

VERSA-LOK SF UNIT SEGMENTAL RETAINING WALLS POLLACK PROJECT PORT WASHINGTON, NY

Design Parameters
The following parameters were used in structural calculations and preparation of these SRW Plans:

Soil Parameters	Friction Angle	Density	Cohesion
Reinforced Soil:	30	120	0
Retained Soil:	30	120	0
Foundation Soil:	30	120	0

Foundation soil :
assumed to be able to support maximum bearing pressure of 2500 psf

Loading/Wall Geometry
Uniform Surcharge - see Wall Elevations - Sheet S7-S9
Back Slope - see Wall Elevations - Sheet S7-S9
Maximum Wall Heights - see Wall Elevations - Sheet S7-S9

Design Conditions
Hydrostatic: no groundwater above base of wall system
no detained/retained water in front of wall system
Seismic: not addressed

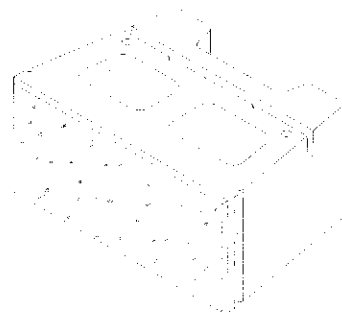
Notifications
If the actual conditions vary from those noted, drawings are no longer valid and the Design Engineer shall be notified to revise them. It is Owner's responsibility to ensure qualified personnel evaluate and notify the Design Engineer regarding the following:

Soils Differing From Design Parameters
Any onsite or imported fill soil properties/conditions not consistent with SRW Drawings shall be reported.

Changes in Wall Layout/Loading/Slopes
Wall heights, wall lengths, slopes above or below walls, or loads on the walls should not exceed that shown on the Wall Elevations without consultation and approval of Wall Design Engineer. Any change in wall location/alignment or spacing of tiers shall be reported.

Water Conditions Differing from Design Parameters
Any water issues/sources discovered prior to, or during, wall construction such as springs, seeps, groundwater in excavations, or any other water sources shall be reported.

Damage to Wall System
Any damage to wall system, including but not limited to wall face distortion or geogrid damage, during or after wall construction shall be reported.



VERSA-LOK SF UNITS
PRODUCED BY KEYSTONE CONCRETE BLOCK
PHONE: 570-346-7701

ESTIMATED WALL QUANTITIES (SF UNITS)			
WALL	LENGTH (ft.)	AREA (s.f.)	STRATAGRID SG350 (s.y.)
1	110	1130	430
2	38	265	85
3	64	450	125
TOTAL	212 ft	1845 s.f.	640 s.y.

WALL s.f. does not include cap units

ESTIMATED STAIR QUANTITIES (STANDARD UNITS)			
STAIR	LENGTH CAP (ft.)	AREA (sf.)	STRATAGRID SG350 (s.y.)
1-SIDE EXP.	56	200	15
TOTAL	56 ft	200 sf.	15 sy

Special Provisions/Quality Assurance By Others
In addition to Wall Contractor's Quality Assurance and Safety responsibilities stated in Wall Specifications, the following are the responsibilities of others:

Wall Layout by Civil Engineer
Site surveying establishing the wall locations and alignment must be done by the site Civil Engineer or Surveyor and must be based on the civil site/grading plans, not the attached Wall Elevation drawings.

Geotechnical Engineer to Evaluate Soil and Groundwater conditions
It is the Owner's responsibility to ensure a qualified Geotechnical Engineer or Testing Agency evaluates actual soil and groundwater conditions for consistency with the SRW Design Engineer's assumed Design Parameters. The Geotechnical Engineer shall be responsible for interpretation of subsurface conditions, accuracy of design parameters, stability of site slopes, stability of any structures affected by planned fills and for determining allowable bearing capacity of foundation soil below SRW's and any subsoil improvement needed to stabilize wall or eliminate settlement below wall.

Testing Agency to Observe and Test Wall Construction
Owner is responsible for ensuring a Testing Agency is performs quality assurance testing to verify all wall elements including backfill soil properties, soil fill compaction, drainage materials, and geogrid installation meet the Wall Plans and Specifications. The Testing Agency does not have authority or responsibility to direct wall contractor's work. Testing, or lack of testing, by the Testing Agency does not relieve the wall contractor from their responsibility to meet the requirements of the Wall Plans and Specifications.

Coordination with Other Construction/Contractors
The Owner, General Contractor, and Wall Contractor shall coordinate wall installation with any other construction onsite to ensure SRW system is not damaged during or after construction.

Any construction of structures, utilities, or slopes in front of or below any SRW's shall be completed before starting wall construction to limit disturbance and undermining of wall system.

Care should be taken by any contractors installing any utilities, fencing, or structures behind SRWs, to avoid damaging the geogrid or the wall face.

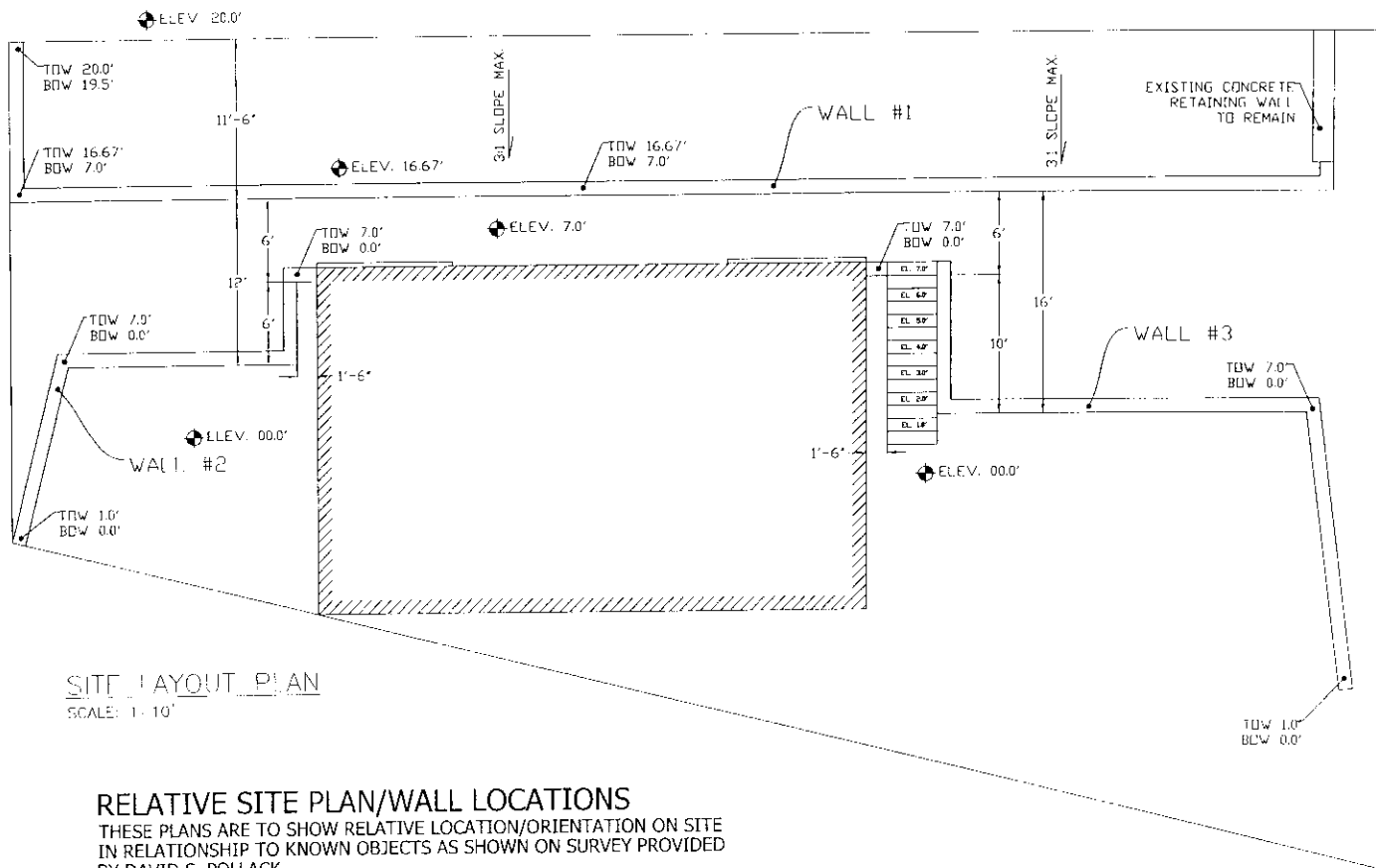
All roof drains and surface water must be routed around or piped (with solid piping) through the SRW face per SRW Design Engineer's direction. No water should be directed to flow over the wall face, into the wall system, or to the back of the wall system.

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Revisions:

COPYRIGHT © JOSEPH SCHMITT CONSULTING ENGINEER 12-24-2008	GENERAL NOTES	POLLACK RETAINING WALL 151 HAVEN AVENUE PORT WASHINGTON, NY	Joseph Schmitt Consulting Engineer 12 WYLLIE WAY, STONYBROOK, NY 11790 - (631) 689-7270		Project No. 06086 Sheet No. S-1
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SITE LAYOUT PLAN
SCALE: 1" = 10'

RELATIVE SITE PLAN/WALL LOCATIONS

THESE PLANS ARE TO SHOW RELATIVE LOCATION/ORIENTATION ON SITE IN RELATIONSHIP TO KNOWN OBJECTS AS SHOWN ON SURVEY PROVIDED BY DAVID S. POLLACK.



Project: POLLACK RETAINING WALL 151 HAVEN AVENUE PORT WASHINGTON, NY		Drawing: SITE PLAN		COPYRIGHT © JOSEPH SCHMITT REGISTERED PROFESSIONAL ENGINEER STATE OF NEW YORK NO. 11790
Date: 12-24-2008 Scale: AS NOTED	Engineer: Joseph Schmitt Consulting Engineer 12 WYLLIE WAY, STONYBROOK, NY 11790 - (631) 689-7270		INCORPORATED ALTERNATE 22 PROFESSIONAL ENGINEER ASSOCIATION OF THE STATE OF NEW YORK LICENSE NO. 11790 - 06/01/04 EXPIRES 06/01/11	
Project No. 06086			ELEV. 20.0' TOW 20.0' BOW 19.5' ELEV. 16.67' TOW 16.67' BOW 7.0' ELEV. 7.0' TOW 7.0' BOW 0.0' ELEV. 0.00' TOW 7.0' BOW 0.0' TOW 1.0' BOW 0.0' ELEV. 0.00' TOW 7.0' BOW 0.0' TOW 7.0' BOW 0.0' TOW 1.0' BOW 0.0'	
Sheet No. S-2	Drawn By: SN Check By: JS		AS NOTED	

SPECIFICATION FOR SEGMENTAL RETAINING WALL SYSTEMS

PART 1: GENERAL

1.01 Description

Work includes furnishing and installing VERSA-LOK SQUARE FOOT Unit geosynthetically reinforced segmental retaining walls (SRW) to the lines and grades designated on the SRW Drawings. Includes VERSA-LOK SQUARE FOOT wall units and cap units, SRW pins, geogrid soil reinforcement, leveling pad, drainage materials, soil backfill, and SRW adhesive.

1.02 Reference Standards

A. Segmental Retaining Wall Units

1. **ASTM C 1372** - Standard Specifications for Segmental Retaining Wall Units
2. **ASTM C 140** - Standard Test Methods of Sampling and Testing Concrete

B. Geosynthetic Reinforcement

1. **ASTM D 4595** - Tensile Properties of Geotextiles by the Wide-Width Strip Method.
2. **ASTM D 5262** - Test Method for Evaluating the Unconfined Creep Behavior of Geosynthetics
3. **GRI:GG1** - Single Rib Geogrid Tensile Strength
4. **GRI:GGS** - Geogrid Pullout

C. Soils

1. **ASTM D 698** - Laboratory Compaction Characteristics of Soil Using Standard Effort
2. **ASTM D1557** - Laboratory Compaction Characteristics of Soil Using Modified Effort
3. **ASTM D 422** - Gradation of Soils
4. **ASTM 4318** - Liquid Limit, Plastic Limit and Plasticity Index of Soil
5. **ASTM D2922** - Density of Soil In Place by Nuclear Methods
6. **ASTM D1556** - Density and Unit Weight of Soil In Place by Sand Cone Method

D. Drainage Pipe

1. **ASTM 3034** - Specification for Polyvinyl Chloride (PVC) Sewer Pipe
2. **ASTM D1248** - Specification for Corrugated Plastic Tubing and Fittings

E. Where specifications and reference documents conflict, the SRW Design Engineer shall make the final determination of applicable document.

1.03 Materials Submittals

The Contractor shall submit manufacturers' certifications one week prior to start of work stating that the SRW units and geosynthetic reinforcement meet the requirements of Section 2 of this specification.

1.04 Delivery, Storage and Handling

- A. Contractor shall check materials upon delivery to assure that specified type and grade of materials have been received and proper color and texture of SRW units have been received.
- B. Contractor shall prevent excessive mud, wet concrete, epoxies, and like materials which may affix themselves, from coming in contact with materials.
- C. Contractor shall store and handle materials in accordance with manufacturer's recommendations.
- D. Contractor shall protect materials from damage. Contractor shall remove damaged or otherwise unsuitable materials from the site and such materials shall not be incorporated into the retaining wall.

PART 2: MATERIALS

2.01 Segmental Retaining Wall Units

A. SRW units shall be machine formed, Portland Cement concrete blocks specifically designed for retaining wall applications. SRW units currently approved for this project are:

VERSA-LOK Square Foot Retaining Wall Units,
as manufactured by Keystone Concrete Block, Scranton, PA 18509 (507) 346-7701.

- B. Color of SRW units shall be chosen by owner.
- C. Finish of SRW units shall be split face.
- D. SRW units shall be solid through the full depth of the unit.
- E. SRW units shall be interlocked with connection pins, designed with proper setback of 1-inch setback for each eight inch high course of units to provide near vertical cant of approximately two degrees.
- F. SRW units shall be sound and free of cracks or other defects that would interfere with the proper placing of the unit or significantly impair the strength or permanence of the structure.
- G. SRW units shall meet the requirements of ASTM C1372.

2.02 Segmental Retaining Wall Unit Connectors

VERSA-LOK SQUARE FOOT units shall be interlocked with VERSA-Tuff connection pins, 0.48" diameter glass reinforced nylon pins made for the expressed use with VERSA-LOK Units.

2.03 Geosynthetic Reinforcement

A. Geosynthetic reinforcement shall consist of Stratagrid geogrids. The type, strength, and placement location of the reinforcing geogrid shall be as shown on the final SRW Drawings - Wall Elevations.

2.04 Leveling Pad

A. Material for leveling pad shall consist of compacted sand, gravel, or combination thereof. Lean concrete with a strength of 200-300 psi and three inches thick maximum may also be used as a leveling pad material per SRW Engineer's approval.

2.05 Drainage Aggregate

A. Drainage aggregate shall be angular, clean stone or granular fill meeting the following gradation as determined in accordance with ASTM D422

Sieve Size	Percent Passing
1 inch	100
3/4 inch	75-100
No. 4	0-60
No. 40	0-50
No. 200	0-5

2.06 Drainage Pipe

- A. The drainage collection pipe shall be a perforated or slotted PVC, or corrugated HDPE pipe. The drainage pipe may be wrapped with a geotextile to function as a filter.
- B. Drainage pipe shall be manufactured in accordance with ASTM D 3034 and/or ASTM D 1248.

2.07 Reinforced (Backfill) Soil Fill

A. The reinforced soil material shall be free of debris. Unless otherwise directed by the SRW Design Engineer, the reinforced material shall consist of the inorganic USCS soil types GP, GW, SW, SP, or SM, meeting the following gradation, as determined in accordance with ASTM D422:

Sieve Size	Percent Passing
4 inch	100
No. 4	20-100
No. 40	0-60
No. 200	0-35
Plasticity Index < 20	

- A. The maximum particle size of poorly-graded gravels (GP) (no fines) should not exceed 3/4 inch unless approved by SRW Design Engineer and geogrid strength is reduced to account for additional installation damage from particles larger than this maximum.
- B. All reinforced backfill, whether from on-site or imported, must meet the minimum requirements shown on Sheet S-1 of the final SRW Drawings and shall be approved by the SRW Design Engineer prior to construction.

PART 3: CONSTRUCTION

3.01 Examination

- A. Wall Installer shall examine SRW project site and notify owner/owner's representatives of any conditions detrimental to proper and timely completion of work.
- B. Wall Installer shall notify SRW Design Engineer if site, soil or water/drainage conditions vary from assumed design parameters on sheet S-1 of SRW Drawings or if there are any other conditions that may require a reevaluation of the wall to affect the wall performance.
- C. Verify location of existing utilities and other structures

3.02 Preparation

- A. Wall Installer shall ensure all surrounding structures and utilities are protected from the effects of wall excavation. Stability of temporary excavations and excavation support, if required, is the responsibility of the Wall Installer, including excavations influences on adjacent properties and structures.
- B. General Contractor shall coordinate installation of the new utilities and improvements to existing utilities with the Wall Installer

Revisions:	
COPYRIGHT © JOSEPH SCHMITT CONSULTING ENGINEER 151 HAVEN AVENUE PORT WASHINGTON, NY 11050 TEL: (516) 466-1100 FAX: (516) 466-1101 WWW: WWW.JSCOE.COM	PROJECT: POLLACK RETAINING WALL 151 HAVEN AVENUE PORT WASHINGTON, NY DATE: 12-24-2008 DRAWN BY: AS NOTED CHECKED BY: SN DESIGNED BY: JS PROJECT NO: 06086 SHEET NO: S-3
NOTES Joseph Schmitt Consulting Engineer 12 WYLIE WAY, STONYBROOK, NY 11790 (631) 689-7270	

3.03 Excavation

- A. Excavate to the lines and grades shown on the project grading plans. Wall Installer shall take precautions to avoid disturbing embankment and foundation materials and minimize over-excavation. Over-excavation shall be filled with compacted infill material, or as directed by the Design Engineer, at the Contractor's expense.
- B. Geotechnical Engineer or Testing Agency of Record shall inspect excavations and approve prior to placement of leveling pad material.
- C. If required, excavation of unsuitable soils and replacement with compacted fill shall be performed as directed by the Geotechnical Engineer

3.04 Foundation Preparation

- A. Following the excavation, the foundation soil shall be examined by the Geotechnical Engineer to assure actual foundation soil strength meets or exceeds the assumed design bearing strength. Soils not meeting the required strength shall be removed and replaced with infill soils, as directed by the Geotechnical Engineer.
- B. Foundation soil shall be proofrolled and compacted to 95% standard Proctor density and inspected by the Geotechnical Engineer prior to placement of leveling pad materials.

3.05 Leveling Pad Construction

- A. Leveling pad shall be placed as shown on the construction drawings with a minimum thickness of 6 inches. The leveling pad should extend laterally at least a distance of 6 inches from the toe and heel of the lower most VERSA-LOK Unit.
- B. Soil leveling pad material shall be compacted to provide a firm, level bearing surface on which to place the first course of units. Well-graded sand can be used to smooth the top 1/2 to 1/4 inch of the leveling pad. Compaction will be with mechanical plate compactors to achieve 95% of maximum standard Proctor density (ASTM D 698).

3.06 SRW Unit Installation

- A. All SRW units shall be installed at the proper elevation and orientation as shown on the wall profiles and details on the construction plans or as directed by the Engineer. The SRW units shall be installed in general accordance with the manufacturer's recommendations. The specifications and drawings shall govern in any conflict between the two requirements.
- B. First course of SRW units shall be placed on the leveling pad. The units shall be leveled side-to-side, front-to-rear and with adjacent units, and aligned to ensure intimate contact with the leveling pad. The first course is the most important to ensure accurate and acceptable results. No gaps shall be left between the front of adjacent units. Alignment may be done by means of a string line or offset from base line to the back of the units.
- C. The voids within the SRW units shall be filled with granular drainage aggregated and excess debris cleaned from the top of units.
- D. The next course of units shall be placed on top of lower course of units.
- E. Two connection pins shall be installed through pin holes of each upper course unit into receiving slots in lower course units. Pins shall be fully seated in the pin slot below. Units shall be pushed forward to remove any looseness in the unit-to-unit connection and then check alignment. Level and alignment of the units shall be checked and corrected (if required) before proceeding.
- F. Lay out of curves and corners shall be installed in accordance with the Drawings or in general accordance with VERSA-LOK's installation guidelines. Walls meeting at corners shall be interlocked by overlapping successive courses.
- G. The above procedures shall be repeated to the extent of wall height. Procedures B. through E. shall be repeated until reaching top of wall units, just below the height of the cap units. Geosynthetic reinforcement, drainage materials, and reinforced backfill shall be placed in sequence with unit installation as described in Section 3.07, 3.08, and 3.09.

3.07 Geosynthetic Reinforcement Placement

- A. All geosynthetic reinforcement shall be installed at the proper elevation and orientation as shown on the final drawings - Wall Elevations and Details or as directed by the Design Engineer.
- B. At the elevations shown on the final plans, the geosynthetic reinforcement shall be laid horizontally on compacted backfill and on top of the concrete VERSA-LOK units. Place the geosynthetic within one inch of the face of the VERSA-LOK units. Place the geosynthetic with the correct orientation: highest strength direction of the geosynthetic perpendicular to the wall face. Wall Installer shall confirm proper orientation with geosynthetic manufacturer.
- C. Geosynthetic reinforcement layers shall be one continuous piece for their entire embedment length. No splices in the strength direction shall be allowed. Horizontally adjacent sections of geosynthetic reinforcement shall be butted in a manner to assure 100 percent coverage after placement. No gaps shall be allowed between sections of geosynthetics.
- D. Tracked construction equipment shall not be operated directly on the geosynthetic reinforcement. A minimum of 6 inches of backfill is required prior to operation of tracked vehicles over the geosynthetic. Turning should be kept to a minimum. Rubber-tired equipment may pass over the geosynthetic reinforcement at slow speeds (less than 5 mph).

E. At the end of each day's operation, the Contractor shall slope the last level of backfill away from the back of the SRW units to direct water runoff away from the wall face.

F. At completion of wall construction, backfill shall be placed level with final top of wall elevation. If final grading, paving, landscaping, and/or storm drainage installation adjacent to the wall is not placed immediately after wall completion, temporary surface drainage shall be provided to ensure water runoff is not directed at the wall nor allowed to collect or pond behind the wall until final construction adjacent to the wall is completed. The General Contractor shall be responsible for ensuring temporary grading to protect SRW's from site drainage is maintained until all construction is complete and that finished site drainage is directed away from SRW's.

3.10 SRW Caps

A. VERSA-LOK Cap Units shall be properly aligned and glued to underlying units with Versa-Lok Concrete adhesive. Apply two 1/4-inch diameter beads along the top course of VERSA-LOK units, one bead three inches from the front face and one bead 3 inches from the back of the units. Rigid adhesive or mortar are not acceptable. Ensure adhesive is fully cured before wall is allowed in service.

B. Caps shall overhang the top course of units by 3/4 to 1 inch. Slight variation in overhang is allowed to correct alignment at the top of the wall.

3.11 Construction Adjacent to Completed Wall

A. The Owner or Owner's Representative is responsible for ensuring that construction adjacent to the wall by others does not disturb the wall or place temporary construction loads on the wall that exceed design loads, including loads such as water pressure, temporary grades, or equipment loading. Heavy paving or grading equipment shall be kept a minimum of three feet behind the back of the wall face. Equipment with wheel loads in excess of 150 psf live load shall not be operated with 10 feet of the face of the retaining wall during construction adjacent to the wall. Care should be taken by the General Contractor to ensure water runoff is directed away from the wall structure until final grading and surface drainage collection systems are completed.

END OF SECTION

Part 4: Inspection

4.01 Observation and Testing

A. Wall Installer is responsible for quality control of SRW construction and meeting all the requirements of the final SRW Drawings. Testing or lack of testing by the Testing Agency does not relieve the Wall Installer of their responsibility to ensure wall is constructed properly.


B. The Owner should retain an independent, qualified professional Testing Agency and/or the Geotechnical Engineer, along with the Civil Engineer, to verify that the contractor meets all the requirements of the specification and site conditions match design assumptions. This includes all submittals for materials, design, qualifications, and proper installation of SRW.

C. The independent Geotechnical Engineer and/or Testing Agency shall determine the needed frequency, location, and type of observations, laboratory tests, and field tests to ensure the site, soil and water conditions meet the SRW Design Engineers assumed Design Parameters as stated on sheet S-1.

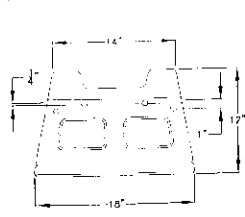
D. The needed observation shall be determined by the Geotechnical Engineer and/or the Testing Agency based on soil types, compaction equipment, speed of construction, uniformity of soils, weather, total depth of backfill and other factors, per their engineering judgment. The following minimum testing should be done unless otherwise directed by the Geotechnical Engineer/Testing Agency:

1. Field density tests in accordance with ASTM 2922 or D 1556;
2. Subgrade Soils - A minimum of one test for every 1000 square feet of subgrade area
3. Reinforced Soils - One test every 500 to 1000 square feet of backfill area at approximate heights of 1/3, 2/3 and full wall height.
4. Laboratory moisture-density relationship per ASTM D 698:
 - One per every compacted material type as determined by ASTM D 2488
 - Gradation analysis in accordance with ASTM D-422:
 - One test for every 500 - 1000 cubic yards of material

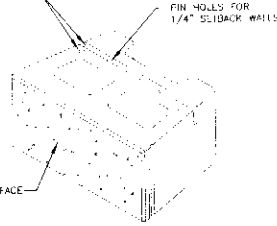
END OF SECTION

City Signs	
Drawing: POLLACK RETAINING WALL 151 HAVEN AVENUE PORT WASHINGTON, NY	NOTES Joseph Schmitt Consulting Engineer 12 WYLLIE WAY, STONEYBROOK, NY 11790 - (631) 689-7270
Date: 12-24-2008 Scale: AS NOTED Drawn by: SN Check by: JS	
Project No. 06086	S-4

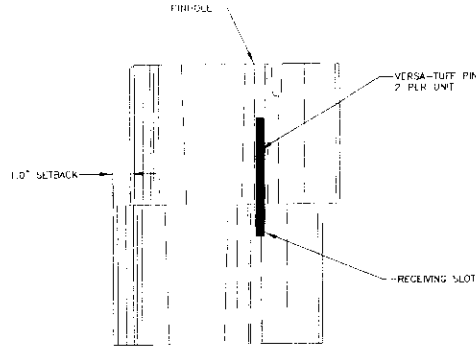
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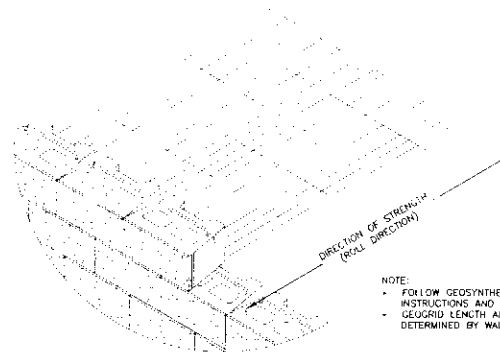
FIN HOLES AND SLOTS FOR 1" SETBACK WALL CONSTRUCTION



VERSA-LOK SQUARE FOOT UNIT
 UNIT DIMENSIONS
 SCALE: NONE

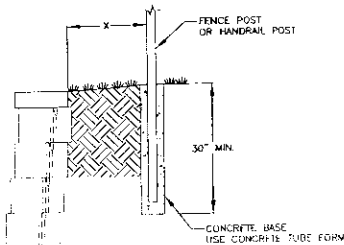


PINNING DETAIL
 SQUARE FOOT UNIT-CROSS SECTION
 SCALE: NONE

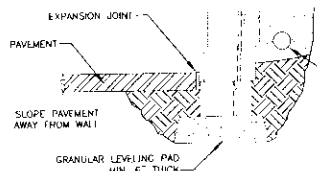


GEOSYNTHETIC INSTALLATION DETAIL
 SQUARE FOOT UNIT
 SCALE: NONE

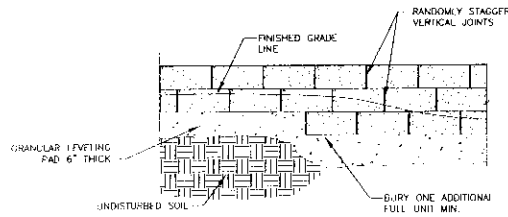
DISTANCE X TO BE DETERMINED BY ENGINEER BASED ON SOIL AND LOADING CONDITIONS



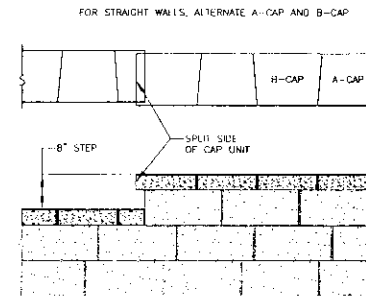
POST DETAIL
 SQUARE FOOT UNIT-TYPICAL HANDRAIL AND/OR FENCE POST
 SCALE: NONE



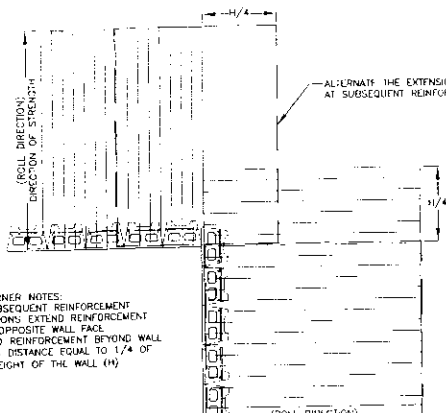
PAVEMENT AT BASE OF WALL
 SQUARE FOOT UNIT
 SCALE: NONE



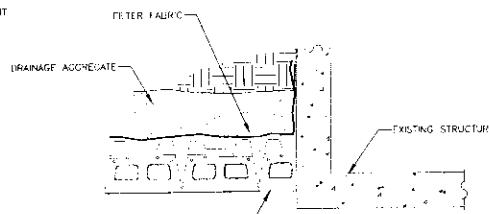
STEPPING BASE DETAIL
 SQUARE FOOT UNIT
 SCALE: NONE



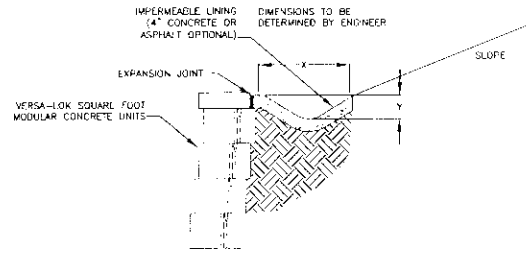
CAPPING DETAIL PROFILE
 SQUARE FOOT UNIT SIDE AT TOP OF WALL
 SCALE: NONE



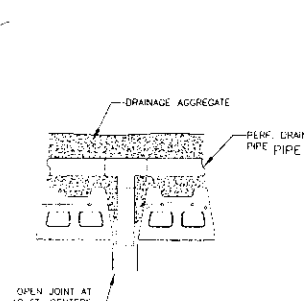
GEOSYNTHETIC PLACEMENT
 SQUARE FOOT UNIT-INSIDE CORNER
 SCALE: NONE



WALL ABUTMENT DETAIL
 SQUARE FOOT UNIT
 SCALE: NONE



SWALE AT TOP OF WALL
 SQUARE FOOT UNIT (OPTIONAL) SLOPE AT TOP OF WALL
 SCALE: NONE



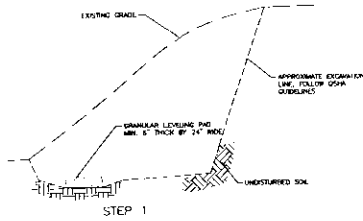
DRAIN DETAIL
 SQUARE FOOT UNIT
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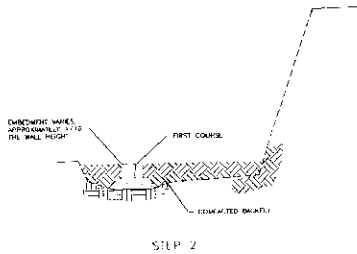
COPYRIGHT © JOSEPH SCHMITT CONSULTING ENGINEER ALL RIGHTS RESERVED	BLOCK DETAILS	Project: POLLACK RETAINING WALL 151 HAVEN AVENUE PORT WASHINGTON, NY	Date: 12-24-2008 Scale: AS NOTED	Drawing No.: SN Checker: JS	<p style="font-size: small;">UNAUTHORIZED REPRODUCTION OR TRANSMISSION OF THIS DOCUMENT IS PROHIBITED. ALL RIGHTS ARE RESERVED. THIS DOCUMENT IS THE PROPERTY OF JOSEPH SCHMITT CONSULTING ENGINEER AND IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED.</p>
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S-5					

CONSTRUCTION SEQUENCE

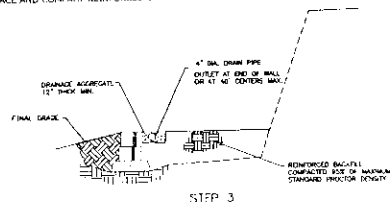
VERIFY LOCATION OF EXISTING STRUCTURES AND UTILITIES.
EXCAVATE AREA LARGE ENOUGH TO ACCOMMODATE LEVELING PAD,
REQUIRED UNIT EMBEDMENT, AND REQUIRED GEGRID LENGTHS.
PROOF ROLL AND COMPACT EXCAVATED FOUNDER LAYER AREA.



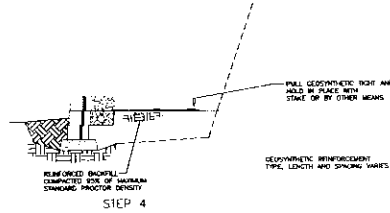
PLACE LOWEST COURSE OF WALL UNITS ON LEVELING PAD, SETTING UNIT SIDES AGAINST ADJACENT UNITS.
LEVEL UNITS SIDE TO SIDE, FRONT TO REAR, AND WITH ADJACENT UNITS.
CHECK ALIGNMENT ALONG BACK OF UNITS.
PLACE AND COMPACT BACKFILL IN FRONT AND BEHIND UNITS TO BE EMBEDDED BELOW FINAL GRADE.



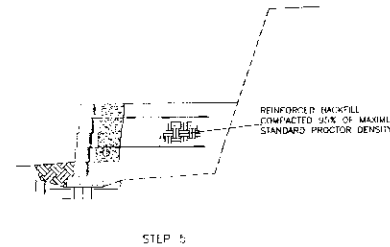
FILL THE GORES OF THE LOWER COURSE WITH ANGULAR GRAVEL AND SWEEP OFF TOP OF UNITS.
PLACE NEXT COURSE OF UNITS. INSERT TWO CONNECTION PINS THROUGH PIN HOLES IN THE UPPER UNIT INTO THE SLOTS OF THE LOWER COURSE UNITS.
CHECK LEVEL AND ALIGNMENT OF UNITS.
CONTINUE PLACING COURSES OF UNITS, FILLING GORES AND COMPACTING BACKFILL IN FRONT OF AND BEHIND UNITS UNTIL REACHING HEIGHT OF FINAL GRADE IN FRONT OF WALL.
BEGINNING JUST ABOVE THE FINAL GRADE IN FRONT OF WALL, PLACE DRAINAGE AGGREGATE BEHIND THE UNITS TO REQUIRED THICKNESS.
INSTALL DRAINAGE COLLECTION PIPES AT BASE OF DRAINAGE AGGREGATE, WITH PERFORATION OR SLOTS FACING DOWN.
SLOPE DRAIN PIPE TO ALLOW GRAVITY FLOW OF WATER TO OUTSIDE THE WALL SYSTEM. OUTLETTING PIPES AS REQUIRED.
PLACE AND COMPACT REINFORCED BACKFILL BEHIND DRAINAGE AGGREGATE.



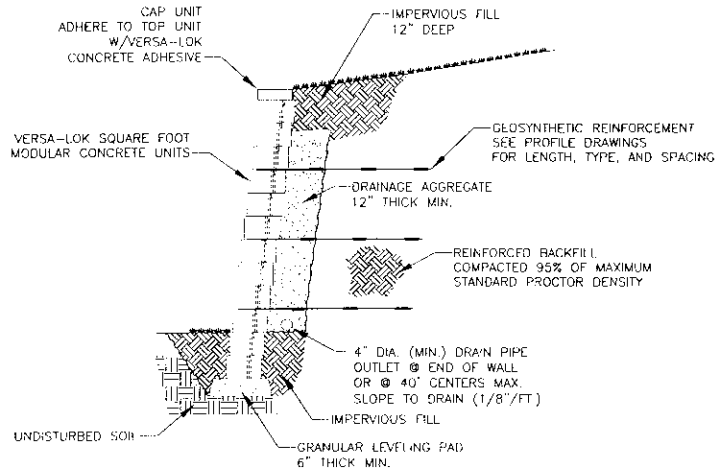
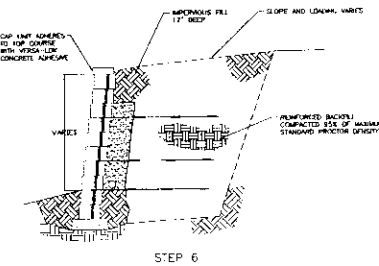
CONTINUE PLACING UNITS, DRAINAGE AGGREGATE AND REINFORCED BACKFILL, UNTIL REACHING HEIGHT OF GEOSYNTHETIC LAYER.
LAY THE REQUIRED LENGTH OF GEOSYNTHETIC HORIZONTALLY ON TOP OF THE UNITS, ENSURING HIGHEST STRENGTH DIRECTION OF GEOSYNTHETIC IS PERPENDICULAR TO WALL FACE.
PLACE NEXT COURSE OF UNITS ON TOP OF GEOSYNTHETIC AND PIN DOWN THROUGH GEOSYNTHETIC INTO UNITS BELOW.
PLACE DRAINAGE AGGREGATE BEHIND UNITS TO REQUIRED THICKNESS.
PULL BACK OF GEOSYNTHETIC TO REMOVE ANY WRINKLES OR LOOSENESS. DO NOT OVER TENSION.
USE STAPLES, STAKES, OR HAND TENSION TO KEEP GEOSYNTHETIC TAUT UNTIL BACKFILL IS PLACED ON TOP.



CONTINUE PLACEMENT OF WALL UNITS, GEOSYNTHETIC, DRAINAGE AGGREGATE AND REINFORCED BACKFILL BY REPEATING STEP 4 UNTIL WALL IS WITHIN ONE FOOT OF FINAL HEIGHT.
STACK NO MORE THAN THREE COURSES BEFORE BACKFILL IS PLACED BEHIND WALL.
COMPACT BACKFILL IN NO GREATER THAN 6" THICK LIFTS.

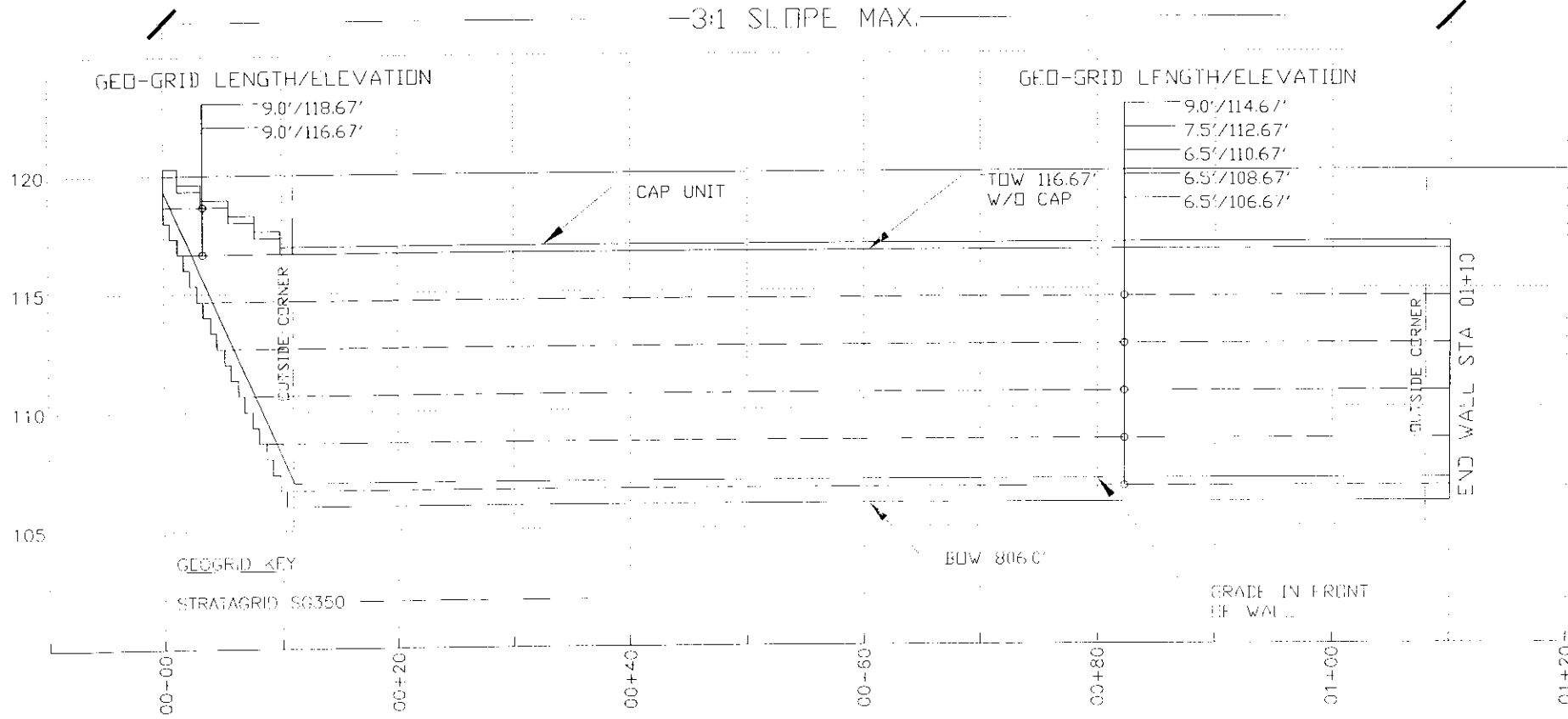


PLACE AND COMPACT IMPERVIOUS SOIL BEHIND THE TOP 12 INCHES OF THE WALL.
PLACE AND ALIGN CAP UNITS, WITH A SLIGHT OVERHANG, ON TOP COURSE AFTER ENSURING PROPER ALIGNMENT, REMOVE AND THEN ADHERE CAPS WITH VERSA-LOK ADHESIVE.



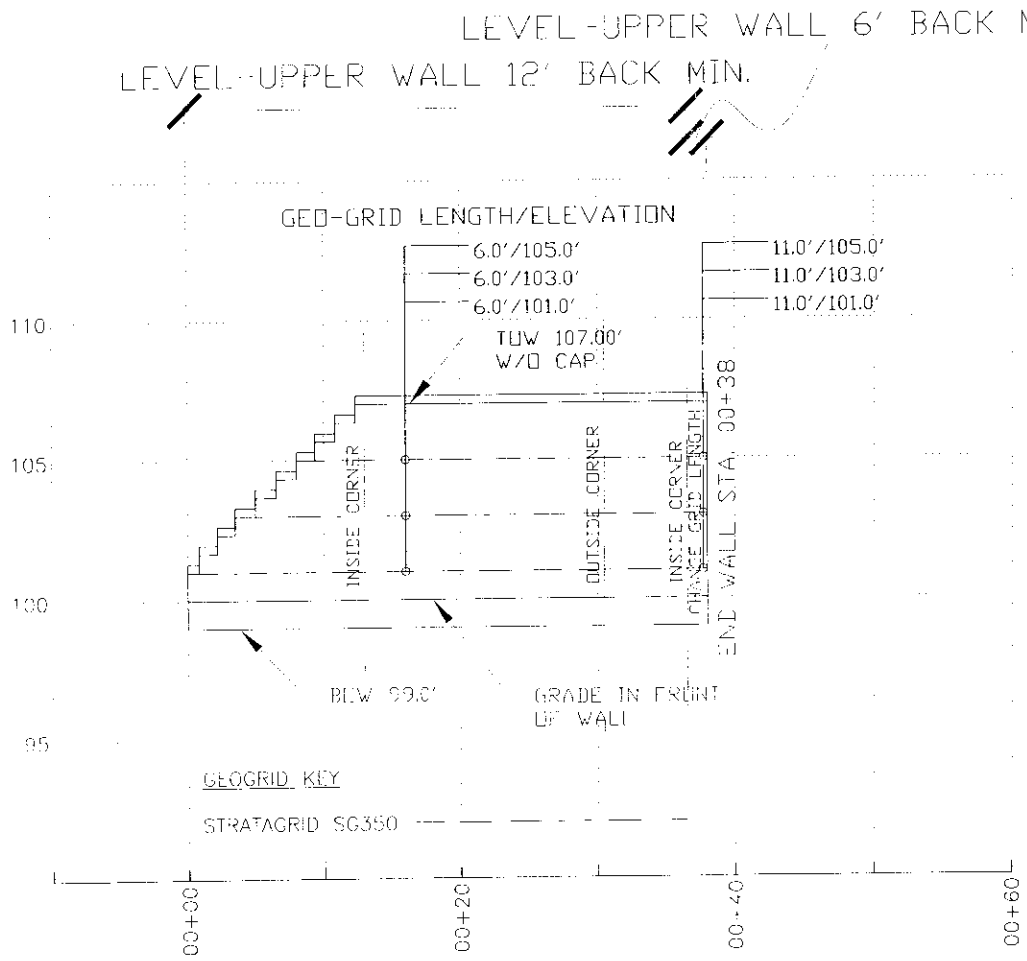
TYPICAL SECTION--REINFORCED RETAINING WALL
SQUARE FOOT MODULAR CONCRETE UNIT
SCALE: NONE

PROJECT: POLLACK RETAINING WALL 151 HAVEN AVENUE PORT WASHINGTON, NY		DRAWING: CONSTRUCTION SEQUENCE	
DATE: 12-24-2008 BY: AS NOTED		DRAWN BY: SN CHECKED BY: JS	
PROJECT NO: 06086		SHEET NO: S-6	
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12 WYLIE WAY, STONYBROOK, NY 11790 - (631) 689-7270			



RETAINING WALL #1 - ELEVATION DRAWING
 SCALE: HORIZONTAL 1"=10', VERTICAL 1"=5'

Date: 12-24-2008 Scale: AS NOTED Drawn By: SN Chk By: JS	Project: POLLACK RETAINING WALL 151 HAVEN AVENUE PORT WASHINGTON, NY Drawing: ELEVATION	Copyright © Joseph Schmitt Consulting Engineer 12 WYLIE WAY, STONYBROOK, NY 11790 - (631) 689-7270
		Revision:
Project No. 06086		S-7

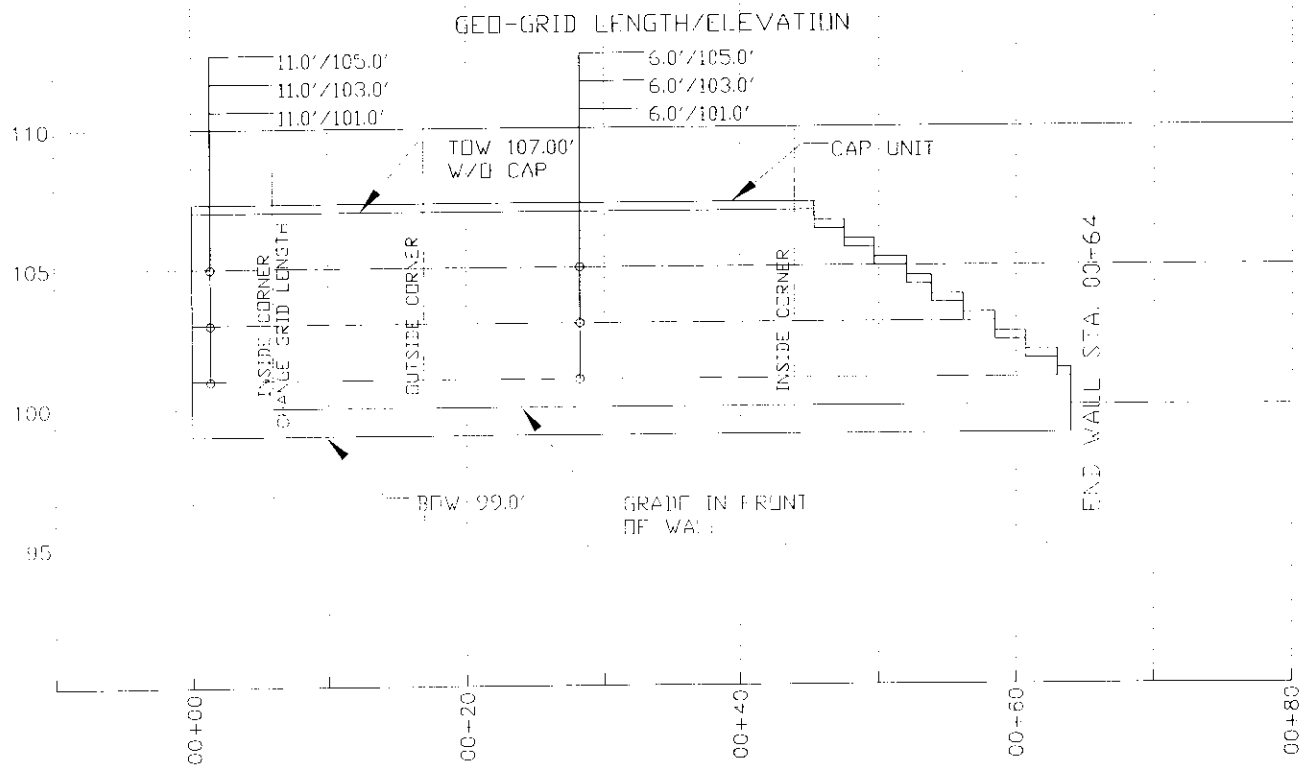


RETAINING WALL #2 - ELEVATION DRAWING
 SCALE: HORIZONTAL 1"=10', VERTICAL 1"=5'

Project: POLLACK RETAINING WALL 151 HAVEN AVENUE PORT WASHINGTON, NY		Drawing: ELEVATION		Revisions:
Date: 12-24-2008	Scale: AS NOTED	Engineer: JS		COPYRIGHT © JOSEPH SCHMITT CONSULTING ENGINEERS 12 WYLLIE WAY STONY BROOK, NY 11790-7270 TEL: (631) 689-7270 FAX: (631) 689-7271
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Sheet No. S-8				


LEVEL-UPPER WALL 6' BACK MIN.

LEVEL-UPPER WALL 16' BACK MIN.

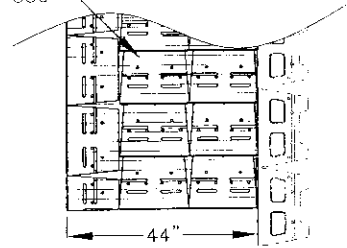


RETAINING WALL #3 - ELEVATION DRAWING

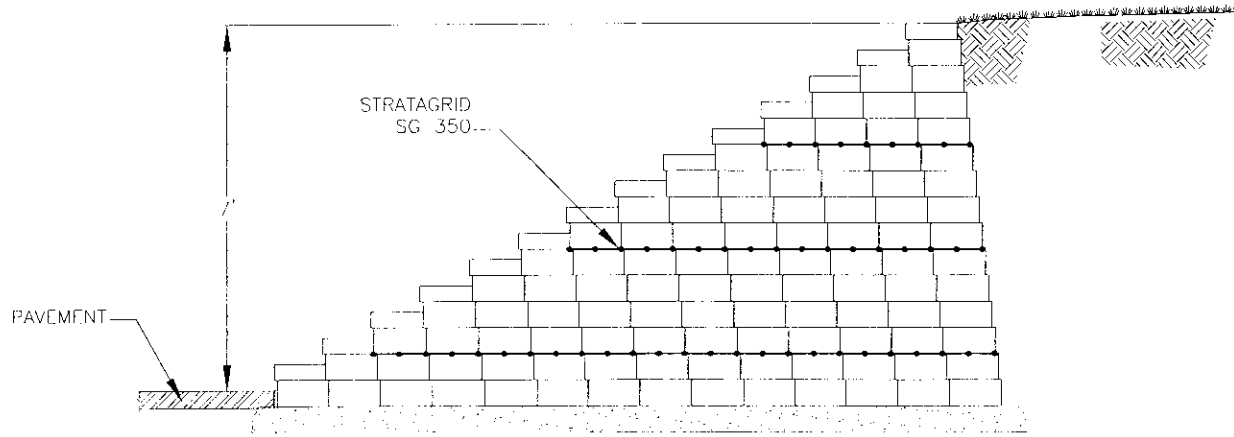
SCALE: HORIZONTAL 1" = 10', VERTICAL 1" = 5'

DATE: 12-24-2008 SCALE: AS NOTED DRAWN BY: SN CHECKED BY: JS		PROJECT: POLLACK RETAINING WALL 151 HAVEN AVENUE PORT WASHINGTON, NY		ELEVATION	
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PROJECT NO. 06086		REVISIONS:			
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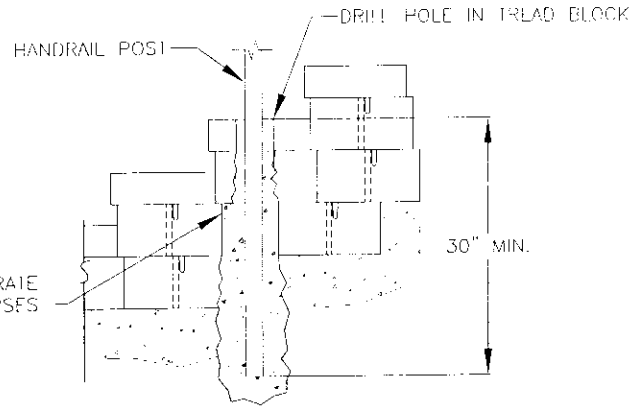
STRATAGRID
SG 350



STAIR PLAN
STANDARD UNIT
SCALE: NONE



STAIR SECTION
STANDARD UNIT
SCALE: NONE



POST DETAIL
TYPICAL HANDRAIL POST AT STAIRS
SCALE: NONE

BREAK OR SEPARATE
THE NEXT COURSES

Project: POLLACK RETAINING WALL 151 HAVEN AVENUE PORT WASHINGTON, NY		Drawing: GEOGRID & POST DETAILS		Revising:
Date: 12-24-2008	Scale: AS NOTED	Designer: SN		Checker: JS
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