

# UPPER FARNANDIS BRANCH STREAM RESTORATION

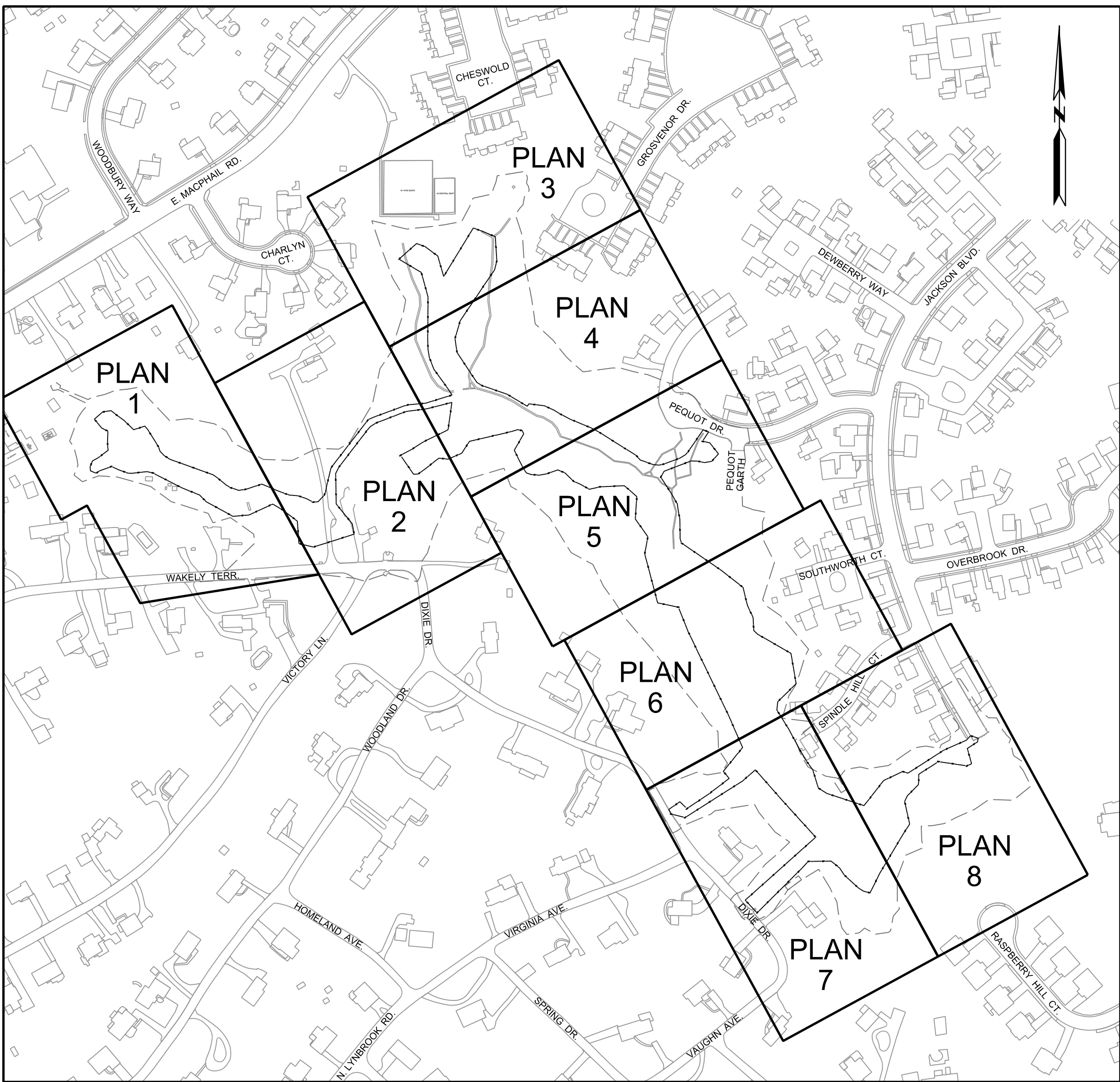
HARFORD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS  
WATERSHED PROTECTION AND RESTORATION

## SHEET INDEX

DWG. NO.	SHEET NO.	SHEET TITLE
TI-01	1	TITLE SHEET
ER-01 TO ER-08	2-9	ENVIRONMENTAL RESOURCES MAP
GR-01 TO GR-08	XX-XX	GRADING PLANS
DE-01 TO DE-05	XX-XX	STREAM DETAILS
PR-01 TO PR-04	XX-XX	PROFILES

## GENERAL NOTES

- THE EXISTING TOPOGRAPHY WITH ONE FOOT CONTOUR INTERVALS WAS PREPARED BY KCI TECHNOLOGIES, INC. IN SEPTEMBER 2023 AND IS BASED ON NAD 83/91 & NAVD 88 DATUM.
- PROPERTY BOUNDARY LINES ARE BASED ON PLATS AND DEED OF RECORD AND DO NOT REPRESENT A FIELD-RUN BOUNDARY SURVEY.
- WETLANDS AND WATERWAYS WERE FIELD DELINEATED DURING MAY 31 THROUGH JUNE 2, 2023 BY KCI TECHNOLOGIES, INC.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH HARFORD COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS, AS CURRENTLY ACCEPTED OR AS OTHERWISE NOTED.
- NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING STRUCTURE OR PROPERTY, AND ANY DAMAGE TO THEM DUE TO NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS/HER OWN SATISFACTION BEFORE STARTING CONSTRUCTION. NEITHER THE OWNER NOR KCI TECHNOLOGIES, INC. WARRANT OR GUARANTEE THE COMPLETENESS OR CORRECTNESS OF THE INFORMATION GIVEN.
- IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO SPECIFICALLY MENTION ANY WORK, WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT, SHALL NOT RELIEVE THE CONTRACTOR OF HIS/HER RESPONSIBILITY TO PERFORM SUCH WORK.
- THE CONTRACTOR SHALL NOTIFY BGE, (410) 234-5691, FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- THE CONTRACTOR SHALL NOTIFY VERIZON, (410) 224-9497, FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- THE CONTRACTOR SHALL NOTIFY THE HARFORD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, (410) 638-3122, FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THE DRAWINGS SO THAT A PRECONSTRUCTION MEETING CAN BE SCHEDULED.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY @ 1-800-357-7777 FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- PIPE ELEVATIONS REFER TO INVERTS UNLESS OTHERWISE NOTED.
- LOCATION OF FEATURES SHOWN ON THE SITE PLAN HAVE BEEN FIELD VERIFIED.
- STRUCTURES MAY BE FIELD ADJUSTED AT THE DIRECTION OF THE ENGINEER OR STREAM SPECIALIST TO MINIMIZE DISTURBANCE AND MAXIMIZE FUNCTIONAL UPLIFT.
- THE PROJECT IS IN THE BYNUM RUN WATERSHED.
- THE MARYLAND SURFACE WATER USE DESIGNATION IS USE III (NATURAL TROUT WATERS).  
IN STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30, INCLUSIVE, DURING ANY YEAR.
- THE RESTORATION PROJECT SHALL BE CONSTRUCTED UNDER THE SUPERVISION OF AN APPROVED QUALIFIED RESTORATION SPECIALIST.



## SITE LOCATION

SCALE: 1" = 200'

CONTROL NOTE:  
THE HORIZONTAL AND VERTICAL DATUM SHOWN HEREON ARE BASED  
ON THE FOLLOWING HARFORD COUNTY SURVEY CONTROL SYSTEM:

HORIZONTAL: NAD 1983/1991  
VERTICAL: NAVD 1988

MONUMENTS:  
FALLSTON N 675,445.19 E 1,477,585.69 ELEV. 455.79  
FALLSTON AZ MK. N 676,752.37 E 1,477,595.25 ELEV. 464.98

OWNER / DEVELOPER:

HARFORD COUNTY DEPARTMENT OF PUBLIC WORKS  
212 S. BOND STREET, 1ST FLOOR  
BEL AIR, MD 21014  
CONTACT: LYNDSEY SNYDER  
(410) 638-3217 - EXT 1394

ENGINEER:

KCI TECHNOLOGIES, INC.  
936 RIDGEBROOK ROAD  
SPARKS, MD 21152  
(410) 316-7800

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NO.	DATE

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NOT FOR  
CONSTRUCTION

DATE	NOV. 2023
SCALE	AS SHOWN
DESIGNED BY	HS, SL
DRAWN BY	CSD

TITLE SHEET  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION

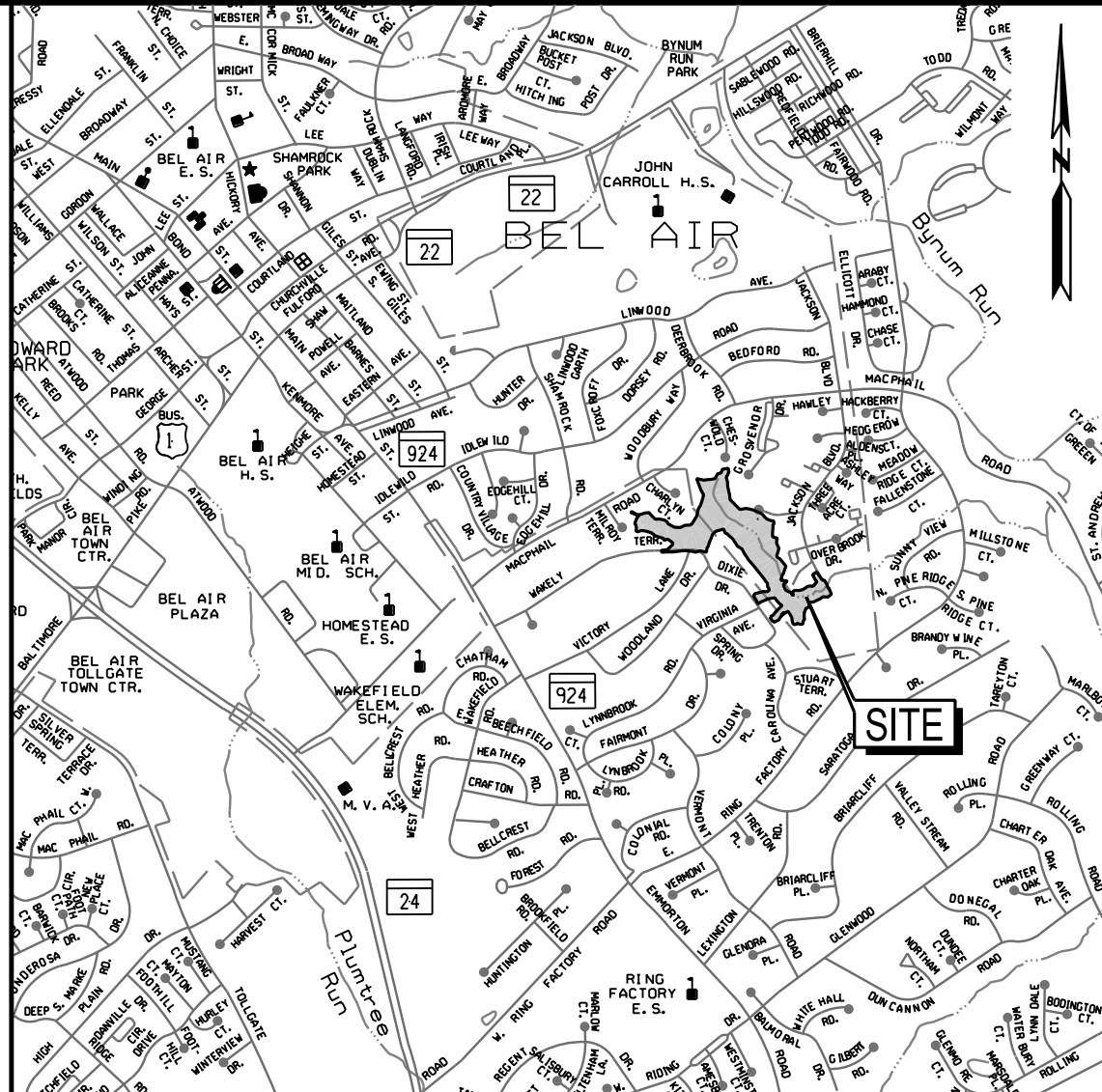
HARFORD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

DRAWING NO.

TI-01

SHEET 1 OF XX  
KCI JOB NUMBER  
172107055.04



HARFORD COUNTY  
ADC MAP: 17  
GRID H-10, J-10

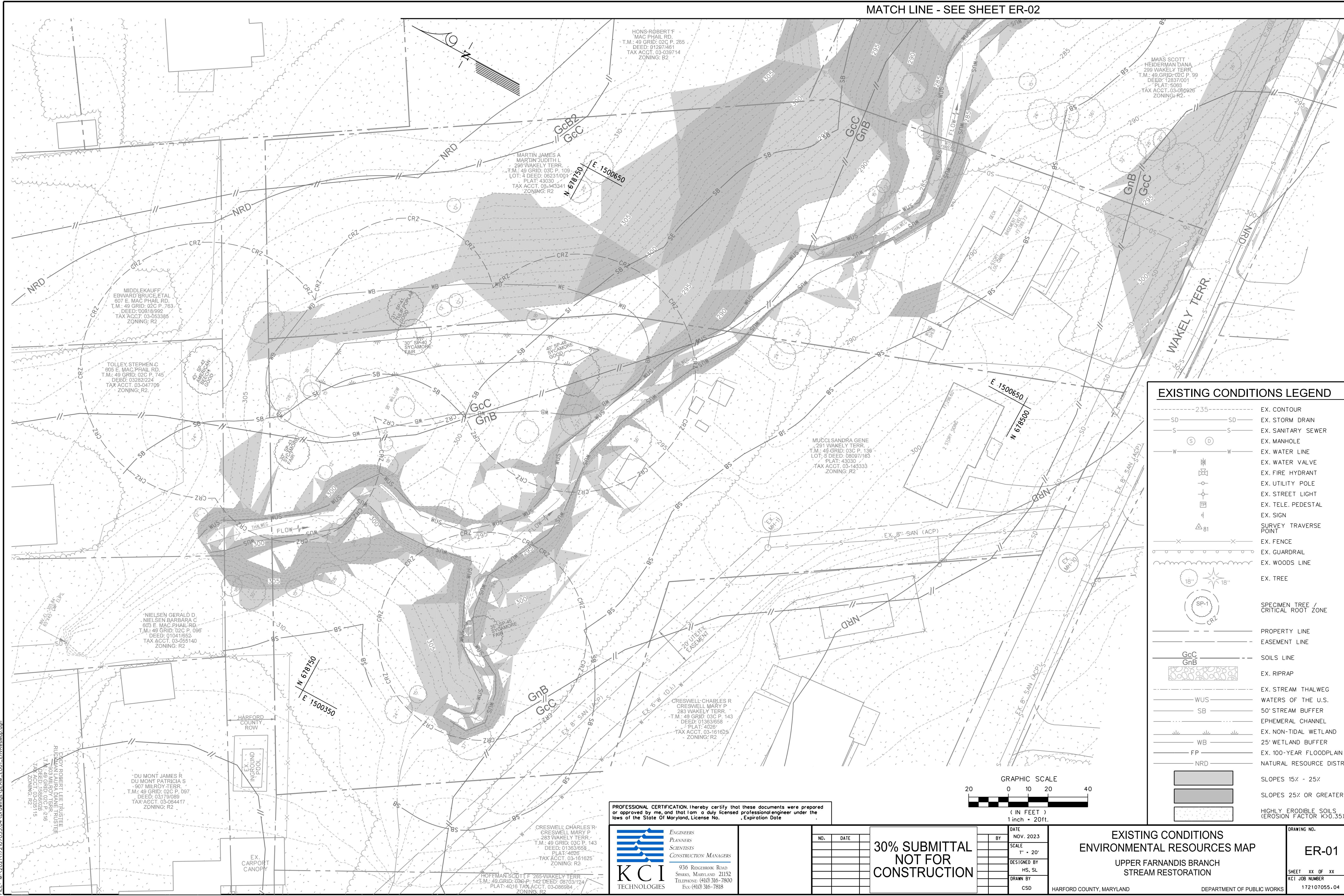
## VICINITY MAP

SCALE: 1" = 2000'

## EXISTING CONDITIONS LEGEND

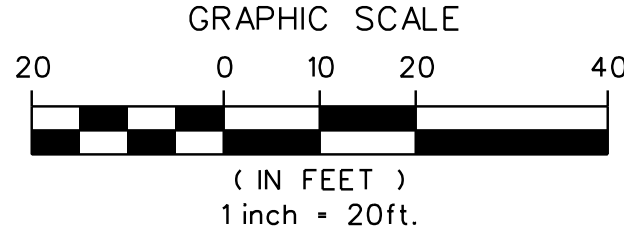
---	235---	EX. CONTOUR
---	SD---	EX. STORM DRAIN
---	S---	EX. SANITARY SEWER
(S)	(D)	EX. MANHOLE
---	W---	EX. WATER LINE
(H)		EX. WATER VALVE
(F)		EX. FIRE HYDRANT
(U)		EX. UTILITY POLE
(L)		EX. STREET LIGHT
(P)		EX. TELE. PEDESTAL
(S)		EX. SIGN
(81)		SURVEY TRAVERSE POINT
---	X---	EX. FENCE
---	---	EX. GUARDRAIL
---	---	EX. WOODS LINE
(18")		EX. TREE
(SP-1)		SPECIMEN TREE / CRZ
---	---	PROPERTY LINE
---	---	EASEMENT LINE
GcC	GnB	SOILS LINE
(R)		EX. RIPRAP
---	---	EX. STREAM THALWEG
---	---	WATERS OF THE U.S.
---	---	50' STREAM BUFFER
---	---	EPHEMERAL CHANNEL
---	---	EX. NON-TIDAL WETLAND
---	---	25' WETLAND BUFFER
---	---	EX. 100-YEAR FLOODPLAIN
---	---	NATURAL RESOURCE DISTRICT
(S)		SLOPES 15% - 25%
(S)		SLOPES 25% OR GREATER
(S)		HICLY ERODIBLE SOILS (EROSION FACTOR K0.35)





EXISTING CONDITIONS LEGEND

- EX. CONTOUR
- EX. STORM DRAIN
- EX. SANITARY SEWER
- EX. MANHOLE
- EX. WATER LINE
- EX. WATER VALVE
- EX. FIRE HYDRANT
- EX. UTILITY POLE
- EX. STREET LIGHT
- EX. TELE. PEDESTAL
- EX. SIGN
- SURVEY TRAVERSE POINT
- EX. FENCE
- EX. GUARDRAIL
- EX. WOODS LINE
- EX. TREE
- SPECIMEN TREE / CRITICAL ROOT ZONE
- PROPERTY LINE
- EASEMENT LINE
- SOILS LINE
- EX. RIPRAP
- EX. STREAM THALWEG
- WATERS OF THE U.S.
- 50' STREAM BUFFER
- EPHEMERAL CHANNEL
- EX. NON-TIDAL WETLAND
- 25' WETLAND BUFFER
- EX. 100-YEAR FLOODPLAIN
- NATURAL RESOURCE DISTRICT
- SLOPES 15% - 25%
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- HIGHLY ERODIBLE SOILS (EROSION FACTOR K>0.35)



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**KCI TECHNOLOGIES**  
ENGINEERS  
PLANNERS  
SCIENTISTS  
CONSTRUCTION MANAGERS  
936 RIDGEBROOK ROAD  
SPARKS, MARYLAND 21152  
TELEPHONE: (410) 316-7800  
FAX: (410) 316-7818

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CONSTRUCTION**

DATE	NOV. 2023
SCALE	1" = 20'
DESIGNED BY	HS, SL
DRAWN BY	CSD

**EXISTING CONDITIONS  
ENVIRONMENTAL RESOURCES MAP**  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION

HARFORD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

DRAWING NO.  
**ER-01**

SHEET XX OF XX  
KCI JOB NUMBER  
172107055.04



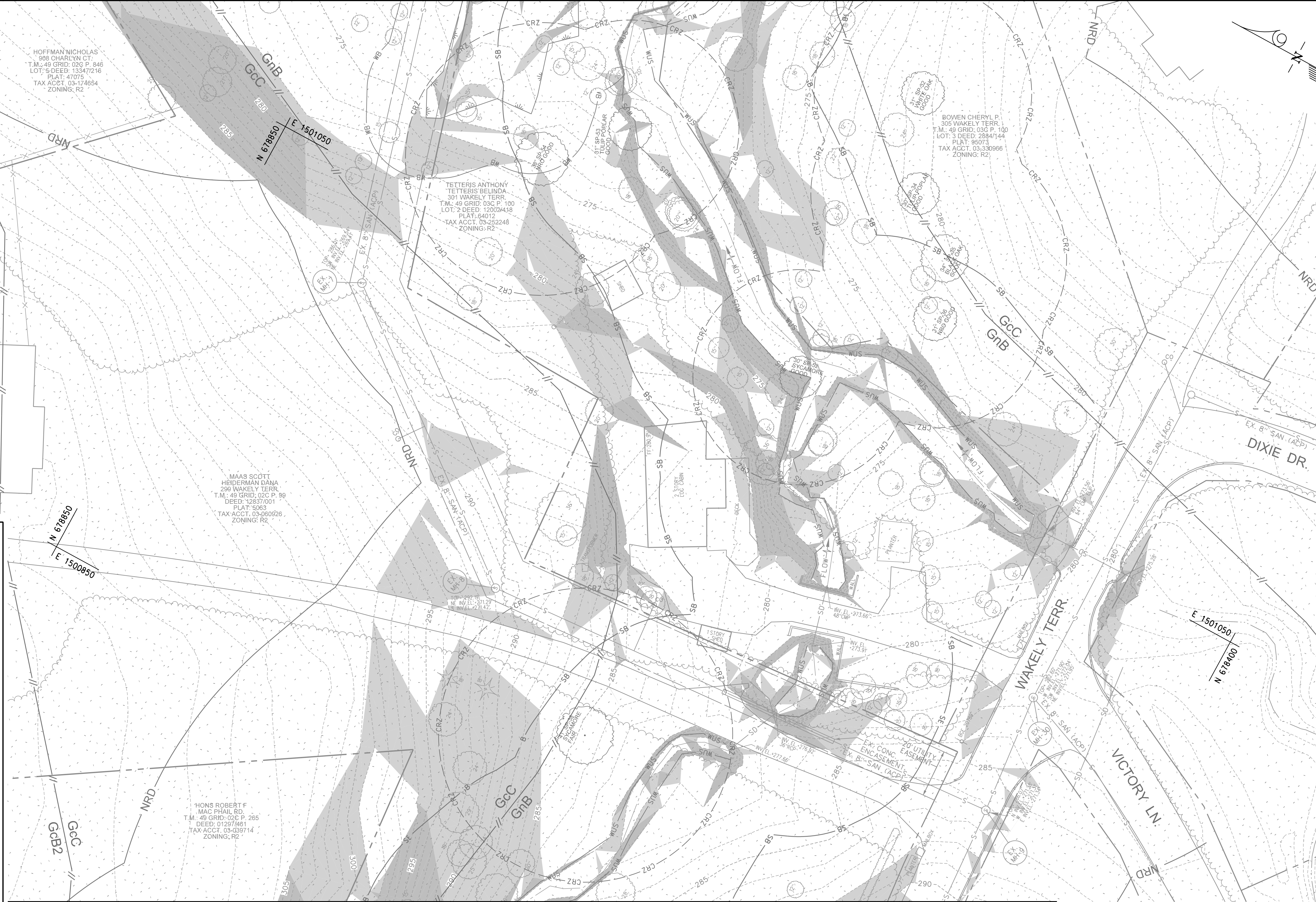
MATCH LINE - SEE SHEET ER-03

MATCH LINE - SEE SHEET ER-04

MATCH LINE - SEE SHEET ER-05

EXISTING CONDITIONS LEGEND

- 235 --- SD --- SD --- EX. CONTOUR  
--- S --- S --- EX. STORM DRAIN  
--- (S) (D) --- EX. SANITARY SEWER  
--- W --- W --- EX. MANHOLE  
--- W --- W --- EX. WATER LINE  
--- W --- W --- EX. WATER VALVE  
--- W --- W --- EX. FIRE HYDRANT  
--- W --- W --- EX. UTILITY POLE  
--- W --- W --- EX. STREET LIGHT  
--- W --- W --- EX. TELE. PEDESTAL  
--- W --- W --- EX. SIGN  
--- W --- W --- SURVEY TRAVERSE POINT  
--- W --- W --- EX. FENCE  
--- W --- W --- EX. GUARDRAIL  
--- W --- W --- EX. WOODS LINE  
--- W --- W --- EX. TREE  
--- W --- W --- SPECIMEN TREE / CRITICAL ROOT ZONE  
--- W --- W --- PROPERTY LINE  
--- W --- W --- EASEMENT LINE  
--- W --- W --- SOILS LINE  
--- W --- W --- EX. RIPRAP  
--- W --- W --- EX. STREAM THALWEG  
--- W --- W --- WATERS OF THE U.S.  
--- W --- W --- 50' STREAM BUFFER  
--- W --- W --- EPHEMERAL CHANNEL  
--- W --- W --- EX. NON-TIDAL WETLAND  
--- W --- W --- 25' WETLAND BUFFER  
--- W --- W --- EX. 100-YEAR FLOODPLAIN  
--- W --- W --- NATURAL RESOURCE DISTRICT  
--- W --- W --- SLOPES 15% - 25%  
--- W --- W --- SLOPES 25% OR GREATER  
--- W --- W --- HIGHLY ERODIBLE SOILS (EROSION FACTOR K<0.35)



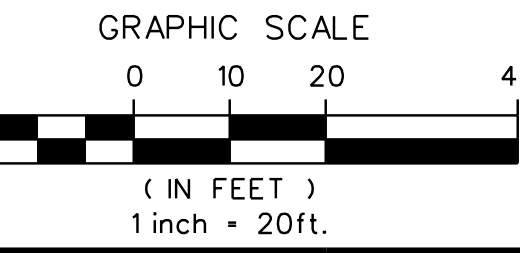
MATCH LINE - SEE SHEET ER-01

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DATE	NOV. 2023
SCALE	1" = 20'
DESIGNED BY	HS, SL
DRAWN BY	CSD

**EXISTING CONDITIONS  
ENVIRONMENTAL RESOURCES MAP**  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION  
HARFORD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS

DRAWING NO.	ER-02
SHEET XX OF XX	XX OF XX
KCI JOB NUMBER	172107055.04



PLOTTED: 10:44 PM on Friday, November 10, 2023  
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MATCH LINE - SEE SHEET ER-02

MATCH LINE - SEE SHEET ER-04

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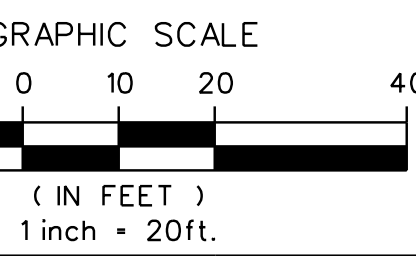


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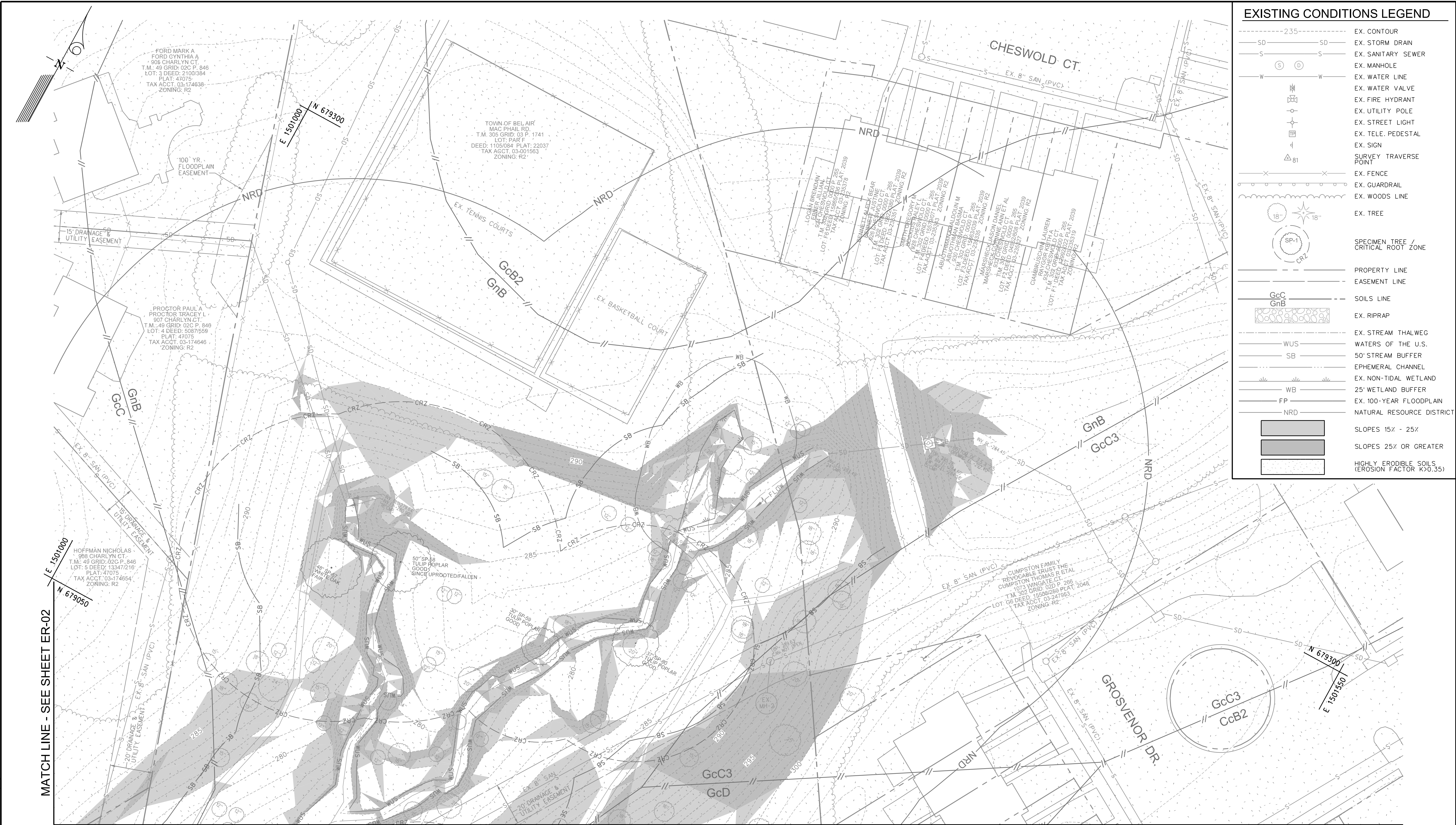
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SCALE	1" = 20'
DESIGNED BY	HS, SL
DRAWN BY	CSD



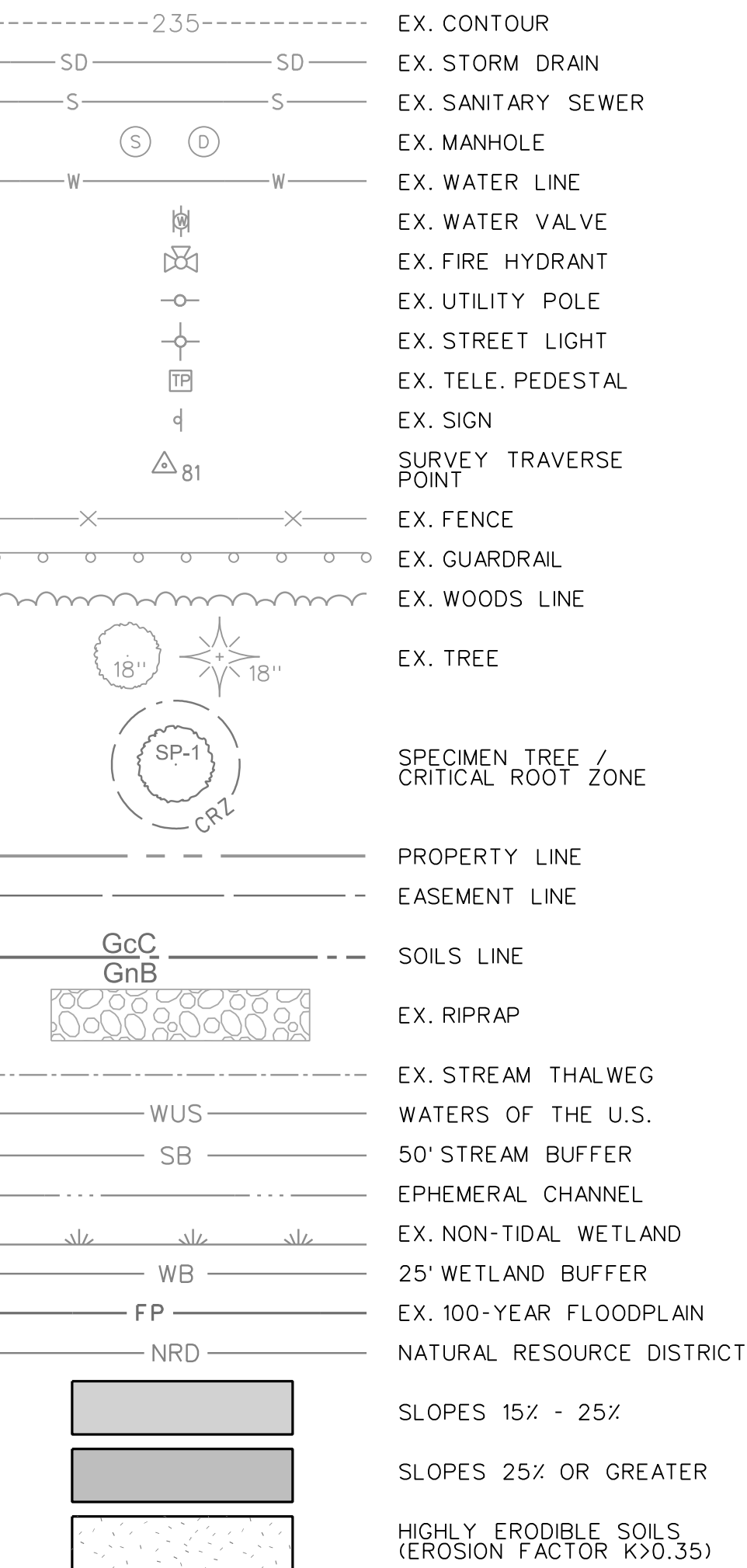
EXISTING CONDITIONS  
 ENVIRONMENTAL RESOURCES MAP  
 UPPER FARNANDIS BRANCH  
 STREAM RESTORATION

DRAWING NO.  
 ER-03  
 SHEET XX OF XX  
 KCI JOB NUMBER  
 172107055.04

EXISTING CONDITIONS LEGEND  
 --- 235 --- EX. CONTOUR  
 --- SD --- SD --- EX. STORM DRAIN  
 --- S --- S --- EX. SANITARY SEWER  
 --- (S) (D) --- EX. MANHOLE  
 --- W --- W --- EX. WATER LINE  
 --- EX. WATER VALVE  
 --- EX. FIRE HYDRANT  
 --- EX. UTILITY POLE  
 --- EX. STREET LIGHT  
 --- EX. TELE. PEDESTAL  
 --- EX. SIGN  
 --- SURVEY TRAVERSE POINT  
 --- EX. FENCE  
 --- EX. GUARDRAIL  
 --- EX. WOODS LINE  
 --- EX. TREE  
  
 --- 18" --- 18" --- SPECIMEN TREE / CRITICAL ROOT ZONE  
 --- SP-1 ---  
 --- CRZ ---  
 --- GcC --- GcB --- PROPERTY LINE  
 --- EASEMENT LINE  
 --- SOILS LINE  
 --- EX. RIPRAP  
 --- EX. STREAM THALWEG  
 --- WUS --- WATERS OF THE U.S.  
 --- SB --- 50' STREAM BUFFER  
 --- EPHEMERAL CHANNEL  
 --- EX. NON-TIDAL WETLAND  
 --- WB --- 25' WETLAND BUFFER  
 --- FP --- EX. 100-YEAR FLOODPLAIN  
 --- NRD --- NATURAL RESOURCE DISTRICT  
 --- SLOPES 15% - 25%  
 --- SLOPES 25% OR GREATER  
 --- HIGHLY ERODIBLE SOILS (EROSION FACTOR K>0.35)







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		DATE
		NOV. 2023
	BY	
		SCALE
		1" = 20'
		DESIGNED BY
		HS, SL
		DRAWN BY
		CSD

EXISTING CONDITIONS  
ENVIRONMENTAL RESOURCES MAP  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION

DRAWING NO.

ER-04

SHEET XX OF XX

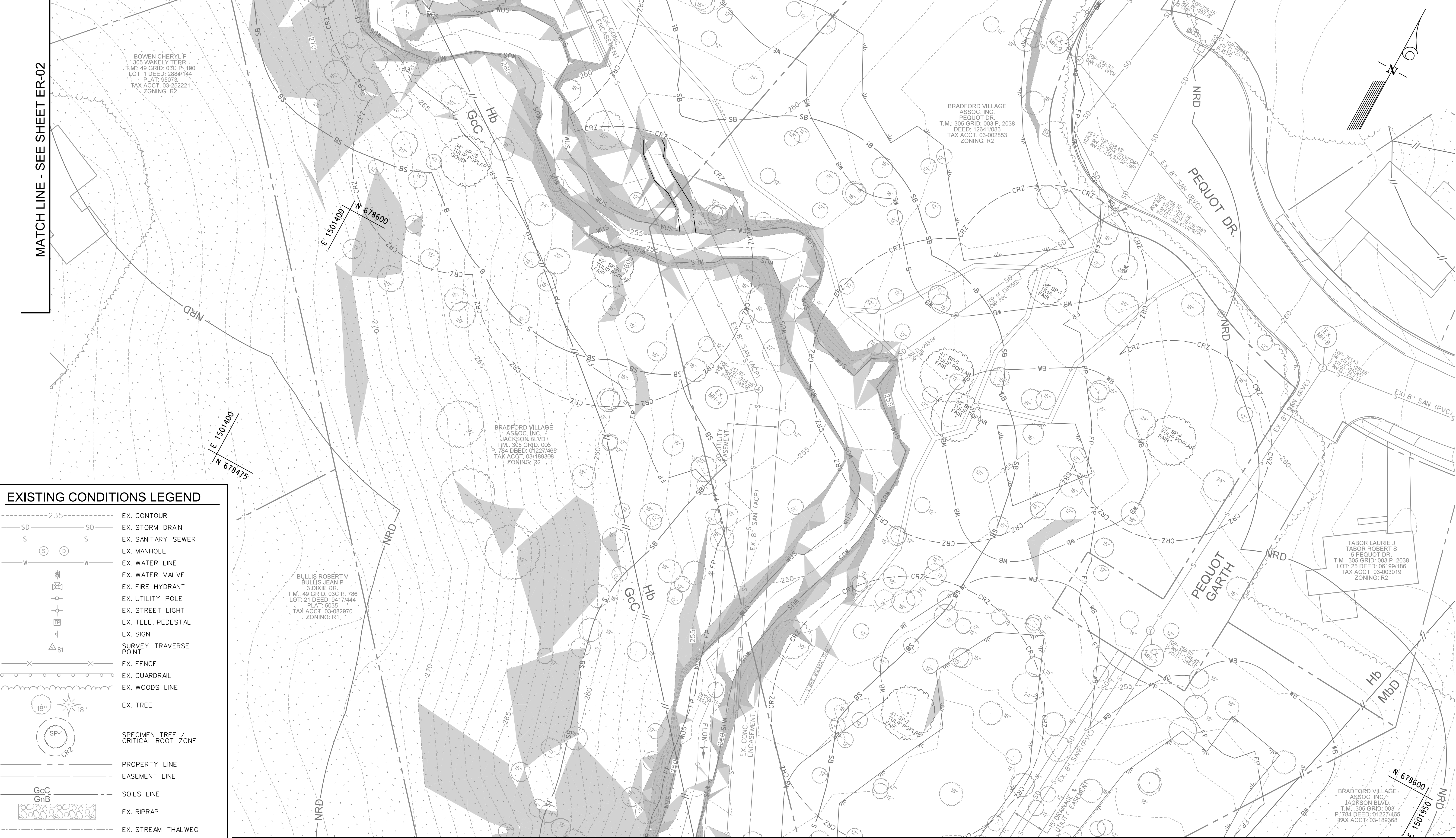
KCI JOB NUMBER

172107055.04



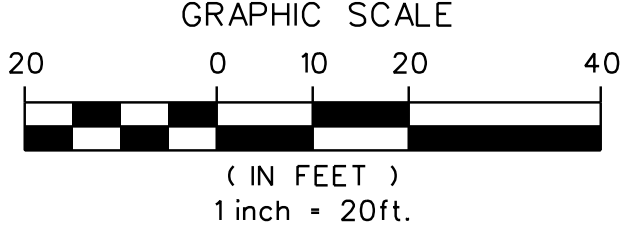
MATCH LINE - SEE SHEET ER-04

MATCH LINE - SEE SHEET ER-02



MATCH LINE - SEE SHEET ER-06

EXISTING CONDITIONS LEGEND	
	EX. CONTOUR
	EX. STORM DRAIN
	EX. SANITARY SEWER
	EX. MANHOLE
	EX. WATER LINE
	EX. WATER VALVE
	EX. FIRE HYDRANT
	EX. UTILITY POLE
	EX. STREET LIGHT
	EX. TELE. PEDESTAL
	EX. SIGN
	SURVEY TRAVERSE POINT
	EX. FENCE
	EX. GUARDRAIL
	EX. WOODS LINE
	EX. TREE
	SPECIMEN TREE / CRITICAL ROOT ZONE
	PROPERTY LINE
	EASEMENT LINE
	SOILS LINE
	EX. RIPRAP
	EX. STREAM THALWEG
	WATERS OF THE U.S.
	50' STREAM BUFFER
	EPHEMERAL CHANNEL
	EX. NON-TIDAL WETLAND
	25' WETLAND BUFFER
	EX. 100-YEAR FLOODPLAIN
	NATURAL RESOURCE DISTRICT
	SLOPES 15% - 25%
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EXISTING CONDITIONS  
ENVIRONMENTAL RESOURCES MAP

UPPER FARNANDIS BRANCH  
STREAM RESTORATION

HARFORD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

DRAWING NO.	ER-05
SHEET XX OF XX	
KCI JOB NUMBER	172107055.04

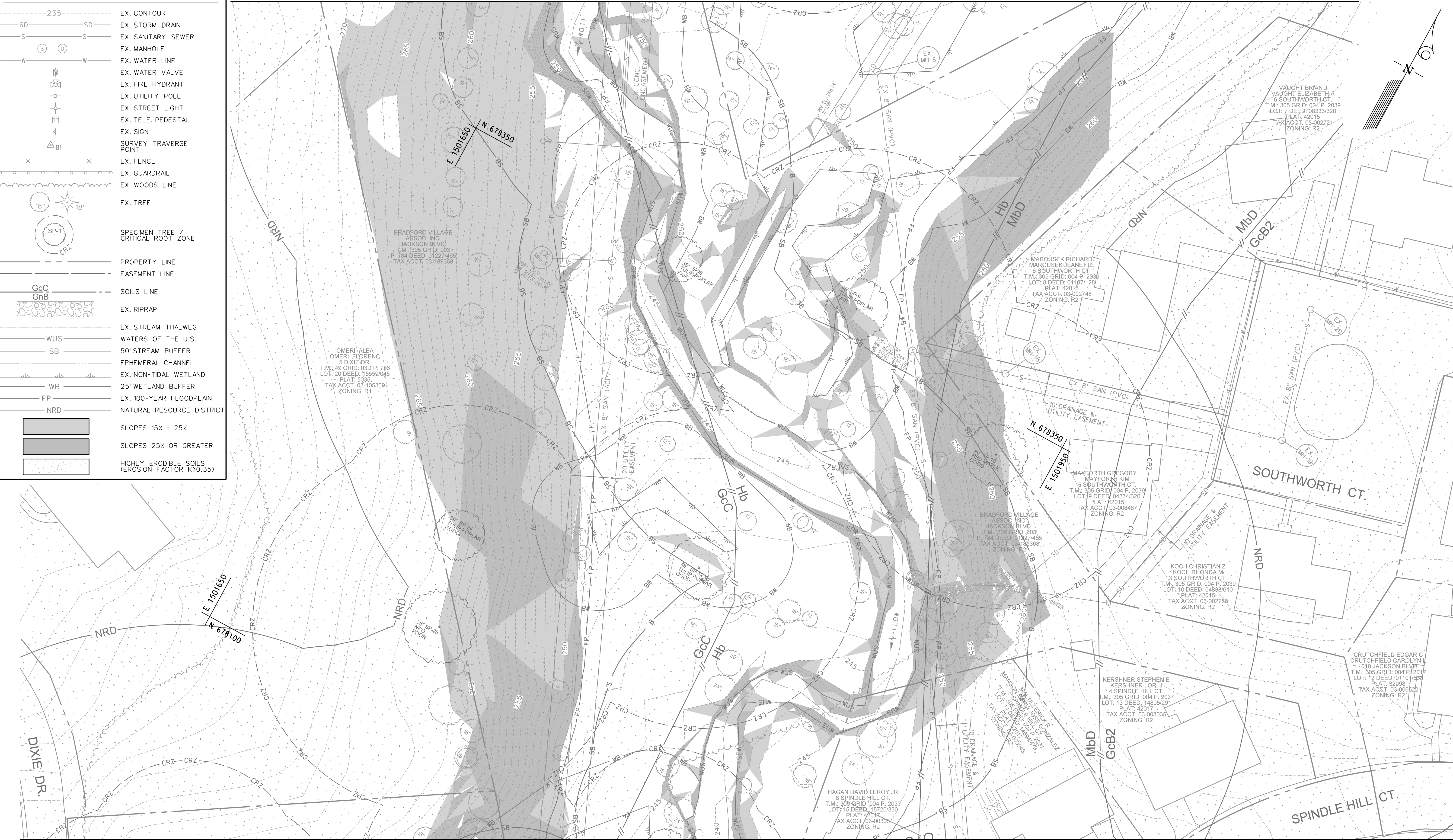
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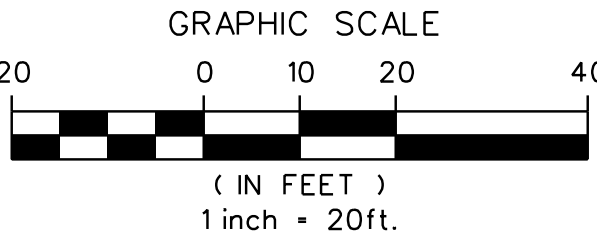
- 235--- EX. CONTOUR  
---SD---SD--- EX. STORM DRAIN  
---S---S--- EX. SANITARY SEWER  
---(S)--- EX. MANHOLE  
---W---W--- EX. WATER LINE  
---W---W--- EX. WATER VALVE  
---(H)--- EX. FIRE HYDRANT  
---(P)--- EX. UTILITY POLE  
---(L)--- EX. STREET LIGHT  
---(T)--- EX. TELE. PEDESTAL  
---(S)--- EX. SIGN  
---(P)--- SURVEY TRAVERSE POINT  
---X--- EX. FENCE  
---X--- EX. GUARDRAIL  
---X--- EX. WOODS LINE  
---(T)--- EX. TREE  
---(SP-1)--- SPECIMEN TREE / CRITICAL ROOT ZONE  
---GcC--- EASEMENT LINE  
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---WB--- 25' WETLAND BUFFER  
---FP--- EX. 100-YEAR FLOODPLAIN  
---NRD--- NATURAL RESOURCE DISTRICT  
---(S)--- SLOPES 15% - 25%  
---(S)--- SLOPES 25% OR GREATER  
---(S)--- HIGHLY ERODIBLE SOILS (EROSION FACTOR K>0.35)

MATCH LINE - SEE SHEET ER-05



MATCH LINE - SEE SHEET ER-07

MATCH LINE - SEE SHEET ER-08



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EXISTING CONDITIONS  
ENVIRONMENTAL RESOURCES MAP  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION

HARFORD COUNTY, MARYLAND

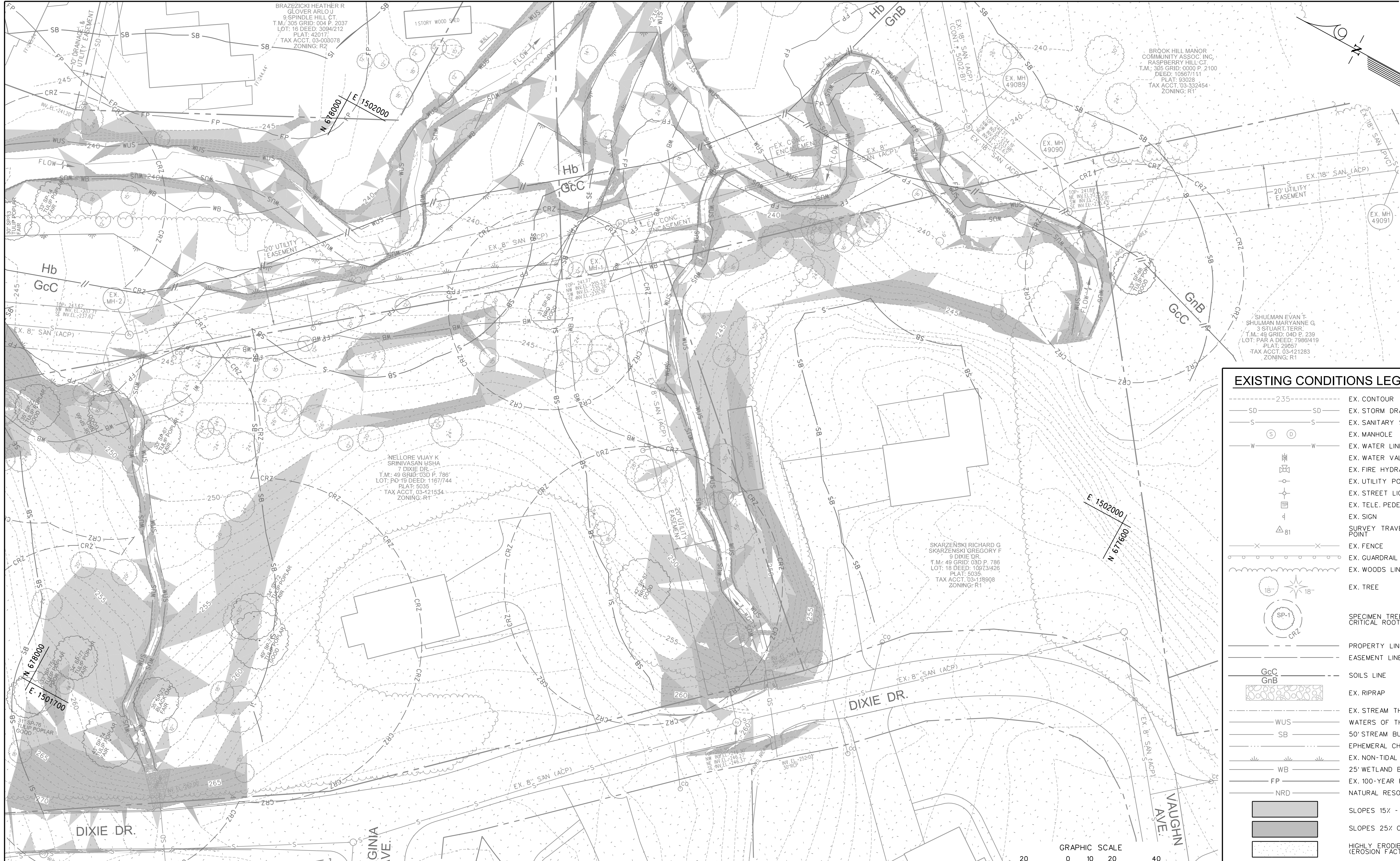
DEPARTMENT OF PUBLIC WORKS

DRAWING NO.

ER-06

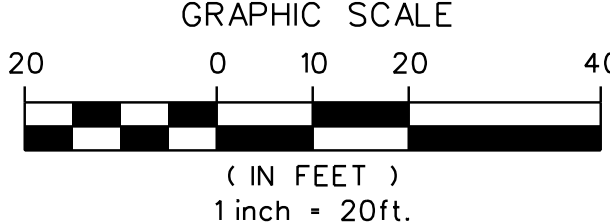
SHEET XX OF XX  
XCT JOB NUMBER  
172107055.04





**EXISTING CONDITIONS LEGEND**

— 235 —	EX. CONTOUR
— SD —	EX. STORM DRAIN
— S —	EX. SANITARY SEWER
(S) (D)	EX. MANHOLE
— W —	EX. WATER LINE
⊕	EX. WATER VALVE
⊕	EX. FIRE HYDRANT
⊕	EX. UTILITY POLE
⊕	EX. STREET LIGHT
⊕	EX. TELE. PEDESTAL
⊕	EX. SIGN
⊕	SURVEY TRAVERSE POINT
— X —	EX. FENCE
— G —	EX. GUARDRAIL
— W —	EX. WOODS LINE
⊕	EX. TREE
⊕	SPECIMEN TREE / CRITICAL ROOT ZONE
— — —	PROPERTY LINE
— — —	EASEMENT LINE
GcC GnB	SOILS LINE
⊕	EX. RIPRAP
— WUS —	EX. STREAM THALWEG
— SB —	WATERS OF THE U.S.
— — —	50' STREAM BUFFER
— — —	EPHEMERAL CHANNEL
— — —	EX. NON-TIDAL WETLAND
— WB —	25' WETLAND BUFFER
— FP —	EX. 100-YEAR FLOODPLAIN
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⊕	SLOPES 15% - 25%
⊕	SLOPES 25% OR GREATER
⊕	HIGHLY ERODIBLE SOILS (EROSION FACTOR K>0.35)



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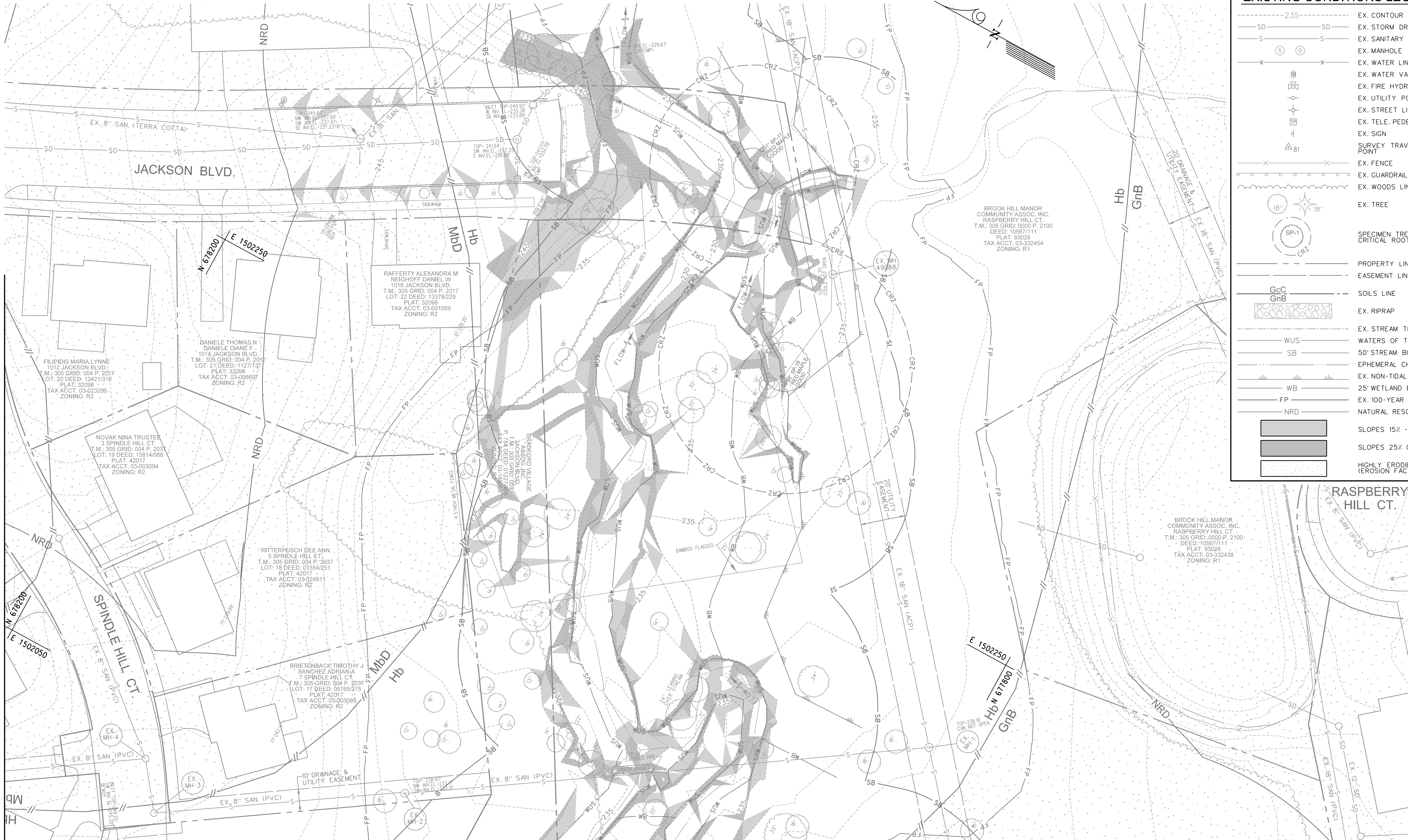
**EXISTING CONDITIONS  
ENVIRONMENTAL RESOURCES MAP**  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION  
HARFORD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS

DRAWING NO.  
**ER-07**  
SHEET XX OF XX  
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MATCH LINE - SEE SHEET ER-06



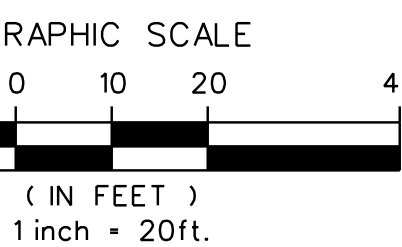
MATCH LINE - SEE SHEET ER-07

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 PLANNERS  
 SCIENTISTS  
 CONSTRUCTION MANAGERS  
 936 RIDGEBROOK ROAD  
 SPARKS, MARYLAND 21152  
 TELEPHONE: (410) 316-7800  
 FAX: (410) 316-7818

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DATE	BY
NOV. 2023	
SCALE	DESIGNED BY
1" = 20'	HS, SL
DRAWN BY	CSD

EXISTING CONDITIONS  
 ENVIRONMENTAL RESOURCES MAP  
 UPPER FARNANDIS BRANCH  
 STREAM RESTORATION

HARFORD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

DRAWING NO.

ER-08

SHEET XX OF XX  
 KCI JOB NUMBER  
 172107055.04

## EXISTING CONDITIONS LEGEND

- 235 --- EX. CONTOUR
- SD --- SD --- EX. STORM DRAIN
- S --- S --- EX. SANITARY SEWER
- (S) (D) EX. MANHOLE
- W --- W --- EX. WATER LINE
- EX. WATER VALVE
- EX. FIRE HYDRANT
- EX. UTILITY POLE
- EX. STREET LIGHT
- EX. TELE. PEDESTAL
- EX. SIGN
- △ 81 SURVEY TRAVERSE POINT
- X --- EX. FENCE
- O --- EX. GUARDRAIL
- W --- EX. WOODS LINE
- EX. TREE
- (SP-1) CRZ SPECIMEN TREE / CRITICAL ROOT ZONE
- --- PROPERTY LINE
- --- EASEMENT LINE
- GcC GnB SOILS LINE
- EX. RIPRAP
- EX. STREAM THALWEG
- WUS WATERS OF THE U.S.
- SB 50' STREAM BUFFER
- EPHEMERAL CHANNEL
- WB EX. NON-TIDAL WETLAND
- 25' WETLAND BUFFER
- FP EX. 100-YEAR FLOODPLAIN
- NRD NATURAL RESOURCE DISTRICT
- SLOPES 15% - 25%
- SLOPES 25% OR GREATER
- HIGHLY ERODIBLE SOILS (EROSION FACTOR K>0.35)







MATCH LINE - SEE SHEET GR-03

MATCH LINE - SEE SHEET GR-04

MATCH LINE - SEE SHEET GR-05

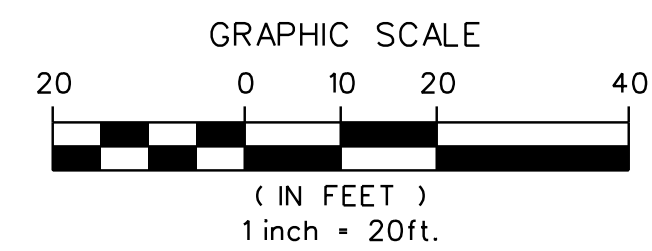


**LEGEND**

LOD	LIMIT OF DISTURBANCE
---	LIMITS OF GRADING
△	ACCESS PATH
---	TEMPORARY STOCKPILE AREA
16+50	PROPOSED CHANNEL WITH TOP OF BANK
TOB	MICROTOPOGRAPHY AREA
△	CLAY PLUG
⊗	EX TREE TO BE REMOVED
FP	EXISTING 100-YR. FEMA FLOODPLAIN

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

MATCH LINE - SEE SHEET GR-01



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SCALE	1" = 20'
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DRAWN BY	CSD

**GRADING PLAN  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION**

HARFORD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS

DRAWING NO.  
**GR-02**

SHEET XX OF XX  
KCI JOB NUMBER  
172107055.04

PLOTTED: 10:156 PM on Friday, November 10, 2023  
FILE: MA-2021-172107055.04\Drawings\GR-02-172107055.04.dgn







MATCH LINE - SEE SHEET GR-03

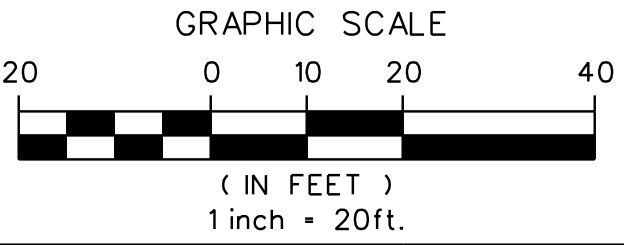
**LEGEND**

- LOD LIMIT OF DISTURBANCE
- LIMITS OF GRADING
- ACCESS PATH
- TEMPORARY STOCKPILE AREA
- 16+50 TOB PROPOSED CHANNEL WITH TOP OF BANK
- TOB
- MICROTOPOGRAPHY AREA
- CLAY PLUG
- EX TREE TO BE REMOVED
- EXISTING 100-YR. FEMA FLOODPLAIN

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND



MATCH LINE - SEE SHEET GR-05



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**GRADING PLAN**  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION

HARFORD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

DRAWING NO.	GR-04
SHEET XX OF XX	
KCI JOB NUMBER	172107055.04



MATCH LINE - SEE SHEET GR-04

MATCH LINE - SEE SHEET GR-02

BOWEN CHERYL P  
305 WAKELY TERR.  
T.M.: 49 GRID: 03C P. 100  
LOT: 1 DEED: 2884/144  
PLAT: 05073  
TAX ACCT: 03-252221  
ZONING: R2

G-T1  
PEQUOT  
MAINSTEM

BRADFORD VILLAGE  
ASSOC. INC.  
PEQUOT DR.  
T.M.: 305 GRID: 003 P. 2038  
DEED: 1284/083  
TAX ACCT: 03-002853  
ZONING: R2

BRADFORD VILLAGE  
ASSOC. INC.  
JACKSON BLVD.  
T.M.: 305 GRID: 003  
P. 784 DEED: 01227/465  
TAX ACCT: 03-189368  
ZONING: R2

BULLIS ROBERT V  
BULLIS JEAN P  
3 DIME DR.  
T.M.: 49 GRID: 03C P. 786  
LOT: 21 DEED: 9417/444  
PLAT: 5035  
TAX ACCT: 03-082970  
ZONING: R1

TABOR LAURIE J  
TABOR ROBERT S  
5 PEQUOT DR.  
T.M.: 305 GRID: 003 P. 2038  
LOT: 25 DEED: 06199/186  
TAX ACCT: 03-003019  
ZONING: R2

BRADFORD VILLAGE  
ASSOC. INC.  
JACKSON BLVD.  
T.M.: 305 GRID: 003  
P. 784 DEED: 01227/465  
TAX ACCT: 03-189368

L00

LIMIT OF DISTURBANCE

LIMITS OF GRADING

ACCESS PATH

TEMPORARY STOCKPILE AREA

16+50

TOB

PROPOSED CHANNEL  
WITH TOP OF BANK

MICROTOPOGRAPHY  
AREA

CLAY PLUG

EX TREE TO BE REMOVED

EXISTING 100-YR.  
FEMA FLOODPLAIN

FP

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

MATCH LINE - SEE SHEET GR-06

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BY	DATE
	NOV. 2023
	SCALE
	1" = 20'
	DESIGNED BY
	HS, SL
	DRAWN BY
	CSD

GRADING PLAN

UPPER FARNANDIS BRANCH  
STREAM RESTORATION

HARFORD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

DRAWING NO.

GR-05

SHEET XX OF XX

KCI JOB NUMBER

172107055.04

GRAPHIC SCALE

20 0 10 20 40

( IN FEET )

1 inch = 20ft.

PLOTTED: 03:08 PM on Friday, November 10, 2023  
FILE: M:\2021\172107055.04\UPPERFARNANDIS\GR05\_GradingPlan.dgn



LEGEND

LOD

LIMIT OF DISTURBANCE

LIMITS OF GRADING

ACCESS PATH

TEMPORARY STOCKPILE AREA

PROPOSED CHANNEL WITH TOP OF BANK

MICROTOPOGRAPHY AREA

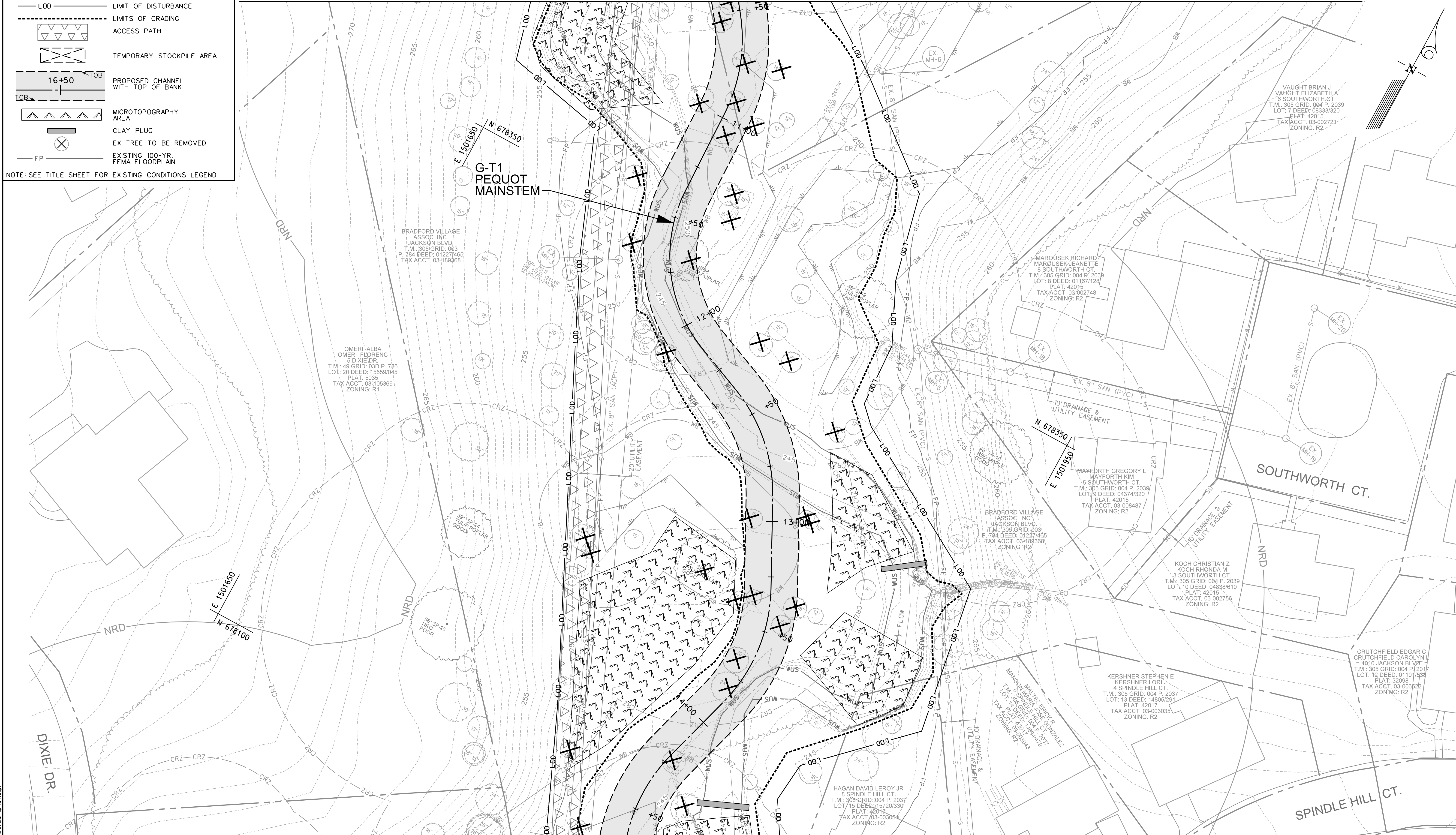
CLAY PLUG

EX TREE TO BE REMOVED

EXISTING 100-YR. FEMA FLOODPLAIN

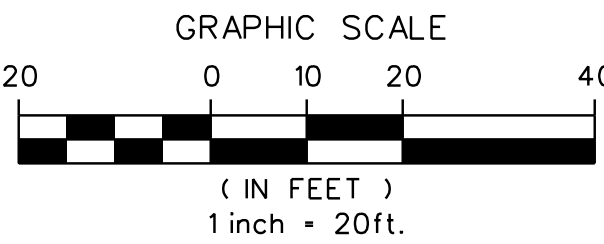
NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

MATCH LINE - SEE SHEET GR-05



MATCH LINE - SEE SHEET GR-07

MATCH LINE - SEE SHEET GR-08



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GRADING PLAN  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION

HARFORD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS

DRAWING NO.  
GR-06

SHEET XX OF XX  
KCI JOB NUMBER  
172107055.04

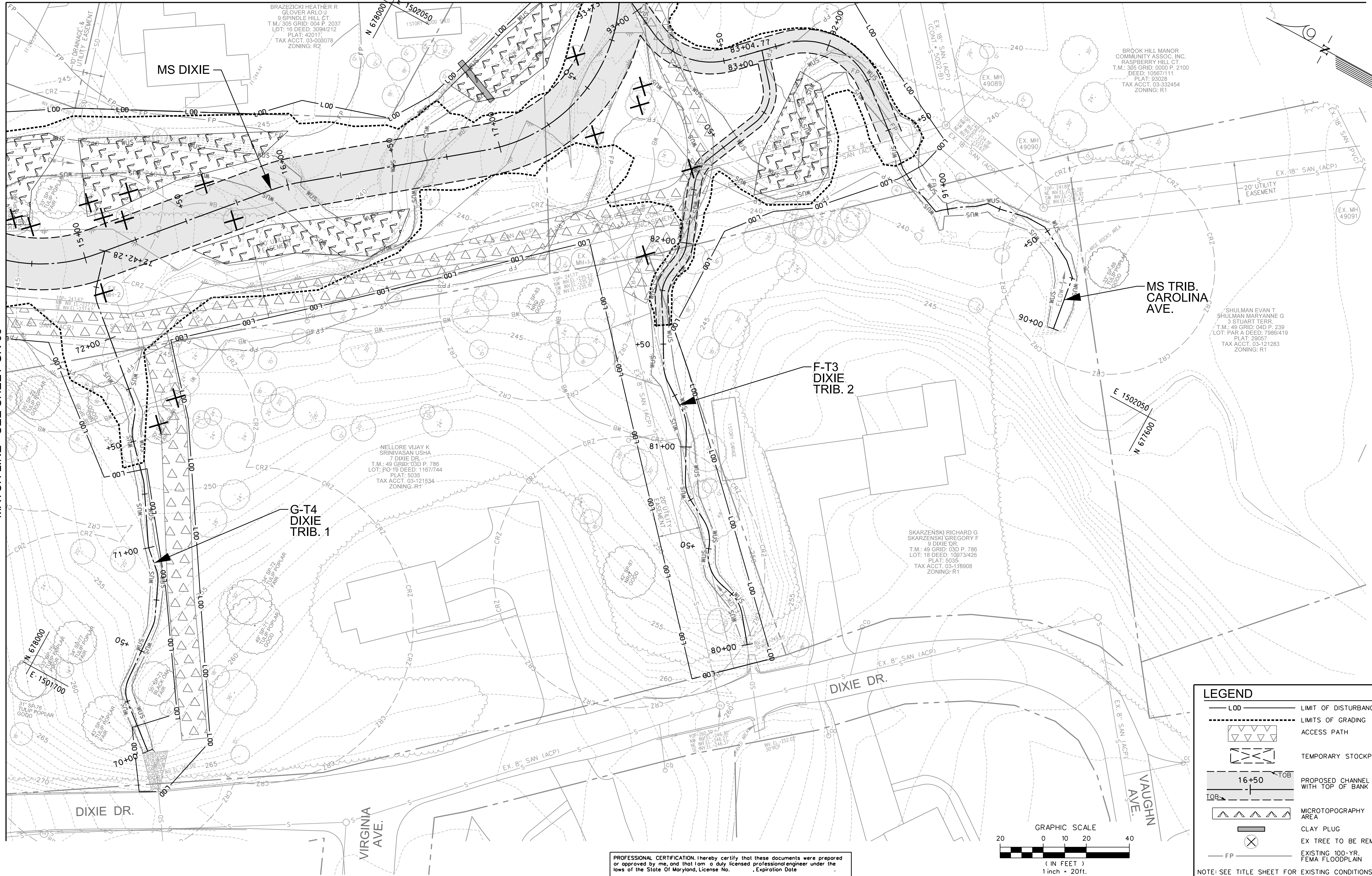
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PLOTTED: 03:14 PM on Friday, November 10, 2023  
 FILE: M:\2021\172107055.04\Drawings\6GR\_P007\_GradingPlan.dgn

MATCH LINE - SEE SHEET GR-06

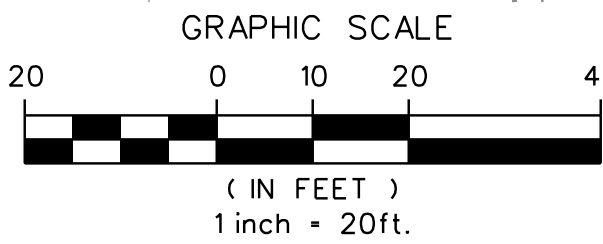
MATCH LINE - SEE SHEET GR-08



**LEGEND**

---	LOD	---	LIMIT OF DISTURBANCE
---	LIMITS OF GRADING	---	LIMITS OF GRADING
---	ACCESS PATH	---	ACCESS PATH
---	TEMPORARY STOCKPILE AREA	---	TEMPORARY STOCKPILE AREA
---	PROPOSED CHANNEL WITH TOP OF BANK	---	PROPOSED CHANNEL WITH TOP OF BANK
---	MICROTOPOGRAPHY AREA	---	MICROTOPOGRAPHY AREA
---	CLAY PLUG	---	CLAY PLUG
---	EX TREE TO BE REMOVED	---	EX TREE TO BE REMOVED
---	EXISTING 100-YR. FEMA FLOODPLAIN	---	EXISTING 100-YR. FEMA FLOODPLAIN

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND



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<b>GRADING PLAN</b>		<b>GR-07</b>
UPPER FARNANDIS BRANCH STREAM RESTORATION		
HARFORD COUNTY, MARYLAND		DEPARTMENT OF PUBLIC WORKS
SHEET XX OF XX		KCI JOB NUMBER
172107055.04		



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 FILE: M:\2021\172107055\04\Drawings\GR-08\_P008\_GradingPlan.dgn

MATCH LINE - SEE SHEET GR-06



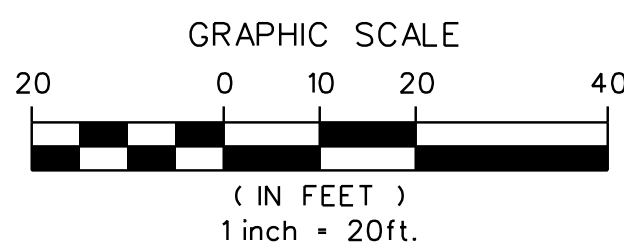
MATCH LINE - SEE SHEET GR-07

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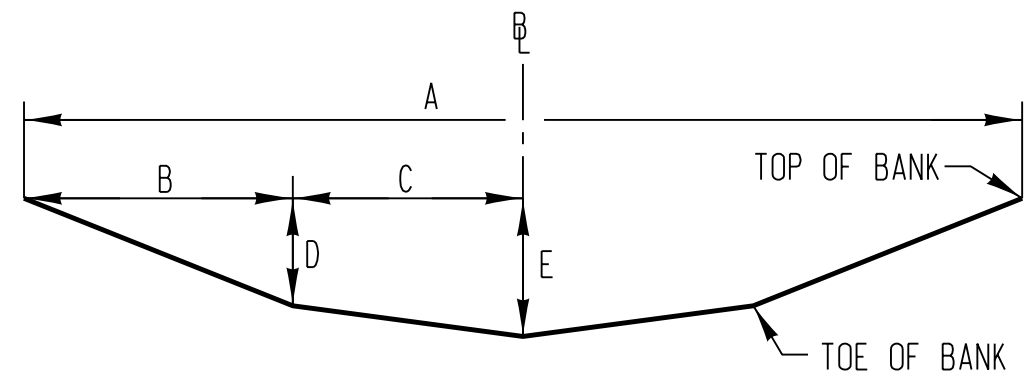
HARFORD COUNTY, MARYLAND

GRADING PLAN  
 UPPER FARNANDIS BRANCH  
 STREAM RESTORATION

DEPARTMENT OF PUBLIC WORKS

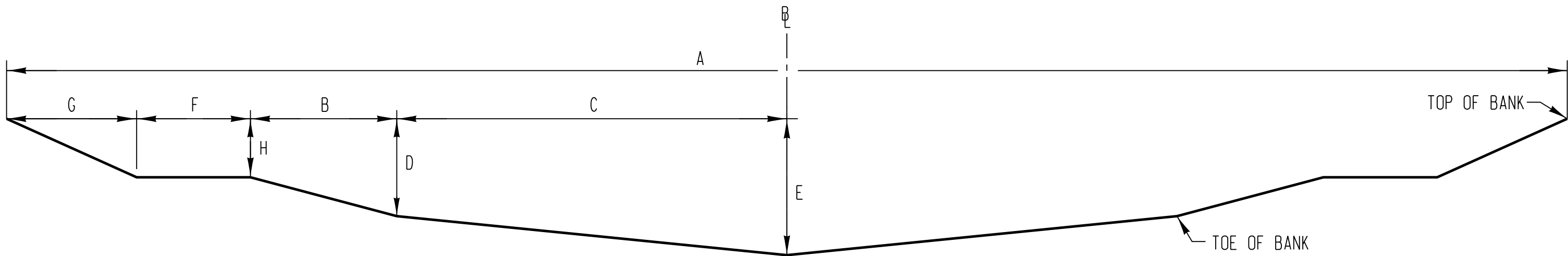
DRAWING NO.	GR-08
SHEET XX OF XX	
KCI JOB NUMBER	172107055.04





TYPICAL SECTION RIFFLE 'A'

NOT TO SCALE



TYPICAL SECTION RIFFLE 'B'

NOT TO SCALE

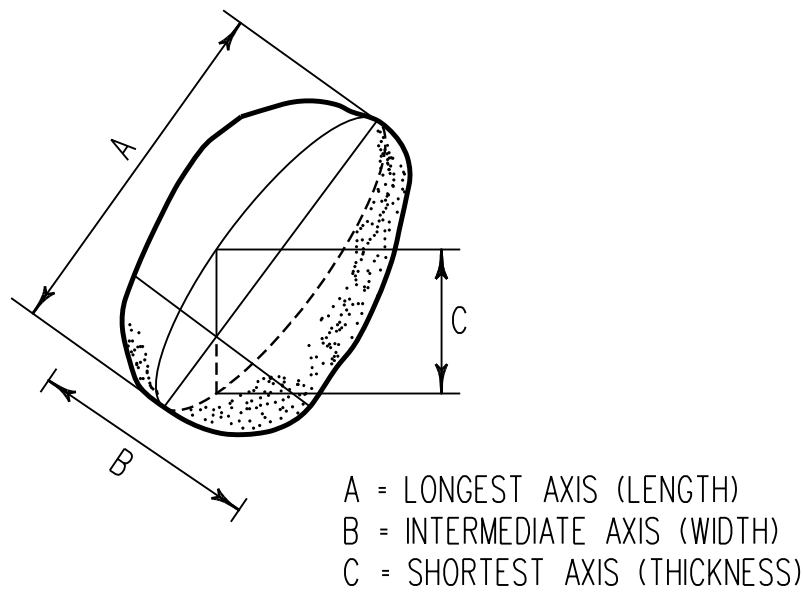
NOTE:  
POOL SECTIONS TO BE PROVIDED IN  
SUBSEQUENT DESIGN PHASES

TYPICAL RIFFLE										
REACH	RIFFLE TYPE	STATION *	A	B	C	D	E	F	G	H
MILROY TRIB. NORTH	A	31+42.66 - 32+63.82	10.0'	3.0'	2.0'	0.9'	1.0'			
MILROY TRIB.	A	32+63.82 - 35+90.83; 36+60.21 - 37+24.88	11.0'	3.5'	2.0'	1.2'	1.4'			
MILROY TRIB. WEST	A	41+50 - 42+55.02	7.0'	2.0'	1.5'	0.65'	0.8'			
CHARLYN TRIB.	A	60+00 - 61.62.48	5.5'	1.25'	1.5'	0.55'	0.7'			
GROSVENOR TRIB. NORTH	A	50+85.33 - 52+96.62	6.5'	1.75'	1.5'	0.7'	0.9'			
GROSVENOR TRIB.	A	52+96.62 - 54+94.81	7.0'	2.0'	1.5'	0.9'	1.1'			
GROSVENOR TRIB.	A	54+94.81 - 56+06.85	6.5'	1.75'	1.5'	0.75'	1.0'			
WAKELY TRIB.	A	2+10.66 - 3+88.69	16.5'	4.75'	3.5'	1.55'	1.8'			
PEQUOT	A	3+88.69 - 8+31.46	16.5'	4.75'	3.5'	1.5'	1.9'			
PEQUOT	A	8+31.46 - 13+30.37	24.0'	3.5'	8.5'	1.2'	2.0'			
PEQUOT	A	13+30.37 - 16+05.63	24.0'	4.0'	8.0'	1.2'	2.0'			
MS DIXIE	B	16+05.63 - 19+26.29	24.0'	2.25'	6.0'	0.6'	2.1'	1.75'	2.0'	0.9'
CAROLINA TRIB.	A	91+47.22 - 93+13.34	11.0'	3.0'	2.5'	1.35'	1.6'			
DIXIE TRIB. 1	A	SPOT LOCATIONS	4.5'	0.75'	1.5'	0.25'	0.4'			
DIXIE TRIB. 2	A	81+58.83 - 83+04.77	6.0'	1.0'	2.0'	0.35'	0.5'			

\* STATION RANGES ARE REPRESENTATIVE FOR DETERMINATION OF RIFFLE DIMENSIONS ALONG BASELINE,  
NOT THE ACTUAL LOCATION FOR RIFFLE INSTALLATION.

GENERAL NOTES

- SUITABLE STONES (BOULDERS, COBBLE, GRAVEL) FROM THE CLASS 5 EXCAVATION MEETING THE SPECIFIED GRADATION SHALL BE SALVAGED WHEN POSSIBLE. ONLY FURNISH MATERIAL WHEN SALVAGED IS NOT AVAILABLE.
- STONES SHALL BE GRAY OR BROWN IN COLOR (SHALL NOT BE WHITE).
- NUMBER OF STONES SHOWN IN DETAILS AND GRADING SHEETS IS FOR GRAPHICAL PURPOSES ONLY. ACTUAL NUMBER OF STONES SHALL DEPEND ON STONE SIZE AND STREAM DIMENSIONS.
- ALL STONES SHALL BE CAREFULLY PLACED AND TIGHT FITTING MINIMIZING VOIDS/GAPS.
- VOIDS SHALL BE CHINKED USING THE LARGEST PARTICLE SIZE THAT CAN BE USED TO FILL THE VOID, THEN WITH SUITABLE BACKFILL.
- STRUCTURES SHALL BE CONSTRUCTED IN LIFTS WITH VOIDS FILLED THROUGHOUT CONSTRUCTION AND PRIOR TO PLACEMENT OF TOP LAYERS IF APPLICABLE.
- WHERE EXISTING CONDITIONS REQUIRE FILL BEYOND THE MATERIAL SHOWN AND SPECIFIED ON THE STREAM DETAILS, SUITABLE BACKFILL SHALL BE USED TO FILL THE CHANNEL TO ESTABLISH SUBGRADE ELEVATIONS AND DIMENSIONS TO PREPARE FOR SPECIFIED MATERIAL PLACEMENT.
- SUITABLE BACKFILL MATERIAL SHALL BE SALVAGED THROUGH CLASS 5 EXCAVATION. IF SALVAGED SUITABLE BACKFILL MATERIAL IS NOT AVAILABLE, USE FURNISHED BANK RUN GRAVEL AS APPROVED BY THE COUNTY AND/OR ENGINEER.
- LOGS SHALL NOT BE FURNISHED, IF MATERIAL TO CONSTRUCT LOG STRUCTURES IS NOT AVAILABLE, FURNISHED CLASS 11 BOULDERS MAY BE SUBSTITUTED AS APPROVED BY AND DIRECTED BY THE COUNTY AND ENGINEER.
- REFERENCES TO RIGHT AND LEFT ARE ORIENTED LOOKING DOWNSTREAM.
- ALL PROPOSED GEOTEXTILE SHALL BE NONWOVEN CLASS SE.
- TOPSOIL SHALL BE SALVAGED THROUGH CLASS 5 EXCAVATION AS APPROVED BY THE COUNTY AND OR ENGINEER. IF SALVAGED TOPSOIL IS NOT APPROVED, UTILIZE FURNISHED TOPSOIL.
- GEOTEXTILE (INCIDENTAL TO BANK TREATMENTS) MAY BE REPLACED WITH REINFORCED NATURAL FIBER MATTING AT THE DIRECTION OF THE COUNTY OR ENGINEER.



BOULDER (STONE)  
AXIS DEFINITION

NOT TO SCALE

ABBREVIATIONS:  
US UPSTREAM  
DS DOWNSTREAM  
PT POINT OF TANGENCY, UPSTREAM END OF A RIFFLE, DOWNSTREAM END OF A POOL  
PT POINT OF CURAVTURE, DOWNSTREAM END OF THE RIFFLE, UPSTREAM END OF A POOL  
PC LEFT BANK ORIENTED LOOKING DOWNSTREAM  
LB LEFT BANK ORIENTED LOOKING DOWNSTREAM  
RB RIGHT BANK ORIENTED LOOKING DOWNSTREAM  
NFM NATURAL FIBER MATTING  
RNFM REINFORCED NATURAL FIBER MATTING  
GCE GRADE CONTROL ELEMENT

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DESIGNED BY	HS, SL
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STREAM DETAILS  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION

HARFORD COUNTY, MARYLAND

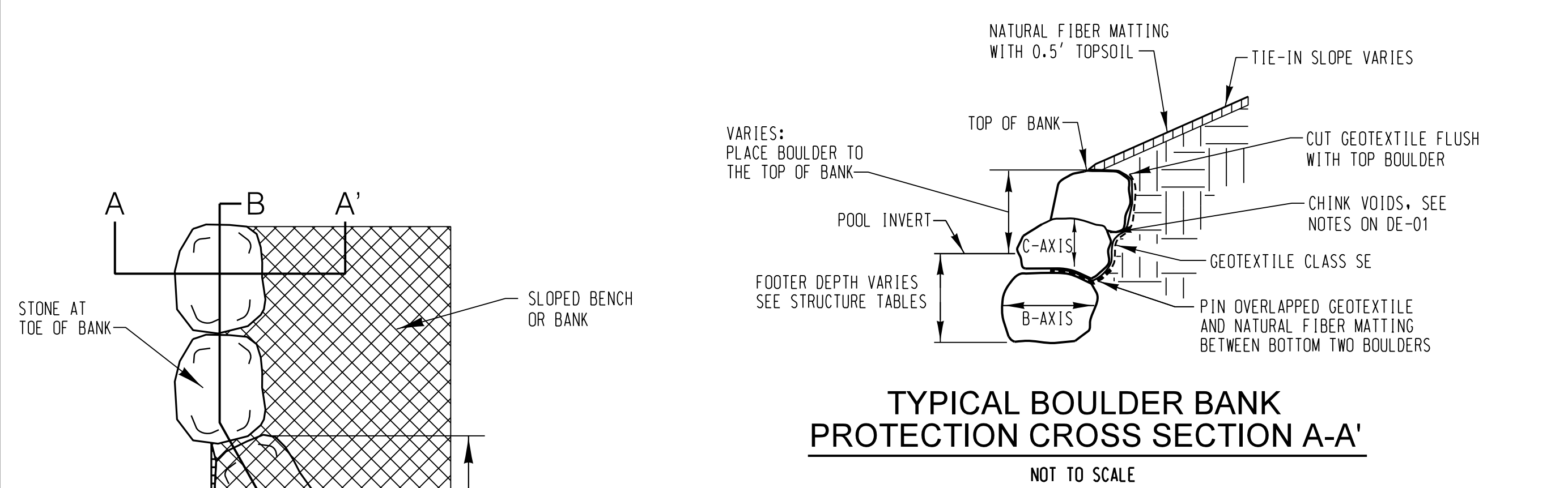
DEPARTMENT OF PUBLIC WORKS

DRAWING NO.

DE-01

SHEET X OF XX  
KCI JOB NUMBER  
172107055.04

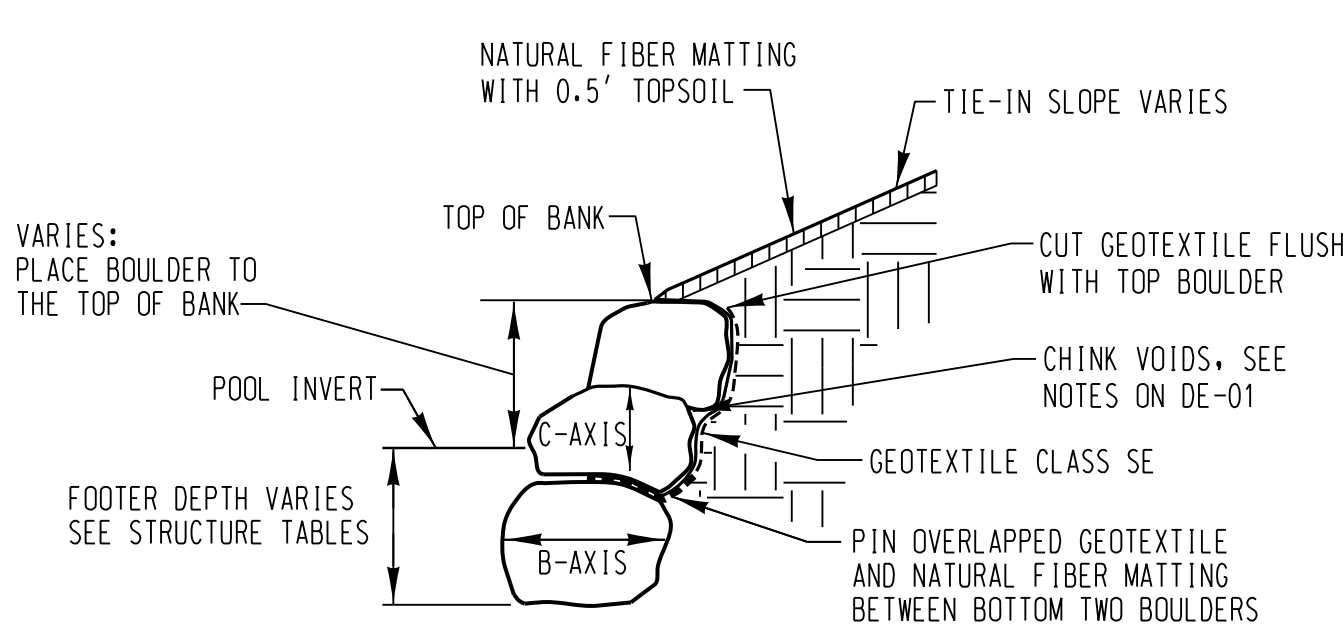




**BOULDER BANK AND TOE BOULDER PROTECTION KEY IN**

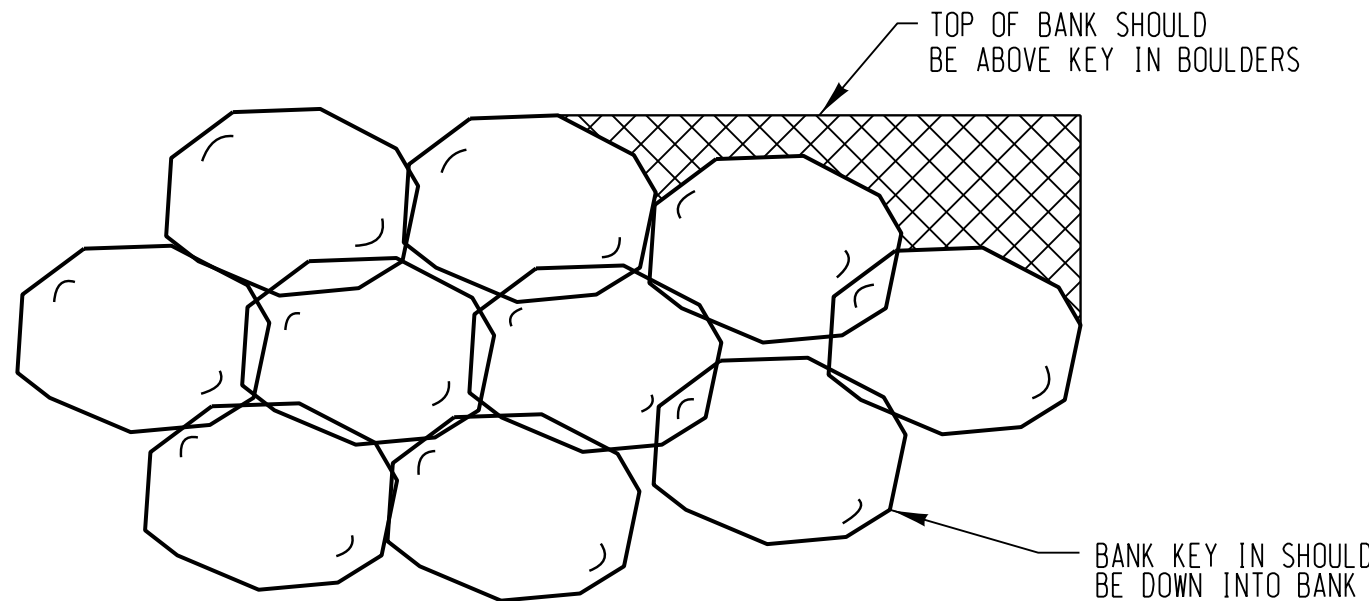
NOT TO SCALE

NOTE: KEY IN SHALL BE APPLIED AT UP AND DOWNSTREAM EXTENTS WHEN NO OTHER BANK TREATMENT IS PRESCRIBED. BOULDER BANK AND TOE BOULDER PROTECTION KEY IN ELEVATION SHALL BE TAPERED DOWN WITH GRADE WHEN NO OTHER BANK TREATMENT IS PRESCRIBED.



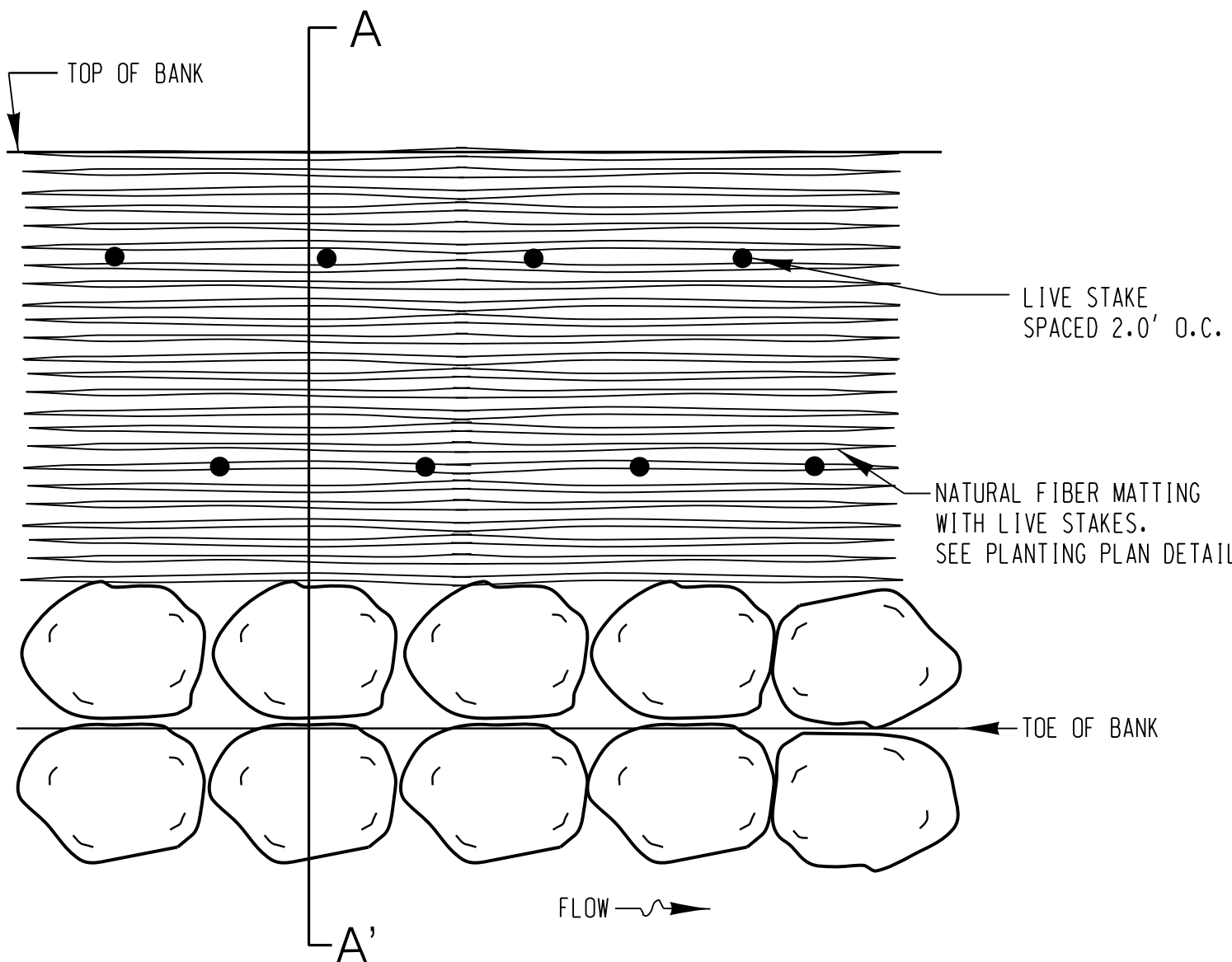
**TYPICAL BOULDER BANK PROTECTION CROSS SECTION A-A'**

NOT TO SCALE



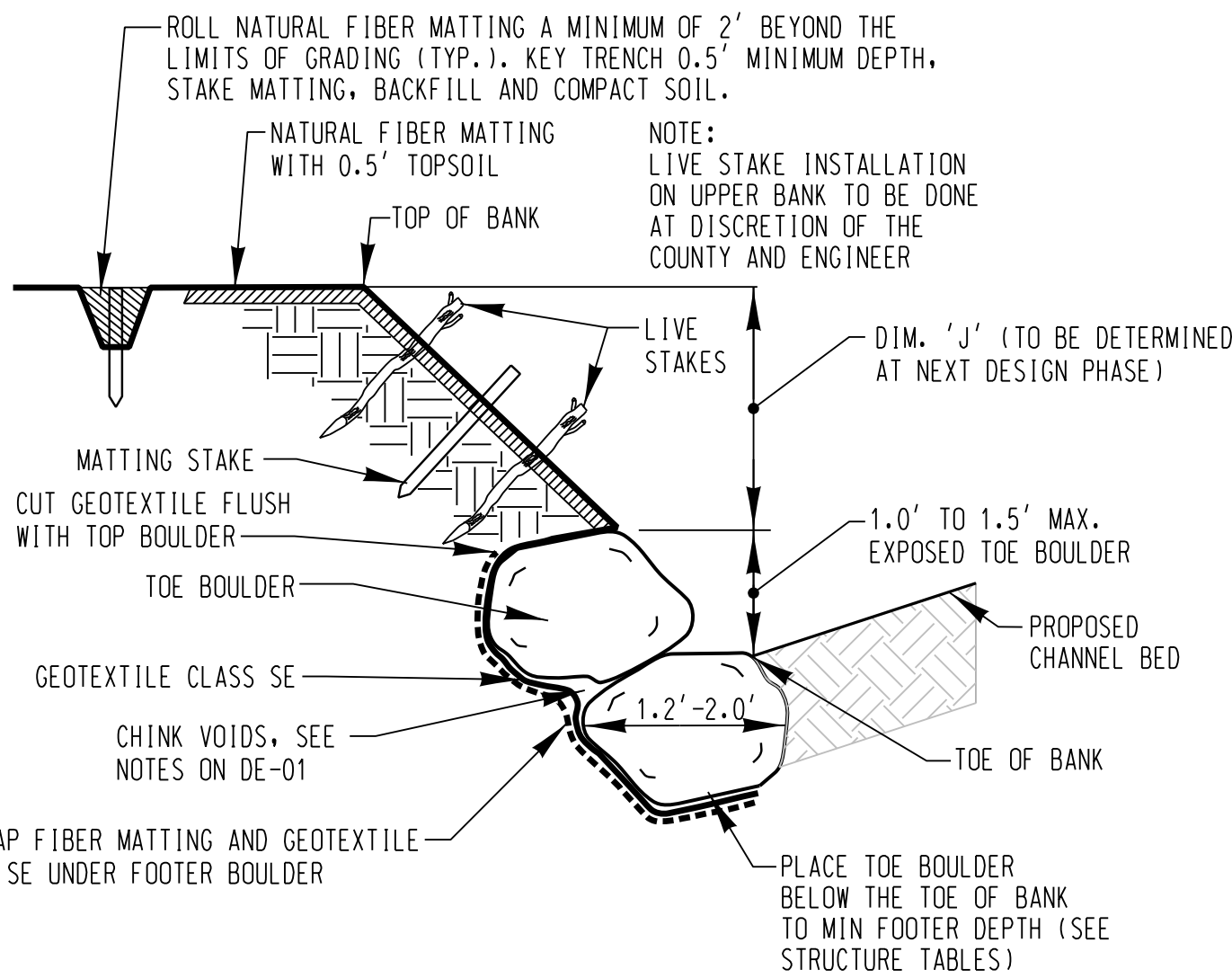
**TYPICAL BOULDER BANK PROTECTION PROFILE B-B'**

NOT TO SCALE



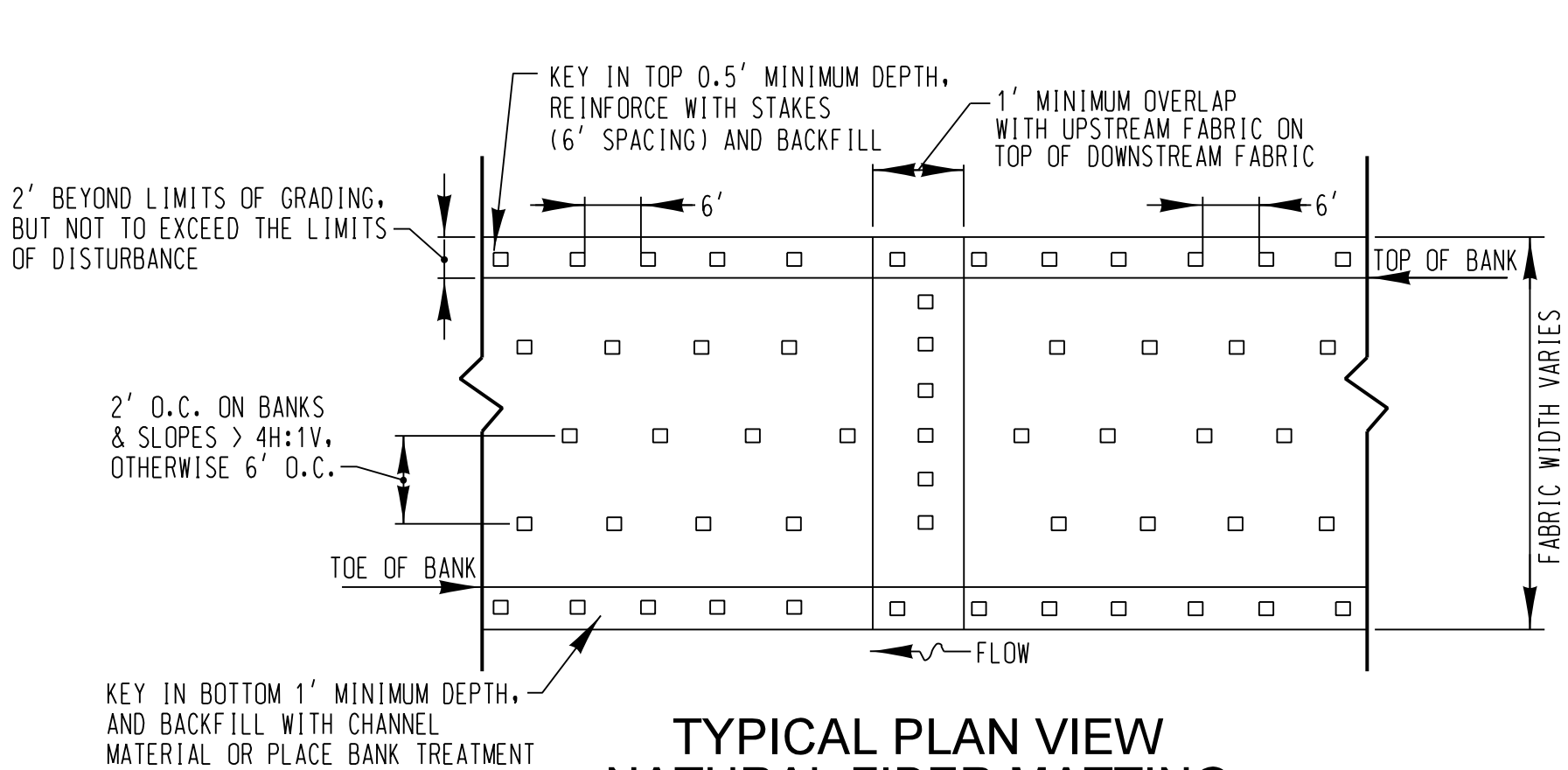
**TOE BOULDER PLAN VIEW**

NOT TO SCALE



**TOE BOULDER SECTION A-A'**

NOT TO SCALE



**TYPICAL PLAN VIEW NATURAL FIBER MATTING AND REINFORCED NATURAL FIBER MATTING**

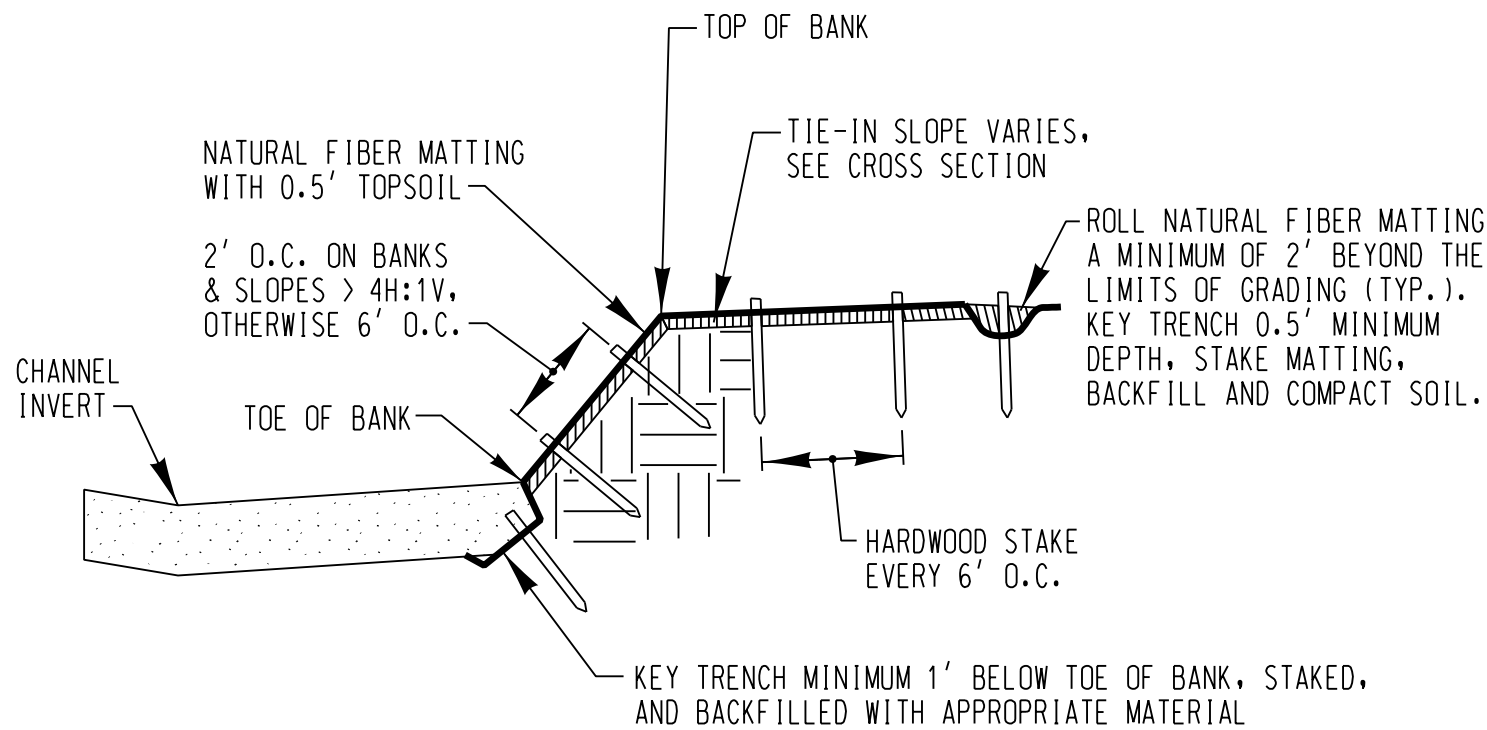
NOT TO SCALE

NOTES:

1. NATURAL FIBER MATTING TO BE ROLLED LENGTHWISE ALONG STREAMBANK EXTENDING TO THE BOTTOM OF TOE PROTECTION AND A MINIMUM OF TWO FOOT PAST THE LIMITS OF GRADING. IF MORE THAN ONE ROLL IS REQUIRED, MID-BANK OVERLAP SHOULD BE A MINIMUM OF ONE FOOT AND SECURELY FASTENED WITH STAKES.
2. NATURAL FIBER MATTING IS TO BE INSTALLED ON ALL GRADED BANK SLOPES STEEPER THAN 3H:1V THAT ARE NOT PROTECTED BY OTHER SPECIFIED BANK PROTECTIONS.
3. NATURAL FIBER MATTING. MATTING FOR THE BANK TREATMENT AREAS SHALL CONSIST OF A MACHINE PRODUCED MAT OF DEGRADABLE NATURAL FIBERS.

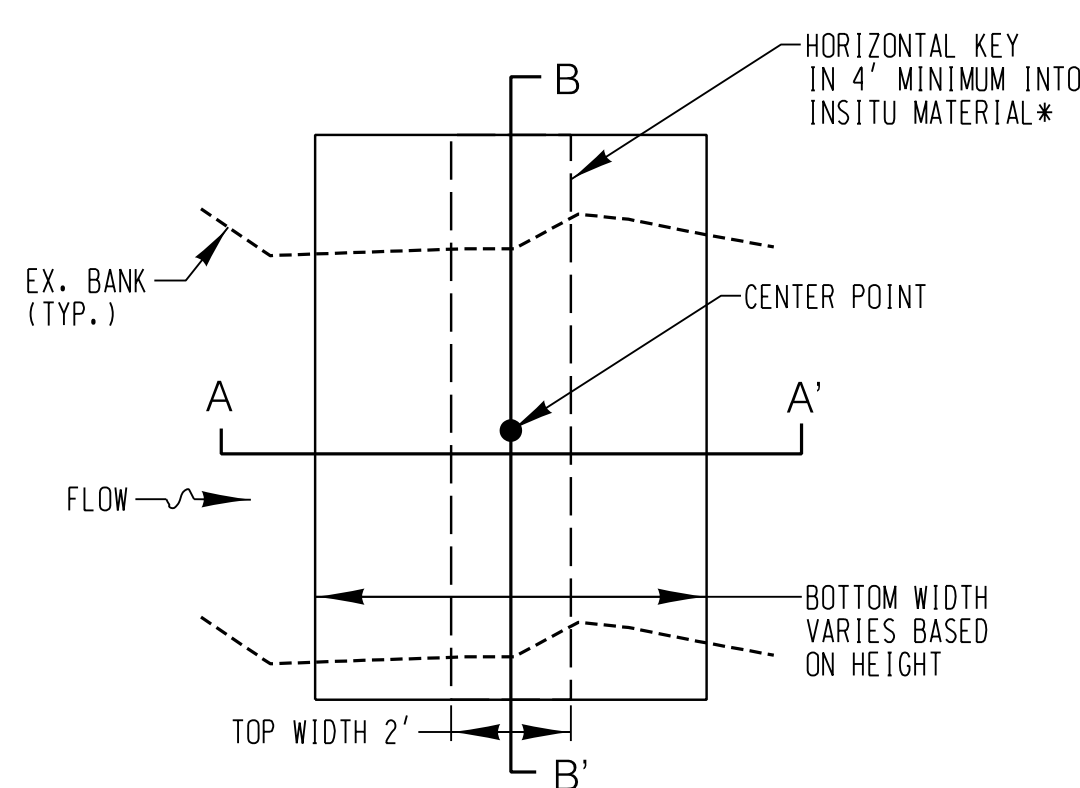
ALL MATTING SHALL BE PULLED TIGHT AND SHALL NOT BE LOOSE OR SAGGING.

4. REINFORCED NATURAL FIBER MATTING. MATTING SHALL CONSIST OF A DOUBLE-LAYERED BIODEGRADABLE FABRIC: A BOTTOM LAYER OF JUTE FABRIC AND A TOP LAYER OF HIGH STRENGTH COIR MATTING, CONNECTED TOGETHER.
  5. MATTING STAKES. STAKES FOR SECURING THE MATTING ALONG OTHER PORTIONS OF THE MATTING MATERIAL ABOVE THE TOE TRENCH AND FOR THE KEY IN TRENCH AT THE TOP OF THE SLOPE SHALL CONSIST OF 1-1/2" X 1-1/2" HARDWOOD STAKES, 18-INCHES IN LENGTH, TAPERED AT THE BOTTOM END FOR EASY INSERTION INTO THE SOIL AND FLAT AT THE TOP END FOR HAMMERING.
- SHEAR STRESS: 4.5 PSF  
FLOW VELOCITY: 12 FT./SEC.  
LIFE EXPECTANCY: 3 YEARS IN REINFORCED NATURAL FIBER MATTING

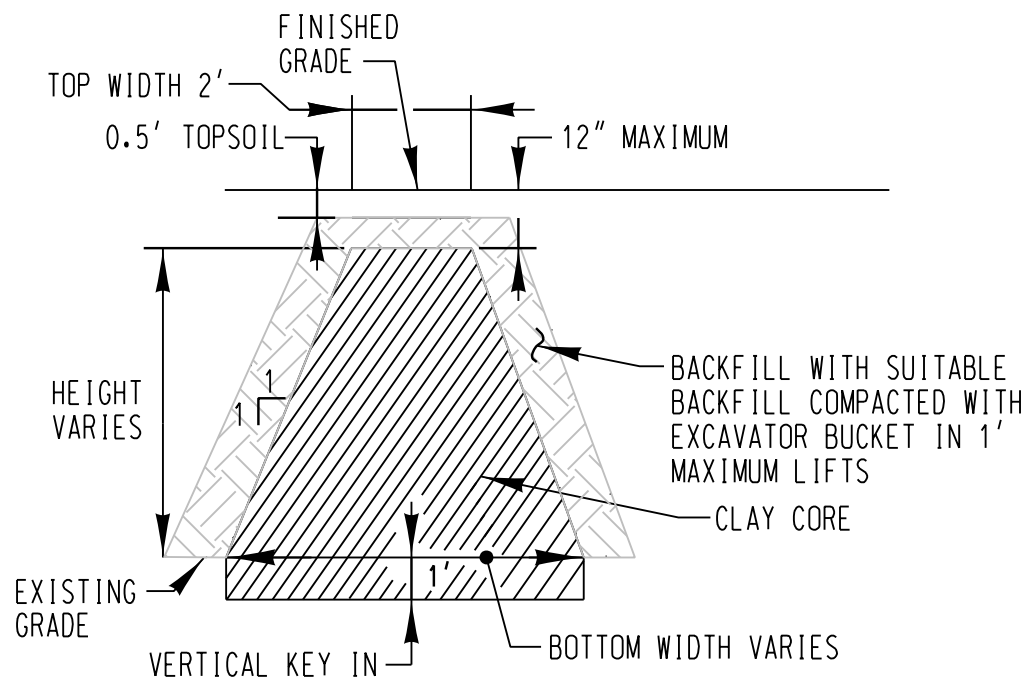


**NATURAL FIBER MATTING CROSS SECTION**

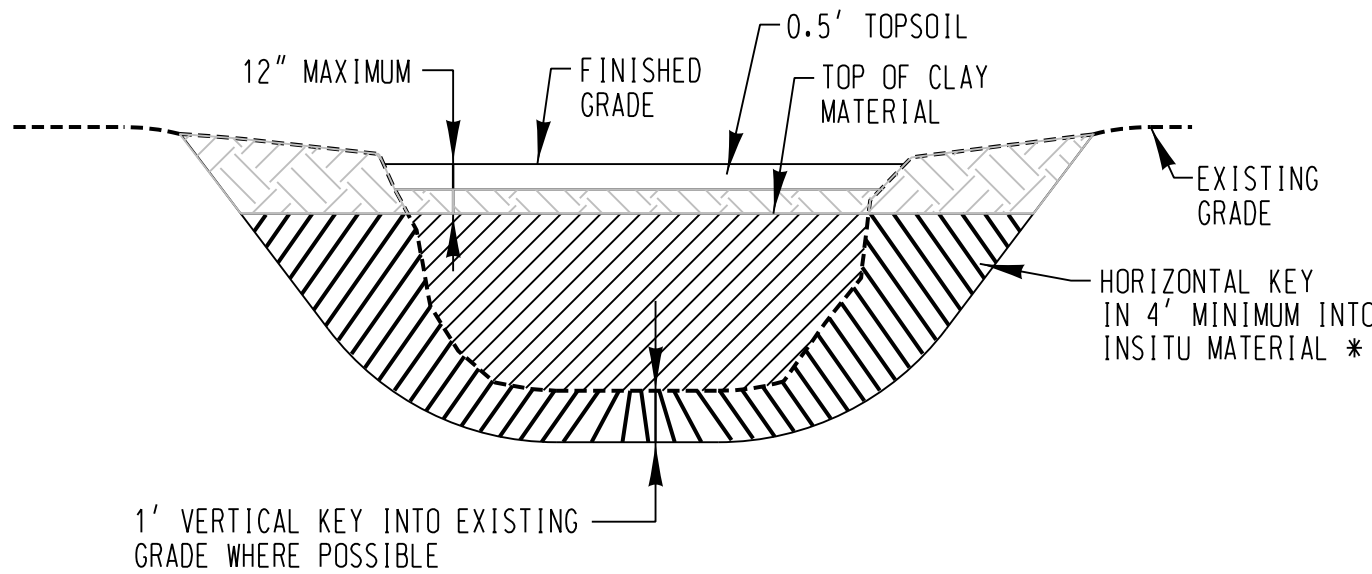
NOT TO SCALE



**PLAN VIEW**



**PROFILE A-A'**



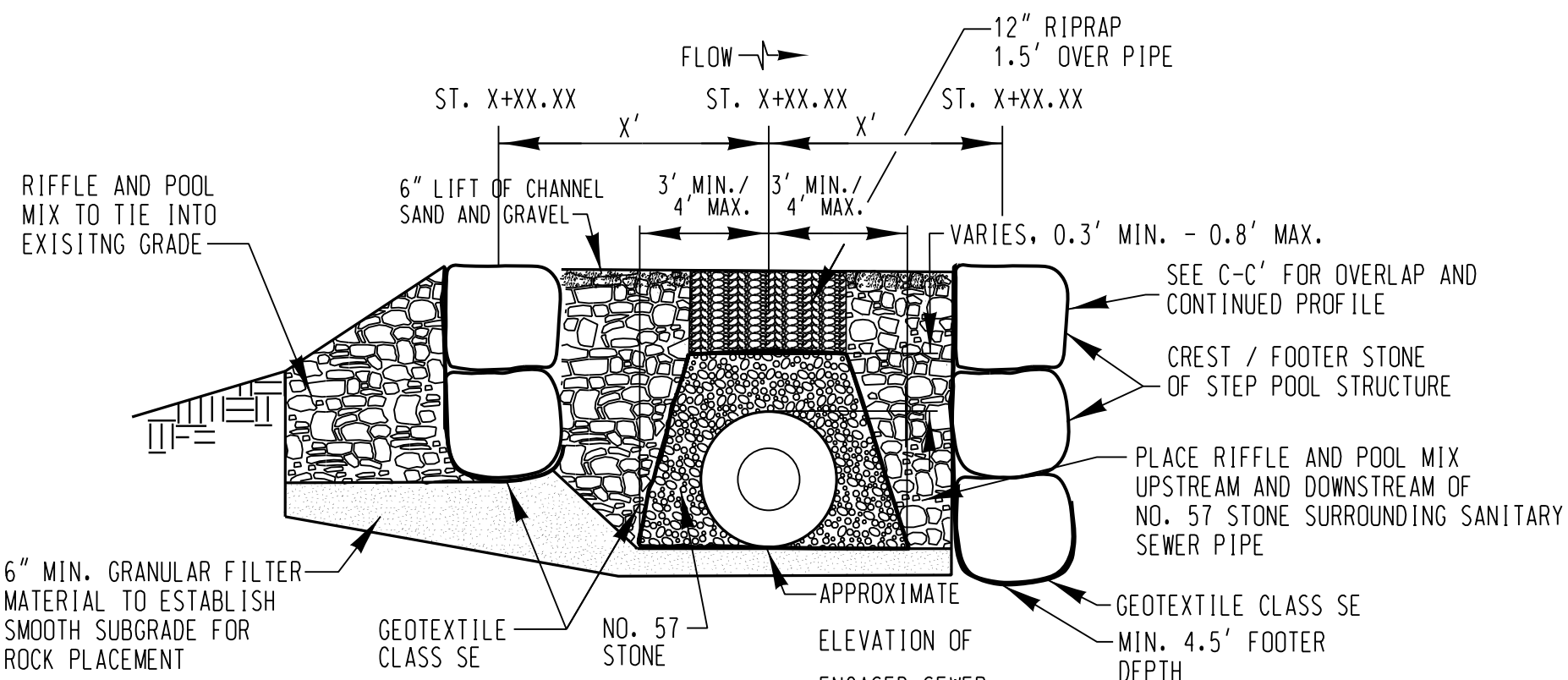
**CROSS-SECTION B-B'**

NOTES:

1. COMPACTED CLAY MATERIAL MUST BE UNIFIED SOIL CLASSIFICATION SC OR CC MATERIAL.
2. EXCAVATION INCIDENTAL TO PAY ITEM.
3. THE CENTER POINT IS THE STATION REFERENCED IN THE STRUCTURE TABLE TAKEN PERPENDICULAR TO THE BASELINE.
4. \* SEEK DIRECTION AND APPROVAL FROM THE ENGINEER AND COUNTY IF KEY IN WILL RESULT IN DISTURBANCE TO TREE ROOTS OR WETLANDS.

**CLAY PLUG**

NOT TO SCALE



**RIFFLE PROFILE WITH UTILITY PIPE PROTECTION**

NOT TO SCALE

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**KCI TECHNOLOGIES**  
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NO.	DATE

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NOT FOR  
CONSTRUCTION**

DATE	NOV. 2023
SCALE	AS SHOWN
DESIGNED BY	HS, SL
DRAWN BY	CSD

**STREAM DETAILS**  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION

HARFORD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

DRAWING NO.

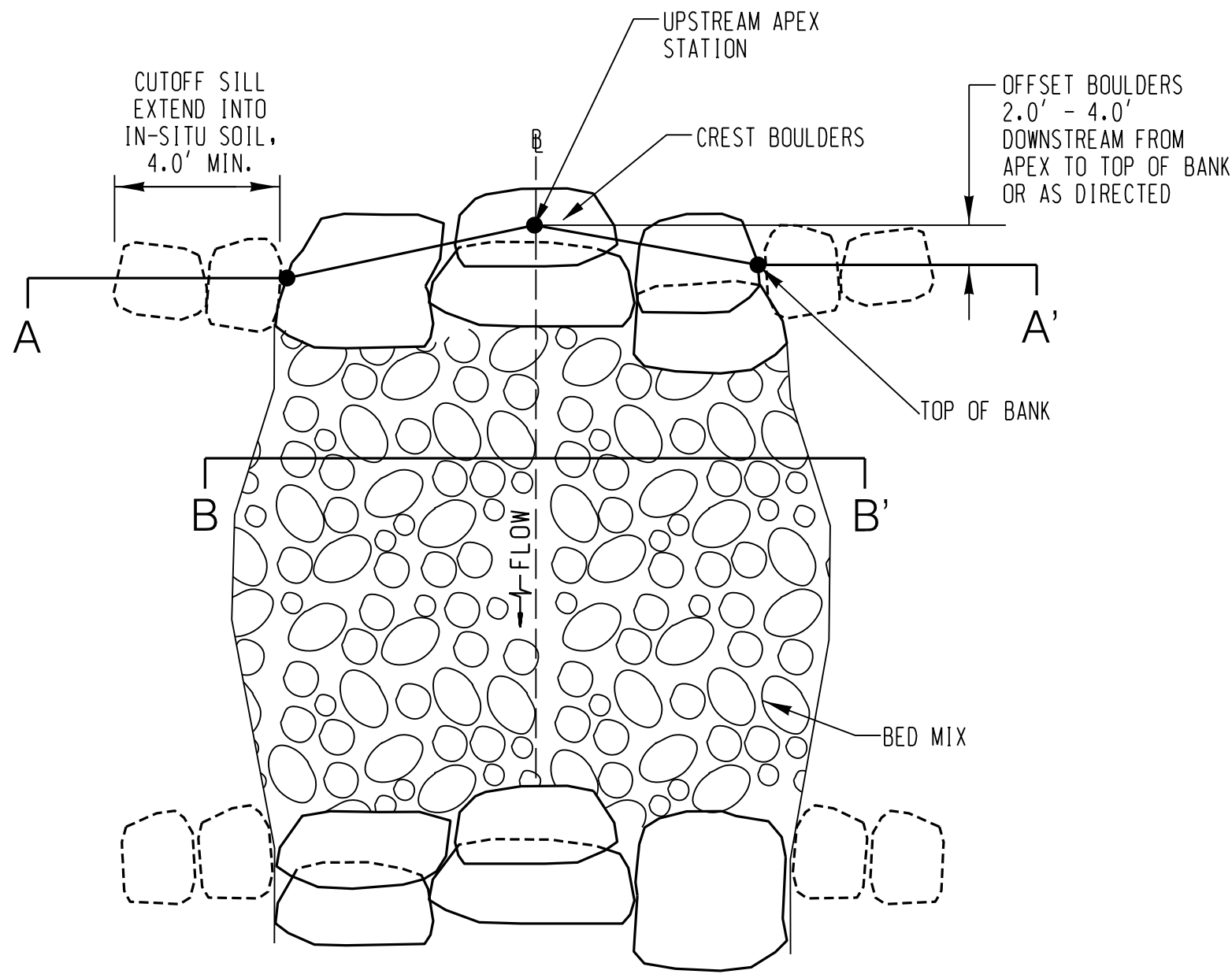
**DE-02**

SHEET X OF XX  
KCI JOB NUMBER  
172107055.04



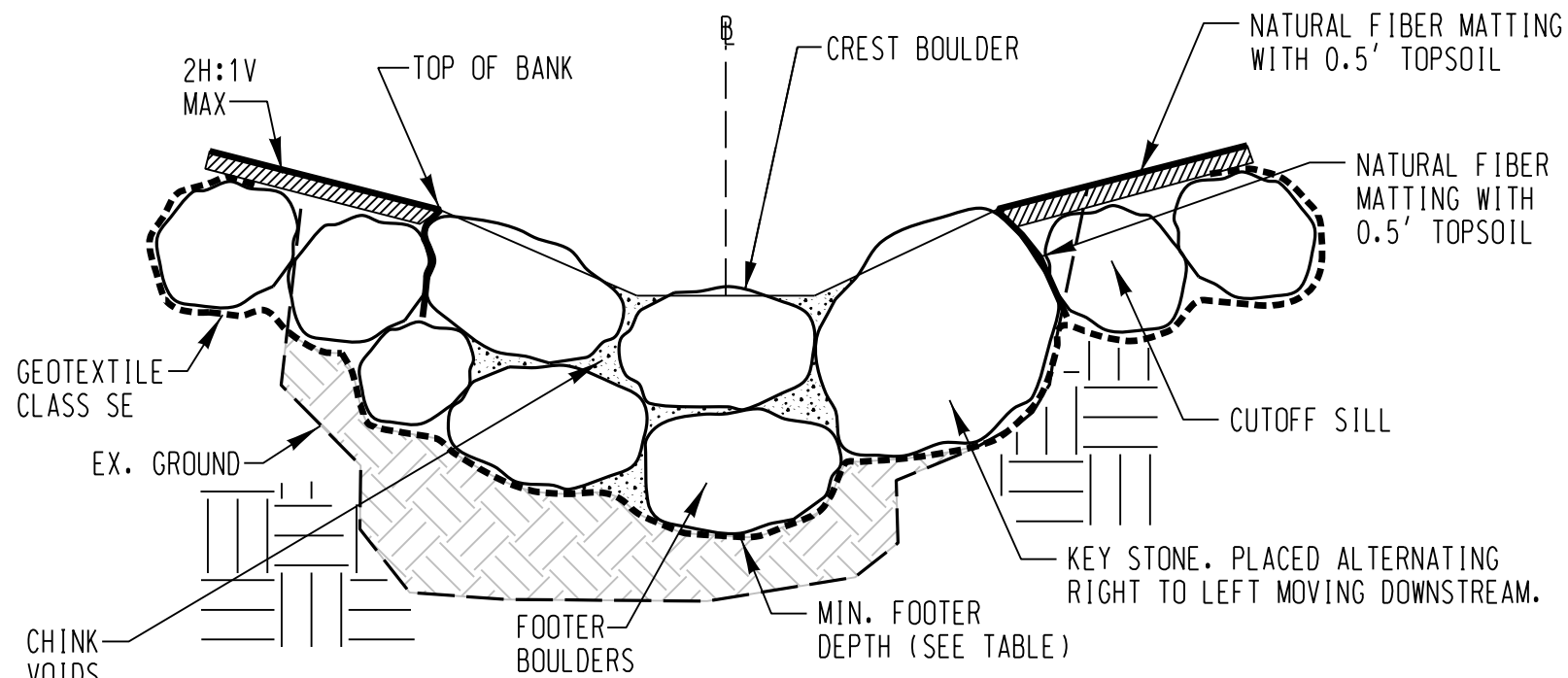




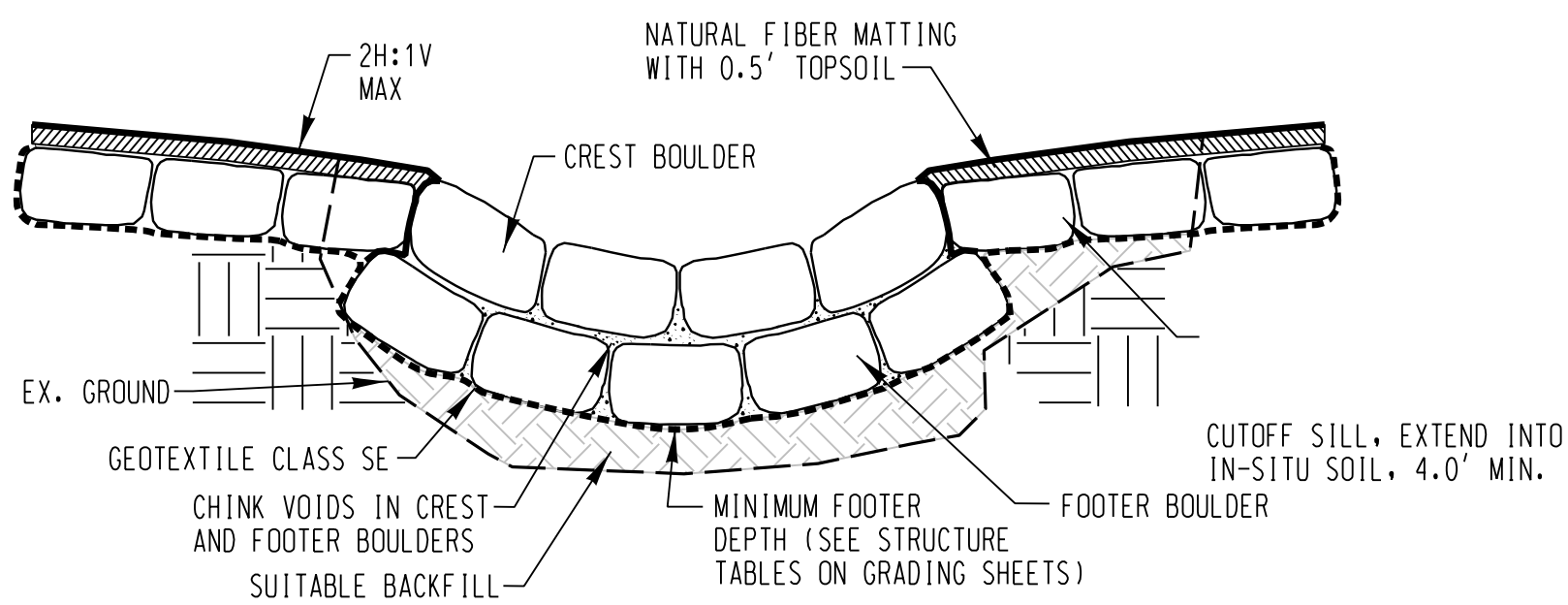


TYPICAL PLAN VIEW OF STEP-POOL  
NOT TO SCALE

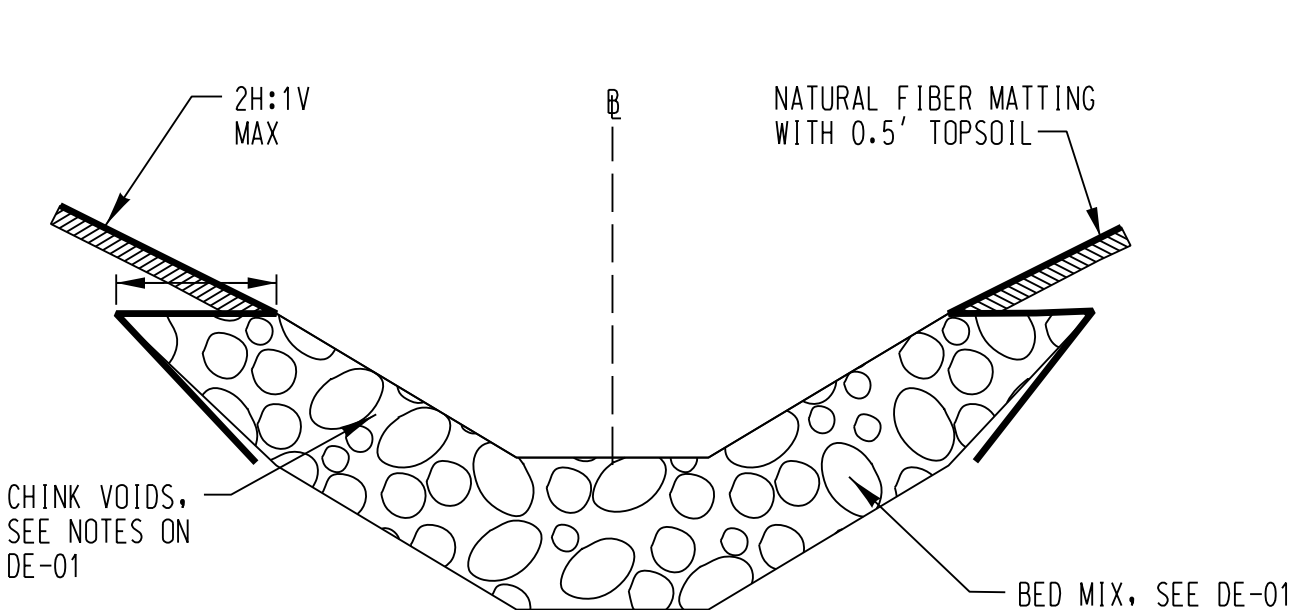
STEP-POOLS ARE DEFINED AS THE UPSTREAM CREST AND DOWNSTREAM POOL



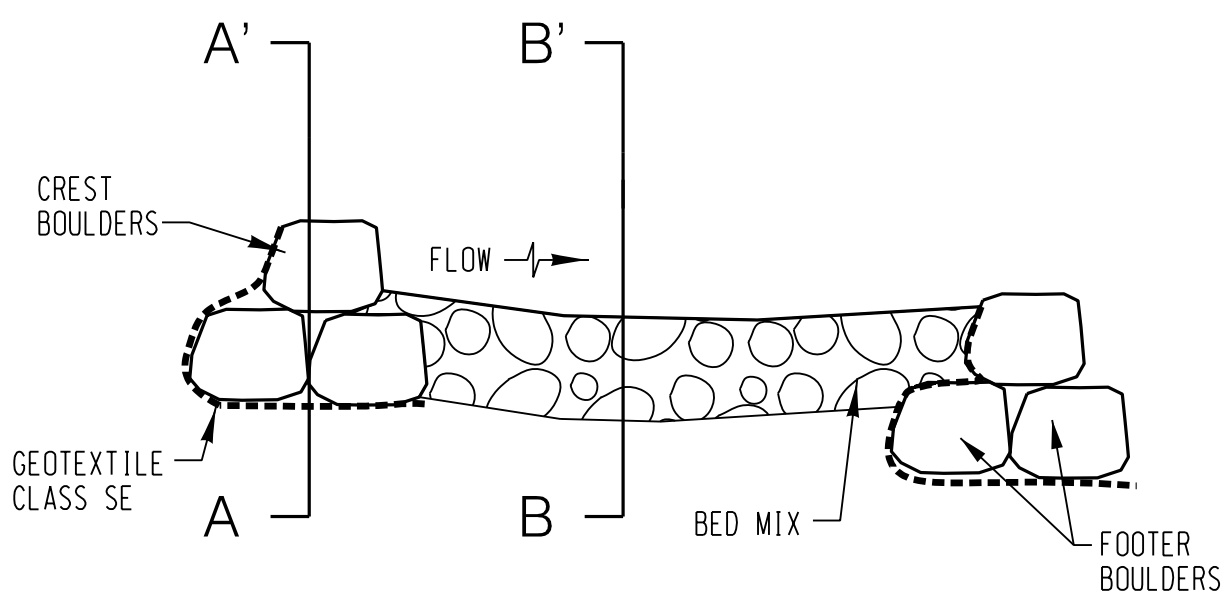
STEP-POOL CREST A-A' (CLASS II BOULDER)  
NOT TO SCALE



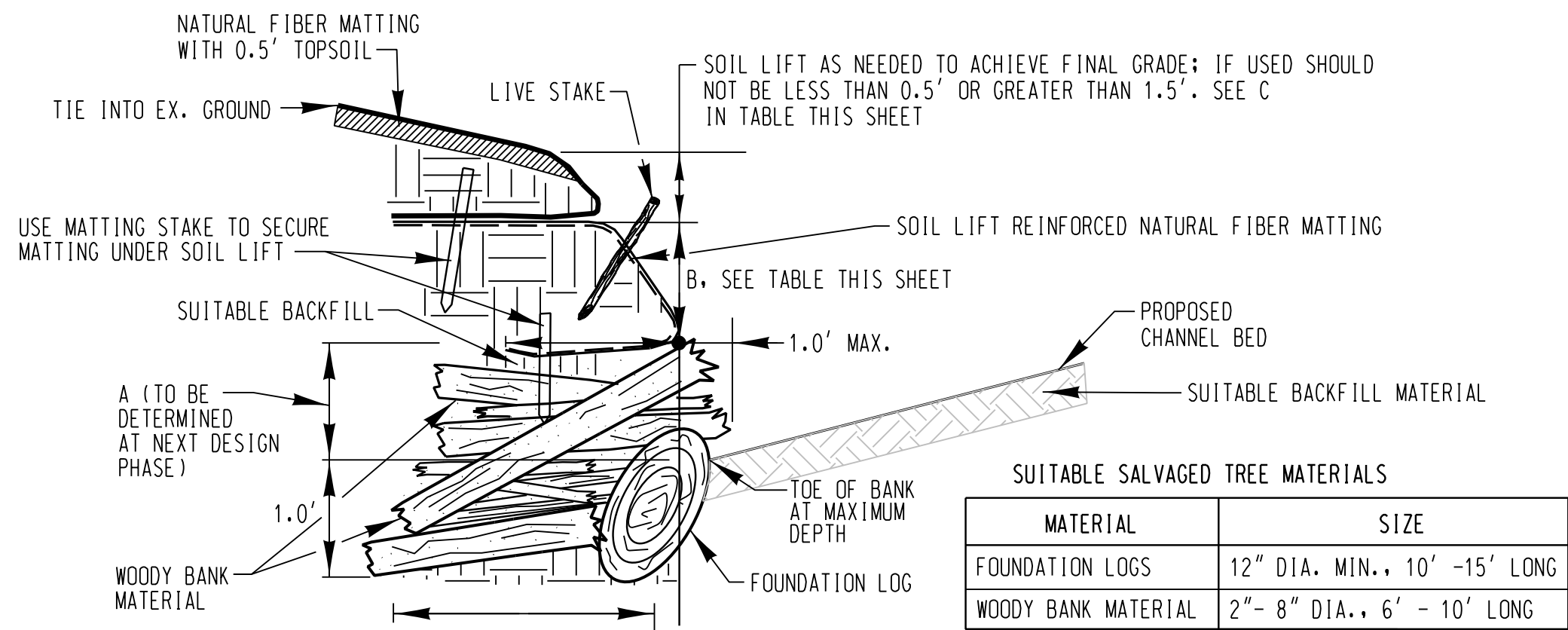
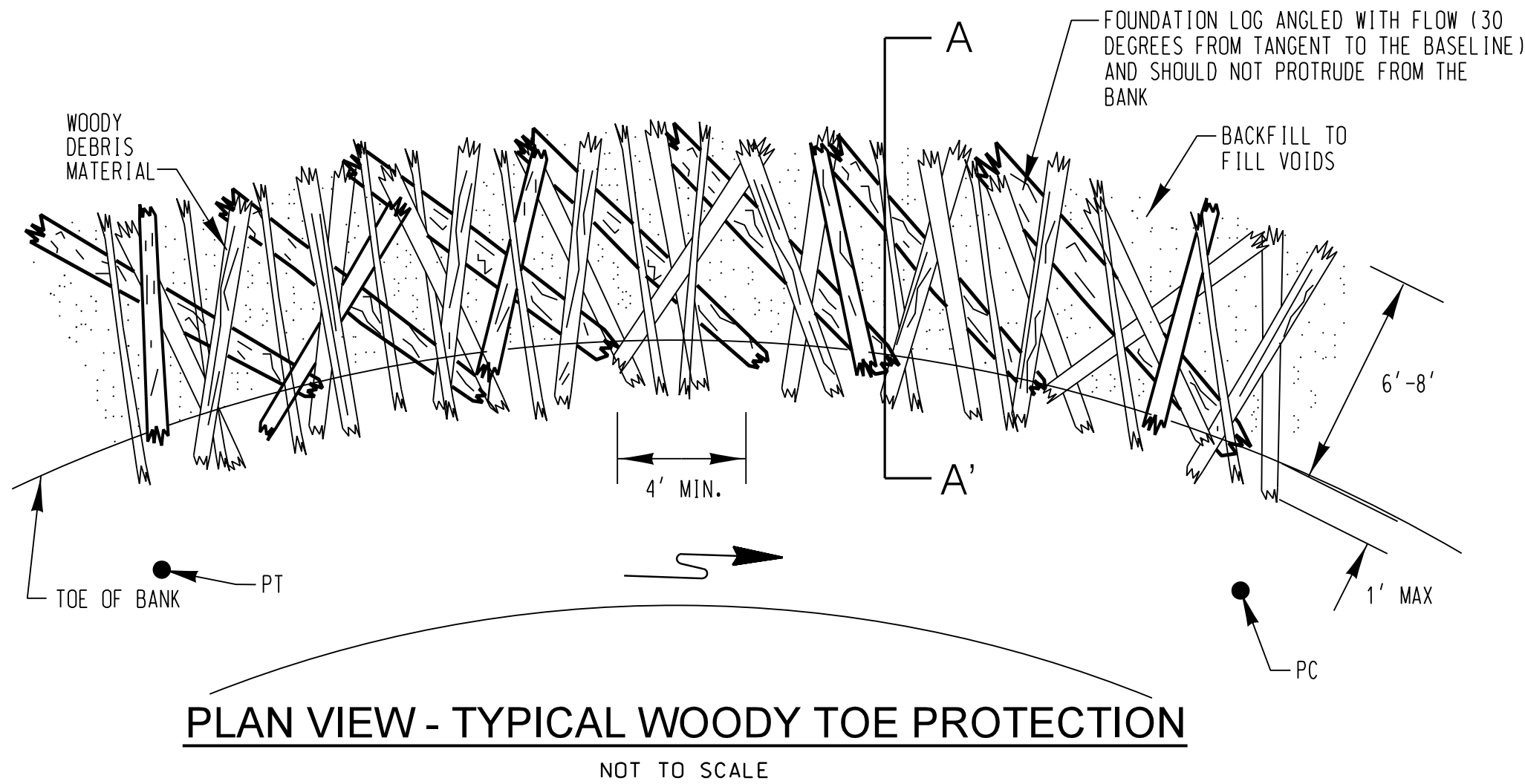
STEP-POOL CREST A-A' (IMBRICATED)  
NOT TO SCALE



STEP-POOL POOL B-B'  
NOT TO SCALE



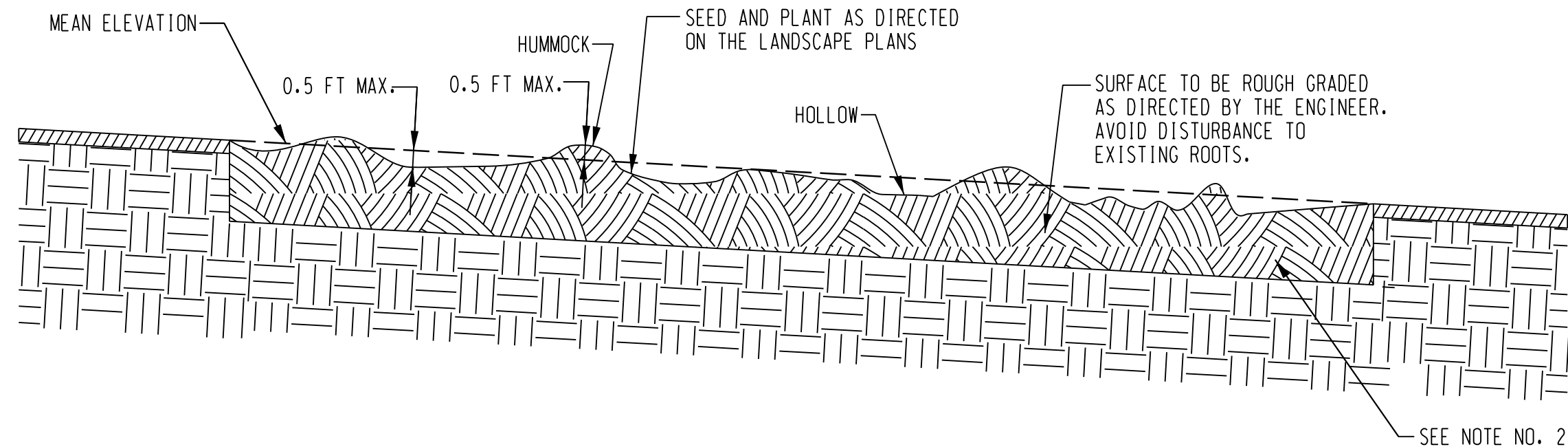
TYPICAL PROFILE THROUGH STEP-POOL  
NOT TO SCALE



CROSS SECTION A-A' TYPICAL WOODY TOE PROTECTION  
NOT TO SCALE

- NOTES:
- SUITABLE TREE MATERIALS INCLUDING TRUNKS, TOPS, AND LIMBS (ENSURE NO INVASIVES), SHALL BE SALVAGED FOR USE IN TOE WOOD APPLICATIONS AS APPROVED BY THE ENGINEER.
  - FOUNDATION LOGS SHALL BE ANGLED WITH THE FLOW TO THE BANK AND EXTEND THE FULL WIDTH OF THE FILL SECTION. FOUNDATION LOGS SHALL BE PLACED UNIFORMLY AT THE MAX DEPTH WITH SUITABLE BACKFILL USED TO PROVIDE SMOOTH TRANSITION TO AND FROM THE RIFFLES.
  - WOODY BANK MATERIAL SHALL BE PLACED RANDOMLY ON FOUNDATION LOGS IN LIFTS, COMPACTED WITH EXCAVATOR BUCKET, AND CHINKED WITH SUITABLE BACKFILL TO FILL VOIDS UNTIL THE FINAL DEPTH OF MATERIAL IS REACHED (SEE SECTION A-A').
  - CONTINUE TO FILL VOIDS WITH SUITABLE BACKFILL MATERIAL.
  - INSTALL SOIL LIFT WITH REINFORCED NATURAL FIBER MATTING. STAKE THE BOTTOM OF THE REINFORCED NATURAL FIBER MATTING LIFT AT LEAST 3.0' INTO BANK.
  - IF WOODY BANK MATERIAL SUPPLY IS LIMITED, A TOE BOULDER MAY BE USED WITH PRIOR APPROVAL BY THE COUNTY AND ENGINEER.

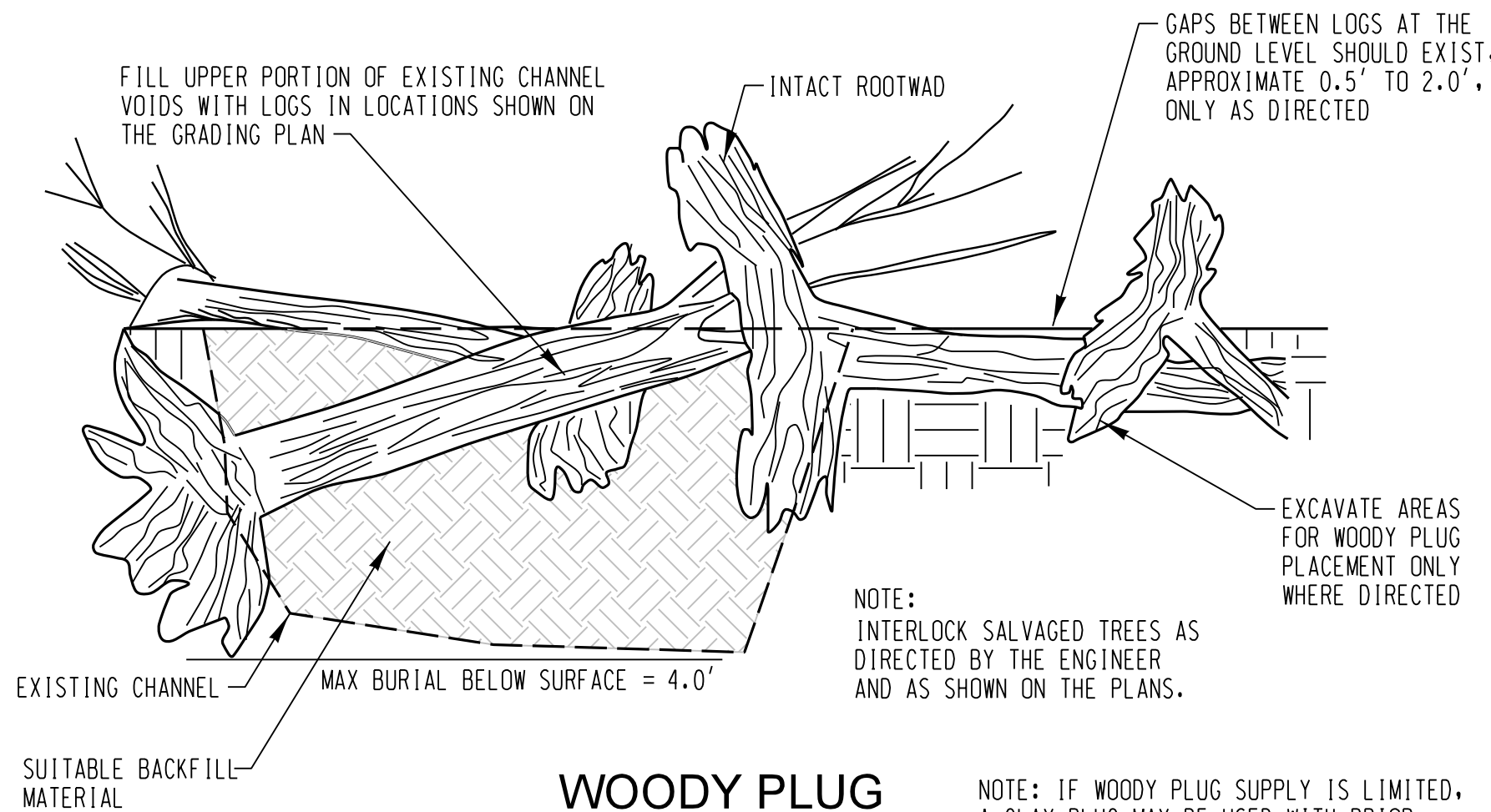
SUITABLE SALVAGED TREE MATERIALS	
MATERIAL	SIZE
FOUNDATION LOGS	12" DIA. MIN., 10' -15' LONG
WOODY BANK MATERIAL	2"- 8" DIA., 6' - 10' LONG



TYPICAL SECTION - MICROTOPOGRAPHY / CREATED WETLANDS  
HUMMOCK-HOLLOW  
NOT TO SCALE

NOTES FOR MICROTOPOGRAPHY:

- THE SURFACE OF THE SOIL MUST NOT BE COMPACTED TO THE EXTENT THAT IT LIMITS PLANT ESTABLISHMENT AND MICROBIAL ACTIVITY. UPON COMPLETION OF INITIAL GRADING (BEFORE ADDING TOPSOIL), THE SOIL MUST BE DISKED OR CHISEL PLOWED TO A DEPTH OF AT LEAST 0.7'.
- PROVIDE TOPSOIL TO A DEPTH OF AT LEAST 0.5'. SALVAGED TOPSOIL SHOULD BE FREE FROM INVASIVE PLANT SPECIES. SITE SHOULD BE GRADED TO BELOW 0.5' OF FINAL GRADE, THEN 0.5' TOPSOIL SPREAD OVER THE SITE.
- SOIL AND SUBSTRATE AMENDMENTS MAY BE NEEDED TO MEET HYDRIC SOIL CHARACTERISTICS AND MAINTAIN THE SPECIFIED PLANT SPECIES. A MINIMUM OF 60 CUBIC YARDS OF ORGANIC MATTER PER ACRE IS REQUIRED UNLESS PRE-CONSTRUCTION SOIL MONITORING DEMONSTRATES THAT THERE IS AN AMOUNT OF STABLE CARBON EQUIVALENT OR HIGHER TO THAT IN AN APPROPRIATE DEPARTMENT-APPROVED REFERENCE WETLAND.
- MICROTOPOGRAPHY VARIATIONS ARE UP TO 0.5' FROM DESIGN ELEVATION, WITH NO MORE THAN 25 PERCENT OF EACH AREA REMAINING AT THE DESIGN ELEVATION. MICROTOPOGRAPHIC GRADING SHALL NOT DESTROY OR DISTURB ROOTS OF MATURE TREES.
- SUPPLEMENTAL LARGE WOODY DEBRIS SHOULD BE ADDED. THIS MAY INCLUDE A COMBINATION OF LOGS, BRUSH PILES, OVERTURNED STUMPS, ETC.. DEAD WOODY MATERIAL ONSITE MAY BE USED. LIVE MATERIAL SALVAGED FROM ONSITE MUST BE FROM NATIVE SPECIES ONLY. MATERIAL WITH OR WITHOUT LEAVES IS ACCEPTABLE. LARGE WOODY DEBRIS SHOULD BE PLACED / PILED AT THE DIRECTION OF THE ENGINEER. MATERIAL SHOULD CONSIST OF A RANGE OF SIZES FROM 0.2' - 2.0' IN DIAMETER AND 4' - 8' IN LENGTH. PILES SHOULD RANGE FROM 2' - 4' IN HEIGHT.
- AREAS INDICATED FOR MICROTOPOGRAPHY ARE MINIMUM AND CAN BE EXPANDED AT THE DIRECTION OF THE ENGINEER. MICROTOPOGRAPHY SHALL BE PERFORMED WITHIN THE ACTIVE WORK AREAS AND SHALL AVOID ADDITIONAL DISTURBANCE TO THE TREE ROOTS, WETLANDS, AND BUFFERS.



WOODY PLUG  
NOT TO SCALE

NOTE: IF WOODY PLUG SUPPLY IS LIMITED, A CLAY PLUG MAY BE USED WITH PRIOR APPROVAL BY THE COUNTY AND ENGINEER.

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DATE	NOV. 2023
SCALE	AS SHOWN
DESIGNED BY	HS, SL
DRAWN BY	CSD

STREAM DETAILS  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION

HARFORD COUNTY, MARYLAND

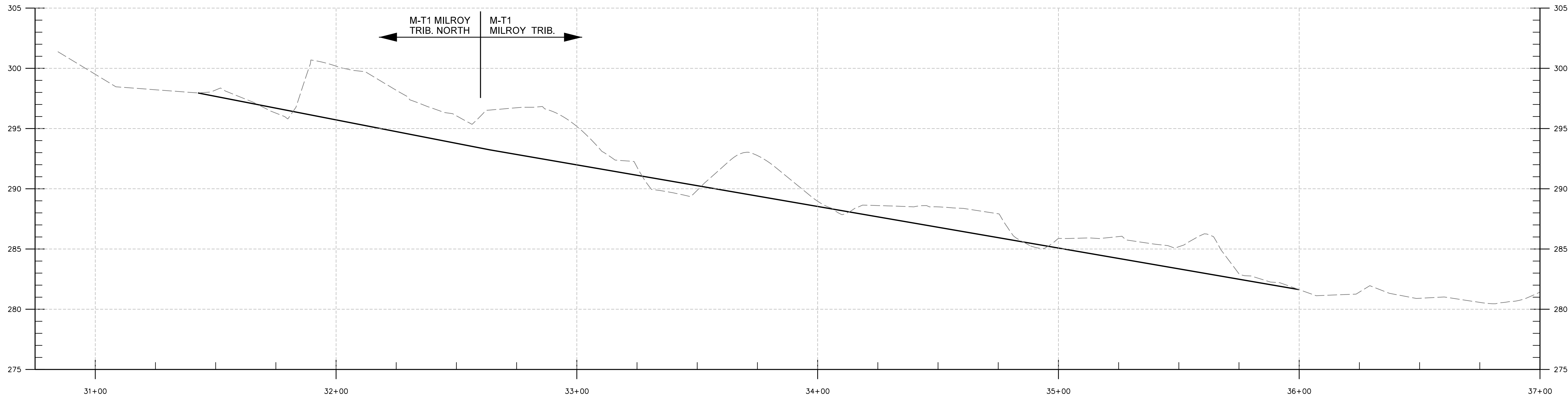
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DRAWING NO.

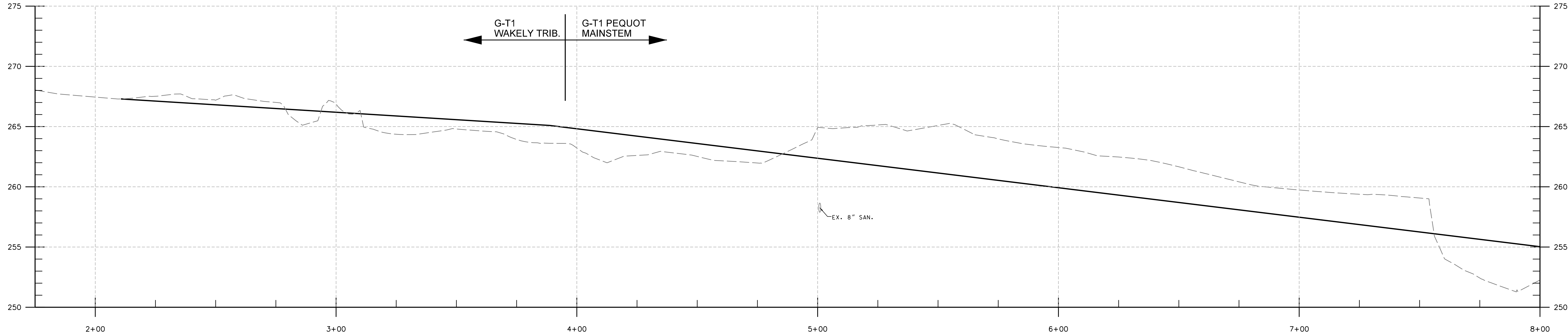
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SHEET X OF XX  
KCI JOB NUMBER  
172107055.04



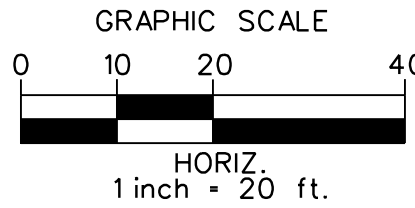
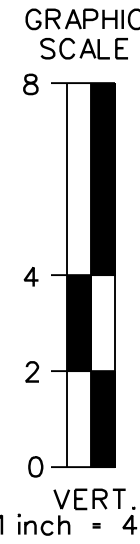


M-T1 MILROY TRIB. NORTH & M-T1 MILROY TRIB.



G-T1 WAKELY TRIB., G-T1 PEQUOT MAINSTEM, MS DIXIE, & MAINSTEM

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 FILE: M:\2021\172107055.04\Drawings\PR-0001\_Profile.dgn



LEGEND	
	EXISTING GROUND (UNDER BASELINE)
	PROPOSED AVERAGE BED GRADE (UNDER BASELINE)

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SCALE	HORIZ. 1" = 20'
	VERT. 1" = 4'
DESIGNED BY	HS, SL
DRAWN BY	CSD

PROFILES  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION

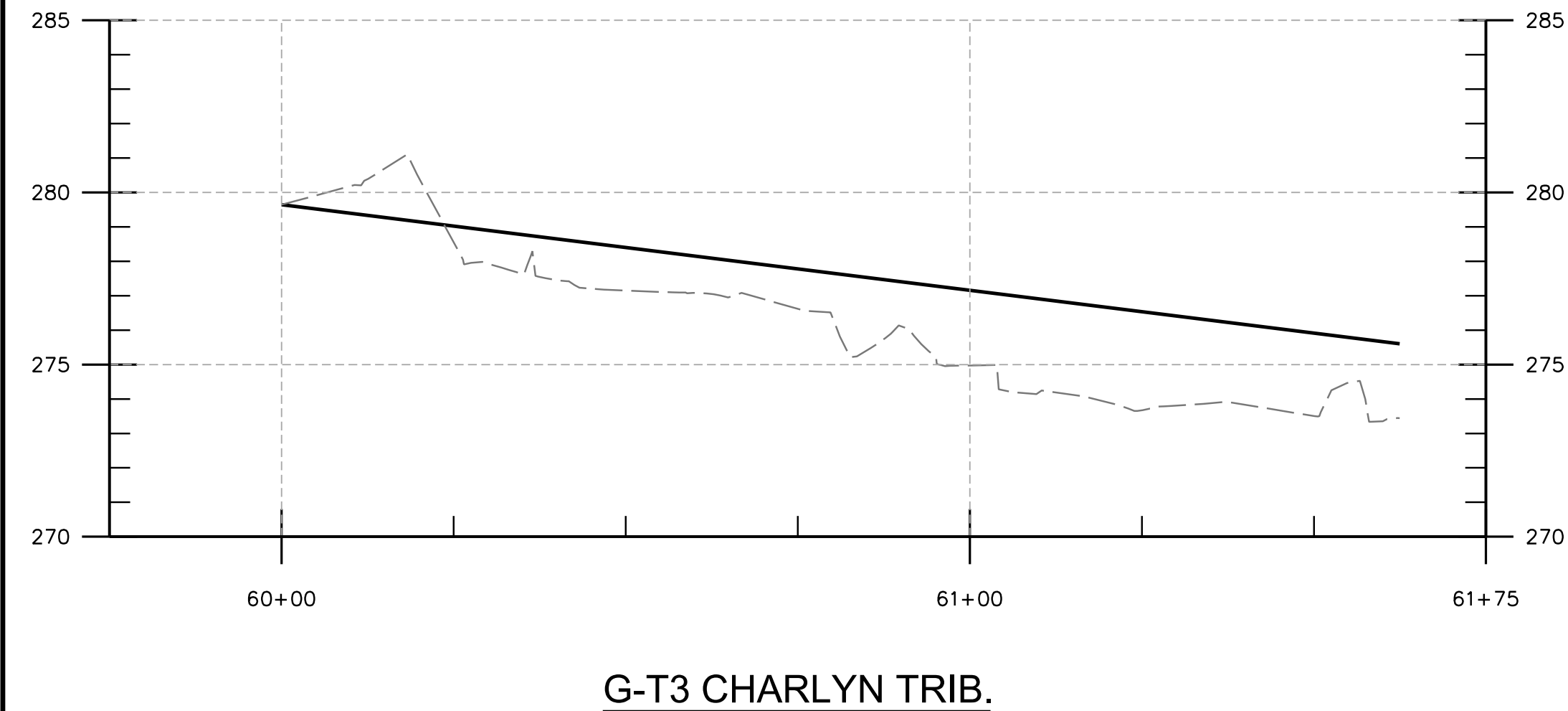
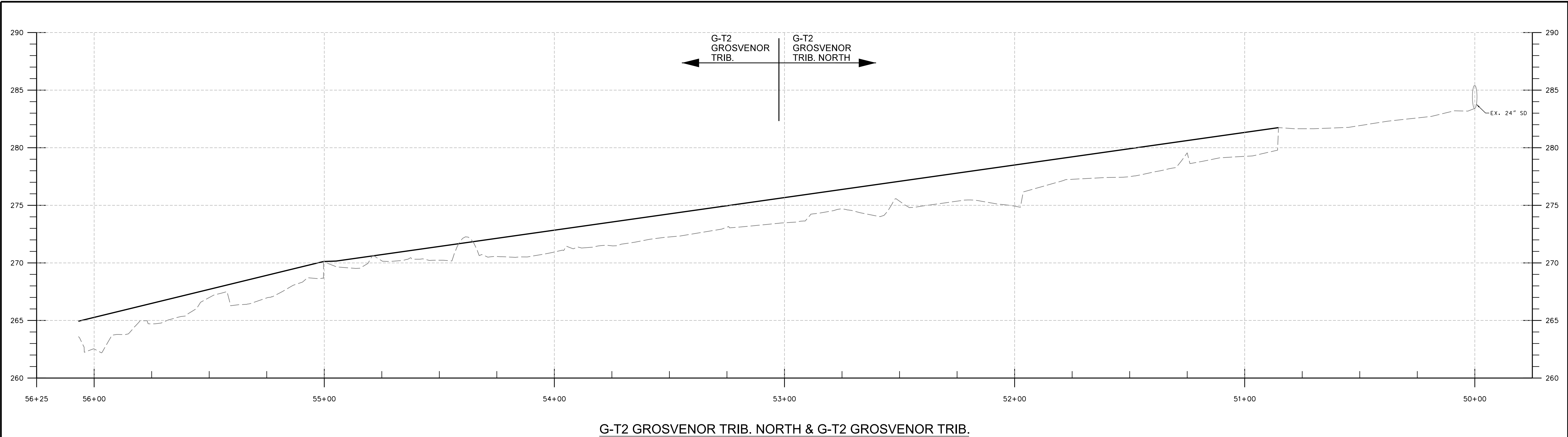
HARFORD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS

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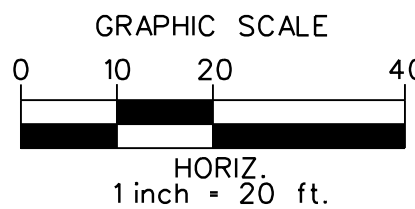
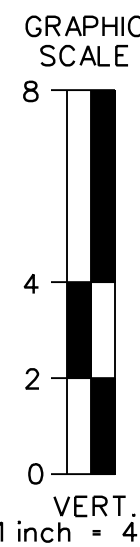








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LEGEND	
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	PROPOSED AVERAGE BED GRADE (UNDER BASELINE)

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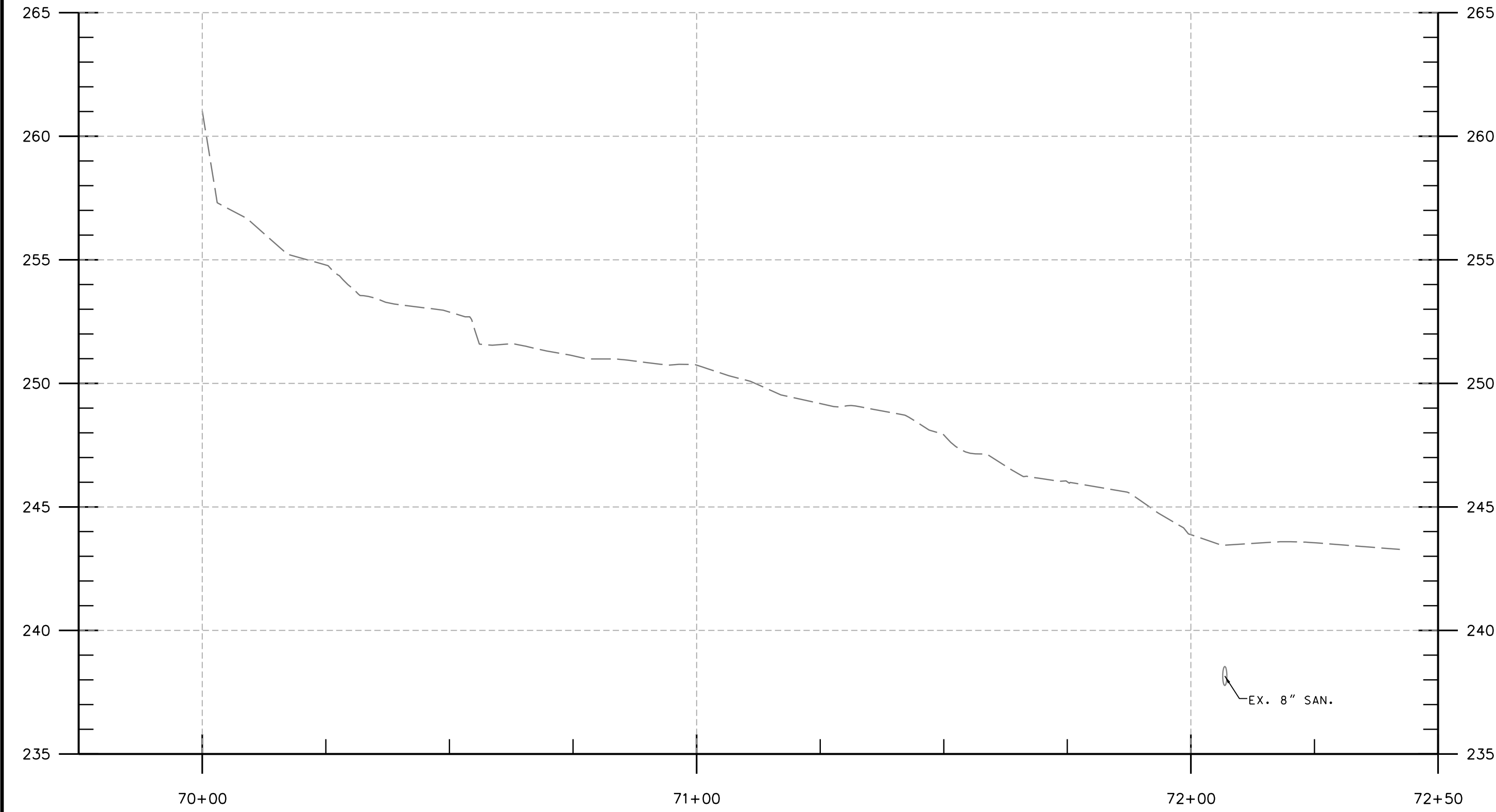
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		NOV. 2023
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	DESIGNED BY	
		HS, SL
	DRAWN BY	
		CSD

PROFILES  
UPPER FARNANDIS BRANCH  
STREAM RESTORATION

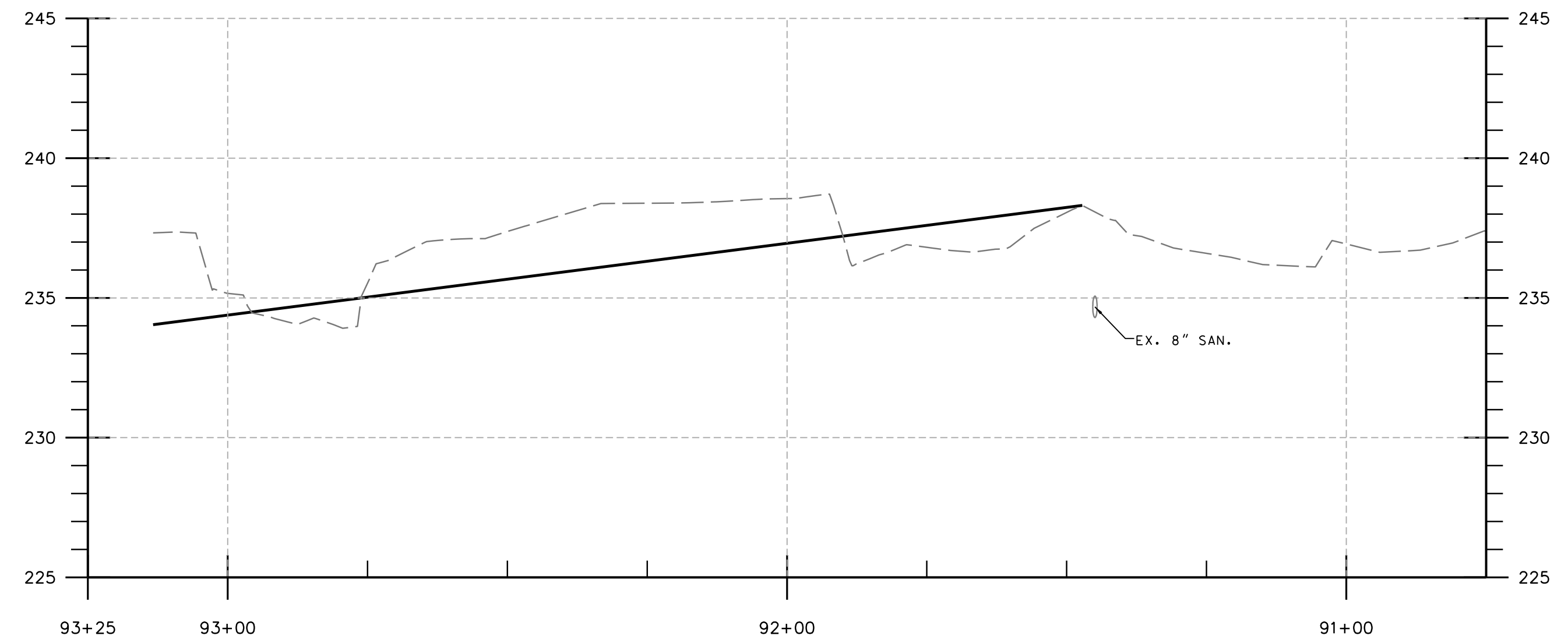
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DEPARTMENT OF PUBLIC WORKS

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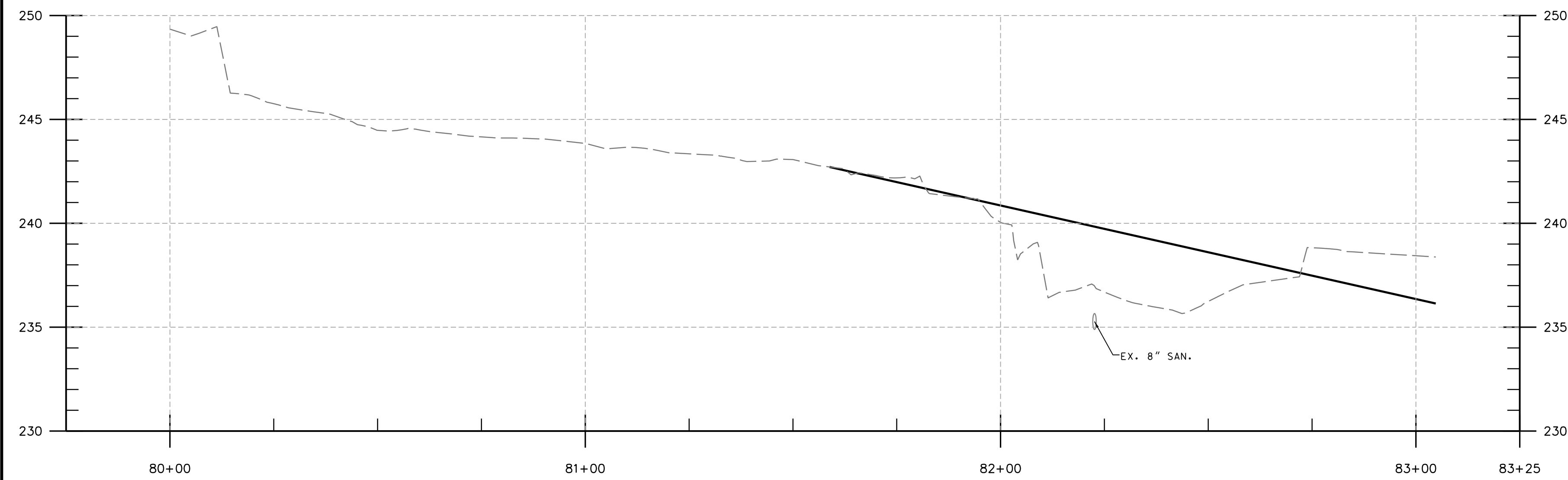




G-T4 DIXIE TRIB. 1

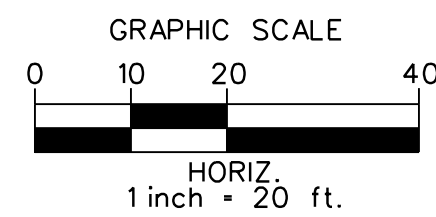
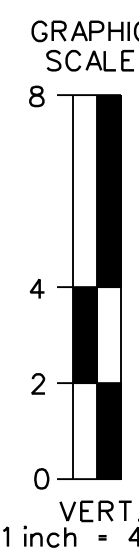


MS TRIB. CAROLINA AVE.



F-T3 DIXIE TRIB. 2

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LEGEND	
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	PROPOSED AVERAGE BED GRADE (UNDER BASELINE)

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PROFILES  
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