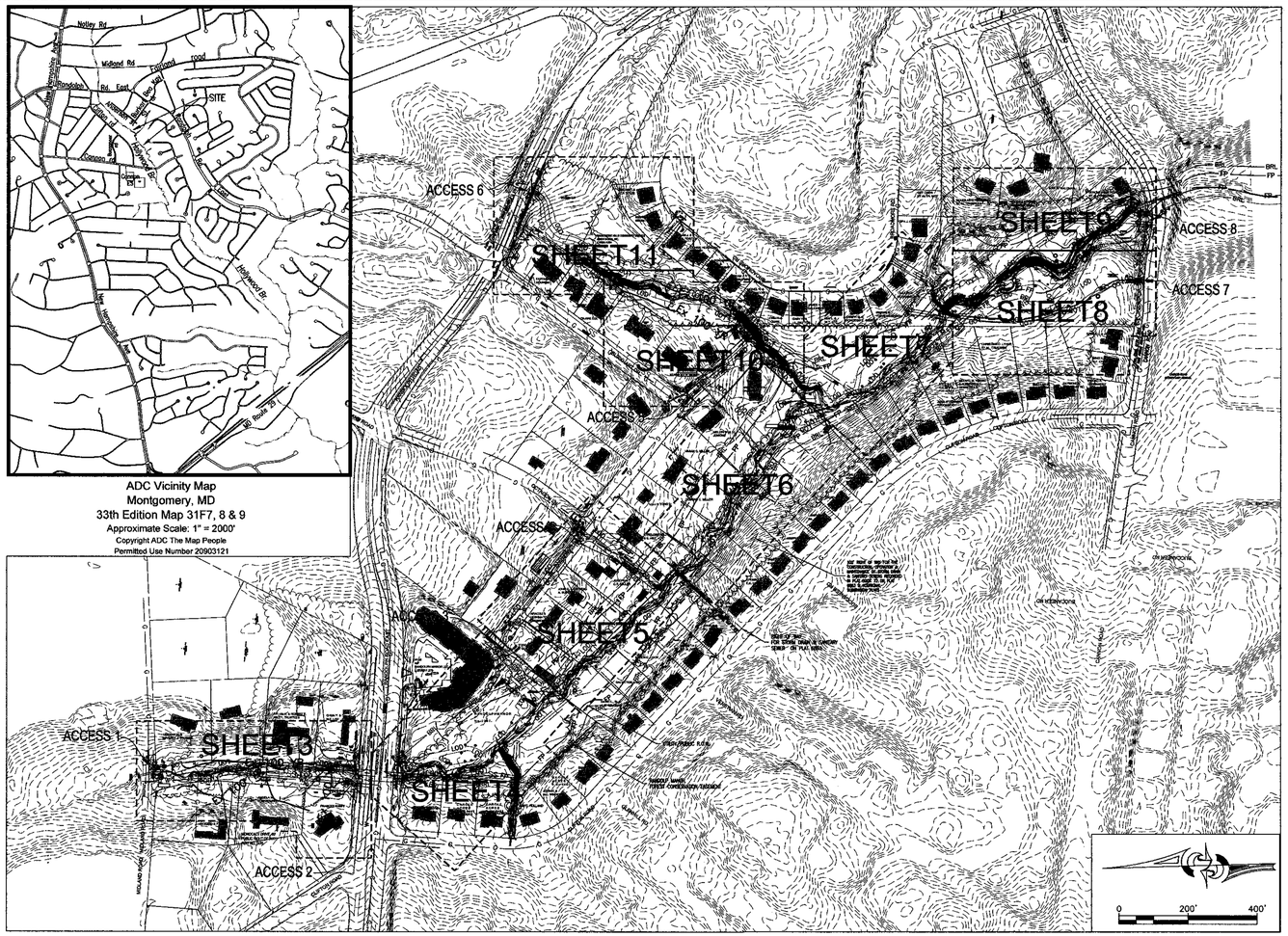

ADC Vicinity Map
Montgomery, MD
33th Edition Map 31F7, 8 & 9
Approximate Scale: 1" = 2000'
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3 OF 68	2	PLAN VIEW
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52 OF 68	FCP-8	HOLLYWOOD FCP
53 OF 68	FCP-9	HOLLYWOOD FCP
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56 OF 68	FCP-12	HOLLYWOOD FCP
57 OF 68	FCP-13	HOLLYWOOD FCP
58 OF 68	FCP-14	HOLLYWOOD FCP
59 OF 68	FCP-15	HOLLYWOOD FCP
60 OF 68	FCP-RM1	RANDOLPH MANOR AMENDED FCP
61 OF 68	FCP-RM2	RANDOLPH MANOR AMENDED FCP
62 OF 68	FCP-RM3	RANDOLPH MANOR AMENDED FCP
63 OF 68	FCP-RM4	RANDOLPH MANOR AMENDED FCP
64 OF 68	FCP-RM5	RANDOLPH MANOR AMENDED FCP
65 OF 68	FCP-RM6	RANDOLPH MANOR AMENDED FCP
66 OF 68	FCP-RM7	RANDOLPH MANOR AMENDED FCP
67 OF 68	MOT-1	MAINTENANCE OF TRAFFIC
68 OF 68	MOT-2	MAINTENANCE OF TRAFFIC

MISS UTILITY

Call "Miss Utility" at 1-800-257-7777 48 hours prior to the start of work. The excavator must notify all public utility companies with underground facilities in the area of proposed excavation and have those facilities located by the utility companies prior to commencing excavation. The excavator is responsible for compliance with requirements of Chapter 36A of the Montgomery County Code.

STANDARD STABILIZATION NOTE

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within seven (7) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1); and fourteen (14) days as to all other disturbed or graded areas on the project site.

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 39273 Expiration Date: 06/21/2014

Signature Date

DESIGN CERTIFICATION

"I hereby certify that this plan has been designed in accordance with the 1994 Standards and Specifications for Soil Erosion and Sediment Control, the 2000 Maryland Stormwater Design Manual, Volumes I & II, and the Maryland Department of the Environment Stormwater Management Regulations."

Date Designer's Signature

Maryland registration number MDPE# 39273 Christopher Wilson
P.E, R.L.S. or R.L.A. (circle) Printed Name

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. _____

M-NCPPC PARK FACILITY CODE 020

REVIEWED BY _____

APPROVED BY _____ CHIEF, CONSTRUCTION SECTION

DATE APPROVED _____

M-NCPPC PERMIT SHEET # ____ OF ____

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301)495-2574.

DESIGN CERTIFICATION

"I hereby certify that this plan has been designed in accordance with the 1994 Standards and Specifications for Soil Erosion and Sediment Control, the 2000 Maryland Stormwater Design Manual, Volumes I & II, and the Maryland Department of the Environment Stormwater Management Regulations."

Date Designer's Signature

Maryland registration number MDPE# _____
P.E, R.L.S. or R.L.A. (circle) Printed Name

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. _____ Expiration Date: _____

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
DPS File #:		

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

COVER SHEET

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET C-1
1OF 68 DRAWINGS
JOB NO. 38-507

Apr 16, 2013 - 2:56pm User: cwilson
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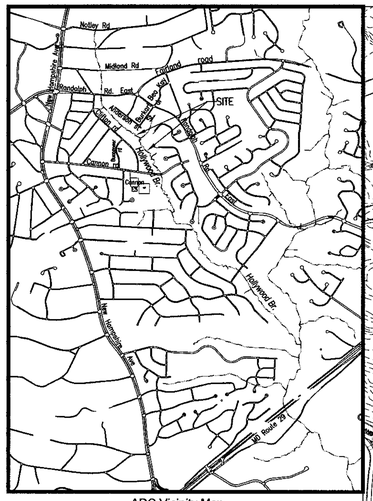
Design_Block.dwg
Road Hatch.dwg
Trees.dwg.dwg
Existing Conditions 032713.dwg



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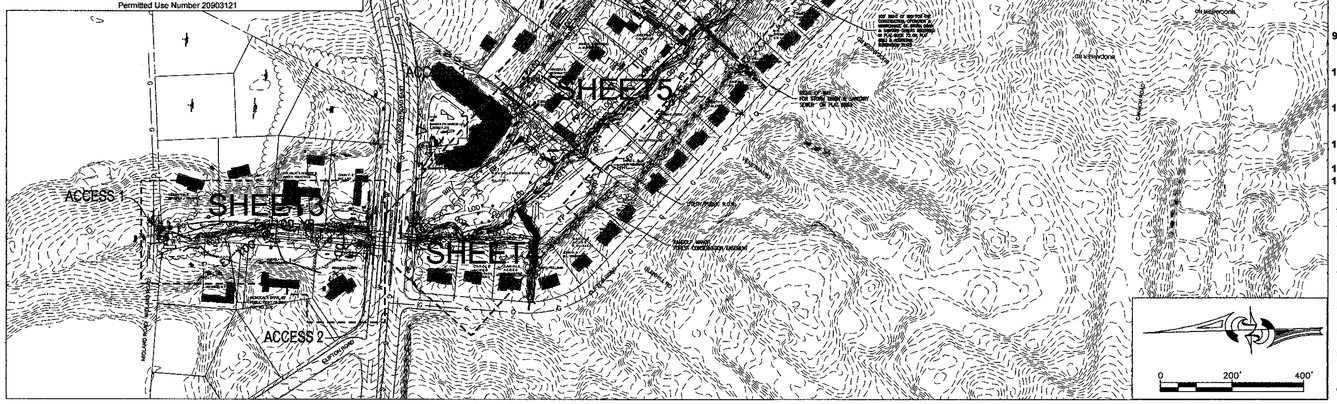
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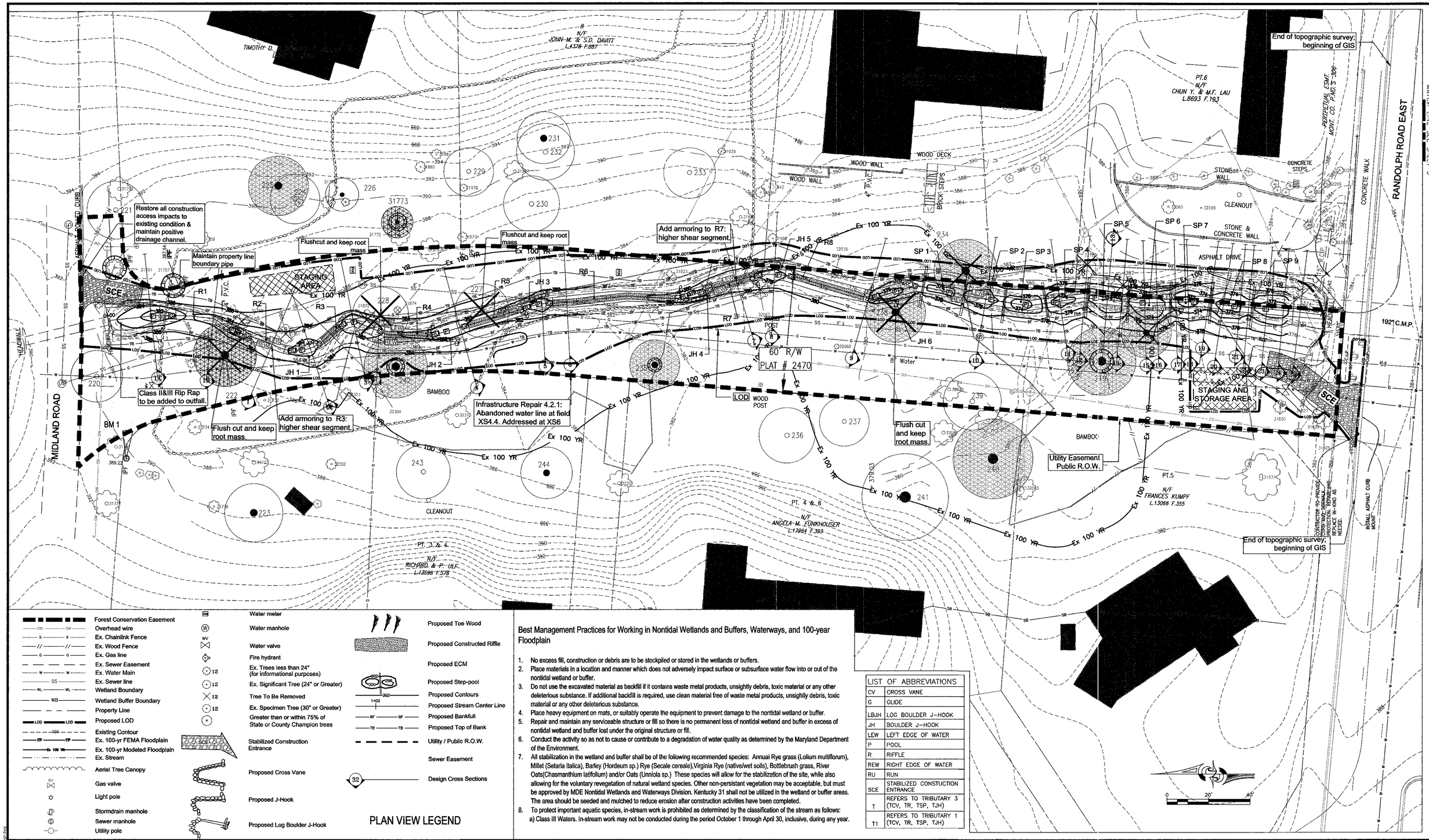
SHEET 6
SHEET 7
SHEET 8
SHEET 9
SHEET 10
SHEET 11
SHEET 12
Hollywood Branch
Old Columbia Pike (MD 29)
Old Columbia Pike (MD 29)
Hollywood Branch
Hollywood Branch
Hollywood Branch



Forest Conservation Easement
Overhead wire
Ex. Chainlink Fence
Ex. Wood Fence
Ex. Gas line
Ex. Sewer Easement
Ex. Water Main
Ex. Sewer line
Wetland Boundary
Wetland Buffer Boundary
Property Line
Proposed LOD
Existing Contour
Ex. 100-yr FEMA Floodplain
Ex. 100-yr Modeled Floodplain
Ex. Stream
Aerial Tree Canopy
Gas valve
Light pole
Stormdrain manhole
Sewer manhole
Utility pole

Water meter
Water manhole
Water valve
Fire hydrant
Ex. Trees less than 24" (for informational purposes)
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Tree To Be Removed
Ex. Specimen Tree (30" or Greater)
Greater than or within 75% of State or County Champion trees
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Proposed Log Boulder J-Hook

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Proposed Constructed Riffle
Proposed ECM
Proposed Step-pool
Proposed Contours
Proposed Stream Center Line
Proposed Bankfull
Proposed Top of Bank
Utility / Public R.O.W.
Sewer Easement
Design Cross Sections

PLAN VIEW LEGEND

Best Management Practices for Working in Nontidal Wetlands and Buffers, Waterways, and 100-year Floodplain

1. No excess fill, construction or debris are to be stockpiled or stored in the wetlands or buffers.
2. Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetland or buffer.
3. Do not use the excavated material as backfill if it contains waste metal products, unsightly debris, toxic material or any other deleterious substance. If additional backfill is required, use clean material free of waste metal products, unsightly debris, toxic material or any other deleterious substance.
4. Place heavy equipment on mats, or suitably operate the equipment to prevent damage to the nontidal wetland or buffer.
5. Repair and maintain any serviceable structure or fill so there is no permanent loss of nontidal wetland and buffer in excess of nontidal wetland and buffer lost under the original structure or fill.
6. Conduct the activity so as not to cause or contribute to a degradation of water quality as determined by the Maryland Department of the Environment.
7. All stabilization in the wetland and buffer shall be of the following recommended species: Annual Rye grass (Lolium multiflorum), Millet (Setaria italica), Barley (Hordeum sp.) Rye (Secale cereale),Virginia Rye (native/wet soils), Bottlebrush grass, River Oats(Chasmanthium latifolium) and/or Oats (Unniola sp.) These species will allow for the stabilization of the site, while also allowing for the voluntary revegetation of natural wetland species. Other non-persistant vegetation may be acceptable, but must be approved by MDE Nontidal Wetlands and Waterways Division. Kentucky 31 shall not be utilized in the wetland or buffer areas. The area should be seeded and mulched to reduce erosion after construction activities have been completed.
8. To protect important aquatic species, in-stream work is prohibited as determined by the classification of the stream as follows:
   a) Class III Waters. In-stream work may not be conducted during the period October 1 through April 30, inclusive, during any year.

LIST OF ABBREVIATIONS	
CV	CROSS VANE
G	GLIDE
LBJH	LOG BOULDER J-HOOK
JH	BOULDER J-HOOK
LEW	LEFT EDGE OF WATER
P	POOL
R	RIFFLE
REW	RIGHT EDGE OF WATER
RU	RUN
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T	REFERS TO TRIBUTARY 3 (TCV, TR, TSP, TJH)
T1	REFERS TO TRIBUTARY 1 (TCV, TR, TSP, TJH)

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

PLAN VIEW

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

MONTGOMERY COUNTY MARYLAND 1776

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 2
3 OF 68 DRAWINGS
JOB NO. 38-507

Plotted: Apr 16, 2013 - 3:00pm User: cwilson
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Xrefs: TOPO032513.dwg
ROW&Public-Easements.dwg
Design_Block.dwg
Road-Hatch.dwg
Trees.dwg.dwg
Existing Conditions 032713.dwg

RANDOLPH ROAD

MATCH LINE SEE SHEET 2

RANDOLPH ROAD

12" Water

PERPETUAL ESMT. MONT. CO. P.NO.'S 305, 306 & 307

INV.= 375.64'

INV.= 375.89'

INV.= 375.79'

INV.= 374.35'

18" C.M.P.

36" R.C.P.

16" C.M.P.

WOOD

CONCRETE WALK

BEAR WALK

End of topographic survey; beginning of GIS

Design start @ N41.7901°, W66.0031°. Engineer will provide alignment and plan data in digital format for contractors use in stakeout.

Class II&III Rip Rap to be added to outfall pool.

End of topographic survey; beginning of GIS

BM 3

384.51

RN

PT.1

N/F
KHOI VIET NGUYEN
L.34101 F.652

LOT 1
RANDOLPH MANOR
P. No. 2267.

Restore all construction access impacts to existing condition.

Ex. Fence

Ex. Pole

Ex. Guyra

SCE

Ex. Fence

Ex. (Multiflora) rose) grea

Ex. Forest Conservation Easement

Ex. House Foundation and wall (To Be Removed after stream construction completed)

Forest Conservation Easement

STAGING AND STORAGE AREA

N158
N/F
RANDOLPH MANOR LLC
L.25390 F.275

Stabilize Gully Infrastructure Repair 5.1.3:

RETAINING WALL MONT. CO. P.NO. 324

MATCH LINE SEE SHEET 4

JH 1

JH 2

JH 3

JH 4

JH 5

JH 6

JH 7

JH 8

JH 9

JH 10

JH 11

JH 12

JH 13

R1

R2

R3

R4

R5

R6

R7

R8

R9

R10

R11

R12

CV1

CV2

Infrastructure Repair 5.1.1: Exposed sewer addressed in JH 4 / XS29 & XS30.

Add armoring to JH6 pool due to higher shear.

Infrastructure Repair 5.1.2: Exposed sewer manhole: See repair addressed at XST1.

N/F
PAUL SARKIDES
L.5413 F.625

N/F
MIRIAM Y. SOLOMON
L.31072 F.328

T1 SP1

T1 SP2

T1 SP3

T1 SP4

T1 SP5

T1 SP6

Tributary 1

Forest Conservation Easement

0 20' 40'

PLAN VIEW LEGEND

- Forest Conservation Easement
- Overhead wire
- Ex. Chainlink Fence
- Ex. Wood Fence
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- Ex. Water Main
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- Wetland Buffer Boundary
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- Proposed LOD
- Existing Contour
- Ex. 100-yr FEMA Floodplain
- Ex. 100-yr Modeled Floodplain
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- Light pole
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- Ex. Trees less than 24" (for informational purposes)
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Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

PLAN VIEW

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

MONTGOMERY COUNTY MARYLAND 1776

CPJ Associates

CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4581
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 3
4 OF 68 DRAWINGS
JOB NO. 38-507

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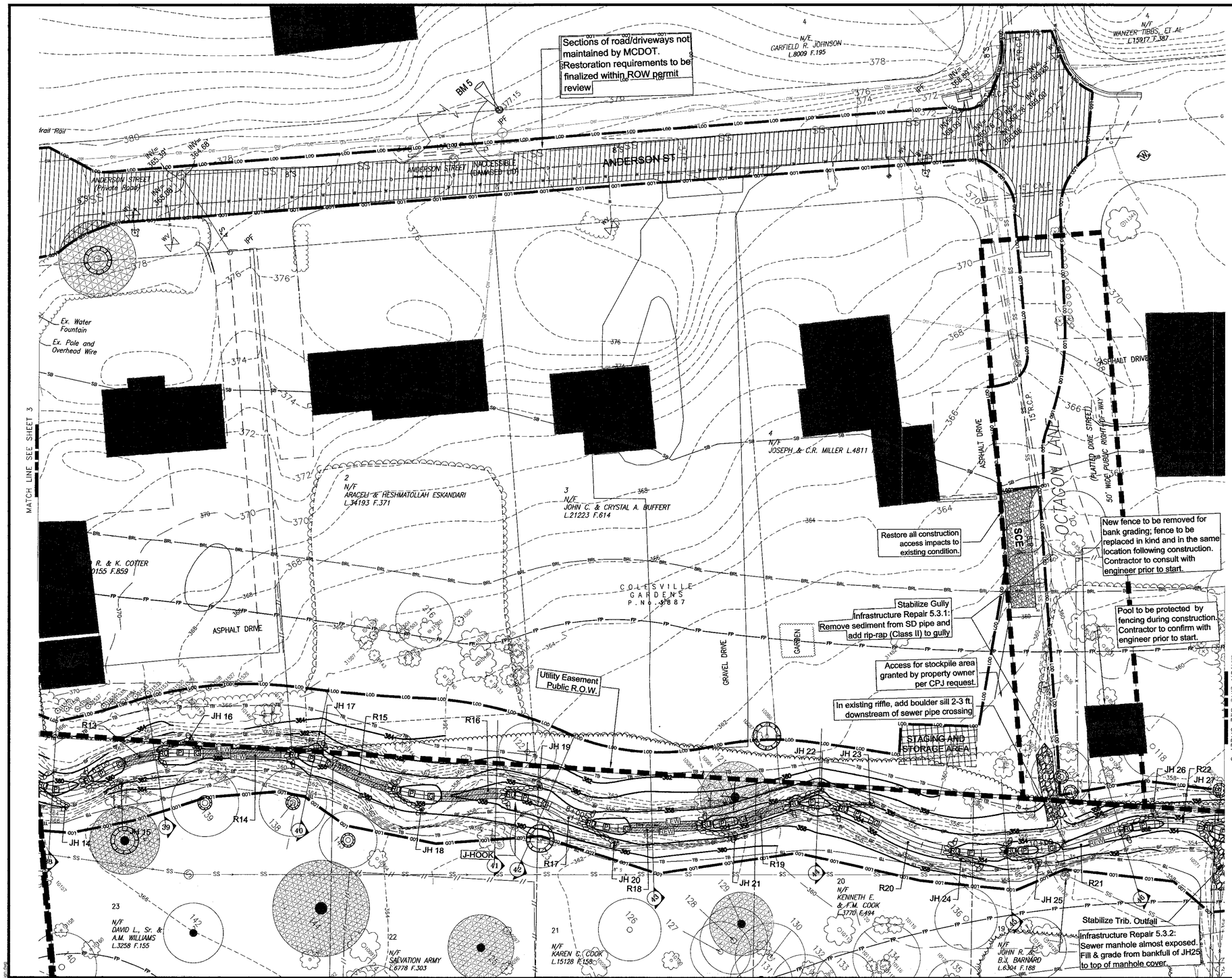
Trees dwg.dwg
Existing Conditions 032713.dwg



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MONTGOMERY COUNTY, MD
Hollywood Branch
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Hollywood Branch Stream Stabilization

PLAN VIEW

DATE: 04/13
DESIGNED: RP
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CHECKED: CW
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NO.	REVISIONS	BY	DATE

MONTGOMERY COUNTY 1776 MARYLAND

CPJ Associates
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STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: envocpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 4
5 OF 68 DRAWINGS
JOB NO. 38-507

Apr 16, 2013 - 3:04pm User: cwolver
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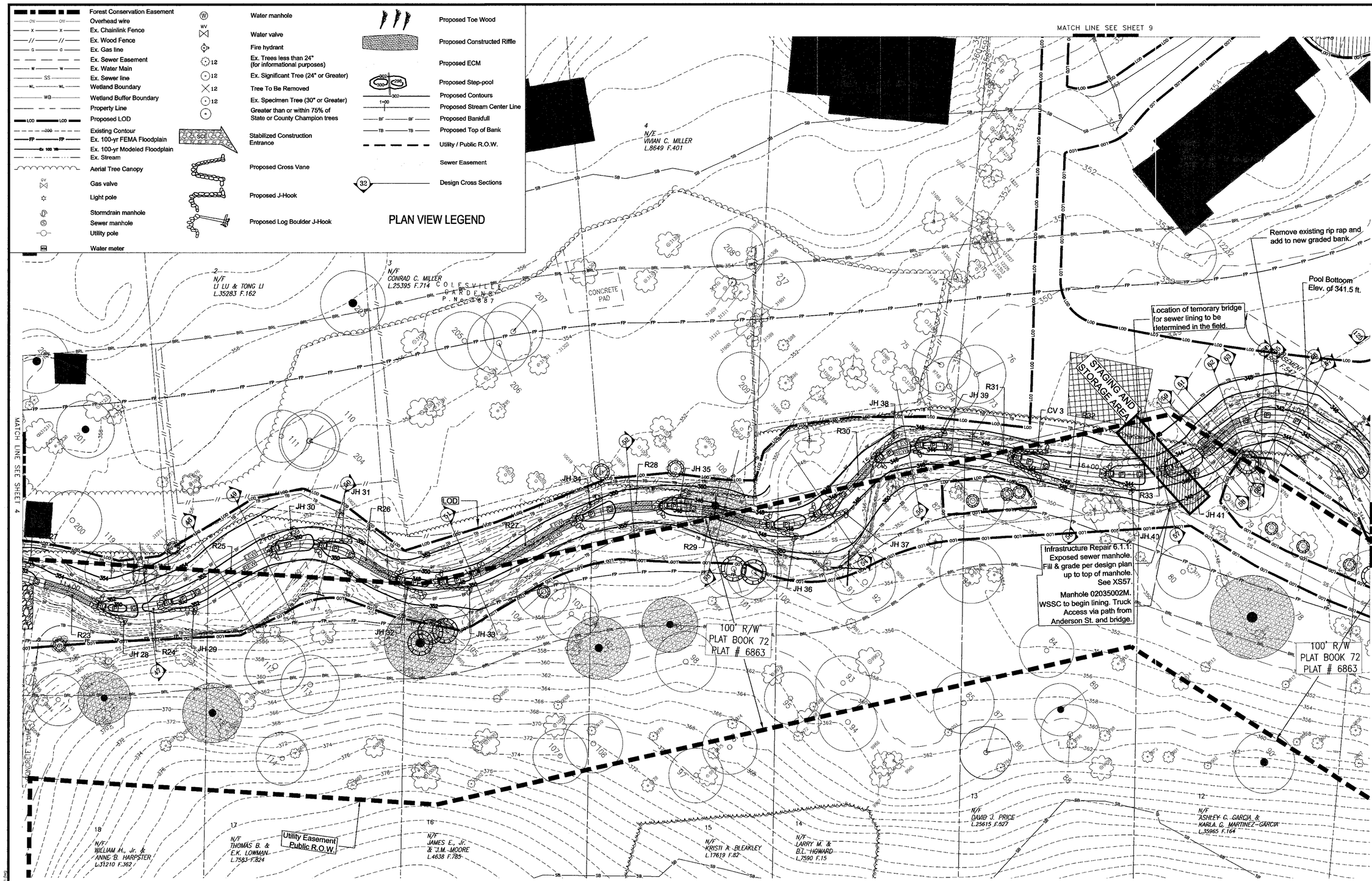
Design_Block.dwg
Road-Hatch.dwg
Trees.dwg
Existing Conditions 032713.dwg



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Hollywood Branch Stream Stabilization

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SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 5
6 OF 68 DRAWINGS
JOB NO. 38-507

Apr 16, 2013 - 3:07pm User: owilson
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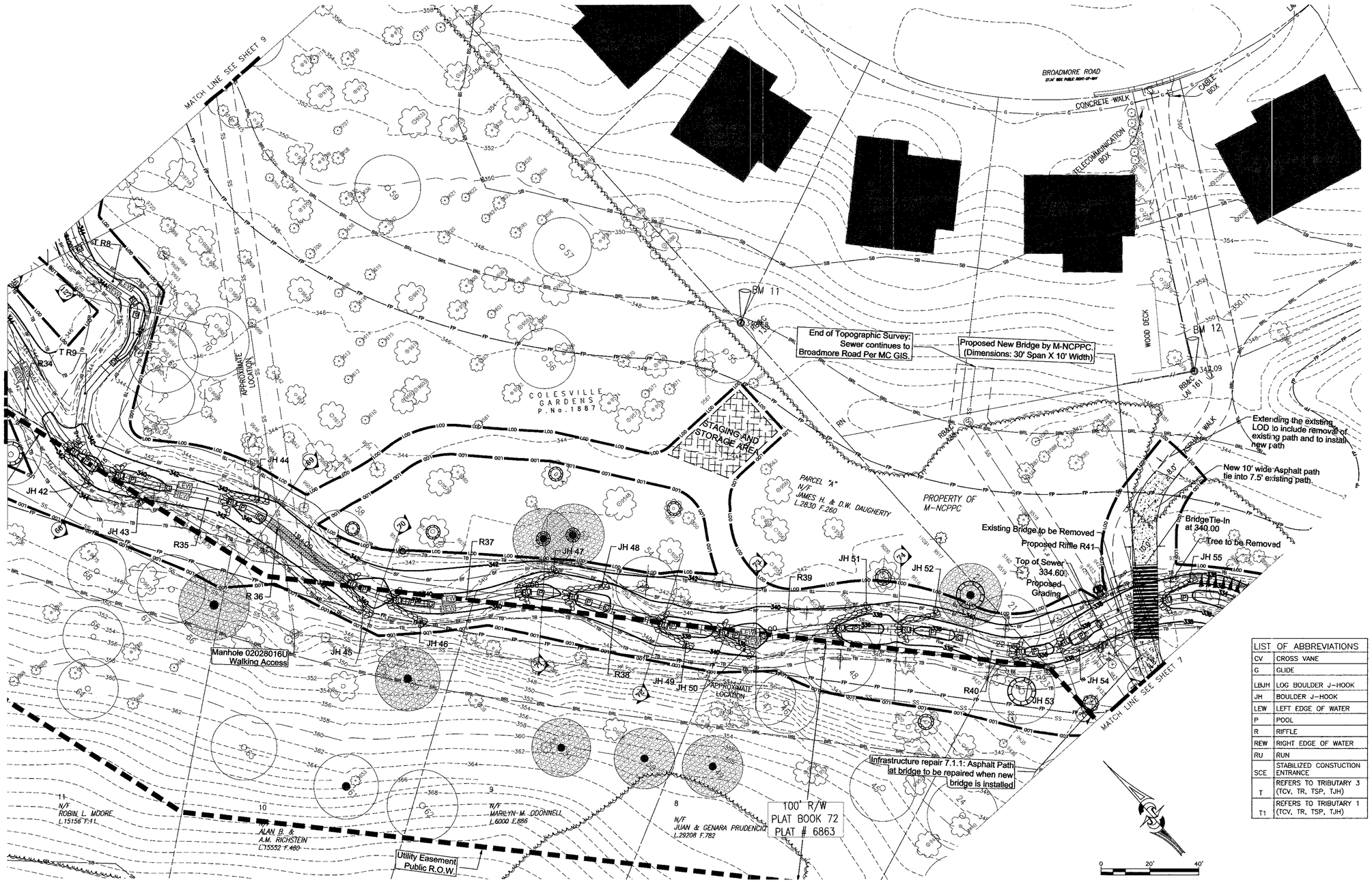
Evisting Conditions 032713.dwg



PLAN VIEW LEGEND

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- Ex. 100-yr Modeled Floodplain
- Ex. Stream
- Aerial Tree Canopy
- Gas valve
- Light pole
- Stormdrain manhole
- Sewer manhole
- Utility pole
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- Water manhole
- Water valve
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- Proposed Cross Vane
- Proposed J-Hook
- Proposed Log Boulder J-Hook
- Proposed Toe Wood
- Proposed Constructed Riffle
- Proposed ECM
- Proposed Step-pool
- Proposed Contours
- Proposed Stream Center Line
- Proposed Bankfull
- Proposed Top of Bank
- Utility / Public R.O.W.
- Sewer Easement
- Design Cross Sections

LIST OF ABBREVIATIONS	
CV	CROSS VANE
G	GLIDE
LBJH	LOG BOULDER J-HOOK
JH	BOULDER J-HOOK
LEW	LEFT EDGE OF WATER
P	POOL
R	RIFFLE
REW	RIGHT EDGE OF WATER
RU	RUN
SCE	STABILIZED CONSTUCTION ENTRANCE
T	REFERS TO TRIBUTARY 3 (TCV, TR, TSP, TJH)
T1	REFERS TO TRIBUTARY 1 (TCV, TR, TSP, TJH)

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. _____

M-NCPPC PARK FACILITY CODE 020

REVIEWED BY _____

APPROVED BY _____ CHIEF, CONSTRUCTION SECTION

DATE APPROVED _____

M-NCPPC PERMIT SHEET # ____ OF ____

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301)495-2574.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

PLAN VIEW

DATE:	04/13
DESIGNED:	RP
DRAFTED:	HT/JM
CHECKED:	CW
BASE DATA:	CPJA

NO.	REVISIONS	BY	DATE

MONTGOMERY COUNTY 1776 MARYLAND

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9873 E-mail:envcpja.com Fax:(301)926-4581
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 6
7 OF 68 DRAWINGS
JOB NO. 38-507

Plotted: Apr 16, 2013 - 3:56pm User: cwilson
K:\Hollywood Branch\2012\plan\2012 plan.dwg

Xrefs: TOPO032513.dwg
H2WMSPublic-Easements.dwg
Design_Block.dwg
Road-Hatch.dwg
Trees.dwg.dwg
Existing Conditions 032713.dwg

MATCH LINE SEE SHEET 8

MATCH LINE SEE SHEET 6

Manhole 02028014M Walking Access

TOE WOOD 3

R46

R45

R44

PROPERTY OF M-NCPPC

Remove existing Class III rip-rap installed for protection of sewer line. Confirm with WSSC adequate protection provided by new in-stream structures for high stress in R43; see XS81 through XS84.

JH 56

JH 57

Encapsulated fill as top layer of toe wood for high stress at bend.

Pool Bottoom Elev. of 329.3 ft.

LB JH 1

TOE WOOD 4

Pool Bottoom Elev. of 328.3 ft.

Approx. Location of Ex. Rock Out-Crop

P66B N/F M-NCPPC L.5439 F.332

COLESVILLE VILLAGE P.No.14649

Restore all construction access impacts to existing condition.

SCE

Top of Sewer 332.00

Manhole 02028015M Truck Access using planned access point on Cannon Road

R43

TOE WOOD 1

R42

Grading to extend ex. wetland

STAGING AND STORAGE AREA

ASPHALT WALK

Pool @ 333.6 ft.

STRONG AREA

Pool Bottoom Elev. of 333.0 ft.

TOE WOOD 2

Ex. Asphalt Path

PROPERTY OF M-NCPPC

BM 14

BM 17

338.67

CANNON ROAD

New 10' wide Asphalt path tie into 7.5' existing path.

Manhole 02028113D Truck Access using planned access point on Cannon Road

BUCKLEY DOWNS P.No.9538

N/F MELAKU M. ABEBE & ALEMTSEHAY GEBREWOLD L.15079 F.311

N/F CHRISTIAN O. LYHUS, ET AL, TRUSTEES L.13645 F.723

N/F SUELLEN H. & A.H. RIZVI L.8606 F.527

N/F RAYMOND E. BROWN, ET AL, TRUSTEES L.17524 F.540

PLAN VIEW LEGEND

- Forest Conservation Easement
- Overhead wire
- Ex. Chainlink Fence
- Ex. Wood Fence
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- Ex. Sewer Easement
- Ex. Water Main
- Ex. Sewer line
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T	REFERS TO TRIBUTARY 3 (TCV, TR, TSP, TJH)
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0 20' 40'

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. _____

M-NCPPC PARK FACILITY CODE 020

REVIEWED BY _____

APPROVED BY _____ CHIEF, CONSTRUCTION SECTION

DATE APPROVED _____

M-NCPPC PERMIT SHEET # ____ OF ____

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Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

PLAN VIEW

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

MONTGOMERY COUNTY MARYLAND 1776

CPJ Associates

CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9575 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 7
8 OF 68 DRAWINGS
JOB NO. 38-507

Plotted: Apr 18, 2013 - 3:15pm User: dwilson
P:\Hollywood Branch\Cad\Plans\PS Design.dwg

Xrefs: TOP0003513.dwg
ROW&Public-Easements.dwg
Design_Block.dwg
Road-Hatch.dwg
Trees chng.dwg
Existing Conditions 032713.dwg

LIST OF ABBREVIATIONS	
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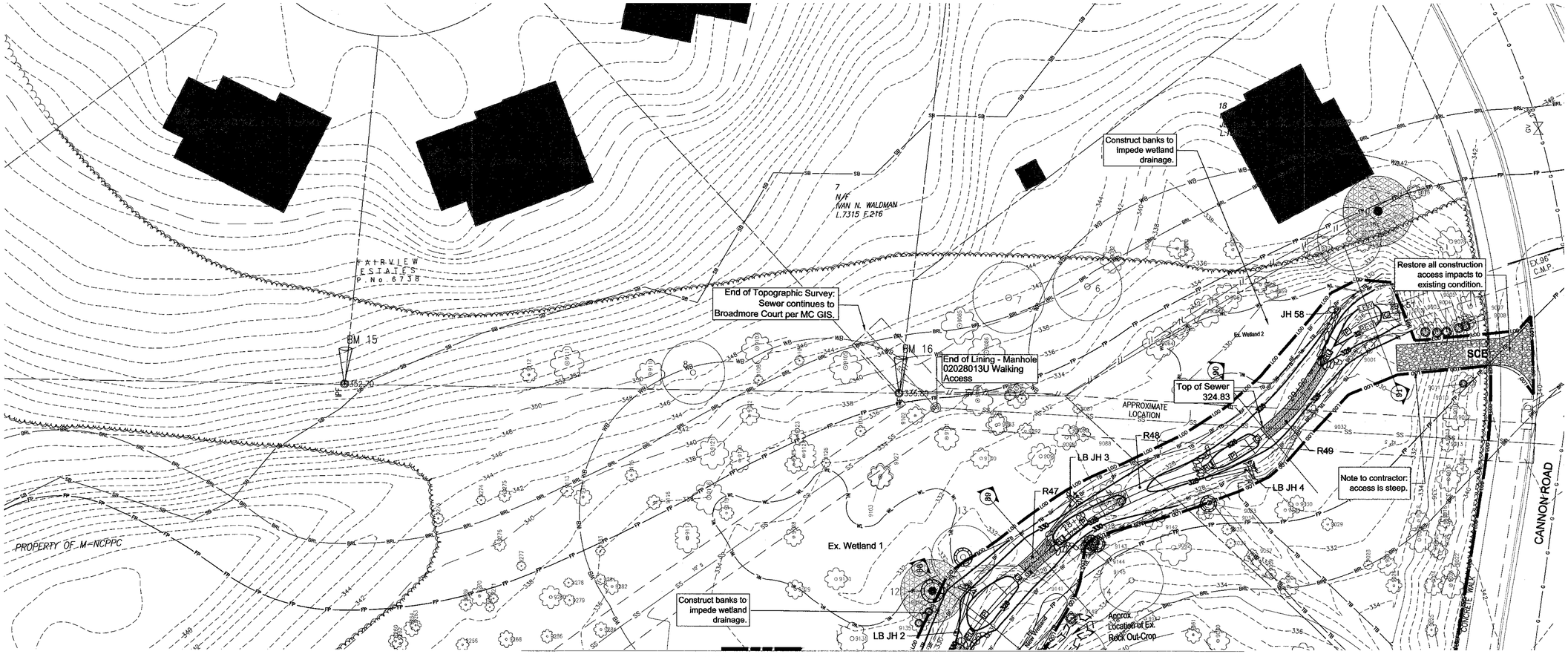

PLAN VIEW LEGEND

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THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. _____

M-NCPPC PARK FACILITY CODE D20

REVIEWED BY _____

APPROVED BY _____
CHIEF, CONSTRUCTION SECTION

DATE APPROVED _____

M-NCPPC PERMIT SHEET # _____ OF _____

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Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

PLAN VIEW

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910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 8
9 OF 68 DRAWINGS
JOB NO. 38-507

Apr 17, 2013 - 8:38am User: cwilson
P:\Hollywood Branch\CADD\dwg\03 Design.dwg

Xrefs: 10PO02513.dwg
ROW&Public Easements.dwg
Design_Block.dwg
Road Hatch.dwg
Trees dwg.dwg
Existing Conditions 032713.dwg

MATCH LINE SEE SHEET 10

P.No.14647

Infrastructure repair 8.3.1: Sediment in SD and eroded outfall. Remove sediment, re-grade per design grading, and install Class II rip-rap. Note: 1% Slope - adjust in the field. See XS122 & XS123.

Sections of road/driveways not maintained by MCDOT. Restoration requirements to be finalized within ROW permit review

MATCH LINE SEE SHEET 5

MATCH LINE SEE SHEET 6

23 N/F BENJAMIN J. & C.S. KREMENAK L.10506 F.570

POND 4

WOOD DECK

ALUMINUM SHED

WOOD DECK ON CONCRETE

BROADMORE ROAD
XX' WIDE PUBLIC RIGHT-OF-WAY

BRICK WALL

CONCRETE PATIO

COLESVILLE GARDENS P.No.1887

BURKHART DR

ANDERSON ST

18" R.C.P.

ASPHALT DRIVE

SEWER EASEMENT

0 20' 40'

LIST OF ABBREVIATIONS	
CV	CROSS VANE
G	GLIDE
LBJH	LOG BOULDER J-HOOK
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T	REFERS TO TRIBUTARY 3 (TCV, TR, TSP, TJH)
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Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

PLAN VIEW

DATE: 04/13
DESIGNED: RP
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CHECKED: CW
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NO.	REVISIONS	BY	DATE

MONTGOMERY COUNTY MARYLAND 1776

CPJ Associates

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Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 9
10 OF 68 DRAWINGS
JOB NO. 38-507

Apr 17, 2013 - 8:41am User: cordon
P:\Hollywood Branch\Drawings\Drawings.dwg

Xrefs: TOP0302573.dwg
ROW&Public-Easements.dwg
Design_Block.dwg
Road-Hatch.dwg
Trees.dwg.dwg
Existing Conditions 032713.dwg

RANDOLPH ROAD EAST

RANDOLPH ROAD

INV= 383.13'
INV= 386.45'

INSTALL ASPHALT CURB MOUNT

CONTRACTOR TO PROVIDE CURB AND SIDEWALK PROTECTION, REPAIR AND REPLACE AS NEEDED

INV= 379.60'
INV= 382.11'

SCE

Temporary grading for vehicular access

Everlake LLC.

End of topographic survey; Pipe location does not match GIS

APPROXIMATE LOCATION 51" R.C.P.

Ex. Pole
Overhead Wire

Ex. Guardrail

CONCRETE WALK

CONCRETE SIDEWALK

APPROXIMATE LOCATION 12" R.C.P.

YARD INLET

UTILITY HAND HOLE

PERPENDICULAR EXIT. MONT. CO. PIPE 5 STD # 3.14

CONCRETE DRIVE

BURKHART DR

BM 9

PARCEL "C"
N/F
BROADMORE HILLS COMMUNITY SERVICE ASSOCIATION, INC.
L.10288 F.554

STAGING AND STORAGE AREA

Infrastructure repair 8.1.1: Knick points. Grade per design at TCV1 and stabilize channel next to endwall within LOD.

T CV1

T R1

End of concrete flume 360.52

Infrastructure repair 8.1.1: Plunge pool. Re-grade to 360 ft per design and use ex. stone to from pool. Class II&III Rip Rap to be added to pool.

CONCRETE FLUME

BATH

WOOD DECK
SLATE PATIO

6
N/F
DA-HAE LEE
L.5963

IPF

BM 10
380.93

BROADMOOR ROAD

ASPHALT WALK

CONCRETE DRIVE

STONE WALL

WOOD DECK ON PAVERS

ASPHALT COURT

WOOD DECK

22
N/F
DENISE HEABLEY-HOLDER
P.NO.14647

MATCH LINE SEE SHEET 9

COLESVILLE VILLAGE

0 20' 40'

PLAN VIEW LEGEND

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MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

PLAN VIEW

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

MONTGOMERY COUNTY 1776 MARYLAND

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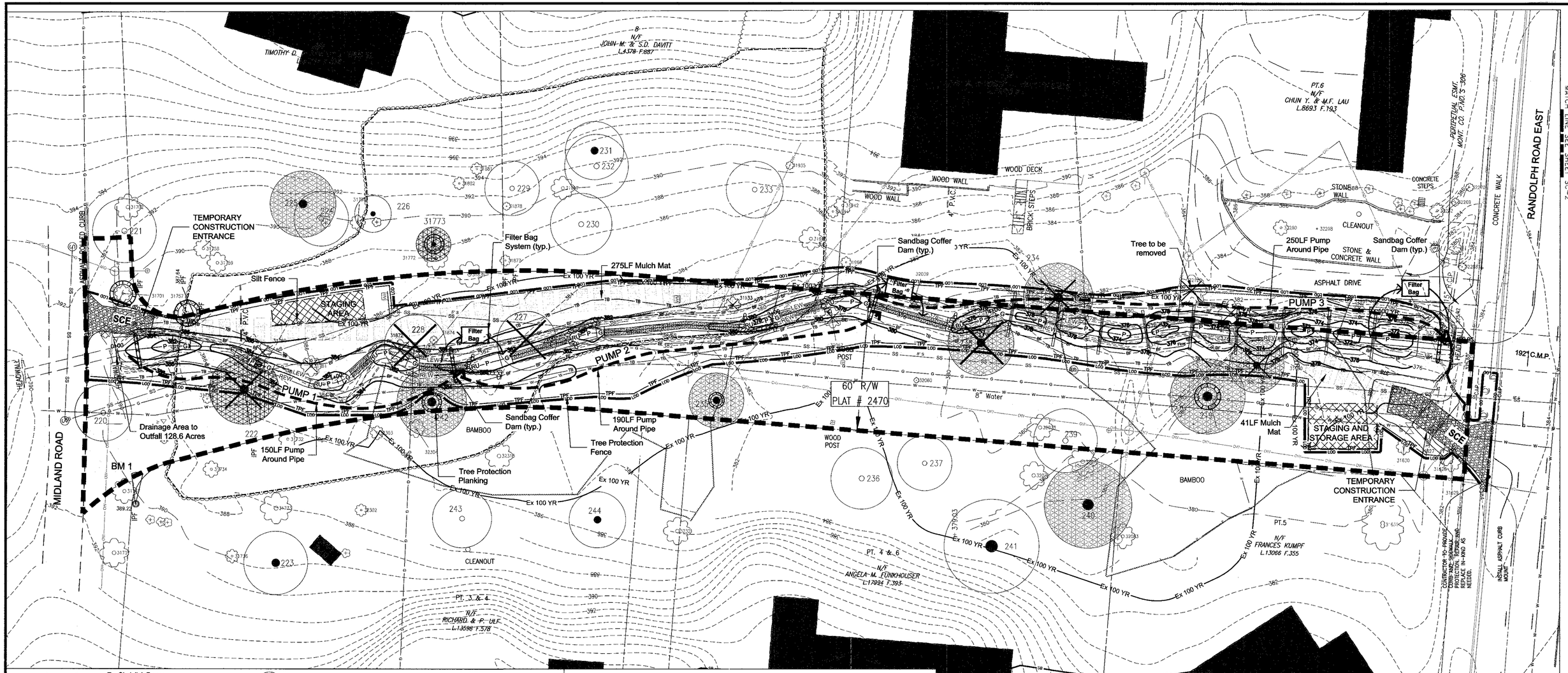
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 10
11 OF 68 DRAWINGS
JOB NO. 38-507

Plotted: Feb 15, 2013 - 2:14pm User: cordon
K:\MNCPPC\Stream Stabilization\Design\Plan\Plan.dwg

Xrefs TOP\0032513.dwg
ROW\Public Easements.dwg
Design_Block.dwg
Road-Hatch.dwg
Trees.dwg.dwg
Existing Conditions 032713.dwg



Ex. Chainlink Fence	Tree Req. Variance (30" or Greater)
Ex. Wood Fence	Stabilized Construction Entrance
Ex. Gas line	Tree Protection Planks
Ex. Water Main	Proposed Contours
Ex. Sewer line	Silt Fence
Wetland Boundary	Tree Protection Fence
Wetland Buffer	Temporary Access with 12" Mulch Mat
Property Line	Proposed Cross Vane
Proposed LOD	Proposed J-Hook
Existing Contour	Proposed Brush Mat
Stream Buffer	Proposed Stream Riffle
Ex. 100YR FEMA Floodplain	Proposed Step-pool
Ex. 100-yr Modeled Floodplain	Proposed Top of Bank
Floodplain BRL	Randolph Manor Property
Stream	Randolph Manor Property Existing FFCP # S-2554
Aerial Tree Canopy	Pump Around Pipe (typ.)
Ex. Trees < 24" (for informational purposes)	Silt Sack System (typ.)
Ex. Significant Tree (24" or Greater)	Erosion Control Matting (ECM)
Tree To Be Removed	Sand Bag Coffer Dam (typ.)
Ex. Specimen Tree (30" or Greater)	Design Centerline
Greater than or within 75% of State or County Champion trees	

PLAN VIEW LEGEND

0 20' 40'

RELATED REQUIRED PERMITS

IT IS THE RESPONSIBILITY OF PERMITEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRES PERMITS PRIOR TO ISSUANCE OF THE APPROVED SEDIMENT CONTROL PERMIT

	REQD.	NOT REQD.	PERMIT #	EXPIRATION DATE	WORK RESTRICTION DATES
WRA Waterway/ Joint Permit	X		MDE Tracking # 201161783 ACOE #NAB-2011-61783		October 1- April 30
MCDPS Sediment Control	X		242770		
MCDPS Floodplain	X		274059		
WETLAND (S)					
a. Corps of Engineers	X		ACOE #NAB-2011-61783		
b. DNR		X			
M-NCPPC NRI/FSD	X		4201003-0	4/21/2012 Amendment under review	
M-NCPPC FCP	X		MR2010006		
MDE Notice of Intent,NPDES	X				
M-NCPPC Mandatory Referral	X		MR2010006	N/A	
M-NCPPC Technical Review/ Park Construction	X				
WSSC	X		12RMS/7668-A		
MD SHA ROW		X			
MC ROW a. DPWT TCP Approval	X				
b. Easements/Right of Entry	X		274004		
Randolph Manor FC	X		S-2554		

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

SEDIMENT CONTROL PLAN VIEW

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

MONTGOMERY COUNTY 1776 MARYLAND

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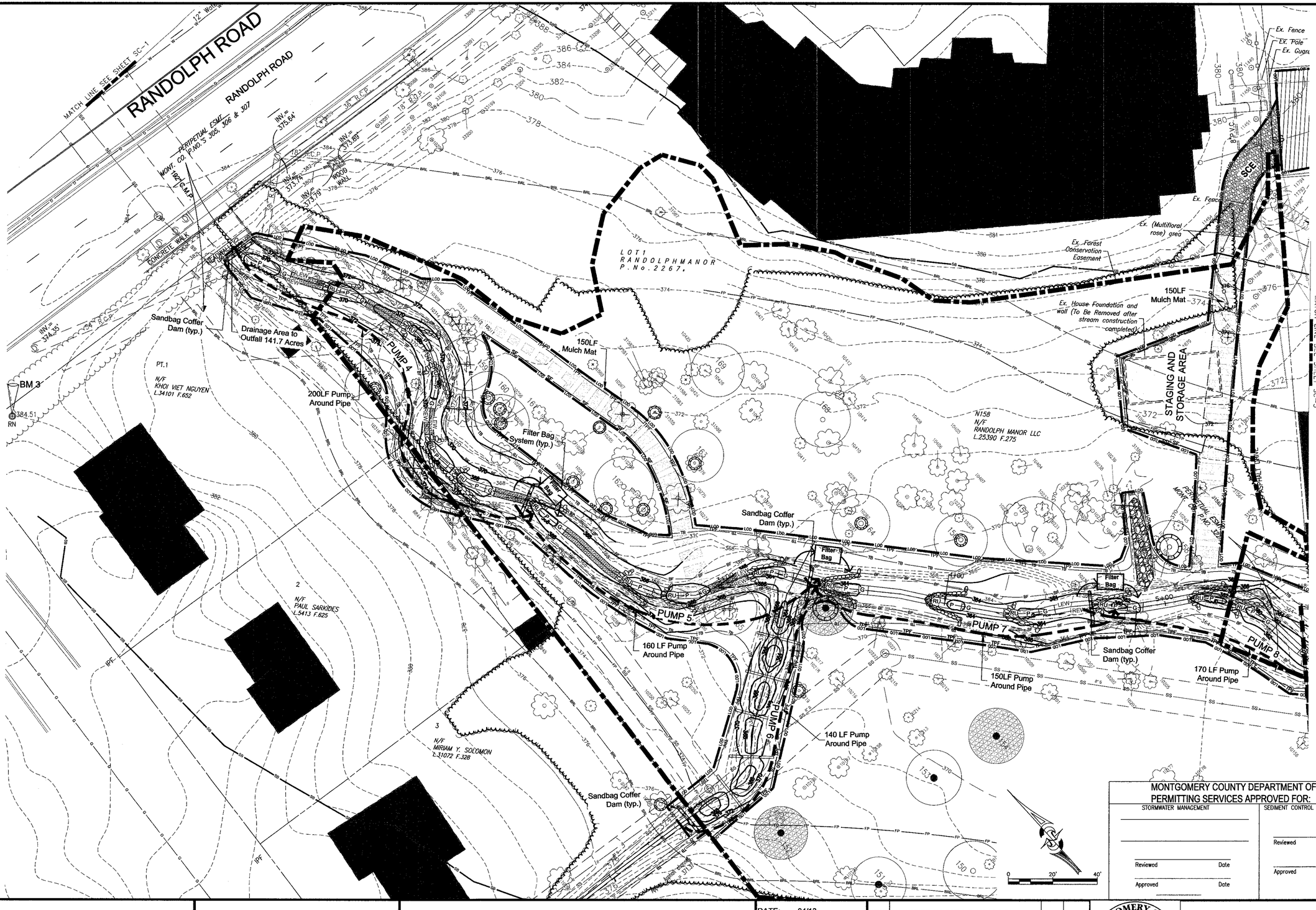
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET SC-1
12 OF 68 Drawings
JOB NO. 38-507

Apr 16, 2013 - 3:23pm User: dwilson
Prefixes: F:\Projects\Hollywood Branch\Sediment Control.dwg
Xrefs: TOPO032513.dwg
Existing Conditions 032713.dwg
Existing Easements.dwg
Trees Keep.dwg
Design_Base.dwg
E-6_Filter Log.dwg
Road-Hatch.dwg



PLAN VIEW LEGEND

- Ex. Chainlink Fence
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- Stream Buffer
- Ex. 100YR FEMA Floodplain
- Ex. 100-yr Modeled Floodplain
- Floodplain BRL
- Stream
- Aerial Tree Canopy
- Ex. Trees < 24" (for informational purposes)
- Ex. Significant Tree (24" or Greater)
- Tree To Be Removed
- Ex. Specimen Tree (30" or Greater)
- Greater than or within 75% of State or County Champion trees
- Tree Req. Variance (30" or Greater)
- Stabilized Construction Entrance
- Tree Protection Planks
- Proposed Contours
- Silt Fence
- Tree Protection Fence
- Temporary Access with 12" Mulch Mat
- Proposed Cross Vane
- Proposed J-Hook
- Proposed Brush Mat
- Proposed Stream Riffle
- Proposed Step-pool
- Proposed Top of Bank
- Randolph Manor Property
- Randolph Manor Property Existing FFCP # S-2554
- Pump Around Pipe (typ.)
- Silt Sack System (typ.)
- Sand Bag Coffer Dam (typ.)
- Erosion Control Matting (ECM)
- Design Centerline

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

SEDIMENT CONTROL PLAN VIEW

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

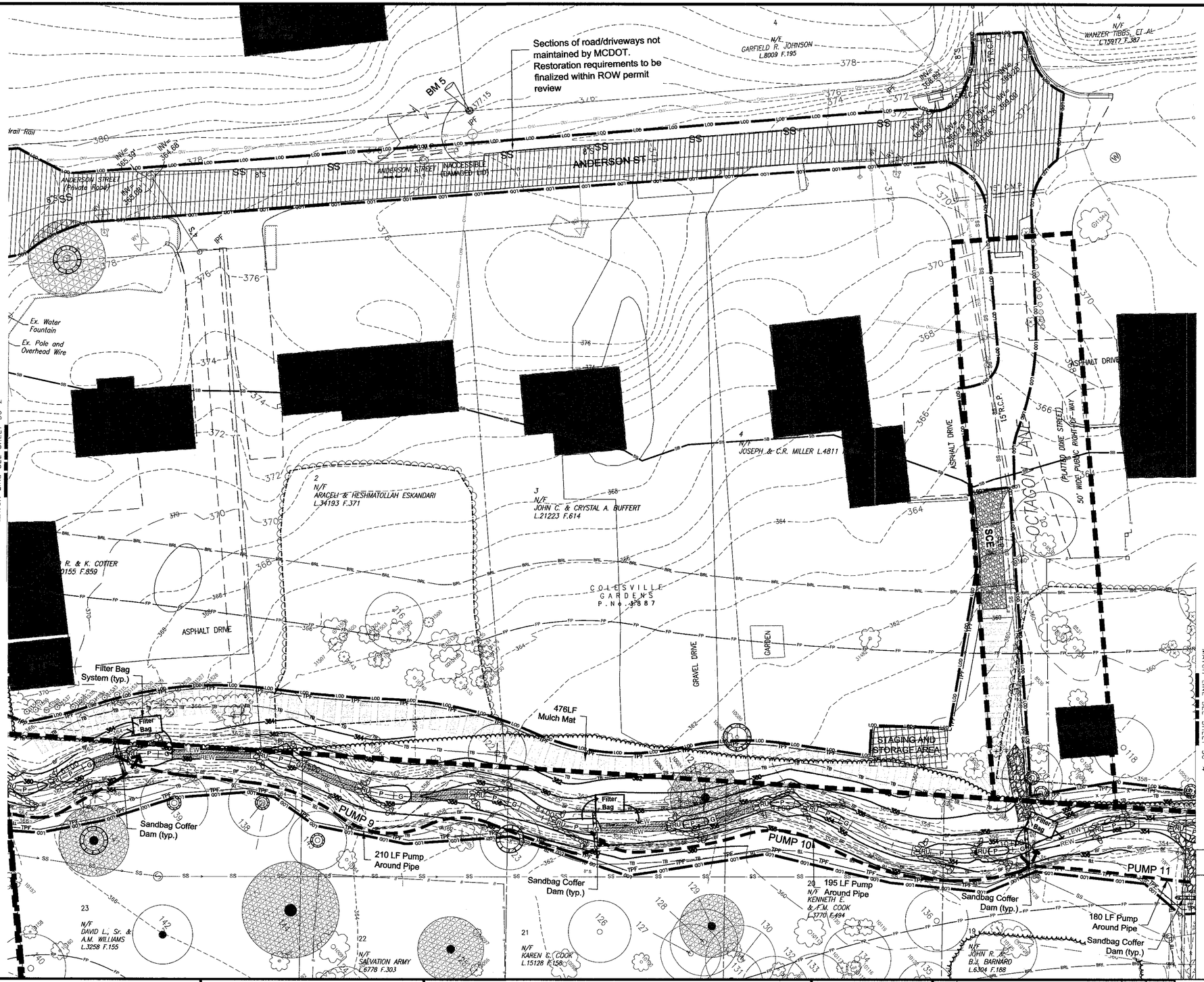
MONTGOMERY COUNTY MARYLAND 1776

CPJ Associates

CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET SC-2
13 OF 68 Drawings
JOB NO. 38-507

Plotted: Apr 17, 2013 - 8:44am User: cwilson
X:\Projects\Hollywood Branch\Sediment Control.dwg
Xrefs: TOPO032513.dwg
Existing Conditions 032713.dwg
ROWS&Public Easements.dwg
Trees.dwg.dwg
Design_Block.dwg
E-6_Filter Log.dwg
Road-Hatch.dwg



PLAN VIEW LEGEND

- Ex. Chainlink Fence
- Ex. Wood Fence
- Ex. Gas line
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MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
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Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

SEDIMENT CONTROL PLAN VIEW

DATE:	04/13
DESIGNED:	RP
DRAFTED:	HT/JM
CHECKED:	CW
BASE DATA:	CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9575 E-mail: env@cpja.com Fax:(301)926-4581
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET SC-3
14 OF 68 Drawings
JOB NO. 38-507

Plotted: Apr 16, 2013 - 3:26pm User: cwilson
X:\Projects\Hollywood Branch\Drawings\Sediment Control\SC-3.dwg
Xrefs: TOPO03513.dwg, Existing Conditions 032713.dwg, ROW&Public-Easements.dwg, Trees.dwg, Design_Block.dwg, E-S_Filter Log.dwg, Road-Hatch.dwg

MATCH LINE SEE SHEET SC-8

MATCH LINE SEE SHEET SC-3

MATCH LINE SEE SHEET SC-5

PLAN VIEW LEGEND

- Ex. Chainlink Fence
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- Randolph Manor Property Existing FFCP # S-2554
- Pump Around Pipe (typ.)
- Silt Sack System (typ.)
- Erosion Control Matting (ECM)
- Sand Bag Coffer Dam (typ.)
- Design Centerline

353LF Mulch Mat

Timber Mats to be substituted where site conditions require on along Daugherty property access route

200LF Pump Around Pipe

STAGING AND STORAGE AREA

Silt Fence

175LF Pump Around Pipe

PUMP 13

PUMP 14

Filter Bag System (typ.)

Filter Bag

953LF Mulch Mat

PUMP 12

PUMP 11

250LF Pump Around Pipe

Sandbag Coffer Dam (typ.)

25 LF Gravity Flow Pipe

100' R/W PLAT BOOK 72 PLAT # 6863

CONCRETE PAD

CONCRETE PATH

4 N/F VIVIAN C. MILLER L.8649 F.401

2 N/F LI LU & TONG LI L.35283 F.162

3 N/F CONRAD C. MILLER L.25395 F.714

COLESVILLE GARDENS P.No. 2687

13 N/F DAVID J. PRICE L.25615 F.527

14 N/F LARRY M. & B.L. HOWARD L.7590 F.15

15 N/F KRISTI K. BLEARLEY L.17619 F.82

16 N/F JAMES E., JR. & J.M. MOORE L.4638 F.785

17 N/F THOMAS B. & E.K. LOWMAN L.7583 F.824

18 N/F WILLIAM H., JR. & ANNE B. HARPSTER L.31210 F.362

0 20' 40'

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
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Montgomery County Department of Environmental Protection
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Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

SEDIMENT CONTROL PLAN VIEW

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA

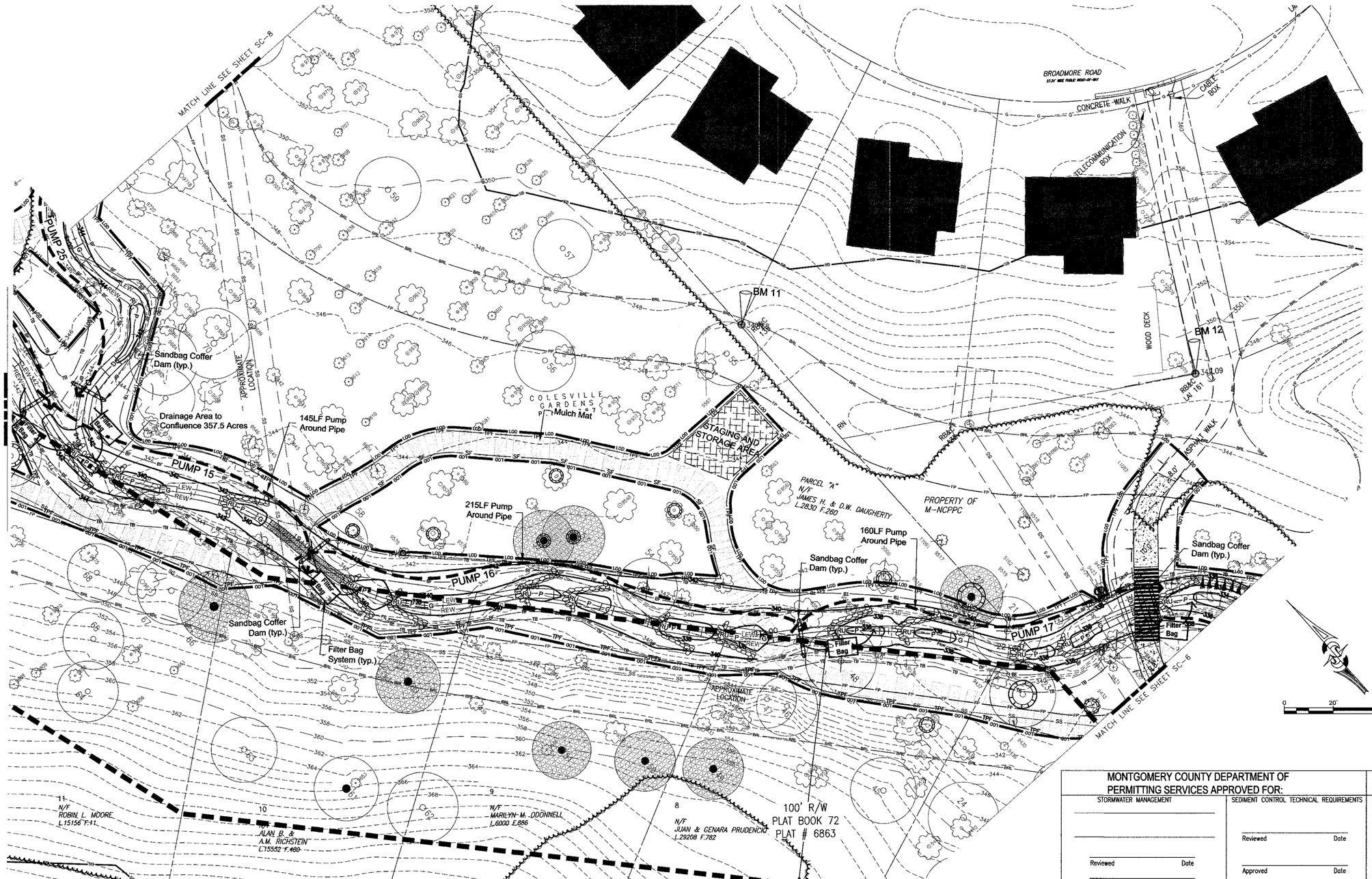
NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9575 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET SC-4
15 OF 68 Drawings
JOB NO. 38-507

Plotted: Apr 16, 2013 - 3:26pm User: dorton
P:\Hollywood Branch\Active\38-507\Design\38-507 Sediment Control.dwg

Xrefs: TOP0032513.dwg
Existing Conditions 092713.dwg
ROW&Public-Easements.dwg
Trees.Orig.dwg
Design_Block.dwg
E-6_Filter Log.dwg
Road-Hatch.dwg



PLAN VIEW LEGEND

- Ex. Chainlink Fence
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- Randolph Manor Property
- Randolph Manor Property Existing FFCP # S-2554
- Pump Around Pipe (typ.)
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- Sand Bag Coffer Dam (typ.)
- Erosion Control Matting (ECM)
- Design Centerline

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. _____

M-NCPPC PARK FACILITY CODE 020

REVIEWED BY _____

APPROVED BY _____ CHIEF, CONSTRUCTION SECTION

DATE APPROVED _____

M-NCPPC PERMIT SHEET # ____ OF ____

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301)495-2574.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
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Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

SEDIMENT CONTROL PLAN VIEW

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4851
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET SC-5
16 OF 68 Drawings
JOB NO. 38-507

Plotted: Apr 10, 2013 - 3:29pm User: cwilson
P:\Hollywood Branch\CAD\Drawings\Sediment Control.dwg

Xrefs: TOPO02013.dwg
Existing Conditions 032713.dwg
ROW&Public-Easements.dwg
Trees.dwg
Design_Block.dwg
E-6_Filter Log.dwg
Road-Match.dwg

MATCH LINE SEE SHEET SC-7

MATCH LINE SEE SHEET SC-5

PROPERTY OF M-NCPPC

135LF Pump Around Pipe

Sandbag Coffer Dam (typ.)

PUMP 19

Filter Bag

215LF Pump Around Pipe

Sandbag Coffer Dam (typ.)

PUMP 20

Ex. Wetland 3

Ex. Wetland 4

Filter Bag System (typ.)

Sandbag Coffer Dam (typ.)

PUMP 18

155LF Pump Around Pipe

STAGING AREA

Ex. Asphalt Path

ASPHALT WALK

542LF Mulch Mat

138LF Mulch Mat

Approx. Location of Ex. Rock Out-Crop

P666 N/F M-NCPPC L.5439 F.332

COLESVILLE VILLAGE P.No.14649

Protect SD Pipe

SCE

Mulch Mat

STAGING AND STORAGE AREA

ASPHALT WALK

TEMP. CONSTRUCTION ENTRANCE. PEDESTRIAN TRAFFIC TO BE RE-ROUTED DURING CONSTRUCTION PHASE.

CANNON ROAD

BM 14

349.13

BM 17

348.67

BUCKLEY DOWNS P.No.9538

N/F MELAKU M. ABEBE & ALEMITSEHAY GEBREWOLD L.15079 F.311

N/F CHRISTIAN O. LYAHS, ET AL, TRUSTEES L.13645 F.723

N/F SUELLEN H. & A.H. RIZVI L.8606 F.527

N/F RAYMOND E. BROWN, ET AL, TRUSTEES L.17524 F.548

PLAN VIEW LEGEND

- Ex. Chainlink Fence
- Ex. Wood Fence
- Ex. Gas line
- Ex. Water Main
- Ex. Sewer line
- Wetland Boundary
- Wetland Buffer
- Property Line
- Proposed LOD
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- Proposed Step-pool
- Proposed Top of Bank
- Randolph Manor Property
- Randolph Manor Property Existing FFCP # S-2554
- Pump Around Pipe (typ.)
- Filter Bag — Silt Sack System (typ.)
- Sand Bag Coffer Dam (typ.)
- Erosion Control Matting (ECM)
- 1+00 — Design Centerline

0 20' 40'

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
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THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. _____

M-NCPPC PARK FACILITY CODE 020

REVIEWED BY _____

APPROVED BY _____ CHIEF, CONSTRUCTION SECTION

DATE APPROVED _____

M-NCPPC PERMIT SHEET # _____ OF _____

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MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

SEDIMENT CONTROL PLAN VIEW

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

MONTGOMERY COUNTY 1776 MARYLAND

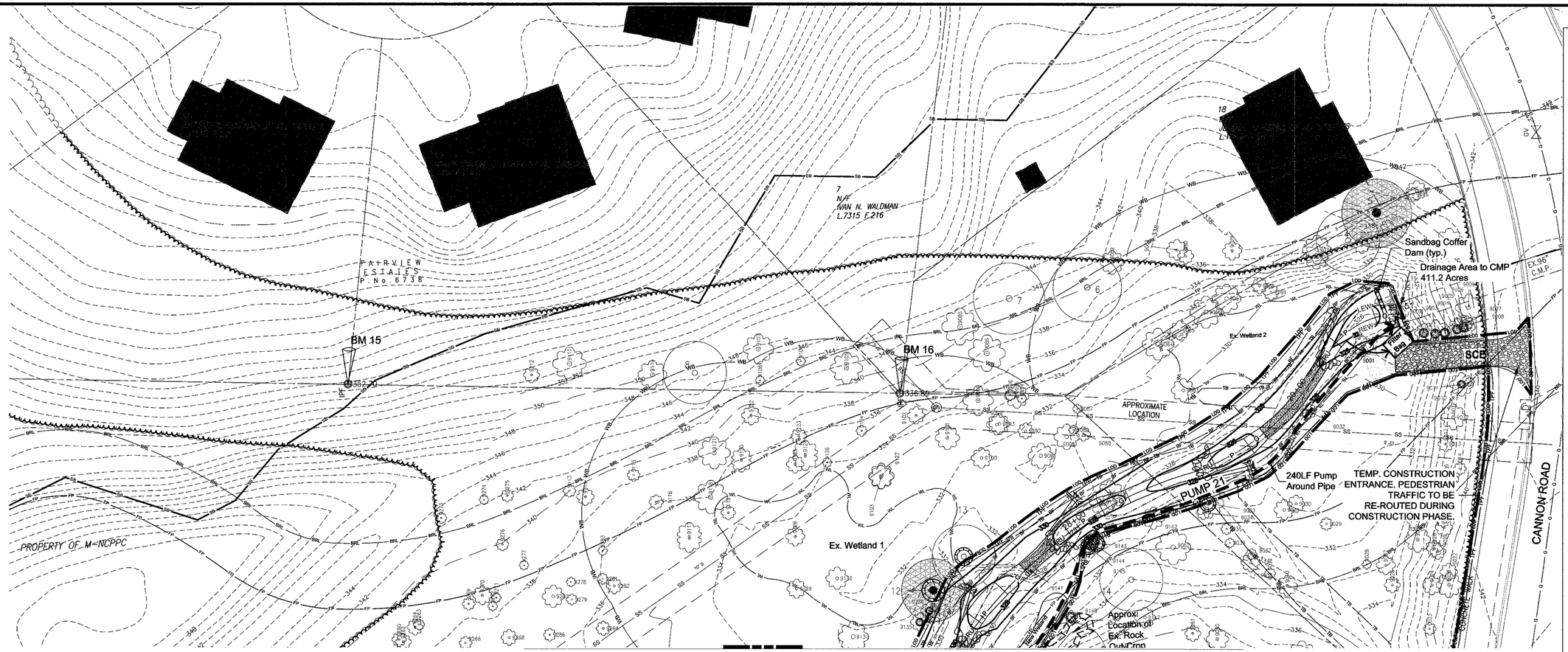
CPJ Associates

CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET SC-6
17 OF 68 Drawings
JOB NO. 38-507

Plotted: Apr 16, 2013 - 3:39pm User: cwilson
F:\Hollywood Branch\CADfiles\09 Sediment Control.dwg

Xrefs: TOPO092313.dwg
Existing Conditions 032713.dwg
ROW&Public-Easements.dwg
Trees dwg.dwg
Design_Block.dwg
E-6_Filter Log.dwg
Road-Hatch.dwg



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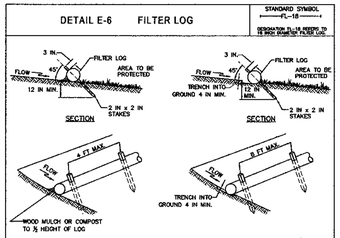
0 20' 40'

DETAIL E-6 FILTER LOG

STANDARD SYMBOL FL-18

DESIGNATION FL-18 REFERS TO 18 INCH STANDARD FILTER LOG



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-6 FILTER LOG

STANDARD SYMBOL FL-18

DESIGNATION FL-18 REFERS TO 18 INCH STANDARD FILTER LOG

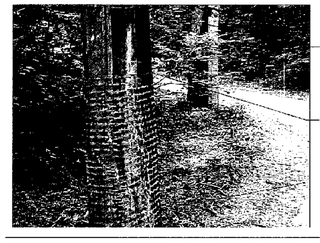
CONSTRUCTION SPECIFICATIONS

1. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
2. FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION 711.1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
3. INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
4. FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
5. STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
6. USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
7. WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
8. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF ½ THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR GOUGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

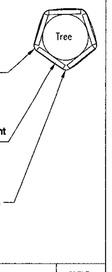
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



* Tree planking required for all trees within 10' of equipment access, excludes evergreen trees unless lower limbs have been pruned.

*** Tree Planking to be provided per plan. Additional tree planking may be required as directed by M-NCPPC Inspector.**

***DO NOT NAIL OR STAPLE ANY PROTECTION DEVICES TO TREE**



TREE PLANKING DETAIL N.T.S.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		
STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
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THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. _____

M-NCPPC PARK FACILITY CODE D20

REVIEWED BY _____

APPROVED BY _____ CHIEF, CONSTRUCTION SECTION

DATE APPROVED _____

M-NCPPC PERMIT SHEET # _____ OF _____

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301)495-2574.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

SEDIMENT CONTROL PLAN VIEW

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: envo@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET SC-7
18 OF 68 Drawings
JOB NO. 38-507

Apr 15, 2013 - 3:32pm User: cwilson
P:\Hollywood Branch\Plan\Sheets\SC Sediment Control.dwg

Xrefs: TOPO00231-3.dwg
Existing Conditions 032713.dwg
ROWS&Public-Easements.dwg
Trees.dwg.dwg
Design_Slicks.dwg
E-6_Filter Log.dwg
Road Match.dwg

MATCH LINE SEE SHEET SC-9

P. No. 14647

220LF Pump Around Pipe

Filter Bag

Filter Bag System (typ.)

PUMP 23

117LF Pump Around Pipe

Filter Bag

Ex 100 YR

23 N/F BENJAMIN J. & CYNTHIA KREMENAK 10596, F.570

POND

WOOD DECK

ALUMINUM SHED

WOOD DECK ON CONCRETE

BROADMORE ROAD

BRICK WALL

CONCRETE PATIO

Sandbag Coffer Dam (typ.)

COLESVILLE GARDENS P. No. 1887

Sections of road/driveways not maintained by MCDOT. Restoration requirements to be finalized within ROW permit review

BURKHART DR

ANDERSON ST

18" R.C.P.

219LF Mulch Mat

PUMP 24

235LF Pump Around Pipe

Sandbag Coffer Dam (typ.)

160LF Pump Around Pipe

Filter Bag

MATCH LINE SEE SHEET SC-4

MATCH LINE SEE SHEET SC-5

0 20' 40'

PLAN VIEW LEGEND

- Ex. Chainlink Fence
- Ex. Wood Fence
- Ex. Gas line
- Ex. Water Main
- Ex. Sewer line
- Wetland Boundary
- Wetland Buffer
- Property Line
- Proposed LOD
- Existing Contour
- Stream Buffer
- Ex. 100YR FEMA Floodplain
- Ex. 100-yr Modeled Floodplain
- Floodplain BRL
- Stream
- Aerial Tree Canopy
- Ex. Trees < 24" (for informational purposes)
- Ex. Significant Tree (24" or Greater)
- Tree To Be Removed
- Ex. Specimen Tree (30" or Greater)
- Greater than or within 75% of State or County Champion trees
- Tree Req. Variance (30" or Greater)
- Stabilized Construction Entrance
- Tree Protection Planks
- Proposed Contours
- Silt Fence
- Tree Protection Fence
- Temporary Access with 12" Mulch Mat
- Proposed Cross Vane
- Proposed J-Hook
- Proposed Brush Mat
- Proposed Stream Riffle
- Proposed Step-pool
- Proposed Top of Bank
- Randolph Manor Property
- Randolph Manor Property Existing FFCP # S-2554
- Pump Around Pipe (typ.)
- Silt Sack System (typ.)
- Sand Bag Coffer Dam (typ.)
- Erosion Control Matting (ECM)
- Design Centerline

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

Prepared for:
Montgomery County Department of
Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

SEDIMENT CONTROL PLAN VIEW

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

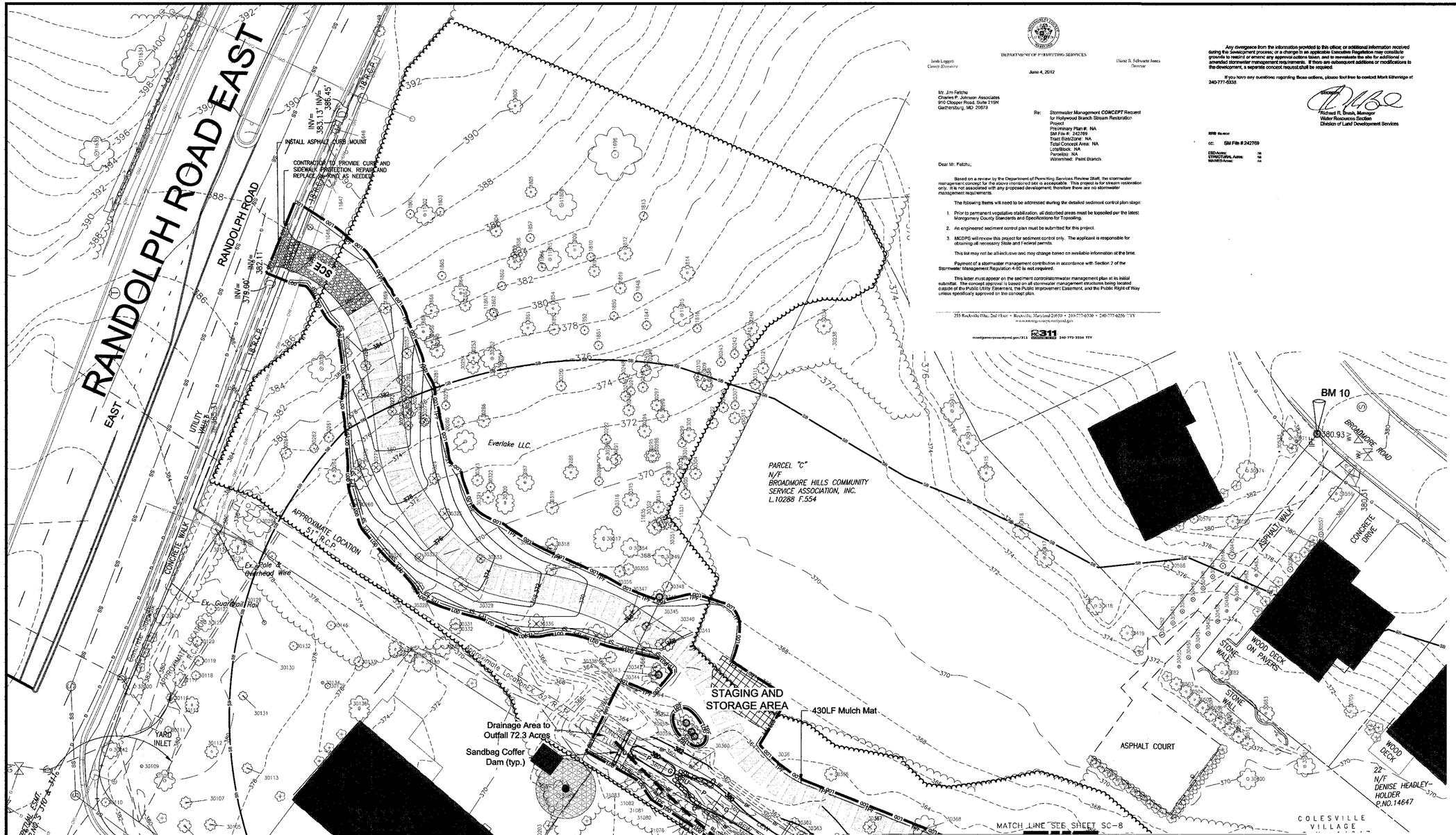
MONTGOMERY COUNTY MARYLAND 1776

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET SC-8
19 OF 68 Drawings
JOB NO. 38-507

Plotted: Apr 16, 2013 - 3:33pm User: cwilson
P:\Hollywood Branch\Cad\Drawings\Sediment Control.dwg

Xrefs: TOPO0325113.dwg
Existing Conditions 032713.dwg
ROW&Public-Easements.dwg
Trees.dwg
Design_Block.dwg
E-6_Filter Log.dwg
Road-Hatch.dwg



DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett
County Executive

Diane R. Schwartz Jones
Director

June 4, 2012

Mr. Jim Fetchu
Charles P. Johnson Associates
910 Clopper Road, Suite 215N
Gaithersburg, MD 20878

Re: Stormwater Management CONCEPT Request
for Hollywood Branch Stream Restoration
Project
Preliminary Plan #: NA
SM File #: 242769
Tract Size/Zone: NA
Total Concept Area: NA
Lots/Block: NA
Parcel(s): NA
Waterfowl: Paint Branch

Dear Mr. Fetchu,

Based on a review by the Department of Permitting Services Review Staff, the stormwater management concept for the above mentioned site is acceptable. This project is for stream restoration only. It is not associated with any proposed development; therefore there are no stormwater management requirements.

The following items will need to be addressed during the detailed sediment control plan stage:

1. Prior to permanent vegetative stabilization, all disturbed areas must be topsoiled per the latest Montgomery County Standards and Specifications for Topsoiling.
2. An engineered sediment control plan must be submitted for this project.
3. MCDPS will review this project for sediment control only. The applicant is responsible for obtaining all necessary State and Federal permits.

This list may not be all-inclusive and may change based on available information at the time.

Payment of a stormwater management contribution in accordance with Section 2 of the Stormwater Management Regulation 4-90 is not required.

This letter must appear on the sediment control/stormwater management plan at its initial submittal. The concept approval is based on all stormwater management structures being located outside of the Public Utility Easement, the Public Improvement Easement, and the Public Right of Way unless specifically approved on the concept plan.

Any divergence from the information provided to this office, or additional information received during the development process, or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended stormwater management requirements. If there are subsequent additions or modifications to the development, a separate concept request shall be required.

If you have any questions regarding these actions, please feel free to contact Mark Etheridge at 240-777-6338.

Sincerely,

Richard R. Brush, Manager
Water Resources Section
Division of Land Development Services

RRB:tla:mce

cc: SM File # 242769

CED Acres: 78
STRUCTURAL Acres: 52
WAIVED Acres: na

255 Rockville Pike, 2nd Floor • Rockville, Maryland 20850 • 240-777-0300 • 240-777-6256 TTY
www.montgomerycountymd.gov

311 240-773-3556 TTY
montgomerycountymd.gov/311

PLAN VIEW LEGEND

- Ex. Chainlink Fence
- Ex. Wood Fence
- Ex. Gas line
- Ex. Water Main
- Ex. Sewer line
- Wetland Boundary
- Wetland Buffer
- Property Line
- Proposed LOD
- Existing Contour
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- Floodplain BRL
- Stream
- Aerial Tree Canopy
- Ex. Trees < 24" (for informational purposes)
- Ex. Significant Tree (24" or Greater)
- Tree To Be Removed
- Ex. Specimen Tree (30" or Greater)
- Greater than or within 75% of State or County Champion trees
- Tree Req. Variance (30" or Greater)
- Stabilized Construction Entrance
- Tree Protection Planks
- Proposed Contours
- Silt Fence
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- Design Centerline

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS	
Reviewed Date	Reviewed Date	Reviewed Date	
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.	
Ext. File no.		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.	

Prepared for:
Montgomery County Department of
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MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

SEDIMENT CONTROL PLAN VIEW

DATE:	04/13
DESIGNED:	RP
DRAFTED:	HT/JM
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BASE DATA:	CPJA

NO.	REVISIONS	BY	DATE

MONTGOMERY COUNTY MARYLAND 1776

CPJ Associates

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STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9575 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET SC-9
20 OF 68 Drawings
JOB NO. 38-507

Apr 16, 2013 - 3:35pm User: owilson
Plotted: P:\Hollywood Branch\CADD\Plan\SC Sediment Control.dwg

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Existing Conditions 03712.dwg
ROW&Public-Easements.dwg
Trees.dwg-Log.dwg
Design_Birds.dwg
E-E_Filter Log.dwg
Road-Hatch.dwg

STANDARD EROSION AND SEDIMENT CONTROL NOTES (Montgomery County Dept. of Permitting Services, August 2008)

1. The permittee shall notify the Department of Permitting Services (DPS) forty-eight (48) hours before commencing any land disturbing activity and, unless waived by the Department, shall be required to hold a pre-construction meeting between them or their representative, their engineer and an authorized representative of the Department.

2. The permittee must obtain inspection and approval by DPS at the following points:

A. At the required pre-construction meeting.

B. Following installation of sediment control measures and prior to any other land disturbing activity.

C. During the installation of a sediment basin or stormwater management structure at the required inspection points (see Inspection Checklist on plan). Notification prior to commencing construction is mandatory.

D. Prior to removal or modification of any sediment control structure(s).

E. Prior to final acceptance.

3. The permittee shall construct all erosion and sediment control measures per the approved plan and construction sequence, shall have them inspected and approved by the Department prior to beginning any other land disturbances, shall ensure that all runoff from disturbed areas is directed to the sediment control devices, and shall not remove any erosion or sediment control measure without prior permission from the Department.

4. The permittee shall protect all points of construction ingress and egress to prevent the deposition of materials onto traversed public thoroughfare(s). All materials deposited onto public thoroughfare(s) shall be removed immediately.

5. The permittee shall inspect periodically and maintain continuously, in effective operating condition, all erosion and sediment control measures until such times as they are removed with prior permission from the Department. The permittee is responsible for immediately repairing or replacing any sediment control measures which have been damaged or removed by the permittee or any other person .

6. All sediment basins, trap embankments, perimeter dikes, and all disturbed slopes steeper or equal to 3:1 shall be stabilized with sod, seed, and anchored straw mulch, or other approved stabilization measures, within seven (7) calendar days of establishment. All areas disturbed outside of the perimeter sediment control system must be minimized and stabilized immediately. Maintenance must be performed as necessary to ensure continued stabilization.

7. The permittee shall apply sod, seed, and anchored straw mulch, or other approved stabilization measures to all disturbed areas within fourteen (14) calendar days after stripping and grading activities have ceased on that area. Maintenance shall be performed as necessary to ensure continued stabilization. Active construction areas such as borrow or stockpile areas, roadway improvements, and areas within fifty (50) feet of a building under construction may be exempt from this requirement, provided that erosion and sediment control measures are installed and maintained to protect those areas.

8. Prior to removal of sediment control measures, the permittee shall stabilize all contributory disturbed areas with required soil amendments and topsoil, using sod or an approved permanent seed mixture and an approved anchored mulch. Wood fiber mulch may only be used in seeding season when the slope does not exceed 10% and grading has been done to promote sheet flow drainage. Areas brought to finished grade during the seeding season shall be permanently stabilized within fourteen (14) calendar days of establishment. When property is brought to finished grade during the months of November through February, and permanent stabilization is found to be impractical, an approved temporary seed and straw anchored mulch shall be applied to disturbed areas. The final permanent stabilization of such property shall be completed prior to the following April 15.

9. The site permit, work, materials, approved SC/SM plans, and test reports shall be available at the site for inspection by duly authorized officials of Montgomery County.

10. Surface drainage flows over unstabilized cut and fill slopes shall be controlled by either preventing drainage flows from traversing the slopes or by installing mechanical devices to lower the water down slope without causing erosion. Dikes shall be installed and maintained at the top of cut or fill slopes until the slope and drainage area to it are fully stabilized, at which time they must be removed and final grading done to promote sheet flow drainage. Mechanical devices must be provided at points of concentrated flow where erosion is likely to occur.

11. Permanent swales or other points of concentrated water flow shall be stabilized within 7 calendar days of establishment with sod or seed with an approved erosion control matting or by other approved stabilization measures.

12. Temporary sediment control devices shall be removed, with permission of the Department, within thirty (30) calendar days following establishment of permanent stabilization in all contributory drainage areas. Stormwater management structures used temporarily for sediment control shall be converted to the permanent configuration within this time period as well.

13. No permanent cut or fill slope with a gradient steeper than 3:1 will be permitted in lawn maintenance areas or on residential lots. A slope gradient of up to 2:1 will be permitted in non-maintenance areas provided that those areas are indicated on the erosion and sediment control plan with a low-maintenance ground cover specified for permanent stabilization. Slope gradient steeper than 2:1 will not be permitted with vegetative stabilization.

14. The permittee shall install a splashblock at the bottom of each downspout unless the downspout is connected by a drain line to an acceptable outlet.

15. For finished grading, the permittee shall provide adequate gradients so as to prevent water from standing on the surface of lawns more than twenty-four (24) hours after the end of a rainfall, except in designated drainage courses and swale flow areas, which may drain as long as forty-eight (48) hours after the end of a rainfall.

16. Sediment traps or basins are not permitted within 20 feet of a building which is existing or under construction. No building may be constructed within 20 feet of a sediment trap or basin.

17. All inlets in non-sump areas shall have asphalt berms installed at the time of base paving establishment.

18. The sediment control inspector has the option of requiring additional sediment control measures, as deemed necessary.

19. All trap elevations are relative to the outlet elevation, which must be on existing undisturbed ground.

20. Vegetative stabilization shall be performed in accordance with the 1994 MD Standards and Specifications for Soil Erosion and Sediment Control.

21. Temporary sediment trap(s) shall be cleaned out and restored to the original dimensions when sediment has accumulated to the point of one-half (1/2) the wet volume of the trap or when required by the sediment control inspector.

22. Sediment removed from traps shall be placed and stabilized in approved areas, but not within a floodplain.

23. All sediment basins and traps must be surrounded with a welded wire safety fence. The fence must be at least 42 inches high, have posts spaced no farther apart than 8 feet, have mesh openings no greater the two inches in width and four inches in height, with a minimum of 14 gauge wire. Safety fence must be maintained in good condition at all times.

24. No excavation in the areas of existing utilities is permitted unless their location has been determined. Call "Miss Utility" at 1-800-257-7777, 48 hours prior to the start of work.

25. Off-site spoil or borrow areas must have prior approval by DPS.

26. Sediment trap/basin dewatering for cleanout or repair may only be done with the DPS inspector's permission. The inspector must approve the dewatering method for each application. The following methods may be considered:
A. Pump discharge may be directed to another on-site sediment trap or basin, provided it is of sufficient volume and the pump intake is floated to prevent agitation or suction of deposited sediments; or

B. the pump intake may utilize a Removable Pumping Station and must discharge into an undisturbed area through a non-erosive outlet; or

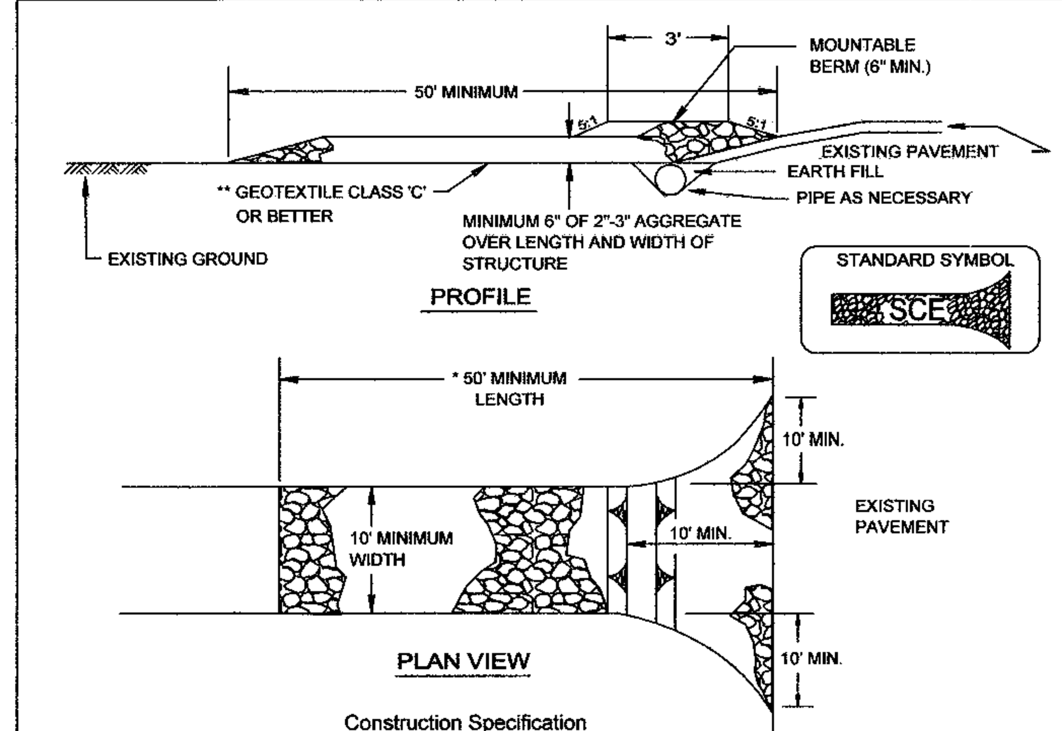
C. the pump intake may be floated and discharge into a Dirt Bag (12 oz. non-woven fabric), or approved equivalent, located in an undisturbed buffer area.

Remember: Dewatering operation and method must have prior approval by the DPS inspector.

27. The permittee must notify the Department of all utility construction activities within the permitted limits of disturbance prior to the commencement of those activities.

28. Topsoil must be applied to all pervious areas within the limits of disturbance prior to permanent stabilization in accordance with Montgomery County standards and specifications for topsoiling.

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Contractor to grade to min requirements for construction entrance. Max slope 10%.

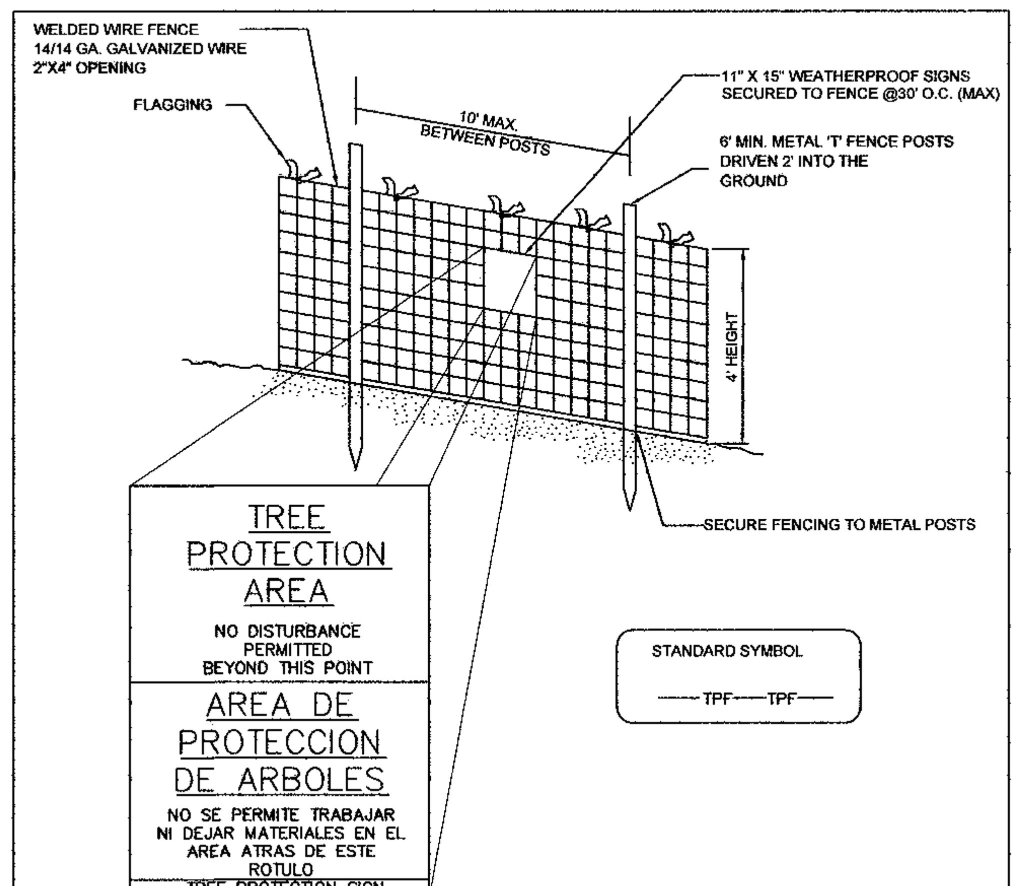
4. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

5. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

6. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

7. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 17 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



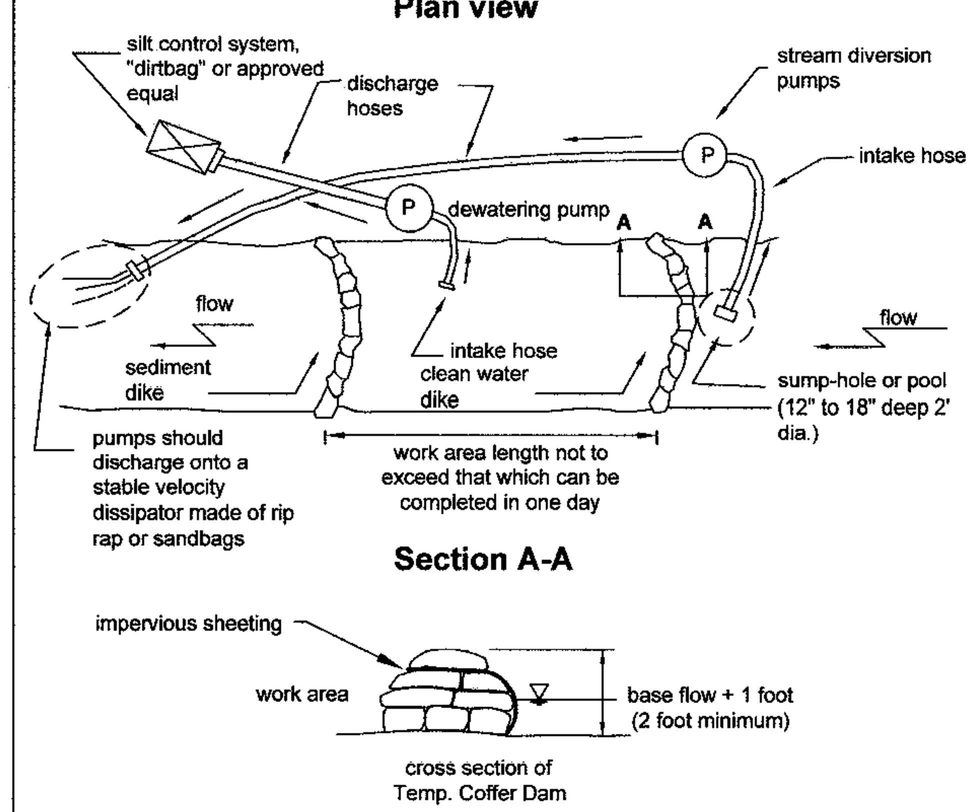
NOTES

1. PRACTICE MAY BE COMBINED WITH SEDIMENT CONTROL FENCING.
2. LOCATION AND LIMITS OF FENCING SHALL COORDINATED IN FIELD WITH ARBORIST.
3. BOUNDARIES OF PROTECTION AREA SHOULD BE STAKED PRIOR TO INSALLING PROTECTIVE DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED
5. PROTECTIVE SIGNAGE IS REQUIRED.
6. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION FENCE DETAIL

NOT TO SCALE

Source: Maryland's guidelines to waterway construction - Detail 1.2



Pump Around Detail

Not To Scale

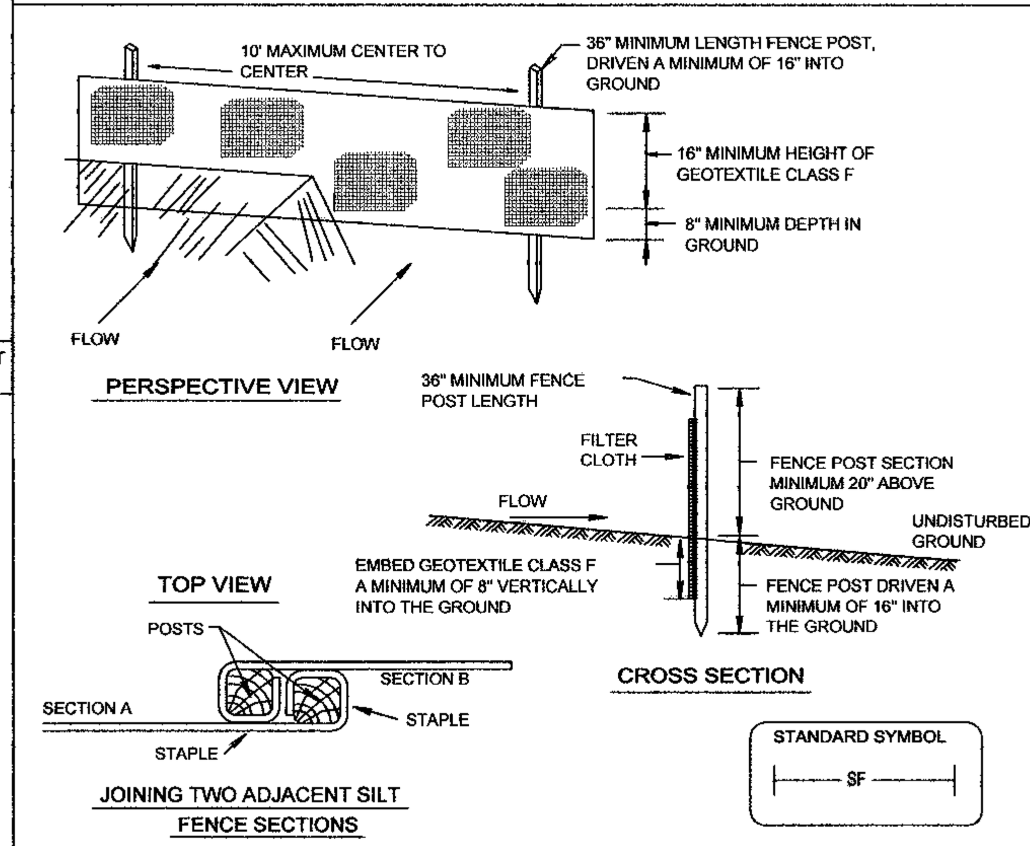
Pump-Around Practice
Temporary measure for dewatering in-channel construction sites. Pumps shall be continuously manned.

Description
The work should consist of installing a temporary pump around and supporting measures to divert flow around instream construction sites.

Implementation Sequence for Pump-Around
Sediment control measures, pump-around practices, and associated channel and bank construction should be completed in the following sequence (refer to detail).

1. Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements andor rights-of-ways have been acquired. All existing utilities should be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction.
2. The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.
3. The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should stake out all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limits of disturbance which will be removed for construction access. Trees should not be removed within the limits of disturbance without approval from the WMA or local authority.
4. Construction should not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.
5. Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.
6. Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work areas. The pump should discharge onto a stable velocity dissipated made of riprap or sandbags.
7. Water from the work area should be pumped to a sediment filtering measure such as a silt control system "dirtbag", sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.
8. Traversing a channel reach with equipment within the work area where no work is proposed should be avoided. If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. (See Section 4, Stream Crossings, Maryland Guidelines to Waterway Construction).
9. All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross-sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.
10. After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike whould be established upstream from the old sediment dike. Finally, upon establishment of a new sediment dike below the old one, the old sediment dike should be removed.
11. A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.
12. If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.
13. The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.
14. After construction, all disturbed areas should be regraded and revegetated as per the planting plan.

DETAIL 22 - SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

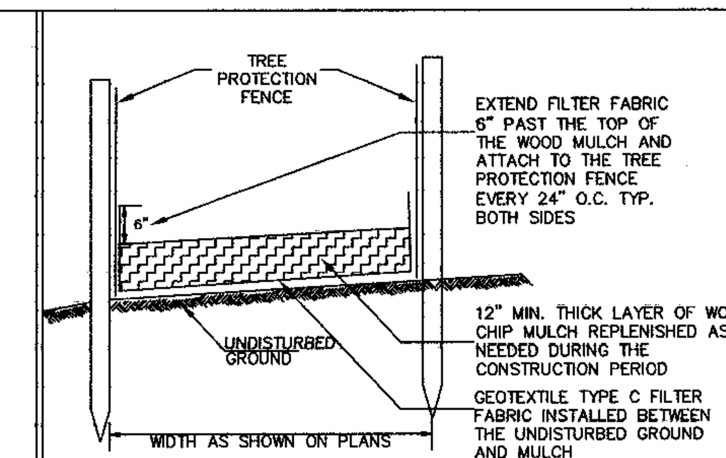
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

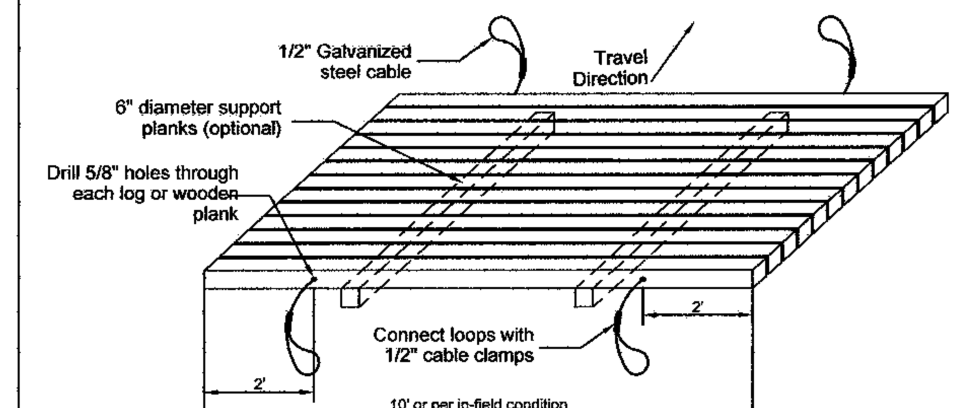


PLAN SYMBOL

MULCH MAT

NOT TO SCALE

Notes:
1. All wooden planks to be 10'X6"X6" min. If logs are used min. diameter will be 6" and 10' long.
2. Drill 5/8 " holes through each log or wooden plank.
3. String logs/wood planks together with 1/2" Galvanized steel cable.
4. Make a loop at the end of each cable and secure with cable clamps.
5. Place wood mats over a non-woven geotextile fabric that covers the entire crossing area.
6. Contractor is responsible to size logs or wooden planks to support maximum loads and soil strength.
7. Support planks (2 each, 6" diameter) can be used in lieu of cabling so long as 5/8" bolts with nuts are used on a three foot spacing.



TEMPORARY WOODEN MATS

n.t.s.

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. ______

M-NCPPC PARK FACILITY CODE D20

REVIEWED BY ______

APPROVED BY ______ CHIEF, CONSTRUCTION SECTION

DATE APPROVED ______

M-NCPPC PERMIT SHEET # ____ OF ____

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301)495-2574.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
	Reviewed Date	Reviewed Date
Reviewed Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
Approved Date		
S.M. File NO.		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

SEDIMENT CONTROL NOTES AND DETAILS

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET SC-10

JOB NO. 38-507

Plotted: Apr 16, 2013 - 3:42pm User: cwilson F:\Hollywood Branch\CAD\dwg\90-SCdetails.dwg
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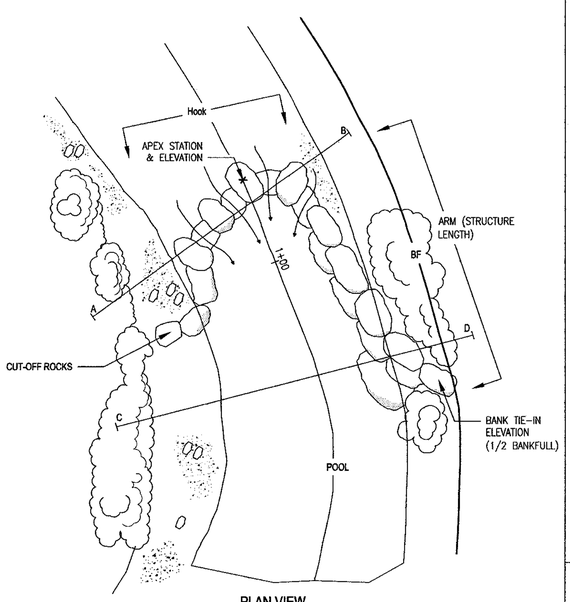
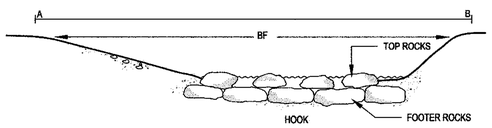
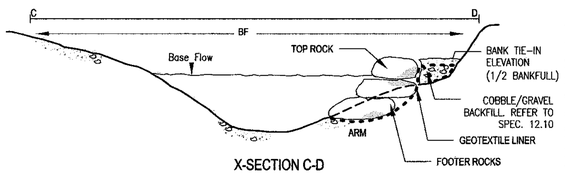


PLAN VIEW

1 J-Hook
Scale: N.T.S



X-SECTION A-B



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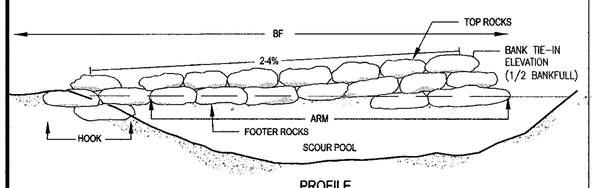
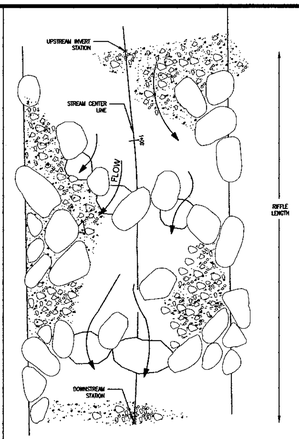


PROFILE



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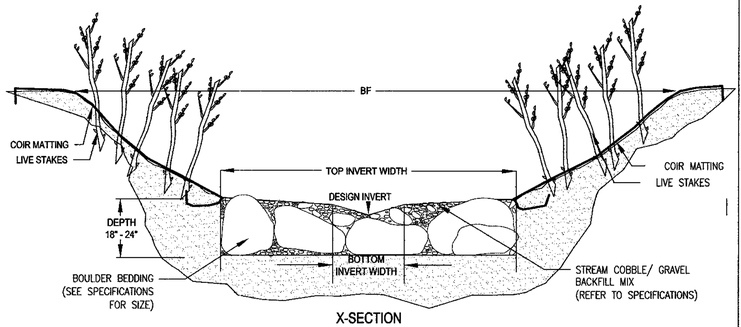
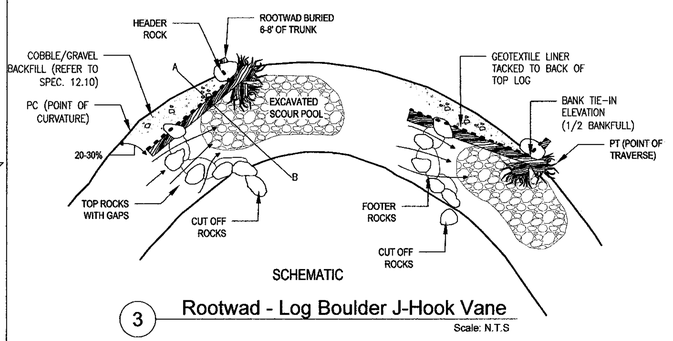


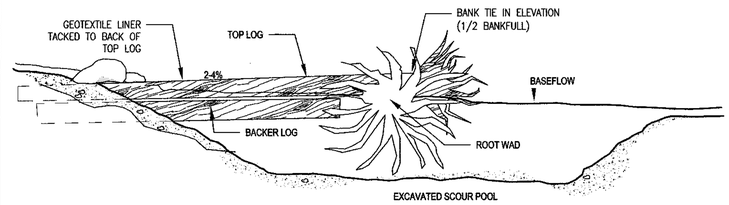
X-SECTION

2 Constructed Riffle
Scale: N.T.S

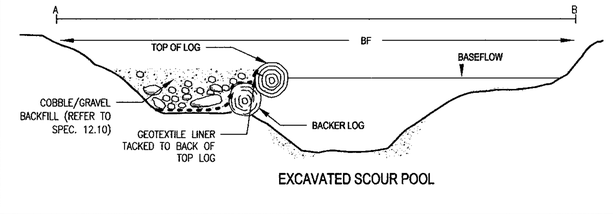


SCHEMATIC

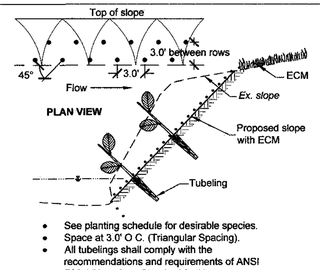
3 Rootwad - Log Boulder J-Hook Vane
Scale: N.T.S



PROFILE

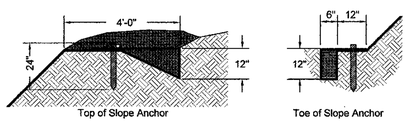


EXCAVATED SCOUR POOL



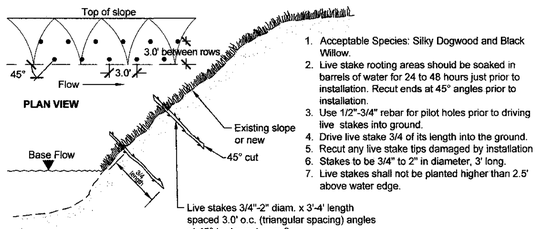
- See planting schedule for desirable species.
- Space at 3.0' O.C. (Triangular Spacing).
- All tubelings shall comply with the recommendations and requirements of ANSI Z60.1 "American Standard for Nursery Stock."
- Cut slot in mat to install tubeling. Seal slot with compost and staple.
- (Planting time - April 1st - Dec 1st)

4 Tubeling Detail
Not To Scale



Notes:
1. Begin at the top of the slope and anchor fiber matting in a 12" deep initial anchor trench. Backfill trench and tamp earth firmly.
2. Unroll fiber matting downslope in the direction of water flow.
3. Overlap edges of adjacent parallel rolls 6" and anchor at 12" centers.
4. When fiber mat must be spliced, place end over end (shingle style) with 12" overlap and anchor using two staggered rows of stakes at 6" centers.
5. Care must be taken where tree roots are present. Anchors should be offset accordingly.
6. Lay fiber mat loosely and anchor sufficiently to maintain direct contact with the soil - DO NOT STRETCH.
7. For slopes 2:1 and steeper use a minimum of 3 stakes per square yard and for slopes flatter than 2:1 use a minimum of 2 stakes per square yard.
8. Anchor, fill, and compact end of fiber matting in 12"x6" terminal anchor trench (mirror image of initial trench)

5 ECM Anchoring Detail
Not To Scale



1. Acceptable Species: Silky Dogwood and Black Willow.
2. Live stake rooting areas should be soaked in barrels of water for 24 to 48 hours just prior to installation. Recut ends at 45° angles prior to installation.
3. Use 1/2"-3/4" rebar for pilot holes prior to driving live stakes into ground.
4. Drive live stake 3/4 of its length into the ground.
5. Recut any live stake tips damaged by installation
6. Stakes to be 3/4" to 2" in diameter, 3' long.
7. Live stakes shall not be planted higher than 2.5' above water edge.

6 Live Stakes Detail
Not To Scale

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. _____

M-NCPPC PARK FACILITY CODE D20

REVIEWED BY _____

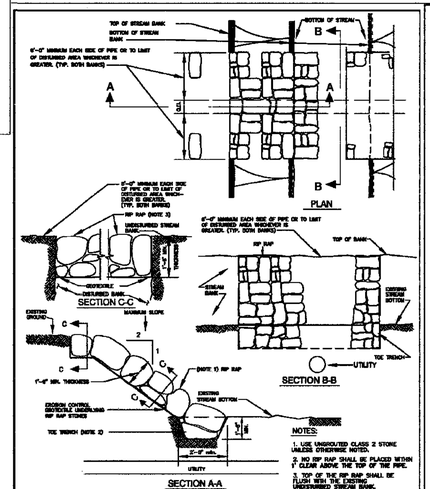
APPROVED BY _____
CHIEF, CONSTRUCTION SECTION

DATE APPROVED _____

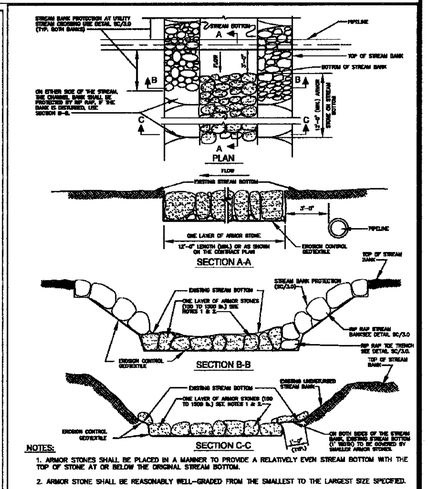
M-NCPPC PERMIT SHEET # _____ OF _____

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301)495-2574.



WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: JULY 1, 2005 Chief Engineer	STANDARD DETAIL STREAM BANK PROTECTION AT UTILITY STREAM CROSSING	SC 3.0



WASHINGTON SUBURBAN SANITARY COMMISSION	APPROVED: JULY 1, 2005 Chief Engineer	STANDARD DETAIL STREAM INVERT PROTECTION FOR SHALLOW UTILITY STREAM CROSSING	SC 3.1

3.0 / 3.1 Utility Protection Detail
Not To Scale

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

BIO-ENGINEERING DETAILS

DATE:	04/13
DESIGNED:	RP
DRAFTED:	HT/JM
CHECKED:	CW
BASE DATA:	CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 11
22 OF 68 Drawings
JOB NO. 38-507

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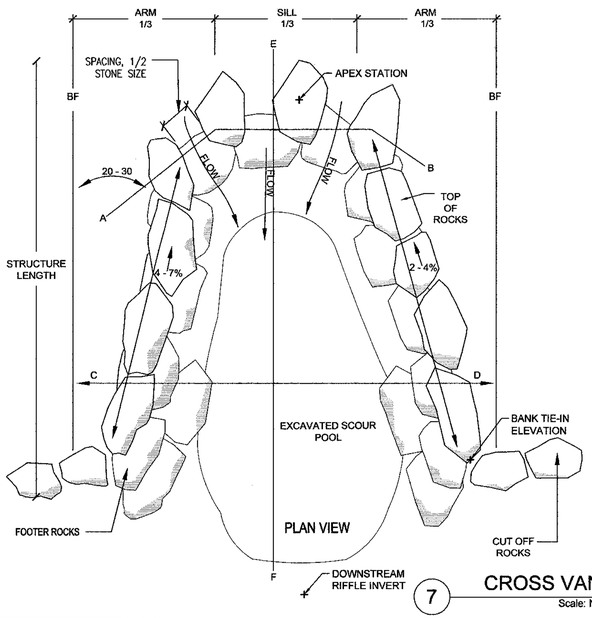
Step Pools.dwg
Jhooks.dwg
Cross Vane.dwg
Constructed Riffle Profile.dwg
SEWER PROTECTION DETAIL.dwg



7 CROSS VANE
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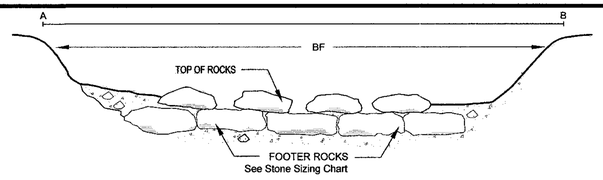
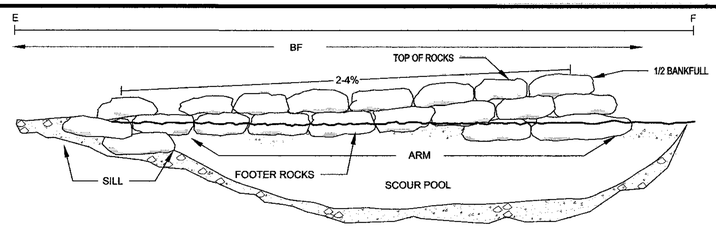
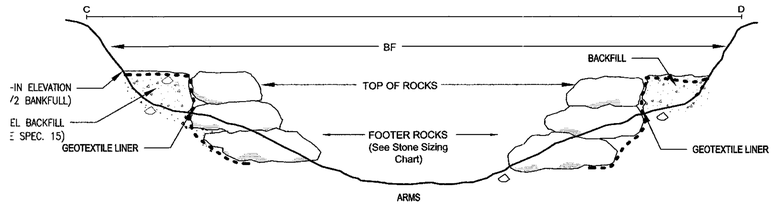


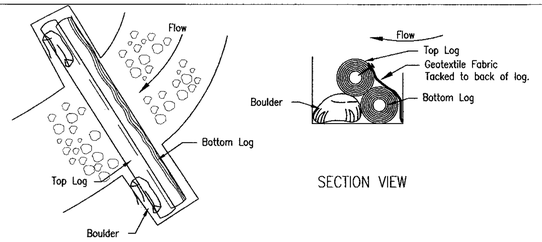
X-SECTION A-B



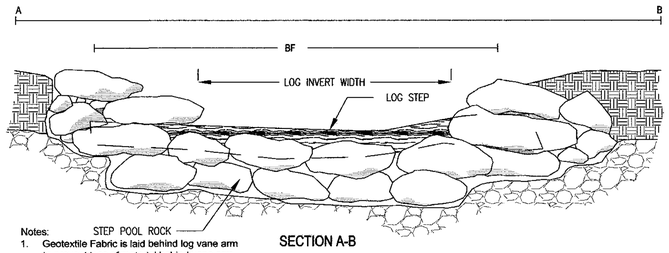
PROFILE



X-SECTION C-D

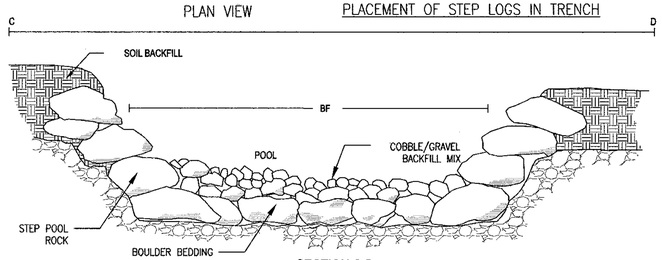


PLACEMENT OF STEP LOGS IN TRENCH

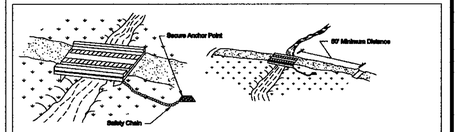


SECTION A-B

Notes:
1. Geotextile Fabric is laid behind log vane arm to prevent loss of material behind vane arm.
2. Footer log may also added behind log vane arm to prevent material washout from behind the vane arm.
3. Geotextile Fabric is backfilled with natural streambed material (onsite material or approved equal)
4. Geotextile Fabric is nailed to upstream side of log arm using cap nails spaced every 6 inch.



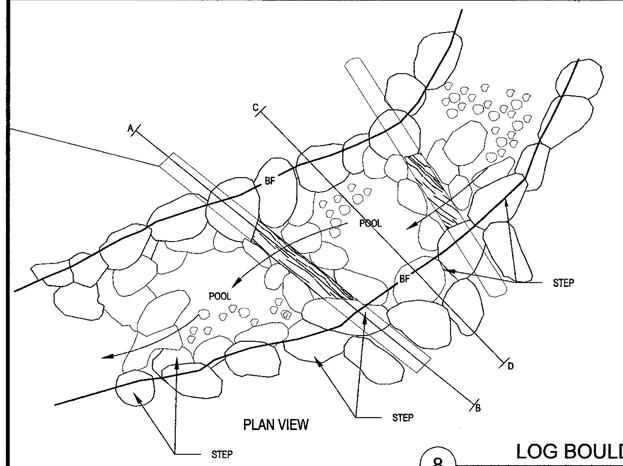
SECTION C-D



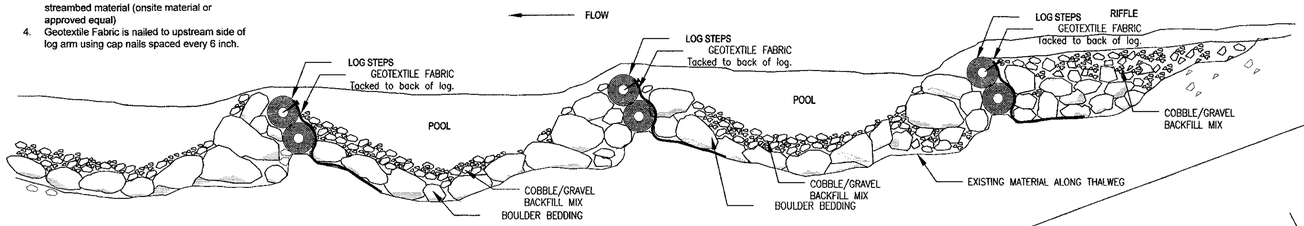
1. Restriction - Construction, use, or removal of a temporary access bridge will not normally have any time of year restrictions since construction, use, or removal should not affect the stream or its banks. Unless the bridge is built with a stand in the water.
2. Bridge Placement - A temporary bridge structure shall be constructed at or above the bank elevation to prevent the entrapment of floating materials and debris.
3. Abutments - Abutments shall be placed parallel to and on stable banks.
4. Bridge Span - Bridges shall be constructed to span the entire channel. If the channel width exceeds 8 feet, (as measured from top-of-bank to top-of-bank), then a footing, pier, or bridge support will be permitted within the waterway. One additional footing, pier, or bridge support will be permitted for each additional 8 foot width of the channel. However, no footing, pier, or bridge support will be permitted within the channel for waterways less than 8 feet wide.
5. Stringers - Stringers shall either be logs, sawn timber, prestressed concrete beams, metal beams, or other approved materials.
6. Deck Material - Decking materials shall be of sufficient strength to support the anticipated load. All decking members shall be placed perpendicular to the stringers, butted tightly, and securely fastened to the stringers. Decking materials must be butted tightly to the stringers. Decking materials must be butted tightly to prevent any soil material blocked onto the bridge form falling into the waterway below.
7. Run Planks (optional) - Run planking shall be securely fastened to the length of the span. One run plank shall be provided for each track of the equipment wheels. Although run planks are optional, they may be necessary to properly distribute loads.
8. Curbs or fenders - Curbs or fenders may be installed along the outer sides of the deck. Curbs or fenders are an option which will provide additional safety.

TEMPORARY STREAM CROSSING DETAIL
N.T.S.

9 Temporary Stream Crossing Detail
Scale: N.T.S

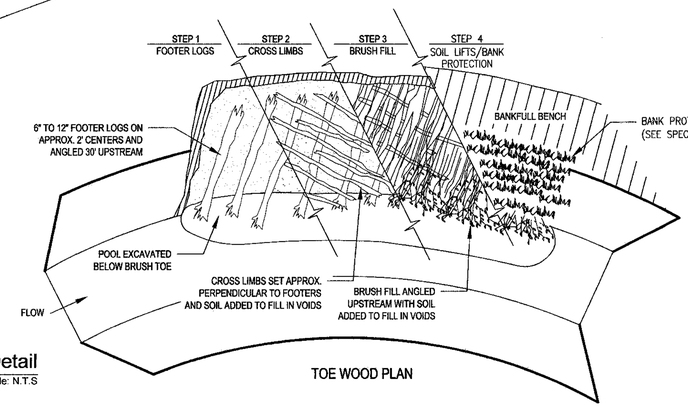


PLAN VIEW

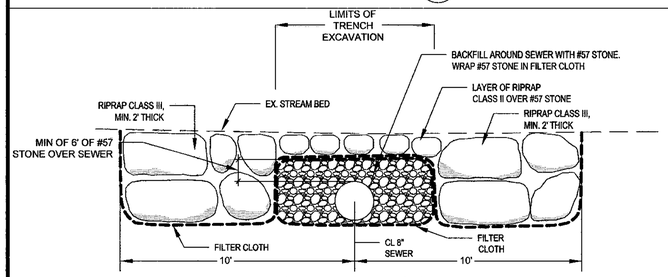


PROFILE - STEP POOL

8 LOG BOULDER STEP POOL
Scale: N.T.S



TOE WOOD PLAN



10 SEWER PROTECTION Detail
Provided by MC DEP for WSSC Maintenance; Scale: N.T.S

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO.

M-NCPPC PARK FACILITY CODE D20

REVIEWED BY

APPROVED BY
CHIEF, CONSTRUCTION SECTION

DATE APPROVED

M-NCPPC PERMIT SHEET # OF

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

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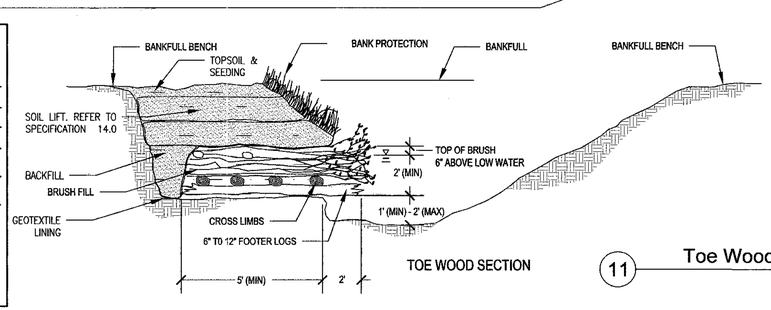

TOE WOOD SECTION

11 Toe Wood Detail
Scale: N.T.S

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

BIO-ENGINEERING DETAILS

DATE:	04/13
DESIGNED:	RP
DRAFTED:	HT/JM
CHECKED:	CW
BASE DATA:	CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
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910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
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SCALE AS SHOWN
SHEET 12
23 OF 68 Drawings
JOB NO. 38-507

Apr 17, 2013 - 2:58pm User: cwilson
Plotted: P:\Hollywood Branch\CAD\Hollywood Details.dwg

Xrefs: 24x36 standard.dwg
Toe Wood.dwg
Step Pools.dwg
Jhooks.dwg
Cross Vane.dwg
Constructed Riffle Profile.dwg
SEWER PROTECTION DETAIL.dwg

Hollywood Branch Stream Bioengineering General Specifications
[These notes supplement details already shown hereon]

1.0 Disposal of Flush Cut or other Woody Vegetation

1.1 Unless specifically shown on plans, all trees and woody growth slated for removal shall either be removed offsite or chipped and spread onsite as directed by the M-NCPPC project manager. Under no circumstances are trunk sections to be left on the flood plain.

2.0 Erosion Control Matting [ECM]

2.1 Unless specified otherwise, all erosion control matting (ECM) shall be Bio-D 70, or approved equal. Matting shall be "keyed" into ground 12 inches on the top and bottom of slopes. Ensure ECM is properly secured at bottom of slope to prevent flapping and bank undermining. Contact County's Inspector if "key trench" will impact primary tree root systems. Secure with 24 - inches wood stakes, 2 per square yard.

2.2 Base soil shall be tilled to a three-inches depth; rake in three inches organic matter [top soil] prior to ECM placement.

2.3 Seeding for ECM areas shall be seeded with mix as described in these specifications. See Section 7.

3.0 Topsoil for Fill Areas

3.1 Immediately prior to spreading borrowed topsoil, loosen the subgrade by tilling to a depth of at least three (3") inches. This ensures adequate aeration of the subsoil. The subsoil shall be free of loose stones or other foreign material.

3.2 Borrowed topsoil shall be uniformly placed and spread to a minimum thickness of three inches (3") within the project limits, as indicated on the construction drawings, or as directed by the County Engineer/Inspector. Do not spread topsoil while it is frozen, saturated, or when the subsoil is wet or frozen. Correct any irregularities in the surface that result from topsoiling or other operations to prevent the formation of depressions or water pockets.

3.3 Incorporate the topsoil into the underlying subsoil. When topsoil is to be placed on slopes 3:1 or greater, on which the subsoil is of a suitable condition to blend with topsoil, the contractor shall work the topsoil into the subsoil by tilling. Where subsoil on slopes are of such a character that they will not blend with the topsoil, the contractor shall roughen, bench or serrate the slopes so as to provide a bond for the topsoil. Avoid compaction from machinery as it increases runoff and inhibits seed germination.

4.0 Backfill and Compaction

4.1 Stripping: The top 6 inches of soil and organic matter shall be stripped within the designated excavations and grading lines and deposited in storage piles. All excavated materials not suitable as topsoil or for other uses at the site, shall be disposed offsite.

4.2 Satisfactory Fill Materials: Fill and backfill within the limits of the design points and beneath appurtenant structures shall be those materials classified in ASTM D 2487 as GW, GP, GM, GC, SW, SM, SC, or combinations thereof to be visually approved by County Engineer/Inspector.

4.3 Subgrade Preparation: Unsatisfactory subgrade material shall be removed and replaced with satisfactory material as directed by the County Engineer/Inspector. All exposed subgrades shall be scarified to a depth of 3 inches before the fill is started, except in areas where tree roots may be impacted. Slope surface steeper than 1 vertical to 3 horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. Compaction shall be accomplished by tamping (sheep foot) rollers, pnuematic-tires rollers, steel-wheeled rollers, or other approved method well suited to the soil being compacted. The contractor shall be prepared to moisten or aerate as necessary, if directed by County Engineer/Inspector based on field conditions.

4.4 Filling and Backfilling: Satisfactory materials shall be used in bringing fills and backfill to the proposed contours indicated on the plan and for replacing unsatisfactory materials. Satisfactory materials will be determined by the County Engineer/Inspector. Fill shall be placed in horizontal layers not exceeding 8 inches in uncompacted thickness, or 6 inches when hand-operated compactors are used. Backfilling shall not begin until construction below finish grade has been approved, underground utilities systems have been inspected, tested approved, and forms removed.

5.0 Live Stakes (Planting Time: Dec. 1 - April 1)

5.1 Live branch cutting shall be approximately one quarter to one half inch (0.5" to 2") in diameter.

5.2 Cutting shall be 4' in length and extend a minimum of one-foot (1') from the rebuilt slope face. Side branches and bark shall remain intact prior to installation.

5.3 Live branch cutting shall consist of a mix of three or more of the following species with at least one willow (Salix) and one dogwood (Cornus) species included. Each species shall comprise no more than 50% and no less than 20% of the mix.

Cornus amomum	Silky Dogwood
Salix nigra	Black Willow

5.4 Harvesting: The source of all live cutting shall be approved by the County Engineer/Inspector. The contractor shall locate, flag, and code the live cutting sites. The contractor shall notify the Engineer/Inspector seventy-two (72) hours prior to harvesting for review and approval of all harvesting sites. Upon approval by the County Engineer/Inspector, the contractor shall be responsible for harvesting and transporting the cutting to the job site.

5.5 Live Material Preparation:
5.5.a All cuts shall be smooth and the cut surface kept small. The use of large pruning shear or power saws may be required.

5.5.b Live materials not installed within eight (8) hours of harvesting, shall be protected against drying out and overheating. Protection against drying out shall be accomplished by keeping the material: covered, transported in refrigerated vehicles, moistened and/or kept in soak pits. Storage of live materials shall include continuous shade by covering with evergreen branches or plastic sheeting. Proper storage shall also include sheltering live plant material from the wind and protection from drying by being heeled into moist soils and/or sprayed with anti-transpirant chemicals. Where water is available, live branch cutting shall be sprayed or immersed. Warm water (over 15°C) Stimulates growth and should be used only upon the approval of the engineer. Any cost associated with such storage is incidental to the overall costs.

5.6 Installation:
5.6.a Live stake rooting areas should be soaked in barrels of water for 24 to 48 hours just prior to installation.

5.6.b While keeping the bark of the live stakes intact, the side branches should be cleanly removed, the basal ends angled for easy insertion, and the tops cut square.

5.6.c The cuttings should be implanted with the angled basal end down and buds oriented up at a minimum angle of 10 degrees to the horizontal so that rooting will not be restricted. All stakes should be positioned above the normal baseflow level. Project planners may need to study an aptly chosen vegetated reference reach for further guidance when installing live stakes.

- In soft soils, the stakes can be inserted perpendicularly into the slope using a dead blow hammer; in hard soils, however, a steel rod should be employed to create a pilot hole before the stakes are planted.
- Twenty percent of the live stake, and a minimum of two lateral buds, should be exposed above the slope so that green, leafy shoots will readily grow.
- Split or otherwise damaged stakes should be discarded.

5.6.d After the stakes have been inserted into the ground, soil should be tamped firmly around their bases to encourage root growth.

5.6.e Successive stakes should be arranged in a triangular configuration and spaced a distance of 2 to 3 feet (0.6 to 0.9 meters) apart, allowing for a typical density of 2 to 4 cuttings per square yard (0.8 square meters). Willow posts require additional room for growth and propagation and should be planted at 3 to 5-foot (1 to 1.5-meter) intervals. When inserted in arrays, the stakes should be spaced 12 to 18 inches (30 to 46 centimeters) apart to form chevron-like rows that point downstream.

5.6.f Unstable slope toes should be reinforced against scouring and undercutting using live fascines or rock fill to give the live stakes the best opportunity to root and grow.

6.0 Tubelings (Planting Time: Apr. 1 - Dec. 1)

6.1 Material:
6.1.a All plants shall comply with the recommendations and requirements of ANSI Z60.1 "American Standard for Nursery Stock" and must be grown in the piedmont region within 100 miles of Montgomery County, Maryland.

6.1.b Plant material shall consist of a random mix made up of 50% Black Willow (Salix nigra) and 50% Silky Dogwood (Cornus amomum). Other species may be substituted upon approval of the Engineer. All plant material shall be harvested locally (within the same physiographic ecoregion and plant hardiness zone) or purchased from a local nursery, with the approval of the Engineer. All plants shall be dormant at time of acquisition and planting.

6.2 Planting:
6.2.a All utilities shall be located in the field prior any digging is begun. Any damaged to utilities shall be replaced or repaired by the contractor.

6.2.b No plants shall be delivered to the site or planted until the required inspections have been made and the plants approved.

6.2.c All plants shall be located as shown on the planting plans from the dimensions if shown, unless otherwise provided by the engineer. All plant locations are to be approved by the County Engineer/Inspector prior installation.

6.2.d Excavation for plantings will be done with a small core excavated for tubelings and in all cases, keep streambank soils disturbed to a minimum.

7.0 Seeding (See Planting Sheet for Mix Description)

7.1 Final grade and seed bed must be approved by the County Engineer/Inspector before seeding begins. It shall be the Contractor's responsibility to inform the Engineer about completion of the seed bed and getting it approved by them before starting the seeding operation. Failure to get the 'seed bed' approved may result in repeating the 'seed bed preparation'.

7.2 Seeding method: a) Broadcast method: Seed shall be worked into the top 1/4" of soil by means of raking, wire drag or other approved equipment. b) Hydro seeding must be straw mulched immediately unless mulch was part of the hydroseed application. c) Use of equipment resulting in seed germination in straight, definite rows is not acceptable. d) Hydro seeded or Broadcast seeded, flat areas shall be rolled immediately after application of mulch to firm seedbed. e) Straw mulch shall be tacked immediately thereafter by use of a biodegradable binder, or a crimping roller to prevent loss of materials, erosion and un-even germination.

7.3 Planting and Timing: a) Optimum seeding limits: -spring (March 15-May 15) -fall (August 15-Sept.15) b) To seed or sod at times other than those listed, requires the approval of the County Engineer/Inspector.

7.4 Maintenance of newly seeded and sodded areas:
7.4.a Maintenance of grass areas shall consist of fertilizing, watering, mowing, weeding, re-seeding and/or re-sodding as necessary to obtain an approved stand of grass. It shall continue until the project is accepted. If the project, in its entirety, is not accepted by the following seeding/sodding season, it shall be the responsibility of the Contractor to re-fertilize all of the grassed areas during the following. seeding/sodding season. The actual timing and rate of application of the re-fertilization will be decided by the County Engineer/Inspector. Proper maintenance of the turf will continue until the project is finally accepted.

7.4.b Flooded, washed out, rilled or otherwise damaged or defective areas of seeding, sod, mulch, grade, swales or berms shall be reconstructed and all grades re-established in accordance with the grade plans or other specification when in judgments of the County Engineer/Inspector, such defects or damages are the result of poor workmanship, or failure to meet the requirements of the specifications.

7.4.c All mowing shall be the Contractor's responsibility until final acceptance of the project. No mowing shall remove more than one-half of the grass blade length. Heavy mowing, resulting in grass piles shall be "double mowed" or piles shall be removed by the Contractor. Height of the grass shall maintain between two and three inches, unless otherwise specified.

8.0 Invasive Species Control (LCD only)

8.1 Invasive species control program shall utilize appropriate Integrated Pest Management practices and the use of a professional certified pesticide applicator. The applicator shall be certified in the following categories depending upon the nature of the application area: Forest, Right of Way, or Aquatic Pest Control (for work directly adjacent to or over water).

8.2 Growth habits of invasive's are rapid and site conditions may change dramatically, therefore the program may be altered at the time of implementation.

8.3 Cutting of the large plant masses followed by chemical controls is suggested at this time. Mowing of the target species may occur any time of the year. Herbicide application will follow cutting. During the growing season, the identified plants may be treated with a non-selective herbicide (glyphosphate), applied according to label directions. However, care should be taken to ensure that the timing of the application is conducive to uptake and translocation of the herbicide. The applicator should ensure that the herbicide is listed for use against the selected species, and is labeled for aquatic use if the application will be made over water. During periods outside of the growing season, the woody weeds identified may be treated with systemic herbicides labeled for dormant season applications (triclopyr).

8.4 A follow up treatment of control is to be performed 1 month after the beginning of the following growing season (approximately May 1st).

8.5 It is the responsibility of the applicator to select the proper herbicide for the targeted species based on the time of year, and to use the herbicide in a manner that is consistent with the label. Additionally, it is the responsibility of the applicator to obtain Toxic Materials Permits for the use of herbicides

9.0 Filter Cloth

9.1 Filter cloth shall meet ASTM D751 (puncture strength - 125 lb) ASTM D-1117 (Mullen burst strength - 400 PSI) ASTM D-1682 (Tensile strength - 300 lb)

9.2 Fabric shall have 0.08" thick E.O.S. of #80 sieve, and maintain 125 GPM per sq. ft. flow rate.

10.0 Constructed Riffles

Description
Stream restoration projects may require grade control to stabilize the existing streambed in some areas and/or raise the streambed to reconnect the channel and adjacent floodplain in other areas. Reconstructing and backfilling the entire streambed would be cost prohibitive. However, installing grade control structures and reconstructing riffles or creating new riffles at key points along the channel can provide a cost effective means of stabilizing and raising the streambed. This work shall consist of transporting, installing and maintaining reconstructed and constructed riffles within the stream channel along the project area.

Materials
1. The reconstructed/constructed riffle rocks shall consist of round, subangular, or angular rock, similar in color, texture and density to the native rock on the site obtained from an approved source. The dimensions of the boulders will be a minimum of 2.5 foot and maximum of 3.5 feet in diameter. The dry unit weight of the boulders shall be 160 lb/cu ft or greater. The cobble size material will range from 2.5 inches to 10 inches in diameter and the gravel size material will range from 0.5 inches to 2 inches in diameter.
2. The Contractor will be responsible for identifying a source of rock for the constructed riffles. The Contractor will be responsible for transporting the rock to the project site.

Construction Methods

1. Constructed riffles shall be installed according to the Sequence of Construction, the Plans and details, the following specifications, and as directed by the Project Manager.
2. Existing riffles already at or near the proposed invert may be experiencing degradation and loss of material. These riffles will be reinforced by reconstructing and armoring the riffle with grade control features supplementing the existing bed material with larger material.
3. Existing riffles will be reconstructed by installing a layer of grade control boulders set at the proposed invert of the channel along the length of the reconstructed portion of the riffle. The grade control boulders shall be keyed firmly into the streambed.

   Cobble and gravel shall be installed to fill the voids between these grade control boulders.
4. Where the objective is to raise the streambed or construct a riffle where none currently exist, riffles will be constructed with grade control features and habitat features along the entire length of the riffle.
5. New riffles will be constructed by installing a layer of grade control boulders set at the proposed invert of the channel along the length of the reconstructed portion of the riffle. The grade control boulders shall be keyed firmly into the streambed. Cobble and gravel shall be installed to fill the voids between these grade control boulders. Habitat boulders will be installed slightly above (0.5 - 0.75 ft.) the proposed invert to create habitat and varying flow conditions along the riffle. The habitat boulders should be set in clusters that are perpendicular or diagonal to the flow as shown the Plans and details. The habitat boulders shall be keyed firmly into the streambed.
6. For construction of riffle to be complete, riffles must convey surface flow.

4. Measurement and Method of Payment

Reconstructed and constructed riffles will be measured and paid for at the Contract unit price per ton of boulders, cobble and gravel installed. Payment will be full compensation for the transport and placement of all materials in the channel, and for all material, labor, equipment, tools, and incidentals necessary to complete the work as specified in these special provisions and on the plans.

11.0 Rock Pack:

11.1 All stone for rock packing shall be durable quarried stone as approved by the Agent. The stone shall be hard and angular, free from laminations, weak cleavages, and undesirable weathering and of such character that it will not disintegrate from the action of air, water, freezing and thawing, and in handling and placing. The dry unit weight of the stone shall be 160 lbs./cu ft or greater.

11.2 The contractor shall notify the design engineer prior to installation if any tree scour area exhibits more than a 50% soil loss.

11.3 Stone shall be 12 to 30 inches in diameter (400 to 1200 lbs.). Stone shall be installed to a height of 3 feet, or as shown on plans. The first course of stone is to be keyed in or buried one full stone dimension.

11.4 Unless directed otherwise by the design engineer or design drawings, the contractor is not to excavate further back into the stream bank other than what is necessary to bury the first layer of stone.

12.0 J-Hook Vanes and Rootwad - Log Boulder J-Hook Vanes

Description
J-Hook vanes are in-stream structures constructed with native/natural materials (i.e., logs and boulders) that are essentially rock vanes with a hook added to the upstream end of the vane arm. They are typically installed along the channel margin in meander bends. In this location they serve to divert stream flow away from banks and towards the center of the channel as it flows from the run at the upstream end, through the pool, and out the glide at the downstream end of the meander bend. The added feature of the hook serves to create and maintain a scour pool that dissipates energy and provides excellent habitat for fish. In addition, these structures maintain the thalweg offset from the bank and create back-eddies along the channel margin that encourage the deposition of material along the toe of the bank.

This work shall consist of transporting, installing, and maintaining the rock vane structures, as specified on the Grading Details in the Construction Drawings, as described in these specifications, and as directed by the Project Manager. The Contractor shall furnish all labor, material and equipment required to install the rock vanes.

Materials (Note: J-Hooks utilize only rocks on the arms; refer to the detail sheets.

Upstream of Randolph Road

12.1 J-Hook Vane Rocks
J-Hook vane rocks shall consist of angular flat rock, similar in color, texture and density to the native rock on the site obtained from an approved source. The dry unit weight of the rocks shall be 160 lb/cu ft or greater.

Footer Rocks
The dimensions of the rock will be a minimum of 2.0 feet and maximum of 2.5 feet along the long (a) axis, a minimum of 1.5 feet and maximum of 2.0 feet along the median (b) axis, and a minimum of 1 foot and maximum of 1.5 feet along the short (c) axis. Concrete and limestone rock will not be considered as an alternative to vane rocks.

Top Rocks
The dimensions of the rock will be a minimum of 1.5 feet and maximum of 2.0 feet along the long (a) axis, a minimum of 1 feet and maximum of 1.5 feet along the median (b) axis, and a minimum of 0.5 foot and maximum of 1 foot along the short (c) axis. Concrete and limestone rock will not be considered as an alternative to vane rocks.

The Contractor will be responsible for identifying a source of rock for the rock vanes. At the time of the Pre-construction meeting, the Contractor and Project Manager will visit the source and confirm that the rocks identified will meet the specifications outlined above. The Contractor will be responsible for transporting the rock to the project site.

12.2 J-Hook Vane Logs
Vane logs shall be cut from trees that were removed and salvaged from the stream banks. The Logs shall be 8 - 10 inches in diameter and cut to a length of 12 - 15 feet. Two logs are utilized per vane. Every other log shall have its root fan in-tact and undamaged.

12.3 Rootwad
Rootwad logs shall be cut from trees that were removed and salvaged from the stream banks. The Logs shall be 12 - 15 inches in diameter and cut to a length of 10 - 12 feet. The root fan shall be in-tact and undamaged.

12.4 Geotextile Liner
A woven geotextile liner will be installed along the upstream side of the rock vane arm to prevent piping and structural failure. The geotextile fabric shall have 1) Apparent opening size of 0.30 mm max; 2) Grab tensile strength of 200 lb. min; and 3) Burst strength of 320 psi min.

12.5 Backfill Material
Cobble, gravel and sand excavated from the streambed shall be placed behind the vane arm to tie the arm into the adjacent bank and bring the channel margin to grade. If sufficient material is not available from this site to complete placement throughout the areas shown on the plans then the Contractor shall obtain unwashed bank run gravel, ranging in size from coarse sands (.02 in.) to cobble (5.0 in, with a D50 - 2.5 in.).

Downstream of Randolph Road

12.6 J-Hook Vane Rocks
J-Hook vane rocks shall consist of angular flat rock, similar in color, texture and density to the native rock on the site obtained from an approved source. The dry unit weight of the rocks shall be 160 lb/cu ft or greater.

Footer Rocks
The dimensions of the rock will be a minimum of 2.5 feet and maximum of 3 feet along the long (a) axis, a minimum of 2 feet and maximum of 3 feet along the median (b) axis, and a minimum of 1 foot and maximum of 1.5 feet along the short (c) axis. Concrete and limestone rock will not be considered as an alternative to vane rocks.

Top Rocks
The dimensions of the rock will be a minimum of 2 feet and maximum of 2.5 feet along the long (a) axis, a minimum of 1 feet and maximum of 1.5 feet along the median (b) axis, and a minimum of 0.5 foot and maximum of 1 foot along the short (c) axis. Concrete and limestone rock will not be considered as an alternative to vane rocks.

The Contractor will be responsible for identifying a source of rock for the rock vanes. At the time of the Pre-construction meeting, the Contractor and Project Manager will visit the source and confirm that the rocks identified will meet the specifications outlined above. The Contractor will be responsible for transporting the rock to the project site.

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. ____________
M-NCPPC PARK FACILITY CODE D20
REVIEWED BY ____________
APPROVED BY ____________ CHIEF, CONSTRUCTION SECTION
DATE APPROVED ____________
M-NCPPC PERMIT SHEET # ______ OF ______

THIS IS NOT A PERMIT
TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301)495-2574.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization
BIO-ENGINEERING SPECIFICATIONS

DATE: 04/13				
DESIGNED: RP				
DRAFTED: HT/JM				
CHECKED: CW				
BASE DATA: CPJA/MC LIDAR	NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE
AS SHOWN
SHEET
13

JOB NO.
38-507

Plotted: Apr 17, 2013 - 4:13pm User: cwilson F:\Hollywood Branch\CAD\dwg\90-Spec.dwg
Xrefs: 24x36 standard.dwg

12.7 J-Hook Vane Logs

Vane logs shall be cut from trees that were removed and salvaged from the stream banks. The Logs shall be 10 - 15 inches in diameter and cut to a length of 20 - 25 feet. Two logs are utilized per vane. Every other log shall have its root fan intact and undamaged.

12.8 Rootwad

Rootwad logs shall be cut from trees that were removed and salvaged from the stream banks. The Logs shall be 12 - 18 inches in diameter and cut to a length of 12 - 15 feet. The root fan shall be in-tact and undamaged.

12.9 Geotextile Liner

A woven geotextile liner will be installed along the upstream side of the rock vane arm to prevent piping and structural failure. The geotextile fabric shall have 1) Apparent opening size of 0.30 mm max; 2) Grab tensile strength of 200 lb. min; and 3) Burst strength of 320 psi min.

12.0 Rootwad - Log Boulder J-Hook Vanes Continued...

12.10 Backfill Material

Cobble, gravel and sand excavated from the streambed shall be placed behind the vane arm to tie the arm into the adjacent bank and bring the channel margin to grade. If sufficient material is not available from this site to complete placement throughout the areas shown on the plans then the Contractor shall obtain unwashed bank run gravel, ranging in size from coarse sands (.02 in.) to cobble (5.0 in, with a D50 - 2.5 in.).

Construction Methods (Note: for J-hook arms, substitute rock for logs; neglect 12.10.b,d,e)

12.10.a J-Hook vanes shall be installed according to the Sequence of Construction, the Plan Sheets and Grading Detail Sheets in the Construction Drawings, as described in these specifications, and as directed by the Project Manager.

12.10.b The rootwad log shall be installed at the PC of the meander bend with the log placed in a trench cut in the bank and the root fan facing in an upstream direction. Boulders shall be placed on top of the section of log in the trench and the trench backfilled.

12.10.c J-Hook vane logs shall be installed starting at the stream bank, working in upstream direction, and tie-in to the streambed. The vane is set at an angle of 20 - 30 tangent to the curve of the bank and shall rise at a slope of 2 - 4% from the streambed to its tie-in at the bank.

12.10.d Two logs are utilized to construct the vane arm. The first vane log should have a root fan. The second vane should not have a root fan.

12.10.e When constructing the arm of the J-Hook vane, the first vane log shall be placed such that the root fan rests on the bank side of the rootwad log. The upstream end of the first vane log should be keyed into the stream bed and pinched in place by the first footer rock of the rock hook. The second vane log shall be placed behind (bank side) and slightly lower than the first log with its downstream end pinched into the rootwad of the first log. At the upstream end of the arm the log should be keyed firmly in the stream bottom.

12.10.f Geotextile liner shall be draped over the stream bank side of both vane logs and secured to both logs using 11/2 - 2 inch button cap roofing nails. The liner should be spread out bank-ward and weighted down with large rocks to prevent it from being pulled out of place by the flow. Cobble, gravel and sand excavated from the streambed shall be placed on the liner behind the vane arm to tie the arm into the adjacent bank and bring the channel margin to grade.

12.10.g The vane hook shall be constructed by placing footer rocks in an arch starting from the end of the vane arm, which is located at a point that is approximately one-third the bankfull width and ending at a point that is approximately two-thirds the bankfull channel width or the center of the channel. The footer rocks are keyed into the streambed and placed adjacent to and tight against one another so that there is no space between adjacent rocks. The top rocks for the hook shall be placed above and on the upstream side of the footer rocks so that they lean on the footer rocks. The top rocks along the hook are placed so that there is a gap of one-quarter to one-third rock diameter between adjacent rocks. The top of the top rocks are set at approximately one-tenth bankfull elevation. The top rocks at the end of the arm shall be placed such that they rest on the arm.

Measurement and Method of Payment

J-Hook vanes will be measured and paid for at the Contract unit price per each rock vane installed. Payment will be full compensation for all materials, transport, excavation, installation, and maintenance of rock vanes, and for all material, labor, equipment, tools, and incidentals necessary to complete the work as specified in these specifications and on the plans.

13.0 Log /Boulder Step-Pools

1. Description

Along several reaches of Hollywood Branch, a series of step pool structures will be constructed. Installation of the step pool structures is intended to provide grade control and reconnect the channel with its floodplain, and dissipate the energy of storm flows along those reaches.

The Contractor shall furnish all labor, material and equipment required to install step-pools, as described in these Specifications and shown on the plans. This work shall consist of transporting, installing and maintaining step-pools within the stream channel, as specified on the plans or as directed by the Project Manager.

2. Materials

2.1 Step-Rock

Step-pool rocks shall consist of angular flat rock, similar in color, texture and density to the native rock at the site, obtained from an approved source. The dry unit weight of the rock shall be 150 lb/cu ft or greater. The dimensions of the rock will be a minimum of 3.0 feet and maximum of 4.5 feet along the long (a) axis, a minimum of 2.5 feet and maximum of 3.5 feet along the median (b) axis, a minimum of 0.75 feet and maximum of 1.5 feet along the short (c) axis. Concrete and white limestone will not be considered as an alternative to step pool rocks.

2.2 Step-Logs

Step-Pool Logs will be cut from trees that are removed and salvaged from the stream banks and floodplain along Donnybrook Tributary. The logs shall be 10 - 15 inches in diameter and cut to a length of 30 - 35 feet.

2.3 Pool Bedding Rock

Bedding rock shall consist of angular rock, similar in color, texture and density to the step-pool rock. The dimensions of the boulders will be a minimum of 2.5 foot and maximum of 3.0 feet in diameter. Concrete and white stone will not be considered as an alternative to the bedding rocks.

2.4 Pool Cobble and Gravel

Step-Pool Cobble and Gravel shall consist of River Jack or round cobble and gravel typical of streambed material in the area. The dimensions of the cobble will be 5 - 10 inches in diameter and the gravel size material will range from 0.5 inches to 2 inches in diameter.

2.5 Geotextile Liner

A geotextile liner shall be installed along the upstream side of the logs to prevent piping and structural failure of the steps. Acceptable geotextile liner materials include Mirafi S600 and Mirafi 140N or their equivalent.

2.6 Source of Rock

The Contractor will be responsible for identifying a source of rock for the step pools. The Contractor and the Project Manager will visit the site(s) to determine whether the rocks meet the specified requirements for color, weight and size. The Contractor will be responsible for transporting the rock to the project site. On-site streambed material removed by excavation of the channel may be reused in the installation of the step-pools. If sufficient stream gravel material is not available from the site, the Contractor shall obtain material meeting the specified requirements as outlined above.

3. Construction Methods

3.1 Step pools shall be installed according to the Sequence of Construction, the plans and details, and the following specifications. The Contractor shall arrange and construct step pools under the direction and approval of the Project Manager.

3.2 The existing streambed shall be excavated to the general shape of the steps and pools and to a depth sufficient to allow for installation of the bedding rock, cobble and gravel; step logs and step rocks.

3.3 A trench shall be excavated in each bank for installation of the two step logs. The first log is set so that it is resting on the streambed along the upstream face of the trench. A boulder is placed next to the log at each end of the trench. The second log is set in the trench such that it is resting on top of the bottom log and boulder along the downstream face of the trench. The elevation of the top log is set at the invert of the step as shown in the Construction drawings.

3.4 Geotextile liner shall be tacked to the upstream side of both logs using roofing nails with plastic button caps. The fabric shall be draped loosely over the streambed in the glide and downstream edge of the pool upstream of the step, wrapping up along the toe of bank on either side of the channel.

3.5 Step-rocks shall be placed along the upstream side of the step logs and on top of the geotextile fabric. Extreme care shall be taken in placing the step-pool rock not to pull or tear the fabric. Once the step-pool rock is placed, it should not be moved to avoid damage to the fabric. Step-pool rock shall be keyed into the existing streambed along the downstream side of the step logs and along the edge of stream along both sides of the channel forming a broad "U" pattern to the step. The thalweg of the stream channel shall alternate from off-center left to off-center right and back to off-center left at each step in a downstream direction.

3.6 Pool Bedding Rock shall be installed over the bottom of the glide, pool, and run and along the upstream edge of the geotextile liner. Extreme care shall be taken in placing the bedding rock not to pull or tear the fabric. Pool Cobble and gravel shall be installed over the bottom of the glide, pool, and run to fill the voids between the bedding rock.

3.7 Boulders shall be installed along the right and left slopes of the pool by stacking the rock as shown in the Construction Drawings typical cross-section. The bottom layer of rock shall start at the surface of the bedding rock, cobble and gravel. The top layer of rock shall tie-in the bankfull elevation.

3.8 The top of all step rocks, logs, and pool cobble and gravel shall be equal to finished grade of the steps and pools, respectively as specified on the cross-sections and profile.

4. Measurement and Method of Payment

Log/Boulder Step-Pools will be measured and paid for at the Contract unit price per square yard of step-pool installed at the specified thickness. Payment will be full compensation for the transport of all materials, excavation, installation, and maintenance of step pools, and for all material, labor, equipment, tools, and incidentals necessary to complete the work as specified in these special provisions and on the plans.

Alternative Method - Log/Boulder Step-Pools will be measured and paid for at the Contract unit price per ton of boulders, cobble and gravel; square yards of geotextile; and per log installed.

14.0 Toe Wood

Description

Toe wood incorporates native woody material into a submerged structure utilized to reconstruct, protect and stabilize the streambank. The toe wood is positioned on the lower 1/3 to 1/2 of the bank to protect the toe of the new bank and to ensure it is submerged year round to prevent wood deterioration. Cuttings with sod and live staking or woody transplants cover the toe wood and are installed up to bankfull stage. Where sod mats and woody transplants are unavailable soil fabric lifts and live cuttings may be substituted.

This work shall consist of obtaining, transporting materials, and constructing toe benches within the stream channel, as specified on the plans and as directed by the Project Manager. The Contractor shall furnish all labor, material and equipment required to construct the toe benches along the margins of the channel, as described in these Construction Specifications and shown in the Grading Details Sheets of the Construction Drawings.

Materials

Foundation Logs

Foundation logs shall be cut from trees that were removed and salvaged from the stream banks. The Logs shall be 10 - 15 inches in diameter and cut to a length of 10 - 15 feet.

Rootwad Logs

Rootwad logs shall be cut from trees that were removed and salvaged from the stream banks. The Logs shall be 10 - 15 inches in diameter and cut to a length of 10 - 15 feet. The root fan shall be in-tact and undamaged.

Brush Layer

The brush layer shall be composed of small logs, limbs, tree tops and brush salvaged from the clearing and grubbing operation.

Backfill

The backfill shall consist of streambed cobble, gravel and sand from the existing channel to be excavated and placed on top of the geotextile liner over the brush layer as shown in the drawings.

Geotextile Liner

A woven geotextile liner will be installed over the brush layer and beneath the backfill layer to prevent piping of the backfill material and structural failure. The geotextile fabric shall have 1) Apparent opening size of 0.30 mm max; 2) Grab tensile strength of 200 lb. min; and 3) Burst strength of 320 psi min.

Soil Fabric Lifts (Bank Protection)

The upper stream banks will be constructed of soil lifts that are varying widths and one (1) foot thick. Each lift will be wrapped in organic fabric to provide short-term (3-5 years) erosion and stability protection.

Two types of biodegradable organic geotextile fabric will be used to construct the stream banks and to protect the exposed soil. Both types are comprised of coconut fabric. The first fabric (used on the outer or exposed layer of the bank stability treatments) consists of twisted coconut fibers woven into a strong, durable mesh with openings of ½ inch. The purpose of this fabric is to provide structural integrity to the lift. The second fabric (used as an inner layer to prevent piping of the fine soil material through the coarser outer fabric) consists of a non-woven mat of coconut fibers held together with biodegradable cotton threads. Acceptable brands of organic fabric for the soil lifts include Clearfilter 700 Gram Blanket and Clearfilter 900 Gram Blanket, Koir Mat 700 and Koir Mat 900, or their equivalent.

14.1 Bank Protection Plantings

Live Branch Cuttings

Live materials shall consist of live branch cuttings that are ½ to 2 inches in diameter. The cuttings should be long enough for the roots to be in contact with the soil at the back of the fabric overlap and the growing tips to extend a minimum of 18 inches beyond the front of the next lift up.

Live cuttings shall consist of a mix of three or more of the following species, with each species comprising no more than 50% and no less than 20% of the mix.

Cornus amomum	Silky Dogwood
Salix nigra	Black Willow

Live Stakes

Live cuttings for live stakes shall be one-half to one and one-half inches (0.5" to 1.5") in diameter and between two and three feet (2' to 3') long. Side branches shall be removed and the bark left intact prior to installation.

Buds on the stakes shall be oriented in an upward position. The basal ends shall be tapered to a point for easy insertion into the soil. The top shall be cut smooth and square.

Live stakes shall consist of a mix of three or more of the following species, with each species comprising no more than 50% and no less than 20% of the mix.

Cornus amomum	Silky Dogwood
Salix nigra	Black Willow

Floodplain Transplants (Preferable)

Within the disturbed floodplain, healthy, native plant material shall be carefully excavated and heeled in on site. At the termination of construction, excavated plant material shall be replanted along the stream bank.

Construction Methods

14.2 Toe wood structures shall be constructed according to the Sequence of Construction, the Construction Drawings, the following specifications, and as directed by the Project Manager.

14.3 Reshape channel in preparation for installation of the toe wood structure.

14.4 Place foundation logs as directed by the Project Manager.

14.5 Place rootwad logs cantilevered over the foundation logs as directed by the Project Manager.

14.6 Place brush layer filling in the voids between the rootwad logs as directed by the Project Manager.

14.7 Place geotextile over brush layer as directed by the Project Manager.

14.8 Place backfill material over geotextile.

14.9 Install layer of live cuttings.

14.10 Install soil fabric lift.

14.11 Install live stakes.

15.0 Cross Vanes

Description

Cross vanes are in-stream structures constructed with native/natural materials (i.e., boulders and/or logs) that are typically installed at the upstream end of a riffle. In this location they serve to divert stream flow away from banks and towards the center of the channel as it leaves the pool in the meander bend and enters the riffle in the crossover reach. In addition, these structures provide grade control by preventing riffles from eroding headward into the upstream pools.

This work shall consist of transporting, installing and maintaining cross vane structures within the stream channel, as described in this section, shown on the Construction Drawings, and as directed by the Project Manager. The Contractor shall furnish all labor, material and equipment required to install cross vane structures.

Materials

15.1 Cross Vane Rocks

Footer Rocks

Cross vane footer rocks shall consist of angular flat rock, similar in color, texture, and density to the native rock on the site obtained from an approved source. The dry unit weight of the rock shall be 160 lb/cu ft or greater. The dimensions of the rock will be a minimum of 3 feet and maximum of 3.5 feet along the long (a) axis, a minimum of 2.5 feet and maximum of 3.0 feet along the median (b) axis, a minimum of 1.5 foot and maximum 2 feet along the short (c) axis. Concrete and limestone rock will not be considered as an alternative to vane rocks.

Top Rocks

Cross vane top rocks shall consist of angular flat rock, similar in color, texture, and density to the native rock on the site obtained from an approved source. The dry unit weight of the rock shall be 160 lb/cu ft or greater. The dimensions of the rock will be a minimum of 2.5 feet and maximum of 3.0 feet along the long (a) axis, a minimum of 2 feet and maximum of 2.5 feet along the median (b) axis, a minimum of 1 foot and maximum 1.5 feet along the short (c) axis. Concrete and limestone rock will not be considered as an alternative to vane rocks.

The Contractor will be responsible for identifying a source of rock for the cross vane. At the time of the Pre-construction meeting, the Contractor and Project Manager will visit the source and confirm that the rocks identified will meet the specifications outlined above. The Contractor will be responsible for transporting the rock to the project site.

Geotextile Liner

A woven geotextile liner will be installed along the upstream side of the rock vane arm to prevent piping and structural failure. The geotextile fabric shall have 1) Apparent opening size of 0.30 mm max; 2) Grab tensile strength of 200 lb. min; and 3) Burst strength of 320 psi min.

Backfill Material

Cobble, gravel and sand excavated from the streambed shall be placed behind the cross vane arms to tie the arms into the adjacent bank and bring the channel margin to grade. If sufficient material is not available from this site to complete placement throughout the areas shown on the plans then the Contractor shall obtain unwashed bank run gravel, ranging in size from coarse sands (.02 in.) to cobble (5.0 in, with a D50 - 2.5 in.).

Construction Methods

15.2 Cross vane structures shall be installed according to the Sequence of Construction, the plans and details, the following specifications, and as directed by the Project Manager.

15.3 Cross vane structures shall be constructed with three principal components, a sill and two (2) arms. Each cross vane component comprises approximately one-third of the bankfull channel width. The cross vane sill is installed in the center third of the channel. Each arm pivots from its respective side of the sill and tapers outward toward the bank in a downstream direction forming a broad "U" shaped structure.

15.4 The cross vane sill shall be installed in the center of the channel as shown in the construction plans. The first row of footer rocks for the sill shall be firmly keyed into the stream bottom along the entire sill. The second row of footer rocks shall be placed above and upstream of the first row so that they lean against the lower row of footer rocks. The top rocks for the sill shall be placed above and upstream of the second row so that they lean on the upper row of footer rocks. The top rocks along the length of the sill shall be set at the proposed invert elevation for the crest of the riffle. Each top rock shall be placed adjacent to and tight against one another.

15.5 Each cross vane arm shall be installed, starting at the sill and working in a downstream direction, with tie-in at the bank. Each arm shall be set at an angle of 20° - 30° tangent to the curve and shall rise at a slope of 2 - 4% from the streambed to its tie-in at the bank.

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. _____

M-NCPPC PARK FACILITY CODE D20

REVIEWED BY _____

APPROVED BY _____ CHIEF, CONSTRUCTION SECTION

DATE APPROVED _____

M-NCPPC PERMIT SHEET # _____ OF _____

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301)495-2574.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

BIO-ENGINEERING SPECIFICATIONS

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9873 E-mail: env@cpja.com Fax:(301)926-4581
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 14
25 OF 68 Drawings
JOB NO. 38-507

Plotted: Apr 17, 2013 - 4:13pm User: carlson
P:\Hollywood Branch\CADD\dwg\BioSpecs.dwg
Xrefs: 24x36 standard.dwg

15.6 The first row of footer rocks for each arm shall be firmly keyed into the stream bottom along the entire arm. The second row of footer rocks shall be placed above and on the stream bank side of the first row so that they lean against the lower row of footer rocks. The top rocks for each arm shall be placed above and on the stream bank side of the second row so that they lean on the upper row of footer rocks. The top rocks at the pivot, upstream end, of each arm are set at the same elevation as the top sill rock. The top rocks at the tie-in, downstream end, of each arm are set at three-quarters bankfull elevation. Each top rock shall be placed adjacent to and tight against one another.

15.7 A vane cutoff shall be constructed at the tie-in of the arms to the bank by cutting a trench perpendicular to the channel margin and backfilling with rock the same size as that used in constructing the vane. The top of the cutoff shall be set at three-quarters bankfull elevation. Soil shall be utilized to cover the cutoff rock and complete construction of the bank in the area of the vane. Where soil fabric lifts are utilized, the cutoff shall be tied into the lifts as directed by the Project Manager.

15.8 To prevent fines from piping through the arms and causing structural failure, rock will be hand placed along the back or bank side of the arms to fill or "chink" the voids between the arm rocks. In addition, geotextile liner shall be draped over the back edge of the arms and pulled to cover the streambed wrapping up along the toe of bank. Cobble, gravel and sand excavated from the streambed shall be installed over top of the geotextile liner to bring the back edge of the arms and channel margin up to grade.

Measurement and Method of Payment

Cross vane structures will be measured and paid for at the Contract unit price per ton of rock and square yard of geotextile liner. Payment will be full compensation for all materials, transport, excavation, installation, and maintenance of cross vane structures, and for all material, labor, equipment, tools, and incidentals necessary to complete the work as specified in these specifications and on the plans.

16.0 Stream Bank Protection at Utility Stream Crossing (WWSC Standard Detail SC/3.0)

16.1 Definition: Placement of ungrouted riprap on stream banks for permanent stabilization at each utility stream crossing.

16.2 Construction: Follow Standard Detail and as specified below.
a. Install stream diversion when flow is impacted by excavation or fill.
b. Riprap as specified in WSSC Section 02370.

16.3 Restoration: Within 7 days after utility is installed crossing stream, restore banks of stream with riprap following Drawings and Standard Details.

17.0 Stream Invert Protection for Shallow Utility Stream Crossing (WSSC Standard Detail SC/3.1)

17.1 Definition: Placement of ungrouted armor stones on excavated stream bottom for permanent stabilization at each utility stream crossing when there is 3 feet or less cover from bottom of stream channel to top of pipe.

17.2 Construction: Follow Standard Detail and as specified below.
a. Install stream diversion as shown on Drawings or directed by ESC Inspector.
b. Cover stream bottom with erosion control geotextile, See WSSC Section 02070.
c. Place ungrouted riprap (See WSSC Section 02370) on erosion control geotextile lined stream banks.
d. Place armor stones (See WSSC Section 02370) on excavated erosion control geotextile lined stream bottom with top of stone even with existing stream bottom or as directed by ESC Inspector.

17.3 Restoration: Within 7 days after utility is installed crossing stream, restore banks with riprap and bed of stream with armor stone following Drawings and Standard Details.

Constructed Riffle Table

Unit	Upstream Glide Station	Upstream Invert Profile Station	Downstream Station	Depth (in.)	Invert Width (ft.)	Riffle Length (ft.)	
R1	0+37	0+37	0+52		3	15	Midland to Randolph
R2	0+70	0+70	0+88		3	18	
R3	1+07	1+07	1+17	18 - 24	3&10	10	
R4	1+35	1+41	1+62	18 - 24	3&10	21	
R5	1+80	1+82	2+08	18 - 24	3&10	26	
R6	2+24	2+27	2+83	18 - 24	3&10	56	
R7	2+98	3+02	3+21	18 - 24	3&10	19	
R8	3+39	3+41	3+80	18 - 24	3&10	40	
R1	0+27	0+27	0+43	18 - 24	4&11	16	Randolph to Cannon
R2	0+60	0+63	0+82	18 - 24	4&11	19	
R3	1+22	1+25	1+38	18 - 24	4&11	13	
R4	1+77	1+80	1+96	18 - 24	4&11	16	
R5	2+14	2+16	2+49	18 - 24	4&11	33	
R6	2+88	2+92	3+10	18 - 24	4&11	18	
R7	3+31	3+31	3+46		4	15	
R8	3+64	3+64	3+95		4	31	
R9	4+15	4+15	4+30		4	15	
R10	4+50	4+50	4+70		4	20	
R11	4+90	4+90	5+13		4	23	
R12	5+53	5+53	5+71		4	18	
R13	6+11	6+11	6+24	18 - 24	4&11	13	
R14	6+42	6+44	6+79	18 - 24	4&11	35	
R15	6+97	6+99	7+24	18 - 24	4&11	25	
R16	7+44	7+44	7+71	18 - 24	4&11	27	
R17	7+90	7+91	8+06		4	15	
R18	8+25	8+26	8+54	18 - 24	4&11	28	
R19	8+74	8+74	8+92	18 - 24	4&11	18	
R20	9+31	9+32	9+62		4	30	
R21	9+98	10+08	10+35		4	27	
R22	10+53	10+55	10+69		4	14	
R23	10+87	10+89	11+15	18 - 24	4&11	26	
R24	11+34	11+35	11+45		4	10	
R25	11+64	11+66	12+01		4	36	
R26	12+43	12+43	12+62	18 - 24	4&11	19	
R27	13+01	13+02	13+51	18 - 24	4&11	49	
R28	13+70	13+71	13+90	18 - 24	4&11	19	
R29	14+09	14+10	14+40	18 - 24	4&11	30	
R30	14+80	14+82	15+00	18 - 24	4&11	18	
R31	15+39	15+40	15+65		4	25	
R32	15+84	15+85	16+08		4	23	
R33	16+27	16+28	16+35		4	7	
R34	17+53	17+55	17+97		4	42	
R35	18+38	18+44	18+65		4	21	
R36	18+85	18+85	19+25	18 - 24	4&11	40	
R37	19+63	19+65	19+97		4	32	
R38	20+36	20+37	20+55		4	18	
R39	21+03	21+05	21+28		4	23	
R40	21+83	21+85	22+04		4	19	
R41	22+43	22+45	22+68		4	23	
R42	23+23	23+25	23+40	18 - 24	4&11	15	
R43	23+95	23+95	24+57		4	62	
R44	24+92	24+92	25+33	18 - 24	5&11	41	
R45	26+05	26+05	26+29		5	24	
R46	26+95	26+95	27+39	18 - 24	5&11	44	
R47	27+74	27+74	27+87	18 - 24	5&11	13	
R48	28+22	28+22	28+50		5	28	
R49	28+79	28+79	29+13	18 - 24	5&11	34	
T R1	0+50	0+50	0+70		4	20	Tributary 3
T R2	1+91	1+90	2+15	18 - 24	4	25	
T R3	2+60	2+60	2+85		4&8	25	
T R4	6+00	6+00	6+20		4	20	
T R5	6+40	6+40	6+68		4&8	28	
T R6	6+92	6+95	7+20	18 - 24	4&8	25	
T R7	7+41	7+40	7+80		4	40	
T R8	8+10	8+10	8+27		4	17	
T R9	8+70	8+70	8+95		4	25	

Riffles without depths are existing; riffles with depths are constructed. Constructed riffles have an invert width and width at elevation of backfill material.

J-Hook Table

Unit	Apex Station	Approximate Linear Structure Length (ft.)	Apex (elev.)	Downstream Structure	Downstream Riffle Apex Elevation	Bank Tie-in Elevation (1/2 Bankfull)	
JH1	0+88	20	382.70	R3	382.40	383.00	Midland to Randolph
JH2	1+62	20	381.75	R5	381.60	382.20	
JH3	2+08	20	381.10	R6	380.90	381.50	
JH4	2+82.50	20	379.50	R7	379.10	379.70	
JH5	3+21	20	378.62	R8	378.50	379.10	
JH6	3+80	20	378.00	SP1	377.50	378.23	
JH1	0+43	20	370.30	R2	370.10	370.90	Randolph to Cannon
JH2	0+82	20	369.60	JH3	369.40	370.25	
JH3	1+05	20	369.40	R3	369.20	370.00	
JH4	1+38	20	368.90	JH5	368.70	369.55	
JH5	1+59	20	368.70	R4	368.50	369.30	
JH6	1+96	20	368.00	R5	367.70	368.50	
JH7	2+49	20	366.70	JH8	366.40	367.28	
JH8	2+70.50	20	366.40	R6	366.10	366.90	
JH9	3+10.50	20	365.60	R7	365.30	366.10	
JH10	4+30	20	363.50	R10	363.30	364.10	
JH11	4+70	20	362.90	R11	362.60	363.40	
JH12	5+13	20	362.00	JH13	361.80	362.63	
JH13	5+33	20	361.80	R12	361.50	362.30	
JH14	5+71	20	361.00	JH15	360.80	361.63	
JH15	5+91	20	360.80	R13	360.50	361.30	
JH16	6+24	20	360.20	R14	359.90	360.70	
JH17	6+79	20	359.10	R15	358.90	359.70	
JH18	7+24	20	358.30	R16	358.10	358.90	
JH19	7+71	20	357.50	R17	357.30	358.10	
JH20	8+06	20	356.90	R18	356.70	357.50	
JH21	8+54	20	356.10	R19	355.90	356.70	
JH22	8+92	20	355.50	JH23	355.30	356.14	
JH23	9+12	20	355.30	R20	355.10	355.90	
JH24	9+62	20	354.40	JH25	354.20	355.05	
JH25	9+85	20	354.20	R21	354.00	354.80	
JH26	10+35	20	353.50	R22	353.30	354.10	
JH27	10+69	20	353.00	R23	352.80	353.60	
JH28	11+15	20	352.80	R24	352.00	352.80	
JH29	11+45	20	351.80	R25	351.60	352.40	
JH30	12+01	20	350.85	JH31	350.65	351.50	
JH31	12+23	20	350.65	R26	350.45	351.25	
JH32	12+61.50	20	350.05	JH33	349.85	350.69	
JH33	12+81.50	20	349.85	R27	349.65	350.45	
JH34	13+51	20	348.65	R28	348.45	349.25	
JH35	13+90	20	348.05	R29	347.25	348.05	
JH36	14+40	20	347.25	JH37	347.05	347.89	
JH37	14+62	20	347.05	R30	346.85	347.65	
JH38	15+00	20	346.25	JH39	346.05	346.93	
JH39	15+20	20	346.05	R31	345.85	346.65	
JH40	16+08	20	344.65	R33	344.45	345.25	
JH41	16+35	20	344.30	SP7	344.10	344.90	
JH42	17+97	20	341.76	JH43	341.56	342.40	
JH43	18+17	20	341.56	R35	341.36	342.16	
JH44	18+65	20	341.07	R36	340.87	341.67	
JH45	19+25	20	340.31	JH46	340.11	341.31	
JH46	19+45	20	340.11	R37	339.91	340.71	
JH47	19+97	20	339.46	JH48	339.26	340.21	
JH48	20+17	20	339.26	R38	339.06	340.01	
JH49	20+55	20	338.81	JH50	338.61	339.44	
JH50	20+80	20	338.61	R39	338.41	339.21	
JH51	21+28	20	338.08	JH52	337.89	338.72	
JH52	21+56	20	337.89	R40	337.69	338.49	
JH53	22+04	20	337.42	JH54	337.22	338.04	
JH54	22+24	20	337.22	R41	337.02	337.82	
JH55	22+68	20	336.70	R42	336.08	336.88	
JH56	24+57	20	333.62	R44	333.27	334.07	
JH57	25+37.50	20	332.06	R45	331.71	332.51	
JH58	29+13	20	325.98	CULVERT	325.50	326.34	
LB JH1	26+29	20	330.99	R46	330.64	331.44	Randolph to Cannon
LB JH2	27+39	20	329.32	R47	328.97	329.77	
LB JH3	27+87	20	328.58	R48	328.23	329.03	
LB JH4	28+50	20	327.39	R49	327.00	327.80	
T JH1	2+15	20	355.70	T JH2	355.60	356.40	Tributary 3
T JH2	2+38	20	355.60	T R3	355.59	356.29	
T JH3	6+20	20	347.70	T R5	347.60	348.35	
T JH4	6+68	20	347.00	T R6	346.10	346.90	

Stone Sizing Chart

Type of Treatment	Bioeng Detail No.	Plan Specification Reference (See Sheet 13 & 14)	D_{50} range in inches	D_{50} in inches	MSHA Class for D_{50} by weight	Notes
Cross Vane (CV)	7	15.0				Rocks: Dry Unit Weight =160lb/cu ft or greater
(CV) Footer Rocks			30-36	34	Class III	Angular Flat
(CV) Top Rocks			24-30	28	Class III	Angular Flat
(CV) Backfill			0.02-5	2.5	Class 0	Excavated Cobble Gravel & Sand or if not available Use Unwashed Bankrun Gravel
J-Hook (JH):Upstream	3	12.0				Rocks: Dry Unit Weight =160lb/cu ft or greater
(JH) Footer Rocks			18-24	22	Class III	Angular Flat
(JH) Top Rocks			12-18	16	Class II	Angular Flat
(JH) Backfill			0.02-5	2.5	Class 0	Excavated Cobble Gravel & Sand or if not available Use Unwashed Bankrun Gravel
J-Hook (JH):Downstream	3	12.0				Rocks: Dry Unit Weight =160lb/cu ft or greater
(JH) Footer Rocks			24-36	30	Class III	Angular Flat
(JH) Top Rocks			12-18	16	Class II	Angular Flat
(JH) Backfill			0.02-5	2.5	Class 0	Excavated Cobble Gravel & Sand or if not available Use Unwashed Bankrun Gravel
Log Boulder J-Hook (LB-JH)	1	12.0				Rocks: Dry Unit Weight =160lb/cu ft or greater
(LB-JH) Footer Rocks			24-36	30	Class III	Angular Flat
(LB-JH) Top Rocks			12-18	16	Class II	Angular Flat
(LB-JH) Backfill			0.02-5	2.5	Class 0	Excavated Cobble Gravel & Sand or if not available Use Unwashed Bankrun Gravel
Log Boulder Step Pool (LBSP)	8	13.0				
(SP) Step-pool Rock			30-42	36	Class III	Flat Angular;Dry Unit Weight=150lb/cu ft or greater
(SP) Bedding Rock			30-36	34	Class III	Angular;Dry Unit Weight =130lb/cu ft or greater
(SP) Cobble			5-10	8	Class I	River Jack or Round Cobble
(SP) Gravel			0.5-2	2	Class 0	Gravel
Constructed Riffle (CR)	2	10.0				Boulders:Dry Unit Weight = 160lb/cu ft or greater
(CR) Boulders			30-42	36	Class III	Round, Subangular or Angular
(CR) Cobble			2.5-10	6	Class 0	Round, Subangular or Angular
(CR) Gravel			0.5-2	2	Class 0	Round, Subangular or Angular

Cross Vane Table

Unit	Apex Station	Approx. Structure Length (ft.) Left	Approx. Structure Length (ft.) Left	Apex (elev.)	Downstream Riffle	Downstream Riffle Invert	Bank Tie-in (elev.) (L)	Bank Tie-in (elev.) (R)	
CV1	3+46	20	20	365.00	R8	364.80	365.60	365.60	Randolph to Cannon
CV2	3+95	20	20	364.00	R9	363.80	364.60	364.60	
CV3	15+65	20	20	345.35	R32	345.15	345.95	345.95	
TCV1	0+21	20	20	360.00	T R1	360.00	360.75	360.75	Tributary 3
TCV2	7+20	20	20	346.10	T R7	345.90	346.65	346.65	

Step Pool Table

Unit	Upstream Station	End Station	Pool Bottom Length	Pool Bottom width (ft)	Top (tie-in) width (ft)	Log Size (inch)	
SP 1	4+05	4+25	10	5	16	18	Midland
SP 2	4+25	4+45	10	5	16	18	
SP 3	4+45	4+65	10	5	16	18	
SP 4	4+65	4+85	10	5	16	18	
SP 5	4+85	5+05	10	5	16	18	
SP 6	5+05	5+25	10	5	16	18	
SP 7	5+25	5+45	10	5	16	18	
SP 8	5+45	5+65	10	5	16	18	
SP 9	5+65	5+85	10	5	16	18	
SP 1	0+93.50	1+15.50	10	4	12	18	Trib 1
SP 2	1+15.50	1+35.50	10	4	12	18	
SP 3	1+35.50	1+54.50	10	4	12	18	
SP 4	1+54.50	1+73.00	10	4	12	18	
SP 5	1+73.00	1+92.00	10	4	12	18	
SP 6	1+92.00	2+10.00	10	4	12	18	
T SP 1	0+70.00	0+85.00	5	5	12	18	Trib 3
T SP 2	0+85.00	1+00.00	5	5	12	18	
T SP 3	1+00.00	1+15.00	5	5	12	18	
T SP 4	1+15.00	1+30.00	5	5	12	18	
T SP 5	1+30.00	1+45.00	5	5	12	18	
T SP 6	1+45.00	1+60.00	5	5	12	18	
T SP 7	1+60.00	1+75.00	5	5	12	18	
T SP 8	1+75.00	1+90.00	5	5	12	18	
T SP 9	5+00.00	5+20.00	5	5	12	18	
T SP 10	5+20.00	5+40.00	5	5	12	18	
T SP 11	5+40.00	5+60.00	5	5	12	18	
T SP 12	5+60.00	5+80.00	5	5	12	18	
T SP 13	5+80.00	6+00.00	5	5	12	18	

NOTE:
Satisfactory cobble/gravel backfill materials for constructed riffles, J-hooks, cross vanes, and step-pools will be determined by the County Engineer/Parks Inspector/Stream Designer/Design Engineer. Refer to Spec.'s 10, 12, 13 & 15 for sizing.

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. ____

M-NCPPC PARK FACILITY CODE D20

REVIEWED BY ____

APPROVED BY ____ CHIEF, CONSTRUCTION SECTION

DATE APPROVED ____

M-NCPPC PERMIT SHEET # ____ OF ____

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301)495-2574.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

BIO-ENGINEERING SPECIFICATIONS

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

MONTGOMERY COUNTY MARYLAND 1776

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN

SHEET 15

JOB NO. 38-507

Plotted: Apr 17, 2013 - 4:30pm User: cwilson F:\Hollywood Branch\CAD\dwg\90- Spec.dwg
Xrefs: 24x36 standard.dwg

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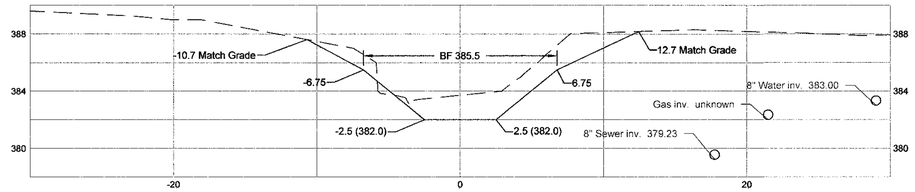

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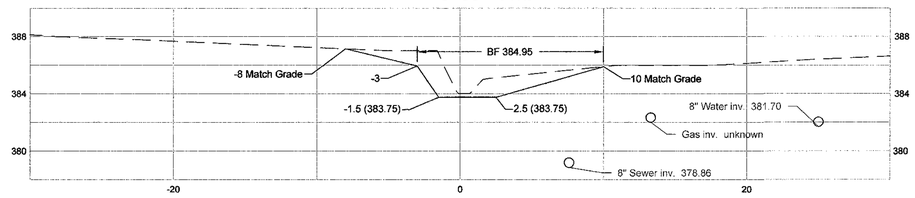

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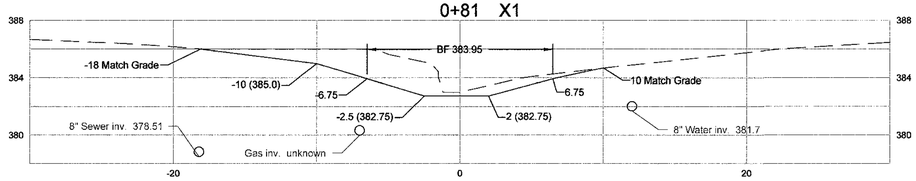

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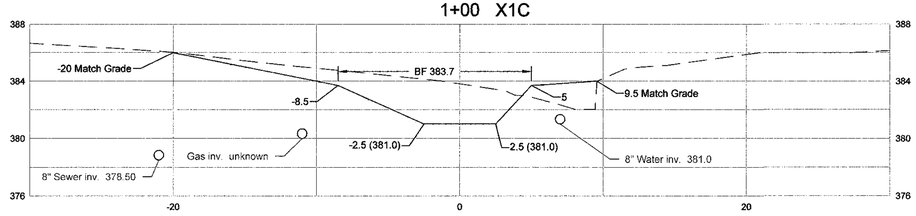

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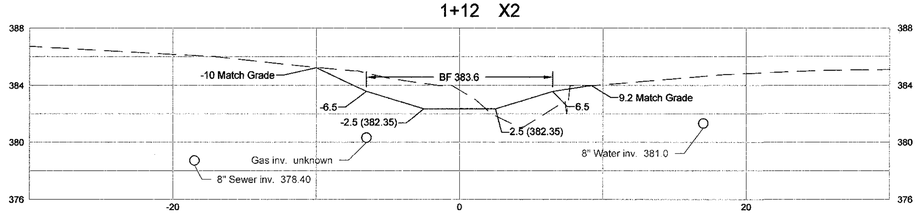

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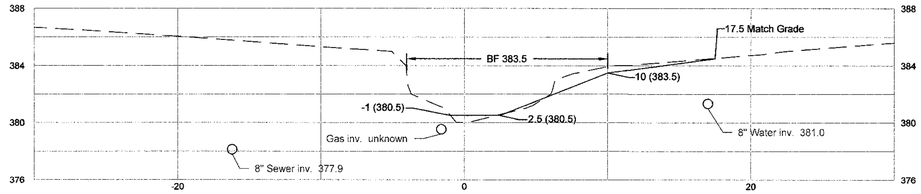

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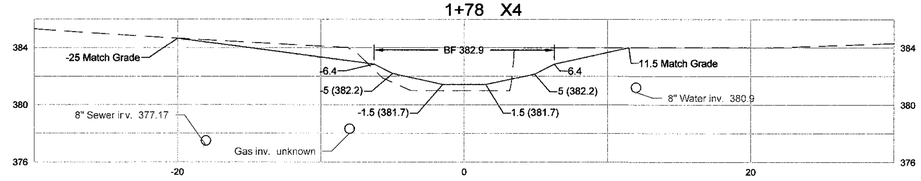

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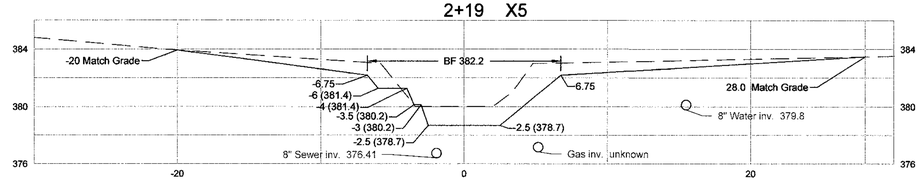

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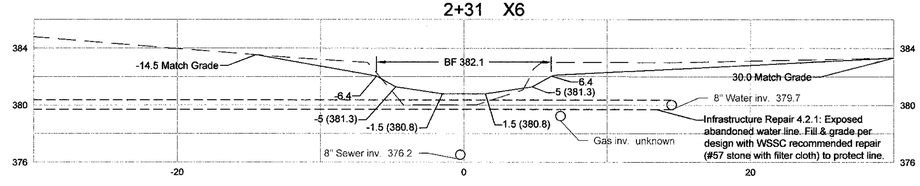

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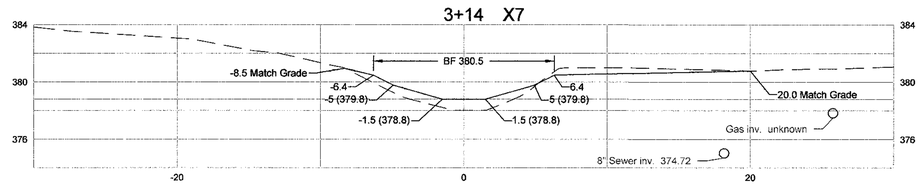

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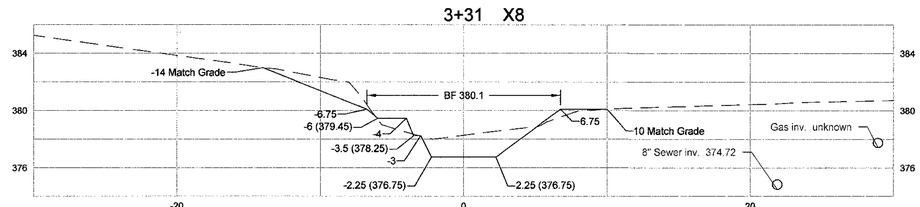

Utility Note: All existing water, sewer, gas and others utilities shown hereon are approximate; contractor to contact MISS UTILITY (and if necessary conduct a test pit) to verify all underground utilities locations and inverts prior to digging.

Section Note: All cross sections are looking downstream. Proposed grade line (solid line) is top of grade line or installed structure.

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MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS	
Reviewed Date	Reviewed Date	Reviewed Date	
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.	
S.M. File NO.		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.	

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN CROSS SECTIONS
MIDLAND TO RANDOLPH

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpj.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 16
27 OF 68 SHEETS
JOB NO. 38-507

Plotted: Apr 11, 2013 - 1:37pm User: cwilson
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Xrefs: 24x36 standard.dwg

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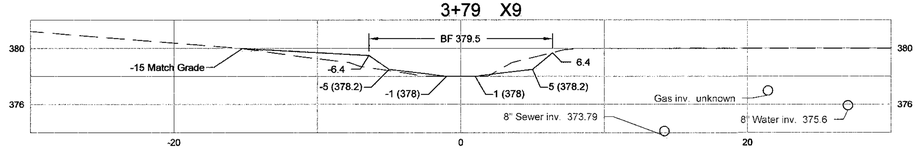

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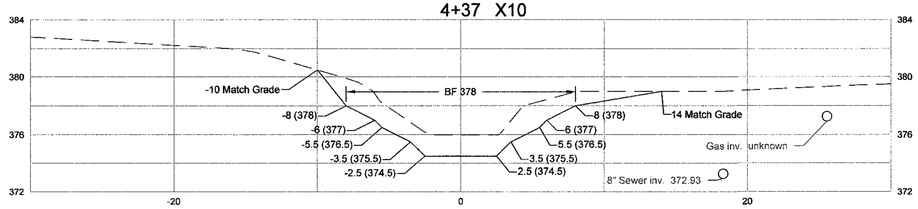

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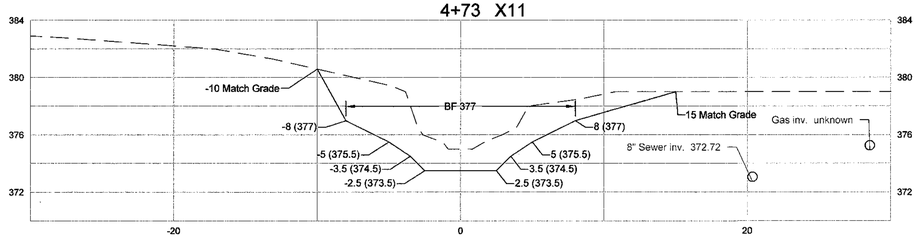

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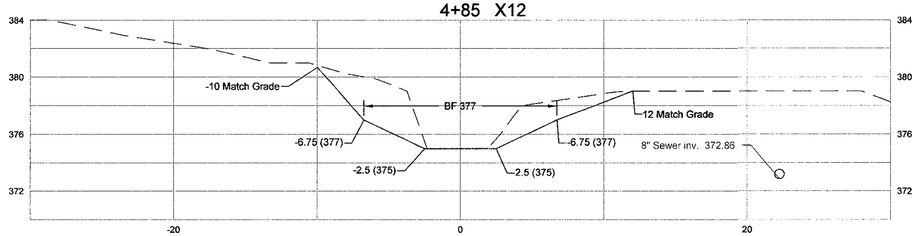

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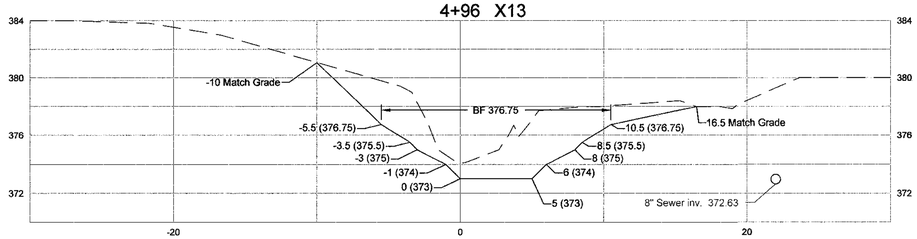

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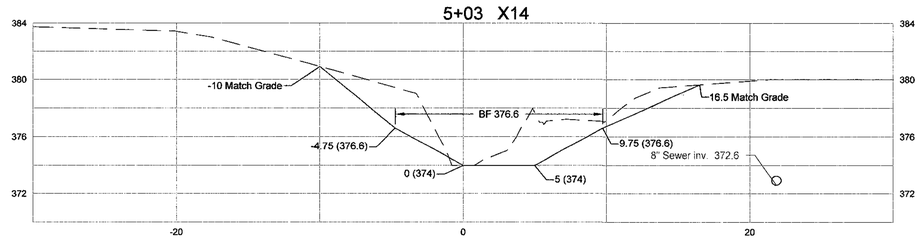

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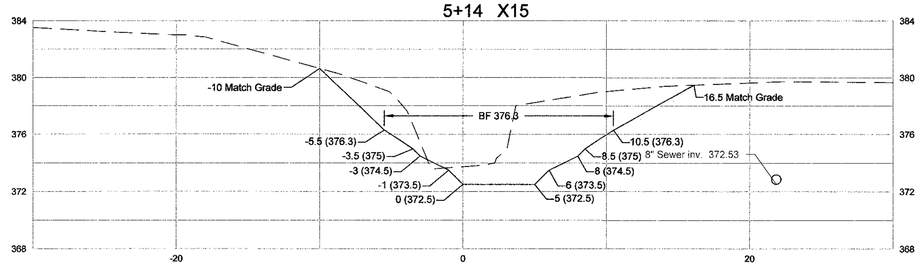

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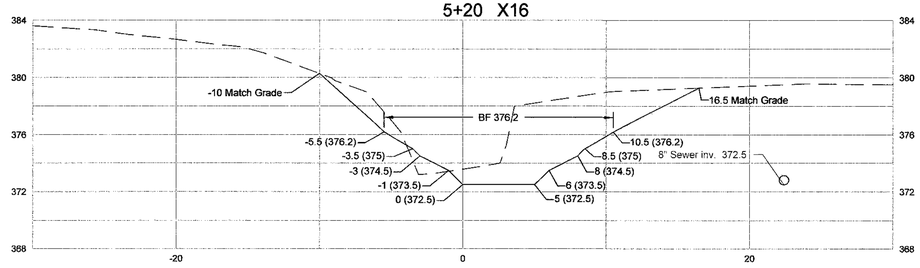

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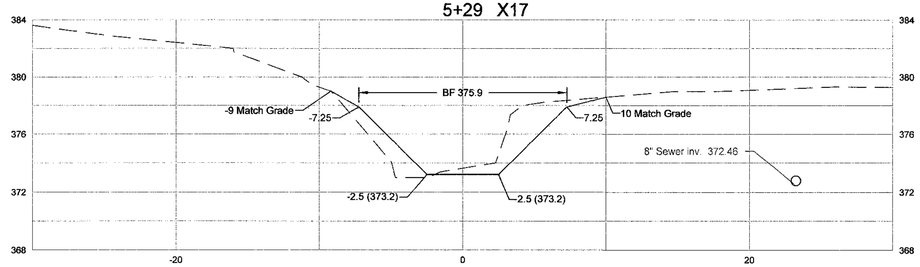

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MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS	
Reviewed Date	Reviewed Date	Reviewed Date	
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.	
		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.	

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN CROSS SECTIONS
MIDLAND TO RANDOLPH

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: envcpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 17
28 OF 68 SHEETS
JOB NO. 38-507

Apr 11, 2013 - 1:37pm User: cwilson
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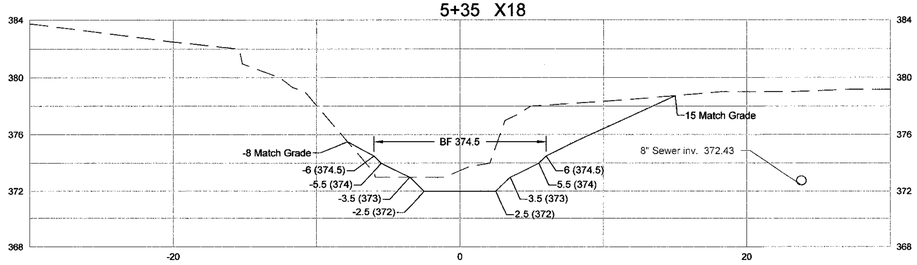

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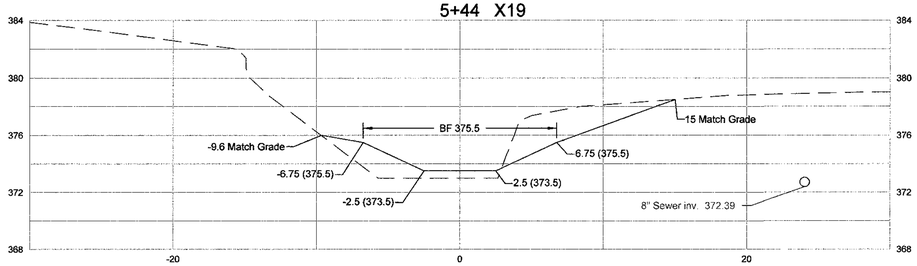

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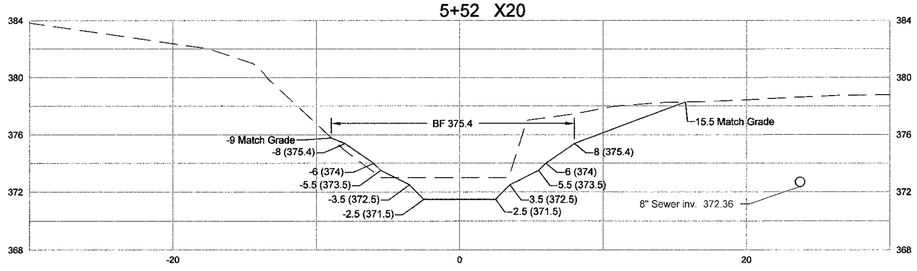

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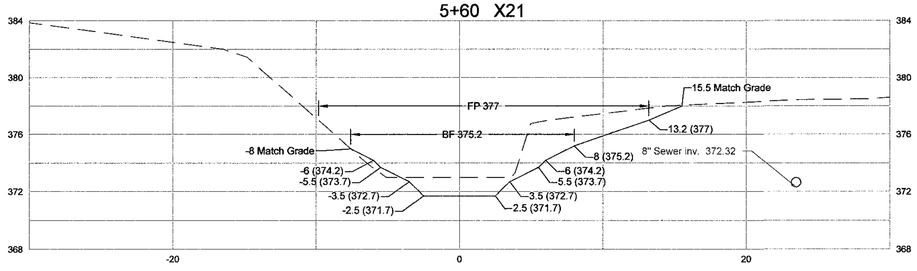

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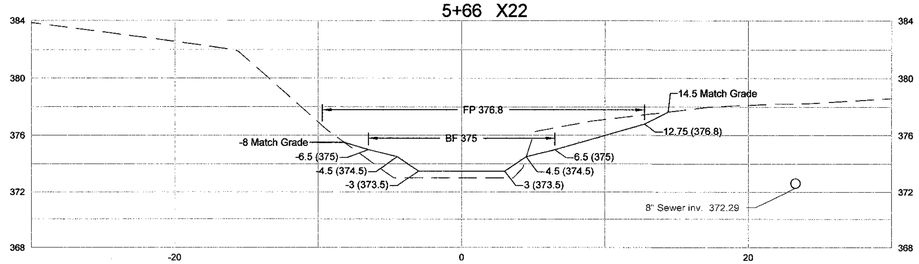

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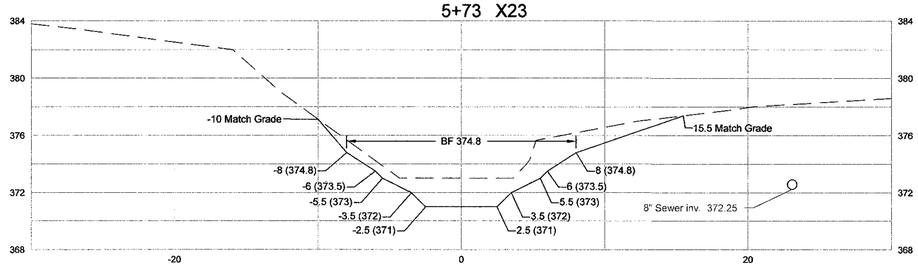

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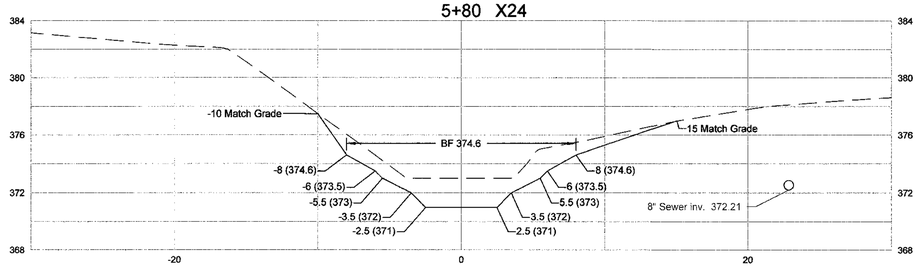

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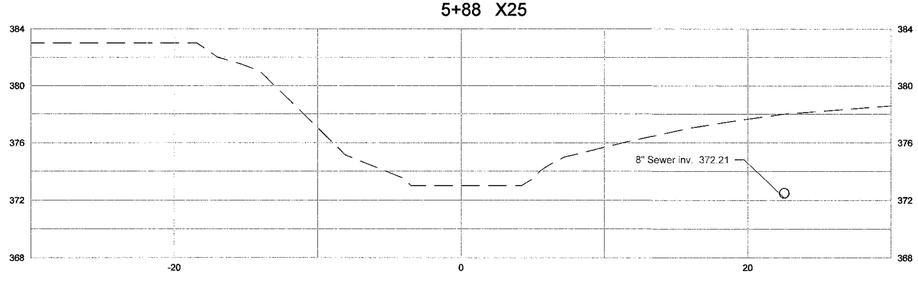

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MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.

E.M. Permit No.

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Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
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Phone: (240) 777-7713
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MONTGOMERY COUNTY, MD
Hollywood Branch
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Hollywood Branch Stream Stabilization

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MIDLAND TO RANDOLPH

DATE: 04/13
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910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND...20878
Phone:(301)208-9573 E-mail: envcpja.com Fax:(301)926-6551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 18
29 OF 68 SHEETS
JOB NO. 38-507

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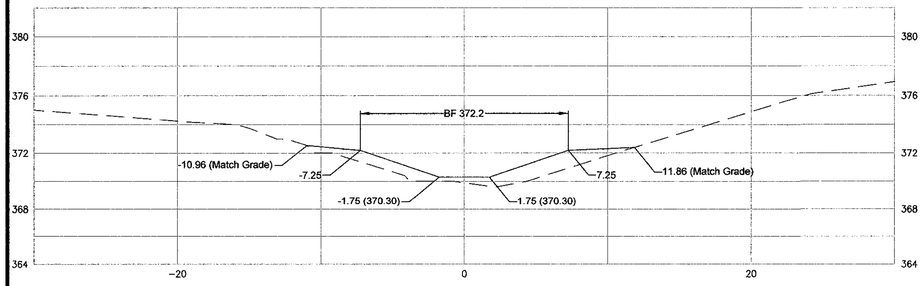

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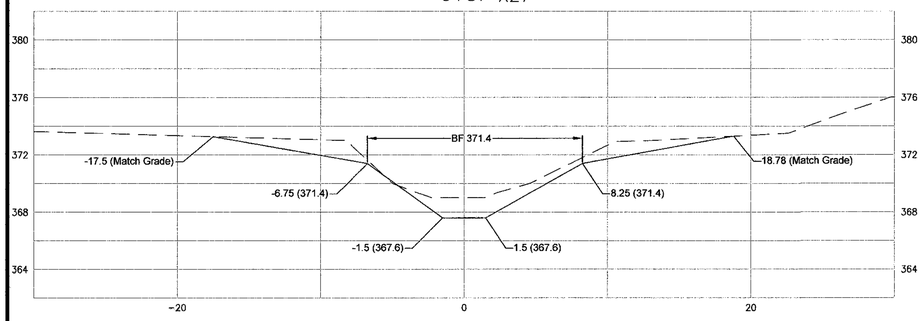

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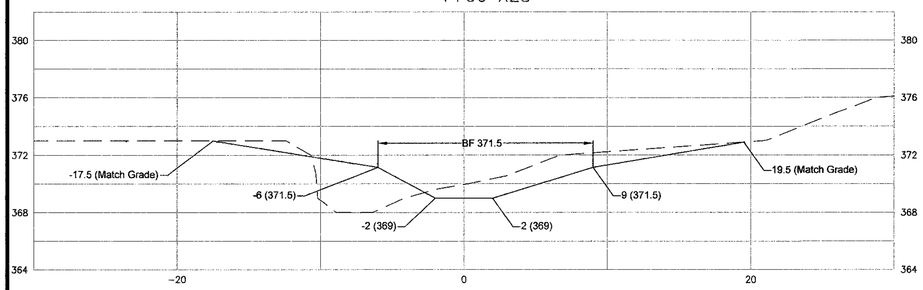

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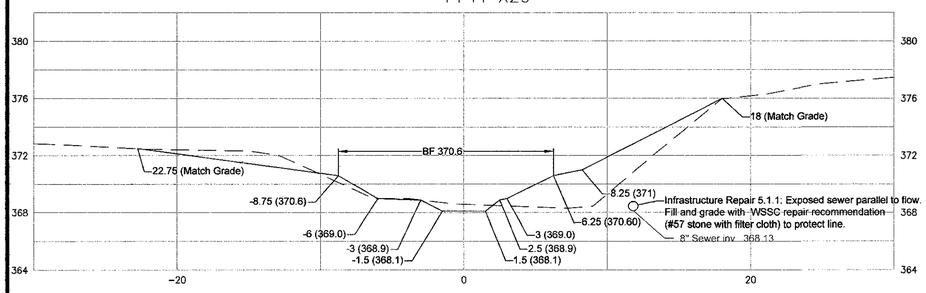

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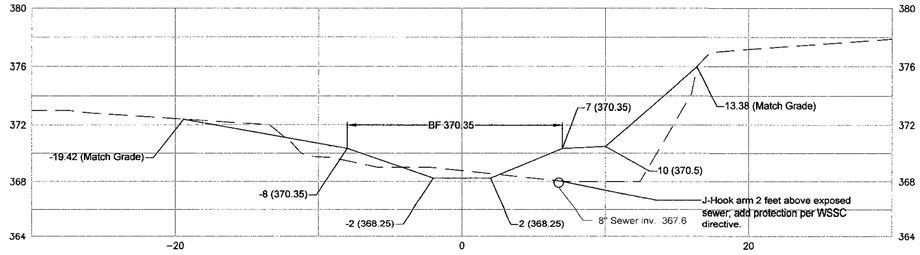

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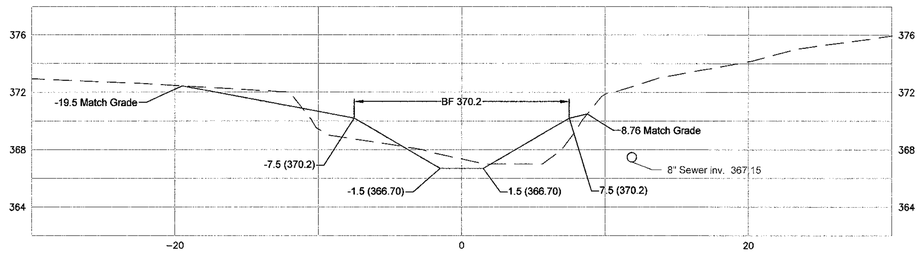

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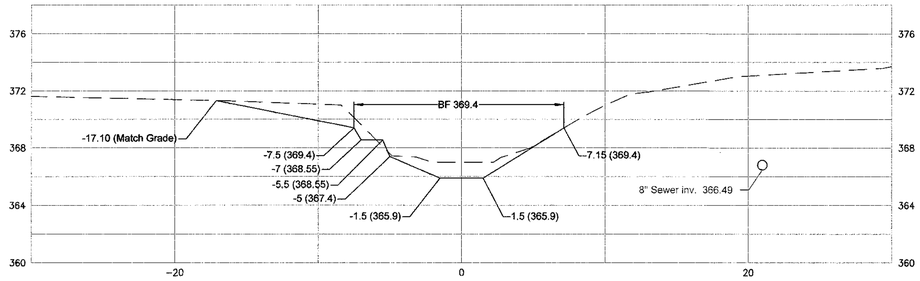

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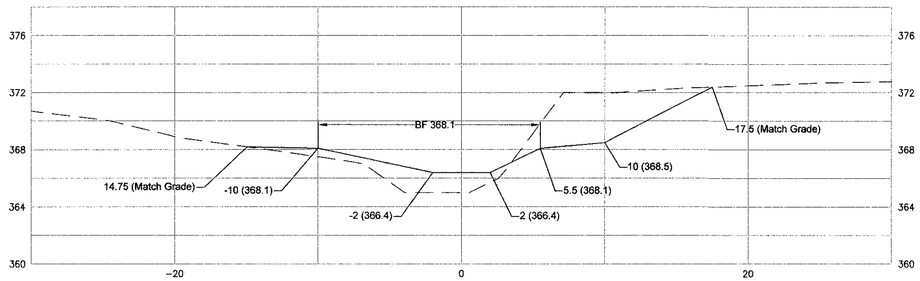

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MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
SWM Permit:		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN CROSS SECTIONS
RANDOLPH TO CANNON

DATE:	04/13
DESIGNED:	RP
DRAFTED:	HT/JM
CHECKED:	CW
BASE DATA:	CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION - STORMWATER MANAGEMENT - INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 19
30 OF 68 SHEETS
JOB NO. 38-507

Plotted: Apr 11, 2013 - 1:37pm User: cwilson
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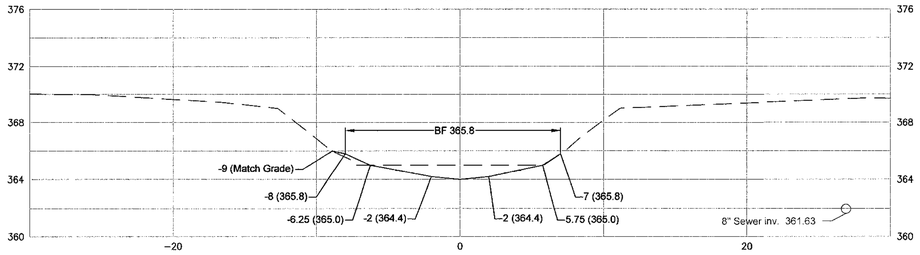
Xrefs: 24x36-standard.dwg

3+91 X34



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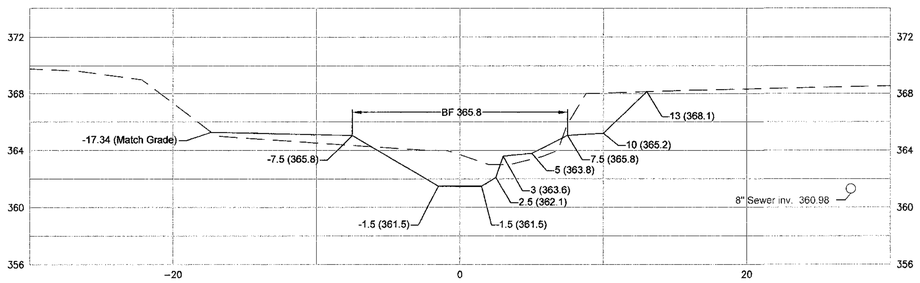

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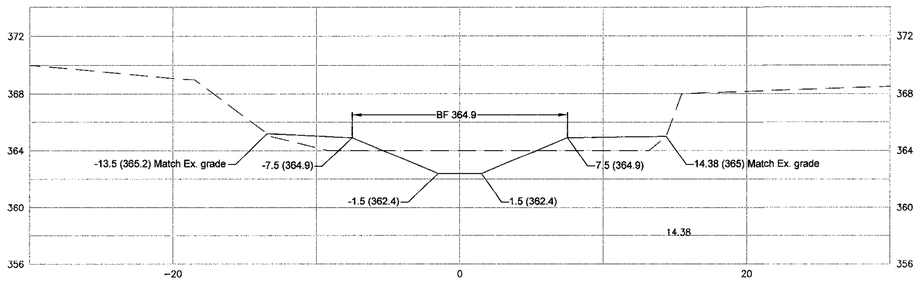

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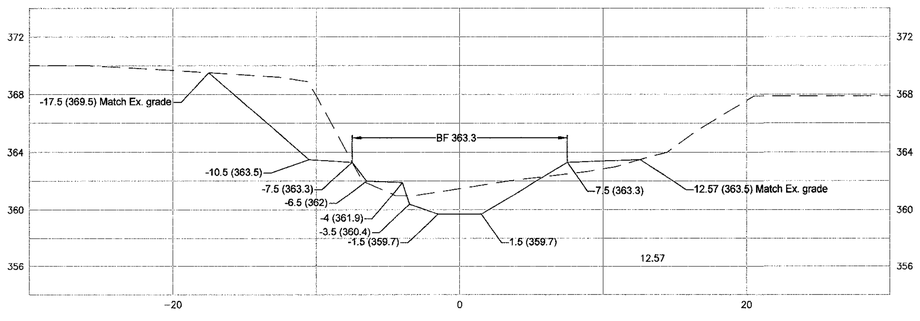

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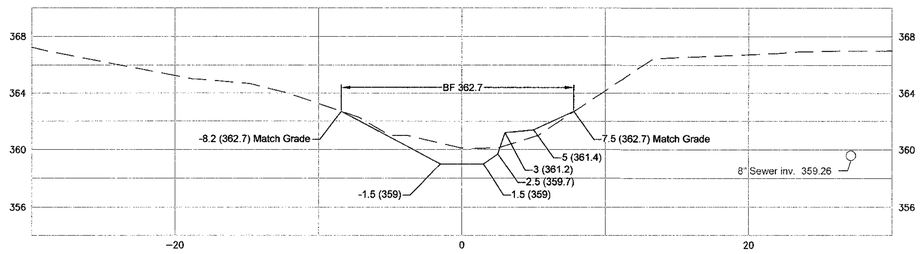

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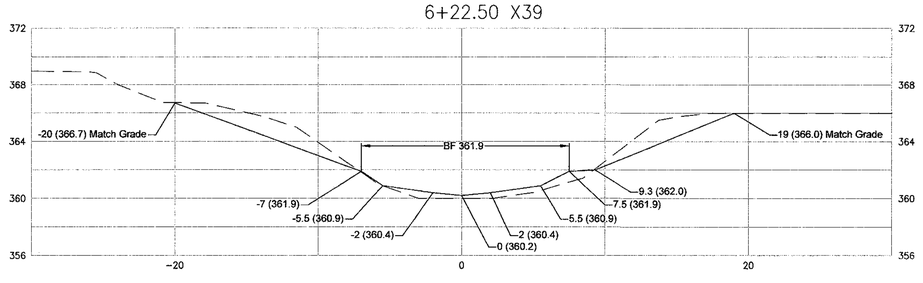

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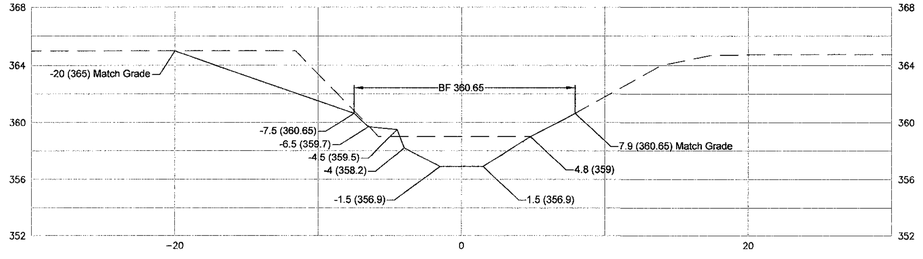

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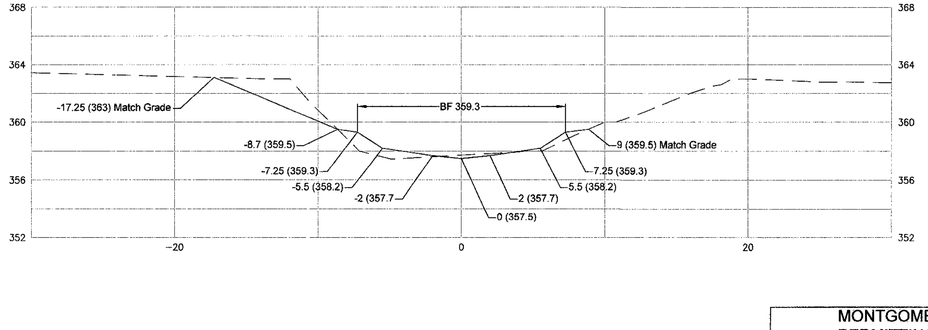

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MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
E.M. Re.No.:		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

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Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN CROSS SECTIONS
RANDOLPH TO CANNON

DATE:	04/13
DESIGNED:	RP
DRAFTED:	HT/JM
CHECKED:	CW
BASE DATA:	CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9575 E-mail:env@cpja.com Fax:(301)926-4581
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 20
31 OF 68 SHEETS
JOB NO. 38-507

Plotted: Apr 11, 2013 - 1:38pm User: carlson
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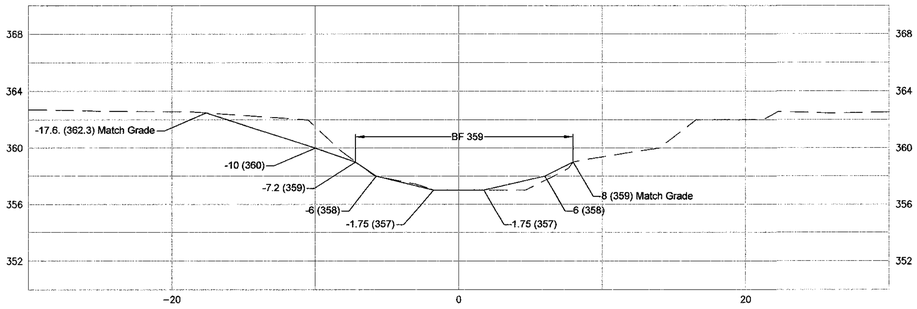
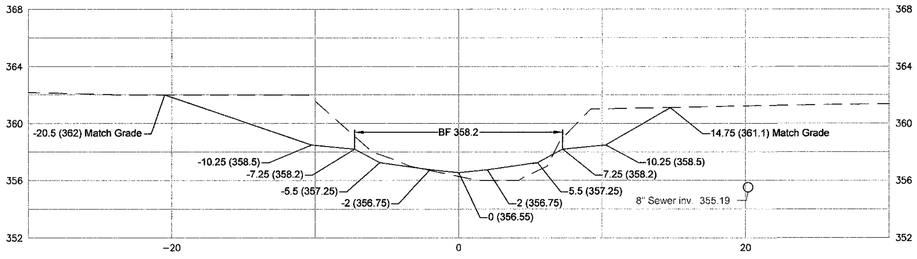
Xrefs 24x36 standard.dwg

7+87.50 X42



8+33.50 X43



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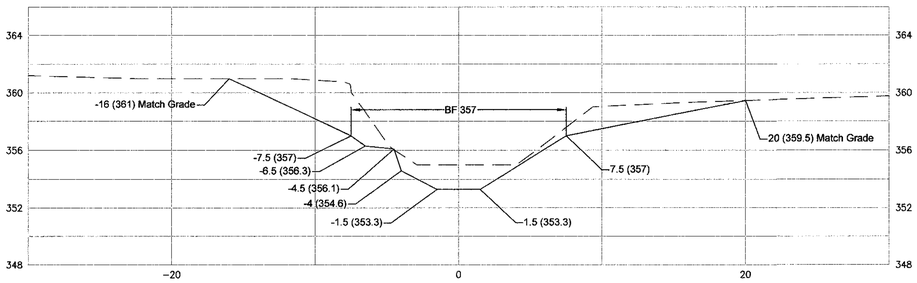
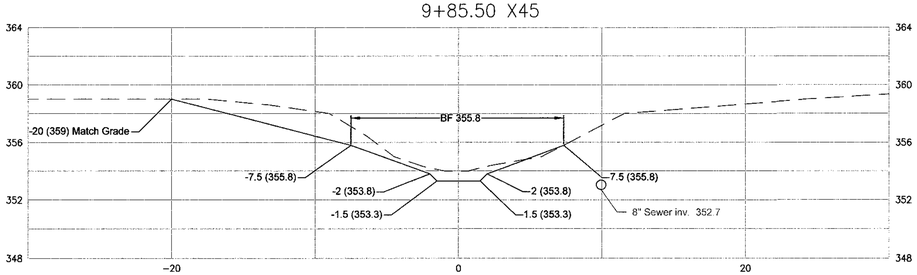


9+85.50 X45



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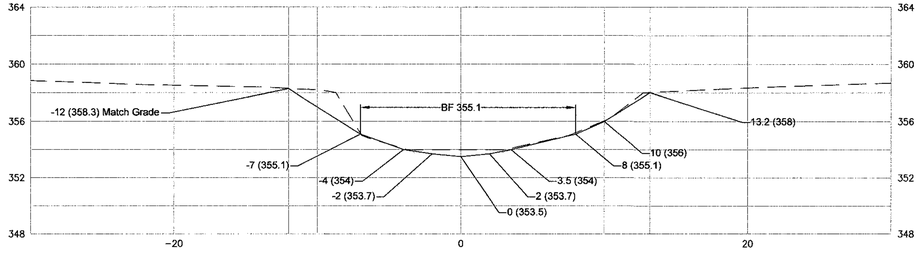

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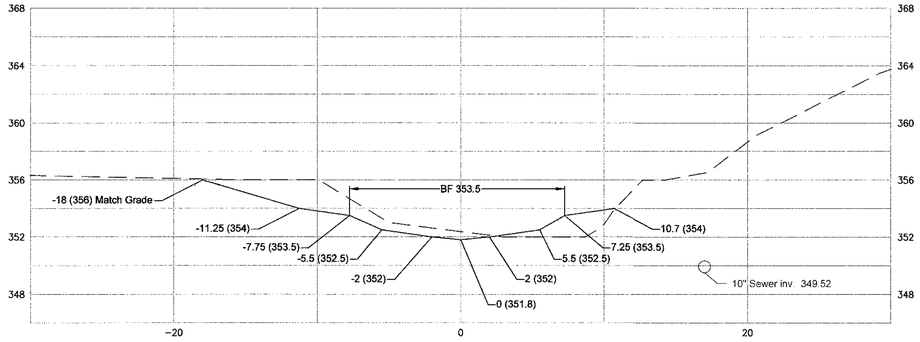

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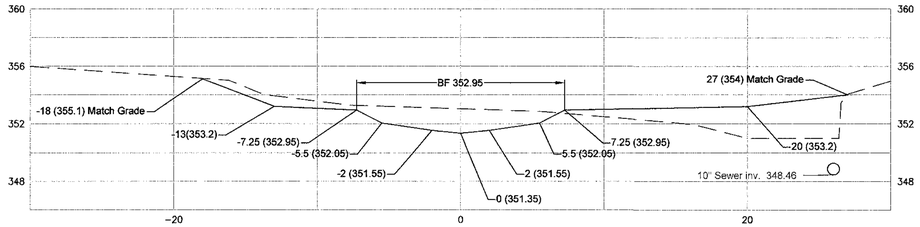
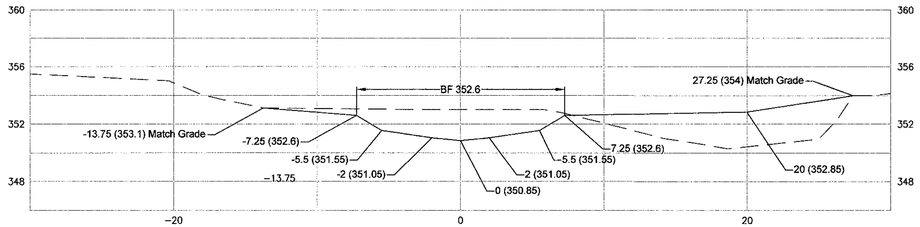


11+96.50 X49



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MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT Reviewed Date Approved Date S.W. Plan No.	SEDIMENT CONTROL TECHNICAL REQUIREMENTS Reviewed Date Approved Date	ADMINISTRATIVE REQUIREMENTS Reviewed Date SEDIMENT CONTROL PERMIT NO. MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN CROSS SECTIONS
RANDOLPH TO CANNON

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

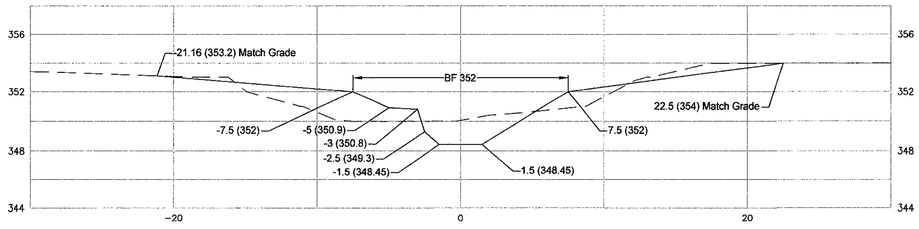
NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 21
32 OF 68 SHEETS
JOB NO. 38-507

Apr 15, 2013 - 4:04pm User: cwilson
Plotted: P:\Hollywood Branch\CAD\Design\X-Sections.dwg
Xrefs: 24x36 standard.dwg

12+28.50 X50



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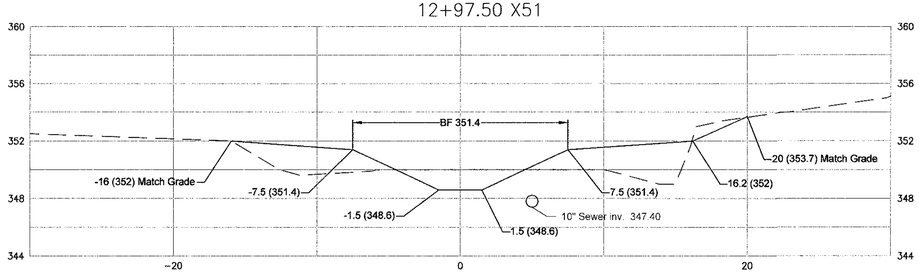

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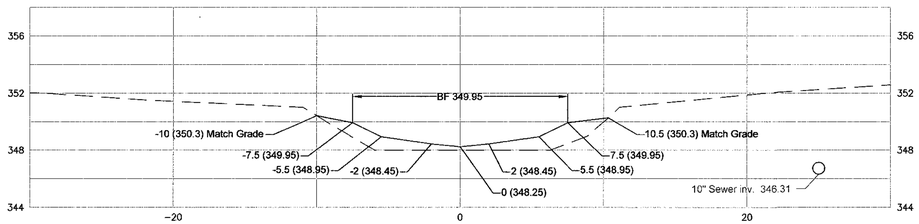

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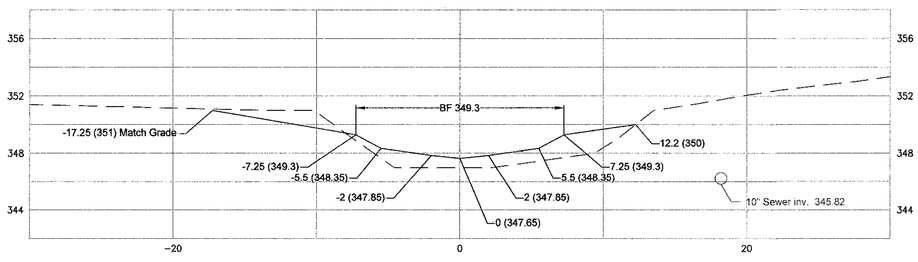

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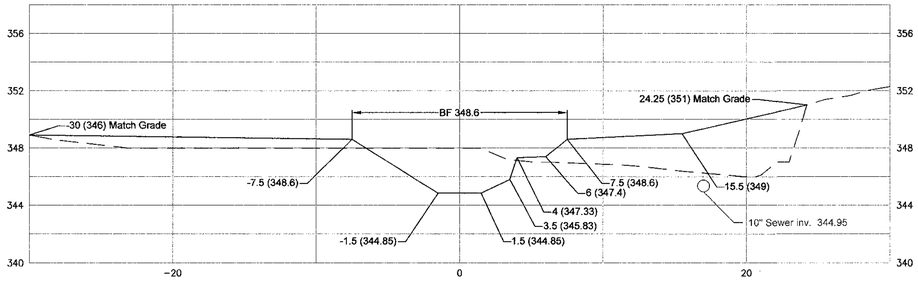
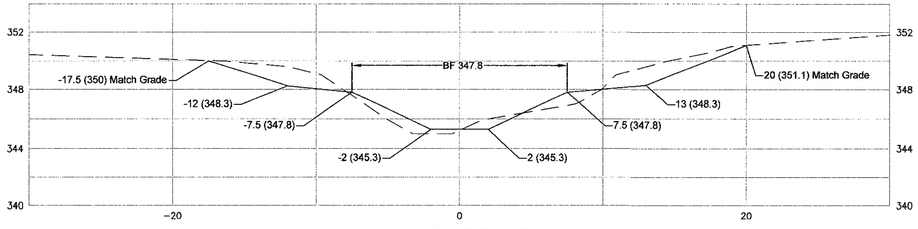


15+16.50 X55



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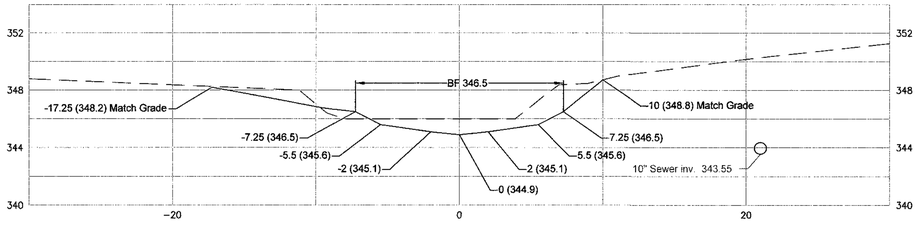

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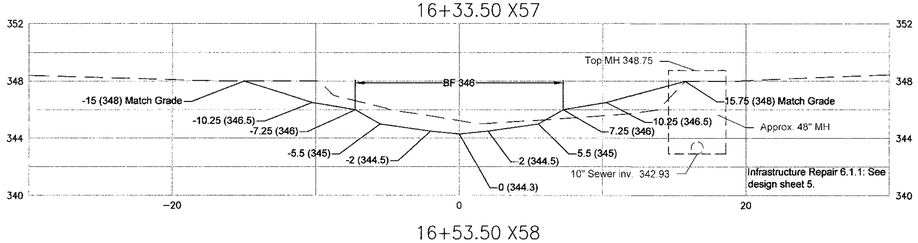

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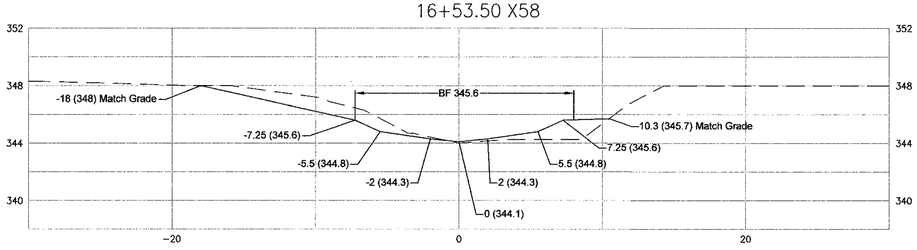

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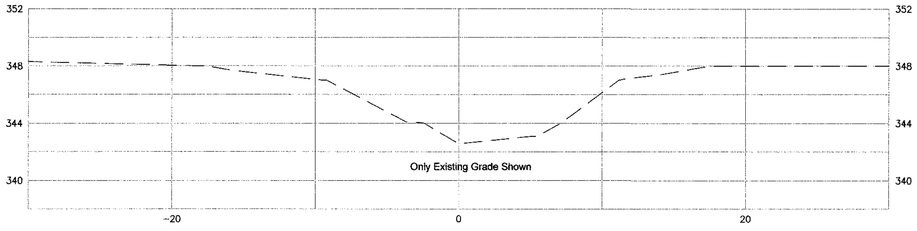

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MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT

Reviewed Date

Approved Date

S/M Plan No.:

SEDIMENT CONTROL TECHNICAL REQUIREMENTS

Reviewed Date

Approved Date

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

ADMINISTRATIVE REQUIREMENTS

Reviewed Date

SEDIMENT CONTROL PERMIT NO.

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

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Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN CROSS SECTIONS
RANDOLPH TO CANNON

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4581
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 22
33 OF 68 SHEETS
JOB NO. 38-507

Plotted: Apr 15, 2013 - 3:06pm User: cwilson
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Xrefs: 24x36 standard.dwg

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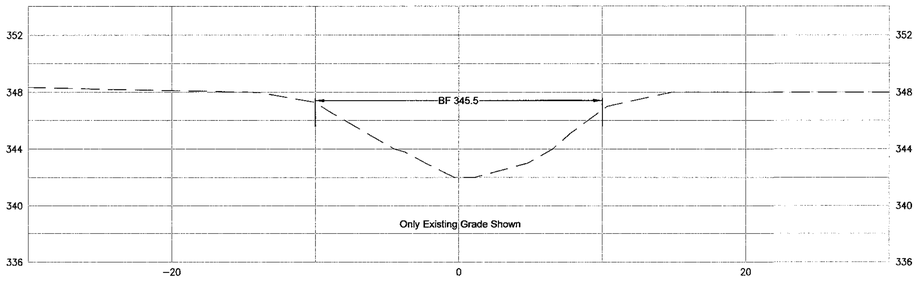

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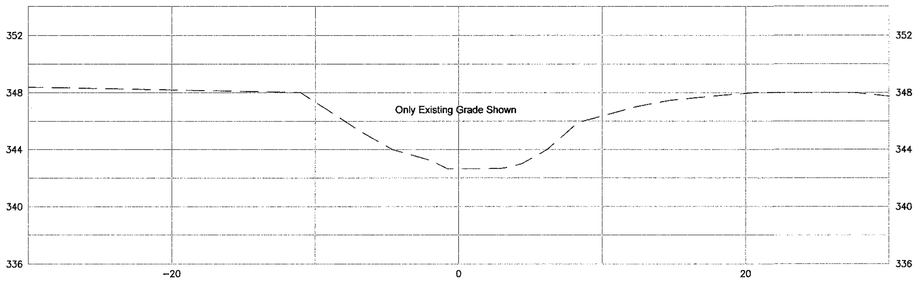

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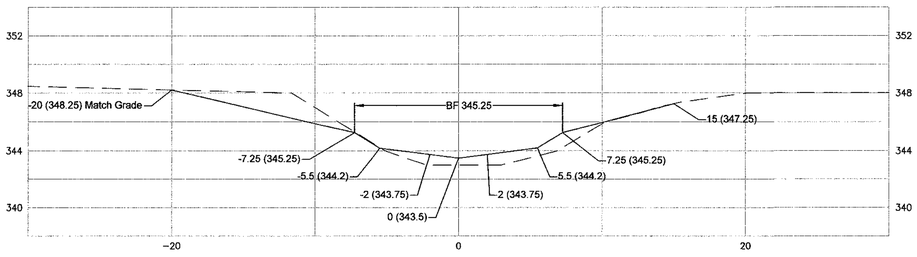
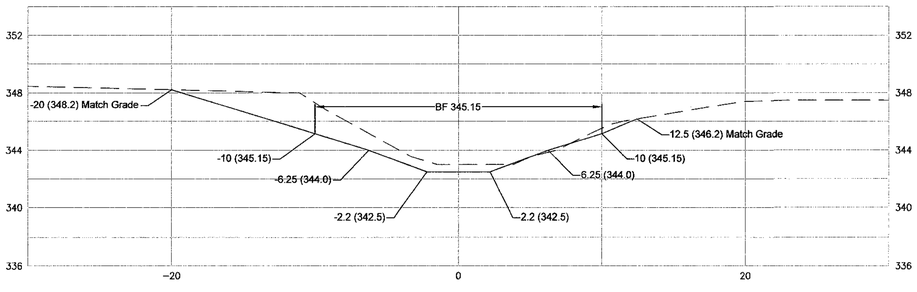


16+81.50 X63



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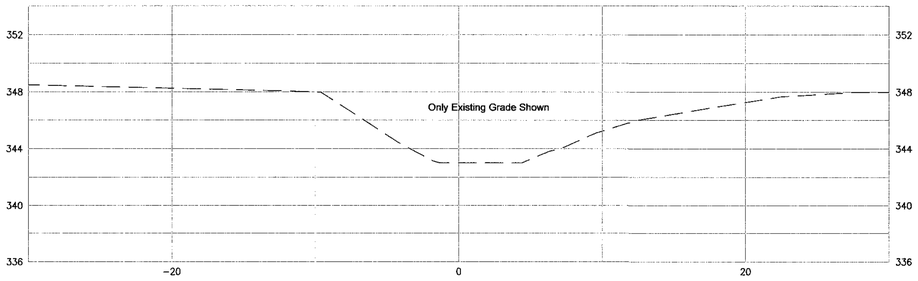

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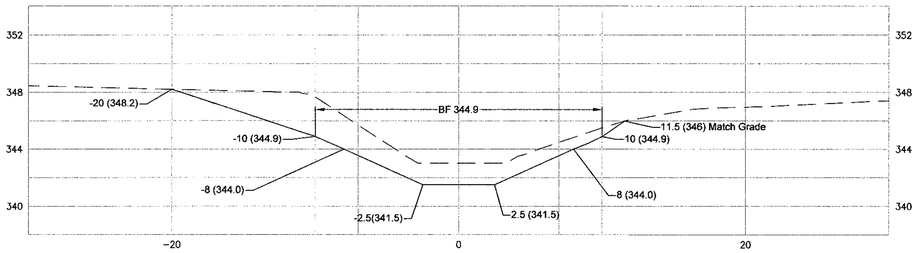

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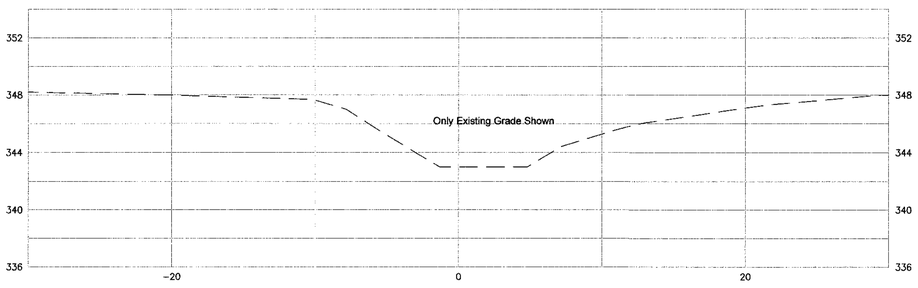

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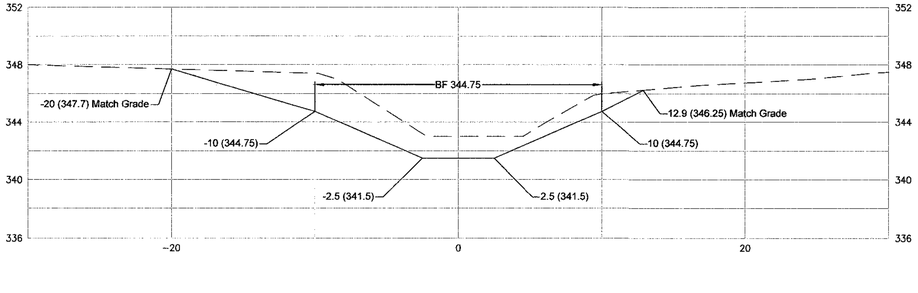

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MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
S.W. File No.:		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

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Hollywood Branch Stream Stabilization

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Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 23
34 OF 68 SHEETS
JOB NO. 38-507

Plotted: Apr 15, 2013 - 3:17pm User: cwilson
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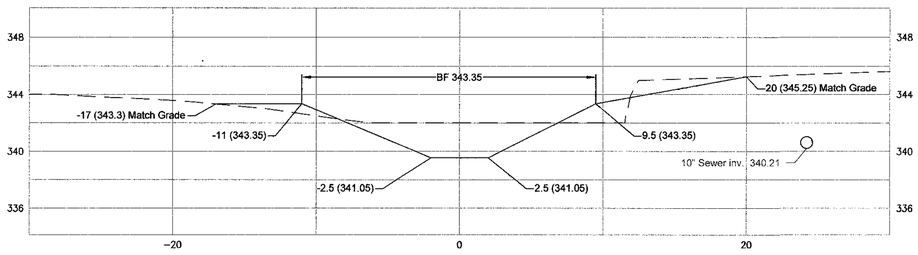
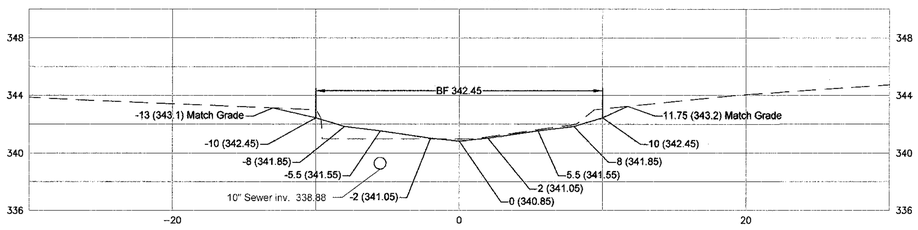
Xrefs: 24x36 standard.dwg

18+08.50 X68



18+84.50 X69



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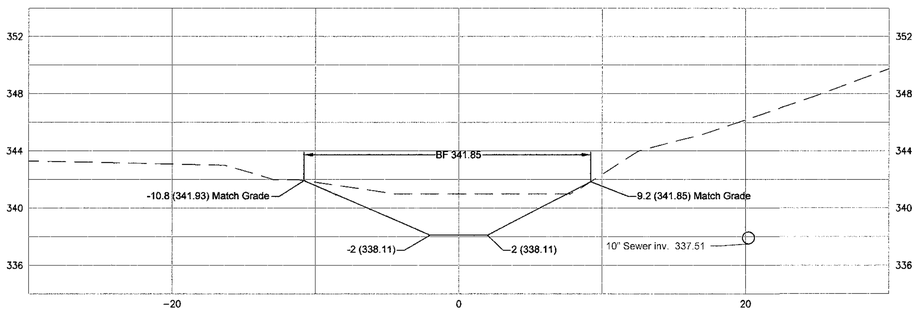
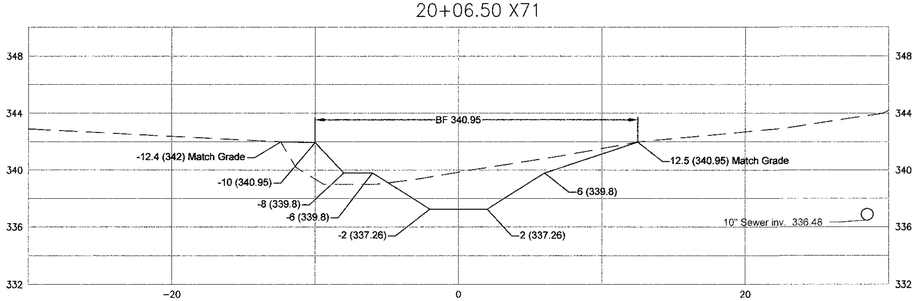
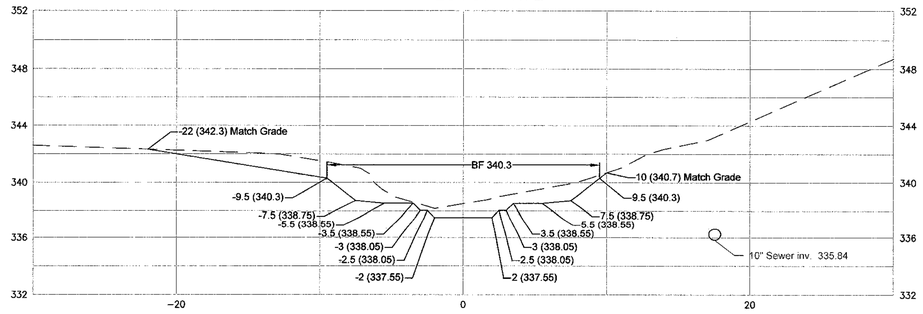


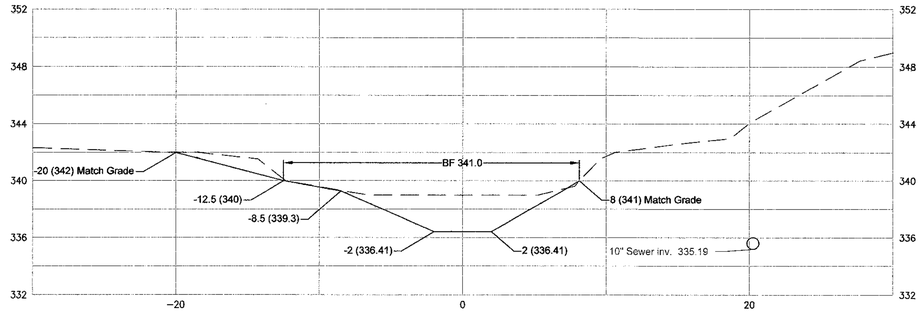
20+06.50 X71



20+57 X72



20+96 X73



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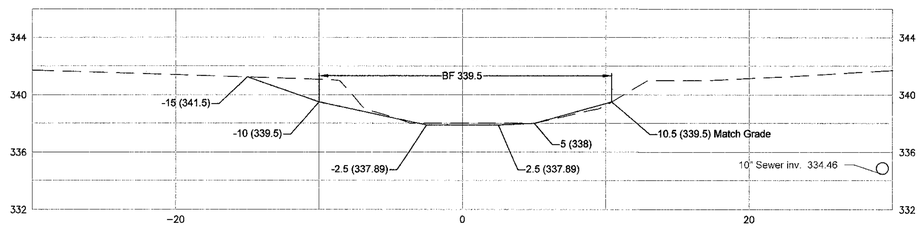

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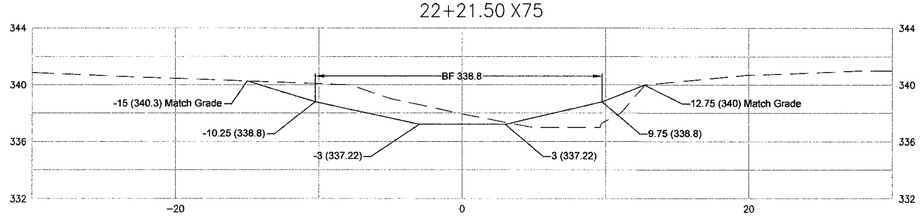

Utility Note: All existing water, sewer, gas and others utilities shown hereon are approximate; contractor to contact MISS UTILITY (and if necessary conduct a test pit) to verify all underground utilities locations and inverts prior to digging.

Section Note: All cross sections are looking downstream. Proposed grade line (solid line) is top of grade line or installed structure.

All Cross Sections scale:
V - 1" =5'
H - 1" =5'

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. _____

M-NCPPC PARK FACILITY CODE D20

REVIEWED BY _____

APPROVED BY _____ CHIEF, CONSTRUCTION SECTION

DATE APPROVED _____

M-NCPPC PERMIT SHEET # _____ OF _____

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301)495-2574.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT

_____ Reviewed Date

_____ Approved Date

SEDIMENT CONTROL TECHNICAL REQUIREMENTS

_____ Reviewed Date

_____ Approved Date

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

ADMINISTRATIVE REQUIREMENTS

_____ Reviewed Date

SEDIMENT CONTROL PERMIT NO.

_____

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN CROSS SECTIONS
RANDOLPH TO CANNON

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 24
35 OF 68 SHEETS
JOB NO. 38-507

Plotted: Apr 11, 2013 - 1:33pm User: cwilson
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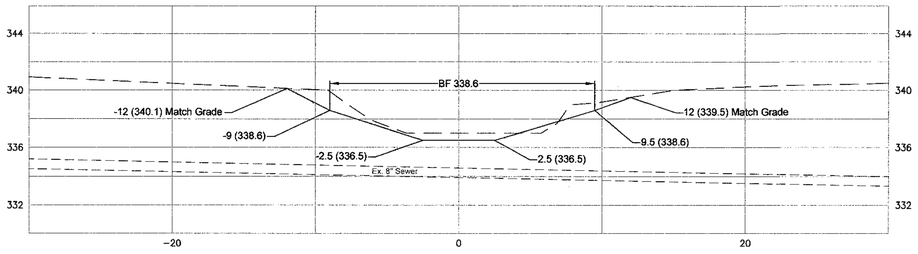
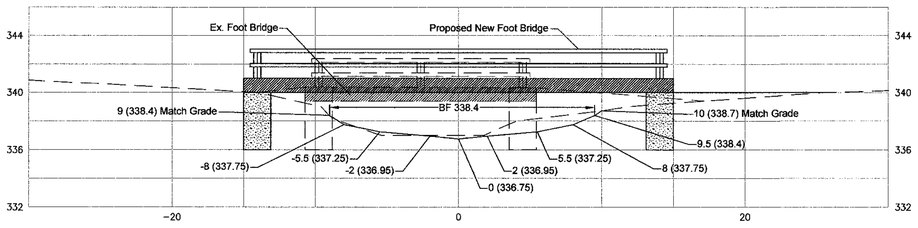
Xrefs: 24x36 standard.dwg

22+40.50 X76



22+59.50 X77



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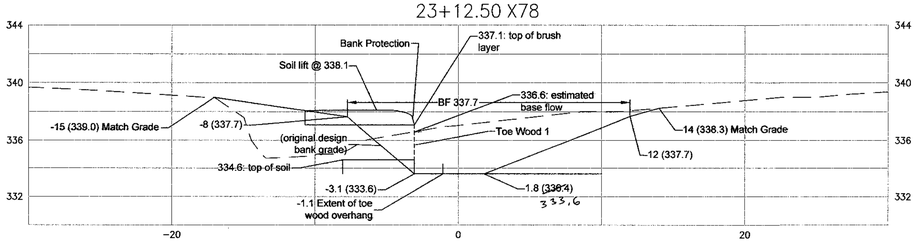

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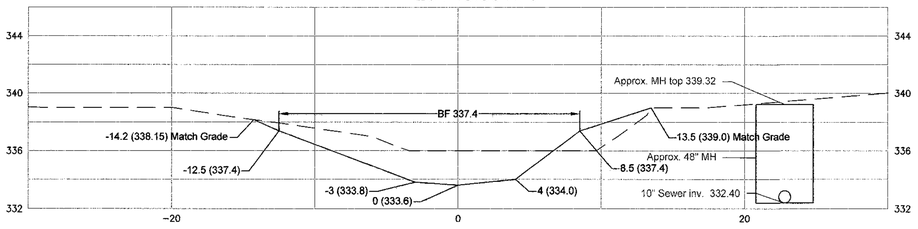
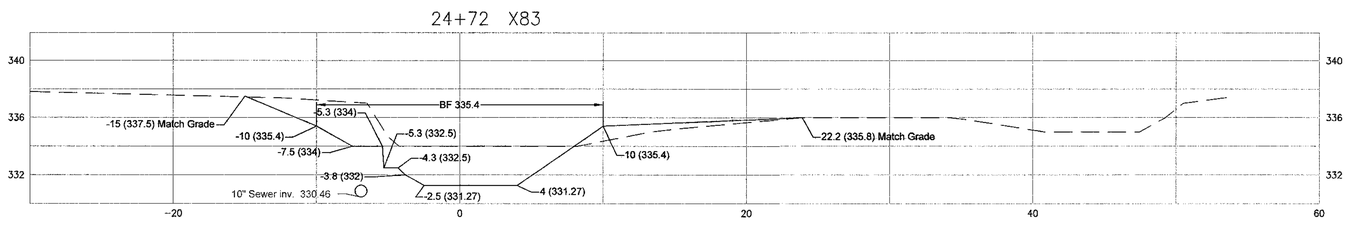


24+72 X83



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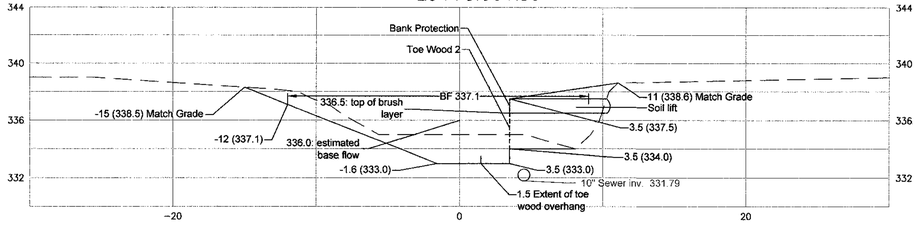
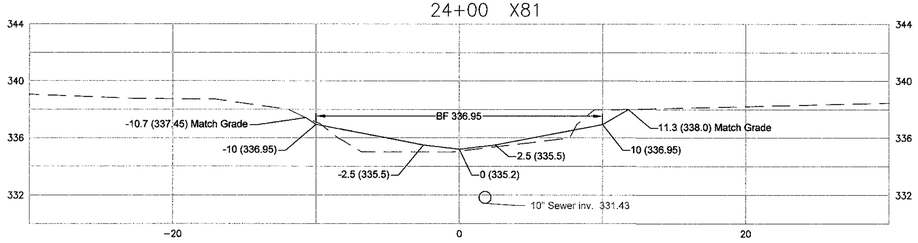


24+00 X81



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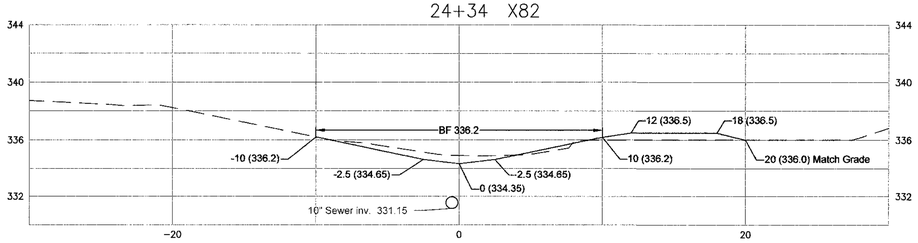

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THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. _____

M-NCPPC PARK FACILITY CODE 020

REVIEWED BY _____

APPROVED BY _____
CHIEF, CONSTRUCTION SECTION

DATE APPROVED _____

M-NCPPC PERMIT SHEET # _____ OF _____

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301)495-2574.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.

S.M. Plan No.

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN CROSS SECTIONS
RANDOLPH TO CANNON

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: envs@cpja.com Fax:(301)926-4581
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 25
36 OF 68 Drawings
JOB NO. 38-507

Plotted: Apr 18, 2013 - 3:18pm User: cvalson
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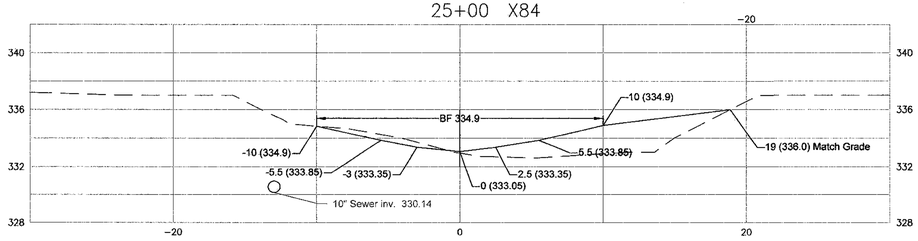
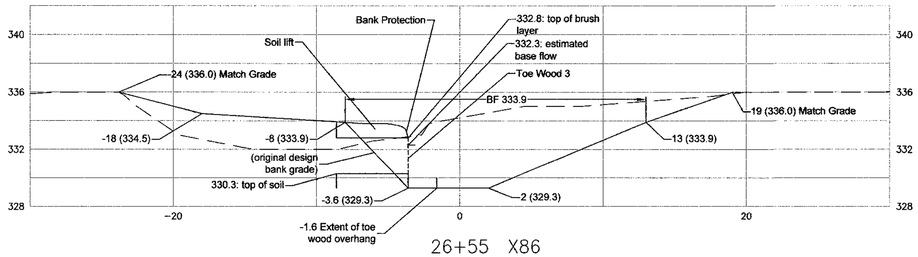
Xrefs: 24x36 standard.dwg

25+00 X84



25+75 X85



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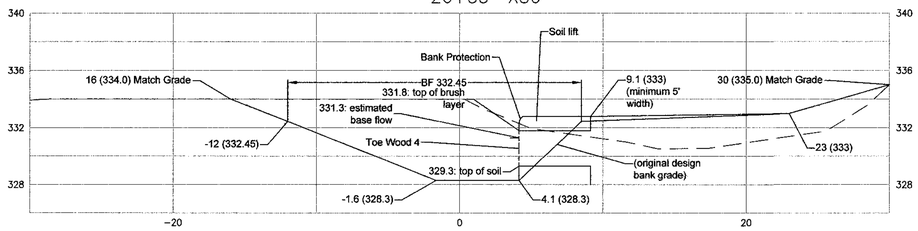

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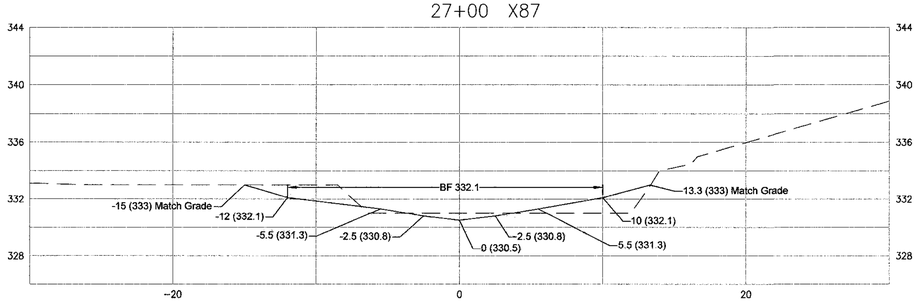

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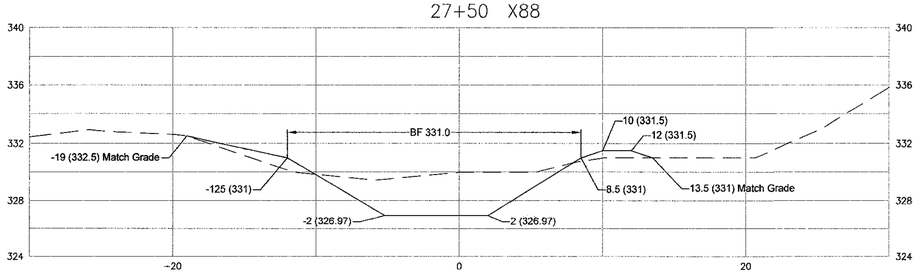

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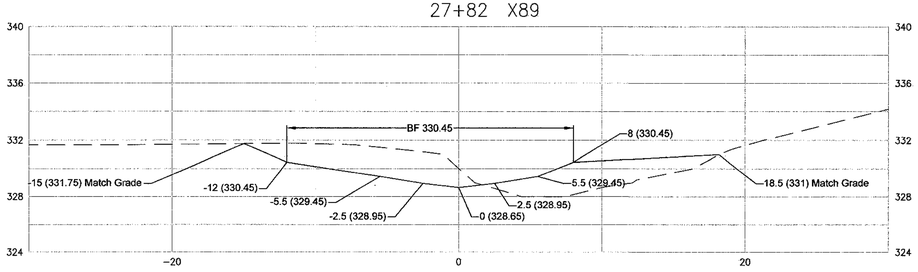

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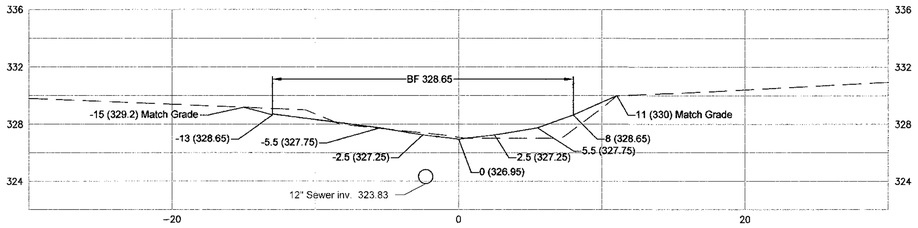

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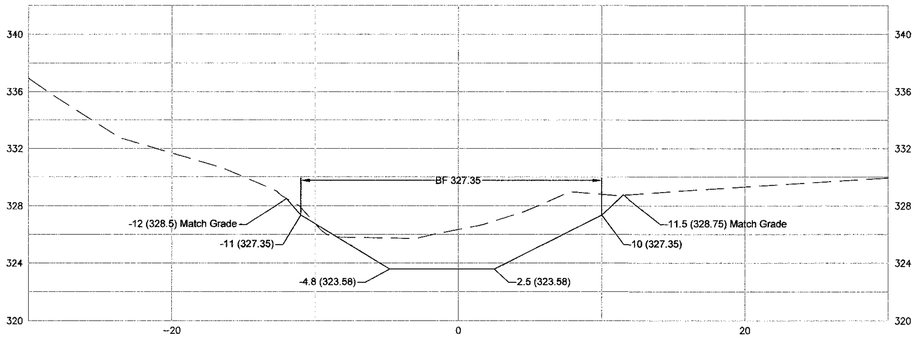

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THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. _____

M-NCPPC PARK FACILITY CODE D20

REVIEWED BY _____

APPROVED BY _____ CHIEF, CONSTRUCTION SECTION

DATE APPROVED _____

M-NCPPC PERMIT SHEET # _____ OF _____

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301)495-2574.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT

_____ Reviewed Date

_____ Approved Date

S.W. Per. No.: _____

SEDIMENT CONTROL TECHNICAL REQUIREMENTS

_____ Reviewed Date

_____ Approved Date

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

ADMINISTRATIVE REQUIREMENTS

_____ Reviewed Date

SEDIMENT CONTROL PERMIT NO.

_____

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THIS DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN CROSS SECTIONS
RANDOLPH TO CANNON

DATE:	04/13
DESIGNED:	RP
DRAFTED:	HT/JM
CHECKED:	CW
BASE DATA:	CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 26
37 OF 68 Drawings
JOB NO. 38-507

Apr 18, 2013 - 3:20pm User: dwilson
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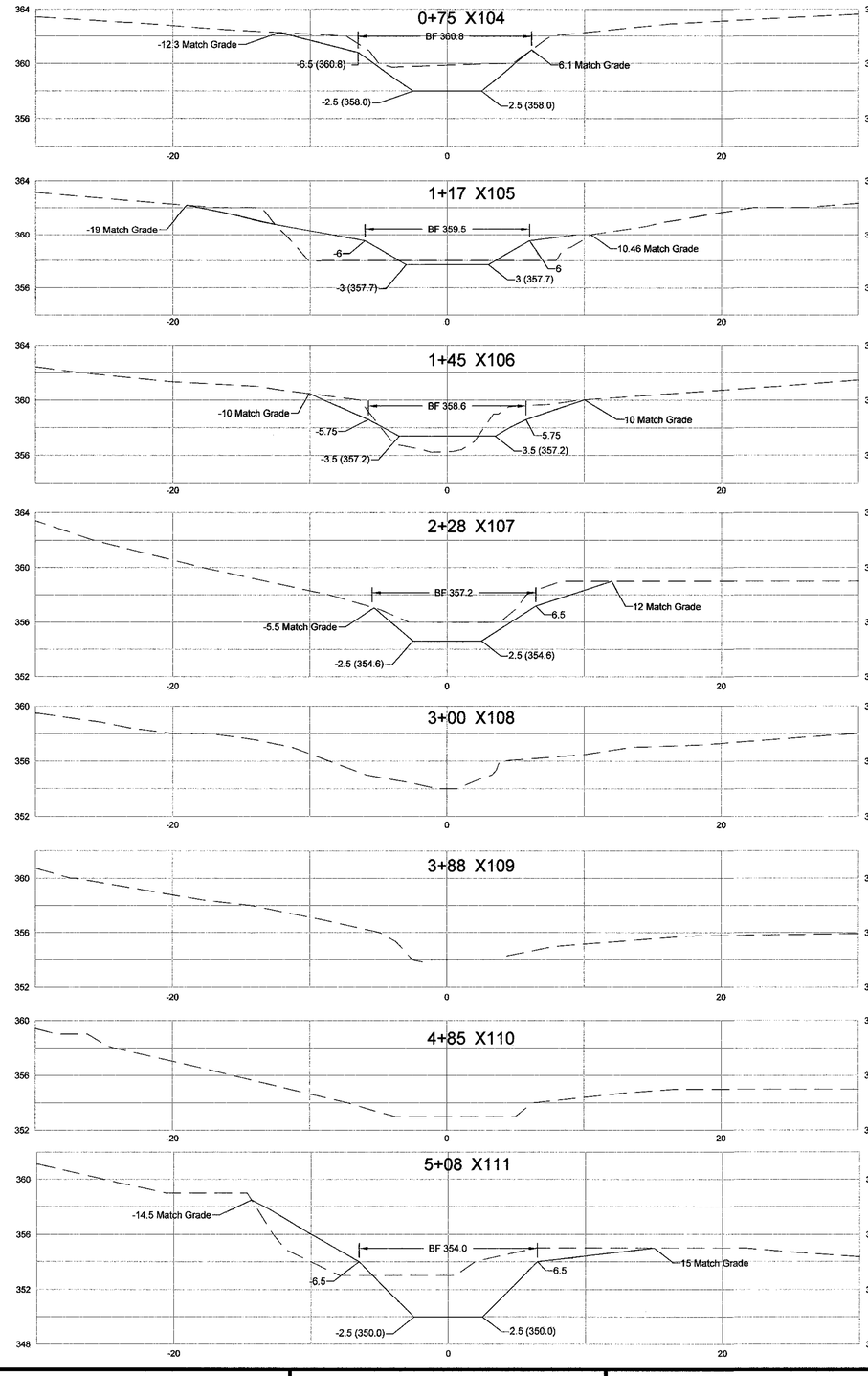

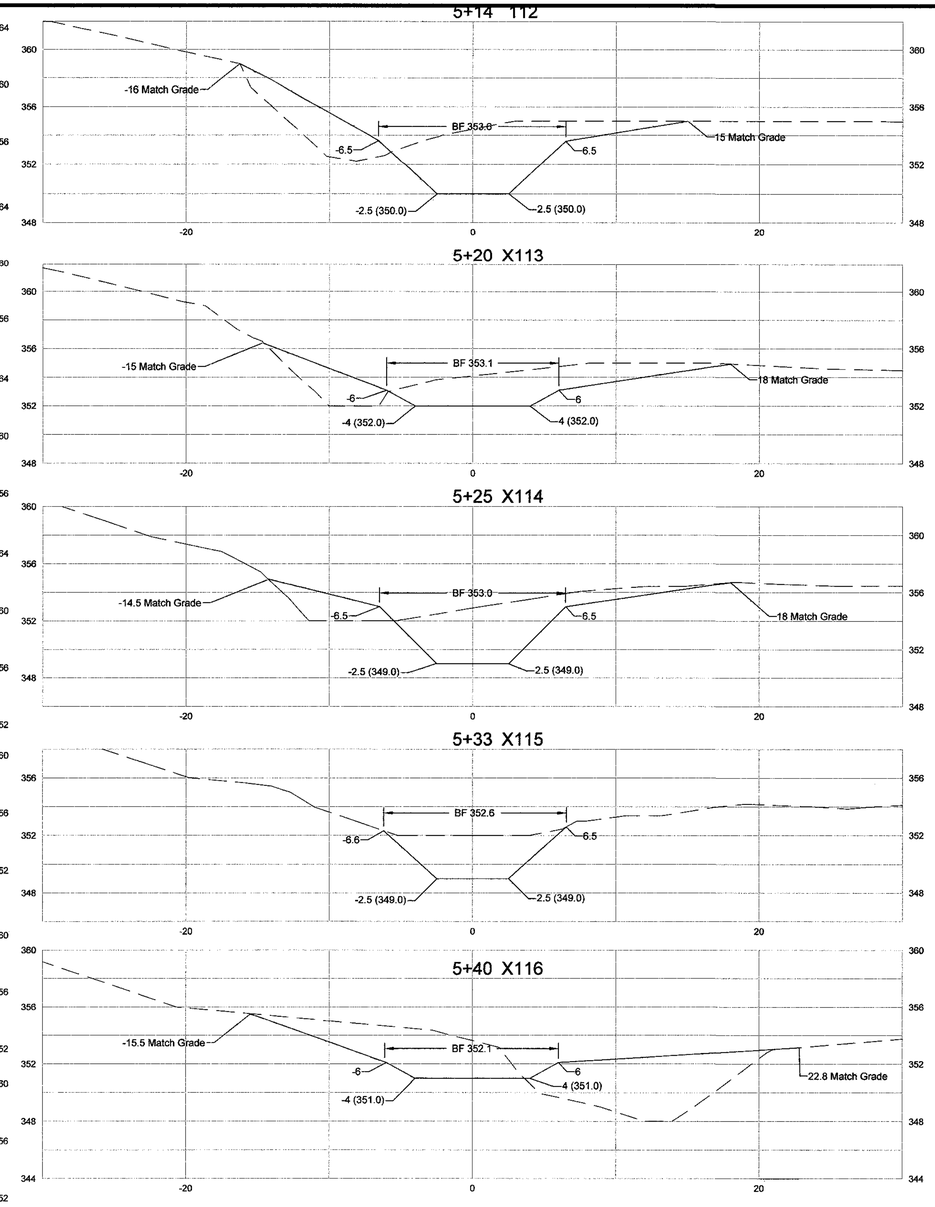

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H - 1" =5'

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
S.W. Rev'wr.		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

Prepared for:
Montgomery County Department of
Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization
DESIGN CROSS SECTIONS
TRIBUTARY 3
EAST RANDOLPH ROAD TO HOLLYWOOD BRANCH

DATE:	04/13
DESIGNED:	RP
DRAFTED:	HT/JM
CHECKED:	CW
BASE DATA:	CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4581
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE
AS SHOWN

SHEET
27

38 OF 68 Drawings

JOB NO.
38-507

Plotted: Apr 17, 2013 - 4:57pm User: cwilson
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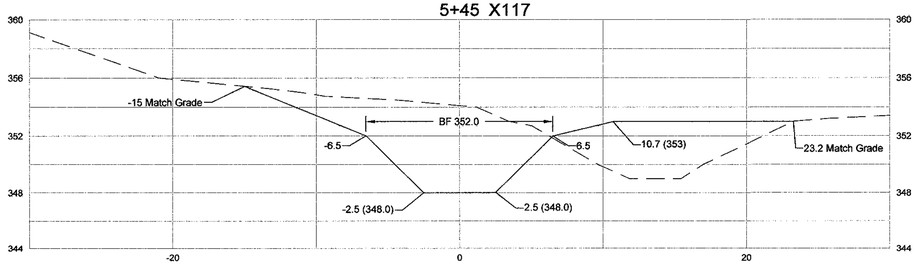
Xrefs: 24x36 standard.dwg

5+45 X117



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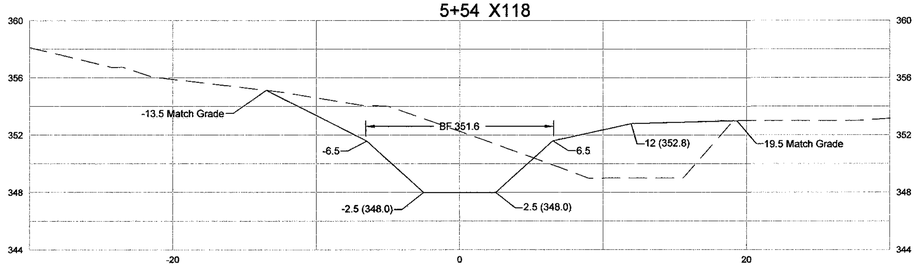

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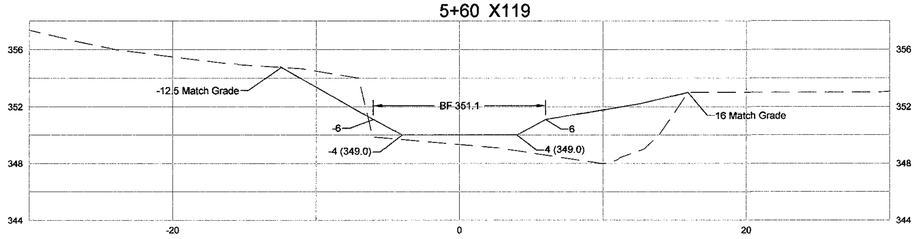

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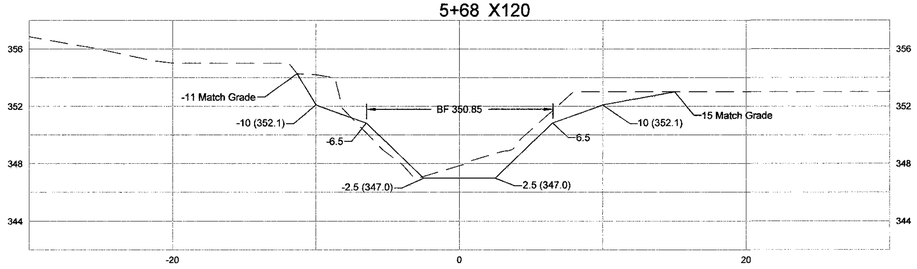

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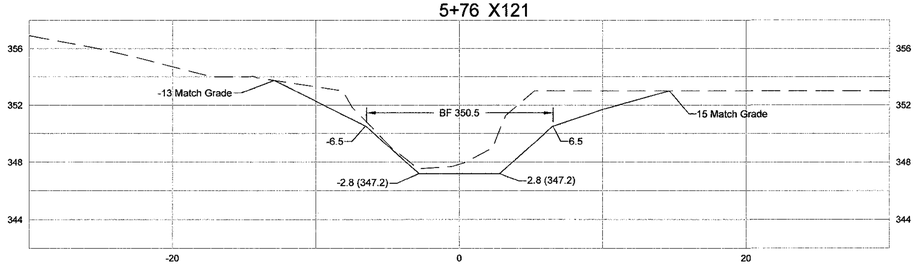

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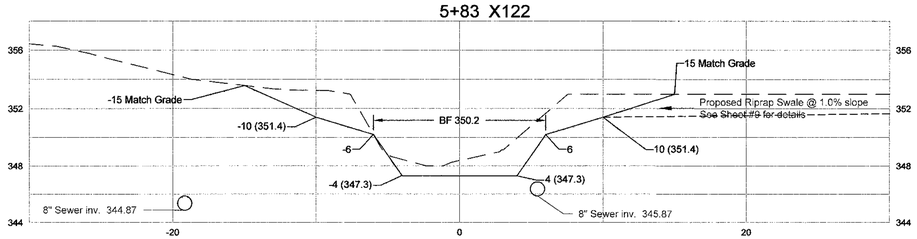
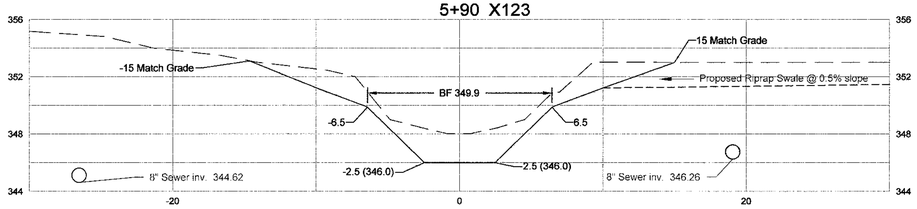


5+90 X123



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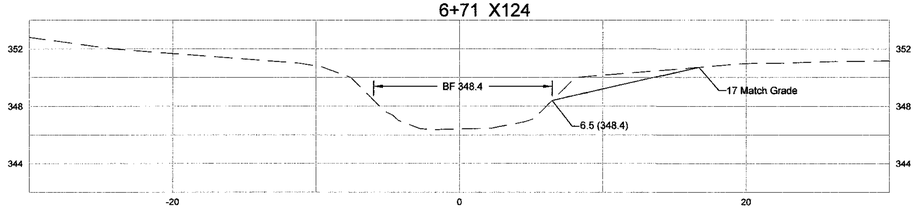
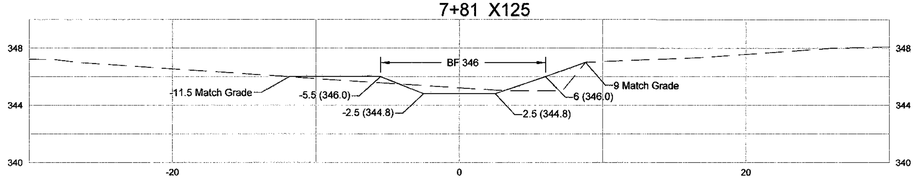
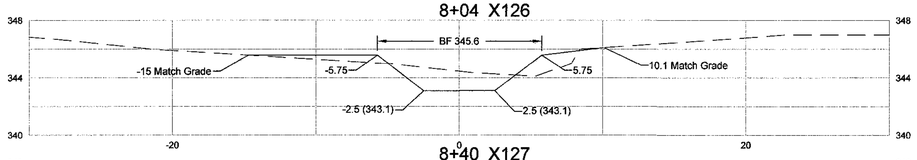


7+81 X125



8+04 X126



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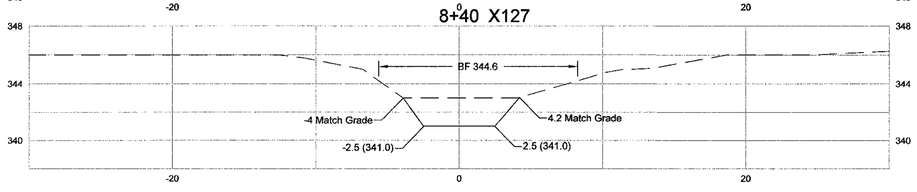

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H - 1" =5'

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
E.M. Plan No.:		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN CROSS SECTIONS
TRIBUTARY 3
EAST RANDOLPH ROAD TO HOLLYWOOD BRANCH

DATE:	04/13
DESIGNED:	RP
DRAFTED:	HT/JM
CHECKED:	CW
BASE DATA:	CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

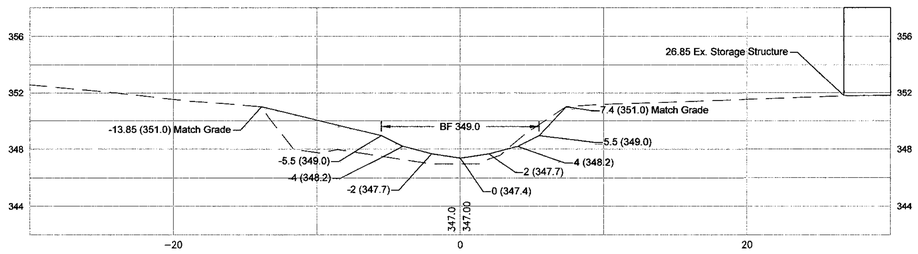
CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9575 E-mail: envs@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 28
39 OF 68 SHEETS
JOB NO. 38-507

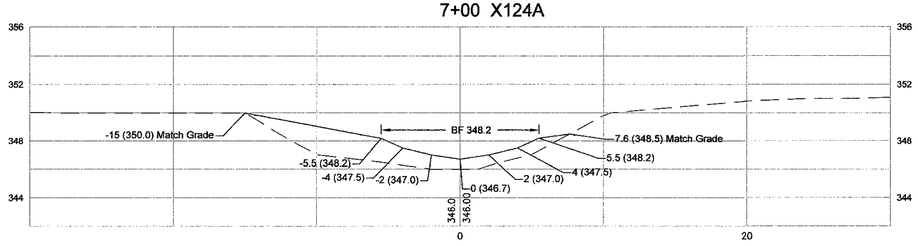
Plotted: Apr 11, 2013 - 1:40pm User: cwilson
P:\Hollywood Branch\Working\SS-Sections.dwg
Xrefs: 24x36 standard.dwg

TRIBUTARY 3 (ADDITIONAL)

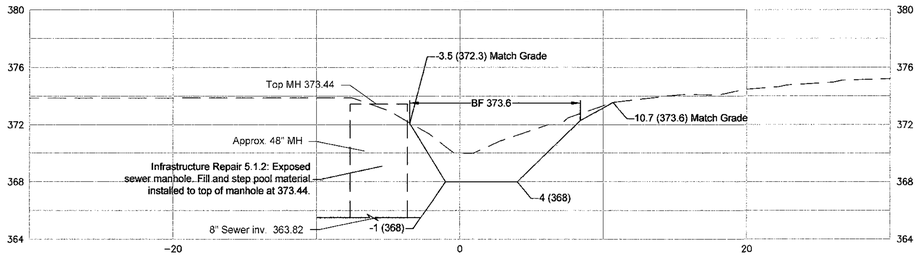
6+50 X123A



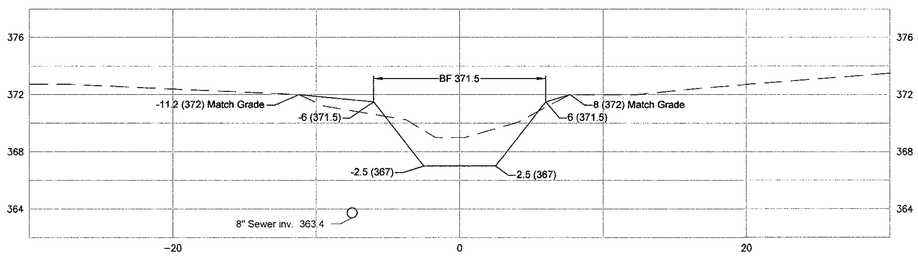
7+00 X124A



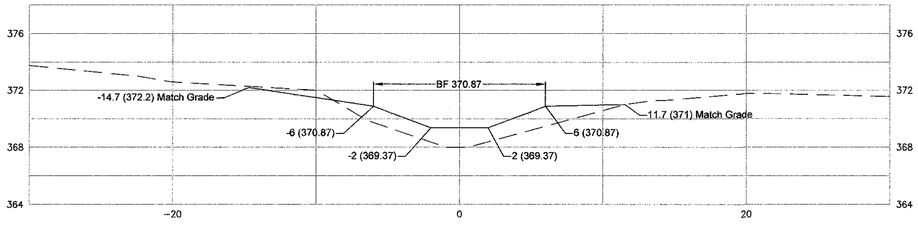
1+08 T1



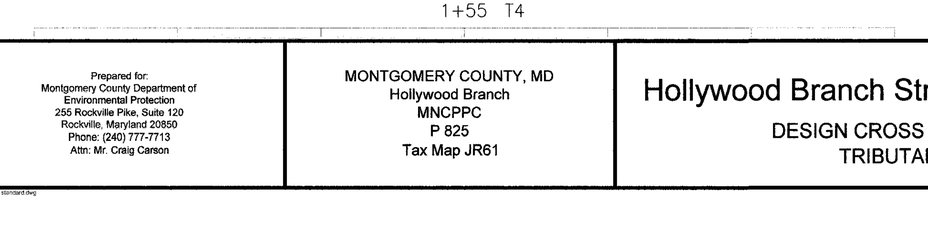
1+23 T2



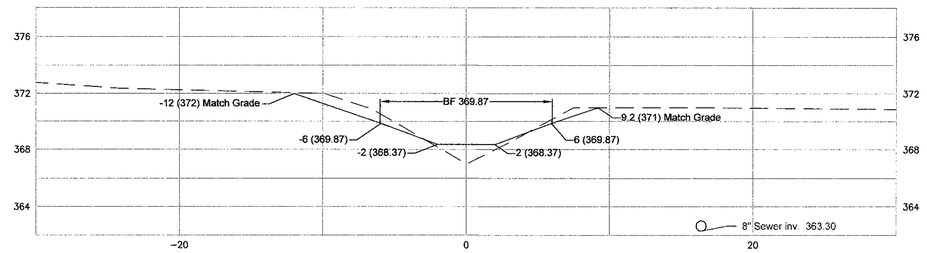
1+36 T3



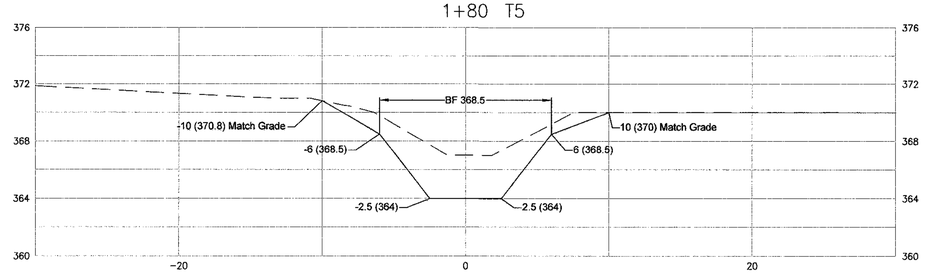
1+55 T4



1+55 T4



1+80 T5



Utility Note: All existing water, sewer, gas and others utilities shown hereon are approximate; contractor to contact MISS UTILITY (and if necessary conduct a test pit) to verify all underground utilities locations and inverts prior to digging.

Section Note: All cross sections are looking downstream. Proposed grade line (solid line) is top of grade line or installed structure.

All Cross Sections scale:
V - 1" =5'
H - 1" =5'

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
P.M. Rev. No.		

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN CROSS SECTIONS
TRIBUTARY 1

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

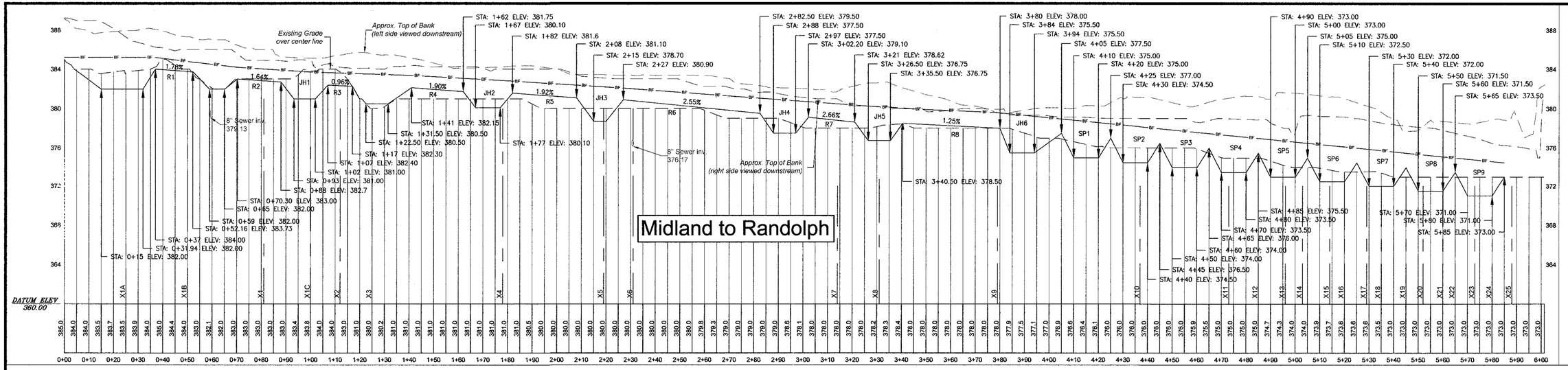
CPJ Associates

CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

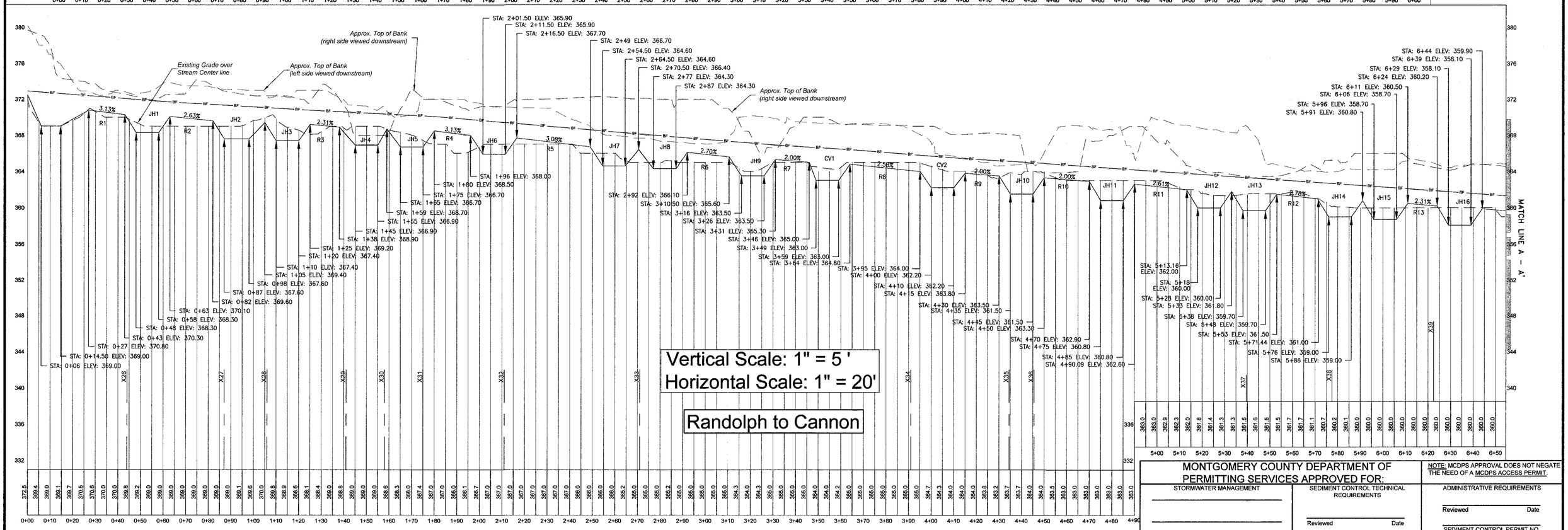
SCALE AS SHOWN
SHEET 29
40 OF 68 SHEETS
JOB NO. 38-507

Apr 11, 2013 - 1:40pm User: cwilson
Plotted: P:\Hollywood Branch\CAD\dwg\SS Sections.dwg
Xrefs: 24x36 standard.dwg

Midland to Randolph



Randolph to Cannon



Vertical Scale: 1" = 5 '
Horizontal Scale: 1" = 20'

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:		
STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
S.W. Fee No.:		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

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Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN STREAM PROFILES

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
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Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 30
41 OF 68 SHEETS
JOB NO. 38-507

Plotted: Apr 11, 2013 - 1:45pm User: cwilson
P:\Projects\Hollywood Branch\CAD\sheets\Profiles.dwg
Xrefs: 24x36 standard.dwg

MATCH LINE A – A'

MATCH LINE B – B'

Existing Grade over Center line
Approx. Top of Bank (left side viewed downstream)
Approx. Top of Bank (right side viewed downstream)

STA: 6+79 ELEV: 359.10
STA: 6+84 ELEV: 356.90
STA: 6+94 ELEV: 356.90
STA: 6+99 ELEV: 358.90
STA: 7+24 ELEV: 358.30
STA: 7+29 ELEV: 356.10
STA: 7+39 ELEV: 356.10
STA: 7+44 ELEV: 358.10
STA: 7+71 ELEV: 357.50
STA: 7+76 ELEV: 355.30
STA: 7+86 ELEV: 355.30
STA: 7+91 ELEV: 357.30
STA: 8+06 ELEV: 356.90
STA: 8+11 ELEV: 354.70
STA: 8+21 ELEV: 354.70
STA: 8+26 ELEV: 356.70
STA: 8+54 ELEV: 356.10
STA: 8+59 ELEV: 353.90
STA: 8+69 ELEV: 353.90
STA: 8+74 ELEV: 355.90
STA: 8+92 ELEV: 355.50
STA: 8+97 ELEV: 353.30
STA: 9+07 ELEV: 353.30
STA: 9+12 ELEV: 355.30
STA: 9+17 ELEV: 353.10
STA: 9+27 ELEV: 353.10
STA: 9+32 ELEV: 355.10
STA: 9+62 ELEV: 354.40
STA: 9+67 ELEV: 352.20
STA: 9+77 ELEV: 352.20
STA: 9+85 ELEV: 354.20
STA: 9+90 ELEV: 352.00
STA: 10+00 ELEV: 352.00
STA: 10+08 ELEV: 354.00
STA: 10+35 ELEV: 353.50
STA: 10+40 ELEV: 351.30
STA: 10+50 ELEV: 351.30
STA: 10+55 ELEV: 353.30
STA: 10+89 ELEV: 353.00
STA: 10+74 ELEV: 350.80
STA: 10+84 ELEV: 350.80
STA: 10+89 ELEV: 352.80
STA: 11+15 ELEV: 352.20
STA: 11+20 ELEV: 350.00
STA: 11+30 ELEV: 350.00
STA: 11+35 ELEV: 352.00
STA: 11+45 ELEV: 351.80
STA: 11+50.50 ELEV: 349.60
STA: 11+60.50 ELEV: 349.60
STA: 11+65.50 ELEV: 351.60
STA: 12+01 ELEV: 350.85
STA: 12+06 ELEV: 348.65
STA: 12+16 ELEV: 348.65
STA: 12+23 ELEV: 350.65
STA: 12+28 ELEV: 348.45
STA: 12+38 ELEV: 348.45
STA: 12+43 ELEV: 350.45
STA: 12+61.50 ELEV: 350.05
STA: 12+66.50 ELEV: 347.85
STA: 12+76.50 ELEV: 347.85
STA: 12+81.50 ELEV: 349.85
STA: 12+86.50 ELEV: 347.65
STA: 12+96.50 ELEV: 347.65
STA: 13+02 ELEV: 349.65

Approximate top of Sewer = 353.52; 1/2 foot clearance to top of riffle bed. WSSC to confirm sewer stabilization with DEP / CPJ. CPJ to install boulder sill 2-3 feet downstream of sewer in R21.

8" Sewer inv. 352.77

STA: 13+51 ELEV: 348.65
STA: 13+56 ELEV: 346.45
STA: 13+66 ELEV: 346.45
STA: 13+71 ELEV: 348.45
STA: 13+90 ELEV: 348.05
STA: 13+95 ELEV: 345.85
STA: 14+05 ELEV: 345.85
STA: 14+10 ELEV: 347.85
STA: 14+40 ELEV: 347.25
STA: 14+45 ELEV: 345.05
STA: 14+55 ELEV: 345.05
STA: 14+62 ELEV: 347.05
STA: 14+67 ELEV: 344.85
STA: 14+77 ELEV: 344.85
STA: 14+82 ELEV: 346.85
STA: 15+00 ELEV: 346.25
STA: 15+05 ELEV: 344.05
STA: 15+15 ELEV: 344.05
STA: 15+20 ELEV: 346.05
STA: 15+25 ELEV: 343.85
STA: 15+35 ELEV: 343.85
STA: 15+40 ELEV: 345.85
STA: 15+65 ELEV: 345.35
STA: 15+70 ELEV: 343.15
STA: 15+80 ELEV: 343.15
STA: 15+85 ELEV: 345.15
STA: 16+08 ELEV: 344.65
STA: 16+13 ELEV: 342.45
STA: 16+23 ELEV: 342.45
STA: 16+28 ELEV: 344.45
STA: 16+35 ELEV: 344.30
STA: 16+40 ELEV: 342.10
STA: 16+50 ELEV: 342.10
STA: 16+53.50 ELEV: 344.10
STA: 16+73.50 ELEV: 343.50
STA: 16+77.00 ELEV: 343.40
STA: 16+87.50 ELEV: 341.50
STA: 17+30 ELEV: 341.50
STA: 17+55 ELEV: 342.35
STA: 17+97 ELEV: 341.76
STA: 18+02 ELEV: 339.56
STA: 18+12 ELEV: 339.56
STA: 18+17 ELEV: 341.56
STA: 18+22 ELEV: 339.36
STA: 18+39 ELEV: 339.36
STA: 18+44 ELEV: 341.36
STA: 18+65 ELEV: 341.07
STA: 18+70 ELEV: 338.87
STA: 18+80 ELEV: 338.87
STA: 18+85 ELEV: 340.87
STA: 19+25 ELEV: 340.31
STA: 19+30 ELEV: 338.11
STA: 19+40 ELEV: 338.11
STA: 19+45 ELEV: 340.11
STA: 19+50 ELEV: 337.91
STA: 19+60 ELEV: 337.91

8" Sewer inv. 338.73

Vertical Scale: 1" = 5 '
Horizontal Scale: 1" = 20'

Randolph to Cannon

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT
Reviewed Date
Approved Date

SEDIMENT CONTROL TECHNICAL REQUIREMENTS
Reviewed Date
Approved Date

ADMINISTRATIVE REQUIREMENTS
Reviewed Date
SEDIMENT CONTROL PERMIT NO.

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

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S.M. File No.:

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN STREAM PROFILES

DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 31
42 OF 68 SHEETS
JOB NO. 38-507

Plotted: Apr 15, 2013 - 2:57pm User: cwilson
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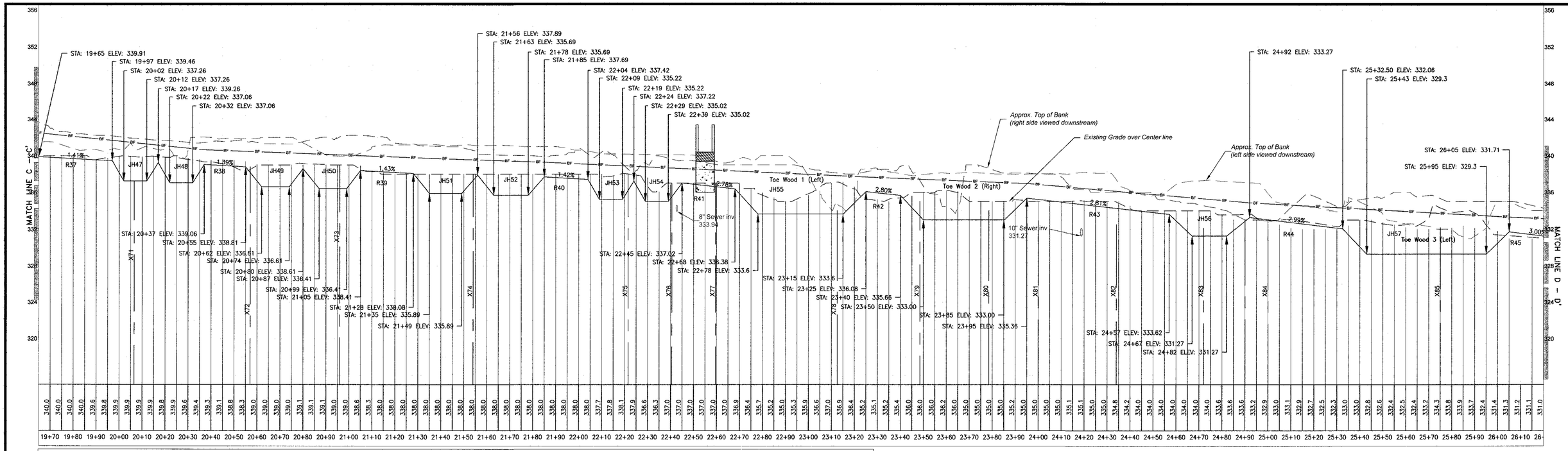
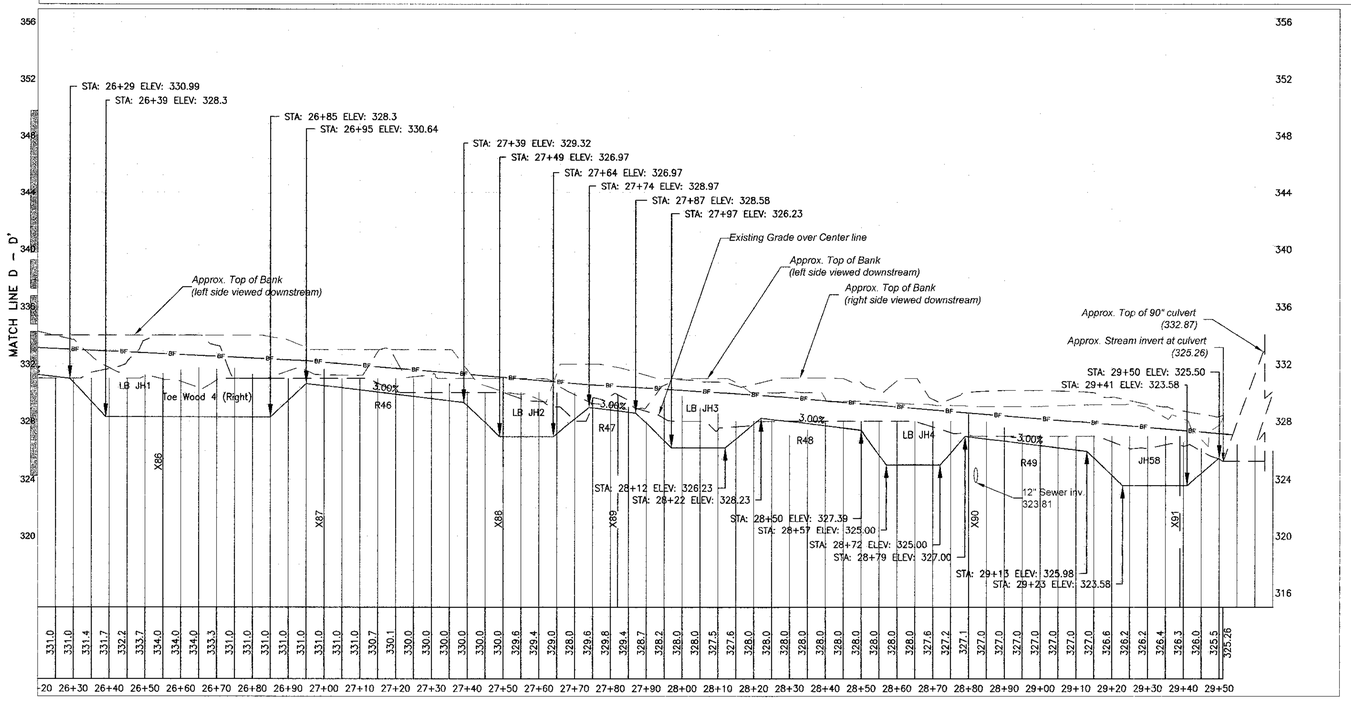
Xrefs: 24x36 standard.dwg





Vertical Scale: 1" = 5 '
Horizontal Scale: 1" = 20'

Randolph to Cannon

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, DEPARTMENT OF PARK AND PLANNING

M-NCPPC PERMIT NO. _____

M-NCPPC PARK FACILITY CODE 020

REVIEWED BY _____

APPROVED BY _____ CHIEF, CONSTRUCTION SECTION

DATE APPROVED _____

M-NCPPC PERMIT SHEET # _____ OF _____

THIS IS NOT A PERMIT TO BEGIN CONSTRUCTION

This approval is for technical review only. For permit information, contact Jay Childs, Construction Supervisor at (301)495-2574.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
Reviewed Date	Reviewed Date	Reviewed Date
Reviewed Date		SEDIMENT CONTROL PERMIT NO.
Approved Date	Approved Date	
S.M. Fac NO.		

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Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN STREAM PROFILES

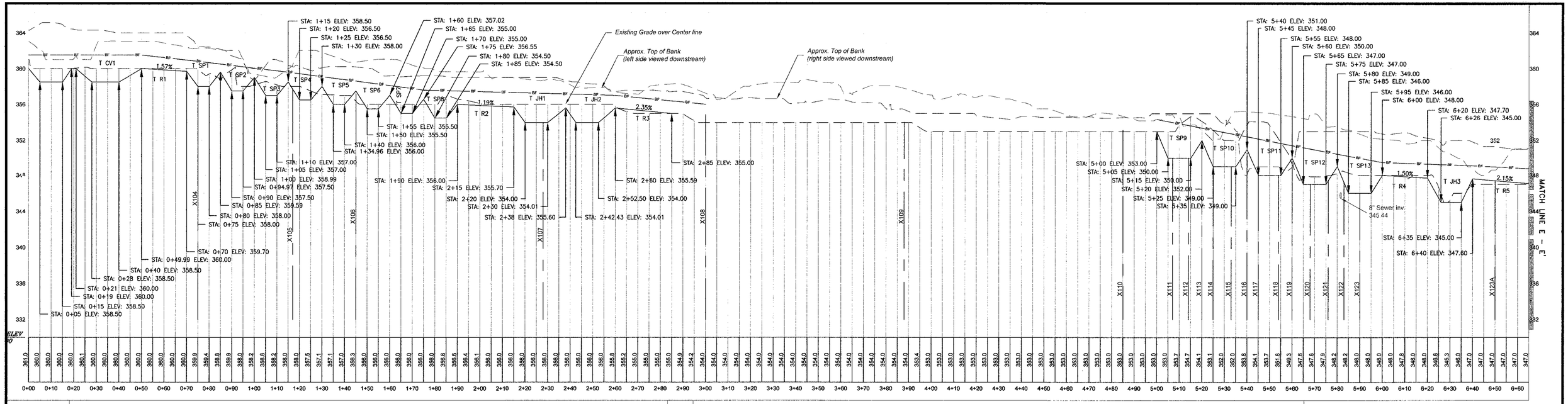
DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 32
43 OF 68 Drawings
JOB NO. 38-507

Apr 18, 2013 - 3:17pm User: cwilson
Plotdir: P:\Hollywood Branch\CADD\dwg\05-Profiles.dwg
Xrefs: 24x36 standard.dwg



Tributary 3 - East Randolph Road to Hollywood Branch

Tributary 1 - Clifton Road to Hollywood Branch

Utility Note: All existing water, sewer, gas and others utilities shown hereon are approximate; contractor is to contact MISS UTILITY (and if necessary conduct a test pit) to verify all underground utilities locations and inverts prior to digging.

Vertical Scale: 1" = 5 '
Horizontal Scale: 1" = 20'

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT
Reviewed Date
Approved Date
S.W. File NO.:

SEDIMENT CONTROL TECHNICAL REQUIREMENTS
Reviewed Date
Approved Date

ADMINISTRATIVE REQUIREMENTS
Reviewed Date
SEDIMENT CONTROL PERMIT NO.

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

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Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
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MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

DESIGN STREAM PROFILES

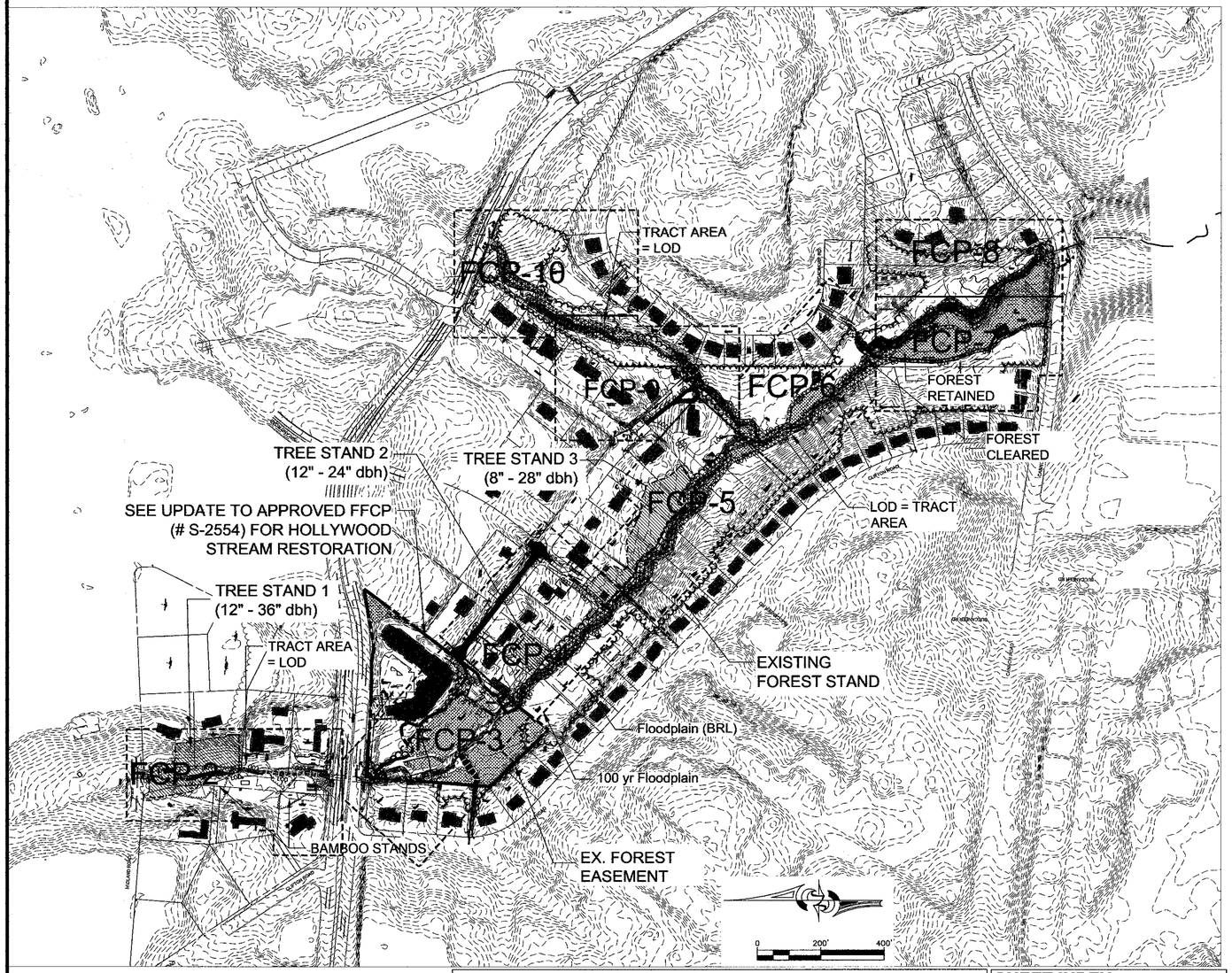
DATE: 04/13
DESIGNED: RP
DRAFTED: HT/JM
CHECKED: CW
BASE DATA: CPJA/MC LIDAR

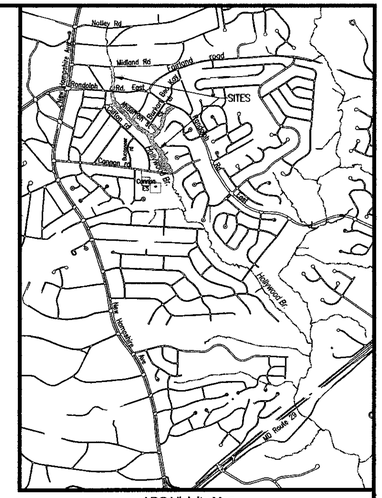
NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET 33
44 OF 68 SHEETS
JOB NO. 38-507

Plotted: Apr 11, 2013 - 1:47pm User: cwilson
P:\Hollywood Branch\Civil\Dwg\825 Profiles.dwg
Xrefs: 24x36 standard.dwg





ADC Vicinity Map
Montgomery, MD
33th Edition Map 31F7, 8 & 9
Approximate Scale: 1" = 2000'
Copyright ADC The Map People
Permitted Use Number 20903121

General Notes

1. Site topography taken from Montgomery County LIDAR 5 foot interval dated November 2008 and 2 foot interval by CPJA. Zoning is R-90.
2. Soils on site taken from USDA-NRCS Soil Survey of Montgomery County, MD. Map version 3, 2005 and Survey area data version 7 February, 2007.
3. The surrounding land uses around the site are medium to high density residential areas and Montgomery County Parkland
4. Wetlands shown on site are delineated from a combination of CPJ's field observations of vegetation, soils, and hydrology; information from National Wetlands Inventory Map, and on hydric soils mapped in the soil survey. No jurisdictional determination was performed by MDE/ACOE to verify the delineation shown.
5. Tree diameters measures using a diameter tape. Field work conducted March, 2009 by James Fetchu, RLA and Hoang Ta of CPJ. There are three (3) trees which appear to be larger than the County Champions and within >75% of the State Champion trees recorded (see tree list, FCP-11 and locations FCP-2).
6. Hollywood Branch is within the Paint Branch Watershed, a USE III class watershed. In-stream work may not be conducted during the period, October 1 - April 30, inclusive, during any year.
7. Hollywood Branch is not within the Paint Branch SPA or the Patuxent River Wastershed Primary Management Area (PMA).
8. 100-year floodplain shown on plan view sheets taken from FEMA Map # 24031C0380D effective date September 29, 2006.

FOREST CONSERVATION AND PLANTING NOTES

1. All forest conservation work and any substitutions or other design changes must be approved by M-NCPPC Environmental Planning Forest Conservation Inspector.
2. Contractor to place 12 inch deep woodchip matting on all temporary access within the forest stand to protect trees CRZ and/or as directed by M-NCPPC at pre-construction meeting.
3. Tree pruning and root pruning for construction access must be approved by M-NCPPC FC Inspector and to be performed under supervision of MD certified arborist.
4. Contractor to remove all invasive species within the limits of disturbance and planting areas prior to planting.
5. All planting areas shall be planted after all Stream Restoration such as grading and installations of stream banks protection are completed.
6. Contractor must obtain permission and approval for planting materials and locations from the M-NCPPC FC Inspector at pre-planting meeting, prior to implement work.
7. All sediment control measures shall not be removed without the Sediment Control Inspector approval.
8. Any excavation work within critical root zone of any SAVE specimen tree (24" or greater must be done under supervision of certified arborist.

FOREST CONSERVATION WORKSHEET
Hollywood Branch

NET TRACT AREA: worksheet updated 4/04/2013

A.	Total tract area ...	7.00
B.	Land dedication acres (parks, county facility, etc.) ...	0.00
C.	Land dedication for roads or utilities (not being constructed by this plan) ...	0.00
D.	Area to remain in commercial agricultural production/use ...	0.00
E.	Other deductions (specify)	0.00
F.	Net Tract Area ..... =	7.00

LAND USE CATEGORY: (from *Trees Technical Manual*)
input the number "1" under the appropriate land use, limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CIA
0	0	0	1	0	0

G.	Afforestation Threshold ...	15%	x F =	1.05
H.	Conservation Threshold ...	20%	x F =	1.40

EXISTING FOREST COVER:

I.	Existing forest cover ..... =	4.78
J.	Area of forest above afforestation threshold ..... =	3.73
K.	Area of forest above conservation threshold ..... =	3.38

BREAK EVEN POINT:

L.	Forest retention above threshold with no mitigation .... =	2.08
M.	Clearing permitted without mitigation ..... =	2.70

PROPOSED FOREST CLEARING:

N.	Total area of forest to be cleared ..... =	3.27
O.	Total area of forest to be retained ..... =	1.51

PLANTING REQUIREMENTS:

P.	Reforestation for clearing above conservation threshold .... =	0.82
Q.	Reforestation for clearing below conservation threshold .... =	0.00
R.	Credit for retention above conservation threshold ..... =	0.11
S.	Total reforestation required ..... =	0.71
T.	Total afforestation required ..... =	0.00
U.	Credit for landscaping (may not exceed 20% of "S") ..... =	0.00
V.	Total reforestation and afforestation required ..... =	0.71

Planting Provided = 2.48 Ac.

SUMMARY TABLE (all values in acres unless noted)			
A	**Total area of tract**		**7.00**
	Acreage of tract remaining in agriculture		**0.00**
	Acreage of road and utility ROW which will not be improved		**0.00**
B	**Total acreage of existing forest:**		**4.78**
	Forest retained		**1.51**
	Forest cleared		**3.27**
C	**Land use category**	**HDR**	
	Afforestation threshold	**15%**	**1.05**
	Conservation threshold	**20%**	**1.40**
D	**Acreage of forest within wetlands:**		**0.02**
	Retained		**0.00**
	Cleared		**0.02**
	Planted		**0.06**
E	**Acreage of forest within 100 year floodplains:**		**2.61**
	Retained		**0.29**
	Cleared		**2.32**
	Planted		**1.46**
F	**Acreage of forest within stream buffers:**		**4.72**
	Retained		**1.51**
	Cleared		**3.21**
	Planted		**1.97**
G	**Acreage of forest within priority areas:**		**4.72**
	Retained		**1.51**
	Cleared		**3.21**
	Planted		**1.97**
H	**Stream buffer:**		**150'**
	Length		**4789'**
	Average width (Stream CL offset)		**150 ft**

TREE MITIGATION PLANTING NOTE:

A minimum of Thirty Six (36) 2.5" caliper shade trees must be included in the final forest conservation planting plan to mitigate for impacts to (9) existing specimen trees.

Legend

Property Line	Ex. Tree Stand
Existing 5' Contour	
Ex. 100 year FEMA Floodplain	Forest Retained
Stream	
LOD = Tract Area	Ex. Randolph Manor FCE Refer to amendmended FCP S-2554
Existing Tree Line	
Existing Forest Boundary	
Forest Cleared	

SHEET INDEX

FCP-1	Title Sheet
FCP-2	Plan View
FCP-3	Plan View
FCP-4	Plan View
FCP-5	Plan View
FCP-6	Plan View
FCP-7	Plan View
FCP-8	Plan View
FCP-9	Plan View
FCp-10	Plan View
FCP-11	Trees List
FCP-12	Details
FCP-13	Planting Plan
FCP-14	Planting Plan
FCP-15	Planting Details & Notes

Notes:
1. All proposed planting areas within LOD will be planted with trees and shrubs per County Guidelines following construction completion.
2. All temporary access routes to be protected with 12" thick mulch mats unless specified otherwise (see detail).

LANDSCAPE ARCHITECT CERTIFICATE:

I hereby certify that this plan is prepared in accordance with Montgomery County Forest Conservation Regulations.

04/15/13
Date

James M. Fetchu, RLA
Registered Landscape Architect
MD #3241

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization
HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN

DATE: 04/13
DESIGNED: HT/JF
DRAFTED: HT
CHECKED: JF
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: envcpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE
AS SHOWN
SHEET
FCP-1
45 OF 68 SHEETS
JOB NO.
38-507

Apr 15, 2013 - 10:56am User: jmcnulty
Plotted: P:\Hollywood Branch\CADD\FSE\FCP\FCP.dgn
Xrefs: FSP030213.dwg
Existing Conditions 032713.dwg

TREE STAND # 1 (12"-36" DBH)

TEMP. CONSTRUCTION ENTRANCE

FALLEN TREE TO BE REMOVED

BAMBOO STAND 1= 0.24Ac.

BAMBOO STAND 2 = 0.25Ac.

STAGING AREA

STAGING AND STORAGE AREA

60' R/W
PLAT # 2470

MIDLAND ROAD

RANDOLPH ROAD EAST

ASPHALT ROLLED CURB

HEADWALL

BM 1

CLEANOUT

WOOD DECK

WOOD WALL

BRICK STEPS

CONCRETE STEPS

STONE WALL

STONE & CONCRETE WALL

CONCRETE WALK

ASPHALT DRIVE

WOOD POST

8" Water

4" P.V.C.

1921 C.M.P.

BAMBOO

INSTALL ASPHALT CURB MOUNT

CONTRACTOR TO PROVIDE PROTECTION, REPAIR AND PROTECTION, REPAIR IN-KIND AS NEEDED.

MATCH LINE SEE SHEET FCP-3

PT.6
N/F
CHUN Y. & M.F. LAU
L.8693 F.193

PERPETUAL ESMT.
MONT. CO. P/NO. 5 366

PT. 4 & 6
N/F
ANGELA M. FUNKHOUSER
L.17994 F.393

PT. 3 & 4
N/F
RICHARD & P. ULE
L.13598 F.578

PT.5
N/F
FRANCES KUMPF
L.13066 F.355

TIMOTHY D. [illegible]

8
N/F
JOHN M. & S.D. DAVITT
L.4378 F.887

Ex. Chainlink Fence	12	Ex. Trees < 24" (for informational purposes)	Proposed Cross Vane
Ex. Wood Fence	12	Ex. Significant Tree (24" or Greater)	
Ex. Gas line	12	Tree To Be Removed	Proposed J-Hook
Ex. Water Main	12	Ex. Specimen Tree (30" or Greater)	Proposed Brush Mat
Wetland Boundary		Greater than or within 75% of State or County Champion trees	Proposed Stream Riffle
Wetland Boundary		Tree CRZ	Proposed Step-pool
Property Line		Tree Req. Variance (30" or Greater)	Proposed ECM
LOD = Tract Area		Stabilized Construction Entrance	Water/Sewer/SD easements
Existing Contour		Temporary Access	Public R/W
Stream Buffer		Proposed Contours	
Ex. FEMA Floodplain		Super Silt Fence	
Floodplain BRL		Tree Protection Fence	
Stream		Root Prune	
Aerial Tree Canopy		Tree Protection Planks	
Existing Forest Edge			
Forest Cleared			
Forest Retained			
Ex. Tree Stand Boundary			

PLAN VIEW LEGEND

0 20' 40'

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MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization
HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN

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DRAFTED:	HT
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Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE
AS SHOWN

SHEET
FCP-2

46 OF 68 SHEETS

JOB NO.
38-507

Apr 15, 2013 - 10:58am User: jmccarthy
Plotted: P:\Hollywood Branch\DATA\BFI\FSD-CPP\FCP\FCP2.dwg

Xrefs: 1DPC00391b.dwg
Existing Conditions 052713.dwg

RANDOLPH ROAD

MATCH LINE SEE SHEET FCP-2

RANDOLPH ROAD

PERPETUAL ESMT. CO. P.NO.'S 305, 306 & 307

MONT. CO. C.M.P.

INV.= 375.64'

INV.= 373.89'

INV.= 373.74'

INV.= 373.28'

WOOD WALL

CONCRETE WALK

RETAINING WALL

INV.= 374.35

64" R.C.P.

FOREST CLEARED AREA 2

PT.1

N/F KHOI VIET NGUYEN L.34107 F.652

BM 3

384.51

LOT 1 RANDOLPH MANOR P.No.2267.

SEE UPDATE TO RANDOLPH MANOR PLAN SET

N156 N/F RANDOLPH MANOR LLC L.25390 F.278

Ex. Fence

Ex. Pole

Ex. Guardra

Ex. Fence

Ex. (Multiflora rose) area

Ex. Forest Conservation Easement

Ex. House foundation and wall (To be removed after stream construction completed)

SCE

STAGING AND STORAGE AREA

MATCH LINE SEE SHEET FCP-4

2

N/F PAUL SARKIDES L.5413 F.625

SEE UPDATE TO APPROVED (FFCP # S-2554) FOR RANDOLPH MANOR

FOREST CLEARED AREA 1

0 20' 40'

PLAN VIEW LEGEND

- Ex. Chainlink Fence
- Ex. Wood Fence
- Ex. Gas line
- Ex. Water Main
- Wetland Boundary
- Wetland Boundary
- Property Line
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- Existing Contour
- Stream Buffer
- Ex. FEMA Floodplain
- Floodplain BRL
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- Aerial Tree Canopy
- Existing Forest Edge
- Forest Cleared
- Forest Retained
- Ex. Tree Stand Boundary
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- Proposed J-Hook
- Proposed Brush Mat
- Proposed Stream Riffle
- Proposed Step-pool
- Proposed ECM
- Water/Sewer/SD easements
- Public R/W
- Forest Conservation Easement
- Randolph Manor Property
- Randolph Manor Property Existing FFCP # S-2554 Excluded from this FCP

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04/15/13
Date

James M. Fetchu, RLA
Registered Landscape Architect
MD #3241

STATE OF MARYLAND · JAMES MICHAEL FETCHU · 3241 · LANDSCAPE ARCHITECT

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN

DATE:	04/13
DESIGNED:	HT/JF
DRAFTED:	HT
CHECKED:	JF
BASE DATA:	CPJA

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Phone:(301)208-9575 E-mail: env@cpja.com Fax:(301)926-4501
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE	AS SHOWN
SHEET	FCP-3
	47 OF 68 SHEETS
JOB NO.	38-507

Apr 15, 2013 - 10:40am User: jmcarthy
Plotted: P:\Hollywood Branch\CAD\RESFCP\FCP-FCP-FCP.dwg
Xrefs: 10-PLAN2513.dwg
Existing Conditions 032713.dwg

Sections of road/driveways not maintained by MCDOT. Restoration requirements to be finalized within ROW permit review

STREAM BUFFER

TREE STAND # 2 (12"-24" DBH)

FOREST CLEARED FC = 2.77 Ac.

TEMP. CONSTRUCTION ACCESS

STAGING AND STORAGE AREA

ANDERSON ST

ANDERSON STREET (Private Road)

INACCESSIBLE (DAMAGED)

ASPHALT DRIVE

GRAVEL DRIVE

COLESVILLE GARDENS P.No. 1587

50' WIDE PUBLIC RIGHT-OF-WAY (PLATTED DIME STREET)

OCTAGON LANE

N/F GARFIELD R. JOHNSON L.8009 F.195

N/F WANZER TIBBS, ET AL L.15917 F.387

N/F ARACELI & HESHMATOLLAH ESKANDARI L.34193 F.371

N/F JOHN C. & CRYSTAL A. BUFFERT L.21223 F.614

N/F JOSEPH & C.R. MILLER L.4811

N/F DAVID L., Sr. & A.M. WILLIAMS L.3258 F.155

N/F SALVATION ARMY L.6708 F.303

N/F KAREN G. COOK L.15128, F.158

N/F KENNETH E. & T.M. COOK L.7770 F.494

N/F JOHN R. & R.J. BARNARD L.6304 F.188

N/F R. & K. COTTER 0155 F.859

MATCH LINE SEE SHEET FCP-3

MATCH LINE SEE SHEET FCP-5

PLAN VIEW LEGEND

- Ex. Chainlink Fence
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- Public R/W

0 20' 40'

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04/15/13 — Date

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MD #3241

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN

DATE:	04/13
DESIGNED:	HT/JF
DRAFTED:	HT
CHECKED:	JF
BASE DATA:	CPJA

NO.	REVISIONS	BY	DATE

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SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET FCP-4
48 OF 68 SHEETS
JOB NO. 38-507

Apr 15, 2013 - 11:45pm User: jmcsiffy
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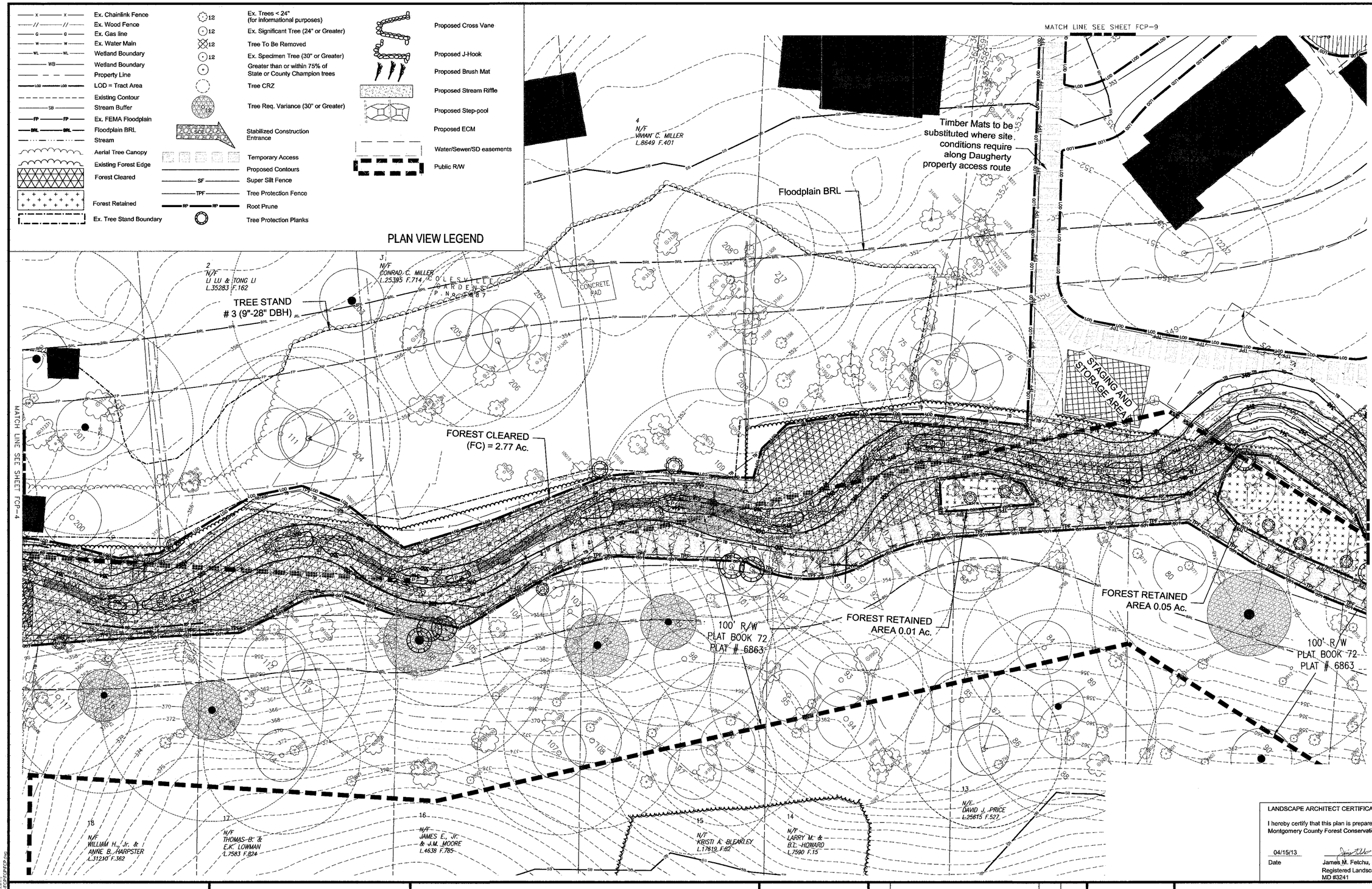
Existing Conditions 032713.dwg



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MONTGOMERY COUNTY, MD
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MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization
HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN

DATE:	04/13
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DRAFTED:	HT
CHECKED:	JF
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SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET FCP-5
49 OF 68 SHEETS
JOB NO. 38-507

Apr 15, 2013 - 10:40am Alan Horsefly
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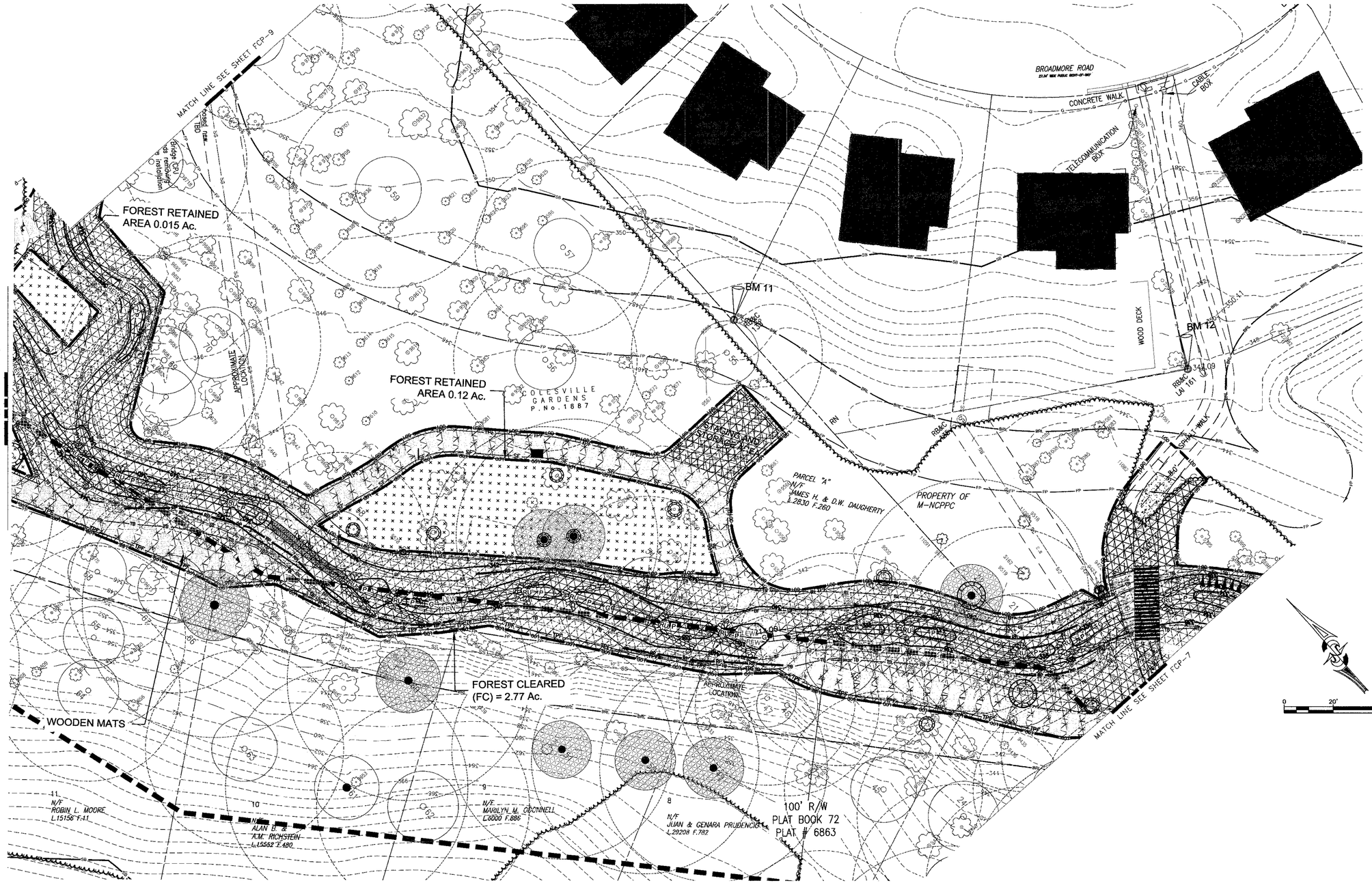
Xrefs: FCP0302513.dwg
Existing Conditions 032713.dwg



PLAN VIEW LEGEND

- Ex. Chainlink Fence
- Ex. Wood Fence
- Ex. Gas line
- Ex. Water Main
- Wetland Boundary
- Wetland Boundary
- Property Line
- LOD = Tract Area
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HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN

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SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET FCP-6
50 OF 68 SHEETS
JOB NO. 38-507

Apr 15, 2013 - 10:46am User: jmcvathy
Plotted: P:\Hollywood Branch\CAD\MISC\SEDIMENT\FCP\FCP-6.dwg
Xrefs: FCPH0203513.dwg
Existing Conditions 032713.dwg

MATCH LINE SEE SHEET FCP-8

MATCH LINE SEE SHEET FCP-6

FOREST RETAINED
AREA 0.09 Ac.

EX. ROCK OUT-CROP

Approx. Location of Ex. Rock Out-Crop

PROPERTY OF M-NCPPC

P666
N/F
M-NCPPC
L.5439, F.332

COLESVILLE VILLAGE
P No. 14849

FOREST CLEARED
(FC) = 2.77 Ac.

STAGING AND STORAGE AREA

FOREST RETAINED
AREA 0.76 Ac.

TEMP. CONSTRUCTION ENTRANCE

SCE

CANNON ROAD

PROPERTY OF M-NCPPC

BM 14

FOREST RETAINED
AREA 0.35 Ac.

BM 17

±8.67

TRIM TREE LIMBS ONLY WITH APPROVAL OF M-NCPPC INSPECTOR AND UNDER SUPERVISION OF MD CERTIFIED ARBORIST.

BUCKLEY DOWNS
P No. 9538

N/F
MELAKU M. ABEBE & ALEMTSEHAY GEBREWOLD
L.15029 F.311

N/F
CHRISTIAN O. LYHUS,
ET AL, TRUSTEES
L.13645 F.723

N/F
SUELLEN H.
& A.H. RIZVI
L.8606 F.527

N/F
RAYMOND E. BROWN,
ET AL, TRUSTEES
L.17524 F.540

0 20' 40'

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- Ex. Chainlink Fence
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MONTGOMERY COUNTY, MD
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MNCPPC
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HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN

DATE:	04/13
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BASE DATA:	CPJA

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SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET FCP-7
51 OF 68 SHEETS
JOB NO. 38-507

Apr 15, 2013 - 10:48am - hhe: mncppc
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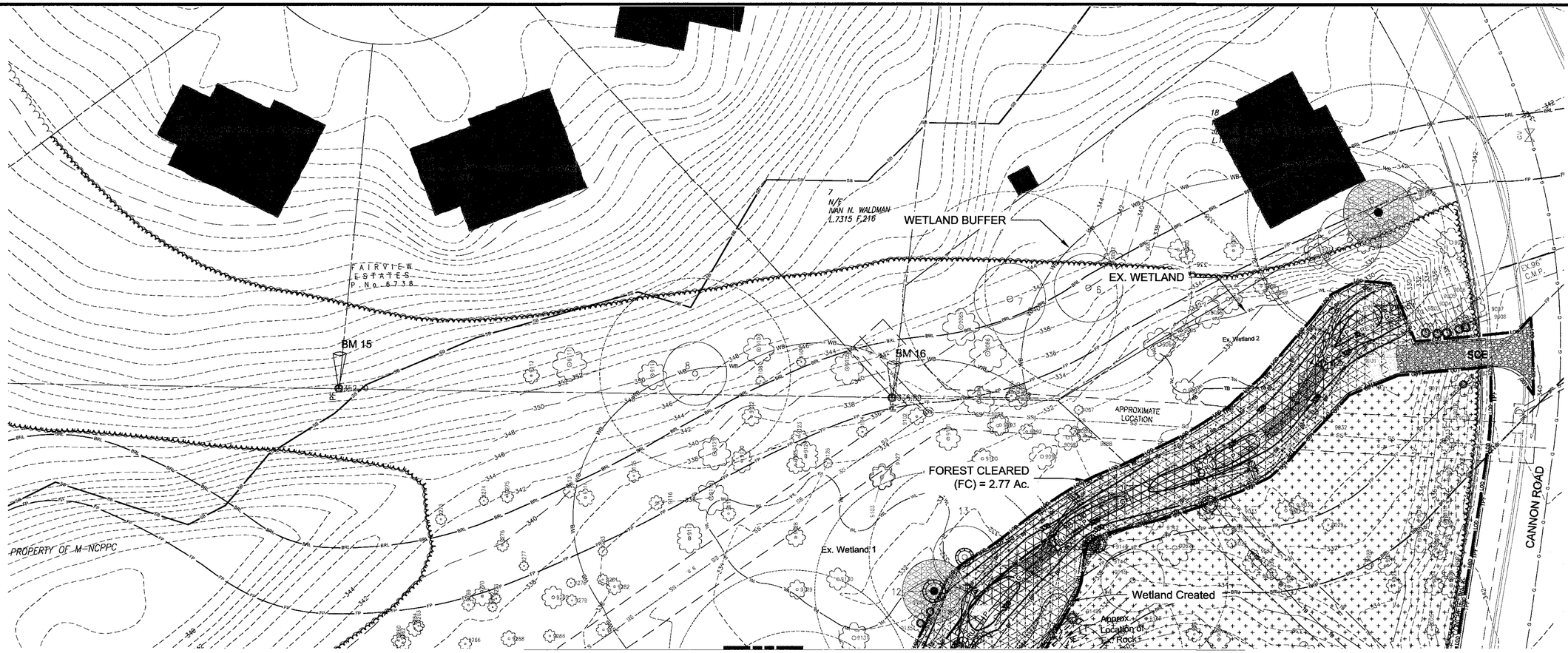
Existing Conditions 032713.dwg



PLAN VIEW LEGEND

- Ex. Chainlink Fence
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- Ex. Gas line
- Ex. Water Main
- Wetland Boundary
- Wetland Boundary
- Property Line
- LOD = Tract Area
- Existing Contour
- Stream Buffer
- Ex. FEMA Floodplain
- Floodplain BRL
- Stream
- Aerial Tree Canopy
- Existing Forest Edge
- Forest Cleared
- Forest Retained
- Ex. Tree Stand Boundary
- Ex. Trees < 24" (for informational purposes)
- Ex. Significant Tree (24" or Greater)
- Tree To Be Removed
- Ex. Specimen Tree (30" or Greater)
- Greater than or within 75% of State or County Champion trees
- Tree CRZ
- Tree Req. Variance (30" or Greater)
- Stabilized Construction Entrance
- Tree Protection Planks
- Proposed Contours
- Super Silt Fence
- Tree Protection Fence
- Root Prune
- Temporary Access
- Proposed Cross Vane
- Proposed J-Hook
- Proposed Brush Mat
- Proposed Stream Riffle
- Proposed Step-pool
- Proposed ECM
- Water/Sewer/SD easements
- Public R/W

LANDSCAPE ARCHITECT CERTIFICATE:

I hereby certify that this plan is prepared in accordance with Montgomery County Forest Conservation Regulations.

04/15/13
Date

James M. Fetchu, RLA
Registered Landscape Architect
MD #3241

Prepared for:
Montgomery County Department of
Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization
HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN

DATE: 04/13
DESIGNED: HT/JF
DRAFTED: HT
CHECKED: JF
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9575 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE
AS SHOWN
SHEET
FCP-8
52 OF 68 SHEETS
JOB NO.
38-507

Apr 15, 2013 - 10:48am - jacy.doughty
Plotted: P:\Hollywood Branch\CADD\SHEETS\FCP\FCP8.dwg
Xrefs: FCP\002313.dwg
Existing Conditions 032713.dwg

MATCH LINE SEE SHEET FCP-10

P. No. 14647

FOREST RETAINED
AREA 0.11 Ac.

FOREST CLEARED
(FC1) - 0.50 Ac.

FOREST RETAINED
AREA 0.11 Ac.

FOREST CLEARED
(FC) = 2.77 Ac.

23
N/F
BENJAMIN J. &
C.S. ARMENAKIS
L. 10566 F. 570

POND

WOOD DECK

ALUMINUM
SHED

WOOD DECK
ON CONCRETE

BROADMORE ROAD
ZONE USE PUBLIC RIGHT-OF-WAY

BRICK
WALL

CONCRETE
PATIO

COLESVILLE
GARDENS
P. No. 1887

BURKHART DR

ANDERSON ST

Sections of road/driveways not
maintained by MCDOT.
Restoration requirements to be
finalized within ROW permit
review

MATCH LINE SEE SHEET FCP-5

MATCH LINE SEE SHEET FCP-6

0 20' 40'

PLAN VIEW LEGEND

- Ex. Chainlink Fence
- Ex. Wood Fence
- Ex. Gas line
- Ex. Water Main
- Wetland Boundary
- Wetland Boundary
- Property Line
- LOD = Tract Area
- Existing Contour
- Stream Buffer
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- Proposed Stream Riffle
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- Proposed ECM
- Water/Sewer/SD easements
- Public R/W

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04/15/13
Date

James M. Fetchu, RLA
Registered Landscape Architect
MD #3241

STATE OF MARYLAND · JAMES MICHAEL FETCHU · 3241 · LANDSCAPE ARCHITECT

Prepared for:
Montgomery County Department of
Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization
HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN

DATE: 04/13
DESIGNED: HT/JF
DRAFTED: HT
CHECKED: JF
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates

CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9575 E-mail:env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE
AS SHOWN
SHEET
FCP-9
53 OF 68 SHEETS
JOB NO.
38-507

Apr 15, 2013 - 10:54am User: jmcauley
Plotted: P:\Hollywood Branch\CAD\MISC\SEDIMENT\FCP\FCP-9.dwg

Xrefs: FCP003153.dwg
Existing Conditions 032713.dwg

RANDOLPH ROAD EAST

RANDOLPH ROAD

INSTALL ASPHALT CURB MOUNT

CONTRACTOR TO PROVIDE CURB AND SIDEWALK PROTECTION. REPAIR AND REPLACE IN-KIND AS NEEDED.

EXISTING FOREST STAND BOUNDARY

SCE

Everlake LLC.

PARCEL "C"
N/F
BROADMORE HILLS COMMUNITY SERVICE ASSOCIATION, INC.
L.10288 F.554

APPROXIMATE LOCATION 51" R.C.P.

Ex. Pole & Overhead Wire

Ex. Cogeration Rail

Concrete Sidewalk

CONCRETE WALK

YARD INLET

PERPETUAL ESMT. MONT. CO. PNG'S 310 & 311

CONCRETE DRIVE

BURKHART DR

BM 9

STAGING AND STORAGE AREA

TREE TO BE REMOVED

BIRD BATH

WOOD DECK

SLATE PATIO

6
N/F
DA-HAE LEE
L.5985

BM 10
380.93

BROADMORE ROAD

ASPHALT WALK

CONCRETE DRIVE

STONE WALL

WOOD DECK ON PAVERS

ASPHALT COURT

WOOD DECK

22
N/F
DENISE HEADLEY HOLDER
P.NO.14647

COLESVILLE VILLAGE

MATCH LINE SEE SHEET FCP-9

0 20' 40'

PLAN VIEW LEGEND

- Ex. Chainlink Fence
- Ex. Wood Fence
- Ex. Gas line
- Ex. Water Main
- Wetland Boundary
- Wetland Boundary
- Property Line
- LOD = Tract Area
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255 Rockville Pike, Suite 120
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Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization
HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN

DATE: 04/13			
DESIGNED: HT/JF			
DRAFTED: HT			
CHECKED: JF			
BASE DATA: CPJA	NO.	REVISIONS	BY DATE

CPJ Associates

CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail:env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET FCP-10
54 OF 68 SHEETS
JOB NO. 38-507

Apr 15, 2013 - 10:56am User: jhetchu
Plotted: P:\Hollywood Branch\HOLD\BRS-SS-FCP\FCP10.dwg
Xrefs: FCPC00253.dwg
Existing Conditions 00273.dwg

SPECIMEN TREES (>30") AND SIGNIFICANT TREES AT (24") LIST

Specimen Trees (<30") and Significant Trees 24"

ID	Common Name	*Scientific Name*	DBH (in.)	CRZ (Ft.)	Condition	Req. Variance
1	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good	
2	Red Maple	*Acer rubrum*	27	40.5	Fair	
3	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Fair	
4	Black Locust	*Robinia pseudoacacia*	24	36	Poor	
5	**Red Maple**	***Acer rubrum***	**33**	**49.5**	**Fair**	**Yes**
6	White Oak	*Quercus alba*	26	39	Fair	
7	Pin Oak	*Quercus palustris*	27	40.5	Poor	
8	Tulip Poplar	*Liriodendron tulipifera*	24	36	Fair	
9	**Red Maple**	***Acer rubrum***	**30**	**45**	**Fair**	**Yes**
10	White Oak	*Quercus alba*	25	37.5	Fair	
11	Tulip Poplar	*Liriodendron tulipifera*	33	49.5	Fair	Yes
12	**Tulip Poplar**	***Liriodendron tulipifera***	**30**	**45**	**Fair**	**Yes**
13	Red Maple	*Acer rubrum*	24	36	Poor	
14	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good	
15	White Oak	*Quercus alba*	28	42	Poor	
16	**Tulip Poplar**	***Liriodendron tulipifera***	**32**	**48**	**Fair**	**Yes**
17	Tulip Poplar	*Liriodendron tulipifera*	26	39	Good	
18	Red Oak	*Quercus rubra*	27	40.5	Fair	
19	Black Gum	*Nyssa sylvatica*	25	37.5	Fair	
20	Red Maple	*Acer rubrum*	25	37.5	Fair	
21	Red Maple	*Acer rubrum*	28	42	Fair	
22	**Tulip Poplar**	***Liriodendron tulipifera***	**32**	**48**	**Fair**	**Yes**
23	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Fair	
24	Tulip Poplar	*Liriodendron tulipifera*	29	43.5	Good	
25	White Oak	*Quercus alba*	29	43.5	Good	
26	Red Oak	*Quercus rubra*	25	37.5	Fair	
27	**Red Oak**	***Quercus rubra***	**30**	**45**	**Fair**	
28	Tulip Poplar	*Liriodendron tulipifera*	28	39	Good	
29	Tulip Poplar	*Liriodendron tulipifera*	28	42	Good	
30	Tulip Poplar	*Liriodendron tulipifera*	29	43.5	Fair	
31	**White Oak**	***Quercus alba***	**39**	**58.5**	**Fair**	
32	White Oak	*Quercus alba*	26	39	dead	
33	White Oak	*Quercus alba*	24	36	Fair	
34	**Tulip Poplar**	***Liriodendron tulipifera***	**30**	**45**	**Good**	**Yes**
35	Tulip Poplar	*Liriodendron tulipifera*	24	36	Fair	
36	White Oak	*Quercus alba*	26	39	Fair	
37	Red Maple	*Acer rubrum*	26	39	Fair	
38	Oak	*Quercus Sp.*	28	42	dead	
39	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Fair	
40	**Tulip Poplar**	***Liriodendron tulipifera***	**36**	**54**	**Fair**	
41	White Oak	*Quercus alba*	27	40.5	Fair	
42	**Tulip Poplar**	***Liriodendron tulipifera***	**32**	**48**	**Good**	
43	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good	
44	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good	
45	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Good	
46	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Fair	
47	Red Oak	*Quercus rubra*	24	36	Fair	
48	Tulip Poplar	*Liriodendron tulipifera*	29	43.5	Fair	
49	**White Oak**	***Quercus alba***	**31**	**46.5**	**Fair**	**Yes**
50	**White Oak**	***Quercus alba***	**31**	**46.5**	**Fair**	**Yes**
51	**Red Oak**	***Quercus rubra***	**30**	**45**	**Fair**	**Yes**
52	**Tulip Poplar**	***Liriodendron tulipifera***	**31**	**46.5**	**Fair**	**Yes**
53	**Tulip Poplar**	***Liriodendron tulipifera***	**32**	**48**	**Good**	**Yes**
54	Red Maple	*Acer rubrum*	25	37.5	Fair	
55	Red Oak	*Quercus rubra*	26	39	Fair	
56	White Oak	*Quercus alba*	25	37.5	Fair	
57	White Oak	*Quercus alba*	24	36	Fair	
58	Tulip Poplar	*Liriodendron tulipifera*	24	36	Fair	
59	Red Oak	*Quercus rubra*	27	40.5	Fair	
60	**Tulip Poplar**	***Liriodendron tulipifera***	**33**	**49.5**	**Good**	**Yes**
61	**Red Oak**	***Quercus rubra***	**33**	**49.5**	**Fair**	
62	White Oak	*Quercus alba*	29	43.5	Fair	
63	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Fair	
64	Red Oak	*Quercus rubra*	25	37.5	Good	
65	White Oak	*Quercus alba*	25	37.5	Fair	
66	**Red Oak**	***Quercus rubra***	**36**	**54**	**Fair**	**Yes**
67	Tulip Poplar	*Liriodendron tulipifera*	28	42	Good	
68	White Oak	*Quercus alba*	24	36	Fair	
69	Tulip Poplar	*Liriodendron tulipifera*	28	42	Poor	
70	Red Oak	*Quercus rubra*	29	43.5	Fair	
71	White Oak	*Quercus alba*	26	39	Fair	
72	White Oak	*Quercus alba*	24	36	Fair	
73	Tulip Poplar	*Liriodendron tulipifera*	28	42	Poor	
74	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Good	
75	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Good	
76	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Good	
77	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Good	
78	**Tulip Poplar**	***Liriodendron tulipifera***	**48**	**72**	**Good**	**Yes**
79	Tulip Poplar	*Liriodendron tulipifera*	26	39	Fair	
80	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Good	
81	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Fair	
82	White Oak	*Quercus alba*	29	43.5	Poor	
83	Tulip Poplar	*Liriodendron tulipifera*	29	43.5	Good	
84	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Fair	
85	Tulip Poplar	*Liriodendron tulipifera*	28	42	Good	
86	Tulip Poplar	*Liriodendron tulipifera*	24	36	Fair	
87	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good	
88	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Fair	
89	**Tulip Poplar**	***Liriodendron tulipifera***	**30**	**45**	**Good**	
90	**Tulip Poplar**	***Liriodendron tulipifera***	**35**	**52.5**	**Fair**	
91	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good	
92	Tulip Poplar	*Liriodendron tulipifera*	28	42	Fair	
93	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Fair	
94	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Good	
95	Tulip Poplar	*Liriodendron tulipifera*	24	36	Fair	
96	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Fair	
97	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Good	
98	White Oak	*Quercus alba*	28	42	dead	
99	**Red Oak**	***Quercus rubra***	**32**	**48**	**Fair**	**Yes**
100	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Good	
101	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Good	
102	**White Oak**	***Quercus alba***	**36**	**54**	**Fair**	**Yes**
103	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Fair	
104	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Good	
105	Tulip Poplar	*Liriodendron tulipifera*	24	36	Fair	
106	**Tulip Poplar**	***Liriodendron tulipifera***	**41**	**61.5**	**Good**	**Yes**
107	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Good	
108	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Good	
109	Tulip Poplar	*Liriodendron tulipifera*	35	52.5	Fair	Yes
110	Tulip Poplar	*Liriodendron tulipifera*	28	42	Good	
111	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good	
112	Tulip Poplar	*Liriodendron tulipifera*	28	42	Good	
113	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Good	
114	Red Oak	*Quercus rubra*	24	36	dead	
115	**Red Oak**	***Quercus rubra***	**34**	**51**	**Fair**	**Yes**
116	**Tulip Poplar**	***Liriodendron tulipifera***	**30**	**45**	**Good**	**Yes**
117	Red Oak	*Quercus rubra*	24	36	Fair	
118	Black Cherry	*Prunus serotina*	25	37.5	Fair	
119	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Fair	
120	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Fair	
121	Tulip Poplar	*Liriodendron tulipifera*	36	54	Fair	Yes
122	Box Elder	*Acer negundo*	24	36	Poor	
123	Red Maple	*Acer rubrum*	25	37.5	Fair	
124	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Fair	
125	**Tulip Poplar**	***Liriodendron tulipifera***	**34**	**51**	**Fair**	**Yes**
126	Black Cherry	*Prunus serotina*	26	39	Fair	
127	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Good	
128	Tulip Poplar	*Liriodendron tulipifera*	28	42	Good	
129	**Tulip Poplar**	***Liriodendron tulipifera***	**33**	**49.5**	**Good**	**Yes**
130	Tulip Poplar	*Liriodendron tulipifera*	29	43.5	Good	
131	**Tulip Poplar**	***Liriodendron tulipifera***	**32**	**48**	**Good**	
132	Tulip Poplar	*Liriodendron tulipifera*	28	42	Fair	
133	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good	
134	Tulip Poplar	*Liriodendron tulipifera*	28	42	Good	
135	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good	
136	Tulip Poplar	*Liriodendron tulipifera*	26	39	Good	
137	Red Maple	*Acer rubrum*	26	39	Fair	
138	Red Maple	*Acer rubrum*	28	42	Fair	
139	Tulip Poplar	*Liriodendron tulipifera*	28	42	Fair	
140	Black Cherry	*Prunus serotina*	29	43.5	Fair	
141	**Black Cherry**	***Prunus serotina***	**36**	**54**	**Poor**	**Yes**
142	**Black Cherry**	***Prunus serotina***	**31**	**46.5**	**Fair**	
143	Tulip Poplar	*Liriodendron tulipifera*	24	36	Fair	
144	**Tulip Poplar**	***Liriodendron tulipifera***	**50**	**75**	**Fair**	**Yes**
145	Tulip Poplar	*Liriodendron tulipifera*	26	39	Fair	
170	Tulip Poplar	*Liriodendron tulipifera*	29	43.5	Fair	
171	**White Oak**	***Quercus alba***	**30**	**45**	**Fair**	**Yes**
172	Tulip Poplar	*Liriodendron tulipifera*	24	36	Fair	
173	**Red Oak**	***Quercus rubra***	**31**	**46.5**	**Fair**	**Yes**
174	**Red Oak**	***Quercus rubra***	**31**	**46.5**	**Good**	
175	White Oak	*Quercus alba*	26	39	Fair	
176	Red Maple	*Acer rubrum*	25	37.5	Fair	
177	Tulip Poplar	*Liriodendron tulipifera*	31	46.5	Fair	Yes
178	Tulip Poplar	*Liriodendron tulipifera*	32	48	Fair	Yes
179	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Good	
180	**White Pine**	***Pinus strobus***	**34**	**51**	**Good**	**Yes**
181	**Tulip Poplar**	***Liriodendron tulipifera***	**32**	**48**	**Good**	
182	Red Maple	*Acer rubrum*	24	36	Good	
183	Red Maple	*Acer rubrum*	26	39	Fair	
184	Tulip Poplar	*Liriodendron tulipifera*	24	36	Fair	
185	**Tulip Poplar**	***Liriodendron tulipifera***	**31**	**46.5**	**Fair**	**Yes**
186	White Oak	*Quercus alba*	25	37.5	Fair	
187	**Red Maple**	***Acer rubrum***	**30**	**45**	**Fair**	
188	**Red Oak**	***Quercus rubra***	**48**	**72**	**Good**	**Yes**
189	**Red Maple**	***Acer rubrum***	**30**	**45**	**Fair**	**Yes**
190	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good	
191	Red Maple	*Acer rubrum*	25	37.5	Poor	
192	**Black Cherry**	***Prunus serotina***	**30**	**45**	**Fair**	**Yes**
193	Red Maple	*Acer rubrum*	24	36	Fair	
194	Black Cherry	*Prunus serotina*	25	37.5	Good	
195	**Tulip Poplar**	***Liriodendron tulipifera***	**40**	**60**	**Good**	**Yes**
196	**Tulip Poplar**	***Liriodendron tulipifera***	**40**	**60**	**Good**	**Yes**
197	**Red Maple**	***Acer rubrum***	**30**	**45**	**Fair**	**Yes**
198	Red Maple	*Acer rubrum*	24	36	Fair	
199	Red Maple	*Acer rubrum*	24	36	Fair	
200	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Fair	
201	**Tulip Poplar**	***Liriodendron tulipifera***	**33**	**49.5**	**Fair**	
202	**Sycamore**	***Platanus occidentalis***	**37**	**55.5**	**Fair**	
203	**Red Maple**	***Acer rubrum***	**37**	**55.5**	**Fair**	
204	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Fair	
205	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Fair	
206	Tulip Poplar	*Liriodendron tulipifera*	29	43.5	Good	
207	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Fair	
208	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good	
209	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good	
210	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good	
211	Black Cherry	*Prunus serotina*	26	39	Fair	
212	**Tulip Poplar**	***Liriodendron tulipifera***	**36**	**54**	**Good**	
213	**Tulip Poplar**	***Liriodendron tulipifera***	**34**	**51**	**Good**	
214	**Tulip Poplar**	***Liriodendron tulipifera***	**30**	**45**	**Fair**	
215	**Tulip Poplar**	***Liriodendron tulipifera***	**36**	**54**	**Good**	
216	**Tulip Poplar**	***Liriodendron tulipifera***	**39**	**58.5**	**Fair**	
217	Tulip Poplar	*Liriodendron tulipifera*	24	36	Fair	
218	Red Maple	*Acer rubrum*	30	45	Poor	Yes
219	**Tulip Poplar**	***Liriodendron tulipifera***	**41**	**61.5**	**Fair**	**Yes**
220	Black Walnut	*Juglans nigra*	25	37.5	Fair	
221	Tulip Poplar	*Liriodendron tulipifera*	28	42	Fair	
*222	White Willow	*Salix alba*	38	57	Poor	Yes
223	**Black Cherry**	***Prunus serotina***	**35**	**52.5**	**Poor**	
224	White Oak	*Quercus alba*	24	36	Fair	
225	**Tulip Poplar**	***Liriodendron tulipifera***	**36**	**54**	**Good**	**Yes**
***226**	**Virginia Pine**	***Pinus virginiana***	**20**	**30**	**Fair**	
227	Red Maple	*Acer rubrum*	26	39	Fair	
*31773	**Virginia Pine**	***Pinus virginiana***	**19**	**28.5**	**Poor**	**Yes**
228	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Fair	
229	Red Oak	*Quercus rubra*	24	36	Good	
230	Red Oak	*Quercus rubra*	27	40.5	Fair	
231	**Red Oak**	***Quercus rubra***	**32**	**48**	**Fair**	
232	Red Oak	*Quercus rubra*	28	42	Fair	
233	Red Oak	*Quercus rubra*	25	37.5	Good	
234	Red Maple	*Acer rubrum*	38	57	Fair	Yes
235	**Tulip Poplar**	***Liriodendron tulipifera***	**30**	**45**	**Good**	**Yes**
236	Red Maple	*Acer rubrum*	27	40.5	Fair	
237	Tulip Poplar	*Liriodendron tulipifera*	24	36	Fair	
238	Red Maple	*Acer rubrum*	36	54	Fair	Yes
239	Tulip Poplar	*Liriodendron tulipifera*	28	42	Fair	
240	**Tulip Poplar**	***Liriodendron tulipifera***	**48**	**72**	**Fair**	**Yes**
241	**Tulip Poplar**	***Liriodendron tulipifera***	**52**	**78**	**Fair**	
242	**Tulip Poplar**	***Liriodendron tulipifera***	**38**	**57**	**Fair**	**Yes**
243	American Beech	*Fagus grandifolia*	26	39	Good	
244	**American Beech**	***Fagus grandifolia***	**31**	**46.5**	**Good**	
11414	**Red Maple**	***Acer rubrum***	**31**	**46.5**	**Fair**	**Yes**
12206	Tulip Poplar	*Liriodendron tulipifera*	26	39	Good	
12232	Northern Catalpa	*Catalpa speciosa*	27	40.5	Fair	

* Trees # 222, 226 and 31773 are greater than or within > 75% the size of a current State or County Champions

000 Bold Text signifies Specimen Trees (30" and greater). Request Variance (49 trees)

Highlighted trees to be removed

TREES SUBJECT TO VARIANCE

TABULATION OF 30 INCH OR GREATER POTENTIALLY IMPACTED SPECIMEN TREES

ID	Common Name	DBH (in.)	Condition	TPF	RP	CRZ Protection	Tree Within LOD	FOP Sheet No.	Remarks
5	Red Maple	33	Fair	Yes	X		No	6	This tree is located about 25 feet outside TPF. Stream restoration work includes minor grading to install new bank toe protection structure.
9	Red Maple	30	Fair	PL	X		No	7	Stream restoration work includes grading to install new bank toe protection structure.
11	Tulip Poplar	33	Fair	To be removed			Yes	7	Tree is located at the toe edge of an sharp turn and severe undercut stream bank. Remove this tree to allow channel realignment to provide better geometry at the stream.
12	Tulip Poplar	30	Fair	PL	X	RKP	No	8	Tree is located at the top edge of an undercut stream bank. Stream erosion and channel down cutting had caused tree roots to expose and undercut. Grading and rock packing to protect tree's root system and stabilize stream bank toe.
16	Tulip Poplar	32	Fair	Yes		MM/WM	No	7	CRZ extends into access route within the LOD therefore, contractor will place Mulch mats or Wooden mats to protect this tree's CRZ. Minor grading proposed.
22	Tulip Poplar	33	Fair	PL		RKP	No	8	Tree is located at the top edge of an undercut stream bank. Stream erosion and channel down cutting had caused tree roots to expose and undercut. Grading and rock packing to protect tree's root systems and stabilize stream bank toe.
34	Tulip Poplar	30	Good	PL	X	MM/WM	No	7	Tree is adjacent to LOD and is located on eroded stream bank. Stream restoration work includes grading to protect bank toe will be worked around this tree CRZ to minimize impacts if possible.
49	White Oak	31	Fair	Yes	X		No	6	Tree is located about 25 feet inside TPF. Minor grading to stabilize stream bank.
50	White Oak	31	Fair	Yes	X		No	6	Tree is located about 25 feet inside TPF. Minor grading to stabilize stream bank.
51	Red Oak	30	Fair	Yes	X		No	6	Tree is located about 25 feet inside TPF. Minor grading to stabilize stream bank.
53	Tulip Poplar	32	Good	PL	X	RKP	No	6	Tree is located at the top edge of an undercut stream bank. Stream erosion and channel down cutting had caused tree roots to expose and undercut. Grading and rock packing to protect tree's root system and stabilize stream bank toe.
60	Tulip Poplar	33	Good	Yes	X	RKP	No	6	Tree is located at the top edge of an undercut stream bank. Stream erosion and channel down cutting had caused tree roots to expose and undercut. Grading and rock packing to protect tree's root system and stabilize stream bank toe.
66	Red Oak	36	Fair	Yes		MM/WM	No	6	Tree is adjacent to LOD and is located near stream crossing access. Primary impact within the CRZ is temporary access mats and a minor stream bank grading.
78	Tulip Poplar	48	Good	Yes		MM/WM	No	5	Tree is adjacent to LOD and is located near stream crossing access. Primary impact within the CRZ is temporary access mats and a minor stream bank grading.
99	Red Oak	32	Fair	Yes	X		No	5	This tree is located about 25 feet outside TPF. Minor grading to stabilize stream bank.
102	White Oak	36	Fair	Yes		MM/WM	No	5	This tree is located about 25 feet outside TPF. Minor grading to stabilize stream bank.
106	Tulip Poplar	41	Good	PL	X	RKP	No	5	Tree is located at the top edge of an undercut stream bank. Stream erosion and channel down cutting had caused tree roots to expose and undercut. Grading and rock packing to protect tree's root system and stabilize stream bank toe.
109	Tulip Poplar	35	Fair	To be removed			Yes	5	Tree is located at the top edge of a severe undercut stream bank. Stream erosion and channel down cutting had caused tree roots to expose and undercut. Grading to stabilize erosive area and improve stream condition requires this tree to be removed. More than 45% CRZ will be impacted.
115	Red Oak	34	Fair	Yes	X		No	5	This tree is located about 30 feet outside TPF. Minor grading to stabilize stream bank.
116	Tulip Poplar	30	Good	Yes	X		No	5	This tree is located about 25 feet outside TPF. Minor grading to stabilize stream bank.
121	Tulip Poplar	36	Fair	To be removed			Yes	4	Tree is located at the top edge of a severe undercut stream bank. Stream erosion and channel down cutting had caused tree roots to expose and undercut. Grading to stabilize erosive area and improve stream condition requires this tree to be removed. More than 45% CRZ will be impacted.
125	Tulip Poplar	34	Fair	Yes	X		No	4	This tree is located about 40 feet outside TPF. Minor grading to stabilize stream bank.
129	Tulip Poplar	33	Good	Yes	X		No	4	This tree is located about 20 feet outside TPF. Minor grading to stabilize stream bank.
141	Black Cherry	36	Poor	PL	X		No	4	Tree is adjacent to LOD and is located on eroded stream bank. Stream restoration work includes grading to protect bank toe will be worked around this tree CRZ to minimize impacts if possible.
144	Tulip Poplar	50	Fair	Yes	X		No	4	This tree is located about 30 feet outside TPF. About 16% of CRZ will be impacts by grading to stabilize stream channel.
171	White Oak	30	Fair	Yes	X		No	9	This tree is located about 30 feet outside TPF. About 20% of CRZ will be impacts by grading to stabilize stream channel.
173	Red Oak	31	Fair	Yes	X		No	9	This tree is located about 15 feet outside TPF. About 4% of CRZ will be impacts by grading to stabilize stream channel.
177	Tulip Poplar	31	Fair	To be removed			Yes	9	Stream channel is down cutting has narrowed and dropped stream bed elevation and tree roots are exposed. Grading to install step-pools and widening stream bank to stabilize erosive area and improve stream condition requires this tree to be removed. More than 45% CRZ will be impacted.
178	Tulip Poplar	32	Fair	To be removed			Yes	9	Stream channel is down cutting has narrowed and dropped stream bed elevation and tree roots are exposed. Grading to install step-pools and widening stream bank to stabilize erosive area and improve stream condition requires this tree to be removed. More than 45% CRZ will be impacted.
180	White Pine	34	Good	Yes		MM/WM	No	9	CRZ extends into access route within the LOD therefore, contractor will place Mulch mats or Wooden mats to protect this tree's CRZ. No grading proposed.
182	Black Cherry	30	Fair	Yes		MM/WM	No	9	CRZ extends into access route within the LOD therefore, contractor will place Mulch mats or Wooden mats to protect this tree's CRZ. No grading proposed.
185	Tulip Poplar	31	Fair	Yes		MM/WM	No	7	CRZ extends into access route within the LOD therefore, contractor will place Mulch mats or Wooden mats to protect this tree's CRZ. No grading proposed.
188	Red Oak	48	Good	Yes		MM/WM	No	7	CRZ extends into access route within the LOD therefore, contractor will place Mulch mats or Wooden mats to protect this tree's CRZ. No grading proposed.
189	Red Maple	30	Fair	Yes	X		No	10	This tree is located about 13 feet outside TPF. Stream restoration work includes minor grading to install new bank toe protection structure.
196	Tulip Poplar	40	Good	Yes	X		No	9	This tree is located about 33 feet outside TPF. About 7% of CRZ will be impacts by grading to stabilize stream channel.
196	Tulip Poplar	40	Good	Yes	X		No	9	This tree is located about 30 feet outside TPF. About 6% of CRZ will be impacts by grading to stabilize stream channel.
197	Red Maple	30	Fair	PL	X	RKP	No	9	Tree is located at the top edge of an undercut stream bank. Stream erosion and channel down cutting had caused tree roots to expose and undercut. Grading and rock packing to protect tree's root systems and stabilize stream bank toe.
203	Red Maple	37	Fair	To be removed			Yes	2	Stream channel is down cutting has narrowed and dropped stream bed elevation and tree roots are exposed. Grading to install step-pools and widening stream bank to stabilize erosive area and improve stream condition requires this tree to be removed. More than 45% CRZ will be impacted.
219	Tulip Poplar	41	Fair	PL	X		No	2	Tree is adjacent to LOD and is located on top of eroded tributary that was overgrowth by invasive (bamboo). Stream restoration work includes grading to install step-pools that will be required 30% impact to CRZ. Arborist will be consulted to ensure the survival of this tree.
222	White Willow	38	Poor	To be removed			Yes	2	Tree of 222 is greater than or within > 75% the size of a current State or County Champions. However, it was in poor condition and recently fallen due to storm damaged. Removal of this tree debris is required.
226	Tulip Poplar	36	Good	Yes		MM/WM	No	2	This tree is located about 15 feet outside TPF. About 6% of CRZ will be impacts by staging and temporary construction access. No grading proposed.
234	Red Maple	38	Fair	To be removed			Yes	2	Stream channel is down cutting has narrowed and dropped stream bed elevation and tree roots are exposed. Grading to install step-pools and widening stream bank to stabilize erosive area and improve stream condition requires this tree to be removed. More than 45% CRZ will be impacted.
238	Tulip Poplar	36	Good	PL	X		No	2	This tree is located about 15 feet outside TPF. About 20% of CRZ will be impacts by grading to stabilize stream channel.
238	Red Maple	36	Fair	To be removed			Yes	2	Stream channel is down cutting has narrowed and dropped stream bed elevation and tree roots are exposed. Grading to install step-pools and widening stream bank to stabilize erosive area and improve stream condition requires this tree to be removed. More than 45% CRZ will be impacted.
240	Tulip Poplar	48	Fair	Yes	X		No	2	This tree is located about 66 feet outside TPF. About 6% of CRZ will be impacts by grading to stabilize stream channel.
242	Tulip Poplar	38	Fair	PL	X		No	2	Tree is adjacent to LOD and is located within an overgrowth invasive (bamboo) area and is stream eroding at the lower elevation. Stream restoration work includes grading to install stream riffle that will be required 30% impact to CRZ. Arborist will be consulted to ensure the survival of this tree.
11414	Red Maple	31	Fair	PL	X	X	No	4	*This tree is located outside of the Hardolph Manor Property line however, it's critical root zone extends within the property. Tree # 11414 was placed in both Variance Requests for Hardolph Manor and Hollywood Stream Restoration.* . Tree#11141 is located at the end of Anderson St, on private property. A proped access route is this area through Hardolph Manor will have minor impacts on this tree's CRZ. All efforts will be made to protect these roots from compaction during the construction phase of this project.
31773	Virginia Pine	19	Poor	PL		MM/WM	No	2	Trees is greater than or within > 75% the size of a current State or County Champions. This tree is located about 15 feet outside TPF and tree protection planning is required. About 6% of CRZ will be impacts by staging and temporary construction access. No grading proposed.

Terminal steps:
(RP) Root pruning is to be performed inside the tree protection fence. It is to be accomplished by a vibratory plow with a serrated cutting edge or a root cutter with a 30" wheel to a depth of 24". Chain driven trenchers are not acceptable. (See Detail)
(RKP) Root Pruning – equipment must be hand packed with stone.
(MM) Mono Mats: Access - 12" minimum depth wood chip base to be placed for construction access. (see detail)
(WM) Wooden Mats - 12" x 4'x 8" wooden plank to be placed over access area for construction access. (see detail)
(PL) Tree Protection Pruning
(TPF) Tree Protection Fence

LANDSCAPE ARCHITECT CERTIFICATE:

I hereby certify that this plan is prepared in accordance with Montgomery County Forest Conservation Regulations.

04/15/13
Date

James M. Fetchu, RLA
Registered Landscape Architect
MD #3241

Prepared for:
Montgomery County Department of
Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN
Specimen and Significant Trees List

DATE: 04/15
DESIGNED: HT/JF
DRAFTED: HT
CHECKED: JF
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9570 E-mail: cnv@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE
AS SHOWN
SHEET
FCP-11
55 OF 68 SHEETS
JOB NO.
38-507

Plotted: Apr 18, 2013 - 9:22am User: mcoffey
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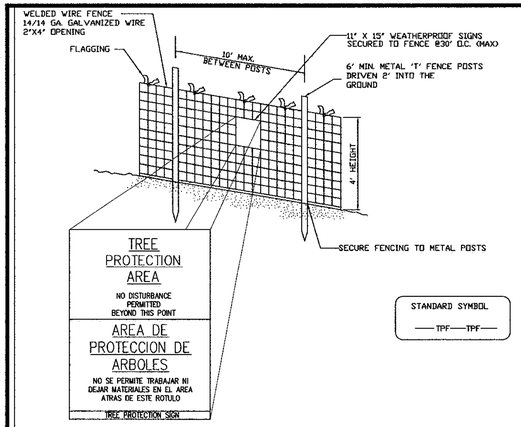
Existing Conditions 052713.dwg
ROW&Public-Easements.dwg
Trees.dng.dwg
Design_Black.dwg
Road-Hatch.dwg
24x36 standard.dwg

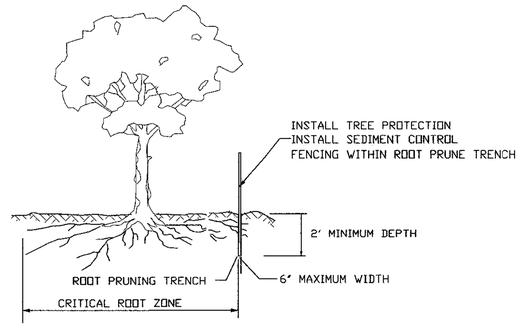


NOTES

1. PRACTICE MAY BE COMBINED WITH SEDIMENT CONTROL FENCING.
2. LOCATION AND LIMITS OF FENCING SHALL COORDINATED IN FIELD WITH ARBORIST.
3. BOUNDARIES OF PROTECTION AREA SHOULD BE STAKED PRIOR TO INSALLING PROTECTIVE DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED
5. PROTECTIVE SIGNAGE IS REQUIRED.
6. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION FENCE DETAIL

NOT TO SCALE



NOTES:

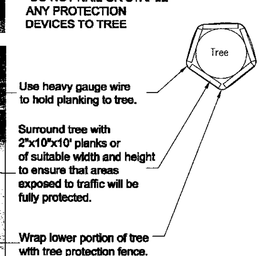
1. RETENTION AREAS TO BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
2. BOUNDARIES OF RETENTION AREAS TO BE STAKED, FLAGGED AND/OR FENCED PRIOR TO TRENCHING.
3. EXACT LOCATION OF TRENCH SHOULD BE IDENTIFIED IN FIELD WITH M-NCPPC.
4. TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR ORGANIC SOIL.
5. ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.

ROOT PRUNING

* Tree planking required for all trees within 10' of equipment access, excludes evergreen trees unless lower limbs has been pruned.

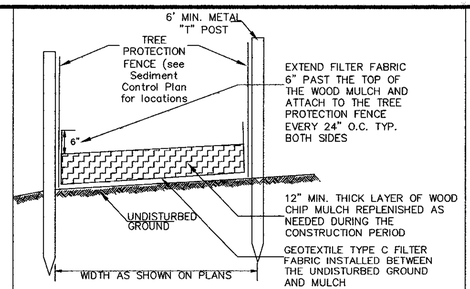
*** Tree Planking to be provided per plan. Additional tree planking may be required as directed by M-NCPPC inspector.**

***DO NOT NAIL OR STAPLE ANY PROTECTION DEVICES TO TREE**



TREE PLANKING DETAIL

N.T.S.



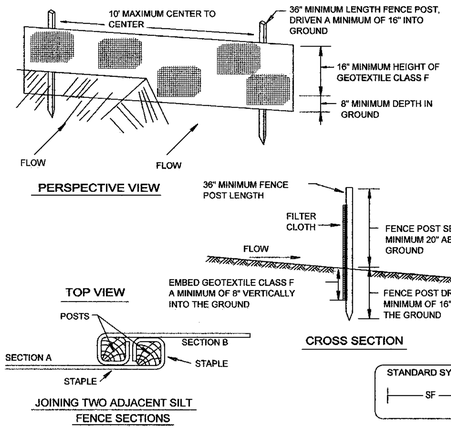
1. Any gaps required for equipment access shall be flagged for approval at pre-construction meeting.
2. Removal of mulch shall only be required in areas of lawn for hardscape.
3. Geotextile is not required where mulch will remain after construction.

PLAN SYMBOL

MULCH MAT

NOT TO SCALE

DETAIL 22 - SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

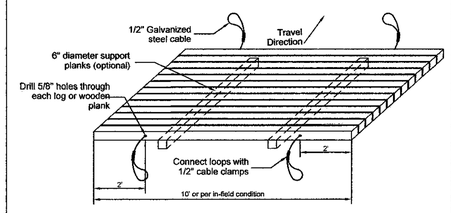
3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Note: For informational purposes only

Notes:
1. All wooden planks to be 10'X6"X6" min. if logs are used min. diameter will be 6" and 10' long.
2. Drill 5/8 " holes through each log or wooden plank.
3. String logs/wood planks together with 1/2" Galvanized steel cable.
4. Make a loop at the end of each cable and secure with cable clamps.
5. Place wood mats over a non-woven geotextile fabric that covers the entire crossing area.
6. Contractor is responsible to size logs or wooden planks to support maximum loads and soil strength.
7. Support planks (2 each, 6" diameter) can be used in lieu of cabling so long as 5/8" bolts with nuts are used on a three foot spacing.



TEMPORARY WOODEN MATS

n.t.s.

LANDSCAPE ARCHITECT CERTIFICATE:

I hereby certify that this plan is prepared in accordance with Montgomery County Forest Conservation Regulations.

04/15/13 — Date

James M. Fetchu, RLA
Registered Landscape Architect
MD #3241

STATE OF MARYLAND — JAMES MICHAEL FETCHU — 3241 — LANDSCAPE ARCHITECT

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN

Details

DATE: 04/15
DESIGNED: HT/JF
DRAFTED: HT
CHECKED: JF
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9575 E-mail: env@cpja.com Fax:(301)926-4581
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET FCP-12
56 OF 68 SHEETS
JOB NO. 38-507

Apr 18, 2013 - 9:21am User: jmcarthy
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Existing Conditions 052713.dwg
ROW&Public Easements.dwg
Trees.dwg.dwg
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Road-Hatch.dwg
24x36 standard.dwg

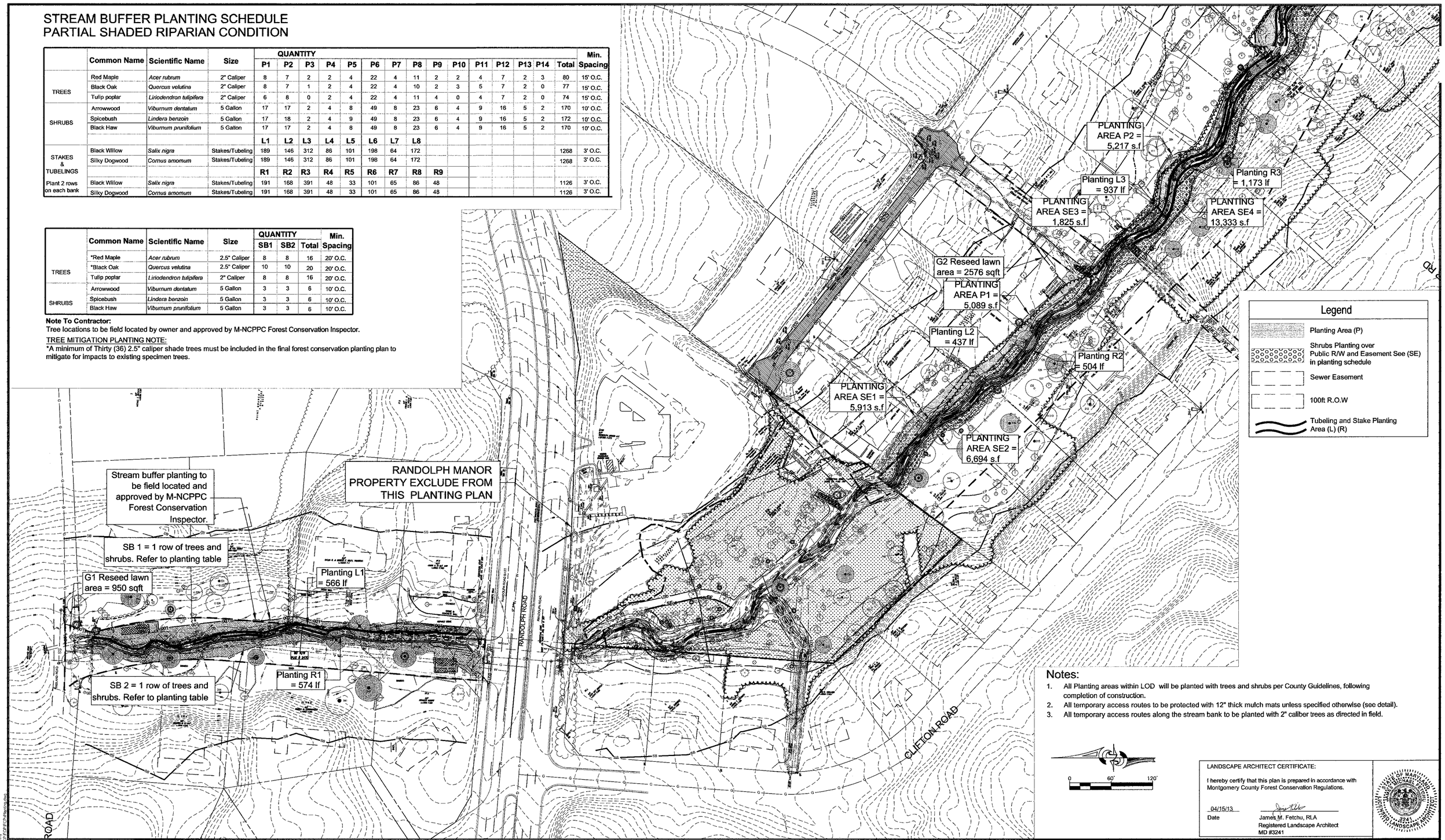
STREAM BUFFER PLANTING SCHEDULE
PARTIAL SHADED RIPARIAN CONDITION

	Common Name	Scientific Name	Size	QUANTITY															Min. Spacing
				P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	Total	
TREES	Red Maple	*Acer rubrum*	2" Caliper	8	7	2	2	4	22	4	11	2	2	4	7	2	3	80	15' O.C.
	Black Oak	*Quercus velutina*	2" Caliper	8	7	1	2	4	22	4	10	2	3	5	7	2	0	77	15' O.C.
	Tulip poplar	*Liriodendron tulipifera*	2" Caliper	6	8	0	2	4	22	4	11	4	0	4	7	2	0	74	15' O.C.
SHRUBS	Arrowwood	*Viburnum dentatum*	5 Gallon	17	17	2	4	8	49	8	23	6	4	9	16	5	2	170	10' O.C.
	Spicebush	*Lindera benzoin*	5 Gallon	17	18	2	4	9	49	8	23	6	4	9	16	5	2	172	10' O.C.
	Black Haw	*Viburnum prunifolium*	5 Gallon	17	17	2	4	8	49	8	23	6	4	9	16	5	2	170	10' O.C.
				L1	**L2**	**L3**	**L4**	**L5**	**L6**	**L7**	**L8**								
STAKES & TUBELINGS	Black Willow	*Salix nigra*	Stakes/Tubeling	189	146	312	86	101	198	64	172							1268	3' O.C.
	Silky Dogwood	*Cornus amomum*	Stakes/Tubeling	189	146	312	86	101	198	64	172							1268	3' O.C.
				R1	**R2**	**R3**	**R4**	**R5**	**R6**	**R7**	**R8**	**R9**							
Plant 2 rows on each bank	Black Willow	*Salix nigra*	Stakes/Tubeling	191	168	391	48	33	101	65	86	48						1126	3' O.C.
	Silky Dogwood	*Cornus amomum*	Stakes/Tubeling	191	168	391	48	33	101	65	86	48						1126	3' O.C.

	Common Name	Scientific Name	Size	QUANTITY			Min. Spacing
				SB1	SB2	Total	
TREES	*Red Maple	*Acer rubrum*	2.5" Caliper	8	8	16	20' O.C.
	*Black Oak	*Quercus velutina*	2.5" Caliper	10	10	20	20' O.C.
	Tulip poplar	*Liriodendron tulipifera*	2" Caliper	8	8	16	20' O.C.
SHRUBS	Arrowwood	*Viburnum dentatum*	5 Gallon	3	3	6	10' O.C.
	Spicebush	*Lindera benzoin*	5 Gallon	3	3	6	10' O.C.
	Black Haw	*Viburnum prunifolium*	5 Gallon	3	3	6	10' O.C.

Note To Contractor:
Tree locations to be field located by owner and approved by M-NCPPC Forest Conservation Inspector.

TREE MITIGATION PLANTING NOTE:
*A minimum of Thirty (36) 2.5" caliper shade trees must be included in the final forest conservation planting plan to mitigate for impacts to existing specimen trees.



Notes:

1. All Planting areas within LOD will be planted with trees and shrubs per County Guidelines, following completion of construction.
2. All temporary access routes to be protected with 12" thick mulch mats unless specified otherwise (see detail).
3. All temporary access routes along the stream bank to be planted with 2" caliber trees as directed in field.

0 60' 120'

LANDSCAPE ARCHITECT CERTIFICATE:

I hereby certify that this plan is prepared in accordance with Montgomery County Forest Conservation Regulations.

04/15/13
Date

James M. Fetchu, RLA
Registered Landscape Architect
MD #3241

STATE OF MARYLAND · JAMES MICHAEL FETCHU · 3241 · REGISTERED LANDSCAPE ARCHITECT

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization
HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN
Planting Plan

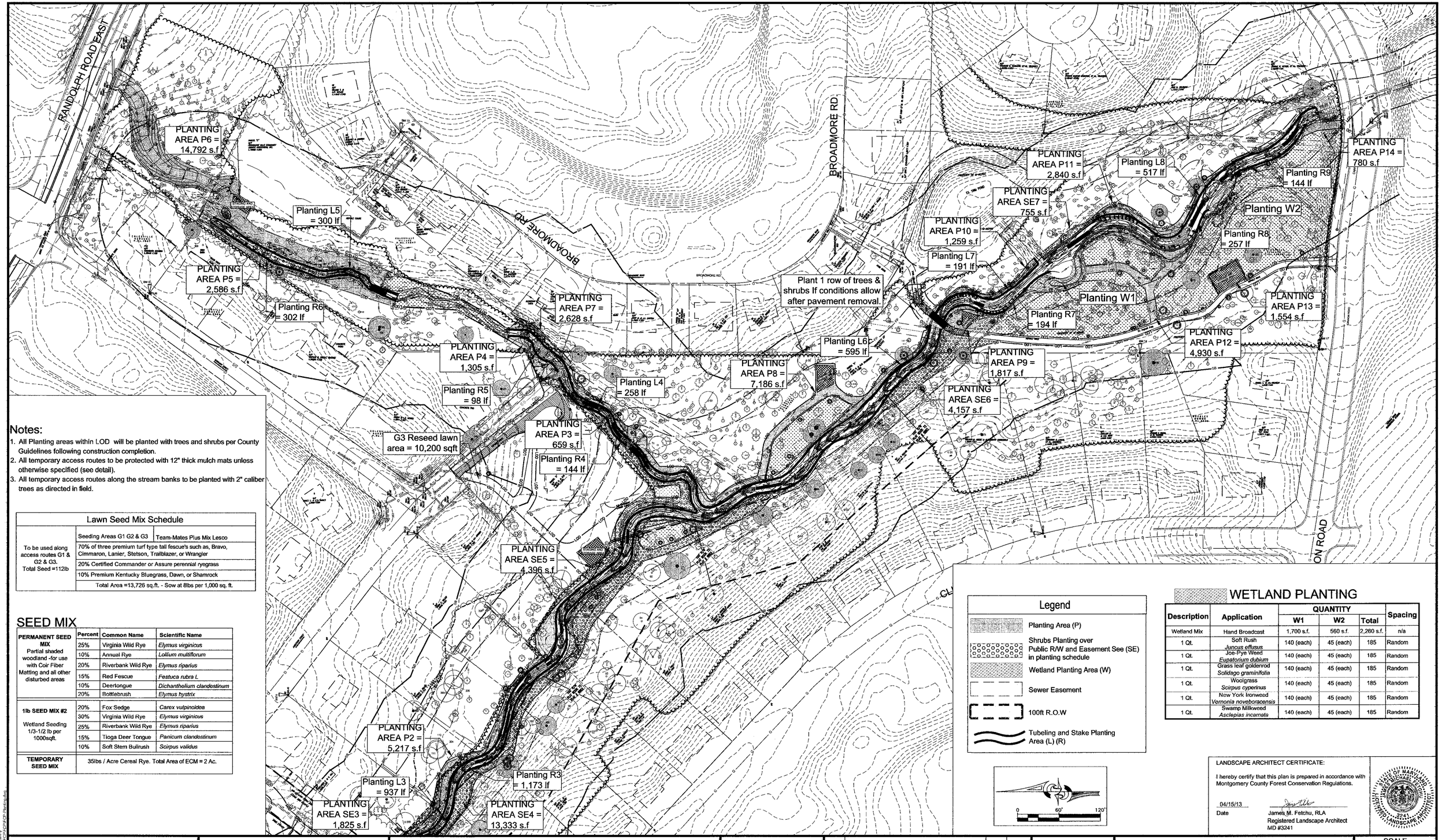
DATE:	04/15
DESIGNED:	HT/JF
DRAFTED:	HT
CHECKED:	JF
BASE DATA:	CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: envi@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET FCP-13
57 OF 68 SHEETS
JOB NO. 38-507

Plotted: Apr 15, 2013 - 10:33am User: jmcarthy
File: P:\Hollywood Branch\CAD\BASE\CPJ-FCP-FCP-Planting.dwg
Xrefs: TOPO03513.dwg
Existing Conditions 00273.dwg



Notes:

1. All Planting areas within LOD will be planted with trees and shrubs per County Guidelines following construction completion.
2. All temporary access routes to be protected with 12" thick mulch mats unless otherwise specified (see detail).
3. All temporary access routes along the stream banks to be planted with 2" caliber trees as directed in field.

Lawn Seed Mix Schedule		
To be used along access routes G1 & G2 & G3. Total Seed =112lb	Seeding Areas G1 G2 & G3	Team-Mates Plus Mix Lesco
	70% of three premium turf type tall fescue's such as, Bravo, Cimmaron, Lanier, Stetson, Trailblazer, or Wrangler	
	20% Certified Commander or Assure perennial ryegrass	
	10% Premium Kentucky Bluegrass, Dawn, or Shamrock	
	Total Area =13,726 sq.ft. - Sow at 8lbs per 1,000 sq. ft.	

SEED MIX

	Percent	Common Name	Scientific Name
PERMANENT SEED MIX Partial shaded woodland -for use with Coir Fiber Matting and all other disturbed areas	25%	Virginia Wild Rye	*Elymus virginicus*
	10%	Annual Rye	*Lollium multiflorum*
	20%	Riverbank Wild Rye	*Elymus riparius*
	15%	Red Fescue	*Festuca rubra L*
	10%	Deertongue	*Dichanthelium clandestinum*
	20%	Bottlebrush	*Elymus hystrix*
1lb SEED MIX #2 Wetland Seeding 1/3-1/2 lb per 1000sqft.	20%	Fox Sedge	*Carex vulpinoidea*
	30%	Virginia Wild Rye	*Elymus virginicus*
	25%	Riverbank Wild Rye	*Elymus riparius*
	15%	Tioga Deer Tongue	*Panicum clandestinum*
	10%	Soft Stem Bulirush	*Scirpus validus*
TEMPORARY SEED MIX	35lbs / Acre Cereal Rye. Total Area of ECM = 2 Ac.		

Legend

- Planting Area (P)
- Shrubs Planting over Public R/W and Easement See (SE) in planting schedule
- Wetland Planting Area (W)
- Sewer Easement
- 100ft R.O.W
- Tubeling and Stake Planting Area (L) (R)

WETLAND PLANTING

Description	Application	QUANTITY W1	QUANTITY W2	QUANTITY Total	Spacing
Wetland Mix	Hand Broadcast	1,700 s.f.	560 s.f.	2,260 s.f.	n/a
1 Qt.	Soft Rush *Juncus effusus*	140 (each)	45 (each)	185	Random
1 Qt.	Joe-Pye Weed *Eupatorium dubium*	140 (each)	45 (each)	185	Random
1 Qt.	Grass leaf goldenrod *Solidago graminifolia*	140 (each)	45 (each)	185	Random
1 Qt.	Woolgrass *Scirpus cyperinus*	140 (each)	45 (each)	185	Random
1 Qt.	New York Ironweed *Vernonia noveboracensis*	140 (each)	45 (each)	185	Random
1 Qt.	Swamp Milkweed *Asclepias incarnata*	140 (each)	45 (each)	185	Random

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I hereby certify that this plan is prepared in accordance with Montgomery County Forest Conservation Regulations.

04/15/13
Date

James M. Fetchu, RLA
Registered Landscape Architect
MD #3241

STATE OF MARYLAND · JAMES MICHAEL FETCHU · 3241 · REGISTERED LANDSCAPE ARCHITECT

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization

HOLLYWOOD BRANCH
FOREST CONSERVATION PLAN
Planting Plan

DATE: 04/15			
DESIGNED: HT/JF			
DRAFTED: HT			
CHECKED: JF			
BASE DATA: CPJA	NO.	REVISIONS	BY DATE

CPJ Associates

CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-3573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET FCP-14
58 OF 68 SHEETS
JOB NO. 38-507

Plotted: Apr 15, 2013 - 10:55am User: jmcarthy
P:\Hollywood Branch\CAD\ACTIVE\SHEETS\FCP\FCP-Planting.dwg
Xrefs: FCP-00323.dwg
Existing Conditions 032713.dwg

TREE AND SHRUB PLANTING NOTES

DESCRIPTION AND MATERIALS: Work for this section includes, but is not limited to installation of trees and shrubs in accordance with MSHA 710 and ANSI Z60.1 "American Standard for Nursery Stock", except as otherwise specified.
Plant List and Supply: The Contractor must be responsible for furnishing and installing all native plant material shown on the Contract Documents *(Native Plant List)*. Native plant material installed on Maryland National Capital Park and Planning Commission (MNCPPC) property must conform to the plant list located in the Contract Documents *(Maryland National Capital Park and Planning Commission Native Planting List)*. Contractor must verify they can obtain the specified plants and quantities prior to final construction estimate. Any discrepancies or shortages of specified plant material must be reported to the Owner immediately.

Substitutions will not be permitted unless proof is submitted by the nursery that a plant specified is not obtainable, a written proposal will be considered for use of nearest equivalent size or variety with an equitable adjustment of contract price. The written proposal must be submitted to the Owner one month prior to installation.

All plants must comply with the recommendations and requirements of ANSI Z60. 1 "American Standard for Nursery Stock" or latest edition and must be grown in the Piedmont region within 100 miles of Montgomery County, MD. The plants must be true to species and variety as specified on the approved plan or species specified by the Contracting Officer. All plants of the same specified size must be uniform size, character of growth, well branched, well formed, vigorous, healthy planting stock free from disease, sunscald, windburn, abrasion, harmful insects or insect eggs and having a healthy, normal and unbroken root system. All container-grown species must be sufficient to hold soil intact when removed from containers. All root bound container stock or plants which have been pruned back will be rejected by the Owner.

Contract Growing Arrangements: For items where the County agrees to make prior supply arrangements due to known limitations of quantities (e.g., Paw Paws), the County will direct the Contractor to establish arrangements with suppliers to provide predetermined quantities of these items. These arrangements will be made by May 30 of each calendar year.

Delivery: The Contractor must notify the Contracting Officer of the delivery schedule two weeks in advance so the plant materials may be inspected at the nursery and upon arrival at the job site. All plants delivered for the specific restoration project must be unloaded, inventoried and grouped by plant species under the direct supervision of the onsite Landscape Foreman. The Contracting Officer must approve the delivery with the Landscape Foreman present and all signed delivery tickets matching the approved delivery must be provided to the Contracting Officer upon receipt of the delivery. For work on MNCPPC land, MNCPPC staff must also be present to inspect plant material. The plants delivered must be moist and kept moist until planted. Plants not installed the day of delivery must be properly stored and protected from direct sun and wind.
Plant material must not be dropped, handled by the trunk, stems or foliage. Plant stems must be protected from being damaged, scarred or broken while being handled, stored and transported by equipment.

Rejection: Any materials and/or work may be rejected by the Contracting Officer if the plant material does not meet the specifications. All rejected materials must be removed from the site by the Contractor within 48 hours. All rejected plant material must be documented by the Landscape Foreman and a copy listing the rejected plant material must be provided to the Owner within 48 hours.

Submittals

1. Schedules: Submit final plant schedule listing plants to be installed one month prior to installation.
2. Qualification Data: Submit installer qualifications verifying years of experience; include list of completed projects having similar scope of work identified by name, location, date, reference names and phone numbers.
3. Maintenance: The Contractor must submit daily reports of the work done including number of laborers, hours worked, type of maintenance performed including but not limited to Additional Watering, invasive plant control, re-securing deer protection, insect and disease control, and re-mulching. When Additional Watering and/or Invasive Plant Control is performed, the Contractor must follow all submittals outlined in Additional Watering (Contract Line item 7021) and Invasive Plant Control (Contract Line items 7011-12).
4. Warranty: The Contractor will receive a Certificate of Acceptance from the Owner and the warranty period will begin from the date of the letter. The Contractor must furnish a written warranty covering the plants during the two-year warranty. The Warranty must provide plant replacements through the two-year period for all plants which fail to grow, are not true to name, or are impaired to the extent that they will not grow properly as determined by the Contracting Officer or his representative.

EXECUTION:

Installation
1. Personnel: Landscape Foreman must have 5 years or more documented successful experience in native plant landscape installation. All work must be performed by personnel experienced with the planting procedures and under direct supervision of qualified the Landscape Foreman. The Landscape Foreman must be a member of one of the following organizations:

Landscape Contractors Association
American Association of Nurserymen
Maryland Nurserymen's Association

2. Timing: Planting work must not be started until final subgrade has been established and approved the Owner. Under no conditions must any work be done if weather or soil conditions are not satisfactory. The season for planting trees, shrubs and ground cover must be March 15 to May 15 and September 15 to November 15, unless otherwise approved by the Owner. Any out of seasons planting permitted by the Contracting Officer will be fully guaranteed by the Contractor. Plantings will only occur when weather and soil conditions will permit the successful establishment of plants and only at the Owner's discretion.

3. Examination of Sites: The Contractor must examine the site and all conditions thereon and take into consideration all such conditions that may affect the work. The Contractor is responsible for verifying the location of all utilities. Start of work indicates acceptance of conditions and full responsibility for work of this section.
4. Plant Inspection: Plant inspection must be arranged by the Contractor at least two weeks prior to delivery. No plants must be dug or delivered to the site until the required inspections arrangements have been made and the plant species, size and vendors are approved by the Contracting Officer. All plants must be subject to inspection by the Contracting Officer for species, size, color, and quality. If so desired by the Contracting Officer, a sample for each plant variety must be planted as specified. Once approved, these samples must be tagged by the Contractor and used as standards of comparison for the remainder of the Work

5. Identification Tags: All plants must be tagged with a 3/4 inch x 3 inch with doubled faced aluminum tag with the ability to write on or emboss with a pencil, pen or pointed instrument. The tag must have a manufactured stamped hole for feeding a supplied 9" wire. The tag must be placed securely, but loose to avoid harm to the plant, on each plant near a sturdy branch adjacent to the trunk. The tag must legibly bear the plant's common name, date planted, and an inventory code specified by the Contracting Officer.

6. Preparation: The Contractor must provide the stakes and stake out approved plant material locations before digging and installing plants. The Contracting Officer must approve the layout and the Contracting Officer has the right to adjust the plant material locations and numbers of plantings to meet field conditions. Excavation for plantings will be in accordance with MSHA 7 10.03.04 or as specified in the Contract Documents.

7. Planting: The Contractor must carefully remove the plant from the container and avoid damage to the plant and its root system. By carefully supporting the root mass, place the plant in the properly size hole on a layer of hand compacted soil and begin backfilling and firmly packing soil around roots according to MSHA 7 10.03.09.

8. Pruning: Only dead and broken branches must be removed from trees unless otherwise directed by the Owner. Plant material must be pruned in accordance with standard horticultural practices to preserve the natural character of the plant. Only clean, sharp tools must be used. Cuts over ¼ inch diameter must be painted with an approved tree wound paint or compound covering all exposed living tissue.

9. Tree Staking and Guying: Trees requiring staking and guying the same day trees are installed, as directed by the Contracting Officer, and in accordance with MSHA 7 10.03.12

10. Initial Watering The Contractor must provide one initial watering after planting or seeding or as directed by the Contracting Officer. Watering beyond the initial watering will be considered additional watering. All watering must be accomplished using a hose with nozzle end breaker or a sprinkler. Water must be applied in sufficient quantities to maintain moist soil to a depth of at least 4 inches. Water must be applied at low water pressure directly to each plant, allowing water to be absorbed into the planting pit soil until saturated, but without runoff. The Contractor must avoid application of too much water.

Contractor must be able to supply a water truck or water plants from a nearby hydrant. When a hydrant is used, the Contractor is responsible for all regulations, permits or expenses necessary to use the public water supply. The Contractor may use, upon Contracting Officer's approval, Montgomery County's issued Maryland State Water Appropriation Permit No. M02006S006 (02) or most recent State Water Appropriation Permit when watering in isolated areas. The Contractor must follow the requirements specified in the State Water Appropriation Permit and must inform the County of the proportion of overall water usage taken from the stream.

Protection and Repair

All portions of the property, which have been disturbed or damaged due to, or incidental to work performed must be repaired and restored to its original condition to the satisfaction of the Contracting Officer.

The Contractor must fully and satisfactorily maintain and protect all work until completion and acceptance of all work or portions thereof and must repair or replace, at his expense, any work damaged during that period, to the satisfaction of the Owner.

Deer Protection: The Contractor must install 4 inch diameter by 48-inch high cylindrical rigid UV treated HDPE 3/4 X.3/4 inch mesh with each mesh stand approximately 1/8 X 1/8 X 1/8 inches. The Deer Protection must be installed, as directed by the Contracting Officer, for all single stem reforestation trees taller than 18 inches. Deer Protection must be placed around trees and secured closed using a minimum of three black two way cable ties. All deer protection must protect the plant during the entire 2-year warranty period.
At the Contracting Officer's direction, trees and shrubs may require the use of alternative protective fencing specified and paid for in Line Item 7071 As Needed Deer Protection Fence. All Deer Protection Fence must protect the plant during the entire 2-year warranty period.

Alternative Deer Protection Fence: In situations where the standard deer protection fencing (HDPE treatment above) will not adequately fit or protect trees or shrubs (often times due to multi-stemmed or wide plants, or those without the strength/ability to support the standard protection), the Contracting Officer may direct the Contractor to use a 4 foot diameter by 4 or 6 foot high, 14-gauge welded wire Deer Protection Fence with a minimum of 2 pointed hardwood support stakes 1x2x48 inch in size. Fourteen (14) gauge galvanized wire stands as determined by the Owner will securely fasten the fence to the support stakes.
The Contractor must install, as directed by the Owner, the Deer Protection Fence, the support stakes and fastening wire for all trees and shrubs taller than 18 inches,. The Deer Protection Fence height of 4 or 6 foot will be determined by the Owner.

Inspection and Initial Acceptance: In addition to the standard acceptance requirements, the Contractor will provide the Owner with a detailed "as-built" planting plan on a full size copy of the Restoration and Planting Plan. The plan will show distinct, labeled planting areas. The plan will show the individual location of all trees and shrubs species. As directed by the Owner, if the planting density is too high to reasonably show individual plant locations on the plans, the "as-built" planting plan will be accompanied by a spreadsheet inventory of plants in each distinct planting area. The inventory will include the numbers of plants and species located in each distinct planting area.

Certificate of Acceptance: If the plant material, installation and planting "as built" is satisfactory, the Owner will give written notice to the Contractor. The notice will constitute the Certificate of Acceptance, and the warranty period will begin from that date of the letter.

Maintenance

The Contractor must begin maintenance immediately after each plant is installed. Inspect plants daily during the installation period and perform maintenance during the two years from the beginning of the warranty period. The Contractor must provide all materials, labor and equipment to complete all landscape maintenance work for two years from the beginning of the warranty period. The Contractor must provide maintenance submittals to the Contracting Officer as described in the submittals section of this Contract Line Item.

Schedule of Maintenance:

1. Additional Watering: When additional watering is deemed necessary in accordance with the Contract Documents, the Contractor must conduct Additional Watering maintenance visits as described. This work is for additional watering of planted trees, shrubs, herbaceous plants, sod, or seeded areas as directed by the Owner. Water used on plants must be free of any substance harmful to the plants.

a. The Contractor must monitor the water needs of all plant material at least once per week between March 31 and October 31. When the Contractor identifies the need for watering, the Owner must be notified and the Owner must concur. Immediately after the Owner approves watering, the Contractor must begin watering using rates specified in MSHA 710.03.04 unless otherwise specified by the Owner. If the Contractor fails to water as required, the Owner will notify the Contractor and watering must begin within 24 hours. The Contractor must continue watering daily until all plant material in the Contract has been watered as directed by the Owner. Each watering must be completed within five consecutive calendar days. All watering must be accomplished using a hose with nozzle end breaker or watering probe to prevent damage to the plants and disturbance of mulch during the watering operation. Water must be applied at low water pressure directly to each plant, allowing water to be absorbed until saturated, but without runoff. With prior approval by the Owner, gator bags or approved equal can be used on trees to directly apply water to the base of the tree.

b. The Contractor must be able to supply a water truck or water plants from a nearby hydrant. When a hydrant is used, the Contractor is responsible for all regulations, permits or expenses necessary to use the public water supply. The Contractor may use, upon approval of the Owner, Montgomery County's issued State Water Appropriation Permit No. M02006S006 (01) or most recent State Water Appropriation Permit when watering in isolated areas. The Contractor must follow the requirements specified in the State Water Appropriation Permit and must inform the County of the proportion of overall water usage taken from the stream.

c. The Contractor is required to monitor and record their daily water usage at each project site. Water must be measured by means of satisfactorily installed meters, or measurements of tank capacities, or by acceptable documentation of tanks of predetermined capacity. The Contractor must submit to the Owner, prior to payment, a water usage report stating the type of vegetation watered, accurate record of the quantity of water furnished in gallons.

2. Insect and Disease Control: The Contractor must be responsible for monitoring the site conditions while performing Additional Watering maintenance visits to determine if any insect or disease or problems exist. The Contractor must immediately notify the Owner if problems exist. The Contractor must include this maintenance activity in the required submittals.
3. Invasive Plant Control: The Contractor must be responsible for monitoring the site conditions while performing Additional Watering maintenance visits during the months May-September to determine if invasive plant control is needed. The Contractor must immediately notify the Contracting Officer if problems exist. The Contractor must follow the specifications described and paid in the Invasive Plant Control Line Item in the Contract Documents and comply with the practices in the guidance titled, *BEST MANAGEMENT PRACTICES FOR CONTROL OF NON-NATIVE INVASIVES (* Natural Resources Stewardship Section Park Planning & Stewardship Division, Montgomery Parks January 2008).
4. Deer Protection and Tree Staking and Guying: The contractor must be responsible for monitoring the site conditions while performing Additional Watering maintenance visits and repair Deer Protection and Tree Staking and Guying as specified in Tree and Shrub Planting Line Item (7028-32). The Contractor must include this maintenance activity in the required submittals.
5. The Contractors must document and send notification to the Contracting Officer of plants that are 25% dead or more, three months prior to the next planting season. Upon approval by the Contracting Officer, the plants must be removed and replaced according to the Replacement specification.

Replacement: All plants will be warranted to be in healthy, vigorous, thriving condition as determined by the Contracting Officer during the two-year warranty period. A tree must be considered dead when it is 25% dead, the main leader has died back, or 25% of the crown is dead. The Contractor must replace all dead plants at no charge to the Corps during the next growing season. Replacements will be made, after approval by the Contracting Officer, during the next appropriate planting period and the replacements must be of the same size and species as originally specified in the Contract Documents. The Contractor, as directed by the Contracting Officer, must install deer protection, tree staking and guying, anchoring erosion control matting around replacement plants. Deciduous material will be guaranteed to break dormancy if planted in the dormant season.

Final Inspection: The Contractor will conduct a final inspection with the Contracting Officer or Montgomery County at the end of the 2 year warranty period. It will be the Contractor's responsibility to notify the Owner within two weeks of the anticipated meeting. Any material that is 25% dead or more must be considered dead and must be replaced at no charge. The Owner may accept or reject any tree as alive. A tree must be considered dead when the main leader has died back, there is greater than 25% of the crown dead, or missing; or there is a wound on the stem covering more than 1/3 the diameter and longer than 4 inches. Deciduous material will be guaranteed to break dormancy if planted in the dormant season.

INVASIVE PLANT CONTROL

DESCRIPTION: Control of invasive plants using approved mechanical removal (machetes, chainsaws, pruners, etc.) methods or approved herbicide applications.

MATERIALS AND EXECUTION:

1. Submittals
a. Qualification Data: Submit State of Maryland Pesticide Applicator License and Certification for the Company, Supervisor/Superintendent working on the project. The Certification must state that the assigned Supervisor/Superintendent is certified in the category related to the project; Forest, Right of Way, or Aquatic Pest Control (for work directly adjacent to or over water).

b. References: 45 days prior to work, the Contractor must provide documentation regarding the qualifications of the Applicator and crew, which includes, but may not be limited to, the following information:

Five references (3 non Montgomery County References) from prior invasive control work completed in the last 5 years. Names and phone numbers of references.
Summary of vegetation treated, methods, and equipment used
Summary of success at meeting performance objectives (competition timeline, client satisfaction, application performance).

c. Herbicide Application Log: The Contractor must complete a log which must provide weather conditions during/after application, product/rate applied, and locations of areas controlled. The Contractor must submit a copy of the log to the Owner within 12 hours after application.

d. Exotic/Invasive Species Management Plan: Plan shall be include exotic/invasive species control for entire LOD or as directed by the Contracting Officer. The plan shall be prepared in accordance with guidelines established by "Best Management Practices for control of non-native invasives" prepared by Natural Resources Stewardship Division, Montgomery Parks, January 2008 or (latest revision).

2. Mechanical Removal
The Contractor must coordinate with the Owner (applications on parkland only) to eliminate identified areas of targeted invasive plant species. The Contractor must use machetes, chainsaws, pruners, or other approved hand operated equipment. Before removal can begin, the Contractor and the Owner must delineate the removal area. The Contractor must remove the invasive plants according to the direction of the Owner. The Contractor must be sensitive and selective to avoid harming native plant species during invasive plant removal. The Contractor is responsible for damages if mechanical removal is performed outside the removal area specified by the Owner.

3. Herbicide Application

a. Personnel: The Contractor must provide Certification that the assigned Supervisor/Superintendent is a Maryland Pesticide Applicator certified in the category related to the project; Forest, Right of Way, or Aquatic Pest Control (for work directly adjacent to or over water) for the State of Maryland.

b. Timing: The Contractor is responsible, after consultation with the Owner, for selecting the proper herbicide for the targeted species based on the time of year, weather conditions and to use the herbicide in a manner that is consistent with the label.
c. Application: Care should be taken to ensure that the timing of the application is conducive to uptake and translocation of the herbicide. The Supervisor/Superintendent should ensure that the herbicide is listed for use against the selected species and is labeled for aquatic use if the application will be made over water. Before application, the Contractor must submit the recommended herbicide, application technique, application rate and targeted species to the Owner for approval. The approved herbicide must be applied to avoid harming non targeted plant species. The Contractor is responsible for damages if herbicide applications are sprayed outside the spray zone specified by the Owner.

If required, a follow up treatment of control is to be performed as directed by the Owner during the two- year warranty period. This treatment is not a substitute for the application described in the Performance Warranty.

4. Inspection and Initial Acceptance
The Contractor must notify Owner, in writing that the mechanical or herbicide application is complete and request inspection by the Owner. The inspections must be performed by Owner and Contractor within two weeks of written notification from the Contractor.

5. Certificate of Acceptance

If the mechanical or herbicide control method is approved as satisfactory by the Owner, the Contractor will receive a Certificate of Acceptance. The date on the Certificate of Acceptance will constitute the warranty period.

6. Performance Warranty

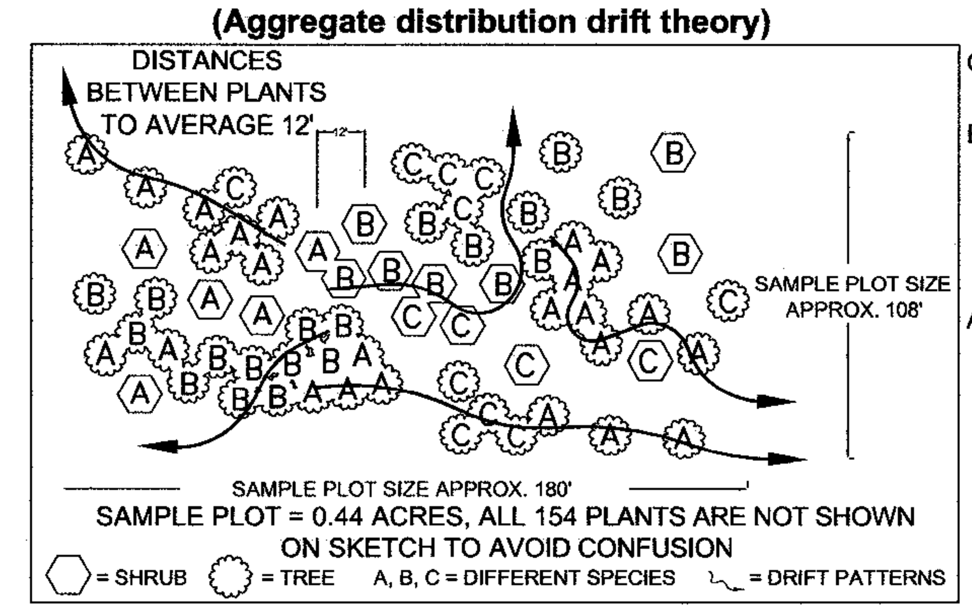
The date on the Certificate of Acceptance will begin the performance warranty period of two years for all herbicide applications. The Contractor must furnish the Owner with a written performance warranty which must include the herbicide application log and a guarantee that the approved herbicide application will kill 95% of the invasive plants. The numbers of re-sprouts, live or dead stem counts, biomass and other visual references will determine the effectives of the application within the spray zone after one growing season from the initial application. If the application does not meet the 95% kill rate after one growing season, the Contractor must reapply the approved herbicide.

7. Final Inspection

The Contractor will conduct a final inspection with the Owner at the end of the two-year warranty period. It will be the Contractor's responsibility to notify the Owner within two weeks of the anticipated meeting. If the herbicide application area does not meet the 95% kill rate, the Contractor must reapply an approved herbicide in accordance with the Owner.

SPECIFICATIONS FOR HYDROSEEDING (POST SITE PREPARATION)
1. Timing - Apply seed upon the completion of site preparation, prior to planting, (herbicide applications, topical or incorporated soil amendment applications, grading, etc).
2. Seed (see seed species lists, this sheet)
3. State certified weed free seed (labeled) graded.
4. Rate Wetland - 15 lbs./acre
5. Apply seed uniformly with a hydro seeder. The slurry includes seed, fertilizer, mulch binder (where applicable) and gel (where applicable) on a firm moist seedbed. Note: The seed and fertilizer will be mixed on site and the seeding shall be immediate without interruption.
6. Mulch Binder (for 20% or greater exposed soils only)
7. Utilize only wood cellulose fiber mulch as manufactured by Conwed or an approved equal. Mulch at the rate of 35 pounds per 1,000 square feet. Do not use on sites, which have more than 80% existing ground cover as seed will adhere to the vegetation causing it to dry out. On sites where exposed soils and existing ground cover exists, apply mulch binder to exposed soils only after seed has been applied to the entire site.
8. Fertilizer - Type analysis and application rates previously listed as specified by University of Maryland Cooperative Extension Service and/or a qualified ecologist based on the soil test results.
9. Gel - As necessary provide a water absorbing co polymer which can absorb up to 400 times its own weight to aid in fluffing the surface soil during application and provide a lubricant coating to protect the plant when passing through the hydroseeded nozzle.
10. Irrigation - If soil moisture is deficient, supply new seeding with adequate water for plant growth until they are firmly established. This is especially true when seeding is made in abnormally dry or hot seasons, or on adverse sites.

PLANTING LAYOUT
(Aggregate distribution drift theory)



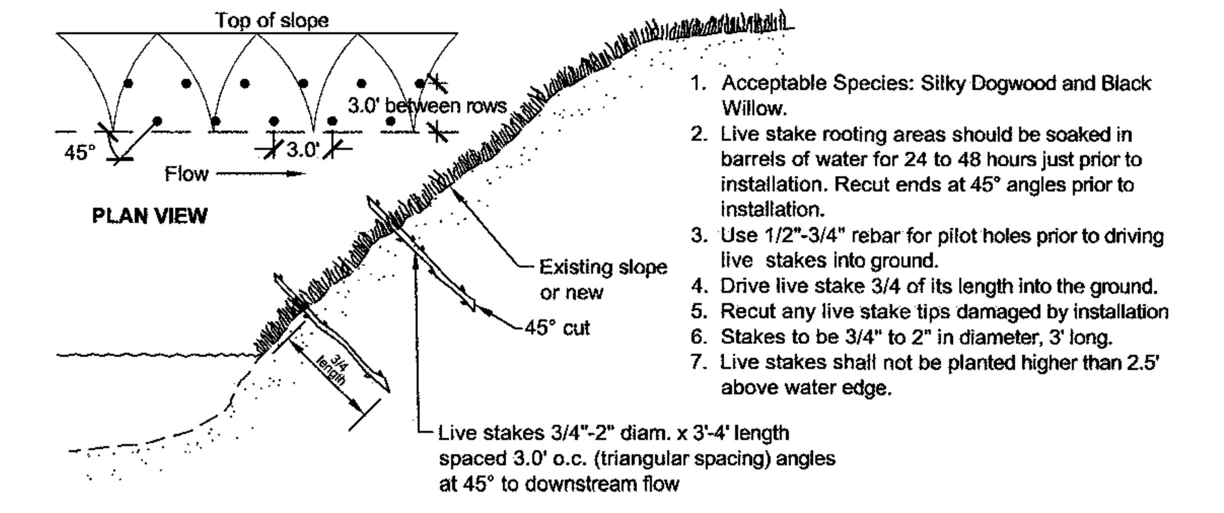
Concept: Aggregate Drift or Sweep. A cluster type grouping which tapers or feathers out along the edges.

Example: Aggregate massing or drifts are one of the most common vegetation distribution patterns occurring in nature. Principle seed bearers are at the central core of the cluster with seed dispersal outwards, often windblown with densities thinning out along the fringes or extremities. Groupings blend through and into other groupings.

Application: This does not mean that plants must be in a grid pattern, that drifts of shrubs cannot blend into groupings of trees or that groupings of the same species cannot occur together. It simply means that the installer should meet the aforementioned forest conservation act criteria at the same time replicating natures aggregate drift patterns (see detail).

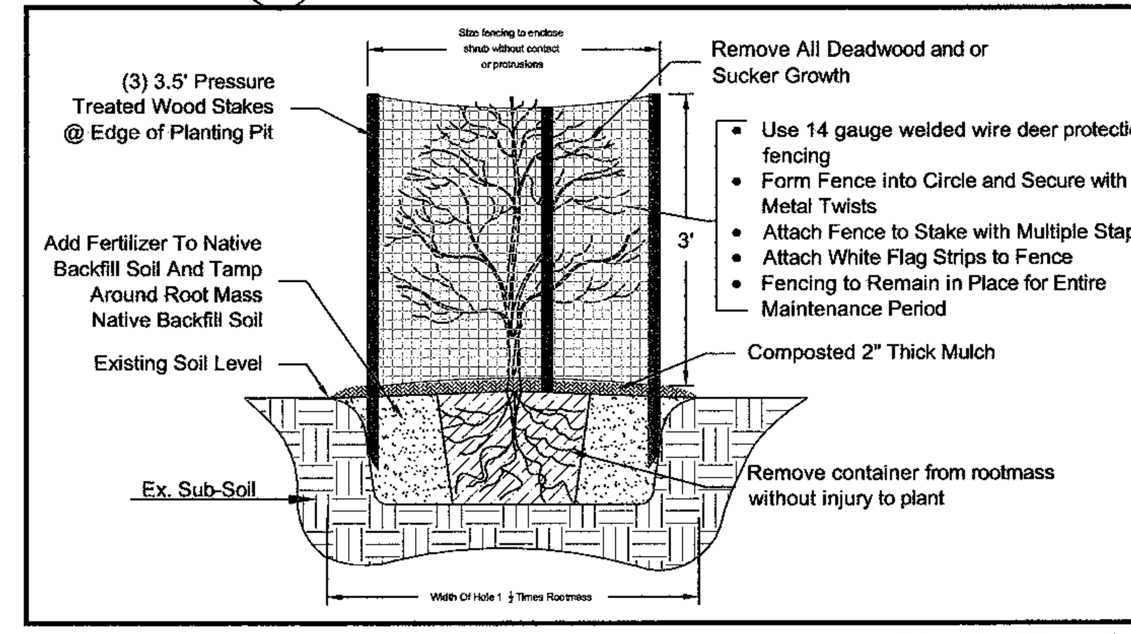
When using this theory to lay out a planting plan the size of the drifts will depend on the quantity of plants allocated, the scale of the site and the careful consideration of the installer.

2 Tree and Shrub Planting Layout
not to scale



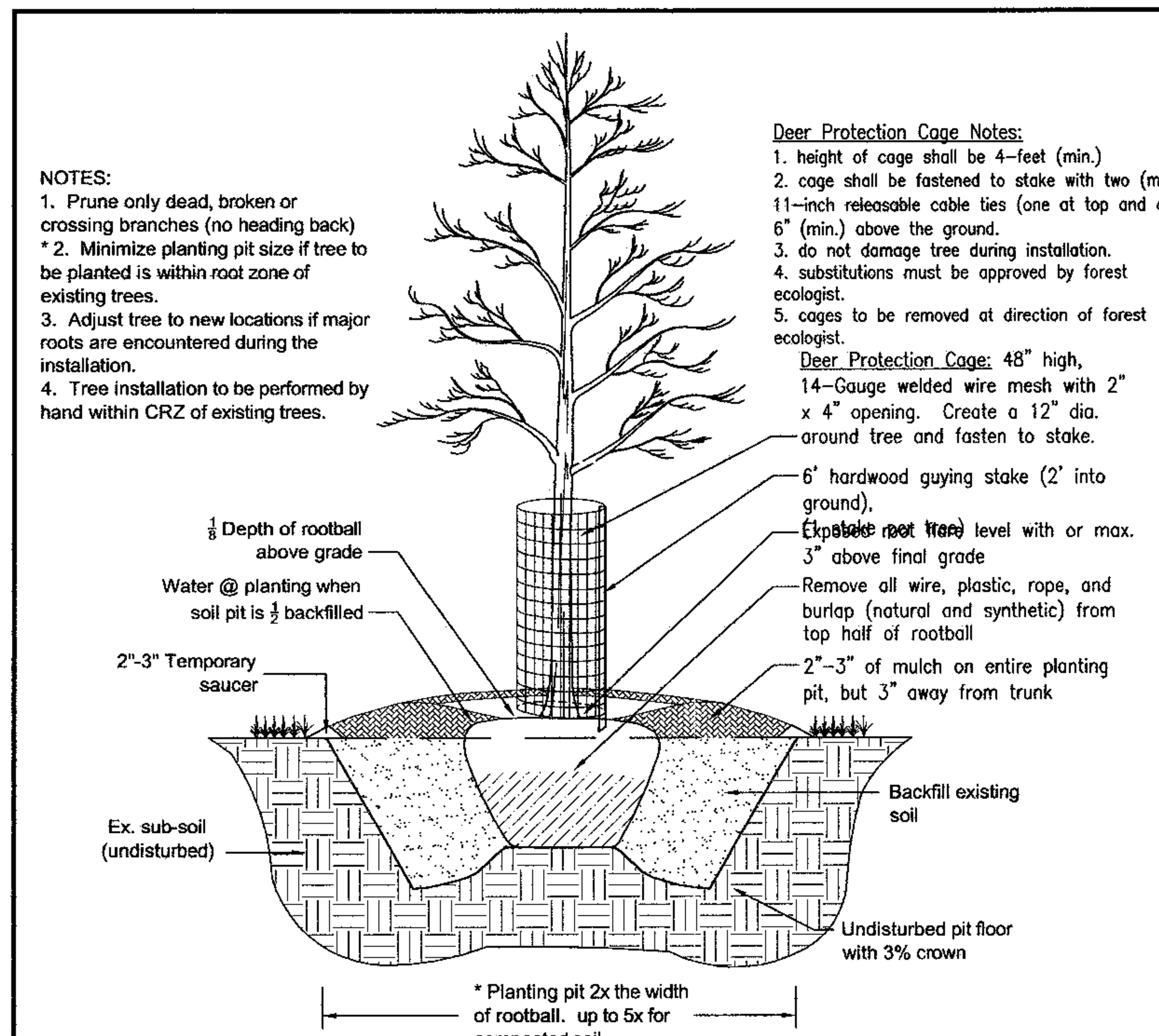
1. Acceptable Species: Silky Dogwood and Black Willow.
2. Live stake rooting areas should be soaked in barrels of water for 24 to 48 hours just prior to installation. Recut ends at 45° angles prior to installation.
3. Use 1/2"-3/4" rebar for pilot holes prior to driving live stakes into ground.
4. Drive live stake 3/4 of its length into the ground.
5. Recut any live stake tips damaged by installation
6. Stakes to be 3/4" to 2" in diameter, 3' long.
7. Live stakes shall not be planted higher than 2.5' above water edge.

1 Stake Planting Detail (planting time Dec. 1st to April 1st)
not to scale



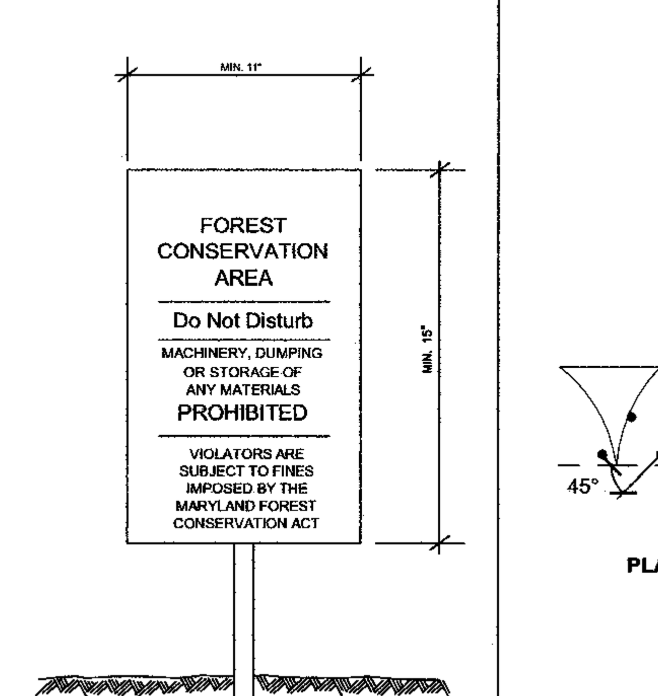
3 Shrub Planting
not to scale

NOTES:
1. Prune only dead, broken or crossing branches (no heading back)
* 2. Minimize planting pit size if tree to be planted is within root zone of existing trees.
3. Adjust tree to new locations if major roots are encountered during the installation.
4. Tree installation to be performed by hand within CRZ of existing trees.



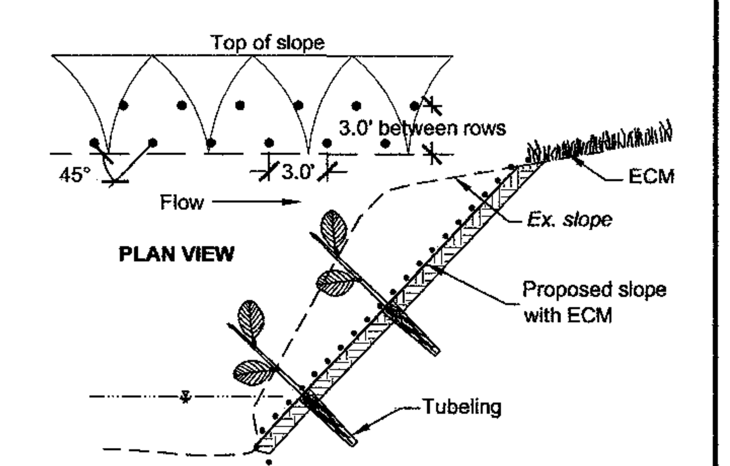
5 Deciduous Tree Planting
Scale: N.T.S

SIGNAGE



NOTES:
1. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
2. SIGNS SHOULD BE PROPERLY MAINTAINED.
3. AVOID INJURY TO ROOTS WHEN PLACING POSTS FOR THE SIGNS.
4. NOTE: TREE PROTECTION SIGNAGE SHALL BE PLACED EVERY 50 FEET AT ALL TREE PROTECTION DEVICES

NOT TO SCALE



- See planting schedule for desirable species.
- Space at 3.0' O C. (Triangular Spacing).
- All tubelings shall comply with the recommendations and requirements of ANSI Z60.1 "American Standard for Nursery Stock."
- Cut slot in mat to install tubeling. Seal slot with compost and staple.
- (Planting time - April 1st - Dec 1st)

4 Tubeling Planting Detail
not to scale

LANDSCAPE ARCHITECT CERTIFICATE:

I hereby certify that this plan is prepared in accordance with Montgomery County Forest Conservation Regulations.

04/15/13
Date

James M. Fetchu, RLA
Registered Landscape Architect
MD #3241

STATE OF MARYLAND JAMES MICHAEL FETCHU LICENSED LANDSCAPE ARCHITECT 3241

Prepared for: Montgomery County Department of Environmental Protection 255 Rockville Pike, Suite 120 Rockville, Maryland 20850 Phone: (240) 777-7707 Attn: Mr. John Hollister	MONTGOMERY COUNTY, MD Hollywood Branch MNCPPC P 825 Tax Map JR61	**Hollywood Branch Stream Stabilization** HOLLYWOOD BRANCH FOREST CONSERVATION PLAN *Planting Details and Notes*	DATE: 04/15 DESIGNED: HT/JF DRAFTED: HT CHECKED: JF BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET FCP-15
59 OF 68 SHEETS
JOB NO. 38-507

Plotted: Apr 15, 2013 - 10:36am User: jmccarthy F:\Hollywood Branch\CAD\NRI\FSD-FCP\FCP\FCP-Planting.dwg
Xrefs: TOPO032513.dwg
Existing Conditions 032713.dwg

TABULATION OF 30 INCH OR GREATER POTENTIALLY IMPACTED SPECIMEN TREES

ID	Common Name	DBH (in.)	Condition	TPF	RP	CRZ Protection	Tree Within LOD	FCP Sheet No.	Remarks
141	Black Cherry	36	Poor	PL	X	X	No	Hollywood FCP 4	***This tree is located outside of the Randolph Manor Property line however, it's critical root zone extends within the property. Tree # 141 was placed in both Variance Requests for Randolph Manor and Hollywood Stream Restoration .*** Tree#141 located on an eroded stream bank. Stream restoration work in this area includes grading to protect the bank toe. All efforts will be made to protect any impacts to this tree's CRZ.
152	Tulip Poplar	30	Fair	Yes	X	X	No	FCP-RM2	This tree is located about 20 feet inside the TPF. About 8% of CRZ will be impacted by grading to stabilize the tributary to Hollywood Branch stream channel.
154	Tulip Poplar	41	Fair	Yes	X	X	No	FCP-RM2	This tree is located about 35 feet inside the TPF. About 5% of CRZ will be impacted by grading to stabilize Hollywood Branch stream channel.
155	Tulip Poplar	36	Fair	PL	X	RKP	No	FCP-RM2	Tree is located at the top edge of a severely undercut stream bank. Stream erosion and channel down cutting have caused tree roots to become exposed and undercut. Grading and rock packing will be performed to stabilize erosive areas and protect the bank and tree from further undercuting. More than 35% CRZ will be impacted. **Arborist will be consulted to ensure the survival of this tree.**
11414	Red Maple	31	Fair	PL	X	X	No	Hollywood FCP 4	***This tree is located outside of the Randolph Manor Property line however, it's critical root zone extends within the property. Tree # 11414 was placed in both Variance Requests for Randolph Manor and Hollywood Stream Restoration .*** Tree#11141 is locatedat the end of Anderson St. on private property. A proposd access route in this area through Randolph Manor will have minor impacts on this tree's CRZ. All efforts will be made to protect these roots from compaction during the construction phase of this project

Terminology:

(RP) Root pruning is to be performed inside the tree protection fence. It is to be accomplished by a vibratory plow with a serrated cutting edge or a root cutter with a 36" wheel to a depth of 24". Chain driven trenchers are not acceptable. (See Detail)

(RKP) Rock Packing - exposed root to be hand packed with stone.

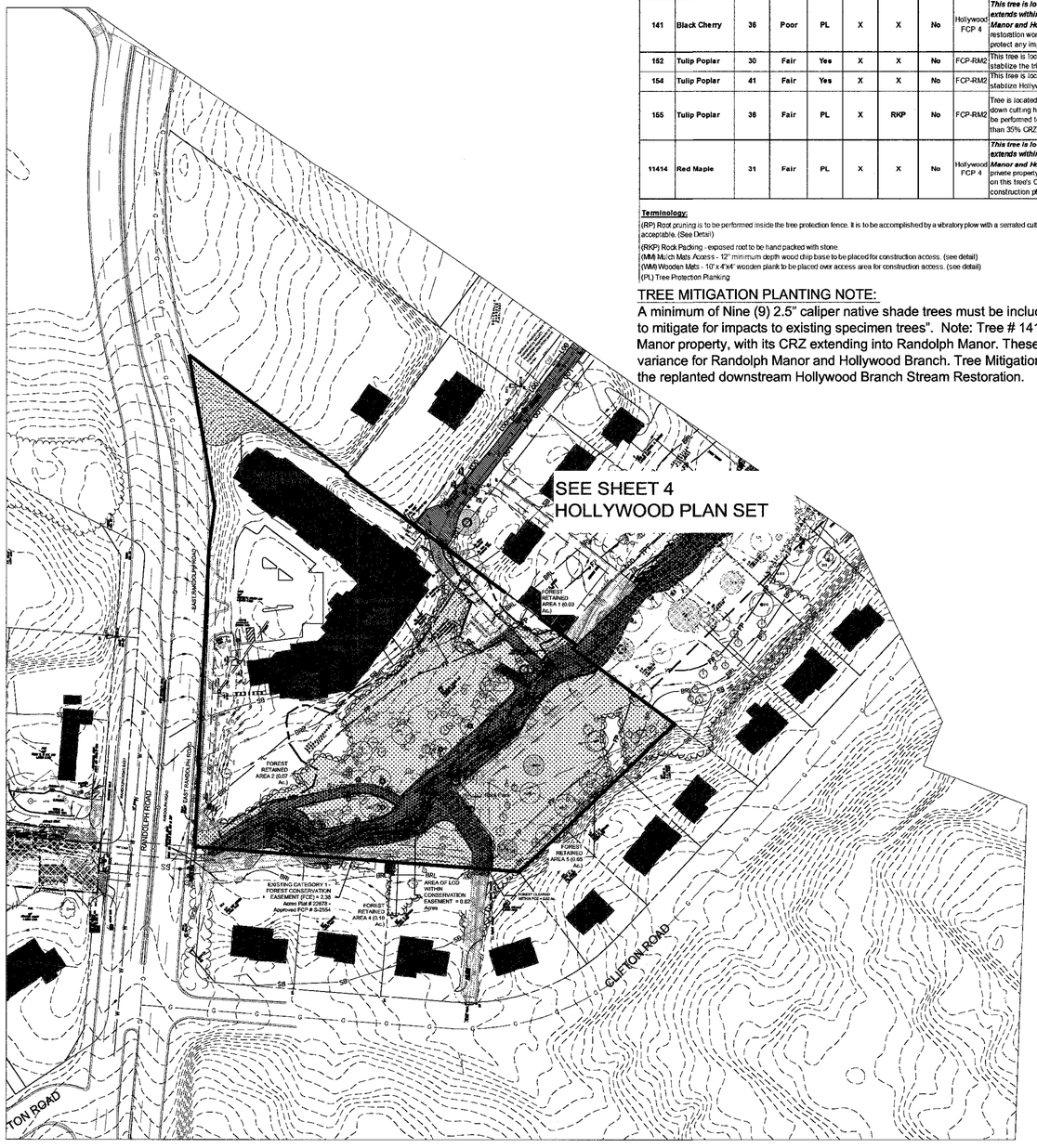
(MM) Mulch Mats Access - 12" minimum depth wood chip base to be placed for construction access. (see detail)

(WM) Wooden Mats - 10' x 4'x4" wooden plank to be placed over access area for construction access. (see detail)

(PL) Tree Protection Planking

TREE MITIGATION PLANTING NOTE:

A minimum of Nine (9) 2.5" caliper native shade trees must be included in the final forest conservation planting plan to mitigate for impacts to existing specimen trees". Note: Tree # 141 and #11414 are located outside the Randolph Manor property, with its CRZ extending into Randolph Manor. These trees have been accounted for in both project variance for Randolph Manor and Hollywood Branch. Tree Mitigation for these two trees has been accounted for in the replanted downstream Hollywood Branch Stream Restoration.



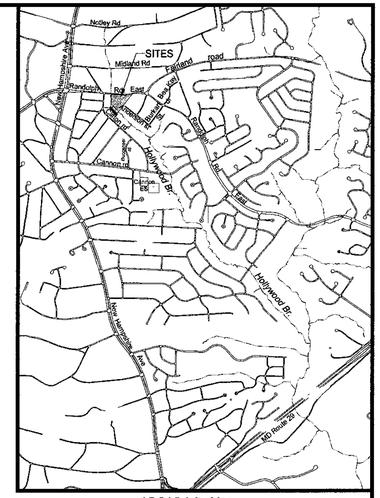
Notes:

1. All planting area within LOD will be planted with trees and shrubs per County Guidelines following the completion of construction .
2. All temporary access routes to be protected with 12" thick mulch mats unless otherwise noted (see detail).

0 80 160'

SHEET INDEX

FCP-RM1 Cover Sheet
FCP-RM2 Plan View
FCP-RM3 Plan View
FCP-RM4 Planting Plan
FCP-RM5 Planting Plan
FCP-RM6 Tree Protection & Planting Details
FCP-RM7 Notes



ADC Vicinity Map
Montgomery, MD
33th Edition Map 31F7, 8 & 9
Approximate Scale: 1" = 2000'
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Specimen and Sinificant Trees List

ID	Common Name	Scientific Name	DBH (in.)	CRZ (Ft.)	Condition	Req. Variance	Removed?
141	Black Cherry	*Prunus serotina*	36	54	Poor	Yes	
146	Tulip Poplar	*Liriodendron tulipifera*	30	45	Fair		
147	Tulip Poplar	*Liriodendron tulipifera*	33	49.5	Fair		
148	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Fair		
149	Tulip Poplar	*Liriodendron tulipifera*	32	48	Fair		
150	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Fair		
151	Tulip Poplar	*Liriodendron tulipifera*	34	51	Fair		
152	Tulip Poplar	*Liriodendron tulipifera*	30	45	Fair	Yes	
153	Tulip Poplar	*Liriodendron tulipifera*	34	51	Fair		
154	Tulip Poplar	*Liriodendron tulipifera*	41	61.5	Fair	Yes	
155	Tulip Poplar	*Liriodendron tulipifera*	36	54	Fair	Yes	
11414	Red Maple	*Acer rubrum*	31	46.5	Fair	Yes	
156	Red Maple	*Acer rubrum*	24	36	Fair		
157	Tulip Poplar	*Liriodendron tulipifera*	29	43.5	Good		
158	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good		
159	Tulip Poplar	*Liriodendron tulipifera*	24	36	Fair		Yes
160	Tulip Poplar	*Liriodendron tulipifera*	24	36	Fair		
161	Tulip Poplar	*Liriodendron tulipifera*	26	39	Good		
162	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Good		
163	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good		
164	Tulip Poplar	*Liriodendron tulipifera*	26	39	Good		
165	Black Walnut	*Juglans nigra*	24	36	Fair		Yes
166	Tulip Poplar	*Liriodendron tulipifera*	26	39	Fair		Yes
167	Tulip Poplar	*Liriodendron tulipifera*	27	40.5	Fair		
168	Tulip Poplar	*Liriodendron tulipifera*	25	37.5	Good		
169	Tulip Poplar	*Liriodendron tulipifera*	24	36	Good		

Bold text signifies specimen tree (30" and greater)

Note: Tree # 141 and #11414 are located outside the Randolph Manor property, with its CRZ extending into Randolph Manor.

FOREST CONSERVATION WORKSHEET
Update to Approved Randolph Manor (Plan # S-2554)

NET TRACT AREA: Worksheet updated 01/21/2013

		Updated Data
A. Total tract area ...	4.66	4.66
B. Land dedication acres (parks, county facility, etc.) ...	0.00	0.00
C. Land dedication for roads or utilities (not being constructed by this plan) ...	0.03	0.03
D. Area to remain in commercial agricultural production/use ...	0.00	0.00
E. Other deductions (specify)	0.00	0.00
F. Net Tract Area .....=	4.63	4.63

LAND USE CATEGORY: (from *Trees Technical Manual*)
Input the number "1" under the appropriate land use, limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CIA
0		0	1	0	0

G. Afforestation Threshold ...	15%	x F =	0.69	0.69
H. Conservation Threshold ...	20%	x F =	0.93	0.93

EXISTING FOREST COVER:

I. Existing forest cover .....=	4.08	4.08
J. Area of forest above afforestation threshold .....=	3.39	3.39
K. Area of forest above conservation threshold .....=	3.15	3.15

BREAK EVEN POINT:

L. Forest retention above threshold with no mitigation ....=	1.56	1.56
M. Clearing permitted without mitigation .....=	2.52	2.52

PROPOSED FOREST CLEARING:

N. Total area of forest to be cleared .....=	~~1.60~~	2.22
O. Total area of forest to be retained .....=	~~2.48~~	**1.86**

PLANTING REQUIREMENTS:

P. Reforestation for clearing above conservation threshold ....=	~~0.40~~	**0.56**
Q. Reforestation for clearing below conservation threshold ....=	0.00	0.00
R. Credit for retention above conservation threshold .....=	~~1.55~~	**0.93**
S. Total reforestation required .....=	0.00	0.00
T. Total afforestation required .....=	0.00	0.00
U. Credit for landscaping (may not exceed 20% of "S") .....=	0.00	0.00
V. Total reforestation and afforestation required .....=	0.00	0.00

NOTE:
This is the updated forest conservation worksheet from approved FFCP # S-2554 of Randolph Manor Property for Hollywood Stream Restoration. The values in bold are the updated numbers for this plan revision, and replace the adjacent numbers that are crossed out.

SUMMARY TABLE (all values in acres unless noted)

A	**Total area of tract**		**4.66**
	Acreage of tract remaining in agriculture		**0.00**
	Acreage of road and utility ROW which will not be improved		**0.00**
B	**Total acreage of existing forest:**		**4.08**
	Forest retained		**1.86**
	Forest cleared		**2.22**
C	**Land use category**	**HDR**	
	Afforestation threshold	**15%**	**0.69**
	Conservation threshold	**20%**	**0.93**
D	**Acreage of forest within wetlands:**		**0.00**
	Retained		**0.00**
	Cleared		**0.00**
	Planted		**0.00**
E	**Acreage of forest within 100 year floodplains:**		**1.75**
	Retained		**1.16**
	Cleared		**0.59**
	Planted		**0.28**
F	**Acreage within stream buffers:**		**2.46**
	Retained		**1.50**
	Cleared		**0.96**
	Planted		**0.34**
G	**Acreage within priority areas:**		**2.46**
	Retained		**1.50**
	Cleared		**0.96**
	Planted		**0.34**
H	**Stream buffer:**		**150'**
	Length		**600'**
	Average width		**150 ft**

LANDSCAPE ARCHITECT CERTIFICATE:

I hereby certify that this plan is prepared in accordance with Montgomery County Forest Conservation Regulations.

04/15/13
Date

James M. Fetchu, RLA
Registered Landscape Architect
MD #3241

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Update to Approved FFCP # S-2554

For Hollywood Stream Restoration

Cover Sheet

DATE: 04/13
DESIGNED: HT/JF
DRAFTED: HT
CHECKED: JF
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates

CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
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Phone:(301)208-9673 E-mail: envscpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN
SHEET FCP- RM1
60 OF 68 SHEETS
JOB NO. 38-507

Apr 15, 2013 - 9:27am User: jmcavoy
Plotter: P:\Hollywood Branch\CAD\FSD\FCP\FCP Amended Randolph Manor Plan\01215.dwg
Xrefs: Trees.dwg dwg
Design_Block.dwg

MATCH LINE SEE FCP-RM 3

EAST RANDOLPH ROAD

FOREST RETAINED AREA 2 (0.07 Ac.)

Rock Pack

FOREST RETAINED AREA 5 (0.65 Ac.)

EXISTING CATEGORY 1 - FOREST CONSERVATION EASEMENT (FCE) = 2.38 Acres Plat # 22678 - Approved FCP # S-2554

FOREST RETAINED AREA 4 (0.10 Ac.)

AREA OF LOD WITHIN CONSERVATION EASEMENT = 0.62 Acres

FOREST CLEARED WITHIN FCE = 0.62 Ac.

L.O.D.

CONCRETE WALK

BM 3

EL=384.51

RIM

PIT 1

N/F KHOI VIET NGUYEN L.34101 F.652

N/F PAUL SARKIDES L.5413 F.525

N/F MIRIAM Y. SOLOMON L.31072 F.328

N/F WM D. HOLLAND PL.18509 F.503

Ex. Asphalt channel

N/F JOHN H. & M.L. WINDER L.9018 F.285

N/F DAVID T. & SALLY P. BECKWITH L.30236 F.766

N/F WILLIAM C. & A.I. MILLER L.4434 F.127

N/F RANDOLPH MANOR LLC L.25390 F.275

LOT 1 RANDOLPH MANOR P.NO. 22671

18" RCP

36" RCP

WOOD WALL

INV.= 375.64

INV.= 374.62'

INV.= 374.51

INV.= 375.04

INV.= 373.89'

INV.= 373.74'

INV.= 373.79'

INV.= 374.35'

PLAN VIEW LEGEND

- Ex. Chainlink Fence
- Ex. Wood Fence
- Ex. Gas line
- Ex. Water Main
- Wetland Boundary
- Wetland Boundary
- Property Line
- LOD = Tract Area
- Existing Contour
- Stream Buffer
- Ex. 100 year FEMA Floodplain
- Floodplain BRL
- Stream
- Aerial Tree Canopy
- Existing Forest Edge
- Forest Cleared
- Forest Retained
- Randolph Manor Property Line
- Ex. Trees < 24" (for Informational purposes)
- Ex. Significant Tree (24" or Greater)
- Tree To Be Removed
- Ex. Specimen Tree (30" or Greater)
- Greater than or within 75% of State or County Champion trees
- Tree CRZ
- Tree Req. Variance (30" or Greater)
- Stabilized Construction Entrance
- Tree Protection Planks
- Proposed Contours
- Super Silt Fence
- Tree Protection Fence
- Root Prune
- Temporary Access
- Proposed Cross Vane
- Proposed J-Hook
- Proposed Brush Mat
- Proposed Stream Riffle
- Proposed Step-pool
- Water/Sewer/SD easements

0 20' 40'

Notes:

1. All Planting areas within LOD will be planted with trees and shrubs per County Guidelines following construction completion.
2. All temporary access routes to be protected with 12" thick mulch mats (see detail).

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STATE OF MARYLAND — JAMES MICHAEL FETCHU — 3241 — REGISTERED LANDSCAPE ARCHITECT

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Update to Approved FFCP # S-2554

For Hollywood Stream Restoration

Plan View

DATE: 04/13
DESIGNED: HT/JF
DRAFTED: HT
CHECKED: JF
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

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SCALE AS SHOWN
SHEET FCP- RM2
61 OF 68 SHEETS
JOB NO. 38-507

Apr 15, 2013 - 9:25am User: jmccarthy
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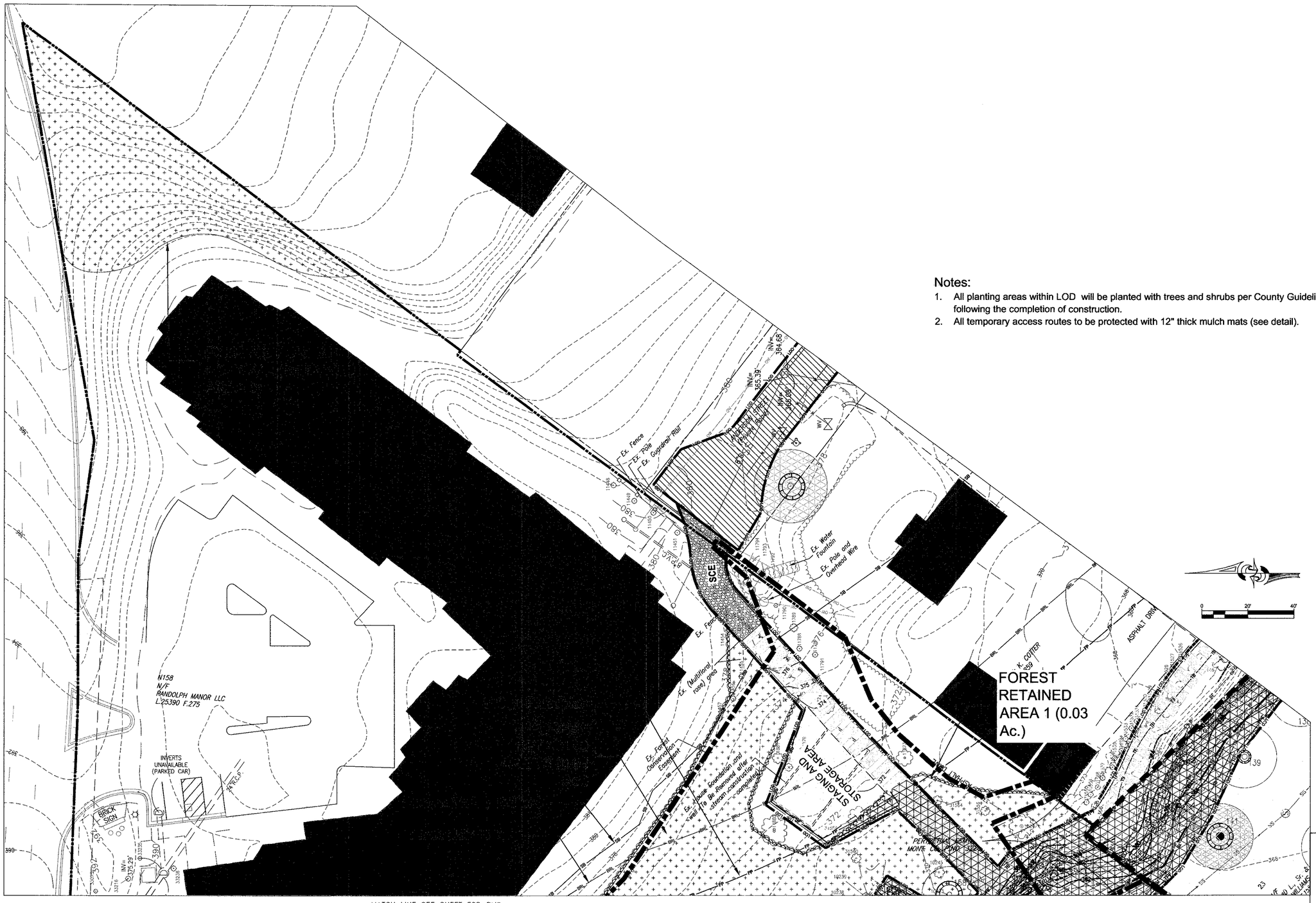
Xrefs: Floors.dwg dwg Design_Block.dwg



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- Proposed Step-pool
- Water/Sewer/SD easements
- Public R/W

0 20' 40'

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MONTGOMERY COUNTY, MD
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Update to Approved FFCP # S-2554

For Hollywood Stream Restoration

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DRAFTED:	HT
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NO.	REVISIONS	BY	DATE

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STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4581
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE AS SHOWN

SHEET FCP- RM3

62 OF 68 SHEETS

JOB NO. 38-507

Plotted: Apr 15, 2013 - 8:23am User: jmccarthy
P:\Hollywood Branch\CAD\MISC\ FCP\FCP Amended Randolph Manor Plan 091513.dwg
Xrefs: Trees.dwg,dwg
Design_Block.dwg

MATCH LINE SEE FCP-RM5

EAST RANDOLPH ROAD

PLANTING AREA
RM.1 = 6,061 s.f

RML STAKE OR
TUBELING

PLANTING AREA
RM.4 = 1,773 s.f

PLANTING AREA
RM.3 = 3,060 s.f

RMR STAKE OR
TUBELING

LOT 1
RANDOLPH MANOR
P.NO. 2267.

N/F
RANDOLPH MANOR LLC
L.25350 F.225

N/F
WILLIAM C.
& A.I. MILLER
L.4334 F.127

N/F
DAVID T. &
SALLY P. BECKWITH
L.30036 F.366

N/F
JOHN H. &
M.L. WINDER
L.9018 F.295

N/F
WM D. HOLLAND
&L.18509 F.503

N/F
KHOI VIET NGUYEN
L.24101 F.652

N/F
PAUL SANDERS
L.5413 F.625

N/F
MIRIAM Y. SOLOMON
L.3072 F.320

Ex. Asphalt channel

Approx. Natural channel

CONCRETE WALK

WOOD WALL

BM 3

PLAN VIEW LEGEND

- Proposed Live Stake or Tubeling Planting
- Proposed Planting Area

Notes:

1. All Planting areas within LOD will be planted with trees and shrubs per County Guidelines following the completion of construction .
2. All temporary access routes to be protected with 12" thick mulch mats (see detail).

0 20' 40'

LANDSCAPE ARCHITECT CERTIFICATE:

I hereby certify that this plan is prepared in accordance with Montgomery County Forest Conservation Regulations.

04/15/13
Date

James M. Fetchu, RLA
Registered Landscape Architect
MD #3241

Prepared for:
Montgomery County Department of
Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Update to Approved FFCP # S-2554

For Hollywood Stream Restoration

Planting Plan

DATE: 04/13
DESIGNED: HT/JF
DRAFTED: HT
CHECKED: JF
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
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910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE
AS SHOWN

SHEET
FCP- RM4
63 OF 68 SHEETS

JOB NO.
38-507

Apr 15, 2013 - 9:21am User: jmccarthy
Plotted: P:\Hollywood Branch\CAD\MNCPPC\FCP\FCP Amended Randolph Manor Plan 041513.dwg
Xrefs: Trees.dwg,dwg
Design_Block.dwg

SEED MIX

	Percent	Common Name	Scientific Name
PERMANENT SEED MIX Partial shaded woodland -for use with Coir Fiber Matting and all other disturbed areas	25%	Virginia Wild Rye	*Elymus virginicus*
	10%	Annual Rye	*Lollium multiflorum*
	20%	Riverbank Wild Rye	*Elymus riparius*
	15%	Red Fescue	*Festuca rubra L*
	10%	Deertongue	*Dichanthelium clandestinum*
	20%	Bottlebrush	*Elymus hystrix*
TEMPORARY SEED MIX	30lbs / Acre Cereal Rye		
NOTE: New MDE rules require reseeding after every day of disturbance.			

Lawn Seed Mix Schedule		
To be used along access route up to forest line	Seeding Areas	Team-Mates Plus Mix Lesco
	70% of three premium turf type tall fescue's such as, Bravo, Cimmaron, Lanier, Stetson, Trailblazer, or Wrangler	
	20% Certified Commander or Assure perennial ryegrass	
	10% Premium Kentucky Bluegrass, Dawn, or Shamrock	
	Total Area =1,200 sq.ft. - Sow at 8lbs per 1,000 sq. ft.	

PLANTING SCHEDULE
PARTIAL SHADED RIPARIAN CONDITION

	Common Name	Scientific Name	Size	QUANTITY RM.1	RM.2	RM.3	RM.4	RM.5	Total	Min. Spacing	Sun Exposure
TREES	*Red Maple	*Acer rubrum*	2.5" Caliper	2	3	3	1	0	**9**	15' O.C.	Partial - Full
	Red Maple	*Acer rubrum*	2" Caliper	9	6	5	3	0	**23**	15' O.C.	Partial - Full
	Black Gum	*Nyssa sylvatica*	2" Caliper	9	6	5	3	0	**23**	15' O.C.	Partial - Full
	Tulip poplar	*Liriodendron tulipifera*	2" Caliper	9	6	5	3	0	**23**	15' O.C.	Partial - Full
SHRUBS	Arrowwood	*Viburnum dentatum*	5 Gallon	3	2	2	1	1	**9**	10' O.C.	Partial - Full
	Spicebush	*Lindera benzoin*	5 Gallon	3	2	2	1	1	**9**	10' O.C.	Partial - Full
	Black Haw	*Viburnum prunifolium*	5 Gallon	3	2	2	1	1	**9**	10' O.C.	Partial - Full
				RM.L	**RM.R**						
STAKES & TUBELINGS	Black Willow	*Salix nigra*	Stakes/Tubeling	148	151				**299**	3' O.C.	
	Silky Dogwood	*Cornus amomum*	Stakes/Tubeling	148	151				**299**	3' O.C.	

*TREE MITIGATION PLANTING NOTE:

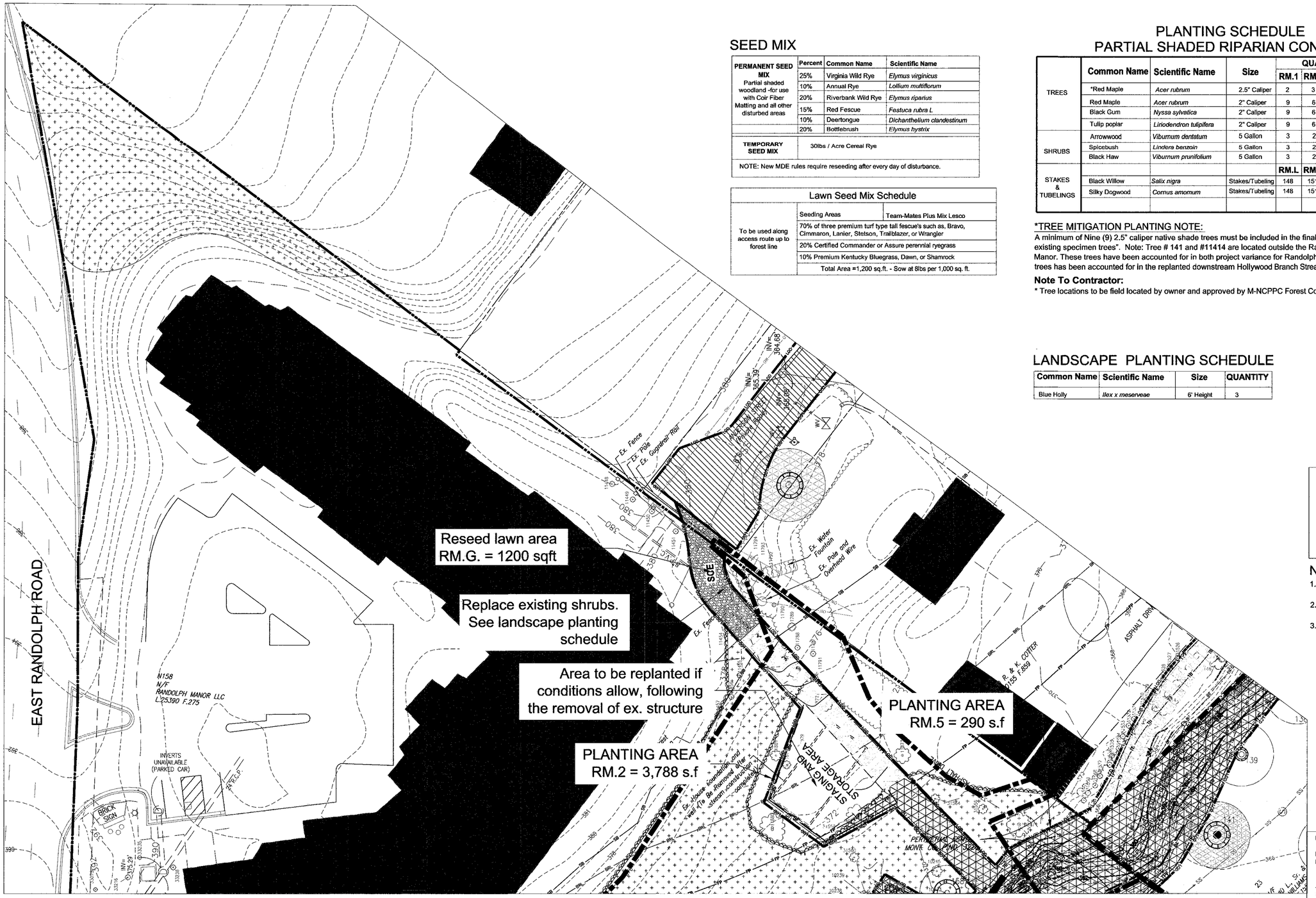
A minimum of Nine (9) 2.5" caliper native shade trees must be included in the final forest conservation planting plan to mitigate for impacts to existing specimen trees". Note: Tree # 141 and #11414 are located outside the Randolph Manor property, with its CRZ extending into Randolph Manor. These trees have been accounted for in both project variance for Randolph Manor and Hollywood Branch. Tree Mitigation for these two trees has been accounted for in the replanted downstream Hollywood Branch Stream Restoration.

Note To Contractor:

* Tree locations to be field located by owner and approved by M-NCPPC Forest Conservation Inspector.

LANDSCAPE PLANTING SCHEDULE

Common Name	Scientific Name	Size	QUANTITY
Blue Holly	*Ilex x meserveae*	6' Height	3



PLAN VIEW LEGEND

- Proposed Live Stake or Tubeling Planting
- Proposed Planting Area

Notes:

1. All planting areas within LOD will be planted with trees and shrubs per County Guidelines following the completion of construction.
2. All temporary access routes to be protected with 12" thick mulch mats (see detail).
3. All landscaping trees and shrubs to be replaced in kind. Consult with property owner and design engineer.

0 20' 40'

LANDSCAPE ARCHITECT CERTIFICATE:

I hereby certify that this plan is prepared in accordance with Montgomery County Forest Conservation Regulations.

04/15/13
Date

James M. Fetchu, RLA
Registered Landscape Architect
MD #3241

STATE OF MARYLAND · JAMES MICHAEL FETCHU · 3241 · REGISTERED LANDSCAPE ARCHITECT

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Update to Approved FFCP # S-2554

For Hollywood Stream Restoration

Planting Plan

DATE: 04/13
DESIGNED: HT/JF
DRAFTED: HT
CHECKED: JF
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates

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SCALE AS SHOWN
SHEET FCP- RM5
64 OF 68 SHEETS
JOB NO. 38-507

Apr 15, 2013 - 9:18am User: jmcarthy
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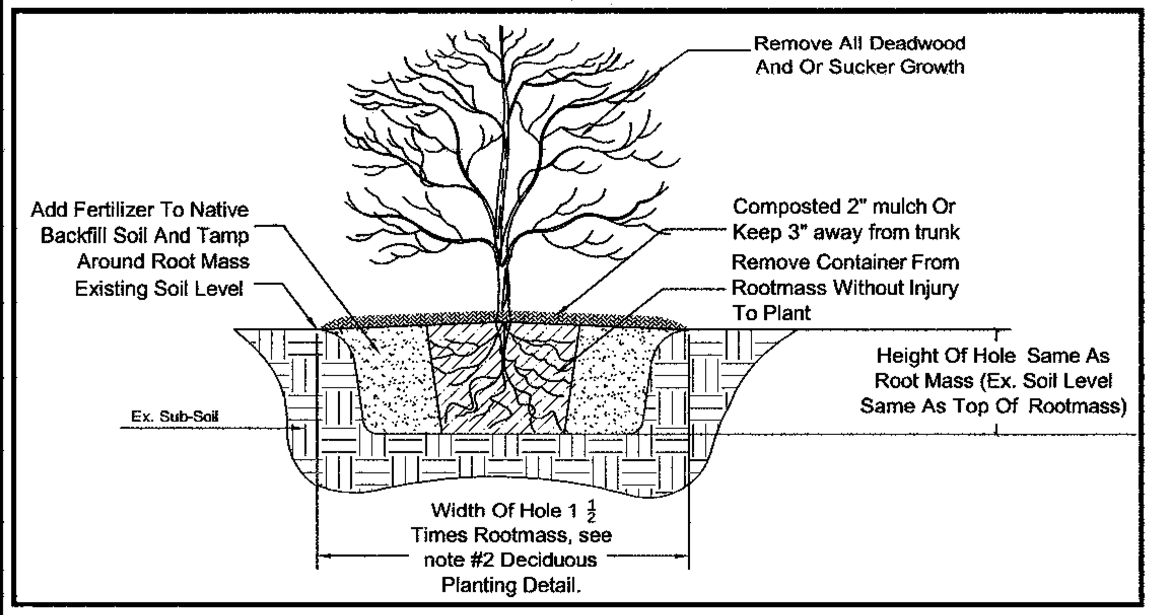
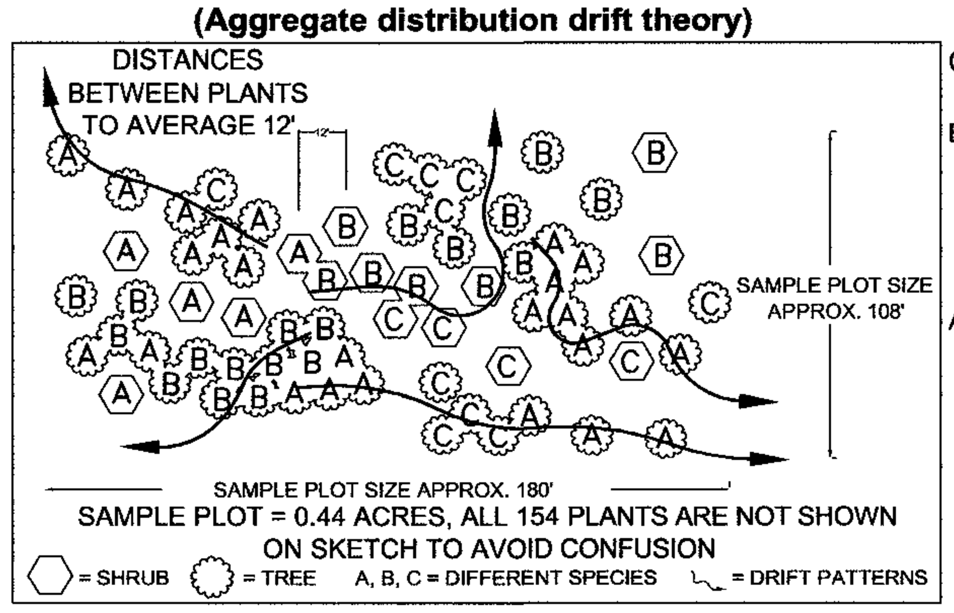
Xrefs: Trees-dwg.dwg
Design_Block.dwg



Shrub Planting
not to scale

PLANTING LAYOUT
(Aggregate distribution drift theory)



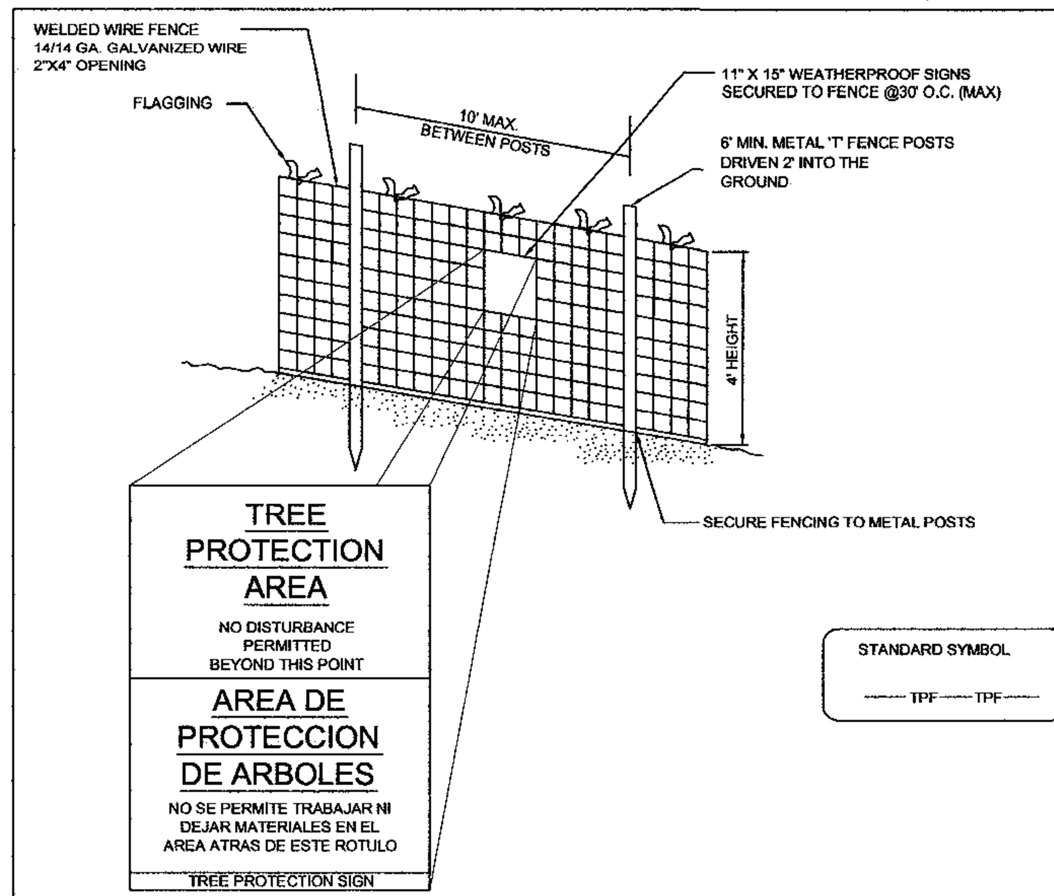
Concept: Aggregate Drift or Sweep. A cluster type grouping which tapers or feathers out along the edges.

Example: Aggregate massing or drifts are one of the most common vegetation distribution patterns occurring in nature. Principle seed bearers are at the central core of the cluster with seed dispersal outwards, often windblown with densities thinning out along the fringes or extremities. Groupings blend through and into other groupings.

Application: This does not mean that plants must be in a grid pattern, that drifts of shrubs cannot blend into groupings of trees or that groupings of the same species cannot occur together. It simply means that the installer should meet the aforementioned forest conservation act criteria at the same time replicating natures aggregate drift patterns (see detail).

When using this theory to lay out a planting plan the size of the drifts will depend on the quantity of plants allocated, the scale of the site and the careful consideration of the installer.

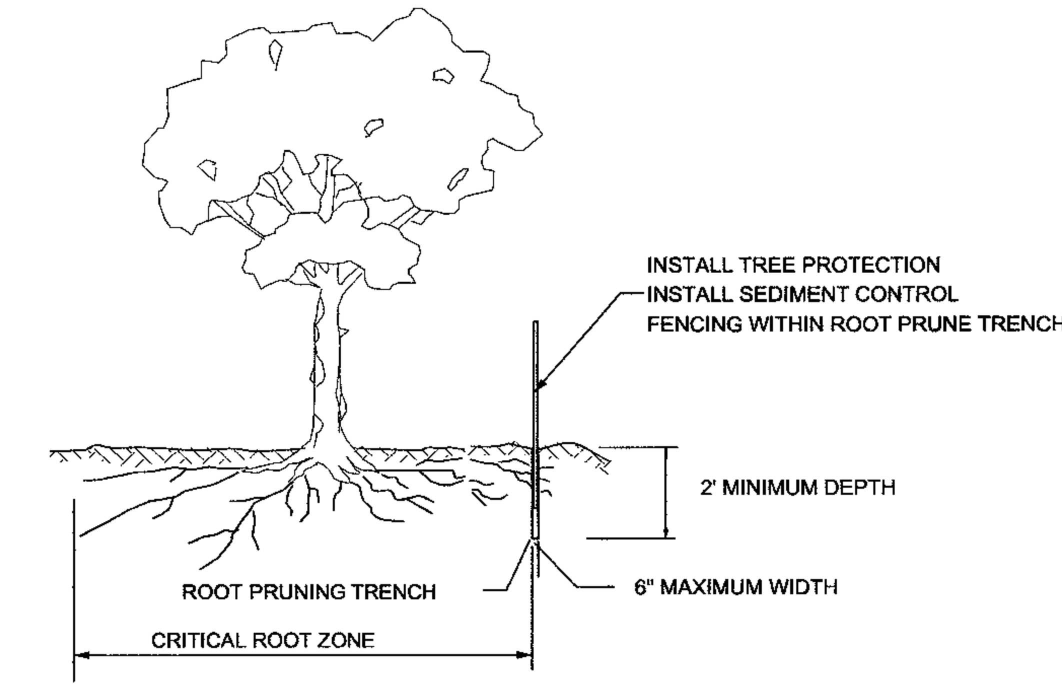
Tree and Shrub Planting Layout
not to scale



NOTES

1. PRACTICE MAY BE COMBINED WITH SEDIMENT CONTROL FENCING.
2. LOCATION AND LIMITS OF FENCING SHALL COORDINATED IN FIELD WITH ARBORIST.
3. BOUNDARIES OF PROTECTION AREA SHOULD BE STAKED PRIOR TO INSALLING PROTECTIVE DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED
5. PROTECTIVE SIGNAGE IS REQUIRED.
6. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

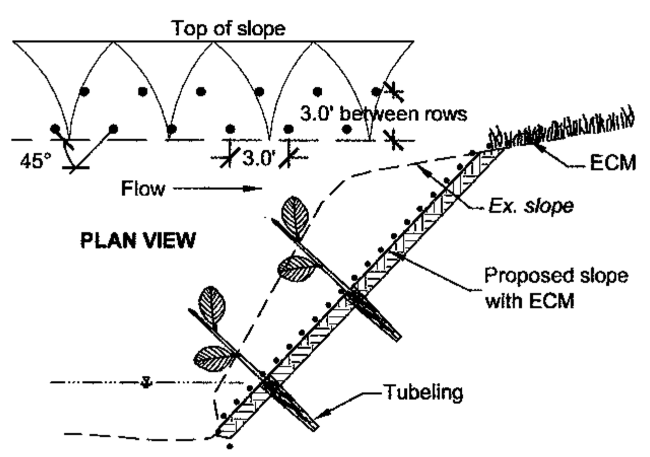
TREE PROTECTION FENCE DETAIL
NOT TO SCALE



NOTES:

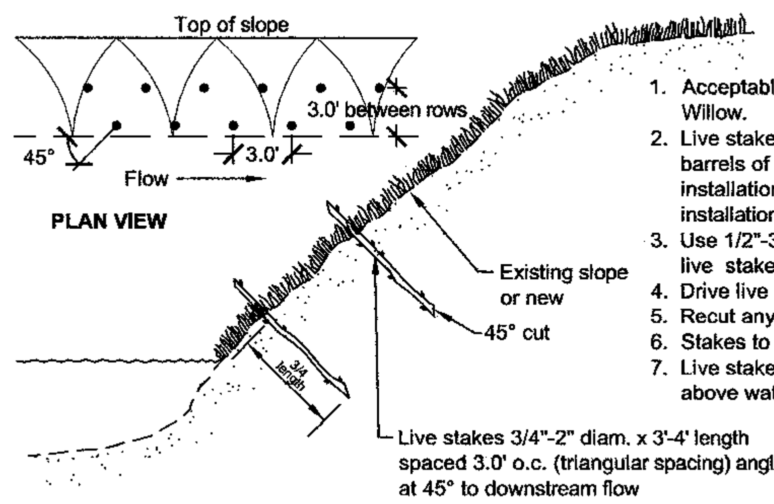
1. RETENTION AREAS TO BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
2. BOUNDARIES OF RETENTION AREAS TO BE STAKED, FLAGGED AND/OR FENCED PRIOR TO TRENCHING.
3. EXACT LOCATION OF TRENCH SHOULD BE IDENTIFIED IN FIELD WITH M-NCPPC.
4. TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR ORGANIC SOIL.
5. ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.

ROOT PRUNING



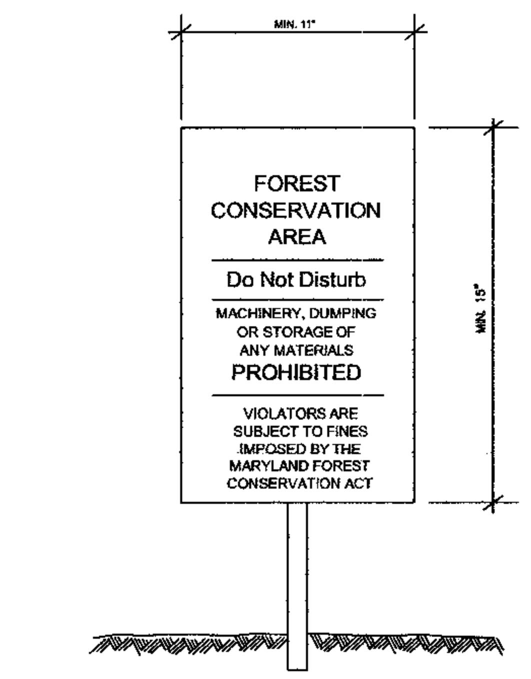
- See planting schedule for desirable species.
- Space at 3.0' O C. (Triangular Spacing).
- All tubelings shall comply with the recommendations and requirements of ANSI Z60.1 "American Standard for Nursery Stock."
- Cut slot in mat to install tubeling. Seal slot with compost and staple.
- (Planting time - April 1st - Dec 1st)

Tubeling Planting Detail
not to scale



1. Acceptable Species: Silky Dogwood and Black Willow.
2. Live stake rooting areas should be soaked in barrels of water for 24 to 48 hours just prior to installation. Recut ends at 45° angles prior to installation.
3. Use 1/2"-3/4" rebar for pilot holes prior to driving live stakes into ground.
4. Drive live stake 3/4 of its length into the ground.
5. Recut any live stake tips damaged by installation
6. Stakes to be 3/4" to 2" in diameter, 3' long.
7. Live stakes shall not be planted higher than 2.5' above water edge.

Stake Planting Detail (planting time Dec. 1st to April. 1st)
not to scale



NOTES:

1. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
2. SIGNS SHOULD BE PROPERLY MAINTAINED.
3. AVOID INJURY TO ROOTS WHEN PLACING POSTS FOR THE SIGNS.
4. NOTE: TREE PROTECTION SIGNAGE SHALL BE PLACED EVERY 50 FEET AT ALL TREE PROTECTION DEVICES

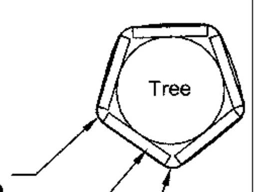
NOT TO SCALE

Forest Conservation Sign
not to scale

* Tree planking required for all trees within 10' of equipment access, excludes evergreen trees unless lower limbs has been pruned.

*** Tree Planking to be provided per plan. Additional tree planking may be required as directed by M-NCPPC Inspector.**

***DO NOT NAIL OR STAPLE ANY PROTECTION DEVICES TO TREE**

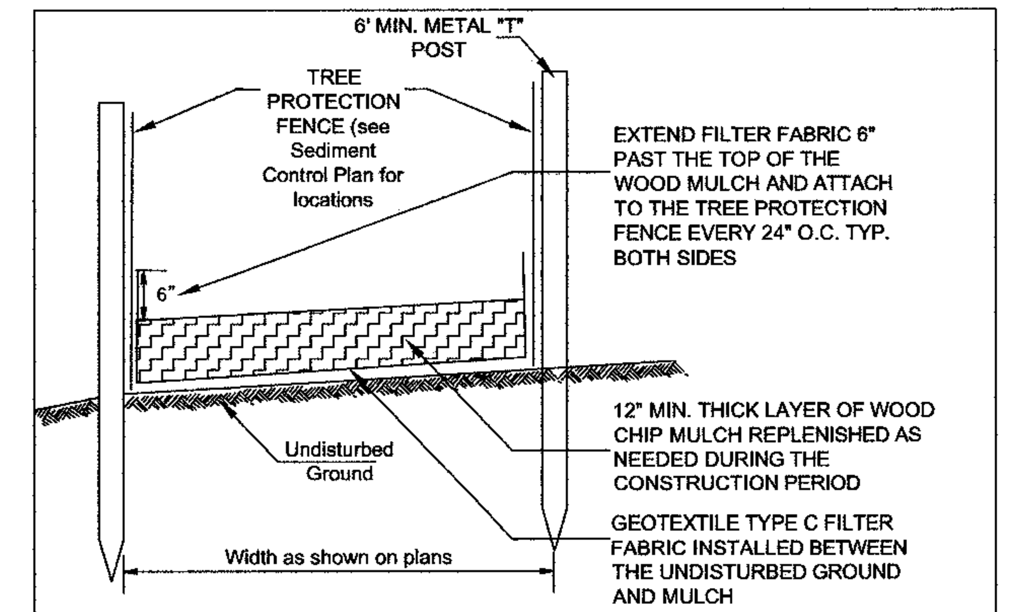


Use heavy gauge wire to hold planking to tree.

Surround tree with 2"x10"x10' planks or of suitable width and height to ensure that areas exposed to traffic will be fully protected.

Wrap lower portion of tree with tree protection fence.

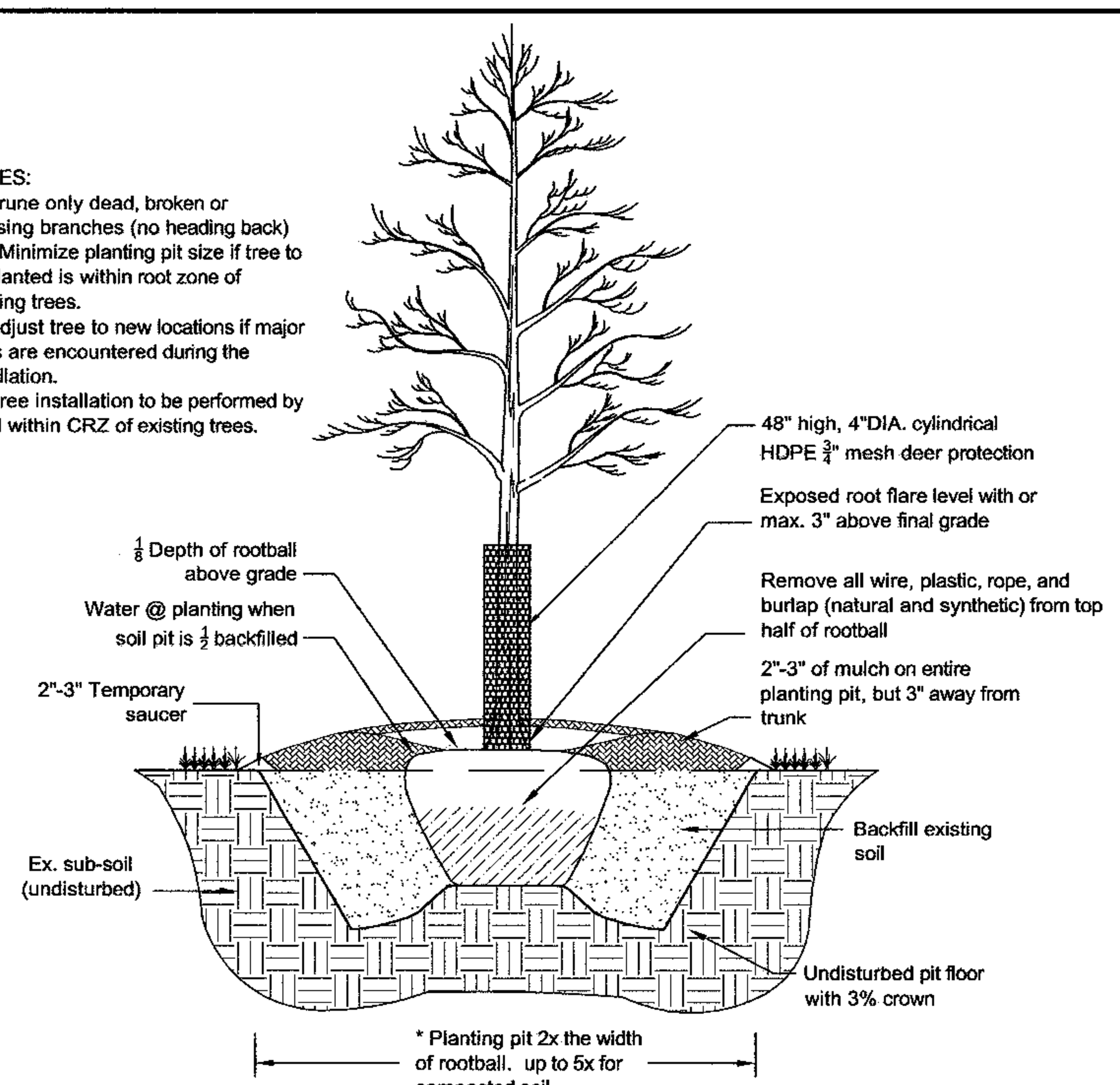
TREE PLANKING DETAIL N.T.S.



1. Any gaps required for equipment access shall be flagged for approval at pre-construction meeting.
2. Removal of mulch shall only be required in areas of lawn for hardscape.
3. Geotextile is not required where mulch will remain after construction.

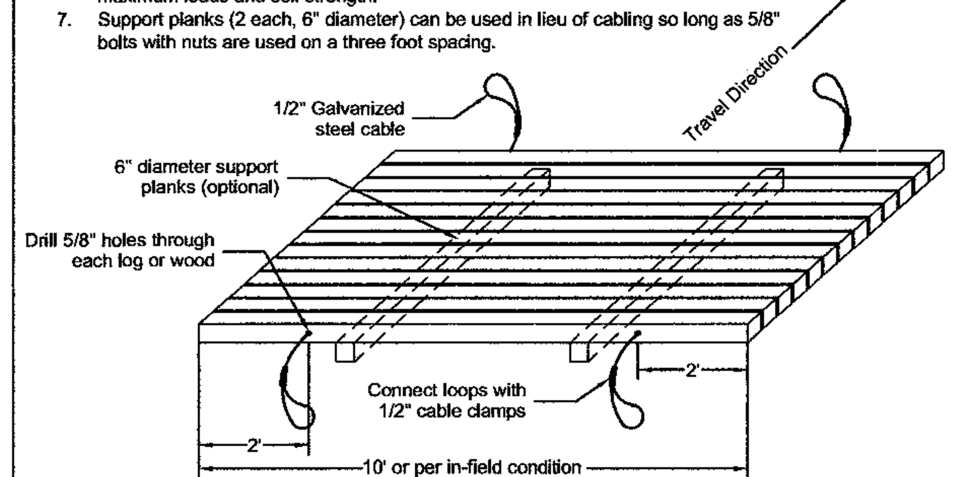
MULCH MAT
NOT TO SCALE

NOTES:
1. Prune only dead, broken or crossing branches (no heading back)
* 2. Minimize planting pit size if tree to be planted is within root zone of existing trees.
3. Adjust tree to new locations if major roots are encountered during the installation.
4. Tree installation to be performed by hand within CRZ of existing trees.



Deciduous Planting
not to scale

Notes:
1. All woods to be 10' x 6" x 6" min. Logs min. diameter to be 6" and 10' long if used.
2. Drill 5/8 " holes through each log or wood.
3. String logs/woods together with 1/2" Galvanized steel cable.
4. Make loops at the end of each cables and secured with cable clamps.
5. Place wood mats over non-woven geotextile that wills cover the crossing area.
6. Contractor is responsible to size logs or woods materials to support his vehicles maximum loads and soil strength.
7. Support planks (2 each, 6" diameter) can be used in lieu of cabling so long as 5/8" bolts with nuts are used on a three foot spacing.



TEMPORARY WOODEN MATS
n.t.s.

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04/15/13
Date

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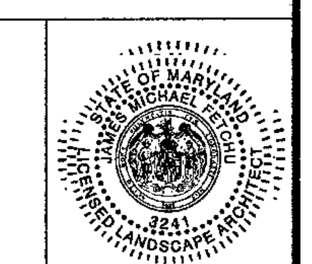

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MONTGOMERY COUNTY, MD
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Update to Approved FFCP # S-2554

For Hollywood Stream Restoration

Tree Protection and Planting Details

DATE: 04/13				
DESIGNED: HT/JF				
DRAFTED: HT				
CHECKED: JF				
BASE DATA: CPJA	NO.	REVISIONS	BY	DATE

CPJ Associates

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Xrefs: Trees.dwg.dwg
Design_Block.dwg

TREE AND SHRUB PLANTING NOTES

DESCRIPTION AND MATERIALS: Work for this section includes, but is not limited to installation of trees and shrubs in accordance with MSHA 710 and ANSI Z60.1 "American Standard for Nursery Stock", except as otherwise specified.
Plant List and Supply: The Contractor must be responsible for furnishing and installing all native plant material shown on the Contract Documents *(Native Plant List)*. Native plant material installed on Randolph Manor property must conform to the plant list located in the Contract Documents. Contractor must verify they can obtain the specified plants and quantities prior to final construction estimate. Any discrepancies or shortages of specified plant material must be reported to the Owner immediately.

Substitutions will not be permitted unless proof is submitted by the nursery that a plant specified is not obtainable, a written proposal will be considered for use of nearest equivalent size or variety with an equitable adjustment of contract price. The written proposal must be submitted to the Owner one month prior to installation.

All plants must comply with the recommendations and requirements of ANSI Z60. 1 "American Standard for Nursery Stock" or latest edition and must be grown in the Piedmont region within 100 miles of Montgomery County, MD. The plants must be true to species and variety as specified on the approved plan or species specified by the Designer or Owner. All plants of the same specified size must be uniform size, character of growth, well branched, well formed, vigorous, healthy planting stock free from disease, sunscald, windburn, abrasion, harmful insects or insect eggs and having a healthy, normal and unbroken root system. All container-grown species must be sufficient to hold soil intact when removed from containers. All root bound container stock or plants which have been pruned back will be rejected by the Owner.

Contract Growing Arrangements: For items where the County agrees to make prior supply arrangements due to known limitations of quantities (e.g., Paw Paws), the County will direct the Contractor to establish arrangements with suppliers to provide predetermined quantities of these items. These arrangements will be made by May 30 of each calendar year.

Delivery: The Contractor must notify the Designer or Owner of the delivery schedule two weeks in advance so the plant materials may be inspected at the nursery and upon arrival at the job site. All plants delivered for the specific restoration project must be unloaded, inventoried and grouped by plant species under the direct supervision of the onsite Landscape Foreman. The Designer or Owner must approve the delivery with the Landscape Foreman present and all signed delivery tickets matching the approved delivery must be provided to the Designer or Owner upon receipt of the delivery. The plants delivered must be moist and kept moist until planted. Plants not installed the day of delivery must be properly stored and protected from direct sun and wind.
Plant material must not be dropped, handled by the trunk, stems or foliage. Plant stems must be protected from being damaged, scarred or broken while being handled, stored and transported by equipment.

Rejection: Any materials and/or work may be rejected by the Designer or Owner if the plant material does not meet the specifications. All rejected materials must be removed from the site by the Contractor within 48 hours. All rejected plant material must be documented by the Landscape Foreman and a copy listing the rejected plant material must be provided to the Owner within 48 hours.

Submittals

1. Schedules: Submit final plant schedule listing plants to be installed one month prior to installation.
2. Qualification Data: Submit installer qualifications verifying years of experience; include list of completed projects having similar scope of work identified by name, location, date, reference names and phone numbers.
3. Maintenance: The Contractor must submit daily reports of the work done including number of laborers, hours worked, type of maintenance performed including but not limited to Additional Watering, invasive plant control, re-securing deer protection, insect and disease control, and re-mulching. When Additional Watering and/or Invasive Plant Control is performed, the Contractor must follow all submittals outlined in Additional Watering (Contract Line item 7021) and Invasive Plant Control (Contract Line items 7011-12).
4. Warranty: The Contractor will receive a Certificate of Acceptance from the Owner and the warranty period will begin from the date of the letter. The Contractor must furnish a written warranty covering the plants during the two-year warranty. The Warranty must provide plant replacements through the two-year period for all plants which fail to grow, are not true to name, or are impaired to the extent that they will not grow properly as determined by the Designer or Owner or his representative.

EXECUTION:

Installation
1. Personnel: Landscape Foreman must have 5 years or more documented successful experience in native plant landscape installation. All work must be performed by personnel experienced with the planting procedures and under direct supervision of qualified the Landscape Foreman. The Landscape Foreman must be a member of one of the following organizations:

Landscape Contractors Association
American Association of Nurserymen
Maryland Nurserymen's Association

2. Timing: Planting work must not be started until final subgrade has been established and approved the Owner. Under no conditions must any work be done if weather or soil conditions are not satisfactory. The season for planting trees, shrubs and ground cover must be March 15 to May 15 and September 15 to November 15, unless otherwise approved by the Owner. Any out of seasons planting permitted by the Designer or Owner will be fully guaranteed by the Contractor. Plantings will only occur when weather and soil conditions will permit the successful establishment of plants and only at the Owner's discretion.

3. Examination of Sites: The Contractor must examine the site and all conditions thereon and take into consideration all such conditions that may affect the work. The Contractor is responsible for verifying the location of all utilities. Start of work indicates acceptance of conditions and full responsibility for work of this section.
4. Plant Inspection: Plant inspection must be arranged by the Contractor at least two weeks prior to delivery. No plants must be dug or delivered to the site until the required inspections arrangements have been made and the plant species, size and vendors are approved by the Designer or Owner. All plants must be subject to inspection by the Designer or Owner for species, size, color, and quality. If so desired by the Designer or Owner, a sample for each plant variety must be planted as specified. Once approved, these samples must be tagged by the Contractor and used as standards of comparison for the remainder of the Work

5. Identification Tags: All plants must be tagged with a 3/4 inch x 3 inch with doubled faced aluminum tag with the ability to write on or emboss with a pencil, pen or pointed instrument. The tag must have a manufactured stamped hole for feeding a supplied 9" wire. The tag must be placed securely, but loose to avoid harm to the plant, on each plant near a sturdy branch adjacent to the trunk. The tag must legibly bear the plant's common name, date planted, and an inventory code specified by the Designer or Owner.

6. Preparation: The Contractor must provide the stakes and stake out approved plant material locations before digging and installing plants. The Designer or Owner must approve the layout and the Designer or Owner has the right to adjust the plant material locations and numbers of plantings to meet field conditions. Excavation for plantings will be in accordance with MSHA 7 10.03.04 or as specified in the Contract Documents.

7. Planting: The Contractor must carefully remove the plant from the container and avoid damage to the plant and its root system. By carefully supporting the root mass, place the plant in the properly size hole on a layer of hand compacted soil and begin backfilling and firmly packing soil around roots according to MSHA 7 10.03.09.

8. Pruning: Only dead and broken branches must be removed from trees unless otherwise directed by the Owner. Plant material must be pruned in accordance with standard horticultural practices to preserve the natural character of the plant. Only clean, sharp tools must be used. Cuts over ¼ inch diameter must be painted with an approved tree wound paint or compound covering all exposed living tissue.

9. Tree Staking and Guying: Trees requiring staking and guying the same day trees are installed, as directed by the Designer or Owner, and in accordance with MSHA 7 10.03.12

10. Initial Watering The Contractor must provide one initial watering after planting or seeding or as directed by the Designer or Owner. Watering beyond the initial watering will be considered additional watering. All watering must be accomplished using a hose with nozzle end breaker or a sprinkler. Water must be applied in sufficient quantities to maintain moist soil to a depth of at least 4 inches. Water must be applied at low water pressure directly to each plant, allowing water to be absorbed into the planting pit soil until saturated, but without runoff. The Contractor must avoid application of too much water.

Contractor must be able to supply a water truck or water plants from a nearby hydrant. When a hydrant is used, the Contractor is responsible for all regulations, permits or expenses necessary to use the public water supply. The Contractor may use, upon Designer or Owner's approval, Montgomery County's issued Maryland State Water Appropriation Permit No. M02006S006 (02) or most recent State Water Appropriation Permit when watering in isolated areas. The Contractor must follow the requirements specified in the State Water Appropriation Permit and must inform the County of the proportion of overall water usage taken from the stream.

Protection and Repair

All portions of the property, which have been disturbed or damaged due to, or incidental to work performed must be repaired and restored to its original condition to the satisfaction of the Designer or Owner.

The Contractor must fully and satisfactorily maintain and protect all work until completion and acceptance of all work or portions thereof and must repair or replace, at his expense, any work damaged during that period, to the satisfaction of the Owner.

Deer Protection: The Contractor must install 4 inch diameter by 48-inch high cylindrical rigid UV treated HDPE 3/4 X.3/4 inch mesh with each mesh stand approximately 1/8 X 1/8 X 1/8 inches. The Deer Protection must be installed, as directed by the Designer or Owner, for all single stem reforestation trees taller than 18 inches. Deer Protection must be placed around trees and secured closed using a minimum of three black two way cable ties. All deer protection must protect the plant during the entire 2-year warranty period.
At the Designer or Owner's direction, trees and shrubs may require the use of alternative protective fencing specified and paid for in Line Item 7071 As Needed Deer Protection Fence. All Deer Protection Fence must protect the plant during the entire 2-year warranty period.

Alternative Deer Protection Fence: In situations where the standard deer protection fencing (HDPE treatment above) will not adequately fit or protect trees or shrubs (often times due to multi-stemmed or wide plants, or those without the strength/ability to support the standard protection), the Designer or Owner may direct the Contractor to use a 4 foot diameter by 4 or 6 foot high, 14-gauge welded wire Deer Protection Fence with a minimum of 2 pointed hardwood support stakes 1x2x48 inch in size. Fourteen (14) gauge galvanized wire stands as determined by the Owner will securely fasten the fence to the support stakes.
The Contractor must install, as directed by the Owner, the Deer Protection Fence, the support stakes and fastening wire for all trees and shrubs taller than 18 inches,. The Deer Protection Fence height of 4 or 6 foot will be determined by the Owner.

Inspection and Initial Acceptance: In addition to the standard acceptance requirements, the Contractor will provide the Owner with a detailed "as-built" planting plan on a full size copy of the Restoration and Planting Plan. The plan will show distinct, labeled planting areas. The plan will show the individual location of all trees and shrubs species. As directed by the Owner, if the planting density is too high to reasonably show individual plant locations on the plans, the "as-built" planting plan will be accompanied by a spreadsheet inventory of plants in each distinct planting area. The inventory will include the numbers of plants and species located in each distinct planting area.

Certificate of Acceptance: If the plant material, installation and planting "as built" is satisfactory, the Owner will give written notice to the Contractor. The notice will constitute the Certificate of Acceptance, and the warranty period will begin from that date of the letter.

Maintenance

The Contractor must begin maintenance immediately after each plant is installed. Inspect plants daily during the installation period and perform maintenance during the two years from the beginning of the warranty period. The Contractor must provide all materials, labor and equipment to complete all landscape maintenance work for two years from the beginning of the warranty period. The Contractor must provide maintenance submittals to the Designer or Owner as described in the submittals section of this Contract Line Item.

Schedule of Maintenance:

1. Additional Watering: When additional watering is deemed necessary in accordance with the Contract Documents, the Contractor must conduct Additional Watering maintenance visits as described. This work is for additional watering of planted trees, shrubs, herbaceous plants, sod, or seeded areas as directed by the Owner. Water used on plants must be free of any substance harmful to the plants.

The Contractor must monitor the water needs of all plant material at least once per week between March 31 and October 31. When the Contractor identifies the need for watering, the Owner must be notified and the Owner must concur. Immediately after the Owner approves watering, the Contractor must begin watering using rates specified in MSHA 710.03.04 unless otherwise specified by the Owner. If the Contractor fails to water as required, the Owner will notify the Contractor and watering must begin within 24 hours. The Contractor must continue watering daily until all plant material in the Contract has been watered as directed by the Owner. Each watering must be completed within five consecutive calendar days. All watering must be accomplished using a hose with nozzle end breaker or watering probe to prevent damage to the plants and disturbance of mulch during the watering operation. Water must be applied at low water pressure directly to each plant, allowing water to be absorbed until saturated, but without runoff. With prior approval by the Owner, gator bags or approved equal can be used on trees to directly apply water to the base of the tree.

The Contractor must be able to supply a water truck or water plants from a nearby hydrant. When a hydrant is used, the Contractor is responsible for all regulations, permits or expenses necessary to use the public water supply. The Contractor may use, upon approval of the Owner, Montgomery County's issued State Water Appropriation Permit No. M02006S006 (01) or most recent State Water Appropriation Permit when watering in isolated areas. The Contractor must follow the requirements specified in the State Water Appropriation Permit and must inform the County of the proportion of overall water usage taken from the stream.

The Contractor is required to monitor and record their daily water usage at each project site. Water must be measured by means of satisfactorily installed meters, or measurements of tank capacities, or by acceptable documentation of tanks of predetermined capacity. The Contractor must submit to the Owner, prior to payment, a water usage report stating the type of vegetation watered, accurate record of the quantity of water furnished in gallons.

2. Insect and Disease Control: The Contractor must be responsible for monitoring the site conditions while performing Additional Watering maintenance visits to determine if any insect or disease or problems exist. The Contractor must immediately notify the Owner if problems exist. The Contractor must include this maintenance activity in the required submittals.
3. Invasive Plant Control: The Contractor must be responsible for monitoring the site conditions while performing Additional Watering maintenance visits during the months May-September to determine if invasive plant control is needed. The Contractor must immediately notify the Designer or Owner if problems exist. The Contractor must follow the specifications described and paid in the Invasive Plant Control Line Item in the Contract Documents and comply with the practices in the guidance titled, *BEST MANAGEMENT PRACTICES FOR CONTROL OF NON-NATIVE INVASIVES (* Natural Resources Stewardship Section Park Planning & Stewardship Division, Montgomery Parks January 2008).
4. Deer Protection and Tree Staking and Guying: The contractor must be responsible for monitoring the site conditions while performing Additional Watering maintenance visits and repair Deer Protection and Tree Staking and Guying as specified in Tree and Shrub Planting Line Item (7028-32). The Contractor must include this maintenance activity in the required submittals.
5. The Contractors must document and send notification to the Designer or Owner of plants that are 25% dead or more, three months prior to the next planting season. Upon approval by the Designer or Owner, the plants must be removed and replaced according to the Replacement specification.

Replacement: All plants will be warranted to be in healthy, vigorous, thriving condition as determined by the Designer or Owner during the two-year warranty period. A tree must be considered dead when it is 25% dead, the main leader has died back, or 25% of the crown is dead. The Contractor must replace all dead plants at no charge to the Corps during the next growing season. Replacements will be made, after approval by the Designer or Owner, during the next appropriate planting period and the replacements must be of the same size and species as originally specified in the Contract Documents. The Contractor, as directed by the Designer or Owner, must install deer protection, tree staking and guying, anchoring erosion control matting around replacement plants. Deciduous material will be guaranteed to break dormancy if planted in the dormant season.

Final Inspection: The Contractor will conduct a final inspection with the Designer or Owner or Montgomery County at the end of the 2 year warranty period. It will be the Contractor's responsibility to notify the Owner within two weeks of the anticipated meeting. Any material that is 25% dead or more must be considered dead and must be replaced at no charge. The Owner may accept or reject any tree as alive. A tree must be considered dead when the main leader has died back, there is greater than 25% of the crown dead, or missing; or there is a wound on the stem covering more than 1/3 the diameter and longer than 4 inches. Deciduous material will be guaranteed to break dormancy if planted in the dormant season.

INVASIVE PLANT CONTROL

DESCRIPTION: Control of invasive plants using approved mechanical removal (machetes, chainsaws, pruners, etc.) methods or approved herbicide applications.

MATERIALS AND EXECUTION:

1. Submittals
a. Qualification Data: Submit State of Maryland Pesticide Applicator License and Certification for the Company, Supervisor/Superintendent working on the project. The Certification must state that the assigned Supervisor/Superintendent is certified in the category related to the project; Forest, Right of Way, or Aquatic Pest Control (for work directly adjacent to or over water).

b. References: 45 days prior to work, the Contractor must provide documentation regarding the qualifications of the Applicator and crew, which includes, but may not be limited to, the following information:

Five references (3 non Montgomery County References) from prior invasive control work completed in the last 5 years. Names and phone numbers of references.
Summary of vegetation treated, methods, and equipment used
Summary of success at meeting performance objectives (competition timeline, client satisfaction, application performance).

c. Herbicide Application Log: The Contractor must complete a log which must provide weather conditions during/after application, product/rate applied, and locations of areas controlled. The Contractor must submit a copy of the log to the Owner within 12 hours after application.

d. Exotic/Invasive Species Management Plan: Plan shall be include exotic/invasive species control for entire LOD or as directed by the Designer or Owner. The plan shall be prepared in accordance with guidelines established by "Best Management Practices for control of non-native invasives" prepared by Natural Resources Stewardship Division, Montgomery Parks, January 2008 or (latest revision).

2. Mechanical Removal
The Contractor must coordinate with the Owner (applications on parkland only) to eliminate identified areas of targeted invasive plant species. The Contractor must use machetes, chainsaws, pruners, or other approved hand operated equipment. Before removal can begin, the Contractor and the Owner must delineate the removal area. The Contractor must remove the invasive plants according to the direction of the Owner. The Contractor must be sensitive and selective to avoid harming native plant species during invasive plant removal. The Contractor is responsible for damages if mechanical removal is performed outside the removal area specified by the Owner.

3. Herbicide Application

a. Personnel: The Contractor must provide Certification that the assigned Supervisor/Superintendent is a Maryland Pesticide Applicator certified in the category related to the project; Forest, Right of Way, or Aquatic Pest Control (for work directly adjacent to or over water) for the State of Maryland.

b. Timing: The Contractor is responsible, after consultation with the Owner, for selecting the proper herbicide for the targeted species based on the time of year, weather conditions and to use the herbicide in a manner that is consistent with the label.
c. Application: Care should be taken to ensure that the timing of the application is conducive to uptake and translocation of the herbicide. The Supervisor/Superintendent should ensure that the herbicide is listed for use against the selected species and is labeled for aquatic use if the application will be made over water. Before application, the Contractor must submit the recommended herbicide, application technique, application rate and targeted species to the Owner for approval. The approved herbicide must be applied to avoid harming non targeted plant species. The Contractor is responsible for damages if herbicide applications are sprayed outside the spray zone specified by the Owner.

If required, a follow up treatment of control is to be performed as directed by the Owner during the two- year warranty period. This treatment is not a substitute for the application described in the Performance Warranty.

4. Inspection and Initial Acceptance
The Contractor must notify Owner, in writing that the mechanical or herbicide application is complete and request inspection by the Owner. The inspections must be performed by Owner and Contractor within two weeks of written notification from the Contractor.

5. Certificate of Acceptance

If the mechanical or herbicide control method is approved as satisfactory by the Owner, the Contractor will receive a Certificate of Acceptance. The date on the Certificate of Acceptance will constitute the warranty period.

6. Performance Warranty

The date on the Certificate of Acceptance will begin the performance warranty period of two years for all herbicide applications. The Contractor must furnish the Owner with a written performance warranty which must include the herbicide application log and a guarantee that the approved herbicide application will kill 95% of the invasive plants. The numbers of re-sprouts, live or dead stem counts, biomass and other visual references will determine the effectives of the application within the spray zone after one growing season from the initial application. If the application does not meet the 95% kill rate after one growing season, the Contractor must reapply the approved herbicide.

7. Final Inspection

The Contractor will conduct a final inspection with the Owner at the end of the two-year warranty period. It will be the Contractor's responsibility to notify the Owner within two weeks of the anticipated meeting. If the herbicide application area does not meet the 95% kill rate, the Contractor must reapply an approved herbicide in accordance with the Owner.

SPECIFICATIONS FOR HYDROSEEDING (POST SITE PREPARATION)

1. Timing - Apply seed upon the completion of site preparation, prior to planting, (herbicide applications, topical or incorporated soil amendment applications, grading, etc).
2. Seed (see seed species lists, this sheet)
3. State certified weed free seed (labeled) graded.
4. Rate Wetland - 15 lbs./acre
5. Apply seed uniformly with a hydro seeder. The slurry includes seed, fertilizer, mulch binder (where applicable) and gel (where applicable) on a firm moist seedbed. Note: The seed and fertilizer will be mixed on site and the seeding shall be immediate without interruption.
6. Mulch Binder (for 20% or greater exposed soils only)
7. Utilize only wood cellulose fiber mulch as manufactured by Conwed or an approved equal. Mulch at the rate of 35 pounds per 1,000 square feet. Do not use on sites, which have more than 80% existing ground cover as seed will adhere to the vegetation causing it to dry out. On sites where exposed soils and existing ground cover exists, apply mulch binder to exposed soils only after seed has been applied to the entire site.
8. Fertilizer - Type analysis and application rates previously listed as specified by University of Maryland Cooperative Extension Service and/or a qualified ecologist based on the soil test results.
9. Gel - As necessary provide a water absorbing co polymer which can absorb up to 400 times its own weight to aid in fluffing the surface soil during application and provide a lubricant coating to protect the plant when passing through the hydroseeded nozzle.
10. Irrigation - If soil moisture is deficient, supply new seeding with adequate water for plant growth until they are firmly established. This is especially true when seeding is made in abnormally dry or hot seasons, or on adverse sites.

Sequence of Events for Property Owners Required to Comply With Forest Conservation and/or Tree-Save Plans

Pre-Construction
1. An on-site pre-construction meeting is required after the limits of disturbance have been staked and flagged, but before any clearing or grading begins. The property owner should contact the Montgomery County Planning Department inspection staff before construction to verify the limits of disturbance and discuss tree protection and tree care measures. The developer's representative, construction superintendent, ISA certified arborist or Maryland-licensed tree expert that will implement the tree protection measures, forest conservation inspector, and Department of Permitting Services (DPS) sediment control inspector should attend this pre-construction meeting.

2. No clearing or grading shall begin before stress-reduction measures have been implemented. Appropriate measures may include, but are not limited to:
a. Root pruning
b. Crown reduction or pruning
c. Watering
d. Fertilizing
e. Vertical mulching
f. Root aeration matting
Measures not specified on the forest conservation plan may be required as determined by the forest conservation inspector in coordination with the arborist.

3. A Maryland-licensed tree expert or an International Society of Arboriculture-certified arborist must perform all stress reduction measures. Documentation of stress reduction measures must be either observed by the forest conservation inspector or sent to the inspector at 8787 Georgia Avenue, Silver Spring, MD 20910. The forest conservation inspector will determine the exact method to convey the stress reductions measures during the pre-construction meeting.

4. Temporary tree protection devices shall be installed per the Forest Conservation Plan/Tree Save Plan and prior to any construction activities. Tree protection fencing locations should be staked prior to the pre-construction meeting. The forest conservation inspector, in coordination with the DPS sediment control inspector, may make field adjustments to increase the survivability of trees and forest shown as saved on the approved plan. Temporary tree protect devices may include:
a. Chain link fence (four feet high)
b. Super silt fence with wire strung between support poles (minimum 4 feet high) with high visibility flagging.
c. 14 gauge 2 inch x 4 inch welded wire fencing supported by steel T-bar posts (minimum 4 feet high) with high visibility flagging.

5. Temporary protection devices shall be maintained and installed by the contractor for the duration of construction project and must not be altered without prior approval from the forest conservation inspector. No equipment, trucks, materials, or debris may be stored within the tree protection fence areas during the entire construction project. No vehicle or equipment access to the fenced area will be permitted. Tree protection shall not be removed without prior approval of forest conservation inspector.

6. Forest retention area signs shall be installed as required by the forest conservation inspector, or as shown on the approved plan.

7. Long-term protection devices will be installed per the Forest Conservation Plan/Tree Save Plan and attached details. Installation will occur at the appropriate time during the construction project. Refer to the plan drawing for long-term protection measures to be installed.

INSPECTIONS

All field inspections must be requested by the applicant. Inspections must be conducted as follows:

Tree Save Plans and Forest Conservation Plans without Planting Requirements

1. After the limits of disturbance have been staked and flagged, but before any clearing or grading begins
2. After necessary stress reduction measures have been completed and protection measures have been installed, but before any clearing and grading begin.

3. After completion of all construction activities, but before removal of tree protection fencing, to determine the level of compliance with the provision of the forest conservation.

Additional Requirements for Plans with Planting Requirements

4. Before the start of any required reforestation and afforestation planting
5. After the required reforestation and afforestation planting has been completed to verify that the planting is acceptable and prior to the start the maintenance period.
6. At the end of the maintenance period to determine the level of compliance with the provisions of the planting plan, and if appropriate, release of the performance bond.

LANDSCAPE ARCHITECT CERTIFICATE:

I hereby certify that this plan is prepared in accordance with Montgomery County Forest Conservation Regulations.

04/15/13
Date

James M. Fetchu, RLA
Registered Landscape Architect
MD #3241

STATE OF MARYLAND · JAMES MICHAEL FETCHU · LICENSED LANDSCAPE ARCHITECT · 3241

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7707
Attn: Mr. John Hollister

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Update to Approved FFCP # S-2554

For Hollywood Stream Restoration

Notes

DATE: 04/13
DESIGNED: HT/JF
DRAFTED: HT
CHECKED: JF
BASE DATA: CPJA

NO.	REVISIONS	BY	DATE

CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9573 E-mail: env@cpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

SCALE
AS SHOWN

SHEET
FCP- RM7
66 OF 68 SHEETS

JOB NO.
38-507

Plotted: Apr 15, 2013 - 9:19am User: jmccarthy
F:\Hollywood Branch\CAD\NR\FSD-FCP\FCP\FCP Amended Randolph Manor Plan 012213.dwg

Xrefs: Trees.dwg.dwg
Design_Block.dwg

TEMPORARY TRAFFIC CONTROL REQUIREMENTS

1. THE PERMITTEE SHALL REFER TO THE ATTACHED TEMPORARY TRAFFIC CONTROL PLAN (TTCP) DRAWINGS TO SELECT THE APPROPRIATE WORK ZONE TRAFFIC CONTROLS FOR EACH PHASE OF CONSTRUCTION. WORK ZONE SITUATIONS WHICH ARE NOT ADDRESSED IN THE ATTACHED TTCP SHALL CONFORM TO THE GUIDELINES SET FORTH IN SECTION 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAY (MUTCD), MOST RECENT EDITION.

2. THE PERMITTEE MUST HAVE A "CERTIFIED" TRAFFIC CONTROL MANAGER ON SITE DURING ALL PHASES OF CONSTRUCTION AT ALL TIMES.

3. EACH PHASE OF CONSTRUCTION, INCLUDING THE FOLLOW UP RESTORATION OPERATIONS SHALL BE PROVIDED WITH APPROPRIATE WORK ZONE TRAFFIC CONTROLS.

4. ROAD CLOSURES OF ANY DURATION SHALL REQUIRE THE SUBMITTAL OF A WRITTEN REQUEST TO THE TRAFFIC ENGINEERING DESIGN AND OPERATIONS SECTION WITH JUSTIFICATION AS TO WHY WORK ACTIVITY CANNOT OCCUR WHILE TRAFFIC IS BEING MAINTAINED. ROAD CLOSURE SHALL REQUIRE ADDITIONAL TRAFFIC CONTROLS INCLUDING ADVANCE NOTIFICATION, APPROACH, AND DETOUR SIGNAGE, AS APPROVED BY TRAFFIC ENGINEERING DESIGN AND OPERATIONS SECTION.

5. ALL SIDEWALK CLOSURES SHALL REQUIRE THE APPROVAL OF THE TRAFFIC ENGINEERING DESIGN AND OPERATIONS SECTION. ANY SIDEWALK CLOSURE GREATER THAN TWO (2) WEEKS SHALL REQUIRE THE SUBMITTAL OF A WRITTEN REQUEST TO THE DIVISION OF TRAFFIC ENGINEERING AND OPERATIONS AND MAY REQUIRE ADDITIONAL TEMPORARY TRAFFIC CONTROLS AND/OR TEMPORARY SIDEWALK BY-PASS. ANY WORK AFFECTING SIDEWALK SHALL BE SPECIFIED AND A PROPER PEDESTRIAN DETOUR SHALL BE SHOWN ON PLANS AND SUBMITTED FOR REVIEW. SIDEWALK CLOSURES SHALL BE LIMITED TO OCCUR ONLY DURING THE ACTUAL WORK ACTIVITY. DURING CLOSURE, SIDEWALKS SHALL BE BARRICADED TO PHYSICALLY PREVENT PEDESTRIAN PASSAGE AND APPROPRIATE PEDESTRIAN DETOURS SHALL BE POSTED. DURING ALL OTHER TIMES, PROVISIONS FOR SAFE PEDESTRIAN ACCESS THROUGH THE WORK AREA, VIA A TEMPORARY WALKWAY SHALL BE PROVIDED.

6. ANY WORK WITHIN THE TRAVELED PORTION OF ROADWAYS SHALL BE RESTRICTED TO THE HOURS OF 9:00 AM TO 3:30 PM, MONDAY THROUGH FRIDAY. WORK ON HOLIDAYS AND WEEKENDS SHALL NOT OCCUR UNLESS AN EXCEPTION IS GRANTED IN WRITING BY THE COUNTY'S DPS INSPECTOR.

7. CONSTRUCTION ACTIVITY, LOADING OR UNLOADING OF EQUIPMENT SHALL NOT BLOCK ANY TRAFFIC LANE OTHER THAN THOSE DELINEATED WITHIN THE WORK ZONE.

8. EXCLUSIVE OF EMERGENCY WORK, THE PERMITTEE SHALL CONTACT OCCUPANTS OF ALL ADJOINING PROPERTIES AND INFORM THEM OF THE SCOPE AND THE TIMING OF CONSTRUCTION. A MINIMUM OF 24 HOURS NOTIFICATION SHALL BE REQUIRED PRIOR TO THE COMMENCEMENT OF ANY ACTIVITY ON THE SITE.

9. ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS UNLESS PERMISSION FOR CLOSURE IS GRANTED BY THE PROPERTY OWNER/MANAGER. HOWEVER, ACCESSIBILITY FOR EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES.

10. PAVEMENT EXCAVATION SHALL BE LIMITED TO A MAXIMUM OF ONE TRAVEL LANE AT ANY TIME UNLESS OTHERWISE SPECIFIED ON THE TTCP.

11. IF ANY TRAFFIC CONTROL SIGNS ARE TO BE PLACED ALONG A MSHA ROADWAY OR WITHIN THE LIMITS OF AN INCORPORATED AREA, THE PERMITTEE SHALL NOTIFY THE APPROPRIATE AGENCY OF SIGNAGE TO BE INSTALLED.

12. NO HAZARDOUS MATERIALS SHALL BE STORED WITHIN PUBLIC RIGHT-OF-WAY. NO MATERIALS OR EQUIPMENT SHALL BE STORED ON THE ROADWAY SURFACES OR SIDEWALK DURING NON-WORK HOURS.

13. ALL EXISTING TRAFFIC CONTROL DEVICES (I.E. SIGNS, MARKING, ETC.) THAT MUST BE REMOVED SHALL BE REPLACED IN THEIR PROPER LOCATION PRIOR TO THE COMPLETION OF THE PROJECT. COST FOR THE REPLACEMENT AND/OR REPAIR OF DEVICES DAMAGED AS A RESULT OF THE PROJECT SHALL BE ASSESSED TO THE PERMITTEE.

14. FOR MERGING, SHIFTING, SHOULDER TAPER, THE MAXIMUM SPACING BETWEEN DEVICES EQUALS THE POSTED SPEED IN FEET.

15. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MUTCD. ALL SIGNS, TRAFFIC DRUMS AND CONES SHALL BE FULLY REFLECTORIZED WITH HIGH INTENSITY, REFLECTIVE SHEETING AS PER THE MUTCD.

16. PROVISION SHALL BE MADE FOR SAFE MAINTENANCE OF PEDESTRIAN AND BICYCLE TRAFFIC, SUBJECT TO APPROVAL OF THE COUNTY'S DPS INSPECTOR. AT LEAST ONE 10-FOOT TRAVEL LANE SHALL BE AVAILABLE FOR TRAFFIC AT ALL TIMES.

17. SIGNAGE, TRAFFIC DRUMS, TRAFFIC CONES, AND ARROW PANELS SHALL BE PLACED IN ACCORDANCE WITH THE APPROPRIATE TYPICAL AND SPACING CHART. WORK AREA AHEAD (W20-1 MODIFIED) SIGNS MUST BE INSTALLED AT THE END OF EACH WORKDAY WHEN TEMPORARY AGGREGATE RAMPING IS IMPLEMENTED. CHANNELIZING DEVICES SHALL BE PLACED ALONG EXCAVATIONS AT TEN (10) FOOT INTERVALS. ARROW PANELS (FLASHING MODE ONLY) SHALL BE USED AT THE BEGINNING OF ANY LANE CLOSURE ON A MULTI-LANE ROADWAY.

18. APPROPRIATE DISTANCES FOR SIGN LEGENDS ARE "AHEAD", "500 FT", "1000 FT", "1500 FT", OR "1/2 MILE". FOR DISTANCES LESS THAN 500 FEET, "AHEAD" SHALL BE USED.

19. ALL WARNING SIGNS, UNLESS OTHERWISE SPECIFIED, SHALL BE A MINIMUM OF 48" X 48", BLACK SYMBOL OR LEGEND ON ORANGE BACKGROUND AND DIAMOND SHAPED. ALL WARNING SIGNS NOT APPLICABLE TO THE ACTUAL SITUATION SHALL BE REMOVED OR COVERED DURING NON-APPLICABLE PERIODS. ALL PORTABLE SIGNS SHALL BE MOUNTED A MINIMUM OF ONE (1) FOOT ABOVE THE LEVEL OF THE ROADWAY, WITH HIGHER MOUNTING HEIGHTS DESIRABLE.

20. DURING NIGHTTIME OPERATIONS TRAFFIC DRUMS SHALL BE USED. HOWEVER, FOR EMERGENCY WORK ACTIVITIES WHERE TRAFFIC DRUMS ARE NOT READILY AVAILABLE, REFLECTORIZED TRAFFIC CONES THAT ARE A MINIMUM OF TWENTY EIGHT (28) INCHES IN HEIGHT AND HAVING SIX (6) INCH AND FOUR (4) INCH REFLECTIVE COLLARS WITHIN THE TOP SIXTEEN (16) INCHES OF THE CONE MAY BE USED. ALL WORK AREAS LEFT UNATTENDED AT NIGHT SHALL BE DELINEATED WITH TRAFFIC DRUMS.

21. WHEN TEMPORARY CONCRETE BARRIER (TCB) IS USED, REFLECTORIZED MARKERS ARE REQUIRED AS PER TTCP 109.02. ALSO, A 12" X 36" OBJECT MARKER (VERTICAL PANEL AS PER TCP 109.01) SHALL BE INSTALLED.

22. WHEN PAVEMENT MARKINGS HAVE BEEN OBLITERATED BY THE WORK ACTIVITY, THE PERMITTEE SHALL INSTALL ANY CRITICAL INTERIM PAVEMENT MARKINGS PRIOR TO THE END OF THE WORKDAY AS SPECIFIED BY THE COUNTY'S DPS INSPECTOR AND/OR THE DIVISION OF TRAFFIC ENGINEERING AND OPERATIONS. ON ROAD SECTIONS THAT ARE NOT SCHEDULED TO BE OVERLAID, ALL TEMPORARY PAVEMENT MARKINGS SHALL BE (REMOVABLE) DETOUR GRADE MARKING TAPE. ANY CONFLICTING MARKINGS, WHICH NEED TO BE TEMPORARILY REMOVED, ARE TO BE MASKED USING "3M REMOVABLE BLACK LANE MASK" OR AN APPROVED EQUAL. ON ROAD SECTIONS THAT ARE TO BE OVERLAID, TEMPORARY MARKINGS CAN BE EITHER TAPE OR PAINT. ANY CONFLICTING MARKINGS SHOULD BE REMOVED WITH A PAVEMENT GRINDER.

FLAGGING OPERATIONS

1. WHEN POSSIBLE, TWO-WAY TRAFFIC SHALL BE MAINTAINED, OTHERWISE, FLAGGERS SHALL BE USED TO CONTROL TRAFFIC.

2. FLAGGERS SHALL BE MARYLAND STATE HIGHWAY ADMINISTRATION OR AATSA APPROVED FLAGGERS AND SHALL BE USED AT THE DIRECTION OF THE COUNTY INSPECTOR. FLAGGERS SHALL USE STOP/SLOW PADDLES TO DIRECT TRAFFIC.

3. RADIO COMMUNICATION SHALL BE REQUIRED BETWEEN FLAGGERS AT THE DISCRETION OF THE COUNTY INSPECTOR OR UNDER THE FOLLOWING CONDITIONS:
   A. IF THE FLAGGERS CANNOT SEE EACH OTHER.
   B. IF THE LANE CLOSURE EXCEEDS 200 FEET.

CONTACT INFORMATION

1. THE PERMITTEE SHALL CONTACT THE TRAFFIC ENGINEERING DESIGN & OPERATIONS SECTION (TEDO) AT 240-777-6000 AT LEAST TEN (10) WORKING DAYS IN ADVANCE OF THE FINAL PAVING OPERATION TO SCHEDULE THE INSTALLATION OF PERMANENT PAVEMENT MARKINGS AND SIGNS.

2. FIELD ASSISTANCE BY THE MCDOT, DIVISION OF TRAFFIC ENGINEERING AND OPERATIONS IS AVAILABLE UPON REQUEST. CONTACT TRAFFIC ENGINEERING DESIGN & OPERATIONS SECTION (TEDO) AT 240-777-6000.

PAVEMENT DROP-OFF

1. ANY EXCAVATION(S) IN THE ROADWAY SHALL BE PAVED TO LEVEL GRADE OR PLATED AND THE ROADWAY REOPENED TO ITS FULL CROSS-SECTION PRIOR TO THE END OF EACH WORKDAY. "STEEL PLATES" (W9-5(1)) SIGNS SHALL BE PLACED APPROXIMATELY 250 FEET IN ADVANCE OF ANY STEEL PLATE. ANY EXCAVATIONS IN THE SIDEWALK SHALL BE BACKFILLED OR PLATED PRIOR TO THE END OF EACH WORKDAY AND SIDEWALK REOPENED TO ITS FULL CROSS SECTION.

2. TRAFFIC SHALL NOT BE PERMITTED WITHIN TEN (10) FEET OF ANY EXCAVATION THAT RESULTS IN A VERTICAL DROP-OFF OF MORE THAN FIVE (5) INCHES IN THE LEVEL OF PAVEMENT DURING NON-WORKING HOURS UNLESS PROTECTED BY TEMPORARY CONCRETE BARRIERS OR RAMPED WITH AGGREGATE MATERIAL AT A 3:1 OR FLATTER SLOPE FROM THE EDGE OF PAVEMENT. WHEN RAMPING IS UTILIZED, TEMPORARY TRAFFIC CONTROL DRUMS SHALL BE POSITIONED ADJACENT TO THE EDGE OF THE WORK AREA ON THE TRAFFIC SIDE OF THE SLOPE.

3. TRAFFIC SHALL NOT BE PERMITTED WITHIN TWO (2) FEET OF ANY EXCAVATION THAT RESULTS IN A VERTICAL DROP-OFF OF MORE THAN TWO (2) INCHES BUT NO MORE THAN FIVE (5) INCHES IN THE LEVEL OF PAVEMENT DURING NON-WORKING HOURS UNLESS EITHER RAMPED WITH AGGREGATE MATERIAL AT A 3:1 OR FLATTER SLOPE, PROVIDED WITH AN ABUTTING WEDGE OF BITUMINOUS MATERIAL AT A 3:1 OR FLATTER SLOPE OR PROTECTED BY TRAFFIC DRUMS.

4. IN AREAS WHERE A DROP-OFF IN THE LEVEL OF PAVEMENT IS TWO (2) INCHES OR LESS, TRAFFIC MAY BE ALLOWED TO FREELY CROSS UNDER THE FOLLOWING CONDITIONS:

   A. WHERE LONGITUDINAL PAVING JOINTS OF TWO (2) INCHES OR LESS ARE EXPOSED TO TRAFFIC, WARNING SIGNS SHALL BE POSTED INDICATING "UNEVEN LANES" (W8-11). THESE SIGNS SHOULD BE PLACED 250 FEET IN ADVANCE OF THE UNEVEN JOINT AND BE SPACED AT APPROPRIATE INTERVALS THROUGHOUT THE AREA OF THE UNEVEN JOINT.

   B. WHERE LATERAL PAVING JOINTS OF TWO (2) INCHES OR LESS ARE EXPOSED TO TRAFFIC, A "BUMP" (W8-1) SIGN SHALL BE POSTED 100 FEET IN ADVANCE OF THE JOINT.

   C. WHEN MILLED PAVEMENT IS LEFT EXPOSED TO TRAFFIC A "ROUGH ROAD"(W8-8) OR "GROOVED PAVEMENT" (W8-8A) SIGN SHALL BE PLACED 250 FEET IN ADVANCE OF THE MILLED AREA.

INSPECTOR AUTHORITY

1. THE COUNTY'S DEPARTMENT OF PERMITTING SERVICES (DPS) INSPECTOR HAS THE AUTHORITY TO MODIFY THE TTCP AS DEEMED NECESSARY. THE INSPECTOR HAS THE AUTHORITY TO ORDER THE PERMITTEE TO STOP WORK AND VACATE THE PUBLIC RIGHT-OF-WAY IF THE TTCP IS NOT COMPLIED WITH.

2. THE IMPLEMENTATION DATE AND CONTINUANCE OF WORK ACTIVITIES MAY BE ALTERED AT THE DISCRETION OF THE COUNTY'S DPS INSPECTOR IN THE EVENT OF CONFLICTS WITH PREVIOUSLY APPROVED OR EMERGENCY ACTIVITIES.

MISCELLANEOUS

1. THE PERMITTEE WILL BE SOLELY RESPONSIBLE FOR ALL ACCIDENTS AND/OR DAMAGE TO PERSONS AND/OR PROPERTY DAMAGE RESULTING FROM HIS OPERATIONS.

2. HAZARDOUS MATERIALS SHALL NOT BE STORED WITHIN PUBLIC RIGHT-OF-WAY. NO MATERIALS OR EQUIPMENT SHALL BE STORED ON THE ROADWAY SURFACE OR SIDEWALK DURING NON-WORK PERIODS. ALL STORED MATERIALS AND EQUIPMENT SHALL BE SET BACK AT LEAST SIX (6) FEET BEHIND THE CURB ALONG A CLOSED SECTION ROADWAY AND AT LEAST TWELVE (12) FEET FROM THE EDGE OF AN OPEN SECTION ROADWAY.

3. ALL TEMPORARY TRAFFIC CONTROL (TTC) DEVICES SHALL BE REMOVED AS SOON AS PRACTICAL WHEN THEY ARE NO LONGER NEEDED. WHEN WORK IS SUSPENDED FOR SHORT PERIODS OF TIME, TTC DEVICES THAT ARE NO LONGER APPROPRIATE SHALL BE REMOVED OR COVERED.

4. AT THE COMPLETION OF WORK ACTIVITIES, CONDITIONS WITHIN THE PUBLIC SPACE SHALL BE FULLY RESTORED TO THOSE THAT EXISTED PRIOR TO THE WORK ACTIVITY.

PARKING RESTRICTIONS

1. PERMITTEE SHALL CONTACT THE MCDOT, DIVISION OF PARKING MANAGEMENT AT 240-777-6000 A MINIMUM OF 48 HOURS IN ADVANCE TO ARRANGE FOR PAYMENT AND THE BAGGING OF ALL PARKING METERS WITHIN THE WORK ZONE. METER NUMBERS AND LOCATION MUST BE SPECIFIED.

2. DPS INSPECTOR AT ANY TIME. PROHIBITING THE USE OF METERED SPACES BY THE CONTRACTOR/PERMITTEE WITHOUT RECEIPT OF "BAGGING AGREEMENT" IS SUBJECT TO FINES.

3. CONTRACTOR/PERMITTEE SHALL COORDINATE WITH DIVISION OF PARKING MANAGEMENT TO MAKE PAYMENT FOR ADDITIONAL BAGGING AND REMOVAL WHENEVER MORE SPACES ARE TEMPORARILY REQUIRED

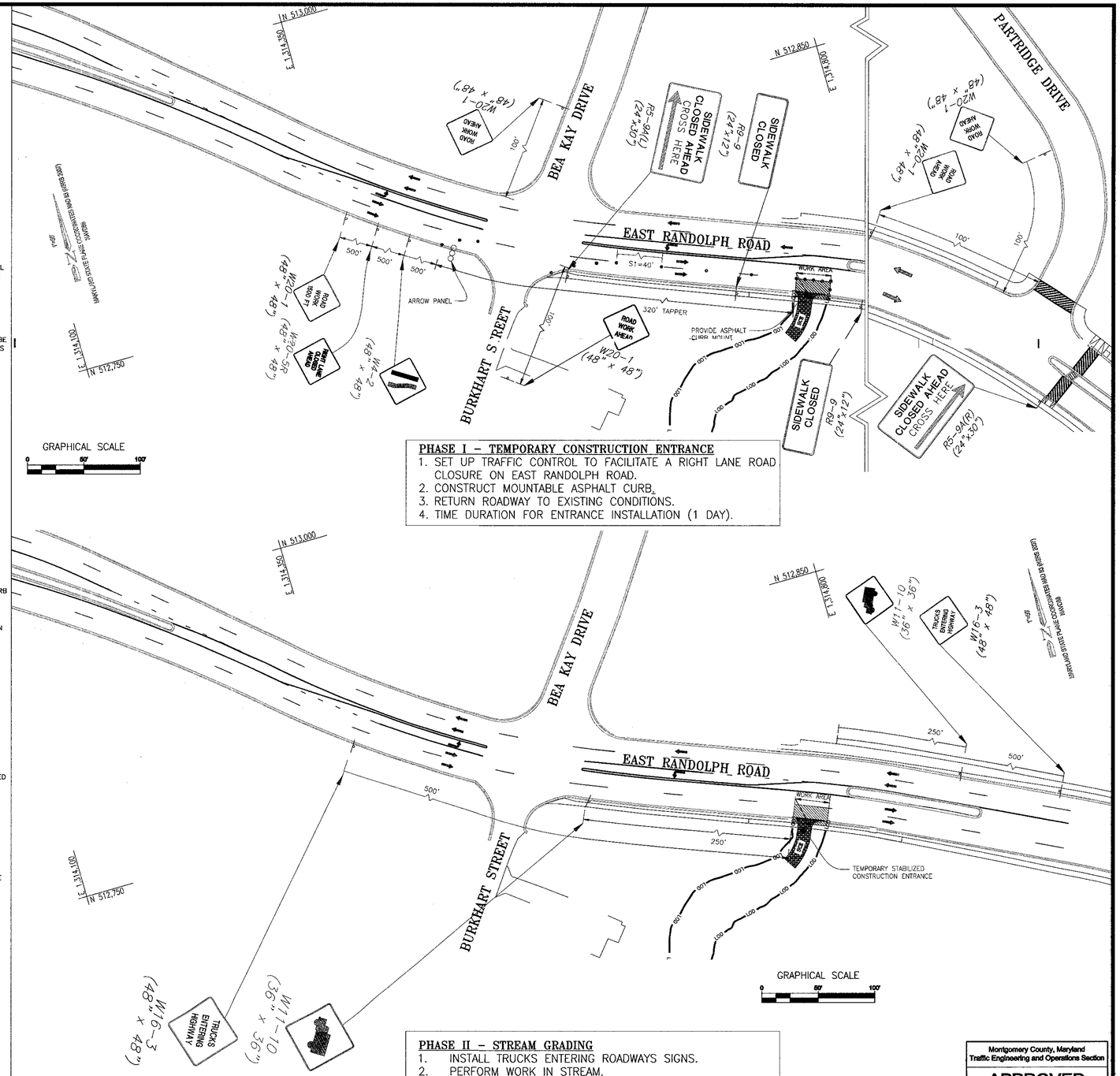
4. ALL EXISTING MONTGOMERY COUNTY "PARKING" SIGNS SHALL BE COVERED OR BAGGED BY THE CONTRACTOR/PERMITTEE FOR THE DURATION OF WORK; AND A TEMPORARY "NO PARKING ANYTIME" (R7-4) SIGN SHALL BE INSTALLED IN THE AFFECTED PARKING SPACE(S). EXISTING MONTGOMERY COUNTY PARKING METER PIPES/POLES SHALL NOT BE USED FOR TEMPORARY INSTALLATION.

5. WHEN IT IS NECESSARY TO RESTRICT PARKING IN A NON-METERED AREA TO FACILITATE WORK ACTIVITY, THE PERMITTEE SHALL CONTACT THE APPROPRIATE COUNTY POLICE STATION FOR TEMPORARY "NO PARKING" SIGNS.

6. THE CONTRACTOR/PERMITTEE SHALL RESTORE ALL AFFECTED MONTGOMERY COUNTY PARKING SIGNAGE TO THEIR PREVIOUS CONDITION.

LEGEND

WORKZONE	
DRUM/CONE	•
SIGN	I
DIRECTION OF TRAFFIC	⇦
SPACING OF DRUMS	S_1 = 40'
SPACING OF DRUMS	S_2 = 10'
ARROW PANEL	∞



PHASE I – TEMPORARY CONSTRUCTION ENTRANCE
1. SET UP TRAFFIC CONTROL TO FACILITATE A RIGHT LANE ROAD CLOSURE ON EAST RANDOLPH ROAD.
2. CONSTRUCT MOUNTABLE ASPHALT CURB.
3. RETURN ROADWAY TO EXISTING CONDITIONS.
4. TIME DURATION FOR ENTRANCE INSTALLATION (1 DAY).

PHASE II – STREAM GRADING
1. INSTALL TRUCKS ENTERING ROADWAYS SIGNS.
2. PERFORM WORK IN STREAM.
3. RETURN ROADWAY TO EXISTING CONDITIONS.
4. TIME DURATION FOR PHASE II STREAM GRADING (4 WEEKS).

Montgomery County, Maryland
Traffic Engineering and Operations Section
APPROVED
FOR _____
BY _____
Date

Prepared for:
Montgomery County Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, Maryland 20850
Phone: (240) 777-7713
Attn: Mr. Craig Carson

MONTGOMERY COUNTY, MD
Hollywood Branch
MNCPPC
P 825
Tax Map JR61

Hollywood Branch Stream Stabilization
MAINTENANCE OF TRAFFIC PLAN

DATE: 03/2013			
DESIGNED: BMF			
DRAFTED: JLJ			
CHECKED: JBB			
BASE DATA: CPJA/MC LIDAR	NO.	REVISIONS	BY DATE

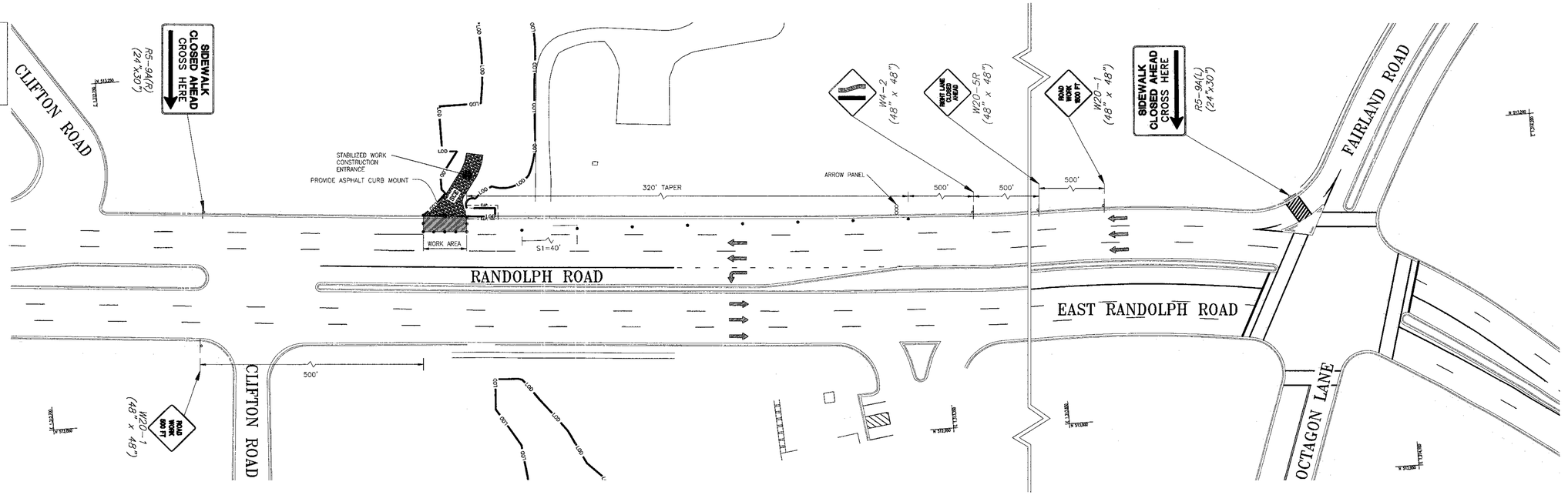
CPJ Associates
CPJ Environmental Services Division
STREAM RESTORATION • STORMWATER MANAGEMENT • INSPECTION
910 CLOPPER ROAD, STE 215N GAITHERSBURG MARYLAND 20878
Phone:(301)208-9675 E-mail: envcpja.com Fax:(301)926-4551
SILVER SPRING, MD FREDERICK, MD FAIRFAX, VA

MOT-1
SCALE 1"=50'
SHEET 67
OF 68 Drawings
JOB NO. 38-507

Plotted: Apr 18, 2013 - 11:03am User: jbross
Xrefs: 24x36 standard.dwg
wr1-10.dwg

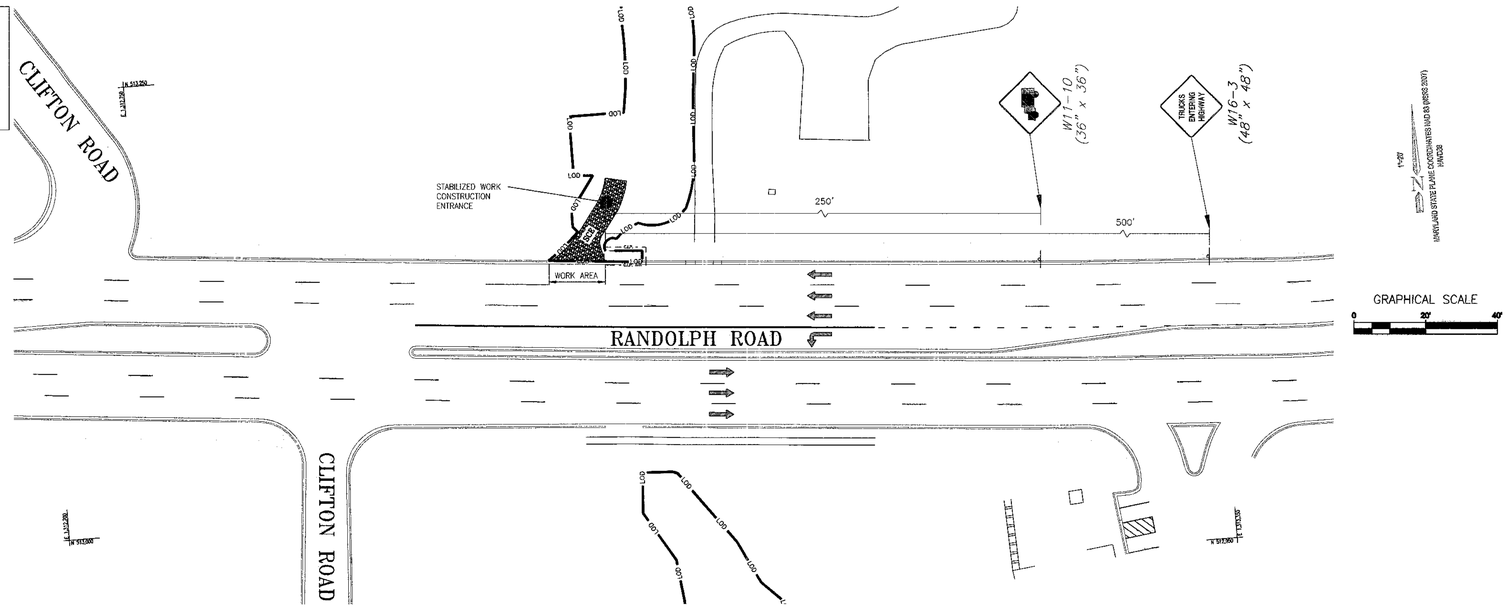
PHASE I – TEMPORARY CONSTRUCTION ENTRANCE

1. SET UP TRAFFIC CONTROL TO FACILITATE A RIGHT LANE ROAD CLOSURE ON RANDOLPH ROAD.
2. CONSTRUCT MOUNTABLE ASPHALT CURB.
3. RETURN ROADWAY TO EXISTING CONDITIONS.
4. TIME DURATION FOR ENTRANCE INSTALLATION (1 DAY).



PHASE II – OFFSITE GRADING WORK

1. INSTALL TRUCKS ENTERING ROADWAY SIGNS.
2. PERFORM WORK IN STREAM
3. RETURN ROADWAY TO EXISTING CONDITIONS.
4. TIME DURATION FOR PHASE II OFFSITE GRADING WORK (4 WEEKS).



LEGEND

WORKZONE	
DRUM/CONE	•
SIGN	⊣
DIRECTION OF TRAFFIC	⇦
SPACING OF DRUMS	S_1 = 40'
SPACING OF DRUMS	S_2 = 10'
ARROW PANEL	∞

Montgomery County, Maryland
Traffic Engineering and Operations Section

APPROVED

FOR _____

BY _____ Date

Prepared for:
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MONTGOMERY COUNTY, MD
Hollywood Branch
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MOT-2

SCALE 1"=20'
SHEET 68
OF 68 Drawings
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N:\38507\Design\38-507dsn.dgn
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