

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

Steffes Registered Holsteins)
(Property Identification Number) PCB 16-
23-000-444-00) (Tax Certification)
)

NOTICE

Steve Santarelli
Illinois Department of Revenue
101 West Jefferson
Post Office Box 19033
Springfield, Illinois 62794

John Theirrault, Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph Street, Suite 11-500
Chicago, Illinois 60601

Dennis Steffes
5127 East Bethel Road
Elizabeth, Illinois 61028

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Pollution Control Board an **APPEARANCE** and **RECOMMENDATION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY**, a copy of which is herewith served upon you.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By: Michael S. Roubitchek
Michael S. Roubitchek
Assistant Counsel
Division of Legal Counsel

DATED: February 23, 2016

Illinois Environmental Protection Agency
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
(217) 782-5544

THIS FILING IS SUBMITTED ON RECYCLED PAPER

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

Steffes Registered Holsteins)
(Property Identification Number) PCB 16-
23-000-444-00) (Tax Certification)
)

APPEARANCE

The undersigned, as one of its attorneys, hereby enters an APPEARANCE on behalf of Respondent,
Illinois Environmental Protection Agency.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By: Michael Roubitchek
Michael S. Roubitchek
Assistant Counsel
Division of Legal Counsel

DATED: February 23, 2016

Illinois Environmental Protection Agency
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
(217)782-5544

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

| | |
|--|------------------------------|
| Steffes Registered Holsteins |) |
| (Property Identification Number |) PCB 16- |
| 23-000-444-00) |) (Tax Certification) |
| |) |

RECOMMENDATION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

The Illinois Environmental Protection Agency ("Illinois EPA") hereby files its Recommendation pursuant to Section 125.204 of the regulations of the Illinois Pollution Control Board ("Board"), 35 Ill. Adm. Code 125.204.

1. On July 10, 2015, the Illinois EPA received a request from Steffes Registered Holsteins (log number TC-19-15, Exhibit A) for an Illinois EPA recommendation regarding the tax certification of water pollution control facilities pursuant to 35 Ill. Adm. Code 125.204.
2. The facility's address is:

| |
|------------------------------|
| Steffes Registered Holsteins |
| 5127 East Bethel Road |
| Elizabeth, IL 61028 |

The proposed water pollution control facilities in this request are located in the NW ¼ of Section 36, T27N, R3E of the 4th P.M. in Jo Daviess County, at the above street address and consist of the following:

Livestock waste handling facilities consisting of one semi-underground concrete waste storage tank (approximate diameter of 146 ft. and height of 12 ft.), connected to one 85 ft. x 8 ft. concrete channel built to allow transport of livestock waste to the tank.


These livestock waste management facilities are used to contain livestock waste prior to cropland application, and is further described in Exhibit A.

3. Section 11-10 of the Property Tax Code, 35 ILCS 200/11-10 (2014), and Section 125.200(a) of the Board's regulations, 35 Ill. Adm. Code 125.200(a), define "pollution control facilities" as:

any system, method, construction, device or appliance appurtenant thereto or any portion of any building or equipment, that is designed, constructed, installed or operated for the primary purpose of: eliminating, preventing, or reducing air or water pollution ...or treating, pretreating, modifying or disposing of any potential solid, liquid or gaseous pollutant which if released without treatment, pretreatment modification or disposal might be harmful, detrimental or offensive to human, plant or animal life, or to property.
4. In order to receive preferential tax treatment as pursuant to 35 ILCS 200/11-5 (2014), pollution control facilities must be certified as such by the Board, 35 ILCS 200/11-20 (2014) and 35 Ill. Adm. Code 125.200(a).
5. Upon receipt of a tax certification application, the Illinois EPA must file a recommendation on the application with the Board, 35 Ill Adm. Code 125.204(a).
6. Based on the information in the application and the purpose of the facility, it is the Illinois EPA's engineering judgment that the described facilities may be considered "pollution control facilities," pursuant to 35 Ill. Adm. Code 125.200(a), with the primary purpose of eliminating, preventing, or reducing water pollution, or as otherwise provided in 35 Ill. Adm. Code 125.200, and are eligible for tax certification from the Board.

WHEREFORE, the Illinois EPA recommends that the Board issue the requested tax certification.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By: 
Michael S. Roubitchek
Assistant Counsel
Division of Legal Counsel

Dated: February 23, 2016

Illinois Environmental Protection Agency
1021 North Grand Ave. E.
P.O. Box 19276
Springfield, Illinois 62794-9276
217/782-5544



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
BRUCE RAUNER, GOVERNOR LISA BONNETT, DIRECTOR

Memorandum

To: Charles Gunnarson, Division of Legal Counsel
From: Al Keller, Manager, Permit Section *AK*
Date: February 2, 2016
Re: Dennis Steffes Farms – Elizabeth
Recommendation of Tax Certification
Log # TC-19-15
Property Identification # 23-000-444-00

The Bureau of Water received a request on July 10, 2015 from Dennis Steffes for an Illinois EPA recommendation regarding the tax certification of water pollution control facilities pursuant to 35 Ill. Adm. Code 125.204. We offer the following recommendation.

The water pollution control facilities in this request include the following:

Dennis Steffes Farms
5127 East Bethel Road
Elizabeth, IL

NW ¼ of Section 36, T27N, R3E of the 4th PM in Jo Daviess County.

The livestock waste handling facilities consist of one (1) 146 ft. (dia.) x 12 ft. (ht.) semi-underground concrete waste storage tank that captures and contains livestock waste generated in the associated dairy farm. The tank is connected to one (1) 85 ft. x 8 ft. concrete channel built to allow transport of livestock waste to the tank. The facility collects, transports and stores livestock waste prior to cropland application.

These facilities are further described in the enclosed applications and supporting documents.

Based on the information included in this submittal, it is our engineering judgment that the above proposed facilities may be considered "Pollution Control Facilities" under 35 IAC 125.200(a), with the primary purpose of eliminating, preventing, or reducing water pollution, or as otherwise provided in this section, and therefore eligible for tax certification from the Illinois Pollution Control Board. The Bureau of Water therefore recommends that the Board issue the requested tax certification for these facilities.

If you have any questions regarding the above, please contact Wei Han at 217/782-0610.

SAK:WH:Tax Cert Recommendation.docx

cc: Tax Cert File

Electronic Filing - Received, Clerk's Office : 02/23/2016 - * * * PCB 2016-086 * * *
Watershed Unit Tax Certification Review Sheet

Project Name: Dennis Steffes Farms

Date: January 27, 2016

Reviewer: WH

Type: Agchem
 Livestock

Log number: TC-19-15

Applicant: Dennis Steffes
5127 East Bethel Road
Elizabeth, IL 61028

Contact: Matt Wagner
709 Oak Street
Iena, IL 61048
Phone: 815-275-7642

Facility: Dennis Steffes Farm
5127 East Bethel Road
Elizabeth, IL

Property ID: 23-000-444-00

County: Jo Daviess

Legal Description:
Section: NW36 Twp: 27N R: 3E PM: 4th

Signature: Dennis Steffes

Title: Owner

Date Control Devices Installed: 8/31/2012

Provided Fair cash Value: \$200,000

Location: Elizabeth, IL

Wastes: Livestock waste is applied to cropland.
 Agrichemical rinsate and spillage is recycled through the facility and/or land applied.
 Other: _____

Physical Description of Pollution Control Devices:

The livestock waste handling facility consists of one (1) 146 ft. (dia.) x 12 ft. (ht.) semi-underground concrete waste storage tank that captures and contains livestock waste generated in the associated dairy farm. The tank is connected to one (1) 85 ft. (l) x 8 ft. (w) concrete channel with height 3 to 8 ft. built to allow transport of livestock waste to the tank. The facility collects, transports and stores livestock waste prior to cropland application.

WH called Matt Wagner 10/19/2015. Mr. Wagner indicated that the concrete tank collects and store livestock waste from the two (2) adjacent free stall barns through concrete tunnel (see the site plan). The manure stored in the tank is pumped out for land application using mobile pump.

WH called Matt Wagner 01/11/2016. Mr Wagner confirmed that the applicant also wants to include the channel in the certification. Part of the channel is covered.

01/27/2016 Received email from Matt Wagner confirming that only tank and chanel will be certified. The tank is 146 ft (dia.) by 12 ft. (ht.), the chanel is 85 ft. long, 8 feet wide and 3 to 8 feet high.

Recommended Action: Issue tax certification.

Han, Wei

From: Matthew Wagner <WAGNERCONSULTAG@MEDIACOMBB.NET>
Sent: Wednesday, January 27, 2016 9:54 AM
To: Han, Wei
Cc: steffesfarm@jcwifi.com
Subject: Steffes certification

Good morning Wei,

This letter is in regards to the Steffes farms tax certification. Steffes farms wishes to certifying the concrete channel with a size of 8' wide x 85' long with depths that vary from 8' to 3' as well as the circular concrete manure storage structure being 146' diameter x 12' tall. The circular concrete waste transfer pipe that you mentioned on the phone does not need to be certified. If you need anymore information, please let me know. Thanks.

Matthew Wagner, P.E.

Wagner Consulting & Agriculture, LLC.
709 West Oak Street
Lena, Illinois 61048
wagnerconsultag@mediacombb.net
Phone: 815-275-7642

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APPLICATION FOR CERTIFICATION (PROPERTY TAX TREATMENT)

POLLUTION CONTROL FACILITY

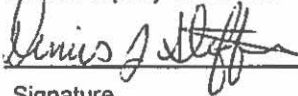
AIR WATER

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
P. O. Box 19276, Springfield, IL 62794-9276

This Agency is authorized to request this information under Illinois Revised Statutes, 1979, Chapter, 120, Section 502a-5. Disclosure of this information is voluntary. However, failure to comply could prevent your application from being processed or could result in denial of your application for certification.

FOR AGENCY USE

| File No. | Date Received | Certification No. | Date | |
|--|---|--|--|-------------|
| Sec. A APPLICANT | Company Name Steffes Registered Holsteins | | | |
| | Person Authorized to Receive Certification Dennis Steffes | | Person to Contact for Additional Details Matt Wagner - Wagner Consulting@ Agriculture | |
| | Street Address 5127 East Bethel Road | | Street Address 709 Oak Street | |
| | Municipality, State & Zip Code Elizabeth, IL 61028 | | Municipality, State & Zip Code Lena, IL 61048 | |
| | Telephone Number (815) 541-4451 | | Telephone Number (815) 275-7642 | |
| | Location of Facility Quarter Section Township Range 36 NW 27N 3-E | | Municipality Township Elizabeth 27N | |
| | Street Address 5127 East Bethel Road | | County Book Number Jo Daviess | |
| | Property Identification Number | | Parcel Number 23-000-444-00 | |
| | Sec. B MANUFACTURING OPERATIONS | Nature of Operations Conducted at the Above Location Dairy Farm | | |
| | | Water Pollution Control Construction Permit No. N/A | | Date Issued |
| NPDES PERMIT No. N/A | | Date Issued Expiration Date | | |
| Air Pollution Control Construction Permit No. N/A | | Date Issued | | |
| Air Pollution Control Operating Permit No. N/A | | Date Issued | | |
| Sec. C MANUFACTURING PROCESS | Describe Unit Process | | | |
| | Materials Used in Process | | | |
| Sec. D POLLUTION CONTROL FACILITY DESCRIPTION | Describe Pollution Abatement Control Facility | | | |
| | 144 foot diameter X 12 foot tall holds 1.3 million gallons see attached maps | | | |

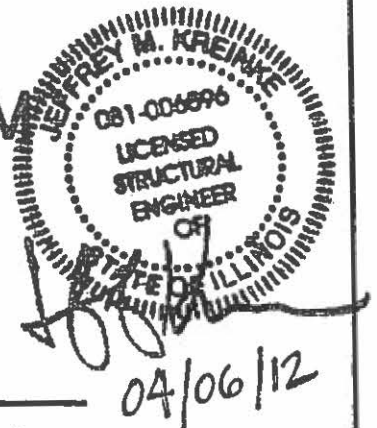
| | | | | |
|-----------------|---|--|---|---------------------|
| Sec. E | (1) Nature of Contaminants or Pollutants | | | |
| | CONTAMINANTS | Material Retained, Captured or Recovered | | |
| | | Contaminant or Pollutant | DESCRIPTION | DISPOSAL OR USE |
| | | Dairy Manure | dairy manure | manure holding tank |
| | | Dairy Yard runoff | dairy lot manure | manure holding tank |
| | | | | |
| | | | | |
| | | | | |
| | | Plans and Specifications Attached Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | | |
| | | (3) Are contaminants (or residues) collected by the control facility? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | | |
| | (4) Date installation completed <u>08/31/12</u> status of installation on date of application <u>08/31/12</u> | | | |
| ACCOUNTING DATA | (5) a. FAIR CASH VALUE IF CONSIDERED REAL PROPERTY: | | \$ 200,000.00 | |
| | b. NET SALVAGE VALUE IF CONSIDERED REAL PROPERTY: | | \$ 200,000.00 | |
| | c. PRODUCTIVE GROSS ANNUAL INCOME OF CONTROL FACILITY: | | \$ 20,000.00 | |
| | d. PRODUCTIVE NET ANNUAL INCOME OF CONTROL FACILITY: | | \$ 10,000.00 | |
| | e. PERCENTAGE CONTROL FACILITY BEARS TO WHOLE FACILITY VALUE: | | % 10 | |
| Sec. F | The following information is submitted in accordance with the Illinois Property Tax Code, as amended, and to the best of my knowledge, is true and correct. The facilities claimed herein are "pollution control facilities" as defined in Section 11-10 of the Illinois Property Tax Code. | | | |
| SIGNATURE | <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  <p>Signature</p> </div> <div style="width: 45%;"> <p>Owner Operator</p> <p>Title</p> </div> </div> | | | |
| Sec. G | INSTRUCTIONS FOR COMPILING AND FILING APPLICATION | | | |
| | General: Separate applications must be completed for each control facility claimed. Do not mix types (water and air). Where both air and water operations are related, file two applications. If attachments are needed, record them consecutively on an index sheet. | | | |
| INSTRUCTIONS | Sec. A | Information refers to applicant as listed in the tax records and the person to be contacted for further details or for inspection of facilities. Define facility location by street address or legal description. A plat map location is required for facilities located outside of municipal boundaries. The property identification number is required. | | |
| | Sec. B | Self-explanatory. Submit copies of all permits issued by local pollution control agencies. (e.g. MSD Construction Permit) | | |
| | Sec. C | Refers to manufacturing processes or materials on which pollution control facility is used. | | |
| | Sec. D | Narrative description of the pollution control facility, indicating that its primary purpose is to eliminate, prevent or reduce pollution. State the type of control facility. State permit number, date, and agency issuing permit. A narrative description and a process flow diagram describing the <u>pollution control facility</u> . Include a listing of each major piece of equipment included in the claimed fair cash value for real property. Include an <u>average</u> analysis of the influent and effluent of the control facility stating the collection efficiency. | | |
| | Sec. E | List air contaminants, or water pollution substances released as effluents to the manufacturing processes. List also the final disposal of any contaminants removed from the manufacturing processes. Item (1) – Refers to pollutants and contaminants removed from the process by the pollution control facility. Item (2) – Refers to water pollution but can apply to water-carried wastes from air pollution control facilities. Submit drawings, which clearly show (a) Point(s) of discharge to receiving stream, and (b) Sewers and process piping to and from the control facility. Item (3) – If the collected contaminants are disposed of other than as wastes, state the disposition of the materials, and the value in dollars reclaimed by sale or reuse of the collected substances. State the cost of reclamation and related expense. Item (4) – State the date which the pollution control facility was first placed in service and operated. If not, explain. Item (5) – This information is essential to the certification and assessment actions. This accounting data must be completed to activate project review prior to certification by this Agency. | | |
| | Sec. F | Self-explanatory. Signature must be a corporate authorized signature. | | |
| | Submit to: | Attention: | Attention: | |
| | Illinois EPA P.O. Box 19276 Springfield, IL 62794-9276 | Al Keller Permit Section Division of Water Pollution Control | Donald E. Sutton Permit Section Division of Air Pollution Control | |

PIPPING CONCRETE INC.

BRANDON, WI

WASTE STORAGE TANKS

**DENNIS STEFFES FARM
ELIZABETH, IL**



DESIGN STATEMENT

"The design in this submittal package complies with the NRCS Waste Storage Facility Standard (Code 313) criteria for fabricated structures, including foundation, liquid tightness, structural loadings, structural design, and slab-on-grade."

ALTERNATIVE DESIGN STATEMENT

"This is to certify that Excel Engineering Inc.'s design of manure storage pit is such that the grant of modifications is at least as protective of the groundwater, surface water, and the structural integrity of the livestock management facility as the stated requirements of the Midwest Plan Service."

2007 © EXCEL ENGINEERING INC.

| | | |
|---|---|---|
| REVISIONS: 04/06/12 | PROJECT: WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL CONTRACTOR: PIPPING CONCRETE, INC. N5888 CENTER ROAD <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> <div style="font-size: small;"> 100 CAMELOT DRIVE FOND DU LAC, WI 54935 PHONE: (920) 928-9800 FAX: (920) 926-9801 </div> </div> | DATE: 03/05/2012 DESIGN NO.: 1200250 SHEET <div style="font-size: 2em; text-align: center;">COVER</div> |
|---|---|---|

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 SPa3 SITEWORK (CONT.)
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 SPa5 SITEWORK (CONT.)
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 SPa7 CONCRETE
 SPa8 CONCRETE (CONT.)
 SPa9 CONCRETE (CONT.)
 SPa10 CONCRETE (CONT.)
 SPa11 CONCRETE (CONT.)
 SPa12 CONCRETE (CONT.)
 SPa13 CONCRETE (CONT.)
 SPa14 - SHEET NOT USED -
 SPa15 CONFINED SPACE ENTRY & OPERATION AND MAINTENANCE PLAN
 SPa16 CONTINGENCY PLAN & EMERGENCY RESPONSE PLAN

DESIGN PARAMETERS

DE1 BAR SPLICE SCHEDULE
 DE2 APPROVED SEALANTS

GENERAL DETAILS

GE1 TIE HOLE DETAIL
 GE2 - SHEET NOT USED -
 GE3 PREFABRICATED T-JOINT WATERSTOP
 GE4 PREFABRICATED 90° 4-WAY WATERSTOP
 GE5 - SHEET NOT USED -
 GE6 - SHEET NOT USED -
 GE7 TYPICAL SUMP PIT

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| REVISIONS: | PROJECT: WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL | DATE: 03/05/2012 |
| | CONTRACTOR: PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: 1200250 |
| 04/06/12 |   | SHEET |
| | | 100 CAMELOT DRIVE FOND DU LAC, WI 54935 PHONE: (920) 826-9800 FAX: (920) 826-9801 |

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TANK DETAILS

| | |
|-----|---|
| TA1 | SAWCUT CONTROL JOINT |
| TA2 | CONSTRUCTION CONTROL JOINT |
| TA3 | FOUNDATION PLAN - 12'-0" HIGH CIRCULAR TANK |
| TA4 | TANK WALL SECTION - 12'-0" HIGH CIRCULAR TANK |
| TA5 | - SHEET NOT USED - |
| TA6 | WALL CONSTRUCTION JOINT - 12'-0" HIGH CIRCULAR TANK |
| TA7 | - SHEET NOT USED - |

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| | CONTRACTOR: PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: 1200250 |
| |   | |
| | 100 CAMELOT DRIVE FOND DU LAC, WI 54833 PHONE: (920) 826-9800 FAX: (920) 826-9801 | |
| | | SHEET |
| | | TOC2 |

GENERAL SPECIFICATIONS

DESIGN REFERENCES

NRCS Code 313 "Waste Storage Facility", May, 2008

Building Code Requirements for Structural Concrete, ACI 318
 PCA Concrete Floors on Ground (2nd Edition).

GENERAL DESIGN LOADS AND ASSUMPTIONS

Load Conditions

Tank Type Fixed Base-FreeTop
 Internal Pressure from Manure 65 psf, per NRCS code 313
 External Pressure from Backfill as follows;

1. 85 psf at-rest soil load + 0 surcharge
2. 75 psf at-rest soil load + 100 surcharge
3. 60 psf at-rest soil load + 120 surcharge

Maximum Height of Backfill at Wall 1'-0" from top of wall, typical
 0'-0" from top of wall, at ramp or push slab

Minimum Height of Backfill at Wall 4'-0" above top of footing

Note: MWFS-1 Figure 901-8&7 lists extreme frost depth at 50" to 60";
 48" soil + 12" footing depth = 60" frost protection

Soil Bearing Pressure

At footings supporting 3 to 12 foot tall walls = 2,000 psf

Slab-on-Grade Capacity: Standard 5" Thick Slab 16,800 lbs. Axle Load

Slab-on-Grade Reinforcing amount based on ACI360 Subgrade Drag Formula:

$$(1.5)(\text{Length between Joints})(\text{Weight of Slab})/(2)(0.7)(\text{Tensile Yield of Rebar}) =$$

$$(1.5 \times 75 \text{ ft} \times (12.5 \text{ lbs./ft.} \times 5 \text{ in}))/2 \times 0.7 \times 60,000 \text{ psi} = 0.084 \text{ in}^2 = \#4 @ 18 \text{ in O.C.}$$

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| REVISIONS: | PROJECT: WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL | DATE: 03/05/2012 |
| 04/06/12 | CONTRACTOR: PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: 1200250 |
| |   | SHEET |
| | 100 CAMELOT DRIVE FOND DU LAC, WI 54935 PHONE: (920) 826-9800 FAX: (920) 826-9801 | SPa1 |

SITWORK SPECIFICATION

Provide all labor, materials and equipment for all excavation, grading, fill and backfill work as required to complete the general construction work.



GENERAL

Construction operations shall be carried out in such a manner and sequence that erosion and air and water pollution will be minimized. The completed job shall present a professional appearance and shall conform to the lines, grades, and elevations as shown on the drawings or as staked in the field. All operations shall be carried out in a safe and skillful manner. Safety and health regulations shall be observed and appropriate safety measures used.

Digger's hot line shall be contacted and all utilities shall be located before starting excavation.

Contractor shall engage a qualified independent testing and inspecting agency to perform test pit evaluation and report, field tests, and inspections.

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| | CONTRACTOR: PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: 1200250 | |
| |   | 100 CAMELOT DRIVE FOND DU LAC, WI 54935 PHONE: (920) 926-9800 FAX: (920) 926-9801 | SHEET SPa2 |
| | | | |
| | | | |


All organic topsoil inside the tank area, and at site fill areas shall be removed. Contractor shall verify topsoil depths prior to construction per the general conditions.

Topsoil shall be stripped from the foundation area and stockpiled for use as a top dressing for vegetation establishment unless otherwise shown on the drawings.

Proof roll subgrades below tank floor, before filling or placing aggregate courses, with heavy pneumatic-tired Equipment, such as a fully loaded tandem axle dump truck, to identify soft pockets and areas of excess yielding. Do not proof roll wet or saturated subgrades.

Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities.

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| REVISIONS: | PROJECT: | WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL | DATE: 03/05/2012 |
| | CONTRACTOR: | PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: 1200250 |
| | | | SHEET |
| | |   | SPa3 |
| | | 100 CAMELOT DRIVE FOND DU LAC, WI 54935 PHONE: (920) 926-9900 FAX: (920) 926-9901 | |
| | | | |

USE OF EXCAVATED MATERIALS

To the extent that they are needed, all suitable materials removed from the specified excavations shall be used in the construction of the required earthfill. The suitability of materials for specific purposes will be determined by the Testing and Inspection Agency. The Contractor shall not waste or otherwise dispose of suitable excavated materials.

DISPOSAL OF WASTER MATERIALS

All surplus or unsuitable excavated materials will be designated as waste and shall be disposed of at the locations shown on the drawings or as approved by the Engineer. Waste materials shall not be placed in wetlands.

Material placed in designated waste disposal areas shall be left in a neat and slighty condition and sloped to provide positive drainage. Compaction of the waste materials will not be required unless specified by the construction plans.

Spill piles or disposal areas shall be protected to minimize site erosion and the production of sediment. Protective measures may include but are not limited to diversions, seeding, mulching sediment basins, and silt fences.

SPECIAL REQUIREMENTS FOR STRUCTURE AND TRENCH EXCAVATION



Excavation for the installation of pipes shall follow the practices contained in the Occupational Safety and Health Administration (OSHA) Subpart P, Excavation, of 29 CFR 1926.650, .651 and .652.

Side slopes shall be excavated or braced to safeguard the work and workers. When bracing or supporting is required, the width of the excavation shall be adjusted to allow for the space occupied by the sheeting, bracing, or other supporting installations. The Contractor shall furnish, place, and subsequently remove such supporting installations.

REMOVAL OF WATER

The Contractor shall construct and maintain all necessary cofferdams, channels, flumes, pumping equipment, and/or other temporary diversion and protective work for dewatering the various parts of the work shall be maintained free from water as required for constructing each part of the work. After having served their purpose, all cofferdams and other temporary protective works shall be removed, or leveled to give a slighty appearance and so as not to interfere in any way with the operation, usefulness, or stability of the permanent structure.

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| REVISIONS: | PROJECT: WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL | DATE: 03/05/2012 |
| | CONTRACTOR: PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: 1200250 |
| |   | SHEET |
| | | SPa4 |
| | 100 CAMELOT DRIVE FOND DU LAC, WI 54835 PHONE: (920) 926-9900 FAX: (920) 926-9901 | |

BORROW EXCAVATION

When the quantities of suitable materials obtained from specified excavations are insufficient to construct the specified fill portions of the permanent works, additional materials shall be obtained from approved borrow areas. Contractor to request approval from engineering prior to borrow excavation.

When shown on the drawings, sediment basins, terraces, diversions, or other measures shall be constructed to protect the borrow areas from erosion and retain sediment within the borrow area.

The upper six (6) inches shall be stripped from all borrow areas. This stripping shall be performed immediately prior to use of the borrow material to reduce the time the area is exposed to erosion. For large borrow areas, only a portion of the area should be stripped at a time. This material shall be redistributed over the area from which it came after borrow excavation is completed.

The extent of excavation and the selection of materials from the borrow area shall be as directed by the Testing and Inspection Agency. On completion of excavation, all borrow pits shall be left in a neat and slightly condition. All borrow areas shall be graded and dressed so that water will readily drain.

The moisture content of the scarified foundation materials shall be maintained as directly by the Testing and Inspection Agency. The surface materials of the foundation shall be compacted and bonded with the first layer of earthfill as specified for subsequent layers of earthfill.

FILL PLACEMENT

Fill shall not be placed until the required excavation and preparation of the underlying foundation is completed and approved by the Engineer. Fill shall be placed beginning at the lowest elevation of the foundation. No fill shall be placed on a frozen surface.

If the surface of any layer becomes too hard and smooth for proper bond with the succeeding layer, it shall be scarified parallel to the axis of the fill to a depth of not less than 2 inches before the next layer is placed.

All fill under tank areas shall be pit run gravel, or approved engineered granular material, placed in 8" maximum lifts, and compacted to at least 95% of standard proctor maximum dry density. Gravel base beneath all concrete slabs shall be 8" of clean sand or 3/4" crushed stone with fines compacted per above. fill may not be placed on frozen ground and no frozen materials may be used for back fill.

BACKFILLING

Once the concrete is properly cured, backfill can be placed around the tank. Avoid backfill containing large rocks, hard or frozen soil lumps, or construction debris. Backfill no higher than 12" from the top of the wall except at the ramp apron.

Adjacent to Structures and Pipes. Within 2 feet of structures or pipes, earthfill shall be placed in 4-inch lifts (prior to compaction) in a manner adequate to prevent damage to the structure and to allow the structure or pipe to gradually and uniformly assume the backfill loads. Compaction shall be accomplished by means of manually directed power tampers or plate vibrators or hand tamping unless otherwise specified. Heavy equipment shall not be operated within 2 feet of any structure or pipe. Compaction by means of drop weights operating from a crane or hoist of any type will not be permitted. All intrusions into a clay liner will be backfilled and compacted to like conditions of the surrounding clay liner to maintain its integrity. Pipe trenches will be backfilled with soils meeting clay liner or other requirements shown on the construction drawings for a minimum of 10 feet from the storage facility.



Smaller Areas of Unsuitable Materials. Lenses or packets of unsuitable soil shall be removed and replaced with specified materials as directed by the Testing and Inspection Agency. The extent of removal and the quality of replacement materials will be determined by the Testing and Inspection Agency.

The tank site shall be graded to provide drainage away from the tank at a minimum of 1% slope.

OVEREXCAVATION OF STRUCTURE SUBGRADE

Excavation beyond the limits of the specified lines and grades shall be corrected by filling the resulting voids with approved compacted materials.

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Concrete

Part I FURNISHING CONCRETE

1. SCOPE

The work shall consist of furnishing Portland cement concrete as required on the construction drawings. All materials, test procedures, and admixtures shall meet the requirements of the latest edition of the applicable ASTM designation.

The contractor shall provide concrete mix design and laboratory testing that verifies the concrete supplied will produce compressive strengths which equal or exceed the strength required.

Failure to meet any requirements contained in this specification shall be cause for rejection of the concrete.

2. MATERIALS



The concrete supplier shall provide the Engineer of Record with test data, independent laboratory reports, or other evidence from the concrete supplier showing that all materials meet the requirements of this specification.

The use of any admixtures in the concrete mix shall be in strict compliance with the manufacturer's recommendations.

- A. Portland cement shall conform to ASTM C 150 and shall be Type I.
- B. Fines aggregate shall conform to ASTM C 33 and be composed of clean, uncoated grains of material.
- C. Coarse aggregates shall be gravel or crushed stone conforming to ASTM C 33 and be clean, hard, durable, and free from clay or coating of any character. The maximum size coarse aggregate shall be 1 1/2 inches.
- D. Water shall be clean and free from injurious amounts of oil, salt, acid, alkali, organic matter, or other deleterious substances.
- E. Air entraining agent shall conform to ASTM C 260.
- F. Pozzolan (fly ash) shall be in strict compliance with ASTM C 618, Class F or C. The loss of ignition shall not exceed 6.0 percent.
- G. Ground Granulated Blast Furnace (GGBF) Slag shall conform to ASTM C989.
- H. Water-reducing admixtures shall conform to ASTM C 494 and may be the following types:
 - 1. Type A Water reducing admixture.
 - 2. Type D Water reducing and retarding admixture.
 - 3. Type F Water reducing, high range admixture (superplasticizer).
 - 4. Type G Water reducing, high range, and retarding admixture (superplasticizer).

Type D or G admixture may be used at the option of the contractor/supplier when the air temperature is over 80 degrees F at the time of mixing and/or placement.
- I. Calcium chloride or other antifreeze compounds or accelerators will not be allowed.

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3. DESIGN OF THE CONCRETE MIX

The air content (by volume) shall be 4 to 8 percent of the volume of the concrete at the time of placement. This requirement shall be met by using the manufacturer's recommended quantity of an air-entraining agent.

The slump shall be 2 to 5 inches except when superplasticizer is used in the concrete mix. When superplasticizer is used, the slump shall be 3 inches or less prior to the addition of the admixture and shall not exceed 8 inches following addition and mixing. Additional superplasticizer shall not be added to the concrete mix after discharge of the concrete at the job site has commenced.

Water/Cementitious Ratio = 0.45 max.

The fine aggregate oven dry weight shall be 30-45 percent of the total oven dry weight of the combined aggregates.

- (28) day compressive strength footings/floor slab 4,000psi
- (28) day compressive strength walls 4,000psi

Provide a mix with a minimum of (8) bags of cement to avoid need for field cylinder testing for 4,000psi concrete. Additional cementitious materials, (i.e. fly ash and/or slag) may be used to satisfy W/C ratio and/or strength requirements.

Mix proportions proposed by the contractor/supplier to be submitted to the Engineer of Record for approval prior to use.

4. MIXTURES AND MIXING

Ready-mixed concrete shall be batched, mixed and transported in accordance with ASTM C 94. Concrete shall be uniform and thoroughly mixed when delivered to the forms. No mixing water in excess of the amount shown for the design mix or in an amount that would cause the maximum slump to be exceeded shall be added to the concrete during mixing, hauling or after arrival at the delivery point.

The concrete shall be batched and mixed such that the temperature of the concrete at time of placing shall not be less than 50 degrees F nor more than 90 degrees F.

5. BATCH TICKET INFORMATION

The contractor shall obtain from the supplier a delivery ticket for each load of concrete before unloading at the site. The following minimum information shall be included on the load ticket:

- A. Name of concrete supplier and batch plant.
- B. Name of purchaser and job location.
- C. Date of delivery.
- D. Truck number.
- E. Amount of concrete delivered.
- F. Time loaded or time of first mixing of cement and aggregates.
- G. Mixing water in the load added as free water.
- H. Type and amount of cement.
- I. Type and amount of admixtures.
- J. Weights of fine and coarse aggregate.
- K. Percent moisture content or weight of free water contained in the aggregates.



The contractor shall also include the following additional information on the load ticket:

- A. Water added by the receiver of the concrete.
- B. Time the concrete arrived at the site.
- C. Time the concrete was completely unloaded.

Upon completion of the concrete placement, copies of all load tickets shall be provided to the Engineer of Record.

Materials information that will remain constant throughout the job may be provided by the supplier and approved by the Engineer of Record prior to placing concrete. This materials information may be omitted from the load ticket.

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PART II CONCRETE INSTALLATION

1. SCOPE

The work shall consist of forming, placing, finishing, and curing Portland cement concrete and the furnishing and placing of steel reinforcement as required on the construction drawings.

Failure to meet any requirements contained in this specification shall be cause for rejection of the concrete installed.

2. MATERIALS

Reinforcing Steel shall be free from loose rust, oil, grease, paint, or other deleterious matter. Steel bars for concrete reinforcement shall meet the requirements of ASTM A 615. The steel shall be deformed Grade 60 billet-steel bars.

Waterstops shall be nonmetallic and shall be made of rubber (natural or synthetic) or vinyl chloride polymer or copolymer. Rubber, polymer and copolymer waterstops shall have ribbed or bulb-type anchor flanges and a hollow tubular center bulb. Tie waterstop securely in place to prevent movement during pour.

Curing compound shall be a liquid membrane-forming compound suitable for spraying on the concrete surface. The curing compound shall meet the requirements of ASTM C 309 Type 2 (white pigmented).

3. DEFINITIONS



The following definitions are provided for the purpose of this specification.

Firm refers to subgrade not significantly displaced or deformed by foot traffic during construction and is able to properly support reinforcement chairs.

Fatwork refers to concrete poured on slopes flatter than 5:1 (Horizontal:Vertical).

Sloped slabs refers to concrete poured on slopes 5:1 (Horizontal:Vertical) or steeper.

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4. PREPARATION OF FORMS AND SUBGRADE

Prior to placement of concrete, the forms and subgrade shall be free of chips, sawdust, debris, water, ice, snow, extraneous oil, mortar, or other harmful substances or coatings. Any oil on the reinforcing steel or other surfaces required to be bonded to the concrete shall be removed. Rock surfaces shall be cleaned by air-water cutting, wet sandblasting, or wire brush scrubbing as necessary.

The site shall be graded to the dimensions and elevations as specified in the construction plans.

All surfaces shall be firm and damp prior to placing concrete. Concrete shall not be placed on mud, dried earth, uncompacted fill or frozen subgrade or in standing water. The use of plastic sheeting to isolate the concrete from unsuitable foundations will not be permitted.

The forms and associated false-work shall be substantial and unyielding and shall be constructed so that the finished concrete will conform to the specified dimensions and contours. Forms shall be mortar tight. Forms with torn surfaces, worn edges, dents or other defects will not be used. Forms shall be coated with a form release agent before being set into place. Excess form coating material shall not come in contact with the steel reinforcement or with hardened concrete against which fresh concrete is to be placed.

Reinforcement shall be accurately placed as shown on the drawings and secured in position in a manner that will prevent its displacement during the placement of concrete. Metal chairs, metal hangers, metal spacers, plastic chairs, or concrete chairs shall be used to support the reinforcement. Precast concrete chairs shall be manufactured from concrete equal in quality to the concrete being placed. Precast concrete chairs shall be moist at the time concrete is placed.

Reinforcement for sloped slabs or flatwork shall be supported by a minimum of 1 support chair every third bar or every 4 feet in each direction, whichever spacing is smaller. Support chairs shall have a minimum base area of 4 square inches in contact with the sub grade.

Steel tying and form construction adjacent to new concrete shall not be started until the concrete has cured at least 12 hours.

Concrete joints shall be of the type shown on the construction drawings. Locations shall be determined by contractor & shown on "as-built" plans.



Waterstops shall be located as shown on the drawings and secured in position so that displacement does not occur during concrete placement. Waterstops may be secured to reinforcement using wire or "hog ring" type fasteners.

Factory fabricated waterstop corners and transitions shall be provided, leaving only straight butt joint splices for field fabrication. Splices in waterstops shall be welded as recommended by the manufacturer.

Subgrade and form preparation for sloped slabs shall meet the following additional requirements:

- a. If the existing subgrade is not firm, it shall be made firm according to one of the following methods:
 - 1. Compacted according to sitework specification.
 - 2. The addition of materials such as crushed rock, limestone screenings, fines, or other amendments shall be approved by the engineer of record. The surface must then be compacted sufficiently to achieve a firm surface.
- b. Sub grade with Unified Soil Classification of SP, SW, GP, or GW shall not be steeper than 2.5:1 (H:V).
- c. Steel shall be tied at every other rebar intersection.
- d. Steel shall be anchored to prevent any movement down the slope.
- e. Joints with water stop shall not be placed horizontally across sloped slabs except for small incidental areas.

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5. PLACING AND FINISHING CONCRETE

Concrete shall not be placed until the subgrade, forms, and steel reinforcements have been inspected and approved by the Delegate of Excel Engineering, Inc. Any deficiencies are to be corrected before the concrete is delivered for placement.

The contractor shall furnish the Delegate of Excel Engineering, Inc. a delivery ticket as specified in Part I for each load of concrete delivered to this site.

Concrete shall be delivered to the site and discharged into the forms within 1-1/2 hours after the introduction of the cement to the aggregates or when a superplasticizer is used, the manufacturer's recommended time limit for discharge after addition shall apply. In hot weather or under conditions contributing to quick stiffening of the concrete, discharge of the concrete shall not exceed 45 minutes unless a set-retarding admixture is used or the mix is remaining workable.

Upon arrival at the job site, addition of water will be allowed to adjust the slump, provided such addition does not exceed the specified limits of the slump or maximum water content contained in the design mix. A small amount of concrete may be discharged prior to the addition of water. Final placement of the batch shall begin immediately after mixing of the added water is completed. No additional water shall be added to the mix after placement has begun.

The concrete shall be deposited as closely as possible to its final position in the forms and shall be worked into the corners and angles of the forms and around all reinforcement and embedded items in a manner to prevent segregation of aggregates. Placement of concrete for sloped slabs may also be achieved by gravity flow. All placement shall be done in a manner that prevents incorporation of subgrade material into the concrete.

Delegate of Excel Engineering, Inc. shall obtain adequate documentation of the constructed slab thickness to ensure concrete placement as shown in the construction plan.

If the concrete sets during placement to the degree that it will not flow and merge with the succeeding pour when tamped or vibrated, the contractor shall discontinue placing concrete and install a formed construction joint. The contractor shall be prepared to install unplanned construction joints in the event that there is an interruption of the pour, equipment breakdown, or other problem which makes it necessary to stop placement of concrete other than those previously planned. Prior to commencement of concreting operations at the construction joint, the joint surface shall be cleaned to remove all laitance, exposed sand, and surface mortar by one of the following methods:

1. The joint surface shall be cleaned to expose coarse aggregate by sandblasting or air-water cutting after the concrete has gained sufficient strength to prevent displacement of the coarse aggregate or cement fines. The surface of the concrete shall not be cut so deep as to undercut the coarse aggregate. The joint surface shall be washed to remove all loose material after cutting.
2. According to methods specified by the construction plan approver.

The surfaces of all construction joints shall be wetted and standing water removed immediately prior to placement of the new concrete. The new concrete shall be placed directly on the cleaned and washed surface. New concrete shall not be placed until the hardened concrete has cured at least 12 hours. The newly placed concrete shall be consolidated to achieve a good bond with the previously hardened concrete.

Concrete mixes not containing superplasticizer shall not be dropped more than 5 feet vertically unless suitable equipment is used to prevent segregation. Concrete mixes containing superplasticizer shall not be dropped more than 12 feet vertically and shall be placed in lifts not exceeding 6 feet in depth.



Immediately after the concrete is placed in the forms, it shall be consolidated by vibration or hand tamping as necessary to insure dense concrete. Walls four (4) feet and higher shall be vibrated. Concrete supplied with superplasticizer shall be placed with a minimum amount of vibrating and finishing effort. Vibration shall not be applied directly to the reinforcement steel or the forms nor to concrete that has hardened to the degree that it does not become plastic when vibrated. Each pour shall be consolidated to insure a monolithic bond with the preceding pour. The use of vibrators to transport concrete in the forms, slabs or conveying equipment will not be permitted.

Vibration is required at all joints that contain waterstop.

All flatwork shall be screeded to grade and then bull-floated. Vibratory screeding may be used in lieu of bull-floating. An additional finish may be specified. All flatwork surfaces shall be true and even, and shall be free from open or rough spaces, depressions, or projections.

Sloped slabs shall be worked to a uniform grade, maintaining the specified thickness, and finished in a manner to insure dense concrete. All sloped slab surfaces shall be smooth, and shall be free from open or rough spaces, depressions or projections.

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6. FORM REMOVAL

Forms shall be removed in such a way as to prevent damage to the concrete. Supports shall be removed in a manner that will permit the concrete to take the stresses due to its own weight uniformly and gradually. Wall forms and forms for joints with waterstop shall not be removed for 18 hours after the concrete is placed except in the case of tank covers which require the forms to remain in place for 7 days.

Other forms may be removed when the concrete is sufficiently cured so that the concrete will not be damaged.

Immediately after removal of the forms, concrete which is honey combed, damaged or otherwise defective shall be repaired or replaced as directed by the technician or Delegate of Excel Engineering, Inc. Repairs are to be made in accordance with American Concrete Institute (ACI) 301, Specification for Structural Concrete. The procedure is contained in the spec section for Repair of Surface Defects Other Than Ties Holes. All repaired areas shall be cured as specified in Section 7.

For structures that are not required to be liquid-tight, form ties shall be removed flush with or below the concrete surface.

For structures which are to be liquid-tight, form ties shall be removed to a minimum depth of 1/2 inch. All cavities or depressions resulting from form tie removal shall be patched with commercially available patching products including:

- Portland cement mortar modified with a latex bonding agent conforming to ASTM C 1059, Type II
- Epoxy mortars and epoxy compounds that are moisture-insensitive during application and after curing and that embody an epoxy binder conforming to ASTM C 881, Type III
- Non-shrink Portland cement grout conforming to ASTM C 1107
- Packaged dry concrete repair material conforming to ASTM C 928

The age of stripped concrete or slabs shall be at least 7 days before any load (including backfill) is applied other than the weight of the wall, forms, scaffolds for succeeding lifts or light equipment.



7. CURING

Concrete shall be cured for a period of at least 7 days after it is placed except as stated in Section 9. Exposed concrete surfaces shall be kept continually wet during the entire curing period or until curing compound is applied.

Curing compound shall be applied at the rate recommended by the manufacturer, as a minimum. It shall form a uniform, continuous, adherent film that shall not check, crack, or peel and shall be free from pinholes or other imperfections.

Curing compound shall not be used at construction joints or other areas that are to be bonded to additional concrete. These areas shall be wet cured. Surfaces subjected to heavy rainfall or running water within 3 hours after the application of curing compound, or surfaces damaged by subsequent construction operations during the curing period, shall be recoated in the same manner as the original application.

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8. CONCRETING IN HOT WEATHER

For the purpose of this specification, hot weather is defined as any combination of high temperature, (generally above 80 degrees F), low relative humidity, and wind velocity tending to impair the quality of fresh or hardened concrete or otherwise resulting in abnormal properties.

Special provisions shall be made to immediately protect and cure the concrete due to rapid drying conditions. Concrete surfaces shall not be allowed to dry after placement and during the curing period.

In extreme conditions, it may be necessary to (1) restrict placement to late afternoon or evening, (2) restrict the depth of layers to assure coverage of the previous layer while it will still respond readily to vibration, (3) suspend placement until conditions improve.

9. CONCRETING IN COLD WEATHER

When the minimum daily atmospheric temperature is less than 40 degrees F, concrete shall be insulated or housed and heated immediately after placement. The temperature of the concrete and air adjacent to the concrete shall be maintained at not less than 50 degrees F nor more than 90 degrees F for the duration of the curing period.

The curing period may be reduced to 3 days when Type III cement is used. An additional 100 pounds of Type I cement with a maximum of 6 gallons of added water per cubic yard or a non-chloride, non-corrosive accelerant may be used in lieu of Type III cement.



Combustion heaters shall have exhaust flue gases vented out of the concrete protection enclosure and shall not be permitted to dry the concrete.

The contractor shall furnish the Engineer of Record a record of daily maximum and minimum outside air and concrete surface air temperatures during the curing period. The record shall include temperatures at several points along the concrete.

EMERGENCY SLAB CRACK REPAIR PLAN

IN THE EVENT UN-INTENTIONAL FLOOR CRACKING OR CRACK MIGRATIONS OCCUR REPAIR THE CRACKS WITH A SIMPSON ETI-LV EPOXY ADHESIVE. THE REPAIR INVOLVES INJECTING LOW-VISCOSITY EPOXY INTO THE CRACKS TO MAKE THEM WATERPROOF. USE 'GRAVITY-FEED APPLICATION' WHICH MEANS DISPENSING THE OIL-LIKE VISCOSITY EPOXY ALONG THE CRACK TO FILL IT WITHOUT PRESSURE. IN THE EVENT OF NARROW CRACKS, SIMPSON RECOMMENDS USING TWO BEADS OF CAULK ALONG EACH SIDE OF THE CRACK APPROXIMATELY 1/8" FROM THE EDGE OF THE CRACK TO WORK AS A RESERVOIR FOR THE EPOXY. ALTERNATIVELY, THE INSTALLER MAY ROUT THE CRACK TO FORM A V-GROOVE. WITH ROUTING, IT IS REQUIRED TO CLEAN THE CRACK WITH COMPRESSED AIR AFTERWARDS AS ROUTING CAN IMPACT DUST AND DEBRIS INTO THE CRACK AND PREVENT PROPER FLOW OF THE EPOXY.

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CONFINED SPACE ENTRY INTO MANURE TRANSFER SYSTEM

- Post warning signs on or next to all confined spaces. The signs should be sturdy, weatherproof, and display such wording as, "DANGER! CONFINED SPACE, DO NOT ENTER". Regularly inspect all warning signs to make sure they are clean, readable, and have not been tampered with.
- Be sure that all openings to confined spaces are appropriately covered or blocked off. Openings should be covered with substantial metal grill covers. These provide natural ventilation, and help prevent accidental falls or unauthorized entry.
- If employees are not required to enter a confined space, lock the opening to prevent entry.
- Obey all warning signs on and around confined spaces.
- Avoid going near confined spaces while smoking or using electrical equipment.
- Notify someone who has been trained in confined rescue operations if they spot anyone in trouble in a confined space.
- Confined spaces can be deadly. If the air in the space is not tested before entry, you could be overcome by fumes and pass out or die due to lack of oxygen, toxic gases, or an inability to escape quickly enough. Multiple deaths often occur when one person enters the space, is overcome, and others try unsuccessfully to save the first person.

Following are the basic guidelines for confined space entry:

- Test the atmosphere for oxygen, and for levels of toxic and explosive gases.
- If a dangerous atmosphere exists, you must wear a self-contained breathing apparatus. Ventilate the area as thoroughly as possible.
- All mechanical and electrical equipment must be locked out.
- Use the 'buddy' system and wear a lifeline. Sufficient equipment and manpower must be available. A third person should be on hand to summon assistance if needed.
- Establish how you will be communicating before entering the confined space. The meaning of verbal signals, hand gestures, or tugging line signals must be understood by the people on the outside.
- Never re-enter a confined space without re-testing and venting the area.

OPERATION AND MAINTENANCE PLAN



Maximum height of manure in tank shall be maintained below the maximum operating level mark cast into the inside wall of the manure pit. If the maximum operating level is exceeded, implement contingency plan immediately.

Tank design allows a 32,000 lbs. vehicle surcharge at face of wall at any spot around the tank.

Slab design allows for a 16,800 lbs. maximum vehicle axle load for 5" slab.

Fencing & guardrails shown on construction documents shall be inspected & maintained to insure safe operation of waste storage facility.

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CONTINGENCY PLAN

Begin planned contingency utilization of manure by applying to fields at rates according to 590 Nutrient Management Plan

Be certain to avoid areas of steep slopes or saturation.

EMERGENCY RESPONSE PLAN

Have name and phone number of a licensed septic waste hauler readily available to farm personnel.



Call licensed septic tank waste hauler to vaccum up spilled manure into vaccum tank and deposit back into waste storage tank or apply to land according to 590 Nutrient Management Plan.

Asses the extent of the spill and notify the DNR.

Provide temporary earthen barriers to contain liquid, if required, to stop liquid from entering nearby waterways or stormwater system. Return spilled manure to waste storage tank or apply to land according to 590 Nutrient Management Plan.

Do regular inspections of pipes, pumps, and valves to ensure proper operation at potential spill areas.



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| BAR SPLICE SCHEDULE | |
|---------------------|---------------------|
| BAR SIZE | SPLICE LENGTH (in.) |
| #4 ϕ | 20" |
| #5 ϕ | 24" |
| #6 ϕ | 30" |
| #7 ϕ | 42" |

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DE1
BAR SPLICE SCHEDULE
 NO SCALE

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| | 100 CAMELOT DRIVE FOND DU LAC, WI 54935 PHONE: (920) 926-9800 FAX: (920) 926-9801 | |

APPROVED SEALANT



- LEAKMASTER LV-1 BY GREENSTREAK GROUP, INC.

1
DE2

APPROVED SEALANTS

NO SCALE

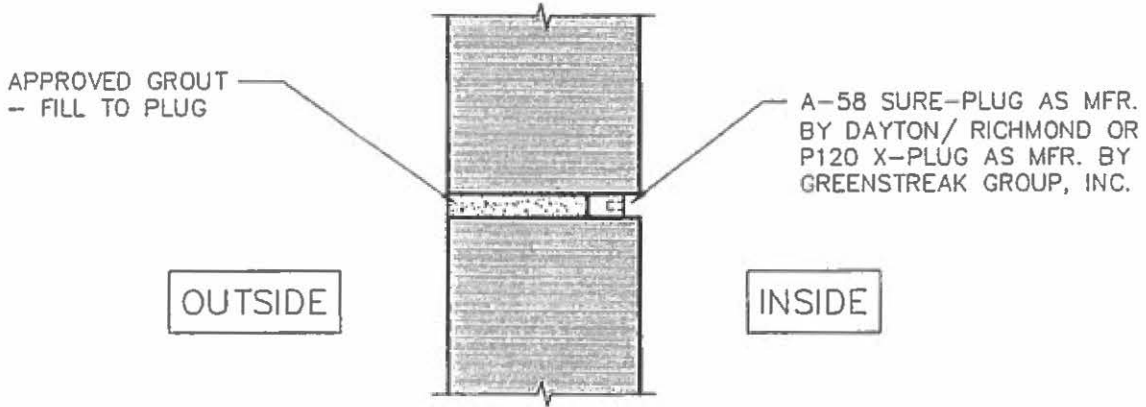
2007 © EXCEL ENGINEERING INC.

| | | | |
|-------------------|---|--|-------------------------------|
| REVISIONS: | PROJECT: | WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL | DATE: 03/05/2012 |
| | CONTRACTOR: | PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: 1200250 |
| |  |  | SHEET |
| | | 100 CAMELOT DRIVE FOND DU LAC, WI 54935 PHONE: (920) 826-9800 FAX: (920) 826-9801 | DE2 |
| | | | |

APPROVED GROUTS

- ADVANTAGE GROUT BY DAYTON SUPERIOR

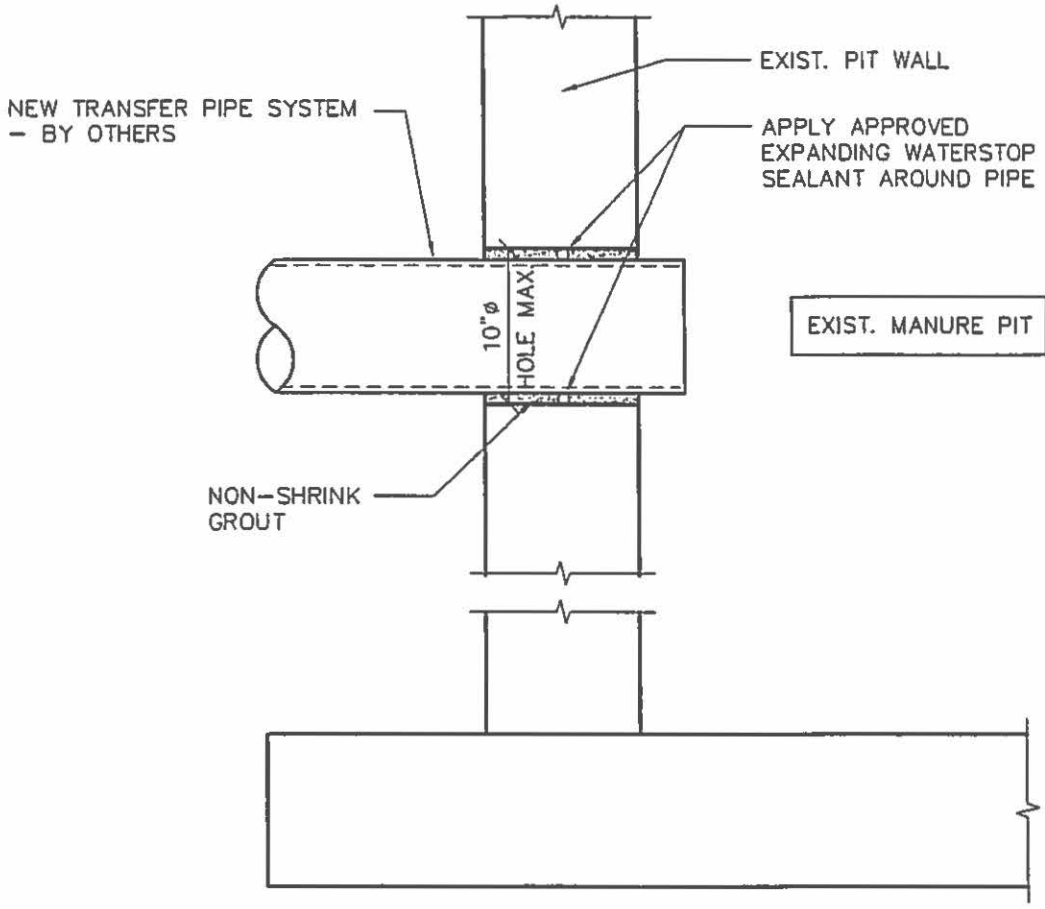
NOTE:
CONTR. HAS OPTION TO
APPLY TAMMS THIN PATCH
OVER GROUT IF A COLOR
MATCH TO WALL IS REQ'D



1
GE1
TIE HOLE DETAIL
 SCALE: 1" = 1'-0"

2007 © EXCEL ENGINEERING INC.

| | | |
|-------------------|--|---|
| REVISIONS: | PROJECT: WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL CONTRACTOR: PIPPING CONCRETE, INC. N5888 CENTER ROAD | DATE: 03/05/2012 DESIGN NO.: 1200250 |
| | | SHEET GE1 |
| | 100 CAMELOT DRIVE FOND DU LAC, WI 54935 PHONE: (920) 926-9800 FAX: (920) 926-9801 | |

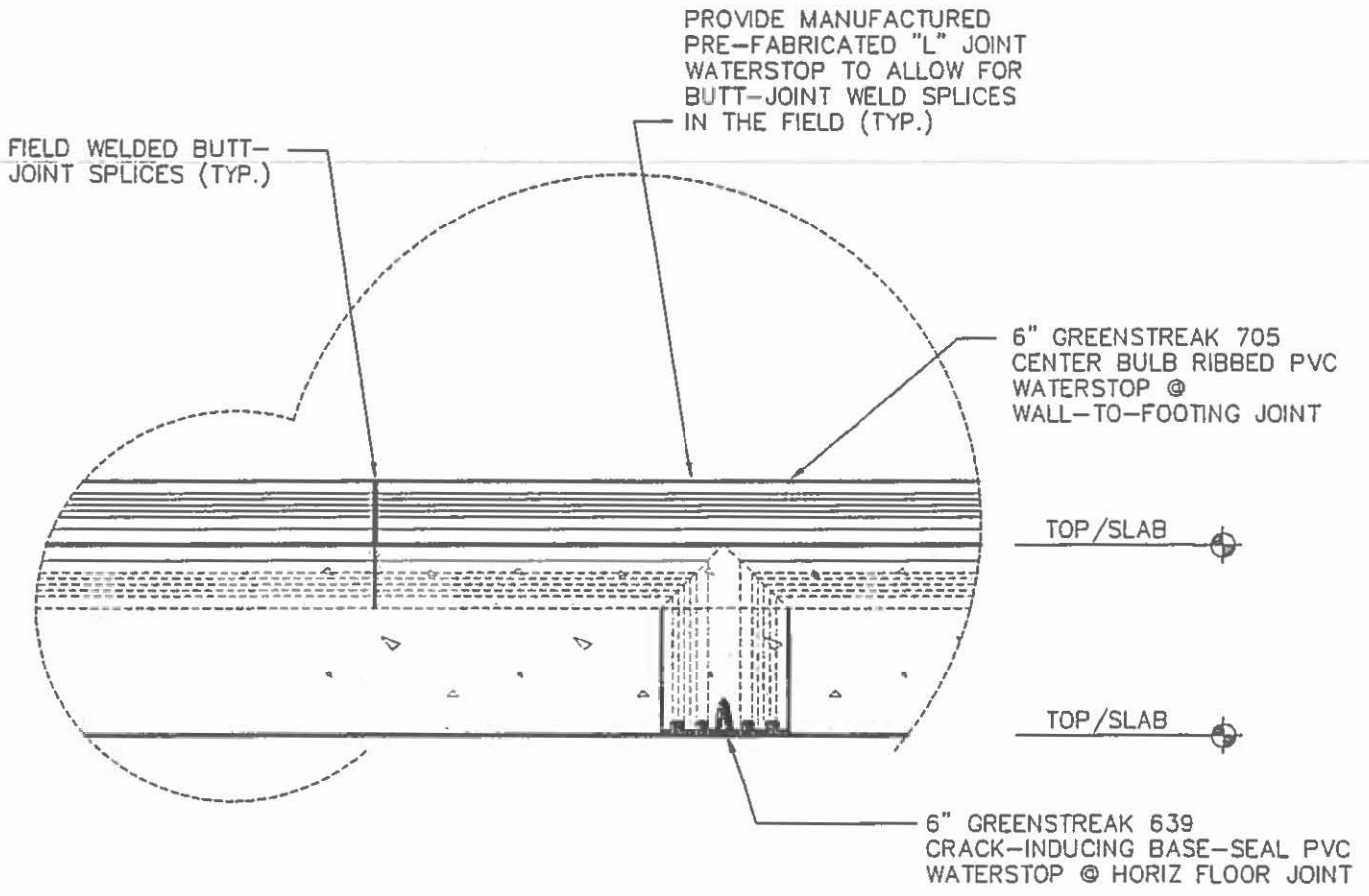


1 WASTE TRANSFER PIPE
 GE2 SCALE: 1"=1'-0"

2007 © EXCEL ENGINEERING INC.

| | | |
|---|--|-------------------------------|
| REVISIONS: 04/06/12 | PROJECT: WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL | DATE: 03/05/2012 |
| | CONTRACTOR: PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: 1200250 |
| | | SHEET GE2 |

PIPPING CONCRETE INC.
 GRANDON WI
EXCEL ENGINEERING INC.
 100 CAMELOT DRIVE
 FOND DU LAC, WI 54935
 PHONE: (920) 826-9800
 FAX: (920) 826-9801



PREFABRICATED T-JOINT WATERSTOP

1
GE3

NO SCALE

NOTE:
ALIGNMENT OF WALL AND SLAB WATERSTOPS IS NOT REQUIRED.

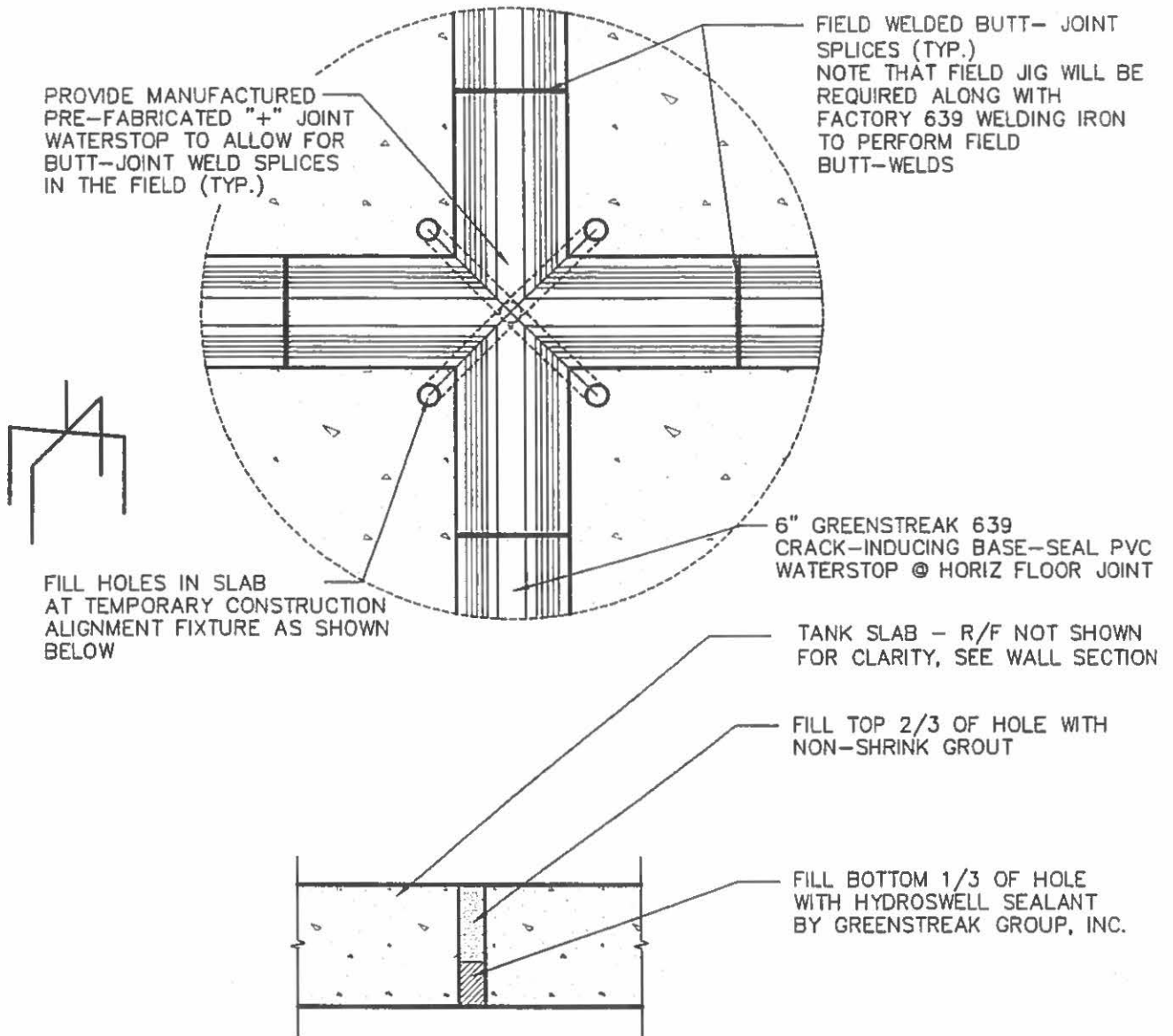
2007 © EXCEL ENGINEERING INC.

| | | |
|---------------------------------------|--|-------------------------------|
| REVISIONS: | PROJECT: WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL | DATE: 03/05/2012 |
| | CONTRACTOR: PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: 1200250 |
| | | SHEET GE3 |

PIPPING CONCRETE INC.
BRANDON, WI

EXCEL ENGINEERING INC.

100 CAMELOT DRIVE
FOND DU LAC, WI 54935
PHONE: (920) 928-9800
FAX: (920) 928-9801



PREFABRICATED 90° 4-WAY WATERSTOP

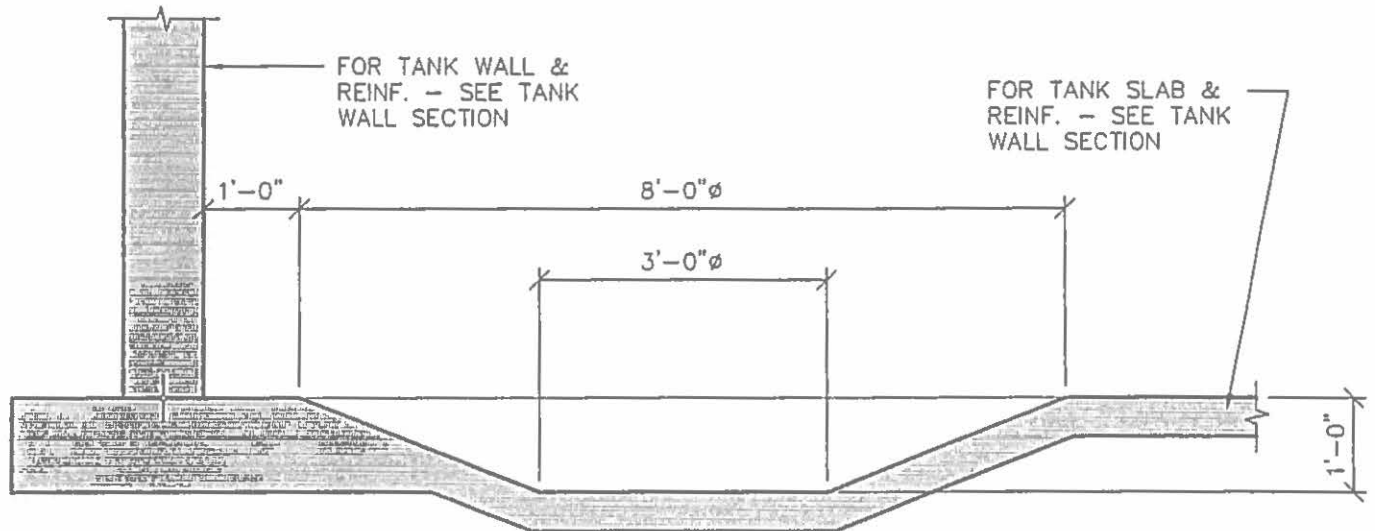
1
GE4

NO SCALE

2007 © EXCEL ENGINEERING INC.

| | | |
|-------------------|--|-------------------------------|
| REVISIONS: | PROJECT: WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL | DATE: 03/05/2012 |
| | CONTRACTOR: PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: 1200250 |
| | | SHEET |
| | | GE4 |

100 CAMELOT DRIVE
FOND DU LAC, WI 54935
PHONE: (920) 926-9800
FAX: (920) 926-9801





1
GE7

TYPICAL SUMP PIT

SCALE: 1/2" = 1'-0"

2007 © EXCEL ENGINEERING INC.

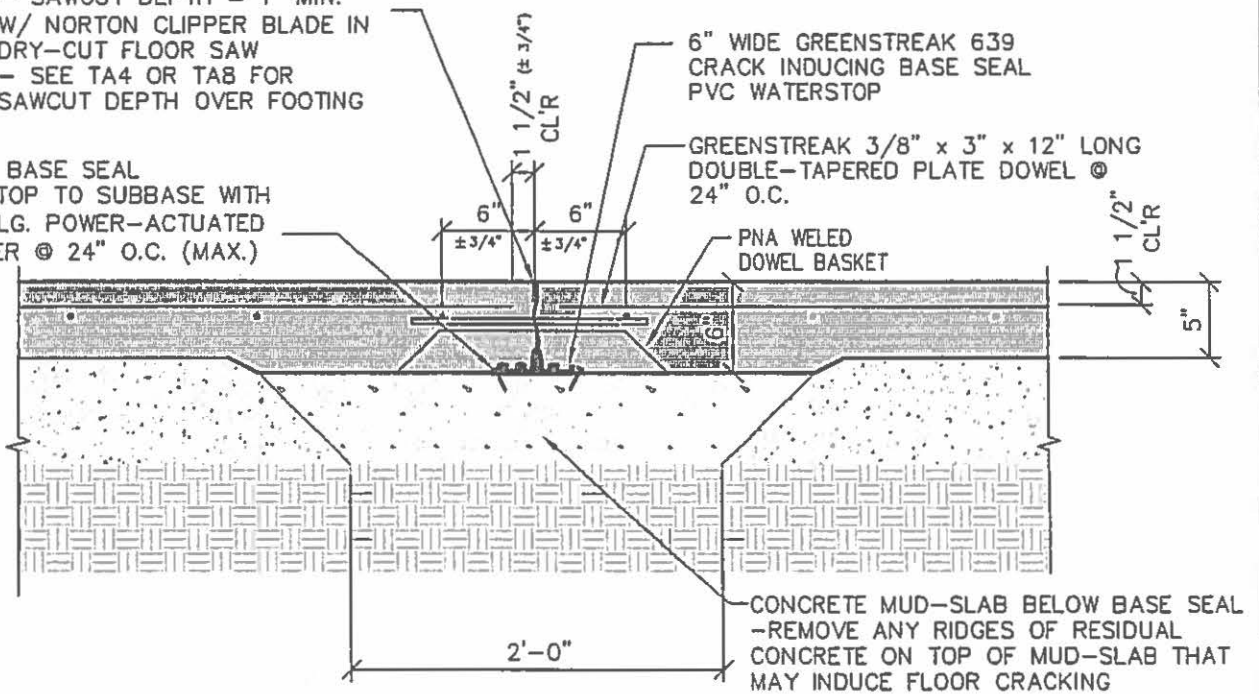
| | | |
|-------------------|--|-------------------------------|
| REVISIONS: | PROJECT: WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL | DATE: 03/05/2012 |
| | CONTRACTOR: PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: 1200250 |
| |   | SHEET |
| | | GE7 |
| | 100 CAMELOT DRIVE FOND DU LAC, WI 54935 PHONE: (920) 926-9800 FAX: (920) 926-9801 | |

GREENSTREAK 639 INSTALLATION NOTES:

- PAINTED NAILS WILL BE PLACED ON THE FOOTING FORM BOARDS ALONG THE INTENDED FLOOR JOINT LINE.
- A STRING LINE IS THEN ATTACHED TO THE NAILS IN ADDITION TO THE CENTER ALIGNMENT FIXTURE WHEN REQUIRED TO PREVENT EXCESSIVE SAG IN THE LINE.
- THE 639 WATERSTOP WILL BE LOCATED BELOW THIS LINE AND SECURED TO THE MUD SLAB AS INDICATED IN THE DETAIL.
- THE PAINTED NAILS WILL REMAIN WHILE THE STRING LINE WILL BE REMOVED TO FACILITATE SLAB POUR.
- AFTER PLACING OF CONCRETE IN BASE SEAL JOINT AREA, INSURE CONSOLIDATION OF CONCRETE AROUND PLATE DOWELS AND DOWEL BASKET WITH THE USE OF IMMERSION VIBRATOR.
- WITHIN 12 HOURS OF THE POUR BEING COMPLETED, A SNAP CHALK LINE UTILIZING THE PAINTED NAILS, WILL BE ESTABLISHED TO GUIDE CONTRACTOR DURING SAWCUTTING OVER WATERSTOP.

SAWCUT JOINT, CONTINUOUS
 - SAWCUT DEPTH = 1" MIN.
 W/ NORTON CLIPPER BLADE IN
 DRY-CUT FLOOR SAW
 - SEE TA4 OR TAB FOR
 SAWCUT DEPTH OVER FOOTING

SECURE BASE SEAL
 WATERSTOP TO SUBBASE WITH
 1 1/2" LG. POWER-ACTUATED
 FASTENER @ 24" O.C. (MAX.)



1
 TA1

SAWCUT CONTROL JOINT

SCALE: 1" = 1'-0"

NOTE:

- PROVIDE SAWCUT AS SOON AS POSSIBLE AND NOT GREATER THAN 12 HRS. AFTER POUR
- PLATE DOWEL MAY BE FACTORY DIPPED TO ELIMINATE THE NEED TO GREASE DOWEL
- SEE TOC2 FOR ALTERNATE DESIGN STATEMENT

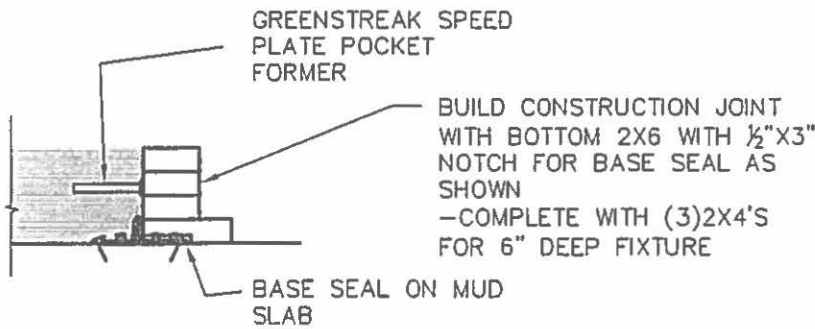
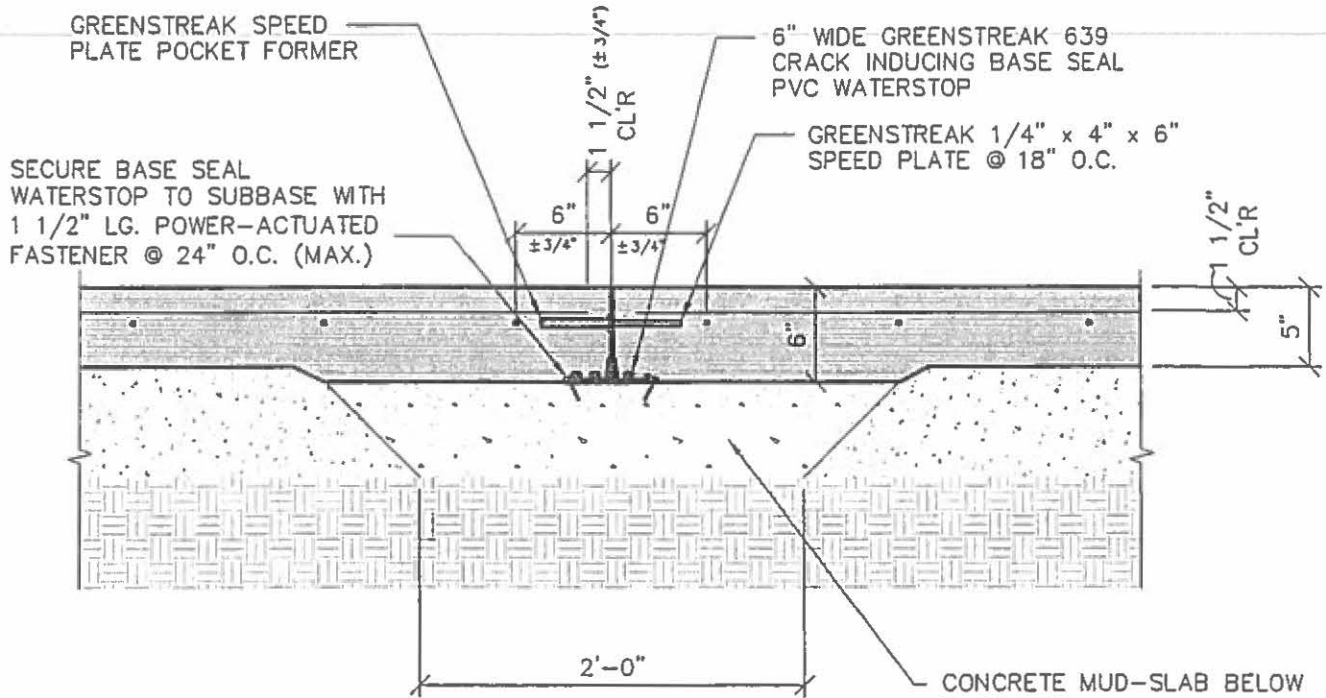
2007 © EXCEL ENGINEERING INC.

| | | |
|-------------------------------|--|-------------------------------|
| REVISIONS: 04/06/12 | PROJECT: WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL | DATE: 03/05/2012 |
| | CONTRACTOR: PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: 1200250 |
| | | SHEET TA1 |

100 CAPELOT DRIVE
 FOND DU LAC, WI 54935
 PHONE: (920) 826-9800
 FAX: (920) 826-9801

GREENSTREAK 639 INSTALLATION NOTES:

- THE 639 WATERSTOP WILL BE SECURED TO THE MUD SLAB AS INDICATED IN THE DETAIL.
- AFTER PLACING OF CONCRETE IN BASE SEAL JOINT AREA, INSURE CONSOLIDATION OF CONCRETE AROUND SPEED PLATE POCKET FORMER WITH THE USE OF IMMERSION VIBRATOR.



CONCRETE MUD-SLAB BELOW BASE SEAL
-REMOVE ANY RIDGES OF RESIDUAL CONCRETE ON TOP OF MUD-SLAB THAT MAY INDUCE FLOOR CRACKING

1
TA2

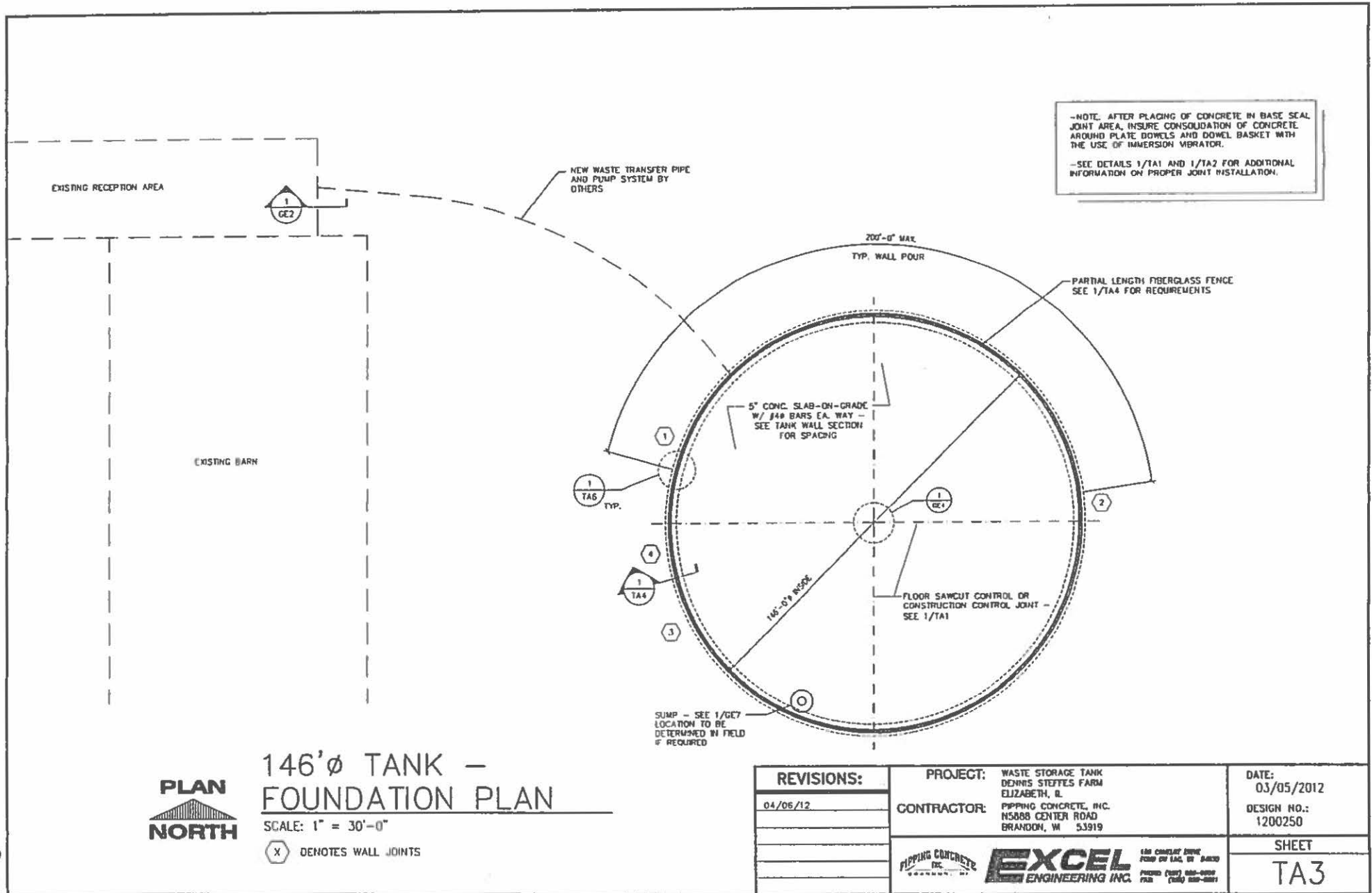
CONST. CONTROL JOINT

SCALE: 1" = 1'-0"

NOTE:
SPEED PLATE ELIMINATES THE NEED TO GREASE DOWEL

2007 © EXCEL ENGINEERING INC.

| | | | | |
|------------|--|--|-------------|------------|
| REVISIONS: | PROJECT: | WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL | DATE: | 03/05/2012 |
| | CONTRACTOR: | PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: | 1200250 |
| | | | SHEET | |
| | 100 CAMELOT DRIVE FOND DU LAC, WI 54835 PHONE: (820) 926-9800 FAX: (820) 926-9801 | | TA2 | |



--NOTE: AFTER PLACING OF CONCRETE IN BASE SEAL JOINT AREA, INSURE CONSOLIDATION OF CONCRETE AROUND PLATE DOWELS AND DOWEL BASKET WITH THE USE OF IMMERSION VIBRATOR.

--SEE DETAILS 1/TA1 AND 1/TA2 FOR ADDITIONAL INFORMATION ON PROPER JOINT INSTALLATION.

146'Ø TANK -
FOUNDATION PLAN

SCALE: 1" = 30'-0"

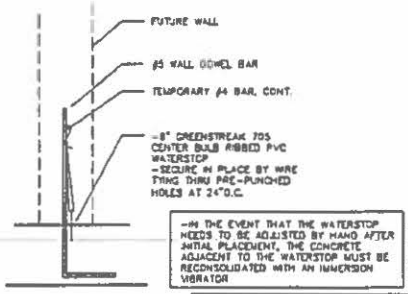
(X) DENOTES WALL JOINTS



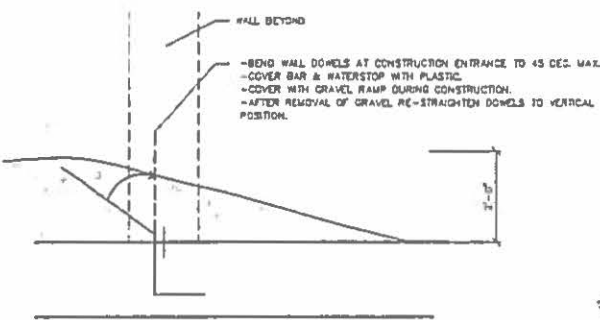
| | | |
|---|--|---|
| REVISIONS: 04/06/12 | PROJECT: WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL CONTRACTOR: PIPPING CONCRETE, INC. N5088 CENTER ROAD BRANDON, WI 53919 | DATE: 03/05/2012 DESIGN NO.: 1200250 |
| | PIPPING CONCRETE, INC. ELIZABETH, IL EXCEL ENGINEERING INC. 180 COMBLET DRIVE FOND DU LAC, WI 54601 PHONE (715) 960-0000 FAX (715) 960-0001 | SHEET TA3 |

CONSTRUCTION NOTES:

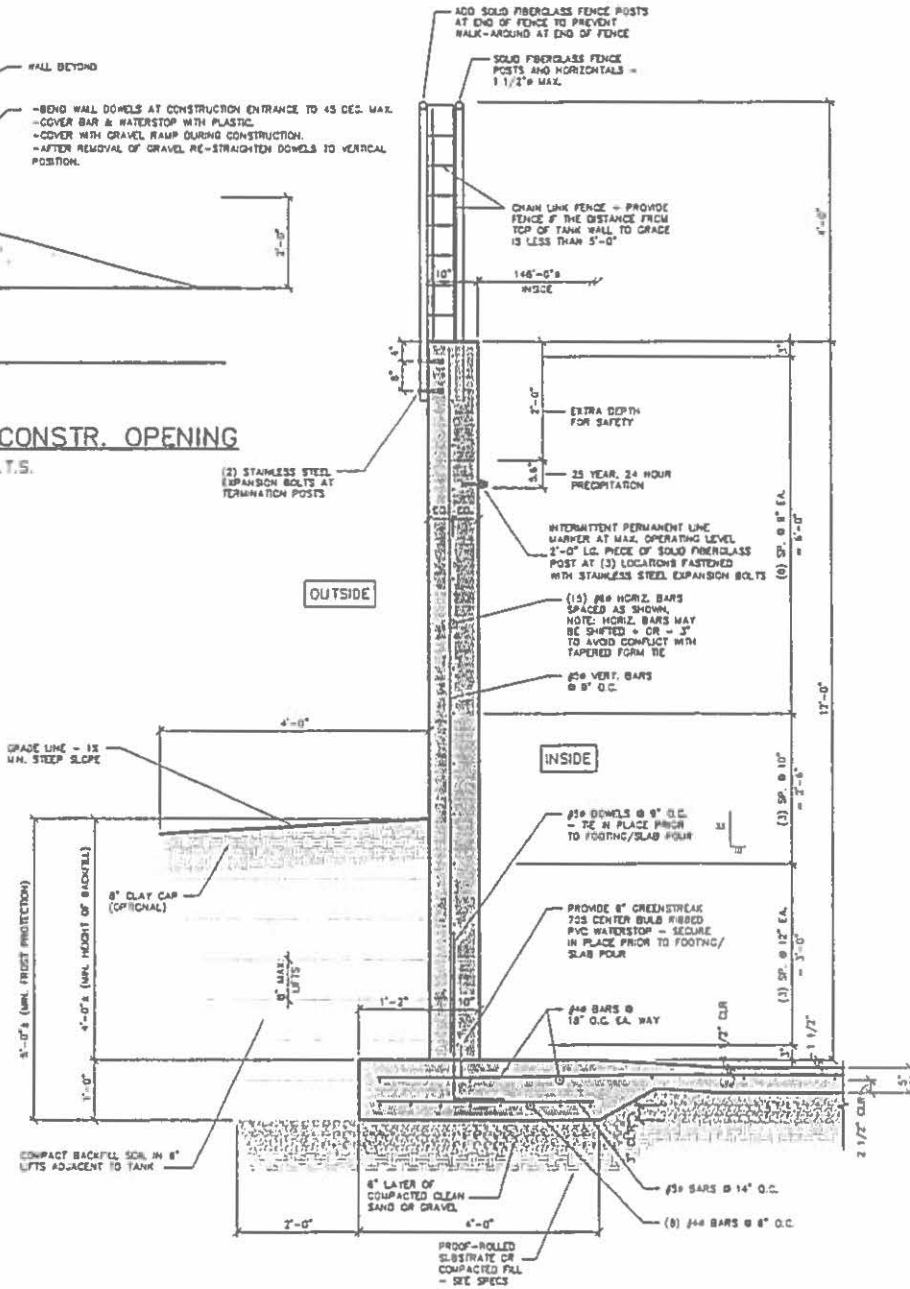
- FOR SCREEDING THE FLOOR USE A SCHWAB S-240 LASER SCREED. THIS EQUIPMENT USES A HYDRAULIC POWERED LASER CONTROLLED SCREEDING HEAD MOUNTED ON A TELESCOPIC BOOM. SELF-LEVELING SCREED HEAD CONSISTS OF A PLOW THAT REMOVES EXCESS CONCRETE, AN AUGER THAT CUTS CONCRETE TO GRADE, AND A VIBRATOR THAT CONSOLIDATES MATERIAL AT 3000 VPM. THE SCREED WILL BE RUN UP TO THE WALL DWELLS WITHIN INCHES OF THE WATERSTOP TO ACHIEVE CONSOLIDATION.
- IN ADDITION, A GAS-POWERED, HAND-HELD LINDLEY RATTLER SHALL BE USED ON THE EXTERIOR SIDE OF THE WATERSTOP. THIS IS A HIGH EFFICIENCY, 1 5/8" DIAMETER HEAD, VIBRATING AT A FREQUENCY PROPORTIONAL TO THE THROTTLE SPEED, WHICH HAS A 7,000 RPM MAXIMUM. PROBE WITH THE WAND ALONG THE WATERSTOP WITH APPROXIMATE SPACING OF 24" O.C. WITH A DURATION OF VIBRATION OF 2 SECONDS PER PROBE.
- THE SAWCUTTING DEPTH OVER FOOTING TO BE COMPLETED WITHIN 12 HOURS OF POUR AS FOLLOWS:
 - IN THE AREA OF A 12" THICK FOOTING ON A 12 FOOT TALL WALL, A 24" LONG X 1 1/2" DEEP CUT WILL BE MADE. THIS CUT WILL BEGIN IN THE TRANSITION AREA OF THE SLAB BETWEEN THE TYPICAL 9" SLAB AND THE 12" FOOTING. THE 1 5/8" DEEP INDUCER ON THE 830 WATERSTOP PLUS THE 1 1/2" SAWCUT EQUALS 3 1/8" WHICH IS GREATER THAN THE MINIMUM 1/4 SLAB THICKNESS RECOMMENDATION, (I.E. 1/4 X 12 = 3").



2 WATERSTOP INSTALLATION
TA4 SCALE: 1/2" = 1'-0"

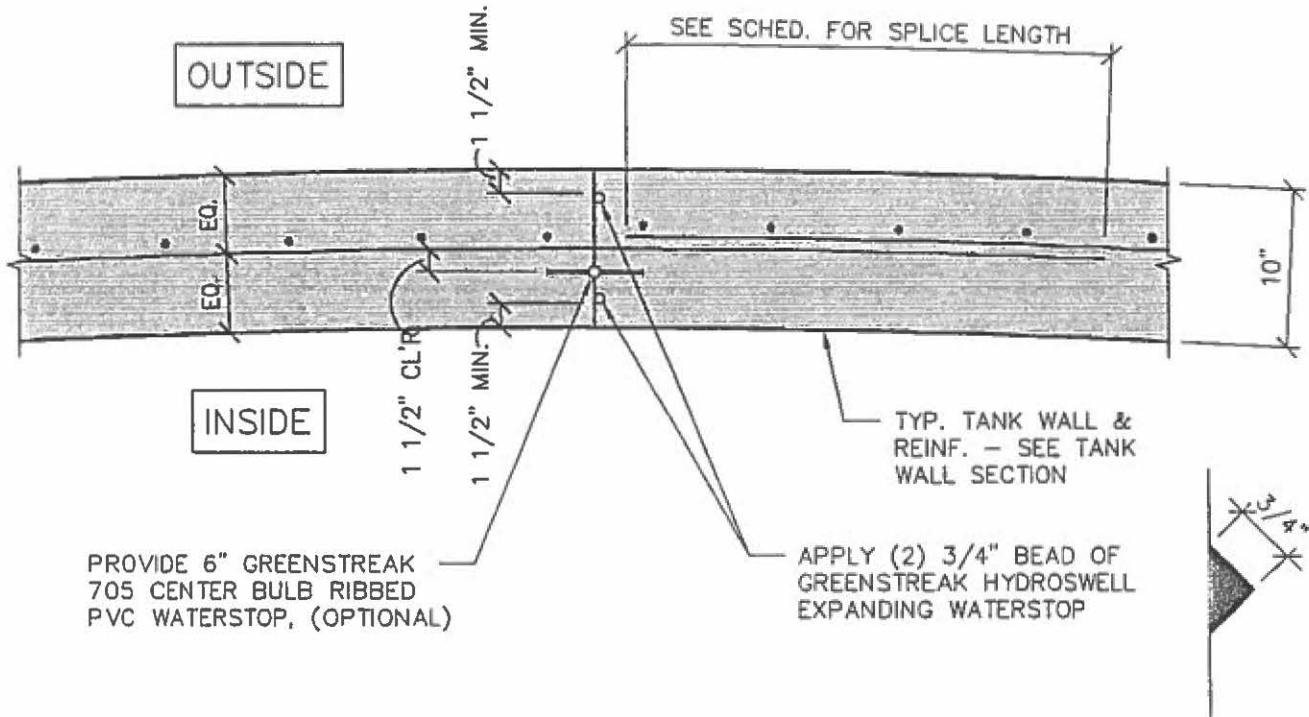


3 WALL CONSTR. OPENING
TA4 SCALE: N.T.S.



1 TANK WALL SECTION
TA4 SCALE: 1/2" = 1'-0"

| | |
|--|--|
| <p>REVISIONS:</p> <p>04/06/12</p> | |
| <p>PROJECT:</p> <p>WASTE STORAGE TANK DOWNS STORES FARM ELIZABETH, IL</p> <p>CONTRACTOR:</p> <p>PERPAC CONCRETE, INC. NSRB CENTER ROAD BRANDON, WI 53919</p> | <p>DATE:</p> <p>03/05/2012</p> <p>DESIGN NO.:</p> <p>1200250</p> |
| <p>EXCEL ENGINEERING INC.</p> <p>180 CENTER STREET PO BOX 200 WISCONSIN TEL: 920-882-0001</p> | <p>SHEET</p> <p>TA4</p> |



1
TA6

WALL CONST. JOINT

SCALE: 1" = 1'-0"

2007 © EXCEL ENGINEERING INC.

| | | | | |
|------------|--|--|-------------|------------|
| REVISIONS: | PROJECT: | WASTE STORAGE TANK DENNIS STEFFES FARM ELIZABETH, IL | DATE: | 03/05/2012 |
| | CONTRACTOR: | PIPPING CONCRETE, INC. N5888 CENTER ROAD | DESIGN NO.: | 1200250 |
| | | | SHEET | |
| | 100 CAMELOT DRIVE FOND DU LAC, WI 54935 PHONE: (920) 926-9800 FAX: (920) 926-9801 | | TA6 | |





PROPOSED WASTE STORAGE PIT & CONCRETE CHANNEL
STEFFES FARM
ELIZABETH, ILLINOIS

5127 EAST BETHEL ROAD
 JO DAVIESS COUNTY

SHEET INDEX

| DESCRIPTION | SHEET No. |
|---|-----------|
| COVERSHEET, LOCATION MAP, GENERAL NOTES AND SHEET INDEX | 1 |
| SITE PLAN | 2 |
| CONCRETE CHANNEL DETAILS | 3 |

LEGEND

| | |
|---|--------------------|
|  | EDGE OF BUILDING |
|  | CONCRETE |
|  | PROPOSED ROADWAY |
|  | ROADWAY CENTERLINE |



**PROJECT
 LOCATION MAP**



THIS IS TO CERTIFY, THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, JUDGMENT, AND BELIEF, THE WASTE STORAGE FACILITY (S13) AND WASTE TRANSFER (S24) IS DESIGNED IN ACCORDANCE WITH THE ILLINOIS INRCS TECHNICAL GUIDE STANDARDS AND SPECIFICATIONS. THIS CERTIFICATION IS BASED ON THE CERTIFICATION PROVIDED BY JEFFREY FRENK OF EXCEL ENGINEERING, INC. FOR THE CONCRETE MAJORS STORAGE PIT.

Matthew L. Wagner
 MATTHEW L. WAGNER, P.E.
 4-16-12
 TSP # 06-5610

THE FOLLOWING TECHNICAL SPECIFICATIONS SHALL BE FOLLOWED DURING THE CONSTRUCTION PROCESS. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY, COMPLETENESS, AND COMPLIANCE STATUS OF THE FINAL INSTALLATION. STANDARDS OF THE FOLLOWING ASSOCIATIONS OR ORGANIZATIONS SHALL BE FOLLOWED AND APPLY AS MICHIGAN REQUIREMENTS.

- ACI AMERICAN CONCRETE INSTITUTE
- ASTM AMERICAN SOCIETY OF TESTING METHODS
- CRSI CONCRETE REINFORCING STEEL INSTITUTE
- MPS MICHIGAN PUMP SERVICE, INC.

10 GENERAL REQUIREMENTS

- A. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE ACI 318-08 SPECIFICATIONS AND MICHIGAN PLAN SERVICE, INC.
- B. CONCRETE CONTRACTOR IS ACCOUNTABLE FOR ASSURING THAT ALL NECESSARY INSTALLATIONS ARE COMPLETE PRIOR TO EACH POUR E.G. DRAINAGE, PLUMBING, FASTENERS, AND STEEL.
- C. ALL STEEL REINFORCEMENT AND EQUIPMENT MOUNTED TO FLOORING SHALL BE INSTALLED TO COMPLETE A BRIDGING GRID THAT CONFORMS TO THE ELECTRICAL CODES PERTAINING TO THE STRUT VOLTAGE. SUCH AN EQUIPMENT OR REINFORCEMENT AFFECTING THE BRIDGING GRID MAY REQUIRE ELECTRICAL INSPECTOR APPROVAL PRIOR TO PLACING CONCRETE.

11 CONCRETE MIXES

- A. ALL CONCRETE SHALL HAVE A MICHIGAN SPECIFIED COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
- B. ALL CONCRETE SHALL BE AIR ENTRAINED @ 6% ± 0.5%, UNLESS OTHERWISE SPECIFIED.

12 CONCRETE REINFORCEMENT

- A. REINFORCING STEEL BARS
 - 1. ALL REINFORCING BARS TO BE ASTM A60 GRADE 60.
 - 2. WHERE USED, DOWELS SHALL BE SPACED WITH VERTICAL REINFORCEMENT, UNLESS OTHERWISE SPECIFIED.
 - 3. ALL LAP LENGTHS TO BE A MINIMUM OF 36" OR 30 BAR DIAMETERS. ALL SPECIFIED LAP LENGTHS ARE SHOWN AS DIMENSIONS.
 - 4. ALL STEEL BAR REINFORCING COVER SHALL CONFORM TO THE MICHIGAN PLAN SERVICE, INC.
- B. REINFORCING WIRE FABRIC
 - 1. ALL WELDED WIRE FABRIC (W.W.F.) SHALL CONFORM TO ASTM A60.
 - 2. ALL STEEL WELDED WIRE FABRIC REINFORCING COVER SHALL CONFORM TO THE MICHIGAN PLAN SERVICE, INC.

13 PLACING CONCRETE

- A. EXISTING REINFORCEMENT, INSERTS AND EMBEDDED ITEMS ARE NOT DISTURBED DURING CONCRETE PLACEMENT.
- B. PLACE CONCRETE WITH THE AID OF MECHANICAL VIBRATORS OF APPROVED TYPE. ENOUGH VIBRATION SHALL BE USED TO CAUSE ALL CONCRETE TO FLOW OR SETTLE READILY INTO PLACE. VIBRATIONS MUST NOT BE ALLOWED TO TOUCH REINFORCEMENT EMBEDDED IN PARTIALLY SET CONCRETE OR USED TO TRANSFER CONCRETE IN FORMS.

14 CONCRETE FINISHES

- A. FINISH SURFACES PROVIDE STANDARD FINISH AT WALL AND CURB SURFACES "EXPOSED TO VIEW." REMOVE FORMS PRIOR AND PATCH "NON-VISIBLE" AREAS.


15 WATERSTOPS

- A. ALL JOINTS, OR AREAS OF TWO DIFFERENT POURS WHERE WATER MAY CONTACT CONCRETE SHALL BE WATERSTOPPED WITH WATERSTOP RE PRODUCT OR DRAINAGE WATERSTOP PRODUCTS AS NOTED IN THE PLANS.
- B. ALL WATERSTOP LOCATIONS WILL BE PROTECTED AS PER PLANS.

WILHELM HOPMANN
 1034 F10
 5127 EAST BETHEL ROAD
 ELIZABETH, ILLINOIS 62424
 COVER SHEET

FILE # 131-1000-0200-181821218 Steffes Farm Design/Construction, Inc.

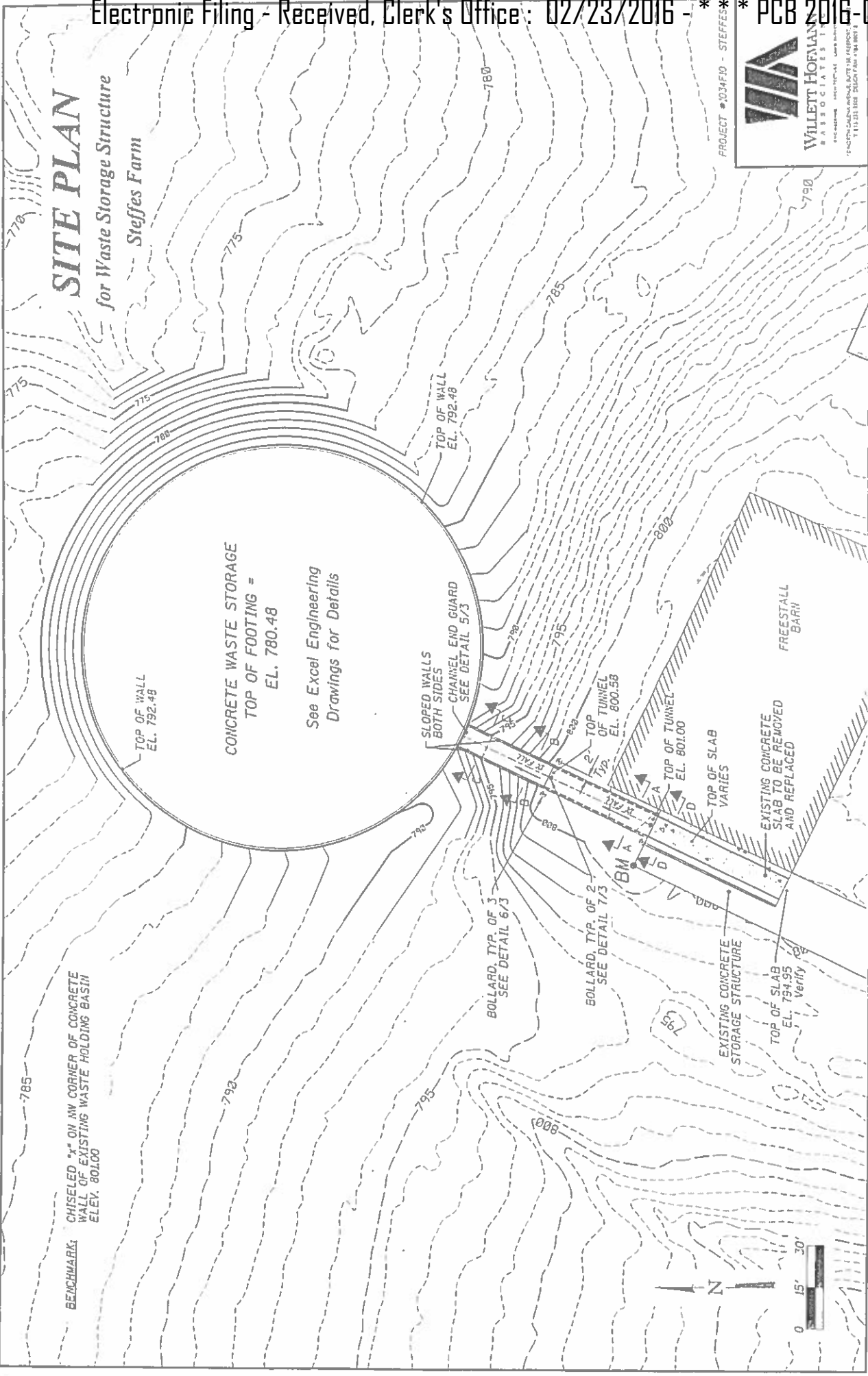
PROJECT #034F10 - STEFFES



WILLETT HOFMANN ASSOCIATES, INC.
 11101 STEFFES FARM ROAD
 SUITE 100
 STEFFES, CA 94568
 TEL: 925.385.1100 FAX: 925.385.1101

SITE PLAN

for Waste Storage Structure
 Steffes Farm



CONCRETE WASTE STORAGE
 TOP OF FOOTING =
 EL. 780.48

See Excel Engineering
 Drawings for Details

TOP OF WALL
 EL. 792.48

TOP OF WALL
 EL. 792.48

SLOPED WALLS
 BOTH SIDES
 CHANNEL END GUARD
 SEE DETAIL 5/3

TOP OF TUNNEL
 EL. 800.58

TOP OF TUNNEL
 EL. 801.00

EXISTING CONCRETE
 SLAB TO BE REMOVED
 AND REPLACED

FREESTALL
 BARN

EXISTING CONCRETE
 STORAGE STRUCTURE

TOP OF SLAB
 EL. 794.95
 Verify

BENCHMARK: CHISELED "x" ON NW CORNER OF CONCRETE
 WALL OF EXISTING WASTE HOLDING BASIN
 ELEV. 801.00

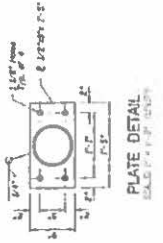
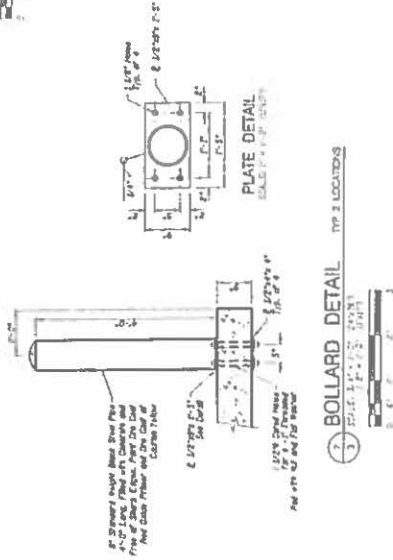
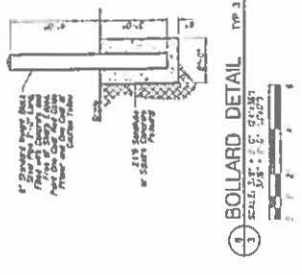
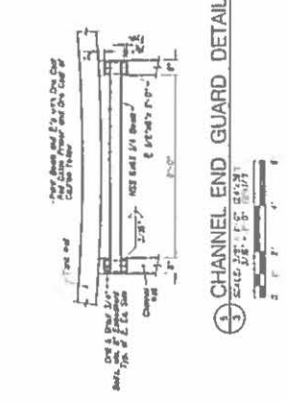
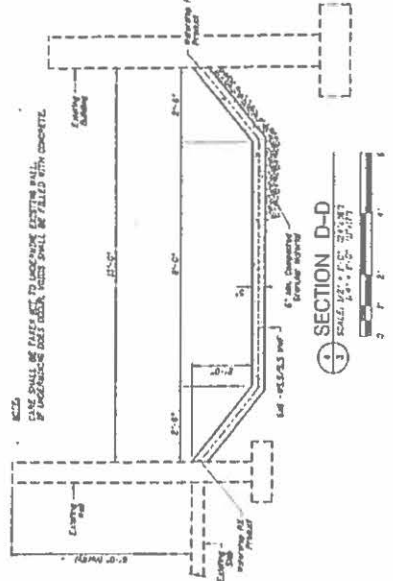
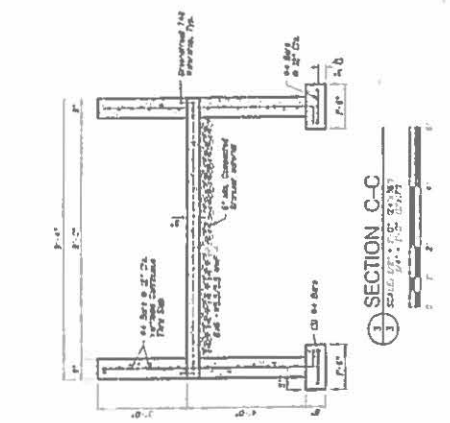
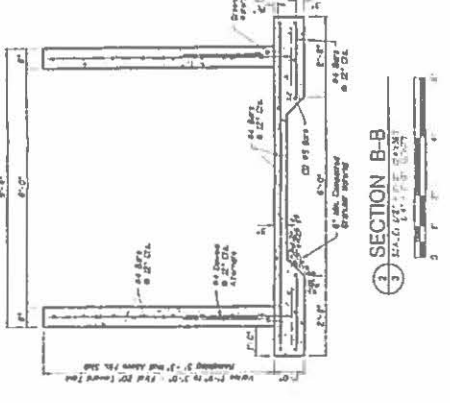
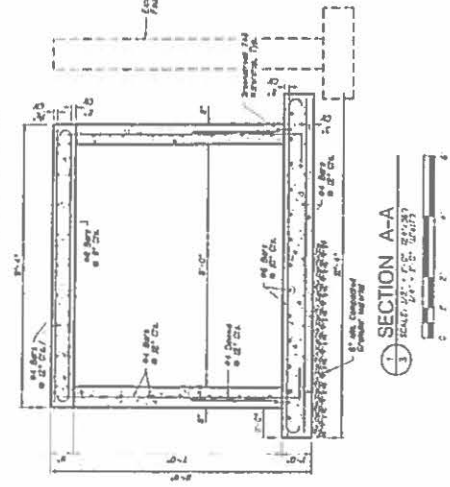
BOLLARD, TYP. OF 3
 SEE DETAIL 6/3

BOLLARD, TYP. OF 2
 SEE DETAIL 7/3



STEFFES FARM
 512
 1227
 WILLIET LOVANN
 1001

NOTE: CASE SHALL BE TAPE TO INCREASE EXISTING RAIL. IF UNDERMINED CASE SHALL BE FILLED WITH CONCRETE.



REINFORCING BARS SHALL BE PLACED TO LOCK INTO EXISTING WALL. IF UNDERMINED BARS SHALL BE FILLED WITH CONCRETE.

4# 2" DIA. REINFORCING BARS SHALL BE PLACED TO LOCK INTO EXISTING WALL. IF UNDERMINED BARS SHALL BE FILLED WITH CONCRETE.

4# 2" DIA. REINFORCING BARS SHALL BE PLACED TO LOCK INTO EXISTING WALL. IF UNDERMINED BARS SHALL BE FILLED WITH CONCRETE.

STATE OF ILLINOIS

COUNTY OF SANGAMON

)
)
)
)
)

CERTIFICATE OF SERVICE

I, the undersigned attorney at law, hereby certify that I have served on the date of February 23, 2016, the attached **APPEARANCE** and **RECOMMENDATION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY**, upon the following persons by First Class U.S. Mail, with proper postage or delivery charges prepaid:

Steve Santarelli
Illinois Department of Revenue
101 West Jefferson
P.O. Box 19033
Springfield, Illinois 62794

Dennis Steffes
5127 East Bethel Road
Elizabeth, Illinois 61028

[Electronic Filing]

Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph Street, Suite. 11-500
Chicago, Illinois 60601

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

/s/ Michael S. Roubitchek
Assistant Counsel
Division of Legal Counsel
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
217.782.5544
217.782.9143 (TDD)

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