INVENTUM ENGINEERING, PC

August 26, 2026

Megan Kuczka
Project Manager
New York State Department of Environmental Conservation
700 Delaware Avenue
Buffalo, NY 14209.

Re: Riverbank Repair Work Plan
Site Name: Buffalo Color Corporation Site Areas A & B
Site No.: C915230
Site Address: 1337 So. Park Ave, 1002 So. Park, 145 Prenatt St.
Buffalo, NY 14210

Dear Ms. Kuczka:

On behalf of South Buffalo Development Corporation, LLC (SBD), Inventum Engineering (Inventum) is submitting this Riverbank Repair Work Plan for the Buffalo Color Areas A & B Brownfield Cleanup Program (BCP) Site (Site No. C915230). A routine inspection of the cover system on the BCP Site has identified erosion of the soil cover along the riverbank (Enclosure A) that has exposed the demarcation barrier.

The BCP Site riverbank stabilization and restoration measures are documented in the December 2013 Final Engineering Report[1] (FER). Stabilization and restoration measures along the riverbank varied based on location and included installation of a marine mattress; stone and topsoil fill; soil and topsoil fill; and sheet piling. The proposed repair measures are for a portion of riverbank where the initial cover system consisted of a demarcation barrier and an 18-inch vegetated soil cover that was held in place using a woven coir fabric anchored in place and a bio-log located at the ordinary mean surface water elevation. The stabilized/restored areas of the riverbank have not been modified since issuance of the FER.

The approximate area of the exposed demarcation barrier is 3,650 square feet (sq. ft) based on field measurements (Figure 1). The lowest elevation of the eroded area is 572.60 feet above mean sea level (ft. AMSL) based on a survey conducted by Wendel Companies of Buffalo, NY in June 2025 (Enclosure B).

The ordinary high-water elevation was defined in the FER as 571.5 feet. AMSL. No fill is proposed for placement below 571.5 feet. AMSL and based on correspondence with the New York State Department of Environmental Conservation (NYSDEC), the proposed work will not require an Article 15 Excavation and Fill permit or an Article 24 freshwater Wetland Permit (Enclosure C).

A medium stone riprap [New York State Department of Transportation (NYSDOT) 620.04 Medium Stone Fill] will be utilized for repair of the eroded area (Enclosure D). Medium stone riprap is typically 12 to 24-inches and routinely utilized for slope protection. Inventum believes the riprap stone is more suitable for long-term riverbank erosion control than the soil cover, seeding, and planting that was completed previously and documented in the FER (Enclosure E). Approximately 400 tons of the medium stone fill will be placed in the area where the demarcation barrier has been exposed. The demarcation barrier will be

[1] Mactec. December 2013. Final Engineering Report. Buffalo Color Site – Area A/B. NYSDEC Site Number: C915230

replaced as needed. Air monitoring in accordance with the BCP Site Community Air Monitoring Plan (CAMP) will be conducted if the demarcation barrier is breached during the work.

The material will be placed with an excavator from the top of the bank. Although not anticipated, if the riprap contains any fine material, biodegradable erosion control logs, Rolanka Bio-D Roll or similar, may be installed at the toe of the repair area to aid in stabilizing the riprap at the base of the slope.

Any disturbed areas of the cover system on top of the bank will be restored following completion of the placement of the riprap. Crane mats may be utilized to protect the upland cover system from heavy equipment damage and to limit the amount of topsoil required for cover system restoration. Import request forms for the riprap, topsoil, or other materials necessary for the work will be submitted to NYSDEC for approval prior to import.

The repair area will be re-surveyed prior to beginning the work to document the existing elevations and again following completion of the work to document re-establishment of a 1-foot cover. The pre-restoration survey will be scheduled and conducted concurrent with the routine annual survey conducted as part of the Site Management Plan (SMP) for the marine mattress, concrete retaining wall, and sheet pile wall.

The proposed riverbank repair will be implemented in late summer or fall of 2026 pending contractor availability and weather.

Inventum will provide NYSDEC with a minimum 15-day notice in accordance with the BCP Site Excavation Work Plan (EWP). Daily field reports will be submitted to NYSDEC in accordance with DER-10. A summary of the work including photographs and as-built drawings of the repaired riverbank will be included in the next Periodic Review Report (PRR) following completion of the work. The as-built drawings will include cross-sections of the repairs.

All work will be conducted in accordance with the SMP and all federal, state, and local regulations. An Engineering Certification for this work plan in accordance with DER-10 is provided in Enclosure F.

Please do not hesitate to reach out directly at 571.217.3627 if there are any additional questions.

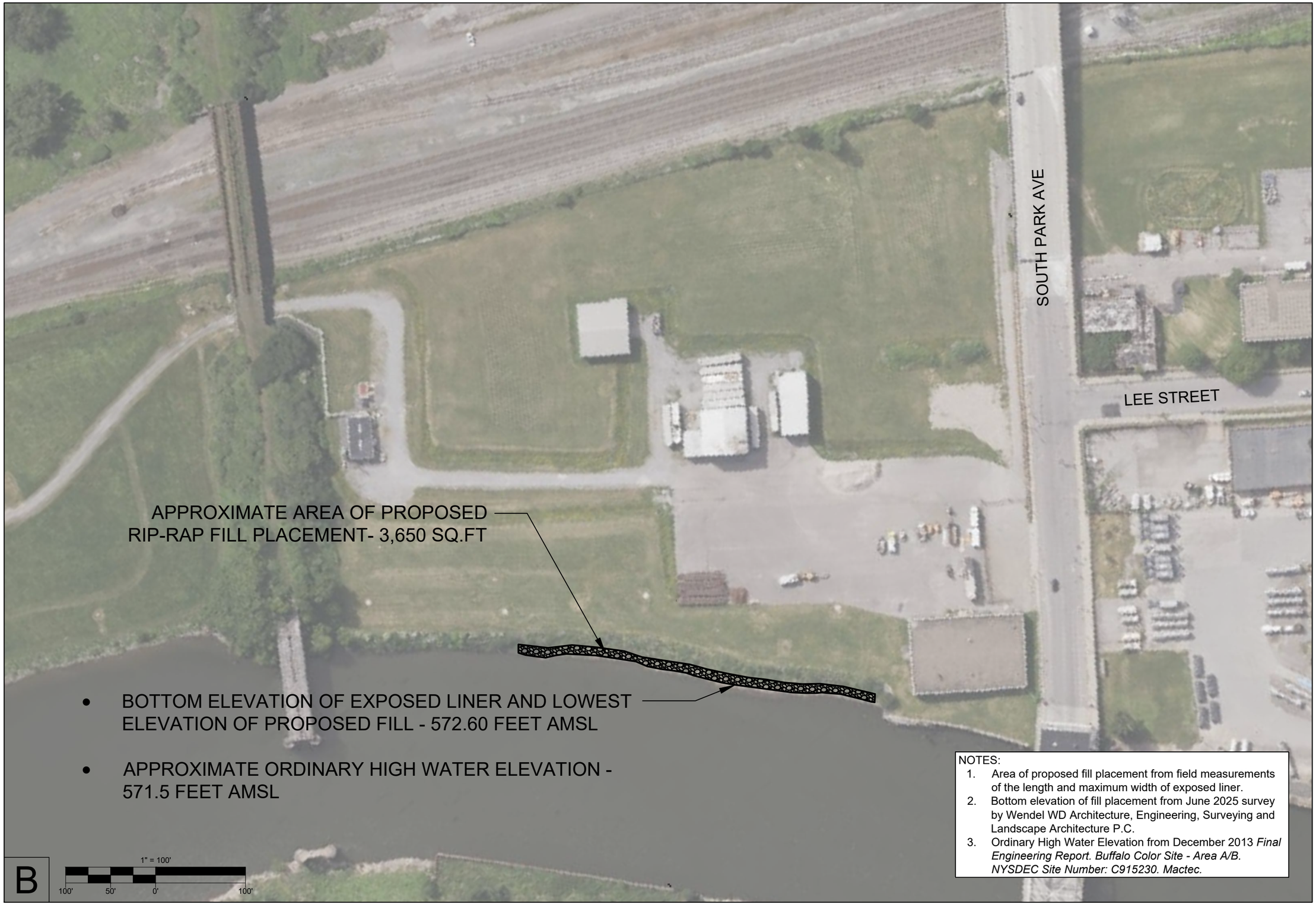
Respectfully submitted,



Todd Waldrop

Inventum Engineering, PC
Enclosure

Figure



NOTES:

1. Area of proposed fill placement from field measurements of the length and maximum width of exposed liner.
2. Bottom elevation of fill placement from June 2025 survey by Wendel WD Architecture, Engineering, Surveying and Landscape Architecture P.C.
3. Ordinary High Water Elevation from December 2013 *Final Engineering Report. Buffalo Color Site - Area A/B. NYSDEC Site Number: C915230. Mactec.*

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RIVERBANK RESTORATION WORK PLAN

Buffalo Color Coporation Site Areas A & B
BCP Site #C915230

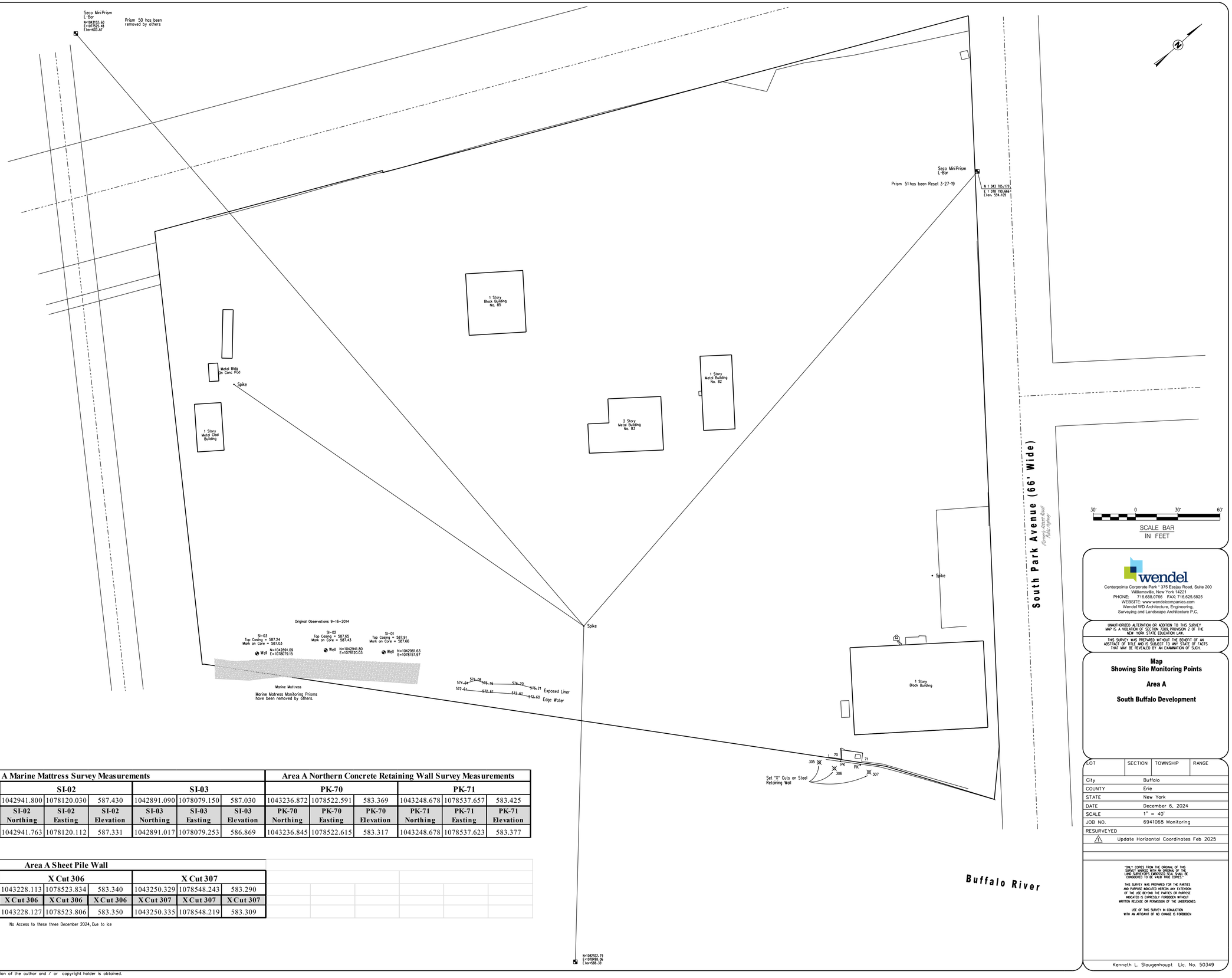
INVENTUM ENGINEERING
441 CARLISLE DRIVE
SUITE C
HERNDON, VIRGINIA 20170
www.InventumEng.com

FIGURE 1

Enclosure A

Client Name: SBD	Riverbank Restoration Work Plan	Project: Buffalo Color Corporation Site Areas A&B
Photo No. 1		
Direction Photo Taken: Looking South		
Description: Exposed liner along river. Soil cover has washed away over the winter. Proposed restoration with rip-rap..		

Enclosure B



INITIAL	Area A Marine Mattress Survey Measurements									Area A Northern Concrete Retaining Wall Survey Measurements					
SURVEY	SI-01			SI-02			SI-03			PK-70			PK-71		
9/16/2014	1042981.630	1078157.970	587.660	1042941.800	1078120.030	587.430	1042891.090	1078079.150	587.030	1043236.872	1078522.591	583.369	1043248.678	1078537.657	583.425
↓	SI-01 Northing	SI-01 Easting	SI-01 Elevation	SI-02 Northing	SI-02 Easting	SI-02 Elevation	SI-03 Northing	SI-03 Easting	SI-03 Elevation	PK-70 Northing	PK-70 Easting	PK-70 Elevation	PK-71 Northing	PK-71 Easting	PK-71 Elevation
6/27/2025	1042981.674	1078158.072	587.528	1042941.763	1078120.112	587.331	1042891.017	1078079.253	586.869	1043236.845	1078522.615	583.317	1043248.678	1078537.623	583.377

INITIAL	Area A Sheet Pile Wall								
SURVEY	X Cut 305			X Cut 306			X Cut 307		
3/21/2023	1043221.201	1078510.062	583.564	1043228.113	1078523.834	583.340	1043250.329	1078548.243	583.290
Date	X Cut 305	X Cut 305	X Cut 305	X Cut 306	X Cut 306	X Cut 306	X Cut 307	X Cut 307	X Cut 307
4/10/2024	1043221.210	1078510.050	583.558	1043228.127	1078523.806	583.350	1043250.335	1078548.219	583.309

No Access to these three December 2024, Due to Ice

wendel
Centerpointe Corporate Park * 375 Essjay Road, Suite 200
Williamsville, New York 14221
PHONE: 716.688.0766 FAX: 716.625.6825
WEBSITE: www.wendelcompanies.com
Wendel WD Architecture, Engineering,
Surveying and Landscape Architecture P.C.

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Map
Showing Site Monitoring Points

Area A

South Buffalo Development

LOT	SECTION	TOWNSHIP	RANGE
City	Buffalo		
COUNTY	Erie		
STATE	New York		
DATE	December 6, 2024		
SCALE	1" = 40'		
JOB NO.	6941068 Monitoring		
RESURVEYED			
⚠	Update Horizontal Coordinates Feb 2025		

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Enclosure C

Todd Waldrop

From: Kuczka, Megan E (DEC) <Megan.Kuczka@dec.ny.gov>
Sent: Thursday, June 26, 2025 9:53 AM
To: Todd Waldrop
Cc: Melnyk, Eugene W (DEC); Caprio, Andrea (DEC); John Black
Subject: RE: BCC Area A (C915230) - Site Inspection & Marine Mattress Survey

Follow Up Flag: Follow up
Flag Status: Flagged

Todd –

Just received a response back from Permits. This work will require an Article 15 Excavation and Fill permit for any fill placed below mean high water level. It will not require an Art 24 Freshwater Wetland permit as it would be considered ordinary maintenance and repair of an existing functional structure.

Sincerely,

Megan Kuczka *(she/her/hers)*
Environmental Program Specialist 2

New York State Department of Environmental Conservation
Division of Environmental Remediation
700 Delaware Avenue, Buffalo, NY 14209
(716) 851-7220 | megan.kuczka@dec.ny.gov
dec.ny.gov | | | | Podcast

From: Kuczka, Megan E (DEC)
Sent: Wednesday, June 25, 2025 12:39 PM
To: Todd Waldrop <todd.waldrop@inventumeng.com>
Cc: Melnyk, Eugene W (DEC) <eugene.melnyk@dec.ny.gov>; Caprio, Andrea (DEC) <Andrea.Caprio@dec.ny.gov>; John Black <john.black@inventumeng.com>
Subject: RE: BCC Area A (C915230) - Site Inspection & Marine Mattress Survey

Todd –

Gene reached out to DEC Permits again this week. We have not received a response back. Can you please let us know once the surveyor is scheduled?

Sincerely,

Megan Kuczka *(she/her/hers)*
Environmental Program Specialist 2

New York State Department of Environmental Conservation
Division of Environmental Remediation
700 Delaware Avenue, Buffalo, NY 14209

(716) 851-7220 | megan.kuczka@dec.ny.gov
dec.ny.gov | | | | Podcast

From: Todd Waldrop <todd.waldrop@inventumeng.com>
Sent: Wednesday, June 25, 2025 11:43 AM
To: Kuczka, Megan E (DEC) <Megan.Kuczka@dec.ny.gov>
Cc: Melnyk, Eugene W (DEC) <eugene.melnyk@dec.ny.gov>; Caprio, Andrea (DEC) <Andrea.Caprio@dec.ny.gov>; John Black <john.black@inventumeng.com>
Subject: RE: BCC Area A (C915230) - Site Inspection & Marine Mattress Survey

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Megan – we've been working to get a surveyor out there to shoot the area so we have elevations in relation to the ordinary high water mark. We had discussed on the phone the possibility of DEC reaching out to the U.S. Army Corps of Engineers to see if any new permits were required or covered under maintenance?

Todd Waldrop, P.E.
Partner
INVENTUM ENGINEERING
441 Carlisle Drive
Suite C
Herndon, Virginia 20170
todd.waldrop@inventumeng.com
Cell: 571.217.3627
Office: 571.752.6562
www.inventumeng.com

From: Kuczka, Megan E (DEC) <Megan.Kuczka@dec.ny.gov>
Sent: Tuesday, June 24, 2025 8:07 AM
To: Todd Waldrop <todd.waldrop@inventumeng.com>
Cc: Melnyk, Eugene W (DEC) <eugene.melnyk@dec.ny.gov>; Caprio, Andrea (DEC) <Andrea.Caprio@dec.ny.gov>; John Black <john.black@inventumeng.com>
Subject: RE: BCC Area A (C915230) - Site Inspection & Marine Mattress Survey

Todd –

Checking in on the status of the work plan for the shoreline erosion. Will this be submitted soon?

Sincerely,

Megan Kuczka *(she/her/hers)*
Environmental Program Specialist 2

New York State Department of Environmental Conservation
Division of Environmental Remediation
700 Delaware Avenue, Buffalo, NY 14209
(716) 851-7220 | megan.kuczka@dec.ny.gov
dec.ny.gov | | | | Podcast

Enclosure D

County Line STONE CO., INC.

4515 CRITTENDEN ROAD, AKRON, N.Y. 14001

Phone 716-542-5435 **Fax 716-542-5442**

ALL SIZES CRUSHED STONE BITUMINOUS CONCRETE AGRICULTURAL LIME

Material 620.04 Medium Stone Fill **Date** 2/20/2026

Sieve	%	Specification
> 110lbs	71	50-100
< 6"	6	0-10
2 1/2"(63mm)		
2"(50mm)		
1 1/2"(37.5mm)		
1"(25mm)		
3/4"(19mm)		
5/8"(16.0mm)		
1/2"(12.5mm)		
3/8"(9.5mm)		
5/16 "(8.0mm)		
1/4"(6.3mm)		
#4(4.75mm)		
1/8"(3.2mm)		
#8(2.36mm)		
#16(1.18mm)		
#20(850um)		
#30(600um)		
#40(425um)		
#50(300um)		
#80(180um)		
#100(150um)		
#200(75um)		
PAN		
TOTAL		

New York State Specifications

Size	Screen Sizes											
Designation	4"	3"	2 1/2"	2"	1 1/2"	1"	1/2"	1/4"	1/8"	No 40	No 80	No 200
Screenings							100	90-100				0-1.0
1B								100	90-100		0-15	0-1.0
1A							100	90-100	0-15			0-1.0
1ST							100	0-15				0-1.0
1						100	90-100	0-15				0-1.0
2					100	90-100	0-15					0-1.0
3A				100	90-100	0-15						0-0.7
3			100	90-100	35-70	0-15						0-0.7
4A		100	90-100		0-20							0-0.7
4	100	90-100		0-15								0-0.7
5	90-100	0-15										0-0.7
TYPE 1		100		90-100				30-65		5-40		0-10
TYPE 2				100				25-60		5-40		0-10
TYPE 3	100							30-75		5-40		0-10
TYPE 4				100				30-65		5-40		0-10

Comments: NYSDOT Source 5-7RS

Meets all requirements of NYSDOT Standard Specification 620-2

Enclosure E

Buffalo Color Site Area A
(C915230)
Riverbank Restoration
Rip Rap Sizing Documentation

Objective:
Calculate (Isbash Equation) the minimum riprap size required to remain stable in flowing water with added safety factor for ice flow/jams.

$$D = [\frac{V^2}{2gC^2(S-1)}] * SF$$

Where:
D = D_{50} (Average Rock Diameter)
V = Water velocity approaching the riprap
C = Isbash constant, where C = 0.86 for highly turbulent conditions or C=1.2 for low turbulence conditions
g = Acceleration due to gravity
S = Specific gravity of stone or rock.
SF = Safety Factor

Input Conditions

V = 6.56 ft/sc (Ref. 1)
C = 0.86 [assumed as most conservative]
g = 32.174 ft/s^2
S = 2.65 (Ref. 2)
SF = 2 (Ref. 3)

$$D = [\frac{6.56^2}{2(32.174)0.86^2(2.65-1)}] * 2$$

$$D = 1.1\ feet$$

Design Recommendations
The proposed NYSDOT 620.04 medium stone fill meets or exceeds the D_{50} specification of 1.1 feet. (Ref. 4).

References
(1) Simulated peak wet weather event velocity corresponding to a 10 year return period as reported in the October 2011 F*easiblity Study for the Buffalo River, New York* . Prepared on behalf of the Buffalo River Great Lakes Legacy Act Project Coordination Team. Accessed at https://extapps.dec.ny.gov/docs/regions_pdf/brivfstxt.pdf

(2) National Cooperative Highway Research Program Report 568. Riprap Design Criteria, Recommended Specifications, and Quality Control. 2006.

(3) Upper range value of recommended safety factor for Ice Impact or Heavy Debris as found in U.S. Army Corps of Engineers. EM 1110-2-1601. *Hydraulic Design of Flood Control Channels* . June 1994. Standard minimum safety factor is 1.2 for reference.
(4) 620.04 Medium Stone Fill Specification. County Line Stone Co., Inc., February 20, 2026.

Enclosure F

Engineering Certification

I, John P. Black certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this Riverbank Repair Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Respectfully Submitted,

Inventum Engineering, P.C.

Date: 8.26.2026

John P. Black, P.E.

License No: 062818-1

Seal:



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