

U.S. Army Corps of Engineers (USACE)
APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
 33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved -
OMB No. 0710-0003
Expires: 02-28-2022

The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR APPLICATION TO THE ABOVE EMAIL.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: <http://dpcl.dod.mil/Privacy/SORNSIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx>

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME First - <u>Colleen</u> Middle - <u></u> Last - <u>Bloom</u> Company - <u>Curtis Pond Association</u> E-mail Address - <u></u>	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - <u>Grace</u> Middle - <u>P</u> Last - <u>Glynn</u> Company - <u>Dubois & King, Inc.</u> E-mail Address - <u>gglynn@dubois-king.com</u>
6. APPLICANT'S ADDRESS: Address- <u>CPA, PO Box 162, 84 W County Road</u> City - <u>Calais</u> State - <u>VT</u> Zip - <u>05648</u> Country - <u>USA</u>	9. AGENT'S ADDRESS: Address- <u>28 N Main St</u> City - <u>Randolph</u> State - <u>VT</u> Zip - <u>05602</u> Country - <u>USA</u>
7. APPLICANT'S PHONE NOS. w/AREA CODE a. Residence <u></u> b. Business <u>802-272.6441</u> c. Fax <u></u>	10. AGENTS PHONE NOS. w/AREA CODE a. Residence <u></u> b. Business <u>802-431-1483</u> c. Fax <u></u>

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Grace Glynn to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.



NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions) <u>Curtis Pond Dam Rehabilitation</u>	
13. NAME OF WATERBODY, IF KNOWN (if applicable) <u>Curtis Pond</u>	14. PROJECT STREET ADDRESS (if applicable) Address <u>NA (existing dam on Curtis Pond)</u>
15. LOCATION OF PROJECT Latitude: °N <u>44.37651</u> Longitude: °W <u>72.49584</u>	City - <u>Calais</u> State - <u>VT</u> Zip - <u>05648</u>
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID <u>120-037-10404</u> Municipality <u>Calais</u> Section - <u></u> Township - <u></u> Range - <u></u>	

17. DIRECTIONS TO THE SITE

Park at pulloff at intersection of Camp Rd and Worcester Rd in Calais. The existing dam is located just NW of the intersection.

18. Nature of Activity (Description of project, include all features)

The project consists of constructing a new concrete wall along the upstream face of the existing, 120-ft long, 11-ft high stone dam. The new concrete wall will have footings anchored into the underlying bedrock with post tensioned rock anchors. A new low-level drain will be added for safety. In addition, the VT Dam Safety Program has indicated a requirement to provide overtopping protection of the existing dam.

A temporary cofferdam will be installed just upstream of the existing dam to hold the pond in place during construction (approximately 3 months. The pond water level upstream of the temporary cofferdam may be temporarily lowered during construction if required for safety reasons.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The purpose of the project is to rehabilitate Curtis Pond Dam. The existing dam is deteriorating and does not meet minimum dam safety standards, including spillway hydraulic capacity and subject to overtopping and potential failure. Prior hydrologic and hydraulic analyses indicate the dam is subject to overtopping by storm events at and in excess of the 50-year return frequency. The dam has a Significant hazard classification and based on VT Dam Safety guidelines, should be able to pass a 1,000-year storm frequency and meet applicable stability criteria.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

To construct a new concrete wall along the upstream face of the existing dam, and to provide stability for this concrete wall.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type concrete/granular fill

Amount in Cubic Yards

Type

Amount in Cubic Yards

Type

Amount in Cubic Yards

1,146.15 CY

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres 1,886 SF / .04 acres

or

Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

The proposed cofferdam has been moved south to the extent feasible in order to minimize the area of drawdown. Temporary matting will be used during construction to minimize impacts to the emergent wetland that supports the rare lesser bur-reed. As shown on the plans, areas supporting this rare plant will be flagged during construction so that substrate is not disturbed. D&K will obtain an RTE Takings Permit from the State of VT prior to commencement of work, will abide by all permit conditions, and will follow a transplanting/seed collecting plan submitted as part of the Takings Permit application.

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list)

a. Address- 86 Worcester Rd

City - Calais

State - VT

Zip - 05648

b. Address- 117 Country Rd W

City - Calais

State - VT

Zip - 05648

c. Address-

City -

State -

Zip -

d. Address-

City -

State -

Zip -

e. Address-

City -

State -

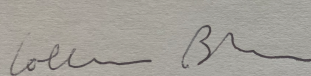
Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

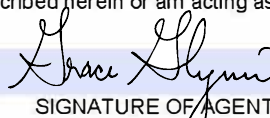
AGENCY	TYPE APPROVAL *	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
VT ANR	Shoreland Permit		12/20/22		
VT ANR	RTE Takings Permit		12/20/22		
Town of Calais	Conditional Use/Floodplain		12/20/22		

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

 2/16/23

DATE



SIGNATURE OF AGENT

12/16/22

DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.



MEMORANDUM

To: Jeffrey Tucker, Project File
Date: December 1, 2022
From: Grace Glynn
Subject: Curtis Pond Dam, Calais Natural Resources Review
Project No.: 928190

This memorandum summarizes the natural resources site investigation performed on September 1, 2022 at Curtis Pond Dam near the intersection of Worcester Rd and Camp Rd in Calais. The approximate site investigation area is shown on the attached map generated by the VT Natural Resources Atlas.

Wetlands and Water Resources

Two wetlands were identified within the project area and delineated in accordance with the COE 1987 Wetland Delineation Manual and the COE 2012 Regional Supplement for the Northcentral and Northeast Region. The wetland boundaries were flagged and recorded using a GPS unit with sub-meter accuracy. The wetlands are shown on the attached exhibit, and photos are attached.

Wetland A is palustrine emergent (PEM) and is located along the edge of Curtis Pond, just northeast of the dam. This wetland is dominated by sweetgale, three-way sedge, common reed, and joint-leaved rush, and its principal function is rare species habitat. This wetland is Class II because it contains a state-threatened plant species.

Wetland B is palustrine emergent (PEM) and is located just downstream of the dam. This wetland is dominated by jewelweed and does not appear to perform significant functions because of its small size. This wetland was confirmed as Class III by District Wetlands Ecologist Shannon Morrison (see attached email correspondence).

Though impacts to Class II wetlands and their jurisdictional buffers typically require a VT State Wetlands permit, Shannon Morrison and Laura Lapierre of the VT Wetlands Program have confirmed that no State Wetlands permit will be required for the proposed dam rehabilitation, which falls under Allowed Use 6.12 per the Vermont Wetland Rules (see attached email correspondence).

The proposed dam rehabilitation will also require a Shoreland Permit (because the dam is located in Curtis Pond's jurisdictional Shoreland Zone, which stretches 250 ft from Mean Water Level towards the upland. The proposed project will also require a Conditional Use Permit from the Town of Calais for work in the Flood Hazard Area.

Non-Native Invasive Species

Three invasive species were observed in Wetland A: purple loosestrife (*Lythrum salicaria*), common reed (*Phragmites australis*), and periwinkle (*Vinca minor*).

Rare, Threatened and Endangered (RTE) Species and Exemplary Natural Communities



No RTE species or exemplary natural communities are mapped in the immediate project area by the VT Natural Resources Atlas. As shown on the attached U.S. Fish & Wildlife Service resource list, a rare species review using the Information for Planning and Consultation (IPaC) tool was completed and returned one federally threatened species: the northern long-eared bat (*Myotis septentrionalis*). One Candidate species, the monarch butterfly (*Danaus plexippus*) was also returned; Candidate species for listing receive no regulatory protection. Based on this review, no critical habitats are known from the site. No bat roost trees were identified during field work.

One additional RTE species was observed during field work: lesser bur-reed (*Sparganium natans*). This rare (S2S3) species is protected by VT's Threatened and Endangered Species Act, and D&K is in the process of applying for an RTE Takings Permit through the VT Fish & Wildlife Department for unavoidable impacts to this species just upstream of the dam. Impacts to the lesser bur-reed have been minimized to the extent practicable. By conducting a pond-wide survey of this species, D&K has calculated that only 2% of the Curtis Pond lesser bur-reed population will be impacted by this project.






LEGEND



Rare Threatened Endangered

-  Threatened or Endangered
-  Rare


Wetland - VSWI

-  Class 1 Wetland
-  Class 2 Wetland
-  Buffer












River Corridors (Aug 27, 2019)

-  .5 - 2 sqmi.
-  .25-.5 sqmi.



Soils - Hydric

-  Parcels (standardized)

Roads

-  Interstate
-  US Highway; 1
-  State Highway
-  Town Highway (Class 1)
-  Town Highway (Class 2,3)
-  Town Highway (Class 4)
-  State Forest Trail
-  National Forest Trail
-  Legal Trail
-  Private Road/Driveway
-  Proposed Roads

Stream/River

-  Stream
-  Intermittent Stream

1: 1,626

September 1, 2022



NOTES

Map created using ANR's Natural Resources Atlas

83.0 0 42.00 83.0 Meters

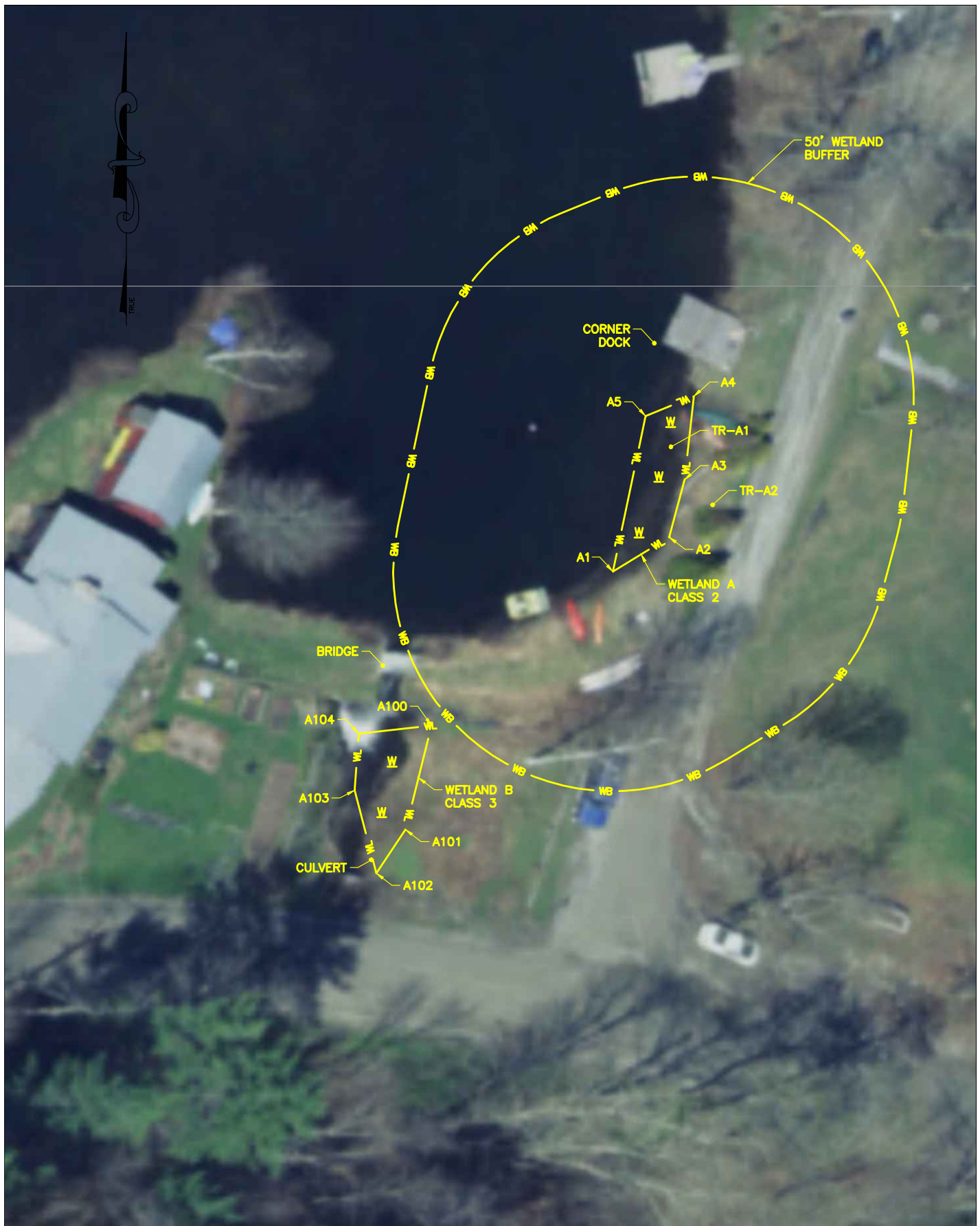
WGS_1984_Web_Mercator_Auxiliary_Sphere

© Vermont Agency of Natural Resources

1" = 136 Ft. 1cm = 16 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.



GRAPHIC SCALE



1 inch = 30 ft.

DuBois & King inc.

engineering
planning
management
development

CURTIS POND DAM
CALAIS, VERMONT

WETLAND EXHIBIT

DRAWN BY JWP	DATE NOV. 2022
CHECKED BY	PROJ. NO. 928190M
PROJ. ENG. GPG	DRAW. NO.

Curtis Pond Dam Natural Resources Field Review, Calais VT
September 1 & October 1, 2022

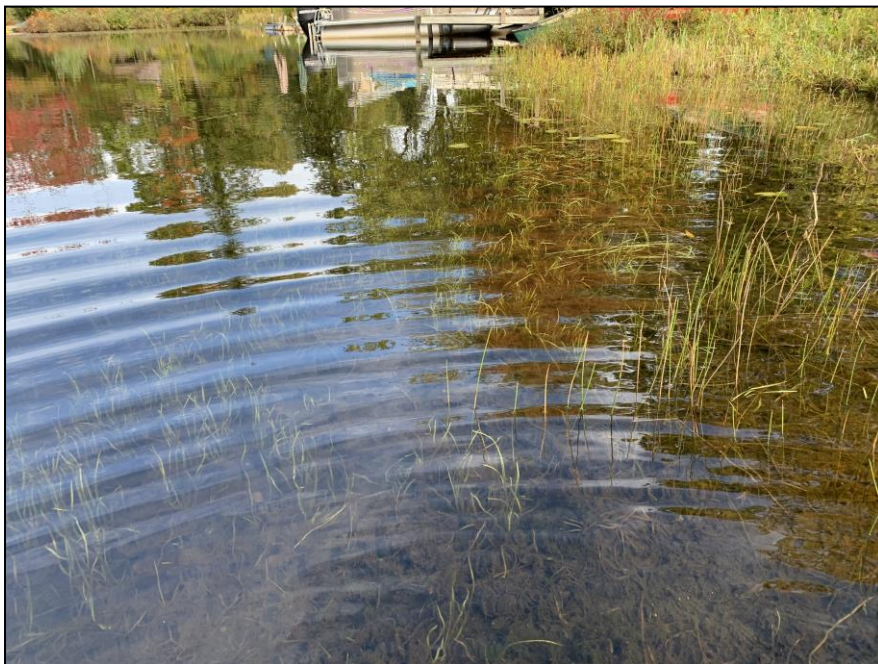


Photograph 1. Wetland A, looking south toward dam



Photograph 2. Lesser bur-reed (*Sparganium natans*, threatened plant species) along edge of Curtis Pond

**Curtis Pond Dam Natural Resources Field Review, Calais VT
September 1 & October 1, 2022**



Photograph 3. Lesser bur-reed in Wetland A, looking north



Photograph 4. Lesser bur-reed fruiting head below water
on northern edge of Curtis Pond during pond-wide survey

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Curtis Pond Dam City/County: Calais Sampling Date: 9/1/22
Applicant/Owner: Curtis Pond Association State: VT Sampling Point: TR1
Investigator(s): Grace Glynn Section, Township, Range: _____
Landform (hillslope, terrace, etc.): pond edge Local relief (concave, convex, none): None
Slope (%): 5 Lat: 44.37659 Long: 72.49553 Datum: NAD 83
Soil Map Unit Name: Glover-Vershire complex, very rocky NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes _____ No _____	If yes, optional Wetland Site ID: <u>Wetland A</u>
Wetland Hydrology Present? Yes _____ No _____	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		_____ Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Drainage Patterns (B10)
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Moss Trim Lines (B16)
_____ Saturation (A3)	_____ Marl Deposits (B15)	_____ Dry-Season Water Table (C2)
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Crayfish Burrows (C8)
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Stunted or Stressed Plants (D1)
_____ Algal Mat or Crust (B4)	_____ Recent Iron Reduction in Tilled Soils (C6)	_____ Geomorphic Position (D2)
_____ Iron Deposits (B5)	_____ Thin Muck Surface (C7)	_____ Shallow Aquitard (D3)
_____ Inundation Visible on Aerial Imagery (B7)	_____ Other (Explain in Remarks)	_____ Microtopographic Relief (D4)
_____ Sparsely Vegetated Concave Surface (B8)		_____ FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>1-12</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present? Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>1</u>	
Saturation Present? Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>surface</u> (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION – Use scientific names of plants.

 Sampling Point: TR1

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				Prevalence Index worksheet: <div style="display: flex; justify-content: space-between;"> Total % Cover of: Multiply by: </div> OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' r</u>)				
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5' r</u>)				
1. <u>Phragmites americanus</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Juncus articulatus</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Sium suave</u>	<u>20</u>		<u>OBL</u>	
4. <u>Mentha sp</u>	<u>20</u>		<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>90</u> = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: TR1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Curtis Pond Dam City/County: Calais Sampling Date: 9/1/22
Applicant/Owner: Curtis Pond Association State: VT Sampling Point: TR2
Investigator(s): Grace Glynn Section, Township, Range: _____
Landform (hillslope, terrace, etc.): pond bank Local relief (concave, convex, none): None
Slope (%): 15 Lat: 44.37659 Long: 72.49553 Datum: NAD 83
Soil Map Unit Name: Glover-Vershire complex, very rocky NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		_____ Surface Soil Cracks (B6)
_____ Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Drainage Patterns (B10)
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Moss Trim Lines (B16)
_____ Saturation (A3)	_____ Marl Deposits (B15)	_____ Dry-Season Water Table (C2)
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Crayfish Burrows (C8)
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Stunted or Stressed Plants (D1)
_____ Algal Mat or Crust (B4)	_____ Recent Iron Reduction in Tilled Soils (C6)	_____ Geomorphic Position (D2)
_____ Iron Deposits (B5)	_____ Thin Muck Surface (C7)	_____ Shallow Aquitard (D3)
_____ Inundation Visible on Aerial Imagery (B7)	_____ Other (Explain in Remarks)	_____ Microtopographic Relief (D4)
_____ Sparsely Vegetated Concave Surface (B8)		_____ FAC-Neutral Test (D5)
Field Observations:		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION – Use scientific names of plants.

Sampling Point: TR2

Tree Stratum (Plot size: <u>30' r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>none</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' r</u>)				
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>5' r</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Dactylis glomerata</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Asclepias syriaca</u>	<u>40</u>	<u>N</u>	<u>UPL</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: TR2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R,
<input type="checkbox"/> Histic Epipedon (A2)	MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric Soil Present? Yes _____ No X

Remarks:

Curtis Pond Dam, Calais: site visit request

Morrison, Shannon <Shannon.Morrison@vermont.gov>
To: Grace Glynn <gglynn@dubois-king.com>

Wed, Dec 7, 2022 at 1:24 PM

Nevermind. I recall now that its Class II because of the RTE. I just checked in with Laura about this one - th way we handle drawdowns for the sake of repair is that's part of the maintenance/repair/replacement allowed use to get in there using a coffer dam. Because you are proposing to use matting for access, and other impacts other than drawdown are at the structure, you do not require a permit. Let me know if I'm missing anything.

[Quoted text hidden]

Curtis Pond Dam, Calais: site visit request

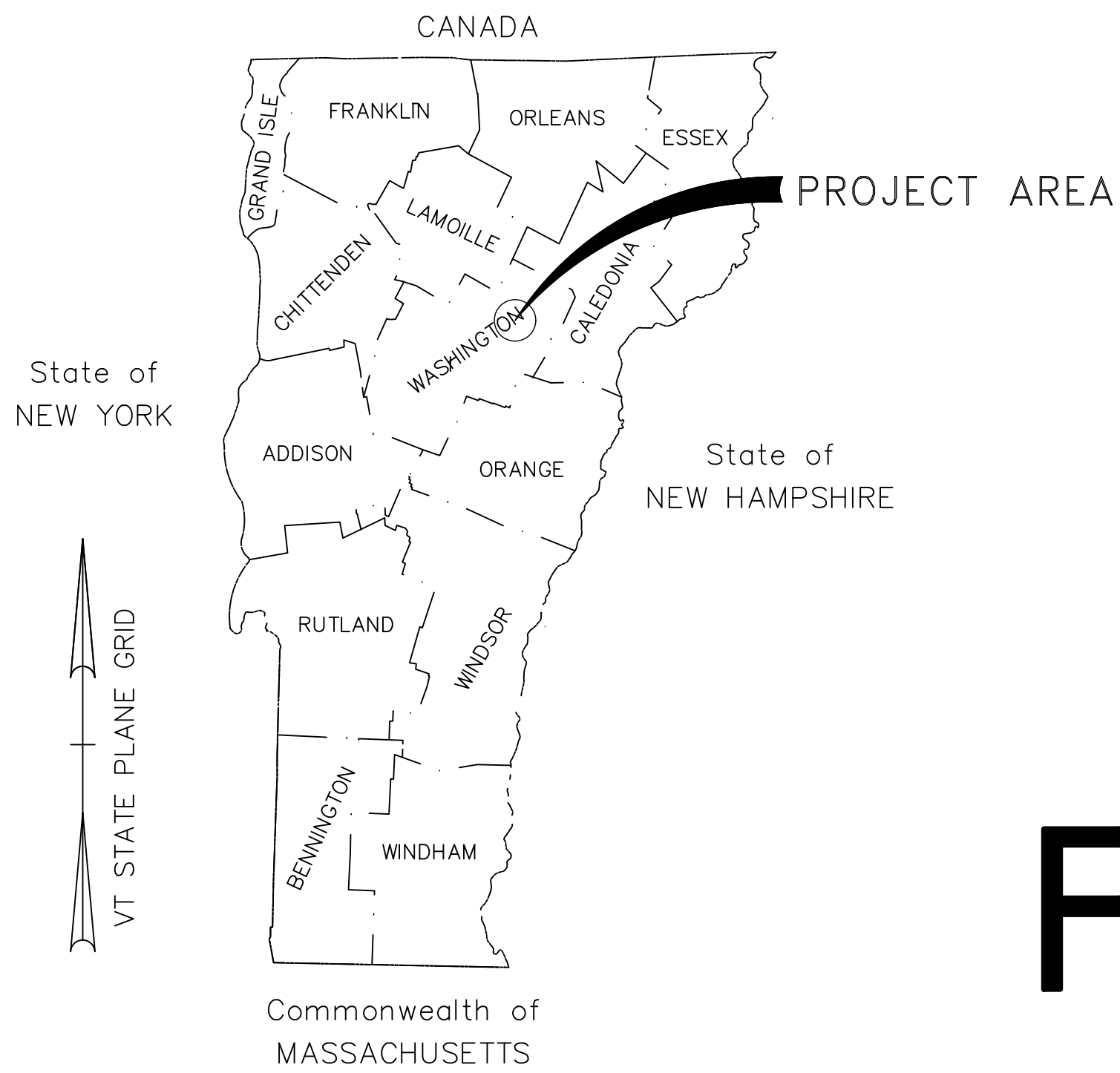
Morrison, Shannon <Shannon.Morrison@vermont.gov>
To: Grace Glynn <gglynn@dubois-king.com>

Tue, Oct 4, 2022 at 1:40 PM

The are both labeled wetland A on the plans, but I assume you mean the one not on the pond. I would still call that on Class III. That's fine for the 12th

[Quoted text hidden]

I:\9\928190 Curtis Pond Dam\Drawings\Structural\928190-TTL001.DWG Feb 10, 2023 -- 11:09am



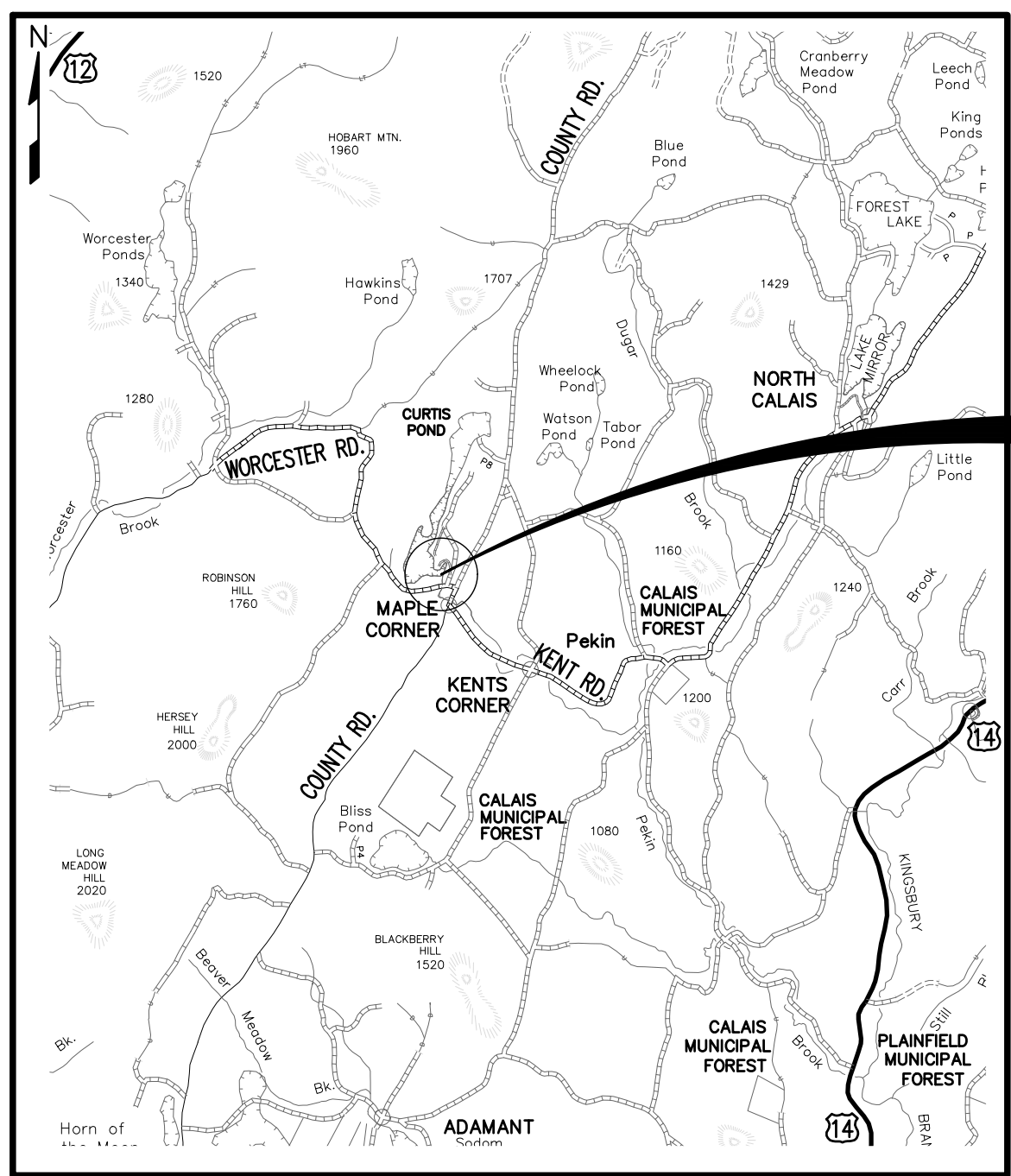
LOCATION MAP
NOT TO SCALE

TOWN OF CALAIS, VERMONT

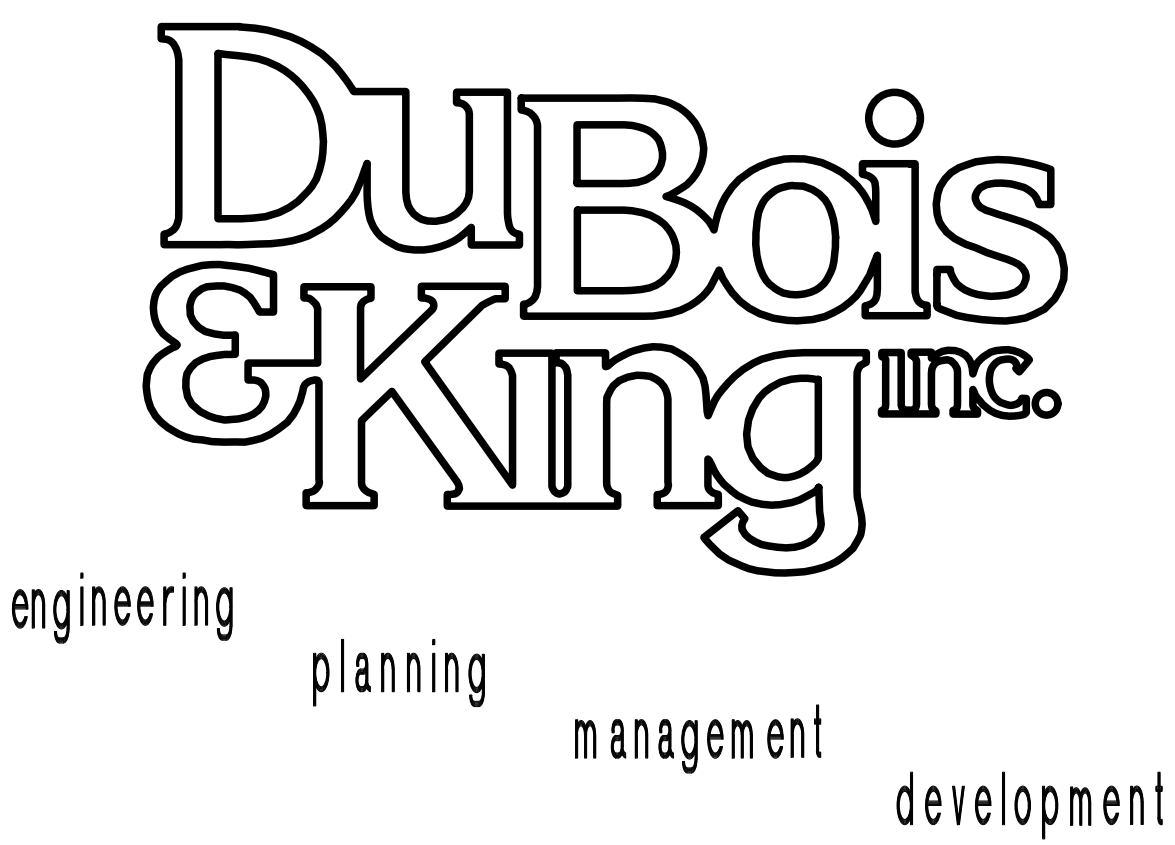
CURTIS POND DAM

REHABILITATION PROJECT

DRAFT FINAL DESIGN (90%)
FEBRUARY 9, 2023



LOCATION PLAN
SCALE: 1"=1 MILE±



LIST OF DRAWINGS

TITLE	SHEET NO.
TITLE SHEET	C1
GENERAL NOTES	C2
EXISTING CONDITIONS AND BASELINE LAYOUT	C3
EXISTING CONDITIONS	C4
NEW CONDITIONS SITE PLAN	C5
NEW CONDITIONS ELEVATION VIEW	C6
NEW CONCRETE WALL CUTOFF TYPICAL SECTIONS I	C7
NEW CONCRETE WALL CUTOFF TYPICAL SECTIONS II	C8
BASELINE TYPICAL SECTIONS	C9
CONCRETE DETAILS	C10
CIVIL DETAILS AND EPSC DETAILS	C11
WETLAND IMPACT PLAN	C12
LESSER BUR-REED MITIGATION PLAN	C13

C1

FINAL DESIGN
NOT FOR CONSTRUCTION

GENERAL PROJECT NOTES:

1. THE PURPOSE OF THIS PROJECT IS TO REHABILITATE COMPONENTS OF THE CURTIS POND DAM AND INSTALL A NEW CONCRETE CUTOFF WALL ALONG THE UPSTREAM FACE OF THE DAM.
2. THE PROJECT OWNER IS THE TOWN OF CALAIS, VERMONT. AN OWNER'S REPRESENTATIVE WILL BE APPOINTED PRIOR TO CONSTRUCTION TO REPRESENT THE OWNER DURING THE PROJECT.
3. TOPOGRAPHY SHOWN ON THE PLANS IS BASED ON FIELD SURVEY COMPLETED BY THE VERMONT DEPT. OF ENVIRONMENTAL CONSERVATION, FACILITIES ENGINEERING DIVISION IN MAY 2003.
4. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
5. THE CONTRACTOR SHALL BE FAMILIAR WITH THE EXISTING CONDITIONS OF THE SITE AND SURROUNDINGS PRIOR TO BIDDING ON OR PERFORMING THE WORK.
6. THE CONTRACTOR SHALL BID AND PERFORM THE WORK FROM A COMPLETE SET OF PLANS AND SPECIFICATION, AND SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY CONFLICTS WITHIN THE CONSTRUCTION DOCUMENTS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY DUBOIS & KING DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HERE ON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS, WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
8. THE CONTRACTOR SHALL BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS, STANDARDS, AND DETAILS.
9. SUBMIT SHOP DRAWINGS AND PRODUCT LITERATURE (MANUFACTURER'S LITERATURE, CUT SHEETS, APPLICATION PROCEDURES, ETC.) FOR ALL PRODUCTS FOR USE IN THE PROJECT, FOR APPROVAL BY THE ENGINEER.
10. A SET OF CONSTRUCTION PLANS AND TECHNICAL SPECIFICATIONS SHALL BE ON SITE AND IN GOOD CONDITION AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.
11. NO DEVIATION OR DEPARTURE FROM THE DESIGN INTENT PRESENTED IN THE CONTRACT DOCUMENTS (PLANS AND SPECIFICATIONS) WILL BE ALLOWED UNLESS AUTHORIZED BY DUBOIS & KING, INC. (D&K) AND APPROVED BY THE VTDEC DAM SAFETY SECTION.

CONSTRUCTION NOTES

1. LOCATE STAGING AREAS AWAY FROM SENSITIVE AREAS INCLUDING WETLANDS AND STREAM BUFFERS.
2. CONTRACTOR SHALL LAYOUT THE CONSTRUCTION BASELINES AND STAKE OUT LIMITS OF PROPOSED WORK PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING, WATER DIVERSION, AND DEWATERING REQUIREMENTS NEEDED FOR THE PROJECT.
4. ALL WORK SHALL TAKE PLACE IN THE DRY. THE CONTRACTOR SHALL DEWATER ALL WORK AREAS PRIOR TO DISTURBANCE. WATER REMOVED FROM WORK AREAS SHALL BE DISCHARGED TO A FILTER BAG LOCATED GREATER THAN 100 FEET FROM ANY FLOWING NON-TURBID WATER.
5. SHOULD A FILTER BAG BE USED TO CONTROL SEDIMENT, A REPLACEMENT FILTER BAG SHALL BE ONSITE AT ALL TIMES. THE FILTER BAGS SHALL BE REMOVED FROM THE SITE ONCE USED.
6. ANY EXCESS MATERIAL SHALL BE DISPOSED OF OFFSITE AT NO ADDITIONAL COST UNLESS OTHERWISE APPROVED IN ADVANCE BY THE VT DEC.

MEETINGS, SUBMITTALS, AND REQUIRED INSPECTIONS

1. THE CONTRACTOR SHALL PARTICIPATE IN AN ON-SITE PRE-CONSTRUCTION CONFERENCE.
2. THE CONTRACTOR SHALL SUBMIT A CONTROL OF WATER PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. AT A MINIMUM THE CONTRACTOR'S CONTROL OF WATER PLAN SHALL CONFORM TO SPECIFICATION SECTION 2401-DEWATERING AND FOLLOW THE GUIDANCE IN THE CONTROL OF WATER NOTES ON THIS SHEET.
3. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER MATERIAL SLIPS FOR ALL MATERIALS AND ITEMS USED ON THE PROJECT PER THE SPECIFICATIONS SECTION 1300-SUBMITTALS.
4. THE CONTRACTOR SHALL PROVIDE THE ENGINEER 48-HOUR PRIOR NOTICE, FOR ANY PLACEMENT OF CONCRETE AND EMBANKMENT FILL.
5. THE ENGINEER WILL BE REQUIRED TO OBSERVE AND APPROVE CRITICAL ASPECTS OF THE CONSTRUCTION PRIOR TO EXECUTION. THESE CRITICAL ITEMS WILL BE DISCUSSED AT THE PRE-CONSTRUCTION CONFERENCE. FAILURE OF THE CONTRACTOR TO PROVIDE THE ENGINEER WITH A MINIMUM OF 48-HOUR NOTICE MAY RESULT IN DELAYS OF THE PROJECT.

PERMITS

1. THE FOLLOWING PERMITS ARE BEING SECURED FOR THIS PROJECT:
 - PERMIT TO CONSTRUCT OR ALTER A DAM – VTDEC.
2. THE CONTRACTOR IS RESPONSIBLE FOR BEING FAMILIAR WITH THE REQUIREMENTS OF THE PERMITS PRIOR TO BIDDING, AND FOR COMPLYING WITH THEM DURING CONSTRUCTION.
3. A COPY OF THE PERMITS SHALL BE ONSITE DURING ALL CONSTRUCTION ACTIVITIES.

UTILITIES

1. THE LOCATION OF UTILITIES SHOWN ON THESE PLANS, IF ANY, IS APPROXIMATE, AND DUBOIS & KING MAKES NO CLAIM TO ITS ACCURACY OR COMPLETENESS.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE, AND ELEVATION OF ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
3. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND DETERMINING ALL UTILITIES (ABOVE AND BELOW GROUND) WITHIN THE PROJECT LIMITS, AND TO TAKE THE NECESSARY PRECAUTIONS TO PROTECT UTILITIES DURING CONSTRUCTION. CONTACT DIG-SAFE AT 1-800-DIG-SAFE (WWW.DIGSAFE.COM).
4. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION BE SHALL BE DETERMINED AND AGREED UPON BEFORE PROCEEDING WITH THE WORK.

RESTORATION OF SURFACES

1. THE CONTRACTOR MUST APPLY A COURSE OF CRUSHED GRAVEL TO THE CONSTRUCTION ACCESS DRIVES AND STAGING AREAS AS DIRECTED BY THE ENGINEER TO PREVENT RUTTING, EROSION, AND TRACKING OF MATERIAL OFFSITE. AT THE COMPLETION OF WORK, THE CONTRACTOR MUST REMOVE THE GRAVEL AND RE-GRADE, SEED, AND MULCH THE DISTURBED AREA.
2. AT THE COMPLETION OF WORK, THE CONTRACTOR MUST RESTORE ACCESS ROADS AND STAGING AREAS TO PRE-CONSTRUCTION CONDITION. RESTORATION MAY INCLUDE PLACEMENT OF GRAVEL ON EXISTING DRIVES AND / OR APPLICATION OF TOPSOIL, GRASS SEED, FERTILIZER, AND MULCH TO AFFECTED GRASSED AREAS.

PROPOSED CONSTRUCTION SEQUENCE

1. PREPARE STAGING AREA AND STABILIZE ACCESS TO THE DAM SITE.
2. INSTALL SILT FENCE AND EROSION CONTROL MEASURES AT THE DAM SITE.
3. ESTABLISH CONTROL OF WATER MEASURES AND BEGIN LOWERING WATER LEVEL IN CURTIS POND DAM. DRAWDOWN SHALL NOT PROGRESS FASTER THAN 6 INCHES PER ANY 24 HOUR PERIOD.
4. CLEAR TREES AND SHRUBS FROM THE DAM EMBANKMENT AND WITHIN THE IDENTIFIED WORK AREA.
5. CONSTRUCT THE DESIGN ON THESE PLANS.
6. PLACE TOP SOIL, SEED AND MULCH. SEE SPECIFICATIONS SECTION 02483.
7. CONDUCT FINAL INSPECTION WITH VT DEC AND ENGINEER.
8. INITIATE REFILLING OF THE WORK AREA. WHEN THE WORK AREA IS FILLED, REMOVE THE TEMPORARY COFFERDAM.
9. BEGIN RESTORING CURTIS POND TO THE DESIGN WATER LEVEL BY PARTIALLY CLOSING THE LOW LEVEL VALVE.

MATERIAL NOTES

1. THE CONTRACTOR SHALL HAVE A SET OF THE TECHNICAL SPECIFICATION ON SITE DURING ALL CONSTRUCTION ACTIVITIES.
2. ALL MATERIALS USED ON THIS PROJECT SHALL CONFORM TO THE SPECIFICATIONS. FOR ANY DISCREPANCY BETWEEN THE PLANS AND MATERIAL SPECIFICATIONS, THE TECHNICAL SPECIFICATIONS SHALL TAKE PRECEDENCE OVER NOTES CONTAINED ON THESE PLANS.
3. ALL EARTHEN MATERIAL USED ON SITE SHALL BE PLACE AND COMPACTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS. NEW EARTHEN MATERIAL SHALL BE CONSISTENT WITH ON-SITE MATERIAL. THE CONTRACTOR SHALL RECEIVE PRIOR APPROVAL FROM THE ENGINEER BEFORE IMPORTING NEW EARTHEN MATERIAL TO THE SITE.

CONCRETE NOTES

1. NO BACKFILL SHALL BE PLACED AGAINST ANY NEWLY PLACED CONCRETE UNTIL THE ENGINEER HAS APPROVED THE WORK AND SHALL NOT OCCUR PRIOR TO SEVEN (7) DAYS AFTER BEING POURED OR ACHIEVES 85% OF THE SPECIFIED COMPRESSIVE STRENGTH HAS BEEN REACHED.
2. THE CONTRACTOR, AT THE EXPENSE OF THE CONTRACTOR, SHALL REPAIR ANY DAMAGE TO NEWLY PLACED CONCRETE.
3. WHERE THE CONCRETE IS TO BE PLACED BY PUMPING, THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF ONE WEEK PRIOR TO PLACEMENT FOR REVIEW OF PROCEDURES TO BE USED. THE CONTRACTOR SHALL OBTAIN AND REVIEW ACI 304 PLACING CONCRETE BY PUMPING METHODS. PROVISION FOR BACK-UP PUMPING EQUIPMENT SHALL BE MADE BY THE CONTRACTOR.
4. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1-1/2 INCH BY 1-1/2 INCH, UNLESS OTHERWISE NOTED.
5. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
6. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 24 HOURS IN ADVANCE OF ALL CONCRETE OPERATIONS.
7. FOOTINGS SHALL BE PLACED ON CLEAN, SOUND BEDROCK. THE CONTRACTOR SHALL REMOVE ALL DELETERIOUS MATERIAL, DUST AND PARTICLES FROM THE BEDROCK SURFACE PRIOR TO CASTING CONCRETE.
8. IF THE EXISTING TOP OF BEDROCK IS LOCATED ABOVE THE BOTTOM OF FOOTING TWO (2) FEET OR LESS, THE BEDROCK MAY BE EXCAVATED DOWN TO THE INDICATED BOTTOM OF FOOTING OR THE BOTTOM OF FOOTING ELEVATION MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER. ALL OVER BREAKAGE BELOW THE BOTTOM OF FOOTING SHALL BE REPLACED WITH CONCRETE, CLASS C.
9. IF THE EXISTING TOP OF BEDROCK IS ABOVE THE BOTTOM OF FOOTING BY MORE THAN TWO (2) FEET, THE FOOTING ELEVATION MAY BE RAISED ACCORDINGLY. BEFORE ANY ADJUSTMENT IS MADE IN THE FOOTING ELEVATION, THE ENGINEER SHALL BE NOTIFIED FOR APPROVAL OF THE ADJUSTMENT.
10. IF THE TOP OF EXISTING BEDROCK IS TWO (2) FEET OR LESS BELOW THE BOTTOM OF FOOTING ELEVATION, THE FOOTING SHALL BE PLACED TO THE TOP OF COMPETENT BEDROCK AS SHOWN USING CONCRETE, CLASS C.
11. IF THE TOP OF EXISTING BEDROCK IS GREATER THAN TWO (2) FEET BELOW THE BOTTOM OF THE FOOTING, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND PREPARE AND SUBMIT A PROFILE OF THE BEDROCK SURFACE IN THE VICINITY OF THE FOOTING. THE CONTRACTOR SHALL NOT PERFORM ANY FURTHER WORK ON THE SUBSTRUCTURE UNTIL NOTIFIED IN WRITING BY THE ENGINEER.
12. ALL CONCRETE WORK SHALL COMPLY WITH THE LATEST ACI SPECIFICATIONS (ACI-350).
13. ALL CAST-IN-PLACE CONCRETE, INCLUDING THE CUT-OFF WALL, SPILLWAY TRAINING WALLS, AND SPILLWAY SLAB SHALL BE CLASS A (4,000 PSI) CAST-IN-PLACE CONCRETE. SEE SPECIFICATIONS SECTION 03300.
14. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
15. CONTRACTOR SHALL SUBMIT REINFORCING SHOP DRAWINGS FOR REVIEW BY THE ENGINEER. PRIOR TO PURCHASING MATERIALS.
16. HOT WEATHER CONCRETE PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 305R.
17. COLD WEATHER CONCRETE PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 306R.
18. PVC WATER STOPS SHALL BE GREENSTREAK, DUMBELL TYPE, STYLE NO. 705, 724, OR APPROVED EQUAL.
18. HYDROPHILIC WATER STOPS SHALL BE VOLCLAY, WATERSTOP-RX, TYPE RX-101, GREENSTREAK NO. 594 SWELL STOP, OR APPROVED EQUAL.
19. PROVIDE CONSTRUCTION JOINTS AT ALL LOCATIONS OF DISCONTINUOUS CONCRETE PLACEMENT.

EROSION CONTROL NOTES

1. TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES ARE REQUIRED THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
2. ALL EPSC ACTIVITIES SHALL CONFORM TO CURRENT VT DEC LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL.
3. ALL EARTHWORK AND GRADING PERFORMED BETWEEN OCTOBER 15 AND APRIL 15 SHALL CONFORM TO APPROVED WINTER CONSTRUCTION PRACTICES, AS PRESENTED IN THE VT DEC LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL.
4. THE CONTRACTOR SHALL BE AWARE OF ALL DISCHARGE INTO THE OUTLET CHANNEL. SHOULD THERE BE VISUALLY DISCOLORED DISCHARGE ENTERING THE OUTLET CHANNEL THE CONTRACTOR SHALL DETERMINE THE SOURCE OF THE DISCOLORED DISCHARGE. IF THE CAUSE OF THE DISCOLORED DISCHARGE IS FROM CONSTRUCTION ACTIVITIES ALL OPERATIONS MUST CEASE UNTIL THE DISCHARGE IS NO LONGER DISCOLORED. ALTERNATIVE MEANS OF CONSTRUCTION SHALL BE ADMINISTERED AS TO AVOID ADDITIONAL RELEASE OF DISCOLORED DISCHARGE INTO THE OUTLET CHANNEL.
5. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL INSTALL SILT FENCING AND EROSION CONTROL DEVICES AS SHOWN ON THESE PLANS. EROSION CONTROLS SHALL BE LOGICALLY PHASED WITH CONSTRUCTION ACTIVITIES AND AS DIRECTED BY THE ENGINEER OR OWNERS REPRESENTATIVE.
6. THE EROSION CONTROLS SHALL BE INSPECTED DAILY PRIOR TO INITIATION OF THE DAY'S ACTIVITIES. MAINTENANCE SHALL TAKE PLACE AT THAT TIME.
7. THE CONTRACTOR SHALL TOPSOIL, SEED AND MULCH THE DISTURBED AREAS WITHIN 7 DAYS OF INITIAL DISTURBANCE. AFTER THIS TIME, ANY DISTURBANCE IN THE AREA MUST BE STABILIZED AT THE END OF EACH WORKDAY. ALL AREAS OF DISTURBANCE MUST HAVE PERMANENT STABILIZATION WITHIN 48 HOURS OF REACHING FINAL GRADE. THE FOLLOWING EXCEPTIONS MAY APPLY:
 - A) STABILIZATION IS NOT REQUIRED IF THE EARTHWORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECAST FOR THAT SAME PERIOD OF TIME.
 - B) STABILIZATION IS NOT REQUIRED IF THE EARTHWORK IS OCCURRING WITHIN A SELF-CONTAINED EXCAVATION, WITH A DEPTH OF 2 FEET OR GREATER AND NO OUTLET.
8. ALL SLOPES AND DISTURBED AREAS SHALL BE GRADED SMOOTH AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.
9. ALL SLOPES GREATER THAN 1V:2H SHALL BE TREATED WITH BIODEGRADABLE EROSION CONTROL BLANKET, TYPE S150BN AS MANUFACTURED BY NORTH AMERICAN GREEN OR APPROVED EQUAL. THE BLANKET SHALL BE STAPLED WITH BIODEGRADABLE STAPLES, OVERLAPPED, AND SHINGLED CORRECTLY RELATIVE TO WATER FLOW, AND INSTALLED IN GENERAL ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS.
10. PERMANENT STABILIZATION SHALL BE CONDUCTED ACCORDING TO THE TECHNICAL SPECIFICATIONS SECTION 02483.
11. REMOVAL OF EPSC MEASURES SHALL ONLY BE DONE FOLLOWING THE APPROVAL OF THE ENGINEER ALL DISTURBANCES CAUSED BY THE REMOVAL SHALL BE REPAIRED IMMEDIATELY.

TEMPORARY SUPPORT OF STONE WALLS

1. THE EXISTING STONEWALLS WALLS ARE TO REMAIN UNDISTURBED DURING CONSTRUCTION, UNLESS OTHERWISE NOTED HEREIN.
2. THE PORTIONS OF STONEWALLS TO BE REMOVED OR PARTIALLY REMOVED SHALL BE DONE IN A MANNER THAT DOES NOT COMPROMISE OR DESTABILIZE THE PORTIONS OF THE WALL THAT IS TO REMAIN.
3. THE CONTRACTOR SHALL PROVIDE ADEQUATE BRACING AND OTHER SUPPORT TO PREVENT MOVEMENT OF THE STONEWALLS DURING CONSTRUCTION.
4. CONTRACTOR SHALL SUBMIT A SPECIFIC METHODS AND MEANS PLAN TO THE ENGINEER THAT WILL PROVIDE THE REQUIRED BRACING NEEDED TO MAINTAIN THE STABILITY OF THE WALLS DURING CONSTRUCTION.

CONTROL OF WATER NOTES

GENERAL REQUIREMENTS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF WATER THROUGHOUT THE DURATION OF THE PROJECT. ANY CHANGES TO THE CONTROL OF WATER PROCEDURE AS OUTLINED HEREIN WILL BE SUBJECT TO APPROVAL OF THE ENGINEER AND THE VERMONT AGENCY OF NATURAL RESOURCES (VANR). OBTAINING THE APPROVAL FOR ANY CHANGES TO THE PROCEDURES FROM VANR SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. THE NORMAL WATER SURFACE ELEVATION IS CONTROLLED BY THE CREST OF THE SPILLWAY SLAB. THE POND MAY BE PARTIALLY LOWERED THROUGHOUT THE CONSTRUCTION PERIOD.
3. AN UPSTREAM TEMPORARY COFFERDAM AND OUTLET CONTROL SYSTEM WILL BE REQUIRED TO CONTROL THE WATER IN THE POND AT A LOWERED ELEVATION WITHOUT FULLY DEWATERING CURTIS POND WHILE MAINTAINING A DRY CONDITION IN THE WORK AREA. THE UPSTREAM TEMPORARY COFFERDAM WILL BE A CONCRETE BLOCK OR INFLATABLE COFFERDAM SYSTEM, OR APPROVED EQUAL. SEE SHEET C8 FOR A SCHEMATIC OF A PROPOSED COFFERDAM LOCATION.
4. A DOWNSTREAM STONE OR SANDBAG COFFERDAM WITH A WATER DIVERSION STRUCTURE, BY-PASS PUMPING OR SIMILAR METHOD WILL PROVIDE ADEQUATE PROTECTION AGAINST TURBID WATER DISCHARGE FROM THE WORK AREA INTO THE DOWNSTREAM RECEIVING CHANNEL. SUMP PUMPING WILL BE REQUIRED TO ADEQUATELY CONTROL THE GROUNDWATER WITHIN ANY AND ALL EXCAVATIONS TO ONE (1) FOOT BELOW BOTTOM OF PROPOSED FOUNDATIONS.
5. THE CONTRACTOR SHALL NOT REGULATE DOWNSTREAM FLOWS NOR ALTER THE NATURAL FLOW REGIME EXCEPT WHEN NECESSARY FOR MAINTENANCE, INSPECTION, CONSTRUCTION, OR PROJECT SAFETY. DURING PERIODS WHEN DOWNSTREAM FLOW REGULATION IS NECESSARY, INCLUDING THE REFILLING OF THE POND, MINIMUM DOWNSTREAM CONSERVATION FLOWS, AS NOTED IN THE FOLLOWING TABLE, SHALL BE RELEASED UNLESS INFLOW IS LESS THAN THE SEASONAL CONSERVATION FLOW.

ANNUAL PERIOD	MINIMUM DISCHARGE, CFS	MINIMUM DISCHARGE, GPM
JUNE 1 TO SEPTEMBER 30	0.69	310
OCTOBER 1 TO MARCH 31	1.38	620
APRIL 1 TO MAY 31	5.52	2,478

NOTE: FLOWS NOTED CORRESPOND TO A 1.38 SQUARE MILE (883 ACRES) DRAINAGE AREA.
6. WHEN INFLOW INTO THE POND IS LESS THAN THE SEASONAL CONSERVATION FLOW, UP TO 10 PERCENT OF THE INSTANTANEOUS INFLOW MAY BE USED TO REFILL THE POND WHILE DISCHARGING THE REMAINDER DOWNSTREAM. UNDER NO CIRCUMSTANCES SHALL DOWNSTREAM FLOWS BE INTERRUPTED.
7. DOWNSTREAM FLOWS SHALL BE MAINTAINED AT ALL TIMES. DURING THE INSTALLATION OF THE COFFERDAMS, BYPASS FLOWS SHALL BE ACHIEVED WITH THE USE OF PUMPS. UPON INSTALLATION OF THE COFFERDAMS AND DEWATERING OF THE WORK AREA, MINIMUM STREAM FLOWS WILL BE MAINTAINED. PUMPS CAPABLE OF MEETING MINIMUM STREAM FLOWS SHALL BE ON SITE AT ALL TIMES DURING CONSTRUCTION TO BE USED IN CASE OF EMERGENCY. DURING PERIODS WHEN THE CONTRACTOR IS USING PUMPS TO MAINTAIN MINIMUM FLOWS, BACKUP SYSTEMS SHALL BE ONSITE IN CASE OF FAILURE OF ANY ONE PUMP.

INSTALLATION OF CONTROL OF WATER MEASURES

1. UPON AUTHORIZATION TO PROCEED WITH THE PROJECT, THE CONTRACTOR SHALL INSTALL THE BY-PASS PUMPS TO MAINTAIN MINIMUM FLOWS WHILE THE COFFERDAMS ARE BEING INSTALLED. THE PUMP AND OUTLET SHALL BE INSTALLED IN LOCATIONS THAT WILL NOT REQUIRE BEING MOVED DURING ITS USE. THIS PUMPING EQUIPMENT SHALL REMAIN IN PLACE THROUGHOUT THE CONSTRUCTION ACTIVITY, BEING AVAILABLE FOR USE ON SHORT NOTICE IN THE EVENT OF A SIGNIFICANT STORM OR UNEXPECTED EVENT.
2. BOTH OF THE TEMPORARY COFFERDAMS SHALL BE INSTALLED IN THE WET UPON COMPLETION OF THE PUMP INSTALLATION AND THE DOWNSTREAM FLOWS ARE ESTABLISHED.
3. ONCE THE INSTALLATION OF THE COFFERDAMS AND BY-PASS PIPE IS COMPLETE, THE CONTRACTOR SHALL BEGIN TO DEWATER THE ISOLATED WORK AREA. THE CONTRACTOR SHALL USE PUMPING TO DEWATER THE WORK AREA. THE DEWATERING PUMPS SHALL DISCHARGE TO AN APPROVED UPLAND AREA; HOWEVER ANY CLEAR WATER CAN BE CAREFULLY PUMPED OR SIPHONED DOWNSTREAM. ANY DIRECT DISCHARGE TO THE STREAM SHALL BE SUBJECT TO CONTINUOUS OBSERVATION TO MAKE SURE THAT IT REMAINS CLEAR. THE EQUIPMENT USED TO ACHIEVE THIS DEWATERING SHALL BE SEPARATE FROM THE EQUIPMENT USED TO MAINTAIN MINIMUM STREAM FLOWS.
4. UPON INSTALLATION OF THE CONTROL OF WATER MEASURES AND DEWATERING OF THE WORK AREA, THE CONTRACTOR SHALL REQUEST APPROVAL FROM THE ENGINEER AND VANR TO INITIATE CONSTRUCTION ACTIVITIES.

CONTROL OF WATER DURING CONSTRUCTION

1. DURING CONSTRUCTION, THE WORK AREA SHALL REMAIN DEWATERED BY MEANS OF PUMPING. THE DISCHARGE SHALL BE PUMPED DIRECTED TO AN APPROVED UPLAND AREA. THE CONTRACTOR IS ENCOURAGED TO PUMP DIRECTLY INTO FILTER BAGS TO FURTHER PREVENT TURBID WATER FROM REACHING THE DOWNSTREAM CHANNEL.
2. THE CONTRACTOR SHALL INSPECT THE COFFERDAMS AND BY-PASS EACH MORNING. MAINTENANCE SHALL TAKE PLACE PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES SCHEDULED FOR THAT DAY.

REFILLING REQUIREMENTS

1. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO REFILL THE WORK AREA, ALLOWING THE WATER TO REACH THE INVERT OF THE NEW OUTLET GATE VALVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REFILLING OF THE WORK AREA AND SHALL PROVIDE PERSONNEL TO MONITOR THE OPERATION AS NEEDED ON A DAILY BASIS. THE CONTRACTOR SHALL CAREFULLY MONITOR ALL COMPONENTS OF THE DAM FOR SIGNS OF LEAKAGE OR DISTRESS AND REPORT ANY FINDINGS TO THE ENGINEER.
2. THE REFILLING OF THE POND TO ITS FULL LEVEL SHALL BE ACHIEVED BY CLOSING THE GATE VALVE INCREMENTALLY. AT A MINIMUM, DOWNSTREAM CONSERVATION FLOWS SHALL BE MAINTAINED, PURSUANT TO ITEM #6 ABOVE.
3. WHEN REFILLING, THE POND SHALL BE CAREFULLY MONITORED AND OUTFLOW ADJUSTMENTS MADE, TAKING SPECIAL CARE TO NOT FURTHER DRAWDOWN THE GREATER POND BY RELEASING FLOW AT A RATE GREATER THAN THE RATE OF FLOW INTO THE POND.
4. ONCE THE WATER SURFACE REACHES THE PRINCIPAL CREST THE VALVE CAN BE FULLY CLOSED AND REFILLING SHALL BE CONSIDERED COMPLETE.

ONGOING MAINTENANCE AND OPERATIONS

1. THESE PROCEDURES SHALL BE UTILIZED DURING ALL FUTURE OPERATIONS AND MAINTENANCE ACTIVITIES REQUIRING THE DRAWDOWN AND REFILLING OF THE POND, CONDUCTED BY THE OWNER.
2. DURING PERIODS WHEN THE CONTRACTOR AND/OR OWNER IS USING PUMPS TO MAINTAIN MINIMUM FLOWS, BACKUP SYSTEMS SHALL BE ONSITE IN CASE OF FAILURE OF ANY ONE PUMP.

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DRAFT FINAL
DESIGN PLANS
90%

BY

CK'D

DESCRIPTION

DATE

NO

TOWN OF CALAIS
3120 PEKIN
BROOK ROAD
EAST CALAIS,
VERMONT, 05650

CURTIS POND DAM
REHABILITATION
PROJECT

SHEET TITLE

GENERAL NOTES

DRAWN BY
RJL

DATE
FEB 9, 2023

CHECKED BY
CWJ

D&K PROJECT #
928190

PROJ. ENG.
JWT

D&K ARCHIVE #

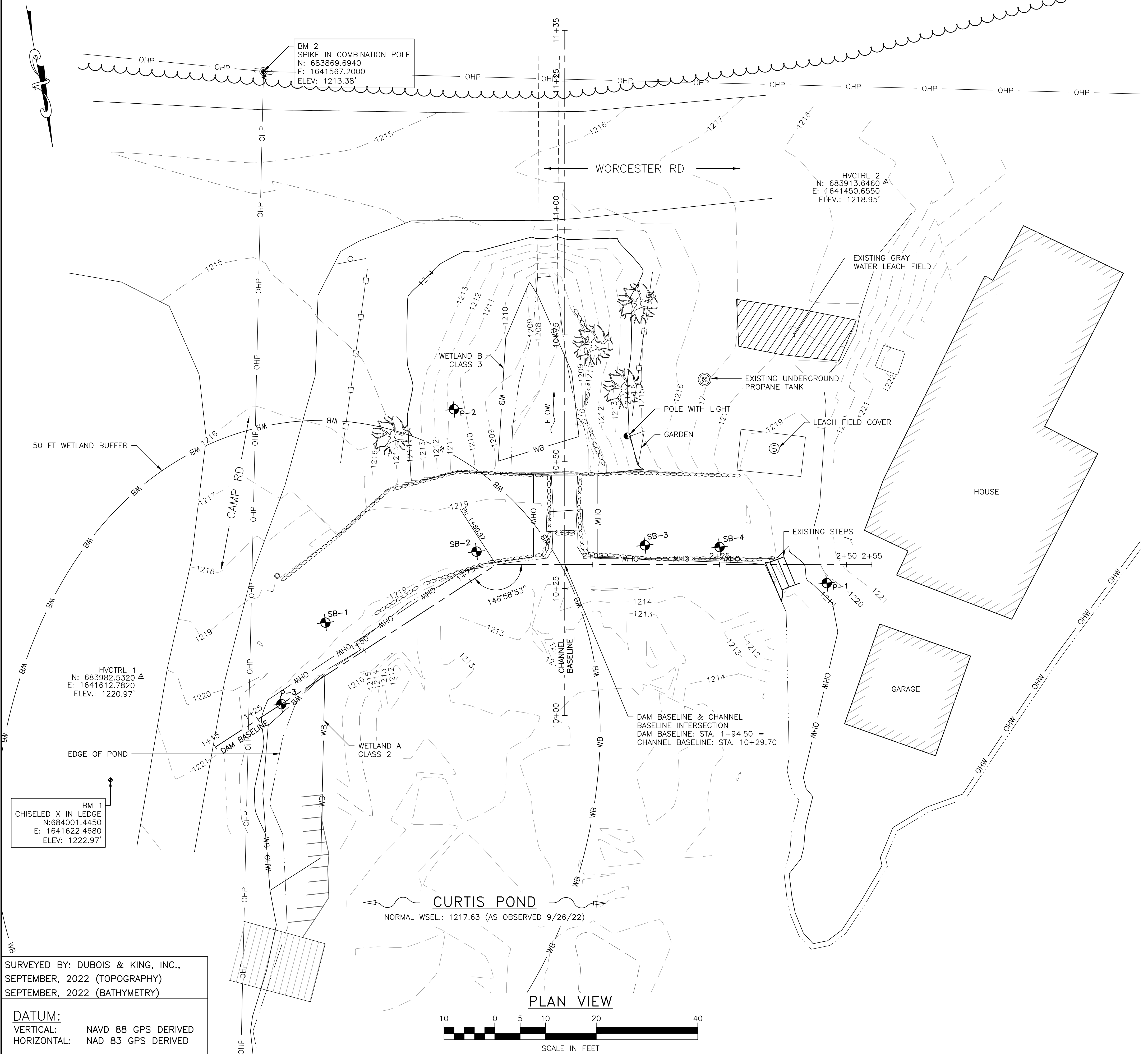
SHEET NUMBER

C2

SHEET 2 OF 13

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LEGEND

- EXISTING
CONTOUR - 1 FT INTERVAL
CONTOUR - 5 FT INTERVAL
WATER LEVEL (O.H.W. or O.L.W.)
BEDROCK OUTCROP
SURVEY STATION
BURIED PROPANE TANK
LIGHT POLE
TREE LINE
10" PINE
18" MAPLE
TREE (CONIFER)
TREE (DECIDUOUS)
DOCK
BORING
AUGER PROBE
DRY HYDRANT
OVERHEAD POWER LINE
UTILITY POLE
STONE WALL
WOOD FENCE
PROJECT DELINEATION FENCE
SEWER MANHOLE
ORDINARY HIGH WATER (O.H.W.)
LESSER BURR-REED (THREATENED SPECIES)
TOP OF DAM SPOT ELEVATION

NOTE:

- TOPOGRAPHIC INFORMATION SHOWN IS BASED ON TOPOGRAPHIC AND BATHYMETRIC SURVEY COMPLETED BY DUBOIS & KING IN SEPTEMBER 2022.
- ONLY THE IDENTIFIED BENCHMARKS (BM1 AND BM2) ARE TO BE USED FOR VERTICAL CONTROL.

PROJECT COORDINATE TABLE

POINT	NORTHING	EASTING
BM 1	684001.45	1641622.47
BM 2	683869.69	1641567.20
HVCTRL 1	683982.53	1641612.78
HVCTRL 2	683913.65	1641450.66
DAM BASELINE		
1+25	683996.93	1641596.32
1+50	683987.38	1641573.22
1+81	683975.55	1641544.57
2+00	683976.22	1641526.18
2+50	683985.40	1641477.03
2+55	683986.32	1641472.12
CHANNEL BASELINE		
10+00	684005.34	1641532.13
11+00	683907.04	1641513.78
11+35	683872.63	1641507.35

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CURTIS POND DAM
REHABILITATION
PROJECT

SHEET TITLE

EXISTING
CONDITIONS AND
BASELINE LAYOUT

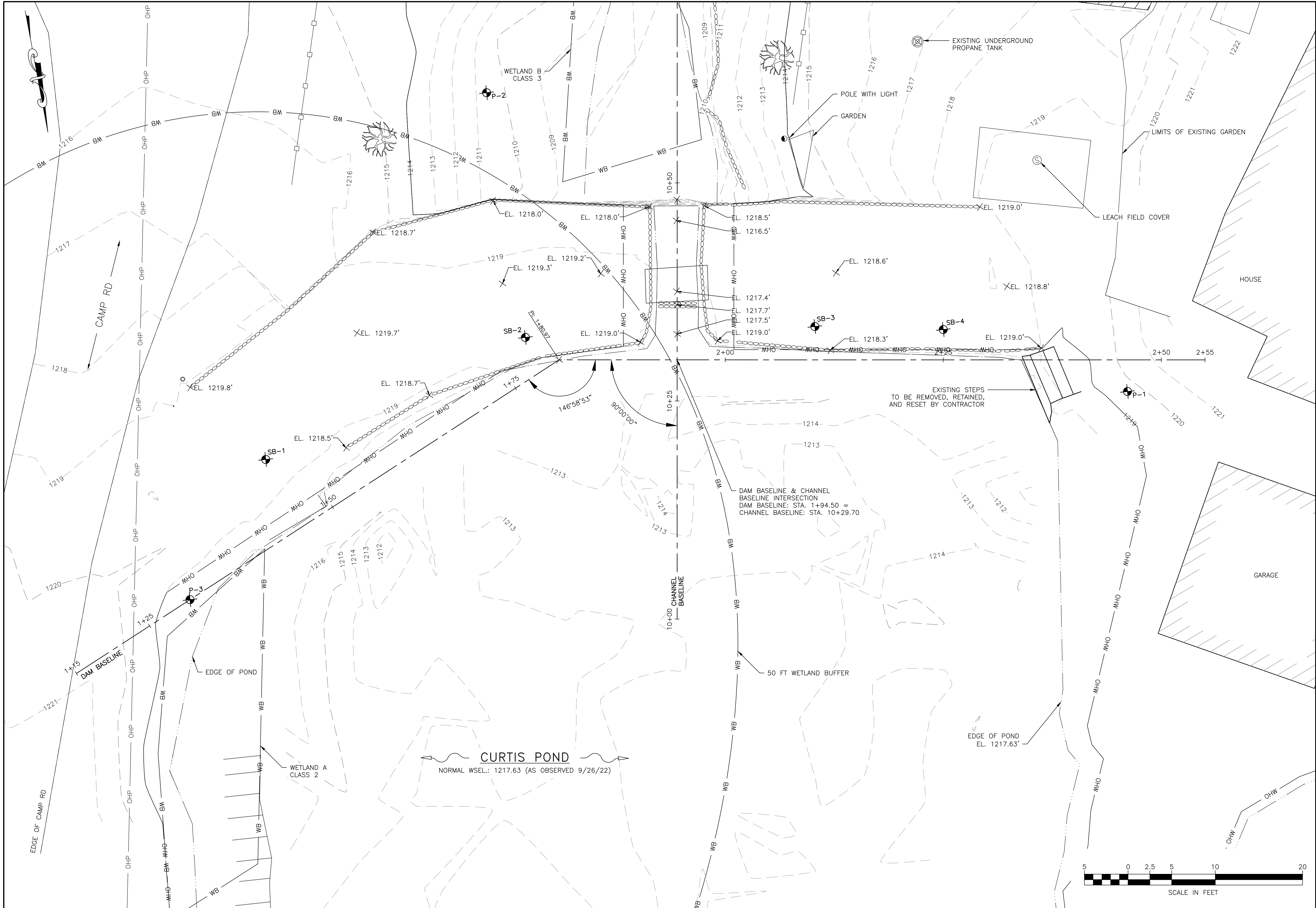
DRAWN BY RJL	DATE FEB 9, 2023
CHECKED BY CWJ	D&K PROJECT # 928190
PROJ. ENG. JWT	D&K ARCHIVE #

SHEET NUMBER

C3

SHEET 3 OF 13

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**CURTIS POND DAM
REHABILITATION
PROJECT**

SHEET TITLE

**EXISTING
CONDITIONS**

DRAWN BY RJL	DATE FEB 9, 2023
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C4

SHEET 4 OF 13



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[illegible]

TOWN OF CALAIS
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CURTIS POND DAM REHABILITATION PROJECT

SHEET TITLE	
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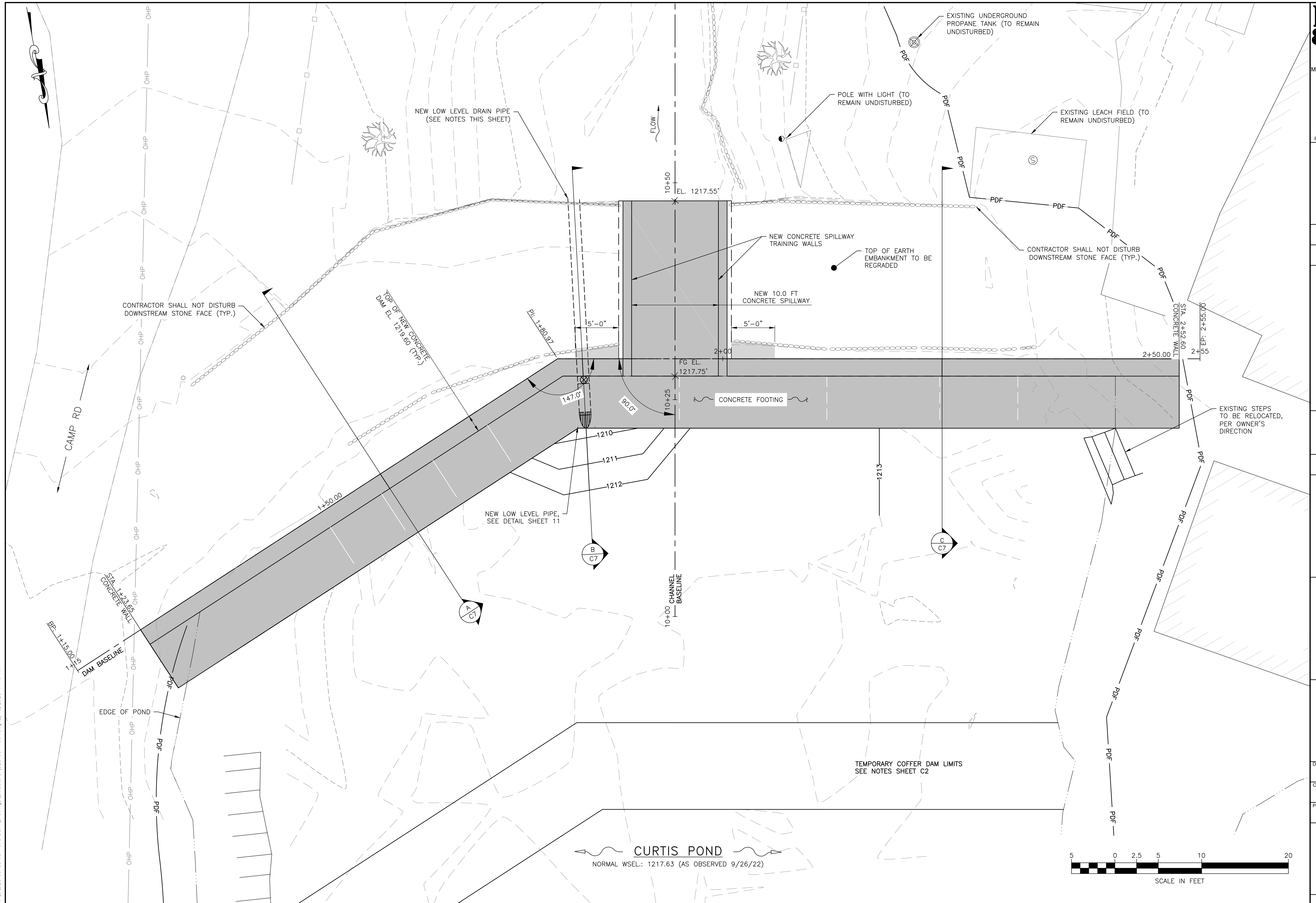
NEW CONDITIONS
SITE PLAN

DRAWN BY RJL	DATE FEB 9, 2023
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ROJ. ENG. JWT	D&K ARCHIVE #

SHEET NUMBER

C5

SHEET 5 OF 13



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VERMONT, 05650

SHEET TITLE

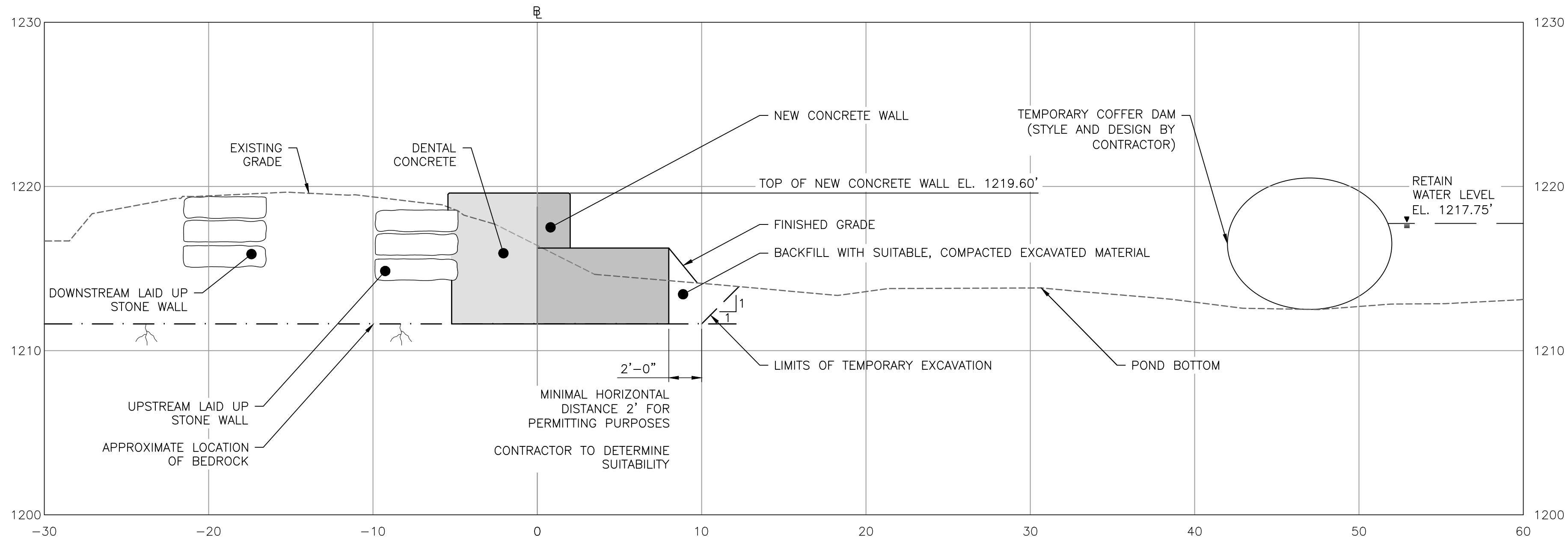
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ROJ. ENG. JWT	D&K ARCHIVE #

C6

SHEET 6 OF 13

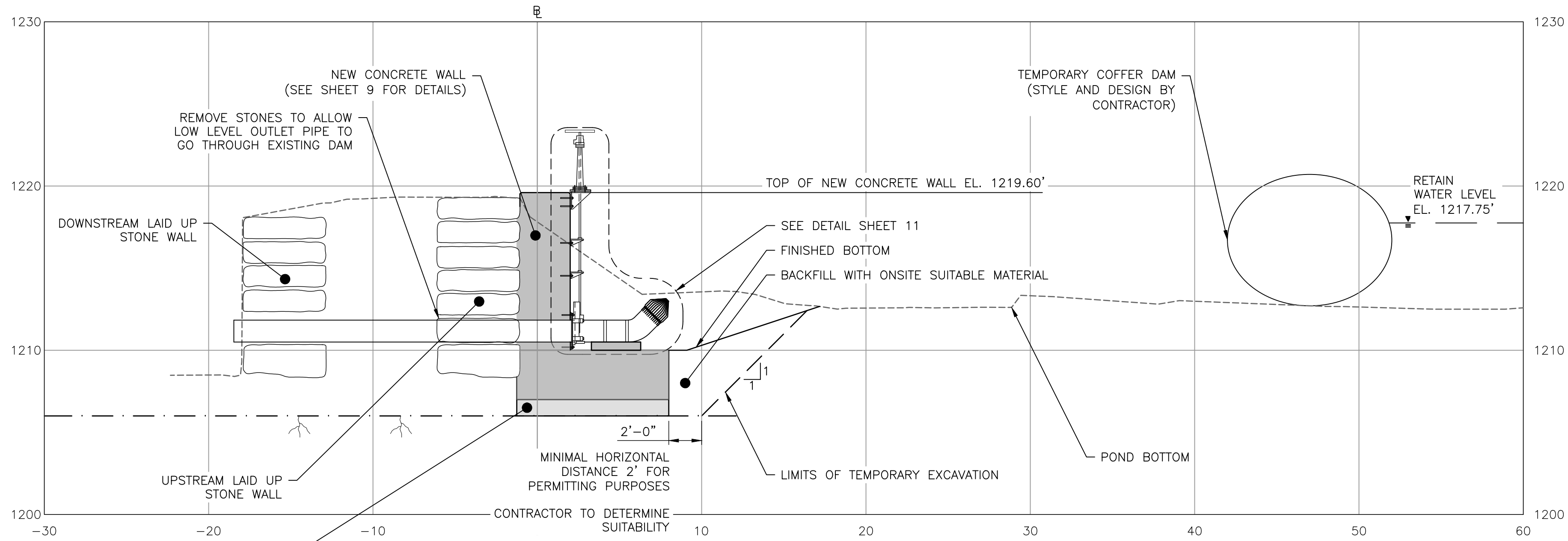


1. BEDROCK FOUNDATION SHALL BE CLEANED AND INSPECTED BY ENGINEER PRIOR TO PLACEMENT OF NEW CONCRETE FOOTING.
2. LOCATION OF BEDROCK SHOWN ON THESE PLANS ARE BASED ON SOIL BORINGS AND ARE TO BE CONSIDERED APPROXIMATE.
3. SEE SHEET 9 FOR REINFORCING DETAILS AND ROCK ANCHOR DETAILS.
4. DEPTH OF REFUSAL IS SHOWN BELOW GROUND SURFACE (BGS)



SECTION – DAM LEFT
SCALE: 1" = 5'

STA. 1+24.50 – STA. 1+80.97



SECTION – LOW LEVEL OUTLET
SCALE: 1" = 5'

STA. 1+80.97 – STA. 1+88.50



HIGH PERFORMANCE TURF REINFORCED MATTING NOTES:

- THE CONTRACTOR SHALL INSTALL HIGH PERFORMANCE TURF REINFORCED MATTING (HPTRM) ALONG THE ENTIRE LENGTH OF THE TOP OF DAM AS SHOWN AND NOTED IN THESE PLANS.
- LIMITS OF HPTRM INSTALLATION SHALL EXTEND FROM THE UPSTREAM SIDE OF THE DAM TO THE DOWNSTREAM STONEWALL, AND LEFT TO RIGHT BETWEEN STATIONS 1+23 TO 2+50. THE FINAL HPTRM LIMITS SHALL BE DETERMINED IN THE FIELD AND SHALL COVER THE ENTIRE REGRADED TOP OF DAM.
- THE HPTRM SHALL ANCHOR TO THE LEFT AND RIGHT ENDS OF THE NEW CONCRETE SPILLWAY AND SHALL NOT EXTEND OVER THE SPILLWAY.
- THE HPTRM SHALL ANCHOR TO NEW UPSTREAM CONCRETE WALL AND THE EXISTING DOWNSTREAM STONEWALL AND THE LEFT AND RIGHT SIDES OF THE NEW CONCRETE SPILLWAY TRAINING WALLS.
- THE HPTRM SHALL BE A 3-DIMENSIONAL, LOFTY, WOVEN POLYPROPYLENE GEOTEXTILE, COMPOSED OF POLYPROPYLENE MONOFILAMENT YARNS WOVEN INTO A UNIFORM CONFIGURATION. THE HPTRM SHALL MEET INTERNAL QUALITY CONTROL TESTS ACCREDITED BY THE GEOSYNTHETIC ACCREDITATION INSTITUTE –LABORATORY ACCREDITATION PROGRAM (GAI–LAP) AND SHALL BE NTEP APPROVED FOR AASHTO STANDARDS.
- HPTRM SHALL BE PYRAMAT 75 OR APPROVED EQUIVALENT.
- MINIMUM DESIGN PERFORMANCE VALUES SHALL INCLUDE (NOT LIMITED TO):
 - MASS/UNIT AREA = 13.5 OZ./SY
 - THICKNESS = 0.40 INCH
 - LIGHT PENETRATION = 10%
 - COLOR = GREEN
 - GRAB TENSILE STRENGTH = 4000 X 3000 LB/FT
 - GRAB ELONGATION = 40 X 35 %
 - FLEXIBILITY = 0.534 IN–LB
 - UV RESISTANCE = 90% RETAINED AT 6,000 HOURS
 - VELOCITY (VEGETATED) = 25 FT/SEC
 - SHEAR STRESS (VEGETATED) 16 LB/SF
- CONTRACTOR SHALL INSTALL AND ANCHOR THE HPTRM IN STRICT ACCORDANCE WITH MANUFACTURER'S PERPENDICULAR CHANNEL INSTALLATION AND MAINTENANCE GUIDELINES AND AS ILLUSTRATED HEREIN.
- CONTRACTOR SHALL COORDINATE WITH THE MANUFACTURER / SUPPLIER AND COORDINATE AND CONDUCT A FIELD PRE-INSTALLATION AND MAINTENANCE MEETING WITH THE ENGINEER AND OWNER TO REVIEW THE REQUIRED INSTALLATION PROCEDURES, INCLUDING SUBGRADE PREPARATION.
- THE HPTRM SHALL NOT BE INSTALLED UNTIL THE ENGINEER HAS APPROVED THE TOP OF DAM SUBGRADE. THE HPTRM SHALL BE INSTALLED IMMEDIATELY FOLLOWING THE SUBGRADE APPROVAL.
- SUBGRADE SHALL BE UNIFORM, SMOOTH AND FREE OF ALL ROCKS, CLODS, VEGETATION OR OTHER OBJECTS OTHER THAN TOPSOIL. THE SUBGRADE SHALL BE COMPACTED AND FIRM PRIOR TO THE PLACEMENT OF TOPSOIL.
- THE CONTRACTOR SHALL COVER AND PROTECT THE EXPOSED SUBGRADE PRIOR TO AND DURING INSTALLATION AND PREVENT ANY DAMAGE FROM RAIN OR OTHER WEATHER EVENT, EQUIPMENT OR OTHER CONSTRUCTION OPERATIONS.
- THE VEGETATION WILL BE ESTABLISHED BY BROADCAST SEEDING OR HYDROSEEDING. 50% OF THE SEED SHALL BE PLACED BELOW THE HPTRM AND THE REMAINING 50% OF SEED SHALL BE PLACED ON TOP OF THE HPTRM.
- THE BOTTOM 50% OF SEED SHALL BE PLACED PRIOR TO PLACEMENT OF THE HPTRM. A TEMPORARY EROSION CONTROL BLANKET SHALL BE PLACED ON TOP OF THE SEEDED HPTRM TO PROVIDE PROTECTION DURING SEED GERMANTON AND ESTABLISHMENT.
- CONTRACTOR SHALL WATER THE SEED AS RECOMMENDED BY THE MANUFACTURER.

DAM SECTION NOTES:

- THE EXTENT OF THE STONEWALL ON THE UPSTREAM SIDE OF THE DAM IS UNKNOWN. THE CONTRACTOR SHALL COMPLETE AN INSPECTION OF THE DAM FOLLOWING DEWATERING AND VERIFY THE INFORMATION SHOWN WITHIN THESE PLANS WITH THE RESIDENT ENGINEER.
- THE DESIGN INTENT IS TO INSTALL THE NEW CAST-IN-PLACE CONCRETE DAM AS CLOSE TO THE EXISTING DAM AS PRACTICABLE. THE SECTIONS DEPICT A VERTICAL FACE FOR NEW CONCRETE TO BE CAST TO, HOWEVER, EXCAVATION OF THE UPSTREAM FACE OF THE EXISTING DAM MAY BE REQUIRED TO INSTALL THE NEW CONCRETE DAM.
- THE EXPOSED PORTIONS OF THE NEW CONCRETE WALL AND NEW CONCRETE SPILLWAY TRAINING WALLS SHALL HAVE STONES PLACED ALONG THE UPSTREAM AND DOWNSTREAM VERTICAL FACES TO CREATE A STONEWALL FINISHED APPEARANCE.
- EXISTING STONES SHALL BE STOCKPILED AND REPLACED TO CREATE A LAID STONE APPEARANCE TO REPRODUCE THE EXISTING FINISH.
- THE OWNER, ENGINEER AND CONTRACTOR SHALL FIELD REVIEW AND AFFIRM THE SPECIFICS OF THIS REQUIREMENT DURING THE PRECONSTRUCTION MEETING.
- ALL CONTRACTOR COSTS FOR THIS WORK SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO REINFORCED CONCRETE.

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NO.	DATE	DESCRIPTION	BY	CHK'D

TOWN OF CALAIS
3120 PEKIN
BROOK ROAD
EAST CALAIS,
VERMONT, 05650

CURTIS POND DAM
REHABILITATION
PROJECT

SHEET TITLE

NEW CONCRETE
CUTOFF WALL
TYPICAL SECTION

DRAWN BY RJL	DATE FEB 9, 2023
CHECKED BY CWJ	D&K PROJECT # 928190
PROJ. ENG. JWT	D&K ARCHIVE #

SHEET NUMBER

C7

SHEET 7 OF 13

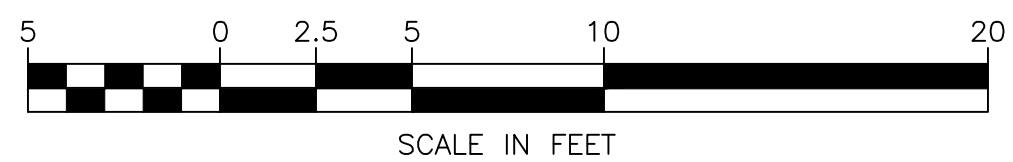
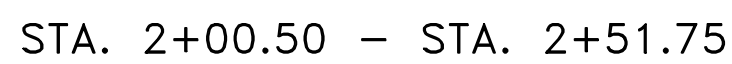
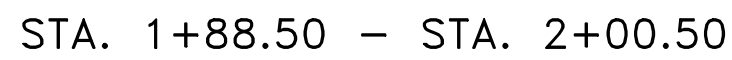
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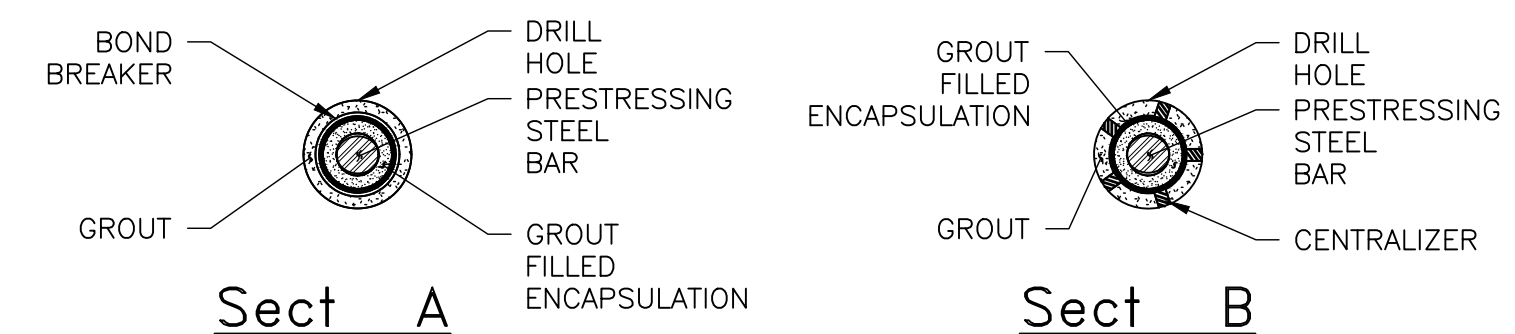
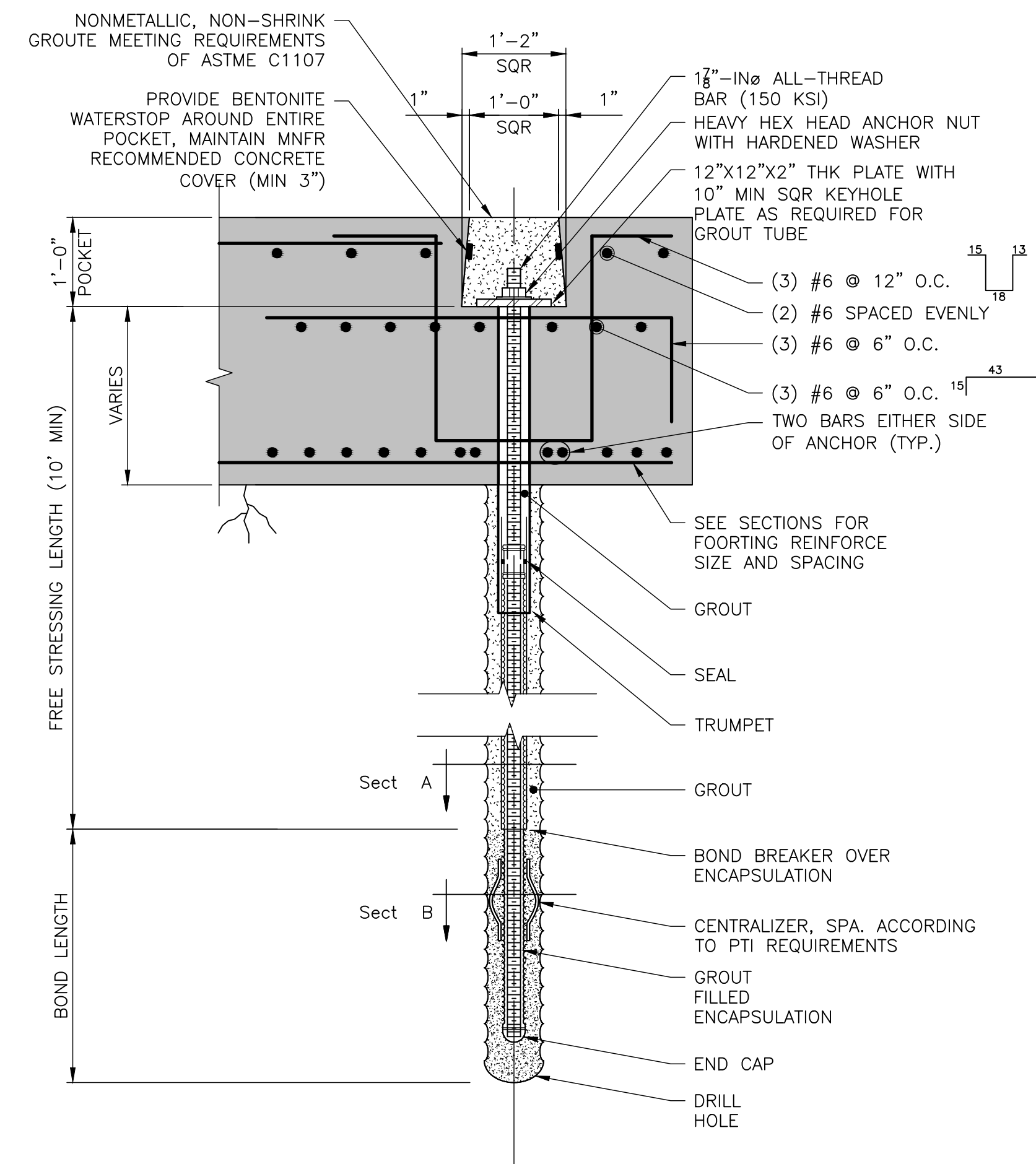
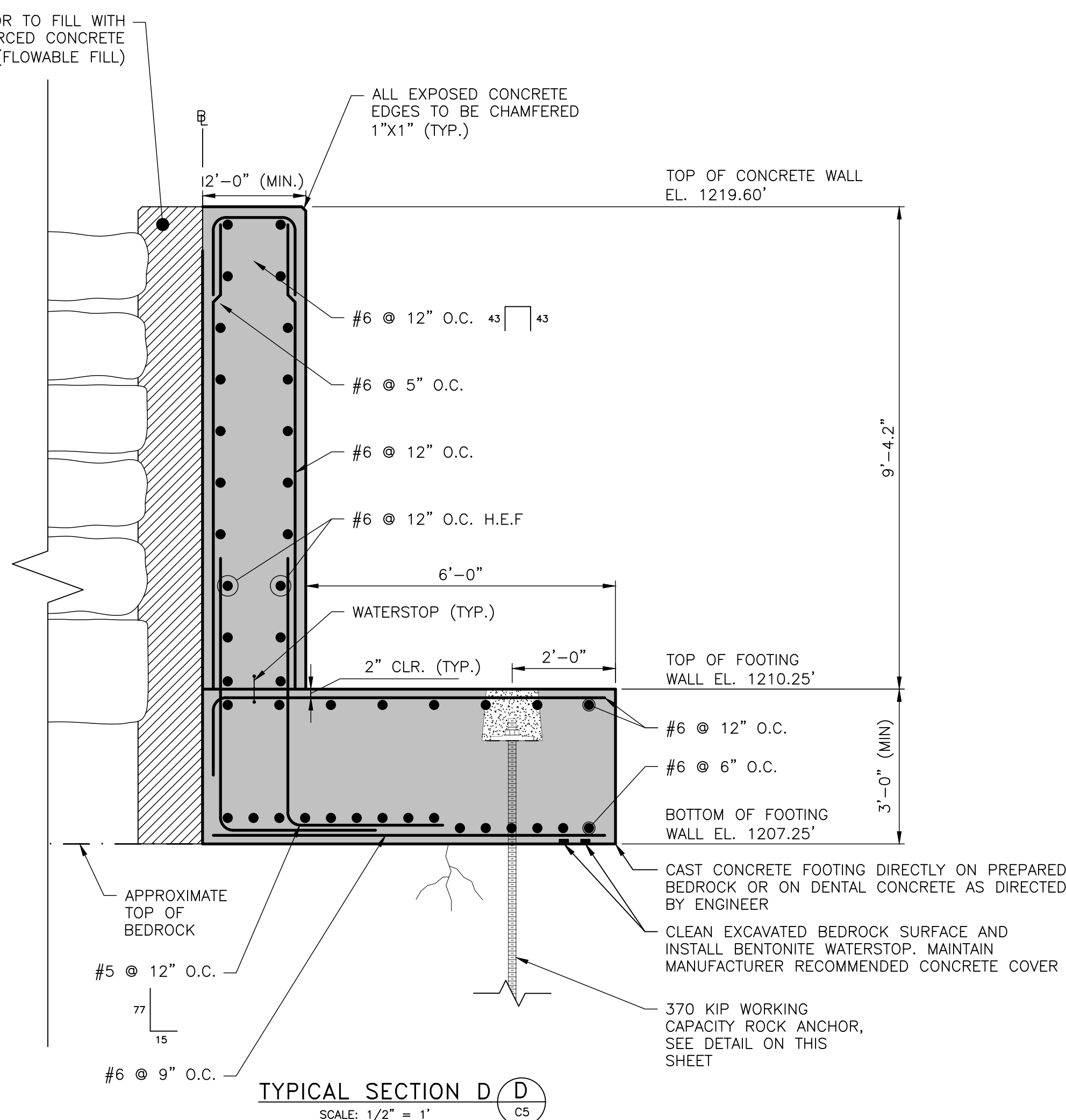
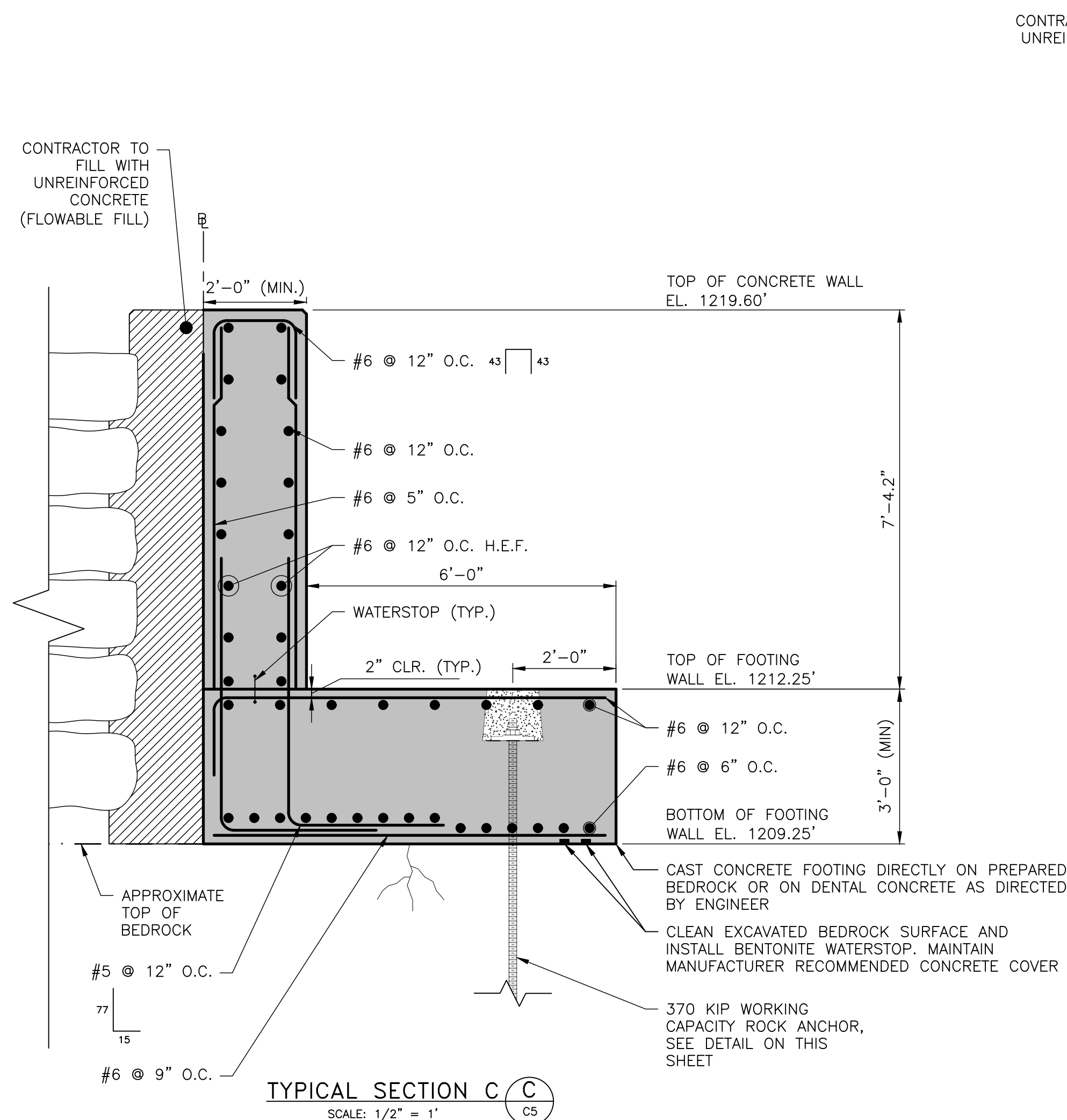
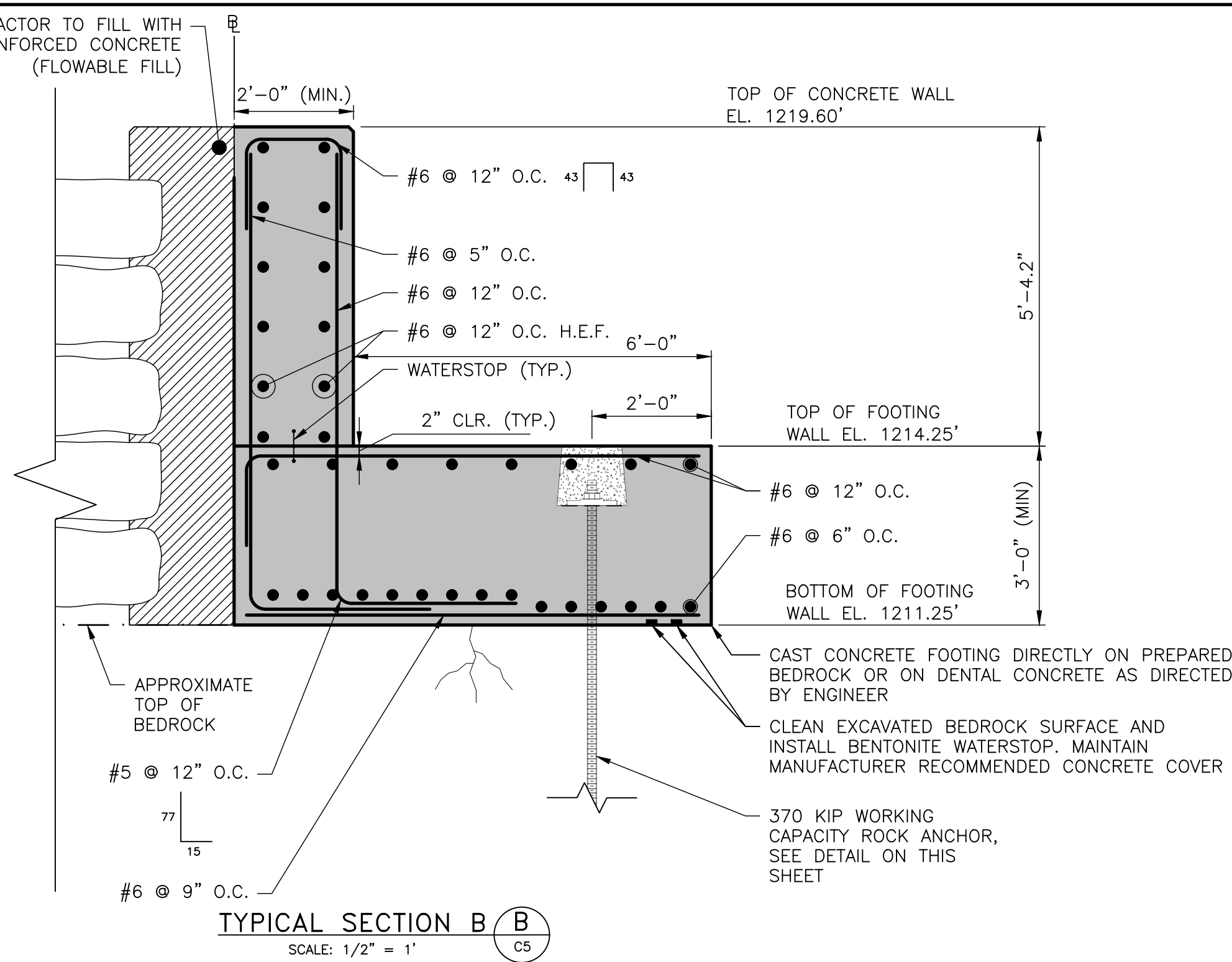
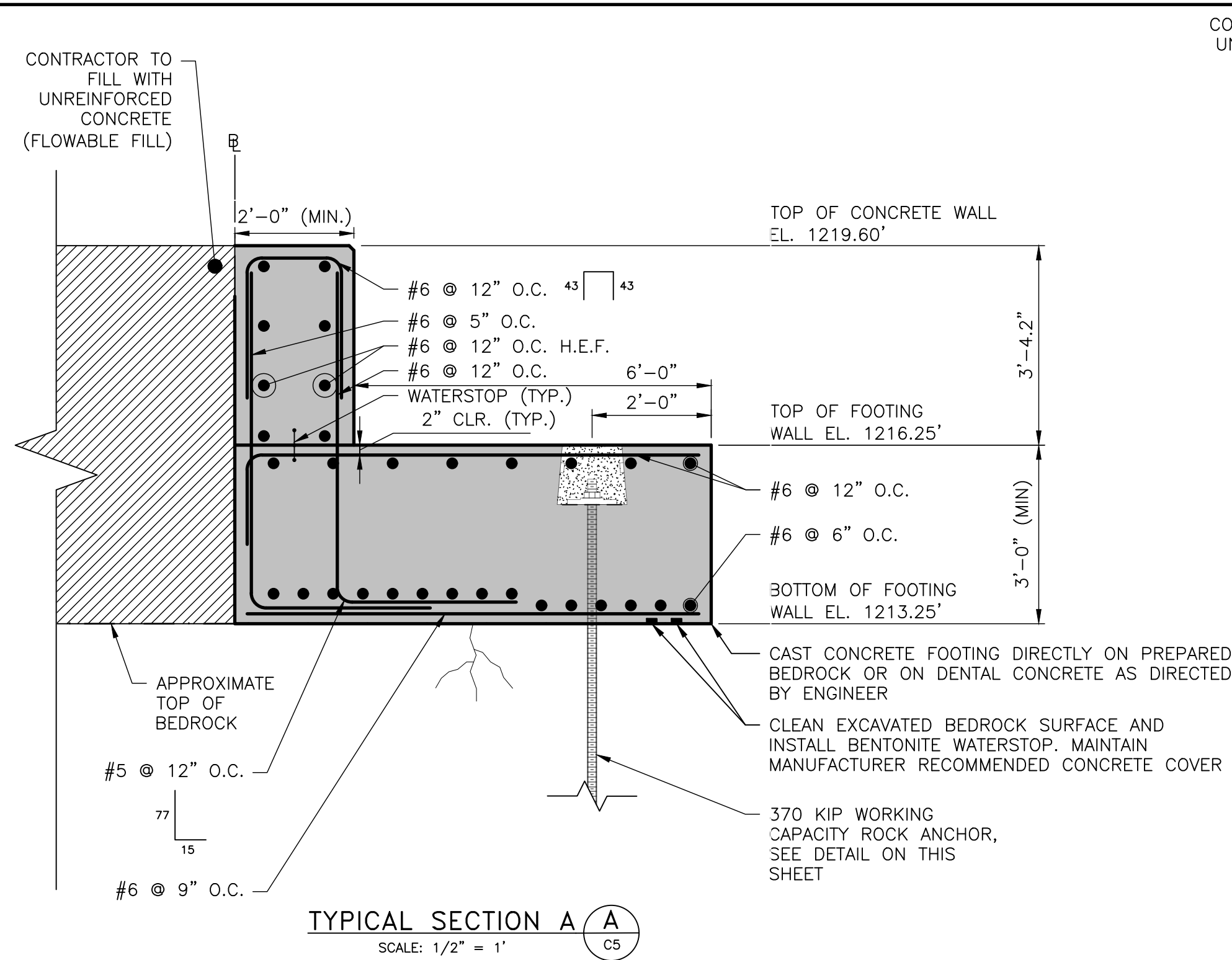
TOWN OF CALAIS
3120 PEKIN
BROOK ROAD
EAST CALAIS,
VERMONT, 05650

NEW CONCRETE
CUTOFF WALL
TYPICAL SECTION

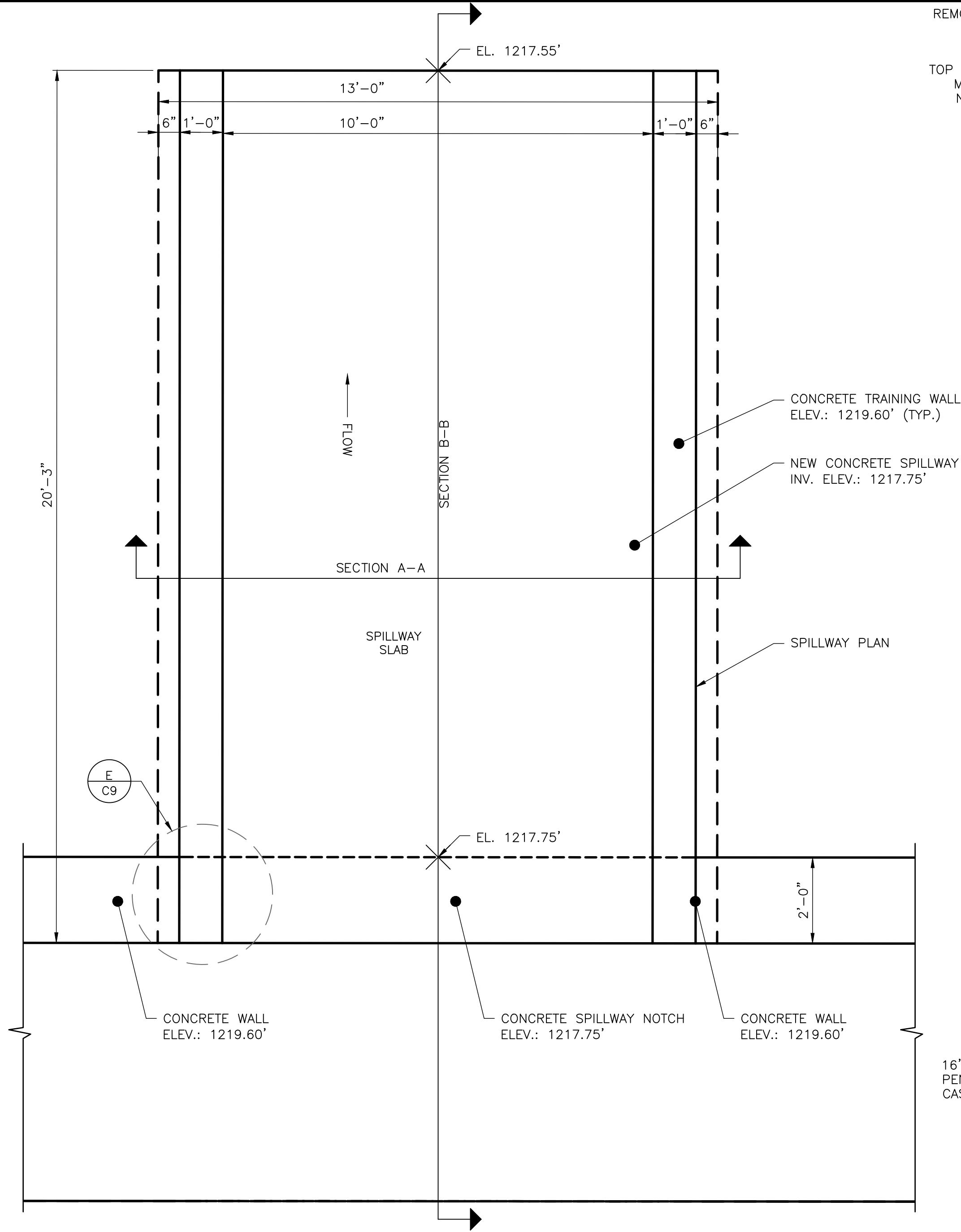
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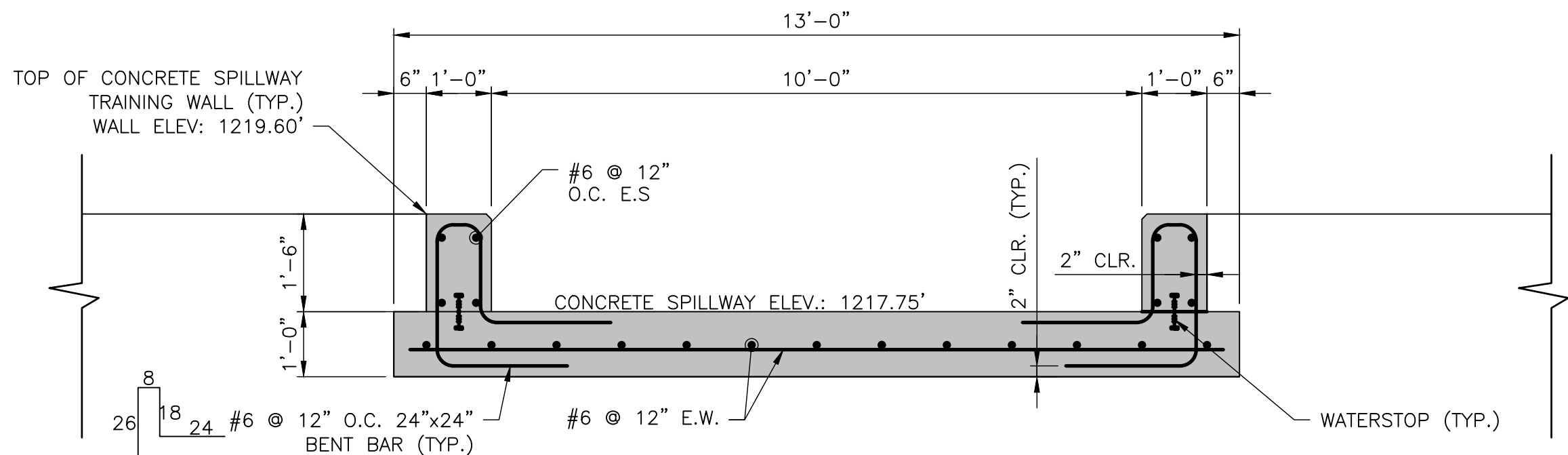




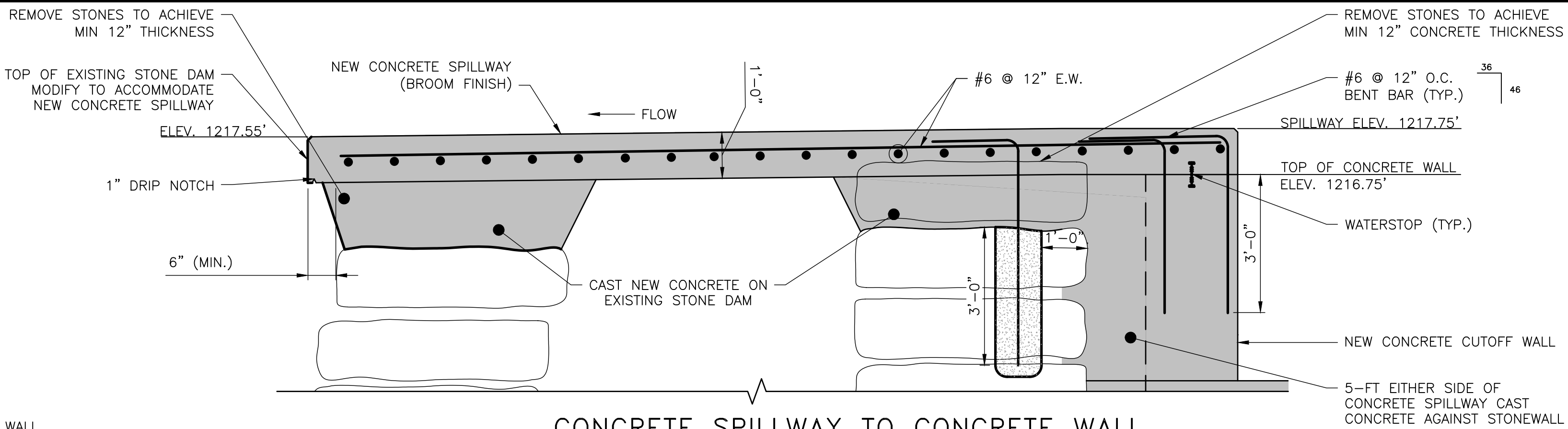
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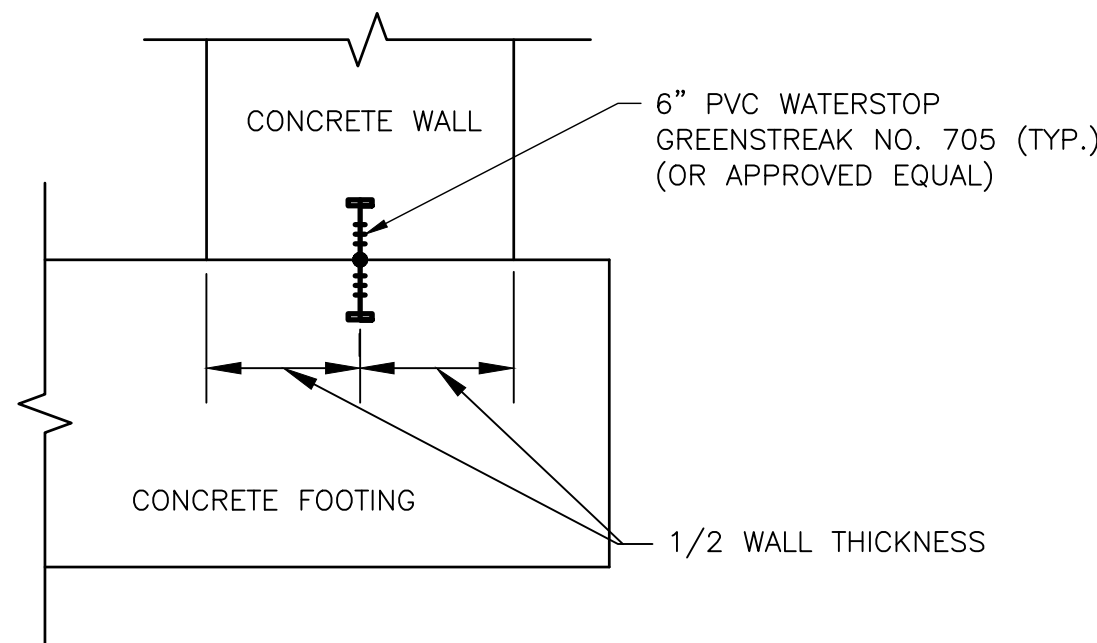
CONCRETE SPILLWAY PLAN
SCALE: 1/2" = 1'



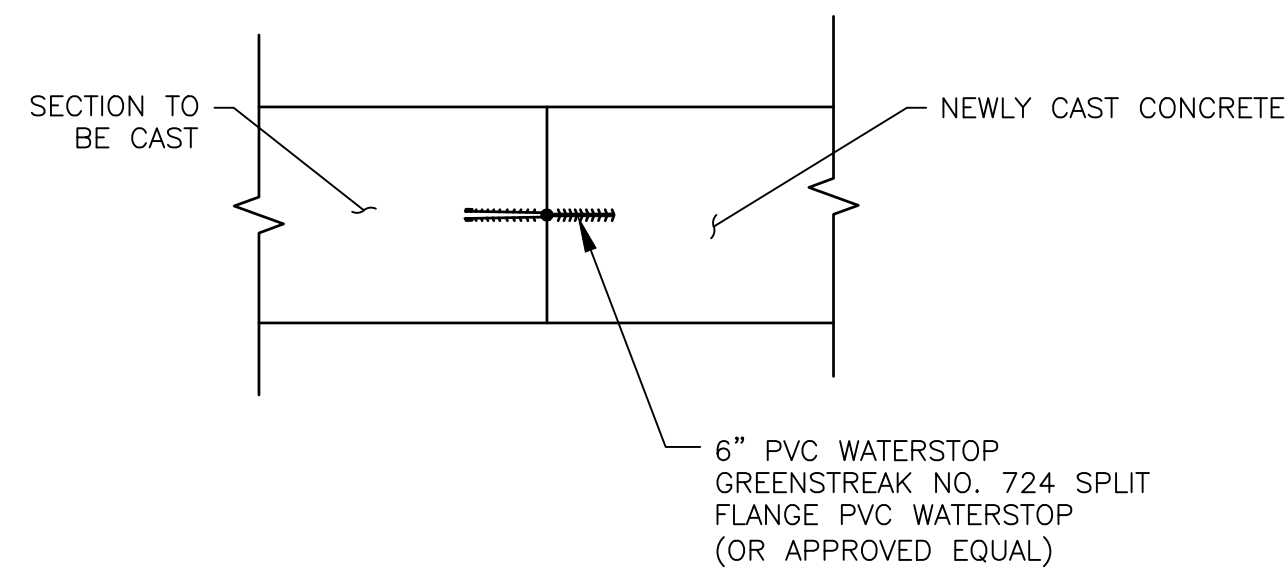
CONCRETE SPILLWAY DETAIL SECTION A-A
SCALE: 1/2" = 1'



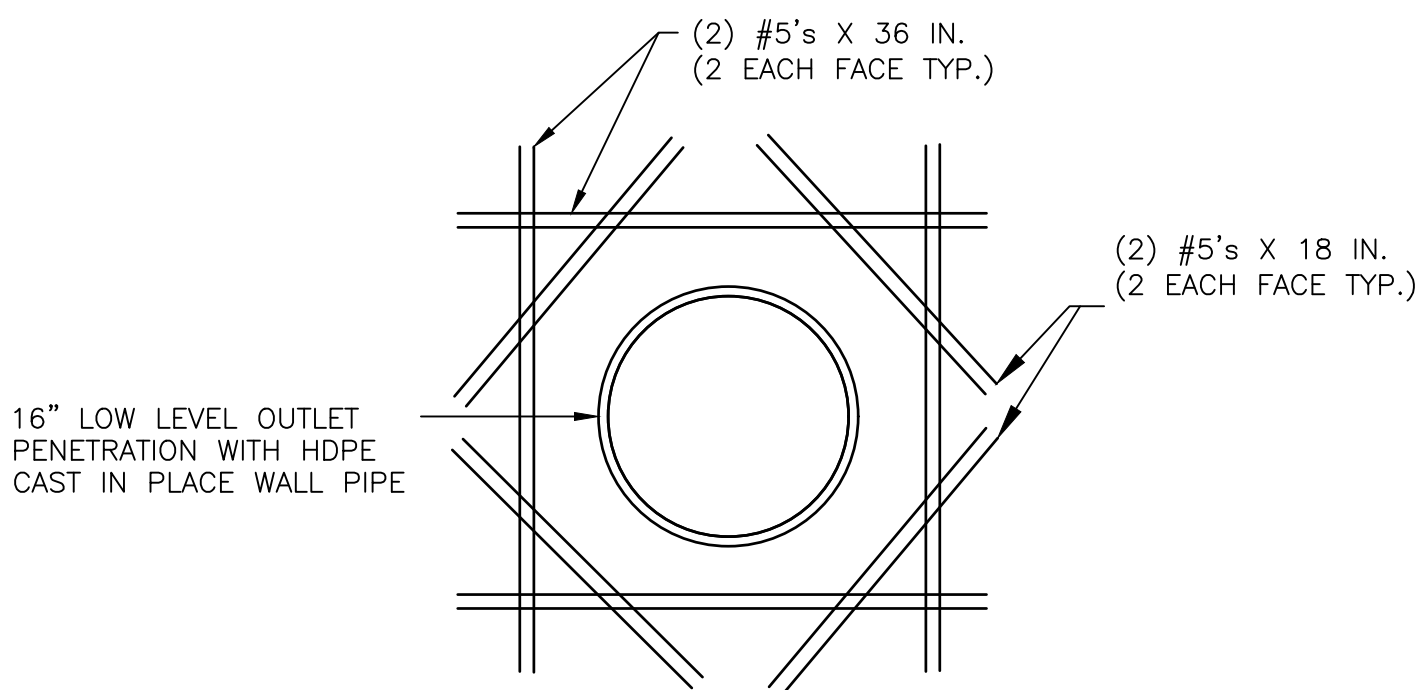
CONCRETE SPILLWAY TO CONCRETE WALL
CONNECTION DETAIL SECTION B-B
SCALE: 1/2" = 1'



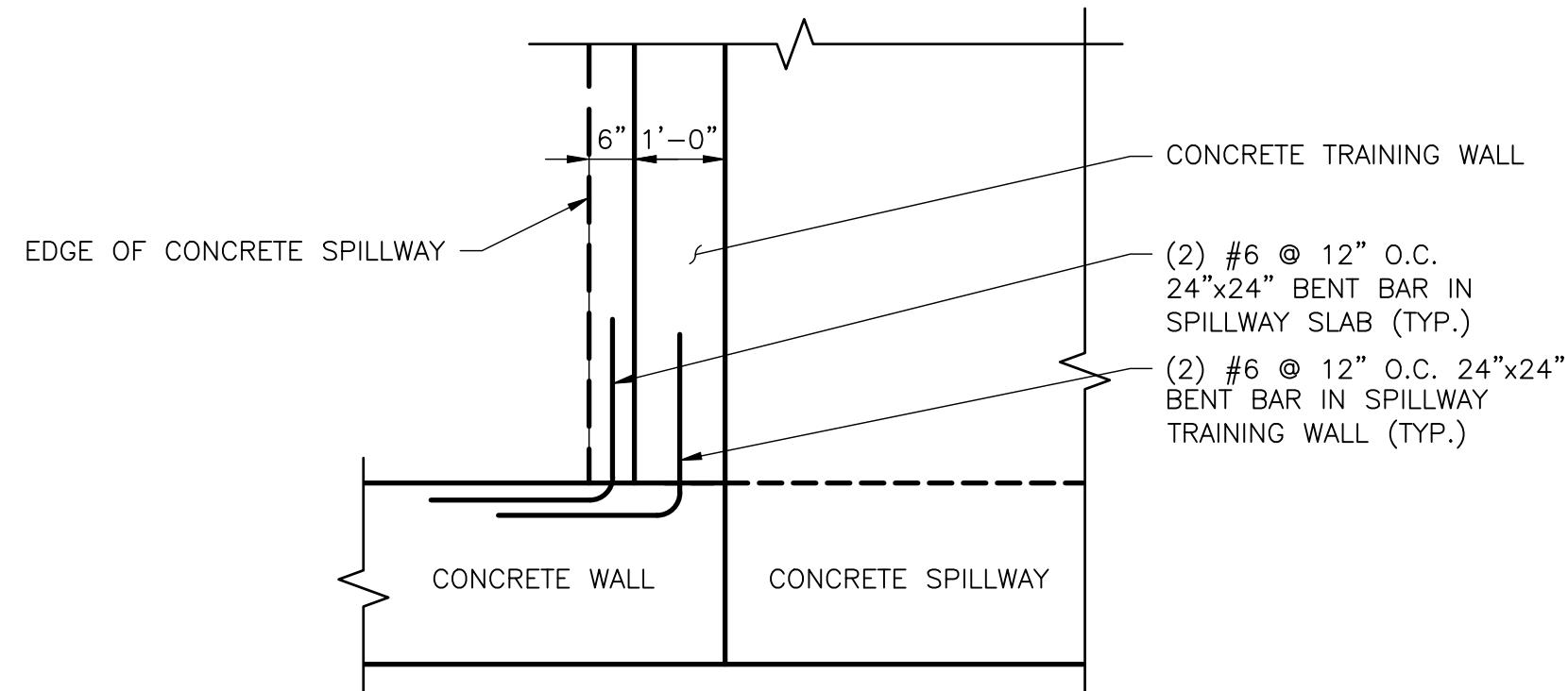
HORIZONTAL CONSTRUCTION
JOINT DETAIL
NOT TO SCALE



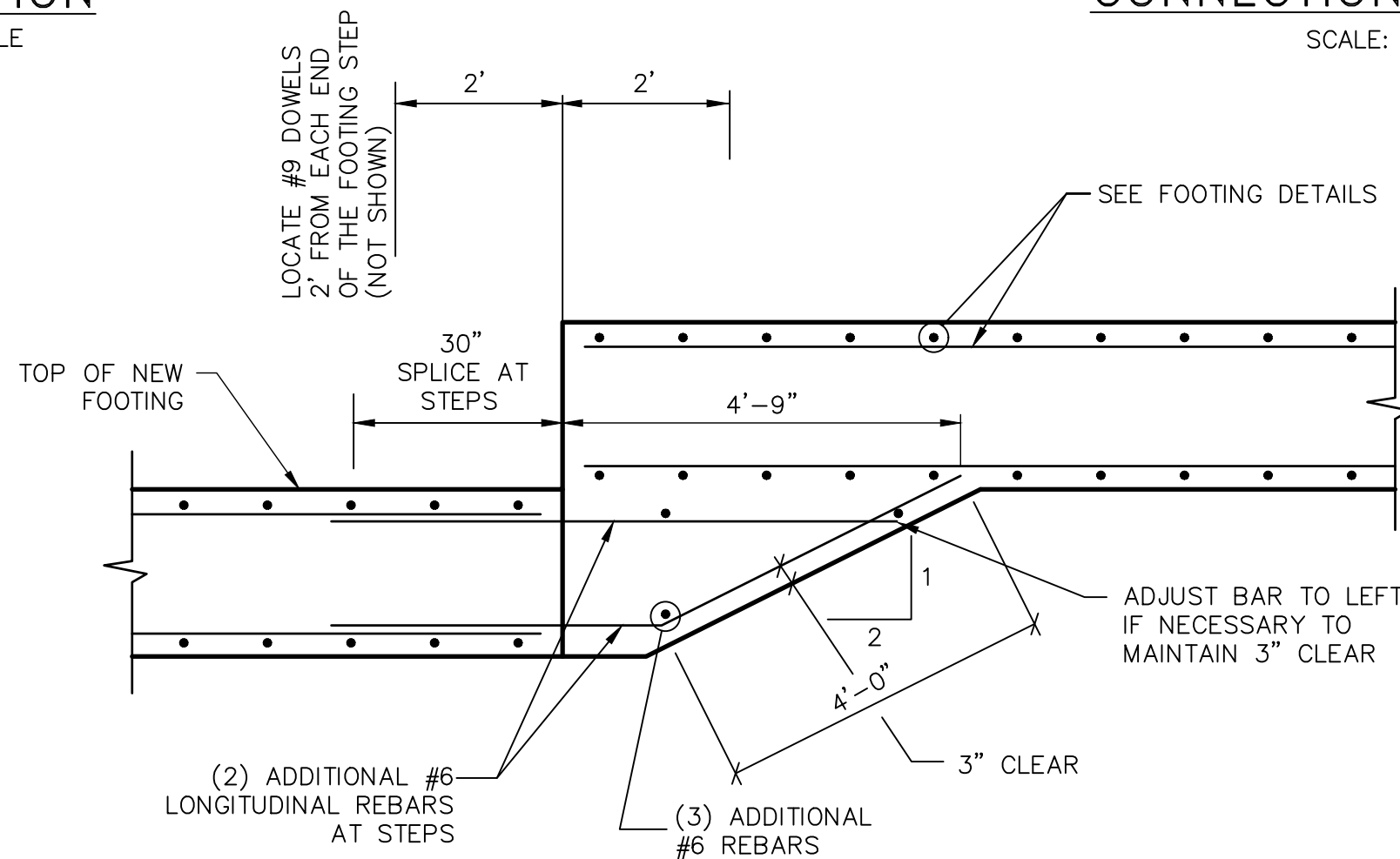
VERTICAL CONSTRUCTION JOINT DETAIL
NOT TO SCALE



ADDITIONAL REINFORCING AT WALL
PENETRATION
NOT TO SCALE



CONCRETE SPILLWAY TO CONCRETE WALL
CONNECTION DETAIL PLAN
SCALE: 1/2" = 1'



STEP REINFORCING
SCALE: 1/2" = 1'

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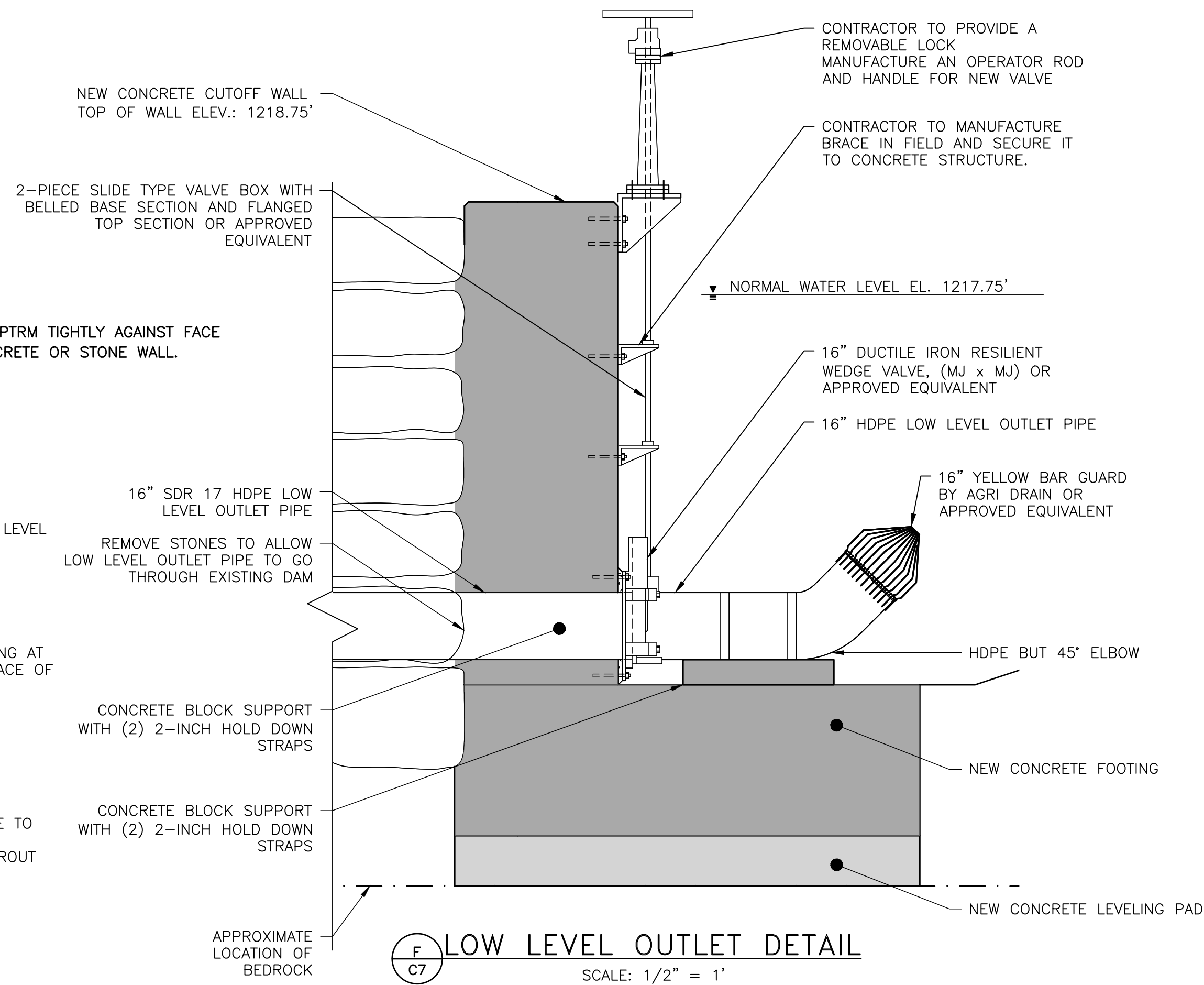
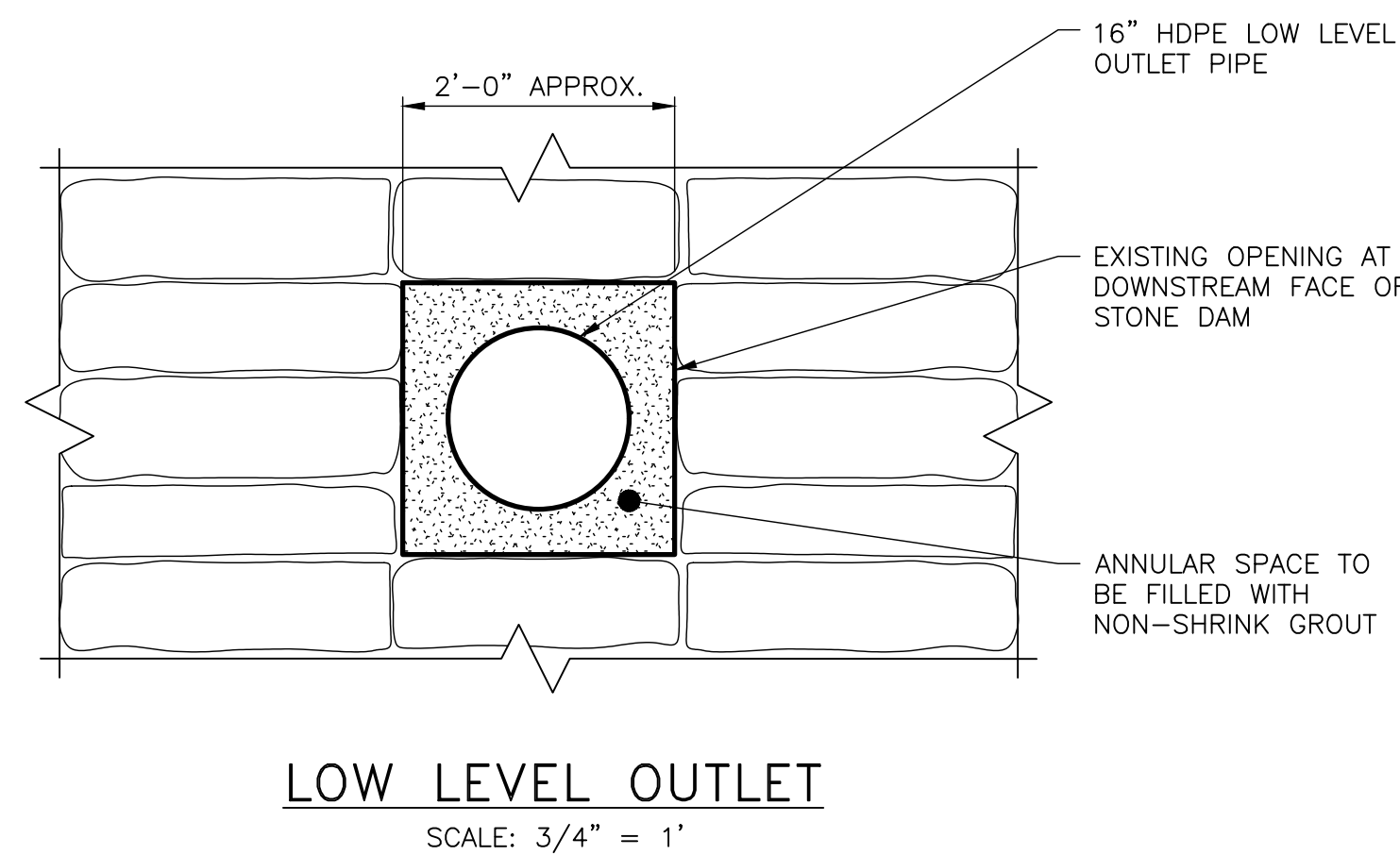
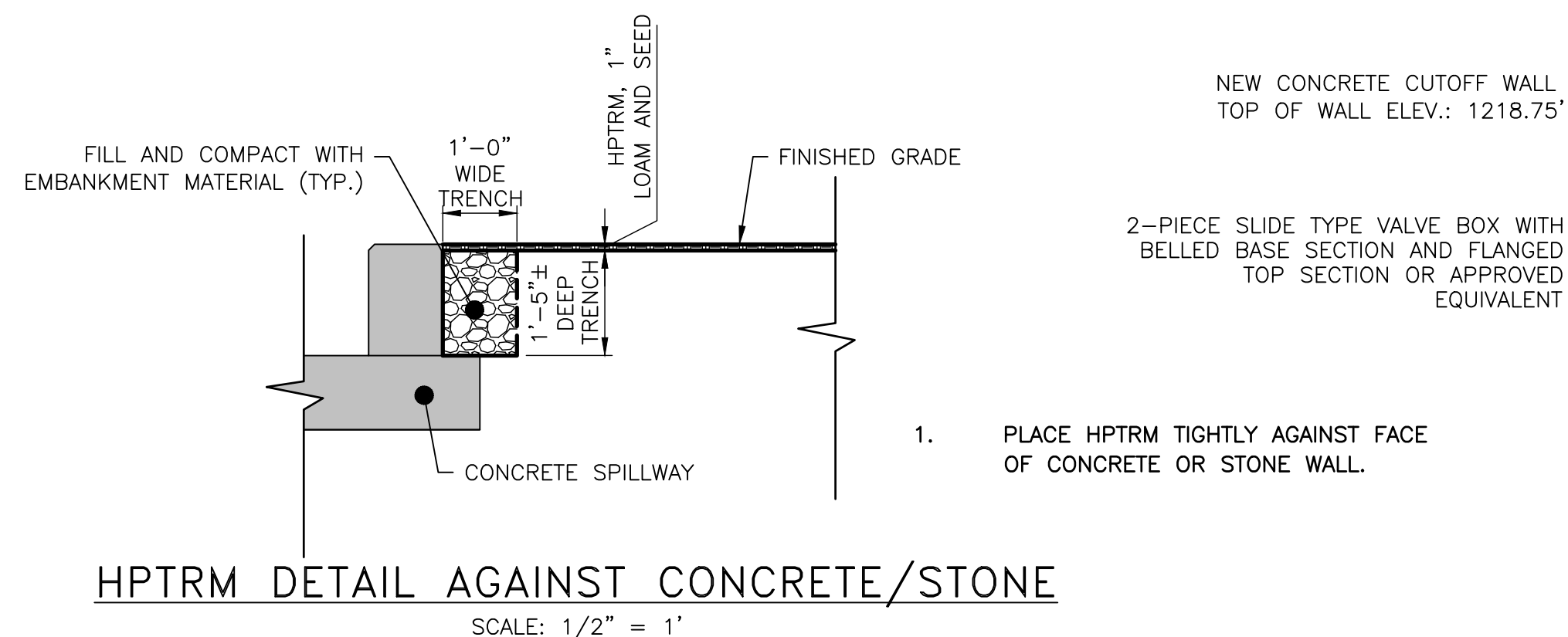
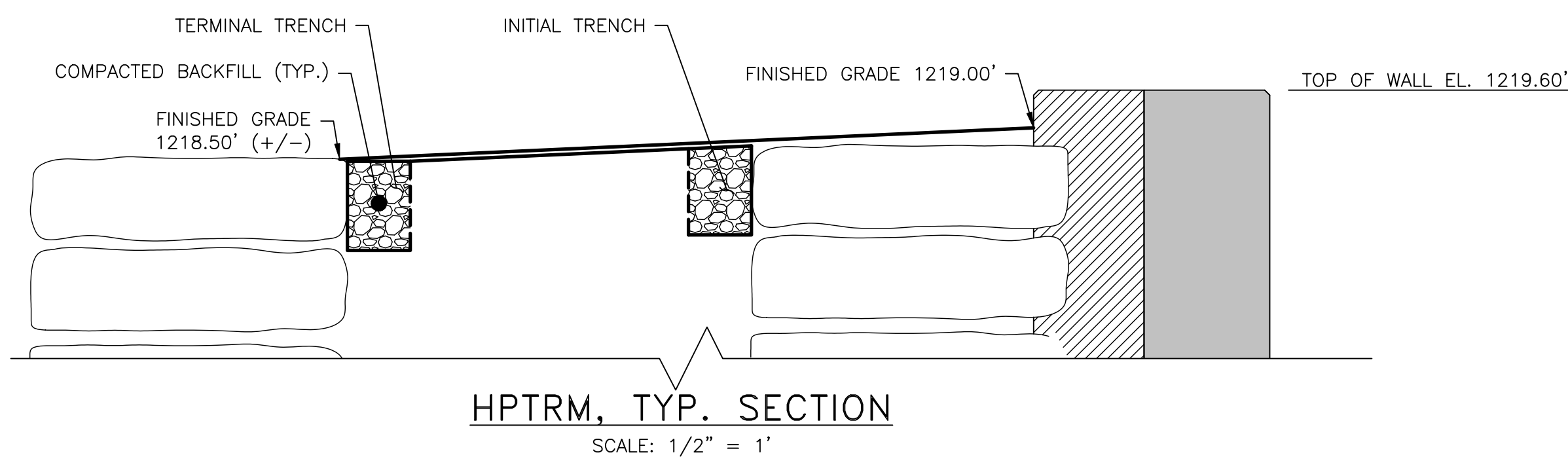
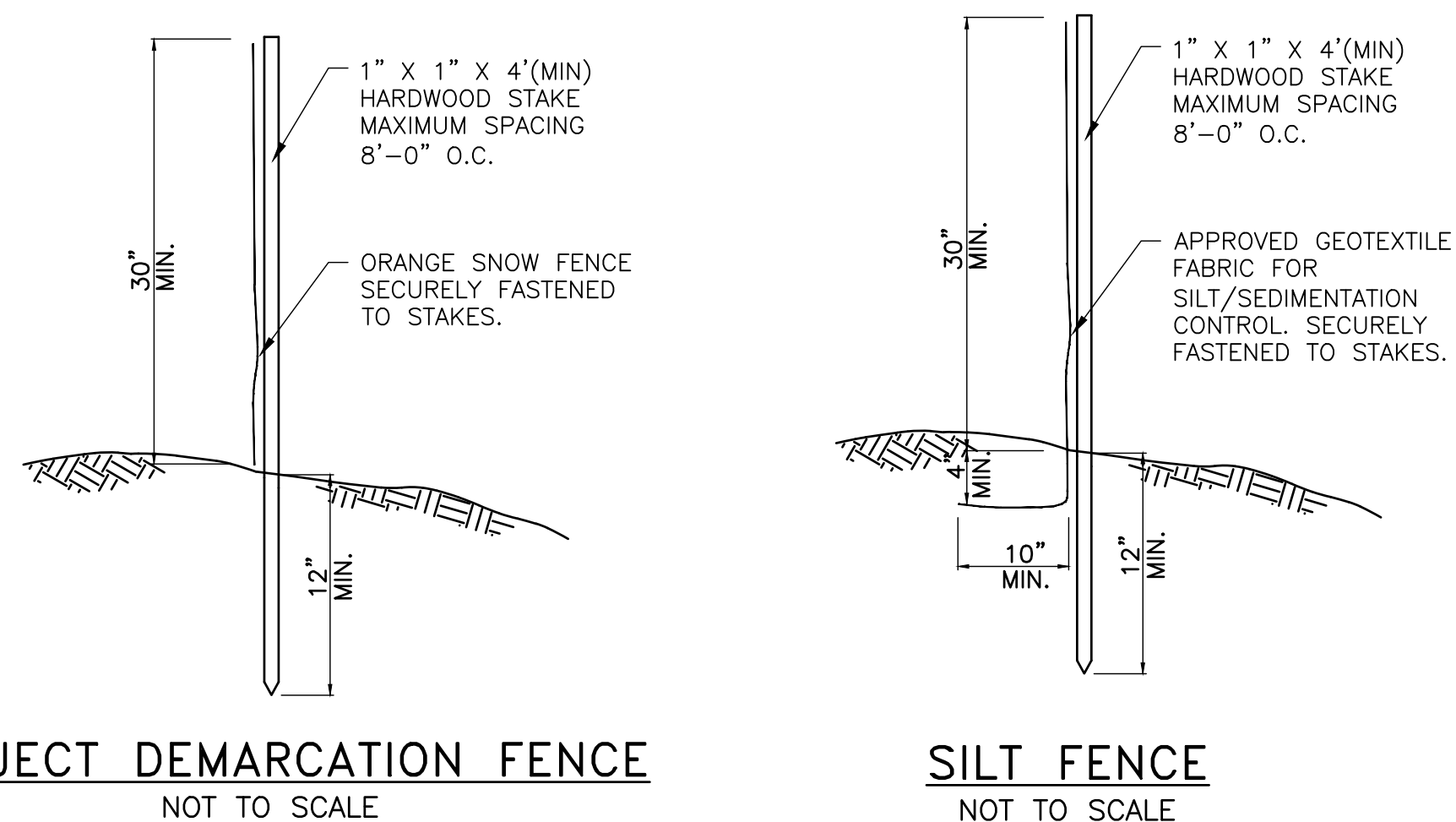
TOWN OF CALAIS
3120 PEKIN
BROOK ROAD
EAST CALAIS,
VERMONT, 05650

**CURTIS POND DAM
REHABILITATION
PROJECT**

SHEET TITLE

CONCRETE DETAILS

DRAWN BY	DATE
RJL	FEB 9, 2023
CHECKED BY	D&K PROJECT #
CWJ	928190
PROJ. ENG.	D&K ARCHIVE #
JWT	
SHEET NUMBER	
C10	
SHEET 10 OF 13	



EROSION CONTROL NOTES

1. TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES ARE REQUIRED THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
2. ALL EPSC ACTIVITIES SHALL CONFORM TO THE VT DEC LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL, CURRENT EDITION.
3. ALL EARTHWORK AND GRADING PERFORMED BETWEEN OCTOBER 15 AND APRIL 15 SHALL CONFORM TO APPROVED WINTER CONSTRUCTION PRACTICES, AS PRESENTED IN THE VT DEC LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL 2006.
4. THE CONTRACTOR SHALL BE AWARE OF ALL DISCHARGE INTO THE OUTLET CHANNEL. SHOULD THERE BE VISUALLY DISCOLORED DISCHARGE ENTERING THE OUTLET CHANNEL THE CONTRACTOR SHALL DETERMINE THE SOURCE. IF THE CAUSE IS FROM CONSTRUCTION ACTIVITIES ALL OPERATIONS MUST CEASE UNTIL THE DISCHARGE IS NO LONGER DISCOLORED. ALTERNATIVE MEANS OF CONSTRUCTION SHALL BE ADMINISTERED AS TO AVOID ADDITIONAL RELEASE OF DISCOLORED DISCHARGE INTO THE OUTLET CHANNEL.
5. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL INSTALL SILT FENCING AND EROSION CONTROL DEVICES AS SHOWN ON THESE PLANS. EROSION CONTROLS SHALL BE LOGICALLY PHASED WITH CONSTRUCTION ACTIVITIES AND AS DIRECTED BY THE ENGINEER OR OWNERS REPRESENTATIVE.
6. WATER REMOVED FROM WORK AREAS SHALL BE DISCHARGED TO A FILTER BAG LOCATED GREATER THAN 100 FEET FROM ANY FLOWING NON-TURBID WATER.
7. SHOULD A FILTER BAG BE USED TO CONTROL SEDIMENT, A REPLACEMENT FILTER BAG SHALL BE ON SITE AT ALL TIMES. THE FILTER BAGS SHALL BE REMOVED FROM THE SITE ONCE USED.
8. THE EROSION CONTROLS SHALL BE INSPECTED DAILY PRIOR TO INITIATION OF THE DAY'S ACTIVITIES. MAINTENANCE SHALL TAKE PLACE AT THAT TIME.
9. THE CONTRACTOR SHALL TOPSOIL, SEED AND MULCH THE DISTURBED AREAS WITHIN 7 DAYS OF INITIAL DISTURBANCE. AFTER THIS TIME, ANY DISTURBANCE IN THE AREA MUST BE STABILIZED AT THE END OF EACH WORKDAY. ALL AREAS OF DISTURBANCE MUST HAVE PERMANENT STABILIZATION WITHIN 48 HOURS OF REACHING FINAL GRADE. THE FOLLOWING EXCEPTIONS MAY APPLY:
 - A) STABILIZATION IS NOT REQUIRED IF THE EARTHWORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECAST FOR THAT SAME PERIOD OF TIME.
 - B) STABILIZATION IS NOT REQUIRED IF THE EARTHWORK IS OCCURRING WITHIN A SELF-CONTAINED EXCAVATION, WITH A DEPTH OF 2 FEET OR GREATER AND NO OUTLET.
10. ALL SLOPES AND DISTURBED AREAS SHALL BE GRADED SMOOTH AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.
11. ALL SLOPES GREATER THAN 1V:2H SHALL BE TREATED WITH BIODEGRADABLE EROSION CONTROL BLANKET, TYPE S150BN AS MANUFACTURED BY NORTH AMERICAN GREEN OR APPROVED EQUAL.

THE BLANKET SHALL BE STAPLED WITH BIODEGRADABLE STAPLES, OVERLAPPED, AND SHINGLED CORRECTLY RELATIVE TO WATER FLOW, AND INSTALLED IN GENERAL ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS. ALL EROSION CONTROL PRODUCTS SHALL CONFORM TO SPECIFICATIONS SECTION 01575.

12. PERMANENT STABILIZATION SHALL BE CONDUCTED ACCORDING TO THE TECHNICAL SPECIFICATIONS SECTION 02483.
13. REMOVAL OF EPSC MEASURES SHALL ONLY BE DONE FOLLOWING THE APPROVAL OF THE ENGINEER. ALL DISTURBANCES CAUSED BY THE REMOVAL SHALL BE REPAIRED IMMEDIATELY.

LOW-LEVEL OUTLET NOTES:

1. A NEW LOW-LEVEL DRAIN SHALL BE INSTALLED THROUGH THE EXISTING STONE SLUICeway LOCATED TO THE LEFT (LOOKING DOWNSTREAM) OF THE EXISTING SPILLWAY. THE EFFECTIVE OPENING DIMENSION, UPSTREAM LIMITS AND CONDITION OF THE SLUICeway ARE UNKNOWN.
2. FOLLOWING DEWATERING, THE CONTRACTOR SHALL INSPECT THE SLUICeway AND CONFIRM THE CONTROLLING CLEAR DIMENSIONS AND REVIEW WITH THE ENGINEER PRIOR TO ORDERING THE NEW LOW-LEVEL DRAIN PIPE.
3. THE EXPECTED SIZE OF THE NEW LOW-LEVEL DRAIN PIPE IS 16-INCHES, INSIDE DIAMETER. THE NEW PIPE SHALL BE A HDPE, SDR 17 (OR BETTER) PIPE. THE NUMBER OF PIPE JOINTS SHALL BE LIMITED TO THE SMALLEST NUMBER POSSIBLE.
4. IT IS ANTICIPATED THERE MAY BE SOME TYPE OF BLOCKAGE / GATE AT THE UPSTREAM END OF THE EXISTING SLUICeway. THIS BLOCKAGE SHALL BE REMOVED TO ALLOW FOR THE COMPLETE INSTALLATION OF THE PIPE.
5. THE SLUICeway SHALL BE CLEARED OF DEBRIS AND CLEANED TO PROPERLY RECEIVE THE NEW PIPE AND ANNULUS GROUT.
6. ONCE THE PIPE IS INSTALLED THROUGH THE SLUICeway, IT SHALL BE SUPPORTED ALONG ITS LENGTH AS NEEDED TO HOLD ITS SHAPE AND PREVENT FLOTATION AND OTHER MOVEMENT DURING THE PLACEMENT OF THE GROUT.
7. NON-SHRINK GROUT OR (FLOWABLE FILL MATERIAL) SHALL BE PLACED UNDER LOW PRESSURE TO FULLY SEAL THE ANNULAR SPACE AND SECURE THE NEW PIPE INTO THE EXISTING SLUICeway. THE CONTRACTOR SHALL PROPOSE THE METHOD AND MEANS TO SUPPORT AND INSTALL THE NON-SHRINK GROUT.
8. THE NEW PIPE SHALL BE FULLY SUPPORTED ON LAID STONE OR CONCRETE FOR ITS ENTIRE LENGTH. ANY LENGTH UPSTREAM OF THE STONE DAM AND PRIOR TO THE NEW CONCRETE WALL SHALL HAVE A SUITABLE, 6-INCH-THICK CONCRETE SUPPORT CRADLE.
9. THE NEW, MANUAL LOW-LEVEL GATE AND OPERATOR SHALL BE AS SHOWN ON THE PLANS AND AS SPECIFIED. THE OPERATOR CRANK SHALL BE REMOVEABLE AND A STAINLESS-STEEL COVER AND LOCK TO PREVENT UNAUTHORIZED ACCESS TO THE PINION SHAFT SHALL BE PROVIDED TO THE OWNER.
10. BRACES AND GUIDES FOR THE GATE STEM SHALL BE PER MANUFACTURER RECOMMENDATIONS. ALL MATERIAL FINISHES SHALL BE STAINLESS STEEL.

DRAFT FINAL
DESIGN PLANS
90%

NO.	DATE	DESCRIPTION	BY	CK'D

TOWN OF CALAIS
3120 PEKIN
BROOK ROAD
EAST CALAIS,
VERMONT, 05650

CURTIS POND DAM
REHABILITATION
PROJECT

SHEET TITLE

LESSER BUR-REED
MITIGATION PLAN

DRAWN BY RJL	DATE FEB 9, 2023
CHECKED BY CWJ	D&K PROJECT # 928190
PROJ. ENG. JWT	D&K ARCHIVE #

SHEET NUMBER

C13

SHEET 13 OF 13

