APPENDIX E

Stormwater Pollution Prevention Plan

Scepter Gas Pipeline Interconnect

Stormwater Pollution Prevention Plan

Village/Town of Seneca Falls, New York

Prepared for:

Scepter New York, Inc.
11 Lamb Road
Seneca Falls, New York 13148

Prepared by:

The Galleries of Syracuse
441 South Salina Street
Syracuse, New York 13202
(315) 471-3920

CHA Project Number: 14945

August, 2012

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Project Information:

Project Name and Location
Scepter Gas Pipeline Interconnect
Village/Town of Seneca Falls
Seneca County, New York

Owner Name and Address
Steve Edic
Plant Manager
Scepter New York, Inc.
11 Lamb Road
Seneca Falls, New York 13148

Project Description:

Purpose and Extent of Proposed Development

The proposed project is located in the Town and Village of Seneca Falls, Seneca County, New York (see Figure 1 – Location Map). The project site encompasses a utility corridor approximately 3 miles in length and averaging 40 feet wide. The proposed transmission line will serve to connect the Scepter aluminum recycling foundry located on Lamb Street to the Tennessee Gas Pipeline adjacent to New York State Route 318. The corridor is generally agricultural lands with smaller portions of wooded areas and wetlands. All road crossings will be bored and approximately 2,600 LF will be directionally drilled.

This SWPPP covers all development, scheduled to be completed by December 2013. More specifically, development includes the construction of a 6" gas pipeline and 6,000 SF gravel pad area and associated gravel access road near NYS Route 318. The gravel pad area will contain geoweb which allows infiltration, therefore, this area is considered pervious (see Appendix F).

Project Disturbance Area

Total Disturbed Area:	±12.25 acres
Proposed Total Impervious Area:	±0.12 acres (gravel access road)

Description and Limitations of On-Site Soils

The soil disturbance for the proposed work is approximately 12.25± acres within the utility right of way and meter station pads. According to the USDA Soil Survey of Seneca County, New York, the area of disturbance consists of various soils as shown in Table 1. The Soils Map is included as Figure 2 and detailed information for these soil types is located in Appendix B.

The Natural Resource Conservation Service (NRCS, formerly known as the SCS), as part of their soil classification system, assigns each soil series to a Hydrologic Soil Group (HSG). The HSG is a four-letter index intended to indicate the minimum rate of infiltration obtained after prolonged wetting, and to indicate the relative potential for a soil type to generate runoff. The infiltration rate is the rate at which water enters the soil

at the soil surface. The HSG also indicates the transmission rate – the rate at which water moves within the soil. Soil scientists define the four groups as follows:

- HSG 'A' (sand, loamy sand, or sandy loam): Soils have low runoff potential and high infiltration rates even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sands or gravels and have a high rate of water transmission (> than 0.30 inches/hour).

- HSG 'B' (silt loam or loam): Soils have moderate infiltration rates when thoroughly wetted, and consist chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to fine texture. These soils have a moderate rate of water transmission (0.15 to 0.30 inches/hour).

- HSG 'C' (sandy clay loam): Soils have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water, and soils with moderately fine to fine texture. These soils have a low rate of water transmission (0.05 to 0.15 inches/hour).

- HSG 'D' (clay loam, silty clay loam, sandy clay, silty clay, or clay): Soils have high runoff potential. They have very low infiltration rates when thoroughly wetted, and consist chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a clay pan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very low rate of water transmission (< 0.05 inches/hour).

Table 1

Soil Analysis Summary

Soil Name	Hydrologic Soil Group
Al – Alluvial land	A/D
CeB – Cazenovia, 3 to 8% slopes	C
Fn – Fonda	C/D
LcB – Lakemont, 2 to 6% slopes	C/D
OdA, OdB – Odessa, 0 to 6% slopes	C/D
OnB – Ontario, 2 to 8% slopes	C
OvA – Ovid, 0 to 3% slopes	C/D
SeB – Schoharie, 2 to 6% slopes	D

Historic Places

The proposed project will have no impacts, whether stormwater discharge or construction activities, on a property that is listed or eligible for listing on the State or National Register of Historic Places in Seneca County, New York. This determination was confirmed based on a Phase 1 Investigation performed by Public Archaeology Facility Binghamton University dated June, 2012.

Sequence of Major Activities:

This SWPPP presents erosion and sediment controls, both temporary and permanent, to assist the operator in compliance with the project's SPDES General Permit for construction activity. To the degree practicable, all temporary erosion and sediment control mitigation measures shall be installed immediately before associated project areas are disturbed in anticipation of all soil disturbing activities to follow. Based upon NYS DEC regulations, the owner or operator of a construction activity shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department. At a minimum, the owner or operator must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

1. The owner or operator shall have a qualified inspector conduct at least two (2) site inspections in accordance with Part IV.B. every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. When performing just two (2) inspections every seven (7) calendar days, the inspections shall be separated by a minimum of two (2) full calendar days.

2. In areas where soil disturbance activity has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within seven (7) days from the date the soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control.

3. The owner or operator shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

4. The owner or operator shall install any additional site specific practices needed to protect water quality.

It is the responsibility of the Contractor to ensure that all soils removed from the project site are spoiled in a manner consistent with all local, state, and federal regulations. Appropriate erosion and sediment controls shall be installed at all spoil sites. Additionally, the Contractor is responsible for coordinating the application for a GP-0-10-001 permit (and development of an associated SWPPP) if disturbance associated with any soil spoils area is greater than 0.4 hectares (1 acre). GP-0-10-001 applications must be signed by the owner of the lands on which soils are spoiled. Disturbances associated with offsite spoil areas do not contribute to the total disturbances associated with onsite activities.

The overall general construction sequence is as follows:

- Install silt fencing.
- Protect all stream crossings with silt fencing and stone check dams (see below).
- Install gravel pad area, small buildings, associated access drive and connection to existing gas line.
- Install 6" gas pipeline. ALL EXCAVATED MATERIAL SHALL BE PLACED UPSLOPE FROM TRENCH. TRENCHES SHALL BE BACKFILLED/COMPACTED AND STABILIZED WITH PERMANENT SEED AND STRAW MULCH IMMEDIATELY AFTER BACKFILL OPERATION.
- Where pipeline crosses running water courses, install check dams on either side, dewater, and pump stream from one side to other as shown in Detail #1 on Sheet ESC-D1. Stream crossings cannot occur during spawning (spring and fall) unless authorized by the NYSDEC. Streams shall be restored immediately upon crossing completion.
- Do not disturb more than 5 acres at one time without prior permission from the NYSDEC.
- Provide silt fencing around perimeter of staged/stockpiled top soil and/or temporary staged pile or fill. During grading operations, install and maintain silt fencing as shown on the plan. Install additional silt

fencing at toes of disturbed slopes as necessary to protect wetlands, watercourses and other undisturbed areas.
- Swales/dikes shall be constructed as needed to provide positive drainage.
- All graded areas are to be seeded and mulched for vegetative cover immediately upon completion of earthwork operation.
- Restoration of all steep slopes (greater than 3:1) requires installation of erosion control blanket.
- Complete final grading and install permanent seeding & mulch.
- When all construction activity is complete and ground is stabilized, remove erosion control measures and reseed any disturbed areas created by their removal.

Name of Receiving Waters

Stormwater runoff within the utility corridor drains to unnamed tributaries to the Seneca River.

Controls:

Timing of Controls/Measures

The erosion and sediment control measures shall be constructed prior to clearing or grading of any portion of the project. Where land disturbance is necessary, temporary seeding or mulching must be used on areas which will be exposed for more than 7 days. Permanent stabilization should be performed as soon as possible after completion of grading. After the entire project area is stabilized, the accumulated sediment shall be removed from the project area. Erosion control devices shall remain in place until disturbed areas are permanently stabilized. For projects where soil disturbance is greater than five (5) acres, and construction activity has temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within seven (7) days from the date the soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control.

Erosion and Sediment Controls / Stabilization Practice

Temporary Stabilization

Topsoil stockpiles, staging areas and disturbed pervious portions of the project area where construction activity temporarily ceases for at least 7 days shall be stabilized with temporary seed and mulch no later than 7 days from the last construction activity in that area.

Temporary seed shall be ryegrass applied at the rates specified below:
- If seeding in spring, summer or early fall then seed with annual or perennial rye at a rate of 30 lbs per acre. If area is to remain stabilized over the winter into the following spring use perennial rye only.
- If seeding in late fall or early winter, use certified Aroostook winter rye (cereal rye) at a rate of 90 lbs per acre.

Any seeding method may be used that will provide uniform application of seed to the area and result in relatively good soil to seed contact. Area must be free of large rocks and debris and seeded within 24 hours of disturbance or scarification of the soil surface will be necessary prior to seeding. Fertilizer or lime is not typically used for temporary plantings.

Mulch shall be applied in conjunction with seeding and applied at the rate of 90 lbs per 1000 square feet. Mulch shall be reapplied as necessary.

Proposed grades which will have slopes steeper than 3:1 shall be stabilized with erosion control fabric.

Temporary diversion swales shall be installed on site as necessary to provide positive drainage. The diversion swales are designed to divert runoff around active construction areas to a point of discharge.

Sediment control fencing shall be installed around the site where depicted on the attached plan sheets. Additional fencing shall be installed where necessary to control sediment transport and to protect wetlands and other undisturbed areas.

Permanent Stabilization

Disturbed portions of the project area where construction activities permanently cease shall be stabilized with permanent seed no later than 7 days after the last construction activity. The permanent seed mix shall be in accordance with the project specifications and plans. Construction and maintenance of erosion and siltation control measures are in accordance with the New York Standards and Specifications for Erosion and Sediment Control.

Where construction activity is complete over areas to be permanently vegetated, stabilize with permanent seeding. Verify seeding dates with engineer. If engineer determines that seed cannot be applied due to climate, topsoil shall not be spread and mulching shall be applied to the exposed surface to stabilize soils until the next recommended seeding period. Other project areas shall be permanently stabilized with pavement, concrete, gravel or building structures.

Winter Operations

If construction activities proceed through the winter season, access points should be enlarged and stabilized to provide for snow stockpiling. Drainage structures should be kept open and free of potential snow and ice dams. Inspection and maintenance are necessary to ensure the function of these practices during runoff events. For sites where construction activities temporarily cease, temporary and/or permanent soil stabilization measures shall be installed within seven (7) days from the date the soil disturbing activity ceased. Disturbed areas should be stabilized with mulch, or other approved methods, even if the ground is covered by significant amounts of snow.

Winter Shutdown

Site inspections (by the qualified inspector) may be decreased to a minimum of one (1) time every thirty (30) days for sites where soil disturbing activities have ceased and at least 80% of the site has been stabilized with an approved method. Inlet protection should be installed and/or repaired before shutdown of the site. The owner or operator shall provide written notification to the respective DEC regional office prior to reducing the frequency of any site inspections.

Other Controls

Waste Disposal

Waste materials – Foreign waste materials shall be collected and stored in a secured area until removal and disposal by a licensed solid waste management company. All trash and construction debris from the project area shall be disposed of in a portable container unit. No foreign waste materials shall be buried within the project area. All personnel shall be instructed regarding the correct procedure for waste disposal. The individual who manages day-to-day project operations will be responsible for seeing that these procedures are followed.

Petroleum Impacted Waste – Fuel for construction vehicles may come into contact with stormwater when vehicles are refueled. Good housekeeping and preventative maintenance procedures shall be implemented to ensure fuel spills and leaks are minimized during refueling and storage. Any small-scale fuel or oil spills must

be remedied immediately according to NYSEG's Spill Prevention Control Plan and contaminated soils shall be disposed of appropriately.

Oil and other petroleum products may be stored on site in limited quantities to support equipment operation. Fuels shall be stored in their original containers within temporary structures or support vehicles and shall not be exposed to stormwater. Used oil and petroleum products shall be stored in approved containers until recycled or disposed of at an approved disposal facility.

All on-site vehicles must be inspected regularly for oil and grease leaks. All leaks shall be repaired immediately upon obtaining the appropriate equipment. If the leak cannot be fixed immediately, it shall be temporarily mitigated to prevent the flow of contaminants onto the soil and potentially into stormwater. If necessary, the reservoir will be drained to stop the flow of contaminants or the vehicle will be moved under cover. Drip pans shall be used when performing any maintenance or cleaning of construction vehicles.

Hazardous Waste - All hazardous waste materials shall be disposed of in a manner specified by local or state regulations or by the manufacturer. Project personnel shall be instructed in these practices and the individual who manages day-to-day project operations shall be responsible for seeing that these practices are followed.

Sanitary Waste – Temporary sanitation facilities may be located on site for construction workers. Each facility shall be placed away from any streams, wetlands, drainage, etc. and shall be leak and tip proof. Any sanitary waste from portable units shall be collected from the portable units by a licensed sanitary waste management contractor, as required by NYSDEC regulations.

Sediment Tracking by Vehicles

Any sediment and debris tracked from the work area along adjacent roadways shall be immediately removed with a street sweeper or equivalent sweeping method. Further, sweeping of streets adjacent to disturbed areas shall be performed prior to the end of each work day (at a minimum) when tracking of sediment is occurring.

Non-Stormwater Discharges

Non-stormwater discharges are not expected to exit the project area during construction.

Floodplains

A small portion of the project site is located within Zone B which is defined as "areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood." Although a small portion of the project is located within this area, the floodplain will not be impacted this project (See Figures in Appendix B).

Maintenance/Inspection Procedures:

Erosion and Sediment Control Inspection and Maintenance Practices

These are the minimum required inspection and maintenance practices that shall be used to maintain erosion and sediment controls:

Owner/Operator Inspection Requirements

- Prior to construction activity the owner/operator shall have contractors and sub-contractors identify a trained individual responsible for the implementation of the SWPPP. The trained individual must be on-site on a daily basis when soil disturbing activities are occurring.
- The owner/operator shall inspect the erosion and sediment control measures as identified in the SWPPP to ensure that they are being maintained in effective operating conditions at all times. Where soil disturbing activities temporarily cease (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the owner/operator can stop conducting inspections. The owner/operator shall resume inspections when soil disturbing activities begin again.
- Where soil disturbing activities have ceased with partial project completion, the owner/operator can stop conducting inspections when disturbed areas have reached final stabilization. All post construction stormwater management practices required for the completed areas shall have been constructed in conformance with the SWPPP and be fully operational. Final stabilization means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.
- The owner/operator shall notify the DEC Regional Office's stormwater contact person prior to any reduction in the frequency of site inspections.
- The owner/operator shall retain copies of the NOI, NOI acknowledgment letter, SWPPP, and any inspection reports submitted in conjunction with this permit and records or all data used to complete the NOI to be covered by this permit for a period of at least five (5) years from the date that the site is finally stabilized.

Qualified Inspector Inspection Requirements

- The qualified inspector is defined as a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed Landscape Architect, or other Department endorsed individual(s). It may also mean someone working under the direct supervision of the licensed Professional Engineer or licensed Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means the person has received four (4) hours of training endorsed by the Department and shall receive four (4) hours of training every three (3) years after the initial training.
- A site inspection shall be conducted at least once every seven (7) days by the qualified inspector when soil disturbing activities are occurring. A copy of the "Construction Duration Inspection Form" is included in the "inspection forms" section of this plan.
- All measures shall be maintained in good working order; if any repairs or corrective actions are necessary, it is the responsibility of the qualified inspector to notify the owner/operator and appropriate contractor within one business day. The contactor shall begin implementing the corrective action within one business day of being notified.
- During construction activities where soil disturbances exceed the five (5) acre maximum, and the owner/operator has received prior authorization, the qualified inspector shall conduct at least two (2) site inspections every seven (7) calendar days. Inspections shall be separated by a minimum of two (2) full calendar days.
- All inspection forms must be signed by a qualified inspector.
- For construction sites where soil disturbing activities are temporarily suspended, temporary stabilization measures shall be applied and the qualified inspector shall conduct a site inspection at least once every thirty (30) calendar days.
- Where soil disturbing activities have ceased with partial project completion the qualified inspector can stop conducting inspections when disturbed areas have reached final stabilization and all post construction stormwater management practices required for the completed areas have been constructed in conformance with the SWPPP and are fully operational.
- Where soil disturbing activities are not resumed within two (2) years, from the date of shut down of partial

project completion, the qualified inspector shall perform a final inspection and certify that all disturbed areas have achieved final stabilization, all temporary and permanent erosion control measures have been removed, and post-construction stormwater management practices have been constructed in conformance with the SWPPP. Qualified inspector shall sign the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the Notice of Termination (NOT).

General Requirements

- A copy of the SPDES General Permit (GP-0-10-001), the signed Notice of Intent (NOI), NOI acknowledgement letter, SWPPP, and inspection reports shall be maintained onsite until the site has achieved final stabilization.
- Built up sediment shall be removed from any silt fence when it has reached one-third the height of the fence / dike.
- Sediment fencing and wetland protection barrier shall be inspected for depth of sediment, and tears, to see if fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- Dust shall be controlled on access points and other disturbed areas subject to surface dust movement and blowing.
- Stabilization fabric and check dams shall be inspected to ensure that slopes and swales are not being eroded. Fabric shall be replaced / reinstalled and check dams added as necessary to prevent any such erosion
- Inspection of diversion swales shall be conducted to check condition of swale.
- Temporary sediment basins shall be inspected to check condition of basin. They shall be cleaned immediately once accumulated sediment reaches a depth of 1/3 the depth of the basin. Sediment basins shall be removed once dewatering operations are complete and water has infiltrated.
- Inspection must verify that all practices are adequately operational, maintained properly and that sediment is removed from all control structures.
- Inspection must look for evidence of soil erosion on the site, potential of pollutants entering drainage systems, problems at the discharge points, and signs of soil and mud transport from the site to the public road.

Inventory for Pollution Prevention Plan:

The materials or substances listed below are expected to be within the project area during construction:

- Portland cement concrete.
- Fertilizers / seeding materials.
- Stone.
- Petroleum based products.
- Silt fence fabric.
- Lumber.
- Pavement marking paint.
- HDPE pipe and PVC pipe.
- Bonded fiber matrix material.
- HDPE Geomembrane material.

Spill Prevention:

The following are the material management practices that shall be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

Good Housekeeping

The following good housekeeping practices shall be followed within project areas during construction:

- An effort shall be made to store only enough products required to do the job.
- All materials stored within project areas shall be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
- Products shall be kept in their original containers with the original manufacturer's label.
- Substances shall not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product shall be used up before disposing of the container.
- Manufacturers' recommendations for proper use and disposal shall be followed.
- The project superintendent shall inspect daily to ensure proper use and disposal of materials.

Hazardous Products

These practices are used to reduce the risks associated with hazardous materials:

- Products shall be kept in original containers unless they are not resealable.
- Original labels and material safety data shall be retained.
- If surplus product must be disposed of, manufacturers' or local and state recommended methods of proper disposal shall be followed.
- Material Safety Data Sheets for all hazardous products shall be within the project area for the duration of construction.

Product Specific Practices

The following product-specific practices shall be followed within the project areas:

Petroleum Products

All project related vehicles shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used during construction shall be applied according to the manufacturer's recommendations.

Fertilizers

Fertilizers used shall be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer shall be worked into the soil to limit exposure to stormwater. Fertilizers shall be stored in a covered or other contained area.

Paints

All containers shall be tightly sealed and stored when not required for use. Excess paint shall not be discharged to the storm sewer system but shall be properly disposed of according to manufacturer’s instructions or State regulations.

Concrete Trucks

Concrete trucks shall be allowed to wash out within project areas provided that the contractor provides an area which collects and contains any concrete / slurry material washed from trucks for recovery and disposal at a later time. No concrete / slurry shall be discharged from the property at any time of construction. If such washing is anticipated, the contractor shall submit a plan detailing the control of concrete / slurry to the engineer for approval.

Watercourse Protection

Construction operations shall be conducted in such a manner as to prevent damage to watercourses from pollution of debris, sediment, or other foreign material, or from manipulation, from equipment and/or materials in or near the watercourse. The contractor shall not return directly to the watercourse any water used for wash purposes or other similar operations which may cause the water to become polluted with sand, silt, cement, oil or other impurities. If the contractor uses water from the water course, the contractor shall construct an intake or temporary dam to protect and maintain watercourse water quality.

Spill Control Practices

The contractor will be responsible for complying with a project area specific spill control plan in accordance with local and NYS DEC regulations. At a minimum this plan should:

- Reduce stormwater contact if there is a spill.
- Contain the spill.
- Stop the source of the spill.
- Dispose of contaminated material in accordance with manufactures procedures, and NYS DEC regulations.
- Identify responsible and trained personnel.
- Ensure spill area is well ventilated.

Updating the SWPPP:

The SWPPP shall be updated/revised as conditions merit or as directed by the regulating authority. The attached inspection forms included with this document allows for the certification of any updates/revisions.

SWPPP Certification:

Contracting Firm Information:

Contracting Firm		
Address		
City/Town	***State***	***Zip***

Site Location:

Lamb Street (Village of Seneca Falls) to NYS Route 318 (Town of Seneca Falls)
Town and Village of Seneca Falls
Seneca County, New York

Contractor's Certification

I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System (SPDES) general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Signature (Contractor/Subcontractor) ***Date***

For

Responsible For

Signature (Trained Contractor) ***Date***

For

Responsible For

Signature (Contractor/Subcontractor) ***Date***

For

Responsible For

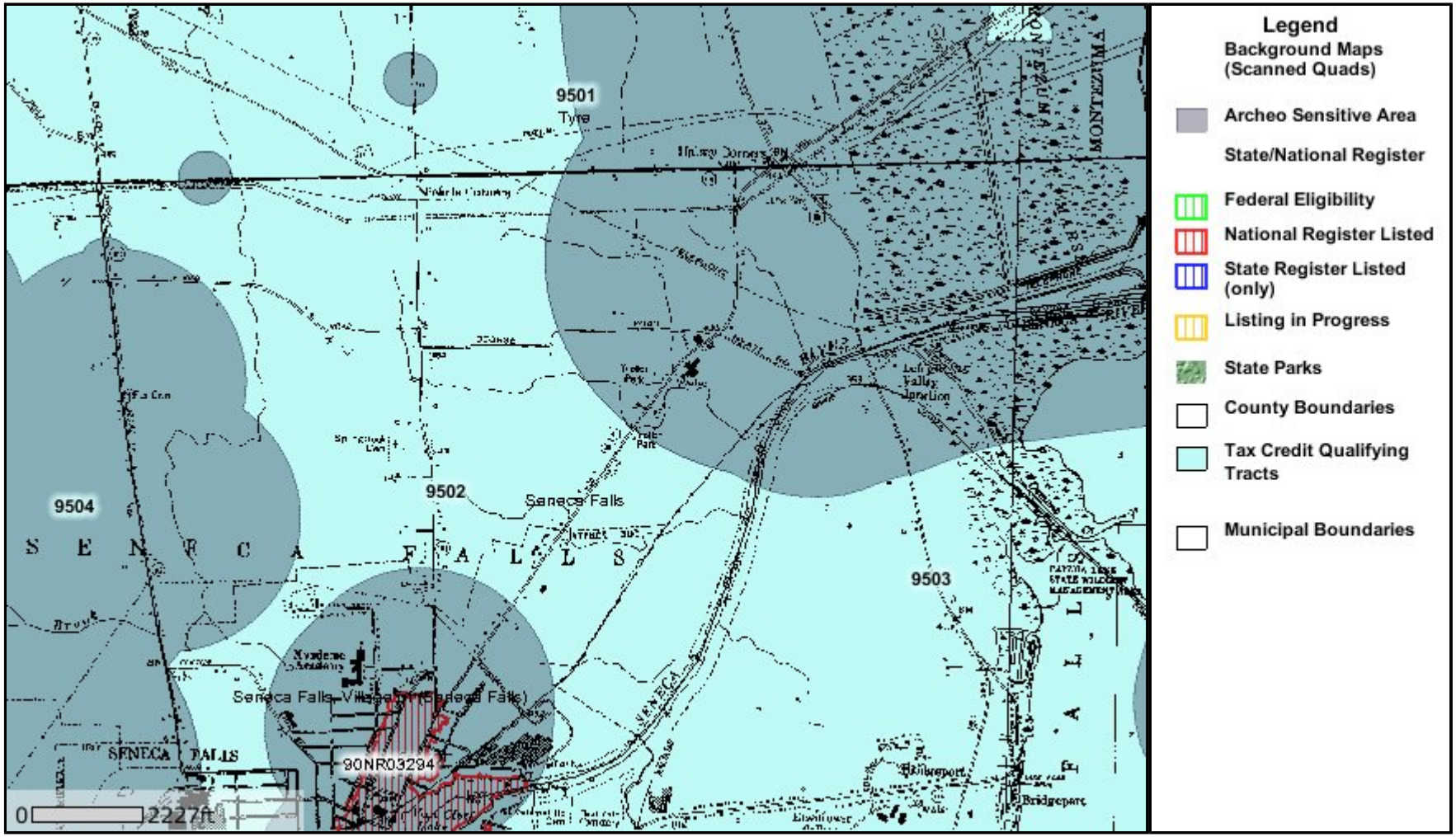
Signature (Trained Contractor) ***Date***

For

Responsible For

APPENDIX A

Historic Preservation Information

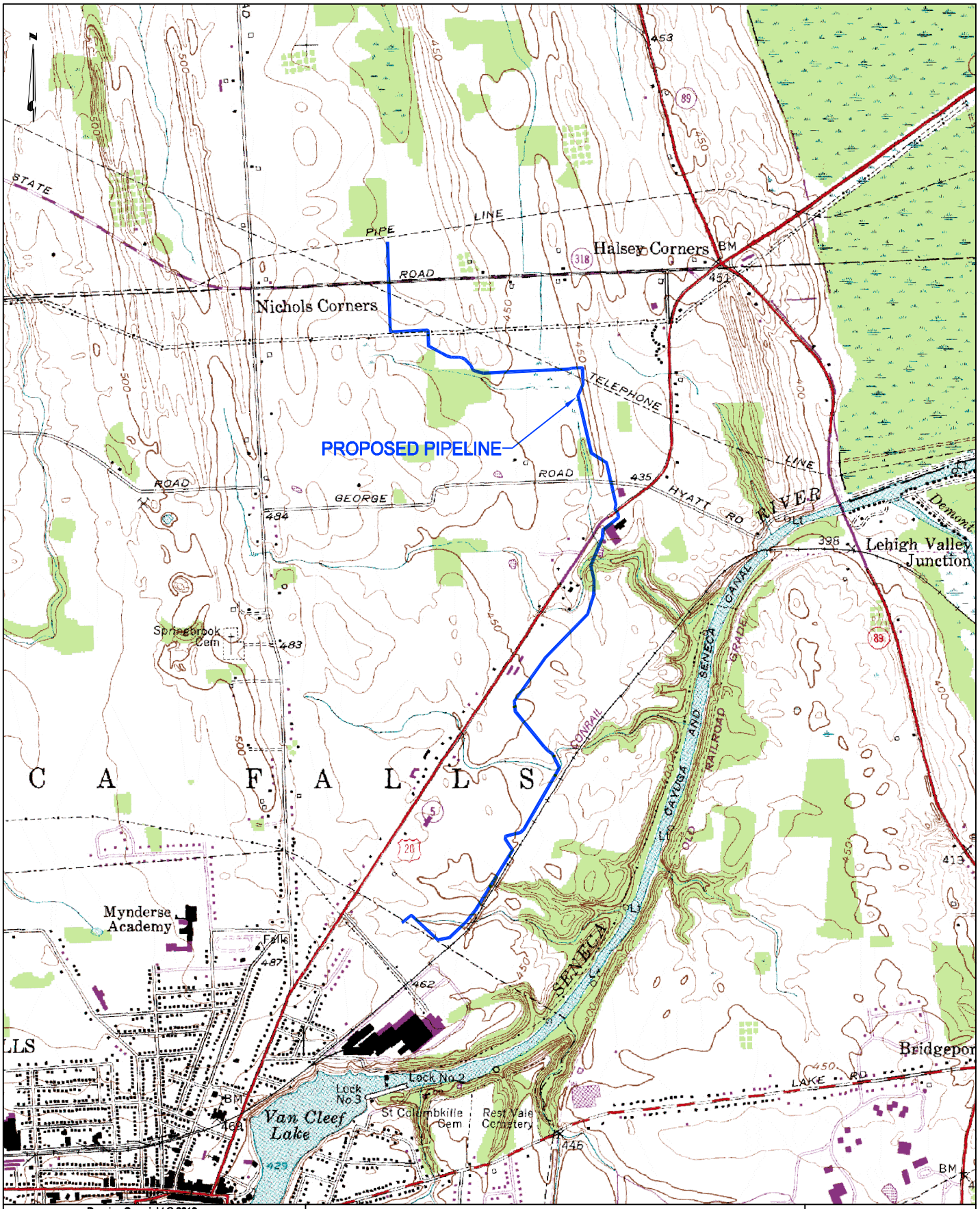


June 5, 2012

Disclaimer: This map was prepared by the New York State Parks, Recreation and Historic Preservation National Register Listing Internet Application. The information was compiled using the most current data available. It is deemed accurate, but is not guaranteed.

APPENDIX B

Figures



CHA
441 South Salina Street · Syracuse, NY 13202-4712
Main: (315) 471-3920 · www.chacompanies.com

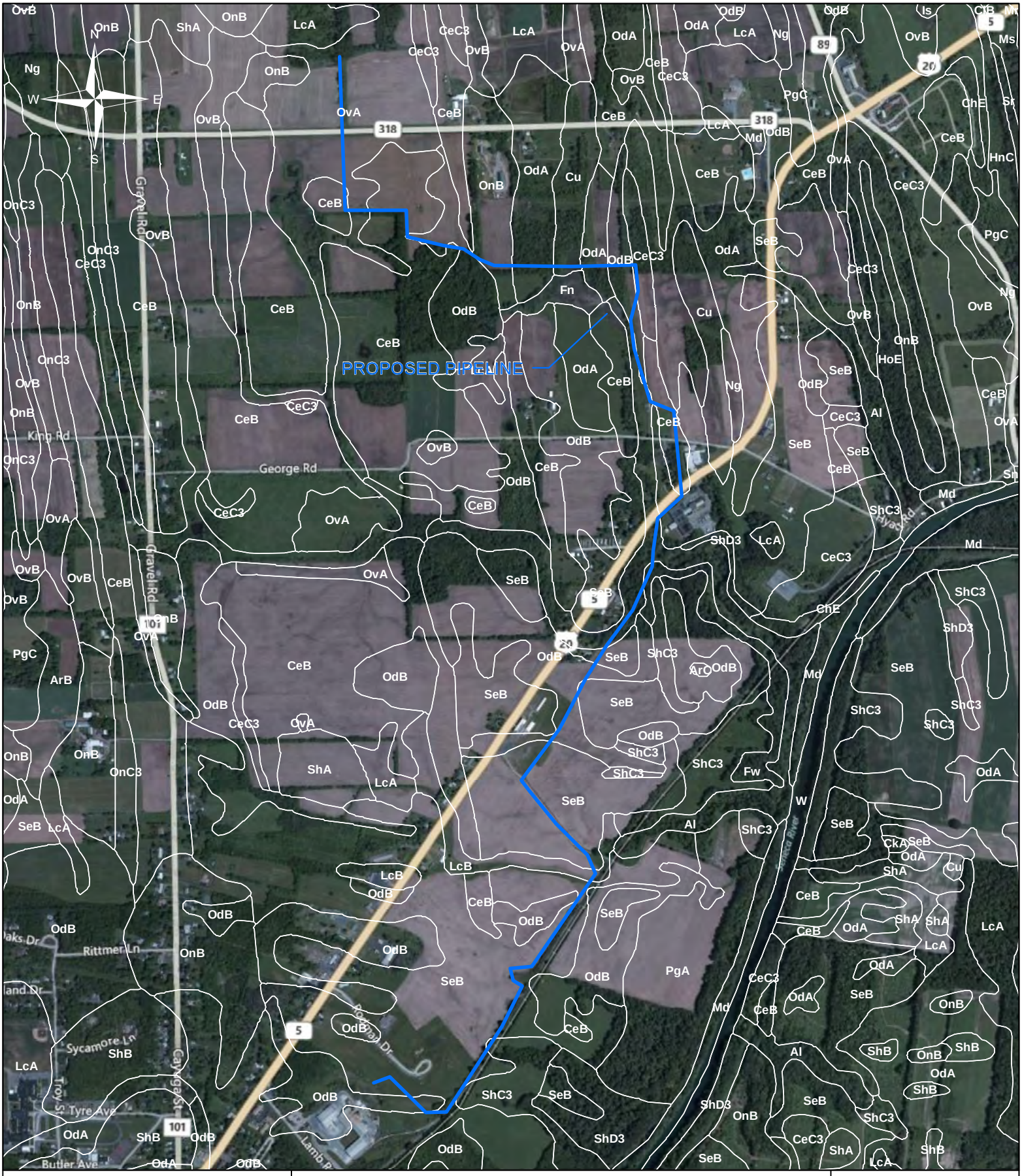
LOCATION PLAN
SCEPTER GAS PIPELINE INTERCONNECT
TOWN/VILLAGE OF SENECA FALLS

SCALE: 1" = 2000'

PROJECT NO. 14945.1400

DATE: 8/10/12

FIGURE 1



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SOIL TYPES

SCEPTER GAS PIPELINE INTERCONNECT
TOWN/VILLAGE OF SENECA FALLS

PROJECT NO.
14945.1400

DATE: 6/5/12

FIGURE 2

Map Unit Description (Brief, Generated)

Seneca County, New York

[Minor map unit components are excluded from this report]

Map unit: Al - Alluvial land

Component: Fluvaquents (45%)

The Fluvaquents component makes up 45 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of alluvium with highly variable texture. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, October, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria.

Component: Udifluvents (45%)

The Udifluvents component makes up 45 percent of the map unit. Slopes are 0 to 5 percent. This component is on flood plains. The parent material consists of alluvium with a wide range of texture. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 48 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 5w. This soil does not meet hydric criteria.

Map unit: CeB - Cazenovia silt loam, 3 to 8 percent slopes

Component: Cazenovia (85%)

The Cazenovia component makes up 85 percent of the map unit. Slopes are 3 to 8 percent. This component is on reworked lake plains, till plains. The parent material consists of loamy till that contains limestone with an admixture of reddish lake-laid clays or reddish clay shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 36 inches during March, April, May. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent.

Map unit: Fn - Fonda mucky silty clay loam

Component: Fonda (85%)

The Fonda component makes up 85 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions. The parent material consists of clayey glaciolacustrine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 15 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: LcB - Lakemont silty clay loam, 2 to 6 percent slopes

Component: Lakemont (80%)

The Lakemont component makes up 80 percent of the map unit. Slopes are 2 to 6 percent. This component is on depressions. The parent material consists of reddish clayey and silty glaciolacustrine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, November, December. Organic matter content in the surface horizon is about 7 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent.

Map Unit Description (Brief, Generated)

Seneca County, New York

Map unit: OdA - Odessa silt loam, 0 to 2 percent slopes

Component: Odessa (85%)

The Odessa component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on lake plains. The parent material consists of reddish clayey and silty glaciolacustrine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent.

Map unit: OdB - Odessa silt loam, 2 to 6 percent slopes

Component: Odessa (85%)

The Odessa component makes up 85 percent of the map unit. Slopes are 2 to 6 percent. This component is on lake plains. The parent material consists of reddish clayey and silty glaciolacustrine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent.

Map unit: OnB - Ontario loam, 2 to 8 percent slopes

Component: Ontario (85%)

The Ontario component makes up 85 percent of the map unit. Slopes are 2 to 8 percent. This component is on till plains, drumlins. The parent material consists of calcareous till high in limestone and sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 40 inches during March, April, May. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent.

Map unit: OvA - Ovid silt loam, 0 to 3 percent slopes

Component: Ovid (85%)

The Ovid component makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on till plains, reworked lake plains. The parent material consists of loamy till with a significant component of reddish shale or reddish glaciolacustrine clays, mixed with limestone and some sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, May. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent.

Map unit: SeB - Schoharie silt loam, 2 to 6 percent slopes

Component: Schoharie (80%)

The Schoharie component makes up 80 percent of the map unit. Slopes are 2 to 6 percent. This component is on lake plains. The parent material consists of reddish clayey and silty glaciolacustrine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 27 inches during March, April, May. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent.

Water Features

Seneca County, New York

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Al:										
Fluvaquents	A/D	---	January	0.0	>6.0	0.0-0.5	Long	Frequent	Long	Frequent
			February	0.0	>6.0	0.0-0.5	Long	Frequent	Long	Frequent
			March	0.0	>6.0	0.0-0.5	Long	Frequent	Long	Frequent
			April	0.0	>6.0	0.0-0.5	Long	Frequent	Long	Frequent
			May	0.0	>6.0	0.0-0.5	Long	Occasional	Long	Frequent
			June	0.0	>6.0	0.0-0.5	Long	Occasional	Long	Frequent
			July	---	---	---	---	None	Long	Frequent
			September	---	---	---	---	None	Long	Frequent
			October	0.0	>6.0	0.0-0.5	Long	Occasional	Long	Frequent
			November	0.0	>6.0	0.0-0.5	Long	Frequent	Long	Frequent
			December	0.0	>6.0	0.0-0.5	Long	Frequent	Long	Frequent
Udifluvents	A	---	January	2.0->6.0	>6.0	---	---	None	Brief	Frequent
			February	2.0->6.0	>6.0	---	---	None	Brief	Frequent
			March	2.0->6.0	>6.0	---	---	None	Brief	Frequent
			April	2.0->6.0	>6.0	---	---	None	Brief	Frequent
			May	2.0->6.0	>6.0	---	---	None	Brief	Frequent
			June	---	---	---	---	None	Brief	Frequent
			October	---	---	---	---	None	Brief	Frequent
			November	2.0->6.0	>6.0	---	---	None	Brief	Frequent
			December	2.0->6.0	>6.0	---	---	None	Brief	Frequent
CeB:										
Cazenovia	C	---	March	2.0-4.0	2.2-4.2	---	---	None	---	None
			April	2.0-4.0	2.2-4.2	---	---	None	---	None
			May	2.0-4.0	2.2-4.2	---	---	None	---	None

Water Features

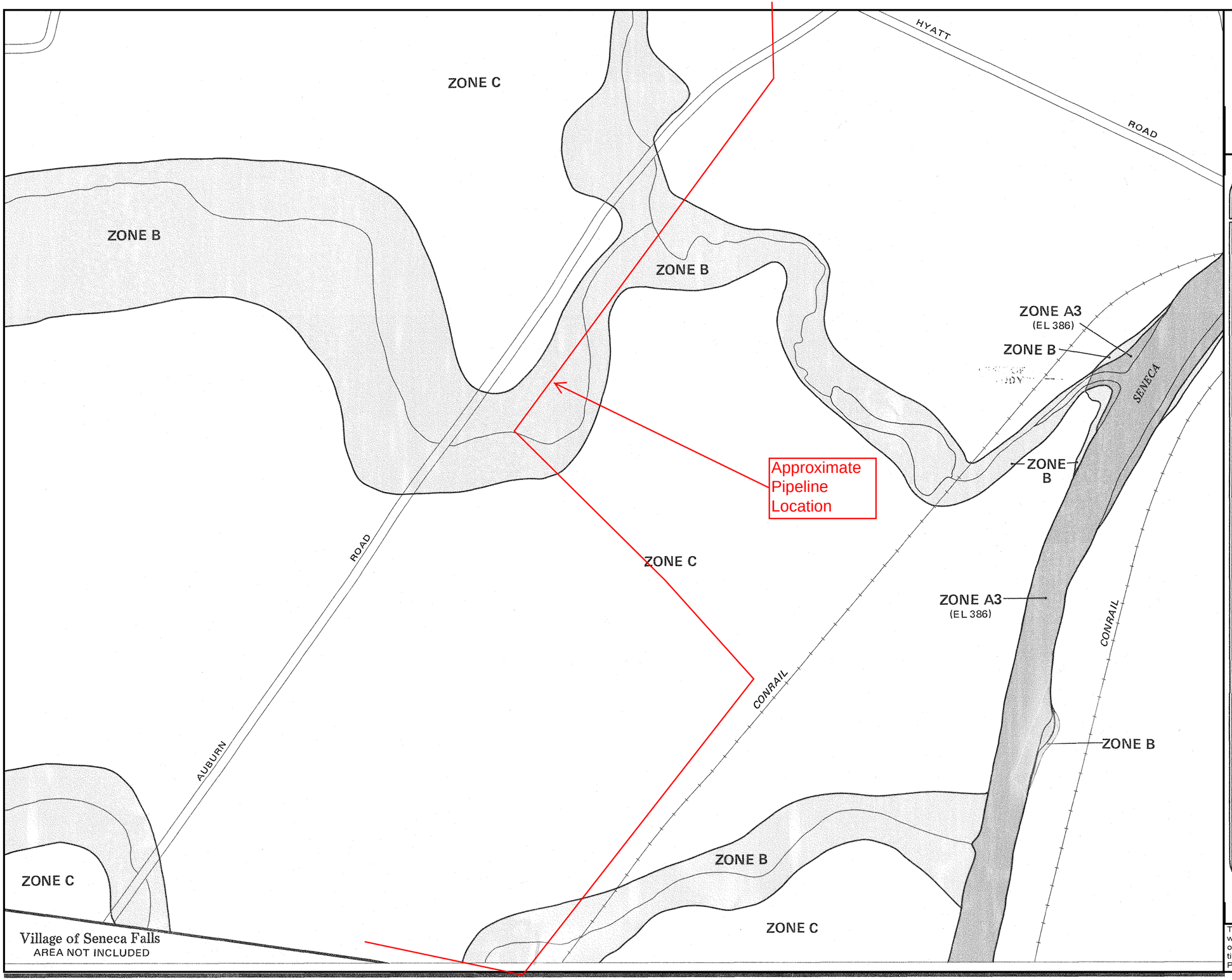
Seneca County, New York

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Fn:										
Fonda	C/D	---	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			April	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			May	0.0	>6.0	0.0-1.0	Long	Occasional	---	None
			December	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
LcB:										
Lakemont	C/D	---	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			April	0.0	>6.0	0.0-1.0	Long	Occasional	---	None
			May	0.0	>6.0	0.0-1.0	Long	Occasional	---	None
			June	0.0	>6.0	0.0-1.0	---	None	---	None
			November	0.0	>6.0	0.0-1.0	Long	Occasional	---	None
			December	0.0	>6.0	0.0-1.0	Long	Occasional	---	None
OdA:										
Odessa	C/D	---	January	0.5-1.5	1.7-3.8	---	---	None	---	None
			February	0.5-1.5	1.7-3.8	---	---	None	---	None
			March	0.5-1.5	1.7-3.8	---	---	None	---	None
			April	0.5-1.5	1.7-3.8	---	---	None	---	None
			May	0.5-1.5	1.7-3.8	---	---	None	---	None
			December	0.5-1.5	1.7-3.8	---	---	None	---	None

Water Features

Seneca County, New York

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
OdB:										
Odessa	C/D	---	January	0.5-1.5	1.7-3.8	---	---	None	---	None
			February	0.5-1.5	1.7-3.8	---	---	None	---	None
			March	0.5-1.5	1.7-3.8	---	---	None	---	None
			April	0.5-1.5	1.7-3.8	---	---	None	---	None
			May	0.5-1.5	1.7-3.8	---	---	None	---	None
			December	0.5-1.5	1.7-3.8	---	---	None	---	None
OnB:										
Ontario	C	---	March	2.8-3.8	3.0-4.0	---	---	None	---	None
			April	2.8-3.8	3.0-4.0	---	---	None	---	None
			May	2.8-3.8	3.0-4.0	---	---	None	---	None
OvA:										
Ovid	C/D	---	January	0.5-2.0	1.7-3.3	---	---	None	---	None
			February	0.5-2.0	1.7-3.3	---	---	None	---	None
			March	0.5-2.0	1.7-3.3	---	---	None	---	None
			April	0.5-2.0	1.7-3.3	---	---	None	---	None
			May	0.5-2.0	1.7-3.3	---	---	None	---	None
SeB:										
Schoharie	D	---	March	1.5-3.0	1.7-4.6	---	---	None	---	None
			April	1.5-3.0	1.7-4.6	---	---	None	---	None
			May	1.5-3.0	1.7-4.6	---	---	None	---	None



APPROXIMATE SCALE

400 0 400 FEET

FIGURE 3

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
SENECA FALLS,
NEW YORK
SENECA COUNTY

PANEL 2 OF 9
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
360756 0002 B

EFFECTIVE DATE:
AUGUST 3, 1981

federal emergency management agency
federal insurance administration

CORPORATE LIMITS

STATE ROAD

Approximate Pipeline Location

ROAD

AUBURN

ROAD

HYATT

ZONE C

ELEVATION REFERENCE MARKS

DESCRIPTION OF LOCATION

Chiseled square on southwest corner of concrete base of abandoned signal, about 3.0 miles northeast along CONRAIL tracks from Seneca Falls at a railroad junction 75 feet west of centerline of State Highway 89, 9 feet north of centerline of track.

N

APPROXIMATE SCALE

400 0 400 FEET

FIGURE 4

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

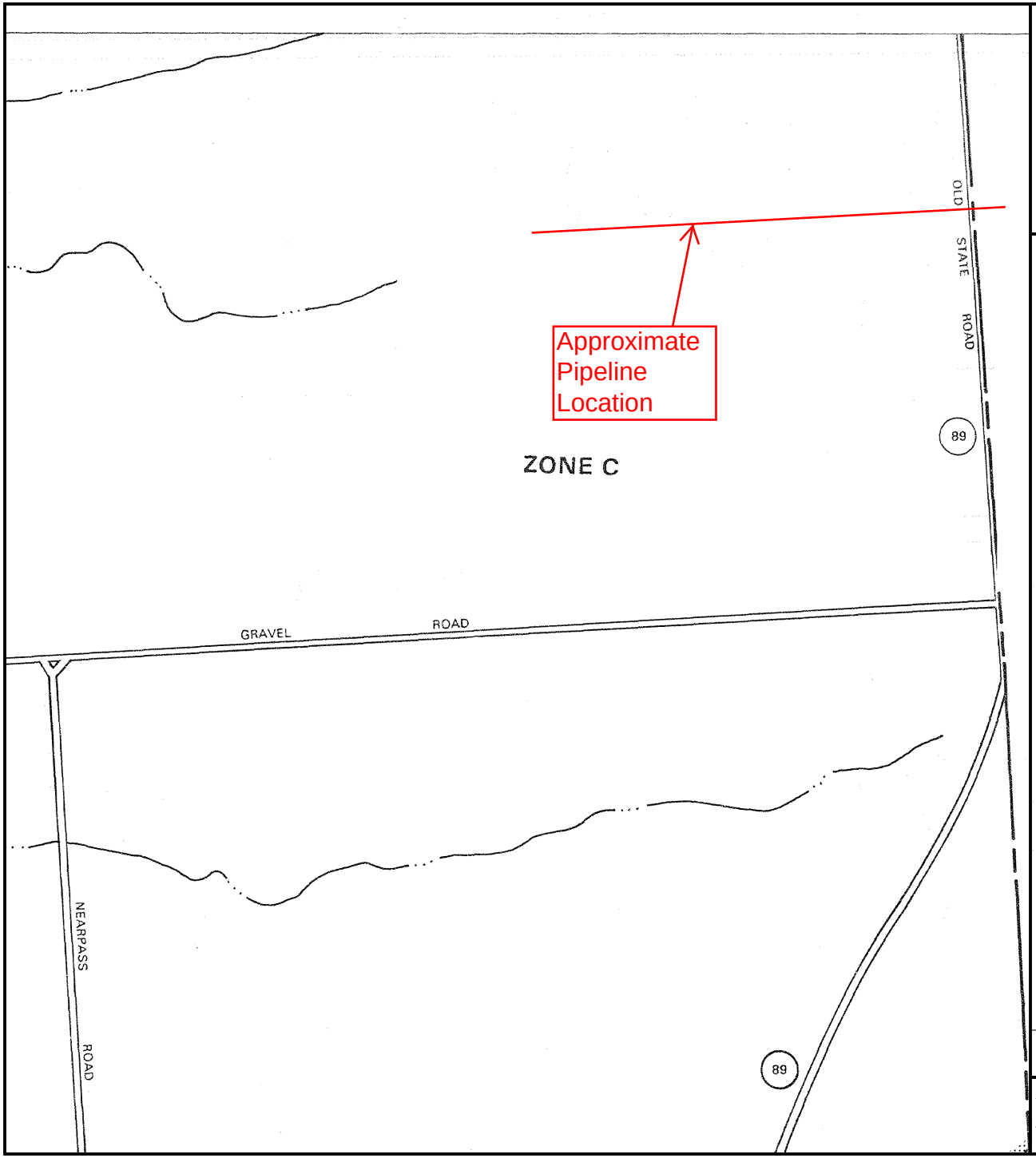
TOWN OF
SENECA FALLS,
NEW YORK
SENECA COUNTY

PANEL 2 OF 9
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
360756 0002 B

EFFECTIVE DATE:
AUGUST 3, 1981

federal emergency management agency
federal insurance administration



North

APPROXIMATE SCALE IN FEET

1000 0

FIGURE 5

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
TYRE,
NEW YORK
SENECA COUNTY

PANEL 2 OF 2
(SEE MAP INDEX FOR PANELS PRINTED)

COMMUNITY-PANEL NUMBER:
361206 0002 B

EFFECTIVE DATE:
AUGUST 31, 1979

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION

APPENDIX C

Notice of Intent

0669273036

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR _____
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-10-001

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-
RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
SCEPTER NEW YORK, INC.

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
EDIC

Owner/Operator Contact Person First Name
STEVE

Owner/Operator Mailing Address
11 LAMB ROAD

City
SENECA FALLS

State
NY

Zip
13148-

Phone (Owner/Operator)
3155682225

Fax (Owner/Operator)
3155682240

Email (Owner/Operator)
SEDIC@SCEPTERINC.COM

FED TAX ID
__-_____ (not required for individuals)

Project Site Information

Project/Site Name
SCEPTER GAS PIPELINE INTERCONNECT

Street Address (NOT P.O. BOX)
N/A

Side of Street
○ **North** ○ **South** ○ **East** ○ **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)
SENECA FALLS

State NY | Zip 13148- | County SENECA | DEC Region 8

Name of Nearest Cross Street
N/A

Distance to Nearest Cross Street (Feet)

Project In Relation to Cross Street
○ **North** ○ **South** ○ **East** ○ **West**

Tax Map Numbers
Section-Block-Parcel

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting) 354903

Y Coordinates (Northing) 4775449977111

2. What is the nature of this construction project?

● **New Construction**

○ **Redevelopment with increase in imperviousness**

○ **Redevelopment with no increase in imperviousness**

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use

- ○ FOREST
- ○ PASTURE/OPEN LAND
- ○ CULTIVATED LAND
- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ● LINEAR UTILITY
- ○ PARKING LOT
- ○ OTHER

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION — Number of Lots
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ MUNICIPAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ● LINEAR UTILITY (water, sewer, gas, etc.)
- ○ PARKING LOT
- ○ CLEARING/GRADING ONLY
- ○ DEMOLITION, NO REDEVELOPMENT
- ○ OTHER

4. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law ? ● **Yes** ○ **No**

5. Is this a project which does not require coverage under the General Permit (e.g. Project done under an Individual SPDES Permit, or department approved remediation)? ○ **Yes** ● **No**

6. Is this property owned by a state authority, state agency or local government? ○ **Yes** ● **No**

7. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area. Round to the nearest tenth of an acre.

Total Site Acreage	Acreage To Be Disturbed	Existing Impervious Area Within Disturbed	Future Impervious Area Within Disturbed
15.185.8	12.132.3	0.10.1	0.20.2

8. Do you plan to disturb more than 5 acres of soil at any one time? ○ **Yes** ● **No**

9. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
3 %	%	37 %	60 %

10. Is this a phased project? ○ Yes ● No

11. Enter the planned start and end dates of the disturbance activities. **Start Date** 10/15/2012 - **End Date** 09/01/2013

12. Identify the nearest, natural, surface waterbody(ies) to which construction site runoff will discharge.

Name: UNNAMED TRIBUTARIES TO THE SENECA RIVER

12a. Type of waterbody identified in Question 12?

- ○ Wetland / State Jurisdiction On Site (Answer 12b)
- ○ Wetland / State Jurisdiction Off Site
- ● Wetland / Federal Jurisdiction On Site (Answer 12b)
- ○ Wetland / Federal Jurisdiction Off Site
- ● Stream / Creek On Site
- ○ Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

12b. How was the wetland identified?

- ○ Regulatory Map
- ● Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

13. Has the surface waterbody(ies) in question 12 been identified as a 303(d) segment in Appendix E of GP-0-10-001? ○ Yes ● No

14. Is this project located in one of the Watersheds identified in Appendix C of GP-0-10-001? ○ Yes ● No

15. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? **If no, skip question 16.** ○ Yes ● No

16. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ Yes ○ No

If Yes, what is the acreage to be disturbed?

[ ][ ][ ][ ].[ ]

17. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ Yes ● No

18. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ● Yes ○ No ○ Unknown

(If No, skip question 19)

19. What is the name of the municipality/entity that owns the separate storm sewer system?

TOWN AND VILLAGE OF SENECA FALLS

20. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ● No ○ Unknown

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book) ? ● Yes ○ No

22. Does this construction activity require the development of a SWPPP that includes Water Quality and Quantity Control components (Post-Construction Stormwater Management Practices) ○ Yes ● No

(If No, skip questions 23 and 27-35)

23. Have the Water Quality and Quantity Control components of the SWPPP been developed in comformance with the current NYS Stormwater Management Design Manual ? ○ Yes ○ No

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ○ **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ● **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer
CHA CONSULTING, INC.

Contact Name (Last, Space, First)
HARRIS, KRISTY

Mailing Address
441 S SALINA STREET

City
SYRACUSE

State
NY

Zip
13202-

Phone
3154719020

Fax
3154719569

Email
KHARRIS@CHACOMPANIES.COM

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-10-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name
KRISTY

MI
M

Last Name
HARRIS

Signature

Date
/ /

25. Has a construction sequence schedule for the planned management practices been prepared? ● Yes ○ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ○ Check Dams
- ○ Construction Road Stabilization
- ○ Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ● Silt Fence
- ● Stabilized Construction Entrance
- ○ Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ● Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ○ Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

Water Quality and Quantity Control

Important: Completion of Questions 27-35 is not required if response to Question 22 is No.

Post-Construction Stormwater Management Practices

27. Indicate **all** Stormwater Management Practice(s) that will be installed/constructed on this site:

Ponds
- ○ **Micropool Extended Detention (P-1)**
- ○ **Wet Pond (P-2)**
- ○ **Wet Extended Detention (P-3)**
- ○ **Multiple Pond System (P-4)**
- ○ **Pocket Pond (P-5)**

Filtering
- ○ **Surface Sand Filter (F-1)**
- ○ **Underground Sand Filter (F-2)**
- ○ **Perimeter Sand Filter (F-3)**
- ○ **Organic Filter (F-4)**
- ○ **Bioretention (F-5)**
- ○ **Other**

Alternative Practice
- ○ **Rain Garden**
- ○ **Cistern**
- ○ **Green Roof**
- ○ **Stormwater Planters**
- ○ **Permeable Paving (Modular Block)**

Wetlands
- ○ **Shallow Wetland (W-1)**
- ○ **Extended Detention Wetland (W-2)**
- ○ **Pond/Wetland System (W-3)**
- ○ **Pocket Wetland (W-4)**

Infiltration
- ○ **Infiltration Trench (I-1)**
- ○ **Infiltration Basin (I-2)**
- ○ **Dry Well (I-3)**
- ○ **Underground Infiltration System**

Open Channels
- ○ **Dry Swale (O-1)**
- ○ **Wet Swale (O-2)**

Verified Proprietary Practice
- ○ **Hydrodynamic**
- ○ **Wet Vault**
- ○ **Media Filter**

28. Describe other stormwater management practices not listed above or explain any deviations from the technical standards.

Project includes installation of approximately 3 miles of 6" gas transmission pipeline. Pipe will be directionally drilled through sensitive areas. A 6,000 SF gravel pad will be installed with geoweb to promote infiltration. A 533LF gravel access (5,376SF) drive will also be constructed, however, no post-construction practices are proposed due to drive location and surrounding landuse (trees/farmer's field).

29. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ○ **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

30. Provide the total water quality volume required and the total provided for the site.

WQv Required ☐☐☐.☐☐☐ **acre-feet**

WQv Provided ☐☐☐.☐☐☐ **acre-feet**

31. Provide the following Unified Stormwater Sizing Criteria for the site.

Total Channel Protection Storage Volume (CPv) - Extended detention of post-developed 1 year, 24 hour storm event

CPv Required ☐☐☐.☐☐☐ **acre-feet**

CPv Provided ☐☐☐.☐☐☐ **acre-feet**

31a. The need to provide for channel protection has been waived because:

○ **Site discharges directly to fourth order stream or larger**

Total Overbank Flood Control Criteria (Qp) - Peak discharge rate for the 10 year storm

Pre-Development ☐☐☐.☐☐☐ **CFS**

Post-development ☐☐☐.☐☐☐ **CFS**

Total Extreme Flood Control Criteria (Qf) - Peak discharge rate for the 100 year storm

Pre-Development ☐☐☐.☐☐☐ **CFS**

Post-development ☐☐☐.☐☐☐ **CFS**

31b. The need to provide for flood control has been waived because:

○ **Site discharges directly to fourth order stream or larger**

○ **Downstream analysis reveals that flood control is not required**

IMPORTANT: For questions 31 and 32, impervious area should be calculated considering the project site and all offsite areas that drain to the post-construction stormwater management practice(s). (Total Drainage Area = Project Site + Offsite areas)

32. Pre-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the existing impervious areas before construction begins. ☐☐☐%

33. Post-Construction Impervious Area - As a percent of the Total Drainage Area, enter the percentage of the future impervious areas that will be created/remain on the site after completion of construction. ☐☐☐%

34. Indicate the total number of post-construction stormwater management practices to be installed/constructed. ☐☐

35. Provide the total number of stormwater discharge points from the site. (include discharges to either surface waters or to separate storm sewer systems) ☐☐

36. Identify other DEC permits that are required for this project.

DEC Permits

○ Air Pollution Control	○ Navigable Waters Protection / Article 15
○ Coastal Erosion	○ Water Quality Certificate
○ Hazardous Waste	○ Dam Safety
○ Long Island Wells	○ Water Supply
○ Mined Land Reclamation	○ Freshwater Wetlands/Article 24
○ Other SPDES	○ Tidal Wetlands
○ Solid Waste	○ Wild, Scenic and Recreational Rivers
● None	○ Stream Bed or Bank Protection / Article 15

○ Other

37. Does this project require a US Army Corps of Engineers Wetland Permit? ● **Yes** ○ **No**
If Yes, Indicate Size of Impact. 0.2 0.2

38. Is this project subject to the requirements of a regulated, traditional land use control MS4? ○ **Yes** ● **No**
(If No, skip question 39)

39. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ○ **Yes** ○ **No**

40. If this NOI is being submitted for the purpose of continuing coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. NYR

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name STEVE **MI**

Print Last Name EDIC

Owner/Operator Signature

Date / /

APPENDIX D

Inspection Forms

PERMIT NUMBER: NYR-

PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name _____

GP-0-10-001 Permit No. _____ **Date of Authorization** _____

Name of Owner/Operator _____

General Contractor _____

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

Site Assessment and Inspections -

a. The Owner or Operator agrees to have a Qualified Inspector[1] conduct an assessment of the site prior to the commencement of construction. The Qualified Inspector shall certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

b. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the owner or operator can stop conducting inspections. The owner or operator shall resume inspections as soon as soil disturbance activities are reinitiated.

c. For construction sites where soil disturbance activities have been shut down with partial project completion, the owner or operator can stop conducting inspections if all areas disturbed (as of the project shutdown date) have achieved final stabilization and all post-construction stormwater management practices, required for the completed portion of the project, have been constructed in conformance with the SWPPP and are operational.

d. Following the commencement of construction, site inspections shall be conducted by the Qualified Inspector to ensure that erosion and sediment controls are being maintained in effective operating condition at all times. Inspections shall occur at least: (i) once every 7 calendar days for construction sites where soil disturbance activities are occurring; (ii) twice every 7 calendar days for construction sites where soil disturbance activities are occurring and the Owner/Operator has received authorization to disturb greater than five (5) acres of soil at any one time; (iii) once every thirty (30) calendar days for construction sites where soil disturbance activities have been temporarily suspended and temporary stabilization measures have been applied to all disturbed areas; and (iv) for construction sites where soil disturbance activities have been shut down with partial project completion, the Qualified Inspector can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved final stabilization, and all post-construction stormwater management practices for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

e. The owner or operator shall notify the Regional Office stormwater contact person in writing prior to reducing the frequency of any inspections.

f. The Owner/Operator shall maintain a record of all inspection reports in the site log book. The site log book shall be maintained on site and be made available to the permitting authorities upon request. Prior to the commencement of construction,[2] the Owner/Operator shall certify in the site log book that the SWPPP is prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements.

g. Prior to filing of the Notice of Termination or the end of permit term, the Owner/Operator shall have the Qualified Inspector perform a final site inspection. The Qualified Inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed.

[1]"Qualified Inspector" means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed Professional Engineer (PE), licensed Landscape Architect, or other Department endorsed individual(s). It may also mean someone working under the direct supervision of a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), or soil scientist provided that person has training in the principles and practices of erosion and sediment control. Training means that person has received four (4) hours of training endorsed by the Department and shall receive four (4) hours of training every three (3) years after the initial training session.

[2]"Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

[3]"Final stabilization" means that all soil disturbance activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established, or equivalent stabilization measures (such as the use of mulches or geotextiles, rock rip-rap or washed/crushed stone) have been employed on all disturbed areas that are not covered by permanent structures, concrete or pavement.

PRE-CONSTRUCTION SITE ASSESSMENT FORM

Inspector Name and Title _____ **Date and Time of Inspection** _____

Qualified Inspector _____ **Qualified Inspector Signature** _____

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the following forms is accurate and complete.

a. Notice of Intent, SWPPP, and Contractors' Certification:

Yes	No	NA	
☐	☐	☐	Has a Notice of Intent been filed with the NYS Department of Conservation?
☐	☐	☐	Is the SWPPP on-site? Where? _____
☐	☐	☐	Is the Plan current? What is the latest revision date? _____
☐	☐	☐	Have all contractors involved with implementing the erosion and sediment control portions of the SWPPP signed the contractor's certification?

b. Resource Protection

Yes	No	NA	
☐	☐	☐	Are construction limits clearly flagged or fenced?
☐	☐	☐	Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, etc. have been flagged for protection.
☐	☐	☐	Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

c. Surface Water Protection

Yes	No	NA	
☐	☐	☐	Clean stormwater runoff has been diverted away from areas to be disturbed.
☐	☐	☐	Bodies of water located either on site or in the vicinity of the site have been identified and protected.
☐	☐	☐	Appropriate practices to protect on-site or downstream surface waters are installed.

d. Stabilized Construction Entrance

Yes	No	NA	
☐	☐	☐	A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
☐	☐	☐	Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
☐	☐	☐	Sediment tracked onto public streets is removed or cleaned on a regular basis.

e. Perimeter Sediment Controls

Yes	No	NA	
☐	☐	☐	Silt fence material and installation comply with the standard drawing and specifications.
☐	☐	☐	Silt fences are installed at appropriate spacing intervals
☐	☐	☐	Sediment/detention basin was installed
☐	☐	☐	Sediment traps and barriers are installed.

PERMIT NUMBER: NYR- INSPECTION REPORT # :

Location	**Date and Time of Inspection**
Qualified Inspector	**Qualified Inspector Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the following forms is accurate and complete.

☐ **Weekly Inspection**

Current Phase of Construction (if applicable): of

Estimated Current Total Disturbed Area: acres

IMMEDIATE ACTION ITEMS / INSPECTION SUMMARY:

It is the responsibility of the Qualified Inspector to notify the owner/operator and appropriate contractor of any corrective actions that need to be taken within one (1) business day of the completion of an inspection. It is the responsibility of the contractor (subcontractor) to begin implementing the corrective actions within one (1) business day of this notification and complete the corrective action within a reasonable time frame. If there are action items from the previous inspection which have not been addressed, so note.

1. GENERAL HOUSEKEEPING

Includes description of the weather and soil conditions (e.g. dry, wet, saturated) during the time of the inspection, a description of the condition of the runoff at all points of discharge from the construction site (including identification of any discharges of sediments from construction site), inspection for stream/pond turbidity, oil and floating substances, visible oil film, or globules or grease, contractor preparedness for implementation of erosion and sediment control, impact on adjacent property, and dust control.

Yes **No**

☐ ☐ Is there immediate action required regarding General Housekeeping?

Notes:

2. TEMPORARY STREAM CROSSING

Includes inspection ensuring that crossing pipes are properly sized, installed with non-woven geotextile fabric beneath approaches, have 20 feet minimum approach length, minimum 6 inch depth of rock, 18 inch maximum fill depth over pipes, have diversion dike/swale through both approaches 50 feet (max) from top of bank, have fill composed of clean shot rock or KTC Class III channel lining, and have rock clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

Yes **No**

☐ ☐ Is there immediate action required regarding a Temporary Stream Crossing?

Notes:

3. EXCAVATION DEWATERING

Includes inspection ensuring that clean water from upstream pool is being pumped to the downstream pool, that sediment laden water from work area is being discharged to a silt-trapping device, and that constructed upstream berm has one-foot minimum freeboard.

Yes **No**

☐ ☐ Is there immediate action required regarding Excavation Dewatering?

Notes:

4. VEGETATED FILTER STRIPS

Includes inspection ensuring that vegetation is dense and there are no signs of erosion, that width of filter strip is per the approved plan, and that ground slope of the filter strip is between 1% and 5%.

Yes **No**

☐ ☐ Is there immediate action required regarding Vegetated Filter Strips?

Notes:

5. LEVEL SPREADERS

Includes inspection ensuring that level spreaders are installed per plan, constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow, and that flow sheets out of level spreader without erosion on downstream edge.

Yes **No**

☐ ☐ Is there immediate action required regarding a Level Spreader?

Notes:

6. INTERCEPTOR DIKES AND SWALES

Includes inspection ensuring that dikes and swales are installed per plan with minimum side slopes 2H:1V or flatter, are stabilized by geotextile fabric, seed, or mulch with no erosion occurring, and that sediment-laden runoff is directed to sediment trapping structure.

Yes **No**

☐ ☐ Is there immediate action required regarding an Interceptor Dike or Swale?

Notes:

7. EROSION & SEDIMENT CONTROL

Includes inspection ensuring that erosion and sediment control practices are located and installed correctly, BMPs are maintained per specifications, stockpiles are stabilized and contained, de-watering operations prevent direct discharges to sensitive features, and that clearing and grading operations are divided into stages for large areas. Identification of all erosion and sediment control practices that need repair or maintenance.

Yes **No**

☐ ☐ Is there immediate action required regarding Erosion & Sediment Control?

Notes:

8. AREAS OF DISTURBANCE

Includes description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since last inspection.

Yes **No**

☐ ☐ Is there immediate action required regarding stabilizing disturbed areas?

Notes:

9. OFFSITE IMPACTS AND OFFSITE DEGRADATION

Includes inspection ensuring that work is within the limits of the approved plans, including clearing and blasting, and that ponds, streams, wetlands and sinkholes are free of sediment the from site and that sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

Yes **No**

☐ ☐ Is there immediate action required regarding Offsite Impacts or Offsite Degradation?

Notes:

10.STABILIZED CONSTRUCTION ENTRANCE

Includes inspection ensuring that stone is clean enough to effectively remove mud from vehicles, is installed per standards and specifications, that all traffic use the stabilized entrance to enter and leave site, and that adequate drainage is provided to prevent ponding at entrance.

Yes **No**

☐ ☐ Is there immediate action required regarding a Stabilized Construction Entrance?

Notes:

11. REINFORCED SILT FENCE

Includes inspection ensuring that silt fence is installed on contour, 10 feet from toe of slope, joints are constructed by wrapping the two ends together for continuous support, steel posts installed (if applicable), installed on downstream side of slope, maximum 6' intervals with 6 x 6 inch 14 gage wire, fabric is buried minimum of 6 inches, posts are stable, fabric is tight and without rips or frayed areas, and that sediment accumulation is less than 1/3 the height of the silt fence.

Yes **No**

☐ ☐ Is there immediate action required regarding Silt Fence?

Notes:

12. STONE CHECK DAM

Includes inspection ensuring that stone check dam channels are without erosion (i.e., flow is not eroding soil underneath or around the structure), that check dam is in good condition (i.e., rocks have not been displaced and no permanent pools behind the structure), and that sediment accumulation is less than design capacity.

Yes **No**

☐ ☐ Is there immediate action required regarding a Stone Check Dam?

Notes:

13. BLOCK AND GRAVEL DROP INLET PROTECTION

Includes inspection ensuring that concrete blocks are installed lengthwise so open ends face outward, not upward, has wire screen between No. 3 crushed stone and concrete blocks, and that sediment accumulation is within design capacity.

Yes **No**

☐ ☐ Is there immediate action required regarding Block and Gravel Drop Inlet Protection?

Notes:

14. FILTER FABRIC (DROP) INLET PROTECTION

Includes inspection ensuring that protection is installed with 2-inch x 4-inch wood frame and wood posts, with maximum 3-foot spacing, is buried a minimum of 8 inches and secured to frame/posts with staples at max 8-inch spacing, has posts with 3-foot maximum spacing between posts, has posts that are stable, fabric is tight and without rips or frayed areas, and that sediment accumulation is within design capacity.

Yes **No**

☐ ☐ Is there immediate action required regarding Filter Fabric (Drop) Inlet Protection?

Notes:

15. EXCAVATED DROP INLET PROTECTION

Includes inspection ensuring that protection is excavated to a 1-foot minimum depth, but no more that 2-feet maximum, that gravel is supported by hardware cloth to allow drainage and restrict sediment movement, and that excavated side slopes are 2:1.

Yes **No**

☐ ☐ Is there immediate action required regarding Excavated Drop Inlet Protection?

Notes:

16. TEMPORARY SEDIMENT TRAP

Includes inspection ensuring that outlet structure is constructed per the approved plan or drawing, that geotextile fabric has been placed beneath rock fill, and that sediment accumulation is within design capacity.

Yes **No**

☐ ☐ Is there immediate action required regarding Temporary Sediment Traps?

Notes:

17. TEMPORARY SEDIMENT BASIN

Includes inspection ensuring that basin and outlet structure are constructed per the approved plan, that basin side slopes are stabilized with seed/mulch, that sediment accumulation is within design capacity, and that the drainage structure is flushed and the basin surface restored upon removal of sediment basin facility.

Yes **No**

☐ ☐ Is there immediate action required regarding Temporary Sediment Basins?

Notes:

18. STORMWATER BASIN

Includes inspection ensuring that Permanent Stormwater Basins are installed per plans and specifications.

Yes **No**

☐ ☐ Is there immediate action required regarding Stormwater Basins?

Notes:

19. EROSION CONTROL BLANKETS

Includes inspection ensuring that erosion control blankets are properly installed.

Yes	No	
☐	☐	Is there immediate action required regarding Erosion Control Blankets?

Notes:

20. CURRENT PHASE OF POST-CONSTRUCTION STORMWATER PRACTICES

Includes inspection of current phase of all post-construction stormwater management practices, identification of all construction that is not in conformance with the SWPPP and technical standards, identify corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices, and to correct deficiencies identified with the construction of post-construction stormwater management practice(s).

Yes	No	
☐	☐	Is there immediate action required regarding the current phase of post-construction stormwater management practices?

Notes:

ADDITIONAL NOTES / MODIFICATIONS

APPENDIX E

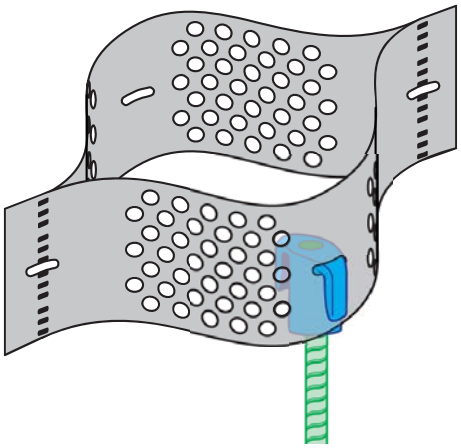
Erosion and Sediment Control Plan and Details

APPENDIX F

GEOWEB Information and Specifications

PRESTO

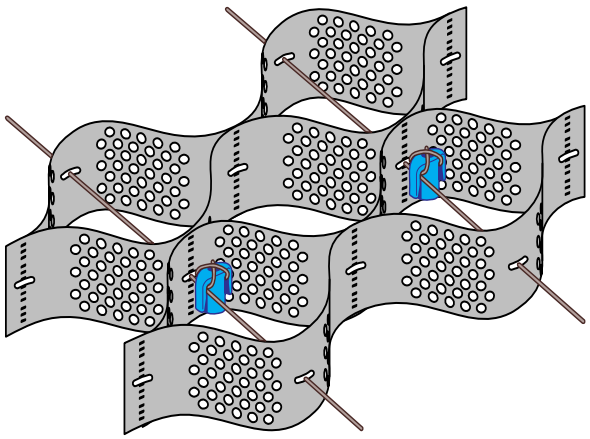
GEOSYSTEMS

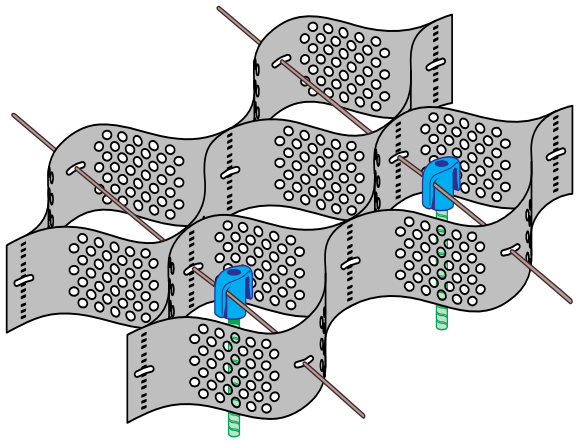


GEOWEB®

SOIL STABILIZATION SYSTEM

MATERIAL SPECIFICATION





PRESTO GEOSYSTEMS
670 N PERKINS STREET, APPLETON, WISCONSIN, USA 54914
Ph: 920-738-1707 or 800-548-3424 ■ Fax: 920-738-1222
e-mail: INFO@PRESTOGEO.COM WWW.PRESTOGEO.COM/

CD 8 EFFECTIVE DATE 31 MARCH-2011 REVISION 8

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PRESTO GEOSYSTEMS
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Perforated Geoweb® System Performance & Material Specification Summary

	Property	Value					Test Method
Base Material	Material Composition	Polymer – Polyethylene with density of 58.4 – 60.2 lb/ft³ (0.935 – 0.965 g/cm³)					ASTM D 1505
	Color	Black - from Carbon Black	Tan, Green, Other Colors with no heavy metal content				N/A
	Stabilizer	Carbon black content 1.5% - 2% by weight	Hindered amine light stabilizer (HALS) 1.0% by weight of carrier				N/A
	Minimum ESCR	5000 hr					ASTM D 1693
Strip Properties	Sheet Thickness	50 mil, –5% +10% (1.27 mm, -5% +10%)					ASTM D 5199
	Surface Treatment	**Performance:** The polyethylene strips shall be textured and perforated such that the peak friction angle between the surface of the textured / perforated plastic and #40 silica sand at 100% relative density shall be no less than 85% of the peak friction angle of the silica sand in isolation when tested by the direct shear method per ASTM D 5321.	**Material:** The polyethylene strips shall be textured with a multitude of rhomboidal (diamond shape) indentations. The rhomboidal indentations shall have a surface density of 140 – 200 per in² (22 – 31 per cm²). In addition, the strips shall be perforated with horizontal rows of 0.4 in (10 mm) diameter holes. Perforations within each row shall be 0.75 in (19 mm) on-center. Horizontal rows shall be staggered and separated 0.5 in (12 mm) relative to the hole centers. The edge of strip to the nearest edge of perforation shall be 0.3 in (8 mm) minimum and the centerline of the weld to the nearest edge of perforation shall be 0.7 in (18 mm) minimum. A slot with a dimension of 3/8 in x 1 3/8 in (10 mm x 35 mm) is standard in the center of the non-perforated areas and at the center of each weld.				
Cell & Seam Properties	Cell Details	Percent Cell Wall Open Area	Nominal Dimensions ±10%		Density per yd² (m²)	Nominal Area ±1%	
			Length	Width			
	GW20V	21.2% ± 1%	8.8 in(224 mm)	10.2 in (259 mm)	28.9 (34.6)	44.8 in² (289 cm²)	
	GW30V	16.8% ± 1%	287 mm (11.3 in)	320 mm (12.6 in)	18.2 (21.7)	71.3 in² (460 cm²)	
	GW40V	19.89% ± 1%	475 mm (18.7 in)	508 mm (20.0 in)	6.9 (8.3)	187.0 in² (1,206 cm²)	
	Short-term Seam Peel Strength	Cell Depth			Minimum Certified Cell Seam Strength		
		3 in (75 mm)			240 lbf (1060 N)		
		4 in (100 mm)			320 lbf (1420 N)		
		6 in (150 mm)			480 lbf (2130 N)		
		8 in (200 mm)			640 lbf (2840 N)		
	Long-term Seam Peel Strength	Long-term seam peel strength test shall be performed on all resin or pre-manufactured sheet or strips. A 4.0 in (100 mm) wide seam sample shall support a 160 lb (72.5 kg) load for a period of 168 hours (7 days) minimum in a temperature-controlled environment undergoing a temperature change on a 1-hour cycle from ambient room to 130°F (54°C). Ambient room temperature is per ASTM E 41					
	10,000-hour Seam Peel Strength Certification	Presto shall provide data showing that the high-density polyethylene resin used to produce the Geoweb sections has been tested using an appropriate number of seam samples and varying loads to generate data indicating that the seam peel strength shall survive a loading of at least 209 lbf (95 kg) for a minimum of 10,000 hours.					
Section Properties	Section Dimension	Section Width	Section Length Range (Cells Long: 18, 21, 25, 29, 34)				
		Variable	Minimum		Maximum		
	GW20V	7.7 ft (2.3 m) to 9.2 ft (2.8 m)	12.0 ft (3.7 m)		27.3 ft (8.3 m)		
	GW30V		15.4 ft (4.7 m)		35.1 ft (10.7 m)		
	GW40V		25.4 ft (7.7 m)		58.2 ft (17.8 m)		

Manufacturing Certification

Presto Geosystems shall have earned a certificate of registration, which demonstrates that its quality-management system for its Geoweb (geocell) cellular confinement system is currently registered to the ISO 9001:2008 quality standards. The scope of the ISO 9001:2008 registration shall be for the sale, design and manufacture of Geoweb cellular confinement system (geocell) product from incoming raw materials (resin) to finished product. Earned registration shall be verifiable by providing a copy of the current continuous registration certificate upon the customer's written request.

Under the scope of the ISO quality standard, Presto Geosystems shall compile, keep record of, and provide for any customer order or production lot, when requested at the time of order placement, actual and certified values for the following:

1. Resin Lot Number
2. Resin Density
3. Carbon Black content (where applicable)
4. High Pressure Oxidation Induction Time (HPOIT) (where applicable)
5. Sheet Thickness
6. Short-term Seam Peel Strength

Long-term Seam Peel Strength - 7-day hot box method

Substitutions

No material will be considered as an equivalent to the geocell material specified herein unless it meets all requirements of this specification, without exception. Manufacturers seeking to supply what they represent as equivalent material must submit records, data, independent test results, samples, certifications, and documentation deemed necessary by the Engineer to prove equivalency. The Engineer shall approve or disapprove other Manufacturers materials in accordance with the General Conditions after all information is submitted and reviewed.

Product Certification

Presto Geosystems shall provide certification of compliance to all applicable testing procedures and related specifications upon the customer's written request. Request for certification shall be submitted no later than the date of order placement.

Specifier Choice for Certification and Warranty

The Specifier shall determine the applicability of Manufacturing Certification, Product Certification and a Product Warranty and state which of the above is to be part of the project specifications.

Product Limited Warranty

Presto Geosystems shall warrant each Geoweb section that it ships to be free from defects in materials and workmanship at the time of manufacture. Presto's exclusive liability under this warranty or otherwise will be to furnish without charge to Presto's customer at the original f.o.b. point a replacement for any section which proves to be defective under normal use and service during the 10-year period which begins on the date of shipment-by Presto. Presto reserves the right to inspect any allegedly defective section in order to verify the defect and ascertain its cause.

This warranty shall not cover defects attributable to causes or occurrences beyond Presto's control and unrelated to the manufacturing process, including, but not limited to, abuse, misuse, mishandling, neglect, improper storage, improper installation, improper alteration or improper application.

PRESTO MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, WRITTEN OR ORAL, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, IN CONNECTION WITH THE GEOWEB CELLULAR CONFINEMENT SYSTEM. IN NO EVENT SHALL THE PRESTO BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY OR FOR ANY OTHER REASON, INCLUDING NEGLIGENCE, IN CONNECTION WITH THE GEOWEB SYSTEM.

Geoweb Material Properties

Specifier Choice for Material Properties

The specifier shall state the desired color. The color determines which ultraviolet light stabilizer is to be used. Polyethylene stabilized with carbon black is used for most applications. Colored polyethylene stabilized with HALS is generally used for the fascia strip for Geoweb earth retention systems.

NOTE: All measurements and colorants are subject to manufacturing tolerances unless otherwise stated.

Polyethylene - Stabilized with Carbon Black

Polyethylene used to make strips for Presto Geoweb sections shall have a density of 58.4 - 60.2 lb/ft³ (0.935 - 0.965 g/cm³) in accordance with ASTM D1505.

Polyethylene used to make strips for Presto Geoweb sections shall have an Environmental Stress Crack Resistance (ESCR) of 5000 hours in accordance with ASTM D1693.

Carbon black shall be used for ultra-violet light stabilization. Carbon black content shall be 1.5% - 2% by weight through the addition of a carrier with certified carbon black content. The carbon black shall be homogeneously distributed throughout the material.

The resin manufacturer's certification of polyethylene density and ESCR shall be available upon request from Presto (the Geoweb manufacturer). Presto shall certify the percentage of carbon black.

Polyethylene - Colored and Stabilized with HALS

Polyethylene used to make strips for Presto Geoweb sections shall have a density of 58.4 - 60.2 lb/ft³ (0.935 - 0.965 g/cm³) in accordance with ASTM D1505.

Polyethylene used to make strips for Presto Geoweb sections shall have an Environmental Stress Crack Resistance (ESCR) of 5000 hours in accordance with ASTM D1693.

The color(s) of the polyethylene shall be (Tan, Green, other). Colorants shall be non-heavy metal types. The colorant shall be homogeneously distributed throughout the material.

Hindered amine light stabilizer (HALS) shall be used for ultra-violet light stabilization. HALS content shall be 1.0% by weight through the addition of a carrier with a certified HALS concentrate. The HALS shall be homogeneously distributed throughout the material.

Colored polyethylene facia panels on Geoweb sections used for earth retention systems shall have a High Pressure Oxidation Induction Time (HPOIT) of 820 minutes minimum in accordance with ASTM D5885 *Test Method for Oxidative Induction Time of Polyolefin Geosynthetics by High Pressure Differential Scanning Calorimetry*.

The resin manufacturer's certification of polyethylene density, ESCR and HPOIT shall be available upon request from Presto (the Geoweb manufacturer). Presto shall certify the percentage of HALS.

Strip Properties and Assembly

Specifier Choice for Strip Properties and Assembly

The specifier shall state the desired strip/cell type: Perforated Textured or Non-Perforated Textured. Perforated and textured strips are recommended for all applications except for the front face of walls.

NOTE: All measurements are subject to manufacturing tolerances unless otherwise stated.

Perforated Textured Strip/Cell (Recommended)

Polyethylene sheet used to make strips for Presto Geoweb sections shall have a thickness of 50 mil -5% +10% (1.27 mm -5% +10%) prior to any surface disruption. The strips shall have a perforated, textured surface. **Performance**: The peak friction angle between the surface of the perforated, textured plastic and #40 silica sand at 100% relative density shall be no less than 85% of the peak friction angle of the silica sand in isolation when tested by the direct shear method in accordance with ASTM D 5321. The quantity of perforations removed from the cell wall area shall be 21.2% ± 1% for GW20V, 16.8% ± 1% for GW30V and 19.89% ± 1% for GW40V. **Material**: The surface texturing shall be a multitude of rhomboidal (diamond shape) indentations. The rhomboidal indentations shall have a surface density of 140 - 200 per in²

(22 - 31 per cm²). The thickness of the textured sheet shall be 60 mil ±6 mil (1.52 mm ±0.15 mm) determined in accordance with ASTM D5199. The perforations shall be horizontal rows of 0.4 in (10 mm) diameter holes. Perforations within each row shall be 0.75 in (19 mm) on-center. Horizontal rows shall be staggered and separated 0.5 in (12 mm) relative to the hole centers. The edge of strip to the nearest edge of perforation shall be 0.3 in (8 mm) minimum and the centerline of the weld to the nearest edge of perforation shall be 0.7 in (18 mm) minimum. A slot with a dimension of 3/8 in x 1-3/8 in (10 mm x 35 mm) is standard in the center of the non-perforated areas and at the center of each weld.

Non-perforated Textured Strip/Cell

Polyethylene sheet used to make strips for Presto Geoweb sections shall have a thickness of 50 mil,-5% +10% (1.27 mm -5% +10%) prior to any surface disruption. The strips shall have a textured surface. **Performance**: The peak friction angle between the surface of the textured plastic and #40 silica sand at 100% relative density shall be no less than 85% of the peak friction angle of the silica sand in isolation when tested by the direct shear method in accordance with ASTM D 5321. **Material**: The surface texturing shall be a multitude of rhomboidal (diamond shape) indentations. The rhomboidal indentations shall have a surface density of 140 – 200 per in² (22 - 31 per cm²). The thickness of the textured sheet shall be 60 mil ±6 mil (1.52 mm ±0.15 mm) determined in accordance with ASTM D5199. A slot with a dimension of 3/8 in x 1 3/8 in (10 mm x 35 mm) may be punched in the center of the non-perforated areas and at the center of each weld.

Assembly

Presto Geoweb sections shall be fabricated using strips of sheet polyethylene each having a length as shown in Table 1 and a width equal to the cell depth. Polyethylene strips shall be connected using full-depth, ultrasonic spot-welds aligned perpendicular to the longitudinal axis of the strip. Weld spacing shall be as shown in Table 1. The ultrasonic weld melt-pool width shall not exceed 1.0 in (25 mm).

Table 1 Strip Lengths & Weld Spacing for Cell Types

Cell Type	GW20V	GW30V	GW40V
Strip Length	142 in (3.61 m)	142 in (3.61 m)	142 in (3.61 m)
Weld Spacing	14.0 in ± 0.10 in (356 mm ± 2.5 mm)	17.5 in ± 0.10 in (445 mm ± 2.5 mm)	28.0 in ± 0.10 in (711 mm ±2.5 mm)
NOTE: All measurements are subject to manufacturing tolerances unless otherwise stated.			

Geoweb Cell and Seam Properties

Specifier Choice for Cell and Seam Properties

The specifier shall state the desired cell size and depth. The specifier shall also state the Short-Term Seam Peel-Strength Test and the Long-Term Seam Peel-Strength Test. There are three possibilities for seams for a Geoweb section:

1) Two carbon black stabilized strips welded together. *This is most typical for Geoweb sections used in all application areas.*

2) A carbon black strip welded to a HALS stabilized strip. *This is typically used when a colored fascia is desired on the Geoweb earth retention system.*

3) Two HALS stabilized strips welded together. *However, this is uncommon and would apply only to fully colored Geoweb sections. Presto Geosystems should be consulted before specifying fully colored Geoweb sections. In the Long Term Seam Peel-Strength Test, the load capacity is given for seams made of two carbon-black stabilized strips welded together and a carbon black stabilized strip welded to a HALS stabilized strip.*

NOTE: All measurements are nominal and subject to manufacturing tolerances unless otherwise stated.

Cell Expansion

The Geoweb cell expansion is variable and defined by cell width and cell length as shown in Figure 1.

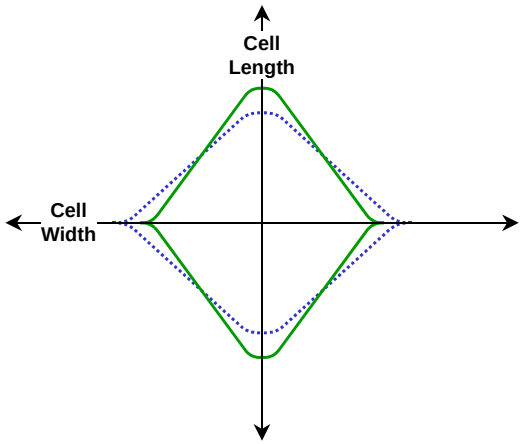

Figure 1 Variable Expansion of the Geoweb Cell

Cell Size, Density, and Area

The individual cells of the GW(TT)V Geoweb section shall have variable dimensions depending on expansion. The nominal cell dimensions, density and nominal area are provided in Table 2.

Table 2 Cell Size, Density and Area

Type (TT)	Nominal Cell Dimensions ±10%		Density per yd² (m²)	Nominal Area ±1%
	Length	Width		
GW20V	8.8 in (224 mm)	10.2 in (259 mm)	28.9 (34.6)	44.8 in² (289 cm²)
GW30V	11.3 in (287 mm)	12.6 in (320 mm)	18.2 (21.7)	71.3 in² (460 cm²)
GW40V	18.7 in (475 mm)	20.0 in (508 mm)	6.9 (8.3)	187.0 in² (1206 cm²)

Cell Depth

The Geoweb section shall have a nominal cell depth of (D).

Depth (D) =	8.0 in (200 mm)	6.0 in (150 mm)	4.0 in (100 mm)	3.0 in (75 mm)

NOTE: All measurements are subject to manufacturing tolerances unless otherwise stated.

Short-Term Seam Peel-Strength Test

Short-term cell seam peel-strength shall be uniform over the full depth of the cell. Minimum short-term seam peel-strengths shall be:

- 640 lbf (2840 N)..... for the 8 in (200 mm) depth cell.
- 480 lbf (2130 N).....for the 6 in (150 mm) depth cell.
- 320 lbf (1420 N)..... for the 4 in (100 mm) depth cell.
- 240 lbf (1060 N)..... for the 3 in (75 mm) depth cell.

Short-term seam peel strength shall be tested in accordance with Appendix A.

Long-Term Seam Peel-Strength Test

Long-term seam peel-strength test shall be performed on all resin or pre-manufactured sheet or strips. A 4.0 in (100 mm) wide seam sample shall support a 160 lb (72.5 kg) load for a period of **168 hours** (7 days) **minimum** in a temperature-controlled environment that undergoes change on a 1-hour cycle from room temperature to130°F (54°C). Room temperature is defined in accordance with ASTM E41.

Long-term seam peel strength shall be tested in accordance with Appendix B.

10,000-hour Seam Peel Strength Certification

Presto Geosystems shall provide data showing that the high-density polyethylene resin used to produce the Geoweb sections has been tested using an appropriate number of seam samples and varying loads to generate data indicating that the seam peel strength shall survive a loading of at least 209 lbf (95 kg) for a minimum of 10,000 hours.

Geoweb Section Properties

Section Expansion

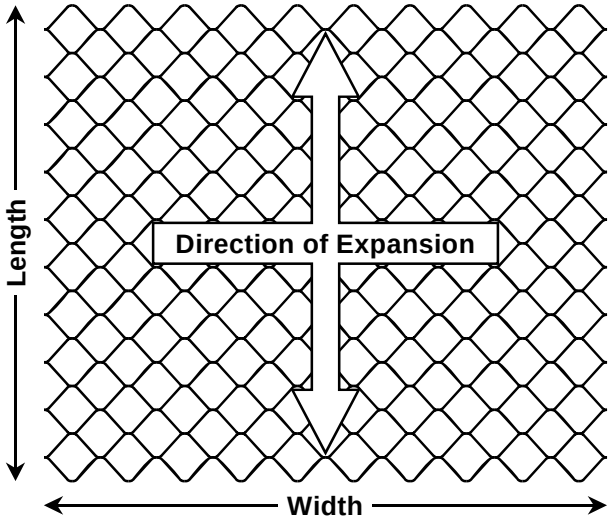

Figure 2 Geoweb Expansion

GW20V Geoweb Section Dimensions

Presto Geoweb GW20V section dimensions shall be as indicated in Table 3. Sections shall have a nomenclature of "GW20VDWWLL" where "GW20V" indicates the cell size, "D" indicates the cell depth in inches, "WW" indicates the number of cells wide, and "LL" indicates the number of cells long. Sections shall have expanded dimensions as shown in Table 3. An example of the GW20V Geoweb section nomenclature is GW20V81029 where the section cell depth is 8 in (200 mm) and the section is 10 cells wide and 29 cells in length.

Table 3 Available GW20V Geoweb Section Dimensions - 10 Cells Wide

Cells Long	Minimum Expansion Length M	Length Ft	Width m	Width Ft	Maximum Expansion Length m	Length Ft	Width M	Width ft	Nominal Area m²	Area ft²
18	3.7	12.0	2.8	9.2	4.4	14.5	2.3	7.7	10.4	112
21	4.3	14.0			5.1	16.9			12.1	131
25	5.1	16.7			6.1	20.1			14.5	156
29	5.9	19.4			7.1	23.3			16.8	181
34	6.9	22.7			8.3	27.3			19.7	212

GW30V Geoweb Section Dimensions

Presto Geoweb GW30V section dimensions shall be as indicated in Table 4. Sections shall have a nomenclature of "GW30VDWWLL" where "GW30V" indicates the cell size, "D" indicates the cell depth in inches, "WW" indicates the number of cells wide, and "LL" indicates the number of cells long. Sections shall have expanded dimensions as shown in Table 4. An example of the GW30V Geoweb section nomenclature is GW30V60829 where the section cell depth is 6 in (150 mm) and the section is 8 cells wide and 29 cells in length.

Table 4 Available GW30V Geoweb Section Dimensions – 8 Cells Wide

Cells Long	Minimum Expansion Length m	Minimum Expansion Length Ft	Minimum Expansion Width m	Minimum Expansion Width Ft	Maximum Expansion Length m	Maximum Expansion Length Ft	Maximum Expansion Width M	Maximum Expansion Width ft	Nominal Area M²	Nominal Area ft²
18	4.7	15.4	2.8	9.2	5.7	18.6	2.3	7.6	13.3	143
21	5.5	18.0			6.6	21.7			15.5	167
25	6.5	21.4			7.9	25.8			18.4	198
29	7.6	24.8			9.1	30.0			21.4	230
34	8.9	29.1			10.7	35.1			25.0	270

GW40V Geoweb Section Dimensions

Presto Geoweb GW40V section dimensions shall be as indicated in Table 5. Sections shall have a nomenclature of "GW40VDWWLL" where "GW40V" indicates the cell size, "D" indicates the cell depth in inches, "WW" indicates the number of cells wide, and "LL" indicates the number of cells long. Sections shall have expanded dimensions as shown in Table 5. An example of the GW40V Geoweb section nomenclature is GW40V40525 where the section cell depth is 4 in (100 mm) and the section is 5 cells wide and 25 cells in length.

Table 5 Available GW40V Geoweb Section Dimensions - 5 Cells Wide

Cells Long	Minimum Expansion Length m	Minimum Expansion Length Ft	Minimum Expansion Width m	Minimum Expansion Width Ft	Maximum Expansion Length M	Maximum Expansion Length Ft	Maximum Expansion Width M	Maximum Expansion Width ft	Nominal Area M²	Nominal Area ft²
18	7.7	25.4	2.8	9.1	9.4	30.8	2.3	7.5	21.7	234
21	9.0	29.6			11.0	36.0			25.3	273
25	10.7	35.2			13.1	42.8			30.2	325
29	12.5	40.9			15.1	49.7			35.0	377
34	14.6	47.9			17.8	58.2			41.0	441

Geoweb Accessories and Integral Components

The ATRA® Clip

As shown in Figure 3, the ATRA Clip is a molded, high-strength polyethylene device available in standard (0.5 inch) and metric (10-12mm) versions. The ATRA Clip can be used for the following purposes:

Figure 3 ATRA® Clip

ATRA Clips installed as an end cap on No. 4 rebar stakes or 10-12 mm rods forms ATRA Anchors as shown in Figure 4.

The ATRA Anchor provides anchorage by inserting the ATRA Clip arm through the integral slot in the Geoweb cell wall as shown in Figure 5. The arm can also be installed over the top of the cell wall if the ATRA Clip is allowed to extend above the cell wall.

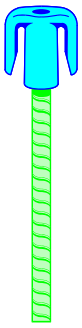

Figure 4 ATRA® Anchor

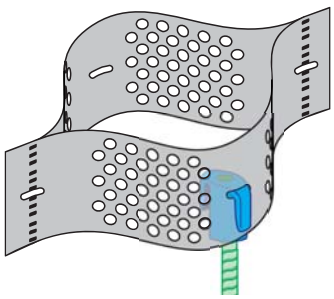

Figure 5 ATRA® Anchor Integrated with Cell Wall

As shown in Figure 6, ATRA Clips may be connected to tendons with Moore Hitch knots to provide load transfer from infilled Geoweb panels to the tendons on slopes and over materials that cannot be penetrated with stakes such as hard soils, rock and geomembranes.

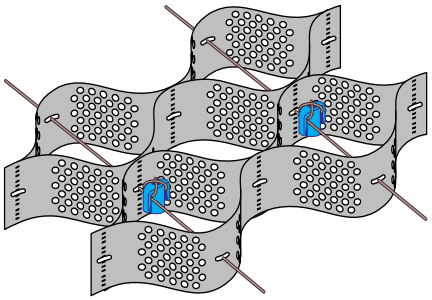

Figure 6 ATRA® Clip Engaged with Tendons

To provide additional anchorage, ATRA Anchors may be used in conjunction with tendons. The arm of the ATRA Clip is engaged with the tendon and the ATRA Anchor is driven flush with the base of the cell as shown in Figure 7.

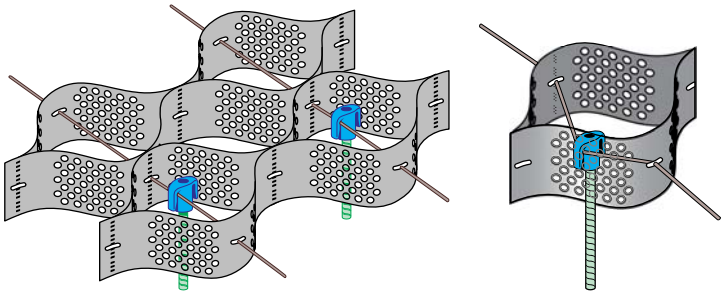

Figure 7 ATRA® Anchor over Tendon

ATRA® KEYS for Panel Connection

Geoweb panels shall be connected together with ATRA Keys at each interleaf and end to end connection through the slots in the cell wall, except for the front face of walls. The ATRA Key is constructed of polyethylene and provides a high strength connection.

The ATRA Key has a wide top for handling and a narrow bottom for inserting through the slot in the cell wall. ATRA Keys are installed through the slots in the adjacent Geoweb cell walls and turned 90 degrees to "lock" the sections together as shown in Figure 8.

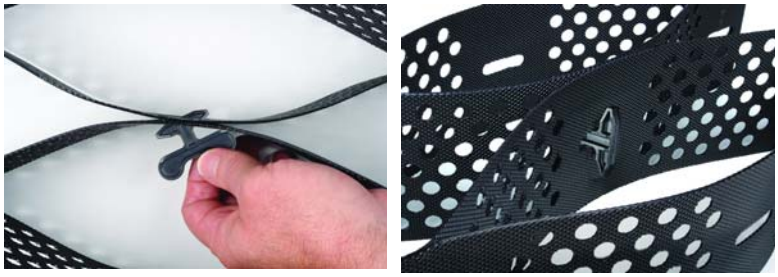

Figure 8 ATRA® Key Geoweb Panel Connection

Staples for Wall Fascia Connection

Staples shall be used for connecting the front face of walls. Staples shall be ½ inch, Stanley Bostitch, SL5035, or equal.

Integral Tendons

Specifier Choice for Tendons

If required, the specifier shall state which tendon is to be used to anchor the Geoweb panels. The tendon strength must meet the design requirements for the application. The specifier shall also state if ATRA® Clips are required for load transfer. NOTE: All measurements are subject to manufacturing tolerances.

Polyester Tendons

The polyester tendons shall be manufactured from bright, high-tenacity, industrial-continuous filament polyester yarn woven into a braided strap. Elongation shall be 9 – 15% at break. The tendon reference name, diameter/width and minimum break strength shall be as shown in Table 6.

Table 6 Polyester Tendons

Reference Name	Tendon Diameter / Width		Tendon Minimum Break-strength	
	mm	In	kN	lbf
TP-31	13	0.500	3.11	700
TP-67	19	0.750	6.70	1506
TP-93	19	0.750	9.30	2090

Kevlar® Aramid Tendons

The Kevlar aramid tendons shall be woven strap having the reference name, width and minimum break-strength as shown in Table 7.

Table 7 Kevlar® Aramid Tendon

Reference Name	Tendon Diameter / Width		Tendon Minimum Break-strength	
	mm	In	kN	Lbf
TK-89	10	0.375	8.90	2000
TK-133	16	0.625	13.34	3000
TK-178	19	0.75	17.8	4000

Polypropylene Tendons

The polypropylene tendons shall be a 3-strand twisted rope having the reference name, diameter and minimum break-strength as shown in Table 8.

Table 8 Polypropylene Tendon

Reference Name	Tendon Diameter / Width		Tendon Minimum Break-strength	
	mm	in	kN	Lbf
TPP-44	6 dia	0.25 dia	4.40	990

Anchoring Requirements

Specifier Choice for Anchoring Systems

The specifier shall determine which of the anchoring methods are required for the application. NOTE: ATRA Clips, ATRA Keys and ATRA® GFRP Anchors are available from Presto Geosystems.

Geoweb sections shall be anchored in accordance with the construction drawings. The size, type and distribution of anchors shall be in accordance with the construction drawings.

ATRA® Anchor

The ATRA Anchor shall be a No. 4 (0.5 inch) steel reinforcing rod or 10-12 mm rod with an ATRA® Clip attached as an end cap as shown in Figure 9.

The ATRA Anchor shall be assembled in the field by inserting the ATRA Clip onto the rod so that the end of the rod is flush with the top of the ATRA Clip. Prior to inserting the ATRA Clip on the end of the stake, the stake end shall be ground or filed so it has a bevel edge and is free from all burrs.

The length of the ATRA Anchors shall be as shown on the Construction Drawings.

If required, the steel reinforcing rod shall be hot dipped galvanized in accordance with AASHTO M-218, Hot Dip Galvanized Carbon Steel,

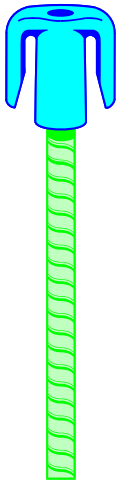

Figure 9 ATRA® Anchor

Other Anchors

ATRA® Glass Fiber Reinforced Polymer (GFRP) Anchor

The ATRA GFRP Anchor shall be a pre-assembled unit consisting of the ATRA Clip inserted onto the ATRA GFRP stake so that the end of the stake is flush with the top of the ATRA Clip.

The ATRA® GFRP stake shall be composed of glass fiber-reinforced polymer with the outer surface of the stake sand coated and deformed by a helical wrap of glass. Glass reinforcement content shall be 75% minimum by weight and shall be continuous longitudinal filament. Polymer shall be vinyl ester, isopthalic polyester, or other matrix material. The outer surface of the stake shall be sand coated and deformed by a helical wrap of glass. The ATRA GFRP stake shall have a minimum tensile strength of 95 kips (655 MPa) in accordance with ASTM D638. The stake shall be non-magnetic, non-conducting and corrosion resistant. The length shall be as shown on the Construction Drawings.

The pre-assembled ATRA GFRP Anchors are available in several lengths from Presto Geosystems.

Straight Steel Stakes

Straight steel stakes shall be fabricated from mild steel or reinforcing steel rod. Rod diameter shall be 0.3125 in (8 mm), 0.375 in (10 mm), 0.50 in (12 mm), 0.625 in (16 mm) or).75 in (20 mm). Stake length shall be per the construction drawings.

If required, galvanizing shall be in accordance with AASHTO M-218, Hot Dip Galvanized Carbon Steel.

Wood Stakes

Wood stakes shall be _____ (state wood type) and free from knots that may reduce the strength of the stake. The stakes shall be _____ inches wide by_____ inches thick. The stake length shall be as shown on the Construction Drawings

Disclaimer

This document has been prepared for the benefit of customers interested in the Presto Geosystems Geoweb Cellular Confinement System. It was reviewed carefully prior to publication. Presto Geosystems assumes no liability and makes no guarantee or warranty as to its accuracy or completeness. Final determination of the suitability of any information or material for the use contemplated, or for its manner of use, is the sole responsibility of the user. Geoweb® and ATRA® are registered trademarks of Presto Products Company.

Appendix A

Short-Term Seam Strength Test Procedure

Frequency of Test

The short-term seam peel strength test (referred to as the 'test' in this section) shall be performed on a geocell section randomly taken directly from the production line each two hours.

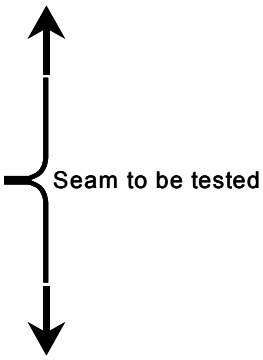

Figure A1

Test Sample Preparation

Randomly choose 10 welds within the selected section and cut those welds from the section such that 4 in (10 cm) of material exist on each side of the weld. The test sample shall have a general appearance as illustrated in Figure A1. Prior to testing, the test samples shall have air cool for a minimum of 30 minutes from the time the selected geocell section was manufactured.

Short-term Seam Peel Strength Test

The apparatus used for testing the short-term seam peel strength shall be of such configuration that the jaws of the clamp shall not over stress the sample during the test period. Load shall be applied at a rate of 12 in (300 mm) per minute and be applied for adequate time to determine the maximum load. The date, time and load shall be recorded.

Short-term seam peel strength shall be defined as the maximum load applied to the test sample. Minimum required short-term seam peel strength shall be:

- 640 lbf (2840 N) for the 8 in (200 mm) depth cell
- 480 lbf (2130 N) for the 6 in (150 mm) depth cell
- 320 lbf (1420 N) for the 4 in (100 mm) depth cell
- 240 lbf (1060 N) for the 3 in (75 mm) depth cell.

Definition of Pass / Failure

Two methods shall be used to determine acceptability of the manufactured geocell sections. The successful passing of the short-term seam peel test shall not be used to determine acceptable of the polyethylene for use in manufacturing of the geocell sections. Acceptability of the polyethylene shall be determined through tests conducted in Appendix B.

The Tested Value

If more than one of the tested seam samples fails to meet the minimum peel strength, all sections manufactured after the previously successful test shall be rejected.

If all tested seam samples meet the minimum peel strength, all geocell sections manufactured since the last successful test shall be considered to have passed the test.

When one of the tested seam samples fails to meet the minimum peel strength, another 10 samples shall be randomly selected and cut from the previously selected section. If more than one of these samples fails, all sections manufactured after the previously successful test shall be rejected. Otherwise, all geocell sections manufactured since the last successful test shall be considered to have passed the test.

Visual Failure Mode

After each sample is tested, the seam shall be examined to determine the failure mode. Two failure modes are possible.

- Material failure within and adjacent to the weld indicated by material strain and
- Weld failure resulting in complete separation of the seam and shows little or no material strain.

Upon examination, when the failure mode results in complete separation of the seam and indicates little or no material strain, product manufactured shall be rejected.

Appendix B

Long-Term Seam-Strength Test Procedure

Frequency of Test

The long-term seam peel strength test (referred to as the 'test' in this section) shall be performed:

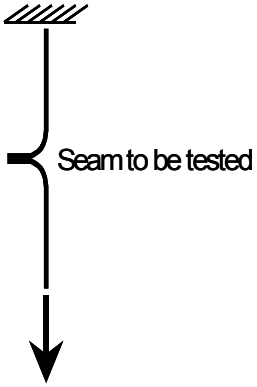

Figure B1

1. on each new resin lot number if the geocell manufacturer extrudes the sheet or strip used to produce the geocell material.
2. on each new order of sheet and/or strip if the geocell manufacturer does not extrude the sheet and/or strip used to produce the geocell material.

Test Sample Preparation

A test sample shall be made using two sets of two strips meeting all aspects of the material portion of this specification. Testing shall be done on non-perforated samples to obtain the true seam strength of the bond. One set of two strips are to be welded in welder position "A" and the other set of two strips are to be welded in welder position "B" producing two 1-cell long sections of geocell product. Welding should be done using a warm welder. The welded samples shall be labeled "A" and "B" and the weld seams of each sample shall be numbered consecutively from left to right starting with the number 1 (one) and corresponding to the welding head number.

The samples shall air cool for a minimum of 30 minutes. Randomly choose 10 welds from samples "A" and "B" and cut those welds from the geocell samples such that 4 in (10 cm) of material exist on each side of the weld. These samples shall be cut to a width of 4 in (10 cm). Properly identify each weld using the sample letter and weld seam number.

These samples are now ready to be tested.

Long-term Seam Peel Strength Test

The long-term seam peel strength test shall take place within an environmentally controlled chamber that undergoes temperature change on a 1-hour cycle from room temperature to 130°F (54°C). Room temperature shall be in accordance with ASTM E41.

Within the environmentally controlled chamber, one of the ends of the samples (10 samples in total) shall be secured to a stationary upper clamp. The jaws of the clamp shall be of such configuration that the grip does not over stress the sample during the test period. The sample shall be secured so that its axis is vertical and the welds being tested are horizontal as the sample hangs within the environmentally controlled chamber.

A weight of 160 lb (72.5 kg) shall be lifted via a hoist or lift platform and attached to the free lower end, of the sample. The weight shall be lowered in a way so that no impact load occurs on the sample being tested. The weight shall be sufficient distance from the floor of the chamber so that the weight will not touch the floor of the chamber as the sample undergoes creep during the test period. The date and hour the weight is applied shall be recorded.

The temperature cycle shall commence immediately within the environmentally controlled chamber. The test period for the applied load shall be 168 hours.

Definition of Pass / Failure

If any of the 10 seams fail prior to the end of the 168-hour (7-day) period, the date and hour of the failure shall be recorded and the polyethylene resin and strip material shall be considered unsuitable for geocell manufacturing.

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April 2011

PRODUCT SPECIFICATION (CSI FORMAT)

Specifier Note: This product guide specification is written according to the Construction Specifications Institute (CSI) Format, including *Master Format* (1995 Edition), *Section Format,* and *Page Format,* contained in the CSI *Manual of Practice.*

The section shall be carefully reviewed and edited by the Engineer to meet specific project requirements and all applicable building codes. Coordinate with corresponding specification sections, details and drawings.

Contract Documents shall refer to the drawings and specifications prepared and approved by the Engineer.

Delete all "Specifier Notes" while editing this section.

SECTION _____

SOIL STABILIZATION SYSTEM

Specifier Note: This section covers Presto Geosystems' Geoweb® (geocell) Cellular Confinement System. The system consists of geocell material into which specific infill materials may be placed. The complete system includes Geoweb sections, infill materials, and some or all of the following components: ATRA® Clips, ATRA® Anchors, ATRA® Key connection device, tendons, geotextiles and surface treatments.

Contact Presto Geosystems for assistance in editing this section.

PART 1 GENERAL

1.1 SUMMARY

A. Work Included: This Section includes providing all material, labor, tools and equipment for installation of Cellular Confinement System as shown in the Contract Documents and as specified in this Section.

B. The Cellular Confinement System shall be used for load support.

1.2 RELATED SECTIONS AND DIVISIONS

Specifier Note: Edit the following list as required for the project. List other sections with work directly related to the cellular confinement system.

A. The applicable provisions of the General Conditions shall govern the work in this Section.

B. Section 0130000 – Administrative Requirements

C. Section 0220000 – Site Preparation

D. Section 312000 – Earth Moving

E. Section 312500 - Erosion and Sedimentation Control

1.3 REFERENCES

Specifier Note: List standards referenced in the section, complete with designations and titles. This article does not require compliance with standards, but is merely a listing of those used.

A. American Association of State Highway and Transportation Officials (AASHTO)
   1. AASHTO M 218 - Steel Sheet, Zinc-Coated (Galvanized) for Corrugated Steel Pipe.
   2. AASHTO M 288 - Geotextile Specification for Highway Applications

B. American Society of Testing and Materials (ASTM)
   1. ASTM D 1505 - Density of Plastics by the Density-Gradient Technique.
   2. ASTM D 1603 – Standard Test for Carbon Black in Olefin Plastics
   3. ASTM D 1693 – Environmental Stress-Cracking of Ethylene Plastics.
   4. ASTM D 5199 – Measuring Nominal Thickness of Geotextiles and Geomembranes.
   5. ASTM E 41 – Terminology Relating to Conditioning.

1.4 SUBMITTALS

A. Submit manufacturer's shop drawings in accordance with Section 0130000, Submittals including Manufacturer’s product data, samples and section layout.

B. Submit manufacturer's certification of polyethylene used to make geocell material including
   1. Manufacturer's certification of percentage of carbon black.
   2. Resin manufacturer's certification of polyethylene density and ESCR.

Specifier Note: Delete installer and manufacturer’s field representative qualifications if not required.

C. Submit qualifications certifying the installer is experienced in the installation of the specified products.

D. Submit qualifications of Manufacturer's field representative certifying the field representative is experienced in the installation of the specified products.

E. No material will be considered as an equivalent to the geocell material specified herein unless it meets all requirements of this specification, without exception. Manufacturers seeking to supply what they represent as equivalent material must submit records, data, independent test results, samples, certifications, and documentation deemed necessary by the Engineer to prove equivalency. The Engineer shall approve or disapprove other Manufacturers materials in accordance with the General Conditions after all information is submitted and reviewed. Any substitute materials submitted shall be

subject to independent lab testing at the contractor's expense.

1.5 QUALITY ASSURANCE AND CONTROL

A. The cellular confinement system material shall be provided from a single Manufacturer for the entire project.

B. The Manufacturer's Quality management system shall be certified and in accordance with ISO 9001:2008 and CE certification. Any substitute materials submitted shall provide a certification that their cellular confinement manufacturing process is part of an ISO program and a certification will be required specifically stating that their testing facility is certified and in accordance with ISO. An ISO certification for the substitute material will not be acceptable unless it is proven it pertains specifically to the geocell manufacturing operations.

C. The Manufacturer shall provide certification of compliance to all applicable testing procedures and related specifications upon the customer's written request. Request for certification shall be submitted no later than the date of order placement. The Manufacturer shall have a minimum of 20 years experience producing cellular confinement systems.

Specifier Note: Delete requirement for pre-installation meeting if not required.

D. Pre-Installation Meeting: Prior to installation of any materials, conduct a pre-installation meeting to discuss the scope of work and review installation requirements. The pre-installation meeting shall be attended by all parties involved in the installation of the cellular confinement system.

Specifier Note: Delete this section if Manufacturer's Field Representative is not required.

1. Manufacturer shall provide a qualified field representative on site at the start of construction to ensure the Geoweb system is installed in accordance with the Contract Documents.
2. Manufacturer's field representative shall have a minimum of 5 years installation experience with the specified products in the specified application.
3. Manufacturer of any substitute materials to be used shall certify that a representative can meet the above criteria and will be on site for initial construction start up. Manufacturers other than Presto will be required to provide proof the representative meets these qualifications.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site in Manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and Manufacturer.

B. The materials shall be stored in accordance with Manufacturer's instructions. The materials shall be protected from damage and out of direct sunlight.

C. The materials shall be delivered, unloaded and installed in a manner to prevent damage.

1.7 WARRANTY

A. The Manufacturer shall warrant each Geoweb section that it ships to be free from defects in materials and workmanship at the time of manufacture. The Manufacturer's exclusive liability under this warranty or otherwise will be to furnish without charge to the original f.o.b. point a replacement for any section which proves to be defective under normal use and service during the 10-year period which begins on the date of shipment. The Manufacturer reserves the right to inspect any allegedly defective section in

order to verify the defect and ascertain its cause.

B. This warranty shall not cover defects attributable to causes or occurrences beyond the Manufacturer's control and unrelated to the manufacturing process, including, but not limited to, abuse, misuse, mishandling, neglect, improper storage, improper installation, improper alteration or improper application.

C. In no event shall the Manufacturer be liable for any special, indirect, incidental or consequential damages for the breach of any express or implied warranty or for any other reason, including negligence, in connection with the cellular confinement system.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURER

A. Presto Geosystems, PO Box 2399, Appleton, Wisconsin 54912-2399. Toll Free (800) 548-3424. Phone (920) 738-1328. Fax (920) 738-1222.
E-Mail info@prestogeo.com. Website www.prestogeo.com.

2.2 GEOWEB CELLULAR CONFINEMENT SYSTEM

A. Manufacturing Certification

1. Presto Geosystems (the manufacturer) shall have earned a certificate of registration, which demonstrates that its quality-management system for its Geoweb cellular confinement system is currently registered to the ISO 9001:2008 and CE quality standards.

B. Base Materials

1. Polyethylene Stabilized with Carbon Black
   a. Density shall be 58.4 to 60.2 lbs/ft^3 (0.935 to 0.965 g/cm^3) in accordance with ASTM D 1505.
   b. Environmental Stress Crack Resistance (ESCR) shall be 5000 hours in accordance with ASTM D 1693.
   c. Ultra-Violet light stabilization with carbon black.
   d. Carbon Black content shall be 1.5 to 2 percent by weight, through addition of a carrier with certified carbon black content.
   e. Carbon black shall be homogeneously distributed throughout material.
   f. The manufacturer must have an in-place quality control to prevent irregularities in strip material.

C. Cell Properties

1. Individual cells shall be uniform in shape and size when expanded.
2. Individual cell dimensions (nominal) shall be dimensions ± 10%.

Specifier Note: Select GW20V-Cell or GW30V-Cell and nominal depth and delete the others. Contact Presto Geosystems for assistance.

3. GW20V-Cell
   a. Length shall be 8.8 inches (224 mm).
   b. Width shall be 10.2 inches (259 mm).
   c. Nominal area shall be 44.8 in^2 (289 cm^2) plus or minus 1%.
   d. Nominal cell depth shall be [8 inches (200 mm)] [6 inches (150 mm)] [4 inches (100 mm)]

[3 inches (75 mm)].

4. GW30V-Cell
   a. Length shall be 11.3 inches (287 mm).
   b. Width shall be 12.6 inches (320 mm).
   c. Nominal area shall be 71.3 in^2 (460 cm^2) plus or minus 1%.
   d. Nominal cell depth shall be [8 inches (200 mm)] [6 inches (150 mm)] [4 inches (100 mm)] [3 inches (75 mm)].

D. Strip Properties and Assembly
   1. Perforated Textured Strip/Cell
      a. Strip sheet thickness shall be 50 mils (1.27 mm), minus 5 percent, plus 10 percent in accordance with ASTM D 5199. Determine thickness flat, before surface disruption.
      b. Polyethylene strips shall be textured surface with a multitude of rhomboidal (diamond shape) indentations.
      c. Textured sheet thickness shall be 60 mils, plus or minus 6 mils (1.52 mm plus or minus 0.15 mm).
      d. Indentation surface density shall be 140 to 200 per in^2 (22 to 31 per cm^2).
      e. Perforated with horizontal rows of 0.4 inch (10 mm) diameter holes.
      f. Perforations within each row shall be 0.75 inches (19 mm) on-center.
      g. Horizontal rows shall be staggered and separated 0.50 inches (12 mm) relative to hole centers.
      h. Edge of strip to nearest edge of perforation shall be a minimum of 0.3 inches (8 mm).
      i. Centerline of spot weld to nearest edge of perforation shall be a minimum of 0.7 inches (18 mm).
      j. A slot with a dimension of 3/8 inch x 1-3/8 inch (10 mm x 35 mm) is standard in the center of the non-perforated areas and at the center of each weld.
   2. Assembly of Cell Sections
      a. Fabricate using strips of sheet polyethylene each with a length of 142 inches (3.61 m) and a width equal to cell depth.
      b. Connect strips using full depth ultrasonic spot-welds aligned perpendicular to longitudinal axis of strip.
      c. Ultrasonic weld melt-pool width shall be 1.0 inch (25 mm) maximum.

Specifier Note: Select the desired cell type and delete the other. Coordinate with 2.2.C above.

      d. Weld spacing for GW20V-cell sections shall be 14.0 inches plus or minus 0.10 inch (356 mm plus or minus 2.5 mm).
      e. Weld spacing for GW30V-cell sections shall be 17.5 inches plus or minus 0.10 inch (445 mm plus or minus 2.5 mm).

E. Cell Seam Strength Tests
   1. Minimum seam strengths are required by design and shall be reported in test results. Materials submitted with average or typical values will not be accepted. Written certification of minimum strengths must be supplied to the engineer at the time of submittals.
   2. Short-Term Seam Peel-Strength Test
      a. Cell seam strength shall be uniform over full depth of cell.

Specifier Note: Select the minimum seam peel strength for the specified cell size and delete the others. Coordinate with 2.2.C above.

b. Minimum seam peel strength shall be [640 lbf (2,840 N) for 8 inch (200 mm) depth] [480 lbf (2,130 N) for 6 inch (150 mm) depth] [320 lbf (1,420 N) for 4 inch (100 mm) depth] [240 lbf (1060 N) for 3 inch (75 mm) depth].

3. Long-Term Seam Peel-Strength Test

a. Conditions: Minimum of 7 days in a temperature-controlled environment that undergoes change on a 1-hour cycle from room temperature to 130 degrees F (54 degrees C).

b. Room temperature shall be in accordance with ASTM E41.

c. Test samples shall consist of two, 4 inch (100 mm) wide strips welded together.

d. Test sample consisting of 2 carbon black stabilized strips shall support a 160 pound (72.5 kg) load for test period.

2.3 INTEGRAL COMPONENTS

A. ATRA® Clip

1. The ATRA Clip is a molded, high-strength polyethylene device available in standard (0.5 inch) and metric (10–12 mm) versions.

2. ATRA clips can be installed as an end cap on standard (0.5 inch) and metric (10–12 mm) steel reinforcing rods to form ATRA Anchors.

B. ATRA® Key

1. ATRA keys shall be constructed of polyethylene and provide a high strength connection.

2. ATRA keys shall be used to connect Geoweb panels together at each interleaf and end to end connection.

2.4 STAKE ANCHORAGE

Specifier Note: Select the desired stake anchorage and delete the others. ATRA anchors may be used for temporary or permanent anchoring. ATRA anchors may be required for securing Geoweb in-place based on site conditions, especially for saturated soils or sloped applications. Contact Presto Geosystems for assistance.

The ATRA GFRP Anchor is a glass-fiber reinforced polymer rebar coated with coarse silica sand. The ATRA GFRP Anchor is suitable for environments that may degrade steel rebar. The ATRA GFRP Anchor is impervious to low pH degradation.

No permanent stake anchorage may be necessary. Contact Presto Geosystems for assistance. Coordinate with 3.2.F and G.

A. ATRA® Anchors

1. ATRA Anchors shall consist of standard (0.5 inch) or metric (10–12 mm) steel reinforcing rod with an ATRA® Clip attached as an end cap.

2. ATRA anchors shall be assembled by inserting the ATRA Clip onto the reinforcing rod so that the end is flush with the top of the ATRA Clip. Prior to attaching the ATRA Clip, the reinforcing rod shall be free from all burrs and beveled.

3. Stake length shall be as shown in the Contract Documents.

B. ATRA® Glass Fiber Reinforced Polymer (GFRP) Anchors

1. ATRA GFRP Anchors shall be pre-assembled units consisting of the ATRA Clip inserted onto a GFRP stake.
2. The glass reinforcement content shall be 75% minimum by weight and shall be continuous longitudinal filament.
3. Polymer shall be vinyl ester, isophthalic polyester or other matrix material.
4. The outer surface shall be sand coated and deformed by a helical wrap of glass.
5. The minimum compressive strength shall be 95 kips (655 MPa) in accordance with ASTM D 638.
6. The stake shall be non-magnetic, non-conducting and corrosion resistant.
7. The stake length shall be as shown in the Contract Documents.

2.5 TENDON ANCHORAGE

Specifier Note: If required, select the desired tendon and corresponding break-strength and delete the others. Tendons may be required for additional system hold-down, especially when anchors are not used, such as when the system is over a geomembrane. Kevlar or polypropylene tendons should be used for concrete infill. Contact Presto Geosystems for assistance.

A. Tendon Type

1. Woven Polyester - [TP-31] [TP-67] [TP-93]
   a. Material shall be bright, high-tenacity, industrial-continuous-filament, polyester yarn woven into a braided strap.
   b. Elongation shall be 9 to 15 percent at break.
   c. Minimum break strength shall be [700 lbf (3.11 KN) for TP-31] [1506 lbf (6.70 KN) for TP-67] [2090 lbf (9.30 KN) for TP-93].
2. Woven Kevlar - [TK-89] [TK-133] [TK-178]
   a. Material shall be Kevlar® Aramid material woven into a strap.
   b. Minimum break strength shall be [2000 lbf (8.90 KN) for TK-89] [3000 lbf (13.34 KN) for TK-133] [4000 lbf (17.8 KN) for TK-178].
3. Woven Polypropylene - TPP-44
   a. Material shall be Polypropylene 3-strand twisted rope.
   b. Minimum break strength shall be 990 lbf (4.40 KN).

2.6 CELL INFILL MATERIALS

Specifier Note: Specify infill material type and delete the others. Coordinate infill materials with associated Soils and Concrete specifications. Engineered infill is typically used to provide structural strength in areas exposed to vehicle loads. Contact Presto Geosystems for assistance.

Infill materials for load support applications should be predominately granular with fines content less than 10%. Soils with greater than 10% fines have low permeability and lose strength when wet. A small fraction of fines (less than 10%) increases stability by binding the soil and reducing the void space. Concrete infill is typically used for low water crossings and boat ramps. Engineered infill is typically used to provide the necessary structural strength for load support in areas where vegetation is desired.

A. Cell infill material shall be sand.

B. Cell infill material shall be crushed aggregate with a maximum particle size of 2 inches (75 mm) with a fine content less than 10%.

C. Cell infill material shall be concrete with a minimum strength of 3000 psi and air content of 2 to 4% in accordance with ACI and ASTM standards.

D. Cell infill material shall be an engineered fill consisting of topsoil and aggregate mixture for vegetated surfaces.

1. Engineered infill shall be a mix of topsoil and aggregate having a homogeneous mixture of a clear crushed aggregate having an AASHTO #5 or similar designation blended with pulverized topsoil and a minimum 30% void space for air and/or water.
2. The mixture will promote vegetation growth and provide structural support.
3. The aggregate portion shall have a particle range from 0.375 to 1.0 inches (9.5 to 25 mm) with a D_{50} of 0.5 inches (13 mm).
4. The percentage void space of the aggregate portion when compacted shall be at least 30%.
5. The pulverized topsoil portion shall equal 25% of the total volume. The topsoil shall be blended with the aggregate to produce a homogeneous mixture.
6. Once placed, the engineered fill shall be compacted to a 95% Standard Proctor.

E. Infill material shall be free of any foreign material.

F. Clays, silts and organics are not acceptable infill material.

G. Infill material shall be free-flowing and not frozen when placed in the Geoweb sections.

2.7 ADDITIONAL COMPONENTS

Specifier Note: If required, select the desired additional components and delete the others. A geotextile separation layer is typically recommended for separation between the native soil and infill material. Separation is important to prevent contamination and loss of shear strength of the infill material and to prevent punching or migration of the infill material into the subgrade. The geotextile may also be part of the design to provide additional support.

Additional subbase materials may be required under the Geoweb layer to support loading or for additional stormwater storage requirements.

A minimum surface wearing course of 2 inches (50 mm) is typically recommended to prevent trafficking directly on top of the Geoweb cell walls. If an asphalt or concrete surface is desired over the Geoweb, a minimum one inch (25 mm) separation layer of infill material shall be provided over the Geoweb to provide minor consolidation of the surface cover and to prevent contact of the asphalt or concrete with the Geoweb cell walls. Contact Presto Geosystems for assistance.

A. Geotextile
   1. The geotextile separation layer shall be as specified in the Contract Documents.

B. Subbase Materials
   2. Vegetation shall be as specified in the Contract Documents.

C. Surface Wearing Course
   1. The surface wearing course shall be as specified in the Contract Documents.

D. Vegetation
   1. Vegetation shall be as specified in the Contract Documents.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify site conditions are as indicated on the drawings. Notify the Engineer if site conditions are not acceptable. Do not begin preparation or installation until unacceptable conditions have been corrected.

B. Verify layout of structure is as indicated on the drawings. Notify the Engineer if layout of structure is not acceptable. Do not begin preparation or installation until unacceptable conditions have been corrected.

3.2 INSTALLATION OF LOAD SUPPORT SYSTEMS

A. Prepare subgrade and install load support system in accordance with Manufacturer's instructions.

Specifier Note: If required, specify the number of days required for the on-site manufacturer's field representative. Delete this section if not required.

B. On-site time for installation assistance by the Manufacturer's field representative shall be ____ day(s) with one trip. All travel and expense costs for Manufacturer's field representative installation assistance shall be included in the base bid price.

C. Subgrade Preparation

1. Excavate and shape foundation soils as indicated on the drawings.
2. Ensure foundation soil meets minimum strength requirements through proof rolling or other conventional method and is approved by the Engineer. If unacceptable foundation soils are encountered, excavate and replace with suitable quality material as directed by the Engineer.

Specifier Note: Delete this section if a geotextile separation layer is not required.

3. Install geotextile separation layer on prepared surfaces ensuring required overlaps are maintained and outer edges of the geotextile are buried in accordance with the Manufacturer's recommendations.

Specifier Note: Delete this section if additional subbase materials are not required.

D. Subbase Preparation and Installation

1. Ensure that the subgrade soil meets the minimum strength requirements for installation of the subbase.
2. Place additional subbase materials to the required depth as specified in the Contract Documents.
3. Compact to a minimum 95 percent Standard Proctor.

Specifier Note: Delete this section if additional subbase materials in section above is not required.

4. Install geotextile separation layer on top of subbase ensuring required overlaps are maintained and outer edges of the geotextile are buried in accordance with the Manufacturer's recommendations.

E. Geoweb Section Placement and Connection

1. Place Geoweb sections and verify all sections are expanded uniformly to required dimensions and that outer cells of each section are correctly aligned. Interleaf or overlap edges of adjacent sections. Ensure upper surfaces of adjoining Geoweb sections are flush at joint and adjoining cells are fully aligned at the cell wall slot.
2. Connect the Geoweb sections with ATRA keys at each interleaf and end to end connection. Insert the ATRA key through the cell wall slot before inserting through the adjacent cell. Turn the ATRA key 90 degrees to lock the panels together.

Specifier Note: Specify anchorage type from Sections F-J below and delete those not required. Choice should coordinate with Sections 2.4 and 2.5.

F. Anchorage with ATRA Anchors

1. Position collapsed Geoweb sections into place and partially drive ATRA Anchors in the outer edge cells and expand sections into place. Partially drive ATRA Anchors in the perimeter cells to keep sections fully expanded.
2. With Geoweb sections fully expanded, drive ATRA Anchors so the arm of the ATRA Clip is through the internal slots in the Geoweb cell wall and anchors do not protrude over the top of the cell wall.
3. Anchorage pattern and stake length shall be as indicated on the Contract Documents.

G. Anchorage with ATRA GFRP Anchors

4. Position collapsed Geoweb sections in place and partially drive ATRA GFRP Anchors in the outer edge cells and expand sections into place. Partially drive ATRA Anchors in the perimeter cells to keep sections fully expanded.
5. With Geoweb sections fully expanded, drive ATRA GFRP Anchors so the arm of the ATRA Clip is through the internal slots in the Geoweb cell wall and anchors do not protrude over the top of the cell wall.

6. Anchorage pattern and stake length shall be as indicated on the Contract Documents.

H. Anchorage with Tendons
1. Position collapsed Geoweb sections into place.
2. Feed precut lengths of specified tendon material through the integral slots in Geoweb cell walls before expanding individual sections into position. The number of tendons per section shall be in accordance with the Contract Documents. Connect the trailing edge of the tendons to ATRA clips.
3. Expand the Geoweb sections and hold the sections open with temporary stakes, sandbags or stretcher frames.
4. Attach ATRA Clips to the tendons with the prescribed knot to transfer the load from the filled Geoweb sections to the tendon anchorage system. Pull the tendon to ensure the ATRA Clip bears against the cell wall.
5. ATRA Clip locations shall be as indicated on the Contract Documents.

I. Anchorage with Tendons and ATRA Anchors
1. Position collapsed Geoweb sections into place.
2. Feed precut lengths of specified tendon material through the integral slots in Geoweb cell walls before expanding individual sections into position. The number of tendons per section shall be in accordance with the Contract Documents. Connect the trailing edge of the tendons to ATRA anchors.
3. Expand the Geoweb sections and partially drive ATRA Anchors in the perimeter cells and expand sections in place.
4. Attach ATRA Anchors to the tendons at locations as indicated on the Contract Documents.
5. Drive ATRA Anchors so the arm of the ATRA Clip is over the tendon, or the tendon is wrapped around the ATRA Clip head.
6. Anchorage pattern and stake length shall be as indicated on the Contract Documents.

J. Anchorage with Tendons and ATRA GFRP Anchors
1. Position collapsed Geoweb sections into place.
2. Feed precut lengths of specified tendon material through the integral slots in Geoweb cell walls before expanding individual sections into position. The number of tendons per section shall be in accordance with the Contract Documents. Connect the trailing edge of the tendons to ATRA anchors.
3. Expand the Geoweb sections and partially drive ATRA GFRP Anchors in the perimeter cells and expand sections in place.
4. Attach ATRA GFRP Anchors to the tendons at locations as indicated on the Contract Documents.
5. Drive ATRA GFRP Anchors so the arm of the ATRA Clip is over the tendon, or the tendon is wrapped around the ATRA Clip head.
6. Anchorage pattern and stake length shall be as indicated on the Contract Documents.

Specifier Note: Specify infill type from sections K-N below and delete those not required. Choice should coordinate with Section 2.6.

K. Sand Infill Placement

1. Place the specified aggregate infill with suitable material handling equipment.
2. Infill material shall be free-flowing and not frozen when placed in the Geoweb sections.
3. Overfill cells with aggregate infill material. Limit the drop height of infill material to 3 feet (1 meter) to avoid damage or displacement of the cell wall.
4. Level surface approximately 2 inches (50 mm) above cell walls. Maintain the 2 inch wear surface over the Geoweb sections to prevent damage to the cell walls.
5. Compact infill to a minimum of 95 percent Standard Proctor.
6. Shape compacted surface to required elevation as indicated on the drawings.

L. Crushed Aggregate Infill Placement

1. Place the specified aggregate infill with suitable material handling equipment.
2. Infill material shall be free-flowing and not frozen when placed in the Geoweb sections.
3. Overfill cells with aggregate infill material. Limit the drop height of infill material to 3 feet (1 meter) to avoid damage or displacement of the cell wall.
4. Level surface approximately 2 inches (50 mm) above cell walls. Maintain the 2 inch wear surface over the Geoweb sections to prevent damage to the cell walls.
5. Compact infill to a minimum of 95 percent Standard Proctor.
6. Shape compacted surface to required elevation as indicated on the drawings.

M. Concrete Infill Placement

1. Concrete shall be placed, finished and cured in accordance with the Contract Documents.
2. Once placing operation commences, it shall be carried out as a continuous operation until a designated section is completed or as approved by the Engineer.
3. Limit the drop height of concrete to 3 feet (1 meter) to avoid damage or displacement of the cell wall. Elephant trunks and/or tremies shall be used to prevent free fall of concrete.
4. Where concrete chutes are used, the end of the chute shall be baffled to prevent segregation of the concrete.
5. The concrete shall be thoroughly compacted by means of an approved vibrator, with the period of vibration being not less than 2 seconds or more than 5 seconds at any one point.
6. Finish the concrete flush with the top of the Geoweb cell walls.
7. Apply specified finish.

N. Engineered Infill Placement

1. Place the specified engineered infill with suitable material handling equipment.
2. Infill material shall be free-flowing and not frozen when placed in the Geoweb sections.
3. Overfill cells with engineered infill material. Limit the drop height of infill material to 3 feet (1 meter) to avoid damage or displacement of the cell wall.
4. Level surface approximately 2 inches (50 mm) above cell walls. Maintain the 2 inch wear surface over the Geoweb sections to prevent damage to the cell walls.

5. Compact infill to a minimum of 95 percent Standard Proctor.
6. Shape compacted surface to required elevation as indicated on the drawings.

Specifier Note: Delete if a Base Stabilization Wearing Surface is not required.

O. Base Stabilization Wearing Surface
1. Ensure a minimum 2 in (50 mm) overfill is placed and compacted over the Geoweb sections prior to placing the wearing surface.
2. The wearing surface shall be as specified in the Contract Documents.

Specifier Note: Delete if a vegetated surface is not required. Vegetation surface wearing course is typically associated with Engineered Infill.

P. Vegetation
1. Vegetation shall be placed and protected as specified in the Contract Documents.
2. Install vegetation immediately after the engineered infill is placed.

Appendix A
Short-Term Seam Strength Test Procedure

Frequency of Test

The short-term seam peel strength test (referred to as the 'test' in this section) shall be performed on a geocell section randomly taken directly from the production line each two hours.

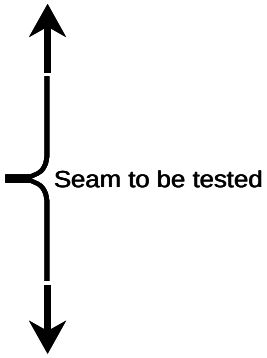

Figure A1

Test Sample Preparation

Randomly choose 10 welds within the selected section and cut those welds from the section such that 10 cm (4 in) of material exist on each side of the weld. The test sample shall have a general appearance as illustrated in Figure A1. Prior to testing, the test samples shall have air cool for a minimum of 30 minutes from the time the selected geocell section was manufactured.

Short-term Seam Peel Strength Test

The apparatus used for testing the short-term seam peel strength shall be of such configuration that the jaws of the clamp shall not over stress the sample during the test period. Load shall be applied at a rate of 12 in (300 mm) per minute and be applied for adequate time to determine the maximum load. The date, time and load shall be recorded.

Short-term seam peel strength shall be defined as the maximum load applied to the test sample. Minimum required short-term seam peel strength shall be:

- 640 lbf (2840 N) for the 8 in (200 mm) depth cell
- 480 lbf (2130 N) for the 6 in (150 mm) depth cell
- 320 lbf (1420 N) for the 4 in (100 mm) depth cell
- 240 lbf (1060 N) for the 3 in (75 mm) depth cell.

Definition of Pass / Failure

Two methods shall be used to determine acceptability of the manufactured geocell sections. The successful passing of the short-term seam peel test shall not be used to determine acceptable of the polyethylene for use in manufacturing of the geocell sections. Acceptability of the polyethylene shall be determined through tests conducted in Appendix B.

The Tested Value

If more than one of the tested seam samples fails to meet the minimum peel strength, all sections manufactured after the previously successful test shall be rejected.

If all tested seam samples meet the minimum peel strength, all geocell sections manufactured since the last successful test shall be considered to have passed the test.

When one of the tested seam samples fails to meet the minimum peel strength, another 10 samples shall be randomly selected and cut from the previously selected section. If more than one of these samples fails, all sections manufactured after the previously successful test shall be rejected. Otherwise, all geocell sections manufactured since the last successful test shall be considered to have passed the test.

Visual Failure Mode

After each sample is tested, the seam shall be examined to determine the failure mode. Two failure modes are possible.

- Material failure within and adjacent to the weld indicated by material strain and
- Weld failure resulting in complete separation of the seam and shows little or no material strain.

Upon examination, when the failure mode results in complete separation of the seam and indicates little or no material strain, product manufactured shall be rejected.

Appendix B
Long-Term Seam-Strength Test Procedure

Frequency of Test

The long-term seam peel strength test (referred to as the 'test' in this section) shall be performed:

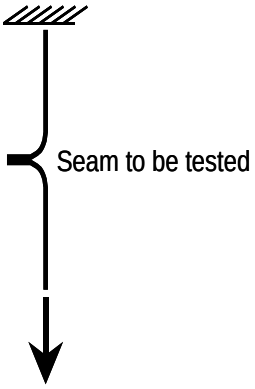

Figure B1

1. on each new resin lot number if the geocell manufacturer extrudes the sheet or strip used to produce the geocell material.
2. on each new order of sheet and/or strip if the geocell manufacturer does not extrude the sheet and/or strip used to produce the geocell material.

Test Sample Preparation

A test sample shall be made using two sets of two strips meeting all aspects of the material portion of this specification. Testing shall be done on non-perforated samples to obtain the true seam strength of the bond. One set of two strips are to be welded in welder position "A" and the other set of two strips are to be welded in welder position "B" producing two 1-cell long sections of geocell product. Welding should be done using a warm welder. The welded samples shall be labeled "A" and "B" and the weld seams of each sample shall be numbered consecutively from left to right starting with the number 1 (one) and corresponding to the welding head number.

The samples shall air cool for a minimum of 30 minutes. Randomly choose 10 welds from samples "A" and "B" and cut those welds from the geocell samples such that 4 in (10 cm) of material exist on each side of the weld. These samples shall be cut to a width of 4 in (10 cm). Properly identify each weld using the sample letter and weld seam number.

These samples are now ready to be tested.

Long-term Seam Peel Strength Test

The long-term seam peel strength test shall take place within an environmentally controlled chamber that undergoes temperature change on a 1-hour cycle from room temperature to 130°F (54°C). Room temperature shall be defined per ASTM E41.

Within the environmentally controlled chamber, one of the ends of the samples (10 samples in total) shall be secured to a stationary upper clamp. The jaws of the clamp shall be of such configuration that the grip does not over stress the sample during the test period. The sample shall be secured so that its axis is vertical and the welds being tested are horizontal as the sample hangs within the environmentally controlled chamber.

A weight of 160 lb (72.5 kg) shall be lifted via a hoist or lift platform and attached to the free lower end, of the sample. The weight shall be lowered in a way so that no impact load occurs on the sample being tested. The weight shall be sufficient distance from the floor of the chamber so that the weight will not touch the floor of the chamber as the sample undergoes creep during the test period. The date and hour the weight is applied shall be recorded.

The temperature cycle shall commence immediately within the environmentally controlled chamber. The test period for the applied load shall be 168 hours.

Definition of Pass / Failure

If any of the 10 seams fail prior to the end of the 168-hour (7-day) period, the date and hour of the failure shall be recorded and the polyethylene resin and strip material shall be considered unsuitable for geocell manufacturing.

END OF SECTION

SILT FENCE

CHECK DAM

TEMPORARY WETLAND IMPACT AREA A .0372 ACRES

20'x60' EXTRA WORK SPACE

PI STA 1+80.11 PIPELINE MARKER

PI STA 1+75.31 PIPELINE MARKER

BORING B-1

250'± DIRECTIONAL DRILL

PROPERTY LINE

INV 12" HDPE=450.9'

WETLAND AREA A

30" HDPE

30" HDPE

INV 12" HDPE=450.9'

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

BORING B-2

20'x60' EXTRA WORK SPACE

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

25' T.E.

5' T.E.

TEMPORARY WETLAND IMPACT AREA A .0007 ACRES

20' OFF RIGHT OF WAY ACCESS ROAD

BUILDING

BUILDING

BUILDING

CONCRETE SURFACE

Tax Map Parcel 3-2-17
Seneca County Industrial Development Agency
Liber 581 page 240
Sceptor, Inc.
1 Dipronio Drive Waterloo, NY 13165
11 Lamb Street

Tax Map Parcel 2-1-12
Seneca County Industrial Development Agency
Liber 548 page 133
1 Dipronio Drive Waterloo, NY 13165
location: 2891 Rodman Drive

MATCH LINE

PI STA 12+ PIPELINE MARK

WETLAND AREA B

WETLAND AREA B

WOODS BRUSH

255'± DIRECTIONAL DRILL

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

5' T.E.

5' T.E.

186'± DIRECTIONAL DRILL

PI STA 9+16.19 PIPELINE MARKER

PI STA 7+30.57 PIPELINE MARKER

RAILROAD LINE

BORING B-4

BORING B-3

40'x72.5' EXTRA TEMP. WORK SPACE

40'x120' EXTRA TEMP. WORK SPACE

EASEMENT LINE FOR RAILROAD SPUR

PIN FOUND

WETLAND

TRACKS

0 30 60
Scale in feet

File: W:\PROJECTS\ANY\V2X\14945\CADD_ACAD\CIVIL\SCEPTER\ESC-1_11.DWG

No.	Submittal / Revision	By	Apv'd	Date

N

SCEPTER NEW YORK, INC.
11 Lamb Road
Seneca Falls, NY 13148

CHA
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Main: (315) 471-3920 · www.chacompanies.com

Designed: KMH | Drawn: KMH | Checked: XXX

SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS · COUNTY OF SENECA · STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-1

SILT FENCE

CHECK DAM

Tax Map Parcel 2-1-3.12
R & E Associates
Liber 688 page 239
2378 Yellow Tavern Rd., Waterloo, NY 13165
location: Auburn Road

WETLAND AREA D

SMALL DRAINAGE

MATCH LINE

TEMPORARY WETLAND IMPACT AREA D .0111 ACRES

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

PIPELINE MARKER PI STA 18+33.17

70' WIDE EASEMENT FOR DRAINAGE

PROPERTY LINE

DRAINAGE EASEMENT LIMIT LINE

185.04'

17+53.60

BORING B-7

FINGER LAKES RAILWAY CORPORATION

PRESENT CENTER TRACKS

90.5'

93.86'

17+90

247± DIRECTIONAL DRILL

WETLAND AREA C

INTERMITTENT DRAINAGE

PIN FOUND

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

16+00

PI STA 15+96.87
PIPELINE MARKER
15+00

BORING B-6

75' T.E.

RAILROAD LINE

5' T.E.

14+00

236± DIRECTIONAL DRILL

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

MATCH LINE

PI STA 12+70.55
PIPELINE MARKER

13+00

BORING B-5

WETLAND AREA B

12+00

WOODS BRUSH

0 30 60
Scale in feet

File: V:\PROJECTS\ANY\V43\14945\CADD_ACAD\CIVIL\SCEPTER\ESC-1_11.DWG

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SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-2

SILT FENCE

CHECK DAM

Tax Map Parcel 2-1-3.12
R & E Associates
Liber 688 page 239
2378 Yellow Tavern Rd., Waterloo, NY 13165
location: Auburn Road

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

25' T.E.

5' T.E.

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

TEMPORARY WETLAND IMPACT AREA E
.0506 ACRES

TEMPORARY WETLAND IMPACT AREA D

WETLAND AREA E

WETLAND AREA D

SMALL DRAINAGE

FINGER LAKES RAILWAY CORPORATION

PRESENT CENTER TRACKS

RAILROAD LINE

MATCH LINE

PI STA 25+65.30
PIPELINE MARKER

26+00
25+00
24+00
23+00
22+00
21+00
20+00
19+00

SF

0 30 60
Scale in feet

File: K:\PROJECTS\ANY\K2\14945\CADD_ACAD\CIVIL\SCEPTER\ESC-1_11.DWG

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TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD	Project No.: 14945	Scale: As Shown

ESC-3

SILT FENCE

CHECK DAM

Tax Map Parcel 1–1–2
R & E Associates
Deed reference not found
2378 Yellow Tavern Rd., Waterloo, NY 13165
location: 110 Auburn Road

Tax Map Parcel 2–1–3.12
R & E Associates
Liber 688 page 239
2378 Yellow Tavern Rd., Waterloo, NY 13165
location: Auburn Road

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

MATCH LINE

PROPERTY LINE

AGRICULTURAL FIELD

FINGER LAKES RAILWAY CORPORATION

PRESENT CENTER TRACKS

RAILROAD LINE

PI STA 31+17.65
PIPELINE MARKER

PI STA 28+12.20
PIPELINE MARKER

PI STA 27+62.47
PIPELINE MARKER

PI STA 30+43.51
PIPELINE MARKER

PI STA 25+65.30
PIPELINE MARKER

PIN FOUND

WET–LAND EASEMENT & WORK AREA
0.00 SQ. FT.

24" WILLOW

WETLAND AREA F

25' T.E.

5' T.E.

34+00
33+00
32+00
31+00
30+00
29+00
28+00
27+00
26+00

444 445 446 447 448 449 450 451 452

0 30 60
Scale in feet

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EROSION & SEDIMENT CONTROL PLAN

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ESC-4

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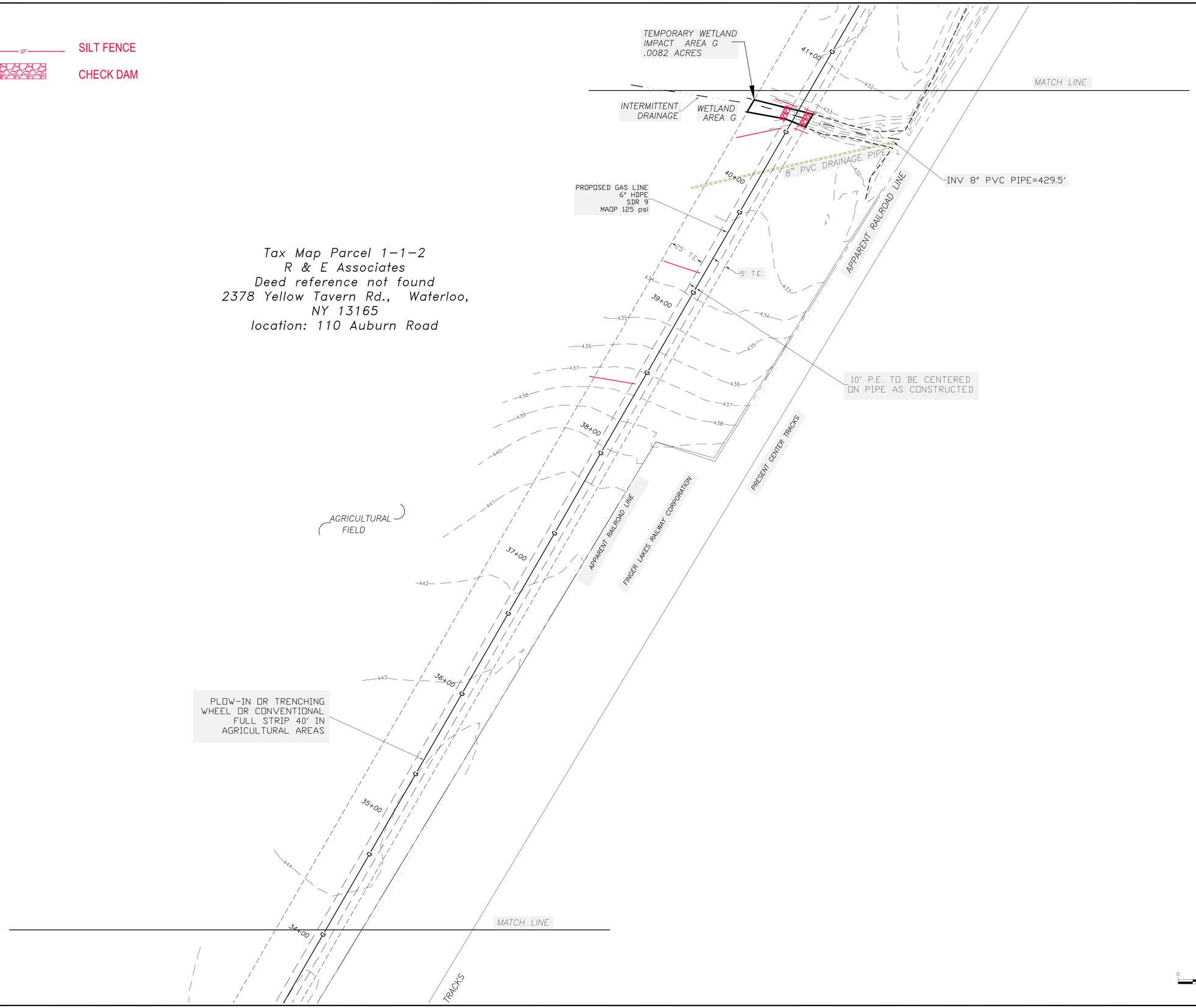
SILT FENCE

CHECK DAM

Tax Map Parcel 1-1-2
R & E Associates
Deed reference not found
2378 Yellow Tavern Rd., Waterloo, NY 13165
location: 110 Auburn Road



0 30 60
Scale in feet

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SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

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ESC-5

SILT FENCE

CHECK DAM

MATCH LINE

49+00

48+00

47+00

46+00

45+00

44+00

43+00

42+00

41+00

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

5' T.E.

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

PI STA 45+88.80
PIPELINE MARKER

PI STA 45+00.67
PIPELINE MARKER

PI STA 44+34.02
PIPELINE MARKER

PI STA 41+90.75
PIPELINE MARKER

TOWN OF SENECA FALLS

VILLAGE OF SENECA FALLS

APPROXIMATE CORPORATION LINE

AGRICULTURAL FIELD

AGRICULTURAL FIELD

AGRICULTURAL FIELD

FARM LANE

WETLAND AREA H

WETLAND AREA H

WETLAND AREA H

FINGER LAKES RAILWAY CO

APPARENT RAILROAD LINE

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

TEMPORARY WETLAND IMPACT AREA G .0082 ACRES

INTERMITTENT DRAINAGE

WETLAND AREA G

MATCH LINE

Tax Map Parcel 31-1-24
Ralph K. Lott, Shirley Lott, Rodman Lott II
Deed book 828 page 14
2973 Route 414, Seneca Falls, NY 13148
location: Auburn Road

Tax Map Parcel 1-1-2
R & E Associates
Deed reference not found
2378 Yellow Tavern Rd., Waterloo, NY 13165
location: 110 Auburn Road

0 30 60
Scale in feet

File: V:\PROJECTS\ANY\V2\14945\CADD_ACAD\CIVIL\SCEPTER ESC-1_11.DWG

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SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD	Project No.: 14945	Scale: As Shown

ESC-6

SILT FENCE

CHECK DAM

AGRICULTURAL FIELD

MATCH LINE

PI STA 54+46.46
PIPELINE MARKER

TO NYS ROUTE 5 & 20

25' T.E.

5' T.E.

55+00

54+00

53+00

52+00

51+00

50+00

49+00

48+00

OFF RIGHT OF WAY ACCESS ROAD

INV 12" CONCRETE=448.8'

INV 12" CONCRETE=448.3'

APPROXIMATE PROPERTY LINE

PIPELINE MARKER
PI STA 52+88.03

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

Tax Map Parcel 29-1-1
E Associates of the Finger Lakes
Liber 761 page 59
8 Yellow Tavern Rd., Waterloo,
NY 13165
location: 1911 Auburn Road

Tax Map Parcel 29-1-1
R & E Associates of the Finger Lakes
Liber 761 page 59
2378 Yellow Tavern Rd., Waterloo,
NY 13165
location: 1911 Auburn Road

Tax Map Parcel 31-1-24
Ralph K. Lott, Shirley Lott, Rodman Lott II
Deed book 828 page 14
2973 Route 414, Seneca Falls, NY 13148
location: Auburn Road

Tax Map Parcel 31-1-24
Ralph K. Lott, Shirley Lott, Rodman Lott II
Deed book 828 page 14
2973 Route 414, Seneca Falls, NY 13148
location: Auburn Road

0 30 60
Scale in feet

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SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-7

File: V:\PROJECTS\VNY\V2\14945\CADD_ACAD\CHA\SCEPTER\ESC-1_11.DWG

SILT FENCE

CHECK DAM

NYS ROUTE 5 & 20

MATCH LINE

AGRICULTURAL FIELD

Tax Map Parcel 29-1-1
R & E Associates of the Finger Lakes
Liber 761 page 59
2378 Yellow Tavern Rd., Waterloo, NY 13165
location: 1911 Auburn Road

62+00

61+00

25' T.E.

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

5' T.E.

60+00

59+00

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

58+00

INV 18" HDPE=443.3'

57+00

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

56+00

55+00

PI STA 154+46.46
PIPELINE MARKER

25' T.E.

TO N

Tax Map Parcel 29-1-1
R & E Associates of the Finger Lakes
Liber 761 page 59
2378 Yellow Tavern Rd., Waterloo, NY 13165
location: 1911 Auburn Road

0 30 60
Scale in feet

File: V:\PROJECTS\NY\V2\14945\CADD_ACAD\CNA\SCEPTER\ESC-1_11.DWG

No.	Submittal / Revision	By	Apv'd	Date

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SCEPTER NEW YORK, INC.
11 Lamb Road
Seneca Falls, NY 13148

CNA
441 South Salina Street Syracuse, NY 13202-4712
Main: (315) 471-3920 www.cnaconsultants.com

Designed: KMH | Drawn: KMH | Checked: XXX

SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

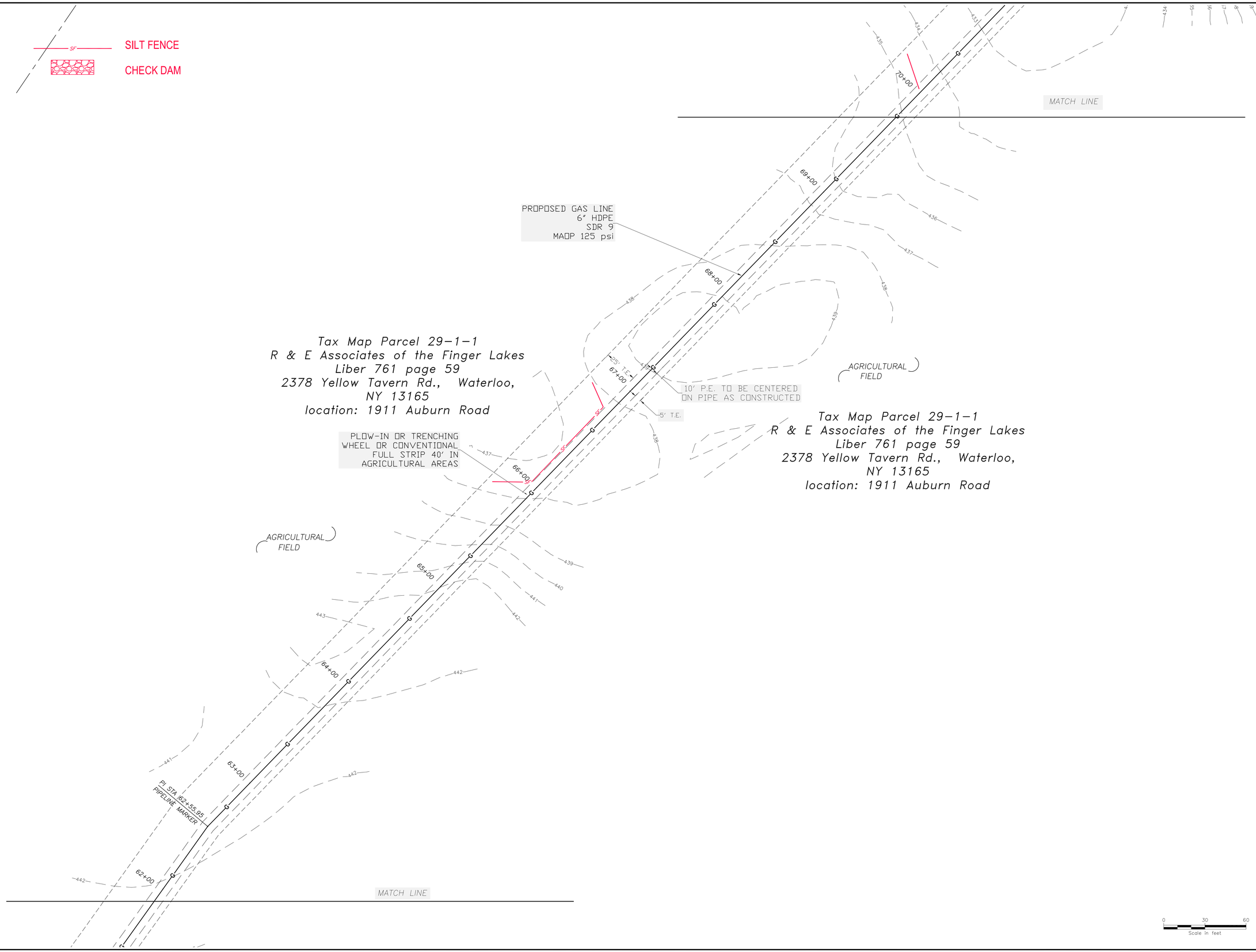
EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-8

SILT FENCE

CHECK DAM



No.	Submittal / Revision	By	Apv'd	Date

SCEPTER NEW YORK, INC.
11 Lamb Road
Seneca Falls, NY 13148

UNAUTHORIZED ALTERATION OR ADDITION TO THESE PLANS IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAW.

CHA

441 South Salina Street · Syracuse, NY 13202-4712
Main: (315) 471-3920 · www.chacompanies.com

Designed: KMH | Drawn: KMH | Checked: XXX

SCEPTER GAS PIPELINE
INTERCONNECT
TOWN OF SENECA FALLS · COUNTY OF SENECA · STATE OF NEW YORK

EROSION & SEDIMENT CONTROL
PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-9

File: W:\PROJECTS\NY\V2\14945\CADD_ACAD\CIVIL\SCEPTER\ESC-1_11.DWG

SILT FENCE

CHECK DAM

NYS ROUTE 5 & 20

MATCH LINE

WOODS BRUSH

PROPERTY LINE

76+00

75+00

74+00

73+00

72+00

71+00

70+00

PI STA 75+03.05
PIPELINE MARKER

PI STA 71+81.24
PIPELINE MARKER

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

5' T.E.

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

20' WIDE EXTRA WORK SPACE

POND

PIPE FOUND

16" HICKORY

BORING B-8

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

AGRICULTURAL FIELD

Tax Map Parcel 29-1-6
1771 Auburn Road, LLC
Liber 604 page 180
1771 Auburn Rd., Seneca Falls, NY 13148
location: 1771 Auburn Road

Tax Map Parcel 29-1-1
R & E Associates of the Finger Lakes
Liber 761 page 59
2378 Yellow Tavern Rd., Waterloo, NY 13165
location: 1911 Auburn Road

0 30 60
Scale in feet

File: K:\PROJECTS\ANY\K2\14945\CADD_ACAD\CHA\SCEPTER\ESC-1_11.DWG

No.	Submittal / Revision	By	Apv'd	Date

SCEPTER NEW YORK, INC.
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Seneca Falls, NY 13148

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441 South Salina Street · Syracuse, NY 13202-4712
Main: (315) 471-3920 · www.chacompanies.com

Designed: KMH | Drawn: KMH | Checked: XXX

SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-10

SILT FENCE

CHECK DAM

NEW YORK STATE ROUTE 5 & 20

PRESENT CENTERLINE PAVEMENT

EDGE OF PAVEMENT

HIGHWAY LINE

MATCH LINE

CHAIN LINK FENCE

82+00

OLD RETENTION POND

WETLAND AREA I

TEMPORARY WETLAND IMPACT AREA I .1077 ACRES

WOODS BRUSH

81+00

WOODS BRUSH

80+00

PI STA 79+41.04

PIPELINE MARKER

GAS MAIN AS LOCATED IN THE FIELD PER PAINT AND FLAG MARKINGS, SEE EASEMENT TO NYSE&G LIBER 319 PAGE 197

79+00

5' T.E.

25' T.E.

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

20' WIDE EXTRA WORK SPACE

PROPERTY LINE

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

WOODS BRUSH

78+00

PI STA 77+19.23

PIPELINE MARKER

77+00

WOODS BRUSH

MATCH LINE

76+00

WOODS BRUSH

Tax Map Parcel 29-1-6
1771 Auburn Road, LLC
Liber 604 page 180
1771 Auburn Rd., Seneca Falls, NY 13148
location: 1771 Auburn Road

0 30 60
Scale in feet

No.	Submittal / Revision	By	Apr'd	Date

N

SCEPTER NEW YORK, INC.
11 Lamb Road
Seneca Falls, NY 13148

CHA
441 South Salina Street · Syracuse, NY 13202-4712
Main: (315) 471-3920 · www.chacompanies.com

Designed: KMH | Drawn: KMH | Checked: XXX

SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK
EROSION & SEDIMENT CONTROL PLAN
Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-11

File: V:\PROJECTS\ANY\V2\14945\CADD_ACAD\CIVIL\SCEPTER\ESC-1_11.DWG

Falls, NY 13148
location: 1780 Auburn Road

SF SILT FENCE

CHECK DAM

HOUSE

GRAVEL DRIVE

GRAVEL DRIVE

PI STA 89+60.70
PIPELINE MARKER

BORING B-11

85'±

WATER VALVE

Cased Boring 10-Inch SDR9 Casing Pipe

89+00

PIPELINE MARKER
PI STA 88+86.30

SIGN

BORING B-10

MILE MARKER 5
3506
1116

MATCH LINE

12" MAPLE

12" PINE

PI STA 88+43.86
PIPELINE MARKER

12" PINE

WOOD POLE ANCHOR

HIGHWAY LINE

ASPHALT DRIVE

ASPHALT DRIVE

GRASS ISLAND CONC. CURBING

88+00

PI STA 88+13.43
PIPELINE MARKER

PRESENT CENTERLINE PAVEMENT

EDGE OF PAVEMENT

12" PINE

5' T.E.

12" PINES

ASPAHLT PARKING

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

GAS MAIN AS LOCATED IN THE FIELD PER PAINT AND FLAG MARKINGS, SEE EASEMENT TO NYSE&G LIBER 319 PAGE 197

FIRE MAIN INDICATOR

PI STA 85+19.73
PIPELINE MARKER

HIGHWAY LINE

86+00

INV 10"± PIPE=421.8'

85+00

BUILDING

20' WIDE EXTRA WORK SPACE

BORING B-9

84+00

PI STA 84+07.88
PIPELINE MARKER

INV 36" CMP =411.6'

NEW YORK STATE ROUTE 5 & 20

NEW YORK STATE HIGHWAY APPROP. MAP NO.26 LIBER 173 PAGE 479

WETLAND AREA I

SHED

SILO

FIRE MAIN INDICATOR

83+00

CHAIN LINK FENCE

MATCH LINE

& 20

HIGHWAY LINE

82+00

OLD RETENTION POND

Tax Map Parcel 29-1-6
1771 Auburn Road, LLC
Liber 604 page 180
1771 Auburn Rd., Seneca Falls, NY 13148
location: 1771 Auburn Road

0 30 60
Scale in feet

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No.	Submittal / Revision	By	Apr'd	Date

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SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-12

SILT FENCE

CHECK DAM

GRAVEL DRIVE

MATCH LINE

5' T.E.

25' T.E.

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

95+00

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

OVERHEAD ELECTRIC

O.H.

Tax Map Parcel 28-1-22.1
Robin Compo
Deed reference not found
Auburn Rd., Seneca Falls, NY 13148
location: Auburn Road

Tax Map Parcel 28-1-22.2
Joseph Compo
Liber 721 page 224
Auburn Rd., Seneca Falls, NY 13148
location: George Road

BORING B-13

94+00

PIPELINE MARKER

PI STA 93+82.12

PIN FOUND

100' Cased Boring 10-Inch Casing Pipe

EDGE PAVEMENT

EDGE PAVEMENT

GEORGE ROAD

RIGHT OF WAY LINE

PRESENT CENTERLINE PAVEMENT

49.5' WIDE RIGHT OF WAY=3 RODS

RIGHT OF WAY LINE

20" SPRUCE

20" SPRUCE

PIPE FOUND

BORING B-12

PIPELINE MARKER

93+00

10" ASH

50" WILLOW CLUMP

25' T.E.

Tax Map Parcel 28-1-25.11
Joseph Compo
Liber 822 page 285
1780 Auburn Rd., Seneca Falls, NY 13148
location: 1780 Auburn Road

GRAVEL DRIVE

APPROX. LOCATION OF PRIVATE 2" PLASTIC WATER LINE, VERIFY LOCATION PRIOR TO CONSTRUCTION

Tax Map Parcel 28-1-24
Karl Love
Liber 690 page 68
1766 Auburn Rd., Seneca Falls, NY 13148
location: 1766 Auburn Road

HOUSE

7' WIDE P.E. ALONG EAST PROPERTY LINE OF COMPO

PIN FOUND

92+00

BUILDING

PROPOSED GAS LINE RUNS 2.0' WEST OF PROPERTY LINE

WOODS BRUSH

SHED

GRAVEL DRIVE

PROPOSED GAS LINE 6" HDPE SDR 9 MAOP 125 psi

91+00

PIN FOUND

WOODS BRUSH

APPROX. LOCATION OF PRIVATE 2" PLASTIC WATER LINE, VERIFY LOCATION PRIOR TO CONSTRUCTION

HIGHWAY LINE

NEW YORK STATE ROUTE 5 & 20

POSSIBLE LOCATION OF WATER SERVICE, WATER LINE NOT MARKED NORTH OF WATER VALVE

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

PI STA 90+37.20

PIPELINE MARKER

25' T.E.

90+00

PIN FOUND

HIGHWAY LINE

Tax Map Parcel 28-1-25.11
Joseph Compo
Liber 822 page 285
1780 Auburn Rd., Seneca Falls, NY 13148
location: 1780 Auburn Road

WATER VALVE

Cased Boring 10-Inch SDR9 Casing Pipe

PI STA 89+60.70

PIPELINE MARKER

BORING B-11

85'±

HOUSE

89+00

PIPELINE MARKER

PI STA 88+86.30

MILE MARKER 5

3506

1116

SIGN

BORING B-10

12" MAPLE

MATCH LINE

0 30 60

Scale in feet

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No.	Submittal / Revision	By	Apv'd	Date

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SCEPTER NEW YORK, INC.
11 Lamb Road
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441 South Salina Street Syracuse, NY 13202-4712
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SCEPTER GAS PIPELINE INTERCONNECT

TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD	Project No.: 14945	Scale: As Shown

ESC-13

SILT FENCE

CHECK DAM

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

PLOW-IN OR TRENCHING
WHEEL OR CONVENTIONAL
FULL STRIP 40' IN
AGRICULTURAL AREAS

10' P.E. TO BE CENTERED
ON PIPE AS CONSTRUCTED

PI STA 99+54.88
PIPELINE MARKER

PI STA 96+83.84
PIPELINE MARKER

PIPE FOUND

PIN FOUND

PASTURE FENCE

AGRICULTURAL FIELD

SHED

HOUSE

GRAVEL DRIVE

OVERHEAD ELECTRIC

MATCH LINE

102+00

101+00

100+00

99+00

98+00

97+00

96+00

95+00

5' T.E.

25' T.E.

Tax Map Parcel 28-1-22.1
Robin Compo
Deed reference not found
Auburn Rd., Seneca Falls, NY 13148
location: Auburn Road

Tax Map Parcel 28-1-22.2
Joseph Compo
Liber 721 page 224
Auburn Rd., Seneca Falls, NY 13148
location: George Road

0 30 60
Scale in feet

No.	Submittal / Revision	By	Apv'd	Date

SCEPTER NEW YORK, INC.
11 Lamb Road
Seneca Falls, NY 13148

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441 South Salina Street Syracuse, NY 13202-4712
Main: (315) 471-3920 www.chacompanies.com

Designed: KMH | Drawn: KMH | Checked: XXX

SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-14

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SILT FENCE

CHECK DAM

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

5' T.E.

108+00

MATCH LINE

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

107+00

106+00

AGRICULTURAL FIELD

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

105+00

25' T.E.

5' T.E.

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

104+00

AGRICULTURAL FIELD

103+00

PROPERTY LINE

MATCH LINE

102+00

Tax Map Parcel 28-1-22.1
Robin Compo
Deed reference not found
Auburn Rd., Seneca Falls, NY 13148
location: Auburn Road

0 30 60
Scale in feet

No.	Submittal / Revision	By	Apv'd	Date

SCEPTER NEW YORK, INC.
11 Lamb Road
Seneca Falls, NY 13148

CHA
441 South Salina Street Syracuse, NY 13202-4712
Main: (315) 471-3920 www.chacompanies.com

Designed: KMH | Drawn: KMH | Checked: XXX

SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-15

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Tax Map Parcel 28-1-15.11
James Saik
Liber 683 page 71
2762 Route 318., Seneca Falls, NY 13148
location: 2768 Route 318

WOODS BRUSH

SF — SILT FENCE

CHECK DAM

AGRICULTURAL FIELD

115' EXTRA WORK SPACE

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

PI STA 114+83.95 PIPELINE MARKER

PI STA 114+49.50 PIPELINE MARKER

PI STA 112+99.50 PIPELINE MARKER

PI STA 112+84.76 PIPELINE MARKER

BORING B-14

25' T.E.

5' T.E.

119+00

118+00

117+00

116+00

115+00

114+00

113+00

112+00

111+00

110+00

109+00

108+00

WOODS BRUSH

PIN FOUND

MATCH LINE

150' WIDE EASEMENT SEE 364/111

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

Tax Map Parcel 28-1-20
Elizabeth Crelley
David Kimpel
Steven Kimpel
Liber 715 page 157
1898 Powerdly Rd., Waterloo, NY 13165
location: 1628 Auburn Road

Tax Map Parcel 28-1-22.1
Robin Compo
Deed reference not found
Auburn Rd., Seneca Falls, NY 13148
location: Auburn Road

AGRICULTURAL FIELD

APPROXIMATE LOCATION NEW YORK TELEPHONE BURIED CABLE

PI STA 110+49.30 PIPELINE MARKER

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

OVERHEAD ELECTRIC

150' WIDE EASEMENT SEE 364/111

PI STA 108+54.32 PIPELINE MARKER

5' T.E.

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

MATCH LINE

0 30 60
Scale in feet

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No.	Submittal / Revision	By	Apr'd	Date

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11 Lamb Road
Seneca Falls, NY 13148

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441 South Salina Street Syracuse, NY 13202-4712
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SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-16

SF SILT FENCE

CHECK DAM

APPROXIMATE LOCATION NEW YORK TELEPHONE BURIED CABLE, SEE LIBER 156 PAGE 544

850'± DIRECTIONAL DRILL OR AUGER BORING
CONTRACTOR TO MAT WETLAND

Tax Map Parcel 28-1-15.11
James Saik
Liber 683 page 71
2762 Route 318., Seneca Falls, NY
13148
location: 2768 Route 318

Tax Map Parcel 28-1-15.11
James Saik
Liber 683 page 71
2762 Route 318., Seneca Falls, NY
13148
location: 2768 Route 318

WOODS
BRUSH

CATTAILS AND MARSH
IN THIS AREA

WOODS
BRUSH

WOODS
BRUSH

108' EXTRA
WORK SPACE

115' EXTRA
WORK SPACE

I OR TRENCHING
OR CONVENTIONAL
RIP 40' IN
TURAL AREAS

10' P.E. TO BE CENTERED
ON PIPE AS CONSTRUCTED

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

WETLAND
AREA J

BORING
B-15

BORING
B-14

5' T.E.

25' T.E.

126+00
125+00
124+00
123+00
122+00
121+00
120+00
119+00
118+00
117+00

MATCH LINE

0 30 60
Scale in feet

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No.	Submittal / Revision	By	Apv'd	Date

N

SCEPTER NEW YORK, INC.
11 Lamb Road
Seneca Falls, NY 13148

CHA
441 South Salina Street · Syracuse, NY 13202-4712
Main: (315) 471-3920 · www.chacompanies.com

Designed: KMH | Drawn: KMH | Checked: XXX

SCEPTER GAS PIPELINE
INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL
PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-17

SILT FENCE

CHECK DAM

James Saik
Liber 683 page 71
2762 Route 318., Seneca Falls, NY
13148
location: 2768 Route 318

300 Erie Blvd., Syracuse, NY 13202
location: South of Route 318

AGRICULTURAL FIELD

AGRICULTURAL FIELD

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

Tax Map Parcel 28-1-15.11
James Saik
Liber 683 page 71
2762 Route 318., Seneca Falls, NY
13148
location: 2768 Route 318

PI STA 135+48.43 PIPELINE MARKER

PI STA 134+56.91 PIPELINE MARKER

PI STA 133+84.82 PIPELINE MARKER

PI STA 132+68.61 PIPELINE MARKER

PI STA 132+30.63 PIPELINE MARKER

PI STA 131+74.09 PIPELINE MARKER

PI STA 131+35.39 PIPELINE MARKER

PI STA 130+45.28 PIPELINE MARKER

PI STA 129+60.72 PIPELINE MARKER

PI STA 129+20.73 PIPELINE MARKER

PI STA 127+98.92 PIPELINE MARKER

136+00

135+00

134+00

133+00

132+00

131+00

130+00

129+00

128+00

127+00

126+00

WETLAND AREA L

55' T.E.

5' T.E.

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

20'x60' EXTRA WORK SPACE

WOODS BRUSH

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

WOODS BRUSH

WOODS BRUSH

TEMPORARY WETLAND IMPACT AREA K
.0165 ACRES

WETLAND AREA K

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

PLOW-IN OR TRENCH WHEEL OR CONVENT FULL STRIP 40' IN AGRICULTURAL AREA

AGRICULTURAL FIELD

MATCH LINE

0 30 60
Scale in feet

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No.	Submittal / Revision	By	Apv'd	Date

SCEPTER NEW YORK, INC.
11 Lamb Road
Seneca Falls, NY 13148

CNA
441 South Salina Street · Syracuse, NY 13202-4712
Main: (315) 471-3920 · www.cnaconsultax.com

Designed: KMH | Drawn: KMH | Checked: XXX

SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-18

SF SILT FENCE

CHECK DAM

MATCH LINE

149+00

PLOW-IN OR TRENCHING
WHEEL OR CONVENTIONAL
FULL STRIP 40' IN
AGRICULTURAL AREAS

10' P.E. TO BE CENTERED
ON PIPE AS CONSTRUCTED

25' T.E.

148+00

5' T.E.

147+00

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

146+00

PI STA 145+80.85
PIPELINE MARKER

145+00

144+00

29'±

STEEL TOWER

FIBER OPTIC
CABLE VAULT

143+00

142+00

141+00

140+00

PI STA 140+20.97
PIPELINE MARKER

PI STA 140+04.33
PIPELINE MARKER

STEEL TOWER

145'±

139+00

MATCH LINE

138+00

PI STA 137+71.34
PIPELINE MARKER

137+00

APPROXIMATE

Tax Map Parcel 28-1-15.11
James Saik
Liber 683 page 71
2762 Route 318., Seneca Falls, NY 13148
location: 2768 Route 318

Tax Map Parcel 28-1-7
Niagara Mohawk Power Corp.
Liber 125 page 350
300 Erie Blvd., Syracuse, NY 13202
location: South of Route 318

0 30 60
Scale in feet

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No.	Submittal / Revision	By	Apv'd	Date

N

SCEPTER NEW YORK, INC.
11 Lamb Road
Seneca Falls, NY 13148

CHA

441 South Salina Street Syracuse, NY 13202-4712
Main: (315) 471-3920 www.chacompanies.com

Designed: KMH | Drawn: KMH | Checked: XXX

SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK
EROSION & SEDIMENT CONTROL PLAN
Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-19

location: Route 318

SILT FENCE

CHECK DAM

TOWN OF TYRE

STATE ROUTE 318

NEW YORK STATE ROUTE 318

TOWN OF SENECA FALLS

AGRICULTURAL FIELD

MATCH LINE

APPROX. LOCATION BUCKEYE TRANSMISSION LINE

20'x40' EXTRA WORK SPACE

PIPELINE MARKER BUCKEYE PETROLEUM 1-800-331-4115

PIPELINE MARKER BUCKEYE PETROLEUM 1-800-331-4115

PROPOSED GAS LINE 6" HDPE SDR 9 MAOP 125 psi

155+00

154+00

153+00

152+00

151+00

150+00

149+00

BORING B-17

PIPELINE MARKER

PIN FOUND

CONCRETE MONUMENT FOUND

INV 24" CONC=467.4'

INV 24" CONC=467.9'

APPROX. LOCATION WATER MAIN

EDGE OF PAVEMENT

PRESENT CENTERLINE PAVEMENT

HIGHWAY LINE

120'

Cased Boring 10-inch SDR9 Casing Pipe

BORING B-16

PIPELINE MARKER

PIPE LINE MARKER DOMINION 12" T-551 1-888-264-8240

20'x60' EXTRA WORK SPACE

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

25' T.E.

5' T.E.

PROPOSED GAS LINE 6' HDPE SDR 9 MAOP 125 psi

Tax Map Parcel 28-1-15.11
James Saik
Liber 683 page 71
2762 Route 318., Seneca Falls, NY 13148
location: 2768 Route 318

0 30 60
Scale in feet

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No.	Submittal / Revision	By	Apv'd	Date

SCEPTER NEW YORK, INC.
11 Lamb Road
Seneca Falls, NY 13148

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441 South Salina Street · Syracuse, NY 13202-4712
Main: (315) 471-3920 · www.chacompanies.com

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SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-20

SILT FENCE

CHECK DAM

N

WOODS BRUSH

WOODS BRUSH

PIPELINE MARKER
TENESSEE GAS
1-800-231-2800
MARKER #1

PIPELINE MARKER
TENESSEE GAS
1-800-231-2800
MARKER #2

APPROX. LOCATION TENNESSEE GAS TRANSMISSION LINE

TGP LINE 200-2, 30-INCH DIAMETER, MAOP 750 PSIG

APPROX. LOCATION MOBIL TRANSMISSION LINE

STATION INLET VALVE

REPUTED 90' WIDE RIGHT OF WAY

75'-9"

BUILDING 2
D.A.C.

85'-4"

BUILDING 1

2" STEEL FBE COATED

STATION OUTLET VALVE (NOT 50' FROM THE BUILDING

6" HDPE SDR9

158+80
END OF PIPELINE

75'

PIPELINE MARKER

FENCED M & R STATION TO BE CENTERED ON PIPELINE AND ABUTTING THE TENESSEE GAS TRANS. RIGHT OF WAY LINE

20'x40' EXTRA WORK SPACE

158+00

PROPOSED GAS LINE
6" HDPE
SDR 9
MAOP 125 psi

PIPELINE MARKER
BUCKEYE PETROLEUM
1-800-331-4115

10' P.E. TO BE CENTERED ON PIPE AS CONSTRUCTED

25' T.E.

157+00

5' T.E.

PLOW-IN OR TRENCHING WHEEL OR CONVENTIONAL FULL STRIP 40' IN AGRICULTURAL AREAS

ACCESS ROAD TO BE CONSTRUCTED

156+00

AGRICULTURAL FIELD

155+00

MATCH LINE

APPROX. LOCATION BUCKEYE TRANSMISSION LINE

Tax Map Parcel 16-1-26.1
Scepter, Inc.
11 Lamb Road, Seneca Falls, NY 13148
location: Route 318

0 30 60
Scale in feet

File: V:\PROJECTS\VNY\V42\V14945\CADD_ACAD\CIVIL\SCEPTER\ESC-12_22.DWG

No.	Submittal / Revision	By	Apv'd	Date

SCEPTER NEW YORK, INC.
11 Lamb Road
Seneca Falls, NY 13148

CHA
441 South Salina Street · Syracuse, NY 13202-4712
Main: (315) 471-3920 · www.chacompanies.com

Designed: KMH | Drawn: KMH | Checked: XXX

SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS COUNTY OF SENECA STATE OF NEW YORK

EROSION & SEDIMENT CONTROL PLAN

Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-21

NOTES:

1. USE DAM AND PUMP METHOD ON WATER COURSES WITH LIMITED STREAM FLOW TO PREVENT SEDIMENTATION AND INTERRUPTION OF STREAM FLOW DURING CONSTRUCTION. IF FISH PASSAGE IS A CONCERN, THIS METHOD IS NOT APPROPRIATE.

2. SCHEDULE CONSTRUCTION DURING LOW FLOW PERIOD, IF POSSIBLE.

3. SET UP PUMP AND HOSE AS SHOWN, OR USE PRACTICAL ALTERNATIVES. PUMP SHOULD HAVE TWICE THE PUMPING CAPACITY OF ANTICIPATED FLOW. HAVE STANDBY PUMP ON SITE. DEPENDING ON STREAM FLOW, DIG SUMP HOLE TO CONCENTRATE WATER AT INTAKE.

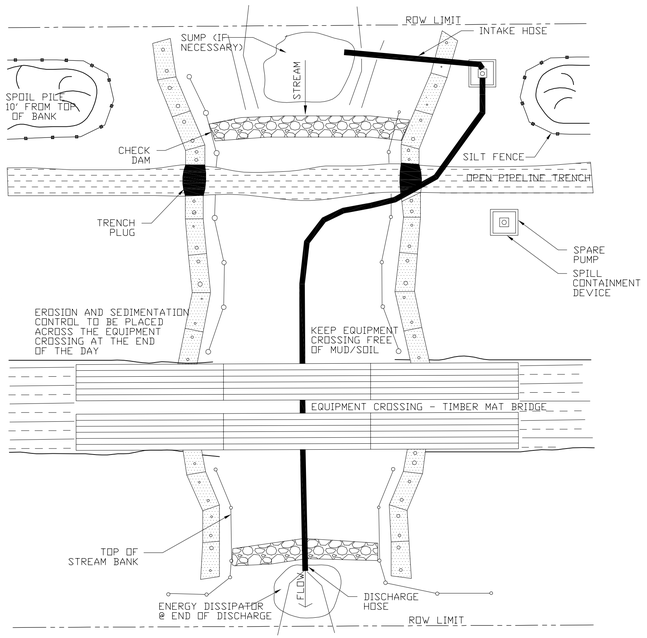
4. INSTALL UPSTREAM DAM COMPOSED OF SANDBAGS, METAL PLATING OR A COMBINATION OF BOTH, INSTALL DOWNSTREAM DAM, IF REQUIRED, TO KEEP STREAM BED DRY.

5. AFTER DAMS ARE IN PLACE, IT MAY BE NECESSARY TO USE ADDITIONAL PUMPS TO HANDLE STEAM FLOW.

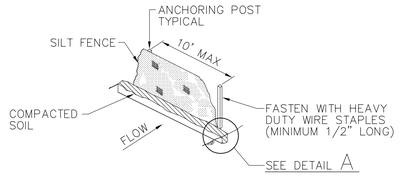
6. EXCAVATE TRENCH AND LOWER IN PIPE UNDER HOSE. MOVE HOSE AS REQUIRED OR DISCONNECT, IF TEMPORARY FLOW BLOCKAGE IS ACCEPTABLE. BACKFILL TRENCH.

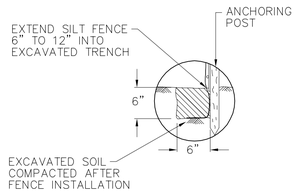
7. DISMANTLE DOWNSTREAM DAM, THEN UPSTREAM DAM. KEEP PUMP RUNNING TO MAINTAIN STREAM FLOW.

8. RESTORE STREAM BANKS AND APPROACHES FOR A MINIMUM DISTANCE OF AT LEAST 50 FT. FROM THE STREAM EDGES AND PERMANENTLY STABILIZE WITHIN 1 DAY OF INITIAL RESTORATION.



1 DAM AND PUMP AROUND STREAM CROSSING
SCALE: N.T.S. (DETAIL FROM NYS DPS)



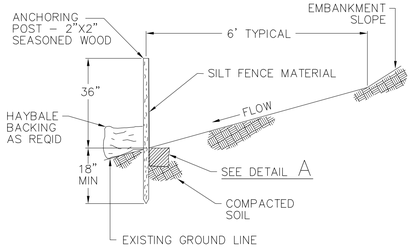


DETAIL A (EMBEDMENT)

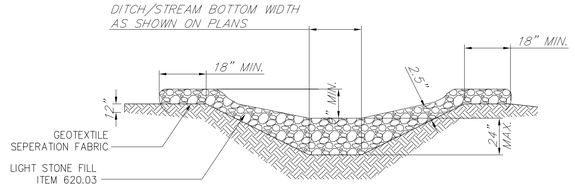
NOTES:

1. INSTALL TO FILTER SEDIMENT FROM SURFACE RUNOFF.
2. CHECK PERIODICALLY FOR OBSTRUCTED FLOW FROM COLLECTED SEDIMENT. CLEAN AS NECESSARY TO PREVENT BUILD UP OF SEDIMENT.
3. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO THE DESIGN DEPTH OF THE TRAP.
4. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
5. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.

2 SILT FENCE
SCALE: N.T.S.

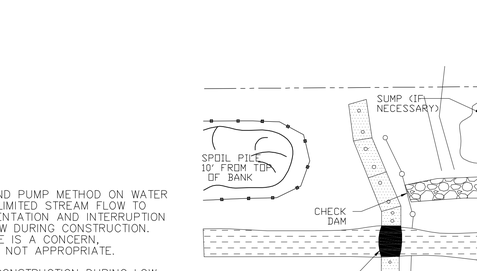


3 SILT FENCE TOE OF SLOPE CONDITION
SCALE: N.T.S.



SECTION

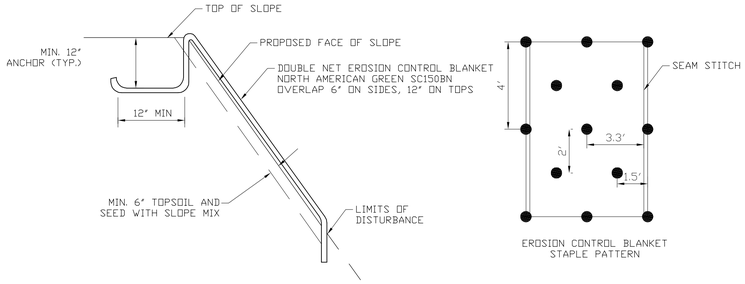
4 STONE CHECK DAM
SCALE: N.T.S.



NOTES:

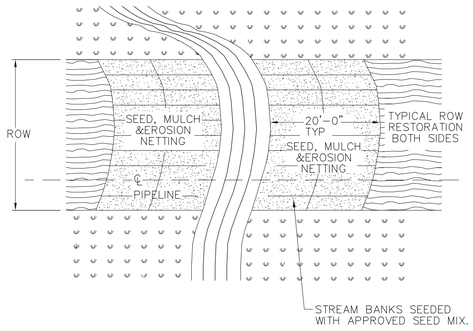
1. IN AREAS WHERE BEDROCK IS ENCOUNTERED THE MINIMUM DEPTH TO THE TOP OF PIPE SHALL BE 3 FEET.

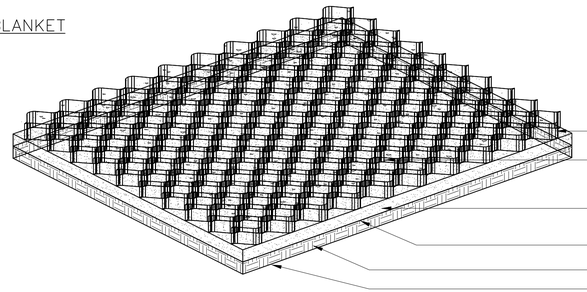
5 SEED, MULCH, AND EROSION NETTING
SCALE: N.T.S.



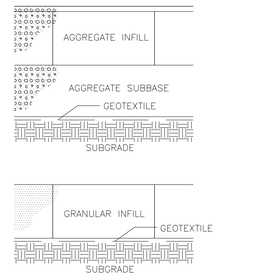
BLANKETS SHALL HAVE NORTH AMERICAN GREEN DOT SYSTEM TO ENSURE ADHERENCE TO THE ABOVE PATTERN.

6 EROSION CONTROL BLANKET
SCALE: N.T.S.





ISOMETRIC - TYPICAL LOAD SUPPORT STRUCTURE



LOAD SUPPORT OVER SOFT SOIL AND AGGREGATE SURFACE STABILIZATION

NOTES:

1. PREPARE THE SUBGRADE AS SHOWN ON THE CONSTRUCTION DRAWINGS.
2. COMPACT THE SOIL TO A MINIMUM 98% STANDARD PROCTOR.
3. VERIFY THE SUBGRADE STRENGTH. IF UNACCEPTABLE, THE SOILS SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER.
4. WHERE REQUIRED, PROVIDE GEOTEXTILE SEPARATION LAYER.
5. WHERE REQUIRED, PLACE AND COMPACT SUBBASE MATERIAL TO A MINIMUM 95% STANDARD PROCTOR.
6. EXPAND THE GEOWEB SECTIONS INTO POSITION AND CONNECT THE END TO END AND INTERLEAF CONNECTIONS WITH ATRA KEYS.
7. PLACE THE SPECIFIED INFILL MATERIAL TO 2 INCHES ABOVE CELL WALLS AND COMPACT TO A MINIMUM 95% STANDARD PROCTOR.
8. PROVIDE ADDITIONAL SURFACE MATERIAL, AS SPECIFIED.

7 GRAVEL PAD DETAIL (M&R STATION)
SCALE: N.T.S.

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No.	Submittal / Revision	By	Apr'd	Date

SCEPTER NEW YORK, INC.
11 Lamb Road
Seneca Falls, NY 13148

Designed: KMH | Drawn: KMH | Checked: XXX

SCEPTER GAS PIPELINE INTERCONNECT
TOWN OF SENECA FALLS | COUNTY OF SENECA | STATE OF NEW YORK
EROSION & SEDIMENT CONTROL PLAN
Issue Date: TBD | Project No.: 14945 | Scale: As Shown

ESC-D1