



# PORTLAND MAINE

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## Planning Division

Alexander Jaegerman, FAICP, Director

July 24, 2013

Seth Parker  
Avesta 409 Cumberland, LP  
307 Cumberland Avenue  
Portland, ME 04101

Bob Metcalf, Principal  
Mitchell & Associates  
70 Center Street  
Portland, ME 04101

Project Name:	<b>409 Cumberland Apartments</b>	Project ID:	2013-148
Address:	409 Cumberland Avenue	CBL:	036 H018001/H019001
Applicant:	Seth Parker, Avesta Housing		
Planner:	Caitlin Cameron, Urban Designer		

Dear Mr. Parker and Mr. Metcalf:

On, July 24, 2013, the Planning Authority approved the 409 Cumberland Apartment preload site work at 409 Cumberland Avenue. As provided in Section 14-532, this letter serves as the written permission from the Planning Authority to commence earth work associated with the required site preload prior to posting the performance guarantee. The commencement of site work is limited to the extent of work outlined in your letters dated July 11, 2013, preload/surcharge plan, preload erosion and sedimentation control plan, and listed below:

1. Site work including excavation of 1,000 cubic yards of material and a preload/surcharge program including the placement and compaction of temporary earthfill surcharge material
2. Required erosion and stormwater control measures
3. Use of sidewalk on Forest Avenue requiring the temporary re-routing of pedestrian and vehicular traffic with appropriate safety measures

Please be advised that you must obtain any permits that may be required from Public Works for the temporary closing of any sidewalks and any temporary loss of on-street parking.

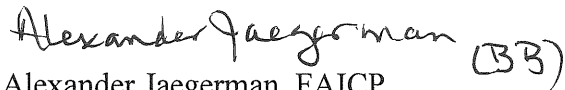
Prior to the start of any site or demolition work, a pre-construction meeting shall be held at the project site with the contractor, development review coordinator, Public Service's representative and owner to review the construction schedule, erosion and sedimentation controls, and other critical aspects of the site work. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting.

The approval to proceed with the demolition and site work is based on the submitted request of Mitchell & Associates and the approved preload/surcharge plans. If you need to make any modifications to the approved preload/surcharge plan, you must submit a revised plan for staff review and approval.

Please contact Philip DiPierro, Development Review Coordinator at 874-8632 regarding the preconstruction meeting. If there are any further questions, please contact the Planning Office at 874-8719.

If there are any questions, please contact the Planning Staff.

Sincerely,

 (BJ)

Alexander Jaegerman, FAICP  
Planning Division Director

Attachments:

1. Letter from Mitchell & Associates
2. Memorandum from Haley & Aldrich
3. Response from Mitchell & Associates
4. Submitted plans for Preload/Surcharge dated July 11, 2013 and revised 7-24-13; and Preload Erosion and Sedimentation Control Plan dated July 11, 2013 and revised 7-17-13

CC: Jeff Levine, AICP, Director of Planning and Urban Development  
Alexander Jaegerman, FAICP, Planning Division Director  
Barbara Barhydt, Development Review Services Manager  
Caitlin Cameron, Urban Designer  
Philip DiPierro, Development Review Coordinator, Planning  
Marge Schmuckal, Zoning Administrator, Inspections Division  
Tammy Munson, Inspection Division Director  
Lannie Dobson, Administration, Inspections Division  
Gayle Guertin, Administration, Inspections Division  
Michael Bobinsky, Public Services Director  
Katherine Earley, Engineering Services Manager, Public Services  
Bill Clark, Project Engineer, Public Services  
David Margolis-Pineo, Deputy City Engineer, Public Services  
Doug Roncarati, Stormwater Coordinator, Public Services  
Greg Vining, Associate Engineer, Public Services  
Michelle Sweeney, Associate Engineer  
John Low, Associate Engineer, Public Services  
Rhonda Zazzara, Field Inspection Coordinator, Public Services  
Mike Farmer, Project Engineer, Public Services  
Jane Ward, Administration, Public Services  
Jeff Tarling, City Arborist, Public Services  
Jeremiah Bartlett, Public Services  
Captain Chris Pirone, Fire Department  
Danielle West-Chuhta, Corporation Counsel  
Thomas Errico, P.E., TY Lin Associates  
David Senus, P.E., Woodard and Curran  
Rick Blackburn, Assessor's Department  
Approval Letter File

July 11, 2013

Mr. Alexander Jaegerman,  
Director of the Portland Planning Division  
City of Portland  
389 Congress Street  
Portland, Maine 04101

**RE: Avesta 409 Cumberland, LP  
Proposed 409 Cumberland Apartments  
Level I Site Alteration Application**

Dear Alex:

On behalf of Avesta 409 Cumberland, LP, we are pleased to submit the following Level I Site Alteration Application for implementing earth work associated with the required preload (approximately 1,600 CY of fill) to address settlement factors due to subsurface soil conditions. Due to project schedule constraints we are requesting the permit prior to final site plan approval in order to have a contractor on-board ready to start on August 16<sup>th</sup>. This submission has been prepared in compliance with requirements of the City of Portland Zoning and Site Plan Ordinance.

We met with the planning staff on July 3, 2013 to review the scope of work and identify issues that need to be addressed to meet city standards. The enclosed plans and supplemental information have been prepared to respond these initial staff comments.

Avesta has a very tight project time frame with construction to commence in December 2013. The preload phase, from time placement is completed, is approximately 3 months. To achieve the December 2013 start date, the preload phase must start no later the August 16, 2013.

### **Project Description**

The proposed preload area is confined to the northerly portion of the site extending from Forest Avenue to Mechanic Street. Approximately 1,000 cubic yards of material will be excavated from the southerly end of the site and utilized for the preload. Unsuitable material encountered during excavation will be removed from the site. To achieve the required depth of preload material, approximately 600 cubic yards of additional granular fill material will be imported. The imported material and some of the excavated material will be reused during the construction phase. Refer to attached project description prepared by Haley & Aldridge.

Egress to the site will be from Forest Avenue and Mechanic Street as shown on the plan. There appears to be eight (8) existing parking spaces along the project limits on Mechanic Street. To allow egress from Mechanic Street the existing configuration of the parking will be modified to maintain the same number of spaces and provide safe egress. During the earthwork phase gates will be monitored for entering and exiting vehicles to maintain safe pedestrian circulation on sidewalks.

### **Submission**

This submission includes the following information:

1. Cover letter, dated July 11, 2013
2. Level I Site Alteration Application & Checklist
3. Application Fee: \$200 provided separately
4. Project description prepared by Haley & Aldridge
5. One set of plans (24" x 36")
6. One set of plans (11"x17")
7. CD File

Mr. Alexander Jaegerman  
Page 3

We trust that the information provided addresses all of the submission requirements. If you desire any additional information or have any questions, please do not hesitate to contact us.

Sincerely,  
Mitchell & Associates

A handwritten signature in black ink that reads "BOB METCALF". The letters are stylized and slanted to the right.

Robert B. Metcalf, Principal  
Maine Licensed Landscape Architect

Enclosures

cc: Seth Parker  
Ben Walter  
Wayne Chadbourne

Haley & Aldrich, Inc.  
75 Washington Avenue  
Suite 203  
Portland, ME 04101

Tel: 207.482.4600  
Fax: 207.775.7666  
HaleyAldrich.com



## MEMORANDUM

11 July 2013  
File No. 31796-100

**TO:** City of Portland Planning Division  
Alex Jagerman

**C:** Avesta Housing; Attn: Seth Parker  
Wright-Ryan Construction, Inc.; Attn: Cordelia Pitman  
CWS Architects; Attn: Ben Walter  
Mitchell Associates; Attn: Bob Metcalf

**FROM:** Haley & Aldrich, Inc.  
Bryan C. Steinert, P.E., Wayne A. Chadbourne, P.E.

**SUBJECT:** Foundation Design Considerations  
Proposed Housing Development  
409 Cumberland Avenue  
Portland, Maine

This memorandum provides a summary of subsurface conditions and foundation design considerations and presents a description of a preload/surcharge program that will be implemented by the project as a cost-effective means to reduce post-construction total and differential building settlement. The information provided herein is intended to support Avesta Housing (Avesta) in obtaining permission from the City of Portland (City) to construct the temporary preload/surcharge in advance of City Planning Board approval for the project and prior to building construction.

### SITE LOCATION

The site is located at 409 Cumberland Avenue in Portland, Maine. The approximate 0.4-acre site is bound by Cumberland Avenue to the south, Forest Avenue to the west, Mechanic Street to the east, and privately owned residential parcels to the north. The Back Bay Tower complex is located east of the project site at the northeast corner of the intersection of Cumberland Avenue and Mechanic Street. Existing grades generally rise from north to south across the site, from El. 64 at the northeast corner of the site, to El. 80 along the property line adjacent to Cumberland Avenue (southern site boundary).

### PROPOSED SITE DEVELOPMENT

Avesta Housing (Avesta) is currently planning to construct a four-story, 57-unit residential building. As currently envisioned, the residential building will be approximately 11,000 square feet (sf) in plan dimension and will include an outdoor plaza and parking area in the northeastern portion of the site,

adjacent to Mechanic Street. In addition, limited parking will be provided below the lowest residential level of the building that will be accessed from Mechanic Street and the outdoor parking area.

We understand that the finish floor elevation of the lowest level floor slab will be approximately equal to the existing ground surface elevation near the proposed entrance to the site along Mechanic Street, or approximately El. 68. In addition, the planned lowest level floor slab along Cumberland Avenue is approximately equal to the existing ground surface elevation or El. 81.

## **SUBSURFACE EXPLORATIONS AND CONDITIONS**

Multiple subsurface exploration programs, consisting of test borings and test pits, have been completed on the subject site. Six test borings were drilled between in February 2005 to support the design and construction of the Waterview Apartments at Bayside development project, which was never constructed. In addition, nine test borings and six test pits were drilled and excavated in April and May 2013 to support the Avesta development project.

The subsurface conditions encountered in the explorations (test borings and test pits) completed at the site consist of man-placed fill, marine silt/clay, marine sand, glacial till and bedrock. Marine silt/clay deposit was encountered beneath the man-placed fill layer in each test boring with the exception of those drilled in the northeastern and southeastern portions of the site. The top of the deposit was encountered at depths ranging from approximately 3 to 7 ft BGS and ranged in thickness from approximately 3 to 10 ft. The deposit generally consisted of either lean CLAY (CL) with occasional to frequent fine sand partings, lenses and layers, or SILT (ML) with various amounts of fine sand. The deposit was typically medium stiff to very stiff.

## **FOUNDATION DESIGN CONSIDERATIONS**

Based on the magnitude of the design loads and the nature and extent of compressible marine silt/clay soil across the site, we evaluated the range of total and differential settlements anticipated throughout the building footprint assuming the proposed building would be supported by shallow spread footing foundations.

Our analyses indicate that the anticipated building loads will result in total footing settlement ranging from 1 to 1.5 in. (without the roof-top garden) and from 1.5 to 2 in. (with roof-top garden) in the northern portion of the building due to consolidation settlement of the marine silt/clay deposit. In the southeastern portion of the building (near the Mechanic Street and Cumberland Avenue intersection), some of the column and continuous wall footings will bear directly on bedrock and therefore negligible settlements are anticipated.

In general, the estimated magnitude of consolidation settlement (1 to 2 in.), assuming that the proposed building is supported on shallow spread footing foundations, is unacceptable to the Owner and project team. As a result, we considered the following foundation alternatives: 1) a driven or drilled "deep" foundation system, 2) ground improvement such as aggregate piers, and 3) a preload/surcharge option over a portion of the proposed building footprint to reduce post-construction settlement to within tolerable limits and allow the use of shallow spread footing foundations.

Based on discussions with the project team, it was decided that the design of the preload/surcharge option should be developed as it is the most cost effective, technically feasible option to support the building's structural column loads. Based on discussions with Avesta, it was determined that a three month surcharge duration would not affect the overall project schedule.

Implementation of a preload/surcharge program will allow the majority of consolidation settlement of the marine silt/clay layer to occur prior to building construction and limit post-construction settlement of building to within tolerable limits.

### **PRELOAD/SURCHARGE PROGRAM**

Details of the surcharge program include:

1. Secure the site by installing temporary fencing along the perimeter.
2. Excavate in-situ soil starting at the southern property line (along Cumberland Avenue) down at approximately 2H:1V to approximately El. 69. It should be noted that excavation of this soil provides some material that can be reused to construct the temporary preload/surcharge, reducing the amount of fill that would need to be imported to the site. This excavation would be required to install foundations and construct the lowest level parking area regardless of whether the preload/surcharge alternative was selected. See the attached plan for the approximate limits of excavation.
3. Construct temporary erosion/sediment and stormwater control measures.
4. Install geotechnical instrumentation to monitor surcharge progress (five settlement platforms). Settlement platforms consist of a square piece of plywood (platform) that is placed on the existing ground surface within the preload/surcharge area prior to fill placement (see attached detail). As fill is placed, steel riser pipes extend from the platform above the top of fill.
5. Install survey monitoring points on the jersey barriers on the north and west edges of the preload/surcharge area.
6. Place and compact temporary earthfill surcharge material up to approximately El. 79 (8 to 12 ft above existing ground surface) in the northern portion of the site. The crest of the surcharge area is approximately 35 by 65 ft in plan dimension (see attached plan and detail). The slopes should not be steeper than 1.5H:1V. Where necessary (adjacent to the existing building and adjacent to Forest Avenue), 3.5-ft high jersey barriers will be required to reduce the footprint of the surcharge fill area.
7. Allow settlement to occur under surcharge fill while settlement monitoring is conducted. Settlement monitoring generally consists of periodically surveying the settlement platforms and monitoring elevations of the platforms as consolidation settlement occurs.
8. Remove temporary surcharge fill after monitoring results indicate post-construction settlement will be within tolerable limits (estimated 3-month duration).
9. Begin proposed building construction.

We trust this information meets your present needs. Please do not hesitate to contact us should you have any questions, comments or concern regarding the information provided in this memorandum.



July 23, 2013

Ms. Caitlin Cameron; Urban Designer  
City of Portland  
389 Congress Street, 4<sup>th</sup> Floor  
Portland, Maine 04101

**Re: 409 Cumberland Avenue Apartments  
Responses to Staff Review Pre-Load Permit Request**

Dear Caitlin:

The following responses and attached documentation have been prepared in response to staff review comments prepared by David Margolis-Pineo in an emails dated July 17, 2013. The majority of the comments in the email were relative to the Level III Site Plan application currently under review. Responses to Level III comments will be provided in a subsequent submission. The following responses and plan revisions have been prepared to address comments related to the Pre-Load plans:

13. Applicant is requested to submit a stamped site survey for review and approval.  
*A stamped site survey shall be submitted for review.*
15. There are two Sheet 2 and two Sheet 3 in plan set. Applicant may wish to reconsider sheet numbering.  
*There are two different submissions, one is the Level III Site Plan submission and one set is specifically for the Pre-Load Permit request.*

16. On Sheet 2 of the Pre-Load plan, the applicant is requested to indicate width of proposed road markings. Please show the proposed “four inch solid white” pavement marking on the North side of Forest Ave continuing a consistent 7” off the curb line from the proposed Jersey barriers to the intersection of Cumberland Ave intersection.

*The plan has been revised to show the four inch solid white line extending to the intersection with Cumberland Ave off-set 7’ from the curb line on the North side of Forest Ave.*

17. The City Reserves the right to request a change in the temporary pavement marking within 30 days if the proposed layout is not functioning as intended.

*Applicant understands this requirement.*

19. The applicant is requested to meet with the management of the YMCA to review the proposed temporary pavement marking layout.

*The applicant will meet with the YMCA management to review the proposed temporary pavement marking layout.*

20. Please show detail/location of proposed signage informing motorist of “Revised Traffic Pattern Ahead.”

*The plan has been revised to show location of required signage and a detail has been added to the plan set.*

We trust that these responses and plan revisions address the staff comments. Should you have any questions or comments please do not hesitate to contact me.

Sincerely,  
Mitchell & Associates



Robert B. Metcalf, Principal  
Maine Licensed Landscape Architect

Enclosure

Cc: Seth Parker  
Ben Walter

**GENERAL NOTES:**

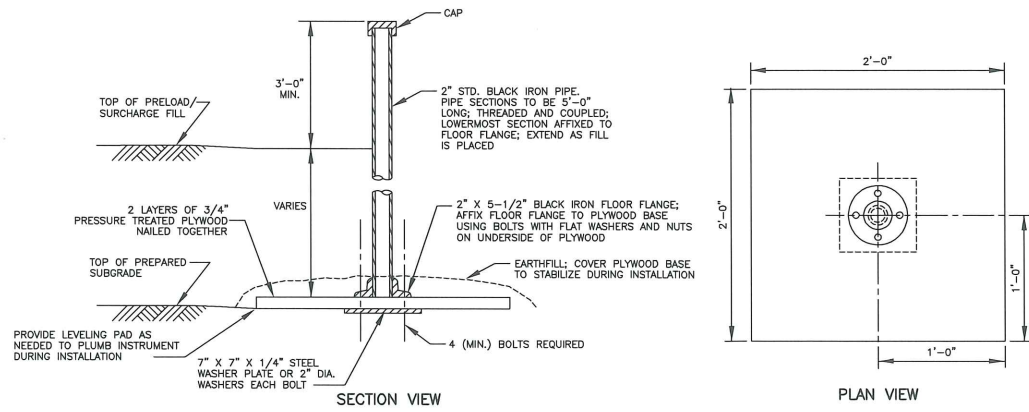
- ALL WORK WITHIN THE ROAD RIGHT-OF-WAY AND ALL UTILITIES CONNECTING TO INFRASTRUCTURE WITHIN THE ROAD SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
- BEARINGS ARE BASED ON THE CITY CONTROL POINTS. BEARING FROM L757-34-112 TO L757-34-111 IS N 61°07'31" E.
- THE PROJECT BENCH MARK IS TOP OF GRANITE 'M' MONUMENT AT THE WESTERLY CORNER OF FOREST AVENUE AND CUMBERLAND AVENUE WITH AN ELEVATION OF 80.57' BASED ON CITY DATUM NGVD 1929.
- THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION.
- THE APPLICANT SHALL MEET WITH YMCA MANAGEMENT TO REVIEW THE TEMPORARY TRAFFIC PATTERN PROPOSED DURING PRELOAD/SURCHARGE DURATION.
- CONTRACTOR SHALL PAINT OVER EXISTING LANE STRIPING AS NECESSARY. TEMPORARY LANE STRIPING TO BE PROVIDED AS SHOWN ON PLAN. UPON END OF PRE-LOAD PHASE OR PROJECT CONSTRUCTION, CONTRACTOR SHALL REMOVE TEMPORARY LANE STRIPING AND RE-STRIP LANE MARKING TO CONFORM TO EXISTING LAYOUT. CONTRACTOR SHALL COORDINATE TEMPORARY AND PERMANENT STRIPING WITH CITY OF PORTLAND DEPARTMENT OF PUBLIC SERVICES.

**PLAN REFERENCES**

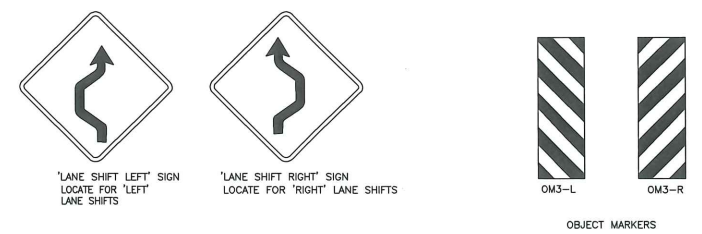
- 'PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR NEW ENGLAND TELEPHONE + TELEGRAPH CO.' DATED JUNE 30, 1970, REVISED
- 'PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR NEW ENGLAND SEPT. 14, 1971 BY H.I. + E.C. JORDAN, TELEPHONE + TELEGRAPH CO.' DATED JUNE 30, 1970 BY H.I. +
- 'PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR THOMAS F. AND E.C. JORDAN.
- 'MECHANIC STREET RECONSTRUCTION AS-BUILT 1991' CITY ENGINEERING MARY W. MOSER. STANDARD BOUNDARY SURVEY DATED 8 AUG. 1986 BY H.I. + E.C. JORDAN.
- PORTLAND WATER DISTRICT-PORTLAND SEWER SYSTEM INFILTRATION- DEPT. DWG. 942/G.
- THE GATEWAY, A CONDOMINIUM ON HIGH STREET, PORTLAND, MAINE INFLOW ANALYSIS 1981 BY HUNTER-BALLEW ASSOCIATES. MADE FOR GARAGE ASSOCIATES OR PORTLAND DATED JULY 14, 1986 BY OWEN HASKELL, INC.
- 'BOUNDARY + TOPOGRAPHIC SURVEY ON FOREST AVE. CUMBERLAND AVE. + MECHANIC ST., PORTLAND, MAINE MADE FOR WATERVIEW DEVELOPMENT LLC' DEC. 3, 2003 BY OWEN HASKELL, INC. LAST REVISED JUNE 1, 2005 AND RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 205, PAGE 384.

**TEMPORARY EARTHFILL PRELOAD/SURCHARGE CONSTRUCTION SEQUENCE:**

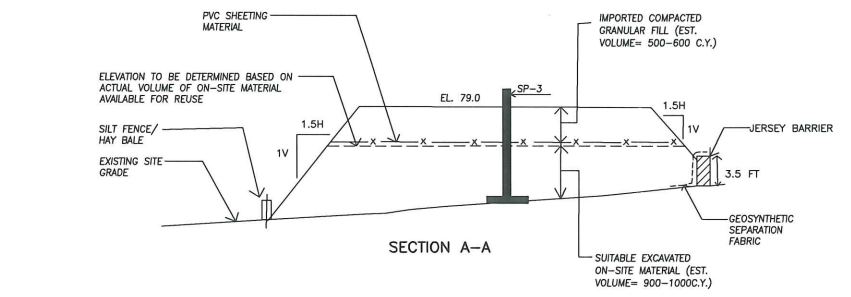
- THE OWNER SHALL PROVIDE, PLACE AND PROTECT A TEMPORARY BENCHMARK AT A LOCATION ON THE SITE TO BE DETERMINED (SEE GENERAL NOTE 3). THE BENCHMARK WILL BE USED TO DETERMINE THE ELEVATION OF SETTLEMENT PLATFORMS AND MONITORING POINTS DURING AND AFTER CONSTRUCTION. THE BENCHMARK WILL BE ESTABLISHED WITH SUFFICIENT DEPTH THAT IT WILL NOT BE IMPACTED BY FROST. THE BENCHMARK ELEVATION WILL BE PROVIDED TO THE ENGINEER AND CONTRACTOR. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN CLEAR LINE-OF-SIGHT FROM THE BENCHMARK TO THE EARTHFILL SURCHARGE AREA.
- PLACE JERSEY BARRIERS AND SITE SECURITY FENCING AT THE LOCATIONS SHOWN ON THE PLANS.
- PROVIDE, PLACE AND PROTECT SETTLEMENT PLATFORMS IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- EXCAVATE IN-SITU FILL AND NATURALLY DEPOSITED SOILS WITHIN THE AREA AND TO THE ELEVATIONS SHOWN ON THE PLANS. THE CONTRACTOR SHALL CAREFULLY SEGREGATE MARINE CLAY SOIL FROM THE EXCAVATED MATERIAL AND DISPOSE OF AT AN ACCEPTABLE OFF-SITE LOCATION. MARINE CLAY SOIL SHALL NOT BE REUSED AS PRELOAD/SURCHARGE FILL. THE CONTRACTOR SHALL REUSE IN-SITU FILL AND MARINE SAND SOIL MATERIAL AS PRELOAD/SURCHARGE FILL.
- SHALLOW BEDROCK MAY BE ENCOUNTERED WITHIN THE EXCAVATION AREA SHOWN ON THE PLANS. EXCAVATION SHALL BE COMPLETED TO THE ELEVATIONS SHOWN ON THE PLANS OR TO THE TOP OF BEDROCK, WHICHEVER IS SHALLOWER. SOIL SLOPES EXCAVATED ADJACENT TO EXPOSED BEDROCK SURFACES SHALL BE CONSTRUCTED NO STEEPER THAN 2H:1V.
- PLACE AND COMPACT EXCAVATED MATERIAL (EXCLUDING MARINE CLAY) TO THE LIMITS SHOWN ON THE PLANS. THE EXCAVATED MATERIAL SHALL BE PLACED IN MAXIMUM 12-INCH THICK LOOSE LIFTS AND COMPACTED WITH A SELF-PROPELLED VIBRATORY STEEL-WHEELED ROLLER UNTIL FIRM. LIFTS OF MATERIAL SHALL BE COMPACTED TO A PERCENTAGE OF THE MATERIAL'S MAXIMUM DRY DENSITY THAT WILL RESULT IN A MINIMUM IN-SITU UNIT WEIGHT EQUAL TO 115 POUNDS PER CUBIC FOOT AS DETERMINED IN ACCORDANCE WITH ASTM TEST METHOD D-1557. CONTRACTOR SHALL NOT PLACE FIRST LIFT OF PRELOAD/SURCHARGE FILL UNTIL OWNER HAS PERFORMED INITIALIZATION SURVEY OF SETTLEMENT PLATFORMS.
- ONCE ALL EXCAVATED IN-SITU FILL AND NATURALLY DEPOSITED SOILS (EXCLUDING MARINE CLAY) ARE PLACED AND COMPACTED WITHIN THE PRELOAD/SURCHARGE AREA, A PVC SHEETING MATERIAL SHALL BE PLACED OVER THE SURFACE TO DELINEATE BETWEEN REUSED MATERIAL AND IMPORTED MATERIAL NECESSARY TO COMPLETE THE PRELOAD/SURCHARGE TO THE LIMITS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE ELEVATION OF THE TOP OF THE REUSED MATERIAL AND SUBMIT TO THE OWNER PRIOR TO PLACEMENT OF IMPORTED PRELOAD/SURCHARGE MATERIAL.
- CONTRACTOR SHALL SUBMIT A 20-LB SAMPLE OF COMPACTED GRANULAR FILL (CGF) MATERIAL TO THE OWNER FOR LABORATORY TESTING AT LEAST 96 HOURS PRIOR TO IMPORTING THE MATERIAL TO THE SITE TO CONFIRM THAT THE MATERIAL MEETS THE REQUIREMENTS OUTLINED IN THE SPECIFICATIONS.
- IMPORT COMPACTED GRANULAR FILL (CGF) AS NECESSARY TO COMPLETE THE PRELOAD/SURCHARGE TO THE LIMITS SHOWN ON THE DRAWINGS. CGF SHALL BE PLACED IN MAXIMUM 12-INCH-THICK LOOSE LIFTS AND COMPACTED WITH A SELF-PROPELLED VIBRATORY STEEL-WHEELED ROLLER TO A MINIMUM OF 95 PERCENT RELATIVE COMPACTION THAT WILL RESULT IN A MINIMUM IN-SITU UNIT WEIGHT EQUAL TO 115 POUNDS PER CUBIC FOOT. AS DETERMINED IN ACCORDANCE WITH ASTM TEST METHOD D-1557.
- EXTEND SETTLEMENT PLATFORMS AS NECESSARY DURING PRELOAD/SURCHARGE FILL PLACEMENT. THE CONTRACTOR SHALL COORDINATE PRELOAD/SURCHARGE FILL AND SETTLEMENT PLATFORM EXTENSION PLACEMENT WITH THE OWNER TO ALLOW FOR SURVEY OF THE SETTLEMENT PLATFORM RISER PIPES BEFORE AND AFTER EXTENSIONS ARE PLACED. THE CONTRACTOR SHALL ALLOW THE OWNER TO MONITOR SETTLEMENT PLATFORMS AND MONITORING POINTS THROUGHOUT PRELOAD/SURCHARGE CONSTRUCTION (STARTING AT THE BEGINNING OF FILL PLACEMENT). CONTRACTOR SHALL NOT PLACE SUBSEQUENT LIFTS OF PRELOAD/SURCHARGE FILL UNTIL OWNER HAS PERFORMED SURVEY OF SETTLEMENT PLATFORMS.
- THE CONTRACTOR SHALL PROTECT SETTLEMENT PLATFORMS AT ALL TIMES DURING PRELOAD/SURCHARGE FILL PLACEMENT. IF SETTLEMENT PLATFORMS ARE DAMAGED AND ARE JUDGED TO BE IMPERFECT BY THE OWNER, THE CONTRACTOR SHALL REPAIR AND/OR REPLACE THE SETTLEMENT PLATFORM(S) AS ACCEPTABLE TO THE OWNER, AT NO ADDITIONAL COST TO THE OWNER.
- PRELOAD/SURCHARGE FILL (EXCAVATED IN-SITU FILL AND NATURALLY DEPOSITED SOILS (EXCLUDING MARINE CLAY) AND CGF) SHALL NOT BE PLACED ON SNOW, ICE OR FROZEN SOIL. PRELOAD/SURCHARGE FILL SHALL NOT BE ALLOWED TO FREEZE PRIOR TO COMPACTION. AT THE END OF EACH DAY'S OPERATIONS, ALL SOILS SHALL BE SLOPED TO PROVIDE DRAINAGE OF WATER AND COMPACTED WITH A SMOOTH-DRUMMED ROLLER.
- PRELOAD/SURCHARGE FILL DURATION IS ANTICIPATED TO BE 3 MONTHS, MEASURED FROM THE COMPLETION OF FILL PLACEMENT.



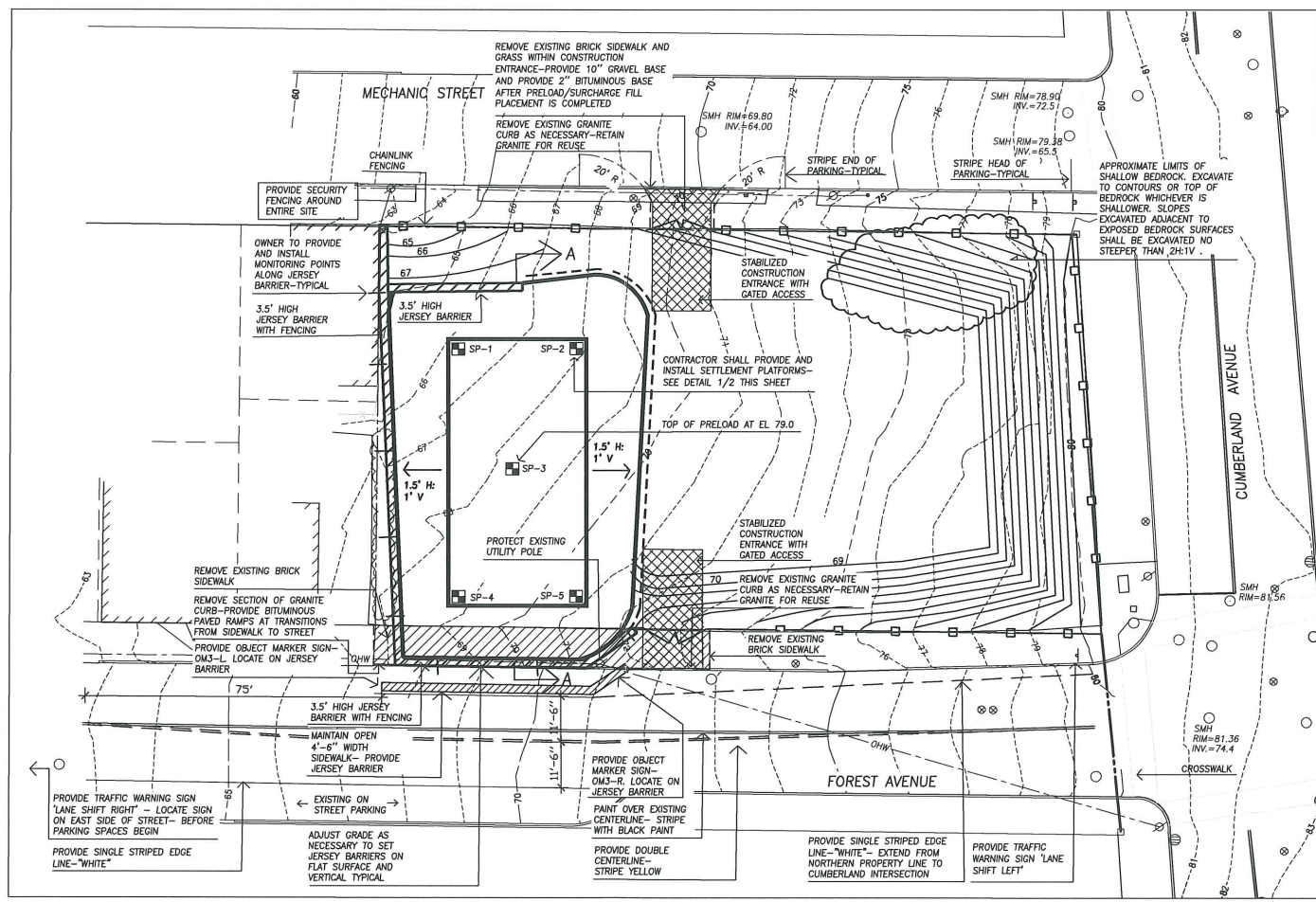
1 TYPICAL SETTLEMENT PLATFORM DETAIL  
NOT TO SCALE



3 TRAFFIC WARNING SIGNS (YELLOW)  
NOT TO SCALE



2 TYPICAL SECTION OF BUILDING PRELOAD/SURCHARGE  
NOT TO SCALE



4 PRELOAD/SURCHARGE GRADING PLAN  
SCALE: 1"=20'

**LEGEND**

	EXISTING	PROPOSED
PROPERTY LINE	---	---
GRANITE MONUMENT	□	□
MANHOLE	○	○
UTILITY POLE	⊕	⊕
WATER VALVE	⊕ WV	⊕ WV
SANITARY SEWER	ES	ES
STORM DRAIN	ESD	ESD
WATER	EW	EW
TELEPHONE	T	T
GAS	EG	EG
OVERHEAD WRES	OHW	OHW
CHP CABLE LINES	E	E
CURB	---	---
SALT FENCE	X-X	X-X
SIGN	---	---
CONTOUR	---72---	---56---
BRICK REMOVAL	---	---
JERSEY BARRIER	---	---
SETTLEMENT PLATFORM	---	---
ROAD STRIPING	---	---
STRAW BALE BARRIER	---	---

**Owner:**  
FINE TREE HOUSING  
307 Cumberland Avenue  
Portland, Maine 04101

**Applicant:**  
AVESTA  
LANDSCAPE ARCHITECTS

AVESTA 409 CUMBERLAND, LP  
307 Cumberland Avenue Tel: (207) 553-7777  
Portland, Maine 04101 Fax: (207) 553-7778

**Prepared By:**  
Mitchell  
& Associates  
LANDSCAPE ARCHITECTS

70 Center Street Tel: (207) 774-4427  
Portland, Maine 04101 Fax: (207) 874-2460

**CWS**  
CWS  
ARCHITECTS

409 CUMBERLAND AVENUE  
PORTLAND, MAINE 04101  
TEL: (207) 774-4427  
FAX: (207) 874-2460

**409 CUMBERLAND**

**409 Cumberland Avenue Portland, Maine**

**Date:**  
JULY 11, 2013

**Issued For:**  
PERMITTING

**Revisions:**  
Per staff comments  
7-17-13  
7-24-13

Reproduction or reuse of this document without the expressed written consent of Mitchell & Associates is prohibited.

**Title:**  
PRELOAD/SURCHARGE PLAN

**Scale:**  
AS NOTED

**North:**  
North arrow pointing up.

**Sheet No.:**  
2



**EROSION AND SEDIMENTATION CONTROL PLAN**

THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER THE PRELOAD INSTALLATION AT 409 CUMBERLAND LOCATED AT FOREST AVENUE AND CUMBERLAND AVENUE IN PORTLAND, MAINE. THIS PLAN IS BASED ON THE MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION BEST MANAGEMENT PRACTICES, MARCH, 2003.

**A. PROPOSED DEVELOPMENT**

THE PROJECT CONSISTS OF THE INSTALLATION OF APPROXIMATELY 1,450 CY OF FILL MATERIAL TO PRELOAD THE SITE PRIOR TO THE CONSTRUCTION OF A FIVE STORY, 57 UNIT APARTMENT BUILDING, APPROXIMATELY 1,000 CY OF THE REQUIRED FILL SHALL BE EXCAVATED ON SITE. THE PARCEL IS 18,011 SQUARE FEET WITH 100% OF THE SITE IMPERVIOUS.

**B. EROSION CONTROL PRACTICES/TEMPORARY MEASURES**

THE FOLLOWING TEMPORARY MEASURES TO CONTROL EROSION AND SEDIMENTATION SHALL BE UTILIZED:

1. EACH GROUND AREA, OPENED OR EXPOSED, WHETHER DIRECTLY OR INDIRECTLY DUE TO THE DEVELOPMENT, SHALL BE MINIMIZED AND SHALL BE STABILIZED WITHIN 15 DAYS OF INITIAL DISTURBANCE OF SOIL AND SHALL BE PERMANENTLY STABILIZED WITHIN SEVEN DAYS OF FINAL GRADING. THIS STATEMENT APPLIES TO DISTURBED AREAS BEYOND THE LIMITS OF THE PROPOSED BUILDING. EXPOSED AREAS SHALL BE STABILIZED PRIOR TO A RAIN EVENT.
2. TEMPORARY SOIL STABILIZATION SHALL BE EITHER BY TEMPORARY MULCHING, OR STRUCTURES.

TEMPORARY MULCHING: MULCH SHALL CONSIST OF CHOPPED HAY OR STRAW MULCH AND SPREAD BY MECHANICAL BLOWER EVENLY AT A RATE OF 150-200#/1000 SF. TEMPORARY MULCH SHALL BE REMOVED PRIOR TO PERMANENT SOIL STABILIZATION. MULCH MUST NOT BE PLACED OVER SNOW. SNOW SHALL BE REMOVED PRIOR TO MULCHING.

**C. WINTER CONSTRUCTION**

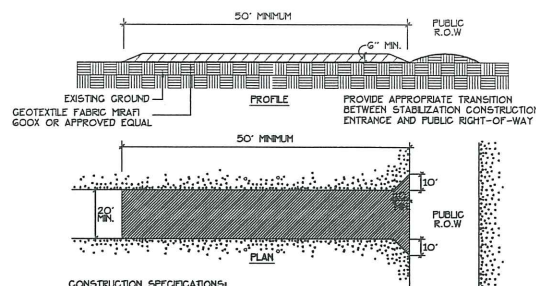
THE WINTER CONSTRUCTION PERIOD IS FROM NOVEMBER 1 THROUGH APRIL 15. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE PROCEEDING 15 DAYS AND THAT CAN BE MULCHED BY ONE DAY PRIOR TO ANY SNOW EVENT. HAY AND STRAW MULCH RATE SHALL BE A MINIMUM OF 150 LBS./1,000 S.F. (3 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. THE CONTRACTOR SHALL INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE, DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

**D. CONSTRUCTION SEQUENCE**

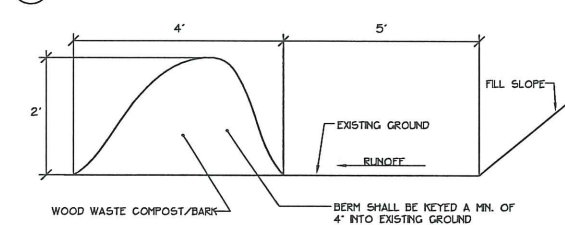
1. INSTALL EROSION CONTROL DEVICES, SILT FENCE, STABILIZED CONSTRUCTION ENTRANCE AND OR SEDIMENT BARRIER.
2. TEMPORARILY STABILIZE DISTURBED AREAS BY MULCHING ALL EXPOSED SOIL WITHIN 15 DAYS OF INITIAL DISTURBANCE.
3. EXCAVATE MATERIAL ON SITE + INSTALL PRELOAD
4. PERFORM CONTINUING MAINTENANCE ON ALL EROSION AND SEDIMENTATION CONTROL DEVICES AND MEASURES.
5. REMOVAL OF PRELOAD FILL TO OCCUR DECEMBER 2013. EROSION CONTROL MEASURES FOR CONSTRUCTION OF 57 UNIT BUILDING SHALL BE IMPLEMENTED.

**E. SITE INSPECTION + MAINTENANCE**

WEEKLY INSPECTIONS, AS WELL AS ROUTINE INSPECTIONS FOLLOWING RAINFALLS OF 1/2" OVER A CONSECUTIVE 24-HOUR PERIOD, SHALL BE CONDUCTED BY THE SITE CONTRACTOR OF ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES UNTIL FINAL ACCEPTANCE OF THE PROJECT. NECESSARY REPAIRS SHALL BE MADE TO CORRECT UNDERMINING OR DETERIORATION. FINAL ACCEPTANCE SHALL INCLUDE A SITE INSPECTION TO VERIFY THE STABILITY OF ALL DISTURBED AREAS AND SLOPES. UNTIL FINAL INSPECTION, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL IMMEDIATELY BE CLEANED, AND REPAIRED BY THE SITE CONTRACTOR AFTER STORM EVENTS. DISPOSAL OF ALL TEMPORARY EROSION CONTROL DEVICES SHALL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR. CONTINUED TEMPORARY MAINTENANCE AND LONG TERM PROVISIONS FOR PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROL FACILITIES AFTER ACCEPTANCE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF AVESTA HOUSING, LP, OR ASSIGNS.



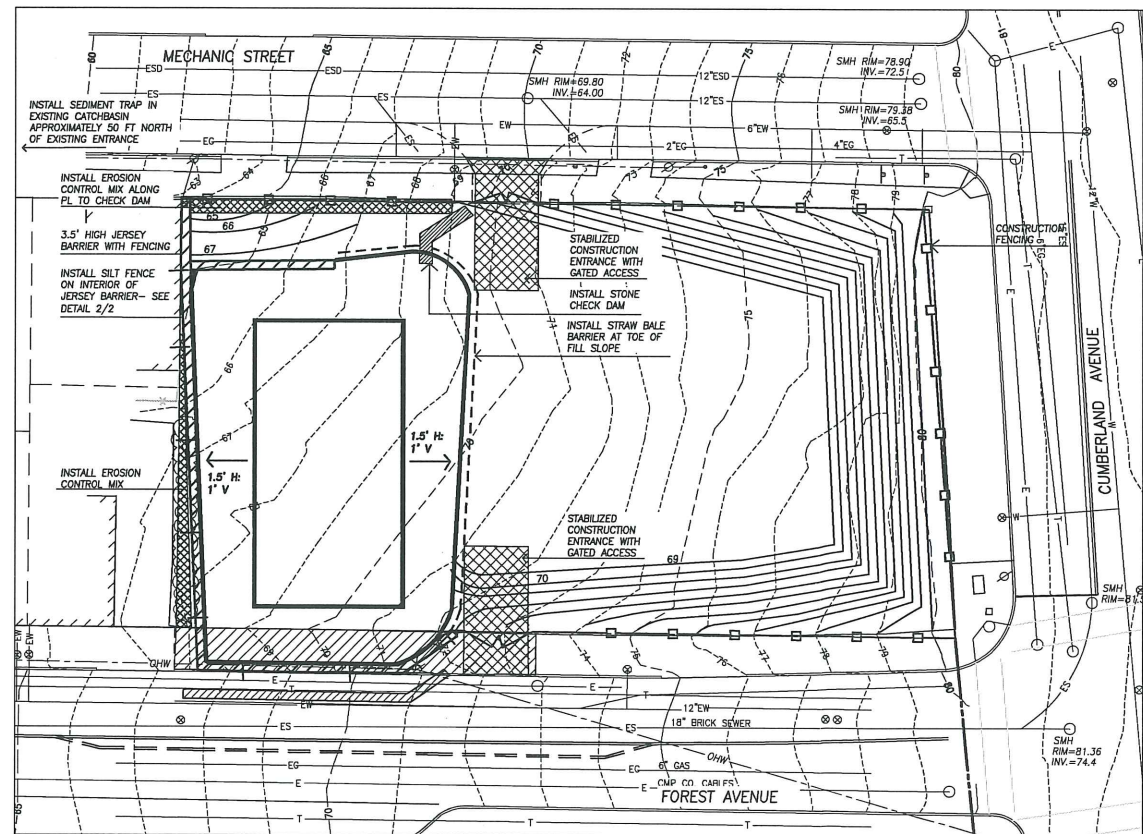
**1 STABILIZED CONSTRUCTION ENTRANCE**  
NOT TO SCALE



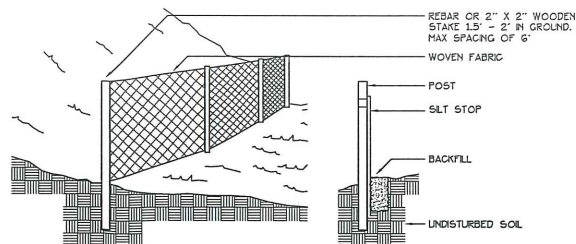
**2 SILT FENCE**  
NOT TO SCALE

- NOTES:
1. THE WOOD WASTE COMPOST/BARK MIX SHALL CONFORM TO THE FOLLOWING STANDARDS:
    - A. MOISTURE CONTENT - 30-60%.
    - B. pH - 5.0 - 8.0.
    - C. SCREEN SIZE - 100% LESS THAN 3", MAX. 70% LESS THAN 1".
    - D. NO LESS THAN 40% ORGANIC MATERIAL (BY WEIGHT) BY LOSS OF IGNITION.
    - E. NO STONES LARGER THAN 2" IN DIAMETER.
    - F. SILTS, CLAYS OR SUGAR SANDS ARE NOT ACCEPTABLE IN THE MIX.
  2. THE COMPOST BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.
  3. THE WOOD WASTE COMPOST/BARK FILTER BERM MAY BE USED IN LIEU OF SILTATION FENCE, AT THE TOE OF SHALLOW SLOPES, ON FROZEN GROUND, LEDGE OUT CROPS, VERY ROOTED FORESTED AREA OR AT THE EDGE OF GRAVEL PARKING AREAS.
  4. BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS COMPLETED OR 70% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED BY SPREADING SUCH THAT NATIVE EARTH CAN BE SEEN BELOW.

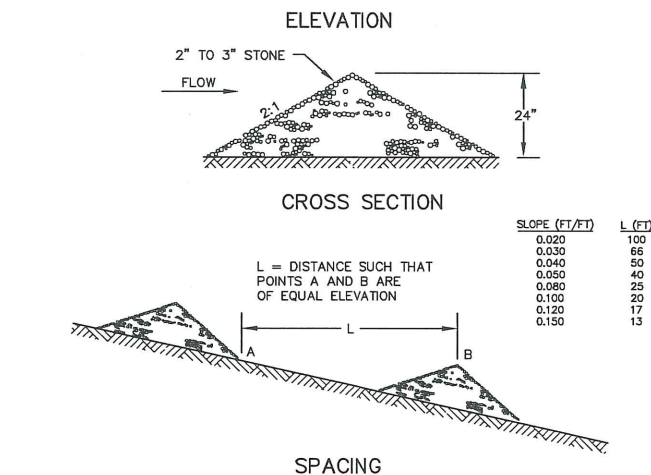
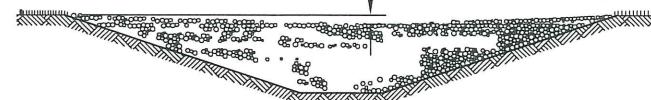
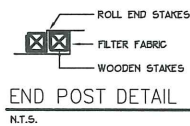
**4 EROSION CONTROL MIX**  
NOT TO SCALE



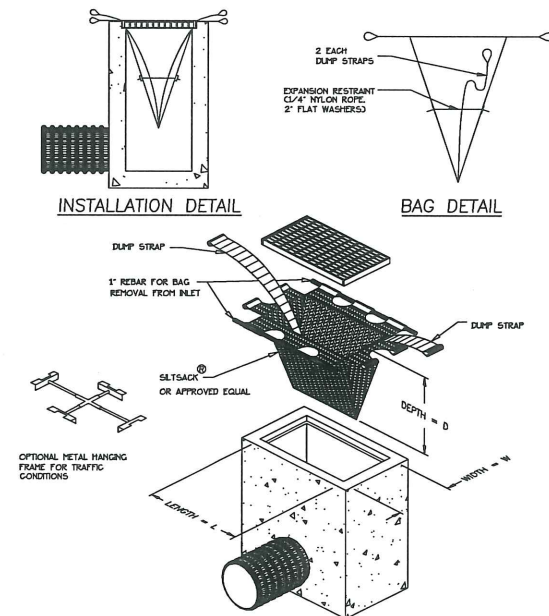
**7 EROSION CONTROL PLAN**  
SCALE: 1"=20'



**3 STRAW BALE BARRIER INSTALLATION**  
NOT TO SCALE



**5 STONE CHECK DAM DETAIL**  
NOT TO SCALE



**6 INLET SEDIMENT CONTROL DEVICE**  
NOT TO SCALE

**LEGEND**

	EXISTING	EXISTING
PROPERTY LINE	---	GAS
GRANITE MONUMENT	□	OVERHEAD WIRES
CATCHBASIN	▢	CMP CABLE LINES
MANHOLE	○	CURB
HYDRANT	⊕	FENCE
UTILITY POLE	⊕	SIGN
WATER VALVE	⊕ WV	CONTOUR
SANITARY SEWER	ES	
STORM DRAIN	ESD	PROPOSED
WATER	EW	STRAW BALE BARRIER
TELEPHONE	T	CONTOUR
		EROSION CONTROL MIX
		CHECK DAM
		BRICK REMOVAL
		JERSEY BARRIER

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Title: **PRELOAD EROSION AND SEDIMENTATION CONTROL PLAN**

Scale: 1"=20'  
0 10 20 40 ft.

North: Sheet No: **3**

