DAMAGE SURVEY REPORT (DSR) Emergency Watershed Protection Program – Recovery

Section 1A	El	RCS Entry Only igible: YES	NO	
Date of Report:	Approved: YES NO Funding Priority Number (from Section 4)			
DSR Number: Project Number:	Limited Resource Area: VES NO			
Section 1B Spons				
Sponsor Name:				
Address:				
City/State/Zip:				
Telephone Number: Fax:				
Section 1C Site Loc				
County: State:	Congre	ssional District:		
Latitude: Longitude:	Section: _	Township:	Range:	
UTM Coordinates:				
Drainage Name:	Reach:			
Damage Description:				
Section 1D Sit				
All answers in this Section must be YES in order to be eligible for E Site Eligibility	YES	nce.	Remarks	
Damage was a result of a natural disaster?*	1123	NO	Kemarks	
Recovery measures would be for runoff retardation or soil				
erosion prevention?* Threat to life and/or property?*				
Event caused a sudden impairment in the watershed?*				
•				
Imminent threat was created by this event?**				
For structural repairs, not repaired twice within ten years?**				
Site Defensibility				
Economic, environmental, and social documentation adequate to warrant action (Go to pages 3, 4, 5 and 6 ***) Proposed action technically viable? (Go to Page 9 ***)				
Have all the appropriate steps been taken to ensure that all segments program and its possible effects? YES NO	s of the affect	ted population have	been informed of the EWP	

^{*} Statutory

^{**} Regulation

^{***} DSR Pages 3 through 5 are required to support the decisions recorded on this summary page. If additional space is needed on this or any other page in this form, add appropriate pages.

	Section 1E Propo	sed Action
Describe the prefer	red alternative from Findings: Section 5 A:	
Total installation co	ost identified in this DSR: Section 3: \$	
	Section 1F NRCS State Office	e Review and Approval
Reviewed By:	State EWP Program Manager	Date Reviewed:
Annroved By:		Date Approved:

State Conservationist

DSR NO: _____

PRIVACY ACT AND PUBLIC BURDEN STATEMENT

NOTE: The following statement is made in accordance with the Privacy Act of 1974, (5 U.S.C. 552a) and the Paperwork Reduction Act of 1995, as amended. The authority for requesting the following information is 7 CFR 624 (EWP) and Section 216 of the Flood Control Act of 1950, Public Law 81-516, 33 U.S.C. 701b-1; and Section 403 of the Agricultural Credit Act of 1978, Public Law 95334, as amended by Section 382, of the Federal Agriculture Improvement and Reform Act of 1996, Public Law 104-127, 16 U.S.C. 2203. EWP, through local sponsors, provides emergency measures for runoff retardation and erosion control to areas where a sudden impairment of a watershed threatens life or property. The Secretary of Agriculture has delegated the administration of EWP to the Chief or NRCS on state, tribal and private lands.

Signing this form indicates the sponsor concurs and agrees to provide the regional cost-share to implement the EWP recovery measure(s) determined eligible by NRCS under the terms and conditions of the program authority. Failure to provide a signature will result in the applicant being unable to apply for or receive a grant the applicable program authorities. Once signed by the sponsor, this information may not be provided to other agencies. IRS, Department of Justice, or other State or Federal Law Enforcement agencies, and in response to a court or administrative tribunal.

The provisions of criminal and civil fraud statutes, including 18 U.S.C. 286, 287, 371, 641, 651, 1001; 15 U.S.C. 714m; and 31 U.S.C. 3729 may also be applicable to the information provided. According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0578-0030. The time required to complete this information collection is estimated to average 117/1.96 minutes/hours per response, including the time for reviewing instructions, searching existing data sources, field reviews, gathering, designing, and maintaining the data needed, and completing and reviewing the collection information.

USDA NONDISCRIMINATION STATEMENT

"The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, martial status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programms.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202)720-2600 (vocie and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW., Washington, DC 20250-9410, or call (800)795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Civil Rights Statement of Assurance

The program or activities conducted under this agreement will be in compliance with the nondiscrimination provisions contained in the Titles VI and VII of the Civil Rights Act of 1964, as amended; the Civil Rights Restoration Act of 1987 (Public Law 100-259); and other nondiscrimination statutes: namely, Section 504 of the Rehabilitation Act of 1973, Title IX of the Amendments of 1972, the Age Discrimination Act of 1975, and the Americans with Disabilities Act of 1990. They will also be in accordance with regulations of the Secretary of Agriculture (7 CFR 15, 15a, and 15b), which provide that no person in the United States shall on the grounds of race, color, national origin, gender, religion, age or disability, be excluded from participation in, be denied the benefits of, or otherwise subjected to discrimination under any program or activity receiving Federal financial assistance from the U.S. Department of Agriculture or any agency thereof.

Section 2 Environmental Evaluation

2A Resource	2B Existing	2C Alternative Designation		
Concerns	2B Existing Condition	Proposed Action	No Action	Alternative
		2	D Effects of Alternativ	es
Soil		_		
Water				
Air				
Plant				
Animal		l e		
Other				
Julei				

DSR NO:	
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Section 2E Special Environmental Concerns

Existing Condition			
	Proposed Action	No Action	Alternative
	Existing Condition	Existing Condition A	

Completed By:	Date:	

DSR NO:		

Section 2F Economic

This section must be completed by each alternative considered (attach additional sheets as necessary).

	Future Damages (\$)	Damage Factor (%)	Near Term Damag
			Reduction
Properties Protected (Private)			
-			
Properties Protected (Public)			
Business Losses			
Other			
	Total Near Term Dar		
Net Benefit (Total Near Term	Damage Reduction minus Cos	st from Section 3)	

Completed By:	Date:	
---------------	-------	--

Section 2G Social Consideration This section must be completed by each alternative considered

(attach additional sheets as necessary).

	YES	NO	Remarks
Has there been a loss of life as a result of the watershed impairment?			
Is there the potential for loss of life due to damages from the watershed impairment?			
Has access to a hospital or medical facility been impaired by watershed impairment?			
Has the community as a whole been adversely impacted by the watershed impairment (life and property ceases to operate in a normal capacity)			
Is there a lack or has there been a reduction of public safety due to watershed impairment?			
Completed By:		Date:	

Completed By:	Date:	

DSR NO:	
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Section 2H Group Representation and Disability Information

This section is completed only for the preferred alternative selected.

Group Representation Number					
American Indian/Alaska Native Female Hispanic					
American Indian/Alaska Native Female Non-Hispanic					
American Indian/Alaska Native Male Hispanic					
American Indian/Alaska Native Male Non-Hispanic					
Asian Female Hispanic					
Asian Female Non-Hispanic					
Asian Male Hispanic					
Asian Male Non-Hispanic					
Black or African American Female Hispanic					
Black or African American Female Non-Hispanic					
Black or African American Male Hispanic					
Black or African American Male Non-Hispanic					
Hawaiian Native/Pacific Islander Female Hispanic					
Hawaiian Native/Pacific Islander Female Non-Hispanic					
Hawaiian Native/Pacific Islander Male Hispanic					
Hawaiian Native/Pacific Islander Male Non-Hispanic					
White Female Hispanic					
White Female Non-Hispanic					
White Male Hispanic					
White Male Non-Hispanic					
Total Group					
Census tract(s)					
Completed By:	Date:				

DSR NO:	
Section 2I. Required consultation or coordination between the lead agency and/or the RFO and another governmental unincluding tribes:	ınit
Easements, permissions, or permits:	
Mitigation Description:	
Agencies, persons, and references consulted, or to be consulted:	
rigoriotos, portonio, and references comparted, or to be comparted.	



UNITED STATES DEPARTMENT OF AGRICULTURE

NY-NRCS-PDM-20-8A (NY Supplement to DSR)

Section 3 - ENGINEERING SITE EVALUATION

Completed by:	DSR No: Date:	
Name	54.0.	
Section 3A		
Locate and mark the beginning and end of the project reach at stable banks.		
Length of project reach:		
How will the bank stabilization be keyed back into the stable bank sections?		Include this length in the total.
Locate a benchmark and grade control. Determine the average slope of the reac	:h.	
Determine the typical cross section upstream and down.		
Determine the height of the low bank and the height of structural protection needs	ed.	
Look for opportunities to use vegetation rather than structural measures.		
Identify if a sill/weir is required in the channel to stabilize the channel bottom.		
How many sills/weirs are required?	What spacing?	
What depth of key is required in the toe of the slope? 3' 2	13	
Determine if a plunge pool is required. Size the plunge pool. W:	L:	D:
Determine the slope of the bank needed in the protected area.		
Determine if geotextile fabric is needed behind the structure.		
Determine estimated quantities of excavation, fill, clearing, and debris removal for	r section B.	
Determine the needed pollution control and dewatering practices.		
Determine the need for traffic control or road closure.		
Make a plan view sketch that includes the following: The alignment of the streambank to be repaired and the protected structure. The existing stream thalweg, north, the bench mark, and apparent land lidentify items not to be disturbed during construction (e.g., trees, mailbook lidentify debris to be removed. Locate all utilities. Identify spoil/staging area. Identify construction limits and access.	lowners.	

Take and label photographs.

	DSR NO:		
	Section 3 Engineering Cost I	Estimate	
Completed By:		Date:	

This section must be completed by each alternative considered (attach additional sheets as necessary).

Proposed Recovery Measure (including mitigation)	Quantity	Units	Unit Cost (\$)	Amount (\$)
	Total Inst	 tallation Cost (Ente	er in Section 1F)\$	

Unit Abbreviations:

AC Acre

CY Cubic Yard

EA Each

HR Hour

LS Lump Sum

SF Square Feet

SY Square Yard

HR Ton

LF Linear Feet

Other (Specifiy)

DSR NO:

Section 4 NRCS EWP Funding Priority

Complete the following section to compute the funding priority for the recovery measures in this application (see instructions on page 10).

Priority Ranking Criteria	Yes	No		Ranking Number Plus Modifer
1. Is this an exigency situation?				
2. Is this a site where there is serious, but not immediate threat to human life?				
3. Is this a site where buildings, utilities, or other important infrastructure components are threatened?				
4. Is this site a funding priority established by the NRCS Chief?				
The following are modifiers for the above criteria			Modifier	
a. Will the proposed action or alternatives protect or conserve federally-listed threatened and endangered species or critical habitat?	_	_		
b. Will the proposed action or alternatives protect or conserve cultural sites listed on the National Register of Historic Places?				
c. Will the proposed action or alternatives protect or conserve prime or important farmland?				
d. Will the proposed action or alternatives protect or conserve existing wetlands?				
e. Will the proposed action or alternatives maintain or improve current water quality conditions?				
f. Will the proposed action or alternatives protect or conserve unique habitat, including but not limited to, areas inhabited by State-listed species, fish and wildlife management area, or State identified sensitive habitats?				

	Enter pri	ority con	nputation	in	Section	1A.	NRCS	Entry	. Fu	nding	priority	v number.
--	-----------	-----------	-----------	----	---------	-----	------	-------	------	-------	----------	-----------

Remarks:

DSR NO:

Section 5A Findings

Finding: Indicate the preferred alternative	from Section 2 (Enter to Section 1E):
	the alternatives on the Environmental Economic, Social; the Special Environmental es (40 CFR 1508.27). I find for the reasons stated below, that the preferred alternative:
Has been sufficiently analyzed i Chapter Chapter Chapter Chapter Chapter Chapter	in the EWP PEIS (reference all that apply)
May require the preparation of a The action will be referred to the NRO	an environmental assessment or environmental impact statement. CS State Office on this date:
NRCS representative of the DSR team:	
Name/Title:	Date:
Section 5B Comments:	
Section 5C Sponsor Concurrence:	
Sponsor Representative	
Title:	Date:
Section 6 Attachments: A. Location Map B. Site Plan or Sketches	

- B. Site Plan or SketchesC. Other (explain)

INSTRUCTIONS FOR COMPLETING THE NRCS-PDM-20, DSR

	Explanation of Requested Item	Who Completes		
Section 1	Enter Site Sponsor, Location, Evaluation, Selected Alternative, and	NRCS completes		
	Reviewed and Approval Signatures.	with voluntary		
1A	Enter the Date, DSR Number, Project Number. For NRCS only enter	only enter assistance from		
	Eligible Yes/No, Approved Yes/No, Funding Priority Number, and	Sponsor except for		
	Limited Resource Area Yes/No.	NRCS only portion		
1B	Enter Sponsor Name, Address, Telephone, Fax	of Section 1A.		
1C	Enter site location County, State, Congressional District, Latitude,			
	Longitude, Section, Township, Range, UTM Coordinates, Drainage			
	Name, Reach within drainage, and Damage Description.			
1D	Enter Yes/No and any Remarks for the Site Evaluation information.			
	Any No response means the site is not eligible for EWP assistance			
	and no further information is necessary to complete the DSR. (See			
	NEWPPM 390-502.03 and 390-502-04)			
	Enter Yes/No regarding whether the affected public has been			
	informed of the EWP program.			
1E	Enter the proposed treatment and the cost of installation.	NRCS only.		
1F	NRCS Review and Approval.			

	Explanation of Requested Item	Who Completes
Section 2	Use available natural resource, economic, and social, information,	NRCS completes
	including the EWP Programmatic Environmental Impact Statement	with voluntary
	(PEIS), to <u>briefly</u> describe the effects of the alternatives to the	assistance from
	proposed action including the "no action" alternative.	Sponsor.
	Typically, the proposed action and no action are the alternatives	
	considered for EWP recovery measures due to the focus on repairing	
	or preventing damages within a watershed. However, in cases where	
	additional alternatives are considered, include all pertinent	
	information to adequately address the additional alternatives (e.g.,	
	proposed action would be bio-engineering for bank stabilization, no	
	action alternative, and an additional alternative may be riprap for	
	bank stabilization).	
	Do not leave blanks where a consideration is not applicable, use NA	
	to indicate the factor was considered but not applicable for the	
	alternative.	
2A	List all resource concerns which are relevant to the area of the	
	proposed action and alternatives. Refer to National Bulletin 450-5-8	
	TCH-COMPLETING AND FILING MEASUREMENT UNITS	
	FOR RESOURCE CONCERNS IN THE FIELD OFFICE	
	TECHNICAL GUIDE (FOTG). Note: the affected area may extend	
	beyond the construction foot print (ex. where water quality or water	
	rights are affected downstream of the site).	
2B	Provide a brief description of the present condition of each resource	
	concern listed in 2A. Quantify conditions where possible. Reference	
	accompanying photo documentation.	
2C	Briefly summarize the practice/system of practices being proposed,	
	as well as the "no action" alternative, and any other alternatives	
	being considered. The "no action" alternative is the predicted future	
	condition if no action is taken.	
2D	Document the efforts of the proposed action and alternatives for the	
	considerations listed in 2A. Reference applicable quality criteria,	
	information in the CPPE, and quantify effects whenever possible.	
	Consider both long-term and short-term effects. Consider any effects	
	which may be individually minor but cumulatively significant at a	
	larger scale or over an extended time period. Clearly define the	
	differences between proposed action, no action, and the other	
	alternatives.	

2E	Enter Special Environmental Concerns for Clean Water Act Waters of the U.S., Coastal Zone Management Areas, Coral Reefs, Cultural Resources, Endangered and Threatened Species, Environmental Justice, Essential Fish Habitat, Fish and Wildlife Coordination, Floodplain Management, Invasive Species, Migratory Birds, Natural Areas, Prime and Unique Farmlands, Riparian Areas, Scenic Beauty, Wetlands, and Wild and Scenic Rivers for each alternative considered. In the case where the selected alternative from Section 5A impacts a Special Environmental Concern, additional information, coordination, permitting or mitigation may be required and adequate documentation should be prepared and attached to the DSR to identify how NRCS or the Sponsor addressed the concern	
2F	Identify Property Protected both private and public, business losses and other economic impacts considered for each alternative. Enter the dollar value of the potential future damages if no action is taken in the Future Damage (5) column. This would be the estimate of the value lost if the EWP recovery measure is not installed. Use the repair cost or damage dollar method to determine the estimate of future damages. The repair cost method uses the costs to return the impaired property, good, or services based on their original pre-event condition or value. The damage dollar method uses an estimate of the future damage to value (e.g. if the structure is condemned, then enter the value of the structure). Enter the estimated amount based upon existing information or information furnished by the sponsor, contractors or others with specific knowledge for recovery from natural disasters for each alternative considered. Often market values for properties or services can be obtained from personnel at the local county/parish tax assessment office. The DSI team needs to determine the Damage Factor (%) which is a coefficient that indicates the degree of damage reduction to a property that is attributed to the effect of the proposed EWP recovery measures. Use an appropriate estimate of how much of the damage the EWP recovery measure will avoid for the alternative being considered. If the recovery measures from a single site will prevent 100 percent of the damage use 100 percent. The Near Term Damage Reduction is the Future Damage (\$) times the Damage Factor (%). Sum the Near Term Damage Reduction. Enter the Net Benefit which is computed by subtracting the Cost from section 3 from the total near term damage reduction. The economic section must be completed for each alternative considered.	
2G	Enter information to describe the potential social impacts and considerations for each alternative. Answer Yes or No and any remarks necessary to adequately address each question. The information may be obtained through interviews with community leaders, government officials or sponsors. Factors such as road closures, loss of water, electricity, access to emergency services are used when answering whether the community as a whole has been impaired. This information is part of the environmental evaluation portion of the DSR but may be pertinent in Section 4 regarding priorities. The Social Considerations Section must be completed for each alternative considered. Attach additional sheets as necessary.	
2Н	Enter the Group Representation Information for the preferred alternative. Use the most recent census tract information based upon where the EWP recovery measures are located.	Sponsor completes.

2I	Enter whether easement, permissions, or permits, and mitigation will	NRCS completes
21	require consultation or coordination for the selected alternative (e.g.,	with voluntary
	Clean Water Act section 404 permit, Endangered Species Act	assistance from
	section 10 permits, and any State or county permits or requirements).	Sponsor.
	Describe mitigation to be applied that will offset any adverse	•
	impacts and attach any documentation from other agencies regarding	
	mitigation requirements.	
	Explanation of Requested Item	Who Completes
Section 3	Enter Proposed Recovery Measure(s) including Quantity, Units, Unit	NRCS completes
	Cost, and Total Amount Cost.	with voluntary
	Enter sum of all Proposed Recovery Measure Costs to calculate	assistance from
	Total Costs. Enter Total Installation Costs in Section 1F.	Sponsor.
	The Engineering Cost Estimate must be completed for each	
	alternative considered. Attach additional sheets as necessary.	
G 44 4	Explanation of Requested Item	Who Completes
Section 4	This section is used to determine the Funding Priority for the	NRCS completes
	preferred alternative and sequence for initiating recovery measures.	with voluntary assistance from
	Enter Yes/No for questions 1 through 4 and enter the number (exigency 1, serious threat to human life 2, etc.) in the right column,	Sponsor.
	Ranking Number Plus Modifier. Complete the Modifier portion by	Sponsor.
	placing the alphabetic indicator a. through f. in the Modifier column.	
	Complete the Ranking Number Plus Modifier column by entering	
	the alphabetic indictor(s) that exists within the site. The number of	
	the site designates the priority (e.g., a site with a designation of 2 is a	
	higher priority that a site with a designation of 3). The modifiers	
	increase the priority for the same numeric site (e.g., a site with a	
	designation of 1a, would be a higher priority than a site with a	
	designation of 1, a site with a designation of 2bc would be a higher	
	priority than a site designated as 2b). Enter the Funding Priority in	
	Section 1A.	
	Explanation of Requested Item	Who Completes
Section 5	Enter the Findings, Rationale Supporting Findings, NRCS	NRCS completes.
	Representative signature and Comments, and Concurrence signature	
	by the Sponsor(s).	
5A	Indicate the preferred alternative and check the applicable finding	
	being made. The NRCS Representative signs indicating the Finding	
	selected. If the proposed action was adequately addressed in the	
5D	PEIS, check all appropriate chapter paragraphs.	
5B	Enter any additional Comments.	C (-)
5C	Sponsor(s) review and concurrence.	Sponsor(s) signature.
Section 6	Include attachments for location map, site sketch or plan and other	NRCS completes
	information as needed.	I with waluntary
	information as needed.	with voluntary
	information as needed.	assistance from

Sponsor.

State		Project		
NY		EWP- Little Sch Checked by	oharie Creek-Rea	ch A
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By Date Checked by Date Date Creek - Kerch A By Date Checked by Date Date WAY 2/21/12 Subject Conceptual Design Analysis's Quantities for Cost Estimation Sneet 2 of 12 3 Charle Length Flage 'Gake Control Conceptual Design control From NY-Hydrobias2-WAV. Assa, Channel Plan-proposed tale, Strain Slige Occas to be appear 0.005 flet to produce target flow conclutions as follows? Prom Slige = 0.005 flet and Parabolic channel of Max Dapid = 4.4 ft \$ A = 161 sq. ft & 160 sq. ft target A = 161 sq. ft & 160 sq. ft target V = 5.3 flee & 5 fless target Then, 9600 LF steem x 0.005 flet = 48 ft of fall due to slope. The remainder of the existing fall (120 ft - 48 ft = 72 ft) to be accomplished with flow control for target for the fall due to slope. The remainder of the existing fall (120 ft - 48 ft = 72 ft) to be accomplished with flow control for the existing fall (120 ft - 48 ft = 72 ft) to be accomplished. The remainder of the existing fall (120 ft - 48 ft = 72 ft) to be accomplished. Cranel Top Water & 9,600 ft Flowin. Li Assume 72 cock cross various reget for the will require approx. Cranel Top Water & 9,600 ft Flowin. Cranel Top Water & 55 ft Pank Angle = 25 degrees Value Right (As) = 5 ft Use Water Water Length = 105 ft Tell Varier Length = 105 ft Tell Varier Length = 105 ft Tell Varier Length = 20 ft Total Varier Length = 20 ft	State	1.7							oject		1	۱.		_	**************************************	1	,		`	١		\bigcirc	***************************************	1	٨	***************************************	THE REAL PROPERTY.	N MINNYMAN	***************************************	y paydaan y d arika	·	
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Total Kayaray Length = 20ft Total Vine Fale Area = 625 sq.ft		C	Ove	all	Van	Le	cy	R-	=		25	1															-					
Total Vane Fale Area = 625 sq.ft		II.	J21	Kay	aray	4	out	A	7																natur start a pr							
		To	41	Yone	Face	A	PA		=	6	25	s	i.H	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Price-strender	-	n vs degras	d Strict Confess	*****	gravaras das	se sentences	copyring surple	L-p-p-t-q-q-	706/57164	energy was depart						******	.200000
		_					-													فتيس	,				مو ادر در ادر در در در د							
72 cross vanes × 625 sq.A = 45,000 sq.A. Total Face Arga of Cross vanes.			72	900	ss Ve	oe:	×	62	5	S _A A		pad garage	A	5,1	200	25	g.f		ota	LF	ice.	Ara	ca c	+0	િપ્ર	Vc	nes	e				
			one-property			-	-		\	line	2-																					
				ļ		ļ																										

State	Project FUP-Little Schol	hucie Creak-Reach A
By Date 2/21/12	Checked by	harie Creek-Reach A Date Dob No. Dob # 5 S-TM-07
0		
Conceptual Design Analysis	s & Quantities for Cost	Sheet 3 of 12
0 5 2 2 1 (1)	·	Tot Can V so o
(4) Temporary Bank Stabi	ILECTION (DIDECTOR DESCRIPTION	Ut) at Cross revies o
Assume Willow with >/-	fascines used at each c	coss vane for temperary bank stubilization.
Ateach Vane assum	L 2 Gars, each 40 A	long on each side of stream
2 rows ×2	Ofteach × 291des =	= 160 LF at each cross vane
0.72	cross vanes =	= 11,520 LF Total
11/50	\$ 11,500 LF Wile	Jacobson de Caranas
(5) Gravel Removal/Reloc	Assume	1001F/hr can be installed by unskilled labor " I backhoe
4.00		
The existing trapozoide	I channel in this teach	is, for the most part, larger and wider than
that suggested by Fea	ional curves. Also,	trapezoidal berms of grave /cobbles exist
		h. For the proposes of this correptual-level
cost astimate, it is a	ssumed that the bec	m material can be removed and relocated
nearby to restore de	sized channel geom	etry. Excess bern material, if any will be
Transported to mearby	y Channel of Hoody	plain preus within the reach as needed.
It is hope assume	d that, on average c	over the reach, the gravel/cobble born to
be removed/relocated	15 00 Pallo 15 8	K-84->
A=1(8++24+)(4	n = 64 c a	44
2		
		249
Then for the existing R	each Longta = BA78A	and a born on each side of the channel's
Bern Volume =	6490 A B 500 L	× 2 gides = 1,088,000 cu.ft
		= 40,300 cv.yd.
I		

State NY Project EWP- Little Schohafie Creek-Reach A	
Ry Date Checked by Date Job No.	
WAV 2/21/12 DSR# 85-	TM-07
Conceptual Design Analysis & Grantities for Cost Estimating Sheet 4	of 12
(5) Gravel Removal/Relocation Cont. 5	
Assume that an equipment group of 1 excavator (mid-size), 1 boildozer (mid	-4120), and
I dump truck can remove/relocate approx. 100 cr of material per hour	and place
this material in its final location.	
	7. 1.1.1.
Then, 40,000 cy - 400 hours regid for 1 Excenter, 1 Dozer: 1 Day	Muck ARCh
	2000
*Also add 400 hours of Skilled Labor for Foreman/	Supt./Surveyor
6 Dewatering	
Assume 19 at some level of devotering will be required. Assume 19 at appr	1001E
channel can be reconstructed per day.	amenderate constitution of the constitution of
Then, I all the state of the st	
9/600 AF Channel (new alignment) - 9(0 days (Major Construction	
100 LF/day	
Use: 100 days of Mayor Channel reconstruction (for Dewatering	
7) Seeding & Mulching &	
Assume a 100 A wide swater on each side of new channel to be seede	
Assume a 100 fl wide swater on each side of new channel to be seede	allmoichea.
Then, 9,600 LF x 100 ft, 2 > des = 1,920,000 sq. ft,	
sile I I I I I I I I I I I I I I I I I I I	
=44 acres.	
Use à 45 acres Seeding Mulching	
(8) Conceptual-Level Cost Estimate 5	

	Stream	Length	Valley	Stream S	Sinuosity	Appro	x. Elevation	n Data	Stream	n Slope	F	Raw Bank Area	
Description	Pre-Flood	Post-Flood	Length	Pre-Flood	Post-Flood	US Elev.	DS Elev.	Fall	Pre-Flood	Post-Flood	Left Bank	Right Bank	Total
	(ft)	(ft)	(ft)			(ft)	(ft)	(ft)	(%)	(%)	(sq.ft.)	(sq.ft.)	(sq.ft.)
Schoharie Creek to NYS Rte.													
145	8,478	8,478	8,000	1.1	1.1	740	620	120	1.4	1.4	88,226	87,851	176,077
NYS Rte. 145 to Chichester													
property	8,274	7,626	6,800	1.2	1.1	860	740	120	1.5	1.6	198,082	106,290	304,372
Chichester property to near													
Lawton Hollow Rd.	6,036	5,170	4,850	1.2	1.1	960	860	100	1.7	1.9	87,650	64,603	152,253
Lawton Hollow Rd. to Gridley													
Rd.	6,653	6,669	5,750	1.2	1.2	1,150	960	190	2.9	2.8	123,489	129,484	252,973
Total, 4 Reaches	29.441	27.943	25.400	1.2	1.1			530			497.447	388,228	885,675
Total) Theadhes	23,112	27,313	23,100					330			.37,117	300,220	003,073
	Schoharie Creek to NYS Rte. 145 NYS Rte. 145 to Chichester property Chichester property to near Lawton Hollow Rd. Lawton Hollow Rd. to Gridley	Description Pre-Flood (ft) Schoharie Creek to NYS Rte. 145 8,478 NYS Rte. 145 to Chichester property 8,274 Chichester property to near Lawton Hollow Rd. 6,036 Lawton Hollow Rd. to Gridley Rd. 6,653	Schoharie Creek to NYS Rte. 145 NYS Rte. 145 to Chichester property Chichester property to near Lawton Hollow Rd. Lawton Hollow Rd. to Gridley Rd. 6,653 6,669	Description Pre-Flood (ft) Post-Flood (ft) Length (ft) Schoharie Creek to NYS Rte. 8,478 8,478 8,000 NYS Rte. 145 to Chichester property 8,274 7,626 6,800 Chichester property to near Lawton Hollow Rd. 6,036 5,170 4,850 Lawton Hollow Rd. to Gridley Rd. 6,653 6,669 5,750	Description Pre-Flood (ft) Post-Flood (ft) Length (ft) Pre-Flood (ft) Schoharie Creek to NYS Rte. 8,478 8,478 8,000 1.1 NYS Rte. 145 to Chichester property 8,274 7,626 6,800 1.2 Chichester property to near Lawton Hollow Rd. 6,036 5,170 4,850 1.2 Lawton Hollow Rd. to Gridley Rd. 6,653 6,669 5,750 1.2	Description Pre-Flood (ft) Post-Flood (ft) Length (ft) Pre-Flood Post-Flood (ft) Schoharie Creek to NYS Rte. 8,478 8,000 1.1 1.1 NYS Rte. 145 to Chichester property 8,274 7,626 6,800 1.2 1.1 Chichester property to near Lawton Hollow Rd. 6,036 5,170 4,850 1.2 1.1 Lawton Hollow Rd. to Gridley Rd. 6,653 6,669 5,750 1.2 1.2	Description Pre-Flood (ft) Post-Flood (ft) Length (ft) Pre-Flood (ft) US Elev. (ft) Schoharie Creek to NYS Rte. 8,478 8,478 8,000 1.1 1.1 740 NYS Rte. 145 to Chichester property 8,274 7,626 6,800 1.2 1.1 860 Chichester property to near Lawton Hollow Rd. 6,036 5,170 4,850 1.2 1.1 960 Lawton Hollow Rd. to Gridley Rd. 6,653 6,669 5,750 1.2 1.2 1,150	Description Pre-Flood (ft) Post-Flood (ft) Length (ft) Pre-Flood (ft) Post-Flood (ft) US Elev. (ft) DS Elev. (ft) Schoharie Creek to NYS Rte. 8,478 8,478 8,000 1.1 1.1 740 620 NYS Rte. 145 to Chichester property 8,274 7,626 6,800 1.2 1.1 860 740 Chichester property to near Lawton Hollow Rd. 6,036 5,170 4,850 1.2 1.1 960 860 Lawton Hollow Rd. to Gridley Rd. 6,653 6,669 5,750 1.2 1.2 1,150 960	Description Pre-Flood (ft) Post-Flood (ft) Pre-Flood (ft) Pre-Flood (ft) Pre-Flood (ft) Pre-Flood (ft) Pre-Flood (ft) Pre-Flood (ft) DS Elev. (ft) Fall (ft) Schoharie Creek to NYS Rte. 8,478 8,478 8,000 1.1 1.1 740 620 120 NYS Rte. 145 to Chichester property 8,274 7,626 6,800 1.2 1.1 860 740 120 Chichester property to near Lawton Hollow Rd. 6,036 5,170 4,850 1.2 1.1 960 860 100 Lawton Hollow Rd. 6,653 6,669 5,750 1.2 1.2 1,150 960 190	Description	Description	Description Pre-Flood Post-Flood Length Pre-Flood Post-Flood US Elev. DS Elev. Fall Pre-Flood Post-Flood Left Bank	Description Pre-Flood Post-Flood Cength Pre-Flood Cength Pre-Flood Post-Flood US Elev. DS Elev. Fall Pre-Flood Post-Flood Left Bank Right Bank

	Estimate	ed Strear	n Chann	el Geom	etry - Little Schoha	rie Creel	< 2011 E	WP Cost I	Estimatin	g				
					Locations on the Little	e Schoharie	Creek and	lyzed for EV	NP Cost Fst	imatinσ				
Parameter	Little Scho	harie at Gr	idlev Rd		Little Scho. just below			Little Scho				Little Schoharie at VanA	ller Farm	Notes/Comments
Drainage Area, DA (sq.mi.)		10.2	(sq.mi.)		15.1	(sq.mi.)			18.1	(sq.mi.)		24.3 (s	q.mi.)	
Flow, Q (cfs) Del. Cty. SWCD 2005 Regional Curve Q _{RF}														
$(= 28.65*DA^{1.01})$		200				(6)			504	<i>((((((((((</i>		740/		
			(cfs)			(cfs)				(cfs)		719 (0	its)	
USGS StreamStats Q1.5		273			397				472			628		
USGS StreamStats Q2 USGS StreamStats Q5		369 666			538 971				638 1150	"		849 1530	11	
USGS StreamStats Q _{BF}		717			974				1130	"		1410	11	
Average Q _{BF}		508			709				827	"		1064	п	
										(-f-)			f-)	
Selected Q _{BF} (cfs)		350	(cfs)		500	(cfs)			600	(cfs)		800 (0	ets)	
Bankfull Area, A _{BF} (sq.ft.) and Bankfull														
Velocity, V _{BF} (ft/sec)														
Del. Cty. SWCD 2005 Regional Curve A _{BF}														
(= 7.01*DA ^{0.93})	61	(sq.ft.)	į	(ft/sec)	88 (sq.ft.)	5	(ft/sec)	104	(sq.ft.)	5	(ft/sec)	136 (sq.ft.)	5 (ft/sec)	
USGS StreamStats A _{BF}	109	II .	-	7 "	148 "	7	"	170	"	7	"	214 "	7 "	
Average A _{BF}	85	"	(5 "	118 "	6	"	137	"	6	"	175 "	6 "	
Selected A _{BF} (sq.ft.)	70	(sq.ft.)	į	5 (ft/sec)	100 (sq.ft.)	5	(ft/sec)	120	(sq.ft.)	5	(ft/sec)	160 (sq.ft.)	5 (ft/sec)	
DCSWCD Post-Flood curve for East														
Branch Del. Basin (for comparison)	61				88			104				137		
Bankfull Width, W _{BF} (ft)														
DCSWCD 2005 Reg. Curve A _{BF} and														
W/D=16 for upper reaches (B-Type),														
W/D=18 for lower reaches (C-Type)		31	(ft)		37	(ft)			43	(ft)		50 (f	t)	
USGS StreamStats W _{BF}		50	"		60	"			65	"		74	11	
Average W _{BF}		40	"		49	"			54	"		62	п	
Selected W _{BF} (ft)		35	(ft)		40	(ft)			45	(ft)		55 (f	t)	
DCSWCD Post-Flood curve for East														
Branch Del. Basin (for comparison)		33			41				46			55		
Bankfull Depth, D _{BF} (ft)														
DCSWCD 2005 Reg. Curve A _{BF} /W _{BF}		1.9	(ft)		2.3	(ft)			2.4	(ft)		2.8 (f	t)	
USGS StreamStats D _{BF}		2.2			2.5	ıı .			2.7	11		2.9	п	
Average D _{BF}		2.1	"		2.4	11			2.5	11		2.8	"	
Selected D _{BF} (ft)			(ft)			(ft)				(ft)		2.9 (f	t)	
DCSWCD Post-Flood curve for East										·				
Branch Del. Basin (for comparison)		1.9			2.1				2.3			2.5		
Resulting W/D ratio (dimensionless)		18			16				17			19		
Resulting D _{max} (cross vane sizing)		3.0			3.8				4.0			4.4		
					rie Geometry EWP Co									

Section	Area	Wetted Perimeter	Hydroulic Rodius	Top Width T
Trapezoid	bd+#d²	b+2dV=2+/	bd+2d2 b+2d/22+1	b+2 #d
Rectangle	bd	6+20	<u>bd</u> b+2d	Ь
Triangle	2 d 2	20/82+1	2 V = 2+1	2 g d
Parabola	2/3 dT	7 + \frac{8d^2}{37}	2072 372+802	<u>3 a</u> 2 d

Little Schoharie Creek Reach A - Existing Conditions (Jan. 2012) - Trapezoidal Channel

Given	Slope (s) = Manning's n = Bottom Width b		Side Slope	Compute Top Width	Wetted Perimeter	Hydraulic Radius	Area a	Velocity V	Discharge Q	Shear Stress	Average Rock feet
Trapezoid	40	6	2	64	66.83	4.67	312.00	12.31	3841.09	4.08	3.77410995
•	40	U	2	04		-					
Rectangle				Ü	0.00	#DIV/0!	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Triangle				0	0.00	#DIV/0!	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Parabola					#DIV/0!	#DIV/0!	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Specific Weight of Water = Shield's Equation

62.4 lbs/ft³

 $\tau = \text{Shear Stress (lbs/ft}^2)$

 $au = \gamma RS$

 γ = specific weight of water (lbs/ft³)

R=hydraulic radius (ft)

$$V = \frac{1.49}{n} R^{2/3} S^{1/2} \quad ^{\text{Q=VA}}$$

Section	Area	Wetted Perimeter	Hydroulic Rodius	Top Width T
Trapezoid	bd+#d²	b+2dV=2+/	bd+2d2 b+2d/22+1	b+2 #d
Rectangle	bơ	b+2d	<u>bd</u> b+2d	6
Triangle	2 d 2	20/82+1	<u>#d</u> 2 / # 2+ /	2 g d
Parabola	2/3 dT	7 + \frac{8d^2}{37}	2dT2 3T2+8d2	<u>3 a</u> 2 d

Little Schoharie Creek Reach A - Stream Length increased to 9600 LF to achieve minimum sinuosity of 1.2. Resulting slope unaltered.

Given	Slope (s) = Manning's n = Bottom Width	0.0125 0.04 Flow Depth	Side Slope	Compute Top Width	Wetted Perimeter	Hydraulic Radius	Area	Velocity	Discharge	Shear Stress	Average Rock
	Bolloili Widili	Flow Depth	Side Slope	Top Widin	wetted Fermieter	nyuraulic Raulus	Area	velocity	Discharge	311622	ROCK
_	b	d	z	Т	р	r	а	V	Q	τ	feet
Trapazoid				0	0.00	#DIV/0!	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle				0	0.00	#DIV/0!	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Triangle				0	0.00	#DIV/0!	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Parabola		4.4		55	55.94	2.88	161.33	8.44	1361.38	2.25	3.43768218

Specific Weight of Water = Shield's Equation

62.4 lbs/ft

 $\tau = \text{Shear Stress (lbs/ft}^2)$

 $au = \gamma RS$

 γ = specific weight of water (lbs/ft³)

R=hydraulic radius (ft)

$$V = \frac{1.49}{n} R^{2/3} S^{1/2} \quad ^{\text{Q=VA}}$$

Section	Area	Wetted Perimeter	Hydroulic Rodius	Top Width T
Trapezoid	bd+#d²	b+2dV=2+/	bd+2d2 b+2d/22+1	b+2 #d
Rectangle	bd	b+2d	<u>bd</u> b+2d	Ь
Triangle	2 d 2	20/82+1	<u>#d</u> 2 / # 2+ /	2 g d
Parabola	2/3 dT	7 + \frac{8d^2}{3\tau}	2dT2 3T2+8d2	<u>3 a</u> 2 d

Little Schoharie Creek Reach A - proposed conditions to model selected bankfull parameters. Stream Length increased to 9600 LF to achieve minimum sinuosity of 1.2. Required slope of 0.005 ft/ft to be achieved with cross-vanes.

Given	Slope (s) =	0.005		Compute							
-	Manning's n =	0.04		-						Shear	Average
	Bottom Width	Flow Depth	Side Slope	Top Width	Wetted Perimeter	Hydraulic Radius	Area	Velocity	Discharge	Stress	Rock
_	b	d	z	Т	р	r	а	V	Q	τ	feet
Trapazoid				0	0.00	#DIV/0!	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle				0	0.00	#DIV/0!	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Triangle				0	0.00	#DIV/0!	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Parabola		4.4		55	55.94	2.88	161.33	5.34	861.01	0.90	2.91951977

Specific Weight of Water =

Shield's Equation

 $\tau = \text{Shear Stress (lbs/ft}^2)$

 $\tau = \gamma RS$

 γ = specific weight of water (lbs/ft³)

R=hydraulic radius (ft)

$$V = \frac{1.49}{n} R^{2/3} S^{1/2}$$
 Q=VA

2011 Schoharie County EWP By: W. VanDeValk DSR No.: S-TM-07 Date: 2/17/2012 Site Description: Little Schoharie Reach A Given Vane Height assumed to vary from 6 ft in center of channel to 4 ft at keyways) left bank CW = 55 ft (channel top width) Keyway into bank 10 0 BA = 25 (stream bank to structure angle) right bank 5.0 Vane Height = ft (Top Rock to Bottom of Footer) Keyway into bank 10 Vane Width = 3.0 ft (perpendicular to flow) Flow 1/3 1/3 1/3 Н BA BA ≈ ва ≈ BA L W W W CW **Find** Tan(BA) = W/L1) Determine weir length, ft. Solution Sin(BA) = W/HW =18 ft (CW/3) Assume thalweg bed elev. = 100, 39 (W/TAN(BA)) vane elev. @ thalweg = 101, ft 43 ft (W/SIN(BA)) BF elev. = 104.4 (Dmax = 4.4 ft), H = top of rock elev. = 104.5 **Overall Weir Length** 105 ft ((H*2)+W)Invert Sill Left Arms Arm Lengtl TW Elev. BKF Elev. Slope (%) Keyway Length Sill Length 43 101.0 104.5 8.07% 10 18 Right Arms Center 1/3 BKF Elev. Slope (%) Keyway Length Arm Lengtl TW Elev. 43 101.0 104.5 8.07% Drop in vane elevation 3.5 ft left 3.5 ft right Face Area Vol (yds³) (ft^2) Vol (ft³) Length (ft) Tons Vane Arm Totals = 434 1301 48 96 87 Invert Sill Totals = 18 92 275 10 20 Keyway Totals = 20 100 300 11 22 Totals: 125 625 1876 69 139

2011 Schoharie Coι	inty EWP			By:	W. VanDeValk
Engineer's Construction	ction Cost Estimate			Date:	2/21/2012
DSR No.:			Sponsor:		
Site Description:	Little Schoharie Creek, Reach	А			
Itam	Description	Unit cost	l Init	Ougntitus	Item cost
Item Mobilization/Demobilization	Description	\$5,000.00		Quantity	
	Hoovey stone (in place)	\$67.00	1,7	2	\$10,000 \$0
Rip rap	Heavy stone (in place)	\$100.00		0	\$0 \$0
	Medium stone (in place)	\$60.00		0	\$0
	iviediditi storie (ili piace)	\$90.00		0	\$0
	Dumped rock (in place)	\$53.00	, ,	0	\$0
	Dumped rock (in place)	\$80.00		0	\$0
	Pinning		ft wall/# rock layers	0	\$0
Gravel	2" minus screened (in place)	\$10.00		0	\$0
Glavei	#2 Stone (in place)	\$22.00	,	0	\$0
	Cobbles (in place)		-	0	\$0
	Bankrun (in place)	\$15.00 \$12.00		0	\$0 \$0
Geotextile	Darikiuri (iii piace)	\$12.00		0	\$0 \$0
Geo-grid		\$0.15		0	\$0 \$0
		\$85.00		400	\$34,000
Trucking Excavator	large	\$170.00		400	\$34,000
Excavator	mid-size	\$170.00	1	400	\$56,000
Backhoe	1111G-512E	\$140.00		115	\$13,800
Dozer	large	\$120.00		115	\$13,600
Dozei	mid-size	\$130.00		400	\$52,000
Labor	skilled	\$50.00	1	200	\$10,000
Laboi	unskilled	\$35.00		115	\$4,025
Willow stakes	w/o labor		stake	115	\$4,023
Wattles & Fascines	w/o labor	\$9.00		11500	\$103,500
Brush layering	w/o labor		bundle	11300	\$103,300
Brush mattress	w/o labor	\$3.00		0	\$0
Silt fence	installed & maintained	\$5.00		0	\$0
Straw blanket		\$175.00		0	\$0
	100 sq yard/roll 65 sq yard/roll	\$175.00		0	\$0
Geo-jute Dewatering	small pump (<4"), incl. setup	\$3,000.00		0	\$0
Dewatering	mid-size (6") incl. setup	\$5,000.00		100	\$500,000
	` ,	\$8,000.00		100	\$500,000
Seeding & Mulching	large (8-12") incl. setup	\$2,000.00		45	\$90,000
Seeding & Mulching		\$0.05		0	\$90,000
		\$0.05	SQ II	U	Φ0
Overhead and Profit, %	20		Overbeau	d and Profit	\$174,665
Overnead and Front, 76	20		Subtotal, excluding Wa		\$1,047,990
		,	Jubiolai, excluding vva	JII Oysteriis	\$1,047,990
Wall System costs (in place	: wall system only; includes	OH&B)			
Sheet Piling	Under 1000 sq ft	\$35.00	en ft	0	\$0
Sheet Filling	Over 1000 sq ft	\$30.00		0	\$0 \$0
Rip rap	6' wall stacked/pinned	\$30.00		45000	\$1,485,000 625 x 72
ταρ	8' wall stacked/pinned	\$33.00		13000 0	\$1,485,000 025 x 72
	10' wall stacked/pinned	\$30.00	-	0	\$0
	12' wall stacked/pinned	\$29.00		0	\$0
Precast concrete	T-wall system	\$35.00		0	\$0 \$0
Trecast concrete	Recon wall system	\$35.00		0	\$0
Reinforced earth	w/geogrid & fill (15' depth)	\$22.00		0	\$0
Reillioiced eartii	W/geogna & IIII (15 deptil)	\$22.00	SQ II	U	φ0
				Subtotal	\$2,532,990
Contingency %	10			ontingency	\$2,532,990 \$253,299
Additional %	0		C	Additional	
AUUIIIUII 70	0			Auditional	\$0
			T-1	ol Coting at a	\$0.700.000
İ			101	al Estimate	\$2,786,289

Il need to dewater for 3 days					
Il need to dewater for 3 days				ı	
		Quantity in key/toe	12	(based on trapezoidal	key)
2.5	ft				-
length of slope for 1.5:1 (ft)	quantitiy/ft	@ 1.5:1	lin footage	total rock	
			0		су
9.01	1.28	cy/ft	0	0	су
10.82	1.45	cy/ft	0	0	су
12.62	1.61	cy/ft	0	0	су
14.42	1.78	cy/ft	0	0	су
16.22	1.95	cy/ft	0	0	су
18.03	2.11	cy/ft	0	0	су
19.83	2.28	cy/ft	0	0	су
21.63	2.45	cy/ft	0	0	су
length of slope for 2:1	guantitiy/ft	@ 2:1			
	1.27	cy/ft	0	0	су
11.18			0	0	су
13.42	1.69	cy/ft	0		су
15.65	1.89	cy/ft	0		су
17.89	2.10	cy/ft	0		су
20.12	2.31	cy/ft	0		су
22.36			0		су
24.60	2.72	cy/ft	0	0	су
26.83	2.93	cy/ft	0	0	су
	2.5 length of slope for 1.5:1 (ft) 7.21 9.01 10.82 12.62 14.42 16.22 18.03 19.83 21.63 length of slope for 2:1 8.94 11.18 13.42 15.65 17.89 20.12 22.36 24.60	3 ft 2.5 ft 2.5 ft length of slope for 1.5:1 (ft) quantitiy/ft 7.21 1.11 9.01 1.28 10.82 1.45 12.62 1.61 14.42 1.78 16.22 1.95 18.03 2.11 19.83 2.28 21.63 2.45 length of slope for 2:1 quantitiy/ft 8.94 1.27 11.18 1.48 13.42 1.69 15.65 1.89 17.89 2.10 20.12 2.31 22.36 2.51 24.60 2.72	Second	Second	Second Store Seco

2011 EWP- Middleburgh (T) Little Schoharie - Reach A Elev. ~ 620' AMSL Raw Bank Heights - Jan. 2012 at Schoharie Creek Right_Bank_Ht_Reach_A BankHeight - 1 - 5 6 - 10 - 11 - 14 15 Left_Bank_Ht_Reach_A BankHeight 1 - 5 6 - 10 11 - 20 21 - 45 VanAller_to_Rte145 8478ft @ 1.4% Elev. ~ 740' AMSL at NYS Rte. 145

4,000

4,500

1,000

250

500

2,000

2,500

3,000

3,500

1,500

□ Feet

5,000

DSR # S-TM-07 (Little Schoharie Creek Reach A) – 2/02/12 Site Photos



Photo 8: 30-40 ft high raw left bank with significant seepage near upstream end of reach



Photo 15: close-up of white pine on failed left bank with failure plane crack visible U:\ENG Files\EWP\2011\August_2011\Schoharie_Cty\DSRs\07-Midd_LittleScho_A\Photos\LittleScho_A_Photos_02-02-12.docx

DSR # S-TM-07 (Little Schoharie Creek Reach A) – 2/02/12 Site Photos



Photo 25: looking upstream at overwidened channel with loose gravel berms on both banks



Photo 46: looking downstream at overwidened channel with high gravel berm on left bank U:\ENG Files\EWP\2011\August_2011\Schoharie_Cty\DSRs\07-Midd_LittleScho_A\Photos\LittleScho_A_Photos_02-02-12.docx

DSR # S-TM-07 (Little Schoharie Creek Reach A) – 2/02/12 Site Photos



Photo 50: looking downstream at overwidened channel with high gravel berms on both banks



Photo 60: looking downstream at overwidened channel with center bars forming
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DSR # S-TM-07 (Little Schoharie Creek Reach A) – 2/02/12 Site Photos



Photo 76: looking downstream at gravel berm along left bank



Photo 83: Looking across channel at ~ 8-9 foot high loose gravel berm on right bank U:\ENG Files\EWP\2011\August_2011\Schoharie_Cty\DSRs\07-Midd_LittleScho_A\Photos\LittleScho_A_Photos_02-02-12.docx

DSR # S-TM-07 (Little Schoharie Creek Reach A) – 2/02/12 Site Photos



Photo 85: looking upstream at channel just above confluence with Schoharie Creek



Photo 94: looking upstream at gravel berm along left bank of channel & floodplain
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