BOSWELL

Boswell Capital Improvement Projects

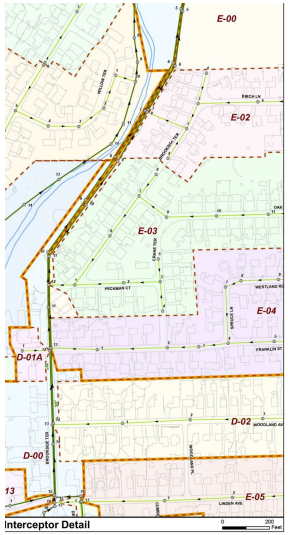
Verona Township Council Meeting

A CENTURY OF EXCELLENCE

100

1924 ~ 2024

Engineered For Life



NORTH CALDWELL BOROUGH

CEDAR GROVE TOWNSHIP

ESSEX FELLS TOWNSHIP

WEST ORANGE TOWNSHIP

Verona Wastewater Treatment Plant

TP-00

See Interceptor Detail

FLOWS TO WEST ORANGE TOWNSHIP

GRAPHIC SCALE

0 100 200 300 400

(IN FEET)

1 inch = 500 feet

LEGEND

- DEFECTIVE OR MISSING CLEAN OUT CAPS
- RESIDENTIAL DETECTED SMOKE LOCATION
- ILLICIT RESIDENTIAL CONNECTIONS AND DEFECTIVE LATERALS
- TOWNSHIP DETECTED SMOKE LOCATIONS

REFERENCE NOTE:

TOPOGRAPHY AND SEWER LOCATIONS SHOWN ON THIS MAP AS TAKEN FROM A MAP PREPARED BY HATCH MOTT MAC DONALD FOR THE TOWNSHIP OF VERONA.

NO.	DATE	DESCRIPTION	REVISED BY	CHECKED BY

GISELLE DIAZ

PROFESSIONAL ENGINEER N.J. LIC. 44832

BOSWELL

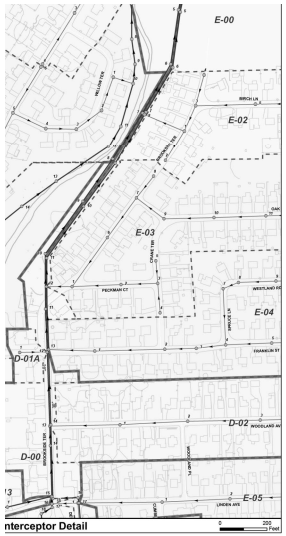
N.J. CERTIFICATE OF AUTHORIZATION No. 24GA27998000

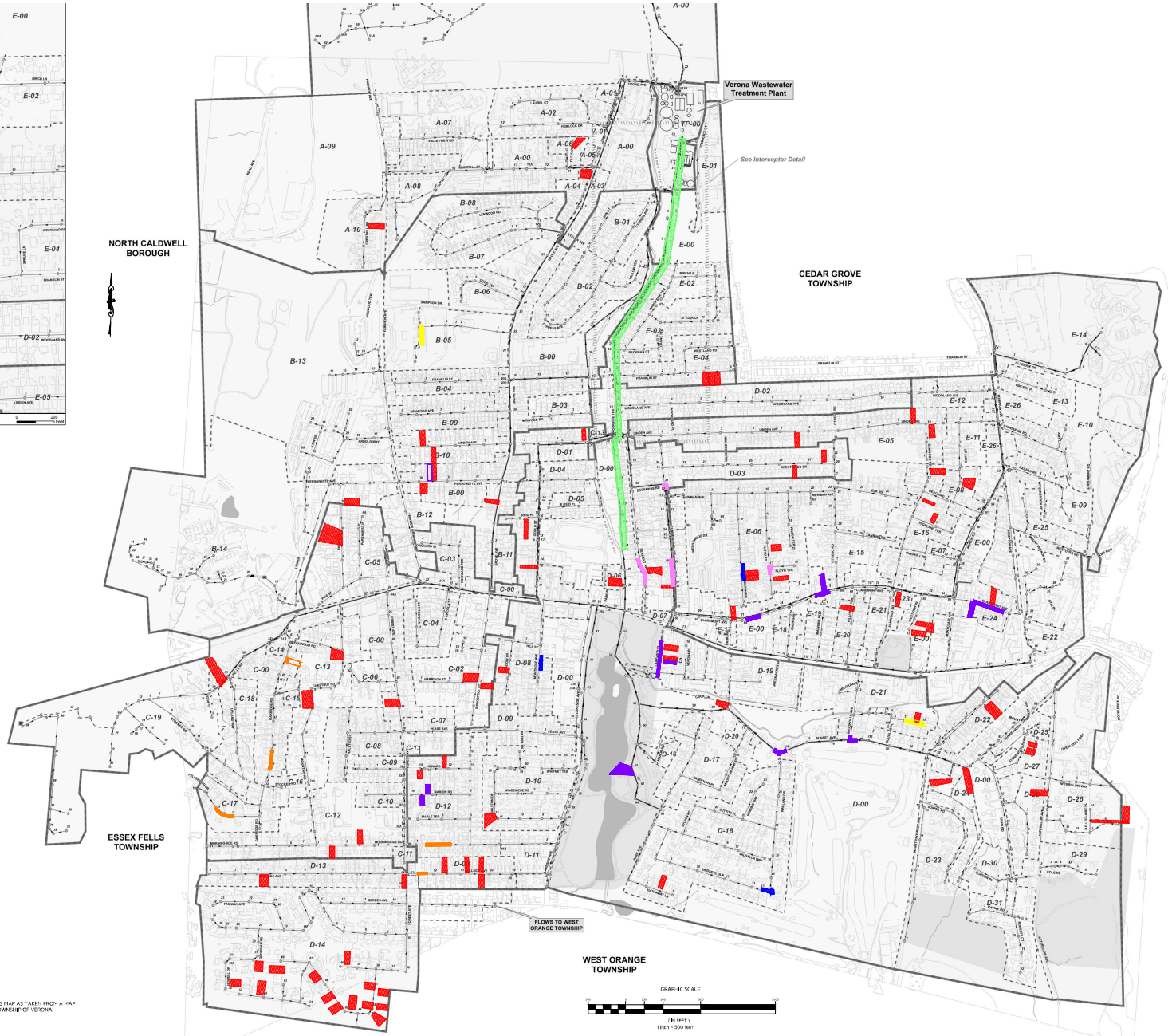
SANITARY SEWER STUDY

SMOKE TESTING RESULTS MAP

TOWNSHIP OF VERONA
ESSEX COUNTY NEW JERSEY

SURVEYED BY:	DESIGNED BY:	DATE:	JOB NO.:
	C.B.	NOV. 2024	E
DRAWN BY:	CHECKED BY:	SCALE:	SHEET:
G.K.T.	G.D.	1"=500'	1 OF 1





LEGEND

- PHASE 1
- PHASE 2
- PHASE 3
- PHASE 4
- PHASE 5
- PHASE 6
- PHASE 7

REFERENCE NOTE:

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350 PHILLIPS AVENUE, SOUTH HACKENSACK, NJ 07606, TEL: (201) 342-0555

155 DOLSEN MAIN STREET, CHESTER, NJ 07930, TEL: (908) 879-6339

37 MORRIS AVENUE, SUCCASUNNA, NJ 07876, TEL: (973) 584-8555

N.J. CERTIFICATE OF AUTHORIZATION No. 24GA27998000

SANITARY SEWER STUDY

SANITARY SEWER PHASE MAP

TOWNSHIP OF VERONA
ESSEX COUNTY NEW JERSEY

SURVEYED BY:	DESIGNED BY:	DATE:	JOB NO.:
	C.B.	NOV. 2024	E
DRAWN BY:	CHECKED BY:	SCALE:	SHEET:
G.K.T.	G.D.	1"=500'	1 OF 1

STATE OF NEW JERSEY

BANK STABILIZATION ALONG THE PECKMAN RIVER
BLOCK 1703 LOTS 54, 55, 56, 59, 60
TOWNSHIP OF VERONA
Essex County, New Jersey

TOWNSHIP OF VERONA

MAYOR
CHRISTOPHER TAMBURRO

COUNCIL MEMBERS
JACK MCEVOY
CHRISTINE MCGRATH
CYNTHIA HOLLAND
ALEX ROMAN

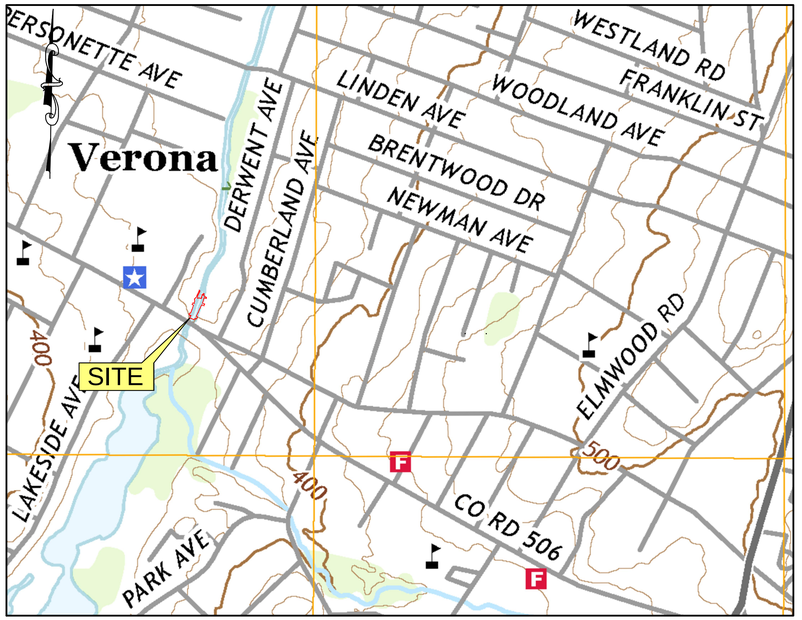
TOWNSHIP MANAGER
JOSEPH D'ARCO

TOWNSHIP CLERK
JENNIFER KIERNAN

TOWNSHIP ATTORNEY
BRIAN J. ALOIA, ESQ

TOWNSHIP ENGINEER
BOSWELL ENGINEERING

PUBLIC UTILITIES LIST	
CABLE	COMCAST
ELECTRICITY	PUBLIC SERVICE ELECTRIC & GAS COMPANY
GAS	PUBLIC SERVICE ELECTRIC & GAS COMPANY
TELEPHONE	VERIZON
WATER	MONTCLAIR WATER DEPARTMENT



PROJECT LOCATION MAP
1" = 500'

INDEX OF SHEETS	
SHEET NUMBER	SHEET TITLE
1	TITLE SHEET
2	EXISTING PLAN
3	SITE PLAN
4	ENVIRONMENTAL PLAN
5	CROSS SECTIONS -1
6	CROSS SECTIONS - 2
7	SWALE CROSS SECTIONS
8	PLANTING PLAN
9	CONSTRUCTION DETAILS
10	SOIL EROSION AND SEDIMENT CONTROL PLAN
11	SOIL EROSION AND SEDIMENT CONTROL DETAILS

BOSWELL ENGINEERING
330 PHILLIPS AVENUE
SOUTH HACKENSACK, NEW JERSEY 07606
Tel (201) 641-0770 . Fax (201) 641-1831
NJ Certificate of Authorization No. 24GA27958000

KEVIN J. BOSWELL
PROFESSIONAL ENGINEER N.J. LIC. 32943

JOSEPH A. POMANTE
PROFESSIONAL ENGINEER N.J. LIC. 43137

JOB NO. VA-102

OCTOBER 20, 2023

VA-102-TS

SHEET 1 OF 11

Bloomfield Avenue

EXISTING FENCE

EXISTING CONCRETE PAVEMENT

EXISTING WINGWALL

EXISTING WASHOUT

EXISTING RIP-RAP

EDGE OF EXISTING PAVEMENT

150' Riparian Zone

2 Story Frame & Vinyl Building

2 Story Conc. Block Building W/ Brick Front

B:1703 L:57

B:1703 L:56

B:1703 L:59

B:1703 L:60

B:1703 L:61

B:1703 L:54

B:1703 L:53

B:1703 L:55

B:1703 L:48

B:1703 L:49

Creek

LEGEND:

- TOP OF BANK
- PROPERTY LINE
- 330 EXISTING CONTOUR LINES
- WATER CENTERLINE
- EXISTING TREES
- RZ 150 FEET RIPARIAN ZONE
- EXISTING PAVEMENT BOUNDARY
- 7 PHOTO LOCATION
- EXISTING RIP-RAP

PLAN NOTES:

1. BASEMAP REFERENCES SURVEY PERFORMED BY BOSWELL ENGINEERING, WHICH IS SUPPLEMENTED BY LIDAR TOPOGRAPHY.
2. VERTICAL DATUM IS NAVD 88. TO CONVERT FROM NAVD 88 TO NGVD 29, ADD 0.912 FEET.
3. HORIZONTAL DATUM IS NAD 83
4. PARCEL BOUNDARIES DEPICTED WERE OBTAINED FROM NJ GIS DATABASE

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 feet

NO.	DATE	DESCRIPTION	SURVEYED BY	DRAWN BY	DESIGNED BY	CHECKED BY
1	05/06/24	REVISED PER DEP COMMENTS		LLJ	RX	FJR

BOSWELL ENGINEERING
EST. 1924
ENGINEERS - PLANNERS - SURVEYORS - SCIENTISTS
330 PHILLIPS AVENUE, SOUTH HACKENSACK, NJ 07606
TEL: (201) 641-0770 • FAX: (201) 641-1831
N.J. CERTIFICATE OF AUTHORIZATION No. 24GA27958000

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JOSEPH A. POMANTE
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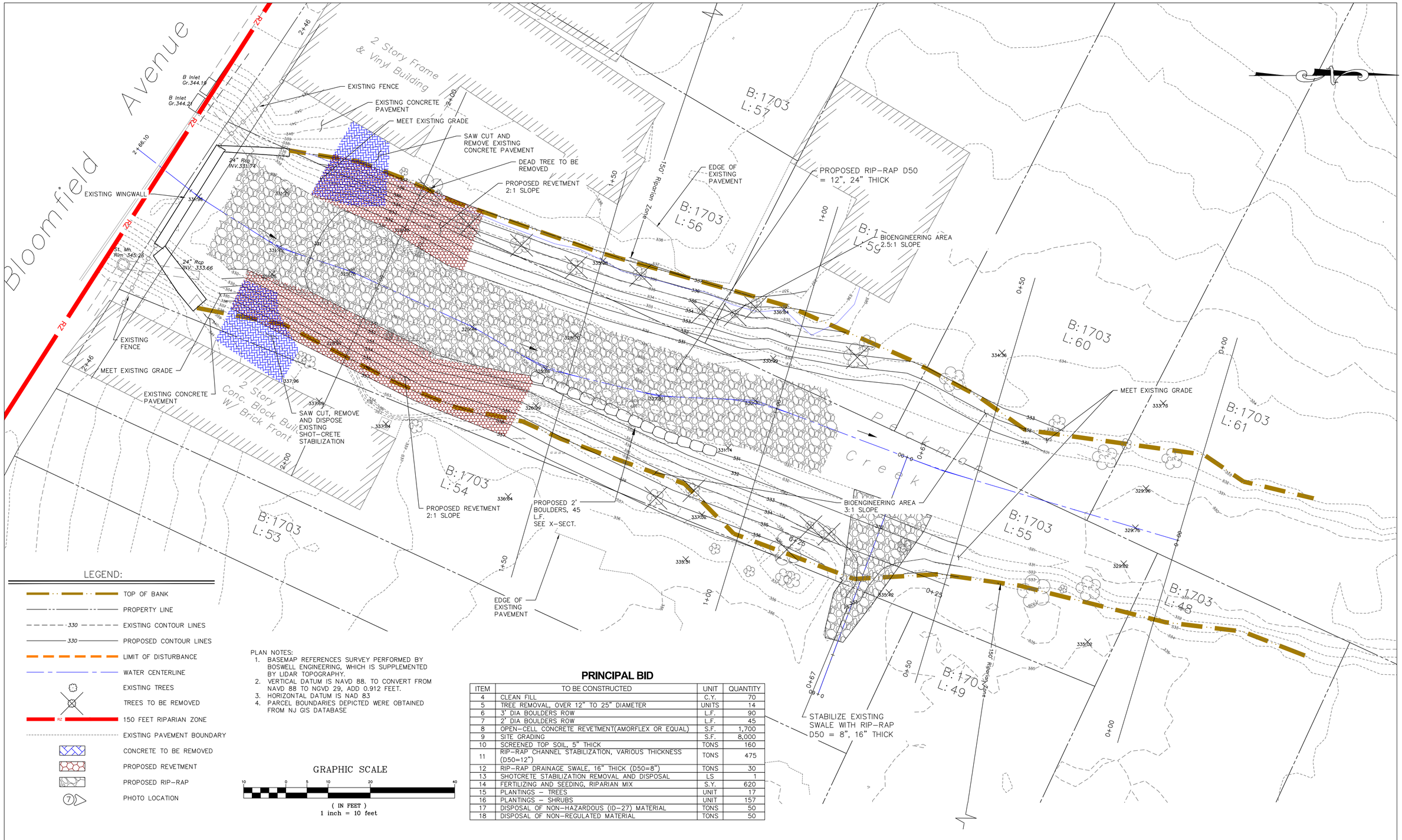
BANK STABILIZATION ALONG THE PECKMAN RIVER
BLOCK 1703 LOTS 54, 55, 56, 59, 60
EXISTING CONDITIONS PLAN

TOWNSHIP OF VERONA
ESSEX COUNTY NEW JERSEY

SURVEYED BY	DESIGNED BY SJ	SCALE:	JOB NO.	DATE
DRAWN BY RX	CHECKED BY FJR	1" = 10'	VA-102	10/20/23

DRAWING NO. VA-102-EX.DWG SHEET 2 OF 11



LEGEND:

- TOP OF BANK
- PROPERTY LINE
- 330 EXISTING CONTOUR LINES
- 330 PROPOSED CONTOUR LINES
- LIMIT OF DISTURBANCE
- WATER CENTERLINE
- EXISTING TREES
- TREES TO BE REMOVED
- RZ 150 FEET RIPARIAN ZONE
- EXISTING PAVEMENT BOUNDARY
- CONCRETE TO BE REMOVED
- PROPOSED REVETMENT
- PROPOSED RIP-RAP
- 7 PHOTO LOCATION

PLAN NOTES:

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GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 feet

PRINCIPAL BID

ITEM	TO BE CONSTRUCTED	UNIT	QUANTITY
4	CLEAN FILL	C.Y.	70
5	TREE REMOVAL, OVER 12" TO 25" DIAMETER	UNITS	14
6	3' DIA BOULDERS ROW	L.F.	90
7	2' DIA BOULDERS ROW	L.F.	45
8	OPEN-CELL CONCRETE REVETMENT(AMORFLEX OR EQUAL)	S.F.	1,700
9	SITE GRADING	S.F.	8,000
10	SCREENED TOP SOIL, 5" THICK	TONS	160
11	RIP-RAP CHANNEL STABILIZATION, VARIOUS THICKNESS (D50=12")	TONS	475
12	RIP-RAP DRAINAGE SWALE, 16" THICK (D50=8")	TONS	30
13	SHOTCRETE STABILIZATION REMOVAL AND DISPOSAL	LS	1
14	FERTILIZING AND SEEDING, RIPARIAN MIX	S.Y.	620
15	PLANTINGS - TREES	UNIT	17
16	PLANTINGS - SHRUBS	UNIT	157
17	DISPOSAL OF NON-HAZARDOUS (ID-27) MATERIAL	TONS	50
18	DISPOSAL OF NON-REGULATED MATERIAL	TONS	50

NO.	DATE	DESCRIPTION	SURVEYED BY	DRAWN BY	DESIGNED BY	CHECKED BY
3	04/11/25	REVISED PER DEP COMMENTS		RX	RX	FJR
2	05/07/24	REVISED PER DEP COMMENTS		LLJ	RX	FJR
1	05/06/24	REVISED PER DEP COMMENTS		LLJ	RX	FJR

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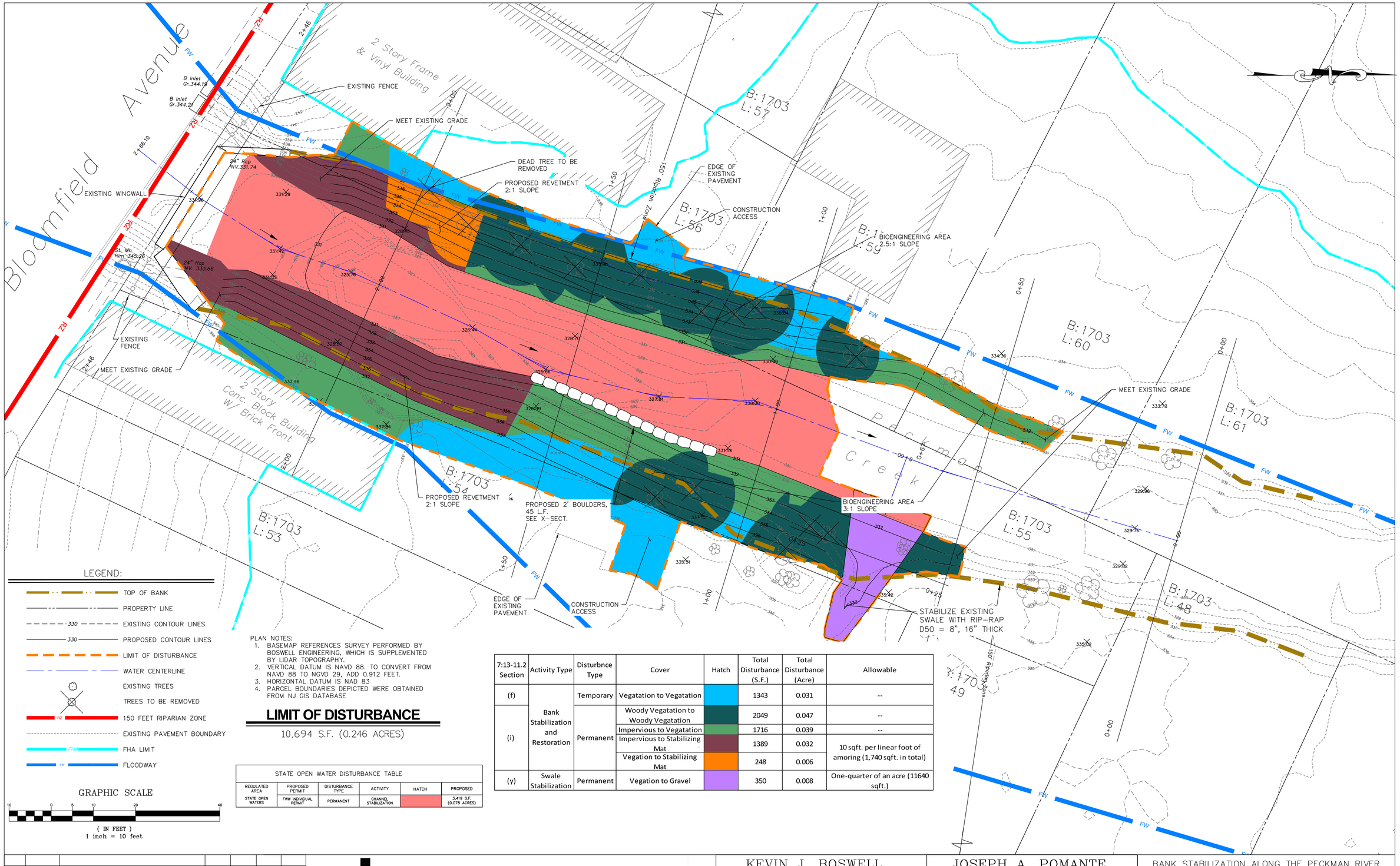
BANK STABILIZATION ALONG THE PECKMAN RIVER
BLOCK 1703 LOT 54, 55, 56, 59, 60
SITE PLAN
TOWNSHIP OF VERONA
ESSEX COUNTY NEW JERSEY

SURVEYED BY / DRAWN BY	DESIGNED BY / CHECKED BY	SCALE	JOB NO.	DATE
RX	SJ / FJR	1" = 10'	VA-102	10/20/23

DRAWING NO. VA-102-CP.DWG SHEET 3 OF 11



LEGEND:

- TOP OF BANK
- PROPERTY LINE
- 330 EXISTING CONTOUR LINES
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- LIMIT OF DISTURBANCE
- WATER CENTERLINE
- EXISTING TREES
- TREES TO BE REMOVED
- RZ 150 FEET RIPARIAN ZONE
- EXISTING PAVEMENT BOUNDARY
- FHA FHA LIMIT
- FW FLOODWAY

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 feet

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LIMIT OF DISTURBANCE

10,694 S.F. (0.246 ACRES)

STATE OPEN WATER DISTURBANCE TABLE					
REGULATED AREA	PROPOSED PERMIT	DISTURBANCE TYPE	ACTIVITY	HATCH	PROPOSED
STATE OPEN WATERS	FWW INDIVIDUAL PERMIT	PERMANENT	CHANNEL STABILIZATION		3,419 S.F. (0.078 ACRES)

7:13-11.2 Section	Activity Type	Disturbnce Type	Cover	Hatch	Total Disturbance (S.F.)	Total Disturbance (Acre)	Allowable
(f)	Bank Stabilization and Restoration	Temporary	Vegatation to Vegatation		1343	0.031	--
(i)		Permanent	Woody Vegatation to Woody Vegatation		2049	0.047	--
			Impervious to Vegatation		1716	0.039	--
			Impervious to Stabilizing Mat		1389	0.032	10 sqft. per linear foot of amoring (1,740 sqft. in total)
			Vegation to Stabilizing Mat		248	0.006	
(y)	Swale Stabilization	Permanent	Vegation to Gravel		350	0.008	One-quarter of an acre (11640 sqft.)

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BANK STABILIZATION ALONG THE PECKMAN RIVER
BLOCK 1703 LOT 54, 55, 56, 59, 60
ENVIRONMENTAL PLAN
TOWNSHIP OF VERONA
ESSEX COUNTY NEW JERSEY

SURVEYED BY / DRAWN BY	DESIGNED BY / CHECKED BY	SCALE	JOB NO.	DATE
RX	SJ / FJR	1" = 10'	VA-102	10/20/23

DRAWING NO. VA-102-CP.DWG SHEET 4 OF 11

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

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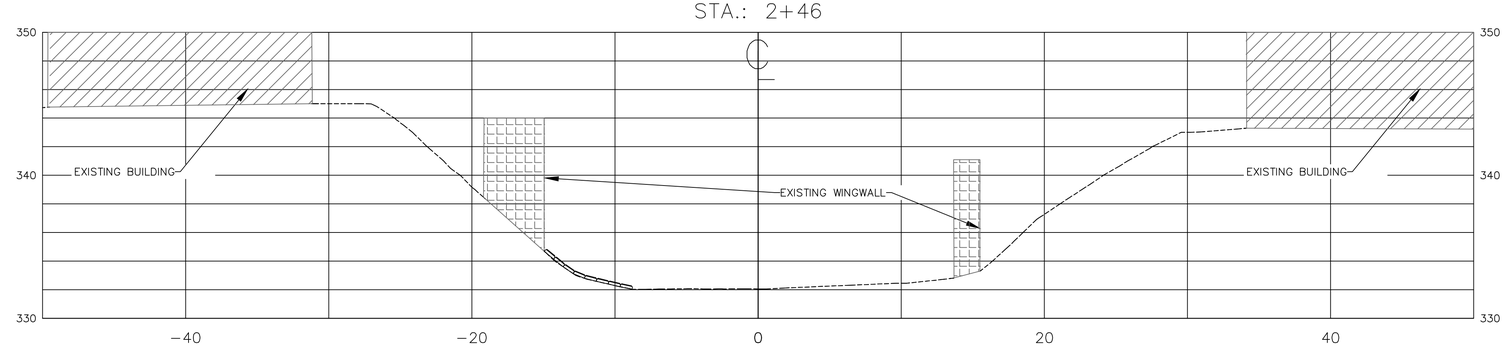
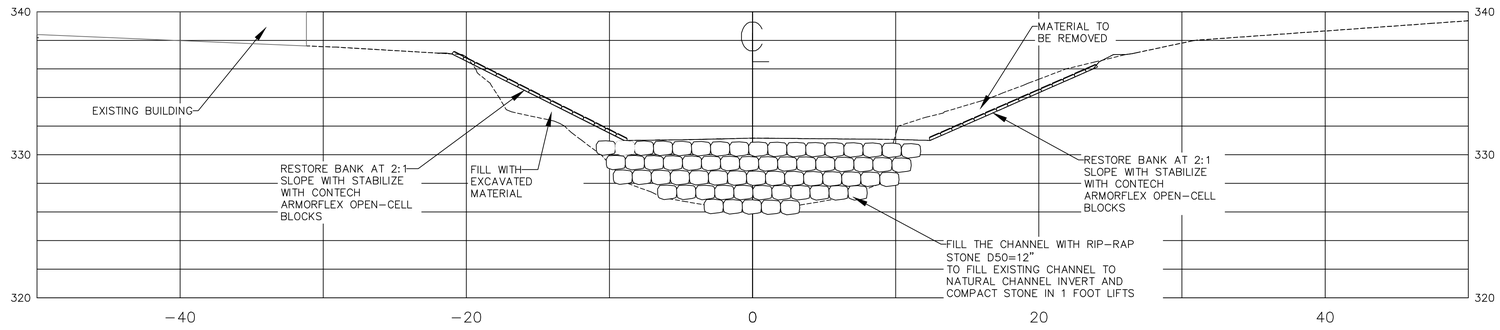
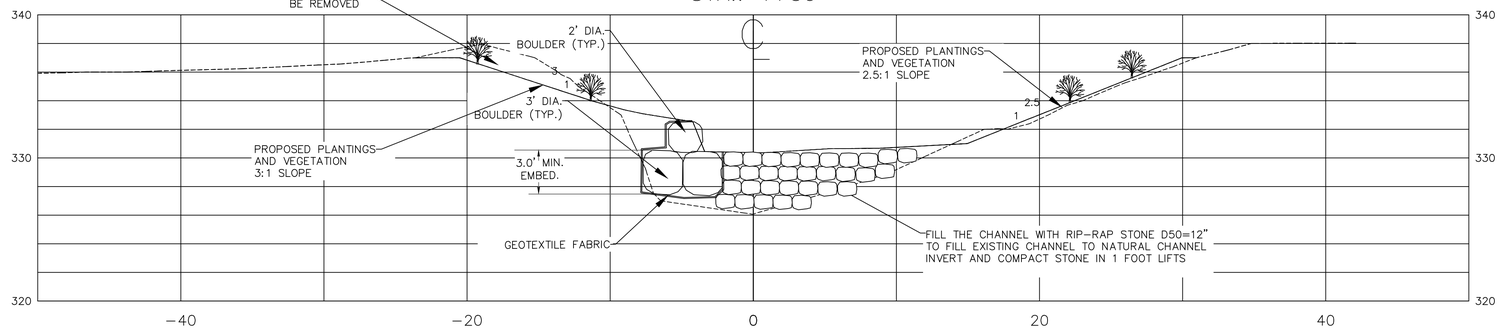
STA.: 2+46



STA.: 2+00



STA.: 1+50



VERTICAL SCALE

5 0 2.5 5 10 20

(IN FEET)
1 inch = 5 ft.

HORIZONTAL SCALE

5 0 2.5 5 10 20

(IN FEET)
1 inch = 5 ft.

NO.	DATE	DESCRIPTION	SURVEYED BY	DRAWN BY	DESIGNED BY	CHECKED BY
4	04/11/25	REVISED PER DEP COMMENTS		RX	RX	FJR
3	05/07/24	REVISED PER DEP COMMENTS		LLJ	RX	FJR
2	05/06/24	REVISED PER DEP COMMENTS		LLJ	RX	FJR
1	05/03/24	REVISED PER DEP COMMENTS		RX	RX	FJR

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BANK STABILIZATION ALONG THE PECKMAN RIVER
BLOCK 1703 LOT 54, 55, 56, 59, 60
CROSS SECTIONS – 1
TOWNSHIP OF VERONA
ESSEX COUNTY NEW JERSEY

SURVEYED BY	DESIGNED BY	SCALE:	JOB NO.	DATE
DRAWN BY RX	CHECKED BY FJR	AS NOTED	VA–102	10/20/23

DRAWING NO. VA–102–CP.DWG SHEET 5 OF 11

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

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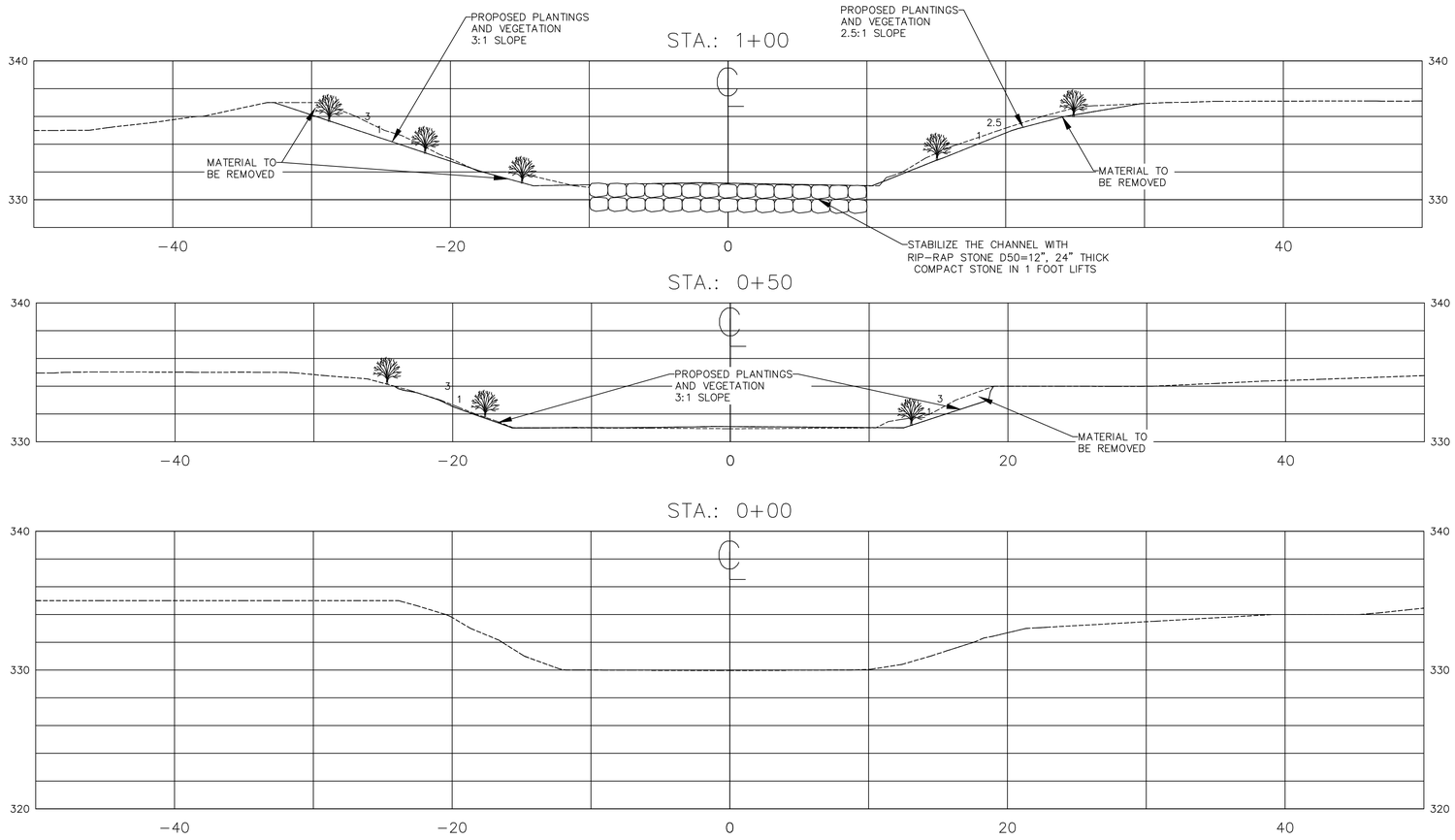

VERTICAL SCALE

5 0 2.5 5 10 20

(IN FEET)
1 inch = 5 ft.

HORIZONTAL SCALE

5 0 2.5 5 10 20

(IN FEET)
1 inch = 5 ft.

NO.	DATE	DESCRIPTION	SURVEYED BY	DRAWN BY	DESIGNED BY	CHECKED BY
2	04/11/25	REVISED PER DEP COMMENTS		RX	RX	FJR
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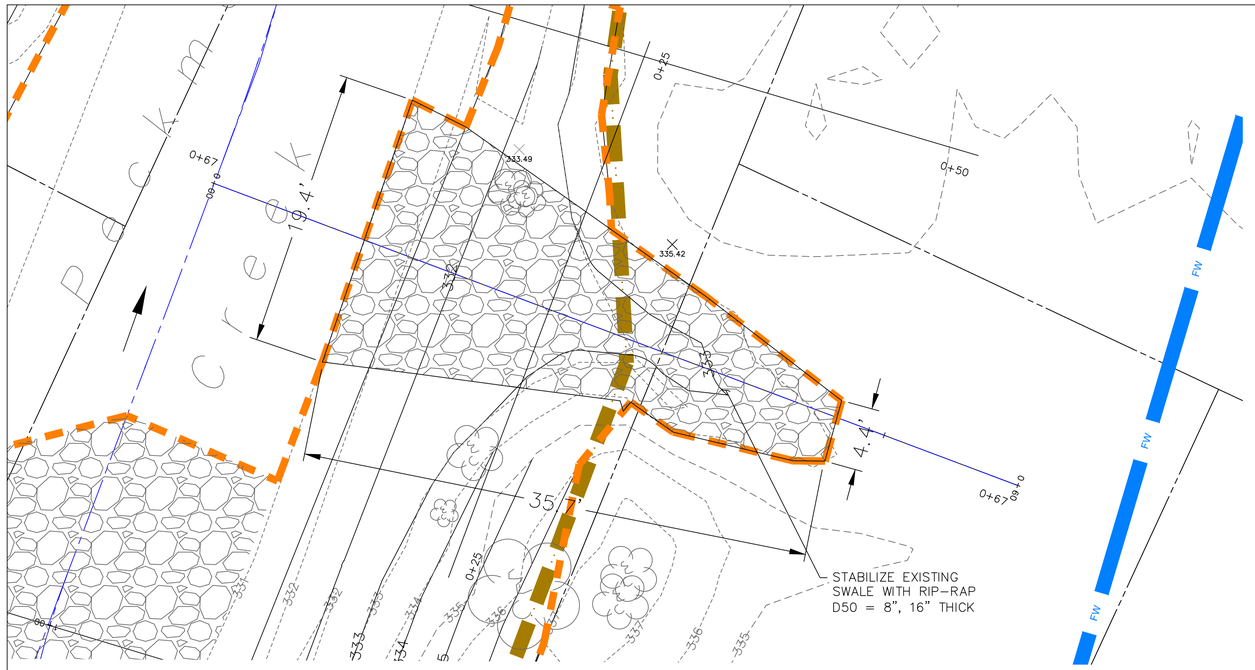
BANK STABILIZATION ALONG THE PECKMAN RIVER
BLOCK 1703 LOT 54, 55, 56, 59, 60
CROSS SECTIONS – 2
TOWNSHIP OF VERONA
ESSEX COUNTY NEW JERSEY

SURVEYED BY / DRAWN BY RX	DESIGNED BY SJ / CHECKED BY FJR	SCALE: AS NOTED	JOB NO. VA-102	DATE 10/20/23

DRAWING NO. VA-102-CP.DWG SHEET 6 OF 11



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GRAPHIC SCALE

5 0 2.5 5 10 20

(IN FEET)
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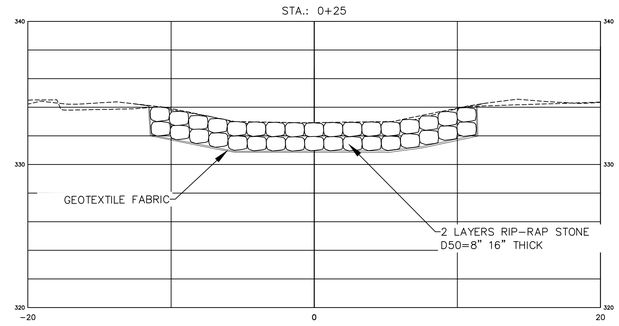
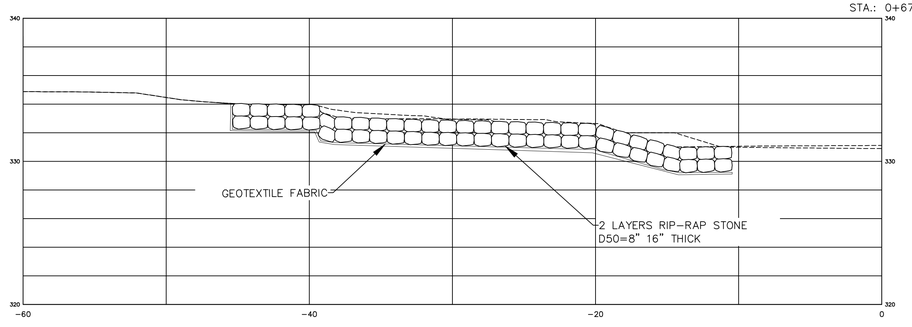


SECTION VIEW



PROFILE VIEW

VERTICAL SCALE

5 0 2.5 5 10 20

(IN FEET)
1 inch = 5 ft.

HORIZONTAL SCALE

5 0 2.5 5 10 20

(IN FEET)
1 inch = 5 ft.

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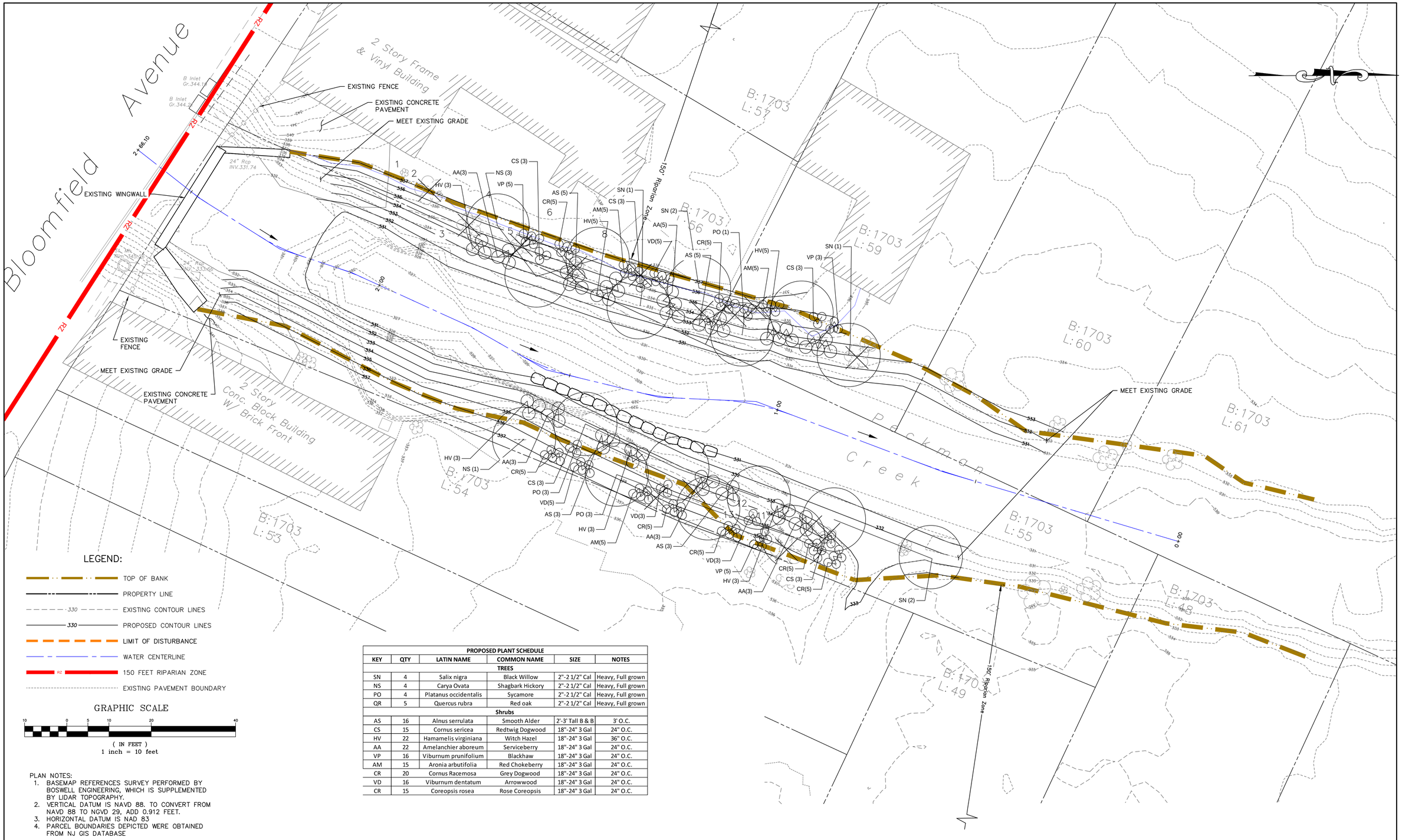
BANK STABILIZATION ALONG THE PECKMAN RIVER
BLOCK 1703 LOT 54, 55, 56, 59, 60
SWALE CROSS SECTION
TOWNSHIP OF VERONA
ESSEX COUNTY NEW JERSEY

SURVEYED BY / DRAWN BY	DESIGNED BY / CHECKED BY	SCALE:	JOB NO.	DATE
RX	SJ / FJR	AS NOTED	VA-102	10/20/23

DRAWING NO. VA-102-CP.DWG SHEET 7 OF 11



LEGEND:

- TOP OF BANK
- PROPERTY LINE
- 330 EXISTING CONTOUR LINES
- 330 PROPOSED CONTOUR LINES
- LIMIT OF DISTURBANCE
- WATER CENTERLINE
- RZ 150 FEET RIPARIAN ZONE
- EXISTING PAVEMENT BOUNDARY

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 feet

PLAN NOTES:
1. BASEMAP REFERENCES SURVEY PERFORMED BY BOSWELL ENGINEERING, WHICH IS SUPPLEMENTED BY LIDAR TOPOGRAPHY.
2. VERTICAL DATUM IS NAVD 88. TO CONVERT FROM NAVD 88 TO NGVD 29, ADD 0.912 FEET.
3. HORIZONTAL DATUM IS NAD 83.
4. PARCEL BOUNDARIES DEPICTED WERE OBTAINED FROM NJ GIS DATABASE

PROPOSED PLANT SCHEDULE

KEY	QTY	LATIN NAME	COMMON NAME	SIZE	NOTES
		TREES			
SN	4	Salix nigra	Black Willow	2"-2 1/2" Cal	Heavy, Full grown
NS	4	Carya Ovata	Shagbark Hickory	2"-2 1/2" Cal	Heavy, Full grown
PO	4	Platanus occidentalis	Sycamore	2"-2 1/2" Cal	Heavy, Full grown
QR	5	Quercus rubra	Red oak	2"-2 1/2" Cal	Heavy, Full grown
		Shrubs			
AS	16	Alnus serrulata	Smooth Alder	2'-3' Tall B & B	3' O.C.
CS	15	Cornus sericea	Redtwig Dogwood	18"-24" 3 Gal	24" O.C.
HV	22	Hamamelis virginiana	Witch Hazel	18"-24" 3 Gal	36" O.C.
AA	22	Amelanchier aboreum	Serviceberry	18"-24" 3 Gal	24" O.C.
VP	16	Viburnum prunifolium	Blackhaw	18"-24" 3 Gal	24" O.C.
AM	15	Aronia arbutifolia	Red Chokeberry	18"-24" 3 Gal	24" O.C.
CR	20	Cornus Racemosa	Grey Dogwood	18"-24" 3 Gal	24" O.C.
VD	16	Viburnum dentatum	Arrowwood	18"-24" 3 Gal	24" O.C.
CR	15	Coreopsis rosea	Rose Coreopsis	18"-24" 3 Gal	24" O.C.

NO.	DATE	DESCRIPTION	SURVEYED BY	DRAWN BY	DESIGNED BY	CHECKED BY
1	05/06/24	REVISED PER DEP COMMENTS		LLJ	RX	FJR

BOSWELL ENGINEERING
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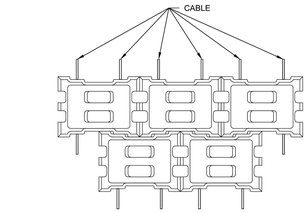
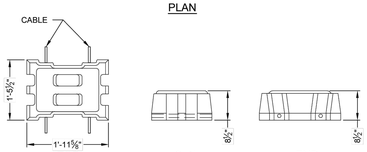
BANK STABILIZATION ALONG THE PECKMAN RIVER
BLOCK 1703 LOT 54, 55, 56, 59, 60
PLANTING PLAN
TOWNSHIP OF VERONA
ESSEX COUNTY NEW JERSEY

SURVEYED BY / DRAWN BY	DESIGNED BY / CHECKED BY	SCALE:	JOB NO.	DATE
RX	SJ / FJR	1" = 10'	VA-102	10/20/23

DRAWING NO. VA-102-CP-PLANTING.DWG SHEET 8 OF 11



PLAN



TOP SIDE END

TYP. 70L BLOCK (1)

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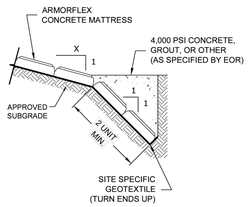

TOE TERMINATION

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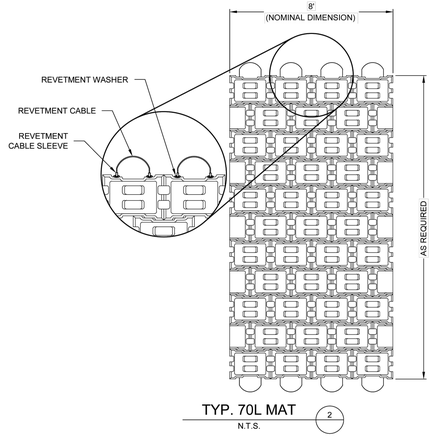

TYP. 70L MAT (2)

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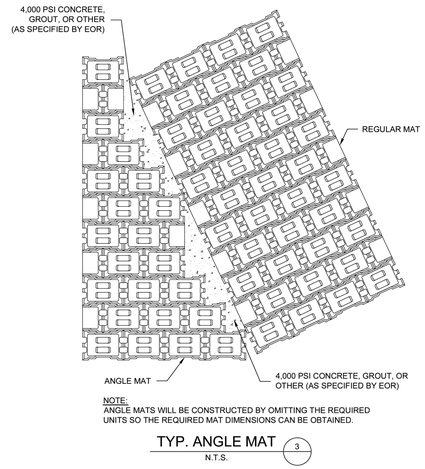
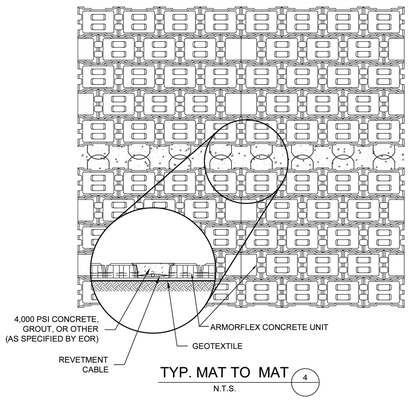


NOTE:
ANGLE MATS WILL BE CONSTRUCTED BY OMITTING THE REQUIRED UNITS SO THE REQUIRED MAT DIMENSIONS CAN BE OBTAINED.

TYP. ANGLE MAT (3)

N.T.S.



TYP. MAT TO MAT (4)

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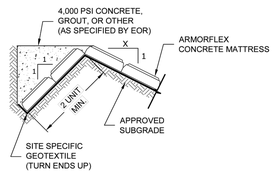

TOP TERMINATION

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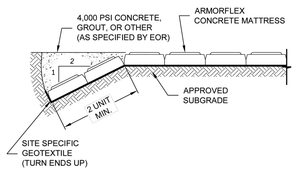

FLANK TERMINATION

N.T.S.

NOTES:

1. ARTICULATED CONCRETE BLOCK MATTING, OPEN CELL ARMORFLEX CLASS 70 LARGE BY CONTECH ENGINEERED SOLUTIONS, LLC. (WEST CHESTER OH) OR APPROVED EQUAL.
2. NO SEPARATE PAYMENT WILL BE MADE FOR GEOTEXTILE OR CONCRETE UTILIZED FOR TERMINATIONS AS SHOWN ABOVE, BUT THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ARTICULATED CONCRETE BLOCK MATTING, OPEN CELL.

ARTICULATED CONCRETE BLOCK MATTING, OPEN CELL

N.T.S.

NO.	DATE	DESCRIPTION	SURVEYED BY	DRAWN BY	DESIGNED BY	CHECKED BY

BOSWELL ENGINEERING
EST. 1924
ENGINEERS - PLANNERS - SURVEYORS - SCIENTISTS
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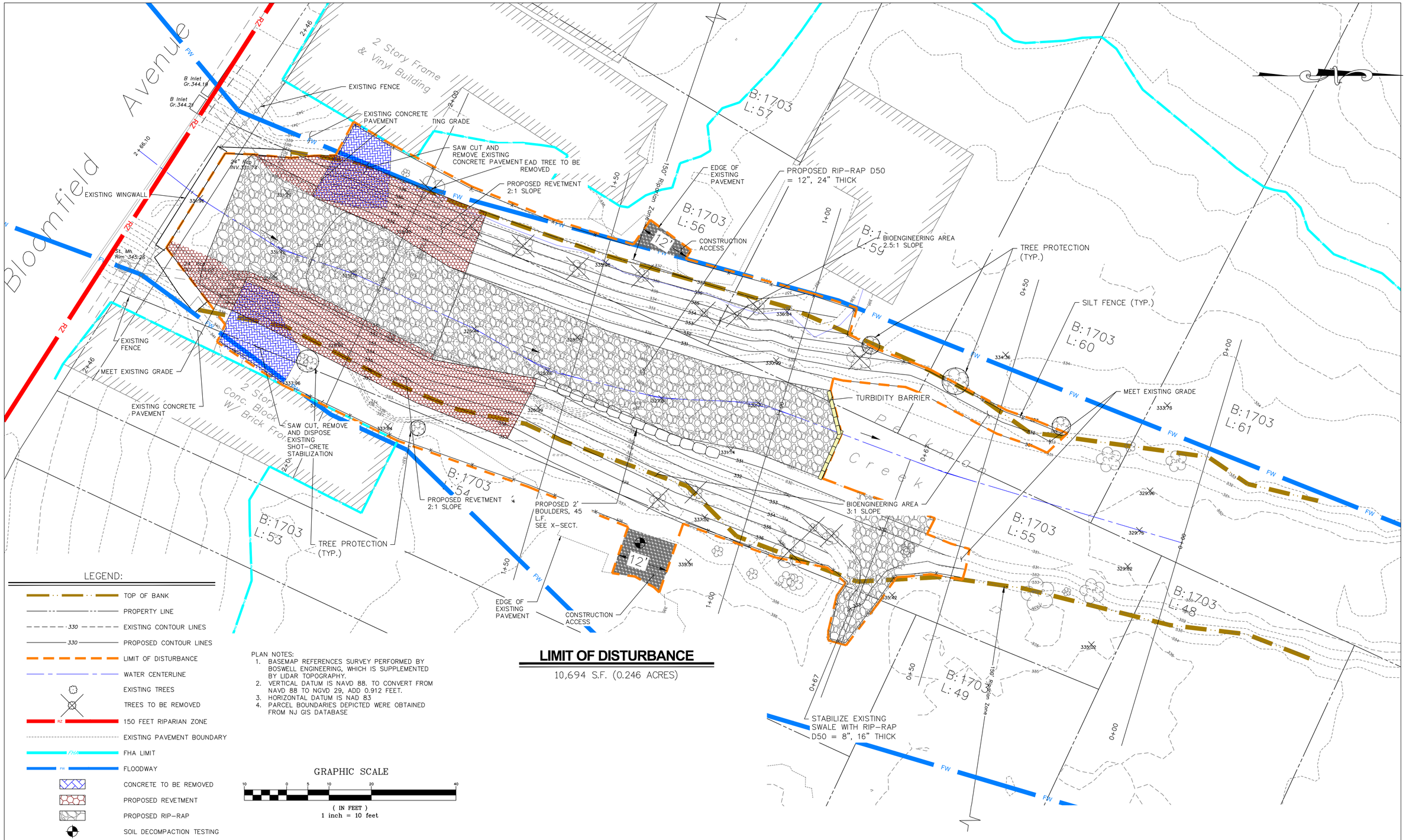
BANK STABILIZATION ALONG THE PECKMAN RIVER
BLOCK 1703 LOT 54, 55, 56, 59, 60
DETAIL SHEET
TOWNSHIP OF VERONA
ESSEX COUNTY NEW JERSEY

SURVEYED BY / DRAWN BY	DESIGNED BY / CHECKED BY	SCALE:	JOB NO.	DATE
RX	SJ / FJR	AS NOTED	VA-102	10/20/23

DRAWING NO. VA-102-ENV.DWG SHEET 9 OF 11



LEGEND:

- TOP OF BANK
- PROPERTY LINE
- 330 EXISTING CONTOUR LINES
- 330 PROPOSED CONTOUR LINES
- LIMIT OF DISTURBANCE
- WATER CENTERLINE
- EXISTING TREES
- TREES TO BE REMOVED
- RZ 150 FEET RIPARIAN ZONE
- EXISTING PAVEMENT BOUNDARY
- FHA FHA LIMIT
- FW FLOODWAY
- CONCRETE TO BE REMOVED
- PROPOSED REVETMENT
- PROPOSED RIP-RAP
- SOIL DECOMPACTION TESTING

PLAN NOTES:

1. BASEMAP REFERENCES SURVEY PERFORMED BY BOSWELL ENGINEERING, WHICH IS SUPPLEMENTED BY LIDAR TOPOGRAPHY.
2. VERTICAL DATUM IS NAVD 88. TO CONVERT FROM NAVD 88 TO NGVD 29, ADD 0.912 FEET.
3. HORIZONTAL DATUM IS NAD 83
4. PARCEL BOUNDARIES DEPICTED WERE OBTAINED FROM NJ GIS DATABASE

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 feet

LIMIT OF DISTURBANCE

10,694 S.F. (0.246 ACRES)

NO.	DATE	DESCRIPTION	SURVEYED BY	DRAWN BY	DESIGNED BY	CHECKED BY
3	04/11/25	REVISED PER DEP COMMENTS		RX	RX	FJR
2	05/07/24	REVISED PER DEP COMMENTS		LLJ	RX	FJR
1	05/06/24	REVISED PER DEP COMMENTS		LLJ	RX	FJR

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BANK STABILIZATION ALONG THE PECKMAN RIVER
BLOCK 1703 LOT 54, 55, 56, 59, 60
SOIL EROSION AND SEDIMENT CONTROL PLAN
TOWNSHIP OF VERONA
ESSEX COUNTY NEW JERSEY

SURVEYED BY / DRAWN BY	DESIGNED BY / CHECKED BY	SCALE	JOB NO.	DATE
RX	SJ / FJR	1" = 10'	VA-102	10/20/23

DRAWING NO. VA-102-SESC.DWG SHEET 10 OF 11

SOIL EROSION NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN WILL BE CONSTRUCTED IN ACCORDANCE WITH THE "NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL" 7TH EDITION LAST REVISED DECEMBER 2017. THESE MEASURES WILL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. ALL SOIL TO BE EXPOSED OR STOCKPILED FOR A PERIOD OF GREATER THAN 14 DAYS, AND NOT UNDER ACTIVE CONSTRUCTION, WILL BE TEMPORARILY SEEDED AND HAY MULCHED OR OTHERWISE PROVIDED WITH VEGETATIVE COVER. THIS TEMPORARY COVER SHALL BE MAINTAINED UNTIL SUCH TIME WHEREBY PERMANENT RESTABILIZATION IS ESTABLISHED.
3. SEEDING DATES: THE FOLLOWING SEEDING DATES ARE BEST RECOMMENDED TO ESTABLISH PERMANENT VEGETATIVE COVER WITHIN MOST LOCATIONS IN THE HEPSCD: SPRING – 3/1 TO 5/15 AND FALL – 8/15 TO 10/01.
4. SEDIMENT FENCES ARE TO BE PROPERLY TRENCHED AND MAINTAIN UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED.
5. ALL STORM DRAINAGE INLETS SHALL BE PROTECTED BY ONE OF THE PRACTICES ACCEPTED IN THE STANDARDS AND PROTECTION SHALL REMAIN UNTIL PERMANENT STABILIZATION HAS BEEN ESTABLISHED. STORM DRAINAGE OUTLET POINTS SHALL BE PROTECTED AS REQUIRED BEFORE THEY BECOME FUNCTIONAL.
6. MULCH MATERIALS SHALL BE UN–ROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 70–90 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH BINDERS, OR NETTING TIE DOWN. OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.
7. ALL EROSION CONTROL DEVICES SHALL BE PERIODICALLY INSPECTED, MAINTAINED AND CORRECTED BY THE CONTRACTOR. ANY DAMAGE INCURRED BY EROSION SHALL BE RECTIFIED IMMEDIATELY.
8. THE HUDSON–ESSEX–PASSAIC SOIL CONSERVATION DISTRICT WILL BE NOTIFIED IN WRITING AT LEAST 48 HOURS PRIOR TO ANY SOIL DISTURBING ACTIVITIES. FAX – (862) 333–4507. EMAIL – INFORMATION@HEPSCD.ORG.
9. THE APPLICANT MUST OBTAIN A DISTRICT ISSUED REPORT–OF–COMPLIANCE PRIOR TO APPLYING FOR THE CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY FROM THE RESPECTIVE MUNICIPALITY, NJ–DCA OR ANY OTHER CONTROLLING AGENCY. CONTACT THE DISTRICT AT 862–333–4505 TO REQUEST A FINAL INSPECTION, GIVING ADVANCED NOTICE UPON COMPLETION OF THE RESTABILIZATION MEASURES. A PERFORMANCE DEPOSIT MAY BE POSTED WITH THE DISTRICT WHEN WINTER WEATHER OR SNOW COVER PROHIBITS THE PROPER APPLICATION OF SEED, MULCH, FERTILIZER OR HYDRO–SEED.
10. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. DO NOT UTILIZE A FIRE OR GARDEN HOSE TO CLEAN ROADS UNLESS THE RUNOFF IS DIRECTED TO A PROPERLY DESIGNATED AND FUNCTIONING SEDIMENT BASIN. WATER PUMPED OUT OF THE EXCAVATED AREAS CONTAINS SEDIMENTS THAT MUST BE REMOVED PRIOR TO DISCHARGING TO RECEIVING BODIES OF WATER USING REMOVABLE PUMPING STATIONS, SUMP PITS, PORTABLE SEDIMENTATION TANKS AND/OR SILT CONTROL BAGS.
11. ALL SURFACES HAVING LAWN OR LANDSCAPING AS FINAL COVER ARE TO BE PROVIDED TOPSOIL PRIOR TO RE–SEEDING, SODDING OR PLANTING. A DEPTH OF 5.0 INCHES, FIRMED IN PLACE, IS REQUIRED, AS PER THE STANDARDS FOR TOPSOILING AND LAND GRADING, LAST REVISED DECEMBER, 2017.
12. ALL PLAN REVISIONS MUST BE SUBMITTED TO THE DISTRICT FOR PROPER REVIEW AND APPROVAL.
13. A CRUSHED STONE WHEEL CLEANING TRACKING–PAD IS TO BE INSTALLED AT ALL SITE EXITS USING 2–1/2 – 1" CRUSHED ANGULAR STONE (ASTM 2 OR 3) TO A MINIMUM LENGTH OF 50 FEET AND MINIMUM DEPTH OF 6". ALL DRIVEWAYS MUST BE PROVIDED WITH CRUSHED STONE UNTIL PAVING IS COMPLETE.
14. STEEP SLOPES INCURRING DISTURBANCE MAY REQUIRE ADDITIONAL STABILIZATION MEASURES. THESE "SPECIAL" MEASURES SHALL BE DESIGNED BY THE APPLICANT'S ENGINEER AND BE APPROVED BY THE SOIL CONSERVATION DISTRICT.
15. THE HUDSON–ESSEX–PASSAIC SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED, IN WRITING, FOR THE SALE OF ANY PORTION OF THE PROJECT OR FOR THE SALE OF INDIVIDUAL LOTS. NEW OWNERS' INFORMATION SHALL BE PROVIDED. ADDITIONAL MEASURES DEEMED NECESSARY BY DISTRICT OFFICIALS SHALL BE IMPLEMENTED AS CONDITIONS WARRANT.

PLANTING NOTES

1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS SHOWN ON THE DRAWINGS, AS SPECIFIED, AND IN QUANTITIES INDICATED ON THE PLANT LIST.
2. ALL PLANTS SHALL BE NURSERY GROWN, AND HAVE A MEASUREMENT AND SIZE IN ACCORDANCE WITH THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION AS PUBLISHED BY AMERICAN HORT. ONLY NURSERY GROWN PLANT MATERIALS SHALL BE ACCEPTABLE.
3. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL OR HEAVY HABIT OR GROWTH. THEY SHALL BE SOUND, HEALTHY AND VIGOROUS, WELL BRANCHED AND DENSELY FOLIATED WHEN IN LIFE. THEY SHALL BE FREE OF DISEASE AND INSECT PESTS, EGGS OR LARVAE. THEY SHALL HAVE HEALTHY WELL–DEVELOPED ROOT SYSTEMS.
4. SUBSTITUTIONS: WHEN PLANTS OF A SPECIFIC KIND OR SIZE ARE NOT AVAILABLE WITHIN A REASONABLE DISTANCE, SUBSTITUTIONS MAY BE MADE UPON REQUEST BY THE CONTRACTOR IN WRITING, IF APPROVED BY THE OWNER OR HIS REPRESENTATIVE & THE MUNICIPALITY. THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING OF ANY PLANT MATERIALS WHICH HE FEELS WILL NOT BE AVAILABLE OR LIKELY TO THRIVE IN THE LOCATION INDICATED ON THE PLAN. PRIOR TO SUBMITTING A BID ON THIS PROJECT, SUBSTITUTIONS MUST BE APPROVED BY THE MUNICIPAL ENGINEER.
5. BALLED AND BURLAPPED PLANTS SHALL BE DUG WITH FULL NATURAL BALLS OF EARTH, OF DIAMETER AND DEPTH TO INCLUDE MOST OF THE FIBROUS ROOTS. CONTAINER GROWN STOCK SHALL HAVE BEEN GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL TOGETHER FIRM AND WHOLE. NO PLANTS SHALL BE LOOSE IN THE CONTAINER.
6. MULCH FOR TREES, SHRUBS AND GROUND COVER SHALL BE DOUBLE–SHREDDED. A HARDWOOD MULCH, OWNER TO CORM COLOR: AGED AT LEAST ONE YEAR, CLEAR AND FREE OF WEEDS. PRE–EMERGENT WEED KILLER SHALL BE 'TREFLAN' OR APPROVED EQUAL. APPLY WEEK KILLER TO TOPSOIL, PRIOR TO MULCHING BED PLANTINGS. ALL SHRUBS TO BE PLANTED IN CONTINUOUS BEDS UNLESS OTHERWISE NOTED. ALL SHRUB BEDS TO RECEIVE 3" DEEP CONTINUOUS MULCH COVER. MULCH MAY NOT TOUCH THE TRUNKS OF TREES OR THE MAIN STEMS OF SHRUBS.
7. PREPARATION OF BACKFILL & PLANTING SOIL – BEFORE MIXING, CLEAN TOPSOIL OF ACIDIC MARL, STICKS, ROOTS , PLANTS, TRASH, LARGE STONES, CLAY, LUMPS AND OTHER EXTRANEOUS MATERIALS HARMFUL OR TOXIC TO PLANT GROWTH, SOIL, (BACKFILL) FOR TREES, SHRUBS AND GROUNDCOVER SHALL BE MIXTURE BY VOLUME OF THE FOLLOWING MATERIALS IN QUANTITIES SPECIFIED; 1 PART PEAT MOSS TO 5 PARTS TOPSOIL.
8. ALL PLANTS SHALL BE AT THE LOCATIONS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLATING AT THE CORRECT GRADES, ALIGNMENT, AND TO THE INDICATED LAYOUT OF PLANTING BEDS.
9. THE CONTACTOR SHALL LAYOUT WITH IDENTIFIABLE STAKES INDIVIDUAL TREES AND SHRUB LOCATIONS AND AREAS FOR MULTIPLE PLANTING ALONG WITH THE ARRANGEMENTS AND OUTLINE OF PLANTING BEDS AS INDICATED ON THE DRAWINGS, FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO EXCAVATION OF PLANTING PITS OR BEDS. AT LEAST THREE BUSINESS DAYS IS TO BE GIVEN TO PERMIT REVIEW AND APPROVAL OF PLANT LOCATIONS. DO NOT PROCEED WITH PLANTING WORK UNTIL APPROVAL IS GIVEN IN WRITING.
10. TOPSOIL SHALL BE INSTALLED BY THE CONTRACTOR AT A THICKNESS OF APPROXIMATELY FIVE (5) INCHES. CONTRACTOR IS RESPONSIBLE TO SUPPLY ALL TOPSOIL REQUIRED FOR BACKFILL MIXTURE.
11. THE PLANT ROOT BALL AND PREPARATION HOLE FOR BACKFILL MUST HAVE A WIDTH AT LEAST 1 FOOT GREATER THAN THE WIDTH OF THE ROOT BALL AND HAVE A DEPTH OF AT LEAST 6" MORE THAN THE HEIGHT OF THE ROOT BALL AS NOTED IN EACH TREE PLANTING DETAIL.

SUPPLEMENTAL WATERING NOTES

1. AN IRRIGATION SYSTEM WILL NOT BE PROVIDED ON SITE. AS WATERING IS A PRIMARY CONCERN FOR PLANT SURVIVAL THROUGHOUT THE ESTABLISHMENT & GUARANTEE PERIOD. FOR EACH CATEGORY OF PLANT; EVERGREEN OR CONIFEROUS TREES, DECIDUOUS SHADE TREES, DECIDUOUS ORNAMENTAL TREES, AND FOR SHRUBS THE RECOMMENDED WATERING REQUIREMENTS ARE AS FOLLOWS:
   - A. SHRUBS 15 MINUTES / 1 TIME PER WEEK (± 1 GAL.)
   - B. CONIFERS/EVERGREENS 30 MINUTES / 1 TIME PER WEEK (± 4–5 GAL.)
   - C. ORNAMENTAL TREES 30 MINUTES / 1 TIME PER WEEK (± 4–5 GAL.)
   - D. SHADE TREES 30 MINUTES / 1 TIME PER WEEK (± 4–5 GAL.)
2. WATERING REQUIREMENTS SHALL BE ADJUSTED AS NECESSARY DURING THE SEASONS; SPRING, HOT SUMMER MONTHS OR PERIODS OF DROUGHT AS NECESSARY TO ENSURE PLANT SURVIVAL FOR THE FULL DURATION OF THE GUARANTEE PERIOD.

CONSTRUCTION SEQUENCE

IMPLEMENTATION OF SOIL EROSION AND SEDIMENT CONTROL MEASURES	4 WEEKS
CLEAR CONCRETE SURFACE AND RIP–RAP	1 WEEK
CONSTRUCT BOULDERS ROW AND RESTORE CHANNEL	3 WEEKS
FINAL GRADING	1 WEEK
ESTABLISH FINAL VEGETATIVE COVER	1 WEEK
REMOVE SOIL EROSION MEASURES	1 WEEK
	11 WEEKS

SOIL EROSION & SEDIMENT CONTROL COMPACTION NOTES

SOIL COMPACTION TESTING REQUIREMENTS

1. SUBGRADE SOILS PRIOR TO THE APPLICATION OF TOPSOIL (SEE PERMANENT SEEDING AND STABILIZATION NOTES FOR TOPSOIL REQUIREMENTS) SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
2. AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION ARE GRAPHICALLY DENOTED ON THE CERTIFIED SOIL EROSION CONTROL PLAN.
3. COMPACTION TESTING LOCATIONS ARE DENOTED ON THE PLAN. A COPY OF THE PLAN OR PORTION OF THE PLAN SHALL BE USED TO MARK LOCATIONS OF TESTS, AND ATTACHED TO THE COMPACTION REMEDIATION FORM, AVAILABLE FROM THE LOCAL SOIL CONSERVATION DISTRICT. THIS FORM MUST BE FILLED OUT AND SUBMITTED PRIOR TO RECEIVING A CERTIFICATE OF COMPLIANCE FROM THE DISTRICT.
4. IN THE EVENT THAT TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE SIMPLIFIED TESTING METHODS (SEE DETAILS BELOW), THE CONTRACTOR/OWNER SHALL HAVE THE OPTION TO PERFORM EITHER (1) COMPACTION MITIGATION OVER THE ENTIRE MITIGATION AREA DENOTED ON THE PLAN (EXCLUDING EXEMPT AREAS), OR (2) PERFORM ADDITIONAL, MORE DETAILED TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION. ADDITIONAL DETAILED TESTING SHALL BE PERFORMED BY A TRAINED, LICENSED PROFESSIONAL.

COMPACTION TESTING METHODS

A. PROBING WIRE TEST (SEE DETAIL)
B. HAND–HELD PENETROMETER TEST (SEE DETAIL)
C. TUBE BULK DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED
D. NUCLEAR DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)

NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

SOIL COMPACTION TESTING IS NOT REQUIRED IF/WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION.

PROCEDURES FOR SOIL COMPACTION MITIGATION

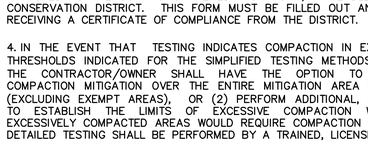
PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.

RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAYBE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.

SIMPLIFIED TESTING METHODS

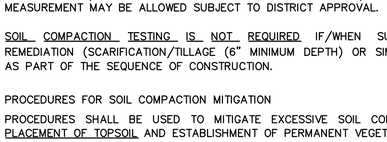
PROBING WIRE TEST– 15.5 GA STEEL WIRE (SURVEY FLAG)

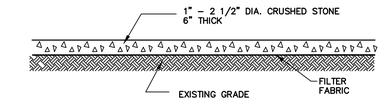
NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE WIRE.



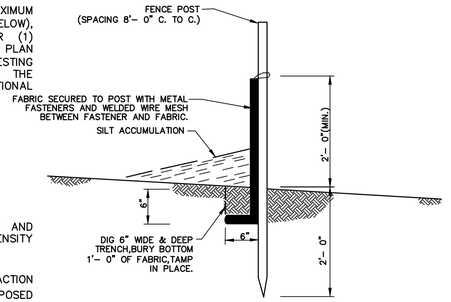
HANDHELD SOIL PENETROMETER TEST

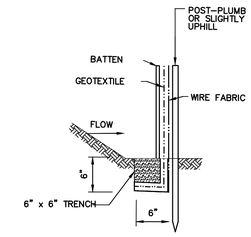
NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE PROBE. PROBE MUST PENETRATE AT LEAST 6" WITH LESS THAN 300 PSI READING ON THE GAGE.

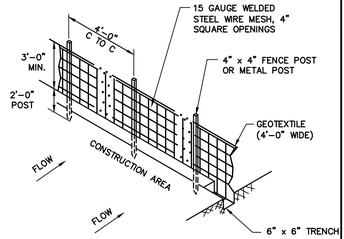


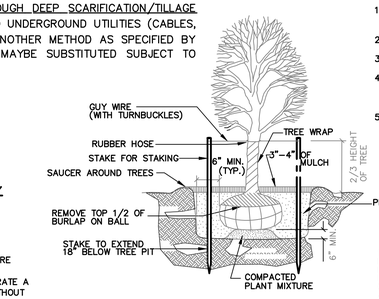


STABILIZED CONSTRUCTION ACCESS
N.T.S.

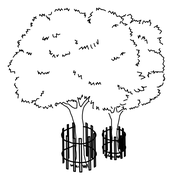








PLANTING DETAIL
TYPICAL TREE GUYING AND STAKING
N.T.S.



INCORRECT FENCING FOR TREE PROTECTION

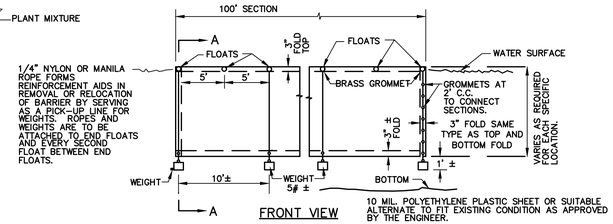
CORRECT FENCING FOR TREE PROTECTION

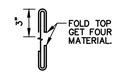
TREE PROTECTION TO DRIP LINE
N.T.S.

NOTES:

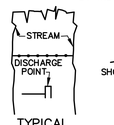
1. SECURELY FASTEN GEOTEXTILE TO WIRE FABRIC BY USE OF WIRE TIES OR HOG RINGS, THEN SANDWICH BETWEEN A 1" X 3" X 3' BATTEN AND THE POSTS PLACING SCREWS AT 6 INCH INTERVALS STARTING 3 INCHES FROM TOP.
2. BURY 4" X 4" FENCE POST 2'–0" BELOW GROUND.
3. BURY BOTTOM 1 FOOT OF GEOTEXTILE AS PER SILT FENCE AND TAMP IN PLACE.
4. SECURELY FASTEN ENDS OF INDIVIDUAL ROLLS OF GEOTEXTILE TO A COMMON POST BY WRAPPING EACH END OF THE GEOTEXTILE AROUND A BATTEN TWICE AND ATTACHING THE BATTEN TO POST WITH SCREWS AT 6 INCH INTERVALS STARTING 3 INCHES FROM THE TOP. SPLICING OF INDIVIDUAL ROLLS SHALL NOT OCCUR AT LOW POINTS
5. BURY 6" OF WIRE FABRIC IN TIDAL AREAS.

HEAVY DUTY SILT FENCE
N.T.S.

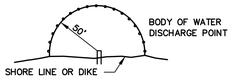




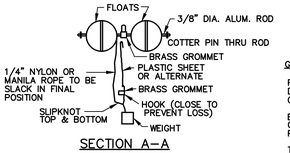
SIDE VIEW
FOLDING DETAIL



TYPICAL APPLICATION



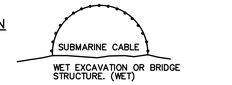
TYPICAL APPLICATION



SECTION A–A

NOTE:

SUITABLE ALTERNATE MAY BE FASTENED TO STAKES DRIVEN INTO THE BOTTOM IN LIEU OF FLOATS AND WEIGHTS



WET EXCAVATION OR BRIDGE STRUCTURE. (WET)

GENERAL NOTES:

PLACE SILT BARRIER TO PREVENT DRIFTING OF SILT CAUSED BY DISCHARGE OF STORM SEWERS DURING CONSTRUCTION, DREDGING OR FILLING OPERATIONS.

EXACT PLACEMENT OF SILT BARRIER SHALL BE SO AS TO EFFECTIVELY CONTROL SILT DISPERSION UNDER THE CONDITIONS PRESENT ON A PARTICULAR PROJECT.

THE DETAILS SHOWN ON THIS SHEET ARE SUGGESTED METHODS ONLY ALTERNATE SOLUTION AND USAGE OF MATERIALS MAY BE USED AS APPROVED.

FLOATING TURBIDITY BARRIER
N.T.S.

NO.	DATE	DESCRIPTION	SURVEYED BY	DRAWN BY	DESIGNED BY	CHECKED BY

BOSWELL ENGINEERING
ENGINEERS - PLANNERS - SURVEYORS - SCIENTISTS
330 PHILLIPS AVENUE, SOUTH HACKENSACK, NJ 07606
TEL: (201) 641-0770 • FAX: (201) 641-1831
N.J. CERTIFICATE OF AUTHORIZATION No. 24GA27958000

KEVIN J. BOSWELL
PROFESSIONAL ENGINEER N.J. LIC. 32943

JOSEPH A. POMANTE
PROFESSIONAL ENGINEER N.J. LIC. 43137

BANK STABILIZATION ALONG THE PECKMAN RIVER
BLOCK 1703 LOT 54, 55, 56, 59, 60
SOIL EROSION AND SEDIMENT CONTROL DETAILS
TOWNSHIP OF VERONA
ESSEX COUNTY NEW JERSEY

SURVEYED BY / DRAWN BY	DESIGNED BY / CHECKED BY	SCALE:	JOB NO.	DATE
RX	SJ / FJR	AS NOTED	VA–102	10/20/23

DRAWING NO. VA–102–SESC.DWG SHEET 11 OF 11

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

NO.	DATE	DESCRIPTION	REVISED BY	CHECKED BY

BOSWELL
EST 1924
BOSWELLENGINEERING.COM

330 PHILLIPS AVENUE, SOUTH HACKENSACK, NJ 07606

SOUTH HACKENSACK, NJ 201.641.0770 | CHESTER, NJ 908.879.6209 | HOPEWELL, NJ 609.466.0002 | ALBANY, NY 518.436.6310 | POUGHKEEPSIE, NY 914.682.5900

N.J. CERTIFICATE OF AUTHORIZATION No. 24GA27958000

LADY OF THE LAKE PARKING LOT IMPROVEMENT PROJECT

SITE PLAN RENDERING

SURVEYED BY:	DESIGNED BY:	DATE:	JOB NO.:
N/A	N/A	6/13/25	VA171
DRAWN BY:	**CHECKED BY:**	**SCALE:**	**SHEET:**
KEM	JSK	1"=20'	1 OF 1

I:\Projects\Veterans\VA 171 - The Lady of the Parking Lot\Highway\VA171_Cty_ASite1.dwg

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