADDITIONAL AREA CLEARED WITHOUT STUMPING, GRUBBING, OR TOP SOIL STRIPPING AT COMPLETION PHASE IV
- WATERSHED BOUNDARY
- ZONE BOUNDARY
- FINAL PROJECT TREE LINE / LIMIT OF DISTURBANCE
- TEMPORARY TREE LINE / LIMIT OF DISTURBANCE FOR PHASE IV
- TEMPORARY LIMIT OF CLEARED AREA WITHOUT STUMPING, GRUBBING OR TOP SOIL STRIPPING
- SILT FENCE

ZONE DESIGNATIONS

4A = BLAST ZONE
4B = BULK FILL ZONE
4C = EROSION CONTROL ZONE

CONSTRUCTION SEQUENCE FOR SOIL EROSION AND SEDIMENT CONTROL MEASURES (PHASE III)

1. STUMP, GRUB, AND STRIP TOPSOIL FROM ZONE 4C
2. CLEAR ZONE 4B WITHOUT STUMPING, GRUBBING OR STRIPING (SAW CUT OF TREES AND SHRUBS ONLY)
3. COMPLETE CONSTRUCTION OF BERM IN ZONE 4C.
4. STUMP, GRUB AND STRIP ZONE 4B.
5. CLEAR ZONE 4A WITHOUT STUMPING, GRUBBING OR STRIPPING (SAW CUT OF TREES AND SHRUBS ONLY)
6. MASS FILLING OF ZONE 4B TO BEGIN ONLY WHEN BERM IN ZONE 4C HAS BEEN COMPLETED
7. STUMP, GRUB, AND STRIP TOPSOIL FROM ZONE 4A. PREPARE ZONE 4A FOR BLASTING.

GENERAL NOTES:

1. STEPS 2 AND 3 MAY BE COMPLETED SIMULTANEOUSLY AT THE DISCRETION OF THE CONTRACTOR
2. AT NO TIME, SHALL TWO ADJACENT AREAS BE CLEARED, STRIPPED AND STUMPED SIMULTANEOUSLY.

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No.	Revision	Date	Appvd.

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CAD checked by | Approved by
Scale 1"=100' | Date May 22, 2008

Project Title
Merrimack Premium Outlets Industrial Drive
Merrimack, New Hampshire

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Permitting

Drawing Title
Construction Management Phasing Plans - Phase IV

Drawing Number
CM-4

Sheet 4 of 4

Project Number
51621

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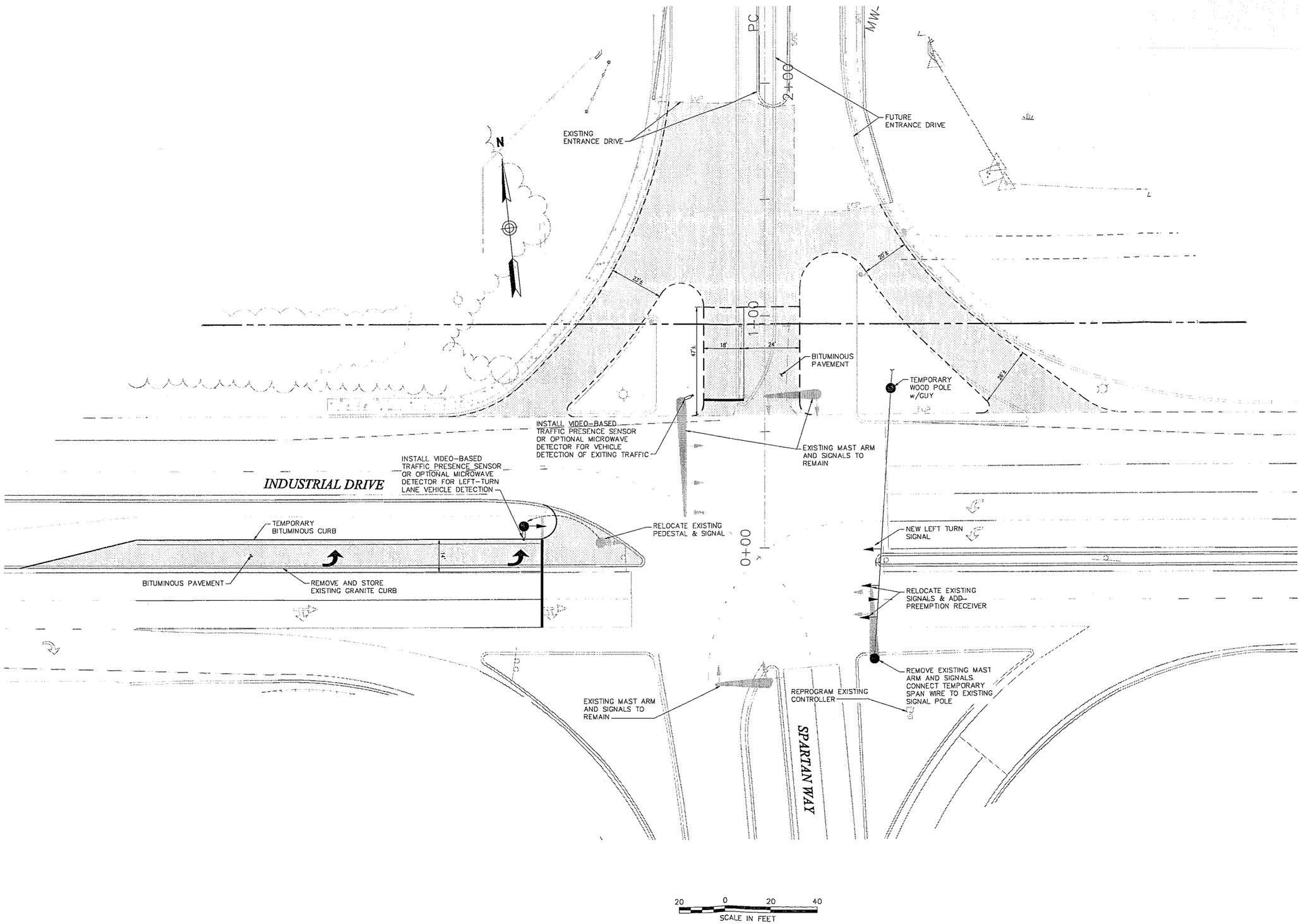

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No.	Revision	Date	Appvd

Designed by | Drawn by | Checked by
CAD checked by | Approved by
Scale 1"=20' | Date August 25, 2008

Project Title
Merrimack Premium Outlets
Industrial Drive
Merrimack, New Hampshire

Issued for
Not Approved for Construction

Drawing Title
Temporary Construction Entrance

Drawing Number

Sheet 1 of 1

Project Number 51621

5162100SIG-temp.dwg

Attachment C

Groundwater & Surface Water Monitoring Program

TABLE 1
Summary of Groundwater and Surface Water Sampling Methods and Frequency
Merrimack Premium Outlets
Merrimack, New Hampshire

Locations		Sampling Technique/ Equipment Used	Frequency	Estimated # of Rounds***	Weather Conditions During Sampling	Field Parameters
Monitoring Wells	MW-1 MW-2 MW-2A MW-3 MW-4 MW-4A MW-5 MW-6 MW-6A MW-7 MW-8 MW-9 MW-10 MW-11 MW-12 MW-13 MW-14	Water Level Meter	**Pre-Construction:** Monthly (April - Nov), two concurrent with groundwater / surface sampling rounds	Approx. 1 to 2 additional rounds prior to construction	Alternately following both wet and dry weather conditions	Groundwater Level Measurements
			During Construction: Monthly (concurrent with groundwater / surface water sampling rounds)	19		
			Post-Occupancy: Twice per year for 5 years (concurrent with groundwater / surface water sampling rounds)	10		
	MW-1 MW-2/2A* MW-3 MW-4/4A* MW-5 MW-6/6A* MW-7	Bailer / Peristaltic Pump	**Pre-Construction:** Twice per year - Late Spring and Early Fall **	Approx. 1 additional round prior to construction	Alternately following both wet and dry weather conditions	Temperature Specific Conductivity pH
			During Construction: Monthly, initiated one month prior to construction	19		
	MW-8 MW-9 MW-10 MW-11	Dedicated submersible pump	**Post-Occupancy**: Twice per year for 5 years	10		
	MW-12 MW-13 MW-14	Bailer / Peristaltic Pump	**Pre-Construction, During Construction, and Post-Occupancy**: Twice per year - late Spring and early Fall. If TPH-DRO remains below 50 ug/l in two consecutive rounds, subsequent monitoring can be reduced to once per year	13		
Surface Water Sampling Locations	SS-1 SS-2 SS-3 SS-4 SS-5	Directly into laboratory-provided containers	**Pre-Construction:** Twice per year - Late Spring and Early Fall	Approx. 1 additional round prior to construction.	Alternately following both wet and dry weather conditions	Temperature Specific Conductivity pH Turbidity
			During Construction: Monthly, initiated one month prior to construction	19		
			Post-Occupancy: Twice per year for 5 years	10		

TABLE 1
Summary of Groundwater and Surface Water Sampling Methods and Frequency
Merrimack Premium Outlets
Merrimack, New Hampshire

Notes:

1. "*" indicates that monitoring wells MW-2, MW-4 and MW-6 will be sampled if sufficient water is present in these wells. If not, then the deeper companion/replacement well(s) (MW-2A, MW-4A, MW-6A) will be sampled instead.

"**" indicates that both shallow and deep wells at each of the well couplets (MW-2/MW-2A, MW-4/MW-4A, MW-6/MW-6A) will be sampled/analyzed during the pre-construction time frame, so as to establish baseline conditions for groundwater from these wells.

2. In general, wells will be sampled by first removing (purging) three well volumes of groundwater prior to sample collection. In the event that a monitoring well is purged dry (as is likely with MW-8 and MW-10), the well will be sampled upon sufficient recharge.

3. "***" indicates that the number of sampling rounds going forward is an estimate based on our current understanding of the schedule, scope, and duration of construction. Monthly sampling will continue until the opening for business of Phase 1 of the Mall.

In addition, the following pre-construction monitoring rounds have already been completed as of August 2008:

- 10 rounds of groundwater level measurements (1 to 3 rounds for MW-2A, MW-4A, MW-6A, MW-8 to MW-14).

- 2 rounds of groundwater quality monitoring (MW-2A, MW-4A, MW-6A, MW-8 to MW-11 as yet to be sampled).

- 2 rounds of surface water quality monitoring

4. Dry weather sampling will be initiated after periods with at least 72 hours of less than trace amounts of rain. Wet weather sampling will be initiated within the first four hours after a rainfall event producing at least 0.5 inch of rain.

5. Groundwater and surface water samples will be submitted for laboratory analysis for the compounds listed on Tables 2 and 3.

6. If analytical results at five years following construction indicate a significant ongoing impact to water quality (i.e., exceeding notification/action levels) due to the construction activities at one or more of the sampling locations, some level of continued monitoring will be proposed by the property owner for a specified period of time to be discussed and agreed upon by the Town, Merrimack Village District (MVD) and their consultants.

TABLE 2
Summary of Groundwater Analytical Program, Action Levels, and Notification Requirements
Merrimack Premium Outlets
Merrimack, New Hampshire

Location		Laboratory Parameters	Analytical Method	Units	NHDES AGQS / GW-1	NHDES / USEPA MCL/ DWEL	Background as of December 2007	Inside Wellhead Protection District Only		Outside Wellhead Protection District Only		Action Level (All Wells Unless Otherwise Noted)	Action / Timing Requirements
Inside Wellhead Protection District	Outside Wellhead Protection District							Notification Level	Notification Timing	Notification Level	Notification Timing		
MW-1 MW-6/6A MW-7 MW-8 MW-9 MW-10 MW-11 MW-12 MW-13 MW-14	MW-2/2A MW-3 MW-4/4A MW-5	Conductivity	SM 2510B / USEPA Method 120.1	µmhos/cm	NA	NA	≤ 670	700	Notify MVD and Town within 7 days of receiving the results from the analytical laboratory. Pending results, MVD or Town may require a mitigation / remediation plan within 30 days. Plan and schedule for implementation to be approved by MVD/Town, and then carried out by propery owner.	NA (No AGQS/ GW-1)	Notify MVD and Town within 7 days of receiving the results from the analytical laboratory. Pending results, MVD or Town may require a mitigation / remediation plan within 30 days. Plan and schedule for implementation to be approved by MVD/Town, and then carried out by propery owner.	NA (No AGQS/ GW-1)	NA
		Total Suspended Solids	SM 2540D / USEPA Method 160.2	mg/L	NA	NA	≤ 320	NA		NA (No AGQS/ GW-1)		NA (No AGQS/ GW-1)	NA
		Total Phosphorus	USEPA Method 365.3	mg/L	NA	NA	< 0.30	0.5		NA (No AGQS/ GW-1)		NA (No AGQS/ GW-1)	NA
		Nitrate + Nitrite	USEPA Method 353.2	mg/L	10	10	≤ 1.4	2.5		10 (see Action Level)		5 (Inside Wellhead Protection District Only)	Notifiy MVD & Town ***within 7 days.*** Also submit mitigation/remediation plan ***within 7 days,*** focusing on reducing/eliminating additional nitrate introduction to groundwater. Plan and schedule of implementation to be approved by MVD/Town and carried out by property owner.
												10	Notify MVD & Town ***immediately*** upon receiving results from lab; ***immediate*** submittal of a mitigation/remediation plan. Depending on the severity and perceived threat to the Town's water supply, the MVD/Town reserves the right to shut down construction operations.
		TKN	SM 4500Norg C / SM4500 NH3D	mg/L	NA	NA	≤ 0.6	5		NA (No AGQS/ GW-1)		NA (No AGQS/ GW-1)	NA
		Chloride	SM 4500 CI E / USEPA Method 325.2	mg/L	NA	250†	≤ 140	150		NA (No AGQS/ GW-1)		200 (Inside Wellhead Protection District Only)	Notify MVD & Town ***within 7 days*** . Also submit mitigation/remediation plan ***within 7 days*** , focusing on reducing/eliminating additional chloride introduction to groundwater. Plan and schedule of implementation to be approved by MVD/Town and carried out by property owner.
												NA (No AGQS/ GW-1)	NA
		Sodium	USEPA Method 200.8	mg/L	NA	100 - 250†	≤ 110	125		NA (No AGQS/ GW-1)		NA (No AGQS/ GW-1)	NA
		TPH-DRO	USEPA 8015B (reporting limit ≤ 50 µg/L)	µg/L	NA	NA	< 320	50 / 250 (see action requirements for explanation)		50 / 250 (see action requirements for explanation)		50 / 250	If greater than 50 µg/L, but less than 250 µg/L, copy of gas chromatogram to be sent to MVD ***within 72 hours*** of receiving lab report. If greater than 250 µg/L, analyze sample for SVOCs (PAHs) ***within 7 days*** of receiving lab report with TPH-DRO exceedance.
		Perchlorate	Method 314.0, after field filtration with a 0.2-micron filter and collection into sterile container	µg/L	NA	24.5	< 0.3	2		NA (No AGQS/ GW-1)		NA (No AGQS/ GW-1)	NA
		VOCs	USEPA Method 8260B** (NHDES Full List, Feb 2008 revisions)	µg/L	Varies by Analyte	Varies by Analyte	BDL	Any Detection		AGQS/GW-1 (see Action Level)		50% of NHDES Drinking Water Standards / USEPA MCLs - varies by analyte†† (Inside Wellhead Protection District Only)	Notify MVD & Town ***within 48 hours.*** Submit mitigation/remediation plan describing corrective actions ***within 7 days.*** Also, resample and resubmit for analysis ***within 7 days.*** Depending on results of second analysis, MVD/Town may require immediate mitigation / remediation.
												AGQS / GW-1 - Varies by analyte††	Notify MVD & Town ***immediately*** upon receiving results from lab; ***immediate*** submittal of a mitigation/remediation plan. Depending on the severity and perceived threat to the Town's water supply, the MVD/Town reserves the right to shut down construction operations.
		SVOCs (PAHs)*	USEPA Method 8270**	µg/L	Varies by Analyte	Varies by Analyte	NS	Any Detection		AGQS/GW-1 (see Action Level)		AGQS / GW-1 - Varies by analyte††	Notify MVD & Town ***immediately*** upon receiving results from lab; ***immediate*** submittal of a mitigation/remediation plan. Depending on the severity and perceived threat to the Town's water supply, the MVD/Town reserves the right to shut down construction operations.

TABLE 2
Summary of Groundwater Analytical Program, Action Levels, and Notification Requirements
Merrimack Premium Outlets
Merrimack, New Hampshire

Notes:

1. Maximum Contaminant Levels (MCLs) are from the United States Environmental Protection Agency (USEPA) National Primary Drinking Water Standards (updated June 2003), and the New Hampshire Department of Environmental Services (NHDES) Env-Ws 310 Drinking Quality Standards including Secondary MCLs (effective November 30, 2005). The value listed for perchlorate is a drinking water equivalent level (DWEL), which was established by the USEPA on February 18, 2005. NHDES Ambient Groundwater Quality Standards (AGQS) were established in Env-Or 600 Contaminated Site Management, effective July 22, 2008. The AGQS are generally equivalent to GW-1 Groundwater Standards. GW-1 Groundwater Standards are listed in the NHDES Contaminated Sites Risk Characterization and Management Policy (RCMP) (January 1998, with 2000 through 2007 revisions/addenda).

2. "MVD" indicates Merrimack Village District.
"Town" indicates the Town of Merrimack.
"NA" indicates not applicable/not available.
"NS" indicates not sampled/analyzed.
"BDL" indicates below detection limit.
"µmhos/cm" indicates micromhos per centimeter.
"mg/L" indicates milligrams per liter.
"µg/L" indicates micrograms per liter.
"TKN" indicates total Kjeldahl nitrogen.
"TPH-DRO" indicates total petroleum hydrocarbons - diesel range organics.
"VOCs" indicates volatile organic compounds.
"SVOCs (PAHs)" indicates semi-VOCs (polycyclic aromatic hydrocarbons).
"*" indicates SVOCs (PAHs) will only be analyzed for from a given location / sampling round if TPH-DRO exceeds 250 µg/L for that location / sampling round. To be analyzed within 7 days of receiving lab report indicating TPH-DRO exceedance of 250 µg/L.
"**" indicates refer to attached example laboratory data reports for lists of VOC and SVOC (PAH) analytes and standard reporting limits. We are not proposing to analyze the samples by the additional methods required to reach low detection limits (< 1 µg/L) for 1,4-dioxane; dibromochloropropane; and ethylene dibromide.
"†" indicates the MCL listed is a non-enforceable secondary MCL (SMCL) based on aesthetic criteria (NHDES Part Env-Ws 316).
"††" indicates refer to attached Table 4 for listing of NHDES Drinking Water (DW) Standards, USEPA MCLs, NHDES AGQS/GW-1 Groundwater Standards, and NHDES Surface Water Standards (Env-Wq 1700, adopted May 12, 2008) for VOCs and SVOCs (PAHs) to be analyzed for.

3. The Property Owner will send to the MVD and Town a copy of groundwater and surface water quality monitoring results within 30 days of receiving the relevant final analytical laboratory data report. These results will include: tabulated water quality data with comparison to notification and action levels, tabulated groundwater level/elevation data, Field Sampling Summary forms that document the sampling events and include the results of field screening parameters (refer to Table 1), and analytical laboratory data reports. Annual reports will also be submitted to the MVD and Town starting at end of year 2008, that include a summary discussion of the water quality data and water level data.

4. Reporting of exceedances of Notification and Action levels will be as follows:

For those items that require "immediate" notifications/submittals, the Property Owner will notify MVD/Town and their designated consultant of the analytical results (location, parameter, concentration) by email as soon as they become aware of the exceedance, but in no case, no more than 1 business day after receiving the final laboratory report from the analytical laboratory. The remediation/mitigation plan will be submitted by email within two business days after receiving the final laboratory report from the analytical laboratory. Hard copies of the analytical results and remediation/mitigation plan will be sent to the MVD/Town by overnight mail within the same time frames.

For "48-hour" notifications/submittals, the Property Owner will notify MVD/Town and their designated consultant of the analytical results (location, parameter, concentration) by email within 2 business days after receiving the final laboratory report from the analytical laboratory. Hard copies of the analytical results also will be sent to the MVD/Town by overnight mail within 2 business days.

For "72-hour" notification/submittal of the gas chromatograms for TPH-DRO results with concentrations greater than 50 ug/l but less than 250 ug/l, the Property Owner will notify/submit to MVD/Town and their designated consultant the analytical results (location, parameter, concentration) and chromatogram by email within 3 business days after receiving the final laboratory report/chromatogram from the analytical laboratory. Hard copies of the analytical results/chromatogram also will be sent to the MVD/Town by overnight mail within 3 business days.

For "7-day" notifications/submittals, the Property Owner will notify/submit to MVD/Town and their designated consultant the analytical results (location, parameter, concentration) and remediation/mitigation plan by email within 7 consecutive days after receiving the final laboratory report from the analytical laboratory. Hard copies of the analytical results and remediation/mitigation plan will be sent to the MVD/Town by USPS registered mail or overnight mail within 7 consecutive days.

TABLE 3
Summary of Surface Water Analytical Program, Action Levels, and Notification Requirements
Merrimack Premium Outlets
Merrimack, New Hampshire

Location		Laboratory Parameters	Analytical Method	Units	NH Surface Water Standards	NHDES / USEPA MCL/ DWEL	Background as of April 2008	Inside Wellhead Protection District Only		Outside Wellhead Protection District Only		Action Level	Action Requirements
Inside Wellhead Protection District	Outside Wellhead Protection District							Notification Level	Notification Timing	Notification Level	Notification Timing		
SS-5	SS-1 SS-2 SS-3 SS-4	Conductivity	SM 2510B / USEPA Method 120.1	µmhos/cm	NA	NA	≤ 116	250	Notify MVD and Town within 7 days of receiving the results from the analytical laboratory. Pending results, MVD or Town may require a mitigation / remediation plan within 30 days. Plan and schedule for implementation to be approved by MVD/Town, and then carried out by propery owner.	NA (No NH SW Standard)	Notify MVD and Town within 7 days of receiving the results from the analytical laboratory. Pending results, MVD or Town may require a mitigation / remediation plan within 30 days. Plan and schedule for implementation to be approved by MVD/Town, and then carried out by propery owner.	NA (No NH SW Standard)	NA
		Total Suspended Solids	SM 2540D / USEPA Method 160.2	mg/L	NA	NA	≤6	20		NA (No NH SW Standard)		NA (No NH SW Standard)	NA
		Turbidity	Field Screening	NTU	NA	NA	<3.5	10		NA (No NH SW Standard)		NA (No NH SW Standard)	NA
		Total Phosphorus	USEPA Method 365.3	mg/L	NA	NA	<0.2	0.5		NA (No NH SW Standard)		NA (No NH SW Standard)	NA
		Nitrate + Nitrite	USEPA Method 353.2	mg/L	10	10	≤ 0.9	2.5		10 (see Action Level)		5 (Inside Wellhead Protection District Only)	Notifiy MVD & Town ***within 7 days.*** Also submit mitigation/remediation plan ***within 7 days,*** focusing on reducing/eliminating additional nitrate introduction to surface water and groundwater. Plan and schedule of implementation to be approved by MVD/Town and carried out by property owner.
												10	Notify MVD & Town ***immediately*** upon receiving results from lab; ***immediate*** submittal of a mitigation/remediation plan. Depending on the severity and perceived threat to the Town's water supply, the MVD/Town reserves the right to shut down construction operations.
		TKN	SM 4500Norg C / SM4500 NH3D	mg/L	NA	NA	<1.0	5		NA (No NH SW Standard)		NA (No NH SW Standard)	NA
		Chloride	SM 4500 CI E / USEPA Method 325.2	mg/L	230	250†	<2	100		230		230	Notify MVD & Town ***immediately*** upon receiving results from lab; ***immediate*** submittal of a mitigation/remediation plan. Depending on the severity and perceived threat to the Town's water supply, the MVD/Town reserves the right to shut down construction operations.
		Sodium	USEPA Method 200.8	mg/L	NA	100 - 250†	≤ 3.5	25		NA (No NH SW Standard)		NA (No NH SW Standard)	NA
		TPH-DRO	USEPA 8015B (reporting limit ≤ 50 µg/L)	µg/L	NA	NA	<240	50 / 250		50 / 250 (see action requirements for explanation)		50 / 250	If greater than 50 µg/L, but less than 250 µg/L, copy of gas chromatogram to be sent to MVD ***within 72 hours*** of receiving lab report. If greater than 250 µg/L, analyze sample for SVOCs (PAHs) ***within 7 days*** of receiving lab report with TPH-DRO exceedance.
		Perchlorate	Method 314.0, after field filtration with a 0.2 micron filter and collection into sterile container	µg/L	NA	24.5	<0.3	2		NA (No NH SW Standard)		NA (No NH SW Standard)	NA
		VOCs	USEPA Method 8260B**	µg/L	Varies per Analyte	Varies per Analyte	NS	Any Detection		NH SW Standard (see Action Level)		50% of NH SW Standard - varies by analyte†† (Inside Wellhead Protection District Only)	Notify MVD & Town ***within 48 hours.*** Submit mitigation/remediation plan describing corrective actions ***within 7 days.*** Also, resample and resubmit for analysis ***within 7 days.*** Depending on results of second analysis, MVD/Town may require immediate mitigation / remediation.
												NH SW Standard - Varies by analyte††	Notify MVD & Town ***immediately*** upon receiving results from lab; ***immediate*** submittal of a mitigation/remediation plan. Depending on the severity and perceived threat to the Town's water supply, the MVD/Town reserves the right to shut down construction operations.
		SVOCs (PAHs)*	USEPA Method 8270**	µg/L	Varies per Analyte	Varies per Analyte	NS	Any Detection		NH SW Standard (see Action Level)		NH SW Standard - Varies by analyte††	Notify MVD & Town ***immediately*** upon receiving results from lab; ***immediate*** submittal of a mitigation/remediation plan. Depending on the severity and perceived threat to the Town's water supply, the MVD/Town reserves the right to shut down construction operations.

TABLE 3
Summary of Surface Water Analytical Program, Action Levels, and Notification Requirements
Merrimack Premium Outlets
Merrimack, New Hampshire

Notes:

1. Maximum Contaminant Levels (MCLs) are from the United States Environmental Protection Agency (USEPA) National Primary Drinking Water Standards, updated June 2003, and the New Hampshire Department of Environmental Services (NHDES) Env-WS 310 Drinking Quality Standards including Secondary MCLs (effective November 30, 2005). The value listed for perchlorate is a drinking water equivalent level (DWEL), which was established by the USEPA on February 18, 2005. NHDES Surface Water Standards are taken from Env-Wq 1700, adopted May 12, 2008.

2. "MVD" indicates Merrimack Village District.
"Town" indicates the Town of Merrimack.
"NA" indicates not applicable/not available.
"SW" indicates surface water.
"NS" indicates not sampled/analyzed.
"BDL" indicates below detection limit.
"µmhos/cm" indicates micromhos per centimeter.
"mg/L" indicates milligrams per liter.
"µg/L" indicates micrograms per liter.
"TKN" indicates total Kjeldahl nitrogen.
"TPH-DRO" indicates total petroleum hydrocarbons - diesel range organics.
"VOCs" indicates volatile organic compounds.
"SVOCs (PAHs)" indicates semi-VOCs (polycyclic aromatic hydrocarbons).
"*" indicates SVOCs (PAHs) will only be analyzed for from a given location / sampling round if TPH-DRO exceeds 250 µg/L for that location / sampling round. To be analyzed within 7 days of receiving lab report indicating TPH-DRO exceedance of 250 µg/L.
"**" indicates refer to attached example laboratory data reports for lists of VOC and SVOC (PAH) analytes and standard reporting limits. We are not proposing to analyze the samples by the additional methods required to reach low detection limits (< 1 µg/L) for 1,4-dioxane; dibromochloropropane; and ethylene dibromide.
"†" indicates the MCL listed is a non-enforceable secondary MCL (SMCL) based on aesthetic criteria (NHDES Part Env-Ws 316).
"††" indicates refer to attached Table 4 for listing of NHDES Drinking Water (DW) Standards, USEPA MCLs, NHDES AGQS/GW-1 Groundwater Standards, and NHDES Surface Water Standards for VOCs and SVOCs (PAHs) to be analyzed for.

3. The Property Owner will send to the MVD and Town a copy of groundwater and surface water quality monitoring results within 30 days of receiving the relevant final analytical laboratory data report. These results will include: tabulated water quality data with comparison to notification and action levels, tabulated groundwater level/elevation data, Field Sampling Summary forms that document the sampling events and include the results of field screening parameters (refer to Table 1), and analytical laboratory data reports. Annual reports will also be submitted to the MVD and Town starting at end of year 2008, that include a summary discussion of the water quality data and water level data.

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TABLE 4
Summary of Groundwater and Surface Water VOC and SVOC Standards and Reporting Limits
Merrimack Premium Outlets
Merrimack, New Hampshire

Analyte	CAS No.	Concentrations in µg/l.					
		Groundwater/Drinking Standards			Surface Water Standards		EAI's Typical Undiluted Reporting Limits
		NHDES DW	USEPA MCLs	NHDES AGQS/GW-1	Fresh Water Acute	Fresh Water Chronic	
VOCs							**USEPA Method 8260B**
AVOCs							
Benzene	71-43-2	5	5	5	5,300	–	1
Butylbenzene (n-)	104-51-8			260			1
Butylbenzene (sec-)	135-98-8			260			1
Butylbenzene (tert-)	98-06-6			260			1
Ethylbenzene	100-41-4	700	700	700	32,000	–	1
Isopropylbenzene (Cumene)	98-82-8			800			1
Isopropyltoluene (p-)	99-87-6			260			1
Naphthalene	91-20-3 (VOC)			20	2,300	620	5
Propylbenzene (n-)	103-65-1			260			1
Styrene	100-42-5	100	100	100			1
Toluene	108-88-3	1,000	1,000	1,000			1
Trimethylbenzene (1,2,4-)	95-63-6			330			1
Trimethylbenzene (1,3,5-)	108-67-8			330			1
Xylene (m,p-)	108-38-3, 106-42-3			NS			1
Xylene (o-)	95-47-6			NS			1
Total Xylenes *	95-47-6, 108-38-3, 106-42-3	10,000	10,000	10,000			
CVOCs							
Carbon Tetrachloride	56-23-5	5	5	5	35,200	–	2
Chlorobenzene (Monochlorobenzene)	108-90-7	100	100	100	250a	50a	2
Chloroethane	75-00-3			NS			5
Chloroform (Trichloromethane) ¢	67-66-3	80†	80†	70	28,900	1,240	2
Chloromethane (Methyl Chloride)	74-87-3			30	11,000f	–	2
Chlorotoluene (2-)	95-49-8			100			2
Chlorotoluene (4-)	106-43-4			NS			2
Dichlorobenzene (1,2-)	95-50-1 (VOC)	600	600	600	1,120b	763b	1
Dichlorobenzene (1,3-)	541-73-1 (VOC)			600	1,120b	763b	1
Dichlorobenzene (1,4-)	106-46-7 (VOC)	75	75	75	1,120b	763b	1
Dichloroethane (1,1-)	75-34-3			81			2
Dichloroethane (1,2-)	107-06-2	5	5	5	118,000	20,000	2
Dichloroethene (1,1-)	75-35-4	7	7	7	11,600c	–	1
Dichloroethene (cis-1,2-)	156-59-2	70	70	70	11,600c	–	2
Dichloroethene (trans-1,2-)	156-60-5	100	100	100	11,600c	–	2
Dichloropropane (1,2-)	78-87-5	5	5	5	23,000d	5,700d	2
Dichloropropane (1,3-)	142-28-9			NS	23,000d	5,700d	2
Dichloropropane (2,2-)	594-20-7			NS	23,000d	5,700d	2
Dichloropropene (1,1-)	563-58-6			NS	6,060e	244e	2
Dichloropropene (cis-1,3-) **	10061-01-5			0.5	6,060e	244e	2
Dichloropropene (trans-1,3-) **	10061-02-6			0.5	6,060e	244e	2
Hexachlorobutadiene	87-68-3 (VOC)			0.5	90	9.3	0.5
Methylene Chloride (Dichloromethane)	75-09-2	5	5	5	11,000f	–	5
Tetrachloroethane (1,1,1,2-)	630-20-6			70	9,320g	–	2
Tetrachloroethane (1,1,2,2-)	79-34-5			2	9,320g	2,400	2
Tetrachloroethene (PCE)	127-18-4	5	5	5	5,280	840	2
Trichlorobenzene (1,2,3-)	87-61-6			NS	250a	50a	1
Trichlorobenzene (1,2,4-)	120-82-1 (VOC)	70	70	70	250a	50a	1
Trichlorobenzene (1,3,5-)	108-70-3			40	250a	50a	1
Trichloroethane (1,1,1-)	71-55-6	200	200	200	18,000h	–	2
Trichloroethane (1,1,2-)	79-00-5	5	5	5	18,000h	9,400	2
Trichloroethene (TCE)	79-01-6	5	5	5	45,000	21,900	2
Trichloropropane (1,2,3-)	96-18-4			40			2
Vinyl Chloride	75-01-4	2	2	2	–	–	2
Other VOCs							
Acetone	67-64-1			6,000			10
Bromobenzene	108-86-1			NS			2
Bromochloromethane	74-97-5			NS			2
Bromodichloromethane (Dichlorobromomethane) ¢	75-27-4	80†	80†	0.6	11,000f	–	0.5
Bromoform ¢	75-25-2	80†	80†	4	11,000f	–	2
Bromomethane (Methyl Bromide)	74-83-9			10	11,000f	–	2
Butanone (2-) (MEK)	78-93-3			4,000			10
Carbon Disulfide	75-15-0			70			5
Dibromo-3-chloropropane (1,2-) #	96-12-8	0.2	0.2	0.2			2
Dibromochloromethane (Chlorodibromomethane) ¢	124-48-1	80†	80†	60	11,000f	–	2
Dibromoethane (1,2-) (Ethylene dibromide)	106-93-4	0.05	0.05	0.05			2
Dibromomethane (Methylene bromide)	74-95-3			NS			2
Dichlorodifluoromethane	75-71-8			1,000	11,000f	–	5
Diethyl Ether (Ethyl Ether)	60-29-7			1,400			5
Diisopropyl ether (DIPE)	108-20-3			120			5
Ethyl tertiary butyl ether (ETBE)	637-92-3			40			5
Hexanone (2-)	591-78-6			NS			10
Methyl-2-pentanone (4-) (MIBK)	108-10-1			2,000			10
Methyl-t-butyl Ether (MTBE)	1634-04-4	13		13			5
Tertiary amyl methyl ether (TAME)	994-05-8			140			5
Tertiary butyl alcohol (TBA) (tert-Butanol)	75-65-0			40			30
Tetrahydrofuran	109-99-9			154			10
Trichlorofluoromethane	75-69-4			2,000	11,000f	–	5

TABLE 4
Summary of Groundwater and Surface Water VOC and SVOC Standards and Reporting Limits
Merrimack Premium Outlets
Merrimack, New Hampshire

Analyte	CAS No.	Concentrations in µg/l.						
		Groundwater/Drinking Standards			Surface Water Standards		EAI's Typical Undiluted Reporting Limits	
		NHDES DW	USEPA MCLs	NHDES AGQS/GW-1	Fresh Water Acute	Fresh Water Chronic		
PAHs							USEPA Method 8270C	USEPA Method 8270C-SIM
Acenaphthene	83-32-9			420	1,700	520	1	0.1
Acenaphthylene	208-96-8			420			1	0.1
Anthracene	120-12-7			2,100			1	0.1
Benzo(a)anthracene	56-55-3			0.1			1	0.1
Benzo(a)pyrene	50-32-8	0.2	0.2	0.2			1	0.1
Benzo(b)fluoranthene	205-99-2			0.1			1	0.1
Benzo(g,h,i)perylene	191-24-2			210			1	0.1
Benzo(k)fluoranthene	207-08-9			0.5			1	0.1
Chrysene	218-01-9			5			1	0.1
Dibenz(a,h)anthracene	53-70-3			0.1			1	0.1
Fluoranthene	206-44-0			280			1	0.1
Fluorene	86-73-7			280			1	0.1
Indeno(1,2,3-cd)pyrene	193-39-5			0.1			1	0.1
Methylnaphthalene (2-)	91-57-6			280			1	0.1
Naphthalene	91-20-3 (SVOC)			20	2,300	620	1	0.1
Phenanthrene	85-01-8			210			1	0.1
Pyrene	129-00-0			210			1	0.1

Notes:

1. "NHDES DW" Drinking Water Standards are Maximum Contaminant Levels as promulgated in New Hampshire Env-Ws 310 (November 30, 2005).
"USEPA MCLs" Drinking Water Standards are Maximum Contaminant Levels from the United States Environmental Protection Agency (USEPA) National Primary Drinking Water Standards (EPA 816-F-03-016, June 2003).
No VOCs or PAHs have NHDES- or USEPA-listed Secondary Maximum Contaminant Levels (SMCLs).
"NHDES AGQS/GW-1" Groundwater Standards are the New Hampshire Department of Environmental Services (NHDES) Ambient Groundwater Quality Standards (AGQSs) promulgated in Env-Or 600 (July 2008). AGQSs are equivalent to GW-1 Groundwater Standards as presented in the NHDES Contaminated Sites Risk Characterization and Management Policy (RCMP) (January 1998, with 2000 through 2007 revisions/addenda). The AGQS/GW-1 Groundwater Standards are intended to be protective of groundwater as a source of drinking water.
"Fresh Water Acute and Chronic" Surface Water Standards are for Protection of Aquatic Life as promulgated in New Hampshire Env-Wq 1703.21, Table 1703.1 (May 21, 2008).
"EAI's Typical Undiluted Reporting Limits" were provided by Eastern Analytical, Inc. (EAI) of Concord, New Hampshire for the analytes which will be reported for volatile organic compounds (VOCs) analyzed by USEPA Method 8260B, and polynuclear aromatic hydrocarbons (PAHs) analyzed by USEPA Method 8270C and USEPA Method 8270C in selective ion monitoring (SIM) mode. The SIM mode is typically applied to relatively uncontaminated samples.

2. Concentrations are presented in micrograms per liter (µg/l) which are equivalent to parts per billion (ppb).

3. "CAS No." indicates Chemical Abstract Service number.
"AVOCs" indicates aromatic VOCs.
"CVOCs" indicates chlorinated VOCs.

7. "NS" indicates the analyte is not listed in the RCMP/Env-Or 600.
"*" indicates the standards shown are for total xylenes.
"**" indicates the NHDES AGQS/GW-1 Standards shown are for 1,3-dichloropropene (no isomer specified).
"#" indicates the NHDES AGQS/GW-1 Standards shown are for dibromochloropropane (no isomer specified).
"†" indicates the NHDES DW and USEPA MCL for total trihalomethanes (bromoform, bromodichloromethane, dibromochloromethane and chloroform) is 80 µg/l.
"¢" indicates the RCMP lists the AGQS for total trihalomethanes (bromoform, bromodichloromethane, dibromochloromethane and chloroform) shall be 80 µg/l if the groundwater is contaminated by chlorinated water supplies.
"a" indicates the Surface Water Standards are for chlorinated benzenes and the sum of the concentrations of each isomer/compound shall meet the appropriate aquatic life criteria.
"b" indicates the Surface Water Standards are for dichlorobenzenes and the sum of the concentrations of each isomer shall meet the appropriate aquatic life criteria.
"c" indicates the Surface Water Standards are for dichloroethylenes (dichloroethenes) and the sum of the concentrations of each isomer shall meet the appropriate aquatic life criteria.
"d" indicates the Surface Water Standards are for dichloropropanes and the sum of the concentrations of each isomer shall meet the appropriate aquatic life criteria.
"e" indicates the Surface Water Standards are for dichloropropenes and the sum of the concentrations of each isomer shall meet the appropriate aquatic life criteria.
"f" indicates the Surface Water Standards are for halomethanes and the sum of the concentrations of each isomer/compound shall meet the appropriate aquatic life criteria.
"g" indicates the Surface Water Standards are for tetrachloroethanes and the sum of the concentrations of each isomer shall meet the appropriate aquatic life criteria.
"h" indicates the Surface Water Standards are for trichlorinated ethanes and the sum of the concentrations of each isomer shall meet the appropriate aquatic life criteria.