

## Stormwater Infrastructure Repair Fund Eligibility Authorization Form

**Disclaimer:** Approval of the project described herein is an acknowledgement of potential program eligibility only and in no way authorizes payment of funds, reimbursement of expenses incurred for the project and does not guarantee any future funding for the project. Funding may be available once the project has met all the eligibility requirements and a project agreement has been approved and executed by the Commission.

Applicant Jurisdiction (s) (Community, Township, HOA)	Village of Beach Park		
Brief Project Title	Ravine and Streambank Site Restoration		
General Location	9950 and 9968 Marguerite Lane in Beach Park Illinois		
Contact Person	Ernesto Huaracha		
Address	500 W. Winchester Rd, Ste. 201		
City, State Zip	Libertyville, IL 60048	Phone	847-377-7700
<b>Resource Request</b>			
<input type="checkbox"/> SIRF Funds <input type="checkbox"/> SMC Staff Capacity <input checked="" type="checkbox"/> Combination Funds and Staff			
<p>Project Description (use additional sheets if necessary):</p> <p>The Lake County Stormwater Management Commission (SMC) is applying for SIRF funds for this project. SMC will receive funds from the Village of Beach Park for this project as a part of, and has also been awarded funds associated with FEMA's Hazard Mitigation Assistance Program to acquire flood-prone properties at 9950 and 9968 Marguerite Lane in Beach Park, IL to demolish and clear any remaining structures, converting the subject properties to permanent "green space".</p> <p>This section of the Bull Creek ravine is experiencing severe erosion which jeopardized the safety of the two identified properties. The properties at 9950 and 9968 Marguerite Lane have been acquired and the demolition of the properties will be completed under a separate contract, to allow for restoration of the ravine side slope to minimize the risk of future bank failure and to protect the adjoining residences from a similar fate. The project includes the stabilization of approximately 235 linear feet of streambank and the restoration of approximately 7,755 face feet of ravine bluff. Based on the recently completed topographic survey, the Bull Creek water surface elevation was at approximately elevation of 594, and the "top of bank" is at approximately 595. The top of the ravine was found to be elevation 632. There is 38 feet of fall from top to bottom. Currently this project is the final stages of the engineering design and permitting process. Field data and survey reconnaissance has been completed for this project. The remaining project schedule expects to have a public bid release and opening for this project in March/April 2021, with construction expected to start in April/May 2021. The bidding and construction schedule will be dictated by the permit schedule from the respective permitting agencies.</p>			

Cost Estimate	\$422,234.25	Applicant Share	\$347,234.25	SIRF Share	\$75,000.00
In-Kind Service Person Hours	Applicant	SMC Staff	SMC	200	
In-Kind Service Description	For project implementation, SMC staff will be providing contract management, project management and field construction oversight.				
Project Timing	Start Date	4/1/2021	Completion Date	7/1/2021	
<b>Summary of Project Area Damages (Quantify Below # and type of damages incurred or threatened to occur)</b>					
<u>Damage Priority</u>	<u>Flood Damage Type</u>	<u>Number of Occurrences</u>	<u>Frequency of Occurrences (e.g. Every Year, every two years)</u>		
1	Structural Damage	Annually	Annually Every rainfall		
2	Flooded Building				
3	Health and Safety	Annually	Annually Every rainfall		
4	Road Flooding				
5	Disruption of Revenue				
6	Parking Lot Flooding				
7	Nuisance Flooding				
<b>Summary of Project Benefits (how much of the quantified damage is to be relieved and to what extent)</b>					

**Flood Hazard Reduction Benefits:**

This project will have flood hazard reduction benefits as stormwater, flooding and stream volume and velocity have contributed to the instability of the bluff system for this project. The bluff was assessed in 2008 Dead River Watershed-Based Plan as having a High level of streambank erosion, (Lateral Recession Rates of Severe to Very Severe have an estimated loss of 0.3-0.5+ ft/ year of soil). The streambank is void of herbaceous vegetation with severe vegetative overhang from trees on the top of the slope. Many fallen trees, erosion and changes in cultural features have caused massive slips and washouts. The watershed is 88% urbanized land use, and urban development has increased steadily since the mid-20th century, but the rate of land conversion from agriculture to urban (mainly residential) land use was likely greatest during the last 40 years.

**Nuisance Flood Reduction Benefits:**

This project is not impacted by nuisance flooding, nor does it experience blocked transportation access due to flooding. This project may alleviate major nuisance flooding in the creek system if downstream sedimentation can be attributed to this project.

**Structural Damage:**

Previous work in the immediate vicinity of our project section of Bull Creek in 2003 and 2004, required the installation of protection measures for sanitary sewer lines that were installed 2.5 feet underground crossing under Bull Creek. The lines became exposed due to creek erosion and were exposed by 12-18 inches, before the stabilization work was done by the North Shore Sanitary District and US Army Corps of Engineers. Stream bed erosion is an ongoing problem that requires attention in the Dead River watershed, downstream sedimentation buildup has the capacity to impact water flow as a recurrent concern. Additional infrastructure structural concerns from erosion sedimentation and debris jams is downstream of the project area, Bull Creek passes through a culvert system under the Union Pacific Railroad.

Other structural impacts include the protection of past stabilization and restoration projects implemented in this reach of Bull Creek. Restoration has occurred in multiple phases from 2002-2018.

Phase 1: The first project phase included a survey of the stream reach, development of a stream restoration plan, tree and shrub removal, and installation of four riffles in the downstream area of the project reach.

Phase 2: The second project phase included the implementation of additional bioengineering practices in 1,500 linear feet of stream corridor as called for in the stream restoration design completed in phase 1. These practices included: grade stabilization using artificial riffles, the excavation and stabilization of floodplain terraces; streambank reshaping and stabilization using rock toe protection and coir products; and bluff stabilization using a-jacks and vegetated geogrid lifts. Native vegetation was included in all practices.

Phase 3: The third project phase included the removal of a large debris jam located just upstream of the phase 2 restoration work.

Phase 4: Over 1,500 linear feet of riparian corridor buffer was improved during 2016-2018 utilizing bioengineering practices: streambank stabilization stone toes were installed; artificial riffle installation and repairs were completed to stabilize the stream bed

**Statement of Local Commitment (assurance that applicant has sufficient matching funds and staff capacity)**

SMC does have sufficient matching funds and staff capacity to accomplish the task.



Signature of Authorized Representative of the Cost Sharing Entity

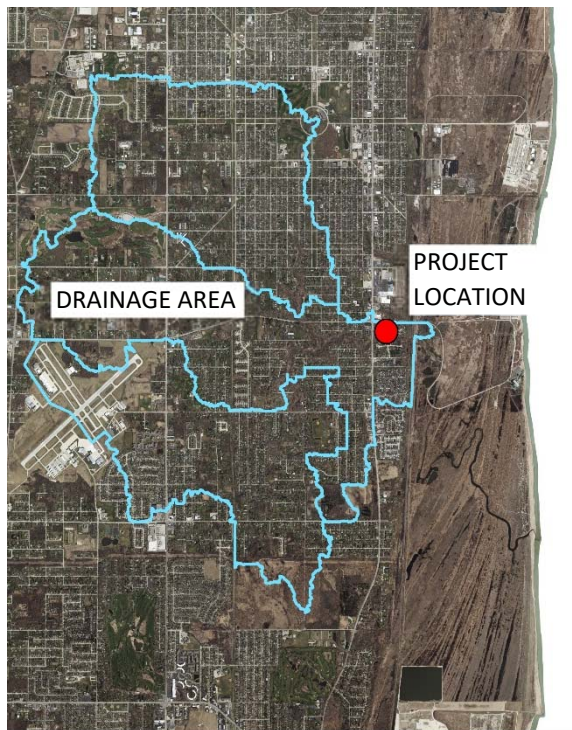
Ernesto Huaracha

## Spell Name Above

### Requested Attachments:

1. Location Map
2. Detailed project Description
3. Detailed (per criteria) Statement on Benefits, including quantifiable benefits.
4. Statement of compliance with SMC policies, local plans and Ordinance
5. Other comments or supporting documents.

**FIGURE 2.** Project location.



**FIGURE 2.** Project location.



LAKE COUNTY STORMWATER MANAGEMENT COMMISSION  
BULL CREEK STABILIZATION PRPROJECT  
9950 AND 9968 MARGUERITE LANE  
BEACH PARK, LAKE COUNTY, ILLINOIS

INDEX

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- 2 GENERAL NOTES
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- 7 SOIL EROSION AND SEDIMENT CONTROL DETAILS
- 8 CONSTRUCTION DETAILS
- 9 SEED MIXES PLANTING INSTRUCTIONS

LOCATION / VICINITY MAP



IDOT STANDARDS

IDOT "SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED APRIL 1, 2016.

IDOT "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JANUARY 1, 2021.

BENCHMARK

ELEVATION BENCHMARKS DATUM: NAVD 88 (GPS OBSERVED)		
NO.	DESCRIPTION	ELEV.
OSBM	SOUTH FLANGE BOLT OF HYDRANT BETWEEN ADDRESSES 9949 & 9967 MARGUERITE LN.	630.01
20-1		
OSBM	NORTH RIM OF BOLTED SANITARY MANHOLE SOUTH OF THE CREEK EAST OF CULVERT	608.13
20-2		

LOCATION

CALL JULIE 811  
WITH THE FOLLOWING:

COUNTY \_\_\_\_\_  
CITY-TOWNSHIP \_\_\_\_\_

48 HOURS BEFORE YOU DIG.  
EXCLUDING SAT., SUN., & HOLIDAYS

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY AS WELL AS SUPERVISION/DIRECTION AND MEANS/METHODS OF CONSTRUCTION



James Scott Griffith 12/2/2020  
ENGINEER DATE

ILLINOIS REGISTRATION No. -  
EXPIRATION DATE: /

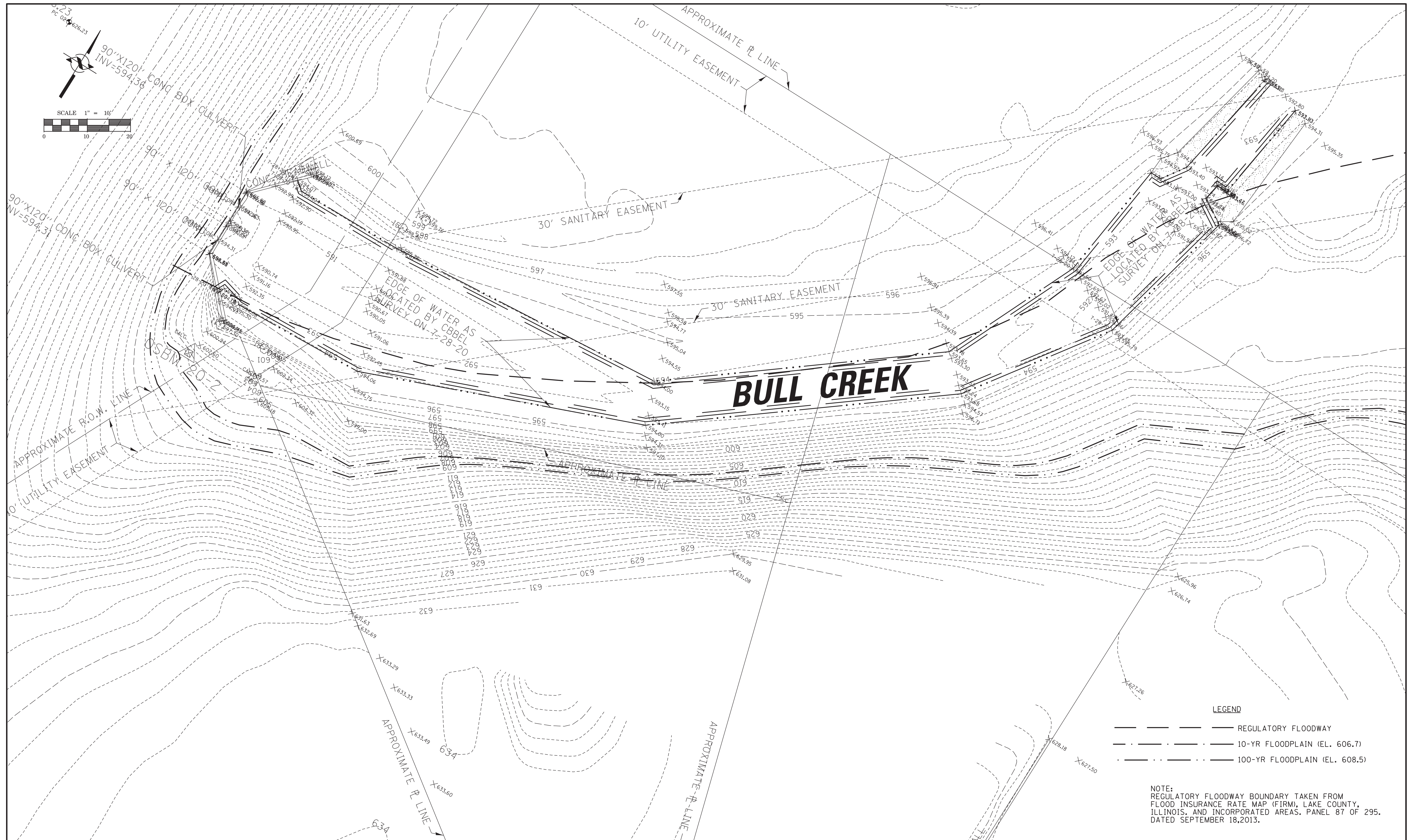
CLIENT : LAKE COUNTY STORMWATER  
MANAGEMENT COMMISSION  
500 W. WINCHESTER ROAD, SUITE 201  
LIBERTYVILLE, ILLINOIS 60045



CHRISTOPHER B. BURKE ENGINEERING, LTD.  
9575 W. Higgins Road, Suite 600  
Rosemont, Illinois 60018  
(847) 823-0500

PROFESSIONAL DESIGN FIRM NO. 184-001175  
EXPIRATION DATE: 04/30/21





### LEGEND

REGULATORY FLOODWAY  
10-YR FLOODPLAIN (EL. 606.7)  
100-YR FLOODPLAIN (EL. 608.5)

NOTE:  
REGULATORY FLOODWAY BOUNDARY TAKEN FROM  
FLOOD INSURANCE RATE MAP (FIRM), LAKE COUNTY,  
ILLINOIS, AND INCORPORATED AREAS. PANEL 87 OF 295.  
DATED SEPTEMBER 18, 2013.



**CHRISTOPHER B. BURKE** ENGINEERING, LTD.  
9575 W. Higgins Road, Suite 600  
Rosemont, Illinois 60018  
(847) 823-0500

CLIENT:

**LAKE COUNTY STORMWATER  
MANAGEMENT COMMISSION**  
500 W. WINCHESTER ROAD, STE 201  
LIBERTYVILLE, ILLINOIS 60048

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**TITLE:**

## EXISTING CONDITIONS

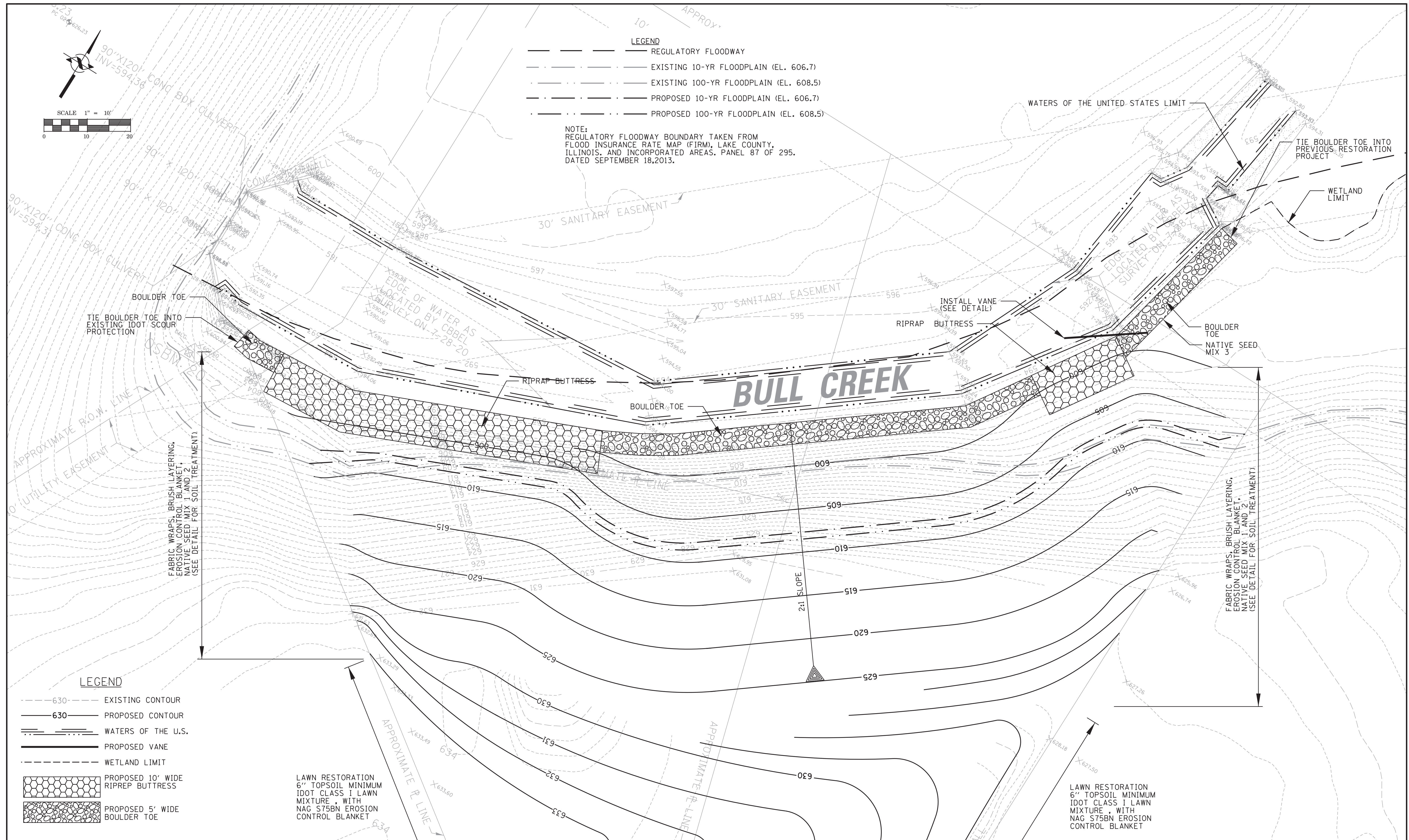
PROJ. NO. 200248

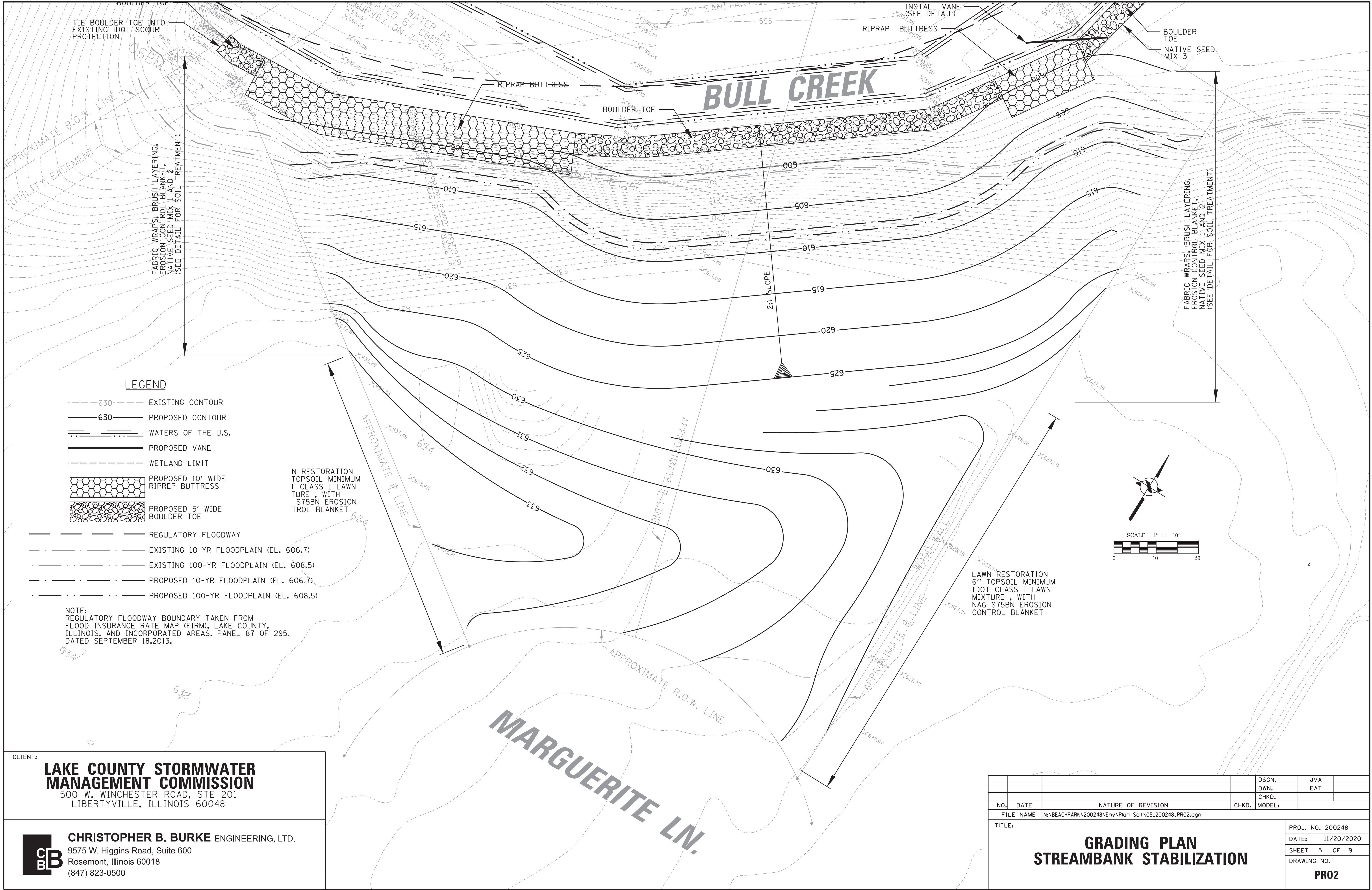
DATE: 11/18/2020

SHEET 3 OF

DRAWING NO.

EX



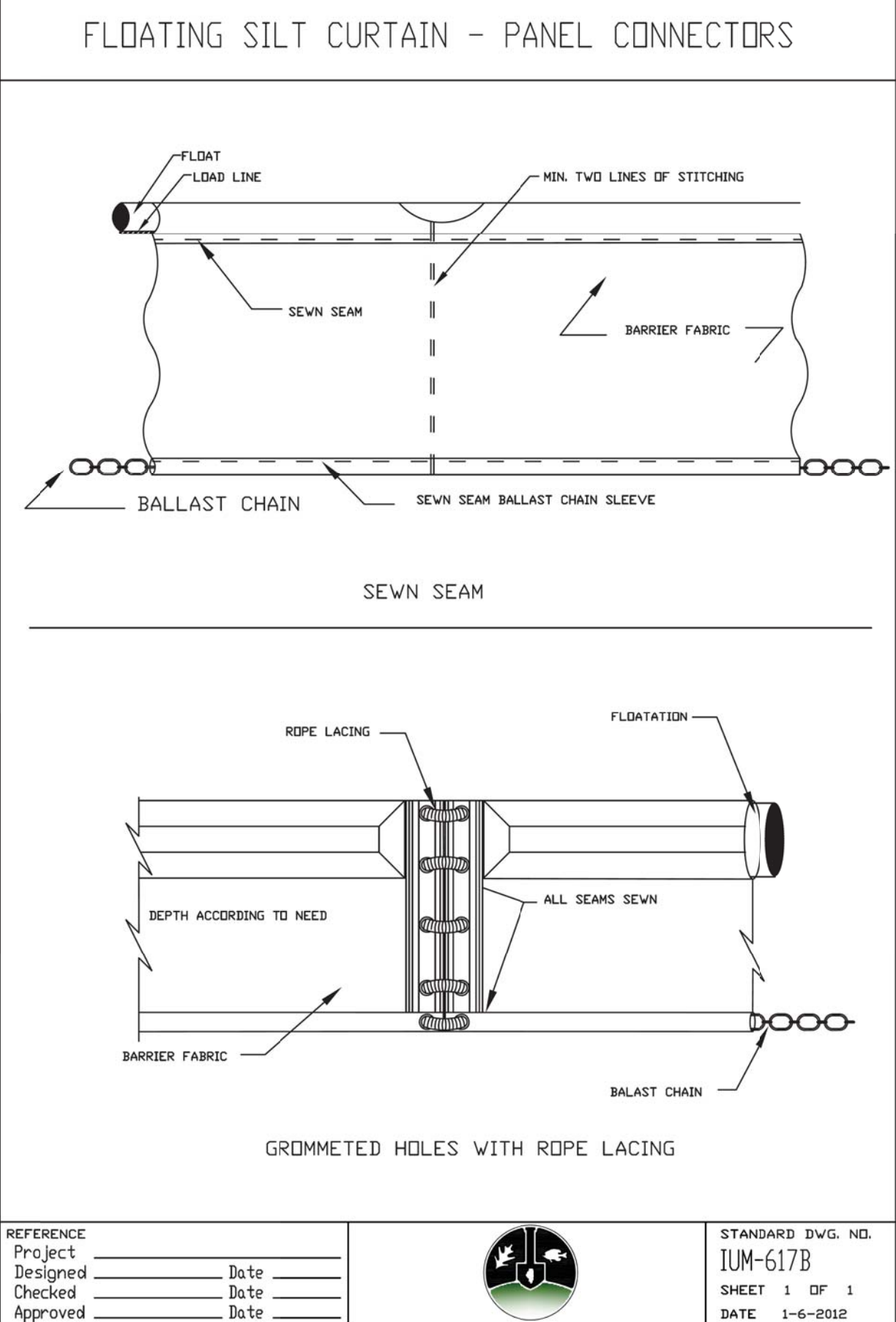
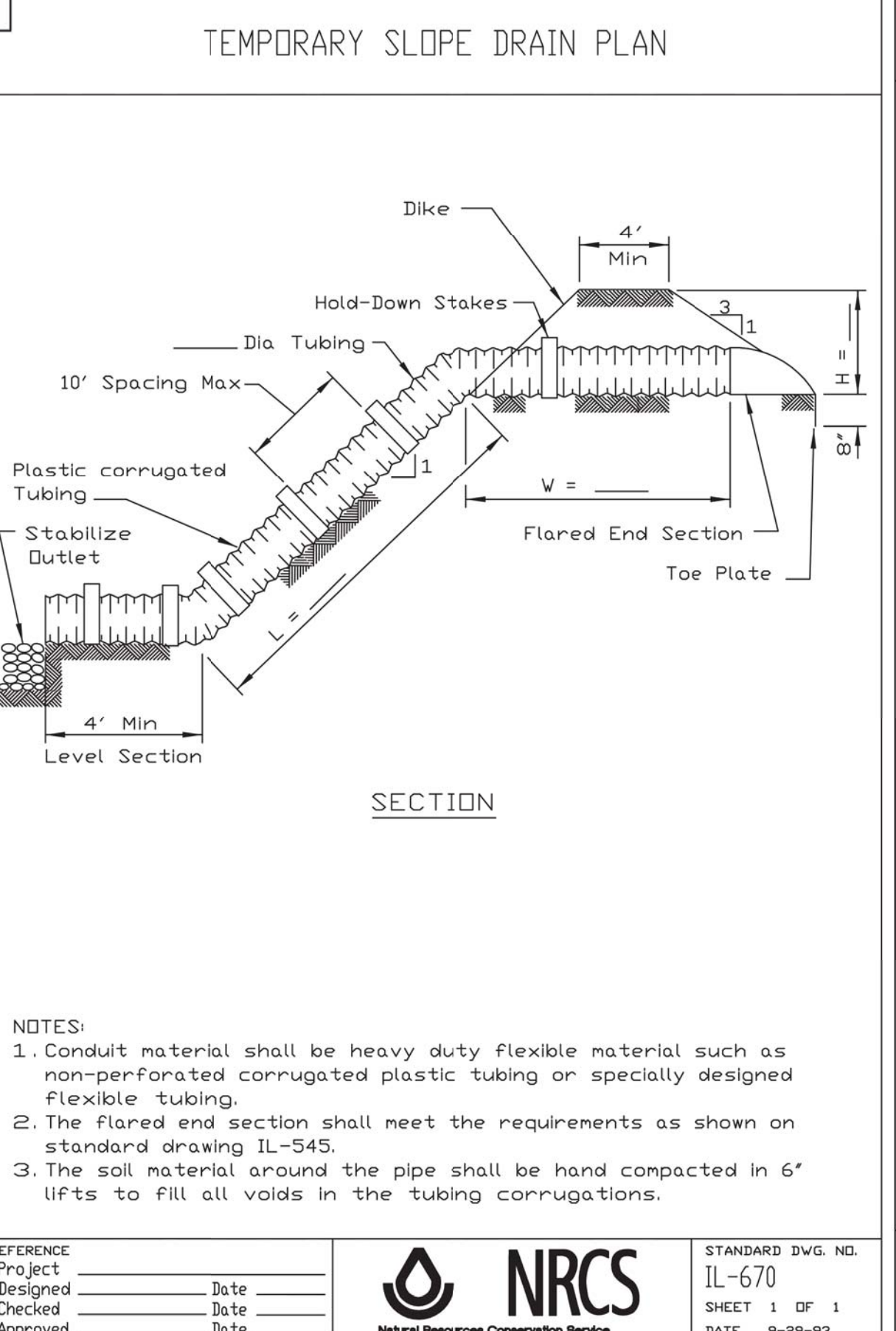
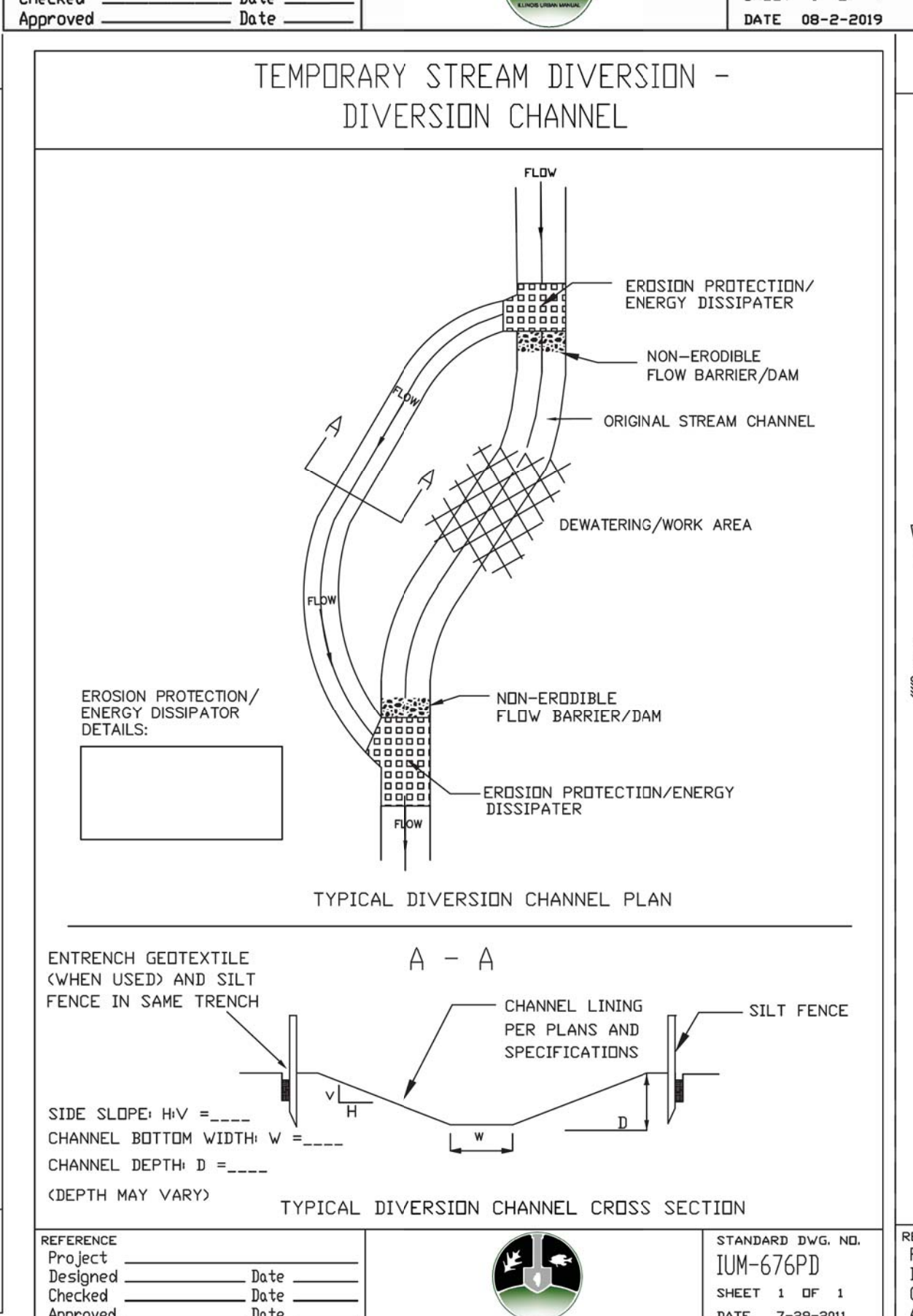
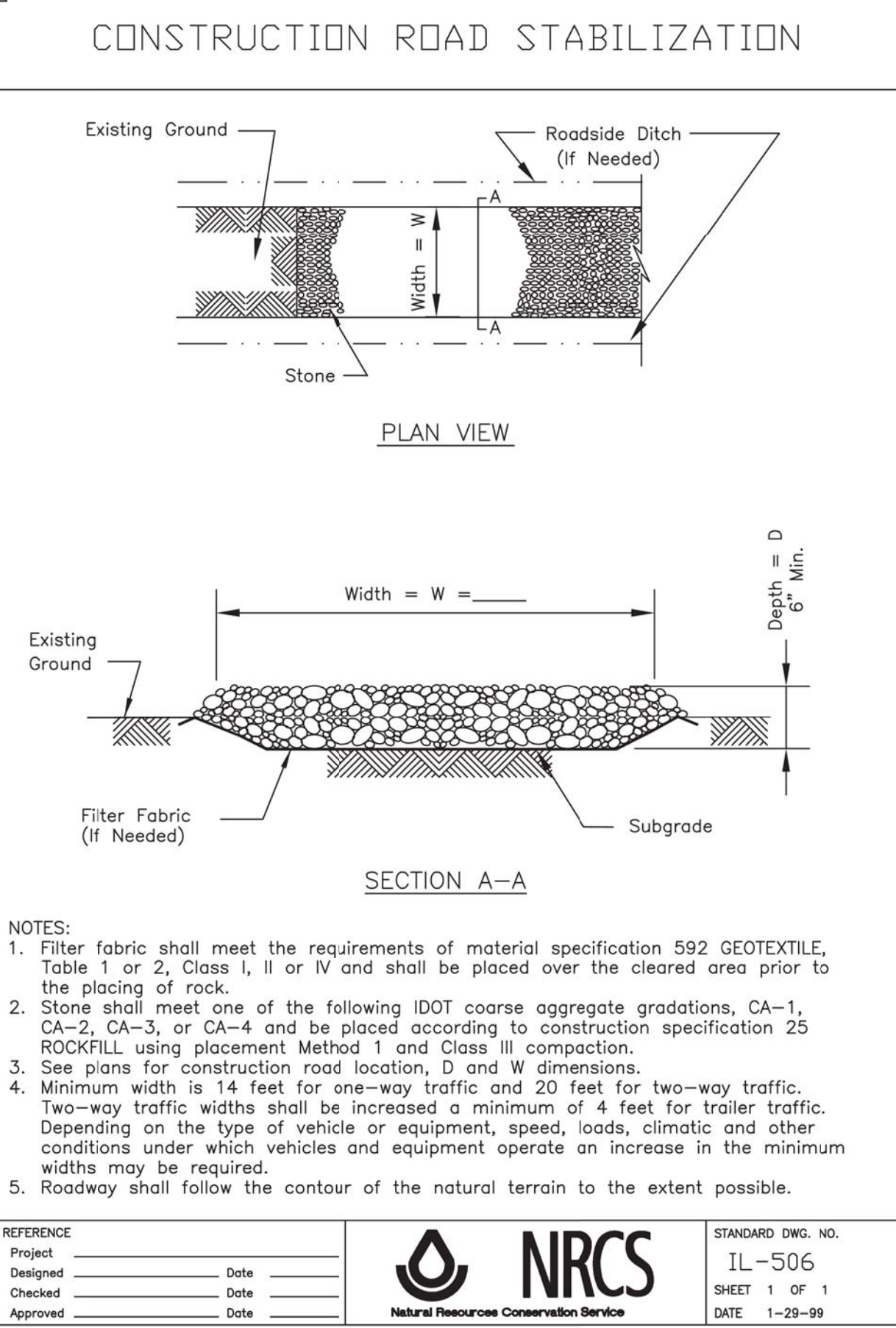
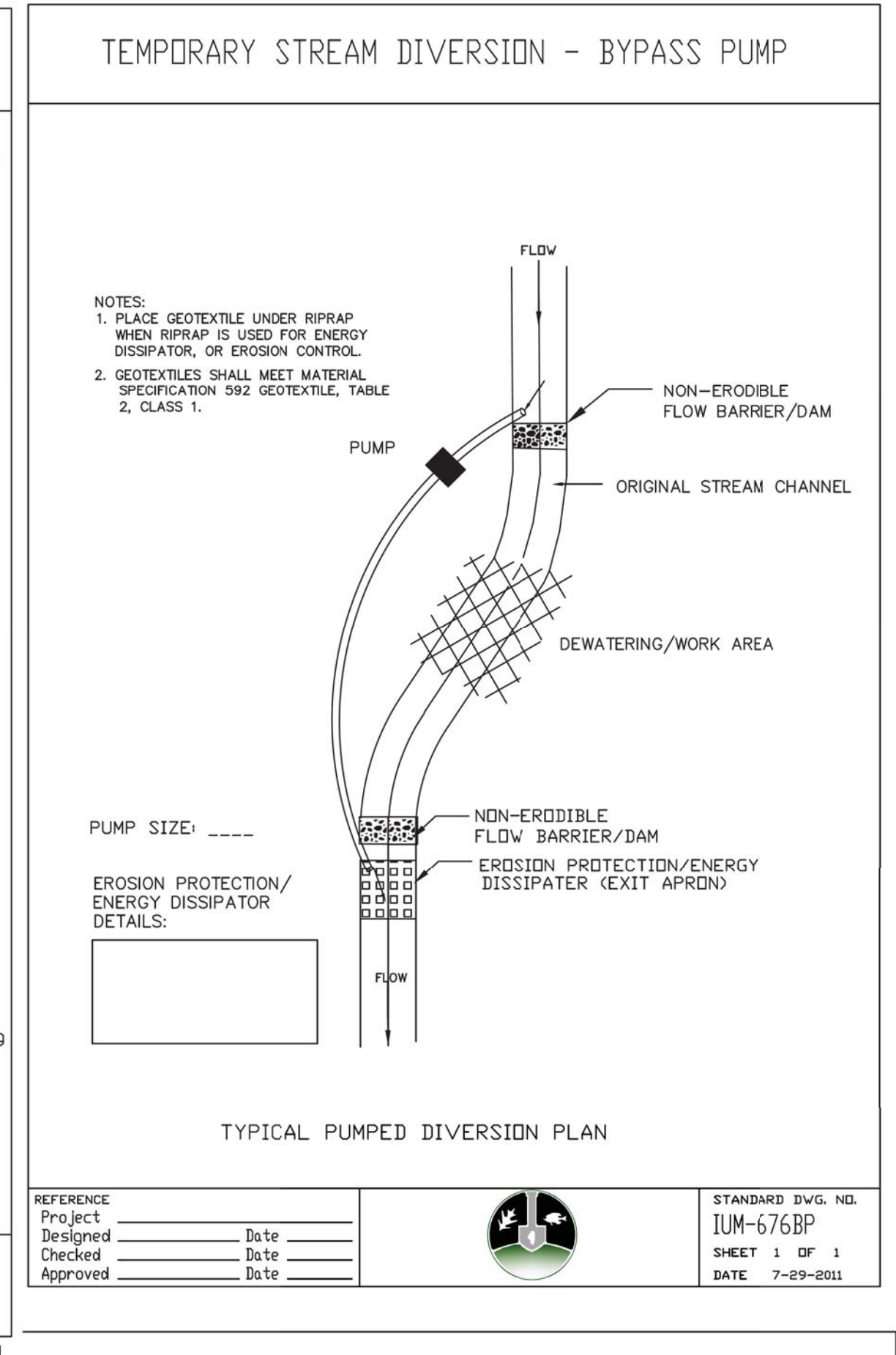
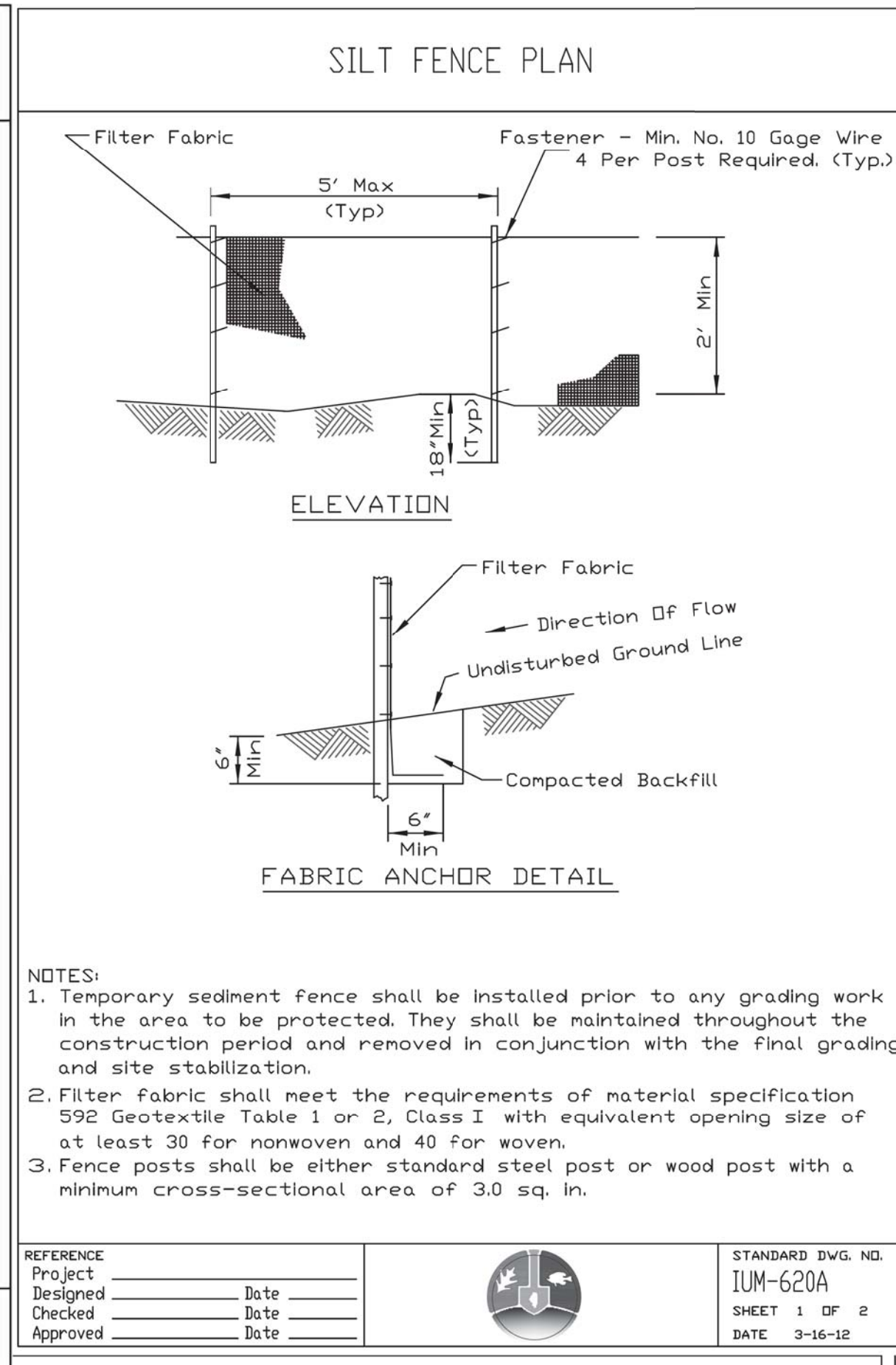
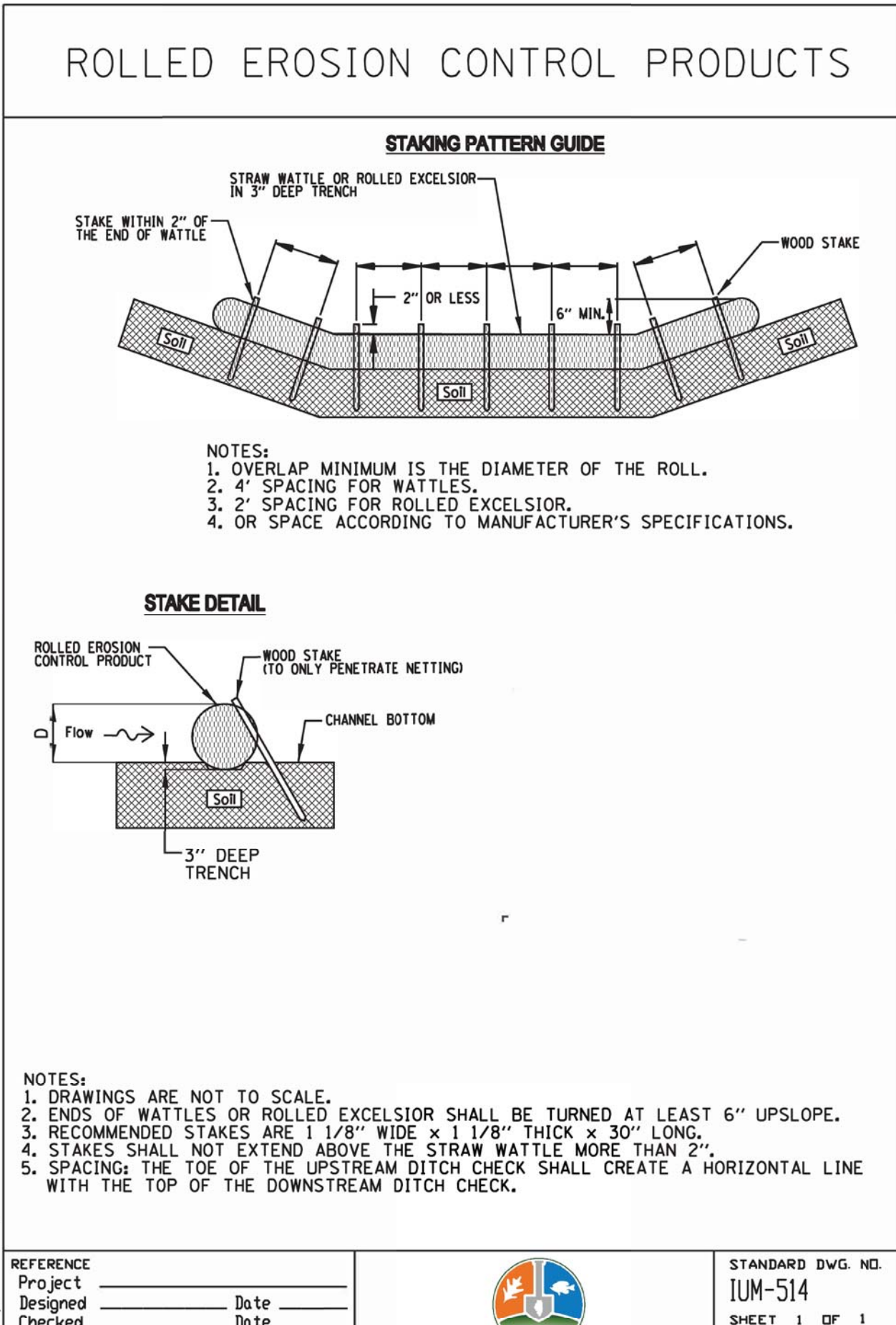
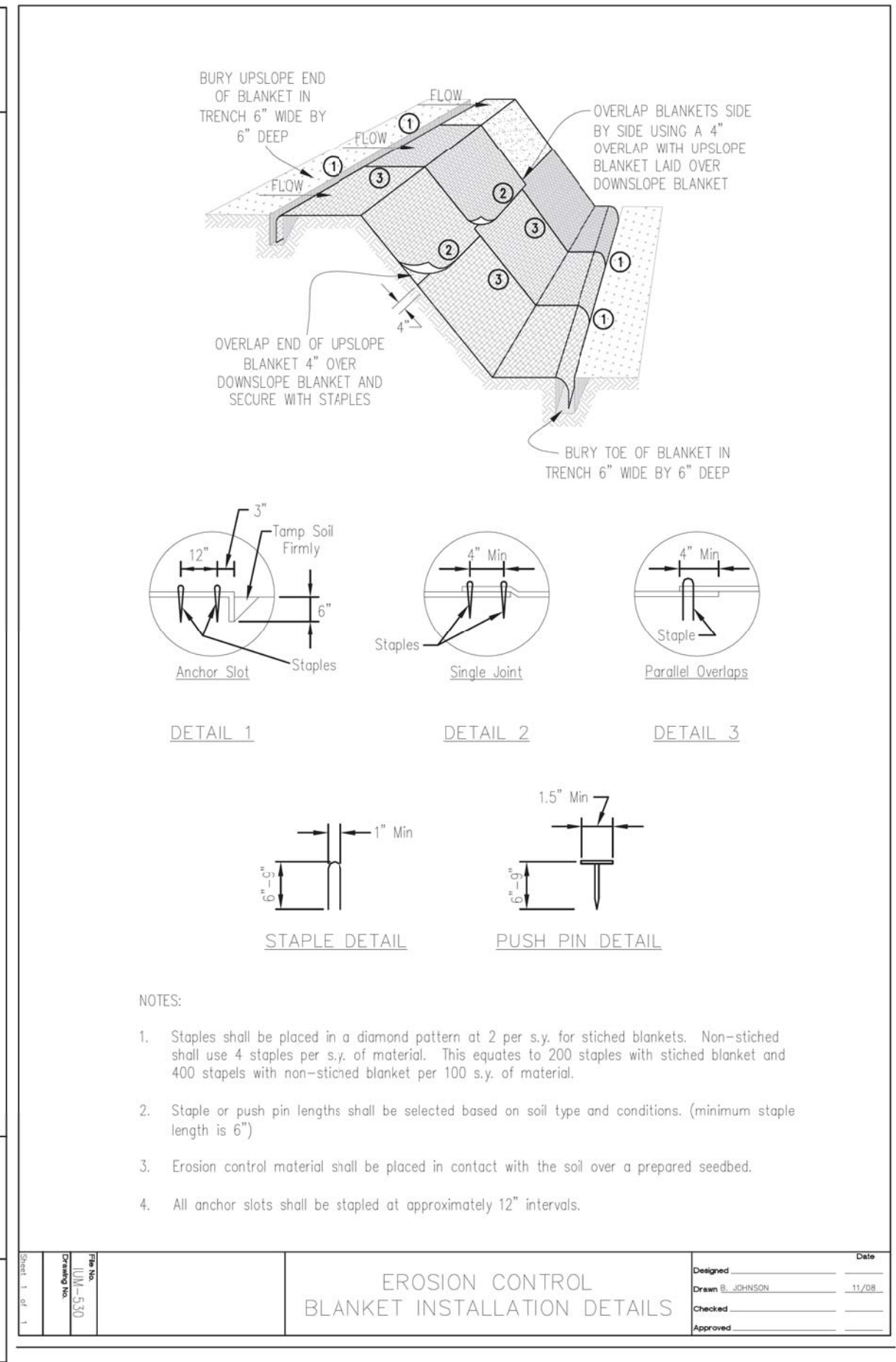
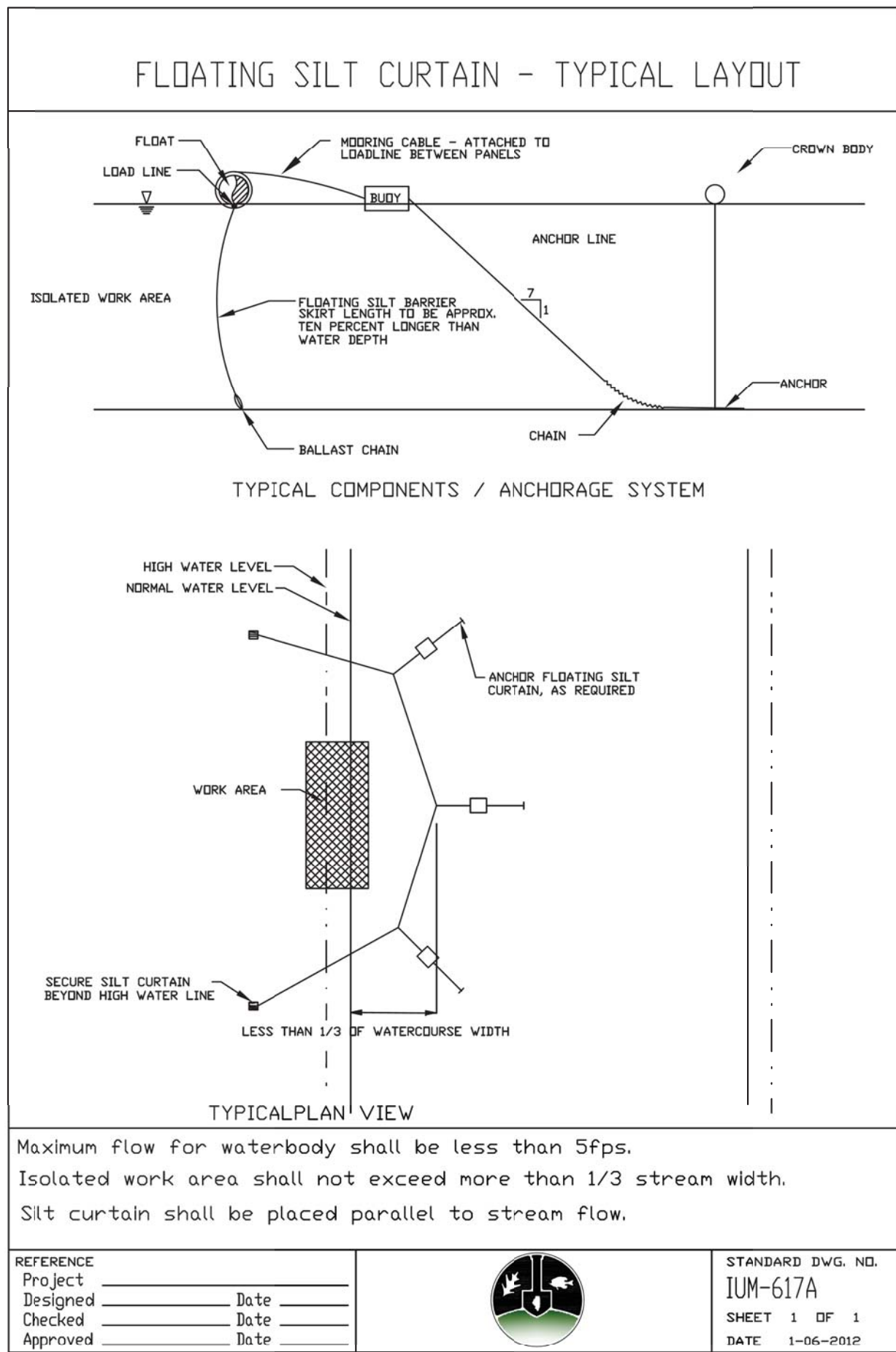


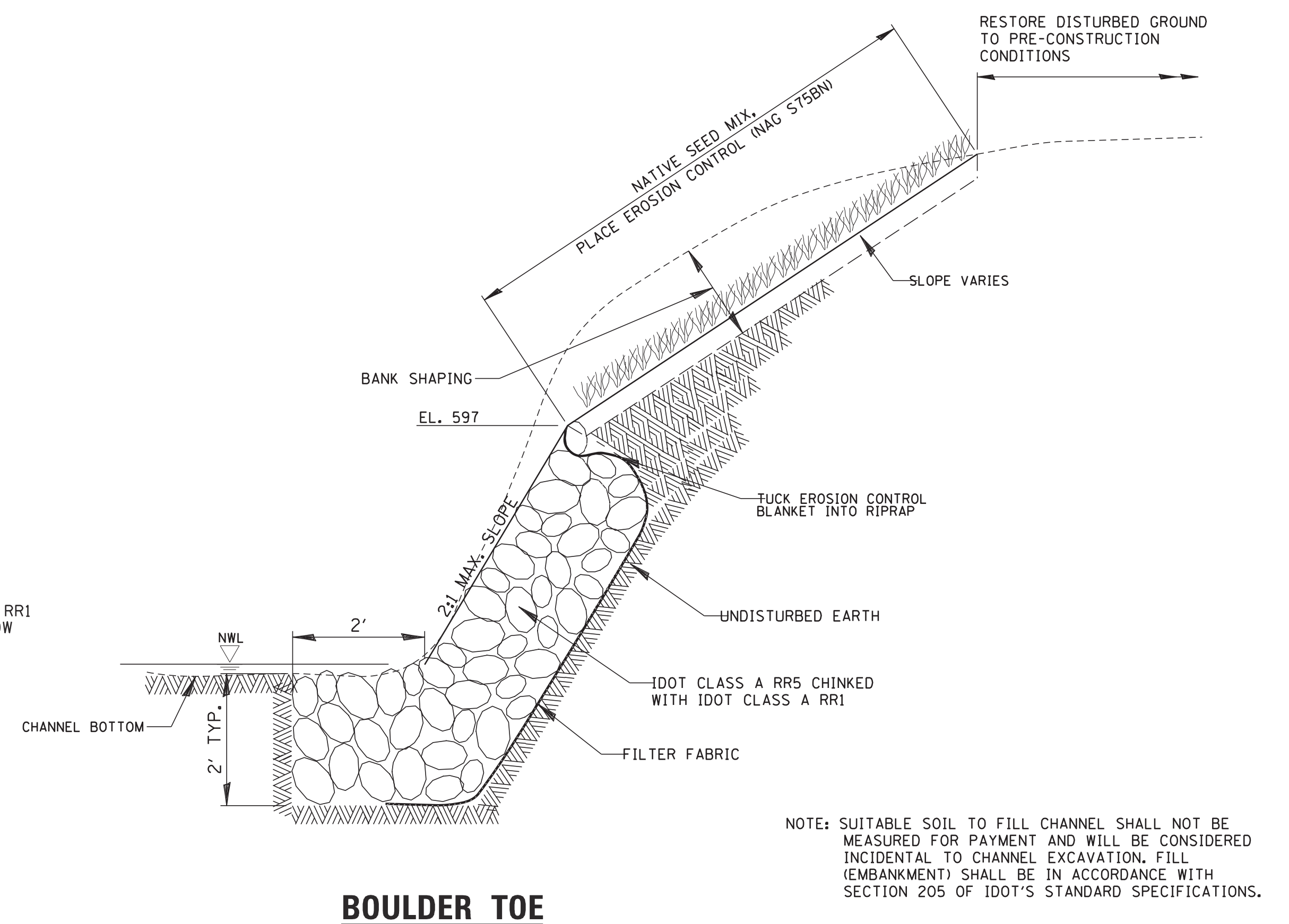
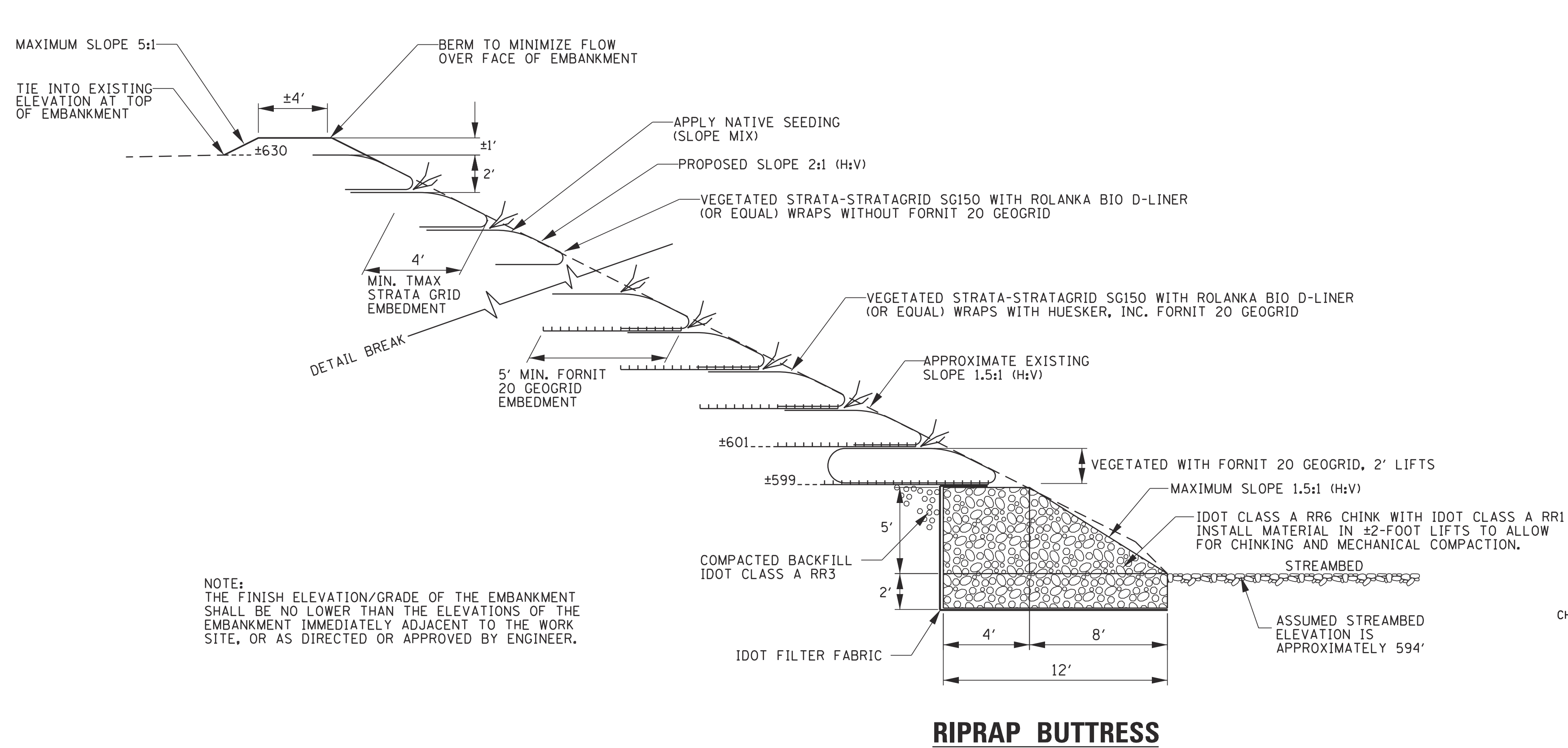
CLIENT: **LAKE COUNTY STORMWATER MANAGEMENT COMMISSION**  
500 W. WINCHESTER ROAD, STE 201  
LIBERTYVILLE, ILLINOIS 60048

**CHRISTOPHER B. BURKE ENGINEERING, LTD.**  
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(847) 823-0500

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TITLE:					PROJ. NO. 200248	
<b>GRADING PLAN STREAMBANK STABILIZATION</b>					DATE: 11/20/2020	
					SHEET 5 OF 9	
					DRAWING NO. <b>PR02</b>	





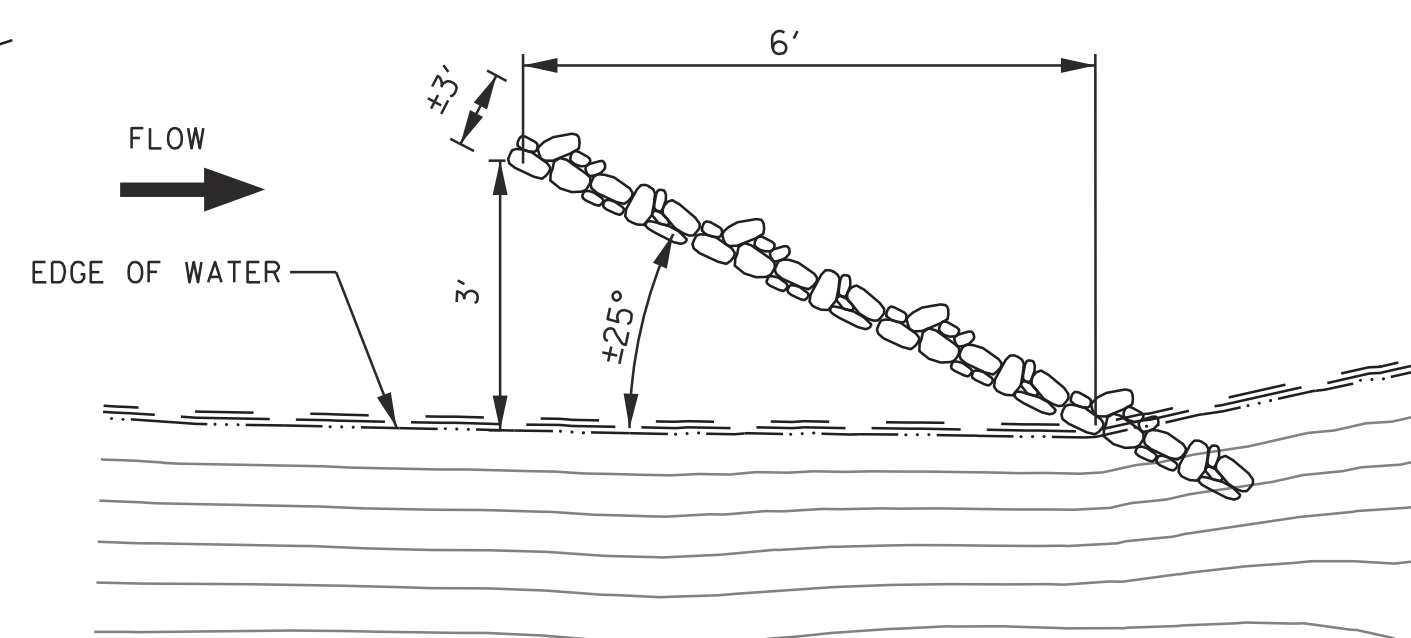
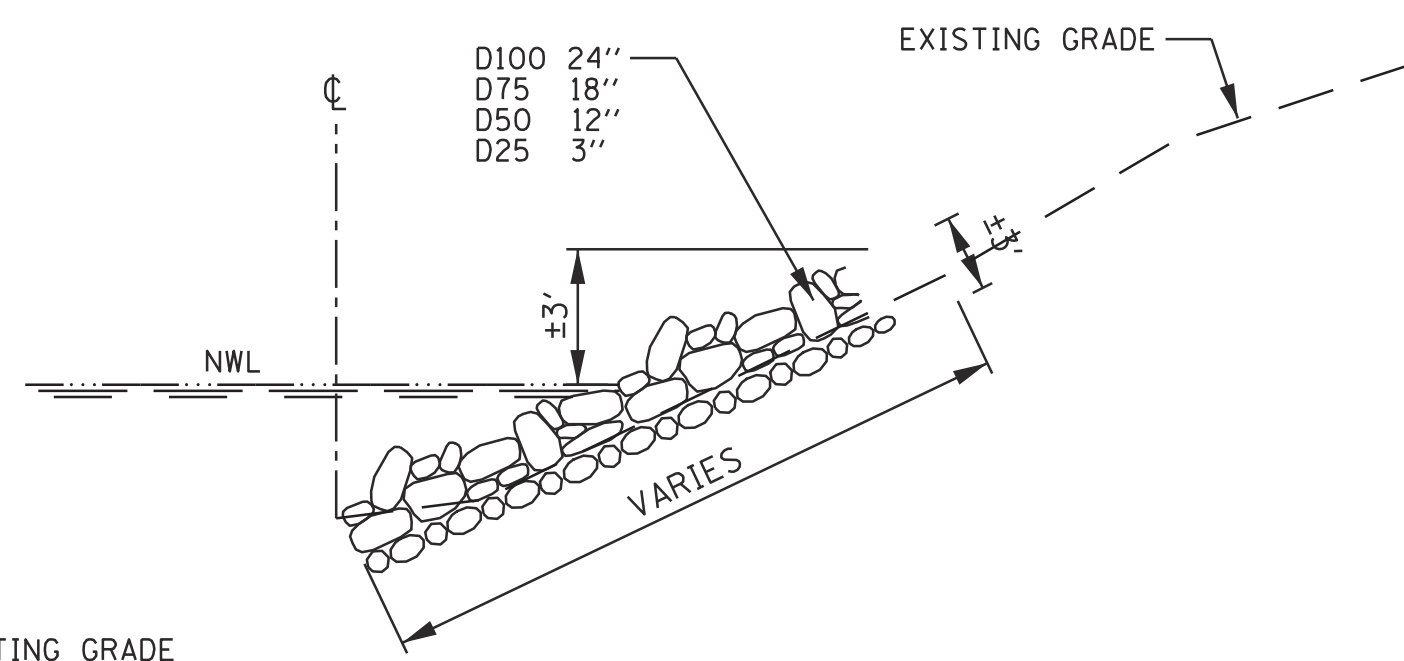
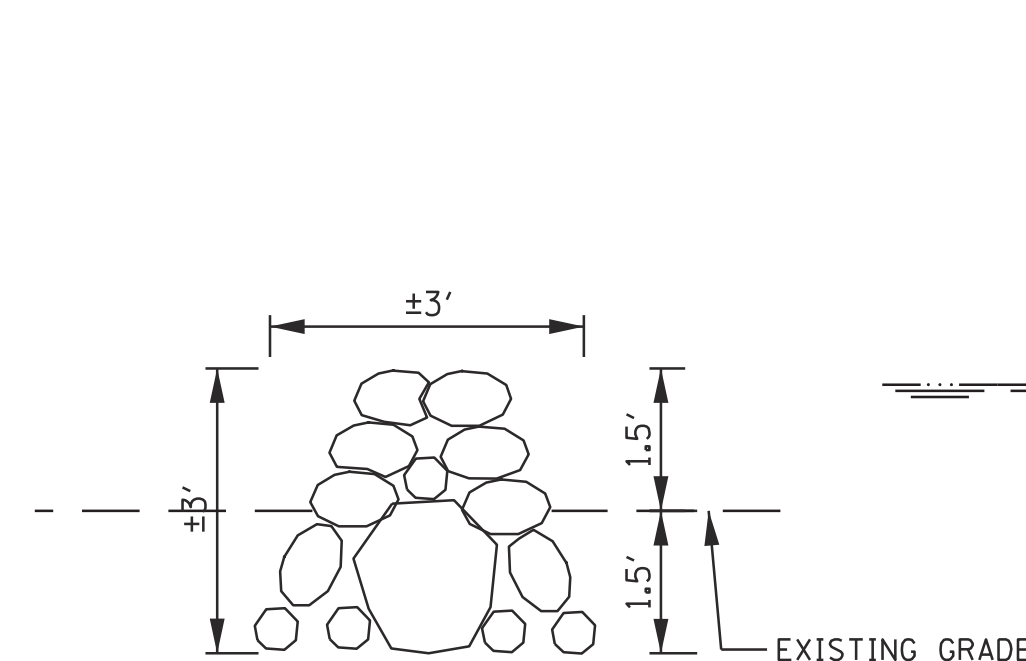


**Work within a waterway must meet the following standards:**

1. Work in the waterway should be timed to take place during low or no-flow conditions. Low flow conditions are flow at or below the normal water elevation.
2. Water shall be isolated from the in-stream work area using a cofferdam constructed of non-erodible materials (steel sheets, aqua barriers, rip rap and geotextile fabric, etc.). Earthen cofferdams are not permissible.
3. Work may not be performed in the water, except for the placement of the materials necessary for the construction of the cofferdam. The cofferdam must be constructed from the upland area and no equipment may enter the water at any time. If the installation of the cofferdam cannot be completed from shore and access is needed to reach the area to be coffered, other measures, such as the construction of a causeway, will be necessary to ensure that equipment does not enter the water. Once the cofferdam is in place and the isolated area is dewatered, equipment may enter the coffered area to perform the required work.

NOTES:

1. ALL VANES SHALL DIMENSIONALLY MATCH VANE 1 CONSTRUCTION AS, SHOWN ABOVE, IN THE DETAILS AND DESCRIBED BELOW.
2. THE VANE HEAD SHALL BE PLACED 3 FEET FROM THE TOE OF THE SLOPE.
3. THE VANE FROM THE HEAD TO THE TOE OF THE SLOPE SHALL BE 6 FEET AS MEASURED ALONG THE BANK.
4. THE VANE SHOULD EXTEND AND BE BURIED IN TO THE TOP OF THE BANK.
5. VANE SPACING IS PER PLAN.
6. SEE VANE DETAIL FOR CONSTRUCTION REQUIREMENTS.



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(847) 823-0500

CLIENT:

**LAKE COUNTY STORMWATER  
MANAGEMENT COMMISSION**  
500 W. WINCHESTER ROAD, STE 201  
LIBERTYVILLE, ILLINOIS 60048

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## CONSTRUCTION DETAILS

PROJ. NO. 200248

DATE: 11/23/2020

SHEET 8 OF 9

DRAWING NO.

**DET**



Ms. Kelcey Traynoff  
Lake County Stormwater Management Commission  
500 W. Winchester Road, Suite 201  
Libertyville, IL 60048



Re: Stormwater Infrastructure Repair Fund  
Beach Park Ravine and Streambank Site Restoration Project Proposal

Dear Ms. Traynoff,

Pursuant to the attached Stormwater Infrastructure Repair Fund Eligibility Authorization Form, this document shall serve as the detailed project description, Statement of Benefits, and Statement of Compliance for the Beach Park Ravine and Streambank Site Restoration project.

**Statement on Benefits, including Quantifiable Benefits**

Below is discussion of the project benefits based on the various Project Area Damages listed in the SIRF Eligibility Authorization Form.

**1. Structural Damage**

SMC will receive funds from the Village of Beach Park for this project as a part of , and has also been awarded funds associated with FEMA's Hazard Mitigation Assistance Program to acquire flood-prone properties at 9950 and 9968 Marguerite Lane in Beach Park, IL to demolish and clear any remaining structures, converting the subject properties to permanent "green space".

This section of the Bull Creek ravine is experiencing severe erosion which jeopardized the safety of the two identified properties. The properties at 9950 and 9968 Marguerite Lane have been acquired and the demolition of the properties will be completed under a separate contract, to allow for restoration of the ravine side slope to minimize the risk of future bank failure and to protect the adjoining residences from a similar fate.

The project includes the stabilization of approximately 235 linear feet of streambank and the restoration of approximately 7,755 face feet of ravine bluff. Based on the recently completed topographic survey, the Bull Creek water surface elevation was at approximately elevation of 594, and the "top of bank" is at approximately 595. The top of the ravine was found to be elevation 632. There is 38 feet of fall from top to bottom.

**Structural Damage:** Previous work in the immediate vicinity of our project section of Bull Creek in 2003 and 2004, required the installation of protection measures for sanitary sewer lines that were installed 2.5 feet underground crossing under Bull Creek. The lines became exposed due to creek erosion and were exposed by 12-18 inches, before the stabilization work was done by the North Shore Sanitary District and US Army Corps of Engineers. Stream bed erosion is an ongoing problem that requires attention in the Dead River watershed, downstream sedimentation buildup has the capacity to impact water flow as a recurrent concern. Additional infrastructure structural concerns from erosion

sedimentation and debris jams is downstream of the project area, Bull Creek passes through a culvert system under the Union Pacific Railroad.

Other structural impacts include the protection of past stabilization and restoration projects implemented in this reach of Bull Creek. Restoration has occurred in multiple phases from 2002-2018.

Phase 1: The first project phase included a survey of the stream reach, development of a stream restoration plan, tree and shrub removal, and installation of four riffles in the downstream area of the project reach.

Phase 2: The second project phase included the implementation of additional bioengineering practices in 1,500 linear feet of stream corridor as called for in the stream restoration design completed in phase 1. These practices included: grade stabilization using artificial riffles, the excavation and stabilization of floodplain terraces; streambank reshaping and stabilization using rock toe protection and coir products; and bluff stabilization using a-jacks and vegetated geogrid lifts. Native vegetation was included in all practices.

Phase 3: The third project phase included the removal of a large debris jam located just upstream of the phase 2 restoration work.

Phase 4: Over 1,500 linear feet of riparian corridor buffer was improved during 2016-2018 utilizing bioengineering practices: streambank stabilization stone toes were installed; artificial riffle installation and repairs were completed to stabilize the stream bed

## **2. Flooded Buildings**

Buildings are not directly flooded. The buildings on the subject properties are perched above the creek, but the **Flood Hazard Reduction Benefits** of this project will benefit the structural integrity of the ravine bluffs and adjacent residential buildings. Stormwater, flooding and stream volume and velocity have contributed to the instability of the bluff system for this project. The bluff was assessed in 2008 Dead River Watershed- Based Plan as having a High level of streambank erosion, (Lateral Recession Rates of Severe to Very Severe have an estimated loss of 0.3-0.5+ ft/ year of soil). The streambank is void of herbaceous vegetation with severe vegetative overhang from trees on the top of the slope. Many fallen trees, erosion and changes in cultural features have caused massive slips and washouts. The watershed is 88% urbanized land use, and urban development has increased steadily since the mid-20th century, but the rate of land conversion from agriculture to urban (mainly residential) land use was likely greatest during the last 40 years.

## **3. Health & Safety**

Based on the identified streambank and ravine structural pressures discussed in Item 2 and the Structural damage discussed in Item 1, the Village of Beach Park issued a determination on January 20, 2020 that this building is an unsafe structure (Beach Park Municipal Code Title 15 Chapter 15.21 Property Maintenance Code, 15.21.010 Administration, H Unsafe Structures and Equipment, 1 General, 1a Unsafe Structures and 1c Structure Unfit for Human Occupancy).

15.21 .010 H 1. General- When a structure or equipment is found by the code official to be unsafe, or when a structure is found unfit for human occupancy, or is found unlawful, such structure shall be condemned pursuant to the provisions of this chapter

15.21.010 H1a. Unsafe Structures- An unsafe structure is one that is found to be dangerous to the life, health, property or safety of the public or the occupants of the structure by not providing minimum safeguards to protect or warn occupants in the event of fire, or because such structure contains unsafe

equipment or is so damaged, decayed, dilapidated, structurally unsafe or of such a faulty construction or unstable foundation, that a partial or complete collapse is possible.

15.21.010 H1c. Structure Unfit For Human Occupancy- A structure is unfit for human occupancy whenever the code official finds that such structure is unsafe, unlawful or, because of the degree to which the structure is in disrepair or lacks maintenance, is unsanitary, vermin or rat infested, contains filth and contamination, or lacks ventilation, illumination, sanitary or heating facilities or other essential equipment required by this chapter, or because the location of the structure constitutes a hazard to the occupants of the structure or to the public.

The structure was also placarded with wording indicating that "This Structure is Unsafe and Its Occupancy Has Been Prohibited by The Code Official"

#### **4. Road Flooding**

No road impacts

#### **5. Disruption of Revenue**

The affected area are residential properties, no commercial areas are affected.

#### **6. Parking Lot Flooding**

No parking lot areas are within the affected areas.

#### **7. Nuisance Flooding**

This project is not impacted by nuisance flooding, nor does it experience blocked transportation access due to flooding. This project may alleviate major nuisance flooding in the creek system if downstream sedimentation can be attributed to this project.

#### **Statement of Compliance with SMC Policies, Local Plans & Ordinance**

Conceptual plans have been prepared outlining the proposed structural stabilization improvements at the project location. During the engineering design phase, detailed plans will be prepared in accordance with the Lake County Watershed Development Ordinance and submitted for review.

The conceptual plans have been submitted to the Army Corp of Engineers and have been approved under the Regional Permit 5 (Aquatic Habitat Restoration, Establishment, and Enhancement) and the General Conditions for all activities authorized under the Regional Permit Program.

Please review the attached information and call if you have any questions.

Sincerely,  
Lake County Stormwater Management Commission



Ernesto Huaracha  
Water Resource Professional

**Applicant:** Lake County Stormwater Management Commission

**Project Title:** Beach Park Ravine and Streambank Site Restoration Project

**Statement of Compliance**

This project will comply with all Lake County Stormwater Management Commission policies, local plans and ordinances, and applicable state and federal regulations.

Signature:  \_\_\_\_\_

Printed Name: Ernesto Huaracha \_\_\_\_\_

Position: Water Resource Professional \_\_\_\_\_

Date: 12/19/2020 \_\_\_\_\_