

U.S. DEPARTMENT OF VETERANS AFFAIRS
WASHINGTON, DC

DELAWARE COMMISSION OF VETERANS AFFAIRS

DELAWARE OFFICE OF MANAGEMENT AND BUDGET
DIVISION OF FACILITIES MANAGEMENT

**DELAWARE VETERANS MEMORIAL CEMETERY
MILLSBORO, DELAWARE**

DE-13-21

BID SET DOCUMENTS

ADDENDUM NO. 1

June 21, 2016

NOTICE TO BIDDERS:

Please take into account the following in preparing bids for the subject project.

All statements in this Addendum shall supersede statements in the main body of the Project Manual and items shown on the Bid Set Document Plans, dated 5/2/16, with which they conflict. Work and materials not specifically mentioned herein shall be as described in the main body of the specifications and as shown on the plans.

Attach this Addendum to the Contract Documents. It modifies and becomes part of the Contract Documents. Acknowledge the receipt of this Addendum on the Bid Form (Section 00 41 13-3 within the Project Manual).

Attached herewith are the following:

- Pre-Bid Meeting Minutes from 6/16/2016;
- Pre-Bid Meeting Attendees contact information;
- List of approved crypt manufacturers;
- Project Manual Revisions (see below for description);
- Plan Revision Sketches (see below for description).

Below is a list of the attached revisions that have been made to the Project Manual as part of Addendum 1:

1. Instructions to Bidders - 00 21 13-9: Revised item 4.7.3 to specify a sixty (60) day bidding period.
2. Bid Form – 00 41 13-3 &4: Revised the form to specify a sixty (60) day bidding period, and included three Subcontractor Categories (Excavation, Irrigation, and Landscaping) on the Subcontractor List.

The attached Sketches, dated 6/8/2016, depict the following described revisions made to the plans as part of Addendum 1:

1. GI002-SK-1: Added Temporary Swale to and removed Diversion Swale from legend.
2. GI002-SK-2: Revised stabilization matting product recommendation to North American Green S150.
3. CG110-SK-1: Changed Diversion Swale callout and symbol to Temporary Swale. Added drainage area label for temporary swale.
4. CG110-SK-2: Revised Erosion & Sediment Control Legend reference of Diversion Swale to Temporary Swale. Added drainage area line type reference.
5. CG501-SK-1: Removed Diversion Swale details. Added Temporary Swale details.
6. CG502-SK-1: Added boxes around recommended temporary and permanent seed mixes.
7. CU201-SK-1: Updated profile title to reference storm cleanout labels depicted in the profile.
8. LI103-SK-1: Added note requiring contractor to locate isolation gate valve.
9. LI103-SK-2: Added notes requiring contractor to protect pumps power lines, remove hydrant and turn over to Cemetery staff. Note requires the cemetery to remove bird house.
 - Note: Irrigation system discharge pressure is 90 PSI and the flow is 100 GPM on a 6” looped mainline, well water is utilized.



DELAWARE VETERANS MEMORIAL CEMETERY – MILLSBORO, DELAWARE

MEETING MINUTES

Subject: Pre-Bid Meeting

Date: June 16, 2016

Location: Delaware Veterans Memorial Cemetery
26669 Patriots Way, Millsboro, Delaware 19966

Prepared By: Mark A. Russo, RLA, ASLA

Project Number: DE-13-21

Meeting Attendees:

Larence Kirby, M.A., M.Ed – DE Commission of Veterans Affairs

Larry Schrock – OMB/DFM

Gregory Bee – Cemetery Administrator

Steve Johns, P.E., P.L.S. – VanDemark & Lynch, Inc. (V&L)

Mark Russo, RLA, ASLA – VanDemark & Lynch, Inc. (V&L)

Rob Solloway – Kent Construction Co.

Brad Winemiller – Greenleaf Services, Inc.

Michael Boyce – Greenleaf Services, Inc.

Greg Thompson – Conventional Builders, Inc.

Jim Griffith – G & C Fab-Con, LLC

Dick Creter - G & C Fab-Con, LLC

Matt Tarr – Guardian Environmental Services

Robin Schurman – BRS Consulting

Greg Tucker – Chesapeake Turf, LLC

Liz Thompson – Thompson & Sons Contracting, Inc.

Project Overview:

The State of Delaware Commission of Veterans Affairs proposes to provide improvements at the Delaware Veterans Memorial Cemetery located in Millsboro, Delaware consisting of an expansion to the existing facilities by proposing 3 crypt fields containing a total of 1,133 pre-placed double-depth lawn crypts, and upgrading 3 existing flower watering stations and proposing one additional station.

1. The engineer/architect (V&L) presented an overview of the design, including elements and enhancements that are incorporated within the scope of the project.
2. **Schedule**
 - Any and all questions (RFI's), including requests for substitutions should be made to VanDemark & Lynch, Inc. and are to be received no later than July 8, 2016.
 - Responses will be made available to all parties by July 12, 2016.
 - All Bids are due by July 19, 2016. **There will be no bid extensions.**
 - The estimated date the project will be awarded is late September / early October.
3. **Bidding**
 - Bids must be honored for a minimum of **60 days** as amended in paragraph 002113 - 4.7.3 and the Bid Form as part of the Addendum No. 1 package.
 - V&L recommends reading “Instructions to Bidders”, located in the Project Manual.
 - The contract to be utilized on this project shall be the “Standard Form of Agreement Between Owner and Contractor”, Form AIA A101
 - Contractors are to use Prevailing Wage Rate or Davis-Bacon Wage Rate, whichever is greater. These rates are indicated within the Project Manual.
 - A Subcontractor’s List was discussed and the following disciplines were agreed upon and are included in the amended Bid Form.
 - i) Excavation ii) Irrigation iii) Landscaping
 - V&L reviewed the Bid Form Unit Prices and alternates.
 - V&L emphasized the State’s policy regarding the “Employee Drug Testing Program” as indicated in the affidavit contained within the Bid Form, and the forms found in Section 008114, which is within the Project Manual, but not listed in the Table of Contents.
4. **Addenda**
 - Addenda will be mailed or delivered to all who are known by V&L to have received a complete set of bidding documents, and/or attended the Pre-Bid Meeting.
 - V&L emphasized that there will be no bid extensions.
5. **Project Requirements / Description**
 - V&L briefly discussed various project elements such as Earth Moving, Crypt location/installation, Irrigation, Sod/Seeding locations, etc.
 - V&L stressed the importance of work being suspended during funeral services. There are typically four services each day, held at 10:00 AM, 11:00 AM, 1:00 PM, and 2:00 PM, each lasting 30 minutes on average. There are no other restrictions to the times work may occur. It was recommended the superintendent contact the cemetery each morning for the upcoming schedule.
 - The Contractor is to provide their own sewer and water, although the site’s public utilities may be used as long as they are not abused.
 - Contractor is responsible for obtaining Geotech testing and all regulatory permits, including DelDOT Temporary Entrance Permit. V&L is responsible for Certified Construction Review.

- OMB/DFM stressed the importance of the contractor including a copy of their Delaware Business License with the Bid Form.

6. Responses to Pre-Bid Meeting Questions:

- V&L will provide a list of approved vendors for the lawn crypt manufacturers as provided by the U.S. Department of Veterans Affairs (see attached).
- There is no set completion time for this project. All contractors are required to “pledge” a completion time in calendar days on the Bid Form.
- The project perimeter is to be delineated with “Orange Construction Fencing” as indicated on the plans. The Contractor is responsible for maintenance of all fencing.
- The contractor may purchase crypts from multiple vendors from the approved lawn crypt manufacturer’s list.
- The cemetery has allotted time on June 28, 2016, from 1:00 -4:00 p.m. to revisit the site and to have someone available to answer site specific questions if necessary. Please contact Greg Bee. (His contact information is provided on the “Pre-Bid Meeting Attendees” List)

PRE-BID MEETING ATTENDEES

DELAWARE VETERANS MEMORIAL CEMETERY

MILLSBORO – SUSSEX COUNTY

Rob Solloway	Kent Construction Co. 2 Big Oak Road Smyrna, DE 19977	estimator2@kentconstructionco.com	(302) 633-6469
Brad Winemiller	Greenleaf Services, Inc. 365 Water Street Wilmington, DE 19804	brad@greenleafservicesinc.net	(302) 836-9050 <i>purchased plans</i>
Michael Boyce	Greenleaf Services, Inc. 365 Water Street Wilmington, DE 19804	michael.christopher.boyce@gmail.com	(302) 450-2052 <i>purchased plans</i>
Greg Thompson	Conventional Builders, Inc. 846 School Street Houston, DE 19954	conventionalbuilders@comcast.net	(302) 422-2429 <i>purchased plans</i>
Jim Griffith Dick Creter	G & C Fab-Con, LLC 5 Foster Lane, Building A Flemington, NJ 08822	jgriffith@gandcfabcon.com	(908) 782-0526 <i>purchased plans</i>
Matt Tarr	Guardian Environmental Services 70 Albe Drive Newark, DE 19702	mtarr@gesoncall.com	(302) 757-2883
Robin Schurman	BRS Consulting P.O.Box 237 Harrington, DE 19952	robin@brsconinc.com	(302) 786-2326
Greg Tucker	Chesapeake Turf LLC P.O. Box 2696 Salisbury, MD 21801	greg@chesapeaketurf.com	(410) 341-4363 (443) 497-1917
Liz Thompson	Thompson & Sons Contracting, Inc. 5367 Big Stone Beach Road Milford, DE 19963	thomsonsonsinc@comcast.net	(302) 335-3404 <i>purchased plans</i>

Larry Schrock	OMB/DFM Thomas Collins Building 540 South DuPont Highway Dover, DE 19901	larrys.schrock@state.de.us	(302) 739-5644
Larence Kirby	DE Commission of Veterans Affairs 802 Silver Lake Boulevard, Suite 100 Dover, DE 19904	Larence.kirby@state.de.us	(302) 739-2293
Gregory Bee	Cemetery Administrator 26669 Patriot Way Millsboro, DE 19966	Gregory.bee@state.de.us	(302) 934-5653
Steve Johns, PE, PLS	VanDemark & Lynch, Inc. 4305 Miller Road Wilmington, DE 19802	sjohns@vandemarklynch.com	(302) 764-7635
Mark Russo, RLA	VanDemark & Lynch, Inc. 4305 Miller Road Wilmington, DE 19802	mrusso@vandemarklynch.com	(302) 764-7635



DELAWARE VETERANS MEMORIAL CEMETERY – MILLSBORO, DELAWARE

APPROVED VENDORS LIST: LAWN CRYPT MANUFACTURERS

Provided By: U.S. Department of Veterans Affairs

1. United Precast, Connecticut
2. Lindsay Concrete Products, Canal Fulton, Ohio
3. G&C FabCon, Flemington, NJ
4. Wilbert Cemetery Construction, Parson KS
5. Wieser Concrete, Portage WI

if the Architect is notified in writing prior to receipt of fax, is acceptable. A fax directing a modification in the bid price will render the Bid informal, causing it to be ineligible for consideration of award. Telephone directives for modification of the bid price shall not be permitted and will have no bearing on the submitted proposal in any manner.

4.7.2 Bidders submitting Bids that are late shall be notified as soon as practicable and the bid shall be returned.

4.7.3 A Bid may not be modified, withdrawn or canceled by the Bidder during a sixty (60) day period following the time and date designated for the receipt and opening of Bids, and Bidder so agrees in submitting their Bid. Bids shall be binding for 60 days after the date of the Bid opening.

ARTICLE 5: CONSIDERATION OF BIDS

5.1 OPENING/REJECTION OF BIDS

5.1.1 Unless otherwise stated, Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids will be made available to Bidders.

5.1.2 The Agency shall have the right to reject any and all Bids. A Bid not accompanied by a required Bid Security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

5.1.3 If the Bids are rejected, it will be done within thirty (30) calendar day of the Bid opening.

5.2 COMPARISON OF BIDS

5.2.1 After the Bids have been opened and read, the bid prices will be compared and the result of such comparisons will be made available to the public. Comparisons of the Bids may be based on the Base Bid plus desired Alternates. The Agency shall have the right to accept Alternates in any order or combination.

5.2.2 The Agency reserves the right to waive technicalities, to reject any or all Bids, or any portion thereof, to advertise for new Bids, to proceed to do the Work otherwise, or to abandon the Work, if in the judgment of the Agency or its agent(s), it is in the best interest of the State.

5.2.3 An increase or decrease in the quantity for any item is not sufficient grounds for an increase or decrease in the Unit Price.

5.2.4 The prices quoted are to be those for which the material will be furnished F.O.B. Job Site and include all charges that may be imposed during the period of the Contract.

5.2.5 No qualifying letter or statements in or attached to the Bid, or separate discounts will be considered in determining the low Bid except as may be otherwise herein noted. Cash or separate discounts should be computed and incorporated into Unit Bid Price(s).

5.3 DISQUALIFICATION OF BIDDERS

5.3.1 An agency shall determine that each Bidder on any Public Works Contract is responsible before awarding the Contract. Factors to be considered in determining the responsibility of a Bidder include:

A. The Bidder's financial, physical, personnel or other resources including Subcontracts;

BID FORM

For Bids Due: July 19, 2016

To: State of Delaware
DOS Commission of Veterans Affairs
802 Silver Lake Blvd. Suite 100
Dover, DE 19904

Name of Bidder: _____

Delaware Business License No.: _____ **Taxpayer ID No.:** _____
(A copy of Bidder's Delaware Business License must be attached to this form.)

(Other License Nos.): _____

Phone No.: () _____ - _____ **Fax No.:** () _____ - _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

\$ _____
(\$ _____)

ALTERNATES

Alternate prices conform to applicable project specification section. Refer to specifications for a complete description of the following Alternates. An "ADD" or "DEDUCT" amount is indicated by the crossed out part that does not apply.

ALTERNATE No. 1: New Burial Section D

Add/~~Deduct~~: _____
(\$ _____)

ALTERNATE No. 2: New Burial Section J

Add/~~Deduct~~: _____
(\$ _____)

UNIT PRICES

BID FORM

Unit prices conform to applicable project specification section. Refer to the specifications for a complete description of the following Unit Prices:

		<u>ADD</u>	<u>DEDUCT</u>
UNIT PRICE No. 1:	<u>Removal of unsatisfactory soil material and replacement with satisfactory soil</u>	\$ _____	\$ _____
UNIT PRICE No. 2:	<u>Provide Additional Precast Concrete Double Depth Lawn Crypt</u>	\$ _____	\$ _____
UNIT PRICE No. 3	<u>Provide and Install Additional Precast Concrete Double Depth Lawn Crypt</u>	\$ _____	\$ _____
UNIT PRICE No. 4	<u>Install Sod</u>	\$ _____	\$ _____
UNIT PRICE No. 5	<u>Install Seed & Mulch</u>	\$ _____	\$ _____
UNIT PRICE No. 6	<u>Install Valve-In-Head Sprinkler</u>	\$ _____	\$ _____
UNIT PRICE No. 7	<u>Install 2½ inch PVC Pipe</u>	\$ _____	\$ _____
UNIT PRICE No. 8	<u>Install Two Wire Cable</u>	\$ _____	\$ _____

BID FORM

I/We acknowledge Addendums numbered _____ and the price(s) submitted include any cost/schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for sixty (60) days from the date of opening of bids (60 days for School Districts and Department of Education), and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid.

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to achieve substantial completion of all the work within _____calendar days of the Notice to Proceed.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____ By: _____
(SEAL) (Authorized Signature)

(Title)
Date: _____

ATTACHMENTS

- Sub-Contractor List
- Non-Collusion Statement
- Affidavit(s) of Employee Drug Testing Program
- Bid Security
- (Others as Required by Project Manuals)

BID FORM

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 6962 (d)(10)b Delaware Code, the following sub-contractor listing must accompany the bid submittal. The name and address of the sub-contractor **must be listed for each category** where the bidder intends to use a sub-contractor to perform that category of work. In order to provide full disclosure and acceptance of the bid by the *Owner*, **it is required that bidders list themselves as being the sub-contractor for all categories where he/she is qualified and intends to perform such work**. This form must be filled out completely with no additions or deletions. **Note that all subcontractors listed below must have a signed Affidavit of Employee Drug Testing Program included with this bid.**

<u>Subcontractor Category</u>	<u>Subcontractor</u>	<u>Address (City & State)</u>	<u>Subcontractors tax payer ID # or Delaware Business license #</u>
1. Excavation	_____	_____	_____
2. Irrigation	_____	_____	_____
3. Landscaping	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____

ID FORM
NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date (*to the Office of Management and Budget, Division of Facilities Management*).

All the terms and conditions of (*Project or Contract Number*) have been thoroughly examined and are understood.

NAME OF BIDDER: _____

**AUTHORIZED REPRESENTATIVE
(TYPED):** _____

**AUTHORIZED REPRESENTATIVE
(SIGNATURE):** _____

TITLE: _____

ADDRESS OF BIDDER: _____

E-MAIL: _____

PHONE NUMBER: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**AFFIDAVIT
OF
EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

, TEMPORARY SWALES, ETC.

AGENCY CONSTRUCTION SITE
 WHETHER SITE DISTURBANCE OR

SEDIMENT OR DEBRIS LADEN
 CONTROLS SHOULD BE CHECKED
 IN AND CONTROL SEDIMENTATION
 D WHEN IT HAS REACHED HALF
 IN, THE CONTRACTOR MAY NEED
 WEATHER CONDITIONS, OR AS

TURBANCE). STRIP TOPSOIL AND

BACKFILL. UPON BACKFILLING OF
 COMPLETED VAULT AREAS.

PLACE CONCURRENTLY WITH

ALL DISTURBED AREAS.

REMOVED ONLY AFTER WORK IN
 WRITTEN APPROVAL FROM THE

REQUIRE FINAL STABILIZATION
 ELEMENT AND STORMWATER PLAN

•	MANHOLE	⊙	N/A
—	PAINT STRIPE		N/A
==	PAVED ROAD		N/A
•	POST		N/A
•	POWER POLE		N/A
⊗	SINGLE TREE		N/A
x	SPOT ELEVATION		N/A
~~~~	TREELINE		N/A
—	UNPAVED ROAD		N/A
⇄	VALVE		N/A
---	WALL		N/A
○w	WATER VALVE		N/A
—*	SPRINKLER & 2" WATERLINE		N/A
—w	MAIN WATERLINE		N/A
⊠	TEST PIT		N/A
~~~~~	WETLAND		N/A
N/A	SILT FENCE	—(SF)—	
N/A	LIMITS OF DISTURBANCE & CONSTRUCTION	---(LOD)---	
N/A	INLET PROTECTION (IP-2)	⊠ (IP-2)	
N/A	STABILIZED CONSTRUCTION ENTRANCE	⊠ SCE	
N/A	TO BE REMOVED	====X====	
N/A	TEMPORARY SWALE	—TS-(A)(1)—	
N/A	GEOTEXTILE DEWATERING BAG	⊠ GB	
N/A	TEMPORARY SOIL STOCKPILE	⊠ TSS	
N/A	CONCRETE WASHOUT	⊠ CW	
N/A	DRAINAGE BOUNDARY	■■■■■■■■	
N/A	SOILS BOUNDARY	---ImB---	

CB = CATCH BASIN
 HDPEP = HIGH DENSITY POLYETHYLENE PIPE

GI002-SK-1

DELAWARE VETERANS MEMORIAL CEMETERY

MILLSBORO, DELAWARE

DATE: 6/08/2016

PROJECT No.: DE-13-21


SCALE: NTS



**VANDEMARK
& LYNCH, INC.**
 ENGINEERS - PLANNERS - SURVEYORS
 4305 MILLER ROAD
 WILMINGTON, DE 19802/(302) 764-7635
 WWW.VANDEMARKLYNCH.COM

STABILIZATION INCLUDING BUT NOT LIMITED TO SOIL TEST RESULT, SEED TAGS, SOIL AMENDMENT TAGS, ETC. SHALL BE PROVIDED TO THE DEPARTMENT OR DELEGATED AGENCY TO VERIFY THAT THE PERMANENT OR TEMPORARY STABILIZATION HAS BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLAN. THE DEPARTMENT OR DELEGATED AGENCY MAY REQUIRE ADDITIONAL SOIL TESTING AND REAPPLICATION OF PERMANENT OR TEMPORARY STABILIZATION IN ACCORDANCE WITH SPECIFICATIONS PROVIDED IN THE *DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK*, OR ALTERNATIVE MEASURES THAT PROVIDE FUNCTIONAL EQUIVALENCY.

EROSION AND SEDIMENT CONTROL GENERAL NOTES

1. ANY DEVIATION FROM THE SEQUENCE OF CONSTRUCTION INDICATED ON THIS DRAWING SHALL BE APPROVED BY DNREC.
2. MINOR FIELD ADJUSTMENTS MAY BE MADE TO INSURE THE CONTROL OF SEDIMENT, UPON APPROVAL OF THE SEDIMENT CONTROL REPRESENTATIVE.
3. ALL SEDIMENT CONTROL DEVICES, ONCE INSTALLED, SHALL BE APPROVED BY SEDIMENT CONTROL REPRESENTATIVES BEFORE PROCEEDING WITH ACTUAL CONSTRUCTION.
4. AT THE END OF EACH WORKING DAY ALL SEDIMENT CONTROL DEVICES SHALL BE INSPECTED AND LEFT IN FUNCTIONAL CONDITION.
5. NO SPOILS, STOCKPILED OR EXCAVATED MATERIAL MAY BE DISCHARGED INTO WETLANDS REGULATED BY THE STATE OF DELAWARE OR THE U.S. ARMY CORPS OF ENGINEERS.
6. CONTACT DNREC, SEDIMENT AND STORMWATER PROGRAM PRIOR TO COMMENCEMENT OF ANY WELL POINT OPERATIONS.
7. EROSION CONTROL MATTING IS REQUIRED IN OPEN CHANNELS AND ON SLOPES OF 3H:1V OR STEEPER. MATTING SHALL BE "NORTH AMERICAN GREEN S150" OR AN EQUAL APPROVED BY DNREC, SEDIMENT AND STORMWATER PROGRAM. 
8. LOCATE STOCKPILES ON AREAS WITH LITTLE OR NO SLOPE. STOCKPILES MUST BE SURROUNDED WITH SILT FENCE OR A STABILIZED EARTHEN BERM. STOCKPILE HEIGHTS SHALL NOT EXCEED 20'. STOCKPILE SLOPES SHALL BE 3:1 OR FLATTER.
9. STOCKPILING OF EXCAVATED MATERIAL OUTSIDE OF THE CONTRACT AREA SHALL REQUIRE AN ADDITIONAL EROSION AND SEDIMENT CONTROL PLAN FOR THAT LOCATION. PLAN MUST BE SUBMITTED AND APPROVED BY DNREC.
10. TO PREVENT OR REDUCE MOVEMENT OF DUST FROM DISTURBED SOIL SURFACES, THE CONTRACTOR SHALL SPRINKLE THE SITE WITH WATER UNTIL THE SURFACE IS MOIST AND REPEAT AS NECESSARY.
11. ALL GRADED AREAS TO BE SEEDED SHALL HAVE A 4" MINIMUM DEPTH OF TOP SOIL.
12. THE DELAWARE COMMISSION OF VETERANS AFFAIRS WILL BE RESPONSIBLE FOR ALL MAINTENANCE OF THE STORMWATER MANAGEMENT FACILITIES ONCE CONSTRUCTED.

GI002-SK-2

DELAWARE VETERANS MEMORIAL CEMETERY

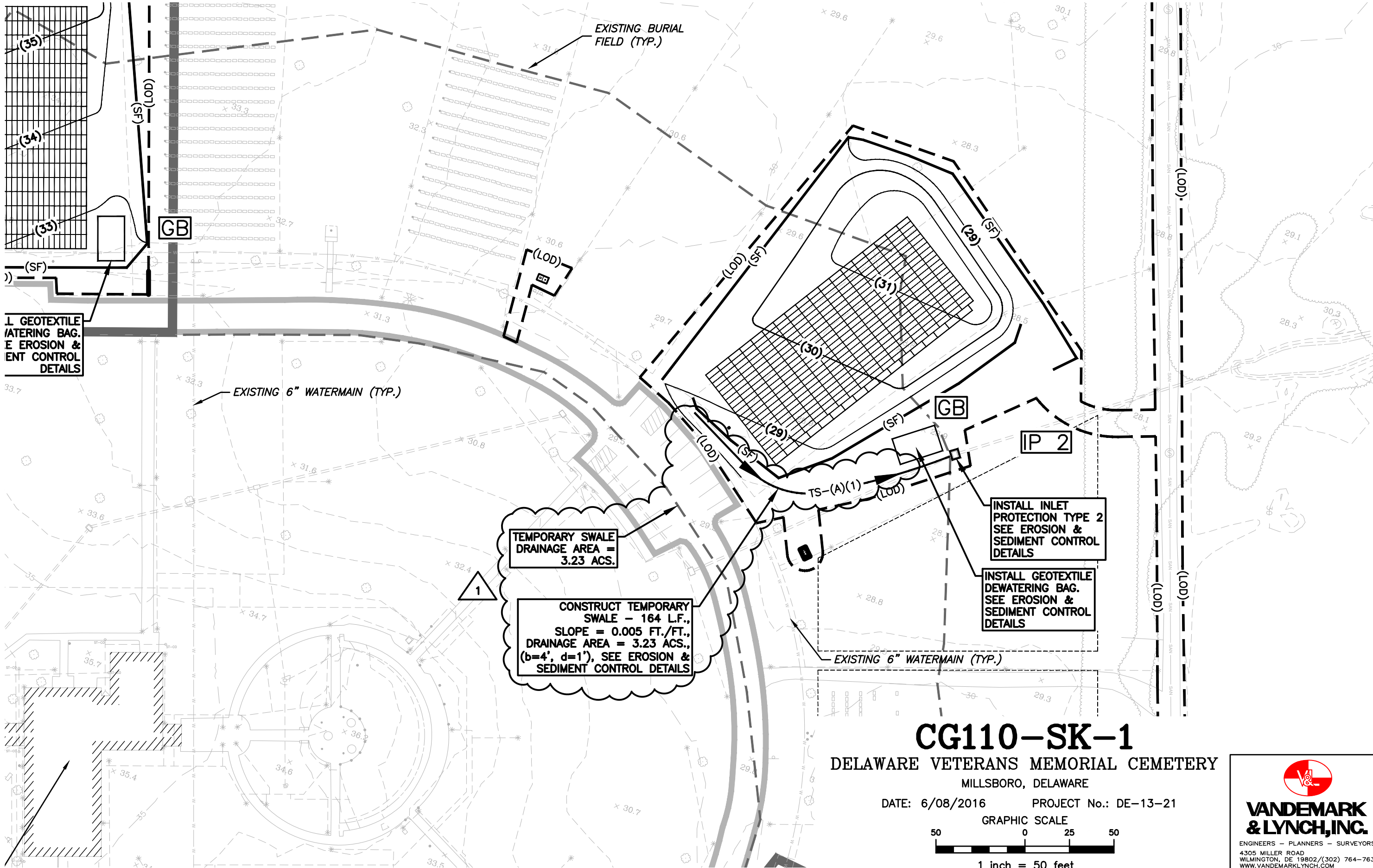
MILLSBORO, DELAWARE

DATE: 6/08/2016

PROJECT No.: DE-13-21

SCALE: NTS





1. GEOTEXTILE DEWATERING BAG. SEE EROSION & SEDIMENT CONTROL DETAILS

TEMPORARY SWALE
DRAINAGE AREA =
3.23 ACS.

CONSTRUCT TEMPORARY
SWALE - 164 L.F.,
SLOPE = 0.005 FT./FT.,
DRAINAGE AREA = 3.23 ACS.,
(b=4', d=1'), SEE EROSION &
SEDIMENT CONTROL DETAILS

INSTALL INLET
PROTECTION TYPE 2
SEE EROSION &
SEDIMENT CONTROL
DETAILS

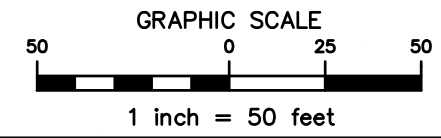
INSTALL GEOTEXTILE
DEWATERING BAG.
SEE EROSION &
SEDIMENT CONTROL
DETAILS

CG110-SK-1

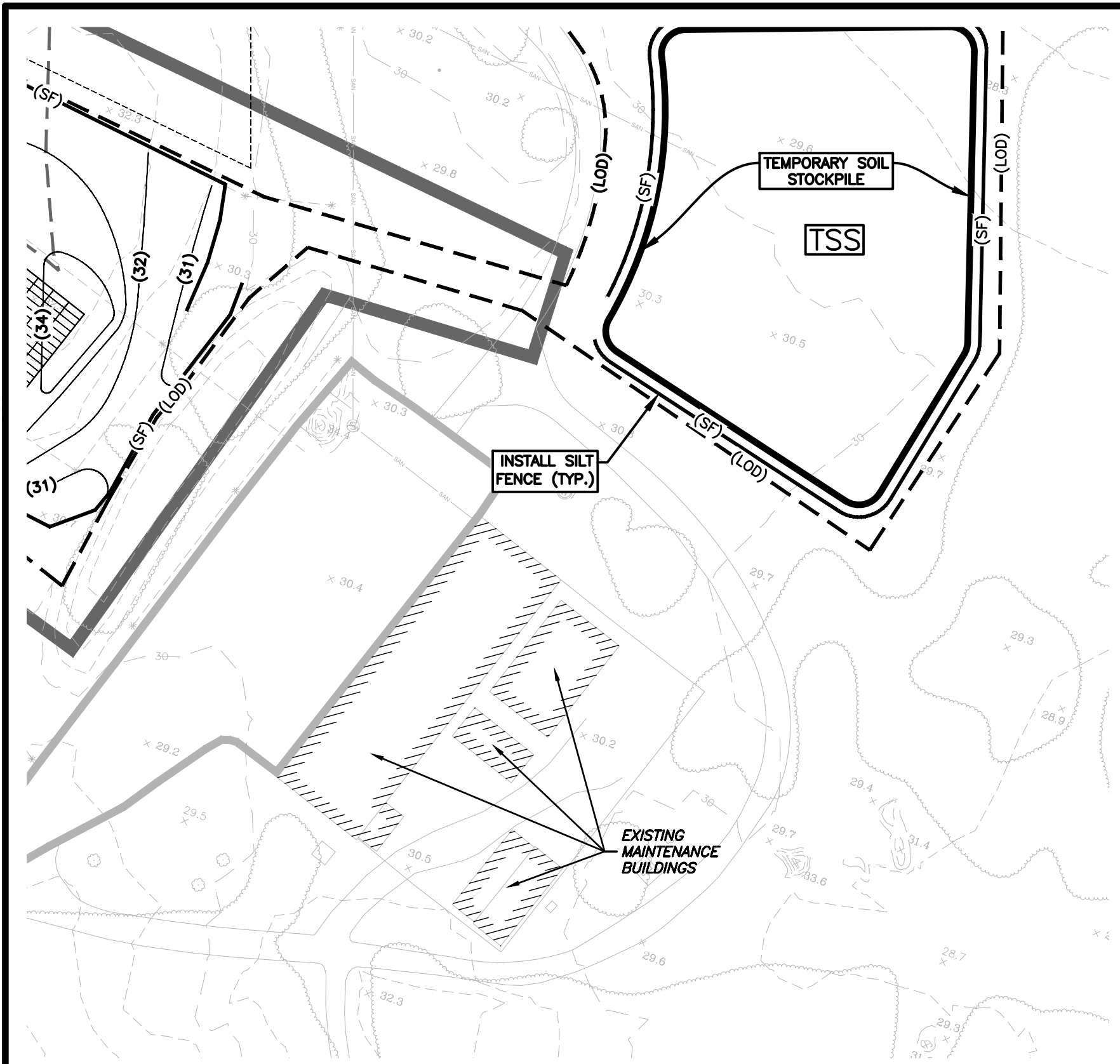
DELAWARE VETERANS MEMORIAL CEMETERY

MILLSBORO, DELAWARE

DATE: 6/08/2016 PROJECT No.: DE-13-21



VANDEMARK & LYNCH, INC.
ENGINEERS - PLANNERS - SURVEYORS
4305 MILLER ROAD
WILMINGTON, DE 19802/(302) 764-7635
WWW.VANDEMARKLYNCH.COM







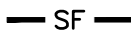




WATERSHED
 TAX PARCEL No. 133-7.00-8.00

NOTE: THIS PLAN SHOWS THE PRE-CONSTRUCTION SITE EROSION AND SEDIMENT CONTROLS WHICH WILL ALSO SERVE AS THE CONSTRUCTION SITE EROSION AND SEDIMENT CONTROLS. PRE-CONSTRUCTION CONTROLS SHALL BE INSTALLED PRIOR TO BEGINNING CONSTRUCTION AND REMAIN IN PLACE THROUGHOUT CONSTRUCTION.

PROJECT DISTURBANCE AREA = 3.65 ACRES

EROSION & SEDIMENT CONTROL LEGEND

-  — TS-(A)(1) — TEMPORARY SWALE
-  GEOTEXTILE DEWATERING BAG
-  INLET PROTECTION TYPE 2
-  STABILIZED CONSTRUCTION ENTRANCE
-  TEMPORARY SOIL STOCKPILE
-  — LOD — LIMIT OF DISTURBANCE
-  — SF — SILT FENCE
-  CONCRETE WASHOUT
-  — — — — — TEMPORARY SWALE DRAINAGE AREA

CG110-SK-2
 DELAWARE VETERANS MEMORIAL CEMETERY
 MILLSBORO, DELAWARE

DATE: 6/08/2016 PROJECT No.: DE-13-21

SCALE: NTS

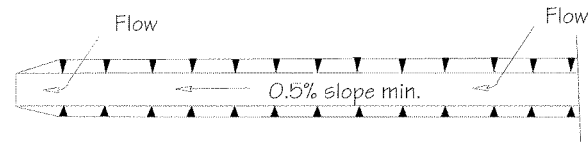


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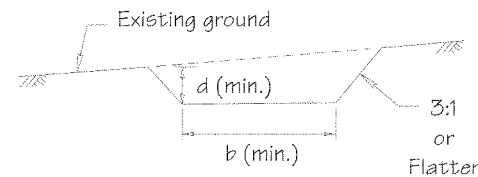
Standard Detail & Specifications
Temporary Swale



Discharge to be directed to sediment trapping device (or stable outlet for clean water).



Plan



Typical Section

	Type A (< 5 ac.)	Type B ($5-10$ ac.)
b - BOTTOM WIDTH	4'	6'
d - FLOW DEPTH	1'	1'

FLOW CHANNEL STABILIZATION CHART

Stabilization Method	Channel Grade	Type A	Type B
1	0.5-3.0%	Seed & straw mulch	Seed & straw mulch
2	3.1-5.0%	Seed & straw mulch	Seed using stab. blanket; sod; DE #2 stone
3	5.1-8.0%	Seed with stab. blanket; sod; DE #2 stone	Lined R-4 riprap
4	8.1-20%	Lined R-4 riprap	Engineering design

- a. Stone to be DE #2 inch stone in a layer at least 3 inches in thickness and be pressed into the soil with construction equipment.
- b. Riprap to be R-4 in a layer at least 8 inches thickness and pressed into the soil.
- c. Approved equivalents can be substituted for any of the above materials.

Source: Adapted from MD Stds. & Specs. for ESC	Symbol: — TS-(A/B)(1-4) →	Detail No. DE-ESC-3.3.1 Sheet 1 of 2 Date: 12/03
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Standard Detail & Specifications
Temporary Swale



Construction Notes:

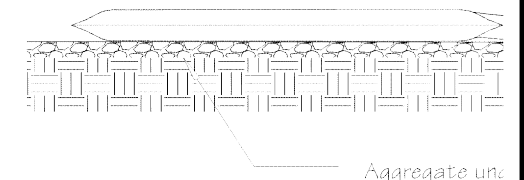
- All temporary swales shall have uninterrupted positive grade to an outlet with a minimum of erosion.
- Diverted runoff from a disturbed area shall be conveyed to a sediment trapping device.
- Diverted runoff from an undisturbed area shall outlet directly into an undisturbed stabilized area at a non-erosive velocity.
- All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.
- The swale shall be excavated or shaped to line, grade, and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
- Fills shall be compacted by earth moving equipment.
- All earth removed and not needed on construction shall be placed so that it will not interfere with the functioning of the swale.
- Periodic inspection and required maintenance must be provided after each rain event.

Source: Adapted from MD Stds. & Specs. for ESC	Symbol: — TS-(A/B)(1-4) →	Detail No. DE-ESC-3.3.1 Sheet 2 of 2 Date: 12/03
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Standard Detail & Specifications
Geotextile Dewatering



Plan



Profile

Source: Adapted from ACF Products, Inc.	Symbol:
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1

Standard Detail & Specifications
Dust Control



Temporary Methods:

- Mulches - See **DE-ESC-3.4.5**, Standard Detail and Specifications for Mulching.

CG501-SK-1
DELAWARE VETERANS MEMORIAL CEMETERY
MILLSBORO, DELAWARE

DATE: 6/08/2016 PROJECT No.: DE-13-21

SCALE: NTS



Oil & Specifications

Wood Fiber @ 2000 lbs/ac min. BFM @ 3000 lbs/ac min. Straw @ 2 Tons/ac Min. Stabilization Matting**	2% to 6.9%	Wood Fiber @ 2000 lbs/ac min. BFM @ 3000 lbs/ac min. Straw @ 2 Tons/ac min. Stabilization Matting**	6% to 10.9%	Wood Fiber @ 2500-3000 lbs/ac min. BFM @ 3500-4000 lbs/ac min. Straw @ 2 Tons/ac min. Stabilization Matting**	11% to 24.9%	Wood Fiber @ 3000-4000 lbs/ac min. BFM @ 4000 lbs/ac min. Straw @ 2 Tons/ac min. Stabilization Matting**	25% to 33%	Wood Fiber @ 4000-4500 lbs/ac min. BFM @ 4500 lbs/ac min. Straw @ 2 Tons/ac min. Stabilization Matting**	33% and up
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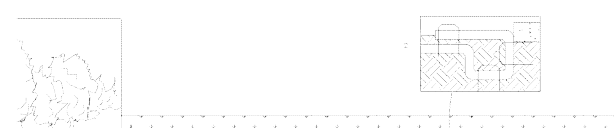
* Note: Manufacturers Recommended Rates for informational purposes only. Performance standard requires 100% soil coverage.
 ** Note: Stabilization Matting must be applied in accordance with Section 3.4.6 of the Delaware ESC Handbook.
 *** Note: Straw applied on slopes greater than 33% must be netted (this does not apply to topsoil stockpiles).
 OK = Acceptable to use during this time period.
 xxx = Not acceptable to use during this time period.
 All application rates are minimums.



Symbol: **DE-ESC-3.4.5**
 Sheet 3 of 3
 Date: 6/05



Oil & Specifications
 on Matting - Channel



Standard Detail & Specifications
 Vegetative Stabilization

Mix #	Species ⁶	Seeding Rate		Optimum Seeding Dates ¹									Planting Depth ³
				Coastal Plain			Piedmont			All			
				2/1-4/30	5/1-8/14	8/15-10/31	3/1-4/30	5/1-7/31	8/1-10/31	10/31-2/1			
1	Barley	125	4	O	A	O	O	A	O			1-2 inches 2-3" sandy soils	
2	Oats	125	4	O	A	A	O	A	A			1-2 inches 2-3" sandy soils	
3	Rye	125	4	O	A	O	O	A	O	A		1-2 inches 2-3" sandy soils	
4	Perennial Ryegrass	125	4	O	A	O	O	A	O			0.5 inches 1-2" sandy soils	
5	Annual Ryegrass	125	4	O	A	O	O	A	O	A		0.5 inches 1-2" sandy soils	
6	Winter Wheat	125	4	O	A	O	O	A	O	A		1-2 inches 2-3" sandy soils	
7	Foxtail Millet	30 PLS	0.7						O			0.5 inches 1-2" sandy soils	
8	Pearl Millet	20 PLS	0.5						O			0.5 inches 1-2" sandy soils	

1. Winter seeding requires 3 tons per acre of straw mulch for proper stabilization.
2. May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
3. Applicable on slopes 3:1 or less.
4. Fifty pounds per acre of Annual Lespedeza may be added to 1/2 the seeding rate of any of the above species.
5. Use varieties currently recommended for Delaware. Contact a County Extension Office for information.
6. Warm season grasses such as Millet or Weeping Lovegrass may be used between 5/1 and 9/1 if desired. Seed at 3-5 lbs. per acre. Good on low fertility and acid areas. Seed after frost through summer at a depth of 0.5".

Source: Delaware ESC Handbook
 Symbol: **DE-ESC-3.4.3**
 Sheet 1 of 4
 Date: 12/03



Standard Detail & Specifications
 Stabilization Matting - Channel

Construction Notes:



Standard Detail & Specifications
 Vegetative Stabilization

Mix No.	Certified Seed ⁴	Seeding Rate ¹		Optimum Seeding Dates ²									Remarks
				Coastal Plain			Piedmont			All ¹			
				2/1-4/30	5/1-8/14	8/15-10/31	3/1-4/30	5/1-7/31	8/1-10/31	10/31-2/1			
1	Tall Fescue Weeping Lovegrass	140 10	3.2 0.23	A O	O A	A O	A O	A O	A O	A O	Add 100 lbs./ac Winter Rye	Good erosion control mix. Tolerant of low fertility soils. Lovegrass very difficult to mow. Germinates only in hot weather.	
2	Deertongue Sheep Fescue Common Lespedeza ⁵ Inoculated	30 30 15	0.69 0.69 0.35	A O A	O A A	A O A	A O A	A O A	A O A	Add 100 lbs./ac Winter Rye	Good erosion control mix. Tolerant of low fertility soils. Good wildlife cover and food.		
3	Tall Fescue (Turf-type) or Strong Creeping Red Fescue or Perennial Ryegrass plus Flatpea⁵	50 50 50 15	1.15 1.15 1.15 0.34	O A O O	A O O A	O A O A	O A O A	O A O A	O A O A	Add 100 lbs./ac Winter Rye	Good erosion control mix. Tall Fescue for droughty conditions. Creeping Red Fescue for heavy shade. Flatpea to suppress woody vegetation.		
4	Strong Creeping Red Fescue Kentucky Bluegrass Perennial Ryegrass or Redtop plus White Clover⁵	100 70 15 5 3	2.3 1.61 0.35 0.11 0.07	O A O O	A O O A	O A O A	O A O A	O A O A	O A O A	Add 100 lbs./ac Winter Rye	Suitable waterway mix. Canada Bluegrass more drought tolerant. Use Redtop for increased drought tolerance.		
5	Switchgrass ⁵ or Coastal Panicgrass Big Bluestem Little Bluestem Indian Grass	10 10 5 5 5	0.23 0.23 0.11 0.11 0.1		O				O			Native warm-season mixture. Tolerant of low fertility soils. Drought tolerant. Poor shade tolerance. N fertilizer discouraged. Weeds.	
6	Tall Fescue (Turf-type) (Blend of 3 cultivars)	150	3.5	O	A	O	O	O	A	O		Managed filter strip for nutrient uptake.	
7	Tall Fescue Ky. Bluegrass (Blend) Perennial Ryegrass	150 20 20	3.5 0.46 0.46	O	A	O	O	O	A	O		Three cultivars of Kentucky Bluegrass. Traffic tolerant.	
8	Big Bluestem ⁷ Indian Grass ⁷ Little Bluestem ⁷ Creeping Red Fescue plus one of: Partridge Pea Bush Clover Wild Indigo Showy Tick-Trefoil	10 10 8 30 5 3 3 2	0.23 0.23 0.18 0.69 0.11 0.07 0.07 0.05	O	A			O	A			All species are native. Indian Grass and Bluestem have fluffy seeds. Plant with a specialized native seed drill. Creeping Red Fescue will provide erosion protection while the warm season grasses get established.	

Source: Delaware ESC Handbook
 Symbol: **DE-ESC-3.4.3**
 Sheet 2 of 4
 Date: 12/03

CG502-SK-1

DELAWARE VETERANS MEMORIAL CEMETERY

MILLSBORO, DELAWARE

DATE: 6/08/2016

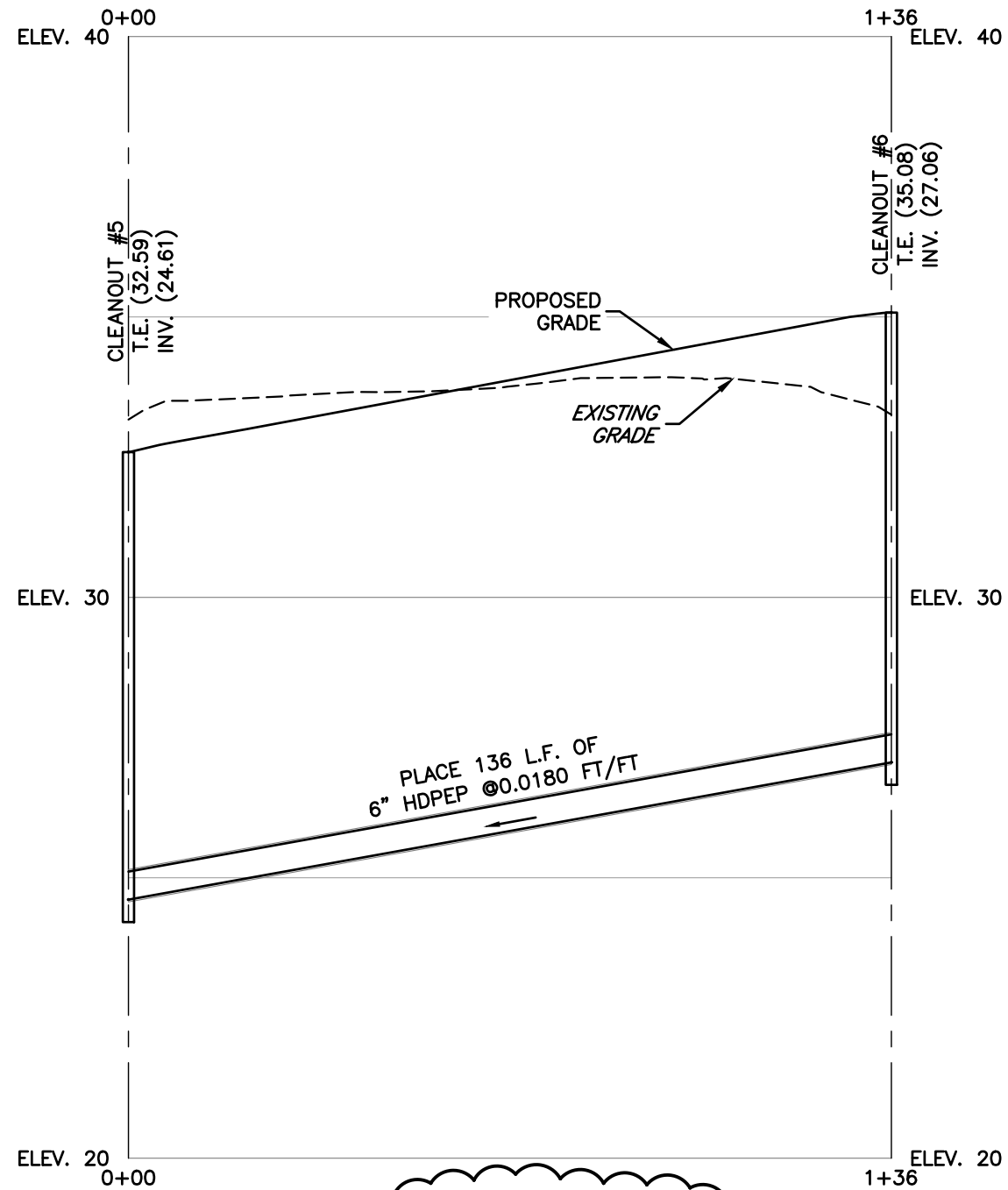
PROJECT No.: DE-13-21

SCALE: NTS

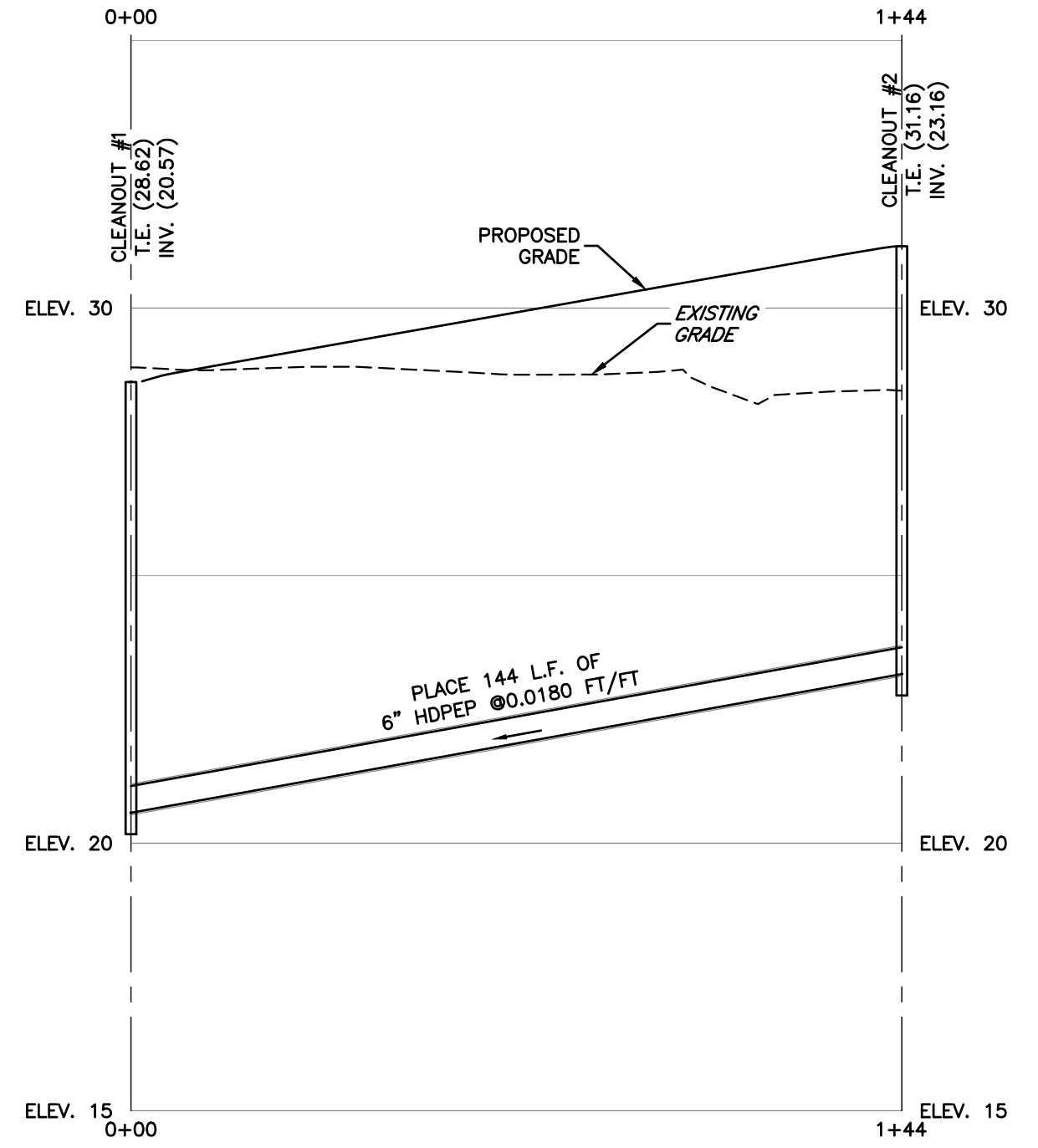


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PROFILE
STORM CO#6 TO CO#5
 HOR. SCALE= 1" : 30'
 VER. SCALE= 1" : 3'



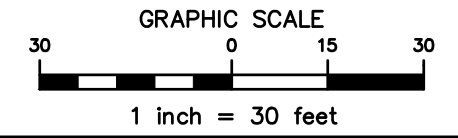
PROFILE
STORM CO#2 TO CO#1

CU201-SK-1

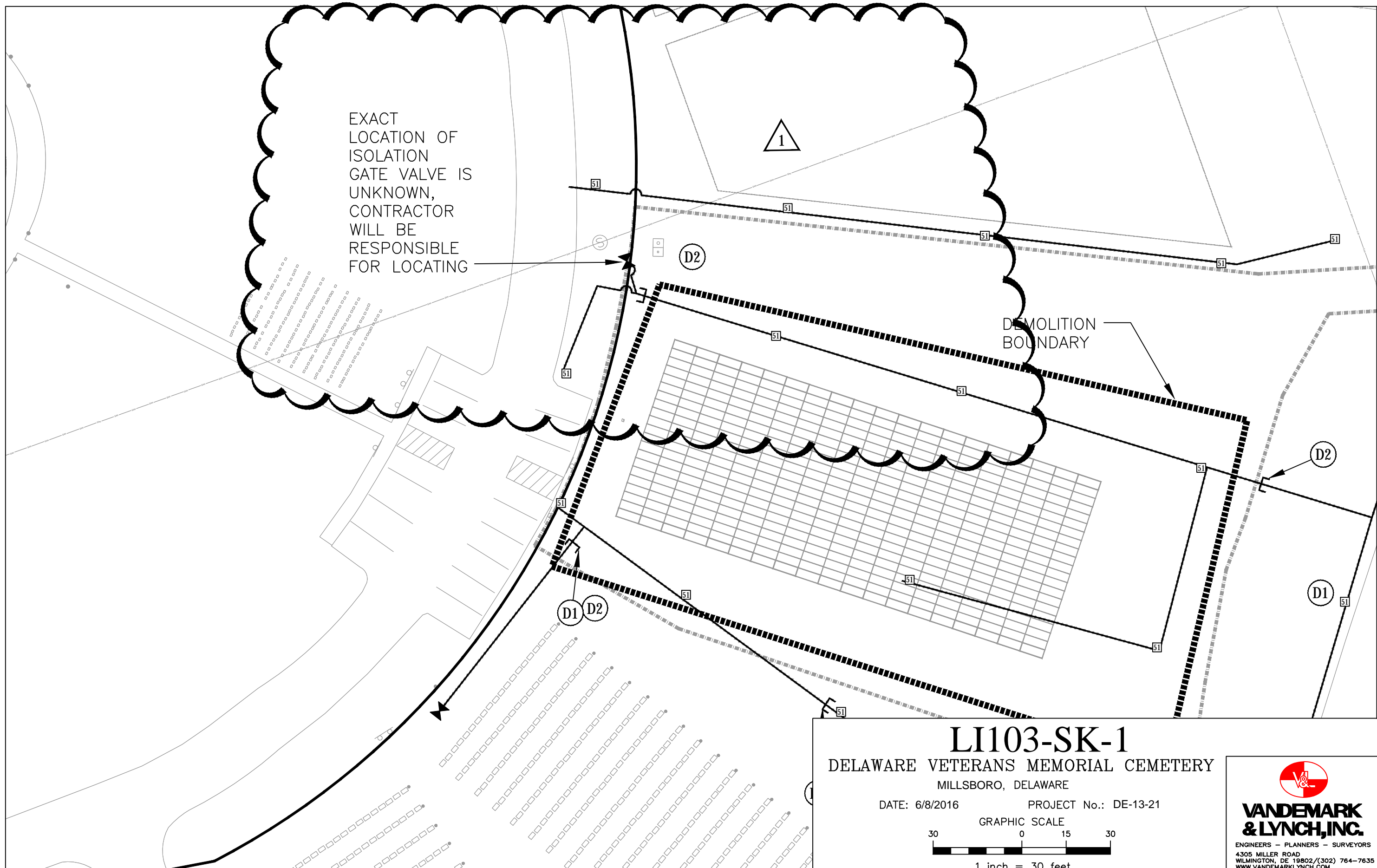
DELAWARE VETERANS MEMORIAL CEMETERY

MILLSBORO, DELAWARE

DATE: 6/08/2016 PROJECT No.: DE-13-21

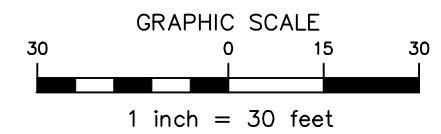


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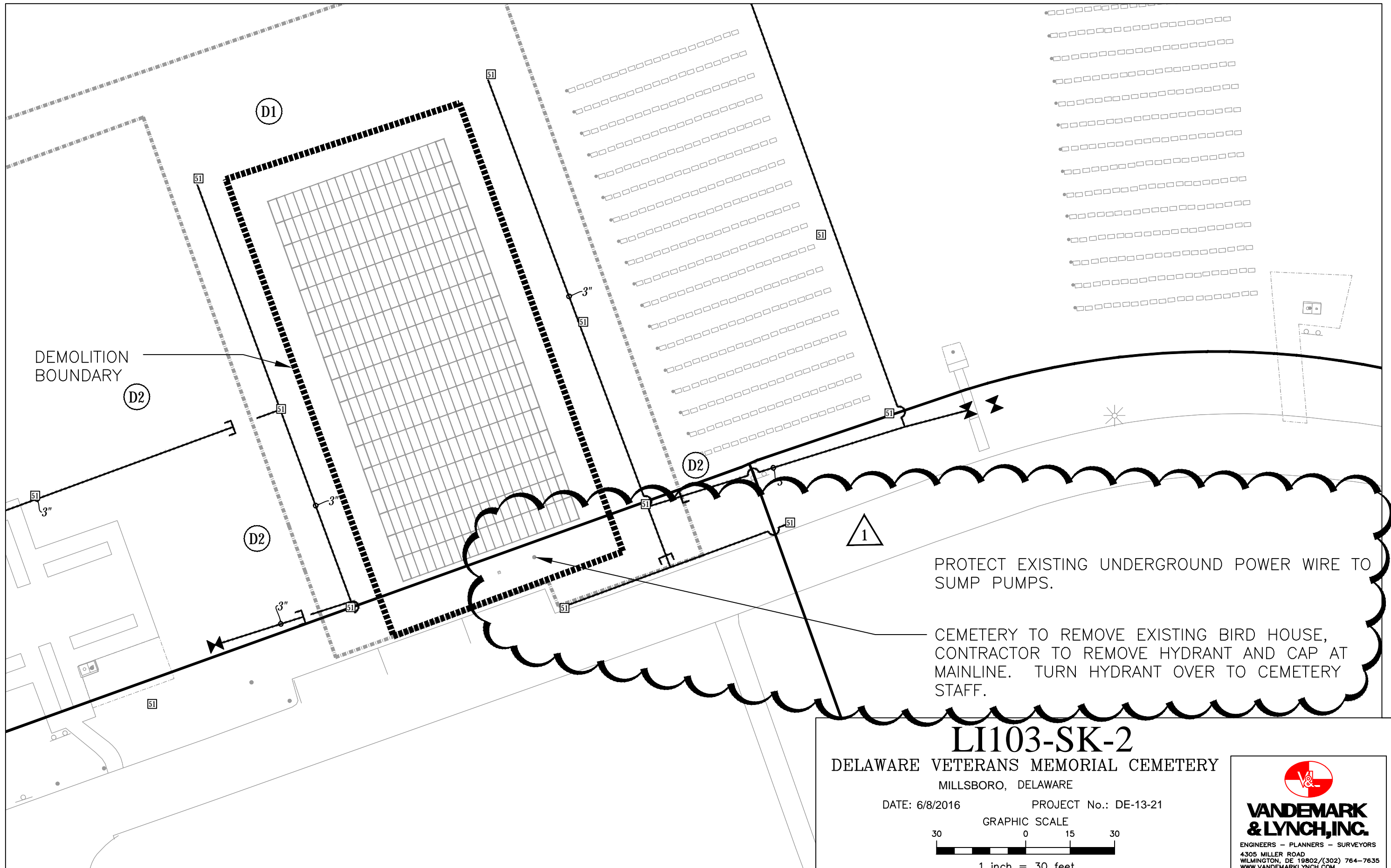


LI103-SK-1
DELAWARE VETERANS MEMORIAL CEMETERY
 MILLSBORO, DELAWARE

DATE: 6/8/2016 PROJECT No.: DE-13-21



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LI103-SK-2

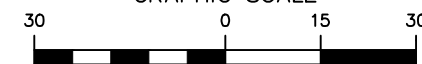
DELAWARE VETERANS MEMORIAL CEMETERY

MILLSBORO, DELAWARE

DATE: 6/8/2016

PROJECT No.: DE-13-21

GRAPHIC SCALE



1 inch = 30 feet

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