ORIGINAL

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL. WAYNE T. DONER, ET AL.	:	
Relators,	:	
v.	:	Case No.: 2009-1292
SEAN D. LOGAN, DIRECTOR OHIO DEPARTMENT OF NATURAL RESOURCES, ET AL.	:	
Respondents.	:	

RESPONDENTS' PRESENTATION OF EVIDENCE

Bruce L. Ingram (0018008)
(Counsel of Record)
Joseph R. Miller (0068463)
Thomas H. Fusonie (0074201)
Kristi Kress Wilhelmy (0078090)
Martha C. Brewer (0083788)
Vorys, Sater, Seymour and Pease LLP
52 East Gay Street
P.O. Box 1008
Columbus, Ohio 43216-1008
Tel.: (614) 464-6480
Fax: (614) 719-4775
blingram@vorys.com
jrmiller@vorys.com
thfusonie@vorys.com
kkwilhelmy@vorys.com
mcbrewer@vorys.com

Attorneys for Relators

William J. Cole (0067778)
(Counsel of Record)
Mindy Worly (0037395)
Jennifer S.M. Croskey (0072379)
Assistant Attorneys General
30 East Broad Street, 26th Floor
Columbus, Ohio 43215
Tel: (614) 466-2980; Fax: (866) 354-4086
william.cole@ohioattorneygeneral.gov
mindy.worly@ohioattorneygeneral.gov
jennifer.croskey@ohioattorneygeneral.gov

Dale T. Vitale (0021754)
Rachel H. Stelzer (0083124)
Daniel J. Martin (0065249)
Assistant Attorneys General
Environmental Enforcement Section
2045 Morse Road # D-2
Columbus, Ohio 43229
Tel.: (614) 265-6870; Fax: (614) 268-8871
dale.vitale@ohioattorneygeneral.gov
rachel.stelzer@ohioattorneygeneral.gov
daniel.martin@ohioattorneygeneral.gov

Attorneys for Respondents

FILED
JUN 01 2010
CLERK OF COURT
SUPREME COURT OF OHIO

Pursuant to S. Ct. Prac. R. X, Section 7, Respondents, by and through their counsel, hereby submit Respondents' Presentation of Evidence, which consists of the following documents under the corresponding sequential tabs:

Tab	**Description**
A.	Affidavit of Tadd H. Henson (with exhibits) A. 3/3/2010 Grand Lake Saint Marys Hydrologic and Hydraulic Modeling 4/29/2010 Grand Lake Saint Marys Hydrologic and Hydraulic Modeling B. 5/26/2010 Grand Lake Saint Marys – Response to Moir deposition and affidavit (with plates 1-40)
B.	Certified copy of meteorological records from the National Climatic Data Center
C.	Certified copy of climate data from the Midwestern Regional Climate Center
D.	Deposition of Keith Earley (with exhibits) A. 2/5/1992 Correspondence from ODNR to Mr. Earley B. 12/22/1993 Correspondence from ODNR to Mr. Earley 9/6/1994 Correspondence from Mr. Earley to Senator Robert Cupp C. 9/20/1994 Correspondence from Senator Cupp to ODNR D. 10/31/1997 Correspondence from Mr. Earley to Rep. Buchy E. 2/26/2010 Affidavit of Mr. Earley (with exhibits) 1. 11/19/1991Correspondence from Mr. Earley to ODNR 2. 2/12/1992 Correspondence from Mr. Earley to ODNR 3. 9/24/1993 Correspondence from Mr. Earley to ODNR 4. 2/15/1994 Correspondence from Mr. Earley to ODNR 5. 5/31/1994 Correspondence from Mr. Earley to Jones & Stucky 6. 9/6/1994 Correspondence from Mr. Earley to Senator Cupp F. 11/22/1991 Correspondence from the Mercer County Commissioners G. 2/28/1992 Correspondence form Sam Hellwarth, Jr. to ODNR
E.	Doner Conservation Reserve documents
F.	Kuhn Conservation Reserve documents
G.	McNeilan Conservation Reserve documents
H.	Meier Conservation Reserve documents
I.	Powell Conservation Reserve documents

J. Sheets Conservation Reserve document

K. Suhr Conservation Reserve documents

L. 1998 Crop loss documents
- Doner documents
- Kuhn documents
- Meier documents
- Suhr documents

M. 2003 Crop loss documents
- Doner documents
- Johnsman documents
- Knapke documents
- Kuhn documents
- McNeilan documents
- Meier documents
- Sheets (Duane) documents
- Sheets (Rodney) documents
- Suhr documents
- Sutter documents
- Z Farms documents

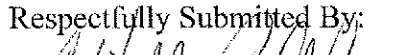
N. 2005 Crop loss documents
- Doner documents
- Johnsman documents
- Knapke documents
- Kuhn documents
- McNeilan documents
- Meier documents
- Sheets documents
- Sutter documents

O. Affidavit of Jay Dorsey (with exhibit)
- A. Curriculum Vitae of Jay Dorsey

P. Relators' Discovery Responses
- Relators' Responses to Respondents Interrogatory and Request for Production
- Relators' Responses to Respondents' Additional Interrogatories and Requests for Production and Requests for Admission to Relator

Dated: June 1st, 2010

Respectfully Submitted By:

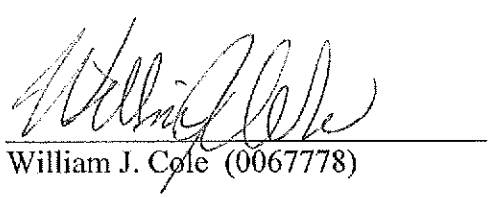


William J. Cole (0067778)
(Counsel of Record)
Mindy Worly (0037395)
Jennifer S.M. Croskey (0072379)
Assistant Attorneys General
30 East Broad Street, 26th Floor
Columbus, Ohio 43215
Tel: (614) 466-2980; Fax: (866) 354-4086
william.cole@ohioattorneygeneral.gov
mindy.worly@ohioattorneygeneral.gov
jennifer.croskey@ohioattorneygeneral.gov

Dale T. Vitale (0021754)
Rachel H. Stelzer (0083124)
Daniel J. Martin (0065249)
Assistant Attorneys General
Environmental Enforcement Section
2045 Morse Road # D-2
Columbus, Ohio 43229
Tel.: (614) 265-6870; Fax: (614) 268-8871
dale.vitale@ohioattorneygeneral.gov
rachel.stelzer@ohioattorneygeneral.gov
daniel.martin@ohioattorneygeneral.gov
Attorneys for Respondents

CERTIFICATE OF SERVICE

I certify that a copy of the foregoing was hand-delivered on June 1, 2010, to Bruce L. Ingram, Joseph R. Miller, Thomas H. Fusonie, Kristi Kress Wilhelmy, and Martha C. Brewer, Vorys, Sater, Seymour & Pease, 52 E. Gay St., P.O. Box 1008, Columbus, OH 43216.



William J. Cole (0067778)

Attachment not scanned

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL.	:	
WAYNE T. DONER, ET AL.	:	
	:	
Relators,	:	
	:	
v.	:	Case No.: 2009-1292
	:	
SEAN D. LOGAN, DIRECTOR	:	
OHIO DEPARTMENT OF	:	
NATURAL RESOURCES, ET AL.	:	
	:	
Respondents.	:	
	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB A

AFFIDAVIT OF TADD H. HENSON

STATE OF OHIO)
) SS:
COUNTY OF FRANKLIN)

Tadd H. Henson, being first duly sworn, states as follows:

1. I am competent to make the statements contained in this affidavit and I have personal knowledge of the facts stated, which are true and accurate to the best of my knowledge.

2. Attached to this Affidavit as Exhibit A are two CD-Roms, dated March 18, 2010 and April 29, 2010. The March 18, 2010 CD-Rom contains the original reports and the HEC-HMS and HEC-RAS modeling that Stantec Consulting Services, Inc. used in its original expert reports. The April 29, 2010 CD-Rom contains an updated technical report and the HEC-HMS and HEC-RAS modeling with a corrected rating curve for the pre-1997 spillway at Grand Lake St. Marys.

3. Following Respondents' deposition of James Moir, an expert witness for Relators, Respondents engaged me to prepare a written memorandum that responds to questions and concerns that Mr. Moir raised in his deposition and affidavit. That memorandum, which contains my expert opinion and the facts and data on which my opinion is based, was completed on May 26, 2010. A copy of the memorandum, with supporting documents and CD-Rom, is attached as Exhibit B.

4. The May 26, 2010 CD-Rom also contains the HEC-HMS and HEC-RAS modeling that Stantec Consulting Services, Inc. ("Stantec") used. The HEC-HMS modeling on the May 26, 2010 CD-Rom is identical to the HEC-HMS contained on the April 29, 2010 CD-Rom. The HEC-RAS modeling on the May 26, 2010 CD-Rom is updated in accordance with the responsive memorandum attached as Exhibit B to this Affidavit.

AFFIDAVIT OF TADD H. HENSON

5. The HEC-HMS and HEC-RAS programs that Stantec used for its modeling were developed by the Army Corps of Engineers and are available for download at the following website http://www.hec.usace.army.mil/.

FURTHER AFFIANT SAYETH NAUGHT

I swear or affirm under the penalties of perjury and falsification that the foregoing is true and correct.

Tadd H. Henson

Sworn to and subscribed before me this 27th day of May, 2010.

Notary Public

NOTARIAL SEAL STATE OF OHIO

WILLIAM J. COLE
ATTORNEY AT LAW
Notary Public, State of Ohio
My Commission Has No Expiration Date
Section 147.03 ORC

Attachment not scanned

Memo

Stantec

To:	David Mohr ODNR - Division of Engineering	From:	Tadd Henson Columbus (Lake Shore Dr) OH Office
File:	173522007M01	Date:	May 26, 2010

Reference: Grand Lake Saint Marys – Response to Moir Deposition and Affidavit

As requested we have reviewed the deposition and affidavit of Jim Moir. The results of our review and responses to questions and concerns raised by Moir are included in this memo.

1. CLARIFICATION ON SCOPE OF WORK

On pages 105 and 106 of his deposition, Moir comments that he was unsure of the scope of Stantec's report. The scope of Stantec's work has always been to produce a model that, as accurately as possible, quantifies the impacts of the 1997 spillway modification along Beaver Creek and Wabash River between the spillway and the Indiana state line. As you know, our scope of how that is accomplished has evolved as the timing of the due dates in the litigation changed. Initially, the scope of work was limited to making improvements to modeling done by Doyle Hartman in previous cases. We were to update cross sections from Hartman's model using newly available LiDAR topography. When it was learned that there was additional time, we were asked to revise hydrology model and to update bridges in the hydraulic model. A criticism of Hartman's work was the lack of adequate rainfall data for the July 2003 storm, so gage-adjusted radar rainfall data was obtained for this event. The hydrology model was also refined by redelineating watershed boundaries based on LiDAR data, updating lake stage storage data based on LiDAR data and updating the hydrologic routing of the Wabash River by developing a simplified RAS model to estimate lag and attenuation of flow due to storage. The results of the updated modeling were mapped using GIS to help assess the impacts of the spillway on the parcels in this case.

2. LINN GROVE GAGE

The USGS operates a stream gage on the Wabash River near Linn Grove, Indiana. When we were initially asked to take another look at the hydrology done by Hartman, we looked at the possibility of using the Linn Grove gage to assist in validation or calibration of the hydrology model. Available stream gage data is always used when the gage is within the reach being modeled. However, because the gage is 20 miles along the Wabash River into Indiana and drains about 506 square miles, it was decided that extending the modeling to the gage was not the most prudent approach. In order to properly extend the model the Linn Grove gage one would have to have detailed

PENGAD-Bayonne, N. J.
EXHIBIT
B

topographic information to estimate hydrologic reach routing. Gage adjusted radar rainfall data was only available for one event (July 2003) and the stream gage is outside of the drainage area ratio typically used for considering gages at ungaged sites. The United States Geological Survey (USGS) and the latest version of Appendix C, Guidance for Riverine Flooding and Analysis and Mapping, of FEMAs Guidelines and Specifications call for gages to be considered when the drainage area of the study reach is between 50- and 150-percent of the area drained by the gaging station. At the state line, the Wabash drains about 312 square miles. The Linn Grove Gage drains about 162% of what the Wabash drains at the state line and about 300 percent of Beaver Creek at its confluence with the Wabash. Because 162% is just outside the range of where a gage would be considered (an older version of FEMA Guidelines and Specifications cites 200% as the upper bound), the flow seen at the Linn Grove gage was prorated to get an estimate of the flow in the Wabash just below the confluence with Beaver Creek. The computations are included on Plate 23 and show that the drainage area weighted flow from the gage of 8,850 cfs closely corresponds to the flow from the HEC-RAS model (8,630 cfs) further validating both the HMS and RAS model.

Stantec also performed a Bulletin 17b analysis of the Linn Grove gage in order to help quantify recurrence interval of the July 2003 event. The analysis was performed in accordance with Interagency Advisory Committee on Water Data, 1982, Guidelines for determining flood-flow frequency: Bulletin 17B of the Hydrology Subcommittee, Office of Water Data Coordination, U.S. Geological Survey, Reston,Va., The results of this analysis are included on Plates 19-22 and will be discussed further in the sections below.

Based on our professional judgment, the lake level data and high water marks for the July 2003 event that are available within the actual study reach are far more valuable to calibrate and verify the models than the Linn Grove gage.

Moir also criticized the use of regional regression equations as a tool for additional verification of the hydrology model. This is a common practice when creating a rainfall runoff model for an ungaged reach and is cited in the latest version of Appendix C, Guidance for Riverine Flooding and Analysis and Mapping, of FEMAs Guidelines and Specifications.

3. CHANGES TO HYDRAULIC MODEL

We have both checked and updated the hydraulic model in response to comments by Moir during his deposition and in his affidavit. Changes have also been made based on new information that has become available. The changes and impacts of those changes are described below.

3.1. UPSTREAM REACH OF WABASH

Moir commented on the fact that the hydraulic model did not contain the Wabash River upstream of the confluence with Beaver Creek. Stantec added just over 2 miles of the Wabash River upstream of the confluence with Beaver Creek to the

hydraulic model. There are three bridges in this reach and bridge plans were obtained from the Mercer County Engineer and the Ohio Department of Natural Resources. Bridge plans are attached as Plates 1 through 5. The addition of this reach of the Wabash has limited impact on the computed maximum water surface elevations (+0.09 to -0.06 feet) in Beaver Creek and the Wabash but does allow for a more accurate estimation of water surface elevations for those properties adjacent to the Wabash.

3.2. LEVEES AND INEFFECTIVE FLOWS

Moir commented on the use of levees in our modeling. It should be noted that using the levee feature in HEC-RAS does not always imply that there is a structural flood protection levee present. The levee feature is used to not allow water to portions of the cross section where it cannot reach. The distinction between levees and ineffective flows is more critical in unsteady flow modeling than it is in steady flow modeling because, in unsteady mode, ineffective flow areas are treated as storage and can attenuate the flow. Areas blocked by levees do not allow water to be stored. We have reviewed the use and locations of levees and ineffective flows in the modeling and made a couple of changes. The hydraulic model was run to see the impact of the changes. Ineffective flows were adjusted on Beaver Creek sections 75, 74 and 73 and the changes caused an increase of 0.29 feet. Ineffective flows and levees were then adjusted through cross section 37 and the changes had a maximum impact of decreasing the peak elevation by 0.05 feet. Adjustments were then made for the remainder of the model and had a maximum impact of decreasing the peak elevation by 0.02 feet.

3.3. BRIDGES

Moir questioned the geometry of the SR49 bridge based on a field visit. The bounding cross sections for this bridge were cut from LiDAR data at the toe of the embankment. At this location there is a berm along the creek. However, as Moir points out, the berm does not continue beneath the bridge as our model implied. The internal sections for this bridge were adjusted to remove the berm. This resulted in decreasing the computed water surface elevations by 1.1 feet just upstream of the bridge.

Moir also questioned the cross section layout for the Mud Pike crossing over Beaver Creek (Bridge 19.5 in the model). To account for these sections not being parallel to flow a skew factor was added to the bridge and cross sections 19, 20 and 21. This change impacted the results by increasing the maximum water surface elevation by about 0.09 feet upstream of the bridge and decreasing the maximum water surface elevation by 0.03 feet below the bridge.

3.4. MANNING'S N

Our initial modeling carried through Manning's n values used by Hartman. We agree with Moir that the use of 0.045 for Beaver Creek is high. Manning's n for the Beaver Creek channel was updated to 0.032. This caused a maximum decrease of

0.89 feet and an average decrease of 0.51 feet to the maximum water surface elevations.

3.5. BOUNDARY CONDITIONS

The first hydraulic model that we turned in used normal depth as a downstream boundary condition. Since then we have obtained a HEC-2 model of CR 235 E from the Indiana Department of Natural Resources. Information from the HEC-2 model was used to create a HEC-RAS model. Numerous profiles were run through the HEC-RAS model and a rating curve for the bridge was developed. This rating curve was then input into the Wabash River/Beaver Creek model as the downstream boundary condition. This rating curve provides an improvement over using normal depth as the downstream boundary condition. Computations of the rating curve are included on Plates 6 through 13.

4. INFILTRATION AND ANTECEDENT MOISTURE CONDITIONS

Moir commented on Stantec's use of the SCS method to transform rainfall into runoff. We agree that there are many different methods for converting rainfall into runoff and then transforming that runoff into a hydrograph. We would also agree that the SCS method is one of the most simplistic methods for accomplishing this. It should be noted though that additional complexity does not always result in added accuracy. The more complicated methods require more inputs which inevitably require more assumptions. The SCS method is appropriate to use in this case. The method was able to produce lake elevations that closely match measurements and when the flows are used in the hydraulic model the hydraulic model returns peak elevations very close to what was measured during the July 2003 event. Additionally, because we are interested in comparing the difference between flows from the old spillway and flows from the new spillway any increase or decrease in runoff would impact both cases. We believe that a hydrology model built and calibrated to the available data using different methods would produce results very similar to the model developed by Stantec.

Curve Number values for Antecedent Runoff Condition II (average conditions) were used and were able to reproduce the pool level and high water mark measured during the July 2003 storm event. With the lack of a stream gage within the study reach, it is common engineering practice to use the 100-year rainfall along with average conditions to estimate the 100-year runoff and 100-year flood.

5. SPILLWAY RATING CURVES

In his affidavit, Moir discusses the spillway rating curves used by Stantec and performs calculations to estimate weir coefficients. It appears that Moir's calculations are in error. As part of Stantec's updates to the modeling, we converted the models from the National Geodetic Vertical Datum of 1929 (NGVD 29) to the North American Vertical Datum of 1988 (NAVD 88). The conversion from NGVD29 to NAVD88 in this portion of Mercer County is about -0.5 feet. This was done because the updated topographic data that was used is in NAVD88. Elevations in Table 2-5 of our report are clearly labeled as

being NAVD88, yet it appears that when Moir estimated the depth over the new and old spillways he used pool levels in NAVD88 but spillway crest elevations in NGVD29. This resulted in Moir computing weir coefficients that were higher than what was actually used. Plates 24 and 25 have the rating curves that were used by Stantec in the HMS models. When properly computed, the weir coefficient for the old spillway ranges from 2.03 to 2.71 and for the new spillway ranges from 3.13 to 3.48. If anything, the weir coefficients for the old spillway are conservatively low, allowing less flow out of the old spillway. As noted in our previous reports, the old spillway also contained gates that were often opened during storm events based on historic data. This additional flow through the gates was not considered when computing flow through the old spillway, again conservatively calculating less flow through the old spillway system.

6. ALTERNATE FLOW PATHS

Moir commented that there may be locations where flow in the overbanks follows an independent flow path. We have examined the reach again and feel there are no alternate flow paths that merit a split flow analysis.

7. RECURENCE INTERVAL OF JULY 2003 EVENT

Mr. Moir, in both his deposition and affidavit, questions Stantec's characterization of the July 2003 4-day rainfall of 7.65" as having a return period of 240 years. On page 5 of the affidavit, for example, Moir states that "the total rainfall depth of two approximately 14-year events would equal the total rainfall depth of the July 2003 event." Moir's statement that a 14-year event has a probability of occurrence or being exceeded in any one year as 0.071 is correct, but his understanding of joint probability is not correct.

From Ward and Trimble (2004), the generalized form to determine the probability that a storm event with a given return period (T-year) will occur during a specific period (n, in years) is:

$$P(T,n) = 1 - \left[1 - \frac{1}{T}\right]^n$$

If we are interested in determining the probability that a specific (T-year return period) event will occur within a year, then n=1 and the equation simplifies to:

$$P_T = 1/T$$

If we use a 14 year return period, the probability that a 14-year event will occur or be exceeded in any one year period is:

$$P_{14} = 1/14 = 0.071$$

Reference: Grand Lake Saint Marys – Response to Moir Deposition and Affidavit

The joint probability of two or more statistically independent storm events occurring in the same year is determined by the product of their individual probability. The corresponding formula may be expressed as:

P (A and B) = P (A) × P (B)

If we were to assess the probability that two independent 14-year return period events would occur in the same one year period, the probability would be:

$$P = 0.071 * 0.071 = 0.005$$

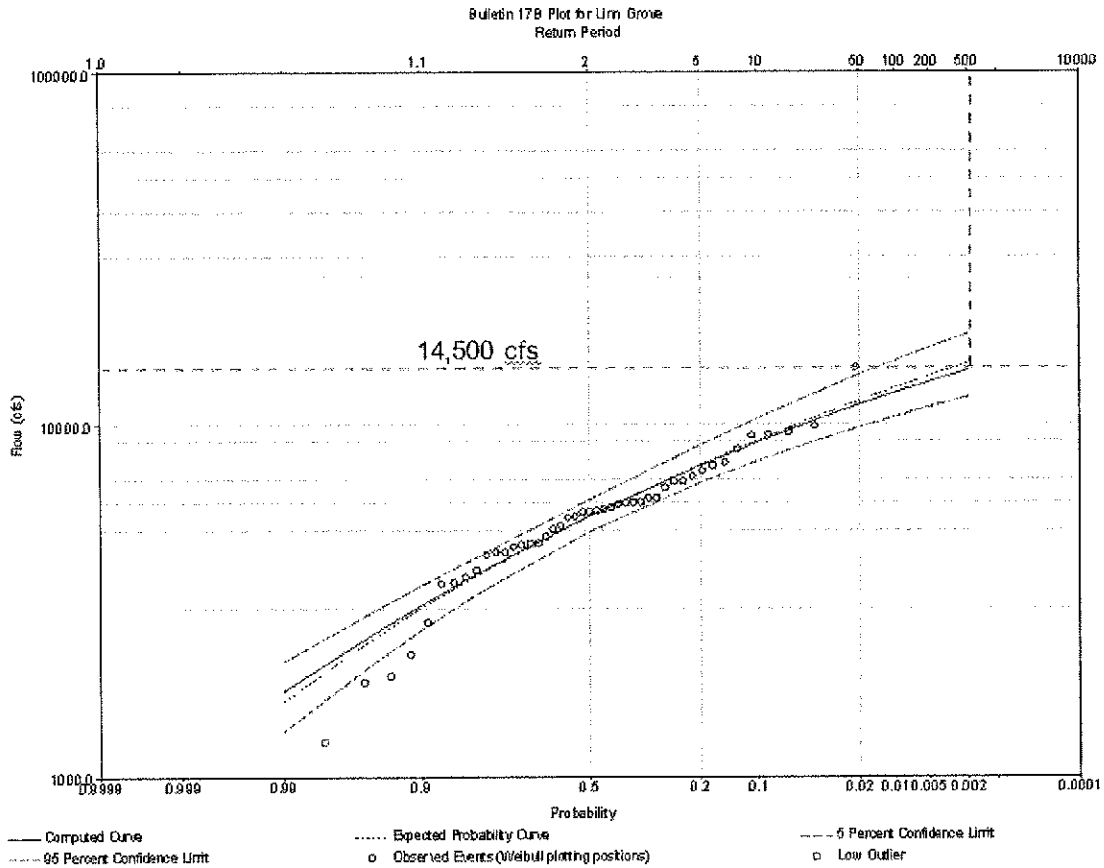
The probability that two such events would occur in the same calendar year is 0.005 or about 0.5%, that is, we would expect such an occurrence about once in 200 years. Obviously, the probability would be much lower two such events would occur within a four day period.

Ward, A.D. and S.W. Trimble. 2004. Environmental Hydrology (2nd Edition). Lewis Publishers, Boca Raton, FL. – see Plates 36-37.

The Linn Grove gage also supports the July 2003 event as being a rare and extreme event. The results of the analysis of the Linn Grove gage are depicted on Figure 1 below and indicate that the July 2003 event was on the order of a 500-year flood at the Linn Grove gage. Examining the 90% confidence limits shows that that at the lower bound of the 90% confidence limits the event is still around a 100-year flood, the upper bound would be well over a 500-year event.

Reference: Grand Lake Saint Marys – Response to Moir Deposition and Affidavit

Figure 1 – Bulletin 17b analysis of Linn Grove Gage



8. USE OF UNSTEADY FLOW MODEL

Moir indicates that the unsteady model allows flow to attenuate as it moves downstream. This is a reality of what happens in Beaver Creek. Some flow overtops the banks and is stored in the adjacent fields and some flow continues downstream. Moir is inconsistent in recommending that a more detailed infiltration and transform method be used for hydrology but the simpler steady flow method be applied for hydraulics. Unsteady flow models are accepted by FEMA and the main reason they are not used more often in developing regulatory floodplains is because developing a regulatory floodway using an unsteady model is challenging. The current modeling developed by Stantec is not to develop a regulatory floodplain and floodway but rather to model the impacts of the spillway modifications and this is best done with an unsteady flow model that allows flow to attenuate as it moves downstream.

Reference: Grand Lake Saint Marys – Response to Moir Deposition and Affidavit

9. RESULTS OF REVISIONS

No revisions were made to the HEC-HMS model. Revisions were made to the hydraulic model as described above. With the changes described above, the model still matches the high water marks from the July 2003 storm event well. Profiles and tables of the model results are presented on Plates 26 through 35 in the attachments.

For the 100-year runs, the changes recommended by Moir and made as a result of new information decreased the difference between maximum water surface between the new and old spillway by an average of 0.1 feet. In other words, the updates show slightly less impact of the new spillway. The maximum decrease in difference is 0.33 feet and the maximum increase in difference is 0.07 feet.

Results of the 100-year and 15-year 96-hour events were mapped for both the new and old spillway configurations. For both events, the inundation limits with the new spillway were overlain on the inundation limits of the old spillway. The maps, which show the parcels involved in the current lawsuit, are attached as Plates 38-40.

In our report and in my deposition I probably didn't do a good job of explaining what I mean by "appreciable" or "significant" impact/increase. I used a cut off of around 0.2 feet for an appreciable difference, although the increase on most parcels listed as having no maximum depth impact are far less than 0.2 feet. There are several factors that went into this decision. The way I thought of it is if I were a property owner and there was a flood when the old spillway was in place and then the next year the exact same event happens but the new spillway is in place, am likely to notice a difference in the flood elevation and area impacted? For increases under 0.2 feet the answer is likely no. More importantly, the accuracy of the topographic data used to map the floodplain must be taken into consideration. As described in our earlier reports LiDAR (Light Detection and Ranging) data was used. While this is best available data it still has limitations. Moir even commented on the accuracy limitations of LiDAR during his deposition. Mapping a difference of less than 0.2 feet has little meaning when the accuracy of the topographic data is less than 0.2 feet. Although when looking at raw mapping files and zoomed in to a very small scale you might see additional "flooded" areas, those areas fall outside of the accuracy limitation of the topographic data used to map the results.

Tables in our original report have been updated for both the 15 and 100 year events. The tables below divide the parcels involved in the case into three categories: those that are likely to see increased maximum depth and duration of flooding due to the spillway, those that are likely to see increased durations of flooding due to the new spillway, and those that are not likely to be impacted by flows from the new spillway.

Three parcels not originally included have been added to the tables. Also for the 100-year event, the point of no significant increase in depth was moved downstream from SR29 to Gause Rd based on the revisions to the hydraulic modeling and mapping. Also the addition of the upstream reach of the Wabash to the hydraulic model has shown

Reference: Grand Lake Saint Marys – Response to Moir Deposition and Affidavit

that some of the parcels previously thought to be impacted by increased duration of flooding are not.

Table 1 – Parcels impacted by increased maximum depth and duration of flooding during 15-year event

Parcel	Owner
26-027300.0500	MCNEILAN DAVID J
26-027400.0000	MCNEILAN DAVID J
26-027500.0000	MCNEILAN DAVID J & LAURA B
26-027200.0000	MCNEILAN LOIS J
26-052600.0000	MEIER CHARLES J
26-052700.0000	MEIER CHARLES J
26-052700.0100	MEIER CHARLES J
26-049500.0000	Z FARMS INC
26-022600.0000	ZUMBERGE CHARLES ETAL
26-052900.0000	ZUMBERGE CHARLES ETAL

Table 2 – Parcels impacted by increased duration of flooding during 15-year event

Parcel	Owner
28-011300.0000	DONER WAYNE ET AL
28-012200.0000	DONER WAYNE ET AL
28-011700.0000	DONER WAYNE ET AL
28-010500.0000	DONER WAYNE T
28-012300.0000	DONER WAYNE T & JANET K
26-041200.0100	DWENGER LAWRENCE J & JOYCE A
26-047200.0100	EBBING STANLEY M & VICKI L
26-041000.0000	EBBING STANLEY M & VICKI I
26-041200.0000	GILBERT HAROLD EDWARD & MARY E
26-041400.0000	HIGHLEY ROBERT E & PATRICIA L
26-038300.0200	JOHNSMAN DANIEL W
26-038300.0000	JOHNSMAN LEROY J & RUTH TRUST
28-013500.0000	KARR JEAN A TRUSTEE & RANSBOTTOM WILLIAM J
28-013400.0000	KARR JEAN A TRUSTEE & RANSBOTTOM WILLIAM J
29-003500.0000	KNAPKE CHAD M & ANDREA M
29-003600.0000	KNAPKE CHAD M & ANDREA M
29-002400.0000	KNAPKE MARK L TRUSTEE
29-003700.0000	KNAPKE TIMOTHY ALAN
42-001200.0000	KUHN DARRELL DEAN
42-000200.0000	KUHN MARILYN
29-002200.0000	LINN LINDA B ETAL
26-038100.0000	MCDONOUGH DAVID J & DEBORAH A
42-001000.0000	MEYER JEROME L & AMY L
29-004400.0000	MUHLENKAMP WILLIAM
29-003300.0000	MUHLENKAMP WILLIAM
29-004200.0000	POST OPAL L
28-011400.0000	POST OPAL L
28-010400.0000	POWELL JERRY & BETTY

Reference: Grand Lake Saint Marys – Response to Moir Deposition and Affidavit

Table 2 – Parcels impacted by increased duration of flooding during 15-year event

Parcel	Owner
42-014000.0000	POWELL JERRY & BETTY TRUSTEES
28-010400.0100	POWELL THOMAS L & BRENDA S
42-014000.0100	POWELL THOMAS L & BRENDA S
42-001300.0000	RASAWEHR TIMOTHY ETAL (PIERSTORFF)
28-012900.0000	SHEETS DUANE R
28-010900.0000	SHEETS DUANE R
28-011100.0000	SHEETS RODNEY E
28-011000.0000	SHEETS RODNEY E & LINDA
42-001000.0100	SIEFRING MARK
26-041500.0000	SIEFERING NEIL J & MARY K
42-000100.0000	SIEFRING ROBERT & CAROL
26-040900.0000	SUHR DAVID J & RITA K
26-039200.0200	SUHR DAVID J & RITA K
26-004200.0101	SUHR RITA KAY
26-039100.0500	SUHR RITA KAY
28-015300.0000	SUTTER CARL A & JUDITH A
28-013800.0000	THOMAS GALE A & NELDA G
42-000300.0100	WEISMAN JERRY & VICKI

Table 3 – Parcels not impacted by flows from the new spillway during 15-year event

Parcel	Owner
42-005800.0000	ADAMS RICHARD L & NANCY L
42-003700.0000	ADAMS RICHARD L & NANCY L
26-043100.0000	BAUCHER FARMS INC
42-017300.0000	BAUCHER FARMS INC
26-049300.0100	ELLIS CARMAN R & JILL E
42-004100.0000	GRANGER DAVID L & ESTHER L TRUSTEES
42-003500.0000	HIGHLEY ROBERT E & PATRICIA L
42-004500.0000	HIGHLEY ROBERT E & PATRICIA L
26-049300.0200	HINES JASON E & EMILY A
26-024700.0000	JOHNSMAN DAVID & JOSEPH TRUSTEES
26-048600.0000	JOHNSMAN JOSEPH LEE & JOHNSMAN DAVID ANDREW
26-029500.0100	JOHNSMAN JOSEPH LEE & JOHNSMAN DAVID ANDREW
27-013500.0000	KRICK THOMAS L & CANDACE L
27-012600.0000	KRICK THOMAS L & CANDANCE
28-017400.0100	KUHN MARVIN EARL
42-019800.0000	MEYER JEROME L & AMY L
42-019700.0000	MEYER JEROME L & AMY L
42-024200.0000	POWELL JERRY & BETTY TRUSTEES
42-016900.0000	POWELL JERRY W & BERRY L TRUSTEES
42-003400.0000	POWELL MARY LEONE ETAL
42-003800.0000	POWELL MARY LEONE ETAL
42-018500.0000	ROSE CARL W & LUCILE M
42-005700.0000	SCHROYER DOROTHY K
26-030700.0000	SEARIGHT ROBERT E & BONITA S

Reference: Grand Lake Saint Marys – Response to Moir Deposition and Affidavit

Table 3 – Parcels not impacted by flows from the new spillway during 15-year event

Parcel	Owner
26-011900.0000	SEARIGHT ROBERT E & BONNIE
26-030700.0300	SEARIGHT ROBERT E & BONNIE
26-030700.0200	SEARIGHT ROBERT E & BONNIE
26-044100.0200	SIEFRING JEFF
26-044100.0100	SIEFRING JEFF
26-044100.0000	SIEFRING JEFF
42-020000.0000	SIEFRING MARK & RONALD
26-042900.0100	UHLENHAKE MARILYN L
26-051400.0000	Z FARMS INC
26-051000.0000	ZUMBERGE CHARLES ETAL
26-042800.0000	ZUMBERGE JENNIFER

Table 4 – Parcels impacted by increased maximum depth and duration of flooding during 100-year event

Parcel	Owner
26-047200.0100	EBBING STANLEY M & VICKI L
26-049300.0100	ELLIS CARMAN R & JILL E
26-049300.0200	HINES JASON E & EMILY A
26-038300.0200	JOHNSMAN DANIEL W
26-029500.0100	JOHNSMAN JOSEPH LEE & JOHNSMAN DAVID ANDREW
26-038300.0000	JOHNSMAN LEROY J & RUTH TRUST
27-013500.0000	KRICK THOMAS L & CANDACE L
27-012600.0000	KRICK THOMAS L & CANDANCE
26-038100.0000	MCDONOUGH DAVID J & DEBORAH A
26-027400.0000	MCNEILAN DAVID J
26-027300.0500	MCNEILAN DAVID J
26-027500.0000	MCNEILAN DAVID J & LAURA B
26-027200.0000	MCNEILAN LOIS J
26-052600.0000	MEIER CHARLES J
26-052700.0000	MEIER CHARLES J
26-052700.0100	MEIER CHARLES J
26-040900.0000	SUHR DAVID J & RITA K
26-039200.0200	SUHR DAVID J & RITA K
26-004200.0101	SUHR RITA KAY
26-039100.0500	SUHR RITA KAY
26-042900.0100	UHLENHAKE MARILYN L
26-049500.0000	Z FARMS INC
26-052900.0000	ZUMBERGE CHARLES ETAL
26-022600.0000	ZUMBERGE CHARLES ETAL
26-051000.0000	ZUMBERGE CHARLES ETAL

Reference: Grand Lake Saint Marys – Response to Moir Deposition and Affidavit

Table 5 – Parcels impacted by increased duration of flooding during 100-year event

Parcel	Owner
26-043100.0000	BAUCHER FARMS INC
28-011300.0000	DONER WAYNE ET AL
28-012200.0000	DONER WAYNE ET AL
28-011700.0000	DONER WAYNE ET AL
28-010500.0000	DONER WAYNE T
28-012300.0000	DONER WAYNE T & JANET K
26-041200.0100	DWENGER LAWRENCE J & JOYCE A
26-041000.0000	EBBING STANLEY M & VICKI I
26-041200.0000	GILBERT HAROLD EDWARD & MARY E
26-041400.0000	HIGHLEY ROBERT E & PATRICIA L
28-013500.0000	KARR JEAN A TRUSTEE & RANSBOTTOM WILLIAM J
28-013400.0000	KARR JEAN A TRUSTEE & RANSBOTTOM WILLIAM J
29-003500.0000	KNAPKE CHAD M & ANDREA M
29-003600.0000	KNAPKE CHAD M & ANDREA M
29-002400.0000	KNAPKE MARK L TRUSTEE
29-003700.0000	KNAPKE TIMOTHY ALAN
42-001200.0000	KUHN DARRELL DEAN
42-000200.0000	KUHN MARILYN
29-002200.0000	LINN LINDA B ETAL
42-001000.0000	MEYER JEROME L & AMY L
29-004400.0000	MUHLENKAMP WILLIAM
29-003300.0000	MUHLENKAMP WILLIAM
29-004200.0000	POST OPAL L
28-011400.0000	POST OPAL L
28-010400.0000	POWELL JERRY & BETTY
42-014000.0000	POWELL JERRY & BETTY TRUSTEES
28-010400.0100	POWELL THOMAS L & BRENDA S
42-014000.0100	POWELL THOMAS L & BRENDA S
42-001300.0000	RASAWEHR TIMOTHY ETAL (PIERSTORFF)
42-018500.0000	ROSE CARL W & LUCILE M
28-012900.0000	SHEETS DUANE R
28-010900.0000	SHEETS DUANE R
28-011100.0000	SHEETS RODNEY E
28-011000.0000	SHEETS RODNEY E & LINDA
42-001000.0100	SIEFRING MARK
26-041500.0000	SIEFERING NEIL J & MARY K
42-000100.0000	SIEFRING ROBERT & CAROL
28-015300.0000	SUTTER CARL A & JUDITH A
28-013800.0000	THOMAS GALE A & NELDA G
42-000300.0100	WEISMAN JERRY & VICKI
26-042800.0000	ZUMBERGE JENNIFER

Table 6 – Parcels not impacted by flows from the new spillway during 100-year event

Parcel	Owner
42-005800.0000	ADAMS RICHARD L & NANCY L

Reference: Grand Lake Saint Marys – Response to Moir Deposition and Affidavit

Table 6 – Parcels not impacted by flows from the new spillway during 100-year event

Parcel	Owner
42-003700.0000	ADAMS RICHARD L & NANCY L
42-017300.0000	BAUCHER FARMS INC
42-004100.0000	GRANGER DAVID L & ESTHER L TRUSTEES
42-003500.0000	HIGHLEY ROBERT E & PATRICIA L
42-004500.0000	HIGHLEY ROBERT E & PATRICIA L
26-024700.0000	JOHNSMAN DAVID & JOSEPH TRUSTEES
26-048600.0000	JOHNSMAN JOSEPH LEE & JOHNSMAN DAVID ANDREW
28-017400.0100	KUHN MARVIN EARL
42-019800.0000	MEYER JEROME L & AMY L
42-019700.0000	MEYER JEROME L & AMY L
42-003400.0000	POWELL MARY LEONE ETAL
42-003800.0000	POWELL MARY LEONE ETAL
42-024200.0000	POWELL JERRY & BETTY TRUSTEES
42-016900.0000	POWELL JERRY W & BERRY L TRUSTEES
42-005700.0000	SCHROYER DOROTHY K
26-030700.0000	SEARIGHT ROBERT E & BONITA S
26-011900.0000	SEARIGHT ROBERT E & BONNIE
26-030700.0300	SEARIGHT ROBERT E & BONNIE
26-030700.0200	SEARIGHT ROBERT E & BONNIE
26-044100.0200	SIEFRING JEFF
26-044100.0100	SIEFRING JEFF
26-044100.0000	SIEFRING JEFF
42-020000.0000	SIEFRING MARK & RONALD
26-051400.0000	Z FARMS INC

For the parcels that are impacted by additional maximum depth of flooding (Table 1 and Table 4), the area impacted by both the 15 and 100 year events is shown in **Error! Reference source not found.**.

Table 1 – Acres Impacted by Spillway

PARCEL	OWNER	Parcel Area	Peak Area Inundated (acres)							
			15-year event				100-year event			
		acres	15-yr Old Spillway	15-yr New Spillway	Additional Acres Impacted	Percent of Property Impacted	100-yr Old Spillway	100-yr New Spillway	Additional Acres Impacted	Percent of Property Impacted
26-047200.0100	EBBING STANLEY M & VICKI L	68.4	10.9	11	0.1	0.1%	14.7	16.6	1.9	2.8%
26-049300.0100	ELLIS CARMAN R & JILL E	1.0	0	0	0	0.0%	0	0.6	0.6	60.0%
26-049300.0200	HINES JASON E & EMILY A	1.3	0	0	0	0.0%	0	0.3	0.3	23.1%
26-038300.0200	JOHNSMAN DANIEL W	25.7	3.4	3.6	0.2	0.8%	5.8	7	1.2	4.7%
26-029500.0100	JOHNSMAN JOSEPH LEE & JOHNSMAN DAVID ANDREW	5.0	0	0	0	0.0%	0	0.4	0.4	8.0%
26-038300.0000	JOHNSMAN LEROY J & RUTH TRUST	29.8	3.6	3.7	0.1	0.3%	5.8	6.9	1.1	3.7%
27-013500.0000	KRICK THOMAS L & CANDACE L	0.4	0	0	0	0.0%	0	0.2	0.2	50.0%
27-012600.0000	KRICK THOMAS L & CANDANCE	1.0	0	0	0	0.0%	0	0.1	0.1	10.0%
26-038100.0000	MCDONOUGH DAVID J & DEBORAH A	38.6	15.4	15.8	0.4	1.0%	19.8	21.6	1.8	4.7%
26-027300.0500	MCNEILAN DAVID J	54.0	23.8	34.1	10.3	19.1%	41.5	46.2	4.7	8.7%
26-027400.0000	MCNEILAN DAVID J	28.2	8.6	11.6	3	10.6%	14	17.2	3.2	11.3%
26-027500.0000	MCNEILAN DAVID J & LAURA B	49.2	6.2	11.3	5.1	10.4%	13.8	21	7.2	14.6%
26-027200.0000	MCNEILAN LOIS J	79.4	23.4	26.9	3.5	4.4%	34.6	59.1	24.5	30.9%
26-052600.0000	MEIER CHARLES J	18.8	4.8	12.6	7.8	41.5%	12.6	18.3	5.7	30.3%
26-052700.0000	MEIER CHARLES J	60.2	10.1	22.4	12.3	20.4%	26.1	46.9	20.8	34.6%
26-052700.0100	MEIER CHARLES J	1.1	0	0	0	0.0%	0	0.7	0.7	63.6%
26-039200.0200	SUHR DAVID J & RITA K	52.2	22.2	22.6	0.4	0.8%	26.3	26.5	0.2	0.4%
26-040900.0000	SUHR DAVID J & RITA K	1.6	1.3	1.3	0	0.0%	1.5	1.5	0	0.0%
26-004200.0101	SUHR RITA KAY	60.1	0.5	0.5	0	0.0%	4.2	4.7	0.5	0.8%
26-039100.0500	SUHR RITA KAY	35.4	16.8	17.2	0.4	1.1%	28.3	29	0.7	2.0%
26-042900.0100	UHLENHAKE MARILYN L	21.5	0.6	0.6	0	0.0%	8.2	10.4	2.2	10.2%
26-049500.0000	Z FARMS INC	80.4	18.8	24.8	6	7.5%	33.4	69.3	35.9	44.7%
26-022600.0000	ZUMBERGE CHARLES ETAL	81.6	3.4	6.8	3.4	4.2%	8.4	25.3	16.9	20.7%
26-051000.0000	ZUMBERGE CHARLES ETAL	40.9	0.6	0.8	0.2	0.5%	0.9	10.1	9.2	22.5%
26-052900.0000	ZUMBERGE CHARLES ETAL	120.2	18.6	33.4	14.8	12.3%	41.6	106.1	64.5	53.7%

Reference: Grand Lake Saint Marys – Response to Moir Deposition and Affidavit

Feel free to contact me with additional questions.

STANTEC CONSULTING SERVICES INC.

Tadd Henson, PE, CFM
tadd.henson@stantec.com

Attachments:

Plates 1-5 – Bridge Plans

Plates 6-18 – Downstream Boundary Rating Curve Computations

Plates 19-23 – Linn Grove Gage Analysis

Plates 24-25 – Spillway Rating Curves

Plates 26-35 – Hydraulic Model Results and Profiles

Plates 36-37 – Joint Probability

Plates 38-40 – Mapping of Hydraulic Model Results

CD with revised HEC-RAS model and HEC-HMS model

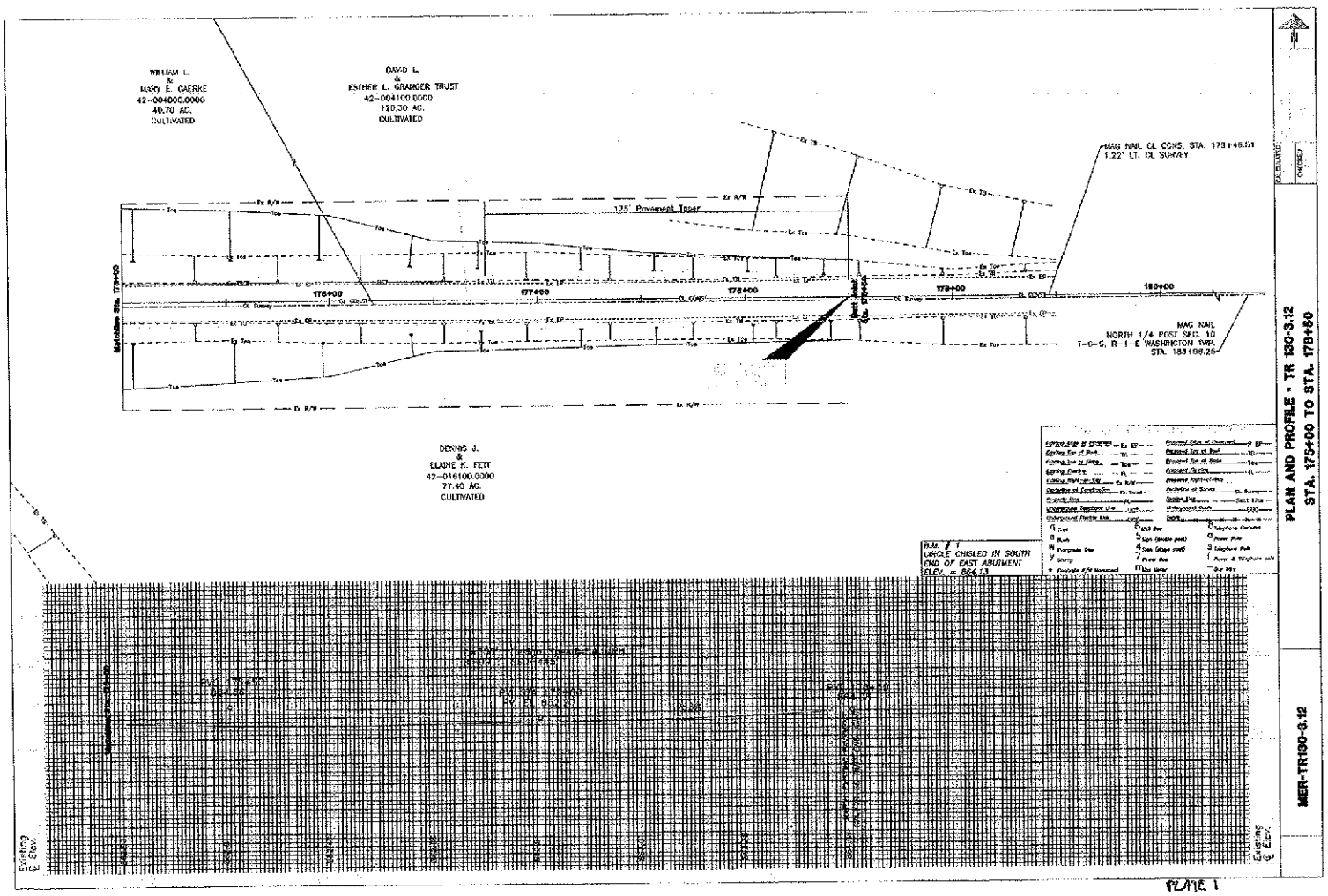

WILLIAM L.
&
MARY E. GAERKE
42-004000.0000
40.70 AC.
CULTIVATED
DAVID L.
&
ESTHER L. GRANGER TRUST
42-004100.0000
120.30 AC.
CULTIVATED
MAG NAIL CL CONS. STA. 179+46.51
1.22' LT. CL SURVEY
175' Pavement Taper
176+00
177+00
178+00
179+00
180+00
MAG NAIL
NORTH 1/4 POST SEC. 10
T-6-S, R-1-E WASHINGTON TWP.
STA. 183+98.25
DENNIS J.
&
ELAINE K. FETT
42-016100.0000
77.40 AC.
CULTIVATED
B.M. # 1
CHISLE CHISLED IN SOUTH
END OF EAST ABUTMENT
ELEV. = 864.13
Existing
℄ Elev.
PLAN AND PROFILE - TR 130-3.12
STA. 175+00 TO STA. 178+50
MER-TR130-3.12

PLATE 1

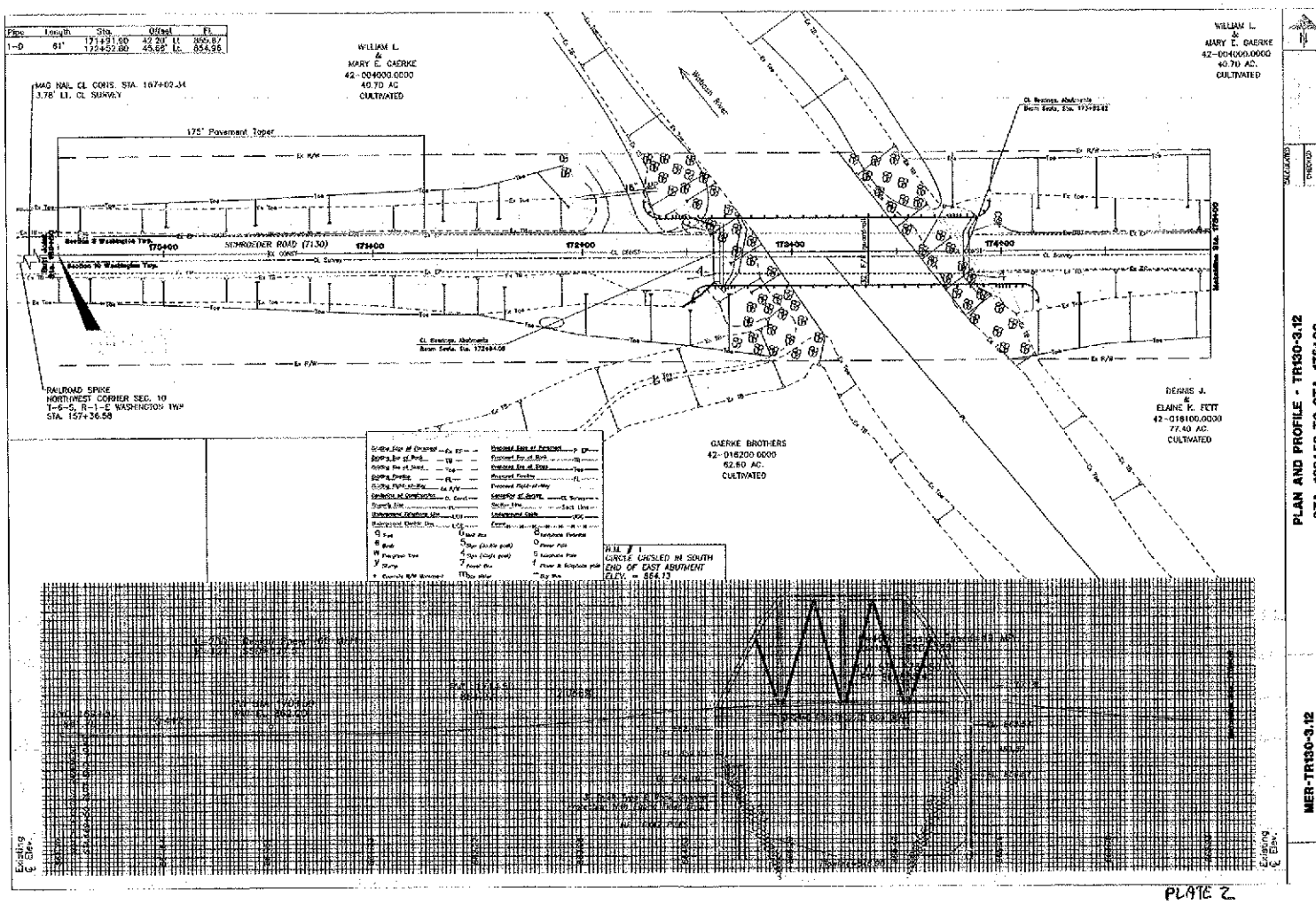
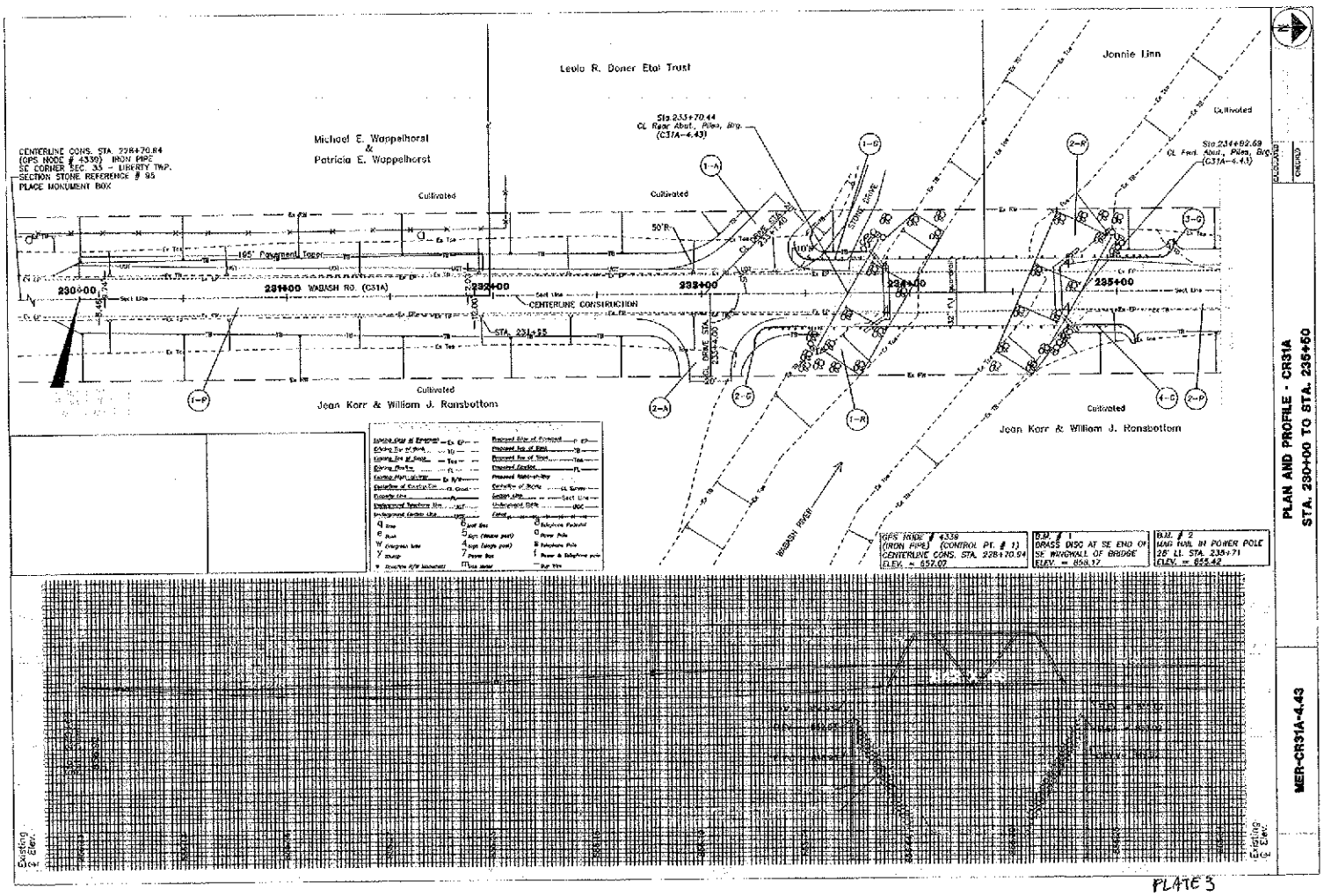
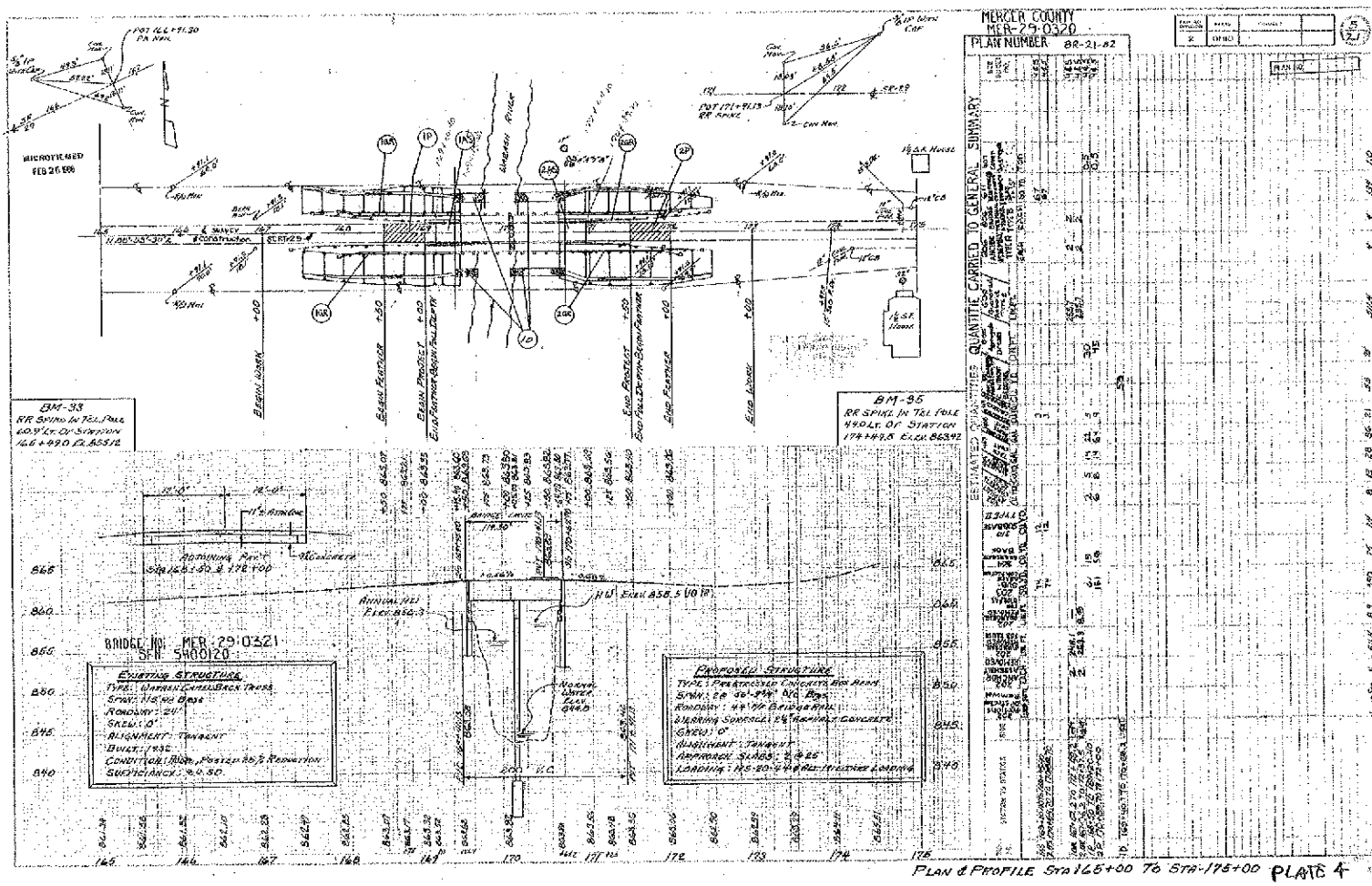

Pipe Length Sta. Offset El.
1-D 61' 171+91.60 42.20' Lt. 866.87
172+52.80 45.66' Lt. 854.95
WILLIAM L. & MARY E. GAERKE 42-004000.0000 40.70 AC CULTIVATED
MAG NAIL CL CONTS. STA. 167+02.34 3.78' Lt. CL SURVEY
175' Pavement Taper
Walloon River
SCHROEDER ROAD (7130)
RAILROAD SPIKE NORTHWEST CORNER SEC. 10 T-6-S, R-1-E WASHINGTON TWP STA. 157+36.58
GAERKE BROTHERS 42-018200.0000 62.60 AC. CULTIVATED
DENNIS J. & ELAINE K. FETT 42-018100.0000 77.40 AC. CULTIVATED
WILLIAM L. & MARY E. GAERKE 42-004000.0000 40.70 AC. CULTIVATED
W.M. # 1 CIRCLE CARVED IN SOUTH END OF EAST ABUTMENT ELEV. = 864.13
PLAN AND PROFILE - TR130-3.12
STA. 169+60 TO STA. 175+00
MER-TR130-3.12

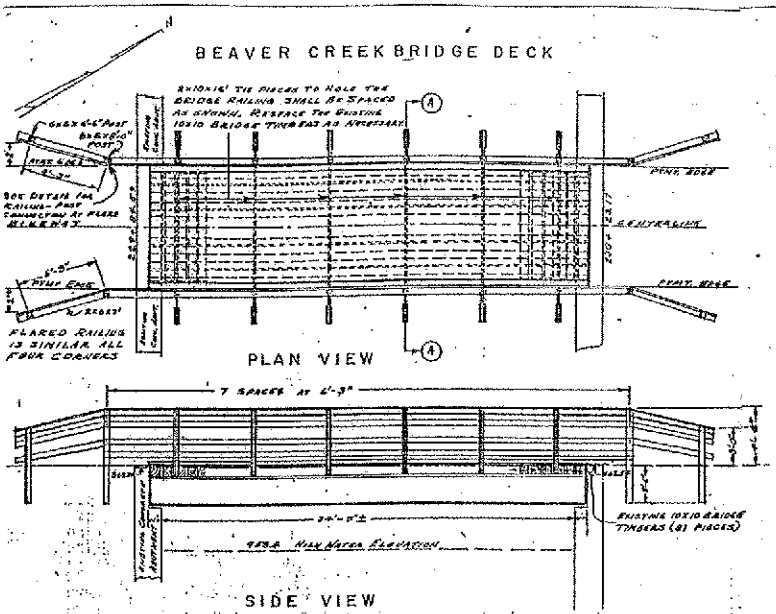
PLATE 2

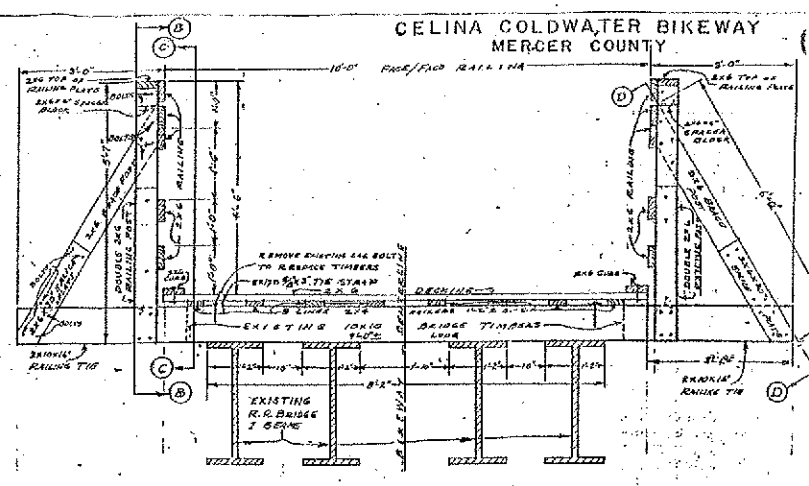

Leola R. Doner Etal Trust
Jonnie Linn
Michael E. Wappelhorst
&
Patricia E. Wappelhorst
CENTERLINE CONS. STA. 228+70.84
(GPS NODE # 4339) IRON PIPE
SE CORNER SEC. 35 - LIBERTY TWP.
SECTION STONE REFERENCE # 95
PLACE MONUMENT BOX
Sta 233+70.44
CL Rear Abut., Piles, Brg.
(C31A-4.43)
Sta 234+82.69
CL Fwd. Abut., Piles, Brg.
(C31A-4.43)
Cultivated
50'R
10'R
165' Pavement Taper
230+00
231+00 WABASH RD. (C31A)
232+00
233+00
234+00
235+00
CENTERLINE CONSTRUCTION
STA. 233+55
STONE STA. 233+70.00
BRIDGE STA. 233+70.00
Jean Korr & William J. Ransbottom
WABASH RIVER
GPS NODE # 4339
(IRON PIPE) (CONTROL PT. # 1)
CENTERLINE CONS. STA. 228+70.84
ELEV. = 657.07
B.M. # 1
BRASS DISC AT SE END OF
SE WINGWALL OF BRIDGE
ELEV. = 658.17
B.M. # 2
MAG NAIL IN POWER POLE
26' LT. STA. 235+71
ELEV. = 655.42
Existing Elev.
PLAN AND PROFILE - CR31A
STA. 230+00 TO STA. 235+50
MER-CR31A-4.43
PLATE 5



PLAN & PROFILE STA 165+00 TO STA 175+00 PLATE 4

CELINA COLDWATER BIKEWAY
MERCER COUNTY





NOTES

IT IS INTENDED THAT A BRIDGE DECK AND RAILINGS SUITABLE FOR BICYCLE TRAFFIC BE ADDED TO THE EXISTING R.R. BRIDGE OVER BEAVER CREEK.

THE EXISTING STRUCTURE WILL BE UTILIZED WITHOUT MODIFICATION EXCEPT FOR RESPACING OF THE EXISTING BRIDGE TIMBERS.

NEW BRIDGE TIMBER SHALL BE S4S STRUCTURAL 45 SOUTHERN YELLOW PINE OR SELECT STRUCTURAL DOUGLAS FIR, AND SHALL MEET THE REQUIREMENTS OF 711.24.

ALL NEW TIMBER SHALL HAVE A PRESERVATIVE TREATMENT AS PER 711.01 (ACA) or (CC

CONNECTIONS

CONNECT THE 2x6 RAILERS TO THE EXISTING BRIDGE TIMBERS, AND THE DECK PIECES TO THE NAILERS, USING TWO OR MORE 16d NAILS AT EACH CONNECTION. DRILL PILOT HOLES TO PREVENT SPLITTING.

OTHER CONNECTIONS SHALL BE BOLTED, USING ONE TO FOUR BOLTS PER CONNECTION AS INDICATED ON THE PLAN. 3/8" CARRIAGE BOLTS MAY BE USED, PROVI A FLAT WASHER WITH EACH NUT.

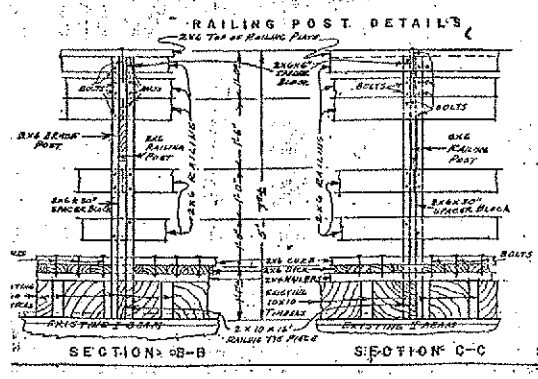
ALL NAILS, BOLTS, WASHERS, AND NUTS SHALL BE GALVANIZED AS PER 711.02.

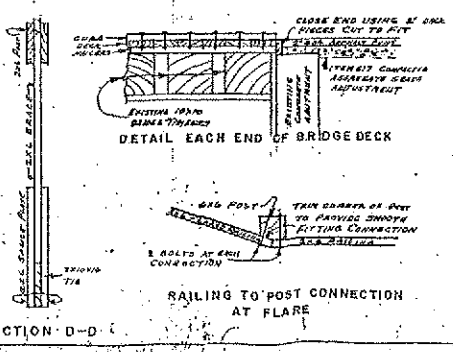
BASIS OF PAYMENT

CONSTRUCTION OF THE BRIDGE DECK AND RAILING AS PER PLAN SHALL BE PAID FOR BY ITEM 531, MFBM BRIDGE TIMBERS, AT PER PLAN.

THIS PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR AND MATERIALS FOR:

1. RESPACING AND REPLACING THE EXISTING BRIDGE TIMBERS.
2. INSTALLING THE NEW FLOOR SYSTEM.
3. INSTALLING THE RAILING BOTH ON AND ATTACHED TO THE BRIDGE.





```
T1          JOB 2766, JAY 13 OVER WABASH RIVER
T2          PROPOSED STRUCTURE (COMBINED BRIDGE-ROAD DATA)
T3          <<<<<<< 100 YR FLOOD >>>>>>>
J1          1.0  .02  .02  .8  0
J2          5  80
J3          6  23  5  17  28  13  3
*
Q           10000.
SK          0.0002
*
XS   EXIT    813    0  *  *  *
GR          100, 900.0  100, 844.5  200, 844.0  400, 845.0  700, 845.0
GR          765, 847.0  769, 845.0  785, 836.0  791, 835.0  796, 834.9
GR          802, 835.0  844, 836.0  859, 845.0  862, 847.0  945, 845.0
GR         1300, 845.0 1365, 847.5 1400, 847.0 1500, 850.5 1600, 850.0
GR         1600, 900.0
N           0.07  0.045  0.07
SA          769  859
*
XS   FULLV   988    0   *   *  0.0003
GR          100, 900.0  100, 847.5  250, 845.4  337, 845.1  400, 845.8
GR          500, 847.5  650, 851.5  700, 852.8  760, 853.8
GR          760, 848.6  785, 836.0  793, 834.9  815, 835.4
GR          837, 835.0  843, 835.0  848, 836.3  855, 841.0  916, 843.0
GR          928, 848.7  928, 853.9 1000, 852.7 1100, 850.1 1200, 848.5
GR         1250, 848.2 1300, 848.3 1400, 849.3 1500, 850.5 1600, 849.8
GR         1600, 900.0
N           0.07  0.045  0.07
SA          760  928
*
XS   BRDGE  1012   0   *   *   *
N           0.07  0.045  0.07
SA          760  928
*
XS   APPR   1187   0   *   *   *
GR          100, 900.0  100, 844.5  200, 844.0  400, 845.0  700, 845.0
GR          765, 847.0  769, 845.0  785, 836.0  791, 835.0  796, 835.0
GR          802, 835.0  844, 836.0  859, 845.0  862, 847.0  945, 845.0
GR         1300, 845.0 1365, 847.5 1400, 847.0 1500, 850.5 1600, 850.0
GR         1600, 900.0
N           0.07  0.045  0.07
SA          769  859
*
HP 1 EXIT   850.97  0.0  850.97
HP 1 FULLV  850.99  0.0  850.99
HP 1 APPR   851.14  0.0  851.14
*
EX
ER
```

PLATE 6

Division of Water
Indiana Department of Natural Resources
Permit Application Information Report

Tue May 25 2010 **11:06:16**

Application #: B-15224

Water Body: Wabash River

Applicant: Jay County Commissioners
Courthouse

Portland, IN 47371

Agent: Butler, Fairman & Seufert, Inc.
Janette W Fulkerson, PE
8450 Westfield Road, Suite 300
Indianapolis, IN 46204-2368

Description:
The existing C.R. 235 East bridge will be replaced with a two-span continuous composite prestressed concrete I-beam bridge with span lengths of 2 @ 87 ft -6" with an out-to-out length of 176 ft -6" and a clear roadway width of 24 ft -0 ft . The low structure will be at 849.1 feet, N.G.V.D. at the north and south abutments, respectively. The spill through abutments will have 2:1 side slopes armored with an 18 inch thick layer of revetment riprap over geotextiles. The spill through abutment and piers will be constructed parallel with the flow. The north streambank will be lowered approximately 5 feet to a minimum elevation of 840.3 feet, N.G.V.D. within the bridge construction limits. The existing structure will be removed. Details of the project are shown on plans received at the Division of Water on January 8, 1993.

Location - Downstream End:
On C.R. 235 East over the river

Location - Upstream End:

Downstream End:		**Upstream End:**
At/Near:	near	At/Near:
City:	New Corydon	City:
Civil Township	Wabash	Civil Township
County and #:	Jay 38	County and #:
Quadrangle:	New Corydon, IN-OH	Quadrangle:
Section:	3	Section:
Township:	24N	Township:
Range:	15E	Range:
UTM North	4492425	UTM North
UTM East	686000	UTM East

Staff:
Administrative: Janet Henderson
Environmental:
Technical: Jimmy Yee

History:
Application Received: 01/08/1993
DNR Public Notice 02/11/1993
Public Hearing Petition Filed
Public Hearing Scheduled
Public Hearing Held

Review Status	**Review Requested**	**Review Returned**

PLATE 7

Environmental
Technical
Historic Preservation
Law Enforcement

Abeyance Status	**Information Requested**	**Information Received**
Administrative		
Environmental		
Technical		
Historic Preservation		

Action:	
Action Taken	Approved
Taken on	06/25/1993

PLATE 8

```
                    HEC-RAS Version 4.1.0 Jan 2010
                     U.S. Army Corps of Engineers
                    Hydrologic Engineering Center
                          609 Second Street
                          Davis, California

          X     X  XXXXXX    XXXX        XXXX       XX      XXXX
          X     X  X        X    X       X   X     X  X    X
          X     X  X        X            X   X    X    X   X
          XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
          X     X  X        X            X  X     X    X        X
          X     X  X        X    X       X   X    X    X        X
          X     X  XXXXXX    XXXX        X    X   X    X   XXXXX
```

PROJECT DATA
Project Title: CR 235
Project File : CR235.prj
Run Date and Time: 5/24/2010 1:40:04 PM

Project in English units

PLAN DATA

Plan Title: Plan 01
Plan File : v:\1735\active\2009\ODNR_GrandLakeStMarys\thhhydra\RAS\MESBridge\CR235.p01

Geometry Title: Composite
Geometry File : v:\1735\active\2009\ODNR_GrandLakeStMarys\thhhydra\RAS\MESBridge\CR235.g01

Flow Title : Rating Curve
Flow File : v:\1735\active\2009\ODNR_GrandLakeStMarys\thhhydra\RAS\MESBridge\CR235.f01

Plan Summary Information:

Number of:	Cross Sections =	4	Multiple Openings =	0
	Culverts =	0	Inline Structures =	0
	Bridges =	1	Lateral Structures =	0

Computational Information

Water surface calculation tolerance	= 0.01
Critical depth calculation tolerance	= 0.01
Maximum number of iterations	= 20
Maximum difference tolerance	= 0.3
Flow tolerance factor	= 0.001

Computation Options

Critical depth computed at all cross sections	
Conveyance Calculation Method:	At breaks in n values only
Friction Slope Method:	Average Conveyance
Computational Flow Regime:	Subcritical Flow

FLOW DATA

Flow Title: Rating Curve
Flow File : v:\1735\active\2009\ODNR_GrandLakeStMarys\thhhydra\RAS\MESBridge\CR235.f01

Flow Data (cfs)

River	Reach	RS	PF 1	PF 2	PF 3	PF 4	PF 5	PF 6	PF 7	PF 8
Wabash River	WR1	1187	10	50	100	200	300	500	1000	1500

River	Reach	RS	PF 9	PF 10	PF 11	PF 12	PF 13	PF 14	PF 15	PF 16
Wabash River	WR1	1187	2000	2500	3000					

PLATE 9

3500 4000 4500 5000 5500

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Wabash River	WR1	PF 1		Normal S = 0.0002

GEOMETRY DATA

Geometry Title: Composite
Geometry File : v:\1735\active\2009\ODNR_GrandLakeStMarys\thhhydra\RAS\MESBridge\CR235.g01

CROSS SECTION

RIVER: Wabash River
REACH: WR1 RS: 1187

INPUT
Description:
Station Elevation Data num= 21

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	899.5	100	844	200	843.5	400	844.5	700	844.5
765	846.5	769	844.5	785	835.5	791	834.5	796	834.5
802	834.5	844	835.5	859	844.5	862	846.5	945	844.5
1300	844.5	1365	847	1400	846.5	1500	850	1600	849.5
1600	899.5								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.07	769	.045	859	.07

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
769	859	199	199	199	.1	.3

CROSS SECTION

RIVER: Wabash River
REACH: WR1 RS: 1012

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	899.5	100	847	250	844.9	337	844.6	400	845.3
472	847	600	847.8	700	848	753	849.2	753	846
760	845.77	768	845.5	784	835.5	793	834.4	815	834.9
837	834.5	843	834.5	848	835.8	862	845.3	924	845.7
924	849.4	928	849.39	950	849.3	1050	848.2	1200	847.3
1300	847.6	1500	850	1600	849.3	1600	899.5		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.07	768	.045	862	.07

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
768	862	26	26	26	.1	.3

Ineffective Flow num= 7

Sta L	Sta R	Elev	Permanent
0	472	851.5	F
472	600	853.1	F
600	753	855	F
925	980	855	F
980	1100	853.75	F
1100	1200	851.9	F
1200	1600	850.8	F

BRIDGE

RIVER: Wabash River
REACH: WR1 RS: 1000

PLATE 10

INPUT
Description:
Distance from Upstream XS = 1
Deck/Roadway Width = 24
Weir Coefficient = 2.6
Upstream Deck/Roadway Coordinates
num= 22

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
50	851.27	-.5	84.967	851.13	-.5	227.334	851.39	-.5
257.306	851.69	-.5	354.715	851.43	-.5	442.121	851.96	-.5
544.498	853.13		614.413	854.38	-.5	711.796	855.49	-.5
747.5	855.38	-.5	747.5	855.38	848.6	766.555	855.46	848.6
883.228	855.66	848.6	924	855.06	848.6	924	855.06	-.5
982.524	854.73	-.5	1101.921	852.6		1189.227	851.29	
1236.621	851.33		1289.005	850.81		1456.134	851.03	
1623.262	850.93							

Upstream Bridge Cross Section Data
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	899.5	100	847	250	844.9	337	844.6	400	845.3
472	847	600	847.8	700	848	753	849.2	753	846
760	845.77	768	845.5	784	835.5	793	834.4	815	834.9
837	834.5	843	834.5	848	835.8	862	845.3	924	845.7
924	849.4	928	849.39	950	849.3	1050	848.2	1200	847.3
1300	847.6	1500	850	1600	849.3	1600	899.5		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.07	768	.045	862	.07

Bank Sta: Left	Right	Coeff Contr.	Expan.
768	862	.1	.3

Ineffective Flow num= 7

Sta L	Sta R	Elev	Permanent
0	472	851.5	F
472	600	853.1	F
600	753	855	F
925	980	855	F
980	1100	853.75	F
1100	1200	851.9	F
1200	1600	850.8	F

Downstream Deck/Roadway Coordinates
num= 22

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
50	851.27	-.5	84.967	851.13	-.5	227.334	851.39	-.5
257.306	851.69	-.5	354.715	851.43	-.5	442.121	851.96	-.5
544.498	853.13		614.413	854.38	-.5	711.796	855.49	-.5
747.5	855.38	-.5	747.5	855.38	848.6	766.555	855.46	848.6
883.228	855.66	848.6	924	855.06	848.6	924	855.06	-.5
982.524	854.73	-.5	1101.921	852.6		1189.227	851.29	
1236.621	851.33		1289.005	850.81		1456.134	851.03	
1623.262	850.93							

Downstream Bridge Cross Section Data
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	899.5	100	847	250	844.9	337	844.6	400	845.3
472	847	600	847.8	700	848	753	849.2	753	846
760	845.77	768	845.5	784	835.5	793	834.4	815	834.9
837	834.5	843	834.5	848	835.8	862	845.3	924	845.7
924	849.4	928	849.39	950	849.3	1050	848.2	1200	847.3
1300	847.6	1500	850	1600	849.3	1600	899.5		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.07	768	.045	862	.07

Bank Sta: Left	Right	Coeff Contr.	Expan.
768	862	.1	.3

Ineffective Flow num= 7

Sta L	Sta R	Elev	Permanent
0	472	851.5	F
472	600	853.1	F
600	753	855	F
925	980	855	F
980	1100	853.75	F

PLATE 11

1100	1200	851.9	F
1200	1600	850.8	F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins =
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Piers = 1

Pier Data
Pier Station Upstream= 848.25 Downstream= 848.25
Upstream num= 2

Width	Elev	Width	Elev
2.5	-.5	2.5	849.5

Downstream num= 2

Width	Elev	Width	Elev
2.5	-.5	2.5	849.5

Number of Bridge Coefficient Sets = 1

Low Flow Methods and Data
Energy
Momentum Cd = 1.33
Yarnell KVal = .9
Selected Low Flow Methods = Highest Energy Answer

High Flow Method
Pressure and Weir flow
Submerged Inlet Cd =
Submerged Inlet + Outlet Cd = .8
Max Low Cord =

Additional Bridge Parameters
Add Friction component to Momentum
Do not add Weight component to Momentum
Class B flow critical depth computations use critical depth inside the bridge at the upstream end
Criteria to check for pressure flow = Upstream energy grade line

CROSS SECTION

RIVER: Wabash River
REACH: WR1 RS: 988

INPUT
Description:
Station Elevation Data num= 29

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	899.5	100	847	250	844.9	337	844.6	400	845.3
472	847	600	847.8	700	848	753	849.2	753	846
760	845.77	768	845.5	784	835.5	793	834.4	815	834.9
837	834.5	843	834.5	848	835.8	862	845.3	924	845.7
924	849.4	928	849.39	950	849.3	1050	848.2	1200	847.3
1300	847.6	1500	850	1600	849.3	1600	899.5		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.07	768	.045	862	.07

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff Contr.	Expan.
768	862	175	175	175	.1	.3

Ineffective Flow num= 7

Sta L	Sta R	Elev	Permanent
0	472	851.5	F
472	600	853.1	F
600	753	855	F
925	980	855	F
980	1100	853.75	F
1100	1200	851.9	F
1200	1600	850.8	F

CROSS SECTION

PLATE 12

RIVER: Wabash River
REACH: WR1 RS: 813

INPUT
Description:
Station Elevation Data num= 21

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
100	899.5	100	844	200	843.5	400	844.5	700	844.5
765	846.5	769	844.5	785	835.5	791	834.5	796	834.4
802	834.5	844	835.5	859	844.5	862	846.5	945	844.5
1300	844.5	1365	847	1400	846.5	1500	850	1600	849.5
1600	899.5								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
100	.07	769	.045	859	.07

Bank Sta: Left	Right	Coeff Contr.	Expan.
769	859	.1	.3

SUMMARY OF MANNING'S N VALUES

River:Wabash River

Reach	River Sta.	n1	n2	n3
WR1	1187	.07	.045	.07
WR1	1012	.07	.045	.07
WR1	1000	Bridge		
WR1	988	.07	.045	.07
WR1	813	.07	.045	.07

SUMMARY OF REACH LENGTHS

River: Wabash River

Reach	River Sta.	Left	Channel	Right
WR1	1187	199	199	199
WR1	1012	26	26	26
WR1	1000	Bridge		
WR1	988	175	175	175
WR1	813			

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Wabash River

Reach	River Sta.	Contr.	Expan.
WR1	1187	.1	.3
WR1	1012	.1	.3
WR1	1000	Bridge	
WR1	988	.1	.3
WR1	813	.1	.3

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
WR1	1187	PF 1	10.00	834.50	835.47	834.75	835.47	0.000175	0.30	33.11	57.44	0.07
WR1	1187	PF 2	50.00	834.50	836.40	835.08	836.40	0.000180	0.56	89.27	62.09	0.08
WR1	1187	PF 3	100.00	834.50	837.15	835.31	837.15					

PLATE 13

0.000184	0.73	136.77	64.67	0.09				
WR1	1187	PF 4	200.00	834.50	838.27	835.61	838.28	
0.000189	0.95	211.35	68.53	0.09				
WR1	1187	PF 5	300.00	834.50	839.16	835.84	839.18	
0.000190	1.09	274.18	71.61	0.10				
WR1	1187	PF 6	500.00	834.50	840.63	836.21	840.66	
0.000192	1.31	382.89	76.67	0.10				
WR1	1187	PF 7	1000.00	834.50	843.41	836.97	843.45	
0.000194	1.64	609.43	86.24	0.11				
WR1	1187	PF 8	1500.00	834.50	845.02	837.59	845.06	
0.000186	1.79	1434.36	1098.49	0.11				
WR1	1187	PF 9	2000.00	834.50	845.72	838.14	845.76	
0.000180	1.86	2228.53	1170.93	0.11				
WR1	1187	PF 10	2500.00	834.50	846.27	838.64	846.31	
0.000177	1.91	2890.80	1228.07	0.11				
WR1	1187	PF 11	3000.00	834.50	846.74	839.11	846.78	
0.000173	1.96	3485.94	1282.32	0.11				
WR1	1187	PF 12	3500.00	834.50	847.16	839.54	847.19	
0.000173	2.01	4024.62	1318.75	0.11				
WR1	1187	PF 13	4000.00	834.50	847.55	839.95	847.58	
0.000169	2.04	4544.61	1329.97	0.11				
WR1	1187	PF 14	4500.00	834.50	847.90	840.34	847.93	
0.000168	2.07	5013.53	1340.00	0.11				
WR1	1187	PF 15	5000.00	834.50	848.23	840.71	848.27	
0.000167	2.11	5459.45	1349.48	0.11				
WR1	1187	PF 16	5500.00	834.50	848.55	841.07	848.58	
0.000166	2.14	5887.37	1358.51	0.11				
WR1	1187	PF 17	6000.00	834.50	848.85	841.42	848.88	
0.000164	2.16	6299.94	1367.15	0.11				
WR1	1187	PF 18	6500.00	834.50	849.47	841.75	849.50	
0.000136	2.04	7155.26	1384.91	0.10				
WR1	1187	PF 19	7000.00	834.50	849.55	842.07	849.58	
0.000152	2.16	7259.79	1396.51	0.11				
WR1	1187	PF 20	7500.00	834.50	849.87	842.38	849.90	
0.000148	2.17	7718.03	1469.60	0.11				
WR1	1187	PF 21	8000.00	834.50	850.19	842.69	850.22	
0.000149	2.21	8193.64	1500.00	0.11				
WR1	1187	PF 22	8500.00	834.50	850.50	842.96	850.53	
0.000143	2.20	8667.42	1500.00	0.10				
WR1	1187	PF 23	9000.00	834.50	850.90	843.26	850.93	
0.000132	2.15	9263.43	1500.00	0.10				
WR1	1187	PF 24	9500.00	834.50	851.19	845.58	851.22	
0.000129	2.15	9704.17	1500.00	0.10				
WR1	1187	PF 25	10000.00	834.50	851.44	845.65	851.46	
0.000128	2.17	10068.73	1500.00	0.10				
WR1	1187	PF 26	10500.00	834.50	851.66	845.75	851.69	
0.000128	2.19	10403.26	1500.00	0.10				
WR1	1187	PF 27	11000.00	834.50	851.86	845.84	851.89	
0.000129	2.22	10703.19	1500.00	0.10				
WR1	1187	PF 28	11500.00	834.50	852.03	845.97	852.07	
0.000131	2.26	10967.69	1500.00	0.10				
WR1	1187	PF 29	12000.00	834.50	852.25	845.97	852.28	
0.000131	2.28	11285.83	1500.00	0.10				
WR1	1187	PF 30	12500.00	834.50	852.41	846.06	852.44	
0.000133	2.31	11533.94	1500.00	0.10				
WR1	1187	PF 31	14000.00	834.50	853.03	846.33	853.06	
0.000132	2.36	12462.56	1500.00	0.10				
WR1	1187	PF 32	15000.00	834.50	853.30	846.44	853.33	
0.000137	2.43	12862.74	1500.00	0.11				
WR1	1187	PF 33	16000.00	834.50	853.56	846.63	853.59	
0.000143	2.51	13251.19	1500.00	0.11				
WR1	1187	PF 34	17000.00	834.50	853.80	846.71	853.83	
0.000148	2.58	13610.54	1500.00	0.11				
WR1	1187	PF 35	18000.00	834.50	854.03	846.75	854.07	
0.000154	2.65	13964.57	1500.00	0.11				
WR1	1187	PF 36	19000.00	834.50	854.25	846.90	854.29	
0.000159	2.72	14290.77	1500.00	0.11				
WR1	1187	PF 37	20000.00	834.50	854.48	846.95	854.53	
0.000164	2.78	14641.79	1500.00	0.12				
WR1	1187	PF 38	21000.00	834.50	854.70	847.20	854.75	
0.000168	2.84	14972.57	1500.00	0.12				
WR1	1187	PF 39	22000.00	834.50	854.92	847.25	854.97	
0.000173	2.90	15297.67	1500.00	0.12				
WR1	1187	PF 40	25000.00	834.50	855.62	847.52	855.67	
0.000181	3.05	16341.37	1500.00	0.12				
WR1	1012	PF 1	10.00	834.40	835.45	834.70	835.45	
0.000065	0.22	45.92	62.22	0.04				

PLATE 14

WR1	1012	PF 2	50.00	834.40	836.37	834.94	836.37	
0.000112	0.47	105.49	66.23	0.07				
WR1	1012	PF 3	100.00	834.40	837.12	835.12	837.12	
0.000129	0.64	155.84	68.53	0.07				
WR1	1012	PF 4	200.00	834.40	838.24	835.39	838.25	
0.000143	0.85	234.40	71.96	0.08				
WR1	1012	PF 5	300.00	834.40	839.13	835.62	839.15	
0.000149	1.00	300.11	74.72	0.09				
WR1	1012	PF 6	500.00	834.40	840.60	835.98	840.62	
0.000157	1.21	412.93	79.22	0.09				
WR1	1012	PF 7	1000.00	834.40	843.38	836.71	843.41	
0.000166	1.55	645.10	87.77	0.10				
WR1	1012	PF 8	1500.00	834.40	844.97	837.31	845.02	
0.000207	1.90	788.32	217.14	0.11				
WR1	1012	PF 9	2000.00	834.40	845.62	837.84	845.71	
0.000293	2.35	858.05	362.79	0.14				
WR1	1012	PF 10	2500.00	834.40	846.13	838.33	846.25	
0.000378	2.77	942.46	444.15	0.16				
WR1	1012	PF 11	3000.00	834.40	846.56	838.78	846.72	
0.000463	3.16	1016.15	493.18	0.18				
WR1	1012	PF 12	3500.00	834.40	846.93	839.21	847.12	
0.000551	3.53	1079.04	535.03	0.19				
WR1	1012	PF 13	4000.00	834.40	847.28	839.60	847.51	
0.000636	3.88	1138.47	587.40	0.21				
WR1	1012	PF 14	4500.00	834.40	847.58	839.99	847.85	
0.000724	4.22	1190.53	777.07	0.22				
WR1	1012	PF 15	5000.00	834.40	847.87	840.35	848.18	
0.000812	4.54	1239.09	920.43	0.24				
WR1	1012	PF 16	5500.00	834.40	848.13	840.71	848.48	
0.000899	4.85	1284.86	1060.28	0.25				
WR1	1012	PF 17	6000.00	834.40	848.39	841.04	848.78	
0.000985	5.15	1328.26	1120.75	0.26				
WR1	1012	PF 18	6500.00	834.40	849.00	841.37	849.41	
0.000952	5.24	1433.29	1254.90	0.26				
WR1	1012	PF 19	7000.00	834.40	849.00	841.69	849.47	
0.001104	5.65	1433.41	1255.06	0.28				
WR1	1012	PF 20	7500.00	834.40	849.28	842.00	849.79	
0.001165	5.89	1480.87	1312.15	0.29				
WR1	1012	PF 21	8000.00	834.40	849.56	842.30	850.10	
0.001222	6.11	1528.29	1399.62	0.30				
WR1	1012	PF 22	8500.00	834.40	849.83	842.59	850.41	
0.001272	6.33	1575.90	1462.23	0.31				
WR1	1012	PF 23	9000.00	834.40	850.21	842.88	850.82	
0.001281	6.47	1640.22	1500.00	0.31				
WR1	1012	PF 24	9500.00	834.40	850.46	843.14	851.10	
0.001329	6.67	1684.05	1500.00	0.32				
WR1	1012	PF 25	10000.00	834.40	850.87	843.43	851.35	
0.001086	6.15	2633.21	1500.00	0.29				
WR1	1012	PF 26	10500.00	834.40	851.09	843.68	851.57	
0.001098	6.24	2756.49	1500.00	0.29				
WR1	1012	PF 27	11000.00	834.40	851.28	843.93	851.77	
0.001118	6.35	2864.15	1500.00	0.29				
WR1	1012	PF 28	11500.00	834.40	851.44	844.22	851.95	
0.001147	6.48	2955.66	1500.00	0.30				
WR1	1012	PF 29	12000.00	834.40	852.09	844.46	852.22	
0.000414	4.01	6214.43	1500.00	0.18				
WR1	1012	PF 30	12500.00	834.40	852.25	844.71	852.38	
0.000419	4.06	6385.14	1500.00	0.18				
WR1	1012	PF 31	14000.00	834.40	852.88	845.44	853.01	
0.000407	4.11	7035.98	1500.00	0.18				
WR1	1012	PF 32	15000.00	834.40	853.17	846.42	853.28	
0.000367	3.95	8076.89	1500.00	0.17				
WR1	1012	PF 33	16000.00	834.40	853.42	846.91	853.54	
0.000377	4.04	8375.82	1500.00	0.17				
WR1	1012	PF 34	17000.00	834.40	853.66	847.32	853.77	
0.000389	4.14	8651.44	1500.00	0.18				
WR1	1012	PF 35	18000.00	834.40	853.91	847.70	854.02	
0.000361	4.03	9612.74	1500.00	0.17				
WR1	1012	PF 36	19000.00	834.40	854.12	848.04	854.23	
0.000371	4.12	9889.22	1500.00	0.17				
WR1	1012	PF 37	20000.00	834.40	854.35	848.33	854.47	
0.000377	4.19	10188.72	1500.00	0.18				
WR1	1012	PF 38	21000.00	834.40	854.57	848.69	854.69	
0.000384	4.26	10470.24	1500.00	0.18				
WR1	1012	PF 39	22000.00	834.40	854.79	849.01	854.91	
0.000391	4.34	10747.11	1500.00	0.18				
WR1	1012	PF 40	25000.00	834.40	855.51	851.27	855.62	
0.000333	4.10	13160.56	1500.00	0.17				

PLATE 15

WR1 1000 Bridge

WR1	988	PF 1	10.00	834.40	835.45	834.70	835.45	
0.000066	0.22	45.81	62.20	0.04				
WR1	988	PF 2	50.00	834.40	836.37	834.94	836.37	
0.000113	0.47	105.29	66.22	0.07				
WR1	988	PF 3	100.00	834.40	837.11	835.12	837.12	
0.000130	0.64	155.59	68.52	0.08				
WR1	988	PF 4	200.00	834.40	838.23	835.39	838.24	
0.000143	0.85	234.09	71.95	0.08				
WR1	988	PF 5	300.00	834.40	839.13	835.62	839.14	
0.000150	1.00	299.75	74.70	0.09				
WR1	988	PF 6	500.00	834.40	840.59	835.98	840.61	
0.000157	1.21	412.50	79.21	0.09				
WR1	988	PF 7	1000.00	834.40	843.37	836.71	843.41	
0.000166	1.55	644.35	87.74	0.10				
WR1	988	PF 8	1500.00	834.40	844.95	837.31	845.01	
0.000208	1.91	787.30	215.33	0.12				
WR1	988	PF 9	2000.00	834.40	845.61	837.84	845.69	
0.000295	2.36	855.79	358.16	0.14				
WR1	988	PF 10	2500.00	834.40	846.11	838.33	846.23	
0.000380	2.78	939.07	441.89	0.16				
WR1	988	PF 11	3000.00	834.40	846.54	838.78	846.69	
0.000467	3.17	1012.03	490.44	0.18				
WR1	988	PF 12	3500.00	834.40	846.90	839.21	847.09	
0.000557	3.54	1074.15	531.77	0.19				
WR1	988	PF 13	4000.00	834.40	847.24	839.60	847.47	
0.000643	3.89	1132.90	582.18	0.21				
WR1	988	PF 14	4500.00	834.40	847.54	839.99	847.82	
0.000734	4.23	1184.17	752.54	0.23				
WR1	988	PF 15	5000.00	834.40	847.82	840.35	848.14	
0.000823	4.56	1231.91	888.94	0.24				
WR1	988	PF 16	5500.00	834.40	848.09	840.71	848.44	
0.000913	4.88	1276.88	1046.55	0.25				
WR1	988	PF 17	6000.00	834.40	848.34	841.04	848.73	
0.001001	5.18	1319.42	1109.46	0.27				
WR1	988	PF 18	6500.00	834.40	848.57	841.37	849.02	
0.001089	5.48	1359.87	1161.13	0.28				
WR1	988	PF 19	7000.00	834.40	848.80	841.69	849.29	
0.001175	5.76	1399.16	1211.30	0.29				
WR1	988	PF 20	7500.00	834.40	849.02	842.00	849.55	
0.001261	6.04	1436.24	1258.67	0.30				
WR1	988	PF 21	8000.00	834.40	849.23	842.30	849.81	
0.001347	6.31	1471.90	1303.01	0.31				
WR1	988	PF 22	8500.00	834.40	849.43	842.59	850.06	
0.001433	6.58	1506.12	1370.46	0.32				
WR1	988	PF 23	9000.00	834.40	849.71	842.88	850.38	
0.001478	6.78	1554.80	1434.48	0.33				
WR1	988	PF 24	9500.00	834.40	849.88	843.14	850.60	
0.001566	7.04	1584.35	1473.34	0.34				
WR1	988	PF 25	10000.00	834.40	850.05	843.43	850.82	
0.001653	7.29	1613.41	1500.00	0.35				
WR1	988	PF 26	10500.00	834.40	850.22	843.68	851.03	
0.001739	7.54	1641.70	1500.00	0.36				
WR1	988	PF 27	11000.00	834.40	850.37	843.93	851.25	
0.001825	7.78	1669.09	1500.00	0.37				
WR1	988	PF 28	11500.00	834.40	850.53	844.22	851.45	
0.001913	8.03	1695.07	1500.00	0.38				
WR1	988	PF 29	12000.00	834.40	850.86	844.46	851.57	
0.001571	7.39	2626.79	1500.00	0.34				
WR1	988	PF 30	12500.00	834.40	851.04	844.71	851.76	
0.001587	7.49	2728.17	1500.00	0.35				
WR1	988	PF 31	14000.00	834.40	851.91	845.44	852.11	
0.000609	4.82	6030.22	1500.00	0.22				
WR1	988	PF 32	15000.00	834.40	852.25	846.42	852.45	
0.000603	4.87	6386.22	1500.00	0.22				
WR1	988	PF 33	16000.00	834.40	852.58	846.91	852.78	
0.000598	4.92	6731.59	1500.00	0.22				
WR1	988	PF 34	17000.00	834.40	852.90	847.32	853.10	
0.000593	4.97	7065.55	1500.00	0.22				
WR1	988	PF 35	18000.00	834.40	853.24	847.70	853.40	
0.000513	4.68	8164.30	1500.00	0.20				
WR1	988	PF 36	19000.00	834.40	853.54	848.04	853.71	
0.000507	4.71	8520.75	1500.00	0.20				
WR1	988	PF 37	20000.00	834.40	853.86	848.33	854.00	
0.000454	4.51	9547.77	1500.00	0.19				

PLATE 16

WR1	988	PF 38	21000.00	834.40	854.15	848.69	854.29	
0.000448	4.53	9926.28	1500.00	0.19				
WR1	988	PF 39	22000.00	834.40	854.44	849.01	854.58	
0.000443	4.55	10297.70	1500.00	0.19				
WR1	988	PF 40	25000.00	834.40	855.29	851.27	855.40	
0.000360	4.23	12820.07	1500.00	0.17				
WR1	813	PF 1	10.00	834.40	835.43	834.72	835.43	
0.000200	0.32	31.34	55.47	0.07				
WR1	813	PF 2	50.00	834.40	836.34	835.06	836.34	
0.000200	0.58	86.24	61.89	0.09				
WR1	813	PF 3	100.00	834.40	837.08	835.30	837.09	
0.000200	0.75	133.24	64.45	0.09				
WR1	813	PF 4	200.00	834.40	838.20	835.60	838.21	
0.000200	0.96	207.26	68.29	0.10				
WR1	813	PF 5	300.00	834.40	839.09	835.82	839.11	
0.000200	1.11	269.70	71.37	0.10				
WR1	813	PF 6	500.00	834.40	840.56	836.20	840.58	
0.000200	1.32	377.84	76.41	0.10				
WR1	813	PF 7	1000.00	834.40	843.33	836.95	843.37	
0.000200	1.66	603.21	85.97	0.11				
WR1	813	PF 8	1500.00	834.40	844.92	837.58	844.97	
0.000200	1.84	1333.38	1088.88	0.11				
WR1	813	PF 9	2000.00	834.40	845.59	838.15	845.64	
0.000200	1.94	2084.58	1158.08	0.11				
WR1	813	PF 10	2500.00	834.40	846.12	838.63	846.16	
0.000200	2.02	2705.91	1212.34	0.12				
WR1	813	PF 11	3000.00	834.40	846.56	839.10	846.61	
0.000200	2.08	3259.39	1260.07	0.12				
WR1	813	PF 12	3500.00	834.40	846.95	839.54	846.99	
0.000200	2.13	3755.84	1308.23	0.12				
WR1	813	PF 13	4000.00	834.40	847.32	839.94	847.36	
0.000200	2.18	4240.37	1323.40	0.12				
WR1	813	PF 14	4500.00	834.40	847.64	840.33	847.69	
0.000200	2.23	4673.14	1332.71	0.12				
WR1	813	PF 15	5000.00	834.40	847.95	840.72	847.99	
0.000200	2.27	5082.58	1341.46	0.12				
WR1	813	PF 16	5500.00	834.40	848.24	841.08	848.28	
0.000200	2.31	5474.01	1349.77	0.12				
WR1	813	PF 17	6000.00	834.40	848.52	841.42	848.56	
0.000200	2.35	5849.79	1357.70	0.12				
WR1	813	PF 18	6500.00	834.40	848.79	841.76	848.83	
0.000200	2.38	6212.19	1365.31	0.12				
WR1	813	PF 19	7000.00	834.40	849.05	842.08	849.09	
0.000200	2.41	6567.89	1372.73	0.12				
WR1	813	PF 20	7500.00	834.40	849.29	842.39	849.33	
0.000200	2.44	6908.94	1379.81	0.12				
WR1	813	PF 21	8000.00	834.40	849.53	842.69	849.57	
0.000200	2.48	7241.01	1393.35	0.12				
WR1	813	PF 22	8500.00	834.40	849.77	842.98	849.81	
0.000200	2.51	7571.21	1446.50	0.12				
WR1	813	PF 23	9000.00	834.40	850.07	843.16	850.12	
0.000200	2.54	8025.18	1500.00	0.12				
WR1	813	PF 24	9500.00	834.40	850.28	845.57	850.32	
0.000200	2.57	8333.44	1500.00	0.12				
WR1	813	PF 25	10000.00	834.40	850.48	845.65	850.52	
0.000200	2.60	8638.04	1500.00	0.12				
WR1	813	PF 26	10500.00	834.40	850.68	845.78	850.72	
0.000200	2.62	8936.68	1500.00	0.12				
WR1	813	PF 27	11000.00	834.40	850.87	845.85	850.92	
0.000200	2.65	9228.09	1500.00	0.12				
WR1	813	PF 28	11500.00	834.40	851.06	845.89	851.11	
0.000200	2.67	9508.34	1500.00	0.12				
WR1	813	PF 29	12000.00	834.40	851.25	845.96	851.29	
0.000200	2.69	9788.85	1500.00	0.12				
WR1	813	PF 30	12500.00	834.40	851.43	846.06	851.48	
0.000200	2.71	10063.88	1500.00	0.12				
WR1	813	PF 31	14000.00	834.40	851.96	846.32	852.01	
0.000200	2.78	10860.02	1500.00	0.13				
WR1	813	PF 32	15000.00	834.40	852.30	846.47	852.35	
0.000200	2.82	11369.79	1500.00	0.13				
WR1	813	PF 33	16000.00	834.40	852.63	846.61	852.68	
0.000200	2.86	11864.81	1500.00	0.13				
WR1	813	PF 34	17000.00	834.40	852.95	846.70	853.00	
0.000200	2.90	12343.63	1500.00	0.13				
WR1	813	PF 35	18000.00	834.40	853.27	846.82	853.32	
0.000200	2.93	12815.68	1500.00	0.13				
WR1	813	PF 36	19000.00	834.40	853.57	846.92	853.62	

PLATE 17

```
0.000200        2.97    13270.70      1500.00            0.13
  WR1            813            PF 37      20000.00      834.40      853.87      847.02      853.92
0.000200        3.01    13721.13      1500.00            0.13
  WR1            813            PF 38      21000.00      834.40      854.16      847.12      854.22
0.000200        3.04    14159.31      1500.00            0.13
  WR1            813            PF 39      22000.00      834.40      854.45      847.28      854.50
0.000200        3.07    14589.42      1500.00            0.13
  WR1            813            PF 40      25000.00      834.40      855.28      847.52      855.34
0.000200        3.17    15833.71      1500.00            0.13
```


PLATE 18

```
-------------------------------
Bulletin 17B Frequency Analysis
    25 May 2010   11:58 AM
-------------------------------


--- Input Data ---

Analysis Name: Linn Grove
Description:

Data Set Name: LinnGrove-LINN GROVE, IN-FLOW-ANNUAL PEAK
DSS File Name:
V:\1735\active\2009\ODNR_GrandLakeStMarys\Hydro\LinnGrove\LinnGrove.dss
DSS Pathname: /WABASH RIVER/LINN GROVE, IN/FLOW-ANNUAL
PEAK/01jan1900/IR-CENTURY/USGS/

Report File Name:
V:\1735\active\2009\ODNR_GrandLakeStMarys\Hydro\LinnGrove\Bulletin17bResults\Linn_Gr
ove\Linn_Grove.rpt
XML File Name:
V:\1735\active\2009\ODNR_GrandLakeStMarys\Hydro\LinnGrove\Bulletin17bResults\Linn_Gr
ove\Linn_Grove.xml

Start Date:
End Date:

Skew Option: Use Weighted Skew
Regional Skew: -0.2
Regional Skew MSE: 0.55

Plotting Position Type: Weibull

Upper Confidence Level: 0.05
Lower Confidence Level: 0.95

Display ordinate values using 1 digits in fraction part of value

--- End of Input Data ---


--- Preliminary Results ---


<< Skew Weighting >>
-----------------------------------------------------------------
Based on 45 events, mean-square error of station skew =     0.189
Mean-square error of regional skew =                         0.55
-----------------------------------------------------------------


<< Frequency Curve >>
LinnGrove-LINN GROVE, IN-FLOW-ANNUAL PEAK
-----------------------------------------------------------------
|  Computed    Expected  |  Percent  |   Confidence Limits    |
|   Curve    Probability |  Chance   |     0.05        0.95   |
|     FLOW, CFS          | Exceedance|       FLOW, CFS        |
|------------------------|-----------|------------------------|
|   13,591.6    14,076.8 |    0.2    |   17,253.9    11,376.0 |
|   12,792.6    13,172.9 |    0.5    |   16,063.0    10,783.3 |
|   12,104.4    12,415.4 |    1.0    |   15,050.8    10,267.6 |
|   11,329.4    11,568.6 |    2.0    |   13,926.6     9,680.3 |
|   10,137.8    10,294.9 |    5.0    |   12,233.3     8,761.9 |
```


PLATE 19

9,069.3	9,164.1	10.0	10,755.6	7,919.5
7,792.9	7,840.4	20.0	9,048.9	6,883.4
5,518.8	5,518.8	50.0	6,211.5	4,920.2
3,617.2	3,580.6	80.0	4,087.2	3,127.4
2,807.3	2,748.4	90.0	3,235.3	2,341.7
2,237.3	2,159.8	95.0	2,640.1	1,796.6
1,398.5	1,283.7	99.0	1,748.7	1,028.8

<< Systematic Statistics >>
LinnGrove-LINN GROVE, IN-FLOW-ANNUAL PEAK

Log Transform: FLOW, CFS		Number of Events	
Mean	3.718	Historic Events	0
Standard Dev	0.202	High Outliers	0
Station Skew	-0.880	Low Outliers	0
Regional Skew	-0.200	Zero Events	0
Weighted Skew	-0.706	Missing Events	0
Adopted Skew	-0.706	Systematic Events	45

--- End of Preliminary Results ---

<< Low Outlier Test >>

Based on 45 events, 10 percent outlier test deviate K(N) = 2.727
Computed low outlier test value = 1,465.83

1 low outlier(s) identified below test value of 1,465.83

Statistics and frequency curve adjusted for 1 low outlier(s)

<< Systematic Statistics >>
LinnGrove-LINN GROVE, IN-FLOW-ANNUAL PEAK

Log Transform: FLOW, CFS		Number of Events	
Mean	3.732	Historic Events	0
Standard Dev	0.181	High Outliers	0
Station Skew	-0.535	Low Outliers	1
Regional Skew	-0.200	Zero Events	0
Weighted Skew	-0.706	Missing Events	0
Adopted Skew	-0.706	Systematic Events	45

<< High Outlier Test >>

Based on 44 events, 10 percent outlier test deviate K(N) = 2.719
Computed high outlier test value = 16,793.99

0 high outlier(s) identified above test value of 16,793.99

PLATE 20

Note: Statistics and frequency curve were modified
using conditional probablity adjustment.

--- Final Results ---

<< Plotting Positions >>
LinnGrove-LINN GROVE, IN-FLOW-ANNUAL PEAK

Events Analyzed		Ordered Events			
Day Mon Year	FLOW CFS	Rank	Water Year	FLOW CFS	Weibull Plot Pos
01 Apr 1964	6,900.0	1	2003	14,500.0	2.17
08 Apr 1965	2,740.0	2	2008	9,890.0	4.35
12 Feb 1966	1,260.0	3	1978	9,560.0	6.52
11 Dec 1966	6,620.0	4	1993	9,380.0	8.70
03 Feb 1968	4,560.0	5	2005	9,300.0	10.87
31 Jan 1969	5,500.0	6	1998	8,500.0	13.04
31 Jan 1970	6,200.0	7	1985	7,820.0	15.22
20 Feb 1971	3,870.0	8	1991	7,650.0	17.39
22 Apr 1972	6,210.0	9	1999	7,390.0	19.57
15 Nov 1972	5,190.0	10	1996	7,140.0	21.74
20 Jan 1974	6,040.0	11	1964	6,900.0	23.91
24 Feb 1975	6,000.0	12	1995	6,890.0	26.09
18 Feb 1976	5,840.0	13	1967	6,620.0	28.26
28 Feb 1977	3,700.0	14	1972	6,210.0	30.43
17 Mar 1978	9,560.0	15	1970	6,200.0	32.61
05 Mar 1979	5,970.0	16	1974	6,040.0	34.78
09 Mar 1980	5,050.0	17	1989	6,030.0	36.96
15 Jun 1981	5,640.0	18	1975	6,000.0	39.13
13 Mar 1982	5,770.0	19	1979	5,970.0	41.30
04 May 1983	3,540.0	20	1976	5,840.0	43.48
18 Mar 1984	4,510.0	21	1982	5,770.0	45.65
24 Feb 1985	7,820.0	22	2007	5,700.0	47.83
13 Dec 1985	4,340.0	23	1997	5,670.0	50.00
05 Jun 1987	1,860.0	24	1981	5,640.0	52.17
08 Apr 1988	1,930.0	25	1969	5,500.0	54.35
27 May 1989	6,030.0	26	2004	5,460.0	56.52
17 Feb 1990	4,600.0	27	1973	5,190.0	58.70
31 Dec 1990	7,650.0	28	1980	5,050.0	60.87
17 Jul 1992	4,350.0	29	2002	4,820.0	63.04
03 Jul 1993	9,380.0	30	1994	4,610.0	65.22
19 Nov 1993	4,610.0	31	1990	4,600.0	67.39
11 Aug 1995	6,890.0	32	1968	4,560.0	69.57
19 Jan 1996	7,140.0	33	1984	4,510.0	71.74
03 Jun 1997	5,670.0	34	1992	4,350.0	73.91
24 Jul 1998	8,500.0	35	1986	4,340.0	76.09
24 Jan 1999	7,390.0	36	2006	4,280.0	78.26
10 Apr 2000	2,230.0	37	1971	3,870.0	80.43
13 Apr 2001	3,570.0	38	1977	3,700.0	82.61
31 Mar 2002	4,820.0	39	2001	3,570.0	84.78
08 Jul 2003	14,500.0	40	1983	3,540.0	86.96
06 Jan 2004	5,460.0	41	1965	2,740.0	89.13
13 Jan 2005	9,300.0	42	2000	2,230.0	91.30
31 Dec 2005	4,280.0	43	1988	1,930.0	93.48
16 Jan 2007	5,700.0	44	1987	1,860.0	95.65
07 Feb 2008	9,890.0	45	1966	1,260.0*	97.83

PLATE 21

|----------|----------|
* Outlier

<< Skew Weighting >>

Based on 45 events, mean-square error of station skew = 0.154
Mean-square error of regional skew = 0.55

<< Frequency Curve >>
LinnGrove-LINN GROVE, IN-FLOW-ANNUAL PEAK

Computed Curve FLOW, CFS	Expected Probability FLOW, CFS	Percent Chance Exceedance	Confidence Limits 0.05 FLOW, CFS	Confidence Limits 0.95 FLOW, CFS
14,256.3	14,949.2	0.2	18,075.3	11,967.2
13,183.2	13,691.7	0.5	16,473.3	11,173.0
12,314.7	12,705.8	1.0	15,197.9	10,521.8
11,387.6	11,672.5	2.0	13,859.3	9,817.5
10,049.3	10,221.1	5.0	11,972.2	8,780.6
8,922.0	9,021.6	10.0	10,430.1	7,884.7
7,645.8	7,693.3	20.0	8,746.7	6,837.6
5,508.7	5,508.7	50.0	6,123.0	4,966.0
3,795.7	3,763.4	80.0	4,239.5	3,325.6
3,067.0	3,014.2	90.0	3,483.3	2,607.2
2,546.8	2,475.3	95.0	2,948.3	2,099.1
1,753.7	1,641.0	99.0	2,124.0	1,349.2

<< Synthetic Statistics >>
LinnGrove-LINN GROVE, IN-FLOW-ANNUAL PEAK

Log Transform: FLOW, CFS		Number of Events	
Mean	3.727	Historic Events	0
Standard Dev	0.182	High Outliers	0
Station Skew	-0.521	Low Outliers	1
Regional Skew	-0.200	Zero Events	0
Weighted Skew	-0.451	Missing Events	0
Adopted Skew	-0.451	Systematic Events	45

PLATE 22

Gage weighting using drainage area ratio method.

The USGS Gage used for gage weighting is 03322900 Wabash River at Linn Grove, IN. Equation below was used to perform gage weighting for the July 2003 peak flow recorded at USGS gage 03322900 at the ungaged site (just DS of confluence with beaver creek)

$$Log\ (Q_U) = log\ (Q_g) * (DA_U / DA_g)^m$$

DA_g - Drainage Area of Gage = 508 square miles

DA_U - Drainage Area of ungaged site = 312 square miles

Q_g - Annual Peak Discharge (July 2003 event) from Gage 03322900 = 14,500 cfs

Q_U- Gage weighted Discharge at Ungaged Site

m - 0.2-percent-annual-chance drainage area exponent of the one-variable regression equation from USGS report SIR 2006-5312= 0.644

Hence, gage weighted discharge calculated using equation above is Q_U = ***8,850 cfs.*** The calculated flow matched the peak discharge for July 2003 event from the HEC-RAS model.

PLATE Z3

Spillway rating curves used by Stantec were taken from previous work by Hartman. Below it is shown that the old spillway rating curves use a significantly lower weir coefficient than the new spillway.

Old Spillway Rating Curve					
Hartman Res1 Old Spillway Old Datum (Old Spillway Curve 2)		Estimate Weir Coefficient for 39.4' spillway		Use Weir Coefficients to create rating based on 870.1 NAVD weir elevation (50' notch was reportedly installed at the same elevation as the old spillway - 870.1 NAVD)	
Elev (NGVD29)	Q (cfs)	H	C	Elev (NAVD88)	Q (Cfs)
870.75	0	0		870.1	0
871	10	0.25	2.03	870.35	10
871.5	55	0.75	2.15	870.85	55
872	120	1.25	2.18	871.35	120
872.5	220	1.75	2.41	871.85	220
873	360	2.25	2.71	872.35	360

New Spillway Rating Curve							
Hartman New Spillway rating curve NGVD29		Convert to NAVD88	Estimate Weir Coefficient for 50' notch		Estimate flow through the notch assuming C=3.35	Estimate flow through 450' portion of spillway	Estimate weir coefficient from 450' portion of spillway
Elev (NGVD9)	Q (cfs)	Elev (NAVD88)	H (ft).	C	Qnotch (cfs)	Q450 (cfs)	C
870.6	0	870.1					
870.7	5	870.2	0.1	3.16			
870.8	14	870.3	0.2	3.13			
870.9	26	870.4	0.3	3.16			
871	41	870.5	0.4	3.24			
871.1	57	870.6	0.5	3.22			
871.2	75	870.7	0.6	3.23			
871.3	97	870.8	0.7	3.31			
871.4	118	870.9	0.8	3.30			
871.5	143	871	0.9	3.35			
871.6	212	871.1	1		168	45	3.13
871.7	322	871.2	1.1		193	129	3.20
871.8	459	871.3	1.2		220	239	3.23
871.9	622	871.4	1.3		248	374	3.28
872	801	871.5	1.4		277	524	3.29
872.1	994	871.6	1.5		308	686	3.28
872.3	1454	871.8	1.7		371	1083	3.36
872.5	1971	872	1.9		439	1532	3.41
872.7	2544	872.2	2.1		510	2034	3.44
872.9	3209	872.4	2.3		584	2625	3.52
873	3500	872.5	2.4		623	2877	3.48

PLATE 24

Taken from "Grand Lake St. Marys, Spillway Analysis and Downstream Flood Study"
March 1, 2004, Prepared by Hartman Engineering

GRAND LAKE ST. MARYS
SPILLWAY DISCHARGE RATING CURVES
(data taken from information provided by ODNR)

DISCHAR CFS	OLD SPILLWAY CURVE 1	OLD SPILLWAY CURVE 2	OLD SPILLWAY CURVE 4	OLD SPILLWAY CURVE 5	NEW SPILLWAY CURVE 3	NEW SPILLWAY CURVE 6
0.00	870.60	870.75	870.60	870.75	870.6	870.60
5.00			870.70			870.70
10.00	870.85	871.00		871.00		
12.00					870.80	
14.00						870.80
23.00			870.90			
26.00						870.90
41.00						871.00
43.00			871.10			
54.00	871.35			871.50		
55.00		871.50				
57.00						871.10
75.00						871.20
86.00			871.40			
97.00						871.30
107.00			871.50			
118.00						871.40
120.00		872.00				
128.00					871.50	
137.00	871.95					
140.00				872.10		
143.00						871.50
179.00			871.90			
205.00			872.00			
212.00						871.60
220.00		872.50				
315.00	872.85			873.00		
322.00						871.70
360.00		873.00				
459.00						871.80
582.00	873.85					
622.00						871.90
709.00					872.00	
743.00	874.35					
801.00						872.00
845.00	874.85					
994.00						872.10
1007.00	875.85					
1147.00	876.85					
1454.00						872.30
1971.00						872.50
2544.00						872.70
2620.00					872.80	
3209.00						872.90

FROM WARREN ENGINEERING 2002 REPORT

PLATE 25

Peak Elevations of Revised Hydraulic Model

River	River Sta	New100	Old100	Difference	New15	Old15	Difference
Beaver	83	860.34	857.13	3.21	857.4	856.04	1.36
Beaver	82	860.33	857.13	3.2	857.37	856.04	1.33
Beaver	81	860.3	857.12	3.18	857.34	856.03	1.31
Beaver	80.5	US 127		0			0
Beaver	80	860.16	857.12	3.04	857.29	856.03	1.26
Beaver	79.5	860.04	857.12	2.92	857.23	856.03	1.2
Beaver	79.25	Old RR - Bike Path		0			0
Beaver	79.1	859.23	857.11	2.12	857.08	856.03	1.05
Beaver	79	859.22	857.11	2.11	857.07	856.03	1.04
Beaver	78.5	Rail Road		0			0
Beaver	78	859.15	857.11	2.04	857.07	856.03	1.04
Beaver	76	859.36	857.11	2.25	857.14	856.03	1.11
Beaver	75	859.37	857.11	2.26	857.12	856.03	1.09
Beaver	74	859.34	857.11	2.23	857.01	856.03	0.98
Beaver	72	859.34	857.11	2.23	857	856.03	0.97
Beaver	71	859.33	857.11	2.22	856.97	856.03	0.94
Beaver	70	859	857.1	1.9	856.75	856.02	0.73
Beaver	69	858.92	857.06	1.86	856.72	856	0.72
Beaver	68.5	Meyer Road		0			0
Beaver	68	858.9	856.94	1.96	856.58	855.9	0.68
Beaver	67	858.9	856.94	1.96	856.57	855.89	0.68
Beaver	66	858.82	856.89	1.93	856.32	855.84	0.48
Beaver	65	858.25	856.81	1.44	855.89	855.76	0.13
Beaver	64	858.1	856.68	1.42	855.83	855.65	0.18
Beaver	63.5	Fleetfoot Road		0			0
Beaver	63	858	856.65	1.35	855.8	855.63	0.17
Beaver	62	857.99	856.64	1.35	855.79	855.62	0.17
Beaver	61	857.75	856.52	1.23	855.57	855.46	0.11
Beaver	60	857.74	856.51	1.23	855.55	855.45	0.1
Beaver	59.5	Footbridge		0			0
Beaver	59	857.73	856.5	1.23	855.52	855.42	0.1
Beaver	58	857.71	856.49	1.22	855.5	855.41	0.09
Beaver	57	857.58	856.42	1.16	855.4	855.31	0.09
Beaver	56	857.26	856.26	1	855.19	855.11	0.08
Beaver	55	857.21	856.25	0.96	855.18	855.1	0.08
Beaver	54.5	SR 118		0			0
Beaver	54	857	856.12	0.88	855.06	854.98	0.08
Beaver	53	856.92	856.09	0.83	855.02	854.94	0.08
Beaver	52	856.79	856.02	0.77	854.91	854.83	0.08
Beaver	51	856.6	855.93	0.67	854.76	854.7	0.06
Beaver	50	856.55	855.91	0.64	854.75	854.68	0.07
Beaver	49.5	Burkettsville St.Henry Road		0			0
Beaver	49	856.44	855.88	0.56	854.59	854.53	0.06
Beaver	48	856.39	855.87	0.52	854.58	854.52	0.06
Beaver	47	855.95	855.71	0.24	854.38	854.33	0.05

PLATE 26

River	River Sta	New100	Old100	Difference	New15	Old15	Difference
Beaver	46	855.94	855.71	0.23	854.38	854.33	0.05
Beaver	45.5 SR29			0			0
Beaver	45	855.9	855.69	0.21	854.36	854.32	0.04
Beaver	44	855.9	855.68	0.22	854.35	854.31	0.04
Beaver	43	855.8	855.62	0.18	854.23	854.19	0.04
Beaver	42.5	855.73	855.56	0.17	854.12	854.08	0.04
Beaver	42	855.61	855.47	0.14	854	853.97	0.03
Beaver	41	855.58	855.45	0.13	853.98	853.95	0.03
Beaver	40.5 Gause Road			0			0
Beaver	40	855.55	855.43	0.12	853.97	853.94	0.03
Beaver	39	855.54	855.42	0.12	853.97	853.94	0.03
Beaver	38	855.45	855.36	0.09	853.9	853.88	0.02
Beaver	37	855.36	855.28	0.08	853.79	853.77	0.02
Beaver	36	855.33	855.25	0.08	853.77	853.75	0.02
Beaver	35.5 Township Line Road			0			0
Beaver	35	855.24	855.18	0.06	853.72	853.7	0.02
Beaver	34	855.27	855.2	0.07	853.74	853.72	0.02
Beaver	33	855.21	855.15	0.06	853.64	853.62	0.02
Beaver	32	855.07	855.03	0.04	853.48	853.46	0.02
Beaver	31	855.02	854.98	0.04	853.45	853.43	0.02
Beaver	30.5 Erastus Durbin Road			0			0
Beaver	30	855.01	854.97	0.04	853.35	853.33	0.02
Beaver	29	855.04	855	0.04	853.37	853.35	0.02
Beaver	28	855.02	854.98	0.04	853.33	853.31	0.02
Beaver	27	854.99	854.95	0.04	853.27	853.25	0.02
Beaver	26	854.87	854.84	0.03	853.13	853.12	0.01
Beaver	25	854.81	854.78	0.03	853.09	853.08	0.01
Beaver	24.5 Burrville Road			0			0
Beaver	24	854.76	854.73	0.03	853.05	853.04	0.01
Beaver	23	854.79	854.76	0.03	853.08	853.06	0.02
Beaver	22	854.77	854.74	0.03	853.05	853.03	0.02
Beaver	21	854.56	854.54	0.02	852.83	852.82	0.01
Beaver	20	854.4	854.38	0.02	852.73	852.72	0.01
Beaver	19.5 Mud Pike Road			0			0
Beaver	19	854.27	854.25	0.02	852.67	852.66	0.01
Beaver	18	854.36	854.34	0.02	852.69	852.67	0.02
Beaver	17	854.05	854.03	0.02	852.44	852.44	0
Beaver	16	854	853.98	0.02	852.43	852.42	0.01
Beaver	15.5 Wabash Road			0			0
Beaver	15	853.99	853.97	0.02	852.42	852.41	0.01
Beaver	14	854	853.98	0.02	852.4	852.39	0.01
Wabash	12308	862.74	862.74	0	860.99	860.99	0
Wabash	11090	862.64	862.64	0	860.78	860.78	0
Wabash	10603	862.37	862.37	0	860.36	860.36	0
Wabash	10538 SchroederRd			0			0
Wabash	10462	860.51	860.51	0	859.02	859.02	0

PLATE 27

River	River Sta	New100	Old100	Difference	New15	Old15	Difference
Wabash	10238	860.48	860.48	0	858.99	858.99	0
Wabash	8692	860.13	860.13	0	858.54	858.54	0
Wabash	7785	858.74	858.74	0	857.46	857.46	0
Wabash	7716 SR29			0			0
Wabash	7665	857.89	857.89	0	856.5	856.5	0
Wabash	7077	857.45	857.45	0	856.05	856.05	0
Wabash	5821	857.17	857.17	0	855.55	855.55	0
Wabash	4524	856.95	856.95	0	855.15	855.15	0
Wabash	3974	855.99	856	-0.01	853.87	853.87	0
Wabash	3927 WabashRd			0			0
Wabash	3872	854.53	854.52	0.01	853.11	853.11	0
Wabash	3315	854.04	854.02	0.02	852.6	852.6	0
Wabash	1908	853.9	853.88	0.02	852.32	852.31	0.01
Wabash	13	853.84	853.82	0.02	852.22	852.21	0.01
Wabash	12	853.73	853.71	0.02	852.06	852.05	0.01
Wabash	8	853.64	853.63	0.01	851.93	851.92	0.01
Wabash	7	853.51	853.49	0.02	851.72	851.71	0.01
Wabash	6	852.8	852.78	0.02	850.93	850.92	0.01
Wabash	5	852.61	852.59	0.02	850.78	850.77	0.01
Wabash	4.5			0			0
Wabash	4	852.38	852.36	0.02	850.62	850.61	0.01
Wabash	3	852.52	852.5	0.02	850.71	850.7	0.01
Wabash	2	852.27	852.25	0.02	850.44	850.43	0.01
Wabash	1	852.2	852.18	0.02	850.36	850.35	0.01

PLATE 28

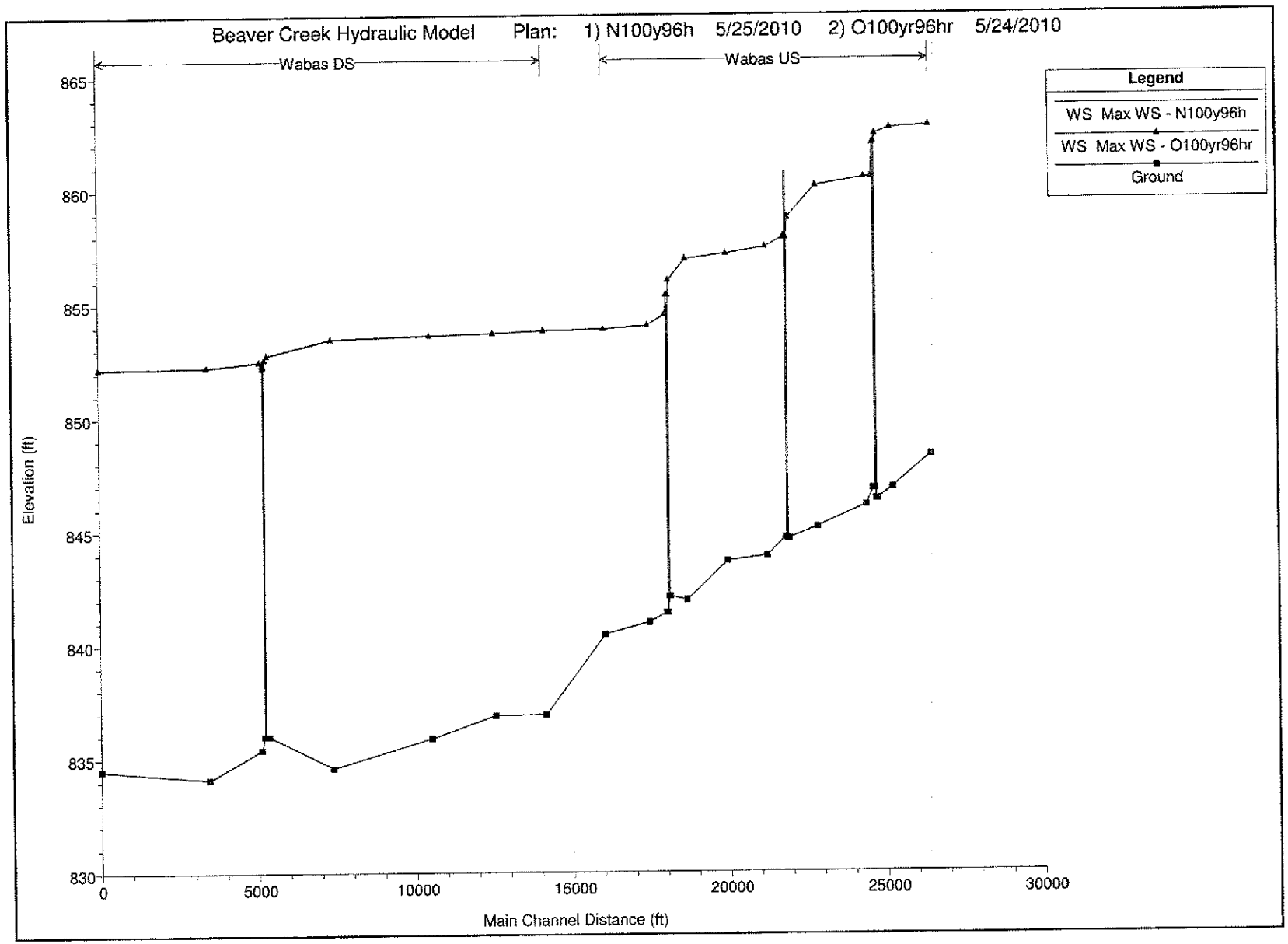

Beaver Creek Hydraulic Model Plan: 1) N100y96h 5/25/2010 2) O100yr96hr 5/24/2010
Wabas DS
Wabas US
Legend
WS Max WS - N100y96h
WS Max WS - O100yr96hr
Ground
Elevation (ft)
865
860
855
850
845
840
835
830
0
5000
10000
15000
20000
25000
30000
Main Channel Distance (ft)

PLATE 29

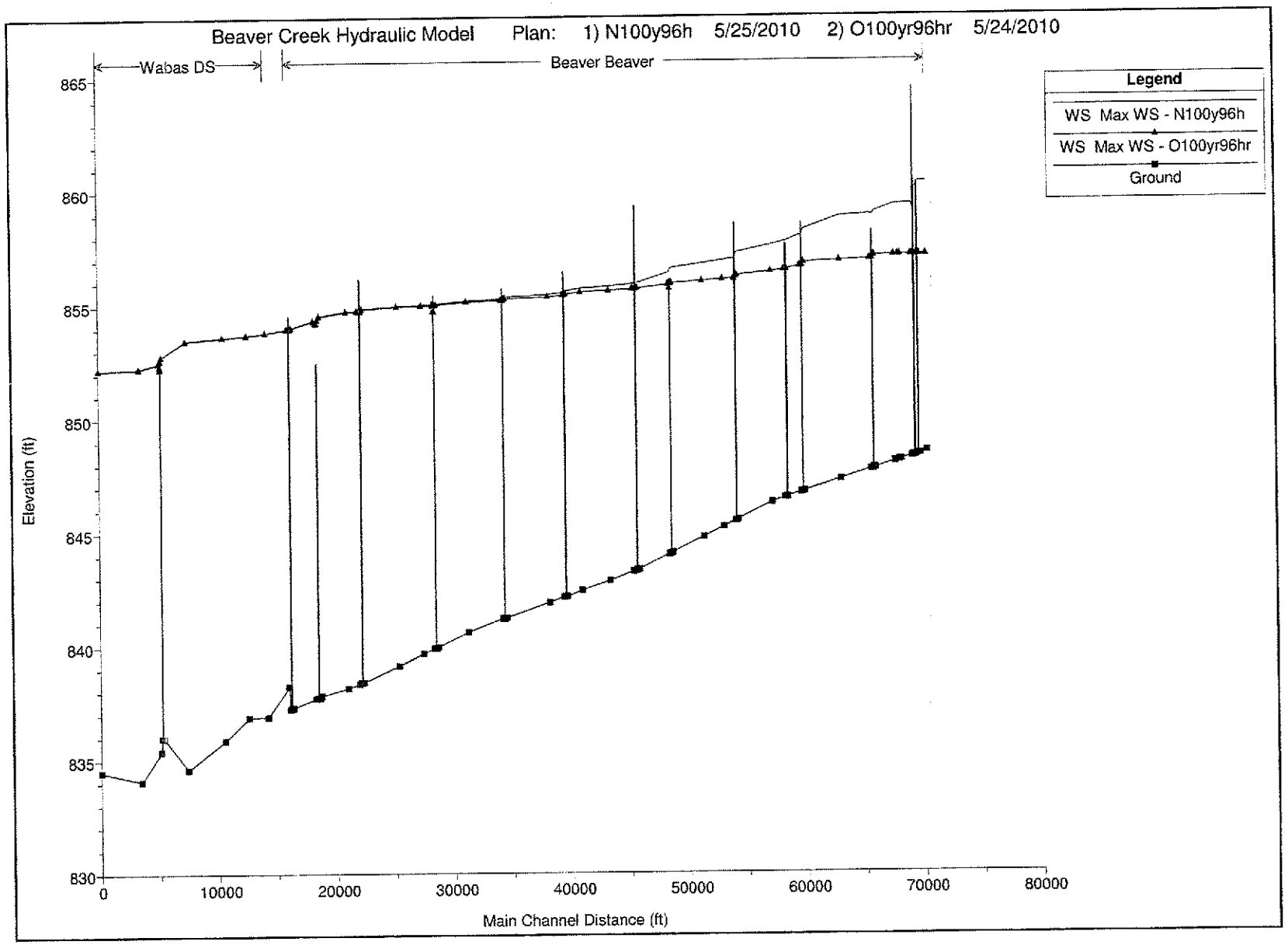

Beaver Creek Hydraulic Model Plan: 1) N100y96h 5/25/2010 2) O100yr96hr 5/24/2010
Wabas DS
Beaver Beaver
Legend
WS Max WS - N100y96h
WS Max WS - O100yr96hr
Ground
Elevation (ft)
865
860
855
850
845
840
835
830
0
10000
20000
30000
40000
50000
60000
70000
80000
Main Channel Distance (ft)

PLATE 30

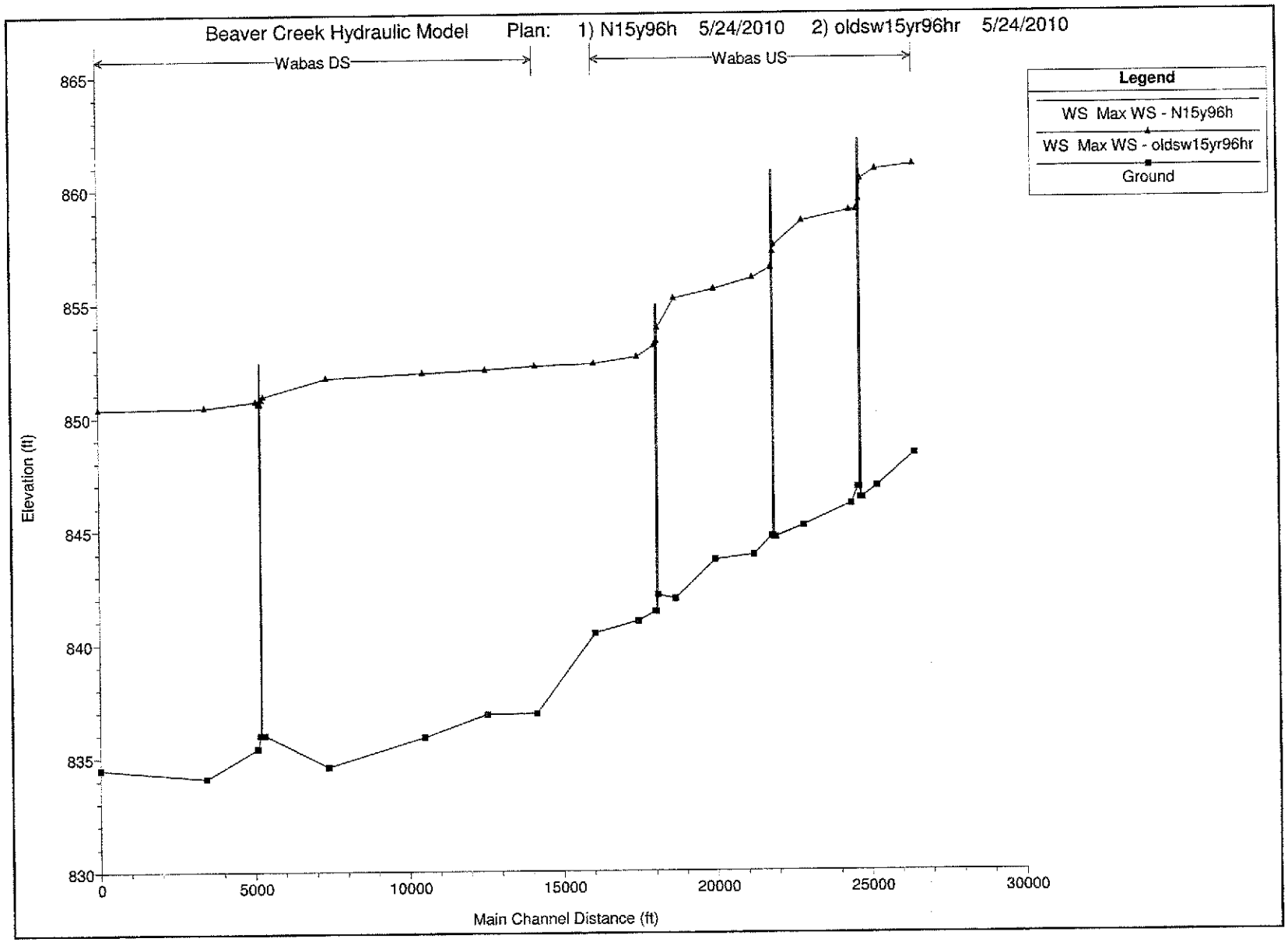

Beaver Creek Hydraulic Model Plan: 1) N15y96h 5/24/2010 2) oldsw15yr96hr 5/24/2010
Wabas DS
Wabas US
Legend
WS Max WS - N15y96h
WS Max WS - oldsw15yr96hr
Ground
Elevation (ft)
865
860
855
850
845
840
835
830
0
5000
10000
15000
20000
25000
30000
Main Channel Distance (ft)

PLATE 31

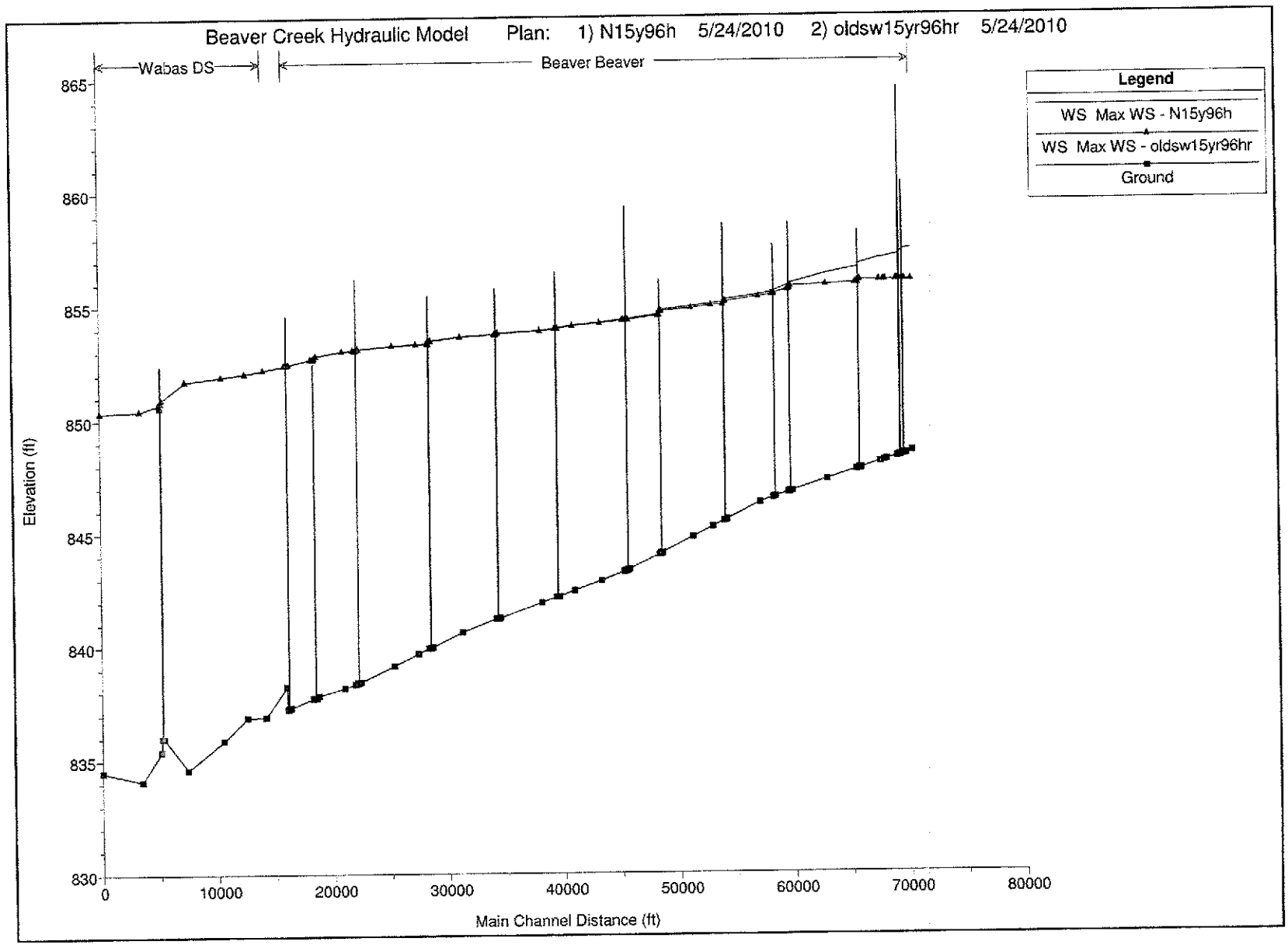

Beaver Creek Hydraulic Model Plan: 1) N15y96h 5/24/2010 2) oldsw15yr96hr 5/24/2010
Wabas DS
Beaver Beaver
Legend
WS Max WS - N15y96h
WS Max WS - oldsw15yr96hr
Ground
Elevation (ft)
865
860
855
850
845
840
835
830
0
10000
20000
30000
40000
50000
60000
70000
80000
Main Channel Distance (ft)

PLATE 32

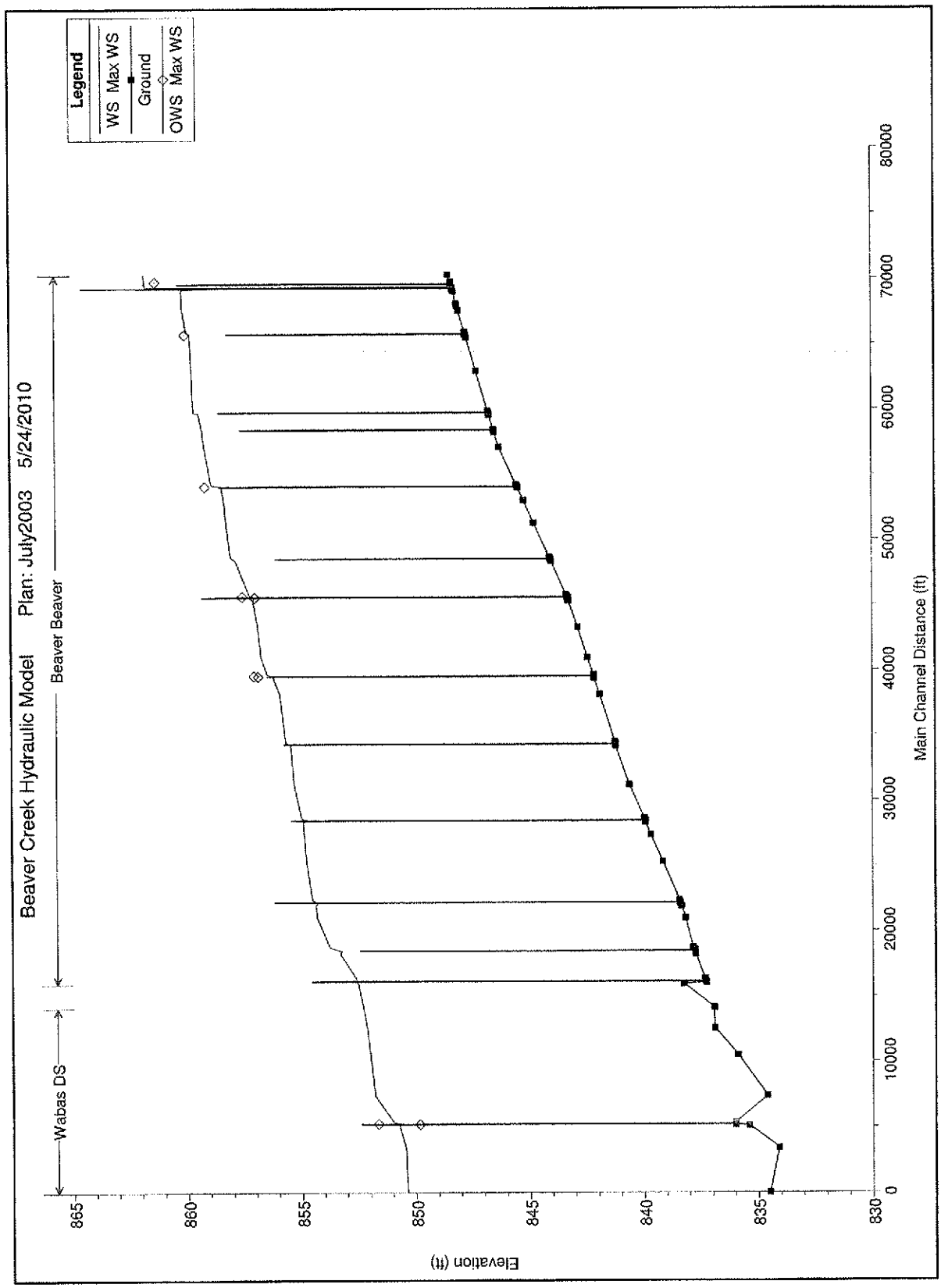

Beaver Creek Hydraulic Model Plan: July2003 5/24/2010
Legend
WS Max WS
Ground
OWS Max WS
Wabas DS
Beaver Beaver
Elevation (ft)
865
860
855
850
845
840
835
830
0
10000
20000
30000
40000
50000
60000
70000
80000
Main Channel Distance (ft)

PLATE 33

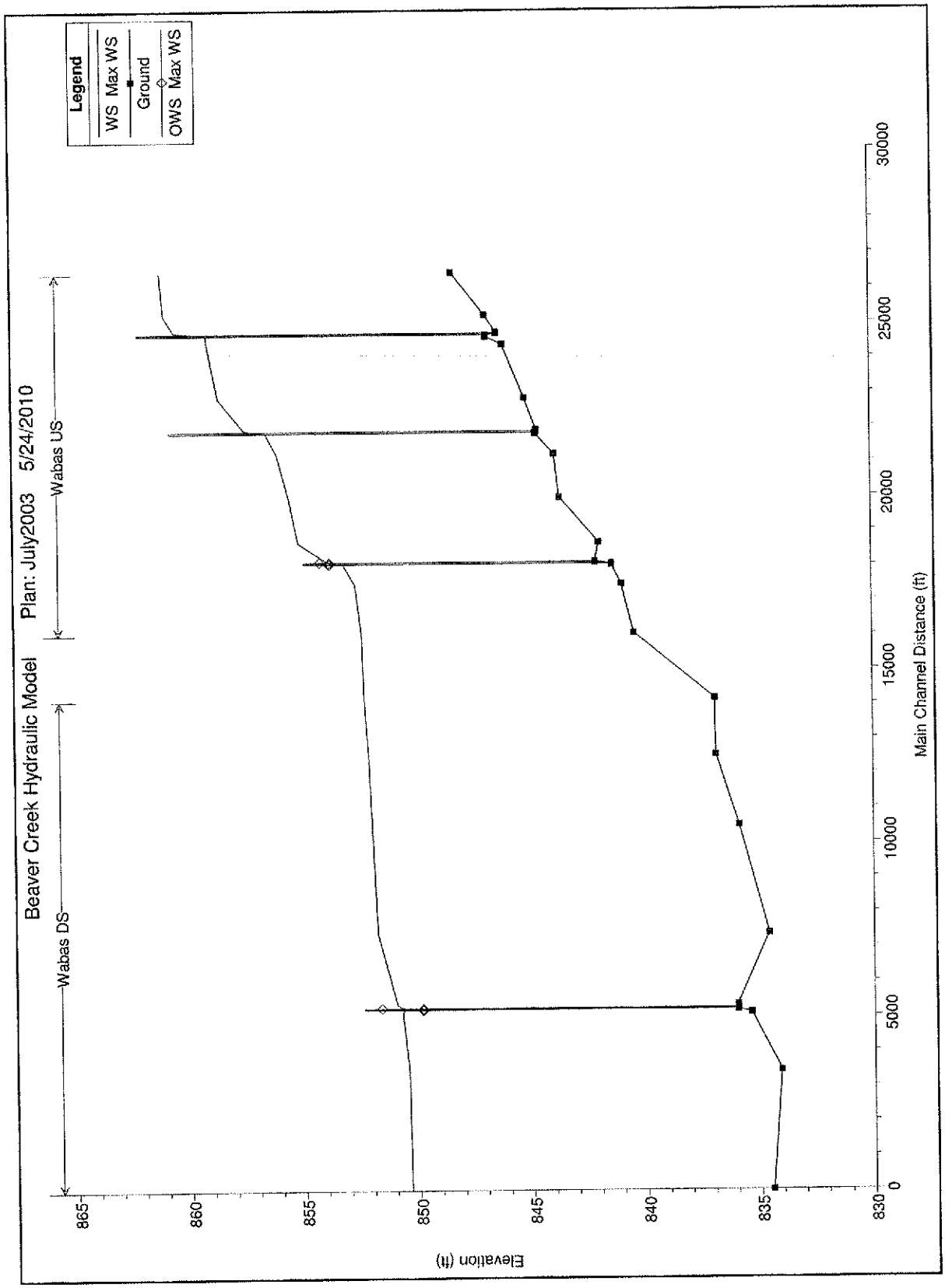

Beaver Creek Hydraulic Model
Plan: July2003 5/24/2010
Legend
WS Max WS
Ground
OWS Max WS
Wabas DS
Wabas US
Elevation (ft)
865
860
855
850
845
840
835
830
0
5000
10000
15000
20000
25000
30000
Main Channel Distance (ft)

PLATE 34

ENVIRONMENTAL HYDROLOGY

SECOND EDITION

Andy D. Ward
Stanley W. Trimble

FOREWORD BY M.G. WOLMAN

LEWIS PUBLISHERS

A CRC Press Company
Boca Raton London New York Washington, D.C.

PLATE 35

An alternative plotting method that has seen widespread application is the Weibull method (Chin, 1999):

$$T = \frac{y+1}{n} \tag{2.3}$$

The Weibull and Hazen methods will give similar IDF curves if the period or record for a particular application is long (at least 20 years). Commonly used spreadsheet programs often do not provide a simple option to use a probability scale. For many applications, useful results can be obtained by plotting the IDF on a log–log or semilog scale and then fitting a trend line (based on a least-squares analysis) through the data. Care should be taken to ensure that there is a good fit ($r^2 > 0.9$) to the data with the range that the IDF will be used.

Sometimes, hydrologists need to estimate the probability that a given return period storm will occur at least once within a given number of years, such as, estimation of the probability that a 100-year storm will occur at least once during the next 10 years. The relationship to determine that probability is

$$P(T,n) = 1-\left[1-\frac{1}{T}\right]^n \tag{2.4}$$

where $P(T,n)$ is the probability that a T-year return period storm will occur at least once during n years (Barfield et al., 1981).

Example 2.6

What is the probability that a 50-year storm will occur during the first 5 years following the construction of a drainage ditch?

Solution

Apply Equation 2.4 with $T = 50$ years and $n = 5$ years:

$$P(50,5) = 1-\left[1-\frac{1}{50}\right]^5 = 0.096 \ (9.6\%)$$

Answer

The probability that a 50-year storm will occur during the first 5 years is 9.6%.

Example 2.6 is an example of *calculated risk*. We encounter this concept again in flooding, flood design, and reservoir design (Chapters 7 and 8), but will use a graphical solution.

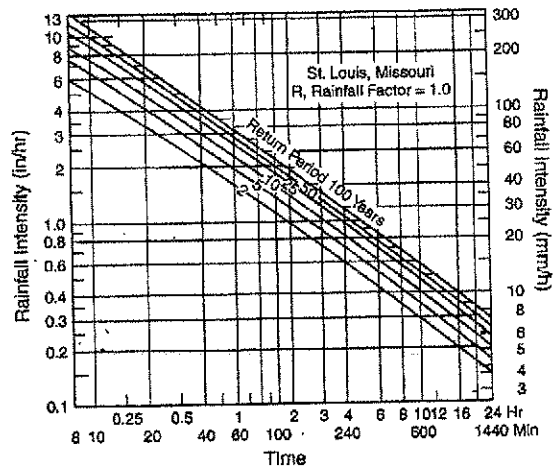


FIGURE 2.17 Rainfall rate–duration–frequency distribution for St. Louis, MO. (From Hershfield, D.N., Rainfall Frequency Atlas of the United States, U.S. Weather Bureau Technical Paper 40, 1961, and Weiss, L.L., *Monthly Weather Rev.*, 90:87–88, 1962.)

2.7.1 St. Louis Frequency Relationship Transferred to the Contiguous U.S.

Figure 2.17 shows the relationship between storm duration, return period, and rainfall intensity for St. Louis, MO. Rainfall amounts can then be found by multiplying the duration and intensity. The value obtained from **Figure 2.17** for St. Louis is then multiplied by a factor from **Figure 2.18** to estimate a storm of the same duration and return period for a different locality in the continental U.S. For example, Chicago, IL, would have a storm intensity approximately 0.75 the size of that predicted for St. Louis, MO, for the same duration and return period.

Example 2.7

Estimate the amount of rainfall expected once in 25 years for a watershed near Chicago, IL, for a storm with a duration of 30 min.

Solution

From **Figure 2.17**, determine that the 25-year, 30-min duration storm in St. Louis has an intensity of 4.1 in./h or a total rainfall of

$$P = (4.1 \text{ inches/hr})\left(\frac{30 \text{ min}}{60 \text{ min/hr}}\right) = 2.05 \text{ inches}$$

PLATE 36

Attachment not scanned

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL.	:	
WAYNE T. DONER, ET AL.	:	
	:	
Relators,	:	
	:	
v.	:	Case No.: 2009-1292
	:	
SEAN D. LOGAN, DIRECTOR	:	
OHIO DEPARTMENT OF	:	
NATURAL RESOURCES, ET AL.	:	
	:	
Respondents.	:	
	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB B

Attachment not scanned

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL.	:	
WAYNE T. DONER, ET AL.	:	
	:	
Relators,	:	
	:	
v.	:	Case No.: 2009-1292
	:	
SEAN D. LOGAN, DIRECTOR	:	
OHIO DEPARTMENT OF	:	
NATURAL RESOURCES, ET AL.	:	
	:	
Respondents.	:	
	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB C

Attachment not scanned

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL.	:	
WAYNE T. DONER, ET AL.	:	
	:	
Relators,	:	
	:	
v.	:	Case No.: 2009-1292
	:	
SEAN D. LOGAN, DIRECTOR	:	
OHIO DEPARTMENT OF	:	
NATURAL RESOURCES, ET AL.	:	
	:	
Respondents.	:	
	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB D

CERTIFIED
ORIGINAL

IN THE SUPREME COURT OF OHIO

STATE ex rel.
WAYNE T. DONER, et al.,

Relators,

vs.

Case No. 2009-1292

SEAN D. LOGAN, Director,
Ohio Department of Natural
Resources, et al.,

Respondents.

- - -

DEPOSITION OF KEITH EARLEY

DATE: May 21, 2010 at 10:04 a.m.

PLACE: Office of the Attorney General
One Government Center
Suite 1240
Toledo, Ohio

REPORTER: Casey G. Schreiner, RMR-RDR
Notary Public

- - -

1 APPEARANCES:

2 On behalf of the Relators:

3 VORYS, SATER, SEYMOUR & PEASE, LLP:
Joseph R. Miller
4 52 East Gay Street
Columbus, Ohio 43216
5 (614) 462-6480

6

On behalf of the Respondents:

7

OFFICE OF THE ATTORNEY GENERAL OF
8 THE STATE OF OHIO:
Jennifer S.M. Croskey, Assistant
9 Attorney General
30 East Broad Street, 26th Floor
10 Columbus, Ohio 43215
(614) 466-2980

11

12 and

13 OFFICE OF THE ATTORNEY GENERAL OF
THE STATE OF OHIO:
14 Daniel J. Martin, Assistant Attorney
General
15 2045 Morse Road, #D2
Columbus, Ohio 43259
16 (614) 265-6870

17

On behalf of the Witness:

18

LUCAS COUNTY PROSECUTOR'S OFFICE:
19 Karlene D. Henderson
700 Adams Street, Suite 250
20 Toledo, Ohio 43604
(419) 213-2001

21

22 - - -

23

24

I N D E X

EXAMINATION

Witness Name	Page	Line
KEITH EARLEY		
Examination By Ms. Croskey	5	5
Examination By Mr. MIller	71	23

EXHIBITS

Exhibit	Description	Page	Line
EX A	Letter - Goettemoeller to Earley - 2-5-92	27	14
EX B	Letter - Morris to Earley - 12-22-93	28	20
EX C	Letter - Cupp to Bucholzer - ... 9-20-04	29	21
EX D	Letter - Early to Bucher - 10-31-07	32	2
EX E	Affidavit of Keith G. Earley, .. P.E., P.S.	35	10
EX F	Letter - Mercer County ..... Commissioners to To Whom It May Concern - 11-22-91	72	17
EX G	Letter - Hellwarth to Chief - .. 2-28-92	72	17

OBJECTIONS

By	Page	Line
Mr. Miller	5	23
Mr. Miller	11	3
Mr. Miller	19	8
Mr. Miller	19	14
Mr. Miller	20	5
Mr. Miller	21	3
Mr. Miller	24	23
Mr. Miller	25	24
Mr. Miller	26	13
Mr. Miller	31	3
Mr. Miller	31	9
Mr. Miller	39	24
Mr. Miller	40	16
Mr. Miller	41	12
Mr. Miller	44	15
Mr. Miller	46	2
Mr. Miller	46	20
Mr. Miller	47	12
Mr. Miller	48	2

Mr. Miller	54	22
Mr. Miller	55	11
Mr. Miller	57	1
Mr. Miller	57	24
Mr. Miller	58	13
Mr. Miller	58	21
Mr. Miller	62	9
Mr. Miller	62	23
Mr. Miller	66	5
Mr. Miller	66	10
Mr. Miller	67	2
Mr. Miller	69	14
Mr. Miller	69	18
Mr. Miller	70	11

- - -

1 KEITH EARLEY,
2 a Witness herein, called by the Respondents as if upon
3 Examination, was by me first duly sworn, as
4 hereinafter certified, deposed and said as follows:
5 EXAMINATION
6 BY MS. CROSKEY:
7 Q. Mr. Earley, my name is Jennifer Croskey.
8 I'm an assistant attorney general for the State of
9 Ohio. I'm here on behalf of Sean D. Logan, director
10 of the Ohio Department of Natural Resources, and the
11 department itself. We're here today for a deposition
12 in the case that's captioned State ex rel, Wayne T.
13 Doner and others versus Sean D. Logan and others.
14 Have you ever heard of that case before?
15 A. Not by that name, no.
16 Q. Okay. Do you know what case is pending
17 and why you're here for a deposition?
18 A. I believe, basically, it's mainly the
19 farmers, is that the one that's bringing the suit?
20 Q. I guess why don't you tell me what your
21 understanding is of the lawsuit, why we're taking your
22 deposition today?
23 MR. MILLER: Objection to form.
24 I'll do that from time to time.

1 You may still answer. I apologize.
2 THE WITNESS: Well, I was County
3 engineer in Mercer County when they built
4 the new spillway, and I wrote several
5 letters to ODNR and others about my
6 concerns for the spillway, and flooding
7 that could occur downstream afterwards,
8 and I was told of the lawsuit against
9 ODNR because of the flooding that did
10 occur.
11 So that's basically what I know
12 about it.
13 BY MS. CROSKEY:
14 Q. Okay. And you are here today for a
15 deposition by agreement. Are you aware of that?
16 A. I guess so, yeah. I agreed to come.
17 Q. Okay.
18 A. I wasn't -- I didn't have to be deposed.
19 All right, yes.
20 Q. Okay. And are you represented by counsel
21 today?
22 A. I believe so.
23 Q. All right. And you have counsel here
24 with you. Have you ever been -- had your deposition

1 taken before?
2 A. Yes.
3 Q. Can you briefly tell me when those
4 depositions happened?
5 A. Well, I had one taken in Mercer County on
6 the same issue, and it was regarding Mercer County
7 trying to get improvements done to the Beaver Creek,
8 likely the same project. I think in October I had a
9 deposition down there.
10 Q. October of 2009?
11 A. Right.
12 Q. And was that in the same case or a
13 different case, do you know?
14 A. A different case, but it was related to
15 the -- they're trying to get money from ODNR to
16 improve the Beaver Creek and do the maintenance on it.
17 Q. The --
18 A. Mercer County, Mercer County
19 Commissioners.
20 Q. Other than that deposition, have you had
21 any other depositions taken?
22 A. In regard to this, no.
23 Q. In regard to anything?
24 A. Yes.

1 Q. Okay. How many other depositions?
2 A. Two.
3 Q. What were -- when were those depositions?
4 A. One was in -- around 1990, and involving
5 a crash on a county road in Mercer County; and one was
6 a lawsuit here where an employee -- I made an employee
7 remove a sign from his vehicle, and he claimed that it
8 infringed upon his freedom of speech so --
9 Q. Do you recall when that was?
10 A. About 2002 or 2003.
11 MS. HENDERSON: Yeah, around
12 then.
13 THE WITNESS: I think that's
14 it.
15 BY MS. CROSKEY:
16 Q. Now, the one in 1990 --
17 A. Approximately '90s. I don't know when.
18 Q. Okay. 1990s, was that when you were
19 Mercer County engineer?
20 A. Correct.
21 Q. And the one in 2002 or 2003, was that
22 when you were a Lucas County engineer?
23 A. Yes.
24 Q. Was the one in the 1990s, were you

1 deposed in your capacity as Mercer County engineer?
2 A. Yes.
3 Q. And in 2002 or 2003, was that in your
4 capacity as Lucas County engineer?
5 A. Yes.
6 Q. We are going to be having a series of
7 questions and answers today. You're familiar with
8 that. And the court reporter, of course, is trying to
9 take down everything we say. So I know it's not
10 natural in terms of conversation, but if you could,
11 try to wait until I finish a question.
12 A. Okay.
13 Q. I'll try to wait until you finish
14 answering before I throw the next question out to you.
15 The only other instruction I have for
16 you, or request, I guess, if you need to take a break,
17 we can break. Whenever you want to take a break, just
18 let me know.
19 If you do have a question posed to you, I
20 want you to answer the question before we take a
21 break.
22 A. Okay.
23 Q. We've talked a little bit about your
24 knowledge of the case. You've described it as farmers

1 that have sued ODNR. Did I say that correctly?
2 A. That's my understanding, but I really
3 don't know the details.
4 Q. Is that the extent of your knowledge
5 about it, then?
6 A. Yes.
7 Q. You did sign an affidavit. Were you
8 aware that that affidavit was submitted to ODNR as
9 part of the process of this case?
10 A. I expected it would be, yes.
11 Q. Okay. So you knew that the -- that the
12 affidavit was part of this -- or was for this case?
13 A. Yes.
14 Q. All right. Other than the affidavit,
15 have you had any other involvement with this case?
16 A. Just a couple phone conversations with
17 Mr. Miller.
18 Q. Okay. Have you had any -- you've
19 described this as the farmers filing suit against
20 ODNR. In legal terms, we call those people
21 "relators."
22 A. Okay.
23 Q. Okay. So that -- or you might think of
24 them as plaintiffs, I guess.

So these farmers, plaintiffs, relators, do you know them?

MR. MILLER: Objection. Form.

THE WITNESS: Some of the names that he mentioned, I've recognized some of the names, yes. I knew some of the families so --

BY MS. CROSKEY:

Q. Do you know any of them personally?

A. Well, yeah. I haven't seen them probably in 10 or 15 years. But I do know -- I think Dick Baucher was one of them.

MR. MILLER: Unfortunately, you get to testify, so you have to answer.

THE WITNESS: He mentioned his name, and I do know him. He was a Township trustee while I was the engineer there.

BY MS. CROSKEY:

Q. Have you had any contact with any of the relators?

A. No.

Q. Do you know a man by the name of Press

1 Campbell, Pressley Campbell?
2 A. No.
3 Q. Do you know a man by the name of
4 Jim Morris?
5 A. I don't believe so.
6 Q. Okay. What about a woman by the name of
7 Phaedra Cameron (phonetic)?
8 A. No.
9 Q. Have you ever talked to anybody with
10 Conestoga-Rovers & Associates?
11 A. No.
12 Q. Were you asked to do any work relating to
13 this case, other than sign an affidavit?
14 A. No.
15 Q. Has your affidavit been updated in any
16 way? Have you signed more than one?
17 A. No.
18 Q. Are you aware of any potential future
19 possibility that the affidavit be updated?
20 A. Not aware of any.
21 Q. Okay. Prior to coming here today, did
22 you talk to anyone about having your deposition taken?
23 A. Not in any detail, other than I had to be
24 here. That was it.

1 Q. Okay. And without --
2 A. They arranged the time. That was just
3 arranging the time to come here. That was the only
4 discussion.
5 Q. Okay. Did you review any documents
6 before coming here today?
7 A. Yes.
8 Q. What documents did you review?
9 A. My deposition and the letters that I had
10 written in regard to the case.
11 Q. Your deposition. Which deposition?
12 A. Or affidavit, I'm sorry. Affidavit.
13 Q. All right. And when you mentioned
14 letters that you had written, do you mean specifically
15 the letters that are attached to your affidavit?
16 A. Yes.
17 Q. Okay. Were there any other letters that
18 you reviewed?
19 A. No.
20 Q. Could you just tell me a little bit about
21 your education after high school?
22 A. I'm a graduate of Ohio State University
23 with a Bachelor of Science in civil engineering.
24 Q. Any other education beyond that?

A. Some additional courses towards a BS in surveying, but I didn't get a degree in that. Didn't get the dual degree. Took all the courses I needed to get both licenses.

Q. What licenses?

A. Professional engineer and professional surveyor. You have to pass the tests, similar to the bar.

Q. And so you took sufficient courses to get the license of professional surveyor, but you did not get a Bachelor's degree in surveying?

A. That's correct.

Q. Did you have to take exams to get the license for professional engineer?

A. Yes.

Q. And an exam for professional surveyor?

A. Yes, and have eight years of experience in each.

Q. You have to have eight years of experience in both?

A. Schooling and education, yes, combination of both.

Q. How long have you held your professional engineer's license?

A. I think I got it in '77.

Q. How about professional surveyor's license?

A. '76.

Q. Do you still hold those licenses?

A. Yes.

Q. They're current?

A. Yes.

Q. Are you required to do continuing education or training for your professional engineer's license?

A. Yes.

Q. Is that a yearly requirement or something different?

A. It's yearly.

Q. What is that requirement?

A. It's 15 hours per year for each, I think. Well, maybe the two's 20 combined, I think.

Q. Is there a -- a general subject matter that you typically take for that education?

A. Well, it varies. It just has to be related to the work. I mean, it can be -- I don't believe I've had any recently in hydraulics, if that what's your question.

1 Q. I guess in the last year, what was the
2 training you've taken?
3 A. Well, most of them have been put on
4 through County Engineers' Association of Ohio. Or you
5 can have some of your credits by attending
6 professional organization meetings, such as American
7 Society of Civil Engineers or American Society of
8 Highway Engineers and so on.
9 I've gotten some of them that way; some
10 of them have been on -- you know, last year I had a
11 couple on surveying related, which I hadn't had in a
12 while. Boundary surveying and government surveying
13 type things last year.
14 Q. Can you tell me a little bit about your
15 employment experience after high school?
16 A. I worked, I think, about 12 years in the
17 private sector for consultants in Ohio and California,
18 and then 27 years as a County engineer.
19 Q. When you say 12 years in the private
20 sector as a consultant, do you mean doing consulting
21 work as an engineer?
22 A. Right.
23 Q. Were there any particular areas that you
24 focused on in that consulting?

A. That was highway design, subdivision design, storm drainage, storm sewers, sanitary sewers -- the last few years were mainly in regard to private development in California was last, subdivisions.

Q. And you said 27 years as a County engineer. Is that in two different counties?

A. Yes. 16 in Mercer, and one as a deputy here, chief deputy, and 10 as County engineer here.

Q. When did you live in Mercer County?

A. 1983 to 1999.

Q. Were you appointed or elected as Mercer County engineer?

A. I was appointed first and elected three or four times, between three and four -- four times.

Q. Did you have to move to Mercer County when you were appointed?

A. (Witness nods head.) Yes, yes. Yeah, I moved before I was appointed.

Q. Okay. Then when have you lived in Lucas County?

A. Since March of '99 to the present.

Q. And were you elected or appointed as the County engineer?

A. I was appointed first, and then elected three times here.

Q. Do you have any publications in the area of engineering?

A. I've written a couple minor articles for magazines, so nothing major.

Q. About how many?

A. Two.

Q. Do you recall when?

A. They were in the '90s. I don't recall exactly when.

Q. Do you recall the general subject?

A. One of them was in regard to privatization, were it to come; and the other was on survey-related issues. Nothing on hydraulics.

Q. And you said that they were for magazines?

A. Well, they used to have -- County Engineers' Association of Ohio used to have a magazine, and I think they posted it first in that. And then I think the Ohio contractors put it in their magazine also.

Q. Have you ever testified in court before?

A. No. Well, other than -- other than when

1 I was sued there by the employee. That's it.
2 Q. That lawsuit was against you?
3 A. That lawsuit, yes.
4 Q. And was that in Lucas County?
5 A. Yes.
6 Q. Do you consider yourself to be an expert
7 in engineering?
8 MR. MILLER: Objection to
9 form.
10 THE WITNESS: On some issues,
11 yes.
12 BY MS. CROSKEY:
13 Q. What issues?
14 MR. MILLER: Same objection.
15 THE WITNESS: Well, I have
16 certainly some expertise in -- in the
17 areas that are being questioned, in the
18 hydraulics part of that, the drainage,
19 and I was familiar with the drainage
20 there, and the effects of increased flow.
21 I had enough training to be
22 somewhat of an expert. I didn't do the
23 calculations; I just reviewed others'
24 calculations.

1 BY MS. CROSKEY:
2 Q. What do you mean by you have some
3 education? What education specifically?
4 A. Well, I have --
5 MR. MILLER: Objection to
6 form.
7 THE WITNESS: Well, I had the
8 normal hydraulics courses, and maybe one
9 or two that weren't required; and fluid
10 dynamics, and done the necessary
11 hydraulic calculation to design bridges
12 and culverts and storm drainage. Never
13 designed a spillway.
14 BY MS. CROSKEY:
15 Q. Are those courses that you took in
16 connection with your Bachelor's degree in civil
17 engineering?
18 A. Yes.
19 Q. Any of those courses that you refer to,
20 would they be continuing education training?
21 A. No, they weren't.
22 Q. They were all your courses for civil
23 engineering?
24 A. That's correct.

1 Q. Okay. Did you ever visit the properties
2 that are involved in this lawsuit?
3 MR. MILLER: Objection to
4 form.
5 THE WITNESS: I'm not sure
6 specifically which properties they are,
7 and I have not visited anything since --
8 since I left Mercer County.
9 BY MS. CROSKEY:
10 Q. Okay. Do you have any understanding what
11 properties are involved in this case?
12 A. Well, I would assume it's the properties
13 along the Beaver Creek, and maybe even some along the
14 Wabash River.
15 Q. Would you have ever visited any of those
16 properties before you left Mercer County?
17 A. Well, I've certainly been by them from
18 time to time.
19 Q. What do you mean by "been by them," like
20 driving on a road --
21 A. Driving on a road, and we maintained --
22 we were responsible for the maintenance of the Beaver
23 Creek, so visited that to inspect some of the needed
24 improvements, maintenance improvements required along

1 the Beaver.
2 Q. You say "we" were responsible for
3 maintaining --
4 A. Mercer County was responsible for
5 maintaining it.
6 Q. For maintaining --
7 A. For maintaining Beaver Creek.
8 Q. And then you said you would have visited
9 that for that purpose. You mean visited Beaver Creek?
10 A. Yeah. Like look at erosion and the
11 improvements that needed to be done.
12 Q. And when you say "improvements that
13 needed to be done," what do you mean by that?
14 A. Well, there was -- of course, the Beaver
15 Creek was the outlet for Grand Lake St. Marys, and it
16 would have long-term outflows, and the vegetation
17 would not establish on the side of the banks, and it
18 would erode, and we would have to dip the banks out or
19 put rip-rap in there to try to correct the problems.
20 Q. And these were things that you knew at
21 the time you were County engineer?
22 A. That's correct.
23 Q. And when were you County engineer?
24 A. From '83 to '99 in Mercer. ODNR paid

1 for, I think, a third of the maintenance, and the rest
2 was assessed to property owners.
3 Q. Now, when you say "maintenance," is that
4 something that happens on a yearly basis; is it a
5 single project?
6 A. It's as needed. It would be inspected
7 yearly or when you would get calls that something was
8 needed.
9 Q. I guess when was the first time in terms
10 of years, as Mercer County engineer, you would have
11 ever done any work on Beaver Creek?
12 A. 1983, there was major improvements right
13 after 1983.
14 Q. What do you mean by "major improvements"?
15 A. Well, it was petitioned for improvement,
16 and it was enlarged and rip-rap installed. It was a
17 major maintenance project. It was a multi-county
18 project, I think three counties that were being
19 assessed.
20 And it was -- it was -- it had been
21 initiated before I came, but the construction was done
22 while I was there.
23 Q. Why would it involve multiple counties?
24 A. Because it was all of the -- all of the

1 drainage area. Everybody in the drainage area is
2 assessed for a portion of the improvements.
3 Q. Does the creek itself run through
4 multiple counties?
5 A. No, but the drainage area does.
6 Q. Now, you mentioned that it had been
7 petitioned before you became Mercer County engineer.
8 When was the improvement work actually done?
9 A. 1983, I think, '83 or '84, soon after I
10 got there. Probably '84. I'm not sure exactly.
11 Somewhere in there.
12 Q. Okay. How long is Beaver Creek?
13 A. It's 10.6 miles.
14 Q. All right. And you say that it was
15 enlarged. What do you mean by that?
16 A. It was -- we dipped out the sides and the
17 bottoms, and we widened it in some places and laid the
18 bank back so they're flatter so they wouldn't erode as
19 much.
20 Q. So by and large, do you mean that the
21 bottom -- like the bottom of the ditch was increased
22 in size?
23 MR. MILLER: Objection to
24 form.

1 THE WITNESS: There was silt
2 taken out of the bottom, and the
3 ditches -- the ditches were -- the slope
4 was flattened on the ditches. I don't
5 remember whether the bottom was widened,
6 or if it was just the slopes flattened,
7 for sure. It's been a while.
8 BY MS. CROSKEY:
9 Q. Was it straightened at that time, as
10 well?
11 A. It was already straight.
12 Q. Had it been petitioned before?
13 A. Yes.
14 Q. All right. The affidavit that you have,
15 you have your copy sitting in front of you, did you
16 talk to anyone about that?
17 A. Mr. Miller.
18 Q. All right. And when would you have
19 discussed it with Mr. Miller?
20 A. After he wrote it and for my review and
21 approval.
22 Q. Why would you sign an affidavit like
23 that?
24 MR. MILLER: Objection to

form.

THE WITNESS: Because I didn't -- basically I didn't find anything incorrect in what I had written in the letters.

BY MS. CROSKEY:

Q. I think you said before that you're knowledgeable about Grand Lake St. Marys?

A. Yes.

Q. Do you get that knowledge from your tenure as Mercer County engineer?

A. Yes.

MR. MILLER: Objection to form. He was Mercer County engineer for 16 years.

THE WITNESS: She said "tenure."

MR. MILLER: I'm sorry. I thought you said 10 years.

MS. CROSKEY: I was trying to figure out -- I'm sorry. I'll try to speak more clearly.

BY MS. CROSKEY:

Q. Do you have a good memory for events that occurred during your time as Mercer County engineer?

A. Relatively good. I don't know how detailed you need.

Q. All right. Were you in Mercer County for any period of time before 1983?

A. No.

Q. Were you in Mercer County for any period of time after 1999?

A. No. I mean, I visited a few times, but that was it.

Q. What did you visit in Mercer County?

A. Well, I went with some friends and went to a few events and Democratic events, picnics and things.

(Court Reporter marked Deposition Exhibit A.)

BY MS. CROSKEY:

Q. Mr. Earley, we're identifying a document here as Deposition Exhibit A. I'd like you to review it, and after you've had enough time to look at it, let me know that you're finished.

A. Okay.

Q. Do you recognize that letter?

A. Yes.

Q. Do you remember receiving that letter at

1 some point in time?
2 A. Yes.
3 Q. Okay. In the first paragraph, it says,
4 I'm writing with a more detailed response to your
5 November 19th, 1991, letter.
6 Do you recall writing a letter on that
7 date?
8 A. Yes, yes.
9 Q. So this letter that we have identified as
10 Exhibit A is in response to your letter?
11 A. That's correct.
12 Q. The letter that's mentioned in Exhibit A,
13 is that a letter that's attached to your affidavit?
14 A. Yes.
15 MS. CROSKEY: I'm going to hand
16 you another one in a minute to see if you
17 remember it. You can take your time and
18 look at it.
19 THE WITNESS: Okay.
20 (Court Reporter marked
21 Deposition Exhibit B.)
22 BY MS. CROSKEY:
23 Q. Do you remember getting that letter?
24 A. Yes.

1 Q. Was that letter in response to a letter
2 that you wrote?
3 A. Yes.
4 Q. Is the letter that you wrote attached to
5 your affidavit?
6 A. Yes.
7 Q. Can you tell me which letter attached to
8 your affidavit this is in response to?
9 A. I guess it would be the February 12th,
10 1992, letter -- or, no, it's probably after the
11 September 24th letter. Maybe to the both of them. I
12 don't know if I got one between the two. I don't
13 think I did.
14 Q. Okay.
15 A. Maybe to both of those, I guess.
16 Q. Do you remember specifically which letter
17 this would have been in response to?
18 A. It looks primarily to the September 24th,
19 1993, letter. I addressed some of the same concerns
20 in an earlier letter.
21 (Court Reporter marked
22 Deposition Exhibit C.)
23 BY MS. CROSKEY:
24 Q. Mr. Earley, if you would, take a look at

1 what we've handed you that's marked as Exhibit C.
2 It's actually two letters. When you've had enough
3 time, let me know.
4 A. Okay.
5 Q. Do you recognize either one of those
6 letters?
7 A. Yes.
8 Q. Okay. The letter dated September 20th of
9 1994 actually says that you just received a courtesy
10 copy; is that your memory?
11 A. Yes.
12 Q. Was that in response to anything that you
13 had written?
14 A. Yes.
15 Q. Do you recall what that was in response
16 to?
17 A. In response to the letter I wrote to
18 Senator Cupp. I wrote a letter to Senator Robert Cupp
19 in 1994.
20 Q. Okay. The second letter is dated
21 September 6th, 1994. Is that your letter to Robert
22 Cupp?
23 A. Yes.
24 Q. Did you believe that Senator Cupp would

be able to assist you with regard to Grand Lake St. Marys?

MR. MILLER: Objection to form.

THE WITNESS: Possibly.

BY MS. CROSKEY:

Q. Okay. What did you believe he might be able to assist with?

MR. MILLER: Same objection.

THE WITNESS: Well, possibly with getting a direct answer on some of my concerns and possibly funding towards some of the things I felt needed to be done.

And I don't know if I expected necessarily -- I thought it was my duty to notify the appropriate people of my concerns, and I didn't think I was getting an appropriate response from ODNR, so I let other people know my concerns.

BY MS. CROSKEY:

Q. You thought it was your duty as Mercer County engineer?

1 A. That's correct.
2 (Court Reporter marked
3 Deposition Exhibit D.)
4 BY MS. CROSKEY:
5 Q. You've been provided with another letter,
6 and again, if you could take a look at that and let me
7 know when you've had enough time to look at it.
8 A. Okay.
9 Q. Do you recognize that letter?
10 A. Yes.
11 Q. Is that a letter that you wrote?
12 A. Yes.
13 Q. Okay. Now, the copy that we have here is
14 not signed. Did you ever send it to Representative
15 Jim -- I don't know how you say that name.
16 A. "Buchy." I would imagine. I don't know
17 if I did or not, for sure.
18 Q. All right. Now, in this letter, you
19 mention -- and this is at the bottom of the first
20 page.
21 A. I think I probably spoke with him if I
22 didn't --
23 Q. You mean if you didn't send a letter, you
24 might have called him on the phone?

A. Or talked to him personally. I see him occasionally.

Q. All right. At the bottom of page 1, it says, "The Beaver Creek has a flat gradient with only about one foot of fall per mile."

What do you mean by that?

A. It's very flat. I don't know how to say it much different than that. The slope is very small. It's like very, very flat. Very flat.

Q. Does having a flat gradient have any particular significance?

A. I mean, it reduces the capacity of it, and it also makes it more subject to silt depositing, more than if it had a better slope.

Q. What do you mean by it reduces the capacity of it? Reduces the capacity of what?

A. The amount of water that it will carry -- the cubic feet per second or the gallons per minute that it will carry; you know, the steeper that you would have, the more water it could carry per second.

It can't carry as much water in the same period of time as it could if it was steeper. The flows are much faster on steeper slopes. It's a very slow-flowing creek, ditch, whatever you want to call

1 it.
2 Q. And I think you also mentioned that
3 having a flat gradient has something to do with silt?
4 A. Right.
5 Q. What do you mean by that?
6 A. It means it doesn't have the water,
7 doesn't have enough velocity to make the -- like if
8 the banks erode some and it goes down in the bottom of
9 the bank, there's not sufficient velocity to push it
10 on downstream. It just stays there, and we have to
11 dip it out. We had to continually dip it out so that
12 it would flow. And the farmers have their field tiles
13 going into it, if you don't dip it out, their field
14 tiles won't flow, and they can't get the adequate
15 drainage from their farm fields.
16 Q. And when you were Mercer County
17 engineer -- and again, that was from 1983 to 1999?
18 A. Correct.
19 Q. -- how often would Beaver Creek be -- I'm
20 sorry, what did you say, dipped out?
21 A. Right.
22 Q. Is that what you call it?
23 A. Well, on various lots, it would probably
24 be done some every year, I would think, probably

1 mostly. There was other people that actually did the
2 work that would probably give you a better answer.
3 But I think probably some every year, not
4 the same spot every year, but various spots every
5 year.
6 Q. And we've talked a little bit about your
7 affidavit today.
8 Let's go ahead and have this marked as
9 well.
10 (Court Reporter marked
11 Deposition Exhibit E.)
12 BY MS. CROSKEY:
13 Q. Just take a look at that. Take however
14 much time you need, and let me know when you're
15 finished.
16 A. I reviewed it before, and I'm basically
17 familiar with it.
18 Q. Does what we have marked as Exhibit E, is
19 that a true and accurate copy of the affidavit that
20 you signed?
21 A. I believe so.
22 Q. And attached to that affidavit are a
23 number of letters that are -- I believe they're
24 identified as exhibits with numbers, like 1 through 6;

is that correct?

A. Yes.

Q. Paragraph 3 of your affidavit says, "I was knowledgeable concerning the flow of water from Grand Lake St. Marys."

What do you mean by "knowledgeable concerning flow of water"?

A. I saw what occurred in the 16 years I was there, and I studied the Corps of Engineers' study that they did on it, plus the study that ODNR did.

Q. What you mean by the Corps of Engineers' study?

A. In 1981, they did a very significant study of the various options and costs and benefits for the various options for improving Grand Lake St. Marys and Beaver Creek.

Q. So it was a study on Grand Lake St. Marys and Beaver Creek?

A. Yes.

Q. And did you say it was a study of various options?

A. Right.

Q. Do you recall what options the Corps of Engineers looked at?

A. Regulation of the lake, enlarging the Beaver Creek were certainly a couple of the options. Those were the ones I paid the most attention to.

Q. Okay. In that study, did the Corps of Engineers make any recommendations for any of those options?

A. I'm not sure which were the -- yes, they did, right.

Q. Do you recall what the recommendation was?

A. Not in detail. I mean, I know that they -- they analyzed the -- basically, there were three benefits of the spillway: Basically one of them was for recreation; water supply; and one of them was for flood control.

And basically -- some of them were offsetting benefits. Of course, if you had -- the higher lake levels you have for recreation, the less flow it has and the more flooding it would cause on the south side of the lake.

And I think basically it analyzed that the -- getting the water out, there were -- there was less damage along the Beaver by increasing the flow out of the lake than there was from flooding on the

1 south side. So they recommended enlarging the
2 outflow.
3 Q. Do you know what was the purpose of this
4 particular study?
5 A. Well, to determine what was -- what was
6 the best -- what was the best measures to take with
7 regulating or improving the lake for all those various
8 purposes, the recreation, the water supply, and the
9 flood control, and the various possible sources of
10 funding for it.
11 Q. Now, when you mentioned water supply as
12 one of them, what do you mean by water supply?
13 A. Well, the city of Celina got their water
14 supply -- they used the lake water for drinking water
15 and supplied to the homes and --
16 Q. Not directly, right?
17 A. No, they treated it first. They had a
18 reverse osmosis treatment that they did to treat the
19 water.
20 Q. Okay.
21 A. Just like Toledo gets their water supply
22 from Lake Erie here, intake from Lake Erie. Potable
23 water.
24 Q. Now, in paragraph 4, you say,

1 "Specifically I believed that, as a result of the new
2 design, there would be greater flooding downstream in
3 the areas surrounding Beaver Creek."
4 A. Correct.
5 Q. How did you arrive at that conclusion?
6 A. Because the peak outflow was much greater
7 than it was with the previous spillway.
8 Q. How do you know that?
9 A. Well, they increased the width of the
10 spillway considerably, and, plus, they provided
11 calculations showing what those outflows were.
12 Q. Who provided calculations?
13 A. ODNR.
14 Q. Okay. Did you do any calculations of
15 your own?
16 A. No.
17 Q. These calculations that ODNR did, would
18 you also refer to those calculations as hydraulic
19 data?
20 A. Yes.
21 Q. Is there something that you can do with
22 hydraulic data to determine whether or not there's
23 greater flooding?
24 MR. MILLER: Objection to

form.

THE WITNESS: Yes.

BY MS. CROSKEY:

Q. What can you do with the data to make that determination?

A. Well, they -- one of the things that I requested is that they revise the floodplain study using that hydraulic data that they had to determine what the base flood elevations would be specifically along that lower 3 miles. And they claimed that that wouldn't be done until after the project was done.

So I didn't do the steps; I requested that that be done prior to the construction.

Q. Now, you mentioned the floodplain study. What's that exactly?

MR. MILLER: Objection to form.

THE WITNESS: Well, they -- ODNR calculated the amount of flow coming out of the spillway for specific flood rainfall events, like 10-year storm, 25-year storm, 50-year storm, 100-year storm.

And then the next step, you have

to analyze the hydraulic capacity of the stream downstream and any obstructions that would hinder that flow and determine what level the water would reach if that water, with the amount of flow that they calculated, would be coming out of the spillway, plus the flow that comes in from other sources along the stream.

BY MS. CROSKEY:

Q. So the floodplain study, is that something that ODNR did?

MR. MILLER: Objection to form.

THE WITNESS: No, they did not. I requested that they do that.

BY MS. CROSKEY:

Q. Okay. Did anyone do a floodplain study?

A. Not that I'm aware of.

Q. What is it that the Army Corps of Engineers did in 1981? What would you call that?

A. They did a major study of Grand Lake St. Marys and Beaver Creek and possible alternatives for improvement.

Q. Now, you mentioned that the spillway was

1 enlarged. Could you just tell me what you mean by
2 that again, because I don't remember exactly what you
3 said.
4 A. Well, there was a -- I don't remember
5 what the dimensions were, but it was something like
6 maybe a 26- or a 30-some-foot wide spillway before,
7 and then they replaced it with a huge spillway, they
8 call it an ogee, type spillway, and where there's
9 hundreds of feet for the water flow instead of 20-some
10 or 40-some feet, whatever it was before.
11 Q. Do you know what the height of the old
12 spillway was?
13 A. I think they -- I don't remember the
14 numbers, but I think they put the new spillway at the
15 same height that they put -- when they did the
16 improvements to the Beaver Creek in '99 or whatever,
17 they put some boards on top of the spillway to hold
18 back the flow in the lakes.
19 And I think they found that after they
20 raised that spillway with those additional boards, I
21 don't know, 8 inches or whatever it was, that it
22 provided better recreation benefits on the lake.
23 Because it was a lake that was built as a feeder
24 canal -- feeder for the canals, Miami and Erie Canals,

1 and when they did it, they just cut off trees and had
2 stumps, and water would get low, the boaters would hit
3 stumps, so that extra height made it for better
4 recreation.
5 And I think when they built the new
6 spillway, it was the same height that it was after
7 they put the boards on, which I think was 8 inches or
8 so higher than what the spillway was when it was
9 built.
10 Q. Now, you said when "they" improved Beaver
11 Creek.
12 A. The contractor that -- it was done under
13 this maintenance contract.
14 Q. So is that a Mercer County project?
15 A. Yeah. It was that petition project, that
16 multi-county petition project that I was referring to
17 that the flows started before I came and under
18 construction soon after I came.
19 Q. Okay. Because I thought I heard you say
20 1999. Is that when --
21 A. Well, no, that was when I left. It was
22 about maybe early '84 is about when it was done.
23 Q. Okay. That's what I was trying to clear
24 up. Now, the new spillway, is that the same height

1 throughout the entire length of the spillway?
2 A. No, no. I believe it gets higher over
3 portions of it. So the higher the water gets, the
4 more area it flows over.
5 Q. Do you know what the different heights
6 are along this --
7 A. I don't know, no.
8 Q. Okay.
9 A. But they provided the outlets on what --
10 they provided the data on what the outflow was. I
11 didn't do the calculations.
12 Q. Okay. So these calculations that were
13 provided by ODNR, is that something that you could put
14 through a hydraulic model?
15 MR. MILLER: Objection to
16 form.
17 THE WITNESS: Yes.
18 BY MS. CROSKEY:
19 Q. Did you put that data through a hydraulic
20 model?
21 A. No. They did that. I mean, it's a
22 hydraulic model that they used to come up with that
23 data, and then used that data for other hydraulic
24 studies. I don't know what you mean by "model" or

1 "study," Like the study I wanted, suggested that they
2 do, to determine the base flood elevations downstream.
3 Q. Was that study ever done?
4 A. No, I don't believe so. Maybe as of now,
5 I don't know.
6 Q. Now, when you say "greater flooding,"
7 greater flooding compared to what?
8 A. Compared to when the previous spillway
9 was there.
10 Q. Okay.
11 A. That was a question between the farmers
12 over years. "Greater flooding," you're talking about
13 greater flooding compared to when the lake was there
14 or compared to when the new spillway was there? I'm
15 talking about when the new spillway was there.
16 Q. So was there flooding before the new
17 spillway?
18 A. Yes.
19 Q. But it's your opinion that there would be
20 greater flooding after the new spillway?
21 A. Correct. Downstream, not around the
22 lake, but downstream. Less flooding around the lake,
23 more flooding downstream.
24 Q. What was the extent of flooding before

1 the new spillway?
2 MR. MILLER: Objection to
3 form.
4 THE WITNESS: Downstream or on
5 the lake?
6 BY MS. CROSKEY:
7 Q. Yes, downstream.
8 A. It would occasionally -- like at the
9 Lakefront Racket Club, it would get into the parking
10 lot. It never got up into the building, I believe.
11 And it would go over the road. It would flood the
12 parking lot. It flooded it several times while I was
13 there, I don't know, maybe three, four times in the 16
14 years I was there. Maybe more. I don't know.
15 Q. And you say it would go over the road.
16 What road do you mean?
17 A. US 127. Rarely, but occasionally.
18 Q. And what would you say was the extent of
19 flooding downstream after the new spillway?
20 MR. MILLER: Objection to
21 form.
22 THE WITNESS: Well, I wasn't
23 there much after it was built. I know
24 there was the one huge flood where it did

1 get in the building, the Lakefront Racket
2 Club, which was my primary concern, which
3 I thought would cause millions of dollars
4 of damage, and it did happen.
5 BY MS. CROSKEY:
6 Q. When was that?
7 A. I don't know, ma'am, what year it was.
8 It was after I left. It was fairly soon after the
9 spillway was built.
10 Q. Do you recall any flooding events between
11 1983 and 1997?
12 MR. MILLER: Objection.
13 Form.
14 THE WITNESS: Sure. You're
15 talking about along the Beaver Creek
16 or --
17 BY MS. CROSKEY:
18 Q. Yes.
19 A. Yeah, it would flood relatively
20 regularly. It would get out of its banks. It
21 certainly never -- didn't hold all of the flows in its
22 banks, and sometimes it would even back up in the
23 Wabash River. Yes, it flooded some before.
24 Q. How often would you say Beaver Creek

1 would be out of its banks between 1983 and 1997?
2 MR. MILLER: Objection.
3 Form.
4 THE WITNESS: It was fairly
5 often. I don't know if it was annually
6 or every four or five years. I don't
7 know. Pretty often.
8 BY MS. CROSKEY:
9 Q. Do you know why the spillway was changed?
10 A. I think because the old spillway was
11 deteriorated, and they were very concerned about the
12 safety, about what would happen if that would fail.
13 And it was a much-needed project, and I was a hundred
14 percent in favor of them doing the project. It was a
15 very necessary project.
16 Q. In paragraph 8 of your affidavit --
17 A. Yes.
18 Q. I apologize, I think my notes must be
19 wrong.
20 A. Not 8, huh?
21 Q. Yeah. Never mind. With regard to
22 paragraph 10 in your affidavit, it says that you wrote
23 a letter to Jones & Stuckey, an engineering firm
24 performing work for ODNR.

1 Do you know what work Jones & Stuckey was
2 doing?
3 A. I think they designed the spillway.
4 Q. Was your letter before or after that
5 design?
6 MR. MILLER: Objection to
7 form.
8 THE WITNESS: I don't know if it
9 was completely done. I think it was
10 basically done, the design. From what I
11 had seen of the design, I don't know if
12 that was the final design or not.
13 BY MS. CROSKEY:
14 Q. Now, in paragraph 12, you say, "ODNR
15 chose to serve recreational users of Grand Lake."
16 What do you mean by that? Why did you
17 believe that?
18 A. Well, there was significant economic
19 benefit to having the recreational use of the lake,
20 and the Chamber of Commerce and all the people wanted
21 it to be a lake that was usable for boating and
22 fishing.
23 And that would -- to do that, they needed
24 to maintain lake levels near the spillway to have it

1 be satisfactory for recreation. And the higher you
2 keep the lake, the less flood-control ability it has.
3 Q. So was the lake not used for recreational
4 purposes before the spillway modification?
5 A. Oh, no, it was but they did draw it down
6 some. They did for a while. They had a policy for
7 the winter draw-down. And they did say that they
8 would consider that again after it was constructed.
9 Q. Do you mean that ODNR had a policy for
10 winter draw-down?
11 A. For a while they did anyway.
12 Q. What do you mean by that?
13 A. If you keep the lake before the spillway
14 crest, it has some storage capacity there. If it
15 rains, then the water can flow there, and so it fills
16 up to the level before it starts flowing out over the
17 top. And so the more capacity, the more room you keep
18 there, the more flood control it has.
19 And so they would -- when the lake was
20 not being used by boaters in the winter, they would
21 draw it down, so it would have that available capacity
22 for storage.
23 But then what they were concerned about,
24 if they drew it down too much, they wouldn't get

1 enough rain so that it would be up to the levels that
2 they wanted it to be come recreation season.
3 Q. Is that policy one that existed, to your
4 knowledge, when you became Mercer County Engineer in
5 1983?
6 A. I don't believe there was a written
7 policy. I think local farmers and others would go to
8 the park manager and try to persuade him to do it or
9 not do it. And I think they wanted to try to get away
10 of these -- some people coming saying do it, and some
11 people coming saying don't do it, and these competing
12 concerns on it.
13 But I think they did talk about there was
14 a possibility that they could come up with a defined
15 regulation policy that would instruct the park manager
16 on how to do it.
17 Q. Was there a period of time when ODNR
18 stopped doing a winter draw-down?
19 A. Yes. I don't believe they did it -- I
20 believe -- yeah, I'm not aware of them -- I think
21 the -- what the -- with the -- near the end, I don't
22 even think the outlets were offerable. I don't think
23 they could do it.
24 Q. Do you know when that draw-down was

1 stopped?
2 A. Not exactly, no.
3 Q. Do you know approximately?
4 A. I think they did it rarely. I don't
5 think it was done very often in the time -- most of
6 the time I was there. Maybe it was done early on and
7 that, but I don't know the approximate year. I
8 don't -- I don't know for sure when -- whether they
9 did do any or not.
10 MR. MILLER: Jennifer, we have
11 been going about an hour. Do you mind if
12 we take just a five-minute break?
13 MS. CROSKEY: Oh, sure.
14 (A brief recess was had.)
15 BY MS. CROSKEY:
16 Q. Now, in Exhibit 1 that's attached to your
17 affidavit -- I believe it's the first letter that's
18 attached to your affidavit. In the third paragraph on
19 the first page, you talk about, "even if ODNR figures
20 are correct." What figures were you referring to at
21 that time, if you remember?
22 A. Their calculated outflows.
23 Q. Was that -- do you recall whether those
24 figures were in any particular type of document?

A. Well, they had had some tables and some charts, yes.

Q. Well, previously, you mentioned a study that the Army Corps of Engineers did, and you also mentioned a study that ODNR did.

Are these figures something that was in ODNR's study?

A. Yes. They had -- they had -- they showed -- both showed the flow in the Beaver Creek, and ODNR's figures were different than the Corps of Engineers', and the next letter they stated why.

Q. And what do you mean, "the next letter they stated why"?

A. The letter from them that you had earlier, they explained why some of the difference occurred.

Q. Do you mean the document that we marked as Exhibit A?

A. It probably was A. Let's see. Right. The first -- yeah, which was the response for that first letter, February 5th, 1992. And after -- after this response, I did -- I did understand why -- why they did some of the things they did.

And so my letters after that addressed

1 different concerns, or considered their response.
2 Q. Okay.
3 A. I changed my thoughts somewhat after this
4 response.
5 Q. Okay. Are you familiar with something
6 called a stage discharge curve?
7 A. Yes.
8 Q. Can you describe your understanding about
9 it?
10 A. It shows the outflow for various lake
11 levels.
12 Q. Is it also sometimes referred to as a
13 rating curve?
14 A. Yes.
15 Q. Now, you mentioned that there was some --
16 or did you say that there was conflicting information
17 between the Corps' report and ODNR's study?
18 A. Correct.
19 Q. Would you say that that conflicting
20 information could be explained by stage discharge
21 curve?
22 MR. MILLER: Objection to
23 form.
24 THE WITNESS: Not because of

that. It was because there had been some -- the Corps' study was done in 1981, and there were some improvements done after 1981 to Beaver Creek.

So that would affect the -- the flood levels in the creek, because it had been enlarged some.

BY MS. CROSKEY:

Q. How does the stage discharge curve relate to the peak discharge?

MR. MILLER: Objection to form.

THE WITNESS: Well, you pick -- you pick the lake levels that would -- that would occur for various storms, and you correspond them to that, like with hundred-year storms, they would calculate that that lake would be at a certain level. So you got to correspond those to the frequency of the events.

BY MS. CROSKEY:

Q. Exhibit 3 that's attached to your affidavit, there are some numbered paragraphs starting about the middle of that letter.

A. Okay.

Q. Those numbered paragraphs, those are items that you thought should be done; is that correct?

A. Yes.

Q. Okay.

A. Well, studies and -- yes.

Q. No. 1 says, "A revised Flood Insurance study for areas surrounding Grand Lake St. Marys."

What do you mean by a flood insurance study?

A. Federal Emergency Management Association, FEMA, does studies of major streams to determine the base flood elevations for the hundred-year storms and the lower storms. And that's basically what I wanted them to determine, what would be the flood levels downstream from the outlet after the new spillway.

And they claimed that that wouldn't be done by them until after that was the existing condition, and so they couldn't get FEMA to do it before.

Q. Okay. So there was a flood insurance study before the spillway?

A. Right.

1 MR. MILLER: Objection.
2 BY MS. CROSKEY:
3 Q. Do you recall --
4 A. Yeah, based on the old spillway, yes.
5 Q. Okay. Do you recall when that flood
6 insurance study was done?
7 A. I think there were two different ones.
8 One was for the unincorporated part of the county and
9 one was for the city of Celina. And I think maybe '79
10 or late '70s, somewhere in there. I don't know.
11 Q. And who dose those studies?
12 A. FEMA, Federal Emergency Management
13 Association.
14 Q. Do you know whether or not a flood
15 insurance study was done after the spillway was put
16 in?
17 A. No, I do not. I would hope so.
18 Q. Do you know if FEMA has a schedule that
19 they do these with any regularity?
20 A. They have limited staff and limited
21 funding, and based on their evaluation of priorities.
22 Q. Okay. So to your knowledge, there's no
23 specific schedule that FEMA follows?
24 MR. MILLER: Objection to

form.

THE WITNESS: Correct.

BY MS. CROSKEY:

Q. Exhibit 4 that's attached to your affidavit --

A. Oh, Exhibit 4.

Q. In this letter, correct me if I'm wrong, you're suggesting enlarging the upper 3 miles of Beaver Creek; is that correct?

A. That's correct.

Q. Was that a recommendation of something that you thought should be done?

MR. MILLER: Objection to form.

THE WITNESS: I thought it certainly warranted study.

BY MS. CROSKEY:

Q. Warranted study. What type of study would be necessary to make a determination whether or not to enlarge the upper 3 miles?

MR. MILLER: Objection. Form.

THE WITNESS: Part of the other -- the other things that I

requested was those base-flood elevations and what it would flood and the damage of that would be -- would be part of what you would need -- would justify the reason for doing the study.

The upper 3 miles is a lot smaller than once you get past that.

BY MS. CROSKEY:

Q. You must be really good at anticipating my questions, because my next question was going to be what is the significance of the upper 3 miles of Beaver Creek.

Would you say that it's different than the rest of it?

A. Yes, it's smaller. It's smaller, and that's where the structures are that were in the floodplain that would be subject to study, and once you get down below that, there's nothing but farmland.

Q. What do you mean by it's smaller?

A. It's not as wide. And it has -- the bridges, I imagine, were restrictions in it. I told them we were going to be replacing those, and I would like them to give me the data on how big we should make them.

1 Q. You would like who to give you --
2 A. ODNR.
3 Q. So essentially, and again, correct me if
4 I'm wrong, in this letter, you're asking ODNR to study
5 what to do with the upper 3 miles of Beaver Creek?
6 A. That's correct.
7 Q. I think previously you testified that
8 Beaver Creek was a County-maintained ditch?
9 A. That's correct.
10 Q. Okay.
11 A. It was petitioning for improvement.
12 Q. Uh-huh. Would the County have had
13 authority to do a study like that?
14 A. We would have authority. I don't know if
15 it was our responsibility or we had the money for it,
16 but --
17 Q. Exhibit 5 attached to your affidavit, in
18 the first paragraph, you say, "We have received the
19 construction drawings relating to the proposed bridge
20 and found them to be satisfactory."
21 What bridge are you talking about there?
22 Do you remember?
23 A. That was the bridge over West Bank Road.
24 Q. Why did you receive construction drawings

1 for the bridge at West Bank Road?
2 A. I'm not sure why we did. I believe that
3 was in the city of Celina. I think it was just
4 complimentary for our review. I don't think it was
5 required that we receive them.
6 Q. Is this particular bridge --
7 A. It was not the County's.
8 Q. Okay. Is it a bridge over Beaver Creek?
9 A. Yes.
10 Q. Okay. So is it the bridge that
11 essentially carries West Bank Road over Beaver Creek?
12 A. Right. I believe that's the one that
13 we're referring to here.
14 Q. Do you recall whether ODNR did some
15 construction work on this West Bank bridge?
16 A. Yes.
17 Q. Now, you mentioned some bridges in this
18 upper 3 miles of Beaver Creek. Is this one of those
19 bridges?
20 A. No, not that I was referring to, no.
21 Q. Where is West Bank Road?
22 A. It's immediately adjacent to the lake. I
23 don't know if you've been there. It's right along the
24 lake.

1 Q. You can see the spillway as you're
2 driving along West Bank Road?
3 A. Yes.
4 Q. Now, previously you mentioned -- let me
5 go back and find it -- there was a road, US 127, and
6 that that would sometimes flood. Do you recall how
7 many times that would have flooded between 1983 and
8 1997?
9 MR. MILLER: Objection to
10 form.
11 THE WITNESS: Not very often.
12 Maybe once or twice.
13 BY MS. CROSKEY:
14 Q. Is US 127 one that the County engineer
15 would be responsible for closing?
16 A. No.
17 Q. Who would be responsible for closing --
18 A. ODOT.
19 Q. Do you recall whether there were any
20 other roads near Beaver Creek that would flood?
21 A. Yes.
22 Q. Do you recall what roads would flood?
23 MR. MILLER: Objection to form.
24 What time frame are we talking about,

1 Jennifer?
2 BY MS. CROSKEY:
3 Q. Do you recall any flooding between 1983
4 and 1997 of any roads other than US 127?
5 A. Yes.
6 Q. Which roads do you recall there being
7 flooding between 1983 and 1997?
8 A. Meyer Road was certainly one of them. I
9 think pretty much the ones that -- the three
10 bridges -- was there three that I recommended? I
11 mean, those were the smallest ones.
12 Not the bike path, which wasn't a road,
13 but the other -- Meyer and the next one west, I think.
14 Q. You said Meyer Road, and the next -- you
15 mean the next road going west after Meyer?
16 A. Right, downstream, next road downstream.
17 I think Meyer was the smallest.
18 Q. What do you mean, the smallest?
19 A. Smallest waterway opening. It was the
20 most restrictive of our County-maintained bridges.
21 Q. Do you recall how many times Meyer Road
22 would have flooded between 1983 and 1997?
23 A. Several. I don't know. I don't know how
24 many.

1 Q. All right. Meyer Road, is that a county
2 road, Meyer Road?
3 A. It's Township maintained, but we --
4 County maintains the bridges on the county roads.
5 Q. So if that road had to be closed, would
6 it be the County engineer's office that would do it?
7 A. Township trustees, Jefferson Township.
8 Q. Okay. Were there any county roads along
9 Beaver Creek? Were there any roads that you were
10 responsible for maintaining as County engineer along
11 Beaver Creek?
12 A. Yes.
13 Q. Okay. Did any of those roads that you
14 were responsible for maintaining, did they ever flood
15 between 1983 and 1997?
16 A. Yes.
17 Q. Okay. Do you remember which roads?
18 A. Not for sure. I mean, usually the
19 approach to the bridges were lower than the bridges,
20 and those would be underwater. Sometimes they would
21 not be deep enough that you needed to close them. I
22 mean, you could drive through, maybe a foot or so of
23 water. But I don't remember which ones we had to do
24 that with.

1 Q. Okay. Is that -- whether or not a county
2 road is closed, is that something that the County
3 engineer keeps a record of?
4 A. Probably not. I mean, we did -- we did
5 occasionally measure peak flood levels, high-water
6 marks so you would know how high the water gets. For
7 the big events, we would go out and measure those.
8 Q. Okay. So like with respect to Beaver
9 Creek, did you ever go out and measure high-water
10 marks when you were County engineer?
11 A. Yes.
12 Q. Do you recall --
13 A. I don't recall how often or how high they
14 were. They probably still have that data.
15 Q. So that would be something that the
16 County engineer's office would -- a record that the
17 County engineer would maintain?
18 A. Right.
19 Q. Okay. So between 1983 and 1997, do you
20 know if there were ever any times when you went out to
21 record a high-water mark along Beaver Creek?
22 A. I think so. I'm not positive. I think
23 we probably did.
24 Q. Okay. During your time as County

1 engineer, did any of the -- you referred to them as
2 farmers, they're relators in this case. Did they ever
3 come and talk to you, as County engineer, regarding
4 the spillway modification?
5 MR. MILLER: Objection to
6 form.
7 THE WITNESS: Yes.
8 BY MS. CROSKEY:
9 Q. Do you recall who came to talk to you?
10 MR. MILLER: Same objection.
11 THE WITNESS: Some of them I
12 recall.
13 BY MS. CROSKEY:
14 Q. Do you recall any particular people who
15 talked to you about the spillway modification?
16 A. John Zumberge was the one that came the
17 most often.
18 Q. Do you know if there was anyone else?
19 A. Yes, there were. Sometimes there were
20 groups of two or three, a couple others with him. I
21 know he was the leader of the group.
22 Q. Okay. Do you know approximately how many
23 times you would have talked to him, to John Zumberge?
24 A. Half a dozen, roughly. Several times.

1 He was pretty persistent.
2 MR. MILLER: Let me just
3 register a standing objection, if it's
4 all right, with reference to did any
5 relators come talk to him. He's never
6 been shown any list in this deposition of
7 any relators.
8 I presume his testimony is
9 speaking more generally about farmers
10 that he spoke with.
11 If I could have that standing
12 objection, that's fine.
13 MS. CROSKEY: Sure. That's why
14 I was asking for names.
15 BY MS. CROSKEY:
16 Q. I do have a list of the relators in this
17 case; however, I've not removed people who have been
18 eliminated at some point in time.
19 But if you want to, take a look at this
20 list of names and see if you recall having any
21 discussions with any of these people.
22 A. Well, you have a couple Zumberges on
23 there: Charles, the name Jennifer is not familiar to
24 me. He had a son, Norm, I think. Z-Farms, I assume,

1 and you have Baucher Farms. John Zumberge and
2 Dick Baucher Were both Jefferson Township trustees and
3 farmers along the Beaver, and I had discussions with
4 both of them at various times.
5 Q. But you don't know what relationship, if
6 any, John Zumberge has to Charles Zumberge or
7 Jennifer Zumberge?
8 A. No. I think he had a son Norm, is the
9 only one I recall. I don't recall those names.
10 Q. Okay. Do you know whether or not
11 John Zumberge has any affiliation with Z-Farms, Inc.?
12 A. Probably. I think John is dead now,
13 but --
14 Q. And you mentioned Baucher -- I'm sorry,
15 what was the Baucher name that you mentioned?
16 A. Richard Baucher, Dick.
17 Q. Okay. Do you know whether or not
18 Dick Baucher has any --
19 A. I don't know. I would imagine he does.
20 Q. Okay.
21 A. His family now, I don't --
22 Q. Do you know where Dick Baucher lives or
23 where his office address is?
24 A. I think it was on 20 -- right on State

1 Route 29, I believe. What was the address there? Was
2 that State Route 29?
3 Q. No.
4 A. He has a barn, distinctive barn. I won't
5 say what it is.
6 Q. All right. None of these other names
7 that you looked at, did any of them ring a bell?
8 A. Not that I recall. I may have. I don't
9 recall it.
10 Q. All right. With regard to your
11 affidavit, I think previously you said that Mr. Miller
12 prepared it?
13 A. Yes.
14 MR. MILLER: Objection to
15 form.
16 BY MS. CROSKEY:
17 Q. Did you draft the affidavit initially?
18 MR. MILLER: Same objection.
19 THE WITNESS: No.
20 BY MS. CROSKEY:
21 Q. Did you have discussions about the
22 affidavit?
23 A. Yes.
24 Q. How many times did you discuss the

1 affidavit with Mr. Miller?
2 A. Once or twice.
3 Q. Was that by telephone or --
4 A. Yes, by telephone.
5 Q. Uh-huh. And approximately how long were
6 those telephone conversations?
7 A. A minute or two. Very short.
8 Q. Were there any documents that you
9 reviewed or relied upon in expressing the opinions
10 that you have in your affidavit?
11 MR. MILLER: Objection.
12 Form.
13 THE WITNESS: Yes.
14 BY MS. CROSKEY:
15 Q. What documents would those be?
16 A. The copies of the letters that I had
17 written earlier, like the five attached.
18 Q. I was going to say, anything that's not
19 attached to the affidavit?
20 A. No, not -- that, and just memory of the
21 events.
22 MS. CROSKEY: I think I'm very
23 close to being done, if we could just
24 take a short break.

(A brief recess was had.)

BY MS. CROSKEY:

Q. Mr. Earley, between 1997 and, I believe you said that you left Mercer County engineering in 1999 --

A. Correct.

Q. -- do you recall getting any correspondence from anyone along Beaver Creek regarding any concern about the spillway, the spillway modification?

A. Not correspondence. I got a phone call or two from the current County engineer.

Q. Okay. And I said through '97 and '99.

A. Through '97, no, I -- while I was still there?

Q. Yeah, yeah. Did you get any?

A. I don't recall.

MS. CROSKEY: All right. I don't have any other questions.

MR. MILLER: I have precious few.

- - -

EXAMINATION

BY MR. MILLER:

1 Q. Mr. Earley, Exhibit E, your affidavit.
2 Is it fair to say that sets forth your concerns
3 regarding increased flooding as a result of the new
4 spillway for ODNR?
5 A. Exhibit E?
6 Q. Yes, your affidavit.
7 A. Yes.
8 Q. And did you believe that at that time in
9 the 1990s, prior to replacement of the spillway, that
10 increased flooding as a result of the new spillway as
11 designed for ODNR was foreseeable?
12 A. Downstream, yes.
13 Q. And were you aware that the County
14 Commissioners and Mercer County Soil & Water had
15 similar concerns?
16 A. Yes.
17 (Court Reporter marked
18 Deposition Exhibits F and G.)
19 BY MS. CROSKEY:
20 Q. Mr. Earley, I should be more clear. When
21 I say "increased flooding," I'm referring specifically
22 to increased flooding west of Grand Lake St. Marys as
23 a result of the redesigned spillway.
24 Is that similar to your understanding?

A. Yes.

Q. Looking at Exhibit F, does this appear to be a November 22nd, 1991, document from the Mercer County Commissioners?

A. Yes.

Q. Have you seen this document before?

A. I don't recall it.

Q. Does it confirm your understanding that you had in the 1990s, however, that the commissioners shared your concern regarding the redesigned spillway and increased flooding that could result?

A. Yes.

Q. Take a look at Exhibit G, if you would. Does this appear to be a February 28th, 1992, letter from Sam Hellwarth of the Mercer County Soil & Water Conservation District to the Ohio Department of Natural Resources?

A. That's the signature.

Q. And you knew Mr. Hellwarth at the time?

A. Yes.

Q. Taking a look at the first page of Exhibit G, have you seen this document before?

A. I don't recall it.

Q. But it does appear as though Mercer

1 County Soil & Water Conservation District was
2 expressing concern to ODNR at the same time you were,
3 as shown by the letters attached to your affidavit; is
4 that fair to say?
5 A. Addressed some of the same concerns.
6 Q. Including, if you look at the first
7 paragraph of Exhibit G, Mr. Hellwarth, on behalf of
8 the Soil & Water Conservation District, wrote, "We, as
9 a board of supervisors, feel the proposed spillway at
10 Grand Lake St. Marys needs several things addressed or
11 further studied to protect the cropland along Beaver
12 Creek."
13 Do you see that?
14 A. Yes.
15 Q. And you agreed with that concern prior to
16 replacement of the spillway?
17 A. Yes.
18 Q. Similarly, looking at the third paragraph
19 on the first page of Exhibit G, the first sentence
20 begins, "We feel the Department of Natural Resources
21 has forgotten the farmer."
22 Do you see that?
23 A. Yes.
24 Q. And you shared that concern, as well,

with regard to ODNR's plan for replacement of the spillway in 1997?

A. I don't know if they forgot him, but I was concerned about the effects.

Q. Including the effects of increased flooding on farmland, correct?

A. Right, right.

MR. MILLER: I have nothing further. Thank you, Mr. Earley.

MS. CROSKEY: Well, thank you, Mr. Earley, for coming here and providing some testimony.

We are going to order an expedited transcript. Did you talk to John Borell about signature at all?

MS. HENDERSON: No.

MR. MILLER: You have the opportunity to read and review your transcript to make sure it's accurate if you choose.

MS. CROSKEY: Did Mr. Borell talk to you about signature? I had a discussion with Mr. Borell about signature.

1 MS. HENDERSON: Okay.
2 MS. CROSKEY: But he's not here
3 today.
4 MS. HENDERSON: Well, we'll
5 review for now, but I'll let you know if
6 that is different.
7 MS. CROSKEY: Before we go off
8 the record, we are going to order an
9 expedited transcript. I would ask if he
10 is going to read and sign, can we get a
11 date certain?
12 MS. HENDERSON: I can let you
13 know later this afternoon. John is in
14 depositions, as well, which is why he is
15 not here.
16 MS. CROSKEY: Okay. I'll leave
17 it at that.
18 (Signature reserved at time of
19 deposition. Signature later waived on
20 instruction of Ms. Henderson to the court
21 reporter.)
22 (Deposition concluded and
23 witness excused at 12:00 noon.)
24 - - -

1 C E R T I F I C A T E

2

3 I, Casey G. Schreiner, a Notary Public in and
4 for the State of Ohio, duly commissioned and
5 qualified, do hereby certify that the within-named
6 witness was by me first duly sworn to tell the truth,
7 the whole truth, and nothing but the truth in the
8 cause aforesaid; that the testimony then given was by
9 me reduced to stenotype in the presence of said
10 witness and afterwards transcribed; that the foregoing
11 is a true and correct transcription of the testimony
12 so given as aforesaid.
13 I do further certify that this deposition was
14 taken at the time and place in the foregoing caption
15 specified.
16 I do further certify that I am not a
17 relative, employee of or attorney for any of the
18 parties in this action; that I am not a relative or
19 employee of an attorney of any of the parties in this
20 action; that I am not financially interested in this
21 action, nor am I or the court reporting firm with
22 which I am affiliated under a contract as defined in
23 the applicable civil rule.
24

1
2 IN WITNESS WHEREOF, I have hereunto set
3 my hand and affixed my seal of office at Toledo, Ohio
4 on this 24th day of May, 2010.
5
6 CASEY G. SCHREINER, RMR-RDR
7 Notary Public
in and for the State of Ohio
8
9 My Commission expires December 8, 2011.
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

Concordance Report

- - -

Unique Words: **1,037**

Total Occurrences: **3,642**

Total Words In File: **11,427**

- - -

Single File Concordance

- - -

Case Insensitive

- - -

Cover Pages = **4**

- - -

Includes **ALL** Text Occurrences

- - -

Dates **ON**

- - -

Includes Pure Numbers

- - -

Possessive Forms **ON**

- - 1 - -

1 [4] 33:3; 35:24; 52:16; 56:8
10 [4] 11:12; 17:9; 26:18; 48:22
10-year [1] 40:21
10.6 [1] 24:13
100-year [1] 40:22
12 [3] 16:16, 19; 49:14
127 [4] 46:17; 62:5, 14; 63:4
12:00 [1] 76:23
12th [1] 29:9
15 [2] 11:12; 15:17
16 [4] 17:8; 26:14; 36:8; 46:13
1981 [4] 36:13; 41:20; 55:3, 4
1983 [15] 17:11; 23:12, 13; 24:9; 27:4; 34:17; 47:11; 48:1; 51:5; 62:7; 63:3, 7, 22; 64:15; 65:19
1990 [2] 8:4, 16
1990s [4] 8:18, 24; 72:9; 73:9
1991 [2] 28:5; 73:3
1992 [3] 29:10; 53:21; 73:14
1993 [1] 29:19
1994 [3] 30:9, 19, 21
1997 [10] 47:11; 48:1; 62:8; 63:4, 7, 22; 64:15; 65:19; 71:3; 75:2
1999 [5] 17:11; 27:7; 34:17; 43:20; 71:5
19th [1] 28:5

- - 2 - -

20 [2] 15:18; 68:24
20-some [1] 42:9
2002 [3] 8:10, 21; 9:3
2003 [3] 8:10, 21; 9:3
2009 [1] 7:10
2010 [1] 78:4
2011 [1] 78:9
20th [1] 30:8
22nd [1] 73:3
24th [3] 29:11, 18; 78:4
25-year [1] 40:22
26 [1] 42:6
27 [2] 16:18; 17:6
28th [1] 73:14
29 [2] 69:1, 2

- - 3 - -

3 [9] 36:3; 40:10; 55:22; 58:8, 20; 59:6, 11; 60:5; 61:18
30-some-foot [1] 42:6

- - 4 - -

4 [3] 38:24; 58:4, 6
40-some [1] 42:10

- - 5 - -

5 [1] 60:17
50-year [1] 40:22
5th [1] 53:21

- - 6 - -

6 [1] 35:24
6th [1] 30:21

- - 7 - -

70s [1] 57:10
76 [1] 15:4
77 [1] 15:1
79 [1] 57:9

- - 8 - -

8 [5] 42:21; 43:7; 48:16, 20; 78:9
83 [2] 22:24; 24:9
84 [3] 24:9, 10; 43:22

- - 9 - -

90s [2] 8:17; 18:10
97 [2] 71:13, 14
99 [4] 17:22; 22:24; 42:16; 71:13

- - A - -

ability [1] 50:2
able [2] 31:1, 8
accurate [2] 35:19; 75:19
action [3] 77:18, 20, 21
additional [2] 14:1; 42:20
address [2] 68:23; 69:1
addressed [4] 29:19; 53:24; 74:5, 10
adequate [1] 34:14
adjacent [1] 61:22
affect [1] 55:5
affidavit [35] 10:7, 8, 12, 14; 12:13, 15, 19; 13:12, 15; 25:14, 22; 28:13; 29:5, 8; 35:7, 19, 22; 36:3; 48:16, 22; 52:17, 18; 55:23; 58:5; 60:17; 69:11, 17, 22; 70:1, 10, 19; 72:1, 6; 74:3
affiliated [1] 77:22
affiliation [1] 68:11
affixed [1] 78:3
aforesaid [2] 77:8, 12
afternoon [1] 76:13
afterwards [2] 6:7; 77:10
agreed [2] 6:16; 74:15
agreement [1] 6:15
alternatives [1] 41:22
american [2] 16:6, 7
amount [3] 33:17; 40:19; 41:5
analyze [1] 41:1
analyzed [2] 37:12, 21
annually [1] 48:5
answer [5] 6:1; 9:20; 11:15; 31:11; 35:2
answering [1] 9:14
answers [1] 9:7
anticipating [1] 59:9
anybody [1] 12:9
anyway [1] 50:11
apologize [2] 6:1; 48:18
appear [3] 73:2, 14, 24
applicable [1] 77:23
appointed [6] 17:12, 14, 17, 19, 23; 18:1
approach [1] 64:19
appropriate [2] 31:17, 19
approval [1] 25:21
approximate [1] 52:7
approximately [4] 8:17; 52:3; 66:22; 70:5
area [5] 18:3; 24:1, 5; 44:4
areas [4] 16:23; 19:17; 39:3; 56:9
army [2] 41:19; 53:4
arranged [1] 13:2
arranging [1] 13:3
arrive [1] 39:5
articles [1] 18:5
asking [2] 60:4; 67:14
assessed [3] 23:2, 19; 24:2
assist [2] 31:1, 8
assistant [1] 5:8
associates [1] 12:10
association [4] 16:4; 18:19; 56:12; 57:13
assume [2] 21:12; 67:24
attached [13] 13:15; 28:13; 29:4, 7; 35:22; 52:16, 18; 55:22; 58:4; 60:17; 70:17, 19; 74:3
attending [1] 16:5
attention [1] 37:3
attorney [3] 5:8; 77:17, 19
authority [2] 60:13, 14
available [1] 50:21
aware [7] 6:15; 10:8; 12:18, 20; 41:18; 51:20; 72:13

- - B - -

bachelor [1] 13:23
bachelor's [2] 14:11; 20:16
bank [8] 24:18; 34:9; 60:23; 61:1, 11, 15, 21; 62:2
banks [6] 22:17, 18; 34:8; 47:20, 22; 48:1
bar [1] 14:8
barn [2] 69:4
base [3] 40:9; 45:2; 56:14
base-flood [1] 59:1
based [2] 57:4, 21
basically [10] 5:18; 6:11; 26:3; 35:16; 37:12, 13, 16, 21; 49:10; 56:15
basis [1] 23:4
baucher [8] 11:13; 68:1, 2, 14, 15, 16, 18, 22
beaver [39] 7:7, 16; 21:13, 22; 22:1, 7, 9, 14; 23:11; 24:12; 33:4; 34:19; 36:16, 18; 37:2, 23; 39:3; 41:22; 42:16; 43:10; 47:15, 24; 53:9; 55:4; 58:9; 59:12; 60:5, 8; 61:8, 11, 18; 62:20; 64:9, 11; 65:8, 21; 68:3; 71:8; 74:11
begins [1] 74:20
behalf [2] 5:9; 74:7
believe [21] 5:18; 6:22; 12:5; 15:23, 30:24; 31:7; 35:21, 23; 44:2; 45:4; 46:10; 49:17; 51:6, 19, 20; 52:17; 61:2, 12; 69:1; 71:3; 72:8
believed [1] 39:1
bell [1] 69:7
benefit [1] 49:19
benefits [4] 36:14; 37:13, 17; 42:22
bike [1] 63:12
bit [4] 9:23; 13:20; 16:14; 35:6
board [1] 74:9
boards [3] 42:17, 20; 43:7
boaters [2] 43:2; 50:20
boating [1] 49:21
borell [3] 75:15, 21, 23
bottoms [1] 24:17
boundary [1] 16:12
break [6] 9:16, 17, 21; 52:12; 70:24
bridge [8] 60:19, 21, 23; 61:1, 6, 8, 10, 15
bridges [9] 20:11; 59:21; 61:17, 19; 63:10, 20; 64:4, 19
brief [2] 52:14; 71:1
briefly [1] 7:3
bringing [1] 5:19
bs [1] 14:1
buchy [1] 32:16
building [2] 46:10; 47:1
built [6] 6:3; 42:23; 43:5, 9; 46:23; 47:9

- - C - -

calculate [1] 55:17
calculated [3] 40:19; 41:6; 52:22
calculation [1] 20:11
calculations [9] 19:23, 24; 39:11, 12, 14, 17, 18; 44:11, 12
california [2] 16:17; 17:4
call [6] 10:20; 33:24; 34:22; 41:20; 42:8; 71:11
calls [1] 23:7
cameron [1] 12:7
campbell [2] 12:1
canal [1] 42:24
canals [2] 42:24
capacity [9] 9:1, 4; 33:12, 16; 41:1; 50:14, 17, 21
caption [1] 77:14
captioned [1] 5:12
carries [1] 61:11
carry [4] 33:17, 19, 20, 21
case [15] 5:12, 14, 16; 7:12, 13, 14; 9:24; 10:9, 12, 15; 12:13; 13:10; 21:11; 66:2; 67:17
casey [2] 77:3; 78:6
celina [3] 38:13; 57:9; 61:3
certified [1] 5:4
certify [3] 77:5, 13, 16
chamber [1] 49:20
changed [2] 48:9; 54:3
charles [2] 67:23; 68:6
charts [1] 53:2
chief [1] 17:9
choose [1] 75:20
chose [1] 49:15
city [3] 38:13; 57:9; 61:3

civil [5] 13:23; 16:7; 20:16, 22; 77:23
claimed [3] 8:7; 40:10; 56:18
clear [2] 43:23; 72:20
closed [2] 64:5; 65:2
closing [2] 62:15, 17
club [2] 46:9; 47:2
combination [1] 14:21
combined [1] 15:18
coming [7] 12:21; 13:6; 40:19; 41:6; 51:10, 11; 75:11
commerce [1] 49:20
commission [1] 78:9
commissioned [1] 77:4
commissioners [4] 7:19; 72:14; 73:4, 9
compared [4] 45:7, 8, 13, 14
competing [1] 51:11
completely [1] 49:9
complimentary [1] 61:4
concern [6] 47:2; 71:9; 73:10; 74:2, 15, 24
concerned [3] 48:11; 50:23; 75:4
concerning [2] 36:4, 7
concerns [10] 6:6; 29:19; 31:12, 18, 21; 51:12; 54:1; 72:2, 15; 74:5
concluded [1] 76:22
conclusion [1] 39:5
condition [1] 56:20
conestoga-rovers [1] 12:10
confirm [1] 73:8
conflicting [2] 54:16, 19
connection [1] 20:16
conservation [3] 73:16; 74:1, 8
consider [2] 19:6; 50:8
considerably [1] 39:10
considered [1] 54:1
constructed [1] 50:8
construction [6] 23:21; 40:13; 43:18; 60:19, 24; 61:15
consultant [1] 16:20
consultants [1] 16:17
consulting [2] 16:20, 24
contact [1] 11:21
continually [1] 34:11
continuing [2] 15:9; 20:20
contract [2] 43:13; 77:22
contractor [1] 43:12
contractors [1] 18:21
control [3] 37:15; 38:9; 50:18
conversation [1] 9:10
conversations [2] 10:16; 70:6
copies [1] 70:16
copy [4] 25:15; 30:10; 32:13; 35:19
corps [9] 36:9, 11, 23; 37:4; 41:19; 53:4, 10; 54:17; 55:2
correctly [1] 10:1
correspond [2] 55:16, 19
correspondence [2] 71:8, 11
costs [1] 36:14
counsel [2] 6:20, 23
counties [4] 17:7; 23:18, 23; 24:4
county [63] 6:2, 3; 7:5, 6, 18; 8:5, 19, 22; 9:1, 4; 16:4, 18; 17:6, 9, 10, 13, 16, 21, 24; 18:18; 19:4; 21:8, 16; 22:4, 21, 23; 23:10; 24:7; 26:11, 14, 24; 27:3, 6, 10; 31:24; 34:16; 43:14; 51:4; 57:8; 60:12; 62:14; 64:1, 4, 6, 8, 10; 65:1, 2, 10, 16, 17, 24; 66:3; 71:4, 12; 72:13, 14; 73:4, 15; 74:1
county's [1] 61:7
county-maintained [2] 60:8; 63:20
couple [6] 10:16; 16:11; 18:5; 37:2; 66:20; 67:22
course [3] 9:8; 22:14; 37:17
courses [7] 14:1, 3, 9; 20:8, 15, 19, 22
court [10] 9:8; 18:23; 27:14; 28:20; 29:21; 32:2; 35:10; 72:17; 76:20; 77:21
courtesy [1] 30:9
crash [1] 8:5
credits [1] 16:5
creek [39] 7:7, 16; 21:13, 23; 22:7, 9, 15; 23:11; 24:3, 12; 33:4, 24; 34:19; 36:16, 18; 37:2; 39:3; 41:22; 42:16; 43:11; 47:15, 24; 53:9; 55:4, 6; 58:9; 59:12; 60:5, 8; 61:8, 11, 18; 62:20; 64:9, 11; 65:9, 21; 71:8; 74:12
crest [1] 50:14
cropland [1] 74:11
croskey [57] 5:6, 7; 6:13; 8:15; 11:9, 20; 19:12; 20:1, 14; 21:9; 25:8; 26:6, 19, 22; 27:16; 28:15, 22; 29:23; 31:6, 22; 32:4; 35:12; 40:3; 41:9, 16; 44:18; 46:6; 47:5, 17; 48:8; 49:13; 52:13, 15; 55:8, 21; 57:2; 58:3, 17; 59:8; 62:13; 63:2; 66:8, 13; 67:13, 15; 69:16, 20; 70:14, 22; 71:2, 18; 72:19; 75:10, 21; 76:2, 7, 16
cubic [1] 33:18
culverts [1] 20:12
cupp [4] 30:18, 22, 24
current [2] 15:7; 71:12
curve [4] 54:6, 13, 21; 55:9
cut [1] 43:1

- - D - -

damage [3] 37:23; 47:4; 59:2
data [10] 39:19, 22; 40:4, 8; 44:10, 19, 23; 59:23; 65:14
date [2] 28:7; 76:11
dated [2] 30:8, 20
day [1] 78:4
dead [1] 68:12
december [1] 78:9
deep [1] 64:21
defined [2] 51:14; 77:22
degree [4] 14:2, 3, 11; 20:16
democratic [1] 27:12
department [4] 5:10, 11; 73:16; 74:20
deposed [3] 5:4; 6:18; 9:1
depositing [1] 33:13
deposition [22] 5:11, 17, 22; 6:15, 24; 7:9, 20; 12:22; 13:9, 11; 27:15, 18; 28:21; 29:22; 32:3; 35:11; 67:6; 72:18; 76:19, 22; 77:13
depositions [5] 7:4, 21; 8:1, 3; 76:14
deputy [2] 17:8, 9
describe [1] 54:8
described [2] 9:24; 10:19
design [8] 17:1, 2; 20:11; 39:2; 49:5, 10, 11, 12
designed [3] 20:13; 49:3; 72:11
detail [2] 12:23; 37:11
detailed [2] 27:2; 28:4
details [1] 10:3
deteriorated [1] 48:11
determination [2] 40:5; 58:19
determine [7] 38:5; 39:22; 40:8; 41:3; 45:2; 56:13, 16
development [1] 17:4
dick [5] 11:13; 68:2, 16, 18, 22
difference [1] 53:15
dimensions [1] 42:5
dip [4] 22:18; 34:11, 13
dipped [2] 24:16; 34:20
direct [1] 31:11
director [1] 5:9
discharge [4] 54:6, 20; 55:9, 10
discuss [1] 69:24
discussed [1] 25:19
discussion [2] 13:4; 75:23
discussions [3] 67:21; 68:3; 69:21
distinctive [1] 69:4
district [3] 73:16; 74:1, 8
ditch [3] 24:21; 33:24; 60:8
ditches [3] 25:3, 4
document [6] 27:17; 52:24; 53:17; 73:3, 6, 22
documents [4] 13:5, 8; 70:8, 15
doesn't [2] 34:6, 7
dollars [1] 47:3
doner [1] 5:13
dose [1] 57:11
downstream [15] 6:7; 34:10; 39:2; 41:2; 45:2, 21, 22, 23; 46:4, 7, 19; 56:17; 63:16; 72:12
dozen [1] 66:24
draft [1] 69:17
drainage [8] 17:2; 19:18, 19; 20:12; 24:1, 5; 34:15
draw [2] 50:5, 21
draw-down [4] 50:7, 10; 51:18, 24
drawings [2] 60:19, 24
drew [1] 50:24
drinking [1] 38:14
drive [1] 64:22
driving [3] 21:20, 21; 62:2
dual [1] 14:3
duly [3] 5:3; 77:4, 6
duty [2] 31:16, 23
dynamics [1] 20:10

- - E - -

earley [9] 5:1, 7; 27:17; 29:24; 71:3; 72:1, 20; 75:9, 11
early [2] 43:22; 52:6
economic [1] 49:18
education [8] 13:21, 24; 14:21; 15:10, 20; 20:3, 20
effects [3] 19:20; 75:4, 5
eight [2] 14:17, 19
elected [4] 17:12, 14, 23; 18:1
elevations [4] 40:9; 45:2; 56:14; 59:1
eliminated [1] 67:18
emergency [2] 56:12; 57:12
employee [5] 8:6; 19:1; 77:17, 19
employment [1] 16:15
end [1] 51:21
engineer [32] 6:3; 8:19, 22; 9:1, 4; 11:18; 14:6, 14; 16:18, 21; 17:7, 9, 13, 24; 22:21, 23; 23:10; 24:7; 26:11, 14, 24; 31:24; 34:17; 51:4; 62:14; 64:10; 65:3, 10, 17; 66:1, 3; 71:12
engineer's [4] 14:24; 15:10; 64:6; 65:16
engineering [7] 13:23; 18:4; 19:7; 20:17, 23; 48:23; 71:4
engineers [11] 16:4, 7, 8; 18:19; 36:9, 11, 24; 37:5; 41:20; 53:4, 11
enlarge [1] 58:20
enlarged [4] 23:16; 24:15; 42:1; 55:7
enlarging [3] 37:1; 38:1; 58:8
erie [3] 38:22; 42:24
erode [3] 22:18; 24:18; 34:8
erosion [1] 22:10
essentially [2] 60:3; 61:11
establish [1] 22:17
evaluation [1] 57:21
events [8] 26:23; 27:12; 40:21; 47:10; 55:20; 65:7; 70:21
everybody [1] 24:1
ex [1] 5:12
exactly [5] 18:11; 24:10; 40:15; 42:2; 52:2
exam [1] 14:16
examination [3] 5:3, 5; 71:23
exams [1] 14:13
excused [1] 76:23
exhibit [23] 27:15, 18; 28:10, 12, 21; 29:22; 30:1; 32:3; 35:11, 18; 52:16; 53:18; 55:22; 58:4, 6; 60:17; 72:1, 5; 73:2, 13, 22; 74:7, 19
exhibits [2] 35:24; 72:18
existed [1] 51:3
existing [1] 56:19
expected [2] 10:10; 31:15
expedited [2] 75:14;

76:9
experience [3] 14:17, 20; 16:15
expert [2] 19:6, 22
expertise [1] 19:16
expires [1] 78:9
explained [2] 53:15; 54:20
expressing [2] 70:9; 74:2
extent [3] 10:4; 45:24; 46:18
extra [1] 43:3

- - F - -

fail [1] 48:12
fair [2] 72:2; 74:4
fairly [2] 47:8; 48:4
fall [1] 33:5
familiar [5] 9:7; 19:19; 35:17; 54:5; 67:23
families [1] 11:8
family [1] 68:21
farm [1] 34:15
farmer [1] 74:21
farmers [10] 5:19; 9:24; 10:19; 11:1; 34:12; 45:11; 51:7; 66:2; 67:9; 68:3
farmland [2] 59:18; 75:6
farms [1] 68:1
faster [1] 33:23
favor [1] 48:14
february [3] 29:9; 53:21; 73:14
federal [2] 56:12; 57:12
feeder [2] 42:23, 24
feel [2] 74:9, 20
feet [3] 33:18; 42:9, 10
felt [1] 31:13
fema [5] 56:13, 20; 57:12, 18, 23
field [2] 34:12, 13
fields [1] 34:15
figure [1] 26:20
figures [5] 52:19, 20, 24; 53:6, 10
filing [1] 10:19
fills [1] 50:15
final [1] 49:12
financially [1] 77:20
find [2] 26:3; 62:5
fine [1] 67:12
finish [2] 9:11, 13
finished [2] 27:20; 35:15
firm [2] 48:23; 77:21
first [18] 5:3; 17:14; 18:1, 20; 23:9; 28:3; 32:19; 38:17; 52:17, 19; 53:20, 21; 60:18; 73:21; 74:6, 19; 77:6
fishing [1] 49:22
five [2] 48:6; 70:17
five-minute [1] 52:12
flat [6] 33:4, 7, 9, 10; 34:3
flattened [2] 25:4, 6
flatter [1] 24:18
flood [23] 37:15; 38:9; 40:9, 20; 45:2; 46:11, 24; 47:19; 50:18; 55:6; 56:8, 10, 14, 16, 22; 57:5, 14; 59:2; 62:6, 20, 22; 64:14; 65:5
flood-control [1] 50:2
flooded [4] 46:12; 47:23; 62:7; 63:22
flooding [25] 6:6, 9; 37:19, 24; 39:2, 23; 45:6, 7, 12, 13, 16, 20, 22, 23, 24; 46:19; 47:10; 63:3, 7; 72:3, 10, 21, 22; 73:11; 75:6
floodplain [5] 40:7, 14; 41:10, 17; 59:17
flow [15] 19:20; 34:12, 14; 36:4, 7; 37:19, 23; 40:19; 41:3, 5, 7; 42:9, 18; 50:15; 53:9
flowing [1] 50:16
flows [4] 33:23; 43:17; 44:4; 47:21
fluid [1] 20:9
focused [1] 16:24
follows [2] 5:4; 57:23
foot [2] 33:5; 64:22
foregoing [2] 77:10, 14
foreseeable [1] 72:11
forgot [1] 75:3
forgotten [1] 74:21
form [28] 5:23; 11:4; 19:9; 20:6; 21:4; 24:24; 26:1, 13; 31:4; 40:1, 17; 41:13; 44:16; 46:3, 21; 47:13; 48:3; 49:7; 54:23; 55:12; 58:1, 14, 22; 62:10, 23; 66:6; 69:15; 70:12
forth [1] 72:2
found [2] 42:19; 60:20
four [5] 17:15; 46:13; 48:6
frame [1] 62:24
freedom [1] 8:8
frequency [1] 55:20
friends [1] 27:11
front [1] 25:15
funding [3] 31:12; 38:10; 57:21
future [1] 12:18

- - G - -

gallons [1] 33:18
gets [4] 38:21; 44:2, 3; 65:6
give [3] 35:2; 59:23; 60:1
given [2] 77:8, 12
goes [1] 34:8
gotten [1] 16:9
government [1] 16:12
gradient [3] 33:4, 10; 34:3
graduate [1] 13:22
grand [11] 22:15; 26:8; 31:1; 36:5, 15, 17; 41:21; 49:15; 56:9; 72:22; 74:10
greater [8] 39:2, 6, 23; 45:6, 7, 12, 13, 20
group [1] 66:21
groups [1] 66:20
guess [8] 5:20; 6:16; 9:16; 10:24; 16:1; 23:9; 29:9, 15

- - H - -

hadn't [1] 16:11
half [1] 66:24
hand [2] 28:15; 78:3
handed [1] 30:1
happens [1] 23:4
haven't [1] 11:11
he's [2] 67:5; 76:2
head [1] 17:18
heard [2] 5:14; 43:19
height [5] 42:11, 15; 43:3, 6, 24
heights [1] 44:5
held [1] 14:23
heilwarth [3] 73:15, 19; 74:7
henderson [6] 8:11; 75:16; 76:1, 4, 12, 20
hereby [1] 77:5
herein [1] 5:2
hereinafter [1] 5:4
hereunto [1] 78:2
high [4] 13:21; 16:15; 65:6, 13
high-water [3] 65:5, 9, 21
higher [5] 37:18; 43:8; 44:2, 3; 50:1
highway [2] 16:8; 17:1
hinder [1] 41:3
hit [1] 43:2
hold [3] 15:5; 42:17; 47:21
homes [1] 38:15
hope [1] 57:17
hour [1] 52:11
hours [1] 15:17
huge [2] 42:7; 46:24
huh [1] 48:20
hundred [1] 48:13
hundred-year [2] 55:17; 56:14
hundreds [1] 42:9
hydraulic [9] 20:11; 39:18, 22; 40:8; 41:1; 44:14, 19, 22, 23
hydraulics [4] 15:23; 18:15; 19:18; 20:8

- - I - -

i'd [1] 27:18
i've [6] 11:6; 15:23; 16:9; 18:5; 21:17; 67:17
identified [2] 28:9; 35:24
identifying [1] 27:17
imagine [3] 32:16; 59:21; 68:19
immediately [1] 61:22
improve [1] 7:16
improved [1] 43:10
improvement [4] 23:15; 24:8; 41:23; 60:11
improvements [10] 7:7; 21:24; 22:11, 12; 23:12, 14; 24:2; 42:16; 55:3
improving [2] 36:15; 38:7
inc [1] 68:11
inches [2] 42:21; 43:7
incorrect [1] 26:4
increased [9] 19:20; 24:21; 39:9; 72:3, 10, 21, 22; 73:11; 75:5
increasing [1] 37:23
information [2] 54:16, 20
infringed [1] 8:8
initially [1] 69:17
initiated [1] 23:21
inspect [1] 21:23
inspected [1] 23:6
installed [1] 23:16
instruct [1] 51:15
instruction [2] 9:15; 76:20
insurance [5] 56:8, 10, 22; 57:6, 15
intake [1] 38:22
interested [1] 77:20
involve [1] 23:23
involved [2] 21:2, 11
involvement [1] 10:15
involving [1] 8:4
issue [1] 7:6
issues [3] 18:15; 19:10, 13
items [1] 56:3

- - J - -

jefferson [2] 64:7; 68:2
jennifer [5] 5:7; 52:10; 63:1; 67:23; 68:7
jim [2] 12:4; 32:15
john [8] 66:16, 23; 68:1, 6, 11, 12; 75:15; 76:13
jones [2] 48:23; 49:1
justify [1] 59:4

- - K - -

keep [3] 50:2, 13, 17
keeps [1] 65:3
keith [1] 5:1
knowledge [5] 9:24; 10:4; 26:10; 51:4; 57:22
knowledgeable [3] 26:8; 36:4, 6

- - L - -

laid [1] 24:17
lake [37] 22:15; 26:8; 31:1; 36:5, 15, 17; 37:1, 18, 20, 24; 38:7, 14, 22; 41:21; 42:22, 23; 45:13, 22; 46:5; 49:15, 19, 21, 24; 50:2, 3, 13, 19; 54:10; 55:14, 18; 56:9; 61:22, 24; 72:22; 74:10
lakefront [2] 46:9; 47:1
lakes [1] 42:18
large [1] 24:20
last [5] 16:1, 10, 13; 17:3, 4
late [1] 57:10
lawsuit [6] 5:21; 6:8; 8:6; 19:2, 3; 21:2
leader [1] 66:21
leave [1] 76:16
legal [1] 10:20
length [1] 44:1
let's [2] 35:8; 53:19
letter [39] 27:22, 24; 28:5, 6, 9, 10, 12, 13, 23; 29:1, 4, 7, 10, 11, 16, 19, 20; 30:8, 17, 18, 20, 21; 32:5, 9, 11, 18, 23; 48:23; 49:4; 52:17; 53:11, 12, 14, 21; 55:24; 58:7; 60:4; 73:14
letters [12] 6:5; 13:9, 14, 15, 17; 26:5; 30:2, 6; 35:23; 53:24; 70:16; 74:3
level [3] 41:4; 50:16; 55:19
levels [8] 37:18; 49:24; 51:1; 54:11; 55:6, 14; 56:16; 65:5
license [5] 14:10, 14, 24; 15:3, 11
licenses [3] 14:4, 5; 15:5
limited [2] 57:20
list [3] 67:6, 16, 20
live [1] 17:10
lived [1] 17:20
lives [1] 68:22
local [1] 51:7
logan [2] 5:9, 13
long-term [1] 22:16
looks [1] 29:18
lot [3] 46:10, 12; 59:6
lots [1] 34:23

low [1] 43:2
lower [3] 40:10; 56:15; 64:19
lucas [4] 8:22; 9:4; 17:20; 19:4

- - M - -

ma'am [1] 47:7
magazine [2] 18:20, 22
magazines [2] 18:6, 17
mainly [2] 5:18; 17:3
maintain [2] 49:24; 65:17
maintained [2] 21:21; 64:3
maintaining [6] 22:3, 5, 6, 7; 64:10, 14
maintains [1] 64:4
maintenance [7] 7:16; 21:22, 24; 23:1, 3, 17; 43:13
major [6] 18:6; 23:12, 14, 17; 41:21; 56:13
man [2] 11:24; 12:3
management [2] 56:12; 57:12
manager [2] 51:8, 15
march [1] 17:22
mark [1] 65:21
marked [10] 27:14; 28:20; 29:21; 30:1; 32:2; 35:8, 10, 18; 53:17; 72:17
marks [2] 65:6, 10
marys [10] 22:15; 26:8; 31:2; 36:5, 16, 17; 41:22; 56:9; 72:22; 74:10
matter [1] 15:19
mean [37] 13:14; 15:22; 16:20; 20:2; 21:19; 22:9, 13; 23:14; 24:15, 20; 27:8; 32:23; 33:6, 12, 15; 34:5; 36:6, 11; 37:11; 38:12; 42:1; 44:21, 24; 46:16; 49:16; 50:9, 12; 53:12, 17; 56:10; 59:19; 63:11, 15, 18; 64:18, 22; 65:4
means [1] 34:6
measure [3] 65:5, 7, 9
measures [1] 38:6
meetings [1] 16:6
memory [3] 26:23; 30:10; 70:20
mention [1] 32:19
mentioned [16] 11:6, 16; 13:13; 24:6; 28:12; 34:2; 38:11; 40:14; 41:24; 53:3, 5; 54:15; 61:17; 62:4; 68:14, 15
mercer [33] 6:3; 7:5, 6, 18; 8:5, 19; 9:1; 17:8, 10, 12, 16; 21:8, 16; 22:4, 24; 23:10; 24:7; 26:11, 14, 24; 27:3, 6, 10; 31:23; 34:16; 43:14; 51:4; 71:4; 72:14; 73:3, 15, 24
meyer [8] 63:8, 13, 14, 15, 17, 21; 64:1, 2
miami [1] 42:24
middle [1] 55:24
mile [1] 33:5
miles [8] 24:13; 40:10; 58:8, 20; 59:6, 11; 60:5; 61:18
miller [46] 5:23; 10:17; 11:3, 14; 19:8, 14; 20:5; 21:3; 24:23; 25:17, 19, 24; 26:13, 17; 31:3, 9; 39:24; 40:16; 41:12; 44:15; 46:2, 20; 47:12; 48:2; 49:6; 52:10; 54:22; 55:11; 57:1, 24; 58:13, 21; 62:9, 23; 66:5, 10; 67:2; 69:11, 14, 18; 70:1, 11; 71:20, 24; 75:8, 17
millions [1] 47:3
mind [2] 48:21; 52:11
minor [1] 18:5
minute [3] 28:16; 33:18; 70:7
model [4] 44:14, 20, 22, 24
modification [4] 50:4; 66:4, 15; 71:10
money [2] 7:15; 60:15
morris [1] 12:4
mostly [1] 35:1
move [1] 17:16
moved [1] 17:19
mr [58] 5:7, 23; 10:17; 11:3, 14; 19:8, 14; 20:5; 21:3; 24:23; 25:17, 19, 24; 26:13, 17; 27:17; 29:24; 31:3, 9; 39:24; 40:16; 41:12; 44:15; 46:2, 20; 47:12; 48:2; 49:6; 52:10; 54:22; 55:11; 57:1, 24; 58:13, 21; 62:9, 23; 66:5, 10; 67:2; 69:11, 14, 18; 70:1, 11; 71:3, 20, 24; 72:1, 20; 73:19; 74:7; 75:8, 9, 11, 17, 21, 23
ms [62] 5:6; 6:13; 8:11, 15; 11:9, 20; 19:12; 20:1, 14; 21:9; 25:8; 26:6, 19, 22; 27:16; 28:15, 22; 29:23; 31:6, 22; 32:4; 35:12; 40:3; 41:9, 16; 44:18; 46:6; 47:5, 17; 48:8; 49:13; 52:13, 15; 55:8, 21; 57:2; 58:3, 17; 59:8; 62:13; 63:2; 66:8, 13; 67:13, 15; 69:16, 20; 70:14, 22; 71:2, 18; 72:19; 75:10, 16, 21; 76:1, 2, 4, 7, 12, 16, 20
much-needed [1] 48:13
multi-county [2] 23:17; 43:16
multiple [2] 23:23; 24:4

- - N - -

name [9] 5:7, 15; 11:17, 24; 12:3, 6; 32:15; 67:23; 68:15
names [6] 11:5, 7; 67:14, 20; 68:9; 69:6
natural [4] 5:10; 9:10; 73:17; 74:20
needs [1] 74:10
nods [1] 17:18
noon [1] 76:23
norm [2] 67:24; 68:8
normal [1] 20:8
notary [2] 77:3; 78:7
notes [1] 48:18
notify [1] 31:17
november [2] 28:5; 73:3
number [1] 35:23
numbered [2] 55:23; 56:2
numbers [2] 35:24; 42:14

- - O - -

objection [35] 5:23; 11:3; 19:8, 14; 20:5; 21:3; 24:23; 25:24; 26:13; 31:3, 9; 39:24; 40:16; 41:12; 44:15; 46:2, 20; 47:12; 48:2; 49:6; 54:22; 55:11; 57:1, 24; 58:13, 21; 62:9, 23; 66:5, 10; 67:3, 12; 69:14, 18; 70:11
obstructions [1] 41:2
occasionally [4] 33:2; 46:8, 17; 65:5
occur [3] 6:7, 10; 55:15
occurred [3] 26:24; 36:8; 53:16
october [2] 7:8, 10
odnr [26] 6:5, 9; 7:15; 10:1, 8, 20; 22:24; 31:20; 36:10; 39:13, 17; 40:18; 41:11; 44:13; 48:24; 49:14; 50:9; 51:17; 52:19; 53:5; 60:2, 4; 61:14; 72:4, 11; 74:2
odnr's [4] 53:7, 10; 54:17; 75:1
odot [1] 62:13
offerable [1] 51:22
office [4] 64:6; 65:16; 68:23; 78:3
offsetting [1] 37:17
ogee [1] 42:8
oh [3] 50:5; 52:13; 58:6
ohio [11] 5:9, 10; 13:22; 16:4, 17; 18:19, 21; 73:16; 77:4; 78:3, 7
okay [64] 5:16; 6:14, 17, 20; 8:1, 18; 9:12, 22; 10:11, 18, 22, 23; 12:6, 21; 13:1, 5, 17; 17:20; 21:1, 10; 24:12; 27:21; 28:3, 19; 29:14; 30:4, 8, 20; 31:7; 32:8, 13; 37:4; 38:20; 39:14; 41:17; 43:19, 23; 44:8, 12; 45:10; 54:2, 5; 56:1, 6, 22; 57:5, 22; 60:10; 61:8, 10; 64:8, 13, 17; 65:1, 8, 19, 24; 66:22; 68:10, 17, 20; 71:13; 76:1, 16
old [3] 42:11; 48:10; 57:4
ones [5] 37:3; 57:7; 63:9, 11; 64:23
opening [1] 63:19
opinion [1] 45:19
opinions [1] 70:9
opportunity [1] 75:18
options [6] 36:14, 15, 21, 23; 37:2, 6
order [2] 75:13; 76:8
organization [1] 16:6
osmosis [1] 38:18
outflow [4] 38:2; 39:6; 44:10; 54:10
outflows [3] 22:16; 39:11; 52:22
outlet [2] 22:15; 56:17
outlets [2] 44:9; 51:22
owners [1] 23:2

- - P - -

page [5] 32:20; 33:3; 52:19; 73:21; 74:19
paid [2] 22:24; 37:3
paragraph [10] 28:3; 36:3; 38:24; 48:16, 22; 49:14; 52:18; 60:18; 74:7, 18
paragraphs [2] 55:23; 56:2
park [2] 51:8, 15
parking [2] 46:9, 12
part [6] 10:9, 12; 19:18; 57:8; 58:23; 59:3
parties [2] 77:18, 19
pass [1] 14:7
path [1] 63:12
peak [3] 39:6; 55:10; 65:5
pending [1] 5:16
people [10] 10:20; 31:17, 20; 35:1; 49:20; 51:10, 11; 66:14; 67:17, 21
percent [1] 48:14
performing [1] 48:24
period [4] 27:4, 6; 33:22; 51:17
persistent [1] 67:1
personally [2] 11:10; 33:1
persuade [1] 51:8
petition [2] 43:15, 16
petitioned [3] 23:15; 24:7; 25:12
petitioning [1] 60:11
phaedra [1] 12:7
phone [3] 10:16; 32:24; 71:11
phonetic [1] 12:7
pick [2] 55:13, 14
picnics [1] 27:12
place [1] 77:14
places [1] 24:17
plaintiffs [2] 10:24; 11:1
plan [1] 75:1
plus [3] 36:10; 39:10; 41:7
point [2] 28:1; 67:18
policy [5] 50:6, 9; 51:3, 7, 15
portion [1] 24:2
portions [1] 44:3
posed [1] 9:19
positive [1] 65:22
possibility [2] 12:19; 51:14
posted [1] 18:20
potable [1] 38:22
potential [1] 12:18
precious [1] 71:20
prepared [1] 69:12
presence [1] 77:9
present [1] 17:22
press [1] 11:24
pressley [1] 12:1
presume [1] 67:8
pretty [3] 48:7; 63:9; 67:1
previous [2] 39:7; 45:8
previously [4] 53:3; 60:7; 62:4; 69:11
primarily [1] 29:18
primary [1] 47:2
prior [4] 12:21; 40:13; 72:9; 74:15
priorities [1] 57:21
private [3] 16:17, 19; 17:4
privatization [1] 18:14
problems [1] 22:19
process [1] 10:9
professional [9] 14:6, 10, 14, 16, 23; 15:2, 10; 16:6
project [11] 7:8; 23:5, 17, 18; 40:11; 43:14, 15, 16; 48:13, 14, 15
properties [5] 21:1, 6, 11, 12, 16
property [1] 23:2

proposed [2] 60:19; 74:9
protect [1] 74:11
provided [7] 32:5; 39:10, 12; 42:22; 44:9, 10, 13
providing [1] 75:11
public [2] 77:3; 78:7
publications [1] 18:3
purpose [2] 22:9; 38:3
purposes [2] 38:8; 50:4
push [1] 34:9

- - Q - -

qualified [1] 77:5
question [7] 9:11, 14, 19, 20; 15:24; 45:11; 59:10
questioned [1] 19:17
questions [3] 9:7; 59:10; 71:19

- - R - -

racket [2] 46:9; 47:1
rain [1] 51:1
rainfall [1] 40:21
rains [1] 50:15
raised [1] 42:20
rarely [2] 46:17; 52:4
rating [1] 54:13
reach [1] 41:4
read [2] 75:18; 76:10
reason [1] 59:5
recall [33] 8:9; 18:9, 10, 12; 28:6; 30:15; 36:23; 37:9; 47:10; 52:23; 57:3, 5; 61:14; 62:6, 19, 22; 63:3, 6, 21; 65:12, 13; 66:9, 12, 14; 67:20; 68:9; 69:8, 9; 71:7, 17; 73:7, 23
receive [2] 60:24; 61:5
received [2] 30:9; 60:18
receiving [1] 27:24
recently [1] 15:23
recess [2] 52:14; 71:1
recognize [3] 27:22; 30:5; 32:9
recognized [1] 11:6
recommendation [2] 37:9; 58:11
recommendations [1] 37:5
recommended [2] 38:1; 63:10
record [4] 65:3, 16, 21; 76:8
recreation [7] 37:14, 18; 38:8; 42:22; 43:4; 50:1; 51:2
recreational [3] 49:15, 19; 50:3
redesigned [2] 72:23; 73:10
reduced [1] 77:9
reduces [3] 33:12, 15, 16
refer [2] 20:19; 39:18
reference [1] 67:4
referred [2] 54:12; 66:1
referring [5] 43:16; 52:20; 61:13, 20; 72:21
regard [9] 7:22, 23; 13:10; 17:3; 18:13; 31:1; 48:21; 69:10; 75:1
regarding [5] 7:6; 66:3; 71:9; 72:3; 73:10
register [1] 67:3
regularity [1] 57:19
regularly [1] 47:20
regulating [1] 38:7
regulation [2] 37:1; 51:15
rel [1] 5:12
relate [1] 55:9
related [3] 7:14; 15:22; 16:11
relating [2] 12:12; 60:19
relationship [1] 68:5
relative [2] 77:17, 18
relatively [2] 27:1; 47:19
relators [7] 10:21; 11:1, 22; 66:2; 67:5, 7, 16
relied [1] 70:9
remember [12] 25:5; 27:24; 28:17, 23; 29:16; 42:2, 4, 13; 52:21; 60:22; 64:17, 23
remove [1] 8:7
removed [1] 67:17
replaced [1] 42:7
replacement [3] 72:9; 74:16; 75:1
replacing [1] 59:22
report [1] 54:17
reporter [8] 9:8; 27:14; 28:20; 29:21; 32:2; 35:10; 72:17; 76:21
reporting [1] 77:21
representative [1] 32:14
represented [1] 6:20
request [1] 9:16
requested [4] 40:7, 12; 41:15; 59:1
required [4] 15:9; 20:9; 21:24; 61:5
requirement [2] 15:13, 16
reserved [1] 76:18
resources [3] 5:10; 73:17; 74:20
respect [1] 65:8
respondents [1] 5:2
response [13] 28:4, 10; 29:1, 8, 17; 30:12, 15, 17; 31:19; 53:20, 22; 54:1, 4
responsibility [1] 60:15
responsible [7] 21:22; 22:2, 4; 62:15, 17; 64:10, 14
rest [2] 23:1; 59:14
restrictions [1] 59:21
restrictive [1] 63:20
result [5] 39:1; 72:3, 10, 23; 73:11
reverse [1] 38:18
review [7] 13:5, 8; 25:20; 27:18; 61:4; 75:18; 76:5
reviewed [4] 13:18; 19:23; 35:16; 70:9
revise [1] 40:7
revised [1] 56:8
richard [1] 68:16
right [32] 6:19, 23; 7:11; 10:14; 13:13; 16:22; 23:12; 24:14; 25:14, 18; 27:3; 32:18; 33:3; 34:4, 21; 36:22; 37:8; 38:16; 53:19; 56:24; 61:12, 23; 63:16; 64:1; 65:18; 67:4; 68:24; 69:6, 10; 71:18; 75:7
ring [1] 69:7
rip-rap [2] 22:19; 23:16
river [2] 21:14; 47:23
rmr-rdr [1] 78:6
road [23] 8:5; 21:20, 21; 46:11, 15, 16; 60:23; 61:1, 11, 21; 62:2, 5; 63:8, 12, 14, 15, 16, 21; 64:1, 2, 5; 65:2
roads [9] 62:20, 22; 63:4, 6; 64:4, 8, 9, 13, 17
robert [2] 30:18, 21
room [1] 50:17
roughly [1] 66:24
route [2] 69:1, 2
rule [1] 77:23
run [1] 24:3

- - S - -

safety [1] 48:12
sam [1] 73:15
sanitary [1] 17:2
satisfactory [2] 50:1; 60:20
saying [2] 51:10, 11
schedule [2] 57:18, 23
school [2] 13:21; 16:15
schooling [1] 14:21
schreiner [2] 77:3; 78:6
science [1] 13:23
seal [1] 78:3
sean [2] 5:9, 13
season [1] 51:2
second [3] 30:20; 33:18, 20
sector [2] 16:17, 20
senator [3] 30:18, 24
send [2] 32:14, 23
sentence [1] 74:19
september [4] 29:11, 18; 30:8, 21
series [1] 9:6
serve [1] 49:15
sets [1] 72:2
sewers [2] 17:2, 3
shared [2] 73:10; 74:24
showing [1] 39:11
shows [1] 54:10
sides [1] 24:16
sign [5] 8:7; 10:7; 12:13; 25:22; 76:10
signature [6] 73:18; 75:15, 22, 24; 76:18, 19
signed [3] 12:16; 32:14; 35:20
significance [2] 33:11; 59:11
significant [2] 36:13; 49:18
silt [3] 25:1; 33:13; 34:3
single [1] 23:5
sitting [1] 25:15
size [1] 24:22
slope [3] 25:3; 33:8, 14
slopes [2] 25:6; 33:23
slow-flowing [1] 33:24
smaller [4] 59:7, 15, 19
smallest [4] 63:11, 17, 18, 19
society [2] 16:7
soil [4] 72:14; 73:15; 74:1, 8
somewhat [2] 19:22; 54:3
somewhere [2] 24:11; 57:10
son [2] 67:24; 68:8
sorry [5] 13:12; 26:17, 20; 34:20; 68:14
sources [2] 38:9; 41:8
south [2] 37:20; 38:1
speak [1] 26:21
speaking [1] 67:9
specific [2] 40:20; 57:23
specifically [7] 13:14; 20:3; 21:6; 29:16; 39:1; 40:9; 72:21
specified [1] 77:15
speech [1] 8:8
spillway [51] 6:4, 6; 20:13; 37:13; 39:7, 10; 40:20; 41:7, 24; 42:6, 7, 8, 12, 14, 17, 20; 43:6, 8, 24; 44:1; 45:8, 14, 15, 17, 20; 46:1, 19; 47:9; 48:9, 10; 49:3, 24; 50:4, 13; 56:17, 23; 57:4, 15; 62:1; 66:4, 15; 71:9; 72:4, 9, 10, 23; 73:10; 74:9, 16; 75:2
spoke [2] 32:21; 67:10
spot [1] 35:4
spots [1] 35:4
st [10] 22:15; 26:8; 31:2; 36:5, 16, 17; 41:22; 56:9; 72:22; 74:10
staff [1] 57:20
stage [3] 54:6, 20; 55:9
standing [2] 67:3, 11
started [1] 43:17
starting [1] 55:23
starts [1] 50:16
state [7] 5:8, 12; 13:22; 68:24; 69:2; 77:4; 78:7
stated [2] 53:11, 13
stays [1] 34:10
steeper [3] 33:19, 22, 23
stenotype [1] 77:9
step [1] 40:24
steps [1] 40:12
stopped [2] 51:18; 52:1
storage [2] 50:14, 22
storm [7] 17:2; 20:12; 40:21, 22, 23
storms [4] 55:15, 17; 56:14, 15
straight [1] 25:11
straightened [1] 25:9
stream [2] 41:2, 8
streams [1] 56:13
structures [1] 59:16
stuckey [2] 48:23; 49:1
studied [2] 36:9; 74:11
studies [4] 44:24; 56:7, 13; 57:11
study [33] 36:9, 10, 12, 14, 17, 20; 37:4; 38:4; 40:7, 14; 41:10, 17, 21; 45:1, 3; 53:3, 5, 7; 54:17; 55:2; 56:9, 11, 23; 57:6, 15; 58:16, 18; 59:5, 17; 60:4, 13
stumps [2] 43:2, 3
subdivision [1] 17:1
subdivisions [1] 17:5
subject [4] 15:19; 18:12; 33:13; 59:17
submitted [1] 10:8
sued [2] 10:1; 19:1
sufficient [2] 14:9; 34:9
suggested [1] 45:1
suggesting [1] 58:8
suit [2] 5:19; 10:19
supervisors [1] 74:9
supplied [1] 38:15
supply [6] 37:14; 38:8, 11, 12, 14, 21
surrounding [2] 39:3; 56:9
survey-related [1] 18:15
surveying [5] 14:2, 11; 16:11, 12
surveyor [3] 14:7, 10,

16
surveyor's [1] 15:2
sworn [2] 5:3; 77:6

- - T - -

tables [1] 53:1
talk [9] 12:22; 25:16; 51:13; 52:19; 66:3, 9; 67:5; 75:14, 22
talked [6] 9:23; 12:9; 33:1; 35:6; 66:15, 23
talking [5] 45:12, 15; 47:15; 60:21; 62:24
telephone [3] 70:3, 4, 6
tenure [2] 26:11, 16
terms [3] 9:10; 10:20; 23:9
testified [2] 18:23; 60:7
testify [1] 11:15
testimony [4] 67:8; 75:12; 77:8, 11
tests [1] 14:7
thank [2] 75:9, 10
there's [5] 34:9; 39:22; 42:8; 57:22; 59:18
they're [5] 7:15; 15:7; 24:18; 35:23; 66:2
third [3] 23:1; 52:18; 74:18
thoughts [1] 54:3
three [9] 17:14, 15; 18:2; 23:18; 37:13; 46:13; 63:9, 10; 66:20
throw [1] 9:14
tiles [2] 34:12, 14
times [13] 17:15; 18:2; 27:8; 46:12, 13; 62:7; 63:21; 65:20; 66:23, 24; 68:4; 69:24
toledo [2] 38:21; 78:3
towards [2] 14:1; 31:12
township [5] 11:18; 64:3, 7; 68:2
training [4] 15:10; 16:2; 19:21; 20:20
transcribed [1] 77:10
transcript [3] 75:14, 19; 76:9
transcription [1] 77:11
treat [1] 38:18
treated [1] 38:17
treatment [1] 38:18
trees [1] 43:1
true [2] 35:19; 77:11
trustee [1] 11:18
trustees [2] 64:7; 68:2
truth [3] 77:6, 7
twice [2] 62:12; 70:2
two's [1] 15:18
type [4] 16:13; 42:8; 52:24; 58:18
typically [1] 15:20

- - U - -

uh-huh [2] 60:12; 70:5
understand [1] 53:22
understanding [6] 5:21; 10:2; 21:10; 54:8; 72:24; 73:8
underwater [1] 64:20
unfortunately [1] 11:14
unincorporated [1] 57:8
university [1] 13:22
updated [2] 12:15, 19
upper [6] 58:8, 20; 59:6, 11; 60:5; 61:18
usable [1] 49:21
users [1] 49:15

- - V - -

varies [1] 15:21
vegetation [1] 22:16
vehicle [1] 8:7
velocity [2] 34:7, 9
versus [1] 5:13
visit [2] 21:1; 27:10
visited [6] 21:7, 15, 23; 22:8, 9; 27:8

- - W - -

wabash [2] 21:14; 47:23
wait [2] 9:11, 13
waived [1] 76:19
wanted [5] 45:1; 49:20; 51:2, 9; 56:15
warranted [2] 58:16, 18
water [29] 33:17, 20, 21; 34:6; 36:4, 7; 37:14, 22; 38:8, 11, 12, 13, 14, 19, 21, 23; 41:4, 5; 42:9; 43:2; 44:3; 50:15; 64:23; 65:6; 72:14; 73:15; 74:1, 8
waterway [1] 63:19
wayne [1] 5:12
we'll [1] 76:4
we're [4] 5:11, 21; 27:17; 61:13
we've [3] 9:23; 30:1; 35:6
weren't [2] 20:9, 21
west [9] 60:23; 61:1, 11, 15, 21; 62:2; 63:13, 15; 72:22
what's [2] 15:24; 40:15
whenever [1] 9:17
whereof [1] 78:2
wide [2] 42:6; 59:20
widened [2] 24:17; 25:5
width [1] 39:9
winter [4] 50:7, 10, 20; 51:18
within-named [1] 77:5
witness [39] 5:2; 6:2; 8:13; 11:5, 16; 17:18; 19:10, 15; 20:7; 21:5; 25:1; 26:2, 16; 28:19; 31:5, 10; 40:2, 18; 41:14; 44:17; 46:4, 22; 47:14; 48:4; 49:8; 54:24; 55:13; 58:2, 15, 23; 62:11; 66:7, 11; 69:19; 70:13; 76:23; 77:6, 10; 78:2
woman [1] 12:6
won't [2] 34:14; 69:4
work [9] 12:12; 15:22; 16:21; 23:11; 24:8; 35:2; 48:24; 49:1; 61:15
worked [1] 16:16
wouldn't [4] 24:18; 40:11; 50:24; 56:18
writing [2] 28:4, 6
written [7] 13:10, 14; 18:5; 26:4; 30:13; 51:6; 70:17
wrong [3] 48:19; 58:7; 60:4
wrote [9] 6:4; 25:20; 29:2, 4; 30:17, 18; 32:11; 48:22; 74:8

- - Y - -

yeah [13] 6:16; 8:11; 11:11; 17:18; 22:10; 43:15; 47:19; 48:21; 51:20; 53:20; 57:4; 71:16
year [10] 15:17; 16:1, 10, 13; 34:24; 35:3, 4, 5; 47:7; 52:7
yearly [4] 15:13, 15; 23:4, 7
years [15] 11:12; 14:17, 19; 16:16, 18, 19; 17:3, 6; 23:10; 26:15, 18; 36:8; 45:12; 46:14; 48:6
you've [8] 9:24; 10:18; 16:2; 27:19; 30:2; 32:5, 7; 61:23
yourself [1] 19:6

- - Z - -

z-farms [2] 67:24; 68:11
zumberge [7] 66:16, 23; 68:1, 6, 7, 11
zumberges [1] 67:22

ODNR
OHIO DEPARTMENT OF
NATURAL RESOURCES

Fountain Square
Columbus, Ohio 43224

February 5, 1992

Keith G. Earley, P.E., P.S.
Mercer County Engineer
101 N. Main Street - Court House - Room 205
Celina, Ohio 45822

Dear Mr. Earley:

I am writing with a more detailed response to your November 19, 1991 letter to Director Francis Buchholzer. In that letter, you listed several of Mercer County's concerns with respect to the planned spillway improvement at Grand Lake St. Marys. Over the past few years, the Division of Water and our consultants have completed extensive studies of Grand Lake St. Marys and its watershed. These studies show the absolute necessity of undertaking the proposed improvements in order to protect the integrity of the dam.

Our consultant developed a model for routing floods through the lake and dam using a method developed by the Corps of Engineers for calculating synthetic unit hydrographs. The Probable Maximum Precipitation distribution was developed using a National Weather Service procedure. This model compared favorably to two historical storms for the Grand Lake watershed. I agree that the Corps of Engineers 1981 study shows peak lake levels higher than our levels for their period of record. Since the Corps study does not describe how the recurrence intervals were determined, we cannot comment on their applicability. However, we are confident that we have used the best available data and modeling procedures, and that the results provide a reliable representation of flooding conditions.

Our modeling of flood profiles in Beaver Creek show that the discharge from the improved spillway for a 25-year flood, 352 cubic feet per second (cfs), will be contained within the banks of the creek. This amount does not take into account any base flow or backwater effects from the Wabash River. Discharge from the 50-year flood, 520 cfs, will not be contained within the banks of Beaver Creek in an area approximately 0.2 to 0.3 mile downstream of the dam. The difference in calculated stream capacity for the creek between our data and the Corps study can be attributed to the undefined base flow noted in the Corps study and the fact that Beaver Creek has been improved since 1981.

DEPOSITION
EXHIBIT
A
5/21/10

You are correct that peak lake levels will not be significantly lower for relatively small storms with the improved spillway. The large capacity available for flood storage reduces the peak stages for these types of storms, i.e. 10 to 100-year flooding events. The difference in peak stage is clearly evident for the Probable Maximum Flood (PMF), the design flood for this dam. The improved spillway will allow for safe passage of the PMF without any flows over the proposed crest of the earthen embankment, elevation 876.6 feet above MSL. The peak lake stage would reach an elevation of 877.7 feet above MSL with the existing spillway. This would allow flow over the embankment for 90 hours which would surely result in failure of the dam.

As you have suggested, regulation of the lake level to provide additional flood storage is a possibility to relieve some flooding along Beaver Creek. The proposed design includes the installation of two 48-inch gated outlet pipes which could be used for this purpose. However, the effectiveness of attempting to regulate the lake is questionable due to the massive storage of the lake and the size of the watershed. It would take several days or possibly weeks to lower the lake level a significant amount. There certainly would not be sufficient time to provide additional flood storage in response to a forecast for heavy rains. Also, a regulation policy cannot be used as a substitute for increasing the size of the uncontrolled spillway due to the unpredictability of the hydrologic conditions and the limited capacity of the pipes.

The sole purpose of this project is to improve the safety of the dam. In order to bring the dam and spillway into compliance with state safety standards, the length of the spillway must be increased. The Department of Natural Resources has attempted to incorporate the concerns of all affected parties into the design as best as possible. The proposed improvement is the best alternative to accomplish this goal.

I have enclosed with this letter an entire file containing all of the hydrologic and hydraulic studies completed for this project. Members of my staff would welcome the opportunity to discuss these analyses and their results.

Sincerely,

Robert L. Goettemoeller

Robert L. Goettemoeller
Chief, Division of Water

RLG:bj

Enclosure

OHIO
Department of Natural Resources

Copy given to Farm Bureau rep. at mtg. 1/10/94.

George V. Voinovich • Governor
Frances S. Buchholzer • Director

December 22, 1993

Keith G. Earley, P.E., P.S.
Mercer County Engineer
Court House
Celina, Ohio 45822

RECEIVED
DEC 22 1993
DEPT. OF NATURAL RESOURCES
CHIEF ENGINEER

Dear Mr. Earley:

My staff has completed additional studies showing the effects of the improved spillway on Beaver Creek. These were completed in response to your letter of September 28, 1993 and the most recent local meeting concerning the proposed improvements to the spillway at Grand Lake St. Marys. We have modeled the upper three miles of the Beaver Creek watershed and combined the resulting hydrograph with outflow hydrographs from Grand Lake for both the existing and improved conditions. The model shows that for a 100-year flood, there is no appreciable increase in the peak flood discharge at the three mile point with the improved spillway. The model estimates a peak discharge of 1413 cubic feet per second (cfs) with the existing spillway and 1452 cfs with the improved spillway. An increase of less than three percent. As the attached hydrographs show, the reason the improved spillway has such a minimal effect on the downstream peak discharge is that the peak from the Beaver Creek local watershed is significantly higher and occurs much quicker. The flood storage capability of Grand Lake attenuates the peak discharge amount over the spillway. This reduces the peak discharge from the dam and spreads the total discharge over a longer period of time. The result is a sustained, but moderate discharge over the spillway. This is in stark contrast to the high and quick peak discharge from the local watershed. You would be more than welcome to visit our office and review the modeling results.

Your letter address several specific studies which you believe would be beneficial prior to construction of the improved spillway. I would like to address them in the order you have listed in your letter.

1. The division has already made contact with FEMA about revising the Flood Insurance Study maps and we will be continuing with this process.

2. We have determined the outflow hydrographs from the improved spillway for both the 10-year and 100-year flood events. We would be happy to provide you with this information for your use in obtaining BRO funding.

DEPOSITION EXHIBIT
B
5/21/05

RECYCLED PAPER
SOY-BASED INK
DNR 0001

Fountain Square • Columbus, Ohio 43224-1387

3. The modeling we have completed suggests that the peak flood elevation is controlled by the runoff local to Beaver Creek, not from flows over the spillway. The type of study you suggest would be mostly dependent on these local peak flows, and not relevant to the spillway improvement project.

4. The 1981 Corps of Engineers study of Beaver Creek determined that enlarging the creek would not be a cost effective solution to the flooding problem. Our modeling supports this determination.

5. The Division of Parks and Recreation has expressed a willingness to develop a lake regulation policy. We have explored the possibility of enlarging the gated discharge capacity at the improved spillway in order to more effectively regulate the lake level. The gated capacity proposed for the improvements is about 500 cfs. This is the approximate bank-full flow in Beaver Creek. Therefore increasing the discharge would only cause additional flooding. The proposed gated capacity will be adequate for the implementation of the regulation policy.

I want to express my thanks for the statement of support contained in your letter. I also want to express my appreciation for your concerns about this project and for your constituents along Beaver Creek. I would like to invite you to visit the Buckeye Lake spillway, a design very similar to the proposed Grand Lake St. Marys structure, if we can arrange a convenient time. Scott Zody will be contacting you to discuss the visit.

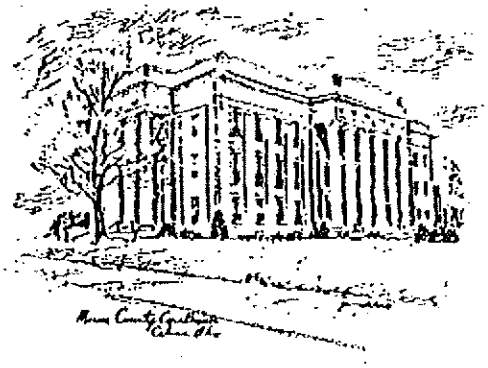
Sincerely,

James R. Morris

James R. Morris, P.E.
Chief, Division of Water

JRM/pjb

c: Senator Robert Cupp
Representative James Buchy
Board of Mercer County Commissioners
J. Bruce Pickens, Chief Engineer



KEITH G. ...ARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
COURT HOUSE
CELINA, OHIO 45822
PHONE 419-586-7750
419-586-7759

September 6, 1994

Senator Robert Cupp
3003 West Hume Road
Lima, Ohio 45806

RE: Grand Lake St. Marys Spillway Replacement Outletting into Beaver Creek

Dear Senator Cupp,

Thank you for your efforts and concerns regarding the spillway replacement project. The Ohio Department of Natural Resources has designed a spillway replacement with outflow capacity necessary to meet nationally accepted dam safety standards. Dam safety has been the paramount concern of the department as well it should be, while they have attempted to balance other sometimes competing concerns. The new spillway has a much larger outlet capacity than the existing structure and many local people are concerned about the downstream effects. I am especially concerned regarding the possible increased flood damage to buildings close to the spillway on the south edge of Celina. Although the flood plain study has not been completed, I expect that the flood elevations and extent of the 100 year flood plain will increase and very expensive flood damage could occur that would not have occurred with the old outlet structure.

I am not certain what improvements downstream would need to be done so that the boundary of the flood plain and the base flood elevations in the urban area are not increased. That might be accomplished by only replacing the bike path bridge and the Meyer Road bridge, which would probably cost around $200,000.00. The width of the existing channel is not very uniform. I believe it is wider in many places than the plans show, and widening a few spots might improve flow considerably.

Looking at the current flood plain cross sections, it appears that the Mud Pike embankment and bridge cause quite a bottleneck under current conditions. The new spillway could worsen the situation and it might be cost effective to put in an overflow structure at Mud Pike.

Mercer County maintains ten bridges over the Beaver Creek. Five of those bridges are in very poor condition and need replaced. The bike path bridge and the Meyer Road bridge are in relatively good condition. Two of the five bridges in poor condition were damaged by heavy traffic while S.R. 29 was closed and are currently closed to traffic. All of these five are bottlenecks and should be replaced with larger bridges. It would at least be helpful if the hydraulic analysis included the effect of enlarging those waterway openings. We intend to replace all five of those bad structures using 80% federal funding on the engineering and construction costs of those structures. Right-of-way cost will be 100% local. The local share will probably be around $200,000.00 Our current plans estimate construction to begin in about six years.

Another problem we are going to have to deal with sometime is the maintenance of Beaver Creek. The continual outflow from the lake prevents vegetation from being established on the bottom four or five feet of the ditch and the banks have sloughed in. Rip-rap over the entire length would prevent this, but be very expensive, probably at least $50,000.00 per mile. The total length is 10.6 miles, but the upper four miles are the worst. If the water was held back during construction, the sloughed in area could be filled with dirt but it probably would not remain in place very long. Another option would be to lay back the remainder of the bank every ten or twenty years, making the ditch larger and larger. I do not know what the best solution to the bank erosion problem is. Other minor maintenance is needed. The State of Ohio paid two-thirds of the Beaver Creek Improvement cost, but did not make a written commitment to maintenance.

Mercer County has hundreds of other bridges that currently need replaced, and it is going to be difficult to handle all of those problems. Any assistance you can provide would be greatly appreciated. Assistance in the following areas is needed on the Beaver Creek problems:

1. Immediate revision of the FEMA flood plain analysis along Beaver Creek for the new spillway along with:
    a. Recommended waterway openings for the bike path bridge and the Meyer Road bridge.
    b. Recommended waterway openings for the other five bridges we intend to replace (Wabash Road, Burrville Road, Erastus-Durbin Road, Township Line Road, and Gause Road.)
    c. Recommended waterway opening of an overflow structure on Mud Pike.
    d. Revised Flood Plain analysis after the recommended improvements.
2. Financial assistance in the local share of making the recommended bridge improvements along Beaver Creek.
3. Recommendations and assistance on erosion control measures along Beaver Creek.

We certainly want to prevent expensive flood damage from increased outflow that could have been predicted and reasonably accommodated. Many of the bridges need replaced soon even if nothing is done to the spillway. The additional cost of enlarging these structures and the accelerated replacement of others along with necessary stream improvements should be thoroughly investigated as soon as possible.

I do not pretend to have all the answers. I am merely suggesting alternatives that I believe should be investigated further. Some of these studies may be beyond the scope of what should be expected at ODNR on the spillway replacement project, but could be very beneficial.

Thanks again for your concerns. I hope we can all work together to provide the public the needed studies and improvements.

Sincerely,

Keith Earley

Keith G. Earley, P.E., P.S.
Mercer County Engineer

KGE/an

cc: Board of Mercer County Commissioners

Robert R. Cupp
Statehouse
Columbus, Ohio 43266-0604
614/466-7584

Ohio Senate
12th Senate District

Committees:
Commerce and Labor, Chairman
Agriculture
Ways and Means
Education, Retirement, and Aging
Legislative Ethics

September 20, 1994

Frances S. Buchholzer, Dir.
Dept. of Natural Rescources
Fountain Square
Columbus, OH 43224-1387

Dear Director Buchholzer:

In an effort to help resolve the concerns of increased flooding that may be caused by the impending replacement of the west bank spillway and dam at Grand Lake St. Mary's, the Mercer County Engineer surveyed the stream and structures downstream of the dam to see if widening it would be helpful. A copy of this letter is enclosed for review by your department.

Please let me know what funding would be available to repair and rebuild these bridges and to test whether water flow could be improved by widening areas of Beaver Creek.

Your response into these matters is appreciated.

Sincerely,

Robert R. Cupp

cc: Bruce Pickens
Scott Zody
Jim Buchy
Kieth Early

RRC:ah

DEPOSITION EXHIBIT
C
5-21-10 S

RECEIVED
SEP 30
ADMIN.

KEITH G. EARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
101 N. MAIN ST. - COURT HOUSE - ROOM 205
CELINA, OHIO 45822
PHONE 419-586-7759

October 31, 1997

Representative Jim Buchy
Ohio State Representative
281 Dogwood Drive
Greenville, Ohio 45331

Re: Beaver Creek Maintenance

Dear Jim,

The construction of Beaver Creek was completed in 1985. Those improvements cost $686,410.00 and the State of Ohio paid sixty-six percent of that cost, since this stream serves as the outlet to Grand Lake St. Marys. We were told at that time the state could not commit to regular maintenance fees, but funds could be requested as maintenance is needed. We assesed the individual property owners ten per cent maintenance in 1988 and an additional ten percent in 1995. Twenty percent over that ten years equates to an average maintenance cost of two percent per year. If the state would pay an equivalent two per cent per year, then the maintenance cost from 1985 thru 1999 would be fourteen years at two per cent per year times the states original $453,030.60 cost share equals $126,848.56.

Beaver Creek, when outletting flows from the lake, sometimes flows three to five feet deep for weeks at a time drowning most vegetation below that level. In 1985 we improved 10.6 miles, flow has been much improved but bank erosion will cause problems if not properly maintained. One solution would be to place rip-rap along the entire length of the stream, but this would be quite expensive. Normally rip-rap is placed at least eighteen inches thick to about a foot above the erosion line. The Beaver Creek has a flat gradient with only about one foot of fall per mile, thus flow velocities are

DEPOSITION EXHIBIT
D
5-27-10

low, less than three feet per second and erosion protection would not be needed if we could maintain vegetation. Since the velocities are low, we could probably get by with reshaping the banks and placing smaller stone only twelve inches thick, but that would probably cost over $100,000 per mile. The upper three miles currenly has the worst erosion and will continue unless something is done. The most immediate erosion concern is in the upper two miles especially near WCSM radio station and at the bridges and at the sharp 10/31/97 curves. I have spoken with Kevin Elder at the Ohio Department of Natural Resources about possible solutions. He is scheduled to look at the stream on November 12. He plans to meet at our office at 9:00 A.M. We did discuss the situation over the phone and Kevin suggested that I estimate the cost of what I felt was needed, then revise that estimate later if needed, because of the resticted time frame. The work needed extends beyond maintaining the improvements constructed in 1985, and the funds needed will exceed maintenance funds. If the state would allocate their maintenance share of $126,848.56 which would be combined with our current balance of $15,000 maintenance funds to provide maintenance through 1999, we could construct some test improvements to determine what would be the most cost effective long term remedy. You could require the use of all state funds be approved by ODNR prior to construction, if you so desire. This method should meet our immediate needs and insure that we do not spend funds on improvements that are not cost effective.

A seperate but related issue is the flood levels along Beaver Creek and possible improvements which could reduce flood potential flood damage. In a December 22, 1993 letter from ODNR they stated "The division has already made contact with FEMA about revising the Flood Insurance Study maps and we will be continuing this process." This updated study is needed. ODNR also stated in this letter "The 1981 Corps of Engineers study of Beaver Creek determined that enlarging the creek would not be a cost effective solution to the flooding problem. Our modeling supports that determination." My biggest concern for flooding is within the very top mile. It appears to me that there are three bottlenecks within that mile which restrict flow from the new and enlarged spillway which could cause very expensive flood damage. The bike path bridge, a farm bridge, and the Meyer Road bridge are the three bottlenecks I am referring to. The new spillway simply has to have increased that potential for flooding and I imagine it would be cost effective to remove the farm bridge, replace one abutment of the bike path bridge farther back and replace those beams with longer beams, and replace the Meyer Road with a larger structure.

I know that the spillway replacement was a very expensive project, but a very necessary project. Mercer County maintains eight other bridges over the Beaver and five of those are ninety year old trusses in serious or critical condition, with one already closed. These trusses span between sixty and seventy-five feet and should be replaced with structures that are each about twenty-five feet longer. We have at least a hundred other bridges that should be replaced very soon, but our funds are quite limited. I know that the State of Ohio and ODNR has many needs and desires but limited funds also. Any assistance you can provide would be greatly appreciated.

Sincerely,

Keith G. Earley, P.E., P.S.
Mercer County Engineer

AFFIDAVIT OF KEITH G. EARLEY, P.E., P.S.

STATE OF INDIANA)
) ss:
COUNTY OF ADAMS)

My name is Keith G. Earley. I am over the age of 21, and I am competent to make this affidavit. The facts stated herein are within my personal knowledge and are true and correct. I state as follows:

1. I am the County Engineer for Lucas County, Ohio. I am also a licensed Professional Engineer and a licensed Professional Surveyor.

2. I have served as the Lucas County Engineer since January 2000. Prior to that, from March 1983 to March 1999, I served as the County Engineer for Mercer County, Ohio.

3. In my position as Mercer County Engineer, I was knowledgeable concerning the flow of water from Grand Lake St. Mary's ("Grand Lake") in Mercer County into the Beaver Creek on Grand Lake's western side and ultimately to the Wabash River. In the early 1990s, in my position as Mercer County Engineer, I became aware that the Ohio Department of Natural Resources ("ODNR") intended to build a new spillway on the western side of Grand Lake in Mercer County.

4. As the Mercer County Engineer at the time, I had serious concerns and reservations related to ODNR's design for the spillway. Specifically, I believed that, as a result of the new design, there would be greater flooding downstream in the areas surrounding Beaver Creek. I was concerned both about structures near the western side of Grand Lake and farmers further downstream on the western side of Grand Lake. I believed that the new spillway, without any remedial measures such as lake draw downs or widening the upper 3 miles of the Beaver Creek, would certainly cause deeper and more extensive flooding than had been experienced

DEPOSITION EXHIBIT
6
5-21-10

before in western Mercer County.

5. I wrote a series of letters to ODNR officials and other state officials, as well as met at times with ODNR officials during the 1990s, to express these concerns.

6. Attached hereto as Exhibit 1 is a true and accurate copy of a November 19, 1991 letter that I wrote to Francis Bucholzer, then ODNR Director. I offered my opinion at that time that "it appears to me that enlarging the spillway crest would cause more damage than good, even if O.D.N.R. figures are correct." I also stated that "[i]t appears desirable for a lake regulation policy which balances the value and probability of attaining the desired recreation pool during desired periods with the cost of flood damages likely to occur around the lake and along the Beaver Creek."

7. Attached hereto as Exhibit 2 is a true and accurate copy of a February 12, 1992 letter I wrote to Bob Goetemoeller, an ODNR official, to again express concern about increased flooding on the western side of Grand Lake that would result if the new spillway was constructed.

8. Attached hereto as Exhibit 3 is a true and accurate copy of a September 24, 1993 letter I wrote to Jim Morris, then ODNR Chief of the Division of Water, to again express these concerns. I asked that ODNR study and consider the new spillway's effects upon, among other things, downstream agriculture and asked that ODNR study the possibility of at least drawing down lake levels as necessary to try to prevent the flooding on the western side of Grand Lake that I believed would result from the new spillway.

9. Attached hereto as Exhibit 4 is a true and accurate copy of a February 15, 1994 letter I wrote to Mr. Morris of ODNR to clarify my concerns related to the new spillway.

10. Attached hereto as Exhibit 5 is a true and accurate copy of a May 31, 1994 letter I

wrote to Dave Jones of Jones & Stuckey Ltd., an engineering firm performing work for ODNR related to the new spillway, to again express concerns related to the likelihood of flooding on the western side of Grand Lake as a result of the increased outflow from the new spillway.

11. Attached hereto as Exhibit 6 is a true and accurate copy of a September 6, 1994 letter I wrote to then Senator Robert Cupp to express these concerns.

12. Ultimately, I believe that ODNR did not listen to or take any specific actions as a result of my concerns. In its design of the spillway, ODNR chose to serve recreational users of Grand Lake by maintaining a constant lake level and to avoid any flooding on the southern end of Grand Lake to the detriment of the owners of structures and farmers on the western side of Grand Lake.

FURTHER AFFIANT SAYETH NAUGHT.

Keith G. Earley

Keith G. Earley, P.E., P.S.

Sworn to before me and subscribed in my presence this 26th day of ~~January~~ February, 2010.

Notary Public

SCOTT B. BERNHARD
STATE OF OHIO
MY COMMISSION EXPIRES
MARCH 29, 2011

KEITH G. EARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
101 N. MAIN ST. - COURT HOUSE - ROOM 205
CELINA, OHIO 45822
PHONE 419-586-7759

EXHIBIT 1

November 19, 1991

Francis Buchholzer
Director, Ohio Department of Natural Resources
Building 3D
Fountain Square
Columbus, Ohio 43224

RE: Grand Lake West Spillway Replacement

Dear Ms. Buchholzer,

The replacement of the west spillway is an important safety related project. I have reviewed information supplied by O.D.N.R., and I have reviewed the 1981 "Survey Report for Flood Control and Allied Purposes" prepared by the Louisville, Kentucky District of the Army Corps of Engineers. There are wide discrepancies between the two sources of data and I believe additional detailed analysis should be performed.

The Corps Report indicates an observed bankful flow of the Beaver Creek outlet being about 250 c.f.s. O.D.N.R. indicates a capacity of over 700 c.f.s. The Corps report indicates peak stage lake levels for the ten year through 100 year storms being approximately one foot higher than O.D.N.R. based on 51 years of record measurements. If the Corps report is correct, larger outflow will pass uncontrolled for long periods over the proposed 40 percent enlarged spillway to an outletting stream of very limited capacity. This situation could cause very costly damages especially to structures such as the Lakefront Racket and Health Club.

It appears to me that enlarging the spillway crest would cause more damage than good, even if O.D.N.R. figures are correct. Outlet graphs supplied by O.D.N.R. indicate no reduction in lake peak stage elevations for storms smaller than a 50 year storm. Even the 100 year storm only shows a 0.2 foot peak stage reduction. It appears that this minute rarely occurring reduction would be more than offset by increased damages along the Beaver Creek outlet. According to O.D.N.R. charts, the peak discharge is quadrupled for all storms larger than a ten year event and smaller storms were not analyzed.

It appears desirable for a lake regulation policy which balances the value and probability of attaining the desired recreation pool during desired periods with the cost of flood damages likely to occur around the lake and along the Beaver Creek

outlet. Perhaps the Beaver Creek outlet could economically be improved to safely handle increased outflows. Perhaps combining this increased capacity with a lake regulation policy, that includes the benefits of weather forecasting, could allow routing of peak flows through the Beaver Creek outlet at times when the outlet can handle the flow, and allow holding back flows during short periods while the peak from local storms subsides. Widening the upper three miles by approximately six feet is one alternative I believe should be studied.

A detailed study such as those designed by the Corps of Engineers Hydraulic Engineering Center (HEC) would be time consuming and expensive, but valuable. It is quite possible that such a study could not only provide much improved results, but even reduce construction cost. The study should include detailed damage analysis around the lake and along the outlet including acres inundated, crop damage, structure damage, transportation and utility damage, along with benefit analysis for different alternatives along with an optimization procedure.

Mercer County maintains ten bridges over the Beaver Creek outlet and has long range plans to replace six of these structures. We intend to utilize federal highway off system funds known as BRZ funds. Perhaps enlarging those structures should also be studied.

I sincerely hope that O.D.N.R. gives these items adequate consideration.

Sincerely,

Keith Earley

Keith Earley, P.E., P.S.
Mercer County Engineer

KGE/arn

cc: Mercer County Commissioners
Senator Robert Cupp
Representative Jim Davis

KEITH G. EARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
101 N. MAIN ST. - COURT HOUSE - ROOM 205
CELINA, OHIO 45822
PHONE 419-586-7759

EXHIBIT
2

February 12, 1992

Bob Goetemoeller
Ohio Department of Natural Resources
Building 3D
Fountain Square
Columbus, Ohio 43224

RE: Grand Lake West Spillway Replacement

Dear Mr. Goetemoeller,

The additional information which you provided to me was helpful and the meeting was also helpful. The improved lakeside flood relief of the proposed spillway is quite valuable and evidently the dam safety requirements do not allow any reduction in outlet capacity. It also appears that any additional flooding along the Beaver Creek is negligible in the lower portions of the Beaver Creek. However, I still have concerns regarding flooding near the spillway especially at the Lakefront Racquet and Health Club. The ground floor elevation at that facility is 858.8 and the lowest floor elevation is about three feet lower, where there are two racquet ball courts, locker rooms, saunas, whirlpools, tanning beds, baby sitting room, laundry room, and a furnace room, much of which is carpeted. If flood elevations get above 859 there could be some very expensive damage.

It appears certain that the new spillway will increase the likelihood of very damaging flooding to this facility. Perhaps this increased flooding could be eliminated by removing bottlenecks in the upper three miles of the Beaver Creek without any damage to the downstream owners. Perhaps a capacity equal to a twenty-six foot wide bottom width could be obtained at a reasonable price. I believe that floodplain elevations should be determined for the proposed spillway with the existing channel and for the proposed spillway with an enlarged channel. Those elevations should then be compared to the existing floodplain elevations.

The proposed spillway without the enlarged outlet stream will probably be a benefit to many people, but a detriment to a few. With the enlarged outlet stream, it could be a benefit to all. Since FEMA evaluated the current floodplain in 1989, it should be revised for any significant changes in the watershed. It shouldn't take that much additional work to elevate an enlarged channel condition at the same time. If it is relatively certain that the effects of this study would not change the spillway design, then this would not delay that project and could prevent future delays.

We appreciate the work and commitment that you have devoted to this project. It is to our mutual benefit that all aspects are adequately studied.

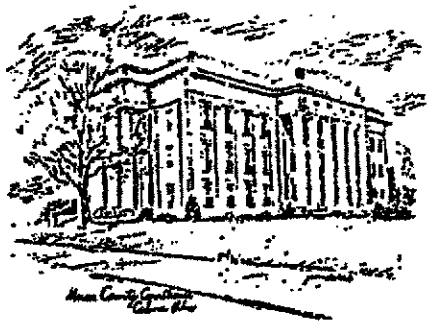
Sincerely,

Keith Earley

Keith G. Earley, P.E., P.S.
Mercer County Engineer

KGE/an

cc: file



KEITH G. EARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
COURT HOUSE
CELINA, OHIO 45822
PHONE 419-586-7750
419-586-7759

September 24, 1993

RECEIVED
SEP 28 1993
Dept. of Natural Resources
Division of Water

Jim Morris
Chief, Division of Water
Ohio Department of Natural Resources
1939 Fountain Square
Columbus, Ohio 43224

Dear Mr. Morris,

The replacement of the west bank outlet structure to Grand Lake St. Marys is an urgently needed project. This project will significantly affect surrounding public and private property. A detailed analysis of that effect should be a part of the design process. I realize that certain dam safety requirements must be met, and the basic design of the outlet structure as currently proposed may be the best design possible; however, minor modifications to the structure and the receiving stream may be necessary. It is my understanding that at the last local meeting on the project, it was agreed that more study on downstream effects will be conducted. I believe the studies should consider the effects on downstream agriculture, and the potential effect to the Lake Front Racquet and Health Club, the Celina Wastewater Treatment Facility, and the local bridges.

Listed below is a summary of the information that I believe is necessary. These studies would certainly require some time and expense, but this is a major project that impacts many people. I believe we will all be better off thoroughly studying the effects prior to proceeding.

1. A revised Flood Insurance Study for areas surrounding Grand Lake St. Marys and for the western outlet channel which includes 10.6 miles of Beaver Creek and 2.7 miles of the Wabash River. The revised flood profiles along with floodway widths, sections area, mean velocities and base flood elevations will be needed.

2. Hydraulic calculations necessary for federal approval to replace the county maintained Beaver Creek bridges using Federal Bridge Replacements Offsystem (BRO) funding. These calculations include both 10 year and 100 year flood profiles, the discharge at each structure, backwater calculations, and mean velocities along with the expected storm frequencies that would overtop the existing structures.

EXHIBIT
3

3. Comparison of the improved spillway to the existing spillway with regard to estimated average annual flood damages along the Beaver Creek Flood plain.

4. Feasibility study to determine effectiveness of enlarging the upper three miles of the Beaver Creek and possibly construct levees to protect existing buildings. Since we intend to replace several of these bridges soon, this would be the proper time to study the feasibility of enlarging the outlet stream.

5. A study to determine the optimum lake regulation policy. The Corps of Engineers in the 1980 study analyzed the potential benefits of certain drawdown policies under current conditions. I realize that even with the proposed structure, the lake regulation ability is limited and all flooding cannot be eliminated; however, this seems to be the proper time to analyze what benefits could be obtained. Possibly some modifications could be made at little or no additional cost if the analysis was done prior to constructing a new structure. I believe various levels and durations of winter drawdowns should be studied along with a policy on lake drawdowns during summer months when lake levels exceed recreation pool levels. A detailed study using historic lake levels and synthetic storms may be expensive, but by using modern computer methods, development of an optimum operating rule for lake regulation will be cost effective and prevent future losses.

It is not my desire to hold up the project or make it more difficult, but I believe these local concerns need to be thoroughly addressed.

Sincerely,

Keith Earley

Keith G. Earley, P.E., P.S.
Mercer County Engineer

KGE/an

cc: Jim Buchy, Ohio State Representative
Board of Mercer County Commissioners

KEITH G. EARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
101 N. MAIN ST. - COURT HOUSE - ROOM 205
CELINA, OHIO 45822
PHONE 419-586-7759

EXHIBIT
tabbies 4

RECEIVED
FEB 28 1994
DEPT. OF NATURAL RESOURCES
CHIEF ENGINEER

RECEIVED
FEB 16 1994
DEPT. OF NATURAL RESOURCES
WATER RESOURCES DEVELOPMENT

February 15, 1994

James Morris, P.E.
Chief, Division of Water
Ohio Department of Natural Resources
Building 3D
Fountain Square
Columbus, Ohio 43224-1387

Dear Mr. Morris,

After receiving your December 22, 1993 reply to my inquiries, I feel that I should clarify my concerns.

In my previous letter, I addressed concerns regarding flooding in the upper three miles of the Beaver Creek after replacement of the existing spillway with a larger structure. My biggest concern was not at the three mile point but upstream from constrictions such as bridges in the upper three miles. The flooding is affected by not only the peak outflow, but by the duration of any outflows above the capacity of those restrictions. Very long periods of uncontrolled outflow could cause significantly more flooding than shorter periods of peak outflow. In addition, the peak outflow upstream from the bikeway bridge is most certainly significantly increased.

The 1981 Corps of Engineers study of Beaver Creek did not study enlarging only the upper three miles and it did not study the proposed conditions. Your last point stated that increasing the gated capacity of the outlet structure would increase flooding, since the proposed capacity approximates the bank full flow of the Beaver Creek. This would not hold true if the capacity of the Beaver Creek was increased.

I still believe that it would be worth studying the costs and benefits of enlarging the upper three miles to a twenty-six foot wide bottom width and enlarging the controlled outlet capacity of the structure. I have no desire to oppose the Ohio Department of Natural Resources on this project. I am simply suggesting an area that I feel deserves further study.

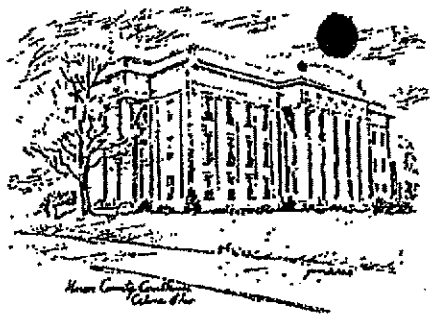
Sincerely,

Keith Earley

Keith G. Earley, P.E., P.S.

KGE/an
cc: file

Mercer County - - Rich in History, a Leader in Agriculture and Outdoor Recreation



KEITH G. EARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
COURT HOUSE
CELINA, OHIO 45822
PHONE 419-586-7750
419-586-7759

May 31, 1994

Dave Jones
Jones & Stucky LTD
1641 W. Fifth Avenue
Columbus, Ohio 43212

RE: Grand Lake St. Marys Spillway Bridge

Dear Mr. Jones,

We have received the construction drawings relating to the proposed bridge and found them to be satisfactory.

I still have concerns regarding the effect of increased outflow from the spillway immediately downstream and have relayed those concerns to ODNR. My recommendation to them was to seriously consider enlarging the capacity of the upper three miles of the Beaver Creek.

Sincerely,

Keith Earley

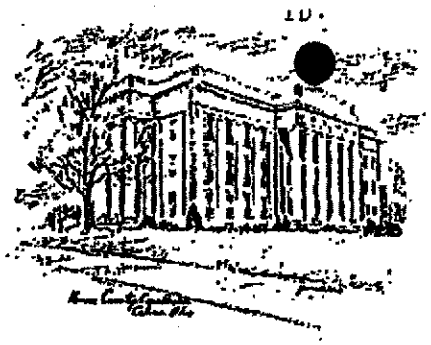
Keith G. Earley, P.E., P.S.
Mercer County Engineer

KGE/an

copy: file

EXHIBIT
5

Mercer County - - Rich in History, a Leader in Agriculture and Outdoor Recreation
Established January 8, 1848



KEITH G. HARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
COURT HOUSE
CELINA, OHIO 45822
PHONE 419-586-7750
419-586-7759

EXHIBIT 6

September 6, 1994

Senator Robert Cupp
3003 West Hume Road
Lima, Ohio 45806

RE: Grand Lake St. Marys Spillway Replacement Outletting into Beaver Creek

Dear Senator Cupp,

Thank you for your efforts and concerns regarding the spillway replacement project. The Ohio Department of Natural Resources has designed a spillway replacement with outflow capacity necessary to meet nationally accepted dam safety standards. Dam safety has been the paramount concern of the department as well it should be, while they have attempted to balance other sometimes competing concerns. The new spillway has a much larger outlet capacity than the existing structure and many local people are concerned about the downstream effects. I am especially concerned regarding the possible increased flood damage to buildings close to the spillway on the south edge of Celina. Although the flood plain study has not been completed, I expect that the flood elevations and extent of the 100 year flood plain will increase and very expensive flood damage could occur that would not have occurred with the old outlet structure.

I am not certain what improvements downstream would need to be done so that the boundary of the flood plain and the base flood elevations in the urban area are not increased. That might be accomplished by only replacing the bike path bridge and the Meyer Road bridge, which would probably cost around $200,000.00. The width of the existing channel is not very uniform. I believe it is wider in many places than the plans show, and widening a few spots might improve flow considerably.

Looking at the current flood plain cross sections, it appears that the Mud Pike embankment and bridge cause quite a bottleneck under current conditions. The new spillway could worsen the situation and it might be cost effective to put in an overflow structure at Mud Pike.

Mercer County maintains ten bridges over the Beaver Creek. Five of those bridges are in very poor condition and need replaced. The bike path bridge and the Meyer Road bridge are in relatively good condition. Two of the five bridges in poor condition were damaged by heavy traffic while S.R. 29 was closed and are currently closed to traffic. All of these five are bottlenecks and should be replaced with larger bridges. It would at least be helpful if the hydraulic analysis included the effect of enlarging those waterway openings. We intend to replace all five of those bad structures using 80% federal funding on the engineering and construction costs of those structures. Right-of-way cost will be 100% local. The local share will probably be around $200,000.00 Our current plans estimate construction to begin in about six years.

Another problem we are going to have to deal with sometime is the maintenance of Beaver Creek. The continual outflow from the lake prevents vegetation from being established on the bottom four or five feet of the ditch and the banks have sloughed in. Rip-rap over the entire length would prevent this, but be very expensive, probably at least $50,000.00 per mile. The total length is 10.6 miles, but the upper four miles are the worst. If the water was held back during construction, the sloughed in area could be filled with dirt but it probably would not remain in place very long. Another option would be to lay back the remainder of the bank every ten or twenty years, making the ditch larger and larger. I do not know what the best solution to the bank erosion problem is. Other minor maintenance is needed. The State of Ohio paid two-thirds of the Beaver Creek Improvement cost, but did not make a written commitment to maintenance.

Mercer County has hundreds of other bridges that currently need replaced, and it is going to be difficult to handle all of those problems. Any assistance you can provide would be greatly appreciated. Assistance in the following areas is needed on the Beaver Creek problems:

1. Immediate revision of the FEMA flood plain analysis along Beaver Creek for the new spillway along with:
    a. Recommended waterway openings for the bike path bridge and the Meyer Road bridge.
    b. Recommended waterway openings for the other five bridges we intend to replace (Wabash Road, Burrville Road, Erastus-Durbin Road, Township Line Road, and Gause Road.)
    c. Recommended waterway opening of an overflow structure on Mud Pike.
    d. Revised Flood Plain analysis after the recommended improvements.
2. Financial assistance in the local share of making the recommended bridge improvements along Beaver Creek.
3. Recommendations and assistance on erosion control measures along Beaver Creek.

We certainly want to prevent expensive flood damage from increased outflow that could have been predicted and reasonably accommodated. Many of the bridges need replaced soon even if nothing is done to the spillway. The additional cost of enlarging these structures and the accelerated replacement of others along with necessary stream improvements should be thoroughly investigated as soon as possible.

I do not pretend to have all the answers. I am merely suggesting alternatives that I believe should be investigated further. Some of these studies may be beyond the scope of what should be expected at ODNR on the spillway replacement project, but could be very beneficial.

Thanks again for your concerns. I hope we can all work together to provide the public the needed studies and improvements.

Sincerely,

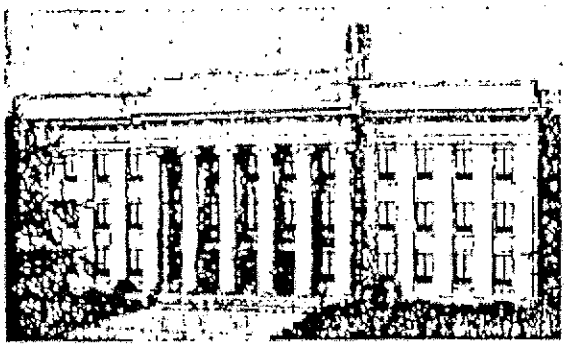
Keith Earley

Keith G. Earley, P.E., P.S.
Mercer County Engineer

KGE/an

cc: Board of Mercer County Commissioners

HERBERT MUHLENKAMP, CHAIRMAN RONALD PUTHOFF JERRY LAFFIN



BOARD OF
MERCER COUNTY
COMMISSIONERS
CELINA, OHIO 45822
Phone (419) 586-3178 — FAX (419) 586-1714
JOAN BOLLENBACHER, CLERK/ADM OF THE BOARD

November 22, 1991

TO WHOM IT MAY CONCERN:

We the Mercer County Commissioners believe that any possible adverse affects that could occur along the Beaver Creek outlet should be thoroughly evaluated before proceeding further.

BOARD OF COUNTY COMMISSIONERS
MERCER COUNTY, OHIO

Herbert Muhlenkamp, Chairman

Ronald Puthoff, Vice Chairman

Jerry Laffin, Member

DEPOSITION EXHIBIT
F
5/24/95

MERCER COUNTY
SOIL & WATER CONSERVATION DISTRICT

717 W. Logan Street • Celina, Ohio 45822

Telephone: (419) 586-2548

3/9/92 Parks

February 28, 1992

Ohio Dept. of Natural Resources
Division of Water
Fountain Square, Bldg. E-3
Columbus, OH 43224

RECEIVED
MAR 0 2 1992
SOIL & WATER CONSERVATION

Dear Chief,

We, as a board of supervisors, feel the proposed spillway at Grand Lake St. Mary's needs several things addressed or further studied to protect the cropland along Beaver Creek.

We understand the weir is being raised by 4" to the plank, that is now across the existing weir. If this is done, we request that the lake draw down be kept at the original weir level and the plank be used as a buffer zone. We feel the management of the lake level is a very important issue. A written management plan needs to be developed before spillway is built.

We feel the Department of Natural Resources has forgotten the farmer, as the Q10 design of the spillway will put 4 feet in Beaver Creek itself. The past year we had Q25 storms which puts out additional 3 feet of water in to Beaver. The increased flood over a dam of this nature will cause higher peak flows in Beaver Creek. We have a total of 7 feet of water into Beaver without any consideration of drainage into the Beaver Creek. The charts ODNR has, does not reflect a true picture of the banks. There is a difference between spoil bank and field levels. The average dept of Beaver Creek without spoil banks is approximately 8 feet.

We as a board of supervisors requested our staff to calculate the design of Beaver Creek with drainage from farm land into Beaver at State Route 118. There are 6828.40 acres. The ditch design used was the counties as built of Beaver Creek. The design used was as follow:

(a) 2:1 side slope
(b) 24' bottom
(c) 0.0003 slope ft/ft
(d) 0.040 n' value
(e) capacity 383.14 CFS Required for 6828.40

DEPOSITION EXHIBIT
G
5-21-92

The Beaver Creek, itself, would have 6.4 feet of water in it. The ditch itself is approximately 8' deep average. Therefore, in a peak rainfall all the drainage is going to be much greater with a 500 foot dam with a 50' weir 11" deep. Sure the spillway will handle Q10, but if not kept down below the buffer zone there will be no protection for the farmers downstream. We need to know what the new peak flood elevations will be and their duration.

Another thing we would like to address is the states water. If a landowner uses water from the lake for anything, they must have permission and pay for it. We feel, if you claim ownership of the water then you have an obligation when the water enters into Beaver Creek. There has been no maintenance money paid to the county for the permanent county maintenance as of this date. It can't be all a one way street. The state assumed 2/3 of the cost of clean out and should include in their budget on a continuing basis an amount for 2/3 of the annual maintenance. We realize their will be flooding at times, but sometimes measures can be taken to prevent these things before the get out of hand.

Sincerely,

Sam Hellwarth Jr.

Sam Hellwarth Jr.
Chairman
Mercer S.W.C.D.

cc: Jim Davis
Mercer Co. Commissioners
Bob Bash
Senator Cupp

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL.	:	
WAYNE T. DONER, ET AL.	:	
	:	
Relators,	:	
	:	
v.	:	Case No.: 2009-1292
	:	
SEAN D. LOGAN, DIRECTOR	:	
OHIO DEPARTMENT OF	:	
NATURAL RESOURCES, ET AL.	:	
	:	
Respondents.	:	
	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB E

This form is available electronically.

CRP-1
(02-04-03)

U.S. DEPARTMENT OF AGRICULTURE
Commodity Credit Corporation

CONSERVATION RESERVE PROGRAM CONTRACT

NOTE: The authority for collecting the following information is Pub. L. 107-171. This authority allows for the collection of information without prior OMB approval mandated by the Paperwork Reduction Act of 1995. The time required to complete this information collection is estimated to average 4 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

1. ST. & CO. CODE & ADMIN. LOCATION: 39 107 9	2. SIGN-UP NUMBER: 24
3. CONTRACT NUMBER: 501 A	4. ACRES FOR ENROLLMENT: 2.1
5. FARM NUMBER: 3839	6. TRACT NUMBER(S): T2165
7. COUNTY OFFICE ADDRESS (*Include Zip Code*): Mercer County Farm Service Agency, 220 W Livingston St., Ste. 2, Celina, Ohio 45822-1632	8. OFFER (*Select one*): GENERAL [ ] ENVIRONMENTAL PRIORITY [✓]
TELEPHONE NUMBER (*Include Area Code*): (419) 586-3149	9. CONTRACT PERIOD FROM: (MM-DD-YYYY) 03-01-2002 TO: (MM-DD-YYYY) 09-30-2012

THIS CONTRACT is entered into between the Commodity Credit Corporation (referred to as "CCC") and the undersigned owners, operators, or tenants (who may be referred to as "Owner", "Operator", and "Tenant", respectively) on the farm identified above. The undersigned person or persons may hereafter collectively be referred to as "the Participant". The Participant agrees to place the designated acreage into the Conservation Reserve Program ("CRP") or other use set by CCC for the stipulated contract period from the date the Contract is executed by the CCC. The Participant also agrees to implement on such designated acreage the Conservation Plan developed for such acreage and approved by the CCC and the Participant. Additionally, the Participant and CCC agree to comply with the terms and conditions contained in this Contract, including the Appendix to this Contract, entitled Appendix to CRP-1, Conservation Reserve Program Contract (referred to as "Appendix"). By signing below, the Participant acknowledges that a copy of the Appendix for the applicable sign-up period has been provided to such person. Such person also agrees to pay such liquidated damages in an amount specified in the Appendix if the Participant withdraws prior to CCC acceptance or rejection. The terms and conditions of this contract are contained in this Form CRP-1 and in the CRP-1 Appendix and any addendum thereto. BY SIGNING THIS CONTRACT PRODUCERS ACKNOWLEDGE RECEIPT OF THE FOLLOWING FORMS: CRP-1; CRP-1 Appendix and any addendum thereto; CRP-2 or CRP-2C, If applicable; and, if applicable, CRP-15.

10A. Rental Rate Per Acre	$	143.00
B. Annual Contract Payment	$	300.00
C. First Year Payment	$	175.00

(Item 10C applicable only to continuous signup when the first year payment is prorated.)

11. Identification of CRP Land (*See Page 2 for additional space*)

A. Tract No.	B. Field No.	C. Practice No.	D. Acres	E. Total Estimated Cost-Share
T2165	2A	CP21	2.1	79.00

12. OWNERS, OPERATORS, AND TENANTS

A(1). OPERATOR NAME AND ADDRESS (*Include Zip Code*): Wayne Doner, 1325 Doner Road, Celina, Ohio 45822-9737	(2) SHARE 40 %	(3) SOCIAL SECURITY NUMBER: REDACTED	(4) SIGNATURE: Wayne T. Doner; DATE (MM-DD-YYYY): 6-29-06
B(1). OWNER NAME AND ADDRESS (*Include Zip Code*): Janet Doner, 1325 Doner Road, Celina, Ohio 45822-9737	(2) SHARE 40 %	(3) SOCIAL SECURITY NUMBER: REDACTED	(4) SIGNATURE: Janet Doner; DATE (MM-DD-YYYY): 6/29/06
C(1). NAME AND ADDRESS (*Include Zip Code*): David Doner, 1029 Jones Ave., Oak Hill, WV 25901-2017	(2) SHARE 10 %	(3) SOCIAL SECURITY NUMBER: REDACTED	(4) SIGNATURE: David Doner by Wayne T. Doner; DATE (MM-DD-YYYY): 6-29-06

13. **CCC USE ONLY** - *Payments according to the shares are approved.*

A. SIGNATURE OF CCC REPRESENTATIVE: John R. Clutinger

B. DATE (MM-DD-YYYY): 7-6-06

NOTE: *The following statement is made in accordance with the Privacy Act of 1974 (5 USC 552a) and the Paperwork Reduction Act of 1995, as amended. The authority for requesting the following information is the Food Security Act of 1985, (Pub. L. 99-198), as amended and the Farm Security and Rural Investment Act of 2002 (Pub. L. 107-171) and regulations promulgated at 7 CFR Part 1410 and the Internal Revenue Code (26 USC 6109). The information requested is necessary for CCC to consider and process the offer to enter into a Conservation Reserve Program Contract, to assist in determining eligibility, and to determine the correct parties to the contract. Furnishing the requested information is voluntary. Failure to furnish the requested information will result in determination of ineligibility for certain program benefits and other financial assistance administered by USDA agency. This information may be provided to other agencies, IRS, Department of Justice, or other State and Federal Law enforcement agencies, and in response to a court magistrate or administrative tribunal. The provisions of criminal and civil fraud statutes, including 18 USC 286, 287, 371, 641, 651, 1001; 15 USC 714m; and 31 USC 3729, may be applicable to the information provided. RETURN THIS COMPLETED FORM TO YOUR COUNTY FSA OFFICE.*

DON002099

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) 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 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, D. C. 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

[ ] Original - County Office Copy [ ] Owner's Copy [ ] Operator's Copy

This form is available electronically.

CRP-1
(02-04-03)

U.S. DEPARTMENT OF AGRICULTURE
Commodity Credit Corporation

CONSERVATION RESERVE PROGRAM CONTRACT

NOTE: The authority for collecting the following information is Pub. L. 107-171. This authority allows for the collection of information without prior OMB approval mandated by the Paperwork Reduction Act of 1995. The time required to complete this information collection is estimated to average 4 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

1. ST. & CO. CODE & ADMIN. LOCATION: 39 107 9	2. SIGN-UP NUMBER: 24
3. CONTRACT NUMBER: 501 A	4. ACRES FOR ENROLLMENT: 2.1
5. FARM NUMBER: 3839	6. TRACT NUMBER(S): T2165
7. COUNTY OFFICE ADDRESS (*Include Zip Code*): Mercer County Farm Service Agency, 220 W Livingston St., Ste. 2, Celina, Ohio 45822-1632	8. OFFER (*Select one*): GENERAL [ ] ENVIRONMENTAL PRIORITY [✓]
TELEPHONE NUMBER (*Include Area Code*): (419) 586-3149	9. CONTRACT PERIOD FROM: (MM-DD-YYYY) 03-01-2002 TO: (MM-DD-YYYY) 09-30-2012

THIS CONTRACT is entered into between the Commodity Credit Corporation (referred to as "CCC") and the undersigned owners, operators, or tenants (who may be referred to as "Owner", "Operator", and "Tenant", respectively) on the farm identified above. The undersigned person or persons may hereafter collectively be referred to as "the Participant". The Participant agrees to place the designated acreage into the Conservation Reserve Program ("CRP") or other use set by CCC for the stipulated contract period from the date the Contract is executed by the CCC. The Participant also agrees to implement on such designated acreage the Conservation Plan developed for such acreage and approved by the CCC and the Participant. Additionally, the Participant and CCC agree to comply with the terms and conditions contained in this Contract, including the Appendix to this Contract, entitled Appendix to CRP-1, Conservation Reserve Program Contract (referred to as "Appendix"). By signing below, the Participant acknowledges that a copy of the Appendix for the applicable sign-up period has been provided to such person. Such person also agrees to pay such liquidated damages in an amount specified in the Appendix if the Participant withdraws prior to CCC acceptance or rejection. The terms and conditions of this contract are contained in this Form CRP-1 and in the CRP-1 Appendix and any addendum thereto. BY SIGNING THIS CONTRACT PRODUCERS ACKNOWLEDGE RECEIPT OF THE FOLLOWING FORMS: CRP-1; CRP-1 Appendix and any addendum thereto; CRP-2 or CRP-2C, if applicable; and, if applicable, CRP-15.

10A. Rental Rate Per Acre	$	143.00
B. Annual Contract Payment	$	300.00
C. First Year Payment	$	175.00

(Item 10C applicable only to continuous signup when the first year payment is prorated.)

11. Identification of CRP Land (*See Page 2 for additional space*)

A. Tract No.	B. Field No.	C. Practice No.	D. Acres	E. Total Estimated Cost-Share
T2165	2A	CP21	2.1	79.00

12. OWNERS, OPERATORS, AND TENANTS

A(1). OPERATOR NAME AND ADDRESS (*Include Zip Code*):	(2) SHARE	(3) SOCIAL SECURITY NUMBER:	
conti.	%	(4) SIGNATURE	DATE (MM-DD-YYYY)
B(1). OWNER NAME AND ADDRESS (*Include Zip Code*): Karen Doner, 1029 Jones Ave., Oak Hill, WV 25901-2017	10 %	(3) SOCIAL SECURITY NUMBER: REDACTED (4) SIGNATURE: Karen Doner by Dagmar Doner	DATE (MM-DD-YYYY) 6-29-06
C(1). NAME AND ADDRESS (*Include Zip Code*):	%	(3) SOCIAL SECURITY NUMBER: (4) SIGNATURE	DATE (MM-DD-YYYY)

13. CCC USE ONLY - *Payments according to the shares are approved.*

A. SIGNATURE OF CCC REPRESENTATIVE: John Robinson

B. DATE (MM-DD-YYYY): 7-6-06

NOTE: *The following statement is made in accordance with the Privacy Act of 1974 (5 USC 552a) and the Paperwork Reduction Act of 1995, as amended. The authority for requesting the following information is the Food Security Act of 1985, (Pub. L. 99-198), as amended and the Farm Security and Rural Investment Act of 2002 (Pub. L. 107-171) and regulations promulgated at 7 CFR Part 1410 and the Internal Revenue Code (26 USC 6109). The information requested is necessary for CCC to consider and process the offer to enter into a Conservation Reserve Program Contract, to assist in determining eligibility, and to determine the correct parties to the contract. Furnishing the requested information is voluntary. Failure to furnish the requested information will result in determination of ineligibility for certain program benefits and other financial assistance administered by USDA agency. This information may be provided to other agencies, IRS, Department of Justice, or other State and Federal Law enforcement agencies, and in response to a court magistrate or administrative tribunal. The provisions of criminal and civil fraud statutes, including 18 USC 286, 287, 371, 641, 651, 1001; 15 USC 714m; and 31 USC 3729, may be applicable to the information provided. RETURN THIS COMPLETED FORM TO YOUR COUNTY FSA OFFICE.*

DON002100

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) 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 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, D. C. 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

[ ] Original - County Office Copy [ ] Owner's Copy [ ] Operator's Copy

OPERATION AND MAINTENANCE

1. For the purposes of filtering contaminants, permanent filter strip vegetative plantings should be harvested as appropriate to encourage dense growth, maintain an upright growth habit, and remove nutrients and other contaminants that are contained in the plant tissue.
2. Control undesired weed species, especially state-listed noxious weeds.
3. Inspect the filter strip after storm events and repair any gullies that have formed, remove unevenly deposited sediment accumulation that will disrupt sheet flow, reseed disturbed areas, and take other measures to prevent concentrated flow through the filter strip
4. Apply supplemental nutrients as needed to maintain the desired species composition and stand density of the filter strip.
5. To maintain or restore the filter strip's function, periodically regrade the filter strip area when sediment deposition at the filter strip-field interface jeopardizes its function, and then reestablish the filter strip-vegetation, if needed. If wildlife habitat is a purpose, destruction of vegetation within the portion of the strip devoted to that purpose should be minimized by regrading only to the extent needed to remove sediment and fill concentrated flow areas.
6. After September 1st do not mow or harvest the grasses or grass/legume mixtures to allow for a good cover to establish prior to winter.
7. Maintain all easements and right-a-ways.
8. For CRP filter strips and other filter strips with desired wildlife purposes delay mowing or harvests until after July 15th.

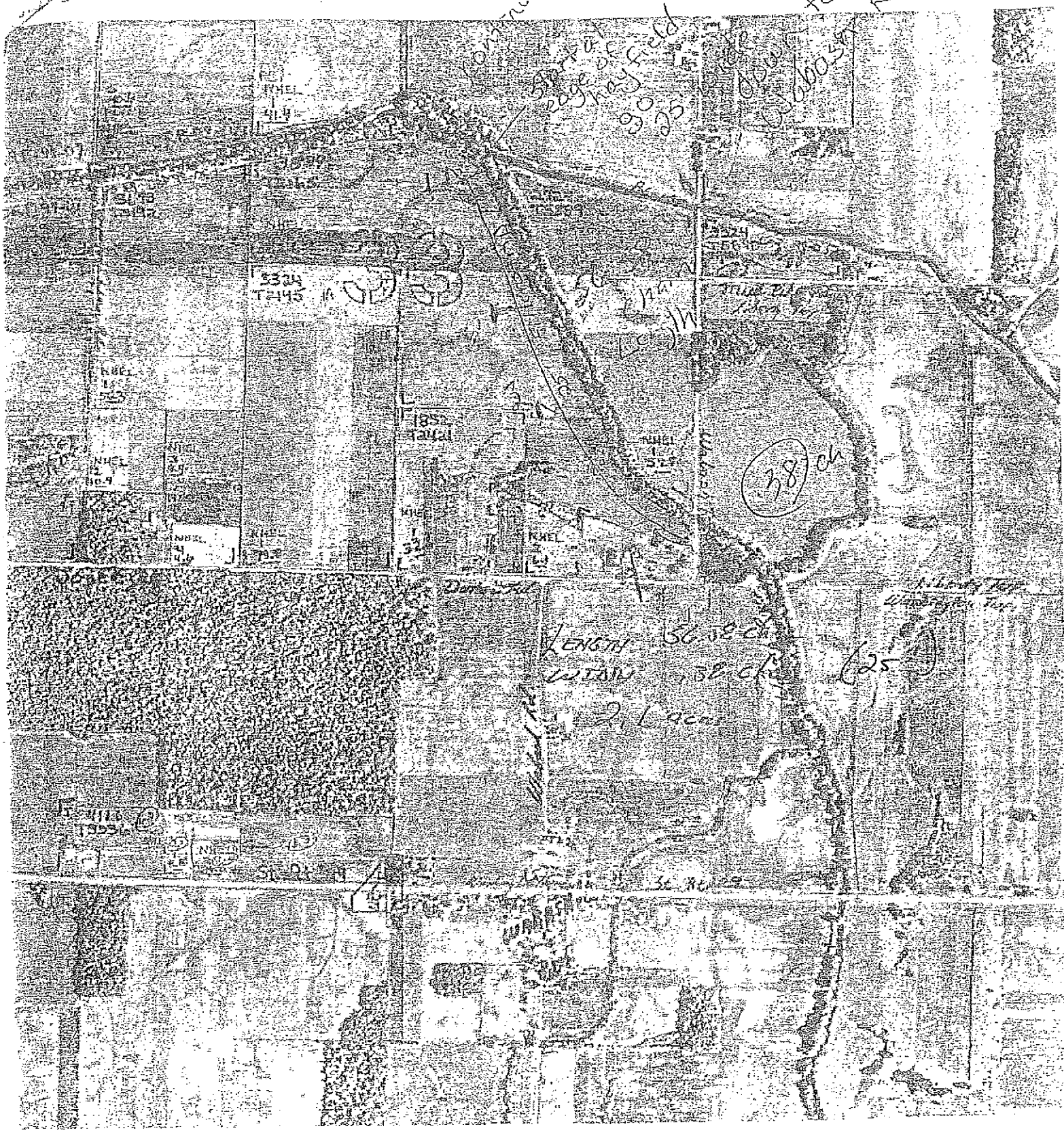
References:
National NRCS Practice Standard – Filter Strip 393
The Ohio State University Fact Sheet AEX 706 – Handling Milking Center Wastewater to Avoid Pollution
Tables: Section IV, Appendix A & B, Section IV FOTG
Jobsheet: National Conservation Practice Jobsheet – Filter Strips 393

Conservation practice standards are reviewed and updated periodically. To obtain a current version of this standard contact the Natural Resources Conservation Service or web site (www.oh.nrcs.usda.gov).

DON002101

to Scale

Year _____ Farm# _____ Tract# _____



MERCER

DON002102

N

United States
Department of
Agriculture

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-03-2006
Time 10:24
Statement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2006 PAGE 1

Name: DAVID DONER
1029 JONES AVE
OAK HILL, WV 25901-2017

RETAIN FOR TAX PURPOSES

Producer ID REDACTED S

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0501A	Transaction	WB27600111	30.00		CRP PAYMENT - ANNUAL
				30.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2006	D0126348			30.00	DAVID DONER Funds to be deposited in: DYNAMIC FEDERAL CREDIT UNION
				30.00	Total Disbursements
				30.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Orin Ritchelline
(Authorized Representative of CCC)

DON002088

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-03-2007
Time 08:16
Statement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2007 PAGE 1

Name: DAVID DONER
1029 JONES AVE
OAK HILL, WV 25901-2017

RETAIN FOR TAX PURPOSES

Producer REDACTED S

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0501A	Transaction	WC27600059	30.00		CRP PAYMENT - ANNUAL
				30.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2007	D0135186			30.00	DAVID DONER Funds to be deposited in: DYNAMIC FEDERAL CREDIT UNION
				30.00	Total Disbursements
				30.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON002086

United States
Department of
Agriculture

Farm Service Agency

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-06-2008
Time 14:44
Statement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2008 PAGE 1

Name: DAVID DONER
1029 JONES AVE
OAK HILL, WV 25901-2017

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0501A	Transaction	WC28000352	30.00		CRP PAYMENT - ANNUAL
				30.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-06-2008	D0142832			30.00	DAVID DONER Funds to be deposited in: DYNAMIC FEDERAL CREDIT UNION
				30.00	Total Disbursements
				30.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Bitschilling
(Authorized Representative of CCC)

DON002084

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-03-2007
Time 08:16
Statement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2007

Name: JANET DONER
1325 DONER RD
CELINA, OH 45822-9737

RETAIN FOR TAX PURPOSES

Producer ID REDACTED S

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0501A	Transaction	WC27600060	120.00		CRP PAYMENT - ANNUAL
				120.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2007	44597252			120.00	JANET DONER
				120.00	Total Disbursements
				120.00	Total Program Payment Earned

DON002106

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-06-2008
Time 14:44
Statement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2008 PAGE 1

Name: JANET DONER
1325 DONER RD
CELINA, OH 45822-9737

RETAIN FOR TAX PURPOSES

Producer ID REDACTED S Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0501A	Transaction	WC28000353	120.00		CRP PAYMENT - ANNUAL
				120.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-06-2008	44598186			120.00	JANET DONER
				120.00	Total Disbursements
				120.00	Total Program Payment Earned

DON002108

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-03-2006
Time 10:24
Statement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2006 PAGE 1

Name: KAREN DONER
1029 JONES AVE
OAK HILL, WV 25901-2017

RETAIN FOR TAX PURPOSES

Producer ID REDACTED S

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0501A	Transaction	WB27600110	30.00		CRP PAYMENT - ANNUAL
				30.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2006	D0126347			30.00	KAREN DONER Funds to be deposited in: DYNAMIC FEDERAL CREDIT UNION
				30.00	Total Disbursements
				30.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Ritschelling
(Authorized Representative of CCC)

DON002089

United States
Department of
Agriculture

Farm Service Agency

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-03-2007
Time 08:16
Statement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2007 PAGE 1

Name: KAREN DONER
1029 JONES AVE
OAK HILL, WV 25901-2017

RETAIN FOR TAX PURPOSES

Producer REDACTED S

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0501A	Transaction	WC27600058	30.00		CRP PAYMENT - ANNUAL
				30.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2007	D0135185			30.00	KAREN DONER Funds to be deposited in: DYNAMIC FEDERAL CREDIT UNION
				30.00	Total Disbursements
				30.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Ritschilling
(Authorized Representative of CCC)

DON002087

United States
Department of
Agriculture

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-06-2008
Time 14:44
Statement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2008 PAGE 1

Name: KAREN DONER
1029 JONES AVE
OAK HILL, WV 25901-2017

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0501A	Transaction	WC28000351	30.00		CRP PAYMENT - ANNUAL
				30.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-06-2008	D0142831			30.00	KAREN DONER Funds to be deposited in: DYNAMIC FEDERAL CREDIT UNION
				30.00	Total Disbursements
				30.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON002085

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-03-2007
Time 08:16
Statement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2007

Name: WAYNE T DONER
1325 DONER RD
CELINA, OH 45822-9737

REDACTED

RETAIN FOR TAX PURPOSES

Producer II S Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0501A	Transaction	WC27600061	120.00		CRP PAYMENT - ANNUAL
				120.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2007	44597253			120.00	WAYNE T DONER
				120.00	Total Disbursements
				120.00	Total Program Payment Earned

DON002105

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-06-2008
Time 14:44
Statement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2008

Name: WAYNE T DONER
1325 DONER RD
CELINA, OH 45822-9737

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0501A	Transaction	WC28000354	120.00		CRP PAYMENT - ANNUAL
				120.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-06-2008	44598187			120.00	WAYNE T DONER
				120.00	Total Disbursements
				120.00	Total Program Payment Earned

DON002107

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-02-2003
Time 09:40
Statement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2003

Name: DONER PARTNERSHIP
929 DONER RD
CELINA, OH 45822-9736

RETAIN FOR TAX PURPOSES

Producer REDACTED E

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0501	Transaction	WA27500529	150.00		CONSERVATION RESERVE ANNUAL - CCC FUNDED
				150.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-02-2003	25085662			150.00	DONER PARTNERSHIP
				150.00	Total Disbursements
				150.00	Total Program Payment Earned

DON002093

ited States
epartment of
griculture

Farm Service Agency

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

ate 10-03-2002
ime 13:46
tatement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2002 PAGE 1

Name: JANET DONER
1325 DONER RD
CELINA, OH 45822-9737

RETAIN FOR TAX PURPOSES

Producer ID REDACTED S

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0501	Transaction	WB27600232	44.00		CONSERVATION RESERVE ANNUAL - CCC FUNDED
				44.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASCN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2002	25083112			44.00	JANET DONER
				44.00	Total Disbursements
				44.00	Total Program Payment Earned

DON002092

nited States
epartment of
griculture

Farm Service Agency

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-03-2002
Time 13:46
Statement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2002

Name: WAYNE T DONER
1325 DONER RD
CELINA, OH 45822-9737

RETAIN FOR TAX PURPOSES

Producer REDACTED S

Disbursement Statement

Transaction Information				Amount	STAT	Payment Description
Reference Number(s)						CONSERVATION RESERVE ANNUAL - CCC FUNDED
Contract	0501	Transaction	WB27600233	44.00		
				44.00		Total Payments (Transactions)

Disbursement Information					
Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2002	25083113			44.00	WAYNE T DONER
				44.00	Total Disbursements
				44.00	Total Program Payment Earned

DON002091

nited States
epartment of
griculture

Farm Service Agency

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

ate 10-03-2002
ime 13:46
tatement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2002

PAGE 1

Name: DONER PARTNERSHIP
929 DONER RD
CELINA, OH 45822-9736

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information				Amount	STAT	Payment Description
Reference Number(s)				89.00		CONSERVATION RESERVE ANNUAL - CCC FUNDED
Contract	0501	Transaction	WB27600234	89.00		Total Payments (Transactions)

Disbursement Information					
Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2002	25083114			89.00	DONER PARTNERSHIP
				89.00	Total Disbursements
				89.00	Total Program Payment Earned

DON002090

USDA

United States
Department of
Agriculture

Farm and Foreign
Agricultural
Services

Mercer County
Farm Service
Agency

220 W. Livingston
Suite #2
Celina, OH 45822-
1632

Ph. 419-586-3149
Fx. 419-586-9599

September 6, 2005

Doner Partnership
929 Doner Road
Celina, Ohio 45822-9736

Dear Doner Partnership:

On September 1, 2005 the Mercer County Farm Service Agency County Committee reviewed a memo from the Jim Will, Natural Resources Conservation Service District Conservationist, regarding the seeding delay of 2.1 acres enrolled in the Conservation Reserve Program.

In the memo Mr. Will stated the Ohio Environmental Protection Agency has not yet reached a decision regarding the fixing of the levee along the Wabash River. Mr. Will also stated the majority of your filter strip has an adequate stand of grass, even though some areas have been damaged by 2003 flooding. Further notation was made of your willingness to reseed the needed areas at your own expense.

The Mercer County FSA Committee concurred with the memo and approved the continuation of the contract until it expires on September 30, 2012. The application for cost share assistance for establishing the grass filter strip has been cancelled.

If there are any questions pertaining to the above information, please do not hesitate to contact the office.

Sincerely,

Christopher R. Gibbs, CED
For Mercer County FSA

CRG/jmr

DON002096

USDA

United States
Department of
Agriculture

Farm and Foreign
Agricultural
Services

Mercer County
Farm Service
Agency

220 W. Livingston
Suite #2
Celina, OH 45822-
1632

Ph. 419-586-3149
Fx. 419-586-9599

October 28, 2004

Doner Partnership
929 Doner Road
Celina, Ohio 45822-9736

Dear Doner Partnership:

The County Office has direct deposited $2381.00 of cost share payment into your specified financial institution for the completion of the EC1-Removing debris from farmland practice under the 2003 Emergency Conservation Program (ECP) for Farm 3839 (see enclosed disbursement statement).

Reminder--This practice must be maintained for at least 10 years following the calendar year of installation. Also supporting evidence and proof of payment must be maintained for 3 years after practice completion. This will be needed if future spotchecks are performed on the practice. Failure to maintain supporting evidence or proof of payment may result in refund of all or part of cost shares. If the County Office happens to spotcheck the practice and find it has not been maintained properly within the lifespan of the practice, you will be required also to refund all or part of the cost share assistance paid to you as determined by the County Committee.

If you have any questions, please contact this office.

Sincerely,

Christopher R. Gibbs, CED
For Mercer County FSA

CRG/jmr

Encl.

DON002192

ited States
partment of
riculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

ate 10-28-2004
ime 09:32
tatement Type 0 Original

Program AUTOECPF
Application Conservation

Name: DONER PARTNERSHIP
929 DONER RD
CELINA, OH 45822-9736

ETAIN FOR TAX PURPOSES

Producer REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)		Amount	STAT	Payment Description
Control	20030042	2,381.00		ENERGENCY CONSERVATION - FLOOD
		2,381.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-28-2004	25087350			2,381.00	DONER PARTNERSHIP
				2,381.00	Total Disbursements
				2,381.00	Total Program Payment Earned

*** End of Report ***

DON002174

2004 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

DONER PARTNERSHIP
929 DONER RD
CELINA OH 45822-9736

Type of Payment	Reportable Income	Refunds From Recipient
DIRECT AND COUNTER CYCLICAL PROG	981.00	0.00
CRP ANNUAL RENTAL	150.00	0.00
EMERGENCY CONSERVATION PROGRAM	2,381.00	0.00
7. Total Agriculture Payments	$3,512.00	$0.00

Form CCC - 1099 - G (12-01-04) REPORT OF PAYMENTS TO PRODUCERS

FORM APPROVED OMB NO. 1545-012
OH-000752

DON002094

2004 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

WAYNE T DONER
1325 DONER RD
CELINA OH 45822-9737

Type of Payment	Reportable Income	Refunds From Recipient
DIRECT AND COUNTER CYCLICAL PROG	1,141.00	0.00
CRP ANNUAL RENTAL	75.00	0.00
7. Total Agriculture Payments	$1,216.00	$0.00

Form CCC - 1099 - G (12-01-04) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-012 OH-000752

2004 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

JANET DONER
1325 DONER RD
CELINA OH 45822-9737

Type of Payment	Reportable Income	Refunds From Recipient
DIRECT AND COUNTER CYCLICAL PROG	1,141.00	0.00
CRP ANNUAL RENTAL	75.00	0.00
7. Total Agriculture Payments	$1,216.00	$0.00

Form CCC - 1099 - G (12-01-04) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-012 OH-000752

2004 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

DONER PARTNERSHIP
929 DONER RD
CELINA OH 45822-9736

Type of Payment	Reportable Income	Refunds From Recipient
DIRECT AND COUNTER CYCLICAL PROG	981.00	0.00
CRP ANNUAL RENTAL	150.00	0.00
EMERGENCY CONSERVATION PROGRAM	2,381.00	0.00
7. Total Agriculture Payments	$3,512.00	$0.00

Form CCC - 1099 - G (12-01-04) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-0120
OH-0007527

DON002175

2005 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

AYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number	PAYER'S Federal Identification Number
REDACTED	43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

DONER PARTNERSHIP
929 DONER RD
CELINA OH 45822-9736

Type of Payment	Reportable Income	Refunds From Recipient
DIRECT AND COUNTER CYCLICAL PROG	1,512.00	0.00
CROP DISASTER PROGRAM - 2005	4,906.00	0.00
CRP ANNUAL RENTAL	150.00	0.00
LOAN DEFICIENCY	627.96	0.00
7. Total Agriculture Payments	$7,195.96	$0.00

Form CCC - 1099 - G (12-12-05) REPORT OF PAYMENTS TO PRODUCERS

FORM APPROVED OMB NO. 1545-0120
OH-1013282

DON002097

2005 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

WAYNE T DONER
1325 DONER RD
CELINA OH 45822-9737

Type of Payment	Reportable Income	Refunds From Recipient
DIRECT AND COUNTER CYCLICAL PROG	2,097.00	0.00
CROP DISASTER PROGRAM - 2005	4,326.00	0.00
CRP ANNUAL RENTAL	75.00	0.00
LOAN DEFICIENCY	851.64	0.00
7. Total Agriculture Payments	$7,349.64	$0.00

Form CCC - 1099 - G (12-12-05) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-0120 OH-1013285

2005 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

JANET DONER
1325 DONER RD
CELINA OH 45822-9737

Type of Payment	Reportable Income	Refunds From Recipient
DIRECT AND COUNTER CYCLICAL PROG	2,097.00	0.00
CROP DISASTER PROGRAM - 2005	4,326.00	0.00
CRP ANNUAL RENTAL	75.00	0.00
LOAN DEFICIENCY	851.64	0.00
7. Total Agriculture Payments	$7,349.64	$0.00

Form CCC - 1099 - G (12-12-05) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-0120 OH-1013285

2005 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

YER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

ECIPIENT'S Identification Number
REDACTED

PAYER'S Federal Identification Number
43-0951685

ECIPIENT'S name, street address, city, state, ZIP code

DONER PARTNERSHIP
929 DONER RD
CELINA OH 45822-9736

Type of Payment	Reportable Income	Refunds From Recipient
DIRECT AND COUNTER CYCLICAL PROG	1,512.00	0.00
CROP DISASTER PROGRAM - 2005	4,906.00	0.00
CRP ANNUAL RENTAL	150.00	0.00
LOAN DEFICIENCY	627.96	0.00
7. Total Agriculture Payments	$7,195.96	$0.00

orm CCC - 1099 - G (12-12-05)

REPORT OF PAYMENTS TO PRODUCERS

FORM APPROVED OMB NO. 1545-0120
OH-1013282

DON002183

2006 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code
U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED
PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code
WAYNE T DONER
1325 DONER RD
CELINA OH 45822-9737

Type of Payment	Reportable Income
DIRECT AND COUNTER CYCLICAL PROG	2,753.00
CRP ANNUAL RENTAL	120.00
LOAN DEFICIENCY	866.06
7. Total Agriculture Payments	$3,739.06

Form CCC - 1099 - G (12-12-06) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-012 OH-422202

2006 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code
U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED
PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code
JANET DONER
1325 DONER RD
CELINA OH 45822-9737

Type of Payment	Reportable Income
DIRECT AND COUNTER CYCLICAL PROG	2,753.00
CRP ANNUAL RENTAL	120.00
LOAN DEFICIENCY	866.06
7. Total Agriculture Payments	$3,739.06

Form CCC - 1099 - G (12-12-06) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-012 OH-422201

DON002103

2006 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

DAVID DONER
1029 JONES AVE
OAK HILL WV 25901-2017

Type of Payment	Reportable Income
DIRECT AND COUNTER CYCLICAL PROG	196.00
CRP ANNUAL RENTAL	30.00
7. Total Agriculture Payments	$226.00

Form CCC - 1099 - G (12-12-06) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-0120 WV-4132105

2006 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

KAREN DONER
1029 JONES AVE
OAK HILL WV 25901-2017

Type of Payment	Reportable Income
DIRECT AND COUNTER CYCLICAL PROG	196.00
CRP ANNUAL RENTAL	30.00
7. Total Agriculture Payments	$226.00

Form CCC - 1099 - G (12-12-06) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-012 WV-413210

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL. WAYNE T. DONER, ET AL.	:	
Relators,	:	
v.	:	Case No.: 2009-1292
SEAN D. LOGAN, DIRECTOR OHIO DEPARTMENT OF NATURAL RESOURCES, ET AL.	:	
Respondents.	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB F

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-05-2004
Time 10:07
Statement Type O Original

Program 99CRP
Application Conservation Reserve

CRP Payment Year 2004

Name: KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD,, OH 45882-9602

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0306	Transaction	WA27900006	357.00		CRP PAYMENT - ANNUAL
				357.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-05-2004	D0103230			357.00	KUHN FARMS INC Funds to be deposited in: THE PEOPLES BANK CO
				357.00	Total Disbursements
				357.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joann Rutschilling
(Authorized Representative of CCC)

DON001648

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-05-2004
Time 10:07
Statement Type O Original

Program 99CRP
Application Conservation Reserve

CRP Payment Year 2004

Name: KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD, OH 45882-9602

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information				Amount	STAT	Payment Description
Reference Number(s)						
Contract	0307	Transaction	WA27900007	449.00		CRP PAYMENT - ANNUAL
				449.00		Total Payments (Transactions)

Disbursement Information					
Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-05-2004	D0103231			449.00	KUHN FARMS INC Funds to be deposited in: THE PEOPLES BANK CO
				449.00	Total Disbursements
				449.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joann Butschilling
(Authorized Representative of CCC)

DON001647

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-05-2004
Time 10:07
Statement Type O Original

Program 99CRP
Application Conservation Reserve

CRP Payment Year 2004

PAGE 1

Name: KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD, OH 45882-9602

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0308	Transaction	WA27900008	1,246.00		CRP PAYMENT - ANNUAL
				1,246.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-05-2004	D0103232			1,246.00	KUHN FARMS INC Funds to be deposited in: THE PEOPLES BANK CO
				1,246.00	Total Disbursements
				1,246.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001646

ted States
artment of
iculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

te 10-05-2004
me 10:07
atement Type O Original

Program 99CRP
Application Conservation Reserve

CRP Payment Year 2004

Name: KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD, OH 45882-9602

ETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0309	Transaction	WA27900009	687.00		CRP PAYMENT - ANNUAL
				687.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-05-2004	D0103233			687.00	KUHN FARMS INC Funds to be deposited in: THE PEOPLES BANK CO
				687.00	Total Disbursements
				687.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001645

nited States
epartment of
griculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

ate 10-05-2004
ime 10:07
tatement Type O Original

Program 99CRP
Application Conservation Reserve

CRP Payment Year 2004

Name: KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD, OH 45882-9602

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information				Amount	STAT	Payment Description
Reference Number(s)						
Contract	0310	Transaction	WA27900010	853.00		CRP PAYMENT - ANNUAL
				853.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-05-2004	D0103234			853.00	KUHN FARMS INC Funds to be deposited in: THE PEOPLES BANK CO
				853.00	Total Disbursements
				853.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001644

nited States
epartment of
griculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

ate 10-05-2004
ime 10:07
tatement Type O Original

Program 99CRP
Application Conservation Reserve

CRP Payment Year 2004

Name: KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD, OH 45882-9602

REDACTED

RETAIN FOR TAX PURPOSES

Producer ID

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0311	Transaction	WA27900011	624.00		CRP PAYMENT - ANNUAL
				624.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-05-2004	D0103235			624.00	KUHN FARMS INC Funds to be deposited in: THE PEOPLES BANK CO
				624.00	Total Disbursements
				624.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001643

ted States
partment of
riculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

te 10-05-2004
me 10:07
atement Type O Original

Program 99CRP
Application Conservation Reserve

CRP Payment Year 2004

Name: KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD, OH 45882-9602

REDACTED

ETAIN FOR TAX PURPOSES

Producer ID

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0312	Transaction	WA27900012	264.00		CRP PAYMENT - ANNUAL
				264.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-05-2004	D0103236			264.00	KUHN FARMS INC Funds to be deposited in: THE PEOPLES BANK CO
				264.00	Total Disbursements
				264.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed John Rutschilling
(Authorized Representative of CCC)

*** End of Report ***

DON001642

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-05-2004
Time 13:15
Statement Type O Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2004

Name: KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD, OH 45882-9602

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)			Amount	STAT	Payment Description
Contract 0499	Transaction	WA27900225	744.00		CRP PAYMENT - ANNUAL
			744.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-05-2004	D0103559			744.00	KUHN FARMS INC Funds to be deposited in: THE PEOPLES BANK CO
				744.00	Total Disbursements
				744.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Ritschlling
(Authorized Representative of CCC)

*** End of Report ***

DON001649

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

FSA

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES
STATEMENT DATE: 10/06/2009

889 2 AT 0.712 Flats Seq: 889 Sac: 13

KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD OH 45882-9602

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	306	$357.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$357.00	PAYEE: KUHN FARMS INC FUNDS TO BE DEPOSITED IN PEOPLES BANK CO. ACCOUNT ENDING IN 5454 ON/ABOUT	10/08/2009

USDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE AGENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL INQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA WEBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER. TO OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE TOP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT. THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL RECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

Recycled Paper

USDA is an Equal Opportunity Employer

DON001794

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES
STATEMENT DATE: 10/06/2009

889 2 AT 0.712 Flats Seq: 889 Sac: 13

KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD OH 45882-9602

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	307	$450.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$450.00	PAYEE: KUHN FARMS INC FUNDS TO BE DEPOSITED IN PEOPLES BANK CO. ACCOUNT ENDING IN 5454 ON/ABOUT	10/08/2009

USDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE AGENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL INQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA WEBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER. TO OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE TOP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT. THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL RECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

DON001793

Recycled Paper

USDA is an Equal Opportunity Employer

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

FSA

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES

STATEMENT DATE: 10/06/2009

889 2 AT 0.712 Flats Seq: 889 Sac: 13

KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD OH 45882-9602

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	308	$1,245.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$1,245.00	PAYEE: KUHN FARMS INC FUNDS TO BE DEPOSITED IN PEOPLES BANK CO. ACCOUNT ENDING IN 5454 ON/ABOUT	10/08/2009

USDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE AGENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL INQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA WEBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER. TO OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE TOP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT. THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL RECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

Recycled Paper

USDA is an Equal Opportunity Employer

DON001788

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

FSA

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES
STATEMENT DATE: 10/06/2009

889 2 AT 0.712 Flats Seq: 889 Sac: 13

KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD OH 45882-9602

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	309	$687.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$687.00	PAYEE: KUHN FARMS INC FUNDS TO BE DEPOSITED IN PEOPLES BANK CO. ACCOUNT ENDING IN 5454 ON/ABOUT	10/08/2009

USDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE AGENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL INQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA WEBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER. TO OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE TOP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT. THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL RECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

Recycled Paper

USDA is an Equal Opportunity Employer

DON001790

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

FSA

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES
STATEMENT DATE: 10/06/2009

889 2 AT 0.712 Flats Seq: 889 Sac: 13

KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD OH 45882-9602

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	310	$852.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$852.00	PAYEE: KUHN FARMS INC FUNDS TO BE DEPOSITED IN PEOPLES BANK CO. ACCOUNT ENDING IN 5454 ON/ABOUT	10/08/2009

USDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE AGENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL INQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA WEBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER. TO OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE TOP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT. THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL RECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

Recycled Paper

USDA is an Equal Opportunity Employer

DON001792

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

FSA

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES
STATEMENT DATE: 10/06/2009

889 2 AT 0.712 Flats Seq: 889 Sac: 13

KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD OH 45882-9602

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	311	$624.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$624.00	PAYEE: KUHN FARMS INC FUNDS TO BE DEPOSITED IN PEOPLES BANK CO. ACCOUNT ENDING IN 5454 ON/ABOUT	10/08/2009

USDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE AGENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL INQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA WEBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER. TO OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE TOP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT. THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL RECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

Recycled Paper

USDA is an Equal Opportunity Employer

DON001791

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

FSA

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES
STATEMENT DATE: 10/06/2009

889 2 AT 0.712 Flats Seq: 889 Sac: 13

KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD OH 45882-9602

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	312	$264.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$264.00	PAYEE: KUHN FARMS INC FUNDS TO BE DEPOSITED IN PEOPLES BANK CO. ACCOUNT ENDING IN 5454 ON/ABOUT	10/08/2009

USDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE AGENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL INQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA WEBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER. TO OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE TOP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT. THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL RECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

Recycled Paper

USDA is an Equal Opportunity Employer

DON001789

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

FSA

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES
STATEMENT DATE: 10/06/2009

889 2 AT 0.712 Flats Seq: 889 Sac: 13

KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD OH 45882-9602

Mow - 29

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	499	$744.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$744.00	PAYEE: KUHN FARMS INC FUNDS TO BE DEPOSITED IN PEOPLES BANK CO. ACCOUNT ENDING IN 5454 ON/ABOUT	10/08/2009

SDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE
GENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL
NQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA
EBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER.
O OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE
OP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT.
HE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL
ECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

Recycled Paper

USDA is an Equal Opportunity Employer

DON001787

ok - Hm

U.S. DEPARTMENT OF AGRICULTURE

Farm Service Agency - Commodity Credit Corporation

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

IDENTIFICATION NO.	CALENDAR YR.
34-1862447	2000

Ccc112.29845

PRODUCER (Name & Address)

72 66 3-DIGIT 458
KUHN FARMS INC.
2685 OREGON RD
% MARVIN KUHN
ROCKFORD OH 45882-9602

CERTAIN GOVERNMENT PAYMENTS

TYPE OF PAYMENTS	REPORTABLE INCOME	REFUNDS FROM PRODUCER
CRP ANNUAL RENTAL	4,480.00	0.00
LOAN DEFICIENCY	37,135.09	0.00
INTEREST PAYMENTS	18.07 -ok	0.00
MARKET GAINS	18,199.64 -ok	0.00
PRODUCTION FLEXIBILITY	13,784.00	0.00
MARKET LOSS ASSISTANCE	18,471.00	0.00
CROP DISASTER PROGRAM	14,118.00 - ok	0.00
OILSEED PROGRAM	5,238.00	0.00
TOTALS	$111,443.80	$0.00

CCC-1099-G (01-04-2000)

REPORT OF PAYMENTS TO PRODUCERS

FORM APPROVED OMB NO. 1545-0120

DON001594

IMPORTANT INFORMATION

This is important tax information and is being furnished to the Internal Revenue Service (IRS). If you are required to file a return, a negligence penalty or other sanction may be imposed on you if this income is taxable and the IRS determines that it has not been reported. Form CCC-1099-G is a substitute for IRS Form 1099-G, Certain Government and Qualified State Tuition Program Payments.

This form is furnished to assist you in preparing your income tax return. The total "Reportable Income" amount is the total payment to you (or applied against your indebtedness) under certain FSA/CCC administered agricultural programs. This amount was reported to IRS. The total "Refunds from Producer" amount is the total collected from you for payments made under the reported FSA/CCC programs. This amount was not reported to IRS.

If during the calendar year covered by this form, you refunded a payment received under one of the programs listed under "Type of Payments", or a refundable amount was set off from an amount due you, the amount is shown in the column as "Refunds from Producer". Refunds may apply to current or prior year payments. The amount of income reported to IRS is NOT reduced by such refunds in accordance with IRS regulation. As the law requires, FSA/CCC must report to IRS all payments made to you, or for your account, under direct and indirect payment programs during the calendar year.

Payments to joint payees and agents are reported to IRS as made to the person who earned the payment and not the person who received the payment. Reassignment of payment to rightful owner must be carried out on Form CCC-1099-G, Certain Government Payments.

We recommend you check the amounts shown on this form with your records to see that the amounts are correct. If you find the amounts are not correct, or if you have questions regarding this form, contact the county FSA Office that made the payments. If you visit the County FSA Office, be sure to bring this form with you so that they may more readily identify questionable items. In the event the County FSA Office agrees that an amount(s) is incorrect or missing, the County FSA Office will furnish you with Form CCC-1099-G-1 advising of the correction. FSA/CCC is required to furnish IRS notification of any changes, and will do so after July 1.

Commodity loan forfeiture, settlement and abandonment are not reported on this form. Omission of amounts for such items does not mean that they are not subject to income tax.

Small Hog Operation Payments listed under "Type of Payments" were distributed on behalf of Agricultural Marketing Service (AMS).

Karnal Bunt Fungus Payments listed under "Type of Payments" were distributed on behalf of Animal Plant Health Inspection Services (APHIS).

Any Assessment reported on this form may or may not create a tax liability. Please, consult your tax advisor.

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL. WAYNE T. DONER, ET AL.	:	
Relators,	:	
v.	:	Case No.: 2009-1292
SEAN D. LOGAN, DIRECTOR OHIO DEPARTMENT OF NATURAL RESOURCES, ET AL.	:	
Respondents.	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB G

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-02-2007
Time 08:48
Statement Type B Original

Program 97CRP
Application Conservation Reserve

CRP Payment Year 2007 PAGE 1

Name: DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA, OH 45822-9210

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0197B	Transaction	WB27500150	662.00		CRP PAYMENT - ANNUAL
				662.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-02-2007	D0134870			662.00	DAVID J MCNEILAN Funds to be deposited in: THE PEOPLES BANK CO
				662.00	Total Disbursements
				662.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Ruth Knapke
(Authorized Representative of CCC)

DON001302

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-06-2008
Time 08:31
Statement Type B Original

Program 98CRP
Application Conservation Reserve

CRP Payment Year 2008 PAGE 1

Name: DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA, OH 45822-8229

RETAIN FOR TAX PURPOSES

Producer J REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0212	Transaction	WC28000036	760.00		CRP PAYMENT - ANNUAL
				760.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-06-2008	D0141695			760.00	DAVID J MCNEILAN Funds to be deposited in: THE PEOPLES BANK CO
				760.00	Total Disbursements
				760.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rittenhouse
(Authorized Representative of CCC)

DON001300

United States
Department of
Agriculture

Farm
Service
Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822-1632
Phone: (419) 586-3149

October 15, 2008

DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA OH 45822-8229

Dear CRP Participant:

Your Conservation Reserve Program (CRP) contract No. 212 with 6.2 acres on farm 4209, expired from CRP on September 30, 2008. As of October 1, 2008, you are no longer obligated to the terms and conditions of the CRP contract, except for any applicable easement restrictions.

Your final annual rental payment will be issued after October 1 when funds become available. Any bases, allotment or quotas that were not preserved under CRP provisions will be returned to the farm for future use.

We appreciate your participation in the CRP. You have been part of a program that has enabled the Nation to achieve tremendous environmental, conservation, and wildlife benefits.

If you have any questions regarding any FSA program, please contact this office.

Sincerely,

CHRISTOPHER R GIBBS, CED
MERCER COUNTY FSA OFFICE

DON001301

USDA

United States
Department of
Agriculture

Farm and Foreign
Agricultural
Services

Mercer County
Farm Service
Agency

220 W. Livingston
Suite #2
Celina, OH 45822-
1632

Ph. 419-586-3149
Fx. 419-586-9599

May 23, 2003

Carl McNeilan
PO Box 637
Celina, Ohio 45822-0637

Dear Mr. McNeilan:

The County Office has direct deposited the remaining cost share payment in the amount of $23.00 into your specified financial institution for the completion of the CP8A-Grassed Waterway practice. Also enclosed is the Practice Incentive Payment in the amount of $1638.00 on CRP Contract #522. (see enclosed transaction statements)

This practice must be maintained without additional cost share for the life of the contract. Cost share shall be refunded if either of the following apply: A) you destroy the cover during the life of the contract, or B) the practice fails to provide adequate erosion control during the contract period, unless the failure is caused by circumstances beyond the producer's control. Also, supporting evidence and proof of payment must be maintained for 1 year after practice completion. This will be needed, and must be supplied to the County Office within 30 days of notification, if future spotchecks are performed on the practice. Failure to maintain supporting evidence or proof of payment may result in refund of all or part of cost shares. If the County Office spotchecks the practice and find it has not been maintained properly within the lifespan of the practice, you will be required also to refund all or part of the cost share assistance paid to you as determined by the County Committee.

If you have any questions, please feel free to contact the County Office.

Sincerely,

Joan Rutschilling

Joan Rutschilling, ACED
Mercer County Farm Service Agency

Encl.

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 05-23-2003
Time 08:37
Statement Type C Correction

Program 02AUTOCRPCS
Application Conservation

Name: CARL MCNEILAN
PO BOX 637
CELINA, OH 45822-0637

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)		Amount	STAT	Payment Description
Control	20020062	2,024.00	CAN	CRP COST SHARE PROGRAM - CCC FUND AUTO
Control	20020062	2,047.00		CRP COST SHARE PROGRAM - CCC FUND AUTO
		2,047.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JTYNT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
05-23-2003	D00972075			23.00	CARL MCNEILAN Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
12-23-2002	D00055846			2,024.00	CARL MCNEILAN
				2,047.00	Total Disbursements

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

*** End of Report ***

DON001364

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419 586-3149

Date 05-23-2003
Time 08:48
Statement Type D Original

Program 02CRPPR1
Application Check Writing

OK
5-28-03 $1661.00

Name: CARL MCNEILAN
PO BOX 637
CELINA, OH 45822-0637

REDACTED

RETAIN FOR TAX PURPOSES

Producer ID

Disbursement Statement

Transaction Information

Reference Number(s)		Amount	STAT	Payment Description
Contract	0522	1,630.00		PRACTICE INCENTIVE PAYMENT
		1,630.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASCN/ JCYNT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
05-23-2003	D0072076			1,630.00	CARL MCNEILAN Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				1,630.00	Total Disbursements
				1,630.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

*** End of Report ***

1661.00

DON001365

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-02-2003
Time 09:40
Statement Type B Original

Program 02CRP
Application Conservation Reserve

CRP Payment Year 2003 PAGE 1

Name: CARL MCNEILAN
PO BOX 637
CELINA, OH 45822-0637

RETAIN FOR TAX PURPOSES Producer ID REDACTED S Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0522	Transaction	WA27500554	147.00		CONSERVATION RESERVE ANNUAL - CCC FUNDED
				147.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-02-2003	D0094594			147.00	CARL MCNEILAN Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				147.00	Total Disbursements
				147.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed _____
(Authorized Representative of CCC)

DON001366

United States
Department of
Agriculture

Farm
Service
Agency

Mercer County FSA Office
220 W. Livingston, Suite #2
Celina, OH 45822-1632
PH: 419-586-3149
Fax: 419-586-9599

December 28, 2007

David McNeilan
5256 State Route 29
Celina, Ohio 45822-9210

RE: Notice of Contract Approval
Farm #1463, Tract #7089, Acres 0.6

Dear Mr. McNeilan:

Your offer to place land in the Conservation Reserve program (CRP) has been approved by the Mercer County Committee.

Enclosed is your signed copy of the CRP contract. The effective date of the CRP contract is January 1, 2008.

An AD-245 (Practice Approval and Payment Application) is also enclosed for those conservation practices that will be established in accordance with the approved conservation plan as part of your contract. When the practice is completed, you must provide this office with a report of performance by signing the AD-245 and include all receipts affiliated with practice establishment so cost-share payment can be made.

If you have any questions about the CRP or establishment of the conservation practices, please call this office.

Sincerely,

Christopher R Gibbs, CED
for Mercer Farm Service Agency

CRG/jmr

Encl.

This program or activity will be conducted on a non-discriminatory basis without regard to race, color, religion, national origin, age, sex, marital status, sexual orientation, or disability.

CRP-1
(03-26-04)

U.S. DEPARTMENT OF AGRICULTURE
Commodity Credit Corporation

CONSERVATION RESERVE PROGRAM CONTRACT

NOTE: The authority for collecting the following information is Pub. L. 107-171. This authority allows for the collection of information without prior OMB approval mandated by the Paperwork Reduction Act of 1995. The time required to complete this information collection is estimated to average 4 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

1. ST. & CO CODE & ADMIN. LOCATION 39 107	2. SIGN-UP NUMBER 36
3. CONTRACT NUMBER 1120	4. ACRES FOR ENROLLMENT 0.6
5. FARM NUMBER 1463	6. TRACT NUMBER(S) T7089
7. COUNTY OFFICE ADDRESS (Include Zip Code) Mercer County Farm Service Agency 220 W Livingston St., Ste. 2 Celina, Ohio 45822-1632	8. OFFER (Select one) GENERAL ☐ ENVIRONMEMTAL PRIORITY ☒
8. TELEPHONE NUMBER (Include Area Code): 4195863149	9. CONTRACT PERIOD FROM: (MM-DD-YYYY) 1/1/2008 TO: (MM-DD-YYYY) 9-30-2018

THIS CONTRACT is entered into between the Commodity Credit Corporation (referred to as "CCC") and the undersigned owners, operators, or tenants (who may be referred to as "the Participant".) The Participant agrees to place the designated acreage into the Conservation Reserve Program ("CRP") or other use set by CCC for the stipulated contract period from the date the Contract is executed by the CCC. The Participant also agrees to implement on such designated acreage the Conservation Plan developed for such acreage and approved by the CCC and the Participant. Additionally, the Participant and CCC agree to comply with the terms and conditions contained in this Contract, including the Appendix to this Contract, entitled Appendix to CRP-1, Conservation Reserve Program Contract (referred to as "Appendix"). By signing below, the Participant acknowledges that a copy of the Appendix for the applicable sign-up period has been provided to such person. Such person also agrees to pay such liquidated damages in an amount specified in the Appendix if the Participant withdraws prior to CCC acceptance or rejection. ***The terms and conditions of this contract are contained in this Form CRP-1 and in the CRP-1 Appendix and any addendum thereto. BY SIGNING THIS CONTRACT PRODUCERS ACKNOWLEDGE RECEIPT OF THE FOLLOWING FORMS: CRP-1; CRP-1 Appendix and any addendum thereto; CRP-2 or CRP-2C, if applicable and, if applicable, CRP-15.***

10A. Rental Rate Per Acre $ 132.00
B. Annual Contract Payment $ 79.00
C. First Year Payment $ 59.00
(Item 10C applicable only to continuous signup when the first year payment is prorated.)

11. Identification of CRP Land *(See Page 2 for additional space)*

A. Tract No.	B. Field No.	C. Practice No.	D. Acres	E. Total Estimated Cost-Share
T7089	8B	CP23A	0.6	0

12. PARTICIPANTS

A(1) PARTICIPANT'S NAME AND ADDRESS (Zip Code): David McNeilan 5256 State Route 29 Celina, Ohio 45822-9210	(2) SHARE 100 %	(3) SOCIAL SECURITY NUMBER: REDACTED (4) SIGNATURE / DATE (MM-DD-YYYY) 12-21-2007 *(If more than three individuals are signing, continue on attachment.)*
B(1) PARTICIPANT'S NAME AND ADDRESS (Zip Code): same	(2) SHARE %	(3) SOCIAL SECURITY NUMBER: (4) SIGNATURE / DATE (MM-DD-YYYY) *(If more than three individuals are signing, continue on attachment.)*
C(1) PARTICIPANT'S NAME AND ADDRESS (Zip Code): *(If more than three individuals are signing, continue on attachment.)*	(2) SHARE %	(3) SOCIAL SECURITY NUMBER: (4) SIGNATURE / DATE (MM-DD-YYYY) *(If more than three individuals are signing, continue on attachment.)*

13. **CCC USE ONLY** – Payments according to the shares are approved.

A. SIGNATURE OF CCC REPESENTATIVE: M L Bal ACOS
B. DATE (MM-DD-YYYY): 12-28-07

NOTE: *The following statement is made in accordance with the Privacy Act of 1974 (5 USC 552a) and the Paperwork Reduction Act of 1995, as amended. The authority for requesting the following information is the Food Security Act of 1985, (Pub. L. 99-198), as amended and the Farm Security and Rural Investment Act of 2002 (Pub. L. 107-171) and regulations promulgated at 7 CFR Part 1410 and the Internal Revenue Code (26 USC 6109). The information requested is necessary for CCC to consider and process the offer to enter into a Conservation Reserve Program Contract, to assist in determining eligibility, and to determine the correct parties to the contract. Furnishing the requested information is voluntary. Failure to furnish the requested information will result in determination of ineligibility for certain program benefits and other financial assistance administered by USDA agency. This information may be provided to other agencies, IRS, Department of Justice, or other State and Federal Law enforcement agencies, and in response to a court magistrate or administrative tribunal. The provisions of criminal and civil fraud statutes, including 18 USC 286, 287, 371, 641, 651, 1001; 15 USC 714m; and 31 USC 3729, may be applicable to the information provided.* ***RETURN THIS COMPLETED FORM TO YOUR COUNTY FSA OFFICE.***

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, marital 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 programs.) 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 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

☐ Original – County Office Copy ☐ Owner's Copy ☐ Operator's Copy

MERCER, OHIO

Form Approved - OMB No. 0560-0004

FSA-578(Producer Print) REPORT OF ACREAGE PROGRAM YEAR 2008

DATE: 06-17-2008

Producer Name and Address ID

DAVID J MCNEILAN 2475
5256 STATE ROUTE 29
CELINA, OH 45822-8229

NOTE: The following statements are made in accordance with the Privacy Act of 1974(5 USC 552a). The Agricultural Adjustment Act of 1938, as amended, and the Agricultural Act of 1949, as amended, authorized the collection of the following data. The data will be used to determine eligibility for assistance. Furnishing the data is voluntary, however, without it assistance cannot be provided. The data may be furnished to any agency responsible for enforcing the provisions of the Acts. Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate, or any other aspect of this collection of information, including suggestions for reducing this burden, to the Department of Agriculture, Clearance Officer, Ag Box 7630, Washington, D.C. 20250; and to the Office of Management and Budget, Paperwork Reduction Project (OMB No. 0560-0004), Washington, D.C. 20503. RETURN THIS COMPLETED FORM TO YOUR FSA COUNTY OFFICE.

Farm Number	Tract Number	CLU/ Field	Ir Pr	C/C	Var/ Type	Int Use	C/C Stat	Rpt Unt	Reported Quantity	Determined Quantity	Crp Lnd	Planting Date	Prod Share	Prod Name	RMA Unt	Opt Unt
1463	0		Ni	CORN	YEL	Grain			.00				1.0000	DAVID J MCNEILAN		
			Ni	OATS	SPR	Grain			.00				1.0000	DAVID J MCNEILAN		
	7089	7	Ni	CRP		21	I	A	2.20		Y	01-01-2008	1.0000	DAVID J MCNEILAN		
		8	Ni	CRP		21	I	A	2.60		Y	01-01-2008	1.0000	DAVID J MCNEILAN		
		6	Ni	CRP		23	I	A	.60		Y	01-01-2008	1.0000	DAVID J MCNEILAN		
		2 N	Ni	WHEAT	SRW	Grain	I	A	3.90		Y	10-10-2007	1.0000	DAVID J MCNEILAN		
		1 N	Ni	WHEAT	SRW	Grain	I	A	19.90		Y	10-10-2007	1.0000	DAVID J MCNEILAN		
		3 N	Ni	SOYBN	COM	Grain	I	A	10.30		Y	05-25-2008	1.0000	DAVID J MCNEILAN		
		4 N	Ni	SOYBN	COM	Grain	I	A	10.40		Y	05-25-2008	1.0000	DAVID J MCNEILAN		
	7090	1 N	Ni	WHEAT	SRW	Grain	I	A	5.80		Y	10-10-2007	1.0000	DAVID J MCNEILAN		

Photo Number/Legal Descriptions: 7089 G8-2
7090 G8-2

Cropland: 55.7 Farmland: 78.5

4209	0		Ni	WHEAT	SRW	Grain			.00				1.0000	DAVID J MCNEILAN		
			Ni	OATS	SPR	Grain			.00				1.0000	DAVID J MCNEILAN		
	6581	1	Ni	CRP		21	I	A	4.00		Y	11-01-1997	1.0000	DAVID J MCNEILAN		
		2	Ni	CRP		21	I	A	2.20		Y	11-01-1997	1.0000	DAVID J MCNEILAN		
		3 N	Ni	CORN	YEL	Grain	I	A	18.50		Y	05-06-2008	1.0000	DAVID J MCNEILAN		

Photo Number/Legal Descriptions: 6581 G8-2

Cropland: 24.7 Farmland: 27.5

C/C	Type	Prac	IU	Reported	Determined	C/C	Type	Prac	IU	Reported	Determined	C/C	Type	Prac	IU	Reported	Determined
		N	21	11.00		CORN	YEL	N	GR	18.50		CRP		N	23	.60	
WHEAT	SRW	N	GR	29.60		SOYBN	COM	N	GR	20.70							

PRODUCER'S CERTIFICATION: I certify to the best of my knowledge and belief that the acreage of crops and land uses listed herein are true and correct, and that all required crops and land uses have been reported for the farm as applicable. The signing of this form gives FSA representatives authorization to enter and inspect crops and land uses on the above identified land.

Producer's Signature | Date

This program or activity will be conducted on a nondiscriminatory basis without regard to race, color, religion, national origin, sex, age, marital status, or disability.

DON001305

U. S. DEPARTMENT OF AGRICULTURE
Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA, OH 45822-1632

Telephone: (419) 586-3149

01-02-2008

DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA, OH 45822-9210

Farm No: 1463 Control No: 2008-0124
Program: Conservation Reserve Program
Technical Agency: Natural Resources Conservation Service
Lifespan: (yrs) 15

Dear MR. MCNEILAN

Your request for cost-sharing under the above program has been approved for the practice indicated on the attached ACP-245.

If you are not satisfied with the practice approved or cost-shares approved, you may appeal in writing to the County FSA Committee within 15 days from the date of this letter.

The following items should serve as a guide in completing and reporting the approved practice.

1. Make arrangements to install the conservation practice as soon as practical.

2. Make arrangements to obtain the necessary easements and permits to perform the practice.

3. Carry out the practice in accordance with specified requirements to ensure an effective practice. The specifications must be met to qualify for the cost-shares approved.

4. If you start the practice and cannot complete it before the expiration date, please notify us in advance. If the reasons justify an extension of time, the committee may approve an extension.

5. Furnish a report of performance on the attached ACP-245 immediately upon completion of the practice and not later than the expiration date indicated on the form; otherwise, the approval for cost-sharing will be cancelled. In column G, enter the extent performed, if known, otherwise enter the word "Yes".

6. Furnish sales slip, invoice, or other evidence for the materials used in connection with each practice so it can be used in determining your cost-share payment.

Christopher R Gibbs
County Executive Director

DON001306

OMB NO. 0560-0082

AD-245 (09-11-95)

U.S. DEPARTMENT OF AGRICULTURE
PRACTICE APPROVAL AND PAYMENT APPLICATION

ST. & CO. & C/D	CONTROL NO.(F/Y & NO.)
39 107 9	2008 0124

(AD-245 replaces ACP-245 and SIP-245)

FARM NO.	NAME AND ADDRESS	FARMLAND	PROGRAM CODE	FUND CODE	CONTRACT/LTA & ITEM NO.	PRIMARY PURPOSE	EXPIRATION NOTICE
1463	DAVID J MCNEILAN 5256 STATE ROUTE 29	78.5					Practice must be completed and reported by 12-31-2008
TRACT No. 7089	CELINA, OH 45822-9210	CROPLAND 55.7	CRP		2008 1120	OTHER ASSISTANCE	
	Telephone No. 419-586-3205						ID $ $

REDACTED

Your request for program cost-sharing to perform the practice shown below is approved for the farm identified above. If you decide not to perform this practice, or if you cannot complete it by the expiration date, please notify the Approving Official's office in writing at once.

DESCRIPTION OF PRACTICE OBJECTIVE
EROSION

FOR APPROVING OFFICIAL USE

Number -- A --	Practice Title -- B --	Extent Requested -- C --	Extent Approved -- D --	Rate -- E --	Cost-Shares Approved -- F --	Extent Performed -- G --	Cost-Shares Earned -- H --
CP23A	Wetland Restoration, Non-Flood Plain (Ac)	.6	.6		*		
NO$$	COMPONENT FOR NON-COST/SHARED PRACTICES ACRE	.6	.6				

* - Total Cost-Shares Approved For Practice, Component Figures Shown Are Included In This Amount
NO$$ - Cannot exceed the amount in column F.

INSTRUCTIONS TO PARTICIPANT To receive payment or credit for any cost-shares earned on this practice, report performance in col. G and complete ITEMS X and Y below; date and sign the certification below; and file with the issuing office by the date noted in EXPIRATION NOTICE.

APPROVAL ISSUED BY APPROVING OFFICIAL (FOR SIP) APPROVAL MAILED BY CED: M2 Bal 1CO

DATE: 1-2-09

X. Did you bear all the expense (except for program cost-sharing) for performing this practice? (If No, report name(s) and address(es) of other person(s) or agency who bore any part of the expenses. Also show kind, extent and value of their contribution.)

YES /_/ NO /_/

Y. During the current fiscal year Oct. 1 - Sep. 30, have you received or will you receive a cost-share payment under the same program on this or any other farm other than through this AD-245? (If yes, report State, County, and amount by farm).

YES /_/ NO /_/

Total Cost-Shares Earned	
Payment Advance (Partial Payment)	
Is Partic. on FSA Debt Reg.? Y / / N / /	
Setoff	
Debt Assignment	
Net Payment	

Payment Approved (initials) (For SIP) C/S Earned Approved By/Date	ACH/Check Number (For SIP) Calc. Verif. By/Date

CERTIFICATION BY PARTICIPANT I certify that the above information is true and correct. I further certify that the entry in Column G shows that the practice was performed in accordance with the practice specifications and other program requirements. I hereby apply for payment to the extent that the Approving Official has determined that the practice has been performed and further certify that this payment is not a duplicate of any other earned by me. I agree to maintain this practice for at least __ years following the year the practice is completed. I agree to refund all or part of the cost-share assistance paid to me, as determined by the Approving Offical, if before expiration of the practice lifespan specified above, I (a) destroy the practice installed, or (b) voluntarily relinquish control or title to the land on which the installed practice has been established and the new owner and/or operator of the land does not agree in writing to properly maintain the practice for the remainder of its specified lifespan. I understand that form "CONTINUATION FOR AD-245" is by reference incorporated herein and with this page constitutes the entire agreement between the parties.

SIGNATURE:

DATE:

PARTICIPATION IN USDA PROGRAMS IS OPEN TO ALL ELIGIBLE APPLICANTS WITHOUT REGARD TO RACE, COLOR, RELIGION, NATIONAL ORIGIN, AGE, SEX, MARITAL STATUS, OR DISABILITY.

NRCS Natural Resources Conservation Service
CELINA SERVICE CENTER
220 WEST LIVINGSTON STREET, SUITE 1
CELINA, OH 45822-2003
4195862548 ext. 3

JIM WILL
DISTRICT CONSERVATIONIST

Conservation Plan

DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA, OH 45822

Wildlife

Tract: 7089

Early Successional Habitat Development/Management

Mid-term management will be carried out as needed in years 4-6 of the CRP contract. The default mid-term management practice will be light discing unless a mid-term evaluation determines that seeding, mowing, spraying, managed haying or grazing, burning, or no management is appropriate and the preferred management activity. See the enclosed Mid-term management job sheet for details.

Field	Planned Amount	Month	Year	Applied Amount	Date
8B	0.6 ac	8	2013		
Total:	0.6 ac				

Wetland Restoration

The site will be maintained as a wetland to provide the hydrological and biological benefits of a wetland. It will be maintained according to SCS standards and specifications.

Field	Planned Amount	Month	Year	Applied Amount	Date
8B	0.6 ac	1	2008		
Total:	0.6 ac				

Wetland Wildlife Habitat Management

Retain, create, or manage wetland habitat for water fowl, fur bearers, or other wildlife.

Field	Planned Amount	Month	Year	Applied Amount	Date
8B	0.6 ac	1	2008		
Total:	0.6 ac				

DON001308

CERTIFICATION OF PARTICIPANTS

DAVID J MCNEILAN 12-21-2007 DATE

CERTIFICATION OF:

DISTRICT CONSERVATIONIST

JIM WILL 12/19/07 DATE

CONSERVATION DISTRICT

MERCER SOIL & WATER CONSE DATE

PUBLIC BURDEN STATEMENT

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 collections is 0578-0013. The time required to complete this information collection is estimated to average 45/0.75 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection information.

PRIVACY ACT

The above statements are made in accordance with the Privacy Act of 1974 (5 U.S.C 522a). Furnishing this information is voluntary; however failure to furnish correct, complete information will result in the withholding or withdrawal of such technical or financial assistance. The information may be furnished to other USDA agencies, the Internal Revenue Service, the Department of Justice, or other state or federal law enforcement agencies, or in response to orders of a court, magistrate, or administrative tribunal.

USDA NON-DISCRIMINATION 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, marital status, family status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) 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 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, DC 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer."

DON001309

Conservation Plan Map

Date: 12/13/2007

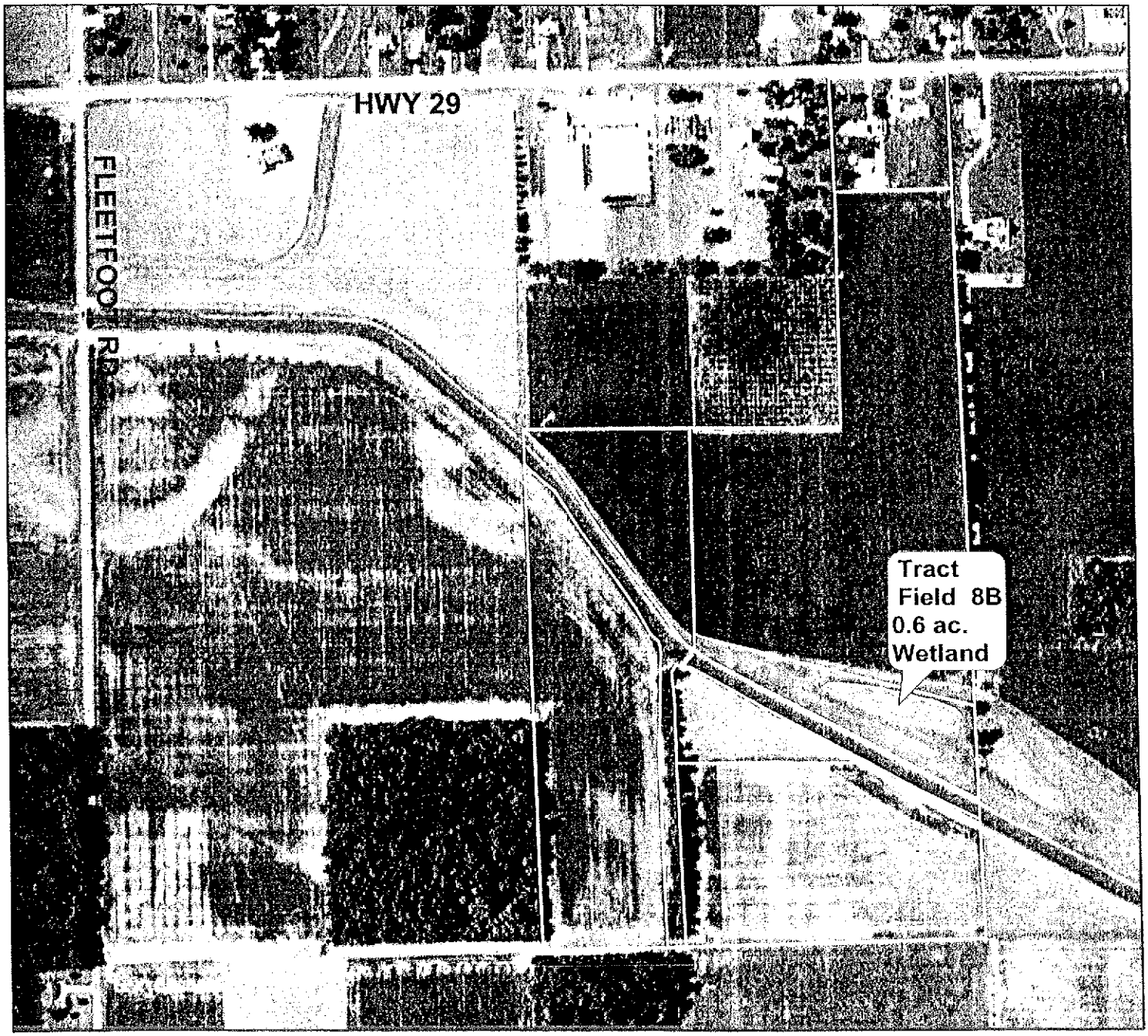
Customer(s): DAVID J MCNEILAN

District: MERCER SOIL & WATER CONSERVATION DISTRICT

Field Office: CELINA SERVICE CENTER

Agency: USDA-NRCS

Assisted By: Mitchell Hess



DON001310

Legend

T7089_CP23A_SU36

230 0 230 460 690 920 Feet

N

Soils Map

Date: 12/13/2007

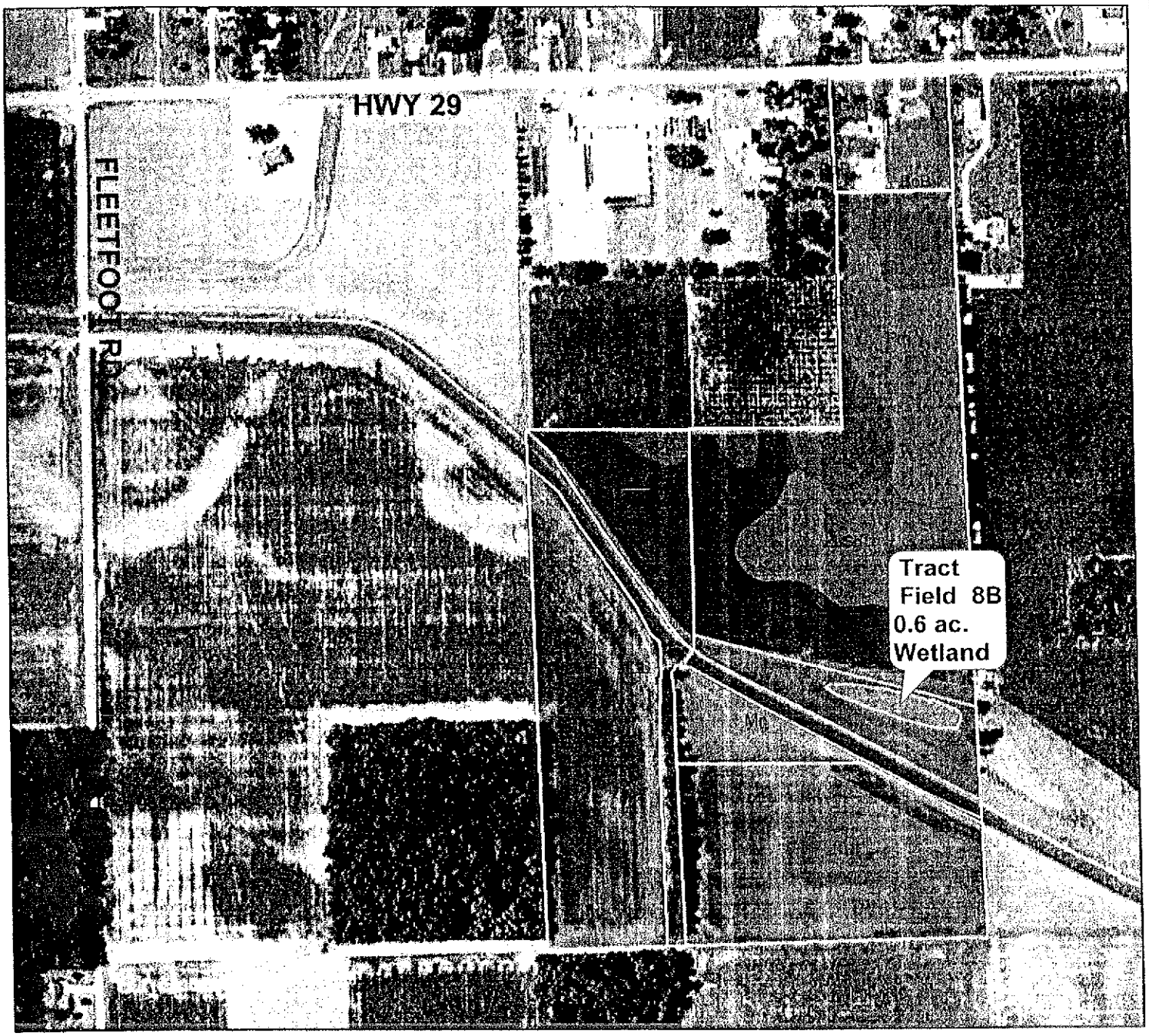
Customer(s): DAVID J MCNEILAN

District: MERCER SOIL & WATER CONSERVATION DISTRICT

Field Office: CELINA SERVICE CENTER

Agency: USDA-NRCS

Assisted By: Mitchell Hess



Legend

- BoB
- GwB
- Mn
- Pm
- Sh

T7089_CP23A_SU36

DON001311

230 0 230 460 690 920 Feet

N

NRCS-CPA-1155

CONSERVATION PLAN OR SCHEDULE OF OPERATIONS

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

PARTICIPANT	COUNTY AND STATE	PROGRAM AND CONTRACT NUMBER	FUND CODE
DAVID J MCNEILAN	MERCER, OHIO		
LAND UNITS OR LEGAL DESCRIPTION	WATERSHED	ACRES	EXPIRATION DATE
Tract: 7089 Fields: 8B	5120101	0.6	

Contract Item 1 — Early Successional Habitat Development/Management (647)

Mid-term management will be carried out as needed in years 4-6 of the CRP contract. The default mid-term management practice will be light discing unless a mid-term evaluation determines that seeding, mowing, spraying, managed haying or grazing, burning, or no management is appropriate and the preferred management activity. See the enclosed Mid-term management job sheet for details.

Fields: Tract: 7089 Fields: 8B

Contract Item	PLANNED CONSERVATION TREATMENT	Planned Amount	Unit Cost	Cost Share Rate/ Method	Completion Schedule and Estimated Cost Share or Payment by Year									
					2008 $	2009 $	2010 $	2011 $	2012 $	2013 $	2014 $	2015 $	2016 $	2017 $
1	Early Successional Habitat Development/Management (647)	1 ac		$6										
1a	Mid-term Management - Light Discing to Renovate Habitat	0.6 ac	$20.00/ac	50% FR						6				

Contract Item 2 — Wetland Restoration (657)

The site will be maintained as a wetland to provide the hydrological and biological benefits of a wetland. It will be maintained according to SCS standards and specifications.

Fields: Tract: 7089 Fields: 8B

Contract Item	PLANNED CONSERVATION TREATMENT	Planned Amount	Unit Cost	Cost Share Rate/ Method	Completion Schedule and Estimated Cost Share or Payment by Year									
					2008 $	2009 $	2010 $	2011 $	2012 $	2013 $	2014 $	2015 $	2016 $	2017 $
2	Wetland Restoration (657)	1 ac		$0										
2a	Excavation	0.0 cu yd	$2.75/cu yd	50% FR	0									

NRCS-CPA-1155

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PLAN OR SCHEDULE OF OPERATIONS

PARTICIPANT	COUNTY AND STATE	PROGRAM AND CONTRACT NUMBER	FUND CODE
DAVID J MCNEILAN	MERCER, OHIO		
LAND UNITS OR LEGAL DESCRIPTION	WATERSHED	ACRES	EXPIRATION DATE
Tract: 7089 Fields: 8B	5120101	0.6	

Total Cost Share or Payment by Year											Contract Payment
Year	2008	2009	2010	2011	2012	2013					
Amount($)	0	0	0	0	0	6					6

NOTES: A. All items numbers on form NRCS-CPA-1155 must be carried out as part of this contract to prevent violation.
B. When established, the conservation practices identified by the numbered items must be maintained by the participant at no cost to the government.
C. All cost share rates are based on average cost (AC) with the following exceptions:
AA = Actual costs not to exceed average cost. FR = Flat rate. NC = Non cost-shared. AM = Actual cost not to exceed the specified maximum.

D. By signing, the participant acknowledges receipt of this conservation plan including this form NRCS-CPA-1155 and agrees to comply with the terms and conditions here of.

Certification of Participants

Signature	Date	Signature	Date
DAVID J MCNEILAN	12-21-2007	MERCER FSA	

Signatures of Reviewing Officials

NRCS Approving Official	Approved by Conservation District Representative
Signature: Jim Will	Signature
Date 12/19/07	Date

PUBLIC BURDEN STATEMENT

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 collections is 0578-0013. The time required to complete this information collection is estimated to average 45/0.75 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection information.

PRIVACY ACT

The above statements are made in accordance with the Privacy Act of 1974 (5 U.S.C 522a). Furnishing this information is voluntary; however failure to furnish correct, complete information will result in the withholding or withdrawal of such technical or financial assistance. The information may be furnished to other USDA agencies, the Internal Revenue Service, the Department of Justice, or other state or federal law enforcement agencies, or in response to orders of a court, magistrate, or administrative tribunal.

USDA NON-DISCRIMINATION 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, marital status, family status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) 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 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, DC 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer."

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES
STATEMENT DATE: 10/08/2009

17708 1 AT 0.357 #10 17708 Sac: 76

DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA OH 45822-8229

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	1120	$79.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$79.00	PAYEE: DAVID J MCNEILAN FUNDS TO BE DEPOSITED IN PEOPLES BANK CO. ACCOUNT ENDING IN 3064 ON/ABOUT	10/13/2009

USDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE AGENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL INQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA WEBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER. TO OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE TOP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT. THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL RECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

Recycled Paper

USDA is an Equal Opportunity Employer

DON001298

United States Department of Agriculture

Farm Service Agency

Mercer County FSA Office
220 W. Livingston, Suite #2
Celina, OH 45822-1632
PH: 419-586-3149
Fax: 419-586-9599

December 28, 2007

David McNeilan
5256 State Route 29
Celina, Ohio 45822-9210

RE: Notice of Contract Approval
Farm #1463, Tract #7089, Acres 4.8

Dear Mr. McNeilan:

Your offer to place land in the Conservation Reserve program (CRP) has been approved by the Mercer County Committee.

Enclosed is your signed copy of the CRP contract. The effective date of the CRP contract is January 1, 2008.

An AD-245 (Practice Approval and Payment Application) is also enclosed for those conservation practices that will be established in accordance with the approved conservation plan as part of your contract. When the practice is completed, you must provide this office with a report of performance by signing the AD-245 and include all receipts affiliated with practice establishment so cost-share payment can be made.

If you have any questions about the CRP or establishment of the conservation practices, please call this office.

Sincerely,

Christopher R Gibbs, CED
for Mercer Farm Service Agency

CRG/jmr

Encl.

This program or activity will be conducted on a non-discriminatory basis without regard to race, color, religion, national origin, age, sex, marital status, sexual orientation, or disability.

CRP-1
(03-26-04)

U.S. DEPARTMENT OF AGRICULTURE
Commodity Credit Corporation

CONSERVATION RESERVE PROGRAM CONTRACT

NOTE: The authority for collecting the following information is Pub. L. 107-171. This authority allows for the collection of information without prior OMB approval mandated by the Paperwork Reduction Act of 1995. The time required to complete this information collection is estimated to average 4 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

1. ST. & CO CODE & ADMIN. LOCATION 39 107	2. SIGN-UP NUMBER 36
3. CONTRACT NUMBER 1121	4. ACRES FOR ENROLLMENT 4.8
5. FARM NUMBER 1463	6. TRACT NUMBER(S) T7089
7. COUNTY OFFICE ADDRESS (Include Zip Code) Mercer County Farm Service Agency 220 W Livingston St., Ste. 2 Celina, Ohio 45822-1632	8. OFFER (Select one) GENERAL ☐ ENVIRONMEMTAL PRIORITY ☒
8. TELEPHONE NUMBER (Include Area Code): 4195863149	9. CONTRACT PERIOD FROM: (MM-DD-YYYY) 1/1/2008 TO: (MM-DD-YYYY) 9-30-2018

THIS CONTRACT is entered into between the Commodity Credit Corporation (referred to as "CCC") and the undersigned owners, operators, or tenants (who may be referred to as "the Participant".) The Participant agrees to place the designated acreage into the Conservation Reserve Program ("CRP") or other use set by CCC for the stipulated contract period from the date the Contract is executed by the CCC. The Participant also agrees to implement on such designated acreage the Conservation Plan developed for such acreage and approved by the CCC and the Participant. Additionally, the Participant and CCC agree to comply with the terms and conditions contained in this Contract, including the Appendix to this Contract, entitled Appendix to CRP-1, Conservation Reserve Program Contract (referred to as "Appendix"). By signing below, the Participant acknowledges that a copy of the Appendix for the applicable sign-up period has been provided to such person. Such person also agrees to pay such liquidated damages in an amount specified in the Appendix if the Participant withdraws prior to CCC acceptance or rejection. ***The terms and conditions of this contract are contained in this Form CRP-1 and in the CRP-1 Appendix and any addendum thereto. BY SIGNING THIS CONTRACT PRODUCERS ACKNOWLEDGE RECEIPT OF THE FOLLOWING FORMS: CRP-1; CRP-1 Appendix and any addendum thereto; CRP-2 or CRP-2C, if applicable and, if applicable, CRP-15.***

10A. Rental Rate Per Acre	$ 157.60
B. Annual Contract Payment	$ 756.00
C. First Year Payment	$ 565.00

(Item 10C applicable only to continuous signup when the first year payment is prorated.)

11. Identification of CRP Land *(See Page 2 for additional space)*

A. Tract No.	B. Field No.	C. Practice No.	D. Acres	E. Total Estimated Cost-Share
T7089	7A & 8A	CP21	4.8	0

12. PARTICIPANTS

REDACTED

A(1) PARTICIPANT'S NAME AND ADDRESS (Zip Code):	(2) SHARE	(3) SOCIAL SECURITY NUMBER:	
David McNeilan 5256 State Route 29 Celina, Ohio 45822-9210	100 %	(4) SIGNATURE [signature]	DATE (MM-DD-YYYY) 12-21-2007
		(If more than three individuals are signing, continue on attachment.)	
B(1) PARTICIPANT'S NAME AND ADDRESS (Zip Code):	(2) SHARE	(3) SOCIAL SECURITY NUMBER:	
same	%	(4) SIGNATURE	DATE (MM-DD-YYYY)
		(If more than three individuals are signing, continue on attachment.)	
C(1) PARTICIPANT'S NAME AND ADDRESS (Zip Code):	(2) SHARE	(3) SOCIAL SECURITY NUMBER:	
	%	(4) SIGNATURE	DATE (MM-DD-YYYY)
(If more than three individuals are signing, continue on attachment.)		*(If more than three individuals are signing, continue on attachment.)*	

13. **CCC USE ONLY** – Payments according to the shares are approved.

A. SIGNATURE OF CCC REPESENTATIVE: [signature] Acq

B. DATE *(MM-DD-YYYY)*: 12-28-07

NOTE: *The following statement is made in accordance with the Privacy Act of 1974 (5 USC 552a) and the Paperwork Reduction Act of 1995, as amended. The authority for requesting the following information is the Food Security Act of 1985, (Pub. L. 99-198), as amended and the Farm Security and Rural Investment Act of 2002 (Pub. L. 107-171) and regulations promulgated at 7 CFR Part 1410 and the Internal Revenue Code (26 USC 6109). The information requested is necessary for CCC to consider and process the offer to enter into a Conservation Reserve Program Contract, to assist in determining eligibility, and to determine the correct parties to the contract. Furnishing the requested information is voluntary. Failure to furnish the requested information will result in determination of ineligibility for certain program benefits and other financial assistance administered by USDA agency. This information may be provided to other agencies, IRS, Department of Justice, or other State and Federal Law enforcement agencies, and in response to a court magistrate or administrative tribunal. The provisions of criminal and civil fraud statutes, including 18 USC 286, 287, 371, 641, 651, 1001; 15 USC 714m; and 31 USC 3729, may be applicable to the information provided.* ***RETURN THIS COMPLETED FORM TO YOUR COUNTY FSA OFFICE.***

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, marital 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 programs.) 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 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

☐ Original – County Office Copy ☐ Owner's Copy ☐ Operator's Copy

U. S. DEPARTMENT OF AGRICULTURE
Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA, OH 45822-1632

Telephone: (419) 586-3149

01-02-2008

DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA, OH 45822-9210

Farm No: 1463 Control No: 2008-0125
Program: Conservation Reserve Program
Technical Agency: Natural Resources Conservation Service
Lifespan: (yrs) 10

Dear MR. MCNEILAN

Your request for cost-sharing under the above program has been approved for the practice indicated on the attached ACP-245.

If you are not satisfied with the practice approved or cost-shares approved, you may appeal in writing to the County FSA Committee within 15 days from the date of this letter.

The following items should serve as a guide in completing and reporting the approved practice.

1. Make arrangements to install the conservation practice as soon as practical.

2. Make arrangements to obtain the necessary easements and permits to perform the practice.

3. Carry out the practice in accordance with specified requirements to ensure an effective practice. The specifications must be met to qualify for the cost-shares approved.

4. If you start the practice and cannot complete it before the expiration date, please notify us in advance. If the reasons justify an extension of time, the committee may approve an extension.

5. Furnish a report of performance on the attached ACP-245 immediately upon completion of the practice and not later than the expiration date indicated on the form; otherwise, the approval for cost-sharing will be cancelled. In column G, enter the extent performed, if known, otherwise enter the word "Yes".

6. Furnish sales slip, invoice, or other evidence for the materials used in connection with each practice so it can be used in determining your cost-share payment.

Christopher R Gibbs
County Executive Director

DON001316

OMB NO. 0560-0082

)-245
9-11-95)

U.S. DEPARTMENT OF AGRICULTURE
PRACTICE APPROVAL AND PAYMENT APPLICATION

ST. & CO. & C/D	CONTROL NO.(F/Y & NO.)
39 107 9	2008 0125

D-245 replaces ACP-245 and SIP-245)

ARM NO.	NAME AND ADDRESS	FARMLAND	PROGRAM CODE	FUND CODE	CONTRACT/LTA & ITEM NO.	PRIMARY PURPOSE	EXPIRATION NOTICE
1463	DAVID J MCNEILAN 5256 STATE ROUTE 29	78.5					Practice must be completed and reported by 12-31-2008
RACT No. 7089	CELINA, OH 45822-9210	CROPLAND 55.7	CRP		2008 1121	OTHER ASSISTANCE	
	Telephone No. 419-586-3205						ID S S

our request for program cost-sharing to perform the practice shown below is approved for the farm identified above. If you decide ot to perform this practice, or if you cannot complete it by the expiration date, please notify the Approving Official's office in riting at once.

ESCRIPTION OF PRACTICE OBJECTIVE
ROSION

OR APPROVING OFFICIAL USE

umber A	Practice Title B	Extent Requested C	Extent Approved D	Rate E	Cost-Shares Approved F	Extent Performed G	Cost-Shares Earned H
P21	Filter strips (Ac)	4.8	4.8		*		
O$$	COMPONENT FOR NON-COST/SHARED PRACTICES ACRE	4.8	4.8				

* - Total Cost-Shares Approved For Practice. Component Figures Shown Are Included In This Amount
NO$$ - Cannot exceed the amount in column F.

NSTRUCTIONS TO PARTICIPANT To receive payment or credit for any cost-shares arned on this practice, report performance in col. G and complete ITEMS X nd Y below; date and sign the certification below; and file with the issuing ffice by the date noted in EXPIRATION NOTICE.

APPROVAL ISSUED BY APPROVING OFFICIAL (FOR SIP) APPROVAL MAILED BY CED — DATE 1-2-09

. Did you bear all the expense (except for program cost-sharing) for performing this practice? (If No, report name(s) and address(es) of other person(s) or agency who bore any part of the expenses. Also show kind, extent and value of their contribution.)

ES /_/ NO /_/

Total Cost-Shares Earned	
Payment Advance (Partial Payment)	
Is Partic. on FSA Debt Reg.? Y / / N / /	
Setoff	
Debt Assignment	
Net Payment	

. During the current fiscal year Oct. 1 - Sep. 30, have you received or will you receive a cost-share payment under the same program on this or any other farm other than through this AD-245? (If yes, report State, County, and amount by farm).

YES /_/ NO /_/

Payment Approved (initials) (For SIP) C/S Earned Approved By/Date	ACH/Check Number (For SIP) Calc. Verif. By/Date

ERTIFICATION BY PARTICIPANT I certify that the above information is true and correct. I further certify that the entry in Column shows that the practice was performed in accordance with the practice specifications and other program requirements. I hereby pply for payment to the extent that the Approving Official has determined that the practice has been performed and further certify hat this payment is not a duplicate of any other earned by me. I agree to maintain this practice for at least __ years following he year the practice is completed. I agree to refund all or part of the cost-share assistance paid to me, as determined by the pproving Offical, if before expiration of the practice lifespan specified above, I (a) destroy the practice installed, or b) voluntarily relinquish control or title to the land on which the installed practice has been established and the new owner nd/or operator of the land does not agree in writing to properly maintain the practice for the remainder of its specified lifespan. understand that form "CONTINUATION FOR AD-245" is by reference incorporated herein and with this page constitutes the entire greement between the parties.

IGNATURE: DATE:

ARTICIPATION IN USDA PROGRAMS IS OPEN TO ALL ELIGIBLE APPLICANTS WITHOUT REGARD TO RACE, COLOR, RELIGION, NATIONAL ORIGIN, AGE, EX, MARITAL STATUS, OR DISABILITY.

DON001317

Soils Map

Date: 9/24/2007

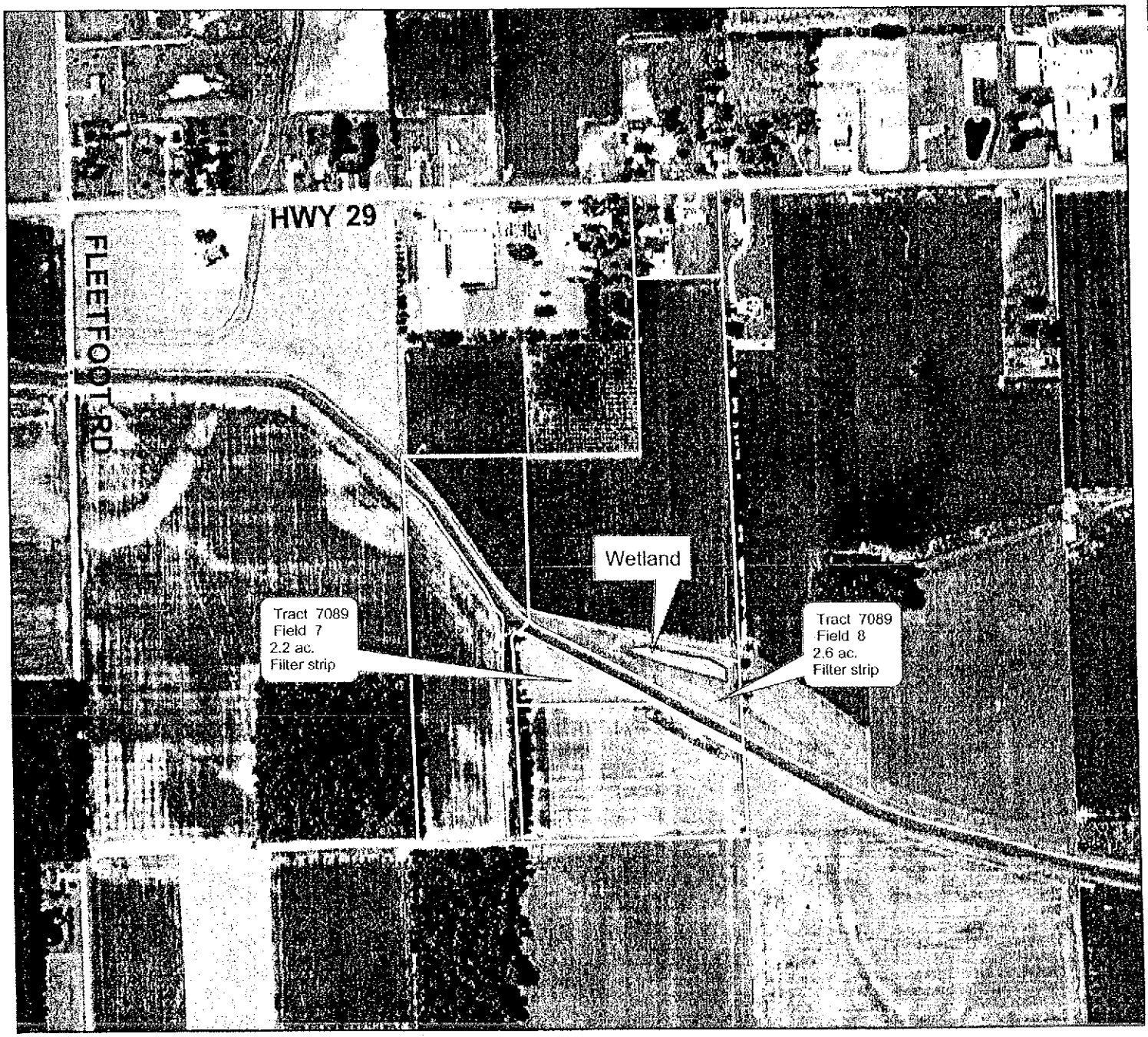
Customer(s): DAVID J MCNEILAN

District: MERCER SOIL & WATER CONSERVATION DISTRICT

Field Office: CELINA SERVICE CENTER

Agency: NRCS

Assisted By: Mitchell Hess



DON001318

Legend

Practices (polygons)

T7089_CRP

350 0 350 700 1,050 1,400 Feet

N

Soils Map

Date: 9/24/2007

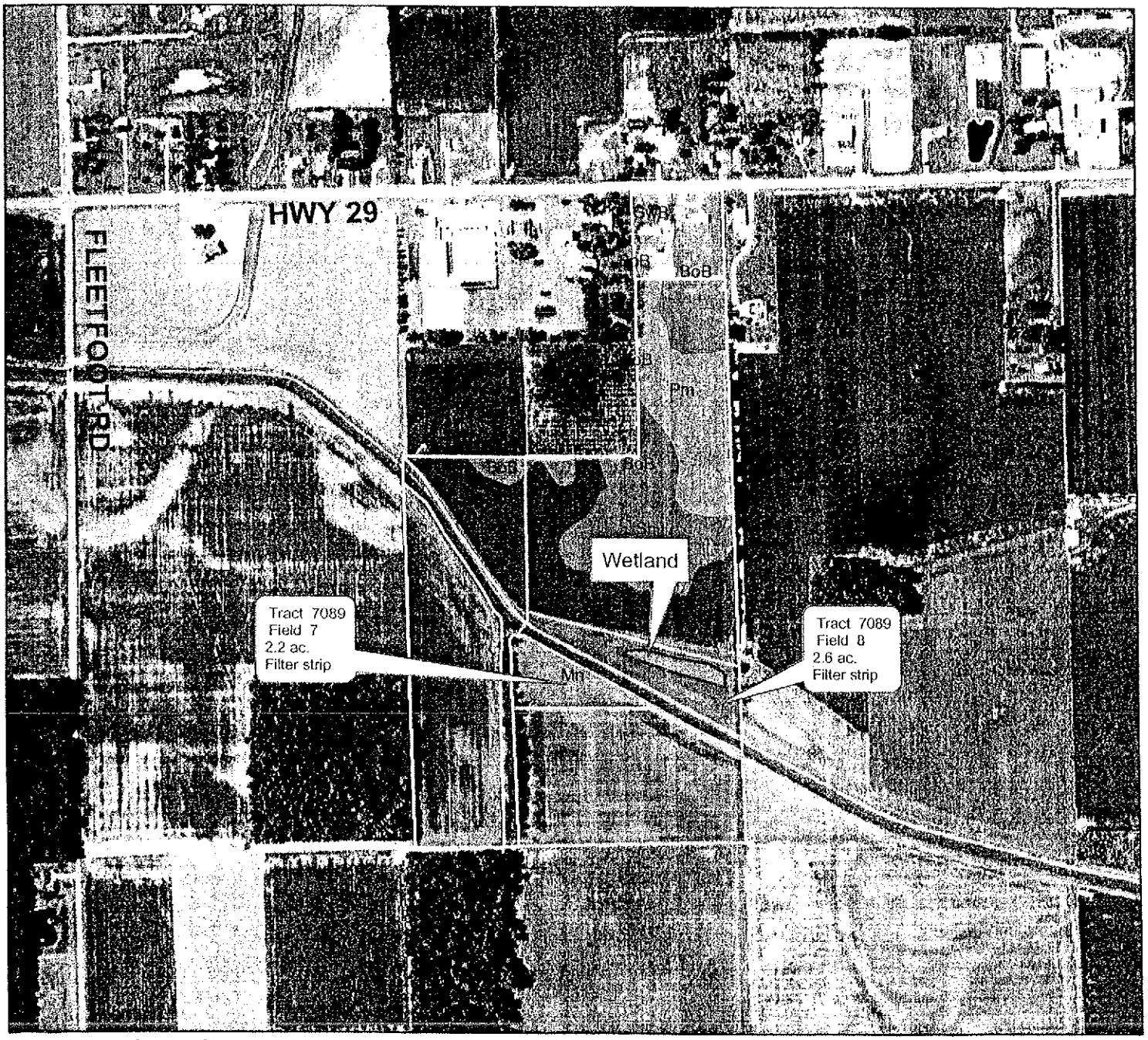
Customer(s): DAVID J MCNEILAN

District: MERCER SOIL & WATER CONSERVATION DISTRICT

Field Office: CELINA SERVICE CENTER

Agency: NRCS

Assisted By: Mitchell Hess



Legend

- BoB
- GwB
- Mn
- Pm
- Sh
- Practices (polygons)

T7089_CRP

DON001319

350 0 350 700 1,050 1,400 Feet

N

NRCS Natural Resources Conservation Service
CELINA SERVICE CENTER
220 WEST LIVINGSTON STREET, SUITE 1
CELINA, OH 45822-2003
4195862548 ext. 3

JIM WILL
DISTRICT CONSERVATIONIST

Conservation Plan

DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA, OH 45822

Crop

Tract: 7089

Early Successional Habitat Development/Management

Mid-term management will be carried out as needed in years 4-6 of the CRP contract. The default mid-term management practice will be light discing unless a mid-term evaluation determines that seeding, mowing, spraying, managed haying or grazing, burning, or no management is appropriate and the preferred management activity. See the enclosed Mid-term management job sheet for details.

Field	Planned Amount	Month	Year	Applied Amount	Date
7	2.2 ac	8	2013		
8	2.6 ac	8	2013		
Total:	4.8 ac				

Filter Strip

A filter strip as shown on the plan map will be established and maintained according to NRCS Standards and Specifications. The enclosed jobsheet 393 contains the details on establishment and maintenance.

Field	Planned Amount	Month	Year	Applied Amount	Date
7	2.2 ac	5	2008		
8	2.6 ac	5	2008		
Total:	4.8 ac				

Upland Wildlife Habitat Management

Create, maintain or enhance area(s) to provide upland wildlife food and cover.

Field	Planned Amount	Month	Year	Applied Amount	Date
7	2.2 ac	5	2008		
8	2.6 ac	5	2008		
Total:	4.8 ac				

DON001320

CERTIFICATION OF PARTICIPANTS

DAVID J MCNEILAN 12/21/2007
DATE

CERTIFICATION OF:

DISTRICT CONSERVATIONIST

JIM WILL 12/31/07
DATE

CONSERVATION DISTRICT

MERCER SOIL & WATER CONSE DATE

PUBLIC BURDEN STATEMENT

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 collections is 0578-0013. The time required to complete this information collection is estimated to average 45/0.75 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection information.

PRIVACY ACT

The above statements are made in accordance with the Privacy Act of 1974 (5 U.S.C 522a). Furnishing this information is voluntary; however failure to furnish correct, complete information will result in the withholding or withdrawal of such technical or financial assistance. The information may be furnished to other USDA agencies, the Internal Revenue Service, the Department of Justice, or other state or federal law enforcement agencies, or in response to orders of a court, magistrate, or administrative tribunal.

USDA NON-DISCRIMINATION 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, marital status, family status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) 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 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, DC 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer."

DON001321

United States
Department of
Agriculture

Farm Service Agency

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 04-22-2008 Program INTPEN
Time 09:37 Application Check Writing
Statement Type B Original

Name: DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA, OH 45822-8229

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)	Amount	STAT	Payment Description
NONE	5.47		INTPEN
	5.47		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
04-22-2008	D0139048			5.47	DAVID J MCNEILAN Funds to be deposited in: THE PEOPLES BANK CO
				5.47	Total Disbursements
				5.47	Total Program Payment Earned

Special Data
PR48000/DL86/RT4750/CP/DD/

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001322

United States
Department of
Agriculture

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 04-22-2008
Time 09:37
Statement Type B Original

Program 08CRPSGNI
Application Check Writing

Name: DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA, OH 45822-8229

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)		Amount	STAT	Payment Description
Contract	1121	480.00		CRP - SIGNING INCENTIVE
		480.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
04-22-2008	D0139047			480.00	DAVID J MCNEILAN Funds to be deposited in: THE PEOPLES BANK CO
				480.00	Total Disbursements
				480.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

*** End of Report ***

DON001323

U. S. DEPARTMENT OF AGRICULTURE
Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA, OH 45822-1632

Telephone: (419) 586-3149

04-22-2008

DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA, OH 45822-8229

Farm No: 1463 Control No: 2008-0201
Program: Conservation Reserve Program
Technical Agency: Natural Resources Conservation Service
Lifespan: (yrs) 10

Dear MR. MCNEILAN

Your request for cost-sharing under the above program has been approved for the practice indicated on the attached ACP-245.

If you are not satisfied with the practice approved or cost-shares approved, you may appeal in writing to the County FSA Committee within 15 days from the date of this letter.

The following items should serve as a guide in completing and reporting the approved practice.

1. Make arrangements to install the conservation practice as soon as practical.

2. Make arrangements to obtain the necessary easements and permits to perform the practice.

3. Carry out the practice in accordance with specified requirements to ensure an effective practice. The specifications must be met to qualify for the cost-shares approved.

4. If you start the practice and cannot complete it before the expiration date, please notify us in advance. If the reasons justify an extension of time, the committee may approve an extension.

5. Furnish a report of performance on the attached ACP-245 immediately upon completion of the practice and not later than the expiration date indicated on the form; otherwise, the approval for cost-sharing will be cancelled. In column G, enter the extent performed, if known, otherwise enter the word "Yes".

6. Furnish sales slip, invoice, or other evidence for the materials used in connection with each practice so it can be used in determining your cost-share payment.

Christopher R Gibbs
County Executive Director

FORM APPROVED
OMB NO. 0560-0082

AD-245
(09-11-95)

U.S. DEPARTMENT OF AGRICULTURE
PRACTICE APPROVAL AND PAYMENT APPLICATION

ST. & CO. & C/D	CONTROL NO.(F/Y & NO.)
39 107 9	2008 0201

(AD-245 replaces ACP-245 and SIP-245)

FARM NO. / TRACT No.	NAME AND ADDRESS	FARMLAND / CROPLAND	PROGRAM CODE	FUND CODE	CONTRACT/LTA & ITEM NO.	PRIMARY PURPOSE	EXPIRATION NOTICE
1463 / 7089	DAVID J MCNEILAN 5256 STATE ROUTE 29 CELINA, OH 45822-8229 Telephone No. 419-586-3205	78.5 55.7	CRP		2008 1121	OTHER ASSISTANCE	Practice must be completed and reported by 12-31-2008 ID. REDACTED

Your request for program cost-sharing to perform the practice shown below is approved for the farm identified above. If you decide not to perform this practice, or if you cannot complete it by the expiration date, please notify the Approving Official's office in writing at once.

DESCRIPTION OF PRACTICE OBJECTIVE
EROSION

FOR APPROVING OFFICIAL USE

Number - A	Practice Title - B	Extent Requested - C	Extent Approved - D	Rate - E	Cost-Shares Approved - F	Extent Performed - G	Cost-Shares Earned - H
P21	Filter strips (Ac)	4.8	4.8		480*		
SG2	ESTABLISH WARM SEASON GRASSES WITH CHEMICAL AC	4.8	4.8	100.000	480		

* - Total Cost-Shares Approved For Practice. Component Figures Shown Are Included In This Amount
WSG2 - Flat rate.

INSTRUCTIONS TO PARTICIPANT To receive payment or credit for any cost-shares earned on this practice, report performance in col. G and complete ITEMS X and Y below; date and sign the certification below; and file with the issuing office by the date noted in EXPIRATION NOTICE.

APPROVAL ISSUED BY APPROVING OFFICIAL (FOR SIP) APPROVAL MAILED BY CED: M 2 Bar ACO

DATE: 4-22-08

. Did you bear all the expense (except for program cost-sharing) for performing this practice? (If No, report name(s) and address(es) of other person(s) or agency who bore any part of the expenses. Also show kind, extent and value of their contribution.)

YES /_/ NO /_/

Total Cost-Shares Earned	
Payment Advance (Partial Payment)	
Is Partic. on FSA Debt Reg.? Y / / N / /	
Setoff	
Debt Assignment	
Net Payment	

. During the current fiscal year Oct. 1 - Sep. 30, have you received or will you receive a cost-share payment under the same program on this or any other farm other than through this AD-245? (If yes, report State, County, and amount by farm).

YES /_/ NO /_/

Payment Approved (initials) (For SIP) C/S Earned Approved By/Date	ACH/Check Number (For SIP) Calc. Verif. By/Date

CERTIFICATION BY PARTICIPANT I certify that the above information is true and correct. I further certify that the entry in Column shows that the practice was performed in accordance with the practice specifications and other program requirements. I hereby apply for payment to the extent that the Approving Official has determined that the practice has been performed and further certify that this payment is not a duplicate of any other earned by me. I agree to maintain this practice for at least __ years following the year the practice is completed. I agree to refund all or part of the cost-share assistance paid to me, as determined by the Approving Offical, if before expiration of the practice lifespan specified above. I (a) destroy the practice installed, or (b) voluntarily relinquish control or title to the land on which the installed practice has been established and the new owner and/or operator of the land does not agree in writing to properly maintain the practice for the remainder of its specified lifespan. I understand that form "CONTINUATION FOR AD-245" is by reference incorporated herein and with this page constitutes the entire agreement between the parties.

SIGNATURE:

DATE:

PARTICIPATION IN USDA PROGRAMS IS OPEN TO ALL ELIGIBLE APPLICANTS WITHOUT REGARD TO RACE, COLOR, RELIGION, NATIONAL ORIGIN, AGE, SEX, MARITAL STATUS, OR DISABILITY.

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PLAN OR SCHEDULE OF OPERATIONS

NRCS-CPA-1155

PARTICIPANT	COUNTY AND STATE	PROGRAM AND CONTRACT NUMBER	FUND CODE
DAVID J MCNEILAN	MERCER, OHIO		

LAND UNITS OR LEGAL DESCRIPTION	WATERSHED	ACRES	EXPIRATION DATE
Tract: 7089 Fields: 7, 8	5120101	4.8	

Contract Item 1 — Filter Strip (393)

A filter strip as shown on the plan map will be established and maintained according to NRCS Standards and Specifications. The enclosed jobsheet 393 contains the details on establishment and maintenance.

Fields: Tract: 7089 Fields: 7, 8

Contract Item	PLANNED CONSERVATION TREATMENT	Planned Amount	Unit Cost	Cost Share Rate/ Method	Completion Schedule and Estimated Cost Share or Payment by Year									
					2008 $	2009 $	2010 $	2011 $	2012 $	2013 $	2014 $	2015 $	2016 $	2017 $
1	Filter Strip (393)	5 ac		$480										
1a	WSG Mix w/ Chemical Trtmt	4.8 ac	$200.00/ac	50% FR	480									

Contract Item 2 — Early Successional Habitat Development/Management (647)

Mid-term management will be carried out as needed in years 4-6 of the CRP contract. The default mid-term management practice will be light discing unless a mid-term evaluation determines that seeding, mowing, spraying, managed haying or grazing, burning, or no management is appropriate and the preferred management activity. See the enclosed Mid-term management job sheet for details.

Fields: Tract: 7089 Fields: 7, 8

Contract Item	PLANNED CONSERVATION TREATMENT	Planned Amount	Unit Cost	Cost Share Rate/ Method	Completion Schedule and Estimated Cost Share or Payment by Year									
					2008 $	2009 $	2010 $	2011 $	2012 $	2013 $	2014 $	2015 $	2016 $	2017 $
2	Early Successional Habitat Development/Management (647)	5 ac		$48										
2a	Mid-term Management - Light Discing to Renovate Habitat	4.8 ac	$20.00/ac	50% FR						48				

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PLAN OR SCHEDULE OF OPERATIONS

NRCS-CPA-1155

PARTICIPANT	COUNTY AND STATE	PROGRAM AND CONTRACT NUMBER	FUND CODE
DAVID J MCNEILAN	MERCER, OHIO		

LAND UNITS OR LEGAL DESCRIPTION	WATERSHED	ACRES	EXPIRATION DATE
Tract: 7089 Fields: 7, 8	5120101	4.8	

Total Cost-Share or Payment by Year											Contract Payment
Year	2008	2009	2010	2011	2012	2013					
Amount($)	480	0	0	0	0	48					528

NOTES: A. All items numbers on form NRCS-CPA-1155 must be carried out as part of this contract to prevent violation.
B. When established, the conservation practices identified by the numbered items must be maintained by the participant at no cost to the government.
C. All cost share rates are based on average cost (AC) with the following exceptions:
AA = Actual costs not to exceed average cost. FR = Flat rate. NC = Non cost-shared. AM = Actual cost not to exceed the specified maximum.

D. By signing, the participant acknowledges receipt of this conservation plan including this form NRCS-CPA-1155 and agrees to comply with the terms and conditions here of.

Certification of Participants

Signature	Date	Signature	Date
DAVID J MCNEILAN	12/21/2007	MERCER FSA	

Signatures of Reviewing Officials

NRCS Approving Official	Approved by Conservation District Representative
Signature Jim Will	Signature
Date 12/21/07	Date

PUBLIC BURDEN STATEMENT

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 collections is 0578-0013. The time required to complete this information collection is estimated to average 45/0.75 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection information.

PRIVACY ACT

The above statements are made in accordance with the Privacy Act of 1974 (5 U.S.C 522a). Furnishing this information is voluntary; however failure to furnish correct, complete information will result in the withholding or withdrawal of such technical or financial assistance. The information may be furnished to other USDA agencies, the Internal Revenue Service, the Department of Justice, or other state or federal law enforcement agencies, or in response to orders of a court, magistrate, or administrative tribunal.

USDA NON-DISCRIMINATION 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, marital status, family status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) 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 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, DC 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer."

USDA

nited States
epartment of
griculture

arm and Foreign
gricultural
ervices

ercer County
arm Service
gency

20 W. Livingston
uite #2
elina, OH 45822-
532

n. 419-586-3149
x. 419-586-9599

September 15, 2008

David McNeilan
5256 State Route 29
Celina, Ohio 45822-8229

Dear Mr. McNeilan:

The County Office has direct deposited your cost share payment in the amount of $480.00 in your specified financial institution for completion of the CP21-Vegetative Filter strip practice. Also deposited was the Practice Incentive Payment of $384.00 on CRP Contract #1121 on FSN 1463. (See enclosed transaction statements).

This practice must be maintained without additional cost share for the life of the contract. Cost share shall be refunded if either of the following apply: A) you destroy the cover during the life of the contract, or B) the practice fails to provide adequate erosion control during the contract period, unless the failure is caused by circumstances beyond the producer's control. Also, supporting evidence and proof of payment must be maintained for 1 year after practice completion. This will be needed, and must be supplied to the County Office within 30 days of notification, if future spotchecks are performed on the practice. Failure to maintain supporting evidence or proof of payment may result in refund of all or part of cost shares. If the County Office spotchecks the practice and find it has not been maintained properly within the lifespan of the practice, you will be required also to refund all or part of the cost share assistance paid to you as determined by the County Committee.

If you have any questions, please feel free to contact the County Office.

Sincerely,

Michael L Baucher, ACED
Mercer County Farm Service Agency

MLB/jmr

Encl.

Department of
Agriculture

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 09-15-2008 Program 08AUTOCRPCS
Time 14:33 Application Conservation
Statement Type O Original

Name: DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA, OH 45822-8229

RETAIN FOR TAX PURPOSES Producer REDACTED Disbursement Statement

Transaction Information

Reference Number(s)		Amount	STAT	Payment Description
Control	20080201	480.00		CRP PAYMENT - COST SHARE, AUTO
		480.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
09-15-2008	D0141351			480.00	DAVID J MCNEILAN Funds to be deposited in: THE PEOPLES BANK CO
				480.00	Total Disbursements
				480.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

*** End of Report ***

DON001329

Department of
Agriculture

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 09-15-2008 Program 08CRPPRI
Time 14:33 Application Check Writing
Statement Type B Original

Name: DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA, OH 45822-8229

RETAIN FOR TAX PURPOSES Producer ID REDACTED Disbursement Statement

Transaction Information

Reference Number(s)		Amount	STAT	Payment Description
Contract	1121	384.00		CRP - PRACTICE INCENTIVE
		384.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
09-15-2008	D0141352			384.00	DAVID J MCNEILAN Funds to be deposited in: THE PEOPLES BANK CO
				384.00	Total Disbursements
				384.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

*** End of Report ***

DON001330

Department of
Agriculture

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-08-2008
Time 15:02
Statement Type B Original

Program 08CRP
Application Conservation Reserve

CRP Payment Year 2008 PAGE 1

Name: DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA, OH 45822-8229

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	1121	Transaction	WC28200316	566.00		CRP PAYMENT - ANNUAL
				566.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-08-2008	D0145177			566.00	DAVID J MCNEILAN Funds to be deposited in: THE PEOPLES BANK CO
				566.00	Total Disbursements
				566.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001331

Department of
Agriculture

220 W BIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-08-2008 Program 08CRP
Time 15:02 Application Conservation Reserve
Statement Type B Original

CRP Payment Year 2008 PAGE 1

Name: DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA, OH 45822-8229

RETAIN FOR TAX PURPOSES Producer TIN REDACTED Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	1120	Transaction	WC28200315	59.00		CRP PAYMENT - ANNUAL
				59.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-08-2008	D0145176			59.00	DAVID J MCNEILAN Funds to be deposited in: THE PEOPLES BANK CO
				59.00	Total Disbursements
				59.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001332

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES
STATEMENT DATE: 10/08/2009

17708 1 AT 0.357 #10 17708 Sac: 76

DAVID J MCNEILAN
5256 STATE ROUTE 29
CELINA OH 45822-8229

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	1121	$756.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$756.00	PAYEE: DAVID J MCNEILAN FUNDS TO BE DEPOSITED IN PEOPLES BANK CO. ACCOUNT ENDING IN 3064 ON/ABOUT	10/13/2009

USDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE AGENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL INQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA WEBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER. TO OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE TOP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT. THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL RECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

Recycled Paper

USDA is an Equal Opportunity Employer

DON001299

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL.	:	
WAYNE T. DONER, ET AL.	:	
	:	
Relators,	:	
	:	
v.	:	Case No.: 2009-1292
	:	
SEAN D. LOGAN, DIRECTOR	:	
OHIO DEPARTMENT OF	:	
NATURAL RESOURCES, ET AL.	:	
	:	
Respondents.	:	
	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB H

United States
Department of
Agriculture

Farm Service Agency

C.R.P.

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

1998

Date 10-08-1998
Time 08:17
Statement Type 8 Original

Program 97CRP
Application Conservation Reserve

CRP Payment Year 1998 PAGE 1

Name: CHARLES J MEIER
5670 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0134	Transaction	W128100020	1,064.00		CONSERVATION RESERVE ANNUAL - CCC FUNDED
				1,064.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JYPMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-08-1998	00008437			1,064.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				1,064.00	Total Disbursements
				1,064.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling (Authorized Representative of CCC)

Counter-Signed Martha Peterson (Authorized Representative of CCC)

DON001577

9A = $118.

C-R-P 9.14 1999

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-12-1999
Time 14:13
Statement Type B Original

Program 97CRP
Application Conservation Reserve

CRP Payment Year 1999 PAGE 1

Name: CHARLES J MEIER
5670 SCHUNK RD
CELINA, OH 45822-9524

REDACTED

RETAIN FOR TAX PURPOSES

Producer ID

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0134	Transaction	W128500126	1,064.00		CONSERVATION RESERVE ANNUAL - CCC FUNDED
				1,064.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JYPMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-12-1999	D0029738			1,064.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				1,064.00	Total Disbursements
				1,064.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling (Authorized Representative of CCC)

Counter-Signed Doris Marie Will (Authorized Representative of CCC)

DON001565

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

2000

Date 10-03-2000
Time 09:04
Statement Type B Original

Program 97CRP
Application Conservation Reserve

CRP Payment Year 2000 PAGE 1

Name: CHARLES J MEIER
5670 SCHUNK RD
CELINA, OH 45822-9524

Recieved

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0134	Transaction	W127700122	1,064.00		CONSERVATION RESERVE ANNUAL - CCC FUNDED
				1,064.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2000	D0056753			1,064.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				1,064.00	Total Disbursements
				1,064.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001555

C.R.P. 2001

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-02-2001
Time 10:13
Statement Type B Original

Program 97CRP
Application Conservation Reserve

CRP Payment Year 2001 PAGE 1

Name: CHARLES J MEIER
5670 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID (REDACTED)

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0134	Transaction	WB27500105	1,064.00		CONSERVATION RESERVE ANNUAL - CCC FUNDED
				1,064.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-02-2001	D0075150			1,064.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				1,064.00	Total Disbursements
				1,064.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001543

ited States
partment of
riculture

Farm Service Agency

CRP Payment

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

2002

te 10-02-2002
me 10:23
atement Type B Original

Program 97CRP
Application Conservation Reserve

CRP Payment Year 2002 PAGE 1

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

TAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

ransaction Information

eference Number(s)				Amount	STAT	Payment Description
ontract	0134	Transaction	WC27500103	1,064.00		CONSERVATION RESERVE ANNUAL - CCC FUNDED
				1,064.00		Total Payments (Transactions)

isbursement Information

ssue ate	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
0-02-2002	D0083673			1,064.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				1,064.00	Total Disbursements
				1,064.00	Total Program Payment Earned

unds should be available within three working days of issue date.

pproved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001535

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST 2003
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-02-2003
Time 09:03
Statement Type B Original

Program 97CRP
Application Conservation Reserve

CRP Payment Year 2003 PAGE 1

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0134	Transaction	WA27500098	1,064.00		CONSERVATION RESERVE ANNUAL - CCC FUNDED
				1,064.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-02-2003	D0094179			1,064.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				1,064.00	Total Disbursements
				1,064.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001521

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

2004

Date 10-04-2004
Time 10:09
Statement Type B Original

Program 97CRP
Application Conservation Reserve

CRP Payment Year 2004 PAGE 1

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0134	Transaction	WC27800079	1,064.00		CRP PAYMENT - ANNUAL
				1,064.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-04-2004	D0102956			1,064.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				1,064.00	Total Disbursements
				1,064.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001527

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

2005

Date 10-03-2005
Time 11:28
Statement Type B Original

Program 97CRP
Application Conservation Reserve

CRP Payment Year 2005

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0134	Transaction	WF27600077	1,064.00		CRP PAYMENT - ANNUAL
				1,064.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2005	D0114954			1,064.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				1,064.00	Total Disbursements
				1,064.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschelling
(Authorized Representative of CCC)

DON001513

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST 2006
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-02-2006
Time 09:54
Statement Type B Original

Program 97CRP
Application Conservation Reserve

CRP Payment Year 2006 - PAGE 1

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0134	Transaction	WC27500070	1,064.00		CRP PAYMENT - ANNUAL
				1,064.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-02-2006	D0125037			1,064.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				1,064.00	Total Disbursements
				1,064.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rettschlag
(Authorized Representative of CCC)

DON001509

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

2007

Date 10-02-2007
Time 08:48
Statement Type B Original

Program 97CRP
Application Conservation Reserve

CRP Payment Year 2007

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID: REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0134	Transaction	WB27500068	1,064.00		CRP PAYMENT - ANNUAL
				1,064.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-02-2007	D0134794			1,064.00	CHARLES J MEIER Funds to be deposited in: FIRST FINANCIAL BANK, NA
				1,064.00	Total Disbursements
				1,064.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001506

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-08-2008
Time 11:29
Statement Type B Original

Program 08CRP
Application Conservation Reserve

CRP Payment Year 2008

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

REDACTED

RETAIN FOR TAX PURPOSES

Producer II S Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	1070	Transaction	WC28200259	441.00		CRP PAYMENT - ANNUAL
				441.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-08-2008	D0145120			441.00	CHARLES J MEIER Funds to be deposited in: FIRST FINANCIAL BANK, NA
				441.00	Total Disbursements
				441.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joann Rutschilling
(Authorized Representative of CCC)

DON001503

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES
STATEMENT DATE: 10/08/2009

17692 1 AT 0.357 #10 17692 Sec: 76

CHARLES J MEIER
5700 SCHUNK RD
CELINA OH 45822-9524

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	1070	$441.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$441.00	PAYEE: CHARLES J MEIER FUNDS TO BE DEPOSITED IN FIRST FINANCIAL BANK, NA ACCOUNT ENDING IN 8766 ON/ABOUT	10/13/2009

USDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE AGENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL INQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA WEBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER. TO OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE TOP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT. THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL RECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

Recycled Paper

USDA is an Equal Opportunity Employer

DON001500

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

2008

Date 10-08-2008
Time 11:29
Statement Type B Original

Program 08CRP
Application Conservation Reserve

CRP Payment Year 2008 PAGE 1

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

REDACTED

RETAIN FOR TAX PURPOSES Producer ID S Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	1071	Transaction	WC28200260	478.00		CRP PAYMENT - ANNUAL
				478.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-08-2008	D0145121			478.00	CHARLES J MEIER Funds to be deposited in: FIRST FINANCIAL BANK, NA
				478.00	Total Disbursements
				478.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON001502

2009

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES
STATEMENT DATE: 10/08/2009

17692 1 AT 0.357 #10 17692 Sec: 76

CHARLES J MEIER
5700 SCHUNK RD
CELINA OH 45822-9524

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	1071	$478.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$478.00	PAYEE: CHARLES J MEIER FUNDS TO BE DEPOSITED IN FIRST FINANCIAL BANK, NA ACCOUNT ENDING IN 8766 ON/ABOUT	10/13/2009

USDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE AGENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL INQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA WEBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER. TO OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE TOP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT. THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL RECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

Recycled Paper

USDA is an Equal Opportunity Employer

DON001499

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL.	:	
WAYNE T. DONER, ET AL.	:	
	:	
Relators,	:	
	:	
v.	:	Case No.: 2009-1292
	:	
SEAN D. LOGAN, DIRECTOR	:	
OHIO DEPARTMENT OF	:	
NATURAL RESOURCES, ET AL.	:	
	:	
Respondents.	:	
	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB 1

FSA-409 (08-09-96)

1. FARM NO. 4292	NAME & ADDRESS: Powell LTD, 2009 ST RT 49, Celina, Ohio 45822	2. PROGRAM YEAR	4. SERIAL NO. 143
		3. PHOTO NOS.	U.S. DEPARTMENT OF AGRICULTURE, Farm Service Agency, **MEASUREMENT SERVICE RECORD**
5. NAME AND ADDRESS OF PERSON TO CONTACT: Tom 942-1657, Jerry 942-1178		TELEPHONE NO.	6. FARM LOCATION: see attached photocopy

PART A - SERVICE REQUEST AND COST

7. KIND OF SERVICE REQUEST	8. PROGRAM CROP OR LAND USE	9. NO. ACRES	10. NO. PLOTS	11. COST	13. BASIC FARM RATE
Stake and Reference					$ 12.00
Measurement after Planting					
Remeasurement	MEASURE CRP AREA				14. TOTAL ACREAGE COST
OTHER (Specify)					$ 5.00
					15. TOTAL COST OF SERVICE REQUESTED
	Elec. Tb				$ 17.00
	12	12. TOTALS →			

16. PERSON MAKING REQUEST	17. CASH RECEIPT
I hereby agree to pay the cost of the service as requested.	A. PAYMENT RECEIVED FOR SERVICES REQUESTED $ 17.00/100 ☑ CK OR MO #6702 ☐ CASH
SIGNATURE OF PERSON MAKING REQUEST: Jerry L. Powell; DATE: 9-22-03	B. SIGNATURE OF COUNTY OFFICE EMPLOYEE: Doris Marie Will; DATE: 9-22-03

OPERATORS RECEIPT

DON002265

FSA-409 (08-09-96)

1. FARM NO. NAME & ADDRESS	2. PROGRAM YEAR	4. SERIAL NO. 143
	3. PHOTO NOS.	U.S. DEPARTMENT OF AGRICULTURE Farm Service Agency **MEASUREMENT SERVICE RECORD**
5. NAME AND ADDRESS OF PERSON TO CONTACT	TELEPHONE NO.	6. FARM LOCATION

PART A - SERVICE REQUEST AND COST

7. KIND OF SERVICE REQUEST	8. PROGRAM CROP OR LAND USE	9. NO. ACRES	10. NO. PLOTS	11. COST	13. BASIC FARM RATE
☐ Stake and Reference					$
☐ Measurement after Planting					14. TOTAL ACREAGE COST
☐ Remeasurement					$
OTHER *(Specify)*					15. TOTAL COST OF SERVICE REQUESTED
	12. TOTALS →				$

16. PERSON MAKING REQUEST	17. CASH RECEIPT
I hereby agree to pay the cost of the service as requested.	A. PAYMENT RECEIVED FOR SERVICES REQUESTED $ 17.00 ☑ CK OR MO #6760 ☐ CASH
SIGNATURE OF PERSON MAKING REQUEST: [signature] DATE: 9-12-03	B. SIGNATURE OF COUNTY OFFICE EMPLOYEE: Darin Moore Weil DATE: 9-27-03
18. FOR REMEASUREMENT ONLY	19A. SPECIAL INSTRUCTIONS TO REPORTER
A. REFUND FOR *(Crop or service)*	
No Refund ☐	
B. AMOUNT $ / CHECK NO. / DATE / APPROVAL	19B. REPORTER NAME / DATE ISSUED / DATE RETURNED

PART B - RECORD OF MEASUREMENT SERVICE PERFORMED

20. TRACT NO.	21. FIELD NO.	22. CROP OR LAND USE	ACRES DETERMINED 23. GROSS	24. DEDUCTIONS	25. NET	26.	27.	28.	29.	30.	31.
							CRP				
T6628	2	CRP out of flo #1	3.3	—	3.3		3.3				
32. MEASURED ACREAGE											
33. OFFICIAL ACREAGE											
		34. TOTALS →									

35. *REPORTER: All required determinations for this farm visit have been made in accordance with applicable procedures.*	REPORTER: Gerald W. Bollenbacher	DATE: 8-27-03

PART C - PRODUCER'S CERTIFICATION

I have read the measurement service statements and dishonored check statements on the back of the Operators Receipt.

PRODUCER'S INITIALS | DATE

This program or activity will be conducted on a nondiscriminatory basis without regard to race, color, religion, national origin, age, sex, marital status, or disability.

PRIMARY COPY OF SERVICE PERFORMED

DON002266

Filter Strip

Conservation Practice Job Sheet ***(Code 393)***

Specifications

Filter Strip Width and Seeding mixture.

Filter Strip Layout	Strip #1		Strip #2		Strip #3		Strip #4	
Filter Strip Width (ft)	Ft.		Ft.		Ft.		Ft.	
Strip Length along edge of field (ft)	Ft.		Ft.		Ft.		Ft.	
Area (Ac)	Ac.		Ac.		Ac.		Ac.	
Seeding Mixture:	Species	Lbs/ac	Species	Lbs/ac	Species	Lbs/ac	Species	Lbs/ac
• Species # 1	Orchardgrass		@	4 lb/ac				
• Species # 2	Timothy		@	4 lb/ac.				
• Species # 3	Medium Red		Clover	@ 3 lb/Ac.				
Lime (tons/ac)								
N (lbs/ac)	20 lb/Ac.							
P_2O_5	40 lb/Ac.							
K_2O	40 lb/Ac.							
Other Comments: 1 bushel oats per acre								

Site Preparation
Prepare firm or seedbed or no till. Apply lime and fertilizer according to recommendations.

Planting Method(s)
Drill grass and/or legumes seed _____ inches deep uniformly. Establish stand of vegetation according to recommended seeding rate.

If necessary, mulch newly seeded area with _____ tons per acre of mulch material. May seed small grain as a companion crop at the rate of _____ pounds per acre, but clip or harvest before it heads out.

Operation and Maintenance

1. For the purposes of filtering contaminants, permanent filter strip vegetative plantings should be harvested as appropriate to encourage dense growth, maintain an upright growth habit, and remove nutrients and other contaminants that are contained in the plant tissue.
2. Control undesired weed species, especially state-listed noxious weeds.
3. Inspect the filter strip after storm events and repair any gullies that have formed, remove unevenly deposited sediment accumulation that will disrupt sheet flow, reseed disturbed areas, and take other measures to prevent concentrated flow through the filter strip
4. Apply supplemental nutrients as needed to maintain the desired species composition and stand density of the filter strip.
5. To maintain or restore the filter strip's function, periodically regrade the filter strip area when sediment deposition at the filter strip-field interface jeopardizes its function, and then reestablish the filter strip vegetation, if needed. If wildlife habitat is a purpose, destruction of vegetation within the portion of the strip devoted to that purpose should be minimized by regrading only to the extent needed to remove sediment and fill concentrated flow areas.
6. After September 1st do not mow or harvest the grasses or grass/legume mixtures to allow for a good cover to establish prior to winter.
7. Maintain all easements and right-a-ways.
8. For CRP filter strips and other filter strips with desired wildlife purposes delay mowing or harvests until after July 15th.

DON002267

Filter Strip

Conservation Practice Job Sheet *(Code 393)*

Ohio - Natural Resources Conservation Service **June 2002**

For: Powell LTD	Farm #: 4292
Field(s): 1A	Tract #: 6628
Designed By: Jim Will	Approved By: Signature: Jim Will
Date: 9/5/03	Date: 9/5/03

Definition
A strip or area of herbaceous vegetation situated between cropland, grazing land, or disturbed land (including forest land) and environmentally sensitive areas.

Purposes (check all that apply)
- ☐ To reduce sediment, particulate organics, and sediment adsorbed contaminant loadings in runoff.
- ☐ To reduce dissolved contaminant loadings in runoff.
- ☐ To serve as Zone 3 of a Riparian Forest Buffer, Practice Standard 391.
- ☐ To restore, create or enhance herbaceous habitat for wildlife and beneficial insects.
- ☐ To maintain or enhance watershed functions and values.

Condition where practice applies
This practice applies (1) in areas situated below cropland, grazing land, or disturbed land (including forest land) (2) where sediment, particulate organic matter and/or dissolved contaminants may leave these areas and are entering environmentally sensitive areas; (3) in areas where permanent vegetative establishment is needed to enhance wildlife and beneficial insects, or maintain or enhance watershed function. This practice applies when planned as part of a conservation management system.

For questions concerning the application and maintenance of this practice contact Jim Will @ 419-586-2548

The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.

An Equal Opportunity Provider and Employer

This form is available electronically.
CRP-1 (Appendix)
(05-01-03)

See CRP-1 for Privacy Act and Public Burden Statements.

U. S. DEPARTMENT OF AGRICULTURE
Commodity Credit Corporation

APPENDIX TO FORM CRP-1, CONSERVATION RESERVE PROGRAM CONTRACT

NOTE: The authority for collecting the following information is Pub. L. 107-171. This authority allows for the collection of information without prior OMB approval mandated by the Paperwork Reduction Act of 1995. The time required to complete this information collection is estimated to average 3 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

1. DEFINITIONS

The following definitions are applicable to the Conservation Reserve Program (CRP) Contract:

A. **CRP contract or CRP-1** means the program documents including form CRP-1, the applicable contract appendix, conservation plan and the terms of any required easement, if applicable, entered into between CCC and the participant. Such contract shall set forth the terms and conditions for participation in the CRP and receipt of CRP payments.

B. **Current agricultural market value** for offer evaluation purposes means the amount in dollars per acre as determined by CCC to be the adjusted price at which the land placed in the CRP could be rented based on the average cash rental rate, or equivalent, per acre, and which is paid for dryland cropland at the time at which this contract is signed by the participant.

C. **Vegetative cover** means perennial or permanent grasses, legumes, forbs, and shrubs with a life span of 10 years or more, or trees.

D. All other words and phrases, unless the context of subject matter otherwise requires, shall have the meanings assigned to them in the regulations governing the Conservation Reserve Program which are found at 7 CFR Part 1410.

2. ELIGIBILITY REQUIREMENTS FOR CONSERVATION RESERVE PROGRAM

A. By signing the CRP contract, the participant, except in the case of persons qualifying solely as a tenant, certifies that such participant will control the land subject to the contract for the contract period and, if applicable, any easement period and shall, upon demand, provide evidence to CCC demonstrating that such participant will control the land for that period.

B. Land otherwise eligible for the CRP shall not be eligible, except as agreed otherwise, in writing, by CCC, if the land is subject to a deed or other restriction prohibiting the production of agricultural commodities or where a benefit has or will be obtained from a Federal agency in return for the participant's agreement not to produce such commodities on the land during the same time as the land would be enrolled in the CRP. By offering land for enrollment, the participant certifies as a condition for payment that no such restrictions apply to such land.

3. RESTRICTIONS ON PAYMENTS TO FOREIGN PERSONS

A. Any person who enters into this CRP contract or participates in such contract at any time who is not a citizen of the United States or an alien lawfully admitted into the United States for permanent residence under the Immigration and Nationality Act (8 U.S.C. 1101 et. seq.) shall be ineligible to receive annual rental payments under this contract unless such person meets the requirements of 7 CFR Part 1400 which shall be applicable to this contract.

B. Persons succeeding to a CRP contract subject to a reduction in payment under this paragraph 3 for any preceding party shall not be eligible for payments during the contract period greater than those that could have been received by such preceding party.

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-06-2004
Time 10:10
Statement Type B Original

Program 04CRP
Application Conservation Reserve

CRP Payment Year 2004 PAGE 1

Name: POWELL LTD
7009 STATE ROUTE 49
CELINA, OH 45822-9717

RETAIN FOR TAX PURPOSES Producer REDACTED E Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0606	Transaction	Y828000071	241.00		CRP PAYMENT - ANNUAL
				241.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-06-2004	D0104288			241.00	POWELL LTD Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				241.00	Total Disbursements
				241.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Ritschilling
(Authorized Representative of CCC)

DON002270

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-04-2005
Time 14:14
Statement Type B Original

Program 04CRP
Application Conservation Reserve

CRP Payment Year 2005 PAGE 1

Name: POWELL LTD
7009 STATE ROUTE 49
CELINA, OH 45822-9717

RETAIN FOR TAX PURPOSES

Producer REDACTED E

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0606	Transaction	WC27700361	241.00		CRP PAYMENT - ANNUAL
				241.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-04-2005	D0115489			241.00	POWELL LTD Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				241.00	Total Disbursements
				241.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Reitschelling
(Authorized Representative of CCC)

DON002271

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-03-2006
Time 13:09
Statement Type B Original

Program 04CRP
Application Conservation Reserve

CRP Payment Year 2006 PAGE 1

Name: POWELL LTD
7009 STATE ROUTE 49
CELINA, OH 45822-9717

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number:s				Amount	STAT	Payment Description
Contract	0606	Transaction	WB27600235	241.00		CRP PAYMENT - ANNUAL
				241.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2006	D0126460			241.00	POWELL LTD Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				241.00	Total Disbursements
				241.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON002272

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-03-2007
Time 09:45
Statement Type B Original

Program 04CRP
Application Conservation Reserve

CRP Payment Year 2007 PAGE 1

Name: POWELL LTD
7009 STATE ROUTE 49
CELINA, OH 45822-9717

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	1606	Transaction	WC27600189	241.00		CRP PAYMENT - ANNUAL
				241.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ SPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2007	D0135300			241.00	POWELL LTD Funds to be deposited in: FIRST FINANCIAL BANK, NA
				241.00	Total Disbursements
				241.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed _____
(Authorized Representative of CCC)

DON002273

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-07-2008
Time 08:17
Statement Type B Original

Program 04CRP
Application Conservation Reserve

CRP Payment Year 2008 PAGE 1

Name: POWELL LTD
7009 STATE ROUTE 49
CELINA, OH 45822-9717

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0606	Transaction	WA28100067	241.00		CRP PAYMENT - ANNUAL
				241.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-07-2008	D0143144			241.00	POWELL LTD Funds to be deposited in: FIRST FINANCIAL BANK, NA
				241.00	Total Disbursements
				241.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

DON002274

Enclosed is your fiscal year 2008 annual rental payment for the Conservation Reserve Program (CRP) and/or Conservation Reserve Enhancement Program (CREP). The Mercer County FSA would like to thank you for your continuing commitment to conservation.

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

FSA

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES
STATEMENT DATE: 10/08/2009

16801 1 AT 0.357 #10 16801 Sac: 76

POWELL LTD
7009 STATE ROUTE 49
CELINA OH 45822-9717

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	606	$241.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$241.00	PAYEE: POWELL LTD FUNDS TO BE DEPOSITED IN FIRST FINANCIAL BANK, NA ACCOUNT ENDING IN 5632 ON/ABOUT	10/13/2009

DON002275

USDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE AGENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL INQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA WEBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER.
TO OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE TOP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT.
THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL RECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

Recycled Paper

USDA is an Equal Opportunity Employer

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL. WAYNE T. DONER, ET AL.	:	
Relators,	:	
v.	:	Case No.: 2009-1292
SEAN D. LOGAN, DIRECTOR OHIO DEPARTMENT OF NATURAL RESOURCES, ET AL.	:	
Respondents.	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB J

Department of
Agriculture

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-03-2006
Time 13:09
Statement Type B Original

Program 04CRP
Application Conservation Reserve

CRP Payment Year 2006 PAGE 1

Name: SHEETS FARMS INC
7431 WABASH RD
CELINA, OH 45822-9704

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0603	Transaction	WB27600231	562.00		CRP PAYMENT - ANNUAL
				562.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2006	D0126456			562.00	SHEETS FARMS INC Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				562.00	Total Disbursements
				562.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joann Rutschilling
(Authorized Representative of CCC)

DON001451

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL. WAYNE T. DONER, ET AL.	:	
Relators,	:	
v.	:	Case No.: 2009-1292
SEAN D. LOGAN, DIRECTOR OHIO DEPARTMENT OF NATURAL RESOURCES, ET AL.	:	
Respondents.	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB K

United States Department of Agriculture

Farm Service Agency

Mercer County FSA Office
220 W. Livingston, Suite #2
Celina, OH 45822-1632
PH: 419-586-3149
Fax: 419-586-9599

Fridays weed control
begins 10/2008
Ends 9/30/2018

March 6, 2008

COPY

Rita Suhr
7241 Township Line Road
Celina, Ohio 45822-9710

Receive $202.00 annual

RE: Notice of Contract Approval
Farm #5867, Tract #3056, Acres 1.4

Dear Mrs. Suhr:

Your offer to place land in the Conservation Reserve program (CRP) has been approved by the Mercer County Committee.

Enclosed is your signed copy of the CRP contract. The effective date of the CRP contract is October 1, 2008.

An AD-245 (Practice Approval and Payment Application) is also enclosed for those conservation practices that will be established or maintained in accordance with the approved conservation plan as part of your contract. When the practice is completed, you must provide this office with a report of performance by signing the AD-245 and include all receipts affiliated with practice establishment so cost-share payment can be made.

If you have any questions about the CRP or establishment of the conservation practices, please call this office.

Sincerely,

Michael L Baucher, ACED
for Mercer Farm Service Agency

MLB/jmr

Encl.

This program or activity will be conducted on a non-discriminatory basis without regard to race, color, religion, national origin, age, sex, marital status, sexual orientation, or disability.

able electronically.

U.S. DEPARTMENT OF AGRICULTURE
Commodity Credit Corporation

CONSERVATION RESERVE PROGRAM CONTRACT

The authority for collecting the following information is Pub. L. 107-171. This authority allows for the collection of information without prior OMB approval mandated by the Paperwork Reduction Act of 1995. The time required to complete this information collection is estimated to average 4 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

1. ST. & CO CODE & ADMIN. LOCATION: 39 107	2. SIGN-UP NUMBER: 36
3. CONTRACT NUMBER: 1144	4. ACRES FOR ENROLLMENT: 1.4
7. COUNTY OFFICE ADDRESS (Include Zip Code): Mercer County Farm Service Agency, 210 W Livingston St., Ste. 2, Celina, Ohio 45822-1632	5. FARM NUMBER: 5867 / 6. TRACT NUMBER(S): T3056
8. OFFER (Select one): GENERAL ☐ ENVIRONMEMTAL PRIORITY ☒	9. CONTRACT PERIOD FROM: (MM-DD-YYYY) 10/1/2008 TO: (MM-DD-YYYY) 9-30-2018
8. TELEPHONE NUMBER (Include Area Code): 4195863149	

THIS CONTRACT is entered into between the Commodity Credit Corporation (referred to as "CCC") and the undersigned owners, operators, or tenants (who may be referred to as "the Participant".) The Participant agrees to place the designated acreage into the Conservation Reserve Program ("CRP") or other use set by CCC for the stipulated contract period from the date the Contract is executed by the CCC. The Participant also agrees to implement on such designated acreage the Conservation Plan developed for such acreage and approved by the CCC and the Participant. Additionally, the Participant and CCC agree to comply with the terms and conditions contained in this Contract, including the Appendix to this Contract, entitled Appendix to CRP-1, Conservation Reserve Program Contract (referred to as "Appendix"). By signing below, the Participant acknowledges that a copy of the Appendix for the applicable sign-up period has been provided to such person. Such person also agrees to pay such liquidated damages in an amount specified in the Appendix if the Participant withdraws prior to CCC acceptance or rejection. ***The terms and conditions of this contract are contained in this Form CRP-1 and in the CRP-1 Appendix and any addendum thereto. BY SIGNING THIS CONTRACT PRODUCERS ACKNOWLEDGE RECEIPT OF THE FOLLOWING FORMS: CRP-1; CRP-1 Appendix and any addendum thereto; CRP-2 or CRP-2C, if applicable and, if applicable, CRP-15.***

10A. Rental Rate Per Acre $ 144.14

B. Annual Contract Payment $ 202.00

C. First Year Payment $ NA

(Item 10C applicable only to continuous signup when the first year payment is prorated.)

11. Identification of CRP Land *(See Page 2 for additional space)*

A. Tract No.	B. Field No.	C. Practice No.	D. Acres	E. Total Estimated Cost-Share
T3056	3	CP21	1.4	0

12. PARTICIPANTS

A(1) PARTICIPANT'S NAME AND ADDRESS (Zip Code):	(2) SHARE	(3) SOCIAL SECURITY NUMBER: 300-48-0567	
Rex Ferguson 3053 Hone Weir Road Celina, Ohio 45822-9442	0 %	(4) SIGNATURE: Rex Ferguson	DATE (MM-DD-YYYY): 3-5-08
		(If more than three individuals are signing, continue on attachment.)	
B(1) PARTICIPANT'S NAME AND ADDRESS (Zip Code):	(2) SHARE	(3) SOCIAL SECURITY NUMBE REDACTED	
Rita Suhr 7241 Township Line Road Celina, Ohio 45822-9710	100 %	(4) SIGNATURE: Rita K. Suhr	DATE (MM-DD-YYYY): 3/3/2008
		(If more than three individuals are signing, continue on attachment.)	
C(1) PARTICIPANT'S NAME AND ADDRESS (Zip Code):	(2) SHARE	(3) SOCIAL SECURITY NUMBER:	
	%	(4) SIGNATURE	DATE (MM-DD-YYYY)
(If more than three individuals are signing, continue on attachment.)		*(If more than three individuals are signing, continue on attachment.)*	

13. CCC USE ONLY – Payments according to the shares are approved.

A. SIGNATURE OF CCC REPESENTATIVE: MZBL ACA

B. DATE (MM-DD-YYYY): 3-6-08

NOTE: *The following statement is made in accordance with the Privacy Act of 1974 (5 USC 552a) and the Paperwork Reduction Act of 1995, as amended. The authority for requesting the following information is the Food Security Act of 1985, (Pub. L. 99-198), as amended and the Farm Security and Rural Investment Act of 2002 (Pub. L. 107-171) and regulations promulgated at 7 CFR Part 1410 and the Internal Revenue Code (26 USC 6109). The information requested is necessary for CCC to consider and process the offer to enter into a Conservation Reserve Program Contract, to assist in determining eligibility, and to determine the correct parties to the contract. Furnishing the requested information is voluntary. Failure to furnish the requested information will result in determination of ineligibility for certain program benefits and other financial assistance administered by USDA agency. This information may be provided to other agencies, IRS, Department of Justice, or other State and Federal Law enforcement agencies, and in response to a court magistrate or administrative tribunal. The provisions of criminal and civil fraud statutes, including 18 USC 286, 287, 371, 641, 651, 1001; 15 USC 714m; and 31 USC 3729, may be applicable to the information provided.* ***RETURN THIS COMPLETED FORM TO YOUR COUNTY FSA OFFICE.***

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, marital 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 programs.) 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 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

☐ Original – County Office Copy ☐ Owner's Copy ☐ Operator's Copy

COPY

DON001801

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-02-2002
Time 11:08
Statement Type B Original

Program 98CRP
Application Conservation Reserve

CRP Payment Year 2002 PAGE 1

Name: RITA SUHR
7241 TOWNSHIP LINE RD
CELINA, OH 45822-9710

RETAIN FOR TAX PURPOSES

Producer ID REDACTEL

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0276	Transaction	WC27500276	115.00		CONSERVATION RESERVE ANNUAL - CCC FUNDED
				115.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-02-2002	D0083835			115.00	RITA SUHR Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				115.00	Total Disbursements
				115.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

COPY

DON001812

United States
Department of
Agriculture

Farm Service Agency

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-02-2003
Time 09:18
Statement Type B Original

Program 98CRP
Application Conservation Reserve

CRP Payment Year 2003 PAGE 1

Name: RITA SUHR
7241 TOWNSHIP LINE RD
CELINA, OH 45822-9710

RETAIN FOR TAX PURPOSES Producer ID REDACTED Disbursement Statement

Transaction Information

Reference Number(s)			Amount	STAT	Payment Description
Contract 0276	Transaction	WA27500268	115.00		CONSERVATION RESERVE ANNUAL - CCC FUNDED
			115.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-02-2003	D0094336			115.00	RITA SUHR Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				115.00	Total Disbursements
				115.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joann Rittenhouse
(Authorized Representative of CCC)

COPY

DON001813

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-04-2004
Time 14:16
Statement Type B Original

Program 98CRP
Application Conservation Reserve

CRP Payment Year 2004 PAGE 1

Name: RITA SUHR
7241 TOWNSHIP LINE RD
CELINA, OH 45822-9710

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0276	Transaction	WC27800252	115.00		CRP PAYMENT - ANNUAL
				115.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-04-2004	D0103104			115.00	RITA SUHR Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				115.00	Total Disbursements
				115.00	Total Program Payment Earned

Funds should be available within three working days of issue date. OK

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

COPY

Enclosed is your fiscal year 2004 annual rental payment for the Conservation Reserve Program (CRP) and/or Conservation Reserve Enhancement Program (CREP). The Mercer County FSA would like to thank you for your continuing commitment to conservation.

DON001814

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-03-2005
Time 14:49
Statement Type B Original

Program 98CRP
Application Conservation Reserve

CRP Payment Year 2005 PAGE 1

Name: RITA SUHR
7241 TOWNSHIP LINE RD
CELINA, OH 45822-9710

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0276	Transaction	WF27600250	115.00		CRP PAYMENT - ANNUAL
				115.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-03-2005	D0115116			115.00	RITA SUHR Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				115.00	Total Disbursements
				115.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joann Rittenhouse
(Authorized Representative of CCC)

DON001815

COPY

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-05-2007
Time 15:18
Statement Type B Original

Program 98CRP
Application Conservation Reserve

CRP Payment Year 2007 PAGE 1

Name: RITA SUHR
7241 TOWNSHIP LINE RD
CELINA, OH 45822-9710

RETAIN FOR TAX PURPOSES Producer ID REDACTED Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0276	Transaction	WB27800235	115.00		CRP PAYMENT - ANNUAL
				115.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-05-2007	D0135721			115.00	RITA SUHR Funds to be deposited in: FIRST FINANCIAL BANK, NA
				115.00	Total Disbursements
				115.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Joan Rutschilling
(Authorized Representative of CCC)

*** End of Report ***

DON001816

COPY

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-06-2008
Time 08:31
Statement Type B Original

Program 98CRP
Application Conservation Reserve

CRP Payment Year 2008 PAGE 1

Name: RITA SUHR
7241 TOWNSHIP LINE RD
CELINA, OH 45822-9710

RETAIN FOR TAX PURPOSES Producer ID REDACTED Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Contract	0276	Transaction	WC28000098	115.00		CRP PAYMENT - ANNUAL
				115.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-06-2008	D0141752			115.00	RITA SUHR Funds to be deposited in: FIRST FINANCIAL BANK, NA
				115.00	Total Disbursements
				115.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed
(Authorized Representative of CCC)

DON001817

COPY

U.S. DEPARTMENT OF AGRICULTURE
MERCER FSA OFFICE
220 W LIVINGSTON ST SUITE 2
CELINA, OH 45822-1632
(419)586-3149

DISBURSEMENT STATEMENT
RETAIN FOR TAX PURPOSES
STATEMENT DATE: 10/08/2009

17664 1 AT 0.357 #10 17664 Sac: 76

RITA SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

10/2009
ends 9/30/2013

Crop is Corted

PROGRAM PAYMENT DETAIL FOR THIS PAYMENT:

	REFERENCE#	AMOUNT
CRP PAYMENT - ANNUAL RENTAL	1144	$202.00

THIS IS HOW YOUR PROGRAM PAYMENT WAS APPLIED:

REFERENCE#	AMOUNT	WITHHOLDING/OFFSET/ASSIGNMENT/PAYEE	DATE
	$202.00	PAYEE: RITA SUHR FUNDS TO BE DEPOSITED IN FIRST FINANCIAL BANK, NA ACCOUNT ENDING IN 1067 ON/ABOUT	10/13/2009

DON001818

USDA CUSTOMER STATEMENTS AND FINANCIAL INQUIRIES INFORMATION CAN BE ACCESSED ONLINE FROM THE FARM SERVICE AGENCY WEBSITE AT: HTTP://WWW.FSA.USDA.GOV/. SELECT ON-LINE SERVICES IN THE TOP BANNER, THEN SELECT FINANCIAL INQUIRIES FOR PRODUCERS. FOR INFORMATION ON OBTAINING A USDA USER ID AND PASSWORD, PLEASE VISIT THE FSA WEBSITE, SELECT ON-LINE SERVICES IN THE TOP BANNER TO REGISTER OR CONTACT YOUR LOCAL FSA SERVICE CENTER. TO OBTAIN THE CONTACT INFORMATION FOR ANY COUNTY OFFICE FROM THE FSA WEBSITE, SELECT STATE OFFICES IN THE TOP BANNER AND THEN SELECT THE STATE, SELECT THE COUNTY OFFICE LINK AND THEN THE COUNTY YOU WISH TO CONTACT. THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 (DCIA) (31 USC 3716) REQUIRES THE FEDERAL GOVERNMENT TO PROCESS ALL RECIPIENT PAYMENTS THROUGH THE TREASURY OFFSET PROGRAM (TOP). THE PAYMENT MAY BE OFFSET FOR ANY DELINQUENT FEDERAL DEBT.

Recycled Paper

USDA is an Equal Opportunity Employer

COPY

Keep to 2019 10/1/2008 - 9/30/2018 10 yrs. Friday Farm 1.4 acres # 202.00

United States Department of Agriculture

Farm Service Agency

Mercer County FSA Office
220 W. Livingston, Suite #2
Celina, OH 45822-1632
PH: 419-586-3149
Fax: 419-586-9599

March 6, 2008

Rita Suhr
7241 Township Line Road
Celina, Ohio 45822-9710

COPY

RE: Notice of Contract Approval
Farm #5867, Tract #3056, Acres 1.4
Friday

Dear Mrs. Suhr:

Your offer to place land in the Conservation Reserve program (CRP) has been approved by the Mercer County Committee.

Enclosed is your signed copy of the CRP contract. The effective date of the CRP contract is October 1, 2008.

An AD-245 (Practice Approval and Payment Application) is also enclosed for those conservation practices that will be established or maintained in accordance with the approved conservation plan as part of your contract. When the practice is completed, you must provide this office with a report of performance by signing the AD-245 and include all receipts affiliated with practice establishment so cost-share payment can be made.

If you have any questions about the CRP or establishment of the conservation practices, please call this office.

Sincerely,

Michael L Baucher, ACED
for Mercer Farm Service Agency

MLB/jmr

DON001819

Encl.

This program or activity will be conducted on a non-discriminatory basis without regard to race, color, religion, national origin, age, sex, marital status, sexual orientation, or disability.

COPY

ble electronically.

U.S. DEPARTMENT OF AGRICULTURE
Commodity Credit Corporation

CONSERVATION RESERVE PROGRAM CONTRACT

1. ST. & CO CODE & ADMIN. LOCATION 39 107	2. SIGN-UP NUMBER 36
3. CONTRACT NUMBER 1144	4. ACRES FOR ENROLLMENT 1.4
5. FARM NUMBER 5867	6. TRACT NUMBER(S) T3056
8. OFFER (Select one) GENERAL ☐ ENVIRONMEMTAL PRIORITY ☒	9. CONTRACT PERIOD FROM: (MM-DD-YYYY) 10/1/2008 TO: (MM-DD-YYYY) 9-30-2018

TE: The authority for collecting the following information is Pub. L. 107-171. This authority allows for the ection of information without prior OMB approval mandated by the Paperwork Reduction Act of 1995. The time uired to complete this information collection is estimated to average 4 minutes per response, including the time reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and npleting and reviewing the collection of information.

COUNTY OFFICE ADDRESS (Include Zip Code)
ercer County Farm Service Agency
0 W Livingston St., Ste. 2
lina, Ohio 45822-1632

TELEPHONE NUMBER (Include Area Code): 4195863149

IS CONTRACT is entered into between the Commodity Credit Corporation (referred to as "CCC") and the undersigned owners, operators, or tenants (who may be referred to as "the rticipant".) The Participant agrees to place the designated acreage into the Conservation Reserve Program ("CRP") or other use set by CCC for the stipulated contract period from the e the Contract is executed by the CCC. The Participant also agrees to implement on such designated acreage the Conservation Plan developed for such acreage and approved by the C and the Participant. Additionally, the Participant and CCC agree to comply with the terms and conditions contained in this Contract, including the Appendix to this Contract, entitled pendix to CRP-1, Conservation Reserve Program Contract (referred to as "Appendix"). By signing below, the Participant acknowledges that a copy of the Appendix for the applicable n-up period has been provided to such person. Such person also agrees to pay such liquidated damages in an amount specified in the Appendix if the Participant withdraws prior to C acceptance or rejection. ***The terms and conditions of this contract are contained in this Form CRP-1 and in the CRP-1 Appendix and any addendum thereto. BY SIGNING IS CONTRACT PRODUCERS ACKNOWLEDGE RECEIPT OF THE FOLLOWING FORMS: CRP-1; CRP-1 Appendix and any addendum thereto; CRP-2 or CRP-2C, if applicable, d, if applicable, CRP-15.***

A. Rental Rate Per Acre $ 144.14
B. Annual Contract Payment $ 202.00
C. First Year Payment $ NA
em 10C applicable only to continuous signup when the st year payment is prorated.)

11. Identification of CRP Land *(See Page 2 for additional space)*

A. Tract No.	B. Field No.	C. Practice No.	D. Acres	E. Total Estimated Cost-Share
T3056	3	CP21	1.4	0

. PARTICIPANTS

(1) PARTICIPANT'S NAME AND ADDRESS (Zip Code):	(2) SHARE	(3) SOCIAL SECURITY NUMBER:	(4) SIGNATURE	DATE (MM-DD-YYYY)
x Ferguson 53 Hone Weir Road lina, Ohio 45822-9442	0 %	REDACTED	Rex Ferguson	3-5-08
(1) PARTICIPANT'S NAME AND ADDRESS (Zip Code):	(2) SHARE	(3) SOCIAL SECURITY NUMBER:	(4) SIGNATURE	DATE (MM-DD-YYYY)
ta Suhr 41 Township Line Road lina, Ohio 45822-9710	100 %	REDACTED	Rita K. Suhr	3/3/2008
(1) PARTICIPANT'S NAME AND ADDRESS (Zip Code):	(2) SHARE	(3) SOCIAL SECURITY NUMBER:	(4) SIGNATURE	DATE (MM-DD-YYYY)
	%			

more than three individuals are signing, continue on attachment.) *(If more than three individuals are signing, continue on attachment.)*

A. SIGNATURE OF CCC REPESENTATIVE

. CCC USE ONLY – Payments according to the shares are approved.

B. DATE *(MM-DD-YYYY)* 3-6-08

TE: The following statement is made in accordance with the Privacy Act of 1974 (5 USC 552a) and the Paperwork Reduction Act of 1995, as amended. The authority for requesting the following information is the Food Security Act of 1985, (Pub. L. 99-198), as amended and the Farm Security and Rural Investment Act of 2002 (Pub. L. 107-171) and regulations promulgated at 7 CFR Part 1410 and the Internal Revenue Code (26 USC 6109). The information requested is necessary for CCC to consider and process the offer to enter into a Conservation Reserve Program Contract, to assist in determining eligibility, and to determine the correct parties to the contract. Furnishing the requested information is voluntary. Failure to furnish the requested information will result in determination of ineligibility for certain program benefits and other financial assistance administered by USDA agency. This information may be provided to other agencies, IRS, Department of Justice, or other State and Federal Law enforcement agencies, and in response to a court magistrate or administrative tribunal. The provisions of criminal and civil fraud statutes, including 18 USC 286, 287, 371, 641, 651, 1001; 15 USC 714m; and 31 USC 3729, may be applicable to the information provided. ***RETURN THIS COMPLETED FORM TO YOUR COUNTY FSA OFFICE.***

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, al 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 c assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil s, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

☐ Original – County Office Copy ☐ Owner's Copy ☐ Operator's Copy

DON001820 COPY

2004 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

DAVID J SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

Type of Payment	Reportable Income	Refunds From Recipient
DIRECT AND COUNTER CYCLICAL PROG	1,693.00	0.00
7. Total Agriculture Payments	$1,693.00	$0.00

Form CCC - 1099 - G (12-01-04) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-0120 OH-0007483

2005 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

DAVID J SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

Type of Payment	Reportable Income	Refunds From Recipient
DIRECT AND COUNTER CYCLICAL PROG	2,803.00	0.00
LOAN DEFICIENCY	1,213.35	0.00
7. Total Agriculture Payments	$4,016.35	$0.00

Form CCC - 1099 - G (12-12-05) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-01 OH-101323

2006 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

DAVID J SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

Type of Payment	Reportable Income
DIRECT AND COUNTER CYCLICAL PROG	3,034.00
CRP INCENTIVES	510.00
7. Total Agriculture Payments	$3,544.00

DON001806

2007 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

ER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

CIPIENT'S name, street address, city, state, ZIP code

DAVID J SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

Type of Payment	Reportable Income
AUTO CRP - COST SHARES	487.00
DIRECT AND COUNTER CYCLICAL PROG	1,646.00
CRP ANNUAL RENTAL	473.00
CRP INCENTIVES	389.00
7. Total Agriculture Payments	$2,995.00

orm CCC - 1099 - G (12-01-07) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-0120 OH-5740739

2008 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

DAVID J SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

Type of Payment	Reportable Income
DIRECT AND COUNTER CYCLICAL PROG	1,596.00
CRP ANNUAL RENTAL	517.00
7. Total Agriculture Payments	$2,113.00

Form CCC - 1099 - G (12-01-08) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-0120 OH-7159367

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency – Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

CERTAIN GOVERNMENT PAYMENTS

TYPE OF PAYMENTS	REPORTABLE INCOME	REFUNDS FROM PRODUCER
CONSERVATION RESERVE	62.00	0.00
TOTALS	$62.00	$0.00

COPY

IDENTIFICATION NO.	CALENDAR YR.
REDACTED	1998

PRODUCER (Name & Address) Dgo 40247

297 171 **5-DIGIT 45822
RITA SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

CCC-1099-G (10-08-98) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-0120

4835

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

per part

CERTAIN GOVERNMENT PAYMENTS

TYPE OF PAYMENTS	REPORTABLE INCOME	REFUNDS FROM PRODUCER
CRP ANNUAL RENTAL	115.00	0.00
TOTALS	$115.00	$0.00

IDENTIFICATION NO.	CALENDAR YR.
REDACTED	1999

PRODUCER (Name & Address) a 59314

S150 P1**AUTO*******5-DIGIT 45822
RITA SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

CCC-1099-G (01-04-2000) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-0120

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

CERTAIN GOVERNMENT PAYMENTS

TYPE OF PAYMENTS	REPORTABLE INCOME	REFUNDS FROM PRODUCER
CRP ANNUAL RENTAL	115.00	0.00
TOTALS	$115.00	$0.00

IDENTIFICATION NO.	CALENDAR YR.
REDACTED	2000

PRODUCER (Name & Address) Ccc112-22463

57 51 3-DIGIT 458
RITA SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

DON001808

U.S. DEPARTMENT OF AGRICULTURE EIN# 43-0951685

Farm Service Agency - Commodity Credit Corporation

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

CERTAIN GOVERNMENT PAYMENTS

TYPE OF PAYMENTS	REPORTABLE INCOME	REFUNDS FROM PRODUCER
CRP ANNUAL RENTAL	115.00	0.00
TOTALS	$115.00	$0.00

IDENTIFICATION NO.	CALENDAR YR.
REDACTED	2001

PRODUCER (Name & Address) ccc012:23818:280483371

5-DIGIT 45822 94 1
RITA SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

CCC-1099-G (01-04-2000) **REPORT OF PAYMENTS TO PRODUCERS** FORM APPROVED OMB NO. 1545-0120

2002 CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S identification number	Calendar Year
REDACTED	2002

RECIPIENT'S name, street address, city, state, ZIP code

0469027
RITA SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

TYPE OF PAYMENT	REPORTABLE INCOME	REFUNDS FROM RECIPIENT
CRP ANNUAL RENTAL	115.00	0.00
7. Total Agriculture Payments	$115.00	$0.00

Form CCC - 1099 - G (12-16-02) **REPORT OF PAYMENTS TO PRODUCERS** FORM APPROVED OMB NO. 1545-0120

2003 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number	PAYER'S Federal Identification Number:
REDACTED	43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

0604137
RITA SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

Type Of Payment	Reportable Income	Refunds From Recipient
Crp Annual Rental	115.00	0.00
7. Total Agriculture Payments	$115.00	$0.00

DON001809

Form CCC - 1099 - G (12-01-03) **REPORT OF PAYMENTS TO PRODUCERS** FORM APPROVED OMB NO. 1545-0120

2004 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

RITA SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

Type of Payment	Reportable Income	Refunds From Recipient
CRP ANNUAL RENTAL	115.00	0.00
7. Total Agriculture Payments	$115.00	$0.00

Form CCC - 1099 - G (12-01-04) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-0120 OH-0007482

2005 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

RITA SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

Type of Payment	Reportable Income	Refunds From Recipient
CRP ANNUAL RENTAL	115.00	0.00
7. Total Agriculture Payments	$115.00	$0.00

Form CCC - 1099 - G (12-12-05) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-0120 OH-1013240

2006 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

RITA SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

Type of Payment	Reportable Income
CRP ANNUAL RENTAL	115.00
7. Total Agriculture Payments	$115.0

DON001810

2007 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

RITA SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

Type of Payment	Reportable Income
CRP ANNUAL RENTAL	115.00
7. Total Agriculture Payments	$115.00

Form CCC - 1099 - G (12-01-07) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-012(
OH-574074

2008 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

RITA SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

Type of Payment	Reportable Income
AUTO CRP - COST SHARES	8,834.00
CRP ANNUAL RENTAL	357.00
INTEREST PAYMENTS	18.21
CRP INCENTIVES	7,337.00
7. Total Agriculture Payments	$16,546.21

Form CCC - 1099 - G (12-01-08) REPORT OF PAYMENTS TO PRODUCERS FORM APPROVED OMB NO. 1545-012(
OH-715936

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL. WAYNE T. DONER, ET AL.	:	
Relators,	:	
v.	:	Case No.: 2009-1292
SEAN D. LOGAN, DIRECTOR OHIO DEPARTMENT OF NATURAL RESOURCES, ET AL.	:	
Respondents.	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB L

United States
Department of
Agriculture

Farm Service Agency

220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 06-02-1999
Time 08:57
Statement Type B Original

Program 98SYCLDAP
Application Crop Loss

Name: WAYNE T DONER
1325 DONER RD
CELINA, OH 45822-9737

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Comment Information
The payment information reflected on this transaction statement is for the Crop Loss Disaster Assistance Program (CLDAP) for 1998 (single-year) crop losses. The payment has been reduced by a national factor of 0.04900000.

Transaction Information

Reference Number(s)		Amount	STAT	Payment Description
Transaction	X315300104	3,436.00		SINGLE YEAR CROP LOSS DIS ASSIST PROGRAM
		3,436.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASCN/ JYPNT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
06-02-1999	D0025372			3,436.00	WAYNE T DONER Funds to be deposited in: BANK ONE
				3,436.00	Total Disbursements
				3,436.00	Total Program Payment Earned

Crop Loss Detail (Unit/Appln. Crop Amount)

1	SOYBN	1,064.00	3	SOYBN	2,372.00

Funds should be available within three working days of issue date.

Approved: Signed Carl L. Bettinger
(Authorized Representative of CCC)

Counter-Signed Cathy M. Brown
(Authorized Representative of CCC)

DON002170

MPCI SUMMARY OF LOSS

11/13/1998

PAGE: 1

CLAIM NO.: 00403754

POLICY : 1998 34-836-144818
WAYNE & JAN DONER
PHONE (419) 942 - 1968

AGENCY : 34-2523
CROP INSURANCE OF NW OHIO
PHONE (419) 599 - 7782

TOTAL NET LOSS	$3,445.00
PREVIOUS PAID AMOUNTS	$.00
PREMIUM CREDIT	$437.00
INTEREST CREDIT	$5.00
FCIC ADMIN FEE CREDIT	$20.00
AMOUNT OF CHECK	$2,953.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	LPO	LAF	ADJ GUAR	PROD TO COUNT	PRICE	SHARE	PAYABLE
SBEAN	01 00	1832	21.30	053	000	H	20.80	N	Y	416.00	274.40	6.00	1.000	850
SBEAN	02 00	3838	43.80	053	000	H	20.20	N	N	.00	914.10	6.00	.500	0
SBEAN	03 00	3839	70.90	053	000	H	20.20	N	Y	1414.00	548.90	6.00	.500	2595

INFORMATION ON FILE

CROP YEAR : 1998
POLICY NO. : 34-836-144818
LEGAL NAME : WAYNE DONER
TAX ID NO. REDACTED

IMPORTANT TAX INFORMATION

THE IRS REQUIRES YOU TO PROVIDE US WITH THE CORRECT TAXPAYER IDENTIFICATION NUMBER WHEN AN INDEMNITY HAS BEEN ISSUED.
IF THE INFORMATION SHOWN IS CORRECT YOU MAY DISREGARD THIS REQUEST.

PRINT ANY CORRECTION TO THE LEGAL NAME OR NUMBER IN THE SPACE PROVIDED AND RETURN TO RCIS ACCOUNTING DEPARTMENT 3501 THURSTON AVENUE, ANOKA MN 55303-1060.

CORRECT LEGAL NAME

SOCIAL SECURITY NUMBER — OR — FEDERAL EMPLOYER TAX ID NUMBER

I CERTIFY THE ACCURACY OF THE INFORMATION PROVIDED. SIGNATURE DATE

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. SEC	TWP	RNG

14. DATE OF DAMAGE			17. ASCS #
15. CAUSE OF DAMAGE			
16. PRIMARY CAUSE %			

18. ADD'L UNITS				
19. EST PROD PER ACRE				
18. ADD'L UNITS				
19. EST PROD PER ACRE				

1. INSURED'S NAME
2. POLICY #
3. CROP YEAR
4. AGENT
5. AGENT CODE #
6. CLAIM #
7. DATE(S) NOTICE OF LOSS 1ST 2ND FINAL
8. COMPANION POLICY
9. ASSIGNMENT OF INDEMNITY? YES _____ NO _____
10. TRANSFER OF RIGHT TO INDEMNITY? YES _____ NO _____
20. DATE HARVEST COMPLETED
21. LAPSE TIME BETWEEN DATES
22. FOOD SECURITY ACT COMPLIANCE: PERSON/OFFICE CONTACTED
DOCUMENT USED: ASCS423 ASCS424 AD1026A IN COMPLIANCE? YES _____ NO _____

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

23. FIELD ID	24. PRELIM. ACRES	25. FINAL ACRES	26. INTEREST OR SHARE	27. RISK	28. PRACTICE	29. TYPE CLASS	30. STAGE	31. INTENDED OR FINAL USE	32. APPRAISED POTENTIAL	33. MOISTURE %	34. SHELL OR QUALITY FACTOR	35. UNINSURED CAUSE	36. REPLANT OR OTHER	37. STAGE GUARA PER ACRE
	38. TOTAL													

DON002113

39. NARRATIVE (If more space is needed, attach a Fact Sheet.)

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
40. VARYING SHARE	41. LENGTH OR DIAMETER	42. WIDTH	43. DEPTH	44. DEDUCTION	45. CONVERSION FACTOR	46. BU. TON LBS. CWT	47. PRODUCTION NOT TO COUNT	48. SHELL/ SUGAR FACTOR	49. FOREIGN MATERIAL %	50. MOISTURE %	51. TEST WT	52. VALUE	MARKET PRICE	53. FACTOR

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, for damage to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States, and that I may be prosecuted under applicable provisions of the Criminal Code of the United States for knowingly or willingly making false statements or filing false reports. Penalty for making false statements and presenting false claim, fine of not more than $10,000 or imprisonment for not more than 5 years, or both (18 U.S.C. 287, 1001), and payment to the United States of damages and forfeitures sustained by reason of the false claim (31 U.S.C. 3729).

54. INSURED'S SIGNATURE	DATE	55. ADJUSTER'S SIGNATURE	CODE NO.	DATE
1ST INSPECTION		1ST INSPECTION		
2ND INSPECTION		2ND INSPECTION		
FINAL INSPECTION		FINAL INSPECTION		

FOR COMPANY USE ONLY

MP-5000 (05-94) White - Processing Center Canary and Goldenrod - Agent Pink - Insured

56. PAGE 1 OF 1

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. SEC	TWP	RNG

14. DATE OF DAMAGE	17. ASCS #
15. CAUSE OF DAMAGE	
16. PRIMARY CAUSE %	

18. ADD'L UNITS					
19. EST. PROD PER ACRE					
18. ADD'L UNITS					
19. EST. PROD PER ACRE					

1. INSURED'S NAME
2. POLICY #
3. CROP YEAR
4. AGENT
5. AGENT CODE #
6. CLAIM #
7. DATE(S) NOTICE OF LOSS 1ST 2ND FINAL
8. COMPANION POLICY
9. ASSIGNMENT OF INDEMNITY? YES ____ NO ____
10. TRANSFER OF RIGHT TO INDEMNITY? YES ____ NO ____
20. DATE HARVEST COMPLETED
21. LAPSE TIME BETWEEN DATES
22. FOOD SECURITY ACT COMPLIANCE: PERSON/OFFICE CONTACTED
DOCUMENT USED: ASCS423 ASCS424 AD1026A IN COMPLIANCE? YES ____ NO ____

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

23. FIELD ID	24. PRELIM ACRES	25. FINAL ACRES	26. INTEREST OR SHARE	27. RISK	28. PRACTICE	29. TYPE CLASS	30. STAGE	31. INTENDED OR FINAL USE	32. APPRAISED POTENTIAL	33. MOISTURE %	34. SHELL OR QUALITY FACTOR	35. UNINSURED CAUSE	36. REPLANT OR OTHER	37. STAGE GUARA PER ACRE
	38. TOTAL													

DON002114

39. NARRATIVE (If more space is needed, attach a Fact Sheet.)

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
40. VARYING SHARE	41. LENGTH OR DIAMETER	42. WIDTH	43. DEPTH	44. DEDUCTION	45. CONVERSION FACTOR	46. BU TON LBS CWT	47. PRODUCTION NOT TO COUNT	48. SHELL/ SUGAR FACTOR	49. FOREIGN MATERIAL %	50. MOISTURE %	51. TEST WT	52. VALUE	MARKET PRICE	53. FACTOR

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, for damage to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States, and that I may be prosecuted under applicable provisions of the Criminal Code of the United States for knowingly or willingly making false statements or filing false reports. Penalty for making false statements and presenting false claim, fine of not more than $10,000 or imprisonment for not more than 5 years, or both (18 U.S.C. 287, 1001), and payment to the United States of damages and forfeitures sustained by reason of the false claim (31 U.S.C. 3729).

54. INSURED'S SIGNATURE	DATE	55. ADJUSTER'S SIGNATURE	CODE NO.	DATE
1ST INSPECTION		1ST INSPECTION		
2ND INSPECTION		2ND INSPECTION		
FINAL INSPECTION		FINAL INSPECTION		

FOR COMPANY USE ONLY

MP-5000 (05-94) White - Processing Center Canary and Goldenrod - Agent Pink - Insured

56. PAGE ____ OF ____

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. SEC	TWP	RNG

14. DATE OF DAMAGE	17. ASCS #
15. CAUSE OF DAMAGE	
16. PRIMARY CAUSE %	

18. ADDL UNITS					
19. EST PROD PER ACRE					
18. ADDL UNITS					
19. EST PROD PER ACRE					

1. INSURED'S NAME
2. POLICY #
3. CROP YEAR
4. AGENT
5. AGENT CODE #
6. CLAIM #
7. DATE(S) NOTICE OF LOSS 1ST 2ND FINAL
8. COMPANION POLICY
9. ASSIGNMENT OF INDEMNITY? YES _____ NO _____
10. TRANSFER OF RIGHT TO INDEMNITY? YES _____ NO _____
20. DATE HARVEST COMPLETED _____
21. LAPSE TIME BETWEEN DATES _____
22. FOOD SECURITY ACT COMPLIANCE: PERSON/OFFICE CONTACTED _____
DOCUMENT USED: ASCS423 ASCS424 AD1026A IN COMPLIANCE? YES _____ NO _____

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

23. FIELD ID	24. PRELIM ACRES	25. FINAL ACRES	26. INTEREST OR SHARE	27. RISK	28. PRACTICE	29. TYPE CLASS	30. STAGE	31. INTENDED OR FINAL USE	32. APPRAISED POTENTIAL	33. MOISTURE %	34. SHELL OR QUALITY FACTOR	35. UNINSURED CAUSE	36. REPLANT OR OTHER	37. STAGE GUARANTEE PER ACRE

38. TOTAL

39. NARRATIVE (If more space is needed, attach a Fact Sheet.)

DON002116

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
40. VARYING SHARE	41. LENGTH OR DIAMETER	42. WIDTH	43. DEPTH	44. DEDUCTION	45. CONVERSION FACTOR	46. BU TON LBS CWT	47. PRODUCTION NOT TO COUNT	48. SHELL/ SUGAR FACTOR	49. FOREIGN MATERIAL %	50. MOISTURE %	51. TEST WT	52. VALUE	MARKET PRICE	53. FACTOR

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, for damage to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States, and that I may be prosecuted under applicable provisions of the Criminal Code of the United States for knowingly or willingly making false statements or filing false reports. Penalty for making false statements and presenting false claim, fine of not more than $10,000 or imprisonment for not more than 5 years, or both (18 U.S.C. 287, 1001), and payment to the United States of damages and forfeitures sustained by reason of the false claim (31 U.S.C. 3729).

54. INSURED'S SIGNATURE	DATE	55. ADJUSTER'S SIGNATURE	CODE NO.	DATE
1ST INSPECTION		1ST INSPECTION		
2ND INSPECTION		2ND INSPECTION		
FINAL INSPECTION		FINAL INSPECTION		

FOR COMPANY USE ONLY

MP-5000 (05-94) White - Processing Center Canary and Goldenroc - Agent Pink - Insured

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. SEC	TWP	RNG	1. INSURED'S NAME	2. POLICY #
14. DATE OF DAMAGE			17. ASCS #		3. CROP YEAR / 4. AGENT	5. AGENT CODE # / 6. CLAIM #
15. CAUSE OF DAMAGE					7. DATE(S) NOTICE OF LOSS 1ST / 2ND / FINAL	8. COMPANION POLICY
16. PRIMARY CAUSE %					9. ASSIGNMENT OF INDEMNITY? YES ____ NO ____	10. TRANSFER OF RIGHT TO INDEMNITY? YES ____ NO ____
18. ADDL UNITS					20. DATE HARVEST COMPLETED	21. LAPSE TIME BETWEEN DATES
19. EST. PROD PER ACRE						
18. ADDL UNITS					22. FOOD SECURITY ACT COMPLIANCE: PERSON/OFFICE CONTACTED	
19. EST. PROD PER ACRE					DOCUMENT USED: ASCS423 ASCS424 AD1026A	IN COMPLIANCE? YES ____ NO ____

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

23. FIELD ID	24. PRELIM ACRES	25. FINAL ACRES	26. INTEREST OR SHARE	27. RISK	28. PRACTICE	29. TYPE CLASS	30. STAGE	31. INTENDED OR FINAL USE	32. APPRAISED POTENTIAL	33. MOISTURE %	34. SHELL OR QUALITY FACTOR	35. UNINSURED CAUSE	36. REPLANT OR OTHER	37. STAGE GUAR PER ACRE
	38. TOTAL													

DON002112

39. NARRATIVE (If more space is needed, attach a Fact Sheet.)

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
40. VARYING SHARE	41. LENGTH OR DIAMETER	42. WIDTH	43. DEPTH	44. DEDUCTION	45. CONVERSION FACTOR	46. BU TON LBS CWT	47. PRODUCTION NOT TO COUNT	48. SHELL/ SUGAR FACTOR	49. FOREIGN MATERIAL %	50. MOISTURE %	51. TEST WT	52. VALUE	MARKET PRICE	53. FACTOR

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, for damage to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States, and that I may be prosecuted under applicable provisions of the Criminal Code of the United States for knowingly or willingly making false statements or filing false reports. Penalty for making false statements and presenting false claim, fine of not more than $10,000 or imprisonment for not more than 5 years, or both (18 U.S.C. 287, 1001), and payment to the United States of damages and forfeitures sustained by reason of the false claim (31 U.S.C. 3729).

54. INSURED'S SIGNATURE	DATE	55. ADJUSTER'S SIGNATURE	CODE NO.	DATE
1ST INSPECTION		1ST INSPECTION		
2ND INSPECTION		2ND INSPECTION		
FINAL INSPECTION Leslie Dorsey	10-28-98	FINAL INSPECTION		

FOR COMPANY USE ONLY

MP-5000 (05-94) White - Processing Center Canary and Goldenrod - Agent Pink - Insured

56. PAGE ___ OF ___

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. SEC	TWP	RNG	1. INSURED'S NAME	2. POLICY #

14. DATE OF DAMAGE	17. ASCS #	3. CROP YEAR	4. AGENT	5. AGENT CODE #	6. CLAIM #

15. CAUSE OF DAMAGE	7. DATE(S) NOTICE OF LOSS 1ST	2ND	FINAL	8. COMPANION POLICY

16. PRIMARY CAUSE %	9. ASSIGNMENT OF INDEMNITY? YES ____ NO ____	10. TRANSFER OF RIGHT TO INDEMNITY? YES ____ NO ____

18. ADD'L UNITS					
19. EST PROD PER ACRE					
18. ADD'L UNITS					
19. EST PROD PER ACRE					

20. DATE HARVEST COMPLETED _____ 21. LAPSE TIME BETWEEN DATES _____

22. FOOD SECURITY ACT COMPLIANCE: PERSON/OFFICE CONTACTED _____

DOCUMENT USED: ASCS423 ASCS424 AD1026A IN COMPLIANCE? YES ____ NO ____

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

23. FIELD ID	24. PRELIM ACRES	25. FINAL ACRES	26. INTEREST OR SHARE	27. RISK	28. PRACTICE	29. TYPE CLASS	30. STAGE	31. INTENDED OR FINAL USE	32. APPRAISED POTENTIAL	33. MOISTURE %	34. SHELL OR QUALITY FACTOR	35. UNINSURED CAUSE	36. REPLANT OR OTHER	37. STAGE GU PER AC
	38. TOTAL													

DON002115

39. NARRATIVE (If more space is needed, attach a Fact Sheet.) _____

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
40. VARYING SHARE	41. LENGTH OR DIAMETER	42. WIDTH	43. DEPTH	44. DEDUCTION	45. CONVERSION FACTOR	46. BU TON LBS CWT	47. PRODUCTION NOT TO COUNT	48. SHELL/ SUGAR FACTOR	49. FOREIGN MATERIAL %	50. MOISTURE %	51. TEST WT	52. VALUE	MARKET PRICE	53. FACTOR

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, for damage to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States, and that I may be prosecuted under applicable provisions of the Criminal Code of the United States for knowingly or willingly making false statements or filing false reports. Penalty for making false statements and presenting false claim, fine of not more than $10,000 or imprisonment for not more than 5 years, or both (18 U.S.C. 287, 1001), and payment to the United States of damages and forfeitures sustained by reason of the false claim (31 U.S.C. 3729).

54. INSURED'S SIGNATURE	DATE	55. ADJUSTER'S SIGNATURE	CODE NO.	DATE
1ST INSPECTION		1ST INSPECTION		
2ND INSPECTION		2ND INSPECTION		
FINAL INSPECTION		FINAL INSPECTION		

FOR COMPANY USE ONLY

MP-5000 (05-94) White - Processing Center Canary and Goldenrod - Agent Pink - Insured

56. PAGE ____ OF ____

1998

PLEASE NOTE

American Agrisurance
P.O. BOX 1574
COUNCIL BLUFFS, IA 51502

American Growers Ins.

Check number: 468235
Check date: 02/23/99

This check is in payment of loss number 98-0529 on policy number MP-208214

The amount of the loss has been reduced by any unpaid premium balance.

Agency 45822-00

FCS MID-AM, ACA/CELINA
123 W. SUMMIT STREET
CELINA, OH 45822

Amount of loss:	$	33811.00
Less unpaid premium:	$	0.00
Amount of check:	$	33811.00

Please retain this stub for your records.

DON001676

Farm Credit Services
At the heart of a growing America℠

123 West Summit Street
Celina, Ohio 45822-1023

CELINA
FEB. 25. 99
OH

U.S. POSTAGE
00.33
POSTALIA 792897
0000016210

Dep 2-26
Crop Insurance
Loss

DON001677

2000

1800
2550
1550

MULTIPLE PERIL CROP INSURANCE SUMMARY OF LOSS
AMERICAN GROWERS INSURANCE CO.

CLM

POLICYHOLDER:
KUHN FARMS
2885 OREGON RD
ROCKFORD, OH. 45882 REDACTED -corp.
(419)363-2290 TAX ID:

POLICY NO. MP-208214 (N) CLAIM NO. 98-0529
CROP YEAR 1998 (SPRING) (01)
STATE 34 OHIO
COUNTY 107 MERCER

AGENCY: 45822-00
FCS MID-AM,ACA/CELINA
123 W. SUMMIT STREET
CELINA, OH 45822
(419)586-4229

	CROP	PRAC	TYPE	ASCS	FARM UNIT	TWP RNGE/ WTR SEC	PLAN TYPE	PLANT DATE	LOSS CAUSE	STAGE	ACRES	GUARANTEE YIELD	TOTAL GUARANTEE	PROD COUNTED	DEFICIENCY AMOUNT	PRICE	INTRST	AMOUNT PAYABLE	GROSS PREMIUM	SUB PREMIUM
1	CORN	NI	65G	2311+	0101	006S 001E 02	APH	05/13	CWW (COLD-WET H		85.70	107.1	9,178.00	6,948.70	2,229.30	2.60	1.000	5,796	1,002	682
2	CORN	NI	65G	3820	0102	006S 001E 01	APH	05/14	CWW (COLD-WET H		43.30	114.8	4,971.00	3,011.30	1,959.70	2.60	1.000	5,095	543	370
3	CORN	NI	65G	3724	0103	006S 001E 11	APH	00/00			.00					2.60	1.000	0	0	0
4	CORN	NI	65G	3724	0104	006S 002E 05	APH	05/13	CWW (COLD-WET H		37.10	97.3	3,610.00	2,619.80	990.20	2.60	1.000	2,575	432	294
5	CORN	NI	65G	3819	0105	006S 001E 23	APH	00/00			.00					2.60	1.000	0	0	0
6	CORN	NI	65G	3820	0106	006S 001E 13	APH	05/14			19.90	120.4	2,396.00			2.60	1.000	0	262	178
7	CORN	NI	65G	3820	0107	006S 001E 12	APH	04/24			88.50	116.9	10,346.00			2.60	1.000	0	1,130	770
8	CORN	NI	65G	3820	0108	006S 001E 14	APH	04/28			37.20	121.1	4,505.00			2.60	1.000	0	492	335
9	CORN	NI	65G	3378	0109	006S 001E 01	APH	00/00			.00					2.60	1.000	0	0	0
10	CORN	NI	65G	3378	0110	006S 001E 02	APH	04/28			38.60	102.2	3,945.00			2.60	1.000	0	472	321

DON001679

MULTIPLE PERIL CROP INSURANCE SUMMARY OF LOSS
AMERICAN GROWERS INSURANCE CO.

POLICYHOLDER:
KUHN FARMS
2885 OREGON RD
ROCKFORD, OH 45882

(419)363-2280 TAX ID REDACTED

POLICY NO. MP-208214 (N) CLAIM NO. 98-0523
CROP YEAR 1998 (SPRING) (01)
STATE 34 OHIO
COUNTY 107 MERCER

AGENCY: 45822-00
FCS MID-AM,ACA/CELINA
123 W. SUMMIT STREET
CELINA, OH 45822

(419)586-4229

	CROP	PRAC	TYPE	ASCS	FARM UNIT	TWP STR	RANGE/ SEC	PLAN TYPE	PLANT DATE	LOSS CAUSE	STAGE	ACRES	GUARANTEE YIELD	TOTAL GUARANTEE	PAID COUNTED	DEFICIENCY AMOUNT	PRICE	INTREST	AMOUNT PAYABLE	GROSS PREMIUM	SUB PREMIUM
11	CORN	NI	GSG	3378	0111	005S	001E 30	APH	00/00			.00					2.60	1.000	0	0	0
12	CORN	NI	GSG	3820	0112	005S	002E 05	APH	04/24			42.60	126.7	5,423.00			2.60	1.000	0	592	403
13	CORN	NI	GSG	3820	0113	005S	002E 08	APH	00/00			.00					2.60	1.000	0	0	0
14	CORN	NI	GSG	1234	0114	005S	002E 03	APH	04/24			26.70	107.8	2,878.00			2.60	1.000	0	314	214
15	CORN	NI	GSG	1234	0115	005S	002E 11	APH	04/24			22.00	108.5	2,387.00			2.60	1.000	0	261	178
16	CORN	NI	GSG	1234	0116	005S	002E 02	APH	00/00			.00					2.60	1.000	0	0	0
17	CORN	NI	GSG	13	0117	004S	001E 36		04/28			35.50	89.6	3,181.00			2.60	1.000	0	422	287
18	CORN	NI	GSG	4637	0118	005S	001E 01		04/23	CHW	(COLD-WET H	74.00	88.9	6,578.00	6,256.70	322.30	2.60	1.000	838	872	594
19	CORN	NI	GSG	4637	0119	005S	001E 15		00/00			.00					2.60	1.000	0	0	0
39	CORN	NI	GSG	2289	0300	005S	001E 12	APH	05/13			14.60	95.2	1,390.00			2.60	.500	0	75	51

PERSON SHARING: ENVART MARTHA

DON001680

MULTIPLE PERIL CROP INSURANCE SUMMARY OF LOSS
AMERICAN GROWERS INSURANCE CO.

POLICYHOLDER:
KUHN FARMS
2885 OREGON RD
ROCKFORD, OH 45882

(419)363-2230 TAX ID: REDACTED

POLICY NO. MP-208214 (N) CLAIM NO. 93-0523
CROP YEAR 1993 (SPRING) (01)
STATE 34 OHIO
COUNTY 107 MERCER

AGENCY: 45822-00
FCS MID-WH,ACA/CELINA
123 W. SUMMIT STREET
CELINA, OH 45822

(419)586-4223

CROP	PRAC	TYPE	FARM ASCS	UNIT	TWP BTR	RANGE/ SEC	PLAN TYPE	PLANT DATE	LOSS CAUSE	STAGE	ACRES	GUARANTEE YIELD	TOTAL GUARANTEE	PROD COUNTED	DEFICIENCY AMOUNT	PRICE	INTRST	AMOUNT PAYABLE	GROSS PREMIUM	SUB PREMIUM
41 CORN	NI	655	2818	0500	008S	002E	APH	05/13			9.30	55.6	892.00			2.60	.500	0	49	33
PERSON SHARING: DVENGER, LARRY						05														
43 CORN	NI	655	1530	0700	008S	002E	APH	00/00			.00					2.60		0	0	0
PERSON SHARING: MERCER COUNTY						05														
45 CORN	NI	655	103	0800	004S	001E	APH	04/28			34.60	111.3	3,851.00			2.60	.500	0	189	129
PERSON SHARING: LE OPAL FRM PT						21														
20 SBEAN	NFAC		3378	0201	008S	000E	APH	05/30	DROUGHT	H	18.00	30.1	542.00	362.10	179.90	6.00	1.000	1,079	146	99
PERSON SHARING:						02														
21 SBEAN	NFAC		3820	0202	008S	001E	APH	05/15	DROUGHT	H	60.70	32.2	1,955.00	976.10	978.90	6.00	1.000	5,873	457	311
PERSON SHARING:						01														
22 SBEAN	NFAC		3724	0203	008S	001E	APH	05/29	DROUGHT	H	38.10	28.0	1,067.00	419.70	647.30	6.00	1.000	3,884	288	196
PERSON SHARING:						11														
23 SBEAN	NFAC		3724	0204	008S	002E	APH	05/29	DROUGHT	H	28.70	29.4	844.00	299.50	544.50	6.00	1.000	3,267	228	155
PERSON SHARING:						05														
24 SBEAN	NFAC		3819	0205	008S	001E	APH	05/16			77.80	35.0	2,723.00			6.00	1.000	0	588	400
PERSON SHARING:						23														
25 SBEAN	NFAC		3378	0205	008S	001E	APH	05/15			40.00	34.3	1,372.00			6.00	1.000	0	321	219
PERSON SHARING:						13														
26 SBEAN	NFAC		3820	0207	008S	001E	APH	05/18			60.50	35.0	2,132.00			6.00	1.000	0	461	314
PERSON SHARING:						12														

DON001681

MULTIPLE PERIL CROP INSURANCE SUMMARY OF LOSS
AMERICAN GROWERS INSURANCE CO.

POLICYHOLDER:
KUHN FARMS
2885 OREGON RD
ROCKFORD, OH 45882

(419)363-2230 TAX ID

REDACTED

POLICY NO. MP-208214 (N) CLAIM NO. SB-0523
CROP YEAR 1988 (SPRING) (01)
STATE 34 OHIO
COUNTY 107 MERCER

AGENCY: 45822-00
FCS MID-AM.RCA/CELINA
123 W. SUMMIT STREET
CELINA, OH 45822

(419)586-4229

CROP PRAC TYPE	ASCS	FARM UNIT	TWP RANGE/ STR SEC	PLAN TYPE	PLANT DATE	LOSS CAUSE	STAGE	ACRES	GUARANTEE YIELD	TOTAL GUARANTEE	PROD COUNTED	DEFICIENCY AMOUNT	PRICE	INTRST	AMOUNT PAYABLE	GROSS PREMIUM	SUB PREMIUM
27 SBEAN NFAC PERSON SHARING:	3820	0203	005S 001E 14	APH	05/13			33.50	35.0	1,173.00			6.00	1.000	0	253	172
28 SBEAN NFAC PERSON SHARING:	3378	0208	005S 001E 01	APH	05/14			136.20	35.7	4,791.00			6.00	1.000	0	1,035	705
29 SBEAN NFAC PERSON SHARING:	3378	0210	005S 001E 02	APH	00/00			.00					6.00	1.000	0	0	0
30 SBEAN NFAC PERSON SHARING:	3378	0211	005S 002E 30	APH	00/00			.00					6.00	1.000	0	0	0
31 SBEAN NFAC PERSON SHARING:	3820	0212	005S 002E 03	APH	05/19			33.30	33.6	1,119.00			6.00	1.000	0	262	178
32 SBEAN NFAC PERSON SHARING:	3820	0213	005S 002E 08	APH	05/19			6.30	36.4	229.00			6.00	1.000	0	49	33
33 SBEAN NFAC PERSON SHARING:	1234	0214	005S 002E 03	APH	00/00			.00					6.00	1.000	0	0	0
34 SBEAN NFAC PERSON SHARING:	1234	0215	005S 002E 11	APH	05/18	DROUGHT	H	17.00	31.5	536.00	279.00	257.00	6.00	1.000	1,542	125	85
35 SBEAN NFAC PERSON SHARING:	1234	0216	005S 002E 02	APH	05/16			105.30	29.4	3,095.00			6.00	1.000	0	835	569
36 SBEAN NFAC PERSON SHARING:	13	0217	004S 001E 36		05/19			37.00	30.8	1,140.00			6.00	1.000	0	308	210

MULTIPLE PERIL CROP INSURANCE SUMMARY OF LOSS
AMERICAN EMPLOYERS INSURANCE CO.

POLICYHOLDER:
KUHN FARMS
2885 OREGON RD
ROCKFORD, OH 45882

(419)363-2250 TAX ID

POLICY NO. MP-208214 (N) CLAIM NO. 58-0529
CROP YEAR 1988 (SPRING) (01)
STATE 34 OHIO
COUNTY 107 MERCER

AGENCY: 45822-00
FCS MID-AM,ROA/CELINA
123 W. SUMMIT STREET
CELINA, OH 45822

(419)586-4229

REDACTED

CROP PRAC TYPE	ASCS	FARM UNIT	TWP RANGE/ BTR SEC	PLAN TYPE	PLANT DATE	LOSS CAUSE	STATE	ACRES	GUARANTEE YIELD	TOTAL GUARANTEE	PROD COUNTED	DEFICIENCY AMOUNT	PRICE	INTREST	AMOUNT PAYABLE	GROSS PREMIUM	SUB PREMIUM
37 SBEAN NFAC	4637	0218	005S 001E		05/13	DROUGHT	H	56.20	30.8	1,731.00	1,255.20	475.80	6.00	1.000	2,855	467	318
PERSON SHARING:			01														
38 SBEAN NFAC	4637	0219	005S 001E		05/19	DROUGHT	H	19.40	30.1	584.00	416.10	167.90	6.00	1.000	1,007	158	108
PERSON SHARING:			15														
40 SBEAN NFAC	2259	0400	005S 001E	APH	05/23			18.70	28.0	524.00			6.00	.500	0	64	44
PERSON SHARING: EMYART, MARTHA			12														
42 SBEAN NFAC	2518	0500	005S 002E	APH	05/28			18.10	28.0	507.00			6.00	.500	0	61	42
PERSON SHARING: DHENGER, LARRY			06														
44 SBEAN NFAC	1530	0800	005S 000E	APH	05/27			25.70	26.6	684.00			6.00	.500	0	95	65
PERSON SHARING: MERCER COUNTY			03														
46 SBEAN NFAC	103	1000	004S 001E	APH	05/14			73.30	30.8	2,258.00			6.00	.500	0	275	187
PERSON SHARING: LE OPAL FRM PT			21														

*** IMPORTANT - KEEP THIS DOCUMENT FOR TAX PURPOSES ***

** FEES **			20
** INTEREST **			0
	33,811	13,585	9,283
AMOUNT OF LOSS APPLIED TO PREMIUM	0.00		
NET AMOUNT PAYABLE	33,811.00		

DRAFT NUMBER 468235 WAS ISSUED ON 02/22/89

DON001683

CCC-540E
(02-01-1999)

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SERVICE AGENCY

04/09/1999
Page 1

S
CHARLES J MEIER
9670 SCHUNK RD
CELINA, OH 45822-9524

Crop Loss Disaster Assistance Program
Producer Entitlement Report
Status - Projected Payments for Initial Application

MERCER
220 W LIVINGSTON ST
CELINA, OH 45822-1632
(419) 586-3149

PART A - PROJECTED DISASTER PAYMENT FOR 1998 SINGLE YEAR LOSSES

INSURED CROPS * - Payment Level 65%

Crop Name	Unit No.	Crop Type	Use	Payment Rate	Payment Yield IR	Payment Yield NI	Stage	Payment Factor	Calculated Payment
SOYBEANS	2	OTHER SOYBEANS	SD	$6.0000		43.00	H	1.0000	$293
						Crop Subtotal			$293

NONINSURABLE CROPS - Payment Level 65%

Producer has not applied for this program

UNINSURED CROPS - Payment Level 60%

Producer has not applied for this program

TOTAL PROJECTED DISASTER PAYMENT FOR 1998 SINGLE YEAR CROP LOSSES $293

Continued

DON001566

CCC-540E
(02-01-1999)

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SERVICE AGENCY

REDACTED

CHARLES J MEIER
5670 SCHUNK RD
CELINA, OH 45822-9524

Crop Loss Disaster Assistance Program
Producer Entitlement Report
Status - Projected Payments for Initial Application

MERCER
220 W LIVINGSTON ST
CELINA, OH 45822-1632
(419) 586-3149

PART B - PROJECTED DISASTER PAYMENT FOR MULTI-YEAR LOSSES

To qualify for a disaster payment for multi-year losses for insured crops, producers must have received a crop insurance indemnity payment in at least 3 of the last 5 years. To qualify for a disaster payment for multi-year losses for noninsurable crops, producers must have received a NAP payment in at least 3 of the last 5 years. These payments could be the result of losses experienced in more than 1 county. The multi-year disaster payment is computed by multiplying the total indemnity and/or NAP payment amounts issued by 25%.

INSURED CROPS	NONINSURABLE CROPS
Producer has not applied for this program	Producer has not applied for this program

DISCLAIMER:

The payment data reflected on this entitlement report includes projected payment amounts based on program eligibility. If the producer qualifies for a disaster payment for 1998 single year losses and multi-year losses, the producer will receive the higher payment. Producers cannot receive both 1998 single year and multi-year loss disaster payments. Payments may be factored to ensure total payments issued under this program do not exceed the program funding allocation.

The calculated payment amounts reflected on this entitlement report may vary due to changes in RMA-provided data, payment acres, payment yields, producer eligibility, producer payment share, crop production, payment factor, and national payment factor.

The distribution of this form does not in any way obligate CCC to disburse the payment amounts reflected.

* Data provided by the Risk Management Agency.

Form Approved OMB No. 0560 - XXXX

CCC-780 (12-27-1999)

U.S. Department of Agriculture
Commodity Credit Corporation

Oilseeds Program Application

1. County Office Name, Address and Telephone Number
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA, OH 45822-1632
(419-586-3149

2. ST. & CO. Code
39107

The following statement is made in accordance with the Privacy Act of 1974(5 USC 552a) and the Paperwork Reduction Act of 1995, as amended. The authority for requesting the following information is Pub.L.106-78. The information will be used to determine eligibility for Oilseeds Program benefits. Furnishing the requested information is voluntary, however, failure to furnish the requested information will result in a determination of ineligibility for Oilseeds Program benefits. This information may be provided to other agencies, IRS, Department of Justice, or other State and Federal Law enforcement agencies, and in response to a court magistrate or administrative tribunal. The provisions of criminal and civil fraud statutes, including 18 USC 286, 287, 371, 641, 651, 1001 and 1014; 15 USC 714m; and 31 USC 3729, may 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 0560-XXXX. The time required to complete this information collection is estimated to average 60 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) 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 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202)720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

PART A - PRODUCER INFORMATION

PRODUCER NAME AND ADDRESS
CHARLES J MEIER
5670 SCHUNK RD
CELINA, OH 45822-9524

ID.NO. REDACTED

PART B - ELIGIBILITY SUMMARY

LOCATION ST.	& CO.	OILSEED	FARM NO.	CROP YEAR	ELIGIBLE ACRES	AVG YIELD	ACTUAL YIELD (AVG) YEAR	YIELD
39	107	SOYBEANS	1434	1998	8.90	44		
39	107	SOYBEANS	1503	1998	10.00	44		
39	107	SOYBEANS	3586	1998	36.10	44		

DON001560

PART C - PRODUCER CERTIFICATION

I certify all information entered on this application is true and correct, and all documents provided are true copies of the transaction reported. Providing a false certification to the government is punishable by imprisonment, fines, and other penalties. All information provided herein is subject to verification by the Commodity Credit Corporation. The provisions of criminal and civil fraud statutes that apply to this certification, includes 18 USC 286, 287, 371, 641, 651, 1001 and 1014; 15 USC 714m; and 31 USC 3729.

PRODUCER SIGNATURE Charles J Meier DATE 3-24-00

PART D - COC ACTION

APPLICATION IS: [✓] APPROVED [ ] DISAPPROVED

COC SIGNATURE [signature] DATE 4/20/00 DW 4-18-00

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 11-05-1998
Time 08:37
Statement Type B Original

Program 1998 Market Loss Assistance
Application Prod. Adj./Prod. Flex.

TOTAL
$1074.00
IN SAVING
DIRECT DEPOSIT

Name: CHARLES J MEIER
5670 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID REDACTED Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Farm	3586	Transaction	W830901464	300.00		MARKET LOSS ASSISTANCE WHEAT
Farm	3586	Transaction	W830901465	494.00		MARKET LOSS ASSISTANCE CORN
				794.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JYPMT	RCCVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
11-05-1998	00013250			300.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
	00013251			494.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				794.00	Total Disbursements
				794.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed _____ Counter-Signed _____
(Authorized Representative of CCC) (Authorized Representative of CCC)

DON001588

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 11-04-1998
Time 09:35
Statement Type B Original

Program 1998 Market Loss Assistance
Application Prod. Adj./Prod. Flex.

Name: CHARLES J MEIER
5470 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID REDACTED Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Farm	1434	Transaction	W830002020	17.00		MARKET LOSS ASSISTANCE WHEAT
Farm	1434	Transaction	W830802022	129.00		MARKET LOSS ASSISTANCE CORN
				146.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JYPMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
11-04-1998	00011181			17.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
	00011183			129.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				146.00	Total Disbursements
				146.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Norman Fleury (Authorized Representative of CCC)

Counter-Signed Carl Bettinger (Authorized Representative of CCC)

DON001589

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 11-04-1998
Time 09:35
Statement Type B Original

Program 1998 Market Loss Assistance
Application Prod. Adj./Prod. Flex.

Name: CHARLES J MEIER
5670 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID REDACTED Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Farm	1503	Transaction	W830802125	58.00		MARKET LOSS ASSISTANCE WHEAT
Farm	1503	Transaction	W830802127	76.00		MARKET LOSS ASSISTANCE CORN
				134.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JYPMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
11-04-1998	00011282			58.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
	00011284			76.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				134.00	Total Disbursements
				134.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Thomas Flaig (Authorized Representative of CCC)

Counter-Signed Carl Bettinger (Authorized Representative of CCC)

DON001590

U.S. DEPARTMENT OF AGRICULTURE

Farm Service Agency – Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

IDENTIFICATION NO. REDACTED

CALENDAR YR. 1998

PRODUCER (Name & Address) Dgo 40246

297 171 **5-DIGIT 45822
DAVID J SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

CERTAIN GOVERNMENT PAYMENTS

TYPE OF PAYMENTS	REPORTABLE INCOME	REFUNDS FROM PRODUCER
LOAN DEFICIENCY	239.34	0.00
PRODUCTION FLEXIBILITY	825.00	0.00
MARKETING LOSS ASSISTANCE	411.00	0.00
TOTALS	$1,475.34	$0.00

COPY

CCC–1099–G (10–08–98)

REPORT OF PAYMENTS TO PRODUCERS

FORM APPROVED OMB NO. 1545–0120

U.S. DEPARTMENT OF AGRICULTURE

Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

IDENTIFICATION NO. REDACTED

CALENDAR YR. 1999

PRODUCER (Name & Address) e 59313

S150 P1**AUTO*******5-DIGIT 45822
DAVID J SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

CERTAIN GOVERNMENT PAYMENTS

TYPE OF PAYMENTS	REPORTABLE INCOME	REFUNDS FROM PRODUCER
LOAN DEFICIENCY	832.16	0.00
MARKET GAINS	1,716.00	0.00
PRODUCTION FLEXIBILITY	795.00	0.00
MARKET LOSS ASSISTANCE	795.00	0.00
TOTALS	$4,138.16	$0.00

CCC-1099-G (01-04-2000)

REPORT OF PAYMENTS TO PRODUCERS

FORM APPROVED OMB NO. 1545-0120

U.S. DEPARTMENT OF AGRICULTURE

Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

IDENTIFICATION NO. REDACTED

CALENDAR YR. 2000

PRODUCER (Name & Address) Ccc112-22464

57 51 3-DIGIT 458
DAVID J SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

CERTAIN GOVERNMENT PAYMENTS

TYPE OF PAYMENTS	REPORTABLE INCOME	REFUNDS FROM PRODUCER
LOAN DEFICIENCY	464.17	0.00
MARKET GAINS	30.03	0.00
PRODUCTION FLEXIBILITY	732.00	0.00
MARKET LOSS ASSISTANCE	795.00	0.00
OILSEED PROGRAM	421.00	0.00

DON001804

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL. WAYNE T. DONER, ET AL.	:	
Relators,	:	
v.	:	Case No.: 2009-1292
SEAN D. LOGAN, DIRECTOR OHIO DEPARTMENT OF NATURAL RESOURCES, ET AL.	:	
Respondents.	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB M

CCC-750E
(03-14-2005)

UNITED STATES DEPARTMENT
FARM SERVICE AGENCY

2901
JANET DONER
1325 DONER RD
CELINA, OH 45822-9737

2003-2005 Crop Disaster Program
Statement of Calculated Payment Amounts
Producer Summary Report

MERCER
220 W LIVINGSTON ST
CELINA, OH 45822-1632
(419) 586-3149

Location St-Cty	Unit	Insured Status	Crop Name	Pay Type	Planting Period	2003 Calculated Payment	2004 Calculated Payment	2005 Calculated Payment
39-107	1.00	I	CORN	11	01	$248*	$0	$0
39-107	2.00	I	CORN	11	01	$626*	$0	$0
39-107	3.00	I	CORN	11	01	$984*	$0	$0
39-107	1.00	I	SOYBEANS	11	01	$398*	$0	$0
39-107	2.00	I	SOYBEANS	11	01	$599*	$0	$0
39-107	3.00	I	SOYBEANS	11	01	$1,471*	$0	$0
			Total Calculated Payment by Year (Approved)			$4,326	$0	$0
			Total Calculated Payment by Year (Enrolled)			$0	$0	$0

DISCLAIMER: The payment data reflected on this entitlement report includes payment amounts based on program eligibility. The calculated payment amounts reflected on this entitlement report may vary due to changes in RMA-provided data, payment acres, payment yields, producer eligibility, producer payment share, crop production, adjustments to affected production attributed to each loss level, and payment limitation. The distribution of this entitlement report does not in any way obligate CCC to disburse the payment amounts reflected.

* - Indicates crop is approved for payment

DON002181

CCC-750E
(03-14-2005)

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SERVICE AGENCY

0233
WAYNE T DONER
1325 DONER RD
CELINA, OH 45822-9737

2003-2005 Crop Disaster Program
Statement of Calculated Payment Amounts
Producer Summary Report

MERCER
220 W LIVINGSTON ST
CELINA, OH 45822-1632
(419) 586-3149

Location St-Cty	Unit	Insured Status	Crop Name	Pay Type	Planting Period	2003 Calculated Payment	2004 Calculated Payment	2005 Calculated Payment
39-107	1.00	I	CORN	11	01	$248*	$0	$0
39-107	2.00	I	CORN	11	01	$626*	$0	$0
39-107	3.00	I	CORN	11	01	$984*	$0	$0
39-107	1.00	I	SOYBEANS	11	01	$398*	$0	$0
39-107	2.00	I	SOYBEANS	11	01	$599*	$0	$0
39-107	3.00	I	SOYBEANS	11	01	$1,471*	$0	$0
			Total Calculated Payment by Year (Approved)			$4,326	$0	$0
			Total Calculated Payment by Year (Enrolled)			$0	$0	$0

DISCLAIMER: The payment data reflected on this entitlement report includes payment amounts based on program eligibility. The calculated payment amounts reflected on this entitlement report may vary due to changes in RMA-provided data, payment acres, payment yields, producer eligibility, producer payment share, crop production, adjustments to affected production attributed to each loss level, and payment limitation. The distribution of this entitlement report does not in any way obligate CCC to disburse the payment amounts reflected.

* - Indicates crop is approved for payment

DON002179

RURAL COMMUNITY INSURANCE AGENCY, INC
3501 THURSTON AVENUE
ANOKA, MN 55303-1060

800/451-3836 EXT. 2300
OR EXT. 2178

THIS DOCUMENT IS ISSUED AS A SUBSTITUTE STATEMENT FOR A 1099 INFORMATION RETURN

WAYNE DONER
1325 DONER RD
CELINA OH 45822

FOR TAX YEAR
2003

TAX PAYER ID NUMBER
REDACTED

1099-MISC (OMB No.1545-0115)

PAYERS FEDERAL
ID NUMBER
41-1708414

SUMMARY OF MISCELLANEOUS INCOME AS REPORTED - CROP INSURANCE PROCEEDS

TYPE OF INS	CROP YEAR/ POLICY NUMBER	CLAIM NUMBER	CLAIM DETAIL AMOUNTS		CLAIM TOTAL
CROPS: CORN SBEAN MPCI	2002 34-951-144818	792988	CHECK AMOUNTS:	3,249.00	
			PREMIUM WTHLD:	.00	3,249.00
CROPS: CORN MPCI	2002 34-951-144818	800621	CHECK AMOUNTS:	504.00	
			PREMIUM WTHLD:	.00	504.00

** WE APPRECIATE YOUR BUSINESS **

TOTAL INDEMNITY PAYMENT REPORTED $3,753.00

TO HAVE ANY CORRECTIONS MADE TO YOUR FORM 1099, YOU MUST CONTACT OUR OFFICE BEFORE FEBRUARY 28, 2004.

THE "TOTAL INDEMNITY PAYMENT" WHICH INCLUDES ALL AMOUNTS DEDUCTED FROM THE CLAIM(S) AND CHECK(S) ISSUED, IS CONSIDERED TAXABLE INCOME BY THE INTERNAL REVENUE SERVICE. PLEASE CONTACT YOUR TAX PREPARER OR THE IRS IF YOU HAVE ANY QUESTIONS ON REPORTING THIS INCOME.

THIS IS IMPORTANT TAX INFORMATION AND IS BEING FURNISHED TO THE INTERNAL REVENUE SERVICE. IF YOU ARE REQUIRED TO FILE A RETURN, A NEGLIGENCE PENALTY OR OTHER SANCTION WILL/MAY BE IMPOSED ON YOU IF THIS INCOME IS TAXABLE AND IRS DETERMINES THAT IT HAS NOT BEEN REPORTED.

RURAL COMMUNITY INSURANCE SERVICES

MPCI SUMMARY OF LOSS

Policy #: 2003 34-951-144818 Claim #: 902653

County: MERCER 107

WAYNE DONER
1325 DONER RD
CELINA OH 45822

Page: 1
Date: 1/12/04

TOTAL NET LOSS	$8,588.00
PREVIOUS PAID AMOUNTS	$.00
AMOUNT OF CHECK	$8,588.00

34-2523 CROP INSURANCE OF NW OHIO
816 N PERRY ST
PO BOX 150
NAPOLEON OH 43545-1502

PHONE (419)599-7782

*PREMIUM BALANCE DUE $.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	LPO	LAF	ADJ GUAR	PROD TO COUNT	PRICE	SHARE	PAYABLE
CORN	01 00	1832	6.00	003	016	H	63.10	N	N	379.00	234.40	2.20	1.000	318
CORN	02 00	3838	28.50	003	016	H	63.70	N	N	1815.00	1011.30	2.20	.500	884
CORN	03 00	3839	35.30	003	016	H	63.10	N	N	2227.00	667.80	2.20	.500	1715
SBEAN	01 00	1832	14.00	053	000	H	22.10	N	N	309.00	151.00	5.30	1.000	837
SBEAN	02 00	3838	42.80	053	000	H	22.10	N	N	946.00	472.80	5.30	.500	1254
SBEAN	03 00	3839	68.50	053	000	H	22.10	N	N	1514.00	163.00	5.30	.500	3580

*BALANCE REFLECTS TRANSACTIONS POSTED AS OF 1/12/2004

Mpsolchk.frm

INFORMATION ON FILE

CROP YEAR: 2003 MPCI
POLICY NO.: 34-951-144818
LEGAL NAME: WAYNE DONER
TAXID NO.:

REDACTED

CORRECT LEGAL NAME (please print)

SOCIAL SECURITY NUMBER

OR

FEDERAL EMPLOYER TAX ID NUMBER

I CERTIFY THE ACCURACY OF THE INFORMATION PROVIDED.

SIGNATURE

DATE

IMPORTANT TAX INFORMATION

THE IRS REQUIRES YOU TO PROVIDE US WITH THE CORRECT TAXPAYER IDENTIFICATION NUMBER WHEN AN INDEMNITY HAS BEEN ISSUED.

IF THE INFORMATION SHOWN IS CORRECT YOU MAY DISREGARD THIS REQUEST. PRINT ANY CORRECTION TO THE LEGAL NAME OR NUMBER IN THE SPACE PROVIDED AND RETURN TO RCIS ACCOUNTING DEPARTMENT 3501 THURSTON AVENUE, ANOKA MN 55303-1060

DON002151

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. LEGAL DESCRIPTION	1. INSURED'S NAME		2. POLICY #
14. DATE OF DAMAGE		17. FSA #	3. CROP YEAR	4. AGENT	5. AGENT CODE # / 6. CLAIM #
15. CAUSE OF DAMAGE			7. DATE(S) NOTICE OF LOSS 1ST / 2ND / FINAL		8. COMPANION POLICY
16. PRIMARY CAUSE %			9. ASSIGNMENT OF INDEMNITY? YES _____ NO _____		10. TRANSFER OF RIGHT TO INDEMNITY? YES _____ NO _____
18. ADD'L UNITS					20. DATE HARVEST COMPLETED
19. EST PROD PER ACRE					21. LAPSE TIME BETWEEN DATES

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

22. FIELD ID	23. PRELIM ACRES	24. FINAL ACRES	25. INTEREST OR SHARE	26. RISK	27. PRACTICE	28. TYPE CLASS	29. STAGE	30. INTENDED OR FINAL USE	31. APPRAISED POTENTIAL	32. MOISTURE %	33. SHELL OR QUALITY FACTOR	34. UNINSURED CAUSE	35. REPLANT OR OTHER	36. GUARANTEE PER ACRE
	37. TOTAL													

DON002135

38. NARRATIVE (If more space is needed, attach a Fact Sheet.)

38a. Is damage similar to other farms in the area? ☐ Yes ☐ No

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
39. VARYING SHARE	40. LENGTH OR DIAMETER	41. WIDTH	42. DEPTH	43. DEDUCTION	44. CONVERSION FACTOR	45. BU TON LBS CWT	46. PRODUCTION NOT TO COUNT	47. SHELL/ SUGAR FACTOR	48. FOREIGN MATERIAL %	49. MOISTURE %	50. TEST WT.	51. VALUE	MARKET PRICE	52. FACTOR

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States. I understand that any false or inaccurate information may result in the sanctions outlined in my policy and administrative, civil, and criminal sanctions under 18 U.S.C. §§1006 and 1014, 7 U.S.C. § 1506, 31 U.S.C. §§3729 and 3730 and other federal statutes.

53. INSURED'S SIGNATURE	DATE	54. ADJUSTER'S SIGNATURE	CODE NO.	DATE	FOR COMPANY USE ONLY
1ST INSPECTION		1ST INSPECTION			
2ND INSPECTION		2ND INSPECTION			
FINAL INSPECTION		FINAL INSPECTION			

MP-5000 (01-02) White - Sales and Service Office Yellow - Agent Pink - Insured

55. PAGE _____ OF _____

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. LEGAL DESCRIPTION	17. FSA #
14. DATE OF DAMAGE			
15. CAUSE OF DAMAGE			
16. PRIMARY CAUSE %			

1. INSURED'S NAME			2. POLICY #
3. CROP YEAR	4. AGENT		5. AGENT CODE # / 6. CLAIM #
7. DATE(S) NOTICE OF LOSS 1ST	2ND	FINAL	8. COMPANION POLICY
9. ASSIGNMENT OF INDEMNITY? YES ____ NO ____			10. TRANSFER OF RIGHT TO INDEMNITY? YES ____ NO ____
			20. DATE HARVEST COMPLETED
			21. LAPSE TIME BETWEEN DATES

18. ADD'L UNITS					
19. EST PROD PER ACRE					

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

22. FIELD ID	23. PRELIM ACRES	24. FINAL ACRES	25. INTEREST OR SHARE	26. RISK	27. PRACTICE	28. TYPE CLASS	29. STAGE	30. INTENDED OR FINAL USE	31. APPRAISED POTENTIAL	32. MOISTURE %	33. SHELL OR QUALITY FACTOR	34. UNINSURED CAUSE	35. REPLANT OR OTHER	36. GUARANTEE PER ACRE
	37. TOTAL													

DON002137

38. NARRATIVE (If more space is needed, attach a Fact Sheet.)

38a. Is damage similar to other farms in the area? ☐ Yes ☐ No

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
39. VARYING SHARE	40. LENGTH OR DIAMETER	41. WIDTH	42. DEPTH	43. DEDUCTION	44. CONVERSION FACTOR	45. BU-TON-LBS CWT.	46. PRODUCTION NOT TO COUNT	47. SHELL/ SUGAR FACTOR	48. FOREIGN MATERIAL %	49. MOISTURE %	50. TEST WT.	51. VALUE	MARKET PRICE	52. FACTOR

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States. I understand that any false or inaccurate information may result in the sanctions outlined in my policy and administrative, civil, and criminal sanctions under 18 U.S.C. §§1006 and 1014, 7 U.S.C. § 1506, 31 U.S.C. §§3729 and 3730 and other federal statutes.

53. INSURED'S SIGNATURE	DATE	54. ADJUSTER'S SIGNATURE	CODE NO.	DATE	FOR COMPANY USE ONLY
1ST INSPECTION		1ST INSPECTION			
2ND INSPECTION		2ND INSPECTION			
FINAL INSPECTION		FINAL INSPECTION			

MP-6000 (01-02) White - Sales and Service Office Yellow - Agent Pink - Insured

55. PAGE ____ OF ____

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. LEGAL DESCRIPTION	1. INSURED'S NAME		2. POLICY #
14. DATE OF DAMAGE			3. CROP YEAR	4. AGENT	5. AGENT CODE # / 6. CLAIM #
15. CAUSE OF DAMAGE		17. FSA #	7. DATE(S) NOTICE OF LOSS 1ST / 2ND / FINAL		8. COMPANION POLICY
16. PRIMARY CAUSE %			9. ASSIGNMENT OF INDEMNITY? YES ____ NO ____		10. TRANSFER OF RIGHT TO INDEMNITY? YES ____ NO ____
18. ADD'L UNITS					20. DATE HARVEST COMPLETED
19. EST PROD PER ACRE					21. LAPSE TIME BETWEEN DATES

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

22. FIELD ID	23. PRELIM ACRES	24. FINAL ACRES	25. INTEREST OR SHARE	26. RISK	27. PRACTICE	28. TYPE CLASS	29. STAGE	30. INTENDED OR FINAL USE	31. APPRAISED POTENTIAL	32. MOISTURE %	33. SHELL OR QUALITY FACTOR	34. UNINSURED CAUSE	35. REPLANT OR OTHER	36. GUARANTEE PER ACRE
	37. TOTAL													

DON002139

38. NARRATIVE (If more space is needed, attach a Fact Sheet.)

38a. Is damage similar to other farms in the area? ☐ Yes ☐ No

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
39. VARYING SHARE	40. LENGTH OR DIAMETER	41. WIDTH	42. DEPTH	43. DEDUCTION	44. CONVERSION FACTOR	45. BU TON LBS CWT	46. PRODUCTION NOT TO COUNT	47. SHELL/ SUGAR FACTOR	48. FOREIGN MATERIAL %	49. MOISTURE %	50. TEST WT	51. VALUE	MARKET PRICE	52. FACTOR

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States. I understand that any false or inaccurate information may result in the sanctions outlined in my policy and administrative, civil, and criminal sanctions under 18 U.S.C. §§1006 and 1014, 7 U.S.C. § 1506, 31 U.S.C. §§3729 and 3730 and other federal statutes.

53. INSURED'S SIGNATURE	DATE	54. ADJUSTER'S SIGNATURE	CODE NO.	DATE	FOR COMPANY USE ONLY
1ST INSPECTION		1ST INSPECTION			
2ND INSPECTION		2ND INSPECTION			
FINAL INSPECTION		FINAL INSPECTION			

MP-5000 (01-02) White - Sales and Service Office Yellow - Agent Pink - Insured

55. PAGE ____ OF ____

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. LEGAL DESCRIPTION	17. FSA #
14. DATE OF DAMAGE			
15. CAUSE OF DAMAGE			
16. PRIMARY CAUSE %			

1. INSURED'S NAME			2. POLICY #
3. CROP YEAR	4. AGENT		5. AGENT CODE # / 6. CLAIM #
7. DATE(S) NOTICE OF LOSS 1ST	2ND	FINAL	8. COMPANION POLICY
9. ASSIGNMENT OF INDEMNITY? YES ____ NO ____			10. TRANSFER OF RIGHT TO INDEMNITY? YES ____ NO ____
18. ADD'L UNITS			20. DATE HARVEST COMPLETED
19. EST. PROD PER ACRE			21. LAPSE TIME BETWEEN DATES

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

22. FIELD ID	23. PRELIM ACRES	24. FINAL ACRES	25. INTEREST OR SHARE	26. RISK	27. PRACTICE	28. TYPE CLASS	29. STAGE	30. INTENDED OR FINAL USE	31. APPRAISED POTENTIAL	32. MOISTURE %	33. SHELL OR QUALITY FACTOR	34. UNINSURED CAUSE	35. REPLANT OR OTHER	36. GUARANTEE PER ACRE
	37. TOTAL													

38. NARRATIVE (If more space is needed, attach a Fact Sheet.)

38a. Is damage similar to other farms in the area? ☐ Yes ☐ No

DON002140

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
39. VARYING SHARE	40. LENGTH OR DIAMETER	41. WIDTH	42. DEPTH	43. DEDUCTION	44. CONVERSION FACTOR	45. BU.TON.LBS CWT	46. PRODUCTION NOT TO COUNT	47. SHELL/ SUGAR FACTOR	48. FOREIGN MATERIAL %	49. MOISTURE %	50. TEST WT	51. VALUE	MARKET PRICE	52. FACTOR

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States. I understand that any false or inaccurate information may result in the sanctions outlined in my policy and administrative, civil, and criminal sanctions under 18 U.S.C. §§1006 and 1014, 7 U.S.C. § 1506, 31 U.S.C. §§3729 and 3730 and other federal statutes.

53. INSURED'S SIGNATURE	DATE	54. ADJUSTER'S SIGNATURE	CODE NO.	DATE	FOR COMPANY USE ONLY
1ST INSPECTION		1ST INSPECTION			
2ND INSPECTION		2ND INSPECTION			
FINAL INSPECTION		FINAL INSPECTION			

MP-5000 (01-02) White - Sales and Service Office Yellow - Agent Pink - Insured

55. PAGE ____ OF ____

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. LEGAL DESCRIPTION		1. INSURED'S NAME		2. POLICY #
14. DATE OF DAMAGE			17. FSA #	3. CROP YEAR	4. AGENT	5. AGENT CODE # / 6. CLAIM #
15. CAUSE OF DAMAGE				7. DATE(S) NOTICE OF LOSS 1ST	2ND / FINAL	8. COMPANION POLICY
16. PRIMARY CAUSE %				9. ASSIGNMENT OF INDEMNITY? YES ____ NO ____		10. TRANSFER OF RIGHT TO INDEMNITY? YES ____ NO ____
18. ADD'L UNITS						20. DATE HARVEST COMPLETED
19. EST PROD PER ACRE						21. LAPSE TIME BETWEEN DATES

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

22. FIELD ID	23. PRELIM ACRES	24. FINAL ACRES	25. INTEREST OR SHARE	26. RISK	27. PRACTICE	28. TYPE CLASS	29. STAGE	30. INTENDED OR FINAL USE	31. APPRAISED POTENTIAL	32. MOISTURE %	33. SHELL OR QUALITY FACTOR	34. UNINSURED CAUSE	35. REPLANT OR OTHER	36. GUARANTEE PER ACRE
	37. TOTAL													

38. NARRATIVE (If more space is needed, attach a Fact Sheet.) _____

38a. Is damage similar to other farms in the area? ☐ Yes ☐ No

DON002142

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
39. VARYING SHARE	40. LENGTH OR DIAMETER	41. WIDTH	42. DEPTH	43. DEDUCTION	44. CONVERSION FACTOR	45. BU TON LBS CWT	46. PRODUCTION NOT TO COUNT	47. SHELL/ SUGAR FACTOR	48. FOREIGN MATERIAL %	49. MOISTURE %	50. TEST WT	51. VALUE	MARKET PRICE	52. FACTOR
	14.8	RWS	2.4		0.5						57.0			
	14.4	CONE	3.0		0.5						57.0			

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States. I understand that any false or inaccurate information may result in the sanctions outlined in my policy and administrative, civil, and criminal sanctions under 18 U.S.C. §§1006 and 1014, 7 U.S.C. § 1506, 31 U.S.C. §§3729 and 3730 and other federal statutes.

53. INSURED'S SIGNATURE	DATE	54. ADJUSTER'S SIGNATURE	CODE NO.	DATE	FOR COMPANY USE ONLY
1ST INSPECTION		1ST INSPECTION			
2ND INSPECTION		2ND INSPECTION			
FINAL INSPECTION		FINAL INSPECTION			

MP-5000 (01-02) White - Sales and Service Office Yellow - Agent Pink - Insured

55. PAGE ____ OF ____

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. LEGAL DESCRIPTION	1. INSURED'S NAME		2. POLICY #
			3. CROP YEAR	4. AGENT	5. AGENT CODE # / 6. CLAIM #
14. DATE OF DAMAGE		17. FSA #	7. DATE(S) NOTICE OF LOSS 1ST / 2ND / FINAL		8. COMPANION POLICY
15. CAUSE OF DAMAGE			9. ASSIGNMENT OF INDEMNITY? YES ____ NO ____		10. TRANSFER OF RIGHT TO INDEMNITY? YES ____ NO ____
16. PRIMARY CAUSE %					20. DATE HARVEST COMPLETED
18. ADD'L UNITS					21. LAPSE TIME BETWEEN DATES
19. EST PROD PER ACRE					

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

22. FIELD ID	23. PRELIM ACRES	24. FINAL ACRES	25. INTEREST OR SHARE	26. RISK	27. PRACTICE	28. TYPE CLASS	29. STAGE	30. INTENDED OR FINAL USE	31. APPRAISED POTENTIAL	32. MOISTURE %	33. SHELL OR QUALITY FACTOR	34. UNINSURED CAUSE	35. REPLANT OR OTHER	36. GUARANTEE PER ACRE
	37. TOTAL													

DON002141

38. NARRATIVE (If more space is needed, attach a Fact Sheet.) _____

38a. Is damage similar to other farms in the area? ☐ Yes ☐ No

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
39. VARYING SHARE	40. LENGTH OR DIAMETER	41. WIDTH	42. DEPTH	43. DEDUCTION	44. CONVERSION FACTOR	45. BU TON LBS CWT	46. PRODUCTION NOT TO COUNT	47. SHELL/ SUGAR FACTOR	48. FOREIGN MATERIAL %	49. MOISTURE %	50. TEST WT	51. VALUE	MARKET PRICE	52. FACTOR
	14.9	Rnd	2.4								57.0			
	14.9	Close	3.5								57.0			

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States. I understand that any false or inaccurate information may result in the sanctions outlined in my policy and administrative, civil, and criminal sanctions under 18 U.S.C. §§1006 and 1014, 7 U.S.C. § 1506, 31 U.S.C. §§3729 and 3730 and other federal statutes.

53. INSURED'S SIGNATURE	DATE	54. ADJUSTER'S SIGNATURE	CODE NO.	DATE	FOR COMPANY USE ONLY
1ST INSPECTION		1ST INSPECTION			
2ND INSPECTION		2ND INSPECTION			
FINAL INSPECTION		FINAL INSPECTION			

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. LEGAL DESCRIPTION	17. FSA #
14. DATE OF DAMAGE			
15. CAUSE OF DAMAGE			
16. PRIMARY CAUSE %			
18. ADD'L UNITS			
19. EST PROD PER ACRE			

1. INSURED'S NAME
2. POLICY #
3. CROP YEAR
4. AGENT
5. AGENT CODE #
6. CLAIM #
7. DATE(S) NOTICE OF LOSS 1ST 2ND FINAL
8. COMPANION POLICY
9. ASSIGNMENT OF INDEMNITY? YES ____ NO ____
10. TRANSFER OF RIGHT TO INDEMNITY? YES ____ NO ____
20. DATE HARVEST COMPLETED
21. LAPSE TIME BETWEEN DATES

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

22. FIELD ID	23. PRELIM ACRES	24. FINAL ACRES	25. INTEREST OR SHARE	26. RISK	27. PRACTICE	28. TYPE CLASS	29. STAGE	30. INTENDED OR FINAL USE	31. APPRAISED POTENTIAL	32. MOISTURE %	33. SHELL OR QUALITY FACTOR	34. UNINSURED CAUSE	35. REPLANT OR OTHER	36. GUARANTEE PER ACRE
37. TOTAL														

38. NARRATIVE (If more space is needed, attach a Fact Sheet.)

38a. Is damage similar to other farms in the area? ☐ Yes ☐ No

DON002144

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
39. VARYING SHARE	40. LENGTH OR DIAMETER	41. WIDTH	42. DEPTH	43. DEDUCTION	44. CONVERSION FACTOR	45. BU TON-LBS CWT	46. PRODUCTION NOT TO COUNT	47. SHELL/ SUGAR FACTOR	48. FOREIGN MATERIAL %	49. MOISTURE %	50. TEST WT	51. VALUE	MARKET PRICE	52. FACTOR

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States. I understand that any false or inaccurate information may result in the sanctions outlined in my policy and administrative, civil, and criminal sanctions under 18 U.S.C. §§1006 and 1014, 7 U.S.C. § 1506, 31 U.S.C. §§3729 and 3730 and other federal statutes.

53. INSURED'S SIGNATURE	DATE	54. ADJUSTER'S SIGNATURE	CODE NO.	DATE	FOR COMPANY USE ONLY
1ST INSPECTION		1ST INSPECTION			
2ND INSPECTION		2ND INSPECTION			
FINAL INSPECTION		FINAL INSPECTION			

RURAL COMMUNITY INSURANCE AGENCY, INC
3501 THURSTON AVENUE
ANOKA, MN 55303-1060

800/451-3836 EXT. 2300
OR EXT. 2178

THIS DOCUMENT IS ISSUED AS A SUBSTITUTE STATEMENT FOR A 1099 INFORMATION RETURN

DONER PARTNERSHIP
929 DONER RD
CELINA OH 45822

FOR TAX YEAR
2003

TAX PAYER ID NUMBER
REDACTED

1099-MISC (OMB No.1545-0115)

PAYERS FEDERAL
ID NUMBER
41-1708414

SUMMARY OF MISCELLANEOUS INCOME AS REPORTED - CROP INSURANCE PROCEEDS

TYPE OF INS	CROP YEAR/ POLICY NUMBER	CLAIM NUMBER	CLAIM DETAIL AMOUNTS		CLAIM TOTAL
CROPS: CORN SBEAN MPCI	2002 34-951-144834	793275	CHECK AMOUNTS:	2,261.00	
			PREMIUM WTHLD:	.00	2,261.00

** WE APPRECIATE YOUR BUSINESS **

TOTAL INDEMNITY PAYMENT REPORTED **$2,261.00**

TO HAVE ANY CORRECTIONS MADE TO YOUR FORM 1099, YOU MUST CONTACT OUR OFFICE BEFORE FEBRUARY 28, 2004.

THE "TOTAL INDEMNITY PAYMENT" WHICH INCLUDES ALL AMOUNTS DEDUCTED FROM THE CLAIM(S) AND CHECK(S) ISSUED, IS CONSIDERED TAXABLE INCOME BY THE INTERNAL REVENUE SERVICE. PLEASE CONTACT YOUR TAX PREPARER OR THE IRS IF YOU HAVE ANY QUESTIONS ON REPORTING THIS INCOME.

THIS IS IMPORTANT TAX INFORMATION AND IS BEING FURNISHED TO THE INTERNAL REVENUE SERVICE. IF YOU ARE REQUIRED TO FILE A RETURN, A NEGLIGENCE PENALTY OR OTHER SANCTION WILL/MAY BE IMPOSED ON YOU IF THIS INCOME IS TAXABLE AND IRS DETERMINES THAT IT HAS NOT BEEN REPORTED.

RURAL COMMUNITY INSURANCE SERVICES

MPCI SUMMARY OF LOSS

Policy #: 2003 34-951-144834 Claim #: 902040

County: MERCER 107

DONER PARTNERSHIP
929 DONER RD
CELINA OH 45822

Page: 1

Date: 1/12/04

TOTAL NET LOSS	$5,295.00
PREVIOUS PAID AMOUNTS	$.00
AMOUNT OF CHECK	$5,295.00

34-2523 CROP INSURANCE OF NW OHIO
816 N PERRY ST
PO BOX 150
NAPOLEON OH 43545-1502

PHONE (419)599-7782

*PREMIUM BALANCE DUE $.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	LPO	LAF	ADJ GUAR	PROD TO COUNT	PRICE	SHARE	PAYABLE
CORN	03 00	3839	35.30	003	016	H	63.10	N	N	2227.00	667.80	2.20	.500	1715
SBEAN	03 00	3839	68.50	053	000	H	22.10	N	N	1514.00	163.00	5.30	.500	3580

*BALANCE REFLECTS TRANSACTIONS POSTED AS OF 1/12/2004

Mpsolchk.frm

INFORMATION ON FILE

CROP YEAR: 2003 MPCI
POLICY NO.: 34-951-144834
LEGAL NAME: DONER PARTNERSHIP
TAXID NO.: REDACTED

IMPORTANT TAX INFORMATION

THE IRS REQUIRES YOU TO PROVIDE US WITH THE CORRECT TAXPAYER IDENTIFICATION NUMBER WHEN AN INDEMNITY HAS BEEN ISSUED.

IF THE INFORMATION SHOWN IS CORRECT YOU MAY DISREGARD THIS REQUEST. PRINT ANY CORRECTION TO THE LEGAL NAME OR NUMBER IN THE SPACE PROVIDED AND RETURN TO RCIS ACCOUNTING DEPARTMENT 3501 THURSTON AVENUE, ANOKA MN 55303-1060

CORRECT LEGAL NAME (please print)

SOCIAL SECURITY NUMBER — OR — FEDERAL EMPLOYER TAX ID NUMBER

I CERTIFY THE ACCURACY OF THE INFORMATION PROVIDED.

SIGNATURE DATE

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. LEGAL DESCRIPTION	17. FSA #
14. DATE OF DAMAGE			
15. CAUSE OF DAMAGE			
16. PRIMARY CAUSE %			

18. ADD'L UNITS									
19. EST PROD PER ACRE									

1. INSURED'S NAME
2. POLICY #
3. CROP YEAR
4. AGENT
5. AGENT CODE #
6. CLAIM #
7. DATE(S) NOTICE OF LOSS 1ST 2ND FINAL
8. COMPANION POLICY
9. ASSIGNMENT OF INDEMNITY? YES _____ NO _____
10. TRANSFER OF RIGHT TO INDEMNITY? YES _____ NO _____
20. DATE HARVEST COMPLETED
21. LAPSE TIME BETWEEN DATES

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

22. FIELD ID	23. PRELIM ACRES	24. FINAL ACRES	25. INTEREST OR SHARE	26. RISK	27. PRACTICE	28. TYPE CLASS	29. STAGE	30. INTENDED OR FINAL USE	31. APPRAISED POTENTIAL	32. MOISTURE %	33. SHELL OR QUALITY FACTOR	34. UNINSURED CAUSE	35. REPLANT OR OTHER	36. GUARANTEE PER ACRE
	37. TOTAL													

38. NARRATIVE (If more space is needed, attach a Fact Sheet.)

38a. Is damage similar to other farms in the area? ☐ Yes ☐ No

DON002143

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
39. VARYING SHARE	40. LENGTH OR DIAMETER	41. WIDTH	42. DEPTH	43. DEDUCTION	44. CONVERSION FACTOR	45. BU TON LBS CWT	46. PRODUCTION NOT TO COUNT	47. SHELL/ SUGAR FACTOR	48. FOREIGN MATERIAL %	49. MOISTURE %	50. TEST WT	51. VALUE	MARKET PRICE	52. FACTOR

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States. I understand that any false or inaccurate information may result in the sanctions outlined in my policy and administrative, civil, and criminal sanctions under 18 U.S.C. §§1006 and 1014, 7 U.S.C. § 1506, 31 U.S.C. §§3729 and 3730 and other federal statutes.

53. INSURED'S SIGNATURE	DATE	54. ADJUSTER'S SIGNATURE	CODE NO.	DATE	FOR COMPANY USE ONLY
1ST INSPECTION		1ST INSPECTION			
2ND INSPECTION		2ND INSPECTION			
FINAL INSPECTION		FINAL INSPECTION			

MP-5000 (01-02) White - Sales and Service Office Yellow - Agent Pink - Insured

55. PAGE _____ OF _____

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. LEGAL DESCRIPTION	1. INSURED'S NAME		2. POLICY #
14. DATE OF DAMAGE			3. CROP YEAR	4. AGENT	5. AGENT CODE # / 6. CLAIM #
15. CAUSE OF DAMAGE		17. FSA #	7. DATE(S) NOTICE OF LOSS 1ST	2ND / FINAL	8. COMPANION POLICY
16. PRIMARY CAUSE %			9. ASSIGNMENT OF INDEMNITY? YES ____ NO ____		10. TRANSFER OF RIGHT TO INDEMNITY? YES ____ NO ____
18. ADD'L UNITS					20. DATE HARVEST COMPLETED
19. EST PROD PER ACRE					21. LAPSE TIME BETWEEN DATES

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

22. FIELD ID	23. PRELIM ACRES	24. FINAL ACRES	25. INTEREST OR SHARE	26. RISK	27. PRACTICE	28. TYPE CLASS	29. STAGE	30. INTENDED OR FINAL USE	31. APPRAISED POTENTIAL	32. MOISTURE %	33. SHELL OR QUALITY FACTOR	34. UNINSURED CAUSE	35. REPLANT OR OTHER	36. GUARANTEE PER ACRE
	37. TOTAL													

DON002136

38. NARRATIVE (If more space is needed, attach a Fact Sheet.)

38a. Is damage similar to other farms in the area? ☐ Yes ☐ No

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
39. VARYING SHARE	40. LENGTH OR DIAMETER	41. WIDTH	42. DEPTH	43. DEDUCTION	44. CONVERSION FACTOR	45. BU TON LBS CWT	46. PRODUCTION NOT TO COUNT	47. SHELL/ SUGAR FACTOR	48. FOREIGN MATERIAL %	49. MOISTURE %	50. TEST WT	51. VALUE	MARKET PRICE	52. FACTOR

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States. I understand that any false or inaccurate information may result in the sanctions outlined in my policy and administrative, civil, and criminal sanctions under 18 U.S.C. §§1006 and 1014, 7 U.S.C. § 1506, 31 U.S.C. §§3729 and 3730 and other federal statutes.

53. INSURED'S SIGNATURE	DATE	54. ADJUSTER'S SIGNATURE	CODE NO.	DATE	FOR COMPANY USE ONLY
1ST INSPECTION		1ST INSPECTION			
2ND INSPECTION		2ND INSPECTION			
FINAL INSPECTION		FINAL INSPECTION			

MP-5000 (01-02) White - Sales and Service Office Yellow - Agent Pink - Insured

55. PAGE 1 OF 1

RURAL COMMUNITY INSURANCE AGENCY, INC
3501 THURSTON AVENUE
ANOKA, MN 55303-1060

800/451-3836 EXT. 2300
OR EXT. 2178

THIS DOCUMENT IS ISSUED AS A SUBSTITUTE STATEMENT FOR A 1099 INFORMATION RETURN

LEOLA R DONER
929 DONER RD
CELINA OH 45822

FOR TAX YEAR
2003

TAX PAYER ID NUMBER
REDACTED

1099-MISC (OMB No.1545-0115)

PAYERS FEDERAL
ID NUMBER
41-1708414

SUMMARY OF MISCELLANEOUS INCOME AS REPORTED - CROP INSURANCE PROCEEDS

TYPE OF INS	CROP YEAR/ POLICY NUMBER	CLAIM NUMBER	CLAIM DETAIL AMOUNTS		CLAIM TOTAL
CROPS: CORN SBEAN MPCI	2002 34-951-144835	793282	CHECK AMOUNTS:	738.00	
			PREMIUM WTHLD:	.00	738.00

** WE APPRECIATE YOUR BUSINESS **

TOTAL INDEMNITY PAYMENT REPORTED $738.00

TO HAVE ANY CORRECTIONS MADE TO YOUR FORM 1099, YOU MUST CONTACT OUR OFFICE BEFORE FEBRUARY 28, 2004.

THE "TOTAL INDEMNITY PAYMENT" WHICH INCLUDES ALL AMOUNTS DEDUCTED FROM THE CLAIM(S) AND CHECK(S) ISSUED, IS CONSIDERED TAXABLE INCOME BY THE INTERNAL REVENUE SERVICE. PLEASE CONTACT YOUR TAX PREPARER OR THE IRS IF YOU HAVE ANY QUESTIONS ON REPORTING THIS INCOME.

THIS IS IMPORTANT TAX INFORMATION AND IS BEING FURNISHED TO THE INTERNAL REVENUE SERVICE. IF YOU ARE REQUIRED TO FILE A RETURN, A NEGLIGENCE PENALTY OR OTHER SANCTION WILL/MAY BE IMPOSED ON YOU IF THIS INCOME IS TAXABLE AND IRS DETERMINES THAT IT HAS NOT BEEN REPORTED.

RURAL COMMUNITY INSURANCE SERVICES

MPCI SUMMARY OF LOSS

Policy #: 2003 34-951-14-4835 Claim #: [illegible]

County: MERCER 107

LEOLA R DONER
929 DONER RD
CELINA OH 45822

Page: 1
Date: 1/12/04

TOTAL NET LOSS	$2,126.00
PREVIOUS PAID AMOUNTS	$.00
AMOUNT OF CHECK	$2,126.00

34-2523 CROP INSURANCE OF NW OHIO
816 N PERRY ST
PO BOX 150
NAPOLEON OH 43545-1502

PHONE (419)599-7782

*PREMIUM BALANCE DUE $.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	LPO	LAF	ADJ GUAR	PROD TO COUNT	PRICE	SHARE	PAYABLE
CORN	02 00	3838	28.50	003	016	H	63.70	N	N	1815.00	1022.50	2.20	.500	872
SBEAN	02 00	3838	42.80	053	000	H	22.10	N	N	946.00	472.80	5.30	.500	1254

*BALANCE REFLECTS TRANSACTIONS POSTED AS OF 1/12/2004

Mpsolchk.frm

INFORMATION ON FILE

CROP YEAR: 2003 · MPCI
POLICY NO.: 34-951-144835
LEGAL NAME: LEOLA R DONER
TAXID NO.: REDACTED

IMPORTANT TAX INFORMATION

THE IRS REQUIRES YOU TO PROVIDE US WITH THE CORRECT TAXPAYER IDENTIFICATION NUMBER WHEN AN INDEMNITY HAS BEEN ISSUED.

IF THE INFORMATION SHOWN IS CORRECT YOU MAY DISREGARD THIS REQUEST. PRINT ANY CORRECTION TO THE LEGAL NAME OR NUMBER IN THE SPACE PROVIDED AND RETURN TO RCIS

mpsolbck2.frm

DON002149

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

Production Worksheet

11. CROP	12. UNIT #	13. LEGAL DESCRIPTION	1. INSURED'S NAME		2. POLICY #
14. DATE OF DAMAGE			3. CROP YEAR	4. AGENT	5. AGENT CODE # / 6. CLAIM #
15. CAUSE OF DAMAGE		17. FSA #	7. DATE(S) NOTICE OF LOSS 1ST / 2ND / FINAL		8. COMPANION POLICY
16. PRIMARY CAUSE %			9. ASSIGNMENT OF INDEMNITY? YES ____ NO ____		10. TRANSFER OF RIGHT TO INDEMNITY? YES ____ NO ____
18. ADD'L UNITS					20. DATE HARVEST COMPLETED
19. EST. PROD PER ACRE					21. LAPSE TIME BETWEEN DATES

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

22. FIELD ID	23. PRELIM ACRES	24. FINAL ACRES	25. INTEREST OR SHARE	26. RISK	27. PRACTICE	28. TYPE CLASS	29. STAGE	30. INTENDED OR FINAL USE	31. APPRAISED POTENTIAL	32. MOISTURE %	33. SHELL OR QUALITY FACTOR	34. UNINSURED CAUSE	35. REPLANT OR OTHER	36. GUARANTEE PER ACRE
	37. TOTAL													

DON002138

38. NARRATIVE (If more space is needed, attach a Fact Sheet.)

38a. Is damage similar to other farms in the area? ☐ Yes ☐ No

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
39. VARYING SHARE	40. LENGTH OR DIAMETER	41. WIDTH	42. DEPTH	43. DEDUCTION	44. CONVERSION FACTOR	45. BU TON LBS CWT	46. PRODUCTION NOT TO COUNT	47. SHELL/ SUGAR FACTOR	48. FOREIGN MATERIAL %	49. MOISTURE %	50. TEST WT	51. VALUE	MARKET PRICE	52. FACTOR

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States. I understand that any false or inaccurate information may result in the sanctions outlined in my policy and administrative, civil, and criminal sanctions under 18 U.S.C. §§1006 and 1014, 7 U.S.C. § 1506, 31 U.S.C. §§3729 and 3730 and other federal statutes.

53. INSURED'S SIGNATURE	DATE	54. ADJUSTER'S SIGNATURE	CODE NO.	DATE	FOR COMPANY USE ONLY
1ST INSPECTION		1ST INSPECTION			
2ND INSPECTION		2ND INSPECTION			
FINAL INSPECTION		FINAL INSPECTION			

MP-5000 (01-02) White - Sales and Service Office Yellow - Agent Pink - Insured

55. PAGE ____ OF ____

RD02 RURAL COMMUNITY INSURANCE SERVICES
405C2 MPCI Loss Inquiry 08:09:50

r St Co. Policy	Claim Number	Agency	Cty	Rein Year
3 34 951 688736	823302	343042	107	2003

Name: JOE & DAVE JOHNSMAN Group:
able to:
/Tax id: REDACTED Last Paid Date: 7/30/2003
Last Change Date: 7/30/2003
al Amt of this Claim: $2,476

Crop	Unit	Acres	Share	Rsk	Prc	Typ	ST	Guar/ Acre	Production to count	Payable	LAF	LPO
RACRN	0102	60.00	1.000		003	016	R	232.32	480.00	1162		
RACRN	0102	9.40	1.000		003	016	R	232.32	75.00	182		
				TOTAL			R		555.00	1344		
RACRN	0103	18.00	1.000		003	016	R	228.45	144.00	348		
RACRN	0103	16.50	1.000		003	016	R	228.45	132.00	319		
RACRN	0103	28.00	1.000		003	016	NR	228.45	.00	0		
				TOTAL			R		276.00	667		
RACRN	0104	11.00	1.000		003	016	R	249.74	88.00	213	+	

=Exit F5=Detail F6=$ F7=Rtn F8=Bwd F9=Key F24=More Keys

EDO2. RURAL COMMUNITY INSURANCE SERVICES 1/20/10
R405C2 **MPCI Loss Inquiry** 08:10:00

r St Co. Policy	Claim Number	Agency	Cty	Rein Year
03 34 951 688736	868345	343042	107	2003

Name: **JOE & DAVE JOHNSMAN** Group:

yable to: REDACTED Last Paid Date: **11/11/2003**
d/Tax id: Last Change Date: **11/11/2003**

tal Amt of this Claim: **$32,705**

Crop	Unit	Acres	Share	Rsk	Prc	Typ	ST	Guar/ Acre	Production to count	Payable	L A F	L P O
CRCSB	0104	10.80	1.000		053	000	UH	35.20	.00	2782		
CRCSB	0104	1.10	1.000		053	000	H	35.20	122.00	163		
CRCSB	0104	6.30	1.000		053	000	UH	35.20	.00	1625		
CRCSB	0104	43.90	1.000		053	000	H	35.20	4811.00	6498		
				TOTAL			**UH**		**.00**	**11068**		
							H		**4933.00**			
CRCSB	0106	14.40	1.000		053	000	UH	34.40	.00	3623		
CRCSB	0106	15.40	1.000		053	000	H	34.40	2068.00	1812	+	

=Exit F5=Detail F6=$ F7=Rtn F8=Bwd F9=Key F24=More Keys

EHED02 RURAL COMMUNITY INSURANCE SERVICES 1/20/10
PR405C2 MPCI Loss Inquiry 08:10:02

ear St Co. Policy	Claim Number	Agency	Cty	Rein Year
003 34 951 688736	897730	343042	107	2003

Name: JOE & DAVE JOHNSMAN Group:

ayable to: REDACTED
SN/Tax id:

Last Paid Date: 1/01/2004
Last Change Date: 1/01/2004

otal Amt of this Claim: $25,416

Crop	Unit	Acres	Share	Rsk	Prc	Typ	ST	Guar/ Acre	Production to count	Payable	L A F	L P O
RACRN	0101	39.00	1.000		003	016	UH	251.68	14415.29	0		
RACRN	0101	8.90	1.000		003	016	H	251.68	3538.88	0		
RACRN	0101	50.90	1.000		003	016	H	251.68	20239.56	0		
				TOTAL			UH		14415.29	0		
							H		23778.44			
RACRN	0103	13.40	1.000		003	016	H	228.45	1664.69	1396		
RACRN	0103	19.70	1.000		003	016	H	228.45	2447.26	2053		
RACRN	0103	29.40	1.000		003	016	H	228.45	3652.41	3064	+	

=Exit F5=Detail F6=$ F7=Rtn F8=Bwd F9=Key F24=More Keys

Loss No. 34-0019-1
Policy No. 34-801-400 2

ADJUSTER'S SPECIAL REPORT

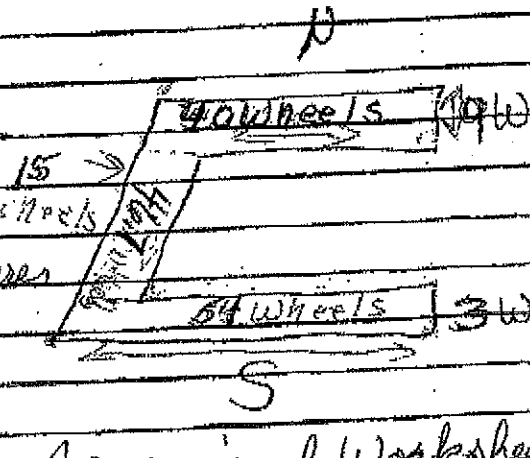
NORTH CENTRAL CROP INS. INSURANCE COMPANY

Date 9/24/03

Name of Insured Chad Knapke
Address 7420 Indiana State Line City Celina State Ohio
Agency Name & Address Multistate Insurance - 458 Lake Rd DE Lancaster Oh.
To Claims

The weeks of July 4th Celina received over 12" of rain. The farm was completely covered with water. The crops all drowned except 1.2 acres of corn surrounding the house. See diagram below + attached Photos

Remaining Corn
9 X 40 = 360.0
15 X 46.7 = 700.5
54 X 3 = 162.0
Total 1222.5 ÷ 1000 = 1.2 acres



On the Stand Reduction Appraisal Worksheet I split the corn field into 1A standing corn 117.8/ac and 1B totally destroyed 0 appraisal
The bean field was also 0 appraisal

Linda Rissmiller Adjuster 34-05

©NCIS 7101 Rev. 96

DON001913

NORTH CENTRAL CROP INSURANCE, INC.
LOSS ACCOUNT
POST OFFICE BOX 1088
EAU CLAIRE, WI 54702-1088

No. 134905

CHAD KNAPE

CROP YEAR	ADJUSTED DATE	LOSS NUMBER	POLICY NUMBER	CHECK DATE	NUMBER
2003	08/11/2003	34-01126-2	34-801-0004002	10/08/2003	134905

POLICY BALANCE

PREMIUM DUE	$880.00
FEES DUE	$60.00
TOTAL PREMIUM	$940.00
LESS PAYMENT($)	$0.00
LESS PREMIUM CREDITS	$940.00
CURRENT BALANCE DUE	**$0.00**

MPCI CLAIM HISTORY

TOTAL LOSS AMOUNT	$22,914.00
LESS PREMIUM CREDIT(S)	$940.00
LESS INTEREST	$0.00
LESS OTHER PAYMENTS	$0.00
TOTAL DEDUCTIONS	$940.00
AMOUNT OF PAYMENT	**$21,974.00**

DETACH BEFORE CASHING

NORTH CENTRAL CROP INSURANCE, INC.
LOSS ACCOUNT
POST OFFICE BOX 1088
EAU CLAIRE, WI 54702-1088

No. 138256

CHAD KNAPE

CROP YEAR	ADJUSTED DATE	LOSS NUMBER	POLICY NUMBER	CHECK DATE	NUMBER
2003	08/11/2003	34-01126-2	34-801-0004002	11/07/2003	138256

POLICY BALANCE		MPCI CLAIM HISTORY	
PREMIUM DUE	$880.00	TOTAL LOSS AMOUNT	$27,036.00
FEES DUE	$60.00	LESS PREMIUM CREDIT(S)	$940.00
TOTAL PREMIUM	$940.00	LESS INTEREST	$0.00
LESS PAYMENT(S)	$0.00	LESS OTHER PAYMENTS	$21,974.00
LESS PREMIUM CREDITS	$940.00	TOTAL DEDUCTIONS	$22,914.00
CURRENT BALANCE DUE	**$0.00**	**AMOUNT OF PAYMENT**	**$4,122.00**

LOSS PAYMENT(S) MADE
1. PAYMENT TO: CHAD KNAPE AMOUNT: $21,974.00

Chad,
EXTRA SOYBEAN PAYMENT ON YOUR HARVEST LOSS,

THANKS FOR
YOUR BUSINESS

Thanks,
Alan

DON001916

AGENCY:

Agency Consulting Enterprises LLC (341100)
458 Lake Rd NB R 5
Lancaster, OH 43130

2003-0390

DETACH BEFORE CASHING

NORTH CENTRAL CROP INSURANCE, INC.
LOSS ACCOUNT
POST OFFICE BOX 1088
EAU CLAIRE, WI 54702-1088

No. 143278

CHAD KNAPE

CROP YEAR	ADJUSTED DATE	LOSS NUMBER	POLICY NUMBER	CHECK DATE	NUMBER
2003	08/11/2003	34-01126-2	34-801-0004002	12/09/2003	143278

POLICY BALANCE

PREMIUM DUE	$880.00
FEES DUE	$60.00
TOTAL PREMIUM	$940.00
LESS PAYMENT(S)	$0.00
LESS PREMIUM CREDITS	$940.00
CURRENT BALANCE DUE	**$0.00 ***

MPCI CLAIM HISTORY

TOTAL LOSS AMOUNT	$27,043.00
LESS PREMIUM CREDIT(S)	$940.00
LESS INTEREST	$0.00
LESS OTHER PAYMENTS	$26,096.00
TOTAL DEDUCTIONS	$27,036.00
AMOUNT OF PAYMENT	**$7.00**

* This balance is the current amount due to NCCI and may not reflect any balance due to your agent.

LOSS PAYMENT(S) MADE

1. PAYMENT TO: CHAD KNAPE AMOUNT: $21,974.00
2. PAYMENT TO: CHAD KNAPE AMOUNT: $4,122.00

DON001915

AGENCY:

Agency Consulting Enterprises LLC (341100)
458 Lake Rd NE R 5
Lancaster, OH 43130

2003-0489

2003

RURAL COMMUNITY INSURANCE SERVICES

MPCI SUMMARY OF LOSS

Policy #: 2003 34-951-688740 Claim #: 883621

County: MERCER 107

KUHN FARMS
2685 OREGON ROAD
ROCKFORD OH 45882
PHONE: (419) 363-2290

Page: 1
Date: 12/08/03

TOTAL NET LOSS	$66,138.00
PREVIOUS PAID AMOUNTS	$.00
AMOUNT OF CHECK	$66,138.00

34-3042 FCS-CELINA
1225 IRMSCHER BLVD STE A
PO BOX 258
CELINA OH 45822-0258

PHONE (419)586-4229

*PREMIUM BALANCE DUE $.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	BASE PRICE	LPO	LAF	ADJ GUAR	PROD TO COUNT	HARVEST PRICE	SHARE	PAYABLE
CRCCN	01 02	3850	56.80	003	016	H	119.20	2.42	N	N	16386.00	7616.00 3370.1 BU	2.26	1.000	8770
CRCCN	01 03	3819	77.80	003	016	H	141.60	2.42	N	Y	26658.67	9905.00 4382.9 BU	2.26	1.000	16754
CRCCN	01 13	1294	39.80	003	016	H	122.40	2.42	N	N	11790.00	5389.00 2384.5 BU	2.26	1.000	6401
CRCCN	01 14	1294	35.40	003	016	H	118.40	2.42	N	Y	10142.12	4872.00 2155.9 BU	2.26	1.000	5270
CRCSB	01 01	2311	29.50	053	000	UH	32.00	5.26	N	N	6910.00	.00 .0 BU	7.32	1.000	6910
CRCSB	01 02	3820	39.40	053	000	H	34.40	5.26	N	Y	9918.31	4611.00 629.9 BU	7.32	1.000	5307
CRCSB	01 12	1294	39.40	053	000	H	36.00	5.26	N	Y	10379.76	5123.00 699.9 BU	7.32	1.000	5257
CRCSB	01 13	1294	32.70	053	000	H	34.40	5.26	N	N	8235.00	2818.00 385.0 BU	7.32	1.000	5417
CRCSB	01 14	1294	35.00	053	000	H	34.40	5.26	N	N	8813.00	4098.00 559.9 BU	7.32	1.000	4715
CRCSB	03 00	2618	22.10	053	000	H	33.60	5.26	N	N	5439.00	4756.00 649.7 BU	7.32	.500	342
CRCSB	04 00	1530	25.50	053	000	H	33.60	5.26	N	N	6273.00	4284.00 585.2 BU	7.32	.500	995

*BALANCE REFLECTS TRANSACTIONS POSTED AS OF 12/08/2003

Mpsolchkr.frm

INFORMATION ON FILE

CROP YEAR: 2003 MPCI
POLICY NO.: 34-951-688740
LEGAL NAME: KUHN FARMS
TAXID NO.: REDACTED

IMPORTANT TAX INFORMATION

THE IRS REQUIRES YOU TO PROVIDE US WITH THE CORRECT TAXPAYER IDENTIFICATION NUMBER WHEN AN INDEMNITY HAS BEEN ISSUED.

IF THE INFORMATION SHOWN IS CORRECT YOU MAY DISREGARD THIS REQUEST. PRINT ANY CORRECTION TO THE LEGAL NAME OR NUMBER IN THE SPACE PROVIDED AND RETURN TO RCIS ACCOUNTING DEPARTMENT 3501 THURSTON AVENUE, ANOKA MN 55303-1060

CORRECT LEGAL NAME (please print)

___ ___ ___ - ___ ___ - ___ ___ ___ ___ OR ___ ___ - ___ ___ ___ ___ ___ ___ ___

SOCIAL SECURITY NUMBER FEDERAL EMPLOYER TAX ID NUMBER

I CERTIFY THE ACCURACY OF THE INFORMATION PROVIDED.

SIGNATURE DATE

DON001722

RURAL COMMUNITY INSURANCE SERVICES

MPCI SUMMARY OF LOSS

Policy #: 2003 34-951-688740 Claim #: 883827

County: MERCER 107

KUHN FARMS
2685 OREGON ROAD
ROCKFORD OH 45882
PHONE: (419) 363-2290

Page: 1
Date: 12/08/03

TOTAL NET LOSS	$1,775.00
PREVIOUS PAID AMOUNTS	$.00
AMOUNT OF CHECK	$1,775.00

34-3042 FCS-CELINA
1225 IRMSCHER BLVD STE A
PO BOX 258
CELINA OH 45822-0258

PHONE (419)586-4229

*PREMIUM BALANCE DUE $.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	BASE PRICE	LPO	LAF	ADJ GUAR	PROD TO COUNT	HARVEST PRICE	SHARE	PAYABLE
CRCCN	01 02	3850	21.70	003	016	R	8.00	2.42	N	N	174.00	.00 .0 BU	.00	1.000	421
		3850	35.10	003	016	NR	.00	2.42	N	N	.00	.00 .0 BU	.00	1.000	0
CRCCN	01 03	3819	24.00	003	016	R	8.00	2.42	N	N	192.00	.00 .0 BU	.00	1.000	465
		3819	53.80	003	016	NR	.00	2.42	N	N	.00	.00 .0 BU	.00	1.000	0
CRCCN	01 15	13	10.00	003	016	R	8.00	2.42	N	N	80.00	.00 .0 BU	.00	1.000	194
		13	26.10	003	016	NR	.00	2.42	N	N	.00	.00 .0 BU	.00	1.000	0
CRCSB	01 02	3820	15.00	053	000	R	3.00	5.26	N	N	45.00	.00 .0 BU	.00	1.000	237
		3820	24.40	053	000	NR	.00	5.26	N	N	.00	.00 .0 BU	.00	1.000	0
CRCSB	01 09	3378	29.10	053	000	R	3.00	5.26	N	N	87.00	.00 .0 BU	.00	1.000	458

*BALANCE REFLECTS TRANSACTIONS POSTED AS OF 12/08/2003

Mpsolchkr.frm

INFORMATION ON FILE

CROP YEAR: 2003 MPCI
POLICY NO.: 34-951-688740
LEGAL NAME: KUHN FARMS
TAXID NO.: REDACTED

CORRECT LEGAL NAME (please print)

___ ___ ___ - ___ ___ - ___ ___ ___ ___ OR ___ ___ - ___ ___ ___ ___ ___ ___ ___

SOCIAL SECURITY NUMBER FEDERAL EMPLOYER TAX ID NUMBER

I CERTIFY THE ACCURACY OF THE INFORMATION PROVIDED.

SIGNATURE DATE

IMPORTANT TAX INFORMATION

THE IRS REQUIRES YOU TO PROVIDE US WITH THE CORRECT TAXPAYER IDENTIFICATION NUMBER WHEN AN INDEMNITY HAS BEEN ISSUED.

IF THE INFORMATION SHOWN IS CORRECT YOU MAY DISREGARD THIS REQUEST. PRINT ANY CORRECTION TO THE LEGAL NAME OR NUMBER IN THE SPACE PROVIDED AND RETURN TO RCIS ACCOUNTING DEPARTMENT 3501 THURSTON AVENUE, ANOKA MN 55303-1060

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

Production Worksheet

11. CROP: Spring	12. UNIT #: 0102	13. LEGAL DESCRIPTION: 2-55-2E	17. FSA #: 4209
14. DATE OF DAMAGE: July			
15. CAUSE OF DAMAGE: Precip			
16. PRIMARY CAUSE %: 100			
18. ADD'L UNITS			
19. EST PROD PER ACRE			

1. INSURED'S NAME: Dave McNeilan
2. POLICY #: 3495167477
3. CROP YEAR: 2003
4. AGENT: Crop Ins. of Western Ohio
5. AGENT CODE #: 3430 21
6. CLAIM #:
7. DATE(S) NOTICE OF LOSS: 1ST: ; 2ND: ; FINAL: 7-31-03
8. COMPANION POLICY: NONE
9. ASSIGNMENT OF INDEMNITY? YES ____ NO —
10. TRANSFER OF RIGHT TO INDEMNITY? YES ____ NO —
20. DATE HARVEST COMPLETED: 11-5-03
21. LAPSE TIME BETWEEN DATES:

SECTION I - ACREAGE, APPRAISED PRODUCTION AND ADJUSTMENTS

22. FIELD ID	23. PRELIM ACRES	24. FINAL ACRES	25. INTEREST OR SHARE	26. RISK	27. PRACTICE	28. TYPE CLASS	29. STAGE	30. INTENDED OR FINAL USE	31. APPRAISED POTENTIAL	32. MOISTURE %	33. SHELL OR QUALITY FACTOR	34. UNINSURED CAUSE	35. REPLANT OR OTHER	36. GUARANTEE PER ACRE
		15.1	1.000		053		H	H						
37. TOTAL		15.1												

38. NARRATIVE (If more space is needed, attach a Fact Sheet.) Acres Per FSA 578 - Production Per Weight Ticket Center

38a. Is damage similar to other farms in the area? ☒ Yes ☐ No

SECTION II - HARVESTED PRODUCTION

MEASUREMENTS					GROSS PRODUCTION			ADJUSTMENTS TO HARVESTED PRODUCTION						
39. VARYING SHARE	40. LENGTH OR DIAMETER	41. WIDTH	42. DEPTH	43. DEDUCTION	44. CONVERSION FACTOR	45. BU ~~TON LBS~~ GWT	46. PRODUCTION NOT TO COUNT	47. SHELL/ SUGAR FACTOR	48. FOREIGN MATERIAL %	49. MOISTURE %	50. TEST WT	51. VALUE	MARKET PRICE	52. FACTOR
Combine-2		Gavin	North	Rockford OH										
= 4577						458.0								

DON001283

I certify the information provided above, to the best of my knowledge, to be true and complete and that it will be used to determine my loss, if any, to my insured crops. I understand that this Production Worksheet and supporting papers are subject to audit and approval by the company. I understand that this crop insurance is subsidized and reinsured by the Federal Crop Insurance Corporation, an agency of the United States. I understand that any false or inaccurate information may result in the sanctions outlined in my policy and administrative, civil, and criminal sanctions under 18 U.S.C. §§1006 and 1014, 7 U.S.C. § 1506, 31 U.S.C. §§3729 and 3730 and other federal statutes.

53. INSURED'S SIGNATURE	DATE	54. ADJUSTER'S SIGNATURE	CODE NO.	DATE	FOR COMPANY USE ONLY
1ST INSPECTION		1ST INSPECTION			
2ND INSPECTION		2ND INSPECTION			
FINAL INSPECTION [signature]	12-12-03	FINAL INSPECTION [signature]	34001	12-12-03	

MP-5000 (01-02) White - Sales and Service Office Yellow - Agent Pink - Insured

55. PAGE 1 OF 1

DATE: 9/15/2003

Production and Yield Report

RURAL COMMUNITY INSURANCE SERVICES

1. INSURED'S NAME	2. CROP YEAR	3. POLICY NO.	4. AGENT'S CODE NO.
David J McNeilan	2003		

5. AGENT'S NAME	PHONE NO.	6. STATE	CODE	7. COUNTY NAME	CODE

8. CROP	PRACTICE	TYPE	9. UNIT
Beans	no till	Roundup WC	

10. LAND LOCATION(s) - SEC, TWP,RNG: Jefferson Twp Section 2 Mercer county Ohio

11. FSA FSN(s): 4209

12. LAND IN OTHER COUNTIES? YES [ ] NO [X]

13. RECORD TYPE*

14. OTHER ENTITIES

15. FARM NAME: Home Farm

16. REMARKS: very wet year, lost over 50% of crop. Books 367NRR 3.6

17. PROC. NO./NAME AND/OR NO. OF TREES/VINES

18. MAP AREA/I' YLD

19. APPLICABLE %

20. YR	21. TOTAL PRODUCTION	22. ACRES	23. YIELD	24. DESC
03	480 bu beans	18.1	26.52	
02	1207 bu wheat	18.1	66.69	
01	1202.33 beans	18.1	66.43	

25. PRIOR YIELD

26. ADJ YIELD

27. YIELD TOTAL

28. DIVIDED BY

29. SIMPLE AVG YIELD

8. CROP	PRACTICE	TYPE	9. UNIT

10. LAND LOCATION(s) - SEC, TWP,RNG

11. FSA FSN(s)

12. LAND IN OTHER COUNTIES? YES [ ] NO [ ]

13. RECORD TYPE*

14. OTHER ENTITIES

15. FARM NAME

16. REMARKS

17. PROC. NO./NAME AND/OR NO. OF TREES/VINES

18. MAP AREA/I' YLD

19. APPLICABLE %

20. YR	21. TOTAL PRODUCTION	22. ACRES	23. YIELD	24. DESC

25. PRIOR YIELD

26. ADJ YIELD

27. YIELD TOTAL

28. DIVIDED BY

29. SIMPLE AVG YIELD

8. CROP	PRACTICE	TYPE	9. UNIT

10. LAND LOCATION(s) - SEC, TWP,RNG

11. FSA FSN(s)

12. LAND IN OTHER COUNTIES? YES [ ] NO [ ]

13. RECORD TYPE*

14. OTHER ENTITIES

15. FARM NAME

16. REMARKS

17. PROC. NO./NAME AND/OR NO. OF TREES/VINES

18. MAP AREA/I' YLD

19. APPLICABLE %

20. YR	21. TOTAL PRODUCTION	22. ACRES	23. YIELD	24. DESC

25. PRIOR YIELD

26. ADJ YIELD

27. YIELD TOTAL

28. DIVIDED BY

29. SIMPLE AVG YIELD

DON001296

* Record Type: 1) Production Sold/Commercial Storage; 2) On Farm Storage, Recorded Bin Measurement; 3) Livestock Feeding Records; 4) FSA Loan Record 5) Appraisals; 6) Other

"I certify that the information I have furnished as reflected on this form is complete and accurate for the commodity(ies), unit(s) and year(s) shown. I understand this form may be reviewed or audited and that information inaccurately reported or failure to retain records to support information on this form, may result in a recomputation of the approved APH yield. I also understand that failure to report completely and accurately may result in voidance of my crop insurance contract and may result in criminal or civil false claims penalties (18 U.S.C. 1008 and 1014; 7 U.S.C. 1506; 31 U.S.C. 3729 and 3730)."

In addition to the specifics of this form, my signature below certifies that I am aware of, and agree to, the Privacy Act of 1974 located on the attachment.

30. INSURED'S SIGNATURE	DATE

MP-3006 (10-00) pc

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

P.O. Box 38
Anoka, MN 55303-0038

2003 SCHEDULE OF INSURANCE / PRODUCTION REPORT

POLICY NO: 2003 OH-951-674775 DAVE MCNEILAN

STATE: 34 OHIO COUNTY: 107 MERCER

CROP	LEVEL	EXP	ASSIGNMENT OF INDEMNITY W/TH	TOTAL ACRES/QTY	ADMIN FEE
CORN	70	1.000		.00	
SBEAN	70	1.000		18.10	$30.00
WHEAT	75				UNPROC

INSURED INFORMATION	AGENT/AGENCY INFORMATION
DAVE MCNEILAN 5256 SR 29 CELINA, OH 45822 (419)586-3205 SSN: REDACTED	CROP INSURANCE OF WESTERN OHIO MATTHEW B VANTILBURG 34-3021 01 8398 CELINA-MENDON ROAD CELINA, OH 45822 (419)586-3077

"I certify that the information I have furnished as reflected on this form is complete and accurate for the commodity(ies), unit(s) and year(s) shown. I understand this form may be reviewed or audited and that information inaccurately reported or failure to retain records to support information on this form, may result in a recomputation of the approved APH yield. I also understand that failure to report completely and accurately may result in voidance of my crop insurance contract and may result in criminal or civil false claims penalties (18 U.S.C. 1006 and 1014; 7 U.S.C. 1506; 31 U.S.C. 3729, and 3730)."

INSURED'S SIGNATURE [signature] DATE 11-17-2003
(SIGN AND RETURN ONLY IF REPORTING YOUR CROP PRODUCTION)

Land in Other County ☐Yes ☐No | Required: ☐Field Review ☐Inspection

Processor No./Name and/or No. Trees/Vines:

REMARKS:

DATE PRINTED 6/17/03

REMINDER FOR INDIVIDUAL ENTITIES: IF A SPOUSE'S INTEREST IS COVERED BY THIS POLICY, THE SPOUSE MUST BE LISTED AS HAVING A SUBSTANTIAL BENEFICIAL INTEREST(SBI) AND HIS OR HER SSN MUST BE PROVIDED. FAILURE TO PROVIDE THE REQUIRED SPOUSAL INFORMATION WILL RESULT IN REJECTION OF THE APPLICATION OR REDUCTION OF INSURED SHARE.

CROP / PLAN	OPTIONS	TYPE / PRAC	UNIT	FSN	FARM NAME / COUNTY LEGAL DESC	ACRES/QTY	SHARE / SHAREHOLDER	PLANT DATE	RATE CLS	GUAR PER ACRE / PRICE	TOTAL GUARANTEE* / LIABILITY**	PREMIUM	PRODUCTION AT 100% SHARE**
CORN APH			000-00		107	.00	.000				BU		
SBEAN APH		NFACN	001-00	4209	107 02-005S-002E	18.10	1.000	05/23/03		33.6 $5.3000	608 BU $3222	$44B	480 bu

DON001295

DISCLAIMER: THIS IS NOT A BILL. However, if you would like to pay your premium, mail to: PO Box 38, Anoka, MN 55303-0038. An actual bill will be sent later. The information contained on this schedule is considered binding. Any errors or discrepancies must be reported to your agent within 10 days.

Subsidy of $90.00 Provided by FCIC

TOTALS	
FARMER PREMIUM	$44.00
FCIC ADMIN FEE	$30.00
PREVIOUS CREDIT	$.00
INTEREST	$.00
TOTAL	$74.00

LEGEND: B Basic Unit Discount, C Cupped, E Effective Date, EU Enterprise Unit, F Floored, M Modified/Corrected, OU Optional Units-NRFGC, PP Prevented Plant, P3 Late Plant/Max Reduction, R Revised, S Short Rated, U Uninsurable Acres, WU Whole Farm Unit
* Total Guarantee based on 100% Share/ Liability based on actual share
** Record Type: 1) Production Sold/Commercial Storage; 2) On Farm Storage, Recorded Bin Measurement; Livestock Feeding Records; 4) FSA Loan Record; 5) Appraisals; 6) Other

MP-4005 (06-01)

Production and Yield Report

DATE: 9/15/2003

RURAL COMMUNITY INSURANCE SERVICES

1. INSURED'S NAME	2. CROP YEAR	3. POLICY NO.	4. AGENT'S CODE NO.
Carl McNeilan	2003		

5. AGENT'S NAME	PHONE NO.	6. STATE	CODE	7. COUNTY NAME	CODE

Field 1

8. CROP	PRACTICE	TYPE	9. UNIT
Corn	Conv.	Clearfield	

10. LAND LOCATION(s) - SEC, TWP,RNG: Liberty Twp NW section 4 mercer county Ohio

11. FSA FSN(s): 1754

12. LAND IN OTHER COUNTIES? ☐ YES ☒ NO

13. RECORD TYPE*

14. OTHER ENTITIES

15. FARM NAME: Tama Road Farm

16. REMARKS: very wet year, Bricks 5737CL 111day

17. PROC NO./NAME AND/OR NO OF TREES/VINES | 18. MAP AREA/# YLD | 19. APPLICABLE %

20. YR	21. TOTAL PRODUCTION	22. ACRES	23. YIELD	24. DESC
03	6686.4 bu corn	39.8	168	
02	1800 bu beans	39.8	45.23	
01	6100 bu corn	39.9	150.38	
00	2200 bu beans	39.9	55.14	
99	3100 bu wheat	39.8	77.89	
98	2000 bu beans	39.9	50.13	

25. PRIOR YIELD | 27. YIELD TOTAL

26. ADJ YIELD | 28. DIVIDED BY

29. SIMPLE AVG YIELD

Field 2

8. CROP	PRACTICE	TYPE	9. UNIT
Beans	no till	Roundup	

10. LAND LOCATION(s) - SEC, TWP,RNG: Liberty Twp N section 4 mercer county Ohio

11. FSA FSN(s): 1754

12. LAND IN OTHER COUNTIES? ☐ YES ☒ NO

13. RECORD TYPE*

14. OTHER ENTITIES

15. FARM NAME: Tama Road Farm

16. REMARKS: Bricks 417NRR 4.0

17. PROC NO./NAME AND/OR NO OF TREES/VINES | 18. MAP AREA/# YLD | 19. APPLICABLE %

20. YR	21. TOTAL PRODUCTION	22. ACRES	23. YIELD	24. DESC
03	2000 bu beans	40	50.0	
02	5900 bu corn	40	147.5	
01	3200 bu wheat	39.9	80.20	
00	2200 bu beans	39.9	55.14	
99	5400 bu corn	40.0	135.0	
98	3098.51 wheat	39.9	77.66	

25. PRIOR YIELD | 27. YIELD TOTAL

26. ADJ YIELD | 28. DIVIDED BY

29. SIMPLE AVG YIELD

Field 3

8. CROP	PRACTICE	TYPE	9. UNIT
corn	conv.	Bt-Liberty	

10. LAND LOCATION(s) - SEC, TWP,RNG: Jefferson Twp WC section 2 mercer county Ohio

11. FSA FSN(s): 1506

12. LAND IN OTHER COUNTIES? ☐ YES ☒ NO

13. RECORD TYPE*

14. OTHER ENTITIES

15. FARM NAME: Trinary Farm

16. REMARKS: very wet year lost 85% of crop due to floodains Bricks 5283Bt 107day

17. PROC NO./NAME AND/OR NO OF TREES/VINES | 18. MAP AREA/# YLD | 19. APPLICABLE %

20. YR	21. TOTAL PRODUCTION	22. ACRES	23. YIELD	24. DESC
03	850 bu corn	44.0	19.32	
02	1050 bu beans	30.0	35.0	
01	2597.98 bu beans	44.0	59.05	

25. PRIOR YIELD | 27. YIELD TOTAL

26. ADJ YIELD | 28. DIVIDED BY

29. SIMPLE AVG YIELD

Record Type: 1) Production Sold/Commercial Storage; 2) On Farm Storage, Recorded Bin Measurement; 3) Livestock Feeding Records; 4) FSA Loan Record 5) Appraisals; 6) Other

certify that the information I have furnished as reflected on this form is complete and accurate for the commodity(ies), unit(s) and year(s) shown. I understand his form may be reviewed or audited and that information inaccurately reported or failure to retain records to support information on this form, may result in a ecomputation of the approved APH yield. I also understand that failure to report completely and accurately may result in voidance of my crop insurance contract nd may result in criminal or civil false claims penalties (18 U.S.C. 1006 and 1014; 7 U.S.C. 1506; 31 U.S.C. 3729 and 3730)."

In addition to the specifics of this form, my signature below certifies that I am aware of, and agree to, the Privacy Act of 1974 located on the attachment.

30. INSURED'S SIGNATURE	DATE

MP-3006 (10-00) pc

DON001362

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

P.O. Box 38
Anoka, MN 55303-0038

2003 SCHEDULE OF INSURANCE / PRODUCTION REPORT

POLICY NO: 2003 OH-951-674774 CARL MCNEILAN

STATE: 34 OHIO COUNTY: 107 MERCER

CROP	LEVEL	EXP	ASSIGNMENT OF INDEMNITY WITH	TOTAL ACRES/QTY	ADMIN FEE
CORN	70	1.000		201.60	$30.00
SBEAN	70	1.000		230.70	$30.00
WHEAT	75	1.000		149.90	$30.00

INSURED INFORMATION	AGENT/AGENCY INFORMATION
CARL MCNEILAN PO BOX 637 CELINA, OH 45822 (419)586-2590 SSN: REDACTED	CROP INSURANCE OF WESTERN OHIO MATTHEW B VANTILBURG 34-3021 01 8398 CELINA-MENDON ROAD CELINA, OH 45822 (419)586-3077

"I certify that the information I have furnished as reflected on this form is complete and accurate for the commodity(ies), unit(s) and year(s) shown. I understand this form may be reviewed or audited and that information inaccurately reported or failure to retain records to support information on this form, may result in a recomputation of the approved APH yield. I also understand that failure to report completely and accurately may result in voidance of my crop insurance contract and may result in criminal or civil false claims penalties (18 U.S.C. 1006 and 1014; 7 U.S.C. 1506; 31 U.S.C. 3729, and 3730)."

INSURED'S SIGNATURE Carl McNeilan DATE _____
(SIGN AND RETURN ONLY IF REPORTING YOUR CROP PRODUCTION)

Land in Other County ☐Yes ☐No | Required: ☐Field Review ☐Inspection

Processor No./Name and/or No. Trees/Vines:

REMARKS: DATE PRINTED 8/13/03

REMINDER FOR INDIVIDUAL ENTITIES: IF A SPOUSE'S INTEREST IS COVERED BY THIS POLICY, THE SPOUSE MUST BE LISTED AS HAVING A SUBSTANTIAL BENEFICIAL INTEREST(SBI) AND HIS OR HER SSN MUST BE PROVIDED. FAILURE TO PROVIDE THE REQUIRED SPOUSAL INFORMATION WILL RESULT IN REJECTION OF THE APPLICATION OR REDUCTION OF INSURED SHARE.

CROP / PLAN	OPTIONS	TYPE / PRAC	UNIT	FSN	FARM NAME / COUNTY LEGAL DESC	ACRES/QTY	SHARE / SHAREHOLDER	PLANT DATE	RATE CLS	GUAR PER ACRE / PRICE	TOTAL GUARANTEE * / LIABILITY *	PREMIUM	PRODUCTION AT 100% SHARE **
CORN APH		GRAN IRRGT	001-00	4197	107 16-005S-001E	201.60	1.000	05/28/03		99.4 $2.2000	20039 BU $44086	$716B	20986.431
SBEAN APH		NFACN	001-00	4197	107 16-005S-001E	230.70	1.000	05/29/03		32.9 $5.3000	7590 BU $40227	$564B	8927.00
WHEAT CRC		NIRR	001-01	4197	107 16-005S-001E	149.90	1.000	10/09/02		55.5 $3.5300	8319 BU $29366	$780B	

DON001361

DISCLAIMER: THIS IS NOT A BILL. However, if you would like to pay your premium, mail to: PO Box 38, Anoka, MN 55303-0038. An actual bill will be sent later. The information contained on this schedule is considered binding. Any errors or discrepancies must be reported to your agent within 10 days.

Subsidy of $3926.00 Provided by FCIC

TOTALS	
FARMER PREMIUM	$2060.00
FCIC ADMIN FEE	$90.00
PREVIOUS CREDIT	$810.00-
INTEREST	$.00
TOTAL	$1340.00

LEGEND: B Basic Unit Discount, C Cupped, E Effective Date, EU Enterprise Unit, F Floored, M Modified/Corrected, OU Optional Units-NRFGC, PP Prevented Plant, P3 Late Plant/Max Reduction, R Revised, S Short Rated, U Uninsurable Acres, WU Whole Farm Unit
* Total Guarantee based on 100% Share/ Liability based on actual share
** Record Type: 1) Production Sold/Commercial Storage; 2) On Farm Storage, Recorded Bin Measurement; 3) Livestock Feeding Records; 4) FSA Loan Record; 5) Appraisals; 6) Other

MP 4006 (05-01)

PAGE 1 END

The distribution of the form does not in any way obligate CCC to disburse the payment amounts reflected.

This form is available electronically. PREPARED DATE: 03/06/2003

CCC-509 (08-30-02) U.S. DEPARTMENT OF AGRICULTURE Commodity Credit Corporation

DIRECT AND COUNTER-CYCLICAL PROGRAM CONTRACT

1. PROGRAM YEAR 2003

2A. COUNTY OFFICE NAME AND ADDRESS (Include Zip Code)
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822-1632

NOTE: The authority for collecting the following information is Pub. L. 107-171. This authority allows for the collection of information without prior OMB approval mandated by the Paperwork Reduction Act of 1995.

2B. COUNTY OFFICE TELEPHONE NUMBER (Include Area Code) (419)586-3149

3. STATE CODE	4. COUNTY CODE	5. FARM NUMBER
39	107	3586

The following statement is made in accordance with the Privacy Act of 1974 (5 USC 552a). The authority for requesting the following information is the Farm Security and Rural Investment Act of 2002, (Pub. L. 107-171). The information will be used to determine eligibility for program benefits. Furnishing the requested information is voluntary. Failure to furnish the requested information will result in denial of program benefits. This information may be provided to other agencies, IRS, Department of Justice, or other State and Federal Law enforcement agencies, and in response to a court magistrate or administrative tribunal. The provisions of criminal and civil fraud statutes, including 18 USC 286, 287, 371, 641, 651, 1001; 15 USC 714m; and 31 USC 3729, may be applicable to the information provided.

THIS CONTRACT TO PARTICIPATE is entered into between the Commodity Credit Corporation (CCC) and the undersigned producers on the farm identified above for the commodities identified in Item 6. The terms and conditions of the direct and counter-cyclical program contract are contained in the CCC-509 Appendix, entitled "Appendix to Form CCC-509, Direct and Counter-Cyclical Program Contract." By signing this contract, the undersigned producers on the farm identified in Item 5 are participating in the Direct and Counter-Cyclical Program for the commodities identied in Item 6. By signing this contract, producers: (1) acknowledge receipt of the CCC-509 Appendix, and agree to abide by the terms contained therein, and (2) agree to comply with the regulations governing the applicable program and payment eligibility and limitation provisions; and certify to the accuracy of the information set out on this form.

6. Commodity	7. Base Acres	8. Maximum Payment Acres 85% of Base	9. Payment Yield A. Direct	9. Payment Yield B. Counter-Cyclical	6. Commodity	7. Base Acres	8. Maximum Payment Acres 85% of Base	9. Payment Yield A. Direct	9. Payment Yield B. Counter-Cyclical
WHEAT	29.5	25.1	44	76	CORN	31.5	26.8	101	157
SOYBN	32.5	27.6	48	57					

10. Owner or Producer's Name and Address (Including Zip Code)
CHARLES J MEYER
5700 SCHUNK RD
CELINA OH 45822-9524

Identification Number: 4070

11. Commodity	12. Payment Share	11. Commodity	12. Payment Share
WHEAT	1.0000	CORN	1.0000
SOYBN	1.0000		

13A. If ALL Direct and Counter-Cyclical Payments are refused, check below.
___

13B. Producer's Initials

13C. Date Initialed (MM-DD-YYYY)

14. Advance Payment Selections (for all commodities):
A. Advance Direct Payments 03/2003 (Month requested for receipt of Direct Payment.)
B. Advance Counter-Cyclical Payments:
- First Partial Payment YES ___ NO X
- Second Partial Payment YES ___ NO X

15A. SIGNATURE OF OWNER OR PRODUCER
Charles J Meyer

15B. DATE (MM-DD-YYYY) 3-6-03

FOR FSA USE ONLY

16A. SIGNATURE OF CCC REPRESENTATIVE

16B. DATE (MM-DD-YYYY) 3/20/03

17. REMARKS

DON001523

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) 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 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 03-29-2003
Time 14:16
Statement Type B Original

Program 2003 Direct/Counter Program
Application Direct/Counter Program

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer REDACTED

Disbursement Statement

Comment Information
This payment is subject to the average Adjusted Gross Income (AGI) limit. Failure to comply with the average AGI limit, including certification of compliance, will result in ineligibility for this payment.

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Farm	3586	Transaction	WC08800154	287.00		DIRECT PAYMENT WHEAT
Farm	3586	Transaction	WC08800155	379.00		DIRECT PAYMENT CORN
Farm	3586	Transaction	WC08800156	291.00		DIRECT PAYMENT SOYBEANS
				957.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
03-29-2003	D0089518			957.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				957.00	Total Disbursements
				957.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Doris Marie Weil
(Authorized Representative of CCC)

DON001522

RURAL COMMUNITY INSURANCE SERVICES

MPCI SUMMARY OF LOSS

Policy #: 2003 34-951-255723 Claim #: 831311

County: MERCER 107

CHARLES J MEIER
5700 SCHUNK RD
CELINA OH 45822-9524

FOR BEAN LOST WATER
2003 CROP

Page: 1
Date: 8/20/03

TOTAL NET LOSS	$4,229.00
PREVIOUS PAID AMOUNTS	$.00
PREMIUM CREDIT	$137.00
FCIC ADMIN FEE CREDIT	$60.00
AMOUNT OF CHECK	$4,032.00

34-1234 REX WILLIAMSON INSURANCE AGENCY LTD
10267 ROAD 95
PAULDING OH 45879-9201

PHONE (888)399-5276

*PREMIUM BALANCE DUE $.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	LPO	LAF	ADJ GUAR	PROD TO COUNT	PRICE	SHARE	PAYABLE
SBEAN	01 00	3586	25.00	053	000	UH	31.90	N	N	798.00	.00	5.30	1.000	4229

*BALANCE REFLECTS TRANSACTIONS POSTED AS OF 8/20/2003

Mpsolchk.frm

INFORMATION ON FILE

CROP YEAR: 2003 MPCI
POLICY NO.: 34-951-255723
LEGAL NAME: CHARLES J MEIER
TAXID NO.: REDACTED

IMPORTANT TAX INFORMATION

THE IRS REQUIRES YOU TO PROVIDE US WITH THE CORRECT TAXPAYER IDENTIFICATION NUMBER WHEN AN INDEMNITY HAS BEEN ISSUED.

IF THE INFORMATION SHOWN IS CORRECT YOU MAY DISREGARD THIS REQUEST. PRINT ANY CORRECTION TO THE LEGAL NAME OR NUMBER IN THE SPACE PROVIDED AND RETURN TO RCIS ACCOUNTING DEPARTMENT 3501 THURSTON AVENUE, ANOKA MN 55303-1060

CORRECT LEGAL NAME (please print)

___ ___ ___ - ___ ___ - ___ ___ ___ ___ OR ___ ___ - ___ ___ ___ ___ ___ ___ ___

SOCIAL SECURITY NUMBER FEDERAL EMPLOYER TAX ID NUMBER

I CERTIFY THE ACCURACY OF THE INFORMATION PROVIDED.

SIGNATURE DATE

DON001520

nited States
epartment of
griculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

ate 10-28-2003
ime 09:41
tatement Type B Original

Program 2003 Direct/Counter Program
Application Direct/Counter Program

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Comment Information
This payment is subject to the average Adjusted Gross Income (AGI) limit. Failure to comply with the average AGI limit, including certification of compliance, will result in ineligibility for this payment.

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Farm	3586	Transaction	Y930100873	287.00		DIRECT PAYMENT WHEAT
Farm	3586	Transaction	Y930100874	379.00		DIRECT PAYMENT CORN
Farm	3586	Transaction	Y930100875	292.00		DIRECT PAYMENT SOYBEANS
				958.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-28-2003	D0097267			958.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				958.00	Total Disbursements
				958.00	Total Program Payment Earned

Funds should be available within three working days of issue date.
Approved: Signed Doris Marie Weis
(Authorized Representative of CCC)

DON001526

CCC-750E
(03-14-2005)

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SERVICE AGENCY

Date: 04-20-2005
Page: 1

4070
CHARLES J METER
5700 SCHUNK RD
CELINA, OH 45822-9524

2003-2005 Crop Disaster Program
Statement of Calculated Payment Amounts
Producer Summary Report

MERCER
220 W LIVINGSTON ST
CELINA, OH 45822-1632
(419) 586-3149

Location St-Cty	Unit	Insured Status	Crop Name	Pay Type	Planting Period	2003 Calculated Payment	2004 Calculated Payment	2005 Calculated Payment
39-107	1.00	I	SOYBEANS	11	01	$2,222	$0	$0
			Total Calculated Payment by Year (Approved)			$0	$0	$0
			Total Calculated Payment by Year (Enrolled)			$2,222	$0	$0

DISCLAIMER: The payment data reflected on this entitlement report includes payment amounts based on program eligibility. The calculated payment amounts reflected on this entitlement report may vary due to changes in RMA-provided data, payment acres, payment yields, producer eligibility, producer payment share, crop production, adjustments to affected production attributed to each loss level, and payment limitation. The distribution of this entitlement report does not in any way obligate CCC to disburse the payment amounts reflected.

* - Indicates crop is approved for payment

$88.98 per ACRE

DON001519

RURAL COMMUNITY INSURANCE AGENCY, INC
3501 THURSTON AVENUE
ANOKA, MN 55303-1060

800/451-3836 EXT. 2300
OR EXT. 2178

THIS DOCUMENT IS ISSUED AS A SUBSTITUTE STATEMENT FOR A 1099 INFORMATION RETURN

SHEETS FARMS INC
DUANE SHEETS
7431 WABASH RD
CELINA OH 45822

FOR TAX YEAR
2003

TAX PAYER ID NUMBER
REDACTED

1099-MISC (OMB No.1545-0115)

PAYERS FEDERAL
ID NUMBER
41-1708414

SUMMARY OF MISCELLANEOUS INCOME AS REPORTED - CROP INSURANCE PROCEEDS

TYPE OF INS	CROP YEAR/ POLICY NUMBER	CLAIM NUMBER	CLAIM DETAIL AMOUNTS		CLAIM TOTAL
CROPS: SBEAN MPCI	2003 34-951-214677	832489	CHECK AMOUNTS:	461.00	
			PREMIUM WTHLD:	.00	461.00
CROPS: CORN SBEAN MPCI	2003 34-951-214677	874351	CHECK AMOUNTS:	4,035.00	
			PREMIUM WTHLD:	.00	4,035.00

FOR INFORMATION

DON001434

** WE APPRECIATE YOUR BUSINESS **

TOTAL INDEMNITY PAYMENT REPORTED **$4,496.00**

TO HAVE ANY CORRECTIONS MADE TO YOUR FORM 1099, YOU MUST CONTACT OUR OFFICE BEFORE FEBRUARY 28, 2004.

THE "TOTAL INDEMNITY PAYMENT" WHICH INCLUDES ALL AMOUNTS DEDUCTED FROM THE CLAIM(S) AND CHECK(S) ISSUED, IS CONSIDERED TAXABLE INCOME BY THE INTERNAL REVENUE SERVICE. PLEASE CONTACT YOUR TAX PREPARER OR THE IRS IF YOU HAVE ANY QUESTIONS ON REPORTING THIS INCOME.

THIS IS IMPORTANT TAX INFORMATION AND IS BEING FURNISHED TO THE INTERNAL REVENUE SERVICE. IF YOU ARE REQUIRED TO FILE A RETURN, A NEGLIGENCE PENALTY OR OTHER SANCTION WILL/MAY BE IMPOSED ON YOU IF THIS INCOME IS TAXABLE AND IRS DETERMINES THAT IT HAS NOT BEEN REPORTED.

RURAL COMMUNITY INSURANCE SERVICES

MPCI SUMMARY OF LOSS

County: MERCER 107

SHEETS FARMS INC
DUANE SHEETS
7431 WABASH RD
CELINA OH 45822
PHONE: (419) 942-1420

Page: 1
Date: 8/22/03

TOTAL NET LOSS	$461.00
PREVIOUS PAID AMOUNTS	$.00
AMOUNT OF CHECK	$461.00

13-3005 J S CROP INSURANCE II
1123 N 400 E
PORTLAND IN 47371

PHONE (260)726-2111

*PREMIUM BALANCE DUE $1,156.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	LPO	LAF	ADJ GUAR	PROD TO COUNT	PRICE	SHARE	PAYABLE
SBEAN	01 02	1540,	58.00	053	000	R	3.00	N	N	174.00	.00	5.30	.500	461
		1540,	3.70	053	000	NR	.00	N	N	.00	.00	5.30	.500	0
		1540,	13.20	053	000	NR	.00	N	N	.00	.00	5.30	.500	0

*BALANCE REFLECTS TRANSACTIONS POSTED AS OF 8/22/2003

Mpsolchk.frm

INFORMATION ON FILE

CROP YEAR: 2003 MPCI
POLICY NO.: 34-951-214677
LEGAL NAME: SHEETS FARMS INC
TAXID NO.:

REDACTED

CORRECT LEGAL NAME (please print)

___ ___ ___ - ___ ___ - ___ ___ ___ ___ OR ___ ___ - ___ ___ ___ ___ ___ ___ ___

SOCIAL SECURITY NUMBER FEDERAL EMPLOYER TAX ID NUMBER

I CERTIFY THE ACCURACY OF THE INFORMATION PROVIDED.

SIGNATURE DATE

IMPORTANT TAX INFORMATION

THE IRS REQUIRES YOU TO PROVIDE US WITH THE CORRECT TAXPAYER IDENTIFICATION NUMBER WHEN AN INDEMNITY HAS BEEN ISSUED.

IF THE INFORMATION SHOWN IS CORRECT YOU MAY DISREGARD THIS REQUEST. PRINT ANY CORRECTION TO THE LEGAL NAME OR NUMBER IN THE SPACE PROVIDED AND RETURN TO RCIS ACCOUNTING DEPARTMENT 3501 THURSTON AVENUE, ANOKA MN 55303-1060

DON001435

COMMODITY INSURANCE SERVICES

MPCI SUMMARY OF LOSS

County: MERCER 107

SHEETS FARMS INC
DUANE SHEETS
7431 WABASH RD
CELINA OH 45822
PHONE: (419) 942-1420

Page: 1
Date: 11/20/03

TOTAL NET LOSS	$4,035.00
PREVIOUS PAID AMOUNTS	$.00
AMOUNT OF CHECK	$4,035.00

13-3005 J S CROP INSURANCE II
1123 N 400 E
PORTLAND IN 47371

PHONE (260)726-2111

*PREMIUM BALANCE DUE $.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	LPO	LAF	ADJ GUAR	PROD TO COUNT	PRICE	SHARE	PAYABLE
CORN	01 05	1790	36.20	003	016	H	109.50	N	N	3964.00	1987.10	2.20	.500	2175
SBEAN	01 05	1790	55.50	053	000	H	30.80	N	N	1709.00	1007.10	5.30	.500	1860

*BALANCE REFLECTS TRANSACTIONS POSTED AS OF 11/20/2003

Mpsolchk.frm

INFORMATION ON FILE

CROP YEAR: 2003 MPCI
POLICY NO.: 34-951-214677
LEGAL NAME: SHEETS FARMS INC
TAXID NO.: REDACTED

CORRECT LEGAL NAME (please print)

___ ___ ___ - ___ ___ - ___ ___ ___ ___ OR ___ ___ - ___ ___ ___ ___ ___ ___ ___

SOCIAL SECURITY NUMBER FEDERAL EMPLOYER TAX ID NUMBER

I CERTIFY THE ACCURACY OF THE INFORMATION PROVIDED.

SIGNATURE DATE

IMPORTANT TAX INFORMATION

THE IRS REQUIRES YOU TO PROVIDE US WITH THE CORRECT TAXPAYER IDENTIFICATION NUMBER WHEN AN INDEMNITY HAS BEEN ISSUED.

IF THE INFORMATION SHOWN IS CORRECT YOU MAY DISREGARD THIS REQUEST. PRINT ANY CORRECTION TO THE LEGAL NAME OR NUMBER IN THE SPACE PROVIDED AND RETURN TO RCIS ACCOUNTING DEPARTMENT 3501 THURSTON AVENUE, ANOKA MN 55303-1060

RURAL COMMUNITY INSURANCE AGENCY, INC
3501 THURSTON AVENUE
ANOKA, MN 55303-1060

800/451-3836 EXT. 2300
OR EXT. 2178

THIS DOCUMENT IS ISSUED AS A SUBSTITUTE STATEMENT FOR A 1099 INFORMATION RETURN

RODNEY SHEETS
1366 CARMEL CHURCH RD
CELINA OH 45822

FOR TAX YEAR
2003

TAX PAYER ID NUMBER
REDACTED

1099-MISC (OMB No.1545-0115)

PAYERS FEDERAL
ID NUMBER
41-1708414

SUMMARY OF MISCELLANEOUS INCOME AS REPORTED - CROP INSURANCE PROCEEDS

TYPE OF INS	CROP YEAR/ POLICY NUMBER	CLAIM NUMBER	CLAIM DETAIL AMOUNTS		CLAIM TOTAL
CROPS: SBEAN MPCI	2003 34-951-214666	832488	CHECK AMOUNTS:	461.00	
			PREMIUM WTHLD:	00	
					461.00
CROPS: CORN, SBEAN MPCI	2003 34-951-214666	869339	CHECK AMOUNTS:	2,438.00	
			PREMIUM WTHLD:	1,569.00	
					4,007.00

TAX INFORMATION

DON001459

** WE APPRECIATE YOUR BUSINESS **

TOTAL INDEMNITY PAYMENT REPORTED **$4,468.00**

TO HAVE ANY CORRECTIONS MADE TO YOUR FORM 1099, YOU MUST CONTACT OUR OFFICE BEFORE FEBRUARY 28, 2004.

THE "TOTAL INDEMNITY PAYMENT" WHICH INCLUDES ALL AMOUNTS DEDUCTED FROM THE CLAIM(S) AND CHECK(S) ISSUED, IS CONSIDERED TAXABLE INCOME BY THE INTERNAL REVENUE SERVICE. PLEASE CONTACT YOUR TAX PREPARER OR THE IRS IF YOU HAVE ANY QUESTIONS ON REPORTING THIS INCOME.

THIS IS IMPORTANT TAX INFORMATION AND IS BEING FURNISHED TO THE INTERNAL REVENUE SERVICE. IF YOU ARE REQUIRED TO FILE A RETURN, A NEGLIGENCE PENALTY OR OTHER SANCTION WILL/MAY BE IMPOSED ON YOU IF THIS INCOME IS TAXABLE AND IRS DETERMINES THAT IT HAS NOT BEEN REPORTED.

U.S. DEPARTMENT OF AGRICULTURE EIN# 43-0951685

Farm Service Agency - Commodity Credit Corporation

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

CERTAIN GOVERNMENT PAYMENTS

TYPE OF PAYMENTS	REPORTABLE INCOME	REFUNDS FROM PRODUCER
SUPL OILSEED PAYMENT PROGRAM	328.00	0.00
LOAN DEFICIENCY	4,074.03	0.00
PRODUCTION FLEXIBILITY	590.00	0.00
MARKETING LOSS ASSISTANCE	672.00	0.00
OILSEED PROGRAM	387.00	0.00
TOTALS	$6,051.03	$0.00

IDENTIFICATION NO. REDACTED

CALENDAR YR. 2001

ccc012:23819:272428926

PRODUCER (Name & Address)

5-DIGIT 45822 94 1
DAVID J SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

FORM APPROVED OMB NO. 1545-0120

CCC-1099-G (01-04-2000) **REPORT OF PAYMENTS TO PRODUCERS**

2002 CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S Identification Number REDACTED

Calendar Year 2002

RECIPIENT'S name, street address, city, state, ZIP code

0469028
DAVID J SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

TYPE OF PAYMENT	REPORTABLE INCOME	REFUNDS FROM RECIPIENT
LOAN DEFICIENCY	2,364.08	0.00
PRODUCTION FLEXIBILITY	572.00	0.00
7. Total Agriculture Payments	$2,936.08	$0.00

FORM APPROVED OMB NO. 1545-0120

Form CCC - 1099 - G (12-16-02) **REPORT OF PAYMENTS TO PRODUCERS**

2003 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

0604138
DAVID J SUHR
7241 TOWNSHIP LINE RD
CELINA OH 45822-9710

Type Of Payment	Reportable Income	Refunds From Recipient
Direct And Counter Cyclical Prog	2,829.00	0.00
01-02 Crop Disaster Assistance	2,723.00	0.00
Production Flexibility	0.00	15.00

DON001805

RURAL COMMUNITY INSURANCE SERVICES
3501 Thurston Avenue
Anoka, MN 55303-1060

MPCI SUMMARY OF LOSS

Date: 12/03/03
Page: 1

DIRECT - CHECKS MAILED TO INS

34-3021 CROP INSURANCE OF WESTERN OHIO
8398 CELINA-MENDON ROAD
CELINA OH 45822

PHONE (419)586-3077

CARL SUTTER
2840 MUD PIKE RD.
CELINA OH 45822

Policy #: 2003 34-951-511013 Claim #: 859758

County: MERCER 107

TOTAL NET LOSS	$7,949.00
PREVIOUS PAID AMOUNTS	$7,949.00
AMOUNT OF CHECK	$.00

*PREMIUM BALANCE DUE $.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	BASE PRICE	LPO	LAF	ADJ GUAR	PROD TO COUNT	HARVEST PRICE	SHARE	PAYABLE
CRCSB	01 02	4866	70.40	053	000	H	22.10	5.26	N	Y	9772.42	1823.00 249.0 BU	7.32	1.000	7949

*BALANCE REFLECTS TRANSACTIONS POSTED AS OF 12/03/2003

Mpsoldr.frm

INFORMATION ON FILE

CROP YEAR: 2003 MPCI
POLICY NO.: 34-951-511013
LEGAL NAME: CARL SUTTER
TAXID NO.: REDACTED

CORRECT LEGAL NAME (please print)

___ ___ ___ - ___ ___ - ___ ___ ___ ___
SOCIAL SECURITY NUMBER

OR

___ ___ - ___ ___ ___ ___ ___ ___ ___
FEDERAL EMPLOYER TAX ID NUMBER

I CERTIFY THE ACCURACY OF THE INFORMATION PROVIDED.

SIGNATURE DATE

IMPORTANT TAX INFORMATION

THE IRS REQUIRES YOU TO PROVIDE US WITH THE CORRECT TAXPAYER IDENTIFICATION NUMBER WHEN AN INDEMNITY HAS BEEN ISSUED.

IF THE INFORMATION SHOWN IS CORRECT YOU MAY DISREGARD THIS REQUEST. PRINT ANY CORRECTION TO THE LEGAL NAME OR NUMBER IN THE SPACE PROVIDED AND RETURN TO RCIS ACCOUNTING DEPARTMENT 3501 THURSTON AVENUE, ANOKA MN 55303-1060

DON001282

RURAL COMMUNITY INSURANCE COMPANY

RURAL COMMUNITY INSURANCE SERVICES®

Production and Yield Worksheet/Report

INSURED INFORMATION	AGENT/AGENCY INFORMATION	CROP YEAR	POLICY NUMBER
Z FARMS INC %CHARLES ZUMBERGE 6612 MEYER RD CELINA, OH 45822	AMERICAN AGRICULTURAL ASSETS LLC MATTHEW B VANTILBURG 8398 CELINA MENDON RD CELINA, OH 45822	2003	OH-951-179431
		STATE CODE/NAME	
		OH	OHIO
		COUNTY CODE/NAME	
(419) 586-2643 EIN REDACTED	(419) 586-3077 34-3021 01	107	MERCER

CROP	WHEAT CRC	LOC	1 005S 002E
PRAC	NIRR	FSN	3910
TYPE		MAP AREA	
UNIT	001-01 00	FARM NAME	
SHAREHOLDER		T-YIELD	60.0
RECORD TYPE			

REMARKS:

YEAR	PRODUCTION	ACRES	YIELD
1988	828.0	12.0	69.0 A
1990	710.0	10.0	71.0 A
1995	0.0	0.0	0.0 Z
1996	0.0	0.0	0.0 Z
1997	8.8	8.0	1.0 A
1998	1,570.0	20.0	79.0 A
1999	536.6	8.0	67.0 A
2000	1,099.0	14.0	79.0 A
2001	0.0	0.0	0.0 Z
2002	0.0	0.0	0.0 Z

ADDITIONAL LAND LOCATIONS

SEC	TWP	RNG	FSN
1	005S	002E	3910

DATE SIGNED 07/31/2002

PRIOR YIELD	APPROVED YIELD	SIMPLE AVERAGE YIELD
61.0	61	

CROP	WHEAT CRC	LOC	2 005S 002E
PRAC	NIRR	FSN	4210
TYPE		MAP AREA	
UNIT	001-02 00	FARM NAME	
SHAREHOLDER		T-YIELD	60.0
RECORD TYPE			

REMARKS:

YEAR	PRODUCTION	ACRES	YIELD
1988	1,104.0	16.0	69.0 A
1991	1,296.0	18.0	72.0 A
1994	1,350.0	18.0	75.0 A
1995	1,170.0	18.0	65.0 A
1996	27.3	7.0	4.0 A
1997	1,021.3	31.7	32.0 A
1998	1,228.0	20.0	61.0 A
1999	3,375.0	40.0	84.0 A
2000	2,989.0	37.0	81.0 A
2002	2,850.3	45.0	63.0 A

ADDITIONAL LAND LOCATIONS

SEC	TWP	RNG	FSN

DATE SIGNED 07/31/2002

PRIOR YIELD	APPROVED YIELD	SIMPLE AVERAGE YIELD
60.0	61	

CROP	WHEAT CRC	LOC	11 005S 002E
PRAC	NIRR	FSN	1465
TYPE		MAP AREA	
UNIT	001-03 00	FARM NAME	
SHAREHOLDER		T-YIELD	60.0
RECORD TYPE			

REMARKS:

YEAR	PRODUCTION	ACRES	YIELD
1993	680.0	10.0	68.0 A
1994	1,690.0	26.0	65.0 A
1995	2,048.0	32.0	64.0 A
1996	138.6	50.4	3.0 A
1997	2,698.0	64.0	42.0 A
1998	4,037.0	60.0	67.0 A
1999	3,658.2	49.0	75.0 A
2000	4,402.0	66.0	67.0 A
2001	8,010.0	100.0	80.0 A
2002	2,020.1	35.0	58.0 A

ADDITIONAL LAND LOCATIONS

SEC	TWP	RNG	FSN
11	005S	002E	1465
11	005S	002E	

DATE SIGNED 07/31/2002

PRIOR YIELD	APPROVED YIELD	SIMPLE AVERAGE YIELD
60.0	59	

CROP	WHEAT CRC	LOC	12 005S 002E
PRAC	NIRR	FSN	4005
TYPE		MAP AREA	
UNIT	001-04 00	FARM NAME	
SHAREHOLDER		T-YIELD	60.0
RECORD TYPE			

REMARKS:

YEAR	PRODUCTION	ACRES	YIELD
1988	1,104.0	16.0	69.0 A
1991	1,296.0	18.0	72.0 A
1994	1,350.0	18.0	75.0 A
1995	1,170.0	18.0	65.0 A
1996	27.3	7.0	4.0 A
1998	0.0	0.0	0.0 Z
1999	596.0	12.0	50.0 A
2000	850.0	10.0	85.0 A
2001	0.0	0.0	0.0 Z
2002	404.0	8.0	51.0 A

ADDITIONAL LAND LOCATIONS

SEC	TWP	RNG	FSN

DATE SIGNED 07/31/2002

PRIOR YIELD	APPROVED YIELD	SIMPLE AVERAGE YIELD
60.0	59	

DON002240

RURAL COMMUNITY INSURANCE COMPANY

RURAL COMMUNITY INSURANCE SERVICES®

Production and Yield Worksheet/Report

INSURED INFORMATION	AGENT/AGENCY INFORMATION	CROP YEAR	POLICY NUMBER
Z FARMS INC %CHARLES ZUMBERGE 6612 MEYER RD CELINA, OH 45822	AMERICAN AGRICULTURAL ASSETS LLC MATTHEW B VANTILBURG 8398 CELINA MENDON RD CELINA, OH 45822	2003	OH-951-179431
		STATE CODE/NAME	
		OH	OHIO
		COUNTY CODE/NAME	
(419) 586-2643 EIN REDACTED	(419) 586-3077 34-3021 01	107	MERCER

CROP	CORN CRC	LOC	1 006S 002E
PRAC	NIRR	FSN	3910
TYPE	GRAN	MAP AREA	
UNIT	001-01 00	FARM NAME	
SHAREHOLDER		T-YIELD	121.0
RECORD TYPE			

REMARKS:

YEAR	PRODUCTION	ACRES	YIELD
1991	11,371.0	83.0	137.0 A
1992	11,070.0	82.0	135.0 A
1993	10,692.0	81.0	132.0 A
1994	6,720.0	40.0	168.0 A
1996	4,840.0	40.0	121.0 A
1997	1,160.0	8.0	145.0 A
1998	6,302.0	46.0	137.0 A
2000	9,010.0	53.0	170.0 A
2001	875.0	5.0	175.0 A
2002	3,470.9	65.0	53.0 A

ADDITIONAL LAND LOCATIONS

SEC	TWP	RNG	FSN

DATE SIGNED 11/04/2002

PRIOR YIELD	APPROVED YIELD	SIMPLE AVERAGE YIELD
147.0	137	

CROP	CORN CRC	LOC	2 006S 002E
PRAC	NIRR	FSN	5196
TYPE	GRAN	MAP AREA	
UNIT	001-02 00	FARM NAME	MULTIPLE
SHAREHOLDER		T-YIELD	121.0
RECORD TYPE			

REMARKS:

YEAR	PRODUCTION	ACRES	YIELD
1993	9,664.0	64.0	151.0 A
1994	10,855.0	65.0	167.0 A
1995	7,995.0	61.5	130.0 A
1996	5,850.0	50.0	117.0 A
1997	12,798.0	79.0	162.0 A
1998	5,695.9	51.2	111.0 A
1999	9,990.0	54.0	185.0 A
2000	11,130.0	73.0	152.0 A
2001	3,762.5	21.5	175.0 A
2002	4,127.4	69.0	60.0 A

ADDITIONAL LAND LOCATIONS

SEC	TWP	RNG	FSN
2	006S	002E	3145
2	006S	002E	4210

DATE SIGNED 11/04/2002

PRIOR YIELD	APPROVED YIELD	SIMPLE AVERAGE YIELD
148.0	141	

CROP	CORN CRC	LOC	11 006S 002E
PRAC	NIRR	FSN	3145
TYPE	GRAN	MAP AREA	
UNIT	001-03 00	FARM NAME	Z FARMS/PAX
SHAREHOLDER		T-YIELD	121.0
RECORD TYPE			

REMARKS:

YEAR	PRODUCTION	ACRES	YIELD
1992	10,296.0	78.0	132.0 A
1993	11,060.0	79.0	140.0 A
1994	13,440.0	80.0	168.0 A
1995	17,835.0	123.0	145.0 A
1997	27,555.0	167.0	165.0 A
1998	8,645.0	65.0	133.0 A
1999	26,556.0	155.0	171.0 A
2000	12,650.0	90.0	141.0 A
2001	21,495.0	124.0	173.0 A
2002	3,911.4	80.0	49.0 A

ADDITIONAL LAND LOCATIONS

SEC	TWP	RNG	FSN
11	006S	002E	3909

DATE SIGNED 11/04/2002

PRIOR YIELD	APPROVED YIELD	SIMPLE AVERAGE YIELD
150.0	142	

CROP	CORN CRC	LOC	2 006S 002E
PRAC	NIRR	FSN	3910
TYPE	GRAN	MAP AREA	
UNIT	001-04 00	FARM NAME	
SHAREHOLDER		T-YIELD	121.0
RECORD TYPE			

REMARKS:

YEAR	PRODUCTION	ACRES	YIELD
1991	10,336.0	76.0	136.0 A
1992	10,296.0	78.0	132.0 A
1993	11,060.0	79.0	140.0 A
1994	13,440.0	80.0	168.0 A
1995	17,835.0	123.0	145.0 A
1996	6,650.0	50.0	133.0 A
1998	12,103.0	91.0	133.0 A
2000	0.0	0.0	0.0 Z
2001	16,560.0	92.0	180.0 A
2002	0.0	0.0	0.0 Z

ADDITIONAL LAND LOCATIONS

SEC	TWP	RNG	FSN

DATE SIGNED 11/04/2002

PRIOR YIELD	APPROVED YIELD	SIMPLE AVERAGE YIELD
146.0	146	

DON002241

OMMUNITY INSURANCE COMPANY

RURAL COMMUNITY INSURANCE SERVICES®

Production and Yield Worksheet/Report

INSURED INFORMATION	AGENT/AGENCY INFORMATION	CROP YEAR	POLICY NUMBER
Z FARMS INC %CHARLES ZUMBERGE 6612 MEYER RD CELINA, OH 45822	AMERICAN AGRICULTURAL ASSETS LLC MATTHEW B VANTILBURG 8398 CELINA MENDON RD CELINA, OH 45822	2003	OH-951-179431
		STATE CODE/NAME	
		OH	OHIO
		COUNTY CODE/NAME	
(419) 586-2643 EIN REDACTED	(419) 586-3077 34-3021 01	107	MERCER

CROP	SBEAN CRC	LOC	1 006S 002E
PRAC	NFACN	FSN	3910
TYPE		MAP AREA	
UNIT	001-01 00	FARM NAME	
SHAREHOLDER		T-YIELD	42.0
RECORD TYPE			

REMARKS:

YEAR	PRODUCTION	ACRES	YIELD
1991	1,344.0	32.0	42.0 A
1993	1,290.0	30.0	43.0 A
1995	1,425.6	59.4	24.0 A
1996	187.3	11.0	17.0 A
1997	3,793.0	65.4	58.0 A
1998	206.4	9.4	22.0 A
1999	3,286.0	65.0	51.0 A
2000	245.0	8.0	31.0 A
2001	3,965.0	65.0	61.0 A
2002	192.6	5.0	39.0 A

ADDITIONAL LAND LOCATIONS

SEC	TWP	RNG	FSN

DATE SIGNED 11/04/2002

PRIOR YIELD	APPROVED YIELD	SIMPLE AVERAGE YIELD
39.0	39	

CROP	SBEAN CRC	LOC	2 006S 002E
PRAC	NFACN	FSN	5196
TYPE		MAP AREA	
UNIT	001-02 00	FARM NAME	
SHAREHOLDER		T-YIELD	42.0
RECORD TYPE			

REMARKS:

YEAR	PRODUCTION	ACRES	YIELD
1993	1,230.0	30.0	41.0 A
1994	2,040.0	40.0	51.0 A
1995	1,072.0	44.7	24.0 A
1996	2,635.6	116.4	23.0 A
1997	5,995.0	109.0	55.0 A
1998	3,098.0	91.3	34.0 A
1999	4,987.0	116.0	43.0 A
2000	4,849.0	101.0	48.0 A
2001	4,836.0	96.0	50.0 A
2002	1,003.5	21.0	48.0 A

ADDITIONAL LAND LOCATIONS

SEC	TWP	RNG	FSN
2	006S	002E	3145
2	006S	002E	4210

DATE SIGNED 11/04/2002

PRIOR YIELD	APPROVED YIELD	SIMPLE AVERAGE YIELD
41.0	42	

CROP	SBEAN CRC	LOC	11 006S 002E
PRAC	NFACN	FSN	4209
TYPE		MAP AREA	
UNIT	001-03 00	FARM NAME	ZFARMS/PAX
SHAREHOLDER		T-YIELD	42.0
RECORD TYPE			

REMARKS:

YEAR	PRODUCTION	ACRES	YIELD
1993	4,920.0	120.0	41.0 A
1994	6,760.0	130.0	52.0 A
1995	2,198.7	104.7	21.0 A
1996	4,436.1	241.4	18.0 A
1997	3,658.0	62.0	59.0 A
1998	4,515.8	178.0	25.0 A
1999	4,925.0	126.7	39.0 A
2000	8,280.0	193.9	43.0 A
2001	6,321.0	111.0	57.0 A
2002	6,134.7	223.0	28.0 A

ADDITIONAL LAND LOCATIONS

SEC	TWP	RNG	FSN
11	006S	002E	multip

DATE SIGNED 11/04/2002

PRIOR YIELD	APPROVED YIELD	SIMPLE AVERAGE YIELD
40.0	38	

CROP	SBEAN CRC	LOC	12 006S 002E
PRAC	NFACN	FSN	3909
TYPE		MAP AREA	
UNIT	001-04 00	FARM NAME	J.ZUMBERGE
SHAREHOLDER		T-YIELD	42.0
RECORD TYPE			

REMARKS:

YEAR	PRODUCTION	ACRES	YIELD
1993	1,230.0	30.0	41.0 A
1994	2,040.0	40.0	51.0 A
1995	1,072.0	44.7	24.0 A
1996	1,248.0	48.0	26.0 A
1997	5,900.0	100.0	59.0 A
1998	36.3	11.7	3.0 A
1999	5,287.0	94.0	56.0 A
2000	4,326.0	88.0	49.0 A
2001	362.0	10.0	36.0 A
2002	4,618.8	90.0	51.0 A

ADDITIONAL LAND LOCATIONS

SEC	TWP	RNG	FSN

DATE SIGNED 11/04/2002

PRIOR YIELD	APPROVED YIELD	SIMPLE AVERAGE YIELD
39.0	40	

RECORD TYPE: 1. Production Sold/Commercial Storage 2. On Farm Storage, Recorded Bin Measurement 3. Livestock Feeding Record, 4. FSA Loan Record, 5. Appraisals 6. Other

I certify that to the best of my knowledge and belief all of the information on this form is correct. I understand this form may be reviewed or audited and that information inaccurately reported or failure to retain records to support information on this form may result in a recomputation of the approved APH yield. I also understand that failure to report completely and accurately may result in sanctions under my policy, including but not limited to voidance of the policy, and in criminal or civil penalties (18 U.S.C. §1006 and §1014; 7 U.S.C. §1506; 31 U.S.C. §3729, §3730 and any other applicable federal statutes).

See attached form for statements required by Privacy Act of 1974.

DON002242

INSURED'S SIGNATURE	DATE

RURAL COMMUNITY INSURANCE COMPANY

RURAL COMMUNITY INSURANCE SERVICES®

Production and Yield Report Worksheet

INSURED INFORMATION	AGENT / AGENCY INFORMATION	CROP YEAR	POLICY NUMBER
Z FARMS INC %CHARLES ZUMBERGE 6612 MEYER RD CELINA, OH 45822	AMERICAN AGRICULTURAL ASSETS LLC MATTHEW B VANTILBURG 8398 CELINA MENDON RD CELINA, OH 45822	2003	OH-951-179431
		STATE CODE / NAME	
		OH	OHIO
		COUNTY CODE / NAME	
(419) 586-2643	(419) 586-3077 34-3021 01	107	MERCER

INSTRUCTIONS: PLEASE PROVIDE **2002** TOTAL PRODUCTION AMOUNTS

CROP / PLAN	TYPE	PRAC	LAND DESCRIPTION SEC	TWP	RNG	FSN	UNIT / MAP AREA	PRODUCTION	PLANTED ACRES	YIELD PER ACRE	FARM NAME	SHAREHOLDER NAME	RECORD TYPE**
WHEAT - CRC		NIRR	1 *	005S	002E	3910	001-01 00	0.0	0.0	0.0			
WHEAT - CRC		NIRR	2	005S	002E	4210	001-02 00	2,850.3	45.0	63.0			
WHEAT - CRC		NIRR	11 *	005S	002E	1465	001-03 00	2,020.1	35.0	58.0			
WHEAT - CRC		NIRR	12	005S	002E	4005	001-04 00	404.0	8.0	51.0			
CORN - CRC	GRAN	NIRR	1	006S	002E	3910	001-01 00	3,470.9	65.0	53.0			
CORN - CRC	GRAN	NIRR	2 *	006S	002E	5196	001-02 00	4,127.4	69.0	60.0	MULTIPLE		
CORN - CRC	GRAN	NIRR	11 *	006S	002E	3145	001-03 00	3,911.4	80.0	49.0	Z FARMS/PAX		
CORN - CRC	GRAN	NIRR	2	006S	002E	3910	001-04 00	0.0	0.0	0.0			
SBEAN - CRC		NFACN	1	006S	002E	3910	001-01 00	192.6	5.0	39.0			
SBEAN - CRC		NFACN	2 *	006S	002E	5196	001-02 00	1,003.5	21.0	48.0			
SBEAN - CRC		NFACN	11 *	006S	002E	4209	001-03 00	6,134.7	223.0	28.0	ZFARMS/PAX		
SBEAN - CRC		NFACN	12	006S	002E	3909	001-04 00	4,618.8	90.0	51.0	J.ZUMBERGE		

DON002243

I certify that to the best of my knowledge and belief all of the information on this form is correct. I understand this form may be reviewed or audited and that information inaccurately reported or failure to retain records to support information on this form may result in a recomputation of the approved APH yield. I also understand that failure to report completely and accurately may result in sanctions under my policy, including but not limited to voidance of the policy, and in criminal or civil penalties (18 U.S.C. §1006 and §1014; 7 U.S.C. §1506; 31 U.S.C. §3729, §3730 and any other applicable federal statutes).

See attached form for statements required by Privacy Act of 1974.

INSURED'S SIGNATURE	DATE

*ADDITIONAL LAND LOCATIONS

**RECORD TYPE: 1. Production Sold/Commercial Storage 2. On Farm Storage, Recorded Bin Measurement 3. Livestock Feeding Record 4. FSA Loan Record 5. Appraisals 6. Other

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL. WAYNE T. DONER, ET AL.	:	
Relators,	:	
v.	:	Case No.: 2009-1292
SEAN D. LOGAN, DIRECTOR OHIO DEPARTMENT OF NATURAL RESOURCES, ET AL.	:	
Respondents.	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB N

RURAL COMMUNITY INSURANCE AGENCY, INC
3501 THURSTON AVENUE
ANOKA, MN 55303-1060

800/451-3836 EXT. 2353
OR EXT. 2381
OR EXT. 2162

THIS DOCUMENT IS ISSUED AS A SUBSTITUTE STATEMENT FOR A 1099 INFORMATION RETURN

FOR TAX YEAR
2006

1099-MISC (OMB No.1545-0115)

DONER PARTNERSHIP
1325 DONER RD
CELINA OH 45822-9737

TAX PAYER ID NUMBER
REDACTED

PAYERS FEDERAL
ID NUMBER
41-1708414

SUMMARY OF MISCELLANEOUS INCOME AS REPORTED - CROP INSURANCE PROCEEDS

TYPE OF INS	CROP YEAR/ POLICY NUMBER	CLAIM NUMBER	CLAIM DETAIL AMOUNTS		CLAIM TOTAL
CROPS: SBEAN MPCI	2005 34-951-144834	1213645	CHECK AMOUNTS: PREMIUM WTHLD:	1,992.00 .00	1,992.00
CROPS: CORN MPCI	2005 34-951-144834	1213646	CHECK AMOUNTS: PREMIUM WTHLD:	399.00 .00	399.00

DON002157

** WE APPRECIATE YOUR BUSINESS **

TOTAL INDEMNITY PAYMENT REPORTED $2,391.00

TO HAVE ANY CORRECTIONS MADE TO YOUR FORM 1099, YOU MUST CONTACT OUR OFFICE BEFORE FEBRUARY 28, 2007.

THE "TOTAL INDEMNITY PAYMENT" WHICH INCLUDES ALL AMOUNTS DEDUCTED FROM THE CLAIM(S) AND CHECK(S) ISSUED, IS CONSIDERED TAXABLE INCOME BY THE INTERNAL REVENUE SERVICE. PLEASE CONTACT YOUR TAX PREPARER OR THE IRS IF YOU HAVE ANY QUESTIONS ON REPORTING THIS INCOME.

THIS IS IMPORTANT TAX INFORMATION AND IS BEING FURNISHED TO THE INTERNAL REVENUE SERVICE. IF YOU ARE REQUIRED TO FILE A RETURN, A NEGLIGENCE PENALTY OR OTHER SANCTION WILL/MAY BE IMPOSED ON YOU IF THIS INCOME IS TAXABLE AND IRS DETERMINES THAT IT HAS NOT BEEN REPORTED.

FSA-840E
(07-10-2007)

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SERVICE AGENCY

Date: 12-19-2007
Page: 1

0565 E
DONER PARTNERSHIP
929 DONER RD
CELINA, OH 45822-9736

2005, 2006 and 2007 Crop Disaster Program
Estimated Calculated Payment Report
Producer Summary Report

MERCER
220 W LIVINGSTON ST
CELINA, OH 45822-1632
(419) 586-3149

Location St-Cty	Unit	Insured Status	Crop Name	Pay Type	Planting Period	2005 Estimated Payment	2006 Estimated Payment	2007 Estimated Payment
39-107	3.00	Insured	CORN	11	01	$734*	$0	$0
39-107	3.00	Insured	SOYBEANS	11	01	$1,294*	$0	$0
			Total Calculated Payment by Year			$2,028	$0	$0
			Prior Disaster Program Reduction			$0	$0	N/A
			Total Estimated Payment by Year			$2,028	$0	$0

Notes:

The Estimated Calculated Payment Summary report is the estimated calculated payment amount for losses filed for the calendar years displayed. If losses were incurred in more than one of the 2005, 2006, or 2007 calendar years, the estimated payment will be the payment for the disaster year that is most beneficial to the producer.

The Prior Disaster Program Reduction is the total amount of compensation the producer has received for a 2005 or 2006 HIP or HDP payment.

DISCLAIMER: The payment data reflected on this estimated calculated payment report includes payment amounts based on program eligibility and may vary due to changes in RMA-provided data, payment acres, payment yields, producer eligibility, producer payment share, crop production, adjustments to affected production attributed to each loss level, and payment limitation. The distribution of this report does not in any way obligate CCC to disburse the payment amounts reflected.

* - Indicates crop is approved for payment

DON002190

FSA-840E
(07-10-2007)

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SERVICE AGENCY

2901 S
JANET DONER
1325 DONER RD
CELINA, OH 45822-9737

2005, 2006 and 2007 Crop Disaster Program
Estimated Calculated Payment Report
Producer Summary Report

MERCER
220 W LIVINGSTON ST
CELINA, OH 45822-1632
(419) 586-3149

Location St-Cty	Unit	Insured Status	Crop Name	Pay Type	Planting Period	2005 Estimated Payment	2006 Estimated Payment	2007 Estimated Payment
39-107	300.00	Insured	CORN	11	01	$367*	$0	$0
39-107	300.00	Insured	SOYBEANS	11	01	$647*	$0	$0
			Total Calculated Payment by Year			$1,014	$0	$0
			Prior Disaster Program Reduction			$0	$0	N/A
			Total Estimated Payment by Year			$1,014	$0	$0

Notes:

The Estimated Calculated Payment Summary report is the estimated calculated payment amount for losses filed for the calendar years displayed. If losses were incurred in more than one of the 2005, 2006, or 2007 calendar years, the estimated payment will be the payment for the disaster year that is most beneficial to the producer.

The Prior Disaster Program Reduction is the total amount of compensation the producer has received for a 2005 or 2006 HIP or HDP payment.

DISCLAIMER: The payment data reflected on this estimated calculated payment report includes payment amounts based on program eligibility and may vary due to changes in RMA-provided data, payment acres, payment yields, producer eligibility, producer payment share, crop production, adjustments to affected production attributed to each loss level, and payment limitation. The distribution of this report does not in any way obligate CCC to disburse the payment amounts reflected.

* - Indicates crop is approved for payment

DON002187

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 02-08-2005
Time 12:04
Statement Type 2 Original

Program 05CDP
Application Crop Loss

Name: WAYNE T DONER
1325 DONER RD
CELINA, OH 45822-9737

REDACTED

NOTICE FOR TAX PURPOSES Producer ID Disbursement Statement

Comment Information
The payment information reflected on this transaction statement is for the CDP Program for 2003-2005 crop losses.

Transaction Information

Transaction Mechanism	Amount	RIAT	Payment Description
Transaction 45F2000007	4,326.00		CROP DISASTER PROGRAM
	4,326.00		Total Payments (Transactions)

Disbursement Information

Issue Date	Check	ASCS/ /AYMT	RECVBL/ Claim	Amount	Payee Name/TIN Debt Repaid
02-08-2005	25098381			4,326.00	WAYNE T DONER
				4,326.00	Total Disbursements
				4,326.00	Total Program Payment Earned

DON002178

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1432
Phone 419-586-3149

Date 05-08-2005
Time 12:04
Statement Type R Original

Program 05CDP
Application Crop Loss

Name: JANET DONER
1325 DONER RD
CELINA, OH 45822-9737

NOTHAN FOR TAX PURPOSES Producer REDACTED Disbursement Statement

Current Information
The payment information reflected on this transaction statement is for the CDP Program for 2003-2005 crop losses.

Transaction Information

Reference Number(s)		Amount	STAT	Payment Description
Transaction	UF22000003	4,326.00		CROP DISASTER PROGRAM
		4,326.00		Total Payments (Transactions)

Disbursement Information

Issue Date	MCH/ Check	MCH/ JPMC	REDVBL/ Claim	Amount	Payee Name/CUS Debt Period
05-08-2005	26008477			4,326.00	JANET DONER
				4,326.00	Total Disbursements
				4,326.00	Total Program Payment Earned

DON002180

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3140

Date 08-08-2005
Time 12:04
Statement Type B Original

Program 05CCP
Application Crop Loss

Name: LEOLA BONER
929 BONER RD
CELINA, OH 45822-9736

REDACTED

RETAIN FOR TAX PURPOSES Producer 1 9 Disbursement Statement

Comment Information
The payment information reflected on this transaction statement is for the CRP Program for 2003-2005 crop losses.

Transaction Information		Amount	STAT	Payment Description
Reference Number(s)		2,440.00		CROP DISASTER PROGRAM
Transaction	WF22000002	2,440.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYNT	RECVBL/ Claim	Amount	Payee Name/CSX Debt Repair
08-08-2005	25088478			2,440.00	LEOLA BONER
				2,440.00	Total Disbursements
				2,440.00	Total Program Payment Earned

DON002182

HED02 RURAL COMMUNITY INSURANCE SERVICES 1/20/10
LSINQC2 **MPCI Loss Inquiry** 08:10:13

ar St Co. Policy	Claim Number	Agency	Cty	Rein Year
05 34 951 688736	1179755	343042	107	2005

Name: **JOE & DAVE JOHNSMAN** Group:
yable to: **AGRI BUSINESS FINANC**
N/Tax id: REDACTED Last Paid Date: **11/04/2005**
Last Change Date: **11/04/2005**
tal Amt of this Claim: **$13,533**

Crop	Unit	Acres	Share	Rsk	Prc	Typ	ST	Guar/ Acre	Production to count	Payable	LAF	LPO
CRCCN	0102	9.40	1.000		003	016	R	93.60	75.00	174		
CRCCN	0102	30.60	1.000		003	016	R	93.60	245.00	568		
CRCCN	0102	22.60	1.000		003	016	R	93.60	181.00	420		
				Total			**R**		**501.00**	**1162**		
CRCCN	0103	14.70	1.000		003	016	NR	96.80	.00	0		
CRCCN	0103	13.40	1.000		003	016	R	96.80	107.00	248		
CRCCN	0103	29.40	1.000		003	016	R	96.80	235.00	545		
CRCCN	0103	5.00	1.000		003	016	R	96.80	40.00	93	+	

=Exit F5=Detail F7=Rtn F8=Bwd F9=Key F12=Cancel F24=More Keys

HED02 RURAL COMMUNITY INSURANCE SERVICES 1/20/10
LSINQC2 **MPCI Loss Inquiry** 08:10:15

ar St Co. Policy	Claim Number	Agency	Cty	Rein Year
05 34 951 688736	1198039	343042	107	2005

Name: **JOE & DAVE JOHNSMAN** Group:

yable to: **AGRI-BUSINESS FINANC**

N/Tax id: REDACTED

Last Paid Date: **12/12/2005**

Last Change Date: **12/12/2005**

tal Amt of this Claim: **$2,928**

Crop	Unit	Acres	Share	Rsk	Prc	Typ	ST	Guar/ Acre	Production to count	Payable	L A F	L P O
CRCCN	0101	38.50	1.000		003	016	UH	110.40	11603.00	-1743		
CRCCN	0101	9.40	1.000		003	016	H	110.40	1966.00	442		
CRCCN	0101	89.90	1.000		003	016	H	110.40	18797.00	4229		
				Total			**UH**		**11603.00**	**2928**		
							H		**20763.00**			
CRCCN	0111	41.20	1.000		003	016	H	136.80	13880.00	0		
				TOTAL			**UH**		**.00**	**0**		
							H		**13880.00**			

l=Exit F5=Detail F7=Rtn F8=Bwd F9=Key F12=Cancel F24=More Keys

DON001409

DON001914

2005 CALENDAR YEAR CERTAIN GOVERNMENT PAYMENTS

PAYER'S name, street address, city, state, ZIP code

U.S. DEPARTMENT OF AGRICULTURE
Farm Service Agency - Commodity Credit Corporation
MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
CELINA OH 45822

RECIPIENT'S Identification Number: REDACTED

PAYER'S Federal Identification Number: 43-0951685

RECIPIENT'S name, street address, city, state, ZIP code

CHAD M KNAPKE
7420 INDIANA STATE LINE RD
CELINA OH 45822-9745

Type of Payment	Reportable Income	Refunds From Recipient
DIRECT AND COUNTER CYCLICAL PROG	3,835.00	0.00
CROP DISASTER PROGRAM - 2005	9,706.00	0.00
LOAN DEFICIENCY	2,833.41	0.00
7. Total Agriculture Payments	$16,374.41	$0.00

Form CCC - 1099 - G (12-12-05) REPORT OF PAYMENTS TO PRODUCERS

FORM APPROVED OMB NO. 1545-0120
OH-1013294

2005

RURAL COMMUNITY INSURANCE SERVICES

MPCI SUMMARY OF LOSS

Policy #: 2005 34-951-688740 Claim #: 1207552
County: MERCER 107 RY: 2005

KUHN FARMS
2685 OREGON ROAD
ROCKFORD OH 45882
PHONE: (419)363-2290

Page: 1
Date: 1/03/06

TOTAL NET LOSS	$19,399.00
PREVIOUS PAID AMOUNTS	$.00
AMOUNT OF CHECK	$19,399.00

34-3042 FCS OF MID AMERICA ACA CELINA
11729 LEEDY ROAD
FREDERICKTOWN OH 43019

PHONE (419)886-2141

*PREMIUM BALANCE DUE $.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	BASE PRICE	LPO	LAF	MIF	ADJ GUAR	PROD TO COUNT	HARVEST PRICE	SHARE	PAYABLE
CRCCN	01 01	2311	53.00	003	016	H	97.50	2.32	N	N	N	11990.00	8677.00 4295.3 BU	2.02	1.000	3313
CRCCN	01 06	3820	65.50	003	016	H	127.50	2.32	N	N	N	19374.00	10464.00 5180.3 BU	2.02	1.000	8910
CRCCN	01 13	1294	39.80	003	016	H	108.00	2.32	N	N	N	9971.00	5840.00 2891.2 BU	2.02	1.000	4131
CRCCN	01 14	1294	35.00	003	016	H	102.00	2.32	N	N	N	8282.00	5237.00 2592.5 BU	2.02	1.000	3045

Mp8o1chkr

*BALANCE REFLECTS TRANSACTIONS POSTED AS OF 1/03/2006

IMPORTANT TAX INFORMATION

INFORMATION ON FILE

CROP YEAR: 2005 MPCI
POLICY NO.: 34-951-688740
LEGAL NAME: KUHN FARMS
TAXID NO.: REDACTED

CORRECT LEGAL NAME (please print)

SOCIAL SECURITY NUMBER

OR

FEDERAL EMPLOYER TAX ID NUMBER

I CERTIFY THE ACCURACY OF THE INFORMATION PROVIDED.

SIGNATURE DATE

The IRS requires you to provide us with the correct taxpayer identification number when an indemnity has been issued.

Please verify that the legal name and the taxpayer identification number (Tax ID) shown are correct. If there is a typographical error, please provide the corrections in the space provided and return to RCIS Accounting Department, 3501 Thurston Avenue, Anoka MN 55303-1060.

If the information shown is correct you may disregard this request.

This form may NOT be used to change the legal name or Tax ID. Please contact your agent if a change is required.

RURAL COMMUNITY INSURANCE SERVICES

MPCI SUMMARY OF LOSS

Policy #: 2005 34-951-688740 Claim #: 1207160
County: MERCER 107 RY: 2005

KUHN FARMS
2685 OREGON ROAD
ROCKFORD OH 45882
PHONE: (419)363-2290

Page: 1
Date: 1/03/06

TOTAL NET LOSS	$10,437.00
PREVIOUS PAID AMOUNTS	$.00
AMOUNT OF CHECK	$10,437.00

34-3042 FCS OF MID AMERICA ACA CELINA
11729 LEEDY ROAD
FREDERICKTOWN OH 43019

PHONE (419)886-2141

*PREMIUM BALANCE DUE $.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	BASE PRICE	LPO	LAF	MIF	ADJ GUAR	PROD TO COUNT	HARVEST PRICE	SHARE	PAYABLE
CRCSB	01 01	2311	45.00	053	000	H	30.00	5.53	N	N	N	7763.00	4823.00 838.8 BU	5.75	1.000	2940
CRCSB	01 09	3378	29.10	053	000	H	36.80	5.53	N	N	N	6158.00	3034.00 527.7 BU	5.75	1.000	3124
CRCSB	01 12	1294	39.40	053	000	H	32.30	5.53	N	N	N	7320.00	4947.00 860.3 BU	5.75	1.000	2373
CRCSB	01 13	1294	32.70	053	000	H	29.30	5.53	N	N	N	5509.00	3509.00 610.3 BU	5.75	1.000	2000

Mpolchkr

*BALANCE REFLECTS TRANSACTIONS POSTED AS OF 1/03/2006

IMPORTANT TAX INFORMATION

INFORMATION ON FILE

CROP YEAR: 2005 MPCI
POLICY NO.: 34-951-688740
LEGAL NAME: KUHN FARMS
TAXID NO.: REDACTED

The IRS requires you to provide us with the correct taxpayer identification number when an indemnity has been issued.
Please verify that the legal name and the taxpayer identification number (Tax ID) shown are correct. If there is a typographical error, please provide the corrections in the space provided and return to RCIS Accounting Department, 3501 Thurston Avenue, Anoka MN 55303-1060.
If the information shown is correct you may disregard this request.

This form may NOT be used to change the legal name or Tax ID. Please contact your agent if a change is required.

CORRECT LEGAL NAME (please print)

___ ___ ___ - ___ ___ - ___ ___ ___ ___ OR ___ ___ - ___ ___ ___ ___ ___ ___ ___
SOCIAL SECURITY NUMBER FEDERAL EMPLOYER TAX ID NUMBER

I CERTIFY THE ACCURACY OF THE INFORMATION PROVIDED.

SIGNATURE DATE

DON001729

RURAL COMMUNITY INSURANCE SERVICES

MPCI SUMMARY OF LOSS

Policy #: 2005 34-951-688740 Claim #: 1170225
County: MERCER 107 RY: 2005

KUHN FARMS
2685 OREGON ROAD
ROCKFORD OH 45882
PHONE: (419)363-2290

Page: 1
Date: 10/06/05

TOTAL NET LOSS	$1,826.00
PREVIOUS PAID AMOUNTS	$.00
AMOUNT OF CHECK	$1,826.00

34-3042 FCS OF MID AMERICA ACA-CELINA
11729 LEEDY ROAD
FREDERICKTOWN OH 43019

PHONE (419)886-2141

*PREMIUM BALANCE DUE $10,366.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	BASE PRICE	LPO	LAF	MIF	ADJ GUAR	PROD TO COUNT	HARVEST PRICE	SHARE	PAYABLE
CRCCN	01 05	3820	63.40	003	016	R	8.00	2.32	N	N	N	507.00	.00 .0 BU	.00	1.000	1176
		3820	33.00	003	016	NR	.00	2.32	N	N	N	.00	.00 .0 BU	.00	1.000	0
CRCCN	01 06	3820	35.00	003	016	R	8.00	2.32	N	N	N	280.00	.00 .0 BU	.00	1.000	650
		3820	30.50	003	016	NR	.00	2.32	N	N	N	.00	.00 .0 BU	.00	1.000	0

Mpsoichkr

*BALANCE REFLECTS TRANSACTIONS POSTED AS OF 10/06/2005

INFORMATION ON FILE

CROP YEAR: 2005 MPCI
POLICY NO.: 34-951-688740
LEGAL NAME: KUHN FARMS
TAXID NO.: REDACTED

IMPORTANT TAX INFORMATION

THE IRS REQUIRES YOU TO PROVIDE US WITH THE CORRECT TAXPAYER IDENTIFICATION NUMBER WHEN AN INDEMNITY HAS BEEN ISSUED.

IF THE INFORMATION SHOWN IS CORRECT YOU MAY DISREGARD THIS REQUEST. PRINT ANY CORRECTION TO THE LEGAL NAME OR NUMBER IN THE SPACE PROVIDED AND RETURN TO RCIS ACCOUNTING DEPARTMENT 3501 THURSTON AVENUE, ANOKA MN 55303-1060

CORRECT LEGAL NAME (please print)

___ ___ ___ - ___ ___ - ___ ___ ___ ___ OR ___ ___ - ___ ___ ___ ___ ___ ___ ___
SOCIAL SECURITY NUMBER FEDERAL EMPLOYER TAX ID NUMBER

I CERTIFY THE ACCURACY OF THE INFORMATION PROVIDED.

SIGNATURE DATE

DON001730

2005
Disaster

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 09-02-2005 Program 05CDP
Time 07:41 Application Crop Loss
Statement Type B Original

Name: KUHN FARMS INC
X MARVIN KUHN
2685 OREGON RD
ROCKFORD, OH 45882-9602

RETAIN FOR TAX PURPOSES Producer ID REDACTED Disbursement Statement

Comment Information
The payment information reflected on this transaction statement is for the CDP Program for 2003-2005 crop losses.

Transaction Information

Reference Number(s)		Amount	STAT	Payment Description
Transaction	W024500074	19,572.00		CROP DISASTER PROGRAM
		19,572.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
09-02-2005	00114819			19,572.00	KUHN FARMS INC Funds to be deposited in: THE PEOPLES BANK CO
				19,572.00	Total Disbursements
				19,572.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Martha Roberson
(Authorized Representative of CCC)

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SERVICE AGENCY

2447
KUHN FARMS INC
% MARVIN KUHN
2685 OREGON RD
ROCKFORD, OH 45882-9602

2003-2005 Crop Disaster Program
Statement of Calculated Payment Amounts
Producer Summary Report

MERCER
220 W LIVINGSTON ST
CELINA, OH 45822-1632
(419) 586-3149

Location St-Cty	Unit	Insured Status	Crop Name	Pay Type	Planting Period	2003 Calculated Payment	2004 Calculated Payment	2005 Calculated Payment
39-107	1.02	I	CORN	11	01	$3,047*	$0	$0
39-107	1.03	I	CORN	11	01	$5,626*	$0	$0
39-107	1.13	I	CORN	11	01	$2,250*	$0	$0
39-107	1.01	I	SOYBEANS	11	01	$2,013*	$0	$0
39-107	1.02	I	SOYBEANS	11	01	$1,623*	$0	$0
39-107	1.12	I	SOYBEANS	11	01	$1,559*	$0	$0
39-107	1.13	I	SOYBEANS	11	01	$1,822*	$0	$0
39-107	1.14	I	SOYBEANS	11	01	$1,441*	$0	$0
39-107	3.00	I	SOYBEANS	11	01	$0	$0	$0
39-107	4.00	I	SOYBEANS	11	01	$191*	$0	$0
			Total Calculated Payment by Year (Approved)			$19,572	$0	$0
			Total Calculated Payment by Year (Enrolled)			$0	$0	$0

DISCLAIMER: The payment data reflected on this entitlement report includes payment amounts based on program eligibility. The calculated payment amounts reflected on this entitlement report may vary due to changes in RMA-provided data, payment acres, payment yields, producer eligibility, producer payment share, crop production, adjustments to affected production attributed to each loss level, and payment limitation. The distribution of this entitlement report does not in any way obligate CCC to disburse the payment amounts reflected.

* - Indicates crop is approved for payment

DON001756

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

P.O. Box 38
Anoka, MN 55303-0038

2005 SCHEDULE OF INSURANCE / PRODUCTION REPORT

POLICY NO: 2005 OH-951-674775 DAVE MCNEILAN

STATE: 34 OHIO COUNTY: 107 MERCER

CROP	LEVEL	EXP	ASSIGNMENT OF INDEMNITY WITH	TOTAL ACRES/QTY	ADMIN. FEE
CORN	85	1.000		.00	
SBEAN	85	1.000		18.10	$30.00
WHEAT	75	1.000		.00	

REMARKS:

DATE PRINTED 7/07/05

INSURED INFORMATION	AGENT/AGENCY INFORMATION
DAVE MCNEILAN 5256 SR 29 CELINA, OH 45822 (419)586-3205 SSN: REDACTED	CROP INSURANCE OF WESTERN OHIO MATTHEW B VANTILBURG 34-3021 01 8398 CELINA-MENDON ROAD CELINA, OH 45822 (419)586-3077

"I certify that the information I have furnished as reflected on this form is complete and accurate for the commodity(ies), unit(s) and year(s) shown. I understand this form may be reviewed or audited and that information inaccurately reported or failure to retain records to support information on this form, may result in a recomputation of the approved APH yield. I also understand that failure to report completely and accurately may result in voidance of my crop insurance contract and may result in criminal or civil false claims penalties (18 U.S.C. 1006 and 1014; 7 U.S.C. 1506; 31 U.S.C. 3729, and 3730)."

INSURED'S SIGNATURE [signature] DATE 3-2-06
(SIGN AND RETURN ONLY IF REPORTING YOUR CROP PRODUCTION)

Land in Other County ☐Yes ☐No | Required: ☐Field Review ☐Inspection

Processor No./Name and/or No. Trees/Vines:

CROP / PLAN	OPTIONS	TYPE / PRAC	UNIT	FSN	FARM NAME / COUNTY LEGAL DESC	ACRES/QTY	SHARE / SHAREHOLDER	PLANT DATE	RATE CLS	GUAR PER ACRE / PRICE	TOTAL GUARANTEE * / LIABILITY *	PREMIUM	PRODUCTION AT 100% SHARE **
CORN APH			000-00		107	.00	.000						
SBEAN APH		NFACN	001-00	4209	107 02-005S-002E	18.10	1.000	04/21/05		37.4 $5.0000	677 BU $3385	$192B	850. bu
WHEAT APH			000-00		107	.00	.000				BU		

DON001293

DISCLAIMER: However, if you would like to pay your premium, mail to:
THIS IS NOT A BILL. PO Box 38, Anoka, MN 55303-0038. An actual bill will be sent later.
The information contained on this schedule is considered binding. Any errors or discrepancies must be reported to your agent immediately. All revisions are subject to company approval.

Subsidy of $189.00 Provided by FCIC

TOTALS	
FARMER PREMIUM	$192.00
FCIC ADMIN FEE	$30.00
PREVIOUS CREDIT	$.00
INTEREST	$.00
TOTAL	$222.00

LEGEND
B Basic Unit Discount; C Capped; E Effective Date; EU Enterprise Unit; F Floored; M Modified/Corrected; OU Optional Units-NRFGC; P3 Late Plant/Max Reduction; PP Prevented Plant; PR Premium Reduction on First Crop; RP Revised Premium after Premium Reduction; R Revised; S Short Rated; SC Second Crop; UI Uninsurable; UR Uninsurable-Unreported; IW Uninsurable-Insurance Waived; WU Whole Farm Unit

* Total Guarantee based on 100% Share/ Liability based on actual share

** Record Type: 1) Production Sold/Commercial Storage; 2) On Farm Storage, Recorded Bin M[illegible]rement;

RURAL COMMUNITY INSURANCE COMPANY

Rural Community Insurance Services

P.O. Box 38
Anoka, MN 55303-0038

2005 SCHEDULE OF INSURANCE / PRODUCTION REPORT

POLICY NO: 2005 OH-951-674774 CARL MCNEILAN

STATE: 34 OHIO COUNTY: 107 MERCER

CROP	LEVEL	EXP	ASSIGNMENT OF INDEMNITY WITH	TOTAL ACRES/QTY	ADMIN FEE
CORN	85	1.000		202.00	$30.00
SBEAN	85	1.000		272.50	$30.00
WHEAT	75	1.000		152.20	$30.00

REMARKS:

DATE PRINTED 7/06/05

DON001359

INSURED INFORMATION	AGENT/AGENCY INFORMATION
CARL MCNEILAN PO BOX 637 CELINA, OH 45822 (419)586-2090 SSN: REDACTED	CROP INSURANCE OF WESTERN OHIO 34-3021 01 MATTHEW B VANTILBURG 8398 CELINA-MENDON ROAD CELINA, OH 45822 (419)586-3077

"I certify that the information I have furnished as reflected on this form is complete and accurate for the commodity(ies), unit(s) and year(s) shown. I understand this form may be reviewed or audited and that information inaccurately reported or failure to retain records to support information on this form, may result in a recomputation of the approved APH yield. I also understand that failure to report completely and accurately may result in voidance of my crop insurance contract and may result in criminal or civil false claims penalties (18 U.S.C. 1006 and 1014; 7 U.S.C. 1506; 31 U.S.C. 3729, and 3730)."

INSURED'S SIGNATURE _____ DATE _____
(SIGN AND RETURN ONLY IF REPORTING YOUR CROP PRODUCTION)

Land in Other County ☐Yes ☐No | Required: ☐Field Review ☐Inspection

Processor No./Name and/or No. Trees/Vines:

CROP / PLAN	OPTIONS	TYPE / PRAC	UNIT	FSN	FARM NAME / COUNTY LEGAL DESC	ACRES/QTY	SHARE / SHAREHOLDER	PLANT DATE	RATE CLS	GUAR PER ACRE / PRICE	TOTAL GUARANTEE * / LIABILITY *	PREMIUM	PRODUCTION AT 100% SHARE **
CORN APH		GRAN IRRGT	001-01	4152	SCHAADT WENDEL F 107 16-005S-001E	11.50	1.000	04/14/05		130.1 $2.2000	1496 BU $3291	$180	1725 bu
CORN APH		GRAN IRRGT	001-02	5465	MYERS FARM 107 19-005S-001E	67.70	1.000	04/15/05		F 82.5 $2.2000	5585 BU $12287	$1171	9150 bu
CORN APH		GRAN IRRGT	001-04	4967	WOODS 107 15-005S-001E	58.00	1.000	04/16/05		114.8 $2.2000	6658 BU $14648	$905	8500 bu
CORN APH		GRAN IRRGT	001-05	1463	TRENARY BRUGGEMA 107 02-005S-002E	64.80	1.000	04/17/05		97.8 $2.2000	6337 BU $13941	$1032	12700 bu
SBEAN APH		NFACN	001-03	1871	LINN HINE STEPHE 107 10-005S-001E	185.50	1.000	05/10/05		40.0 $5.0000	7420 BU $37100	$2172	9415 bu
SBEAN APH		NFACN	001-05	1463	TRENARY BRUGGENH 107 02-005S-002E	47.00	1.000	04/20/05		36.6 $5.0000	1720 BU $8600	$560	2000 bu
SBEAN APH		NFACN	001-06	1754	TAMA RD 107 04-005S-001E	40.00	1.000	04/19/05		43.4 $5.0000	1736 BU $8680	$469	1835 bu

DISCLAIMER: However, if you would like to pay your premium, mail to:
THIS IS NOT A BILL. PO Box 38, Anoka, MN 55303-0038. An actual bill will be sent later.
The information contained on this schedule is considered binding. Any errors or discrepancies must be reported to your agent immediately. All revisions are subject to company approval.

Subsidy of $7579.00 Provided by FCIC

TOTALS	
FARMER PREMIUM	$7176.00
FCIC ADMIN FEE	$90.00
PREVIOUS CREDIT	$.00
INTEREST	$.00
TOTAL	$7266.00

LEGEND
B Basic Unit Discount; C Capped; E Effective Date; EU Enterprise Unit; F Floored; M Modified/Corrected; OU Optional Units-NRFGC; P3 Late Plant/Max Reduction; PP Prevented Plant; PR Premium Reduction on First Crop; RP Revised Premium after Premium Reduction; R Revised; S Short Rated; SC Second Crop; UI Uninsurable; UR Uninsurable-Unreported; IW Uninsurable-Insurance Waived; WU Whole Farm Unit

* Total Guarantee based on 100% Share/ Liability based on actual share

** Record Type: 1) Production Sold/Commercial Storage; 2) On Farm Storage, Recorded Bin Measurement; 3) Livestock Feeding Records; 4) FSA Loan Record; 5) Appraisals; 6) Other

MP 4006 (03-05)

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-07-2005
Time 08:45
Statement Type B Original

Program 2004 Direct/Counter Program
Application Direct/Counter Program

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Farm	3586	Transaction	WE28000320	1,220.00		COUNTER CYCLICAL PAYMENT - CORN
				1,220.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-07-2005	D0116857			1,220.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				1,220.00	Total Disbursements
				1,220.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Doris Marie Weil
(Authorized Representative of CCC)

DON001514

nited States
epartment of
griculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

ate 10-13-2005
ime 14:00
tatement Type B Original

Program 2005 Direct/Counter Program
Application Direct/Counter Program

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

ETAIN FOR TAX PURPOSES

Producer ID REDACTED

Disbursement Statement

ransaction Information

eference Number(s)				Amount	STAT	Payment Description
arm	3586	Transaction	WF28601571	287.00		DIRECT PAYMENT - WHEAT
arm	3586	Transaction	WF28601572	379.00		DIRECT PAYMENT - CORN
arm	3586	Transaction	WF28601573	292.00		DIRECT PAYMENT - SOYBEANS
				958.00		Total Payments (Transactions)

isbursement Information

ssue ate	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
0-13-2005	00119186			958.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				958.00	Total Disbursements
				958.00	Total Program Payment Earned

unds should be available within three working days of issue date.

pproved: Signed Doris Marie Weil
(Authorized Representative of CCC)

DON001515

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 04-25-2005
Time 11:06
Statement Type B Original

Program 2005 Direct/Counter Program
Application Direct/Counter Program

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID: REDACTED

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Farm	3586	Transaction	WE11500258	287.00		DIRECT PAYMENT - WHEAT
Farm	3586	Transaction	WE11500259	379.00		DIRECT PAYMENT - CORN
Farm	3586	Transaction	WE11500260	291.00		DIRECT PAYMENT - SOYBEANS
				957.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
04-25-2005	D0113549			957.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				957.00	Total Disbursements
				957.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Doris Marie Will
(Authorized Representative of CCC)

DON001516

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 04-27-2005 Program 05CDP
Time 14:56 Application Crop Loss
Statement Type B Original

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

RETAIN FOR TAX PURPOSES

Producer ID REDACTED Disbursement Statement

Comment Information
The payment information reflected on this transaction statement is for the CDP Program for 2003-2005 crop losses.

Transaction Information

Reference Number(s)		Amount	STAT	Payment Description
Transaction	UE11700002	2,222.00		CROP DISASTER PROGRAM
		2,222.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
04-27-2005	00113596			2,222.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				2,222.00	Total Disbursements
				2,222.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Martha Pohlman
(Authorized Representative of CCC)

*** End of Report ***

DON001517

U.S. Department of Agriculture
Farm Service Agency - Commodity Credit Corporation
P.O. Box 419205, Kansas City, Missouri 64141-6205

CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
PHONE: (419)586-3149

PROGRAM DESCRIPTION	REFERENCE	DATE	AMOUNT
LOAN DEFICIENCY - CORN Year:2005, eLDP#:50366, Cmdy:CORN, Class:YC Qty: 4800.00, Rate: $0.44, Amount: $2,112.00 Submitted at: Wed. Oct 26, 2005 07:13 AM	50366	10-26-2005	$2,112.00
TOTAL			$2,112.00

PAYEE NAME	DEBT #	DISBURSE #	AMOUNT
CHARLES J MEIER		A20047240	$2,112.00
TOTAL			$2,112.00

PLEASE VISIT (WWW.FSA.USDA.GOV) AND SELECT FINANCIAL INQUIRES UNDER FSA eGOV OR CONTACT YOUR SERVICE CENTER TO REVIEW INFORMATION THAT IS ON FILE.

PLEASE VISIT (WWW.USDA.GOV) TO VIEW YOUR USDA CUSTOMER STATEMENT.

BOTH OF THE WEB SITES ABOVE REQUIRE YOU TO HAVE LEVEL 2 SECURITY ACTIVATED.

DON001518

USDA is an Equal Opportunity Employer

United States
Department of
Agriculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

Date 10-06-2006
Time 10:10
Statement Type B Original

Program 2005 Direct/Counter Program
Application Direct/Counter Program

Name: CHARLES J MEIER
5700 SCHUNK RD
CELINA, OH 45822-9524

REDACTED

RETAIN FOR TAX PURPOSES

Producer ID S

Disbursement Statement

Transaction Information

Reference Number(s)				Amount	STAT	Payment Description
Farm	3586	Transaction	Y827901377	1,473.00		COUNTER CYCLICAL PAYMENT - CORN
				1,473.00		Total Payments (Transactions)

Disbursement Information

Issue Date	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
10-06-2006	D0130035			1,473.00	CHARLES J MEIER Funds to be deposited in: COMMUNITY FIRST BANK & TRUST
				1,473.00	Total Disbursements
				1,473.00	Total Program Payment Earned

Funds should be available within three working days of issue date.

Approved: Signed Doris Morris Wills
(Authorized Representative of CCC)

DON001510

RURAL COMMUNITY INSURANCE SERVICES

MPCI SUMMARY OF LOSS

Policy #: 2005 34-951-214677 Claim #: 1213243

County: MERCER 107 RY: 2005

SHEETS FARMS INC
DUANE SHEETS
7431 WABASH RD
CELINA OH 45822
PHONE: (419)942-1420

Page: 1

Date: 1/18/06

TOTAL NET LOSS	$2,891.00
PREVIOUS PAID AMOUNTS	$.00
PREMIUM CREDIT	$1,963.00
INTEREST CREDIT	$75.00
FCIC ADMIN FEE CREDIT	$60.00
AMOUNT OF CHECK	$793.00

13-3005 J S CROP INSURANCE INC II
105 E LAFAYETTE ST
PO BOX 1007
PORTLAND IN 47371

PHONE (260)726-2111

*PREMIUM BALANCE DUE $.00

CROP	UNIT	FSN	ACRES	PRAC	TYP	STG	GUAR/ ACRE	LPO	LAF	MIF	ADJ GUAR	PROD TO COUNT	PRICE	SHARE	PAYABLE
CORN	01 01	3802	71.70	003	016	H	121.60	N	N	N	8719.00	6914.80	2.20	.500	1985
CORN	01 06	1790	39.70	003	016	H	115.20	N	N	N	4573.00	3749.50	2.20	.500	906

JAN 2006 #6

MPSOICHK

*BALANCE REFLECTS TRANSACTIONS POSTED AS OF 1/18/2006

IMPORTANT TAX INFORMATION

INFORMATION ON FILE

CROP YEAR: 2005 MPCI
POLICY NO.: 34-951-214677
LEGAL NAME: SHEETS FARMS INC
TAXID NO.: REDACTED

CORRECT LEGAL NAME (please print)

SOCIAL SECURITY NUMBER

OR

FEDERAL EMPLOYER TAX ID NUMBER

I CERTIFY THE ACCURACY OF THE INFORMATION PROVIDED.

SIGNATURE DATE

The IRS requires you to provide us with the correct taxpayer identification number when an indemnity has been issued.

Please verify that the legal name and the taxpayer identification number (Tax ID) shown are correct. If there is a typographical error, please provide the corrections in the space provided and return to RCIS Accounting Department, 3501 Thurston Avenue, Anoka MN 55303-1060.

If the information shown is correct you may disregard this request.

This form may NOT be used to change the legal name or Tax ID. Please contact your agent if a change is required.

ited States
epartment of
riculture

Farm Service Agency

MERCER COUNTY FSA OFFICE
220 W LIVINGSTON ST
SUITE 2
CELINA, OH 45822-1632
Phone 419-586-3149

ate 09-02-2005 Program 05COP
ime 07:41 Application Crop Loss
tatement Type B Original

Name: CARL SUTTER
2840 MUD PIKE RD
CELINA, OH 45822-8704

REDACTED

ETAIN FOR TAX PURPOSES Producer ID Disbursement Statement

omment Information
he payment information reflected on this transaction statement is for the
OP Program for 2003-2005 crop losses.

ransaction Information

eference Number(s)		Amount	STAT	Payment Description
ransaction	WD24500010	5,763.00		CROP DISASTER PROGRAM
		5,763.00		Total Payments (Transactions)

ishbursement Information

ssue ate	ACH/ Check	ASGN/ JPYMT	RECVBL/ Claim	Amount	Payee Name/CCC Debt Repaid
9-02-2005	00114763			5,763.00	CARL SUTTER Funds to be deposited in: THE PEOPLES BANK CO
				5,763.00	Total Disbursements
				5,763.00	Total Program Payment Earned

unds should be available within three working days of issue date.

pproved: Signed Martha Coleman
(Authorized Representative of CCC)

DON001281

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL. **WAYNE T. DONER, ET AL.**	:	
Relators,	:	
v.	:	Case No.: 2009-1292
SEAN D. LOGAN, DIRECTOR **OHIO DEPARTMENT OF** **NATURAL RESOURCES, ET AL.**	:	
Respondents.	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB O

AFFIDAVIT OF JAY DORSEY

STATE OF OHIO)
) SS:
COUNTY OF FRANKLIN)

Jay Dorsey, being first duly sworn, states as follows:

1. I am competent to make the statements contained in this affidavit and I have personal knowledge of the facts stated, which are true and accurate to the best of my knowledge.

2. I am a licensed professional engineer in the State of Ohio. Since 2006, I have served as a water resources engineer for the Ohio Department of Natural Resources ("ODNR"). Attached hereto as Exhibit A is a copy of my curriculum vitae.

3. I am familiar with the mandamus suit filed against ODNR in *State ex rel. Doner v. Logan*, Ohio Supreme Court Case No. 2009-1292. I have reviewed the affidavits and reports submitted by the parties' experts in this litigation.

4. In my expert engineering opinion, I believe Stantec Consulting Services, Inc. ("Stantec") appropriately followed standard engineering procedures in conducting its hydraulic and hydrological analysis of the impact from ODNR's modification of the western spillway of the dam at Grand Lake St. Marys upon the properties at issue in this litigation.

5. In my expert engineering opinion, I believe the models developed by Stantec reliably represent the hydrology and hydraulics of the Grand Lake, Beaver Creek and Wabash River watershed to the Indiana state line.

FURTHER AFFIANT SAYETH NAUGHT

AFFIDAVIT OF JAY DORSEY

I swear or affirm under the penalties of perjury and falsification that the foregoing is true and correct.

Jay Dorsey

Sworn to and subscribed before me this 28th day of May, 2010.

Notary Public

WILLIAM J. COLE
ATTORNEY AT LAW
Notary Public, State of Ohio
My Commission Has No Expiration Date
Section 147.03 ORC

EXHIBIT
A

JAY D. DORSEY, P.E., Ph.D.
ODNR, Division of Soil and Water Conservation
2045 Morse Rd, B-3
Columbus, OH 43229
(614) 265-6647
e-mail: jay.dorsey@dnr.state.oh.us

TECHNICAL EXPERTISE

Watershed management, hydrology, stormwater management, stream morphology

PROFESSIONAL REGISTRATION

Professional Engineer, State of Ohio (E-64618)

EDUCATION

1995	The Ohio State University, Ph.D. in Agricultural Engineering
1989	The Ohio State University, M.S. in Agricultural Engineering
1987	Purdue University, B.S. in Agricultural Engineering

WORK EXPERIENCE

2006– **Ohio Dept of Natural Resources, Division of Soil and Water Conservation.** ***Water Resources Engineer.*** Provide stormwater and stream management technical assistance and training to state agencies, SWCDs, local governments and watershed groups. Part of team responsible for developing and updating state specifications and standards, and the *Rainwater and Land Development* manual.

2003 - 2005 **Clermont Soil and Water Conservation District.** ***Watershed Coordinator.*** Coordinated the East Fork Little Miami River Watershed program. Developed two state-endorsed watershed plans. Provided technical assistance to county agencies, townships, municipalities and individual landowners on stream and stormwater management issues. Developed and delivered presentations on stormwater management and stream function to community groups. With watershed program partners, developed and submitted six successful grant proposals totaling $2.6 million to implement watershed initiatives.

2001 - 2002 **Oxbow River and Stream Restoration.** ***Environmental Engineer.*** Worked as part of team that performed all aspects of stream and riparian assessment and restoration including proposal development, surveying, design, layout, construction, revegetation, monitoring, and report development. Conducted detailed assessment of channel stability and stream biological conditions in the Portage River Watershed.

1997 - 2000 **US Department of Agriculture, Soil Drainage Research Unit.** ***Engineer/Scientist.*** Conducted participatory assessment of stormwater and drainage issues in Darby Creek watershed involving 45 stakeholders representing the spectrum of backgrounds and water management interests.

SERVICE

Clermont County Phase II Stormwater Committee (2003-2005)
Board Member, Little Miami River Partnership (2002-2005)
Milford Stormwater Advisory Committee (2003-2004)
Central Ohio Regional Forum (CORF) Darby Creek Watershed Task Force (1999-2000)
Stormwater Management and Retention committee, Loramie Valley Alliance (1998-1999)

ADDITIONAL TRAINING AND SHORT COURSES

U.S. EPA SUSTAIN—System for Urban Stormwater Treatment and Analysis Integration (2010)
Advanced Applications of HEC-RAS (2010)
Advanced Design for Infiltration Practices (2008)
HEC-RAS Utilization for the Hydraulic Design of Culverts and Bridges (2008)
Applications of WinSLAMM (2007)
Stormwater Modeling with SWMM/PCSWMM (2006)
Design of Stormwater Management Systems (2006)
Essential Hydrology for Storm Water Management (2004)
Designing Detention Basins for Water Quality (2004)
ArcGIS for Watershed Management Applications (2003)
Ohio EPA Biocriteria and QHEI Course (2001)
Applied Fluvial Geomorphology (Rosgen Short Course) (1999)

SELECTED PUBLICATIONS AND PRESENTATIONS

Dorsey, J. 2010. Bringing Function to the Flowpath. Presented at Ohio Federations of Soil and Water Conservation Districts Annual Meeting, January 16, 2010, Sandusky, OH.

Dorsey, J., R. Webb, J. Witter, D. Mecklenburg and A. Brennan. 2009. Modeling the Effectiveness of Traditional and Innovative Stormwater Management Strategies in the Chagrin River Watershed: Part 1—Development Site Scale. For Chagrin River Watershed Partners, Inc.

Dorsey, J. 2009. Crediting Non-traditional and Green Stormwater Practices. Presented at WMAO Stormwater Task Force Workshlop, March 2009, Columbus.

Dorsey, J. 2008. Stormwater Management Opportunities in Our Headwaters. Presented at Olentangy Forum, October 17, 2008, Delaware, OH.

Dorsey, J. 2008. Urban Headwaters: The Good, the Bad and the Ugly. Presented at Little Miami River Partnership Water Quality Symposium, October 15, 2008, Waynesville, OH.

Dorsey, J. 2008. Quantifying Effects of Development Layout, Drainage System and BMP Choices on Runoff Volume. Presented at Northeast Ohio Stormwater Conference, May 2008, Cleveland.

Dorsey, J. 2008. The Use and Abuse of the Curve Number Method. Presented at Northeast Ohio Stormwater Conference, May 2008, Cleveland.

Dorsey, J. 2007. Watershed Management and Stream Integrity. Presented to Southwest Ohio Chapter of Ohio Water Environment Association, June 2007, Xenia, OH.

Dorsey, J. 2006. The Evolution of a Stream—Avey's Run. Presented to Friends of the Cincinnati Nature Center, October 2, 2006, Milford, OH.

Dorsey, J. 2004. A Fish-eye View of Stream Habitat and Water Quality. With Bob Miltner, Ohio EPA, presented to Buckeye United Fly Fishers, September 8, 2004, Cincinnati.

Dorsey, J. 2004. Watershed Plan Endorsement—Have We Learned Anything Yet? Presentation at "Roadmap to Producing a State Endorsed Watershed Plan—the First Time," Ohio State University Extension simulcast, February 10, 2004, Columbus and remote locations.

Dorsey, J. 2003. Stormwater and You: 10 Steps to Good Watershed Citizenship. Little Miami River Partnership Annual Meeting, December 17, 2003, Loveland, OH.

Zucker, L., A. Weekes, M. Vian and J. Dorsey. 2002. Treating Rivers as Systems to Meet Multiple Objectives. In R.L. France (ed.), Handbook of Water Sensitive Planning and Design. CRC Press, Boca Raton, FL.

Dorsey, J. 2001. Channel Stability and Stream Biological Conditions in the Portage River Watershed. Oxbow River and Stream Restoration, prepared for Finkbeiner, Pettis and Strout as part of the Portage River Hydrologic Study for Toledo Area Metropolitan Council of Governments.

Dorsey, J., B. Allred and N. Fausey. 1999. Watershed-Scale Perspective on Agricultural Drainage: Issues and Opportunities. Oral presentation at ASAE Annual Meeting, July 20, 1999, Toronto, Ontario, Canada.

Dorsey, J. and N. Fausey. 1999. Systems Approach to Water Resources Management: Relating Stakeholder Perspectives to Watershed Function. Poster presentation at Sixth National Watershed Conference, "Getting the Job Done at the Ground Level", May 17, 1999, Austin, TX.

Ward, A.D. and J.D. Dorsey. 1995. Infiltration and Soil Water Processes. Chapter 3 in A.D. Ward and W.J. Elliot (eds.), Environmental Hydrology, CRC/Lewis, Boca Raton, FL.

Ward, A.D., C.A. Alexander, N.R. Fausey, and J.D. Dorsey. 1988. The ADAPT agricultural drainage and pesticide transport model. In Modeling Agricultural, Forest, and Rangeland Hydrology, ASAE Publication 07-88:129-141. ASAE, St. Joseph, MI.

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL.	:	
WAYNE T. DONER, ET AL.	:	
	:	
Relators,	:	
	:	
v.	:	Case No.: 2009-1292
	:	
SEAN D. LOGAN, DIRECTOR	:	
OHIO DEPARTMENT OF	:	
NATURAL RESOURCES, ET AL.	:	
	:	
Respondents.	:	
	:	

RESPONDENTS' EXHIBITS – VOLUME ONE

TAB P

IN THE SUPREME COURT OF OHIO

STATE ex rel. WAYNE T. DONER, et al.,	:	Case No. 2009-1292
Relators,	:	Original Action in Mandamus
v.	:	Master Commissioner Andrew J. Campbell
SEAN D. LOGAN, Director, Ohio Department of Natural Resources, et al.,	:	
Respondents.	:	

RELATORS' RESPONSES TO RESPONDENTS' INTERROGATORY AND REQUEST FOR PRODUCTION

In response to Respondents' Interrogatory and Request for Production ("Discovery Requests"), Relators state as follows:

GENERAL OBJECTIONS

Relators make the following general objections and responses to Respondents' Discovery Requests:

1. Relators object to Respondents' Discovery Requests to the extent they seek information protected by the attorney-client privilege.

2. Relators object to Respondents' Discovery Requests to the extent they seek information protected by the attorney work product doctrine and/or documents prepared in anticipation of litigation for the Relators.

3. Relators object to Respondents' Discovery Requests to the extent they purport to require answers or actions not required by or permitted under the Ohio Rules of Civil Procedure, including Respondents' attempt to seek responses to their Discovery Requests within "one business day of receipt."

4. Relators object to Respondents' definition of "Relators".

5. Relators object to the information requested by Respondents' Discovery Requests on the ground that such information includes highly confidential information about the Relators.

6. By responding to Respondents' Discovery Requests, Relators do not hereby admit, adopt, or acquiesce in any factual or legal contention, assertion, or characterization contained in any Discovery Request.

7. In making these objections, Relators do not in any way waive or intend to waive, but rather intend to preserve and are preserving, should it become appropriate:

a. all objections to the competency, relevancy, materiality, and admissibility of any information that may be produced and disclosed in response to these Discovery Requests;

b. all rights to object on any ground to the use of any information that may be produced or disclosed in response to these Discovery Requests, or the subject matter thereof, in any subsequent proceedings, including the trial of this action; and

c. all rights to object on any ground to any request for further responses to these Discovery Requests or any other discovery requests from Relators.

8. Subject to any objections asserted herein, Relators will produce the documents as specified in these Discovery Requests to the extent that they are able to locate such documents after a diligent search of all areas where they would reasonably expect to find such documents.

INTERROGATORY

List the names, business addresses and phone numbers for each and every expert from whom one or more Relators intend to file an affidavit, report, or other evidence with this Court in

support of Relators' claim for a writ of mandamus. (If any such persons do not have a business address or phone number, then provide their home address and phone number.) For each such expert, indicate the subject matter of the affidavit, report, or other evidence that Relators intend to file.

ANSWER:

Press Campbell, Conestoga-Rovers & Associates, Inc., 4875 S. Sherwood Forest Blvd., Baton Rouge, Louisiana 70816, and Richard Vannatta, Vannatta Brothers, 977 West Broad Street, Columbus, Ohio 43222-1477. Further responding, *see* Affidavits of Press Campbell and Richard Vannatta produced contemporaneously with Relators' written responses to these Discovery Requests. Further responding, Relators reserve the right to identify additional expert witnesses from whom they may obtain statements, affidavits or testimony after Respondents produce their documents and written responses to Relators' discovery requests, including, but not limited to, deposition testimony from ODNR officials and representatives and from witnesses Respondents identify in their written responses or are identified in their documents.

REQUEST FOR PRODUCTION

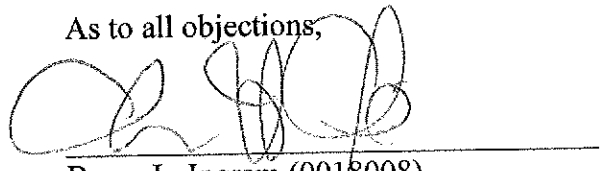
For each expert listed in the response to the above interrogatory, produce their affidavit(s), report(s), and/or other evidence that Relators intend to file as evidence with this Court in support of their claim for a writ of mandamus.

RESPONSE:

See Affidavits of Press Campbell and Richard Vannatta produced contemporaneously with Relators' written responses to these Discovery Requests. Further responding, Relators reserve the right to produce additional affidavits, reports or evidence from Press Campbell or Richard Vannatta and to identify additional witnesses from whom they may obtain statements, affidavits or testimony after Respondents produce their documents and written responses to Relators' discovery requests, including, but not limited to, deposition testimony from ODNR officials and representatives and from witnesses Respondents identify in their written responses or are identified in their documents.

Dated: December 24, 2009

As to all objections,



Bruce L. Ingram (0018008)
(*Counsel of Record*)
Joseph R. Miller (0068463)
Thomas H. Fusonie (0074201)
Kristi Kress Wilhelmy (0078090)
VORYS, SATER, SEYMOUR AND PEASE LLP
52 East Gay Street, P.O. Box 1008
Columbus, OH 43216-1008
Tel: (614) 464-6480
Fax: (614) 719-4775
blingram@vorys.com
jrmiller@vorys.com
thfusonie@vorys.com
kkwilhelmy@vorys.com

Attorneys for Relators

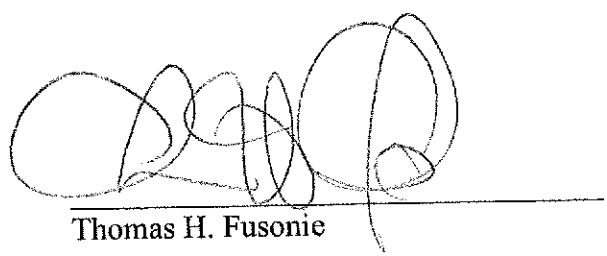
CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true copy of the foregoing was served upon the following, via electronic mail and hand delivery this 24th day of December, 2009:

William J. Cole
Mindy Worly
Jennifer S.M. Croskey
Assistant Attorneys General
30 East Broad Street, 26th Floor
Columbus, Ohio 43215

Raymond J. Studer
Rachel H. Stelzer
Assistant Attorneys General
Environmental Enforcement Section
2045 Morse Road # D-2
Columbus, Ohio 43229

Attorneys for Respondents



Thomas H. Fusonie

IN THE SUPREME COURT OF OHIO

STATE ex rel. WAYNE T. DONER, et al.,	:	Case No. 2009-1292
Relators,	:	Original Action in Mandamus
v.	:	Master Commissioner Andrew J. Campbell
SEAN D. LOGAN, Director, Ohio Department of Natural Resources, et al.,	:	
Respondents.	:	

RELATORS' RESPONSES TO RESPONDENTS' ADDITIONAL INTERROGATORIES AND REQUESTS FOR PRODUCTION, AND REQUESTS FOR ADMISSION TO RELATORS

In response to Respondents' Additional Interrogatories and Requests for Production, and Requests for Admission ("Discovery Requests"), Relators state as follows:

GENERAL OBJECTIONS

Relators make the following general objections and responses to Respondents' Discovery Requests:

1. Relators object to Respondents' Discovery Requests to the extent they seek information protected by the attorney-client privilege.

2. Relators object to Respondents' Discovery Requests to the extent they seek information protected by the attorney work product doctrine and/or documents prepared in anticipation of litigation for the Relators.

3. Relators object to Respondents' Discovery Requests to the extent they purport to require answers or actions not required by or permitted under the Ohio Rules of Civil Procedure.

4. Relators object to Respondents' definition of "Relators".

5. Relators object to the information requested by Respondents' Discovery Requests on the ground that such information includes highly confidential information about the Relators.

6. By responding to Respondents' Discovery Requests, Relators do not hereby admit, adopt, or acquiesce in any factual or legal contention, assertion, or characterization contained in any Discovery Request.

7. In making these objections, Relators do not in any way waive or intend to waive, but rather intend to preserve and are preserving, should it become appropriate:

a. all objections to the competency, relevancy, materiality, and admissibility of any information that may be produced and disclosed in response to these Discovery Requests;

b. all rights to object on any ground to the use of any information that may be produced or disclosed in response to these Discovery Requests, or the subject matter thereof, in any subsequent proceedings, including the trial of this action; and

c. all rights to object on any ground to any request for further responses to these Discovery Requests or any other discovery requests from Relators.

8. Subject to any objections asserted herein, Relators will produce the documents as specified in these Discovery Requests to the extent that they are able to locate such documents after a diligent search of all areas where they would reasonably expect to find such documents.

INTERROGATORIES

1. Identify all persons participating, assisting, and/or providing substantive information used by Relators in answering and/or responding to ODNR's initial and additional interrogatories, initial and additional requests for production, and requests for admission. For each such person, specifically describe their participation and/or substantive information they provide.

ANSWER:

See General Objections.

Subject to and without waiving the foregoing objections, the Relators state that the responses to Respondents' interrogatories are their responses. To the extent this interrogatory seeks additional information, the Relators object on the ground that it seeks information protected by the attorney-client privilege and work product doctrine.

2. Identify all witnesses (fact, expert, or both) from whom Relators intend to or may obtain any statements, affidavits, or testimony for their presentation of evidence to the Court, and indicate the subject matter (including which subject parcel(s)) to which each such witness may testify.

ANSWER:

See General Objections. Relators further object to this interrogatory on the ground that it seeks information protected by the attorney-client privilege and the work product doctrine.

Subject to and without waiving the foregoing objections, and construing "intend to or may obtain" as limiting the interrogatory to statements, affidavits, and testimony which Relators obtained specifically related to this action and not statements, affidavits or testimony from other litigation, *see* Affidavits produced contemporaneously with Relators' written responses to these Discovery Requests. Further responding, Relators reserve the right to identify additional witnesses from which they may obtain statements, affidavits or testimony after Respondents produce their documents and written responses to Relators' discovery requests, including, but not limited to, deposition testimony from ODNR officials and representatives and from witnesses Respondents identify in their written responses or are identified in their documents.

3. Identify all evidence Relators intend to or may include in their presentation of evidence to the Court.

ANSWER:

See General Objections. Relators further object to this interrogatory on the ground that it seeks information protected by the attorney-client privilege and the work product doctrine.

Subject to and without waiving the foregoing objections, and construing "intend to or may include" as limiting the interrogatory to evidence which Relators obtained specifically related to this action and not statements, affidavits or testimony from other litigation, *see* Affidavits produced contemporaneously with Relators' written responses to these Discovery Requests. Further responding, Relators may include testimony, pleadings, and evidence from other litigation that Respondents have been a party to, including, but not limited to, the following evidence:

Post, et al. v. Speck

1) Trial Transcript and Relators' Trial Exhibits;

2) December 4, 2006 Decision and Entry from Sixth Appellate District;

3) Joint Stipulation;

4) Judgment Entry Granting Writ of Mandamus; and

5) Deposition of John C. Warns.

ODNR v. Baucher, et al.; ODNR v. Post, et al.; ODNR v. Minch, et al; ODNR v. Linn, et al. and ODNR v. Zumberge, et al.

1) Petition to Appropriate from each of the above actions.

ODNR v. Board of County Commissioners, Mercer County, Ohio

1) Responses to Appellee's First Request for Interrogatories, Production of Documents and Admissions.

Case Leasing and Rental v. ODNR

1) Deposition of Mark Ogden;

2) Deposition of Glenn Cobb;

3) Plaintiff's Liability Trial Exhibits 6-7, 12, 14, 16-17, 21-22, and 26;

4) Stipulations;

5) June 19, 2008 Ohio Court of Claims Decision; and

6) December 15, 2009 Tenth Appellate District Decision.

Further responding, Relators reserve the right to identify additional evidence after Respondents produce their documents and written responses to Relators' discovery requests, including deposition testimony from ODNR officials and representatives and from witnesses Respondents identify in their written responses or are identified in their documents.

4. Identify all other persons (not including Relators, their counsel, of those persons identified in Relators' answer to Interrogatory # 2) with knowledge of any or all allegations or claims in Relators' mandamus complaint. For each such person, describe his or her knowledge, including, but not limited to, the specific subject parcel(s).

ANSWER:

See Affidavits produced contemporaneously with Relators' written responses to these Discovery Requests. Further responding, Relators state that such persons with knowledge of certain allegations or claims in Relators' mandamus complaint include, but are not limited to, ODNR, Mercer County Engineer's Office, Mercer County Soil and Water Conservation District, U.S. Army Corp of Engineers, James Garrett, Judge Grey, Judge Ingraham, Judge Wright, all persons ever owning property adjacent to the Beaver Creek or the Wabash River in Mercer County; all persons ever renting property adjacent to the Beaver Creek or Wabash River in Mercer County; and all persons ever living on property adjacent to the Beaver Creek.

5. List every Relator who ever applied to the federal Natural Resources Conservation Service for relief, including, but not limited to (1) floodplain easement(s) pursuant to the 2008 Farm Bill Stimulus Easement Program, and (2) inclusion of land(s) in the Conservation Reserve Program, and (3) for drought or other natural causes. For each Relator listed, indicate (1) the type of relief sought; (2) whether their application(s) is pending, or was granted or denied; and (3) if denied, the reason(s) for denial, if known.

ANSWER:

See General Objections. Relators further object to this interrogatory on the ground that the interrogatory is irrelevant, and not reasonably calculated to lead to the discovery of admissible evidence in this mandamus action, including, but not limited to, on the ground that the attempt to submit such evidence into the record would violate Article 1, Section 19 of the Ohio Constitution. The Relators also object to this interrogatory on the grounds that it is vague, ambiguous, overbroad and unduly burdensome.

6. List every Relator who ever received any financial assistance, compensation, or other relief from any entity, including, but not limited to, the federal Department of Agriculture's Farm Service Agency, since 1997 for property damage or loss due to flooding or drought or other natural causes. For each Relator listed, indicate (1) the entity(s) involved; (2) the type of financial assistance, compensation, or other relief received; (3) the total amount of financial assistance, compensation, or other relief received; and (4) the year(s) such relief was received.

ANSWER:

See General Objections. Relators further object to this interrogatory on the ground that the interrogatory is irrelevant, and not reasonably calculated to lead to the discovery of admissible evidence in this mandamus action, including, but not limited to, on the ground that the attempt to submit such evidence into the record would violate Article 1, Section 19 of the Ohio Constitution. The Relators also object to this interrogatory on the grounds that it is vague, ambiguous, overbroad and unduly burdensome.

7. List every Relator who applied for, but did not receive, any assistance, compensation, or other financial relief from any entity, including, but not limited to, the federal Department of Agriculture's Farm Service Agency, since 1997 for property damage or loss due to flooding or drought or other natural causes. For each Relator listed, indicate (1) the approximate date(s) of such application(s); (2) the entity(s) involved; (3) the type of relief applied for; (4) whether the application is pending or was denied; and (5) if denied, the reason(s) for denial, if known.

ANSWER:

See General Objections. Relators further object to this interrogatory on the ground that the interrogatory is irrelevant, and not reasonably calculated to lead to the discovery of admissible evidence in this mandamus action, including, but not limited to, on the ground that sub-part (5) seeks information beyond the knowledge of the Relators as it seeks information within the mind of the person or entity that denied the application. The Relators also object to this interrogatory on the grounds that it is vague, ambiguous, overbroad and unduly burdensome.

8. List every Relator who alleges or claims that ODNR has taken or damaged their personal property and/or fixtures, including, but not limited to, crops, trees, shrubs, bushes, vines, saplings, drainage title, buildings, homes, livestock, and equipment. For each Relator listed, indicate the item(s) taken and/or damaged.

ANSWER:

See General Objections. Relators further object to this interrogatory on the ground that it is vague, ambiguous, overbroad and unduly burdensome. Subject to and without waiving the foregoing objections, *see* Affidavits produced contemporaneously with Relators' written responses to these Discovery Requests. Further responding, Relators do not claim that ODNR

has "taken" their "personal property." The severe, frequent and persistent damage to the Relators' personal property on their land is evidence of ODNR's taking of their land.

9. List by Mercer County Parcel Number every property cited in the mandamus complaint and/or supporting affidavits that Relator(s) allege or claim to having been subject to continuing, persistent, frequent, and inevitable increased severe flooding as a result of ODNR's replacement of the Grand Lake St. Mary's dam spillway and attendant lake water management practices, or otherwise subject to an unlawful taking by ODNR. For each parcel listed, indicate whether the Relator(s) claim a total taking or a partial taking (with number of acres taken) by ODNR.

ANSWER:

See Affidavits produced contemporaneously with Relators' written responses to these Discovery Requests.

10. If the answer to ODNR's Request for Admission # 2 is anything but an unqualified admission, identify (1) by Mercer County Parcel Number which parcels and properties cited in Relators' mandamus complaint and/or supporting affidavits has been or is the subject of any other litigation where the State of Ohio and/or ODNR was or is a party; and (2) the court and case number of such litigation.

ANSWER:

See General Objections. Relators further object to this interrogatory as vague, ambiguous, overly broad and unduly burdensome, and is in part irrelevant and not reasonably calculated to lead to the discovery of admissible evidence in this mandamus action.

Subject to and without waiving the foregoing objections and limiting this interrogatory to litigation with ODNR concerning the taking of or damage to any property of the Relators they have identified in their Affidavits produced contemporaneously hereto as subject to frequent, severe, persistent and inevitably recurring flooding caused by ODNR, and construing "subject of any other litigation" in Request for Admission # 2 to include the issue preclusive effect of *Post v. Speck*, including, but not limited to, as to causation, Relators identify *Post v. Speck*.

REQUESTS FOR PRODUCTION

1. Produce all evidence that Relators intend to file in their presentation of evidence with this Court.

RESPONSE:

See General Objections. Relators further object to this request on the ground that it seeks information protected by the attorney-client privilege and the work product doctrine.

Subject to and without waiving the foregoing objections, *see* Affidavits produced contemporaneously with Relators' written responses to these Discovery Requests. Further responding, Relators may include testimony, pleadings, and evidence from other litigation that Respondents have been a party to, including *Post, et al. v. Speck; ODNR v. Baucher, et al.*; *ODNR v. Post, et al.*; *ODNR v. Minch, et al.*; *ODNR v. Linn, et al.*; *ODNR v. Zumberge, et al.*; *Case Leasing and Rental v. ODNR* and *ODNR v. Board of County Commissioners, Mercer County, Ohio*. *See* Answer to Interrogatory No. 3. Documents identified in the Answer to Interrogatory No. 3 and other documents from other actions are already in ODNR's possession, custody, or control. To the extent that ODNR needs a copy of any of those documents, upon request, Relators will provide Respondents with a copy of the documents requested within five days of Respondents' request and with payment of Relators' copying costs for the requested documents.

Further responding, Relators reserve the right to identify additional evidence after Respondents produce their documents and written responses to Relators' discovery requests, including deposition testimony from ODNR officials, representatives and from witnesses Respondents identify in their written responses or are identified in their documents.

2. Produce all communication to, by, from, or among Relators, persons identified in response to Interrogatories # 2 and # 4, and any of such persons' agents, employees, or representatives that concern or relate to any of the allegations or claims in the mandamus complaint.

RESPONSE:

See General Objections. Relators further object to this request on the ground that it seeks information protected by the attorney-client privilege and the work product doctrine.

Subject to and without waiving the foregoing objections, Relators will supplement their response with the production of a communication in 2009 to Mercer County Soil and Water Conservation District.

3. Produce all documents related to any land surveys done at any of the subject parcels since 2008.

RESPONSE:

See General Objections. Relators further object to this request on the ground that the request is irrelevant, and not reasonably calculated to lead to the discovery of admissible evidence.

Subject to and without waiving the foregoing objections, Relators state that Stanley and Vicki Ebbing and Neil and Mary Siefring had surveys done of their respective subject parcels since 2008. Further responding, Relators will supplement their response with the production of any surveys in the possession of the Ebbings or Siefrings.

4. Produce all photographs since 1997 of the subject properties, adjoining and adjacent properties, Grand Lake St. Mary's, the Grand Lake St. Mary's dam, Beaver Creek, and/or Wabash River.

RESPONSE:

See General Objections. Relators further object to this request on the ground that it is vague, ambiguous, overbroad and unduly burdensome. Subject to and without waiving the foregoing objections, *see* Affidavits produced contemporaneously with Relators' written responses to these Discovery Requests. *See also* DONER00777 to DONER00814 and DONER001194 to DONER001204.

Further responding, Relators reserve the right to identify additional evidence after Respondents produce their documents and written responses to Relators' discovery requests, including deposition testimony from ODNR officials, representatives and from witnesses Respondents identify in their written responses or are identified in their documents.

5. For all Relators listed in the answers to Interrogatories # 5-7, produce all related documents, including, but not limited to, applications, affidavits, and correspondence.

RESPONSE:

See General Objections. Relators further object to this request on the ground that the request is irrelevant, and not reasonably calculated to lead to the discovery of admissible evidence in this mandamus action, including, but not limited to, on the ground that the attempt to submit such evidence into the record would violate Article 1, Section 19 of the Ohio Constitution.

REQUESTS FOR ADMISSION

1. Admit that each and every parcel cited in Relators' mandamus complaint and/or supporting affidavits that is not listed in Relators' answer to Interrogatory # 8 is not and has not been subject to a taking by ODNR.

ANSWER:

Deny.

2. Admit that none of the parcels and properties cited in Relators' mandamus complaint and/or supporting affidavits has been or is the subject of any other litigation where the State of Ohio and/or ODNR was or is a party.

ANSWER:

See General Objections. Relators further object to this request as vague, ambiguous, overly broad and unduly burdensome, and is in part irrelevant and not reasonably calculated to lead to the discovery of admissible evidence in this mandamus action.

Subject to and without waiving the foregoing objections, limiting this request to litigation with ODNR concerning the taking of or damage to any property of the Relators they have identified in their Affidavits produced contemporaneously hereto as subject to frequent, severe, persistent and inevitably recurring flooding caused by ODNR, and construing "subject of any other litigation" to include the issue preclusive effect of *Post v. Speck*, including, but not limited to, as to causation, Relators deny.

Dated: December 24, 2009

As to all objections,

Bruce L. Ingram (0018008) (*Counsel of Record*)
Joseph R. Miller (0068463)
Thomas H. Fusonie (0074201)
Kristi Kress Wilhelmy (0078090)
VORYS, SATER, SEYMOUR AND PEASE LLP
52 East Gay Street, P.O. Box 1008
Columbus, OH 43216-1008
Tel: (614) 464-6480; Fax: (614) 719-4775
blingram@vorys.com
jrmiller@vorys.com
thfusonie@vorys.com
kkwilhelmy@vorys.com

Attorneys for Relators

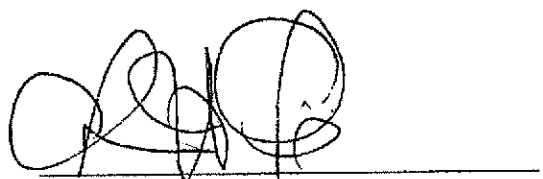
CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true copy of the foregoing was served upon the following, via electronic mail and hand delivery this 24th day of December, 2009:

William J. Cole
Mindy Worly
Jennifer S.M. Croskey
Assistant Attorneys General
30 East Broad Street, 26th Floor
Columbus, Ohio 43215

Raymond J. Studer
Rachel H. Stelzer
Assistant Attorneys General
Environmental Enforcement Section
2045 Morse Road # D-2
Columbus, Ohio 43229

Attorneys for Respondents



Thomas H. Fusonie

EXHIBIT A

TO

AFFIDAVIT OF JAMES R. MOIR P.ENG IN RESPONSE TO

THE STANTEC REPORTS

EDUCATION

M.Sc.	Queen's University, Kingston, Ontario, Civil Engineering, 1974
B.Sc.	Queen's University, Kingston, Ontario, Civil Engineering, 1972

Other Courses:

OSHA Standard 29 CFR 1910.120, "40-Hour Health and Safety Initial Training", 2001

Ph.D. - University of Delaware and Queen's University, Coastal Engineering, 1975-78 (incomplete)

Esso "Arctic Survival School", a field simulation exercise, March 1986

"Interpersonal Skills Laboratory", Canadian Management Centre, Toronto: a one-week course on more advanced supervisory techniques, 1986

"Management II": general two-week live-in "middle manager" course, 1985

"Management Skills and Techniques for New First-line Supervisors", one-week course at Canadian Management Centre, Toronto, 1984

"Communicating with Others", three-day course March 1984

Coastal Engineering Short Course, June 1983

Computer techniques, 1983

GEDAP Users course, a course on using a computer-based wave generation and data acquisition system, 1983

"Writing for Results", a three-day course, 1981

"Presentation for Results", a three-day course 1981

"Kepner-Tregoe Apex": "KT", a five-day, live-in course on a formalized decision-making process, and for presenting analysis, 1981

Ice-covered Rivers Workshop, September 1980

River Processes, 1980

Coastal Engineering Seminar, 1980

"Petroleum Production Technology", 1979

EMPLOYMENT

2008 - Present	Associate Senior Water Resources Engineer Conestoga-Rovers & Associates
2001-08	Senior Water Resources Engineer, Conestoga-Rovers & Associates
1998-01	Owner, ProTrak, Knoxville, Tennessee
1987-98	Owner, Sable Dynamics Research Ltd., Nepean, Ontario
1978-87	Engineering Specialist, Esso Resources Canada Limited, Calgary, Alberta
1975-78	PhD candidate graduate student, Queen's University, Kingston, Ontario; and University of Delaware, Lewes, Delaware
1974-75	Contractor, Environment Canada, Hydraulics Section of the Canada Centre for Inland Waters, Burlington, Ontario

EXHIBIT
tabbies
A

DON002544

1972-74 Masters graduate student, Queen's University, Kingston, Ontario

1972 Royal Military College, Department of Civil Engineering, Kingston, Ontario

AFFILIATIONS

Professional Engineers of Ontario

Association of Professional Engineers and Geoscientists of New Brunswick

PROFILE OF PROFESSIONAL ACTIVITIES

Areas of Technical Expertise

- Highly experienced specialist in water-related engineering problems, especially stormwater, rivers and streams, including:
  - stormwater modeling of rural and industrial sites, including pollutant transport
  - river engineering analysis, modeling and design
  - numerical and physical modelling of gravel and sand transport in rivers and streams
- Design and problem solving related to water issues:
  - amelioration of stormwater control and pollutant issues
  - design of river and shoreline structures
- Nearshore engineering analysis and design, including:
  - sediment transport and scour, including protective beach design
  - dredging and other construction techniques
  - spilled oil/shoreline problems
- Software design:
  - proficient in several computer-based techniques including scientific/engineering language applications, spreadsheet applications and real-time control and data acquisition under Windows

Conestoga-Rovers and Associates

- stormwater management plans and studies
- river engineering and river rehabilitation design
- effluent discharge mixing studies
- shoreline protection design

Project Examples:

- stormwater studies and remediation design at:
  - floodplain modeling in support of legal actions, Asheville, North Carolina, and near Concord, New Hampshire
  - stormwater control on an industrial site near Auburn, Maine
  - industrial site near Asheville, North Carolina involving sediment erosion
  - modeling on sediment movement Kanawha River, West Virginia

DON002545

- rural, ungaged watershed near Bedford, Indiana involving PCB transport
- rural, ungaged watershed near Baraboo, Wisconsin involving flooding of an industrial site
- manufacturing plant in Pontiac, Michigan involving major modifications to stormwater control system
- manufacturing plant in Tonawanda, New York involving PCB transport
- eliminating stormwater discharges at a refinery in East Montreal, Quebec
- a chemical plant Elmira, Ontario involving effluent temperature issues
- former manufacturing plants in Flint ,Michigan involving stormwater control
- landfill on Stillwater River, Ohio, 2-D modeling and design of erosion protection, permitting negotiations
- landfill modifications, Elyria Ohio and Canfield Ohio
- landfills in Danville, Illinois involving remediation of damage to stormwater control structures. Followed this project through from initial evaluation, modeling, design, permitting, bidding and construction oversight
- diversion of a natural creek around an industrial Site near Elmira, Ontario

- stream restorations within context of NRD at Champagne, Illinois, West Point Texas, Bedford Indiana
- stream restorations at Winnipeg, Manitoba, Niagara Falls, Ontario, Moncton, New Brunswick
- design of river rehabilitation and construction inspection, Thames River, London Ontario
- stream restoration and relocation Ravenna New York
- modeling of heat plumes from ethanol plant, Illinois River
- modeling of accidental spills, e.g. Illinois River
- design and modeling of outfall diffusers along lower Delaware River
- modeling of outfall diffusers on Illinois River at Peoria, Illinois, Pekin, Illinois
- modeling outfalls from chemical facility on Canagagigue Creek Elmira, Ontario
- modeling and rehabilitation design of five miles of stream, Bedford Indiana
  - HEC-RAS modeling of stream
  - sediment transport modeling of stream, movement of PCB-laden sediments
  - design of diversion channels and berms to contain stream at extreme flood stage
  - restoration and re-naturalization design, permitting and contracting
- design, permitting and construction oversight of a revetment on Lake Huron
- regeneration design of a revetment/gravel-cobble beach design along 1.1 km of shoreline Scarborough Bluffs, Toronto Ontario
- design of graded riprap embankment shoreline protection, Tacoma Washington, including wave-field modeling
- dredging effluent discharge outlet design, Tacoma, Washington

ProTrak

- Development and support of a 14MB Windows commercial software package which included real-time modeling, data acquisition and control

DON002546

Sable Dynamics Research Ltd.

- Specialized in solving river engineering and shoreline erosion problems
- Wrote and used highly specialized, usually "one off" numerical models
- Did field reconnaissance for specific data
- Recommended designs and construction procedures
- Individual projects took from 6 months to 2 years to complete

Selected River Projects:

Numerical Modeling of Selected Yukon Rivers, James Moir, Sable Dynamics Research Ltd., 1989

- evaluation of all existing numerical models suitable for modeling sediment transport in streams and rivers, especially in the context of modeling sand and gravel transport, sand and silt deposition and morphological changes in streams and rivers with high sediment yields
- description of sediment transport and depositional processes in selected Yukon streams and rivers including
  - prediction of instantaneous transport rates along river reaches
  - prediction of instantaneous suspended sediment concentration profiles
  - prediction of transport gradients along a river reach
  - assessment of data availability and requirements for modeling sediment transport processes
  - process and analysis of hydrologic and sediment data of all rivers in Yukon Territory
  - numerical modeling of selected Yukon streams and rivers using *RivFlux "RG"* model

Stream-bed Armoring and Gravel Transport in the Numerical River Model "RG" with Application to Certain Yukon Streams, James Moir, Sable Dynamics Research Ltd., 1992

- extension of RG model to include effects of naturally occurring streambed armoring on sediment transport processes, including:
  - review and synthesis of literature on riverbed armoring processes
  - added effects of armoring to model
  - added effects of sediment supply and yield to model
  - improved effects of sediment size distribution to model
  - included effects of annual hydrograph and storms to sediment transport process
  - mapping of streambed texture along stream/river reach
- verification modeling
- applied model to specified placer mining impacted streams and rivers (Klondike)

Athabasca River Processes, Preliminary Assessment of Extreme Flows and Sediment Regime near the Suncor Site, James Moir, Sable Dynamics Research Ltd., 1993

- determination of extreme high and extreme low discharges at Site, based on modeling river flows from distant gage location
- analysis of gage records for extreme high and low discharges
- analysis of geomorphologic changes from aerial photographs

DON002547

Athabasca River Processes, Preliminary Assessment of the Sand Transport Regime near Suncor Site, Tar Island, Alberta. Sandbar Movement: RMP 20 to RMP 25, James Moir, Sable Dynamics Research Ltd., 1994

- analysis of geomorphologic changes from aerial photographs
- field reconnaissance of portion of Athabasca River
- numerical modeling of sandbar movement and geomorphologic changes

Mackenzie River at Norman Wells, Evaluation of Changes in River Morphology to 1990, James Moir, Sable Dynamics Research Ltd., 1990

- assessment of actual impact of artificial islands on Mackenzie and comparison to predictions
- field assessment of artificial island performance and condition
- re-evaluation of artificial island design assumptions
- recommendations for maintenance construction for artificial islands
- recommendations for maintenance construction for underwater pipelines

Mackenzie River at Norman Wells, A Numerical Evaluation of the Effect of Removing a Portion of the Bear Island Causeway, James Moir, Sable Dynamics Research Ltd., 1990

- modeling and assessment of geomorphologic changes of Mackenzie River, including:
  - analysis of highly detailed annual surveys
  - modeling of river flow and sediment transport
  - verification of model with annual riverbed survey data
  - modeling of impact of changes in river-control structures
  - design of changes to structures and maintenance construction

GIT-10, A Drilling and Production Pad near Goose Island, Mackenzie River at Norman Wells, James Moir, Sable Dynamics Research Ltd., 1994

- complete design of an artificial island
- evaluation of potential impacts on the river regime

Other Projects:

- Development of numerical model software for calculating the volume of oil that would be re-exposed from "gravel" or sandy/gravelly beaches
  - Development of procedures to numerically calculate beach and oil exposure on Alaskan rock and gravel beaches
- Subcontractor for a review of various scientific research programs then underway at the Geologic Survey of Canada
- Literature reviews of oil dispersion in waves and in rivers; and oil containment behind booms
- Review of theory of ice piling in the context of possible numerical modelling procedures
- Review design of possible production platforms for Beaufort Oil development

DON002548

- Physical model study of the combined wave and current erosion of the sand berm for the Gulf Canada Mobile Arctic Caisson
  - The study was conducted in the 30 metre by 30 metre basin at the Ottawa Hydraulics Lab of the National Research Council
  - To model the high 0.8 m/sec currents of the Beaufort Sea, the model used a flowrate of 2 m^3/sec; this is reputed to be the largest water flow ever at that lab
  - Analyzed data and recommended protection measures

Esso Resources Canada Limited

- Hired as a junior engineer and promoted four times to engineering specialist
- First assigned to development project for Norman Wells (an oil field in the sub-Arctic along the Mackenzie River), worked out of Research Department in Calgary
- Reassigned to Beaufort Sea exploration projects in 1981
- Developed wave test basin (then largest in world), and by 1983 the wave basin had computer-controlled synthetic random wave generator and computer data acquisition
- Contributed to analysis/design of nearshore, shallow-water facilities worldwide
- Reassigned in 1984 to Beaufort Sea development projects
- Reassigned in late 1985 to studies in support of lawsuit relating from loss of oil rig on 1985 exploration island
- Projects:
  - Participated in and directed technical studies conducted in support of a lawsuit related to the loss of property on the oil exploration artificial island "Minuk". These studies were related to the climatology of the September 1985, storm that destroyed the island, and numerical and physical modelling of the performance of the actual Minuk island. Also appeared as a technical witness in hearings related to the loss of the artificial island Minuk
    - Wrote numerical model of sand erosion of artificial island Minuk
    - Designed and ran physical models of sand erosion of artificial island Minuk
  - Provided advice on, or invented, construction techniques for various problems such as:
    - Mechanical methods for locating and digging up buried pipelines
      - Developed a highly efficient nozzle to go on a standard off-the-shelf municipal-sewer vacuum truck
      - The package could dig a hole 8 feet square and 6 feet deep in 15 minutes, exposing pipelines without damage or hazard
    - Placing sands and gravels accurately from hopper dredges using bow-mounted nozzles, side-mounted discharge pipes or by accurate bottom dumping
      - Invented a new dredge "over the bow" discharge nozzle, about 20 feet long based on physical model tests
      - The nozzle was used the last year of Beaufort construction in 1985
  - Represented the oil industry on industry/government committees; served as Chairman of the Environmental Studies Research Funds Committee on Sediment Transport

DON002549

- Provided technical advice to staff engineers on the design, economics, and construction of oil exploration artificial islands in the Canadian Beaufort Sea and various civil works at Norman Wells, NWT
  - Supervised staff engineers on technical assignments and term students
  - Established a large (30 metre by 55 metre) wave basin in 1981; designing the wave paddle and nurturing the growth of the facility until after 3 years it was capable of full programmable random wave operation using the NRC wave generation and data acquisition system. Modified code and system for specialized use
- Directed the operations of the wave basin described above, doing nine major coastal model studies for the design and the projected performance of artificial islands
- Principal engineer for the design of six oil production artificial islands in the Mackenzie River at Norman Wells
  - Developed original geometric design of the islands, including ice pile-up/ride-up design
  - Wrote 1.5-D river model with sediment transport and ice-jamming routines which covered about 250 miles of the Mackenzie River (similar to HEC-2, HEC-6)
  - Field observations (aerial photography) of ice breakup along Mackenzie River covering about 500 miles
  - Hydrologic analyses of Mackenzie River, including major tributaries, resolving data inconsistencies related to sub-Arctic and remote location (Mackenzie is a 1 million cfs river at breakup and has an annual mean flow of about 330,000 cfs)
  - Set design criteria for artificial islands, other drilling pads and bunker wells, roadways, wharfs, and pipelines relating to the river water elevation, flow velocity and ice incursions, scouring, and ice loads
  - Supervised and reviewed consultants' work relating to the design of the islands
  - Participated in the Environmental Assessment Review Process for the Norman Wells project; prepared technical material submitted to EARP and responses to interventions; and negotiated agreements with government agencies over outstanding technical issues
  - Developed a monitoring program to assure long-term island stability and pipeline integrity, and to measure impacts on the environment (the river and the natural islands) during the initial life of the oil production artificial islands
  - Designed remedial ice protection works for ground level oil wells on the natural islands

Queen's University/University of Delaware

- Ph.D. candidate in Coastal Engineering; completed coursework, comprehensive examinations, and research experimentation
  - Developed theoretical basis for grain size sorting based on probability theory
  - Designed and re-built the wave basin
  - Designed and developed a sediment transport measuring trap and electronic weighing system for measuring the longshore sand transport in the wave basin. This was first successful electronic apparatus applied in this laboratory
  - Extensive testing on the distribution of sand sizes on a beach, before and after placement of nourishment (fill)

DON002550

Environment Canada, Hydraulics Section of the Canada Centre for Inland Waters

- Performed experimental work in the 1 metre tilting flume on the collection and diversion of oil by floating booms on a fast flowing river
- Performed experiments which defined the capability of ice ridge keels to retain oil in a weak current

Queen's University

- Developed a theoretical explanation of lift forces and the beginning of motion of sediment particles from the sediment bed and through the boundary layer
- Performed experimental work on sediment transport in pipelines; built and debugged a solids transport pipeline

Royal Military College, Department of Civil Engineering

- Designed experiments, supervised two junior engineers in an experimental program on the testing of reinforced concrete T-beams under combined loading (torsion, shear, and bending)

PUBLICATIONS

Published Refereed Papers:

- "Construction of Steep-sided Sloped Underwater Berms by Bottom Dumping Using TrailerSuction Dredges", S.J. Fitzmaurice, S.E. Williams, R.H. Moore, James Moir, Offshore Technology Conference, 1985, Houston Texas
- "Sacrificial Toe Protection for a Caisson Retained Oil Exploration Island", James Moir, R.J. Foster, D.A. James, Ocean Structural Dynamics Symposium, 1984, Corvallis, Oregon
- "Numerical Modelling of Scour around a Caisson Island", C.A. Fleming, S.G. Bridgeman, James Moir, Ocean Structural Dynamics Symposium, 1984, Corvallis Oregon
- "Ice Breakup and Jamming Observations along the Mackenzie River", J.W. Kamphuis and James Moir, Can. J. Civ. Eng., 10:78-91, 1983
- "Analysis of Peak Water Levels in the Mackenzie River at Breakup", P.W. Stagg, T.S. Kemp, James Moir, Symposium on Science and Arctic Hydrocarbon Exploration: The Beaufort Experience, Whitehorse, Yukon, 1983
- "Hydraulic Aspects of the Design of Man-made Islands, Norman Wells, Northwest Territories", J.S. Hunter, James Moir, Canadian Coastal Conference, Vancouver, 1983
- "Man Made Islands in the Mackenzie River, Numerical Modelling of Ice Jam Development and Release", G. Loman, J.J. deJong, James Moir, A. Burgers, H.J. Verhagen, POAC, Helsinki, 1983
- "Offshore Islands In the Beaufort Sea", James Moir, Coastal Engineering Specialty Conference, Kingston, Ontario, 1981
- "Use of Booms for Oil Slick Control", Y.L. Lau, James Moir, Journal of the Hydraulics Division, ASCE, 1978
- "Mean Diameter Distribution of Sediment Sizes Before and After Artificial Beach Nourishment", J.W. Kamphuis, James Moir, Specialty Conference on Coastal Engineering, Charleston, South Carolina, 1977
- "Lift Forces and Saltation as Governing Factors for the Initiation of Turbulent Suspension", James Moir, M.Sc. Thesis, Queen's University, Kingston, Ontario, 1974

DON002551

Published Reports

- "Investigation of Wave and Current Induced Scour Around the Molikpaq", James Moir with W.F. Baird & Associates, October 1987. "Minuk Caisson Retained Island", James Moir, Esso Resources, Canada Limited, March 1987. "Minuk Sacrificial Beach Islands", James Moir, Esso Resources Canada limited, January 1987 "Minuk Performance Data", James Moir, Esso Resources Canada Limited, January 1987
- "Wave Basin Tests - Arnak K-06", James Moir, Esso Resources Canada Limited, 1986
- "Detailed Report on the Minuk I-53 Storm Effects, September 15-18, 1985", co-authored with five others, Esso Resources Canada Limited, 1985
- "Nipterk Design Evaluation", James Moir, Esso Resources, Canada Limited, 1984
- "Installation of Groynes at Itiyok", James Moir, Esso Resources Canada Limited, 1982
- "Wave Testing of the Toe Protection for the Caisson Retained Island 1982", James Moir, Esso Resources Canada Limited, 1983
- "A Review of the Design and Impact on the River of Artificial Islands in the Mackenzie River at Norman Wells", James Moir, Esso Resources Canada Limited, 1979
- "Some Observations of Oil Slick Containment by Simulated Ice Ridge Keels", James Moir, Environment Canada, Burlington, Ontario, 1975. "Containment and Diversion of Oil Slicks by Floating Booms in Fast Flowing Rivers", James Moir, Environment Canada, Burlington, Ontario, 1975

DON002552

EXHIBIT B

TO

AFFIDAVIT OF JAMES R. MOIR P.ENG IN RESPONSE TO

THE STANTEC REPORTS

USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Surface Water | Geographic Area: United States | GO

News - updated March 17, 2010

USGS 03322900 WABASH RIVER AT LINN GROVE, IN

PROVISIONAL DATA SUBJECT TO REVISION

Available data for this site Time-series: Daily data GO

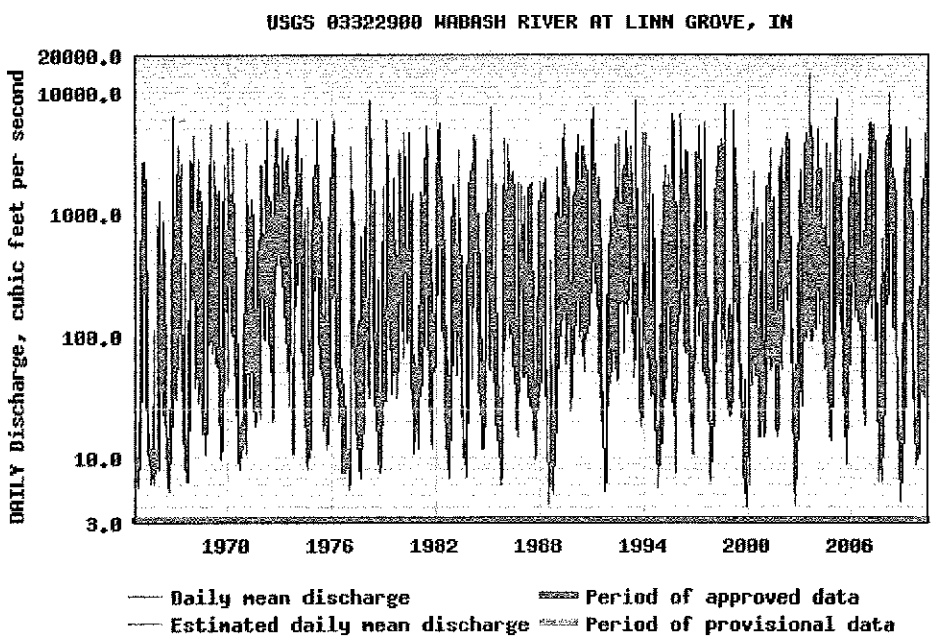
This gaging station is maintained in cooperation with:

- **The U.S. Army Corps of Engineers - Louisville District**

Available Parameters	Period of Record	Output format	Begin date	
☐ All 1 Available Parameters for this site		◉ Graph	1964-10-01	
☑ 00060 Discharge (Mean)	1964-10-01 2010-05-18	○ Graph w/ stats ○ Graph w/ meas ○ Table ○ Tab-separated	**End date** 2010-05-18	GO

Summary of all available data for this site

Discharge, cubic feet per second



DON002554

EXHIBIT
B

Create presentation-quality graph parm 00060 DD01

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help

Top
Explanation of terms
Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: USGS Surface-Water Daily Data for the Nation
URL: http://waterdata.usgs.gov/nwis/dv?

Page Contact Information: Indiana Water-Data Support Team
Page Last Modified: 2010-05-19 13:11:18 EDT
1.95 1.9 sd01

DON002555

EXHIBIT C

TO

AFFIDAVIT OF JAMES R. MOIR P.ENG IN RESPONSE TO

THE STANTEC REPORTS

Time Distribution of Rainfall in Heavy Storms

F. A. HUFF

Illinois State Water Survey, Urbana

Abstract. Time distribution relations have been developed for heavy storms on areas ranging up to 400 square miles and presented in probability terms to provide quantitative information on interstorm variability and to provide average and extreme relations for various applications of the findings. It was found that the relations could be represented best by relating per cent of storm rainfall to per cent of total storm time and grouping the data according to the quartile in which rainfall was heaviest. The individual effects of mean rainfall, storm duration, and other storm factors were small and erratic in behavior when the foregoing analytical technique was used. Basin area had a small but consistent effect upon the time distribution. The derived relations are applicable to the Midwest and other areas of similar climate and topography. They can be used in conjunction with published information on spatial distributions and other storm parameters to construct storm models for hydrologic applications. (Key words: Rainfall; hydrology; storms)

INTRODUCTION

Knowledge of the time distribution of rainfall in heavy storms is of paramount importance in solving certain hydrologic problems, such as the design of urban storm sewer systems. This knowledge is also useful in studying soil erosion and the flood potential of various types of storms, as well as in advancing our understanding of the physics of the atmosphere with regard to precipitation processes.

Continuous operation of a concentrated network of 49 recording rain gages on 400 square miles in east central Illinois since 1955 has provided significant new knowledge of the temporal distribution of rainfall. Results from these distribution studies for areas ranging from a point to 400 square miles in Illinois should be generally applicable to the Midwest and other areas of similar climate and topography. The Illinois network is located in a rural area of flat terrain with elevations from 650 to 910 feet msl. The network averages one gage per 8 square miles, arranged in a nearly uniform grid pattern (Figure 1).

This paper describes first the derivation of statistical expressions for the time distribution of storm rainfall, and then the storm factors that influence the time distribution characteristics. The third section illustrates use of this information to construct storm models that may be used in hydrologic design problems or other applications.

DERIVATION OF TIME DISTRIBUTIONS

Analytical Procedures

Network data for the 11-year period 1955–1966 were used. Recording rainfall charts from the 49 gages were read in 5-, 15-, and 30-minute increments with a Benson-Lehner chart analyzer (Oscar F), the increment depending on whether the charts operated on a 6-hour, daily, or weekly time scale. The output from the chart analyzer was placed directly on IBM cards for an IBM-7094 computer program.

A storm was defined as a rain period separated from preceding and succeeding rainfall by 6 hours or more. All storms were used in which the network mean rainfall exceeded 0.50 inch, and/or one or more gages recorded over 1 inch. Within the data period, 261 network storms having total durations of from 3 to 48 hours qualified for the study.

For these selected storms, the 7094 computer provided a printout of the time distribution of average rainfall in 30-minute increments for areas of 50, 100, 200, and 400 square miles, and for point rainfall at 5 gages in the network. The 30-minute summations tend to smooth the time distribution curves by eliminating minor bursts and fluctuations, but this is acceptable

DON002557

EXHIBIT
C
tabbies

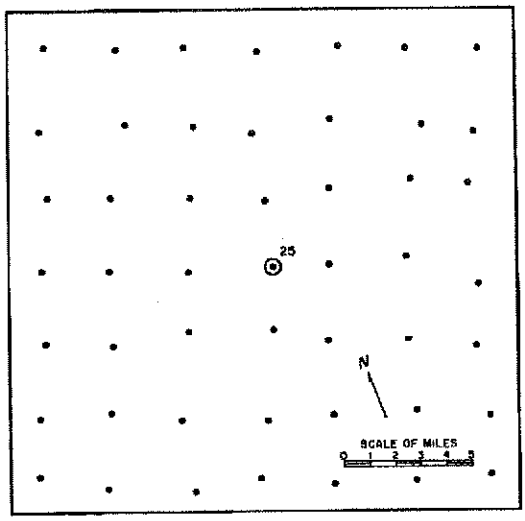


Fig. 1. East central Illinois rain gage network.

for most hydrometeorological applications, and, in some cases, desirable. The time distributions have been expressed as cumulative percentages of storm rainfall and storm duration to make valid comparisons between storms and to simplify analyses and presentation of the data.

Time distribution models, presented as probability distributions, provide quantitative measures of both the interstorm variability and the general characteristics of the time sequence of precipitation in storms. These results should aid the hydrologist in design problems or other applications in which time distribution is a pertinent factor.

Other statistics derived that are pertinent in the classification of storms include the number of individual showers (bursts) in the total storm period, the location of the heaviest shower in the storm period, the percentage of the total storm period that had occurred at the start and end of this shower, the percentage of the total storm rainfall preceding the heaviest shower, the percentage of the total storm rainfall occurring in the heaviest shower, and the percentage of the total storm period during which rain actually fell. In general, a shower or burst was defined as a cessation in rainfall or an abrupt, persistent change in rainfall rate.

Storm type and precipitation type were determined from synoptic weather maps and observer reports to aid in defining midwestern storm characteristics. The precipitation pattern type and the number and orientation of precipitation centers were determined from isohyetal maps of total storm rainfall. Since basin runoff patterns are affected by storm path, a frequency analysis was made of the motion of rain cells that produce heavy storms through use of successive 30-minute isohyetal maps and synoptic charts of upper wind flow.

Analytical Results

A major portion of the total storm rainfall occurs in a small part of the total storm time, regardless of storm duration, areal mean rainfall, and total number of showers or bursts in the storm period. Upon this finding, it was decided to classify the storms initially into four groups, depending on whether the heaviest rainfall occurred in the first, second, third, or fourth quarter of the storm period.

Next, statistical analyses indicated that storm duration and areal mean rainfall explain only a small portion of the variance, when the time distribution is classified by quartile and expressed as percentages of total storm duration and rainfall. For example, correlation analyses for all storms on data from the 400-square-mile area showed that mean rainfall accounted for approximately 2% of the variance in the time distributions, and storm duration explained approximately 7%.

The effects of duration and mean rainfall were explored further through calculation of median time distributions on 400 square miles for each quartile after grouping according to 3 duration and 4 mean rainfall groups. Duration groups of less than 12, 12 to 24, and over 24 hours were used, along with mean rainfall classes of 0.50–0.99, 1.00–1.49, 1.50–1.99, and 2.00 inches or over. Erratic trends were found with both parameters. For example, in second-quartile storms, the curve for 12 to 24 hours was located beyond the 24-hour duration curve, rather than between the other groups.

Part of the effects of duration and mean rainfall is absorbed in the quartile groupings (discussed later), which show a trend for the longer, heavier storms to dominate the fourth-quartile grouping, whereas short-duration storms account for a major portion of the first and second quartile groups. Possibly, a much larger storm sample would stabilize the effects sufficiently to permit realistic quartile classifica-

DON002558

tions according to duration and mean rainfall. However, as a result of the Illinois analyses it was considered more logical, as a first approximation, to determine average rainfall distributions for each of the four areas (50, 100, 200, 400 sq mi) by quartile type only. (As will be shown later, the storm-to-storm variability in the time distributions is so great that large-scale subgrouping for minor adjustment of mean relations is impractical. Various storm factors, including mean rainfall and storm duration, cause relatively large variations in the quartile distributions between storms, but no single parameter dictates the characteristics of the distribution.)

Areal grouping showed only small changes in the time distribution with increasing size of sampling area. Thus, an average relationship for areas of 50 to 400 square miles combined was determined, and specific area distributions were expressed as departures from this average. The reliability of the average distribution is relatively strong because of the large amount of data used, and, further, the average curves can be most useful as a first approximation in many applications of the data.

The time distributions are expressed in probability terms because of the great variability in the characteristics of the distribution from storm to storm. Numerous factors contribute to the storm variance; among these are the stage of development of the storm, the size and complexity of the storm system, rainfall type, synoptic storm type, the location of the sampling area with respect to the storm center, and the movement of the storm system across the sampling region.

Probability distributions allow selection of a time distribution most appropriate for a particular application. In many cases a median time distribution will be most useful, but in others an extreme type of storm distribution, in which the runoff in most likely to maximize in a particular portion of a storm, may be desired.

Figure 2 shows the probability distribution of first-quartile storms sampled on areas of 50, 100, 200, and 400 square miles. These are smooth curves reflecting the average rainfall distribution with time and, therefore, do not exhibit the burst characteristics of a mass curve. Probability levels from 10 to 90% are shown, but the 50% level (median) has been stressed by a heavier line, since it is probably the most useful statistic. Figure 3 is a histo-

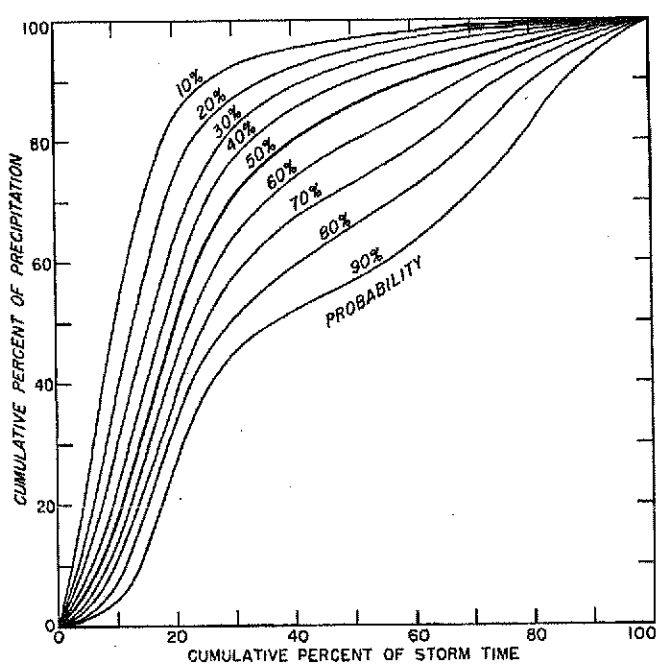


Fig. 2. Time distribution of first-quartile storms.

DON002559

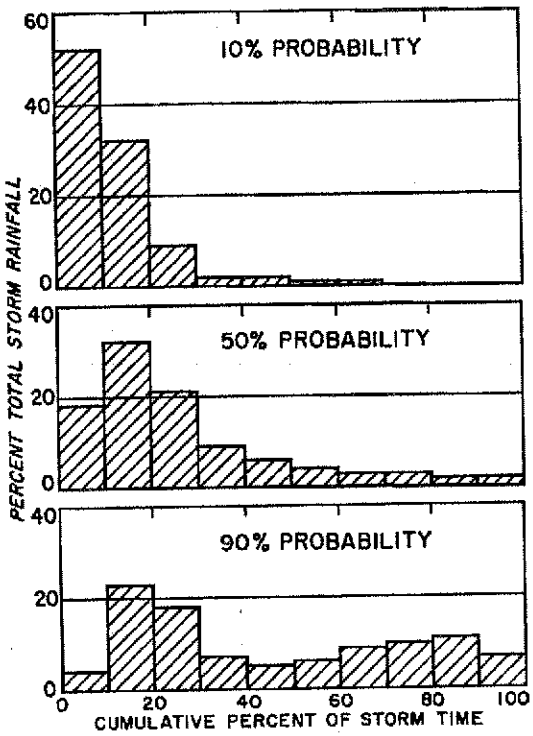


Fig. 3. Selected histograms for first-quartile storms.

gram for the 10-, 50-, and 90%-levels, showing the percentage of total storm rainfall by 10%-increments of storm time.

As an illustration, the 50%-curve on Figure 2 indicates that in first-quartile storms, 18% or more of the rain will occur in the first 10% of the storm period, and 86% or more will occur in the first half of the storm period in 50% of the cases. The 50%-probability histogram (Figure 3) indicates that, on the average, the heaviest rainfall will occur in the second 10% of the storm period in first-quartile storms. However, the 10%-probability histogram shows that the most intense portion of the rainfall may occur at the beginning of a storm occasionally, resulting in over 50% of the rainfall in this first 10% of the storm period. The 90%-probability histogram illustrates the more uniform distribution that occasionally occurs in first-quartile storms in which less than 60% of the rain falls in the first half, and appreciable percentages of the total occur throughout the storm period. The 90% level may also be interpreted as the distribution that will occur in 10% or less of the storms.

Figures 4-6 show time distribution relationships in storms of the other three quartile

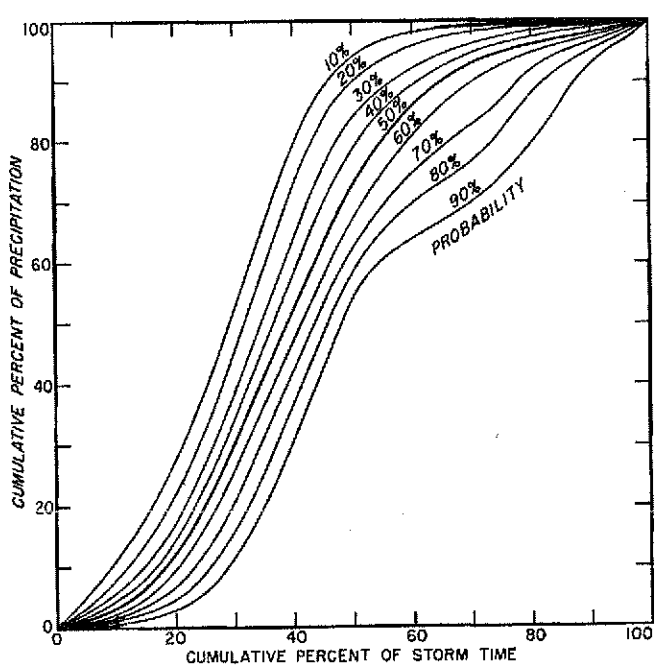


Fig. 4. Time distribution of second-quartile storms.

DON002560

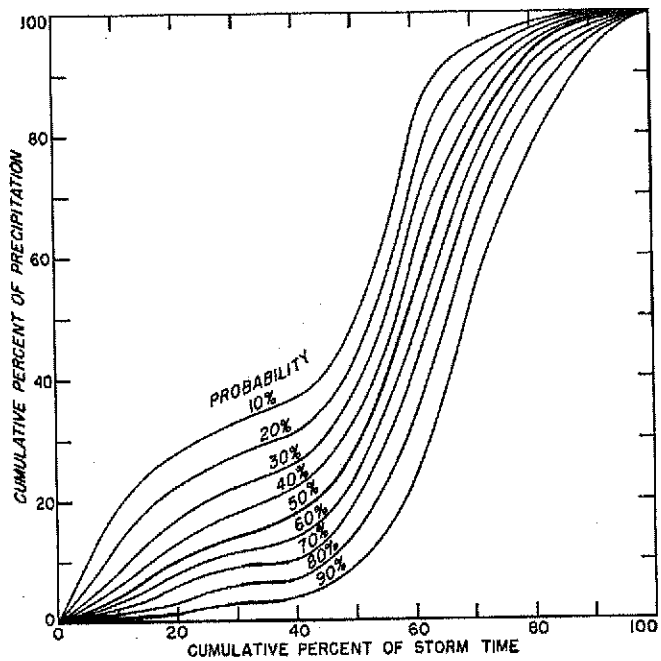


Fig. 5. Time distribution of third-quartile storms.

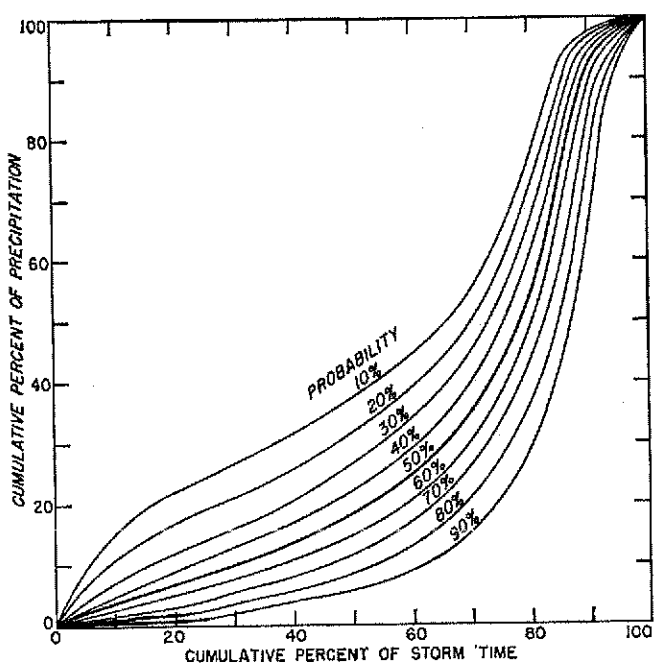


Fig. 6. Time distribution of fourth-quartile storms.

DON002561

types. Table 1 shows the percentage frequency of the four types of storms, which can be used with the quartile curves to obtain the over-all probability of any selected curve.

Assume that one wishes to determine the over-all probability of the 10% curve (Figure 2) in which the rainfall maximizes in the first 10% of the storm period, and over 95% of the rain occurs in the first half of the storm. Table 1 indicates that a first-quartile storm will occur in 30% of the cases. Within first-quartile storms the probability of this type of distribution is 10%. Therefore, the over-all probability of the occurrence of this condition in all heavy storms over a substantial period of years is approximately 3% (0.30 × 0.10). The same over-all probability applies to the 90% level when interpreted as a distribution that will occur in 10% *or less* of all storms.

Table 2, which illustrates the areal effect on the time distribution, presents the difference in per cent between the average value (areas of 50 to 400 square miles combined) at the 50%-probability level and the values for specific areas obtained from constructing individual curves from the network data. Individual area values have been subtracted from the average curve value, so that a negative entry indicates a percentage larger than the areal average.

Table 2 also illustrates how time characteristics on very small areas (point and 10-sq-mi) differ from those on the larger areas. The point data are from Gage 25 in the center of the major network. The 10-square-mile data are from an urban network in east central Illinois [*Huff and Changnon*, 1966] having a 10-year record, 1954–1963. These time distributions for 10 square miles are from the 50 heaviest storms in the 10 years, derived by the same technique used for the major network data.

TABLE 1. Percentage Frequency of Quartile Storms

Quartile	Frequency (%)
First	30
Second	36
Third	19
Fourth	15

TABLE 2. Differences between Average Curve and Specific Areas for 50%-Probability Level in First-Quartile Storms

Area, Sq Mi	Difference (%) for Given Cumulative Per Cent of Storm Duration								
	10	20	30	40	50	60	70	80	90
Point	−9	−1	+5	+6	+6	+6	+5	+4	+3
10	−11	−3	+2	+1	+3	+2	+2	+2	+1
50	−2	+3	+3	+2	+2	+2	+1	0	0
100	−2	−3	0	0	0	0	0	0	0
200	−2	−3	−2	−1	−1	0	0	0	0
400	+6	+4	−1	−2	−2	−1	−1	0	−1

The departures from the average curve (Table 2) are relatively small for the areas of 50 to 400 square miles and appear to be within the limits of expected sampling variations. Although the sample for the 10-square-mile area included only the most intense storms in a 10-year period, the differences shown are also relatively small, except at the start of the storm period. The substantial negative difference here indicates a tendency for the percentage of the total rainfall occurring in the early stages of storms to be greater than on the larger areas. However, because of the small sample of storms for 10 square miles, there is still a possibility that the difference merely reflects sampling variations.

The point data show the largest departures from the mean curve, and, similarly to the 10-square-mile results, indicate a tendency for larger percentages of the total rainfall at the start of storms. This tendency appears logical for rain on smaller areas. If one assumes a storm of given intensity and areal extent moving across two areas of appreciably different size, the smaller area will receive a larger percentage of its areal mean rainfall in the early part of the rain period, particularly if the storm is smaller than the network in areal extent.

Tables for other probability levels and for the other three types of quartile storms have been prepared and will be published in a more detailed research report.

The curves at the various probability levels reveal characteristics of certain storm types. For example, at the 10%-level in first-quartile storms (Figure 2) over 80% of the total storm rainfall occurs in the first 20% of the storm. This condition is frequently associated with relatively short-duration storms, such as the pas-

DON002562

sage of an intense, prefrontal squall line in which light rain falls from the middle cloud deck system for substantial periods following the major rain bursts (usually in the form of thunderstorms). Similarly, the distribution at the 90%-level is most likely to be associated with longer-duration storms, in which the rain is more evenly distributed during the storm period and is often dominated by a series of rainshowers or steady rain or a combination of both.

In the fourth-quartile storms, the 10%-level distribution is common to the passage of a large-scale weather system with warm front rainfall at the start of the storm and more intense cold-frontal rainfall near the end. The 90%-distribution may be associated with the approach and passage of a low pressure center through or near the sampling region, when light rainfall may precede the center passage for several hours and the rainfall intensity maximizes as the center passes.

In concluding the discussion of time distribution characteristics, it is emphasized that the curves and tables presented here are empirically derived. They are not submitted as exact mathematical relationships, but rather as first approximations of a hydrometeorological parameter for which quantitative knowledge is sparse. In midwestern areas and other regions of similar rainfall climate and physiography, the relationships should be useful to the hydrologist in estimating time distributions over areas of 10 to 400 square miles on urban and small rural basins.

STORM CHARACTERISTICS

Frequency of Bursts

Analyses were made to define the rainfall burst characteristics in heavy storms to provide further insight into the physical properties and processes involved in such storms.

The first problem was to define a burst. After considerable probing, definitions were selected to portray realistically definite changes in rainfall intensity associated with significant changes in the atmospheric precipitation processes, such as the development of new rain cells over the sampling area, a major change in the rainout characteristics of the existing storm, or arrival of a new storm system.

For the Illinois study, bursts were separated by (1) a complete cessation of rainfall on the sampling area; (2) a change of 100% or more in successive 30-minute rainfall amounts, provided that these amounts involved 5% or more of the total storm rainfall, and (3) percentage changes of total rainfall from 3, 4, or 5% to less than 1% between successive 30-minute periods. Changes between successive periods ranging from 0.1 to 2% of the storm total were not considered separate bursts. Only a few of the many burst statistics will be presented to illustrate the results.

An evaluation was made of the number of bursts associated with the various types of quartile storms on the 400-square-mile area. In the first-quartile storms, two or three bursts were most frequent, accounting for approximately 48% of the occurrences. One to three bursts occurred in 60% of the second-quartile storms. Three to five bursts were most common with the third-quartile storms, accounting for 52% of the cases. The fourth-quartile storms showed a strong preference for four bursts which were associated with 35% of the storms. Combining all storms, those with two, three, or four bursts accounted for 53% of the cases.

In general, the number of bursts ranged from 1 to 14 in the Illinois storms, and the maximum burst occurred anywhere from the first to eighth burst within the storms. The percentage of the total rainfall occurring in the maximum burst varied from less than 20% to 100% on each of the areas (50–400 sq mi).

Next, the effect of total storm duration on the number of bursts was evaluated on the 400-square-mile network. With durations less than 3 hours, single-burst storms predominated, accounting for 52% of the cases. In durations from 3 to 12 hours, double-burst storms predominated, with 38% of the total cases. Storms with three to five bursts were found with nearly equal frequency with durations of 12 to 24 hours, accounting for 71% of the cases. With durations exceeding 24 hours, six-burst storms were most common, occurring in 30% of the cases. The number of bursts tends to increase with increasing storm duration. Also, analyses showed the number of bursts to increase with volume of rainfall, on the average, an expected trend since the heavier areal mean rainfalls tend to occur with the longer rainfall durations.

DON002563

Maximum Burst Relations

Other information valuable to understanding the burst characteristics of heavy storms includes what percentage of the rain occurs before and during the maximum burst and how much of the total storm time has ensued before and during the maximum burst. A large volume of statistics has been compiled on these burst characteristics for a point and areas up to 400 square miles for each of the quartile storms.

Table 3 illustrates these burst analyses based on the median value of each parameter for a point (Gage 25, Figure 1) and for areas of 50 to 400 square miles combined, since differences between these areas were small. The data show, for each quartile, the cumulative per cent of the storm period that had ensued before the start of the maximum burst, the cumulative storm time at the end of the burst, the per cent of the total storm rainfall before the start of the maximum burst, and the per cent of the total rainfall in the maximum burst.

Data in Table 3 show the strong trend, indicated earlier, for a major portion of the total storm rainfall to occurr in the maximum storm burst. The point percentages are somewhat smaller than the areal values, but this may be due to sampling vagaries. The maximum burst time is shortest for the fourth-quartile storms, which also have the smallest percentage of total rainfall in the maximum burst.

TABLE 3. Median Values for Maximum Storm Bursts

Area, Sq Mi	Per Cent of Storm Time: Start of Burst	Per Cent of Storm Time: End of Burst	Per Cent of Total Storm Rainfall: Before Burst	Per Cent of Total Storm Rainfall: During Burst
	First-Quartile Storms			
Point	0	36	0	71
50–400	0	37	0	77
	Second-Quartile Storms			
Point	17	67	14	70
50–400	16	62	8	79
	Third-Quartile Storms			
Point	42	78	24	62
50–400	46	82	25	69
	Fourth-Quartile Storms			
Point	73	100	43	57
50–400	72	96	39	59

TABLE 4. Per Cent of Total Storm Period with Precipitation

Storm Period, Hours	Median Percentage for Given Area (sq mi): Point	50	100	200	400
<3.0	100	100	100	100	100
3.1–6.0	79	91	100	100	100
6.1–12.0	74	87	88	92	96
12.1–24.0	55	74	81	83	92
>24.0	42	65	70	76	83

Time Continuity of Precipitation in Storms

Analyses to determine what per cent of the total storm period experiences rainfall revealed an expected trend. The percentage of the total storm period with rainfall increased with increasing area and decreased with increasing storm duraton, as shown by the median values in Table 4.

The foregoing discussion and statistics on bursts emphasize the great variability in their characteristics under various storm conditions. This is typical of almost any rainfall parameter examined in midwestern rainstorms, particularly those of the warm season that produce most of the intense rainfalls.

Relation Between Rain Type, Storm Type, and Time Distributions

Rain type. The distributions of rain type by quartile are summarized in Table 5. Percentage frequencies are shown for each of seven precipitation types that include rain and snow, steady rain, rainshowers, thunderstorms, rainshowers and steady rain mixed, thunderstorms and rainshowers mixed, and thunderstorms with hail.

The predominating type(s) of precipitation was determined for each storm from consideration of observations made within and surrounding the network at Weather Bureau stations and by Water Survey observers and upon analyses of synoptic weather maps. Occasionally, difficulty was encountered in differentiating between rainshowers and thunderstorms. However, both

DON002564

TABLE 5. Distribution of Storms by Quartile and Rain Type on 400 Square Miles

Quartile	*R, S**	*R*	*RW*	*TRW*	*RW, R*	*TRW, RW*	*TRW, A*	Number of Cases
1	1.2	6.1	12.2	43.9	7.3	13.4	15.8	82
2	2.2	15.4	16.5	42.9	4.4	13.2	5.5	91
3	3.1	15.4	13.8	30.7	3.1	23.1	10.8	65
4	0.0	8.7	13.0	17.4	13.0	34.8	13.0	23
Combined	1.9	11.9	14.3	37.9	5.7	17.6	10.7	261

* *R* = Continuous rain, *S* = Snow, *RW* = Rainshower, *TRW* = Thunderstorm, *A* = Hail.

are unstable types associated with convective storms, and the meteorological distinction between them in heavy storms is difficult to evaluate. A major purpose served by Table 5 is to illustrate the frequency of stable precipitation types (*R, S*), unstable types (*RW, TRW*), and combinations of these two major classes.

For storms in which the major burst occurred in the first, second, or third quartile, thunderstorms were the most frequent rain type. In the fourth-quartile storms, the combination of rainshowers and thunderstorms predominated. These storms tend to last longer than the other quartile storms, thus frequently consisting of a number of individual storms of varying intensity.

Storm type. Analyses of synoptic storm types in the various quartile storms showed no strong trend for a particular type of storm to dominate in a particular quartile. Storms were classified into six basic types and percentage frequencies determined for each type in each quartile. Storm types used were cold front, warm front, stationary front, occluded front, low pressure centers, and air mass storms. A trend was noted for a much larger percentage of the fourth-quartile storms to be associated with combinations of the storm types than occurred with the other quartile types, which might be expected since these storms are longer (see below), giving more chance for several storm types to occur.

Quartile-Duration Relations

As shown in Table 6, fourth-quartile storms occurred most often with durations greater than 24 hours, whereas first-quartile and second-quartile storms occurred most frequently with durations less than 12 hours, and the third-quartile storms were most often in the duration group of 12 to 24 hours. Combining all storms, 42% fell into the duration grouping of less than 12 hours, 33% in the 12 to 24 hour group, and 25% exceeded 24 hours in duration.

Storm Shape and Orientation

The runoff characteristics in heavy storms are influenced by the shapes and movements of the storms. The shape factor in the Illinois storms was investigated for areas of 50 to 400 square miles. However, because some storms were large, storm shapes could not be determined reliably in many cases on areas smaller than 400 square miles.

For rainfall periods of 1 to 12 hours on 400 square miles, elliptical patterns predominated, accounting for 51% of the cases. Storms without a closed center that showed an elongated pattern of isohyets outward from a single region of heaviest rainfall near the network border were considered elliptical, in addition to the typical closed-center elliptical storms (Figures 7*a* and 7*b*). Multicellular patterns, those char-

TABLE 6. Percentage Distribution of Quartile Types

Quartile	Per Cent of Cases for Given Duration (Hours) <12	12–24	>24	Quartile Frequency (%)
1	45	29	26	32
2	50	33	17	34
3	35	42	23	25
4	22	26	52	9
All Storms	42	33	25	100

DON002565

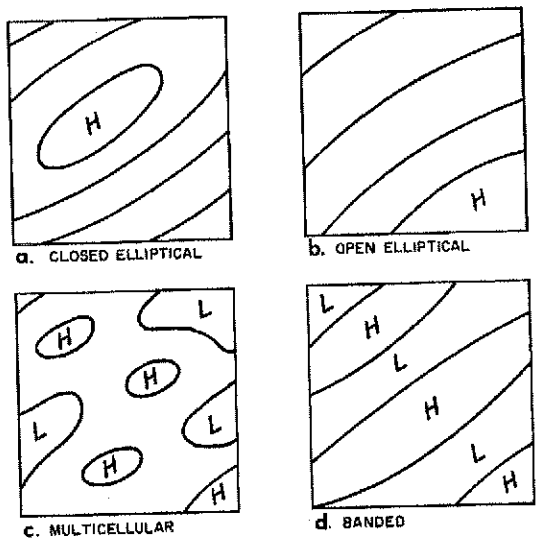


Fig. 7. Major types of storm patterns.

acterized by several closed isohyets within the network, ranked second with 25% of the cases (Figure 7*c*). Banded patterns, which produce two or more bands of rainfall separated by areas of relatively light rainfall, accounted for 19% of the storms in the 1- to 12-hour group (Figure 7*d*). Indefinite patterns, those too complex or too flat to classify, accounted for the other 5%.

As rainfall durations increased to 24 hours, the three major patterns (elliptical, multicellular, banded) occurred with nearly equal frequency. Examination of the influence of rainfall volume (storm mean rainfall) revealed a strong domination by elliptical patterns (59% of the cases) with areal means up to 1.50 inches. For storms with means from 1.50 to 1.99 inches, there was little difference in the frequencies for each of the three major patterns. With areal means of 2 inches or greater, banded patterns became the most frequent type, accounting for approximately 50% of the cases. Thus, there exists a trend for the storm patterns to become more complex with increasing rainfall duration and rainfall volume.

Assignment of a pattern shape was most difficult with the smaller areas, especially the 50-square-mile area, since frequently only a small part of a major storm center or storm zone would extend over the sampling area. When it was possible to assign a shape to the smaller areas, the elliptical shapes predominated strongly for all storms, regardless of mean rainfall or storm duration.

The movement of storms was closely associated with the orientation of the storm patterns. Approximately 45% of the network storms moved from the SW or WSW. Complex movements in which individual showers moved from two or more directions during the storm period ranked next, with 17% of the cases. Table 7 shows the percentage frequency distribution of the storm pattern orientations.

The data in Table 7 are in close agreement with other Illinois studies. An analysis of 106 storms on the 10-square-mile network in which mean rainfall exceeded 0.50 inch also showed orientations most frequently from the SW and WSW. A study of the large-scale, outstanding flood-producing storms in Illinois [*Huff and Semonin*, 1960] revealed that the most frequent orientation of the storm centers was from WSW through W to WNW. A detailed study of 10 large-scale storms in the period from 1951-1960 in which the 12-hour rainfall exceeded 8 inches at the storm center revealed a median orientation of 270 degrees with an average wind direction in the layer from 5000 to 20,000 feet of 255 degrees. A study of radar-depicted precipitation lines [*Changnon and Huff*, 1961] also showed a WSW orientation and movement most frequently.

Two pertinent facts are brought out by the orientation study. First, as the intensity and areal extent of the flood-producing storm increases, the movement of the storm, and consequently the orientation of the storm core, veers from SW-WSW toward W. Secondly, the storm pattern is oriented, on the average, approximately 15 degrees in a clockwise direction from the average wind flow in the steering layer. This displacement probably results from the

TABLE 7. Percentage Frequency of Storm Pattern Orientations

Direction	Per Cent	Direction	Per Cent
S	1	WNW	5
SSW	11	NW	6
SW	22	NNW	3
WSW	23	Complex	17
W	12		

DON002566

recognized trend for new cells to develop on the right flank of the existing storm mass [*Newton and Newton,* 1959], and the new cell development intensifies with increasing storm strength. The trend for the rotation of the storm pattern in a clockwise direction in the larger, more intense storms is believed to result from the greater influence of high-level winds on steering the storms, since the more intense storms tend to build to higher levels. This trend is supported by results of the Changnon-Huff study of radar precipitation lines mentioned above.

STATISTICAL STORM MODELS

Figure 8 is an example of a statistical storm model for a first-quartile, 3-hour storm with a mean rainfall of 2 inches on an area of 100 square miles. This model was derived from median and model values of storm parameters discussed in the foregoing sections and from other published information. The example is based on the assumption that the user is interested in the average or most frequent conditions associated with the storm described above. Based on published data, the 2-inch mean corresponds approximately to a 10-year event [*U. S. Weather Bureau,* 1957; *Huff and Neill,* 1959].

Figure 8*a* shows the characteristics of the pattern in such a storm. The shape would be elliptical most frequently. The average ratio between the major and minor axis of the central isohyet is approximately 1.7 under the conditions shown here [*Stout and Huff,* 1962]. The most frequent direction of movement is from the WSW, and the most common storm type is a cold front. Because new storm cell development is favored on the right flank of existing storms [*Newton and Newton,* 1959], the rainfall gradient tends to be greater in the region immediately south of the rainfall core. The storm center is shown displaced from the areal center, a most likely occurrence from geometric considerations in the absence of a preferred storm path through the area.

Figure 8*b* shows the time distribution associated with the storms, based upon the median time distribution of Figure 2, the burst characteristics of Table 3, and the double burst mode in 3-hour storms shown by other statistics compiled in the Illinois study. Figure 8*c* shows an average area-depth relation for a mean rainfall of 2 inches on 100 square miles, based upon a study by *Huff and Neill* [1957]. Tables and figures to facilitate preparation of storm models such as Figure 8 under various storm conditions will appear in a forthcoming research report.

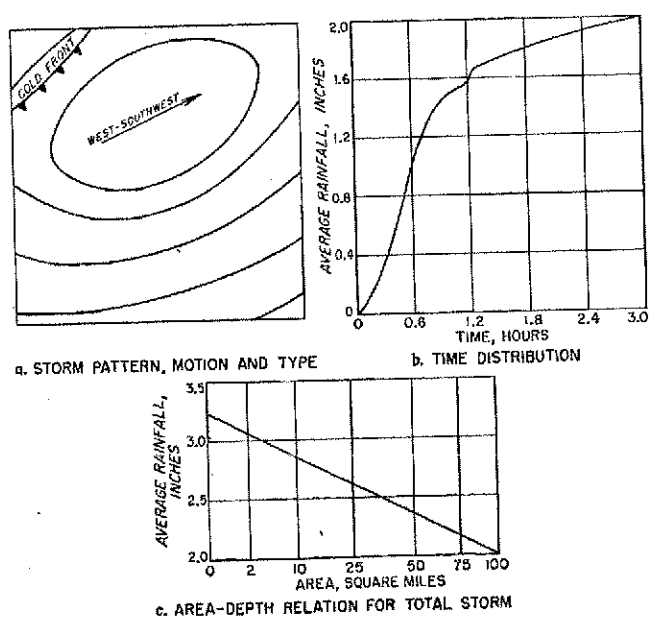


Fig. 8. Statistical model of 3-hour, first-quartile storm on 100 sq mi.

DON002567

The antecedent rainfall for periods of several days is often of major interest to the hydrologist, particularly if his problem involves rural basins as opposed to urban. Data from three dense networks of 10, 100, and 400 square miles in central Illinois have been used to obtain probability estimates of the magnitude of rainfall for periods of 1 to 10 days before heavy storms, defined as those in which the areal mean rainfall exceeded 1 inch. A more detailed separation of heavy storms by duration and intensity was not practical with the 10-year to 12-year samples.

Table 8 shows the estimates obtained from the 12-year record on the network of 100 square miles and comparisons on the three areas for a 1-day period. The antecedent rainfall probabilities vary with area. Means exceeding 1 inch on 400 square miles usually result from the presence of a relatively large, intense storm system, whereas a mean of 1 inch on 10 square miles may result from a large or small system, such as an isolated air mass storm. Consequently, for a given probability and antecedent period, the antecedent mean rainfall increases with increasing area. Of interest in Table 8 is the relatively low probability of heavy rainfall on the day preceding a heavy storm on a given area. Thus, on the 100-square-mile area, the probability of 1 inch or more rainfall on the preceding day is less than 10%. Antecedent rainfall statistics may vary considerably with climatological region; consequently, the statistics in Table 8 should be used only as a first approximation for the Midwest or other regions with similar climate and topography.

TABLE 8. Probability Distribution of Antecedent Rainfall for Storm Means Exceeding One Inch on 100 Square Miles

Probability (%)	Mean (in.) Equaled or Exceeded for Given Number of Antecedent Days				
	1	2	3	5	10
5	1.40	1.70	2.00	2.20	3.45
10	0.85	1.25	1.42	1.60	2.65
20	0.32	0.70	0.75	1.20	1.80
30	0.11	0.39	0.40	0.85	1.35
50	0.01	0.04	0.08	0.36	0.83
70	0.00	0.00	0.01	0.09	0.45
90	0.00	0.00	0.00	0.02	0.22

1-Day Probabilities on 10 and 400 sq. mi.

	10	400
5	1.05	1.80
10	0.59	1.20
30	0.07	0.28
50	0.01	0.03

SUMMARY AND CONCLUSIONS

Data from two concentrated rain gage networks in central Illinois were used to develop time distribution relationships in heavy storms for areas ranging up to 400 square miles. The relationships have been presented in probability terms to provide quantitative information on interstorm variability.

The constructon of storm models for hydrologic applications has been illustrated through use of the time distributions, supplemented by available data on the spatial distribution of storms and other essential storm factors. This capability should contribute materially to the alleviation of design problems dependent upon the time and space distribution of precipitation. The relationships are considered representative of the Midwest and other regions of similar precipitation climate and physiography.

It was found that the time distributions could be represented best by relating per cent of total storm rainfall to per cent of total storm time for storms grouped according to whether the heaviest rainfall occurred in the first, second, third, or fourth quarter of the storm period. When so grouped, the effects of mean rainfall, storm duration, and other storm factors were minor and erratic in behavior. Area was found to be a minor factor but consistent in it effect upon the characteristics of the time distribution.

First-quartile and second-quartile storms occurred most frequently and fourth-quartile storms most infrequently. Within quartiles, long-duration storms (over 24 hours) predominated in the fourth-quartile, storms of moderate length (12–24 hours) were most frequent with the third-quartile type, and short-duration storms were most common in the first-quartile and second-quartile groups.

The number of bursts in the Illinois storms ranged from 1 to 14. Single-burst storms predominated with durations of less than 3 hours,

DON002568

whereas, combining all storms, 2–4 bursts occurred most frequently.

The heavy storms were found to have an elliptical shape most frequently, with an orientation of the major axis from SW-NE or WSW-ENE. However, on the largest area investigated (400 sq mi) a trend for the pattern to change from elliptical to multicellular or banded was noted as the mean rainfall exceeded 1.5 inches and storm durations exceeded 24 hours. Thunderstorms were the most common precipitation type and cold fronts the most frequent synoptic storm type.

REFERENCES

Changnon, S. A., Jr. and F. A. Huff, Studies of radar-depicted precipitation lines, *Sci. Rept. 2, Contract No. AF 19 (604)-4940, Ill. State Water Surv.*, Urbana, Illinois, 1961.

Huff, F. A., and S. A. Changnon, Jr., Development and utilization of Illinois precipitation networks, *Publ. No. 67, Intern. Assoc. Sci. Hydrol.*, Symposium on Design of Hydrological Networks, 1966.

Huff, F. A., and J. C. Neill, Rainfall relations on small areas in Illinois, *Bull. 44, Ill. State Water Surv., Urbana, Illinois*, 1957.

Huff, F. A., and J. C. Neill, Frequency relations for storm rainfall in Illinois, *Bull. 48, Ill. State Water Surv., Urbana, Illinois*, 1959.

Huff, F. A., and R. G. Semonin, An investigation of flood-producing storms in Illinois, *Topics Eng. Meteorol., Meteorol. Mono. 4, Am. Meteorol. Soc.*, Boston, Mass., 1960.

Newton, Chester W., and Harriet Rodebush Newton, Dynamical interactions between large convective clouds and environment with vertical shear, *J. Meteorol., 16*(5), 483–496, 1959.

Stout, G. E., and F. A. Huff, Studies of severe rainstorms in Illinois, *J. Hydraul. Div., Proc. Am. Soc. Civil Engrs.*, HY 4, July, 1962.

U. S. Weather Bureau, Rainfall intensity-frequency regime, Part 1—The Ohio Valley, *Tech. Paper 29, U. S. Dept. Commerce*, Washington, D. C., 1957.

(Manuscript received March 24, 1967; revised June 1, 1967.)

DON002569

EXHIBIT D

TO

AFFIDAVIT OF JAMES R. MOIR P.ENG IN RESPONSE TO

THE STANTEC REPORTS

Journal of Hydrology, 55 (1982) 303—319
Elsevier Scientific Publishing Company, Amsterdam — Printed in The Netherlands

[1]

IDENTIFICATION OF INDEPENDENT RAINSTORMS

PEDRO J. RESTREPO-POSADA and PETER S. EAGLESON

Department of Civil Engineering, Massachusetts Institute of Technology, Cambridge, MA 02139 (U.S.A.)

(Received September 25, 1980; revised and accepted January 28, 1981)

ABSTRACT

Restrepo-Posada, P.J. and Eagleson, P.S., 1982. Identification of independent rainstorms. J. Hydrol., 55: 303—319.

An easily-applied approximate criterion is proposed for the separation of point-precipitation records into statistically-independent storms. The criterion is tested successfully in parameter estimation for Poisson models of annual rainfall frequency in an arid climate. Analysis of rainfall records from a wide range of climates produces an empirical relation for estimating the minimum time between independent rainstorms, given only the mean annual rainfall and the mean length of the rainy season.

INTRODUCTION

Stochastic representation of precipitation regimes plays an important role in the analysis and design of many water-resources systems. For example, simulation of the long-term rainfall—runoff behavior of catchments requires the stochastic simulation of daily or hourly precipitation (Grayman and Eagleson, 1971); and derivation of the probability distributions of dependent hydrologic variables such as peak streamflow (Eagleson, 1972), flood volume (Chan and Bras, 1979) and annual water yield (Eagleson, 1978b) requires manipulation of the probability density functions (p.d.f.'s) of storm precipitation.

These methods all require estimates of the parameters of chosen p.d.f.'s, using available precipitation data. A troublesome problem associated with this activity is the separation of the time stream of recorded precipitation into statistically-independent events. This is necessary when utilizing certain standard stochastic representations such as the Poisson arrival process (Todorovic and Yevjevich, 1969), and is convenient when studying any system having appreciable memory since it avoids the troublesome use of conditional p.d.f.'s.

We offer here a solution to this problem that, though empirical and inexact, should be attractive in many design situations.

0022-1694/82/0000—0000/$02.75 © 1982 Elsevier Scientific Publishing Company

DON002571

EXHIBIT
D

BACKGROUND

Storms tend to arrive in clusters. Multiple mesoscale precipitation events are imbedded in a single synoptic scale disturbance and each mesoscale event may produce intervals of rainfall followed by hours or even days without rainfall before the next one arrives (Eagleson, 1970, p. 192). Certainly, separate precipitation events having a common parent larger-scale disturbance are to some degree related. Because this relationship is both geographically and seasonally variable, the definition of independence criteria through study of the physics of storm generation is felt to be impractical at this time. Instead, a "black-box" statistical method for identifying independent events will be sought.

The continuous record of point-rainfall intensity typically looks as shown in Fig. 1a. Rainfall of highly-variable intensity, i, occurs continuously for time, t_r, during which a total depth, h, falls. These rainfall events, which we shall call "storms", are separated in time by rainless periods of duration, t_b. By definition (see also the Notation for symbols used in this paper):

$$h = \text{(storm depth)} = \int_0^{t_r} i dt \tag{1}$$

and

$$t_a = \text{(storm interarrival time)} = t_r + t_b \tag{2}$$

In general, a rainstorm is a realization of a non-homogeneous multivariate random generating process. The heterogeneity arises primarily from the different cooling mechanisms responsible for producing storms at a given location. These mechanisms produce storm types with different characteristic distributions of the constituent random variables: storm depth, storm duration, and time since the last storm. When the storm types are well-segregated seasonally (e.g., convective in the summer and cyclonic in the winter) modellers of point-rainfall sequences may account for the heterogeneity by using distributions of the constituent random variables that have seasonally-varying parameters (Todorovic and Yevjevich, 1969). When the cooling mechanisms are well-mixed temporally, the modeller has a choice of adding the outputs of homogeneous generating processes for each storm type, or of defining a single generating process having a lower order of homogeneity in which storm type (i.e. cooling mechanism) is one of the constituent random variables.

In what follows, we assume that the homogeneity issue has been dealt with, and we address only the identification of independent events from homogeneous populations.

It seems intuitively clear that statistical independence of samples of a particular constituent variable will increase with the time between the events from which those samples are drawn. There should, therefore, be a minimum

DON002572

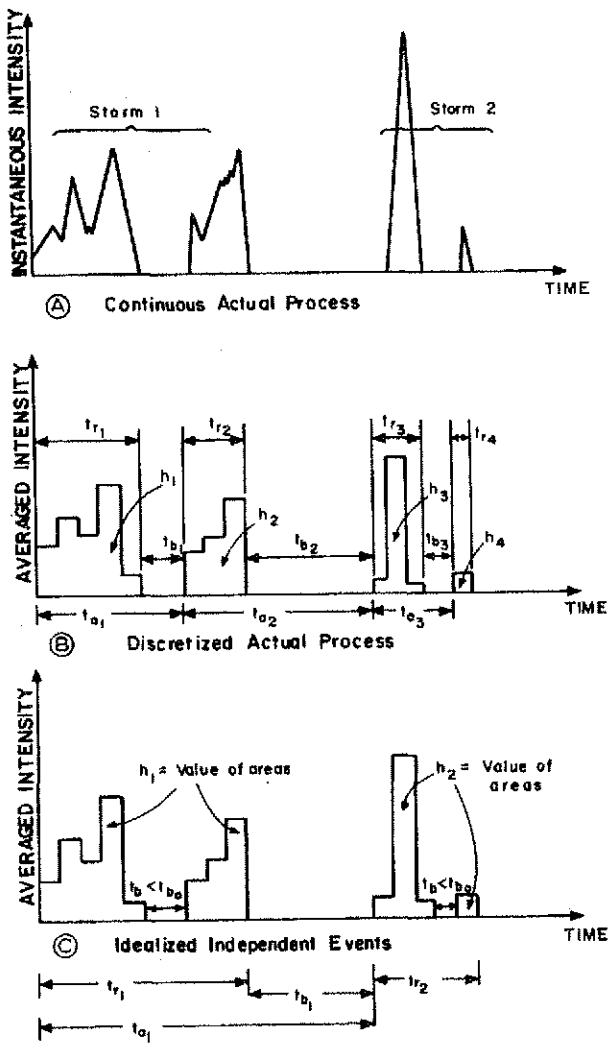


Fig. 1. Definition sketch for storm parameters.

separation time between samples that is necessary in order to gain any prescribed degree of independence. Unfortunately, however, this is a multivariate process and we have no assurance that the minimum time between samples of storm depth (for example) will bring the same degree of independence between the associated values of storm duration, or that the arrivals of the events from which the samples of depth were drawn are themselves independent to at least this degree.

To avoid separate investigations of independence for each constituent random variable, it would be useful to work only with the single variable for which the actual generating process has the longest "memory", that is, for

NOTATION

List of symbols used

CV[·]	coefficient of variation
E[·]	expected value
$f_X(x)$	probability density function (p.d.f. of x)
$F_X(x)$	cumulative distribution function (c.d.f. of x)
h	storm depth
i	storm intensity
k	value of probability density of rainy season length
m_{P_A}	average seasonal precipitation
m_{t_r}	average storm duration
m_ν	seasonal average number of storms
m_τ	average length of rainy season
r	square root of coefficient of determination
t_a	storm interarrival time
t_b	time between storms
t_{b_0}	minimum time between independent storms
$t_{b_{min}}$	minimum time between storms
t_r	storm duration
β	inverse of the mean time between storms
κ	shape parameter in the gamma distribution
σ[·]	standard deviation of [·]
ω	inverse of the mean storm interarrival time = mean storm arrival rate
τ	length of rainy season
τ_0	minimum length of rainy season
P[·]	Pearson's incomplete gamma function of [·]
γ[·]	incomplete gamma function of [·]

which the minimum sample separation for independence is maximum. Samples of all other variables taken from the events so-defined would then be independent to no less a degree.

Grace and Eagleson (1967) and Sariahmed and Kisiel (1968) chose the storm depth for this purpose. They used a significance test of the rank correlation coefficient to define the minimum time, t_{b_0}, between recorded rainfalls that is necessary for negligible serial correlation of successive storm depths. For convective storms, they found t_{b_0} to be from 2 hr. (New England) to 3 hr. (Arizona). Although zero serial correlation is a necessary but insufficient condition for independence of the storm depths, these investigators used this method not only to obtain a sample of independent storm depths but also to separate independent storm arrivals.

At best, independence of successive storm depths can probably be only a *necessary* condition for independence of successive storm arrivals. Causality suggests that if the rainless time separating successive rainfall events increases, we may expect the statistical dependence of these events to decrease in all dimensions. In other words, if independence of successive samples of *any* single constituent variable can be used as a *sufficient* condition for independence of successive samples of the other variables, that single variable is probably the time between storms.

DON002574

We will now propose a practical criterion for independence of successive storm arrivals.

INDEPENDENCE OF STORM ARRIVALS

The Poisson process describes the completely random arrival of events which are "point" or "instantaneous" occurrences in that their durations are zero. For such events, the usual derivations (e.g., Benjamin and Cornell, 1970) use the binomial theorem to show that the distribution of intervals, t_a's, between Poisson arrivals is distributed exponentially:

$$f_{T_a}(t_a) = \omega e^{-\omega t_a}, \qquad t_a \geqslant 0 \tag{3}$$

where ω = average storm arrival rate.

Arguing from the ensemble viewpoint, Cox and Lewis (1966, p. 23) demonstrate that a stationary series of events having interarrival times distributed according to eq. 3 *is* a Poisson process. Thus, for events of zero duration, the validity of eq. 3 is a sufficient condition for independence of successive arrivals.

As pointed out by Cox and Lewis (1966, p. 18), the Poisson process is only a mathematical concept and:

> "no real phenomenon can be expected to be exactly in accord with it."

In this application, the arrivals have finite duration, t_r, which raises the problem of overlapping events. With:

m_{t_r} = (mean storm duration) and ω^{-1} = (mean time between storm arrivals)

we can expect the Poisson process to adequately describe the arrivals of independent rainstorms, provided:

$$\omega m_{t_r} \ll 1 \tag{4}$$

Since the origin of the exponentially-distributed arrival time is arbitrary for the true (i.e. instantaneous event) Poisson process (Cox and Lewis, 1966, p. 22), we may expect the time between storms, t_b, in our application to be exponentially distributed with the same goodness-of-fit as t_a. Once again, the only interference with precision-of-fit is the magnitude of the product, ωm_{t_r}. We thus expect:

$$f_{T_b}(t_b) = \beta e^{-\beta t_b}, \qquad t_b \geqslant 0 \tag{5}$$

It is expected that the "raw" storms, as defined in Fig. 1a, are not independent. For small t_b, the probability of having rainfall in the next Δt_b is relatively large due to the likelihood of continued imbedment within the same synoptic or even mesoscale event. When the rainless time separating successive rainfall events increases, we expect the stochastic dependence of

these events to vanish and the probability of rainfall in the next Δt_b to decline toward the small, but constant, value associated with a successful Bernoulli trial. The full set of naturally-occurring rainless periods will thus not follow the exponential distribution due to the inclusion therein of small t_b's which separate dependent events. To demonstrate this, we will examine the distribution of the complete set of observed t_b's for the six primary (i.e. long, hourly record) stations of Table I. These distributions are presented in Fig. 2 where they are compared with the exponential as fitted by setting the mean value of the exponential distribution equal to the sample mean. The poor fit is as expected.

To obtain exponentiality and, therefore, an independent set of events, for these series, we will first successively redefine the storms, as shown in Fig. 1c, incorporating within the appropriate new event all rainless periods $t_b < t_{b_{min}}$. We continue our assumption that $\omega m_{t_r} \ll 1$. Values of this parameter are tabulated in Table I. When the rainless period separating two rainy periods has a duration less than this value, $t_{b_{min}}$, called the minimum time between storms the two rainy periods belong to the same storm. Otherwise, they form parts of different storms. Tests at successively larger values of $t_{b_{min}}$ should ultimately bring sufficient exponentiality to the distribution, $f_{T_b}(t_b)$. The value of $t_{b_{min}}$ for which this occurs is called t_{b_0} and will establish the set of independent storms.

A PRACTICAL INDEPENDENCE CRITERION

One commonly-used test of exponentiality is the χ^2-test (Gnedenko, et al., 1969, p. 229), but this is expensive to apply repetitively and requires use of a subjective significance level. As a more convenient although theoretically-insufficient substitute, we will test for the property of exponential distributions that their mean and standard deviation are equal. The insufficiency of this test arises from the fact that there are other feasible distributions that may have this property (the log-normal and triangular distributions, for example). Its adoption in spite of this possible ambiguity results from experience in the analysis of many rainfall records showing, as in Fig. 2, a near-exponential distribution of the natural events.

From eq. 5, the mean time between independent storms is:

$$E[t_b] = \beta^{-1} \tag{6}$$

and the standard deviation is:

$$\sigma[t_b] = \beta^{-1} \tag{7}$$

The coefficient of variation of the exponential distribution is thus

$$\mathrm{CV}[t_b] \equiv \sigma[t_b]/\mathrm{E}[t_b] = 1 \tag{8}$$

In using the simple exponential rather than the shifted or truncated-and-

TABLE I

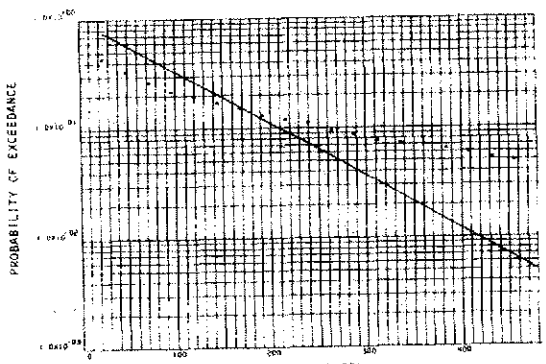
Climatological data

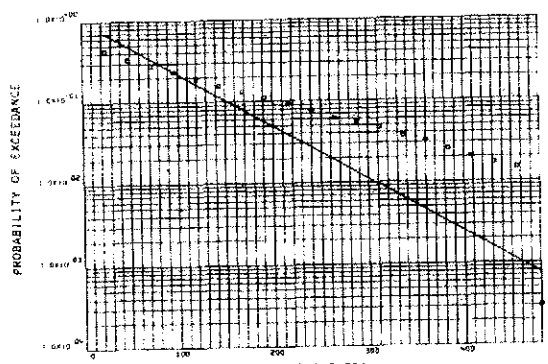
No.*	Station	Location	Type of data	Record length (yr.)	ωm_{t_r}	t_{b_0} (hr.)	m_T (mo.)	m_{P_A} (mm)	m_{P_A}/m_T (mm/mo.)	t_{b_0}/m_T (hr./mo.)
1	Al Wajh	Saudi Arabia	daily	5	0.055	132.0	3.1	24.0	7.74	42.58
2	Al Ta'if	Saudi Arabia	daily	5	0.096	115.2	7.7	138.0	17.85	14.96
3	Dhahran	Saudi Arabia	daily	5	0.186	100.8	4.5	68.0	15.11	22.40
4	Riyadh	Saudi Arabia	daily	5	0.151	96.0	5.0	115.0	22.73	18.97
5	Tucson	Arizona	hourly	27	0.140	76.0	9.0	262.5	29.17	8.44
6	Prescott	Arizona	daily	5	0.279	73.0	10.0	470.2	47.02	7.30
7	Nogales	Arizona	daily	5	0.216	68.6	9.0	412.0	45.78	7.62
8	Ha'il	Saudi Arabia	daily	5	0.108	67.2	5.9	95.0	16.10	11.39
9	Patagonia	Arizona	daily	5	0.291	66.1	9.0	453.1	50.35	7.34
10	Raton	New Mexico	hourly	26	0.120	46.0	9.0	344.2	38.25	5.11
11	Santa Maria	California	hourly	27	0.123	42.9	6.0	268.9	44.82	7.15
12	Mimbres	New Mexico	daily	5	0.267	39.6	10.0	407.4	40.74	3.96
13	Los Alamos	New Mexico	daily	5	0.267	38.4	12.0	457.0	38.08	3.20
14	Denver	Colorado	hourly	27	0.073	18.7	12.0	390.0	32.50	1.56
15	Akron	Ohio	hourly	25	0.121	9.0	12.0	919.9	76.66	0.75
16	Columbus	Ohio	hourly	27	0.137	8.1	12.0	941.4	78.45	0.68
17	Santa Rita	Colombia	hourly	0.75	0.139	1.0	12.0	5,107.2	425.60	0.08

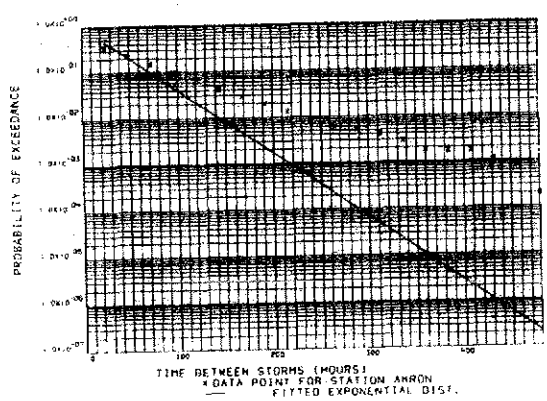
* Station numbers identify plotted points in Fig. 7.

DON002577

rescaled exponential, we are implicitly assuming that the population of independent events actually contains values in the range $0 < t_b < t_{b_0}$ even though our chosen criterion for independence does not permit their identification. To identify the independent fraction of these events separated by $t_b < t_{b_0}$, we would need a criterion which examined individual events.







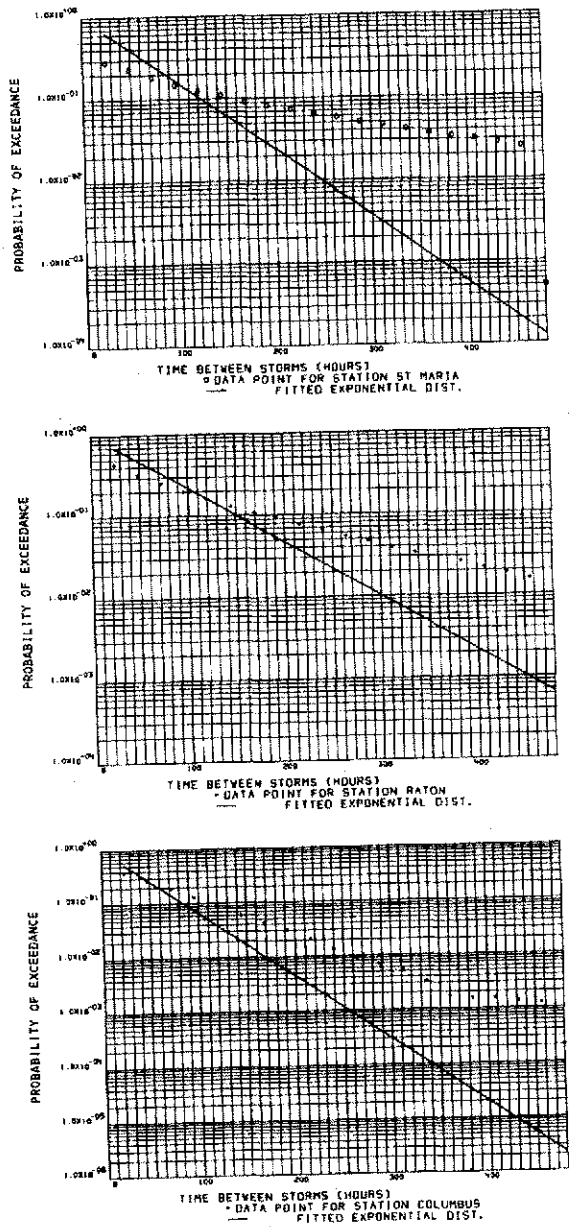


Fig. 2. Fitting of observed time between storms to an exponential distribution, assuming all events independent.

For small $t_{b_{min}}$, we have seen in Fig. 2 (where $t_{b_{min}} = 0$) that the observations follow a distribution having a standard deviation much larger than the mean. For small $t_{b_{min}}$, therefore, the observations give $CV[t_b] > 1$.

For increasing $t_{b_{min}}$, the observed distribution of t_b is truncated and rescaled. This will increase the mean of t_b while maintaining all central moments (including σ) almost the same (as the distribution of t_b is approximately exponential in this range). The coefficient of variation of t_b will thus be driven toward zero as $t_{b_{min}}$ increases.

We will choose the $t_{b_{min}}$ at which the observed $CV[t_b]$ passes through the value for the exponential distribution (eq. 8) as the criterion, t_{b_0}, for minimum separation of independent events.

It is demonstrated in the Appendix how the $CV(t_b)$ can be calculated for different values of $t_{b_{min}}$ in a single processing of the original data. These calculations lead to the values presented in Fig. 3 for three of the stations of Table I. The interpolated intersections of these $CV(t_b)$ with the line, $CV(t_b) = 1$, yield the values of t_{b_0} shown in the figure and tabulated for all seventeen stations in Table I.

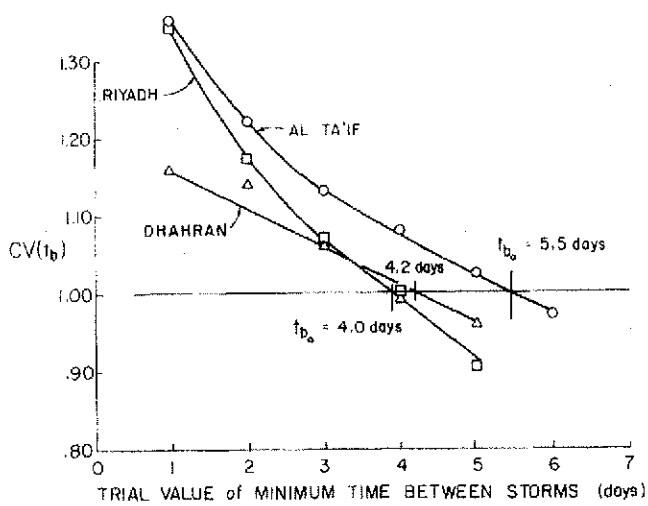


Fig. 3. Determination of minimum time between storms.

AN EMPIRICAL TEST OF THE INDEPENDENCE CRITERION

Since exponentiality of t_a, and hence (approximately) of t_b, is a sufficient condition for the storm arrivals to be Poisson-distributed, we will test the independence criterion in the context of Poisson modelling.

For Poisson arrivals of gamma-distributed storm depths in a homogeneous rainy season, the cumulative distribution function (c.d.f.) of normalized annual precipitation is:

(a) for rainy seasons of constant length, $\tau = m_\tau$ (Eagleson, 1978a):

$$\text{Prob}\left[\frac{P_A}{m_{P_A}} \leqslant z\right] = e^{-m_\nu}\left\{1 + \sum_{\nu=1}^{\infty} \frac{(m_\nu)^\nu}{\nu!} P[\nu\kappa, m_\nu \kappa z]\right\} \tag{9}$$

(b) for uniformly distributed rainy seasons (Eagleson, 1980):

$$f_T(\tau) = \begin{cases} k, & \tau_0 \leqslant \tau \leqslant 2m_\tau - \tau_0 \\ 0, & \text{otherwise} \end{cases} \tag{10}$$

$$\text{Prob}\left[\frac{P_A}{m_{P_A}} \leqslant z\right] = \frac{k}{\omega} e^{-\omega\tau_0}[1 - e^{-\omega/k}] + \frac{k}{\omega}\sum_{\nu=1}^{\infty} P[\nu\kappa, m_\nu \kappa z]$$
$$\times \{P[\nu+1, \omega/k+\omega\tau_0] - P[\nu+1, \omega\tau_0]\} \tag{11}$$

where

P_A = annual precipitation
m_{P_A} = mean annual precipitation
m_ν = mean number of storms per rainy season
κ = shape factor of gamma distribution of storm depth
τ = length of rainy season
τ_0 = minimum length of rainy season
m_τ = mean length of rainy season

and by definition:

$$\omega = \text{(average storm arrival rate)} \equiv m_\nu/m_\tau \tag{12}$$

and

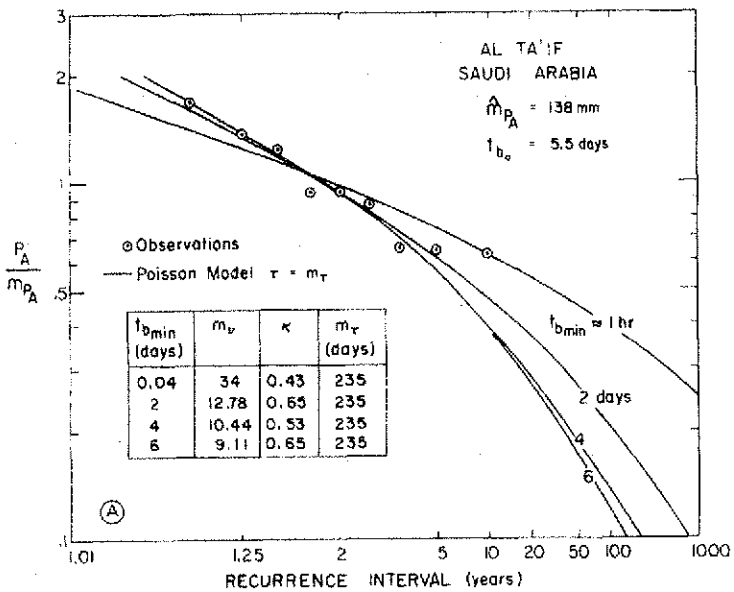
$$\omega/k = 2[m_\nu - \omega\tau_0] \tag{13}$$

Analysis of five years of daily rainfall at Al Ta'if, Saudi Arabia, shows the season length to be relatively constant with $m_\tau = 235$ days. Successive computations of CV$[t_b]$ in the manner described above leads to $t_{b_0} = 5.5$ days, as shown in Fig. 3. Also available at this station are nine years of annual rainfall and four years of 10-min. intensity—duration data. The former data are plotted in Fig. 4 using the Thomas (1948) plotting position and they form a base against which to test the Poisson model of eq. 9. The latter data are used to give a first estimate of the Poisson parameters, $\kappa = 0.43$ and $m_\nu = 34$. Since the intensity—duration data are not continuous, the effective minimum time between storms is unknown but from the data it is estimated to be ~1 hr. or 0.04 days. Eq. 9 is plotted in Fig. 4, using these parameters and is labeled $t_{b_{min}} \approx 1$ hr.

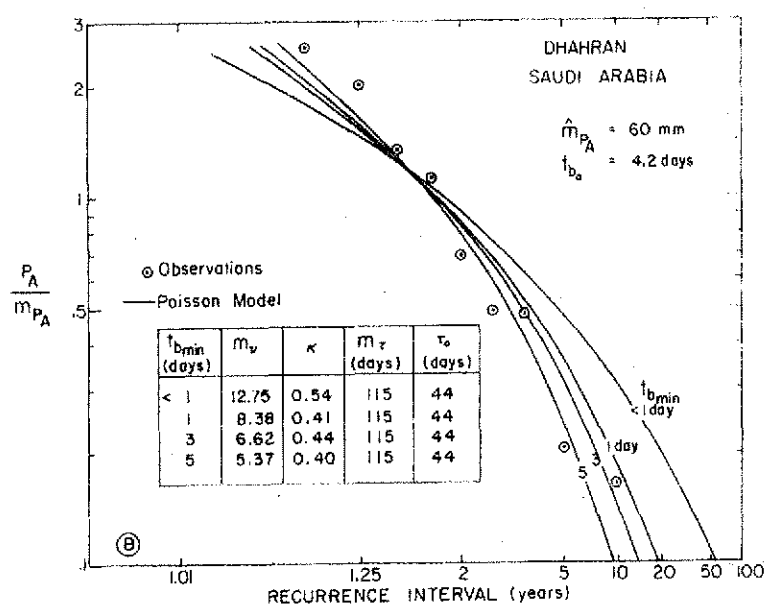
The continuous daily data from Al Ta'if are analyzed successively for $t_{b_{min}} = 2$, 4 and 6 days. The corresponding values of κ and m_ν are estimated and eq. 9 is plotted for each case in Fig. 4A. If the annual series is actually

Poisson, we expect a c.d.f. for $t_{b_{min}} = t_{b_0} = 5.5$ days to best represent the population distribution. Certainly, the Poisson agreement with the few plotted observations improves with increasing $t_{b_{min}}$, at least in the better-defined high-frequency (low-recurrence interval) end of the distribution.

The same test is conducted in Fig. 4B and C for Dhahran and Riyadh, Saudi Arabia — locations at which eq. 10 adequately describes the season

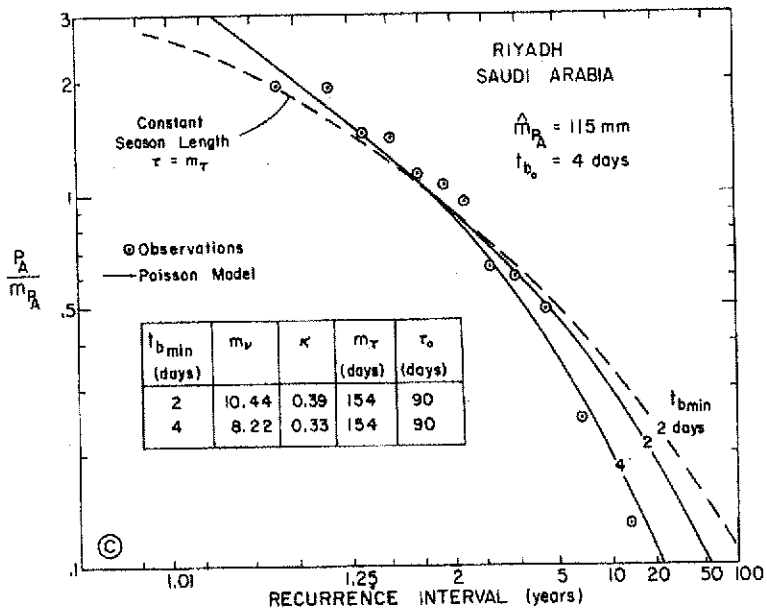


$t_{b_{min}}$ (days)	m_ν	κ	m_τ (days)
0.04	34	0.43	235
2	12.78	0.65	235
4	10.44	0.53	235
6	9.11	0.65	235



$t_{b_{min}}$ (days)	m_ν	κ	m_τ (days)	τ_0 (days)
< 1	12.75	0.54	115	44
1	8.38	0.41	115	44
3	6.62	0.44	115	44
5	5.37	0.40	115	44

DON002582



$t_{b_{min}}$ (days)	m_ν	κ	m_τ (days)	τ_0 (days)
2	10.44	0.39	154	90
4	8.22	0.33	154	90

Fig. 4. Frequency of annual precipitation at: Al Ta'if, Saudi Arabia; Dhahran, Saudi Arabia; and Riyadh, Saudi Arabia.

length distribution. Once again, the daily data are analyzed repetitively both to obtain t_{b_0}, as shown in Fig. 3, and to obtain the Poisson parameters of eq. 11: κ, m_ν, τ_0 and m_τ. The agreement between t_{b_0} and the best-fit $t_{b_{min}}$ is remarkable in each case.

In Fig. 4C, the sensitivity to season length distribution is shown by also presenting eq. 9, using the parameters for $t_{b_{min}} = 2$ days.

It must be remembered that the purpose of isolating independent storms has been the convenience which independence brings in solving a class of precipitation modeling problems. For other problems concerning the dynamic response of hydrologic systems to precipitation inputs, the "interior" of the individual events must be modeled. In such cases, the independent events may not be the most appropriate since they can involve, particularly in arid climates, long internal rainless periods. In particular, the idealization of storm rainfall as a random sequence of rectangular intensity-pulses that is so convenient in studying the statistics of event hydrology (Eagleson, 1972, 1978a), can become physically meaningless. That is, the equivalent uniform storm intensity, $i = h/t_r$, will have little physical significance as t_{b_0} gets large and all shorter rainless periods become internal to the independent events. For dynamic purposes, the distributions of the constituent storm variables are more appropriately and conveniently determined from the raw storm data without concern for independence.

DON002583

CLIMATIC VARIABILITY OF THE INDEPENDENCE CRITERION

It would be useful to be able to estimate the minimum time between storms, t_{b_0}, from other climatic parameters without the need to perform the complete procedure outlined in the Appendix. It seems reasonable to expect dependence of t_{b_0} upon the humidity of the climate and we will measure this (incompletely) by the average monthly precipitation intensity during the rainy season.

Values of the climatic parameters are tabulated, along with t_{b_0}, for each of the seventeen stations in Table I. The values of t_{b_0} normalized by the rainy season length are correlated with the average monthly precipitation in Fig. 5. The solid line on this figure is the least-squares regression:

$$t_{b_0}/m_\tau = 1523\,(m_{P_A}/m_\tau)^{-1.59} \tag{14}$$

which gives the coefficient of determination:

$$r^2 = 0.83$$

In eq. 14, m_{P_A} = average seasonal precipitation in millimeters; m_τ = average length of rainy season, months; and t_{b_0} = minimum time between independent storms, hours.

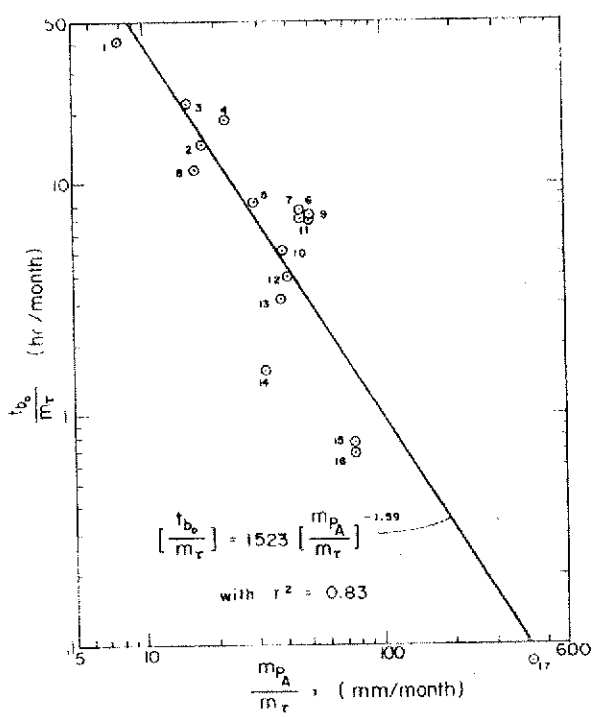


Fig. 5. Minimum time between independent rainstorms.

The finding that t_{b_0} is larger for arid climates than for humid ones results from the clustering of arid-climate rainfall and the consequent dependence of multiple storms upon the same large-scale weather system.

SUMMARY AND CONCLUSIONS

Exponentiality of the time between storms, t_b, has been used as a sufficient condition for the statistical independence of storm arrivals within the restriction that overlapping is negligible (i.e. $\omega m_{t_r} \ll 1$). A sample coefficient of variation of unity, $\mathrm{CV}[t_b] = 1$ was accepted as a sufficiently unambiguous criterion for independence of arrivals on the basis of observations of exponential-like distributions of t_b from numerous series of raw storms. Causality arguments have been used to justify using arrival independence also as an approximate condition for independence with respect to the separate storm variables such as depth and duration.

A convenient, simple algorithm is presented for obtaining $\mathrm{CV}[t_b]$ from a given storm sequence for successively larger minimum storm separation. Estimates of t_{b_0} so obtained are shown to produce Poisson distributions of annual precipitation which agree well with observed distributions at three arid-climate sites. Values of t_{b_0} from a wide range of climates are shown to correlate with the rainy-season monthly precipitation thus providing a means for estimating t_{b_0} without record analysis.

ACKNOWLEDGEMENT

Support for this work was provided by the National Science Foundation under NSF Grant No. ENG 76-11236.

APPENDIX

Methodology for calculating t_{b_0}

Let b_i, $i = 1, \ldots, N_0$, be the duration of the non-rainy period i, and N_0 = total number of non-rainy periods. Then, for $t_{b_{min}} = 0$:

$$\hat{\mathrm{CV}}(0) = \frac{[\{S_{2,0} - (S_{1,0})^2\}\{N_0/(N_0 - 1)\}]^{1/2}}{S_{1,0}} \tag{A-1}$$

where

$$S_{2,0} = \frac{1}{N_0} \sum_{i=1}^{N_0} b_i^2 \quad \text{and} \quad S_{1,0} = \frac{1}{N_0} \sum_{i=1}^{N_0} b_i \tag{A-2), (A-3}$$

and $\hat{\mathrm{CV}}(\cdot)$ is the *estimate* of CV.

Calculating a histogram for b_i with a width of class equal unity, such that:

h_j = (number of cases for which $b_i = J$)

and

$$\hat{\mathrm{CV}}(1) = \frac{[\{S_{2,1} - (S_{1,1})^2\}\{N_1/(N_1 - 1)\}]^{1/2}}{S_{1,1}} \tag{A-4}$$

where

$$S_{2,1} = \frac{1}{N_1}[N_0 S_{2,0} - h_1 \cdot 1^2], \qquad S_{1,1} = \frac{1}{N_1}[N_0 S_{1,0} - h_1 \cdot 1] \tag{A-5), (A-6}$$

and

$$N_1 = N_0 - h_1 \tag{A-7}$$

In general,

$$\hat{\mathrm{CV}}(K) = \frac{[\{S_{2,K} - (S_{1,K})^2\}\{N_K/(N_K - 1)\}]^{1/2}}{S_{1,K}} \tag{A-8}$$

where

$$S_{2,K} = \frac{1}{N_K}[N_{K-1} S_{2,K-1} - h_K \cdot K^2] \tag{A-9}$$

$$S_{1,K} = \frac{1}{N_K}[N_{K-1} S_{1,K-1} - h_K \cdot K] \tag{A-10}$$

$$N_K = N_{K-1} - h_K \tag{A-11}$$

Finally,

$t_{b_{min}} \equiv K$, if $\hat{\mathrm{CV}}(K) = 1$

or by interpolation, when $\mathrm{CV}(K-1) > 1$ and $\mathrm{CV}(K) < 1$:

$$t_{b_o} = (K-1) + [(\hat{\mathrm{CV}}_{K-1} - 1)/(\hat{\mathrm{CV}}_{K-1} - \mathrm{CV}_K)] \tag{A-12}$$

REFERENCES

Benjamin, J.R. and Cornell, C.A., 1970. Probability, Statistics and Decision for Civil Engineers. McGraw-Hill, New York, N.Y.

Chan, S.-O. and Bras, R.L., 1979. Urban storm water management: distribution of flood volumes. Water Resour. Res., 15(2): 371—382.

Cox, D.R. and Lewis, P.A.W., 1966. The Statistical Analysis of Series of Events. Methuen, London.

Eagleson, P.S., 1970. Dynamic Hydrology. McGraw-Hill, New York, N.Y.

Eagleson, P.S., 1972. Dynamics of flood frequency. Water Resour. Res., 8(4): 878—898.

Eagleson, P.S., 1978a. Climate, soil and vegetation, 2. The distribution of annual precipitation derived from observed storm sequences. Water Resour. Res., 14(5): 713—721.

DON002586

Eagleson, P.S., 1978b. Climate, soil and vegetation, 7. A derived distribution of annual water yield. Water Resour. Res., 14(5): 765—776.

Eagleson, P.S., 1981. Some limiting forms of the Poisson distribution of annual station precipitation. Water Resour. Res. (in press).

Gnedenko, B.V., Belyayev, Y.K. and Solovyev, A.D., 1969. Mathematical Methods of Reliability Theory. Academic Press, New York, N.Y.

Grace, R.A. and Eagleson, P.S., 1967. A model for generating synthetic sequences of short-time-interval rainfall depths. Proc. Int. Hydrol. Symp., Fort Collins, Colo., pp. 268—276.

Grayman, W.M. and Eagleson, P.S., 1971. Evaluation of radar and raingage systems for flood forecasting. Ralph M. Parsons Lab., Dep. Civ. Eng., Mass. Inst. Technol., Cambridge, Mass., Tech. Rep. No. 138.

Sariahmed, A. and Kisiel, C.C., 1968. Synthesis of sequences of summer thunderstorm volumes for the Atterbury watershed in the Tucson area. Proc. Int. Assoc. Hydrol. Sci. Symp. on Use of Analog and Digital Computers in Hydrology, 2: 439—447.

Thomas, H.A., 1948. Frequency of minor floods. J. Boston Soc. Civ. Eng., 35: 425—442.

Todorovic, P. and Yevjevich, V., 1969. Stochastic processes of precipitation. Colo. State Univ., Fort Collins, Colo., Hydrol. Pap. No. 35, pp. 1—61.

DON002587

EXHIBIT E

TO

AFFIDAVIT OF JAMES R. MOIR P.ENG IN RESPONSE TO

THE STANTEC REPORTS

Journal of Hydrology, 98 (1988) 275–293
Elsevier Science Publishers B.V., Amsterdam — Printed in The Netherlands

[1]

FACTORS AFFECTING THE IDENTIFICATION OF INDEPENDENT STORM EVENTS

JAMES V. BONTA and A. RAMACHANDRA RAO

U.S. Department of Agriculture, Agricultural Research Service, North Appalachian Experimental Watershed, Coshocton, OH 43812 (U.S.A.)
School of Civil Engineering, Purdue University, West Lafayette, IN 47907 (U.S.A.)

(Received February 6, 1987; revised and accepted August 26, 1987)

ABSTRACT

Bonta, J.V. and Rao, A.R., 1988. Factors affecting the identification of independent storm events. J. Hydrol., 98: 275–293.

No standard method exists for identifying independent precipitation events for storm-based precipitation analyses. Two methods using Coshocton, Ohio data are compared in this study (the rank correlation and exponential methods), along with an investigation of factors affecting the minimum dry-period duration between storms (termed the "critical duration"). The exponential method gives higher critical duration estimates than the rank correlation method. The effect of sampling interval of the data on critical duration is small for both methods. Consequently, readily available hourly data may be used to estimate the critical duration. Year-to-year, seasonal and spatial variability in critical duration estimates are found to be great. About ten years of data are required to compute reliable estimates of critical duration. The exponential method is suggested for use.

INTRODUCTION

The analysis and design of hydraulic structures and water-resources systems (e.g., dams, culverts, bridges, sediment storage, water supply, etc.) and the evaluation of the impacts of land management practices on hydrology and water quality (e.g., different tillage practices, strip mining) require precipitation inputs. The forms of these inputs may include historic precipitation data, synthetically generated sequences of storms, rainfall intensity–duration–frequency values, and design-storm patterns. Historic data are often analyzed on a storm-by-storm basis to determine the latter three precipitation inputs. Consequently, the issue is raised of how best to separate a historic precipitation sequence into independent storms for analyses which assume statistical independence. Because there is no standard method of identifying individual storms, it is important to compare alternative methods and to investigate factors that affect them.

0022-1694/88/$03.50 © 1988 Elsevier Science Publishers B.V.

EXHIBIT
E

DON002589

Two approaches to identify independent storms can be used. In the first approach, independent events are defined by considering both precipitation data and watershed conditions. This approach may be useful, for example, for studying rainfall characteristics associated with runoff events. In the second, simpler one, only precipitation data are used and watershed conditions are not considered. Watershed conditions affecting the identification of independent storms in the first approach can include measures of watershed area, watershed drainage characteristics, antecedent soil moisture, cultural practices, land use, stream-channel configuration, and soil characteristics. Examples of the first approach are found in Istok et al. (1983) and Wischmeier (1959). Istok et al. (1983) defined independent storms by using measures of antecedent watershed conditions between runoff events. Wischmeier (1959) found that a 6-h dry-period duration between rainfall periods contributed to maximizing the correlation between soil loss and an index of erosion by rainfall. The second approach of identification of independent storms by using only precipitation data and neglecting watershed conditions is considered in this study.

A precipitation sequence consists of wet periods of different intensities and durations, and dry periods of varying durations. Considering the extreme cases, two periods of rainfall when separated by a long rainless period (of the order of weeks) may be considered to be independent of one another; that is, the weather system that caused the first event in an area will have moved out of the area and a new weather system will have caused the second event. In this case, the occurrence of the second event most likely is not affected by the occurrence of the first event. When two rainfall periods are separated by a short dry period (of the order of minutes or a few hours), the wet periods are usually part of the same storm system and may not be independent; that is, the occurrence of the second wet period is conditional on the occurrence of the first wet period. Two wet periods separated by some minimum dry-period are, therefore, usually considered to be statistically and physically independent of one another. The minimum time between specific rainfall events is called the "critical duration" in this investigation and it separates storm periods "on average" from each other. The approach is inexact because storm physics criteria for identifying independent events are not considered, but the simpler approach can be easily used in practice. Restrepo and Eagleson (1982) discuss meteorologic processes and complicating factors associated with identifying independent storms in this manner.

Several factors can affect the estimation of critical duration (*CD*). These include the time interval in which precipitation data are collected ("sampling interval"), and the method of computing the *CD* estimate. Also, the variabilities of *CD* estimates due to season of year, year-to-year weather variability, and spatial variability of rainfall can be important. Bonta and Rao (1984) performed a preliminary investigation of some of these factors. These factors are further investigated in the present study.

REVIEW OF PAST RESEARCH

Methods based upon arbitrary separation, autocorrelation, rank correlation, and the exponential distribution have been used by different investigators to identify individual storms.

Arbitrary storm separation techniques are used, for example, by Sifalda (1973) and Yen and Chow (1980). Sifalda (1973) separates storms by a minimum length of time equal to the length of time of the first preceding rainfall period. Yen and Chow (1980) use a 1-h dry period between storms to separate a rainfall sequence into storms, which is the sampling interval of the data they used.

The autocorrelation method of identifying rainfall events is used by Wenzel and Voorhees (1981). They use a series of successively lagged 15-min groups of 5-min rainfall intensities in an autocorrelation analysis of rainfall data. The procedure did not give well-defined estimates of *CD* for data collected by two of the three rain gages investigated.

Another procedure, based on rank correlation coefficients, is proposed by Grace and Eagleson (1966), and is used by Sariahmed and Kisiel (1968) and by Rao and Chenchayya (1974) in studies of short time-increment rainfall generation by stochastic methods. The rank correlation method utilizes the ranks of rainfall-intensity values computed for equal-time intervals rather than the actual values of rainfall intensity. Rank correlation coefficients at successive lags are computed until they are not statistically significant. The lag at which they are not significant is then selected to be the critical lag. The time period associated with the critical lag is the *CD*. An advantage of this method over the autocorrelation method is that it is nonparametric, and does not depend upon an underlying distribution of the data.

In a related study, McDonald and Green (1960) compared the rank correlation and the product-moment correlation methods in a study of correlations between seasonal (winter and summer) precipitation totals among rain gages. They found that in most cases the absolute difference between the two correlation coefficient values was within one standard error of the product-moment correlation coefficient. They recommend the rank correlation coefficient method for use because it is distribution-free.

Restrepo and Eagleson (1982) proposed a method which uses the statistical distribution of times between rainfall events to estimate the *CD* between storms. In this method, the distribution of dry-period durations is assumed to be exponential, and is referred to as "the exponential method" in the present study. They justified the use of the exponential distribution because of observations that interstorm duration data were distributed exponentially in both wet and dry climates. An advantage of the exponential method is that the distribution of interarrival times of rainfall events (dry-period durations between rainfall events) is exponential in a Poisson process. Some hydrologic phenomena are assumed to be stochastically represented by a Poisson process.

DON002591

OBJECTIVES

The overall objectives of this investigation are to study the variability in *CD* estimates obtained by two methods, and to investigate the factors that affect estimates of *CD*. The specific objectives are: (1) to compare *CD* estimates obtained from the rank correlation and exponential methods; (2) to determine the length of rainfall record necessary to adequately estimate the *CD*; (3) to investigate the spatial and temporal variability of results from both methods; (4) to investigate the effect of sampling interval of data on *CD* estimates; and (5) to investigate the effect of season of year on *CD* estimates.

The rank correlation and exponential methods are chosen for comparison in this investigation because both are objective methods, and the problem of obtaining estimates which are not well-defined is minimized.

DATA USED IN THE INVESTIGATION

Data from several rain gages at the North Appalachian Experimental Watershed (NAEW) near Coshocton, Ohio (Fig. 1) are used in this study. Data from rain gages RG100, RG109, and RG115, which are located about 1.6 km apart from each other, are analyzed. Data from other gages (RG103, RG107, RG202, and RG203) are also used. Each rain gage has about a 40-yr record of data.

The rain gages are of the weighing-bucket type. Precipitation data are tabulated at points where the intensity of rainfall changes on recorder charts, allowing the computation of rainfall intensity for any shorter time interval. Snowfall events are omitted from the analyses.

Average weather patterns in the vicinity of Coshocton, Ohio are characterized by short-duration, high-intensity (convective) storms during the summer, and long-duration, low-intensity (cyclonic) storms during the winter. Average annual precipitation at the NAEW is 955 mm, and average annual temperature is 10.1°C.

METHODS OF DETERMINING CRITICAL DURATION

Rank correlation method

This method utilizes the Spearman rank correlation coefficient and separates independent storms based on storm depth. The details of calculating the Spearman rank correlation coefficient are given in Kendall (1948) and Seigel (1956), and as applied to rainfall data, by Grace and Eagleson (1966). Rank correlation is a nonparametric statistic estimated by using ranks of original data. The Spearman rank correlation coefficient is given by Seigel (1956) as:

$$r_s = 1 - \frac{6 \sum_{i=1}^{n} d_i^2}{n^3 - n} \tag{1}$$

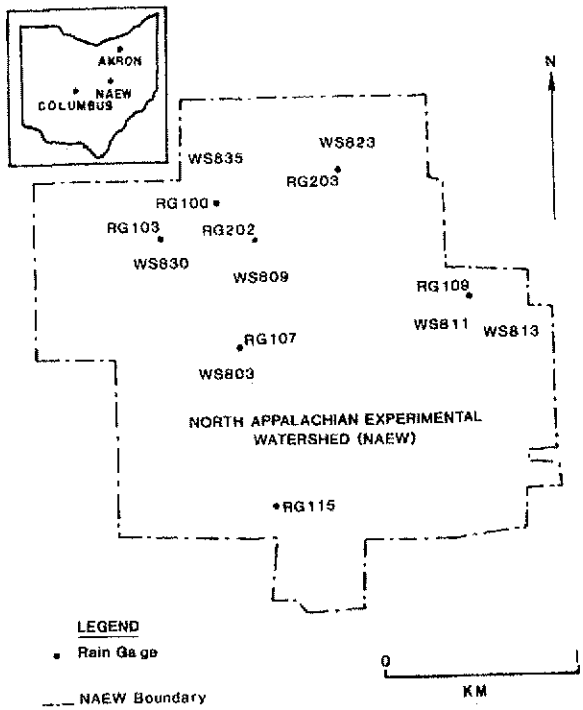


Fig. 1. Location of NAEW rain gages.

where: r_s is the rank correlation coefficient; $d_i = x_i - y_i$ is the deviation of ranks; x_i = the rank of the original x variable (rainfall depth in a given time interval); y_i = the rank of the original y variable (the x variable lagged by a specified number of intervals); and n = the number of observations. The value of d_i^2 is a measure of disparity between the ranks x and y. If the x and y ranks are equal, the correlation is unity. On the other hand, the greater the value of d_i^2, the smaller the correlation between the two series of ranks.

In the data used in this investigation, adjacent rainfall pulses in a series, when sorted, may be identical. Thus, a method is required to rank ties. When ties occur in either of the two data series, eqn. (1) is modified and is rewritten as eqn. (2) (Seigel, 1956):

$$r_s = \frac{\sum_{i=1}^{n} x_i^2 + \sum_{i=1}^{n} y_i^2 - \sum_{i=1}^{n} d_i^2}{2\left(\sum_{i=1}^{n} x_i^2 \sum_{i=1}^{n} y_i^2\right)^{0.5}} \tag{2}$$

where:

$$\sum_{i=1}^{n} x_i^2 = \frac{n^3 - n}{12} - \sum_{i=1}^{n} T_{xi} \tag{3}$$

$$\sum_{i=1}^{n} y_i^2 = \frac{n^3 - n}{12} - \sum_{i=1}^{n} T_{yi} \tag{4}$$

$$\sum_{i=1}^{n} T_{xi} = \sum_{i=1}^{n} \frac{t_{xi}^3 - t_{xi}}{12} \tag{5}$$

$$\sum_{i=1}^{n} T_{yi} = \sum_{i=1}^{n} \frac{t_{yi}^3 - t_{yi}}{12} \tag{6}$$

where t_{xi} = the number of x-series observations tied at a rank i, and t_{yi} = the number of y-series observations tied at a rank i.

A slight modification of the standard computational procedure (in which all the data are used at successive lags) as suggested by Grace and Eagleson (1966) is used in this study. For each individual lag, L, they use a separate series for which an r_s value is calculated. This is repeated L times, resulting in L values of r_s. Specifically, the L sets of y series are obtained from the original x-series data by the following relationship:

$$Y_{m+L} = x_m \tag{7}$$

where: $m = iL + k - L$; $k = 1, 2, \ldots, L$; and $i = 1, \ldots, (n - L)/L$. After the resulting series are ranked and the rank correlation coefficients are computed for each series of data, an average rank correlation coefficient, r_{sa}, is computed from the L values of r_s. This average value is tested by comparing r_{sa} and r_s to determine if it is significantly different from zero according to Conover (1980) as:

$$r_p = \frac{n_p}{(n - 1)^{0.5}}, \qquad n > 30 \tag{8}$$

where r_p = the test statistic for the Spearman rank correlation coefficient, and n_p = the p quantile of a standard normal random variable. For n less than 30, a table of critical values is used (Conover, 1980).

In Fig. 2 a typical plot of average r_{sa} values is plotted against lag. The curves labeled "0.05" and "0.01" correspond to significance levels of 0.05 and 0.01, respectively. The first lag that is not significantly different from zero is chosen as the critical lag. The *CD*'s in Fig. 2 are 120 (lag = 40) and 162 (lag = 54) minutes at significance levels 0.01 and 0.05, respectively.

Exponential method

The interrelationships between storm depth, storm duration, and time between storms are important factors to consider for identifying independent storms. However, Restrepo and Eagleson (1982) suggest that the single variable with the "longest memory" be used as the criterion for independence of storms. In this case they suggest the time between storms as the variable.

The exponential method is derived from the Poisson process which describes

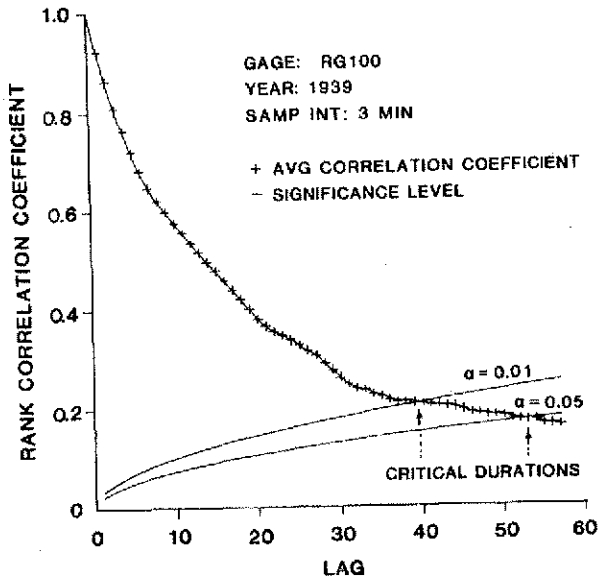


Fig. 2. Determination of critical duration by the rank-correlation method.

the random arrival of storm events having zero duration, and exponentially distributed interarrival times. Because storm events have a finite duration, there exists the possibility of rainfall periods overlapping interstorm periods. However, if the duration of storm events is much shorter than the duration of the interstorm periods, the Poisson process can still approximate the naturally occurring random arrival of storms. Hourly data from seven rain gages studied by Restrepo and Eagleson (1982) show that the mean duration of storm events can range from 7 to 14% of the mean duration of interstorm periods for rain gages widely spaced geographically. Consequently, the distribution of the duration of interstorm periods can be approximated by the exponential distribution.

The exponential distribution is given by:

$$f(t) = \alpha \exp(-\alpha t), \qquad t \geqslant 0 \tag{9}$$

where: $f(t)$ = probability density function; α = reciprocal of the mean time between storms; and t = dry-period duration, the random variable. This distribution has the property that its mean and standard deviation are equal. Restrepo and Eagleson (1982) propose, for convenience, that in order to find the *CD* associated with a set of rainfall data, this equivalence should be used as follows. Increasingly larger values of dry-period durations between rainfall events are successively deleted until an exponential distribution can be assumed. An exponential distribution (and also the *CD*) is found at the dry-

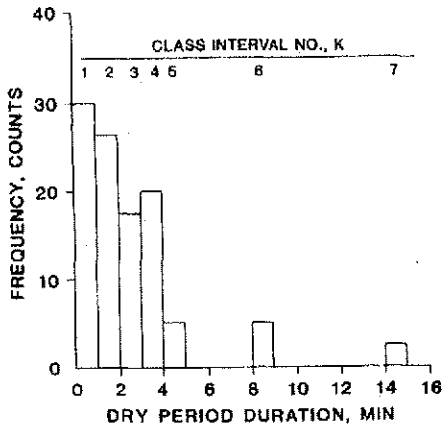


Fig. 3. Histogram of dry-period durations.

period duration at which the mean and standard deviation are equal (or the coefficient of variation equals unity).

The procedure for the exponential method is based on the histogram of dry-period durations (Fig. 3). A class-interval width of one minute is used. A recursive computational form is used to find a coefficient of variation of unit y. The definition of the coefficient of variation (CV_k) is:

$$CV_k = \frac{s_k}{\bar{t}_k} \tag{10}$$

where k = the number of the histogram class interval, for which there is a non-zero frequency, associated with a dry-period duration. For example, in Fig. 3, the sixth class ($k = 6$), for which there are data, is associated with the 8-min dry-period duration. The variable $k = 0, 1, 2, \ldots, nc - 2$ (or until $CV_k \leqslant 1$); nc = number of class intervals in the histogram; $\bar{t}_k$ = average of dry-period durations greater than the duration of the kth class; and s_k = standard deviation of the dry-period durations greater than the duration of the kth class.

The coefficient of variation can be further defined as (Restrepo and Eagleson, 1982):

$$CV_k = \frac{(S_{1,k} - S_{2,k}^2)^{1/2}}{S_{2,k}} \left(\frac{n_k}{n_k - 1}\right)^{1/2} \tag{11}$$

where:

$$n_k = n_{k-1} - f_k \tag{12}$$

$$S_{1,k} = \frac{1}{n_k}(n_{k-1}S_{1,k-1} - f_k t_k^2) \tag{13}$$

$$S_{2,k} = \frac{1}{n_k}(n_{k-1}S_{2,k-1}) \tag{14}$$

$$n_0 = \sum_{i=1}^{nc} f_i \tag{15}$$

$$S_{1,0} = \frac{1}{n_0} \sum_{i=1}^{nc} f_i \tag{16}$$

$$S_{2,0} = \frac{1}{n_0} \sum_{i=1}^{nc} f_i \tag{17}$$

f_k = the number of occurrences of the dry-period duration in the kth class; and f_i = the number of occurrences of the dry-period duration in the ith class. These equations are used in an iterative procedure to calculate successive values of CV_k until CV_k is less than or equal to unity. The CD is the dry-period duration at which $CV_k = 1$.

Examples of the cumulative frequency distribution at the beginning of the procedure for 1939 ($k = 0$) and at the CD (in this case, $k = 23$, or 956 min), are shown in Figs. 4 and 5 to illustrate the procedure. The change in the coefficient of variation with dry-period duration for arriving at a CD of 956 min for 1939 is shown in Fig. 6.

ANALYSIS OF DATA

Sampling intervals

The two methods for determining the CD between events require rainfall data measured at equal time intervals. Data used in this study are sampled at

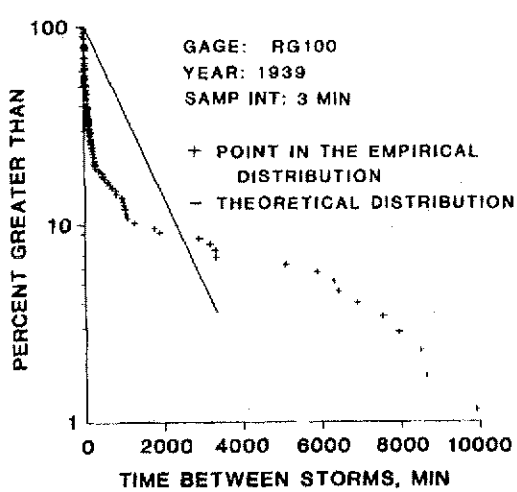


Fig. 4. Theoretical and empirical probability distributions of dry-period durations at the beginning of the exponential method.

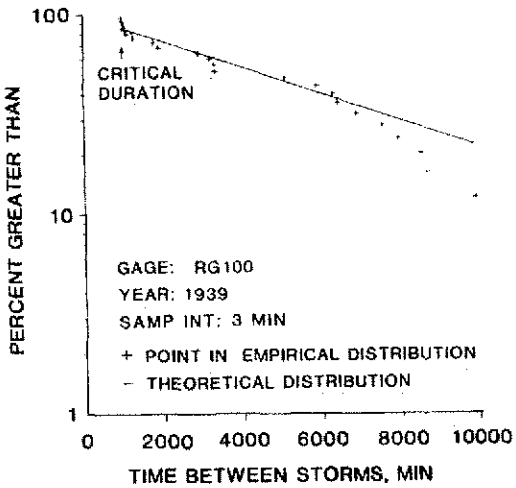


Fig. 5. Theoretical and empirical probability distributions of dry-period durations at the critical duration of 956 min in the exponential method.

unequal-time intervals as short as one minute during which rainfall intensity is uniform, and thus average intensities can be computed for any equal-time interval greater than or equal to one minute. There are instances where rainfall is not continuous (rainless periods) over the sampling interval. In these

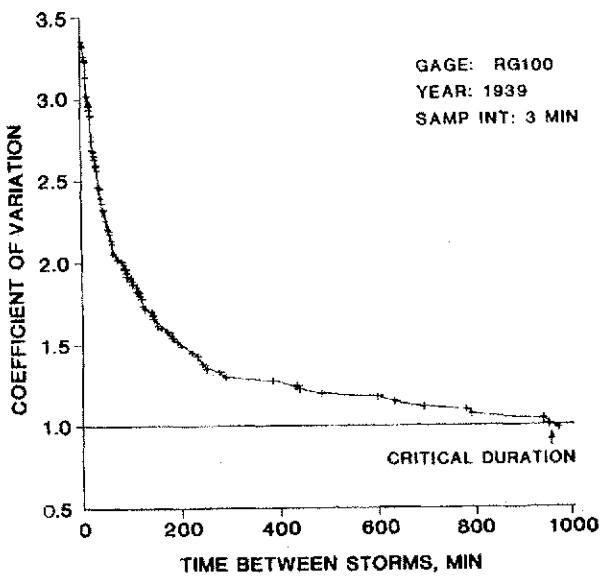


Fig. 6. Coefficient of variation decreasing with increasing dry-period duration in the exponential method.

cases, the average intensity is computed by using the total rainfall accumulated in the sampling interval.

Sampling intervals of 3, 10, 20, 30, 40, 50, and 60 min are used to evaluate the effect of sampling interval on *CD*. The times between events and rainfall pulses associated with the sampling intervals are calculated for each year for data from RG115. In order to determine the effect of a sampling interval as short as one minute, data resulting from a 1 min sampling interval is investigated for the exponential method.

Length of record

The number of years of data necessary to obtain a stable estimate of *CD* is determined by calculating the 1-, 2-, ... yr averages for the period of record at several gages and noting when the variance in *CD* values reaches an approximate minimum.

Consistency of results over an area

Critical durations for several NAEW rain gages are computed by using both methods, with emphasis on the exponential method. The variation of these *CD* estimates and those for other locations in Ohio are investigated.

Seasonal variation of critical duration

Seasonal effects on average *CD* estimates are determined by computing these values using the rank correlation and exponential methods. *CD* estimates for three sets of four 3-month seasons are computed and compared: months 1–3, 4–6, 7–9, and 10–12 for set one; months 2–4, 5–7, 8–10, and 11–1, for set two; and months 3–5, 6–8, 9–11, and 12–2 for set three. An "average seasonal" estimate represents the average of individual *CD* estimates, each calculated by using four successive years of data for the period of record. The 4-yr record to calculate one *CD* value is used to increase sample size.

RESULTS AND DISCUSSION

Rank correlation method

The average annual *CD* computed for RG115 (Fig. 7) slowly increases with increasing sampling intervals at both significance levels (166–198 min for $\alpha = 0.01$, and 208–248 min for $\alpha = 0.05$). "Average annual" values are the average of the individual *CD* values calculated by using data for one year. The increase is about 19% at both levels of significance. The apparent reason for the increase in *CD* with increasing sampling interval is that this method uses average rainfall intensity during a constant sampling interval as the variable. As the sampling interval increases, the average intensity becomes more

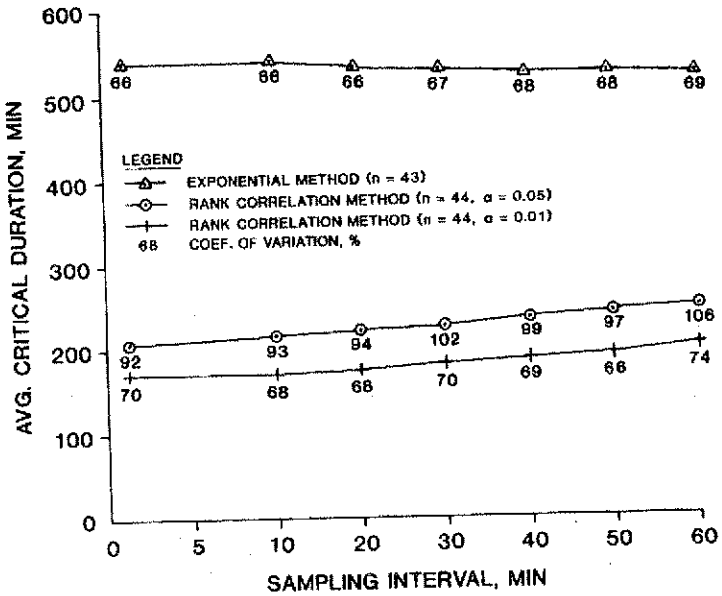


Fig. 7. Effect of sampling interval of data upon average annual critical durations for the exponential and rank correlation methods (RG115, 1939–82).

attenuated, reducing the temporal variability of natural rainfall. The correlation between adjacent rainfall pulses then tends to increase, resulting in a longer time duration before the critical lag is found.

The average *CD* values are approximately 20% lower for all sampling intervals at the 0.01 than at the 0.05 significance levels due to the trend shown in Fig. 2. The variation in the annual *CD* values is larger for the 0.05 than for the 0.01 level and the reason for this is again apparent in Fig. 2. The 0.05 significance curve intersects the rank correlation curve in a flat region, and a small variation in this flat region can cause large changes in the critical lag. The difference in average values from the smallest to largest sampling interval (Fig. 7), and the differences between the results at the two significance levels is quite small considering the large coefficients of variation.

Exponential method

In contrast with the trend of the *CD* for the rank correlation method, the average *CD* decreases with sampling interval from 534 to 520 min (Fig. 7). However, the decrease in *CD* with sampling intervals of 3–60 min is only 3%, with coefficients of variation of the same magnitude as for the rank correlation method ($\alpha = 0.01$). The effects of reducing the sampling interval to one minute is negligible compared to the 3-min estimates. The apparent reason for the near-constant *CD* obtained for different sampling intervals is that the exponen-

tial method uses the dry-period duration between storms as a variable, which can include more or less dry time depending on sampling interval. When sampling interval is increased, more of the dry periods between storms are included in the rainfall periods, thereby, on average decreasing the dry period duration. This decrease is rather small for longer dry period durations.

The *CD* occurs after the first 33% of the dry-period intervals have been excluded, on average (Figs. 4 and 5). The variability in the annual *CD* is in part due to the dependence of *CD* on large dry-period durations.

The results from the two methods indicate that *CD* is not very sensitive to the sampling intervals used. Consequently, only the 3 and 60 min sampling intervals are used further in investigations related to the effects of sampling intervals.

Comparison of methods

The exponential method yields *CD* values which are about 2.5 times higher than those given by the rank correlation method for the same rain gauge (RG115, Fig. 7). However, on average, *CD* values using the exponential method were about 3.3 times those obtained by using the rank correlation method (Table 1). A comparison of year-to-year *CD* estimates for RG100 (Fig. 8) using both methods shows the great differences between estimates that can be computed using the same data.

Coshocton data analyzed by Wenzel and Voorhees (1981) using the autocorrelation method did not result in a well-defined estimate of *CD*. Their correlogram continuously decreased to the last dry-period duration value

TABLE 1

Consistency of average annual critical duration for NAEW rain gages

Gage	Average annual critical duration for methods (min)					
	Exponential			Rank correlation (α = 0.05)		
	No. of years	3 min	60 min	No. of years	3 min	60 min
100	40	508	493	41	179	220
103	40	675	661	–[1]	–	–
107	40	539	527	–	–	–
109	42	625	605	43	217	240
115	43	534	520	41	205	244
202	44	565	553	–	–	
203	42	640	627	–	–	–
Average	–	584	569		200[2] 159[3]	235[2] 193[3]

[1] Not determined.
[2] Average for α = 0.05.
[3] Average for α = 0.01 (data not shown).

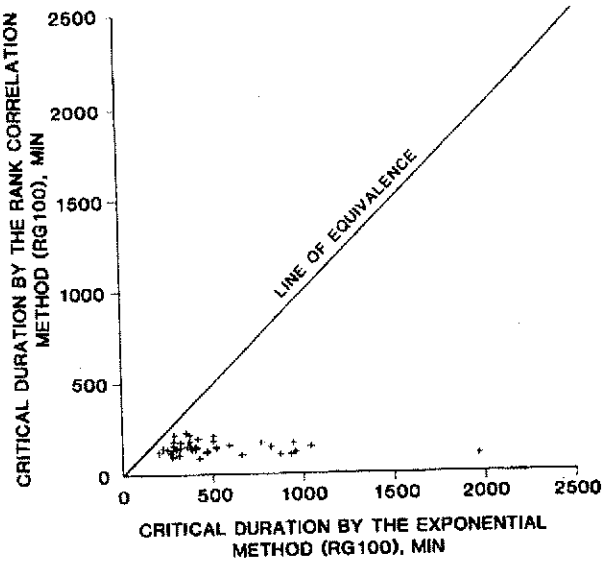


Fig. 8. Comparison of the annual exponential and rank correlation (α = 0.01) critical duration estimates for RG100.

(540 min) they used. However, this value is comparable to the average *CD* estimates obtained by using the exponential method in this study for different rain gages (Table 1).

Minimum length of record

The large coefficients of variation for *CD* (Fig. 7) for both methods suggest that there may be a minimum precipitation record length over which the *CD* values may be averaged to obtain an adequate *CD* estimate. Average *CD* values plotted against the number of years of data used in averaging (Figs. 9 and 10) show that, for a record longer than about 10 yr, average *CD* tends to approach a constant for both methods.

Spatial variability of critical duration

Year-to-year spatial variability of average *CD* estimated by using data from different gages can be high, especially for the rank correlation method (Figs. 11 and 12). The spatial variability in average annual *CD* ranges from 508 to 675 min and from 493 to 661 min for the 3- and 60-min sampling intervals, respectively, for the exponential method (Table 1). The corresponding values for the rank correlation method vary from 179 to 217 min and from 220 to 244 min. Gages which are close to each other (e.g., RG100 and RG103, Fig. 1) can yield long-term average *CD* values computed by the exponential method which are significantly different from each other (on the order of one-third higher,

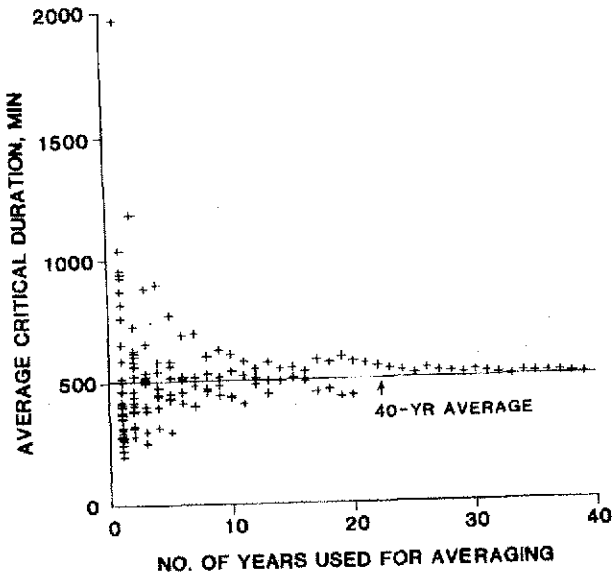


Fig. 9. Variation of average of annual critical duration estimates by the exponential method with number of years of data for RG115 (sampling interval of 3 min).

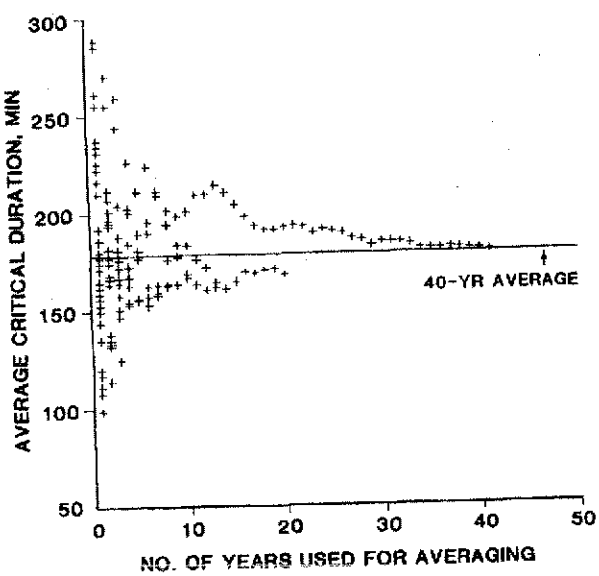


Fig. 10. Variation of average of annual critical duration estimates by the rank correlation method with number of years of data for RG100 (sampling interval of 3 min).

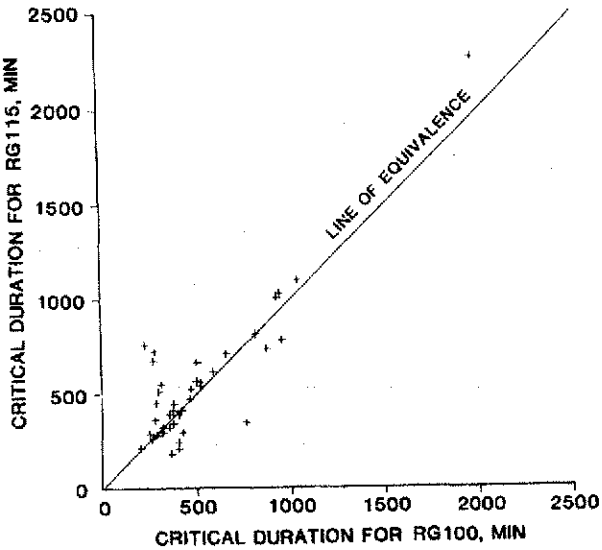


Fig. 11. Comparison of annual critical duration estimates by the exponential method between gages RG100 and RG115 (sampling interval of 3 min).

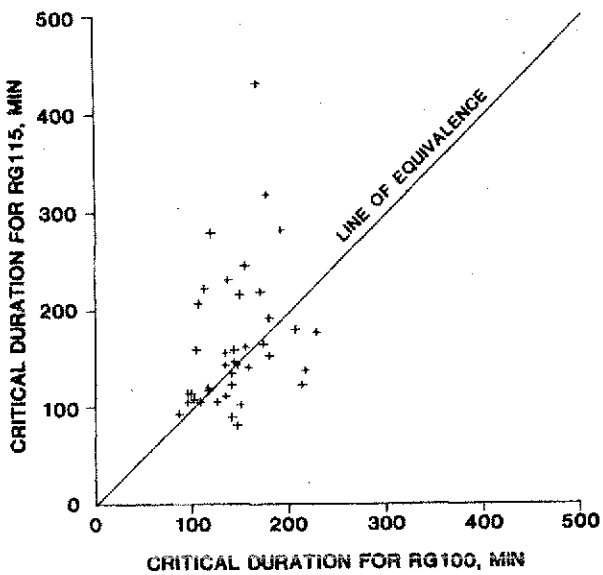


Fig. 12. Comparison of annual critical duration estimates by the rank correlation method between gages RG100 and RG115 (sampling interval of 3 min, $\alpha = 0.01$).

Table 1). A variation of 10 to 20% in *CD* is exhibited for the limited comparisons with the rank correlation method.

Restrepo and Eagleson (1982) present *CD* values, determined by the exponential method, of 540 min for Akron, Ohio and 486 min for Columbus, Ohio. Coshocton, Ohio lies approximately halfway between these two cities (Fig. 1, 89 km from each city) and has a 7-gage (60-min) average *CD* of 569 min. The values of 486 and 540 min reported by Restrepo and Eagleson (1982) are approximately within the range of variation in *CD* found at the NAEW (493–661 min).

Effects of season on critical duration

The effect of season definition on *CD* for 3-month seasons is significant, especially for *CD* estimated by using the exponential method (Fig. 13). The differences between average *CD* values computed by the exponential method tend to diminish as the beginning of a season is increased by one month.

In many cases the seasonal sequence of values for the exponential method decreases while that for the rank correlation method increases, particularly for values computed after June (Fig. 13). The sensitivity of the magnitude of *CD* due to season is greater for the exponential than for the rank correlation

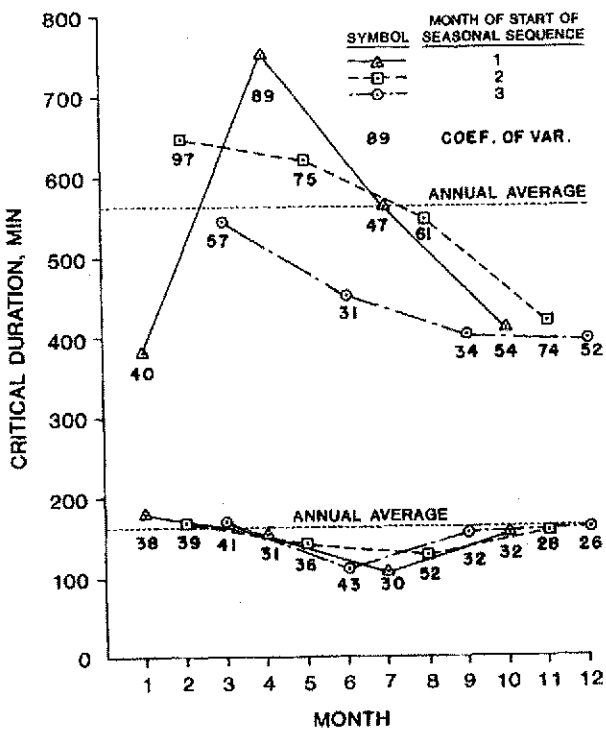


Fig. 13. Effect of season of year on average critical duration for the exponential (upper curves) and rank correlation ($\alpha = 0.01$, lower curves) methods ($n = 22$). Points are plotted at the beginning of each season.

DON002605

methods. The largest differences in seasonal *CD* values occur for the exponential method from January to April, with almost a doubling of the *CD*. The apparent reason for this result is that longer duration storms generally occur in the dormant season, compared to those of the growing season. For a fixed time interval, longer storm periods would necessitate shorter times between storms on the average. However, the difference between *CD* estimates due to season may not be significant for some uses, such as for estimating peak flows (Bonta and Rao, 1986), and computation of seasonal values of *CD* may be an unnecessary refinement.

Selection of method

The two methods used in the present study yield significantly different values of *CD*. Although the choice of the method to be used is essentially arbitrary, we prefer the exponential method for several reasons:

(1) The *CD* is computed using actual dry-period duration data, the variable of interest, in contrast to having to infer *CD* from rainfall intensity data as with the rank correlation method.

(2) Restrepo and Eagleson (1982) show evidence that the dry-period durations for many rain gages over wide geographic areas are exponentially distributed.

(3) Statistical independence of events is more likely with a longer critical duration. Physically, several mesoscale events can be separated by hours or days of rainless periods in a synoptic event (Restrepo and Eagleson, 1982).

(4) A longer *CD* estimate is more appropriate than a shorter one if the objective of storm separation is to relate rainfall and runoff, where antecedent watershed conditions can be important.

SUMMARY AND CONCLUSIONS

The following conclusions regarding critical duration (*CD*) can be drawn from the analyses presented herein:

(1) The average 3-min *CD* for the rank correlation method ($\alpha = 0.05$) for three rain gages in Coshocton, Ohio is 159 min. The average 3-min *CD* for the exponential method for six gages for the same location is 584 min (about 3.7 times the *CD* by the rank correlation method).

(2) At least 10 yr of record are needed for an adequate estimate of *CD* with either method. Differences in year-to-year estimates of *CD* can be large for individual rain-gage locations. Differences in year-to-year estimates for adjacent rain-gage locations can also be large.

(3) Spatial variability of long-term average *CD* over small areas can be moderate (up to about a 30% difference for the exponential method and about a 20% difference for the rank correlation method). *CD* estimates of 486 and 540 min found for two other Ohio cities, each located about 89 km from Coshocton, are close to those for Coshocton, Ohio, indicating approximately equal values of average *CD* in an area spanning about 177 km.

DON002606

(4) Sampling interval does not greatly affect the *CD* of dry-period durations between storms in both the rank correlation and exponential methods. The magnitudes of differences are well within one standard deviation of the approximate average annual variability. The results from the exponential method show a slight decrease in *CD* while those from the rank correlation method show an increase with an increase in sampling interval. These results indicate that generally available hourly data can be used instead of relatively rare shorter sampling interval data to compute *CD*.

(5) Effects on *CD* estimates due to season and definition of a season can be significant. The winter value can be about half the summer value. The 3-month seasonal sequence for the exponential method beginning with January showed the greatest difference compared with that beginning with April.

REFERENCES

Bonta, J.V. and Rao, A.R., 1984. Comparison and evaluation of two methods of determining independent rainfall events. Int. Symp. Urban Hydrol., Hydraul., Sediment Control, University of Kentucky, Lexington, KY., pp. 229–238.

Bonta, J.V. and Rao, A.R., 1986. Estimation of peak runoff rates from small agricultural watersheds. Tech. Rep. CE-HSE-86-3, School Civ. Eng., Purdue University, West Lafayette, Ind., 232 pp.

Conover, W.J., 1980. Practical Nonparametric Statistics. Wiley New York, N.Y., 2nd ed., 485 pp.

Grace, R.A. and Eagleson, P.S., 1966. The synthesis of short-time increment rainfall sequences. Hydrodyn. Lab., Rep. 91, School Civ. Eng., Massachusetts Inst. Technol., Cambridge, Mass., 105 pp.

Istok, J.D., Childs, S.W. and Boersma, L., 1983. Criteria for defining hydrologic events for use in modeling the response of small agricultural watersheds. Paper presented at the 1983 Winter Meet. Am. Soc. Agric. Eng., Pap. 83-2510, 33 pp.

Kendall, M.G., 1948. Rank Correlation Methods. Griffin, London, 158 pp.

McDonald, J.E. and Green, C.R., 1960. A comparison of rank-difference and product-moment correlation of precipitation data. J. Geophys. Res., 65(65): 333–336.

Rao, A.R. and Chenchayya, B.T., 1974. Probabilistic analysis and simulation of the short-time-increment rainfall process. Purdue University Water Resour. Res. Center, Tech. Rep. 55, Purdue University, West Lafayette, Ind.

Restrepo, P.J. and Eagleson, P.S., 1982. Identification of independent rainstorms. J. Hydrol., 55: 303–319.

Sariahmed, A. and Kisiel, C.C., 1968. Synthesis of sequences of summer thunderstorms volumes for the Atterbury Watershed in the Tucson Area. Proc. IASH Symp., Use of Analog Digital Computers in Hydrol., 2: 439–447.

Seigel, S., 1956. Nonparametric Statistics for the Behavioral Sciences. McGraw-Hill, New York, N.Y., 312 pp.

Sifalda, V., 1963. Entwicklung eines Berechnungsregens für die Bemessung von Kanalnetzen. Wasser Abwasser 114(H.9): 435–440.

Wenzel, H.G. and Voorhees, M.L., 1981. An evaluation of the urban design storm concept. University of Illinois at Urbanna-Champaign, Water Resour. Center, UILU-WRC-81-0164, Res. Rep. 164.

Wischmeier, W.H., 1959. A rainfall erosion index for a universal soil loss equation. Soil Sci. Soc. Am., Proc., 23(3): 246–249.

Yen, B.C. and Chow, V.T., 1980. Design hyetographs for small drainage structures. J. Hydraul. Div., 106 (HY 6): 1055–1076.

DON002607

EXHIBIT F

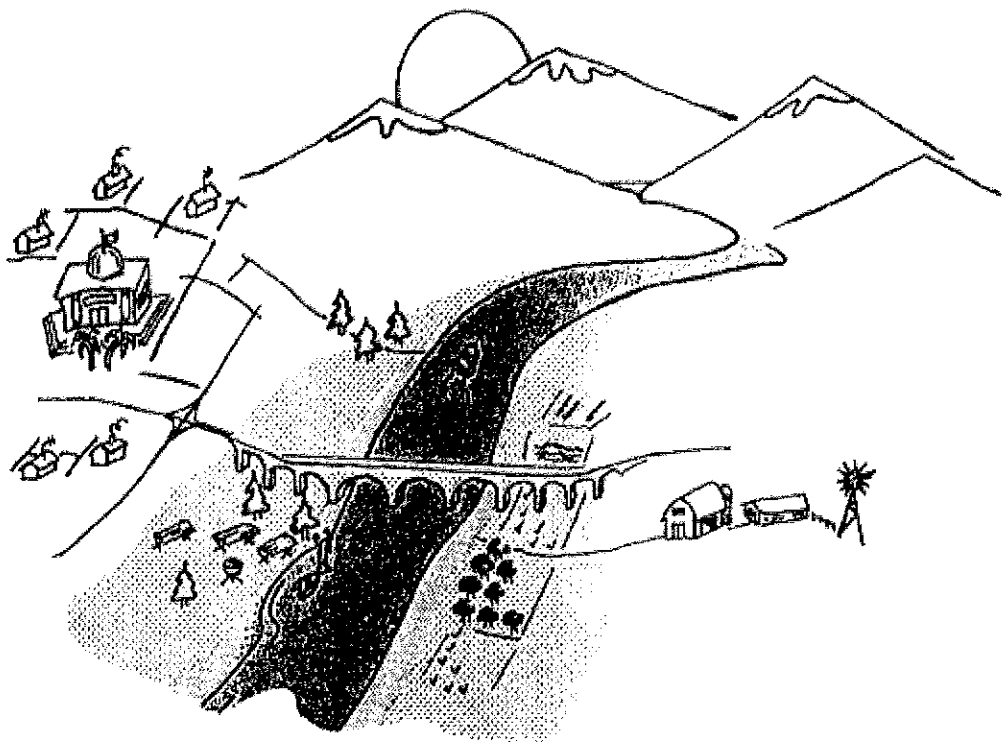
TO

AFFIDAVIT OF JAMES R. MOIR P.ENG IN RESPONSE TO

THE STANTEC REPORTS

US Army Corps
of Engineers
Hydrologic Engineering Center

HEC-RAS
River Analysis System



User's Manual

Version 3.1
November 2002

EXHIBIT
tabbies
F

Approved for Public Release. Distribution Unlimited

CPD-68

DON002609

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	November 2002	Computer Program Documentation

4. TITLE AND SUBTITLE
HEC-RAS, River Analysis System User's Manual

5. FUNDING NUMBERS

6. AUTHOR(S)
Gary W. Brunner

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
US ARMY CORPS OF ENGINEERS
HYDROLOGIC ENGINEERING CENTER (HEC)
609 Second Street
Davis, CA 95616-4687

8. PERFORMING ORGANIZATION REPORT NUMBER
CPD-68

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING / MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION / AVAILABILITY STATEMENT
Distribution is unlimited.

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

The U.S. Army Corps of Engineers' River Analysis System (HEC-RAS) is software that allows you to perform one-dimensional steady and unsteady flow river hydraulics calculations.

HEC-RAS is an integrated system of software, designed for interactive use in a multi-tasking, multi-user network environment. The system is comprised of a graphical user interface (GUI), separate hydraulic analysis components, data storage and management capabilities, graphics and reporting facilities.

The HEC-RAS system will ultimately contain three one-dimensional hydraulic analysis components for: (1) steady flow water surface profile computations; (2) unsteady flow simulation; and (3) movable boundary sediment transport computations. A key element is that all three components will use a common geometric data representation and common geometric and hydraulic computation routines. In addition to the three hydraulic analysis components, the system contains several hydraulic design features that can be invoked once the basic water surface profiles are computed.

The current version of HEC-RAS supports Steady and Unsteady flow water surface profile calculations. New features and additional capabilities will be added in future releases.

14. SUBJECT TERMS
water surface profiles, river hydraulics, steady and unsteady flow, computer program

15. NUMBER OF PAGES
420

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNLIMITED

DON002610

HEC-RAS

River Analysis System

User's Manual

Version 3.1

November 2002

US Army Corps of Engineers
Institute For Water Resources
Hydrologic Engineering Center
609 Second Street
Davis, CA 95616

(530) 756-1104
(530) 756-8250 FAX
www.hec.usace.army.mil

DON002611

River Analysis System, HEC-RAS
Software Distribution and Availability Statement

The HEC-RAS executable code and documentation are public domain software that were developed by the Hydrologic Engineering Center for the U.S. Army Corps of Engineers. The software was developed at the expense of the United States Federal Government, and is therefore in the public domain. This software can be downloaded for free from our internet site (www.hec.usace.army.mil). HEC cannot provide technical support for this software to non-Corps users. See our software vendor list (on our web page) to locate organizations that provide the program, documentation, and support services for a fee. However, we will respond to all documented instances of program errors. Documented errors are bugs in the software due to programming mistakes not model problems due to user-entered data.

Cover sketch adapted from:

Flood Plain Management Program, Handbook for Public Officials
Department of Water Resources
State of California
August 1986

DON002612

Table of Contents

Foreword viii

Chapter 1 Introduction 1-1
General Philosophy of the Modeling System 1-2
Overview of Program Capabilities 1-2
User Interface 1-2
Hydraulic Analysis Components 1-3
Data Storage and Management 1-4
Graphics and Reporting 1-4
HEC-RAS Documentation 1-5
Overview of This Manual 1-5

Chapter 2 Installing HEC-RAS 2-1
Hardware and Software Requirements 2-2
Installation Procedure 2-2
Uninstall Procedure 2-3

Chapter 3 Working With HEC-RAS - An Overview 3-1
Starting HEC-RAS 3-2
Steps in Developing a Hydraulic Model With HEC-RAS 3-6
Starting a New Project 3-6
Entering Geometric Data 3-7
Entering Flow Data and Boundary Conditions 3-9
Performing The Hydraulic Computations 3-10
Viewing and Printing Results 3-12
Importing HEC-2 Data 3-16
What You Should Know First 3-16
Steps For Importing HEC-2 Data 3-19
Reproducing HEC-2 Results 3-20
Getting and Using Help 3-22

Chapter 4 Example Application 4-1
Starting a New Project 4-2
Entering Geometric Data 4-3
Drawing the Schematic of the River System 4-3
Entering Cross Section Data 4-4
Entering Junction Data 4-9
Saving the Geometry Data 4-10
Entering Steady Flow Data 4-10
Performing the Hydraulic Calculations 4-13
Viewing Results 4-14
Printing Graphics and Tables 4-20
Sending Graphics Directly to the Printer 4-20
Sending Graphics to the Windows Clipboard 4-20
Sending Tables Directly to the Printer 4-21
Sending Tables to the Windows Clipboard 4-21
Exiting the Program 4-22

DON002613

Chapter 5 Working With Projects 5-1
Understanding Projects 5-1
Elements of a Project 5-2
Plan Files 5-2
Run Files 5-2
Output Files 5-3
Geometry Files 5-3
Steady Flow Data Files 5-3
Unsteady Flow Data Files 5-3
Sediment Data Files 5-4
Hydraulic Design Data Files 5-4
Creating, Opening, Saving, Renaming, and Deleting Projects 5-6
Project Options 5-6

Chapter 6 Entering and Editing Geometric Data 6-1
Developing the River System Schematic 6-2
Building the Schematic 6-2
Adding Tributaries into an Existing Reach 6-4
Editing the Schematic 6-4
Interacting With the Schematic 6-7
Background Pictures 6-9
Cross Section Data 6-10
Entering Cross Section Data 6-10
Editing Cross Section Data 6-12
Cross Section Options 6-13
Plotting Cross Section Data 6-21
Stream Junctions 6-21
Entering Junction Data 6-21
Selecting a Modeling Approach 6-22
Bridges and Culverts 6-23
Cross Section Locations 6-24
Contraction and Expansion Losses 6-26
Bridge Hydraulic Computations 6-26
Entering and Editing Bridge Data 6-28
Bridge Design Editor 6-42
Culvert Hydraulic Computations 6-44
Entering and Editing Culvert Data 6-45
Bridge and Culvert Options 6-50
Bridge and Culvert View Features 6-52
Multiple Bridge and/or Culvert Openings 6-53
Entering Multiple Opening Data 6-54
Defining The Openings 6-57
Multiple Opening Calculations 6-58
Inline Structures (Weirs and Gated Spillways) 6-59
Entering and Editing Inline Structure Data 6-59
Lateral Structures (Weirs, Gated Spillways, Culverts, and Diversion Rating Curves) 6-67
Entering and Editing Lateral Structure Data 6-67
Linear Routing Option 6-77
Storage Areas 6-79

DON002614

Storage Area Connections 6-81
Pump Stations 6-85
Cross Section Interpolation 6-89
River Ice 6-95
Entering and Editing Ice Data 6-95
Entering Ice Data at a Cross Section 6-95
Entering Ice Data Through a Table 6-98
Entering Ice Data at Bridges 6-99
Setting Tolerances for the Ice Jam Calculations 6-100
Viewing and Editing Data Through Tables 6-101
Manning's n or k values 6-101
Reach Lengths 6-103
Contraction and Expansion Coefficients 6-103
Bank Stations 6-104
Levees 6-104
Ice Cover 6-104
River Stationing 6-105
Node Names 6-105
Node Descriptions 6-106
Picture File Associations 6-106
Bridge Width Table 6-106
Weir and Gate Coefficient Table 6-107
Importing Geometric Data 6-107
GIS Format 6-108
USACE Survey Data Format 6-108
HEC-2 Data Format 6-108
HEC-RAS Data Format 6-108
UNET Geometric Data Format 6-109
MIKE 11 Cross Section Data 6-109
Geometric Data Tools 6-109
Graphical Cross Section Editor 6-109
Reverse Stationing Data 6-111
Set Ineffective Areas to Permanent Mode 6-111
Cross Section Points Filter 6-112
Fixed Sediment Elevations 6-114
Pilot Channels 6-115
GIS Cut Line Check 6-117
View Reach Connectivity 6-118
Datum Adjustment 6-118
Fix Overlapping Ineffective Areas 6-118
GIS Coordinates 6-118
Plot GIS Bounds 6-119
Attaching and Viewing Pictures 6-119
Saving the Geometric Data 6-121

Chapter 7 Performing a Steady Flow Analysis 7-1
Entering and Editing Steady Flow Data 7-1
Steady Flow Data 7-1
Boundary Conditions 7-2
Steady Flow Data Options 7-4

Saving the Steady Flow Data 7-7
Importing Data from the HEC Data Storage System (HEC-DSS) 7-7
Performing Steady Flow Calculations 7-10
Defining a Plan 7-11
Saving the Plan Information 7-11
Simulation Options 7-11
Starting the Computations 7-17

Chapter 8 Performing an Unsteady Flow Analysis 8-1
Entering and Editing Unsteady Flow Data 8-1
Unsteady Flow Data 8-1
Boundary Conditions 8-2
Initial Conditions 8-9
Unsteady Flow Data Options 8-11
Saving The Unsteady Flow Data 8-12
Performing Unsteady Flow Calculations 8-13
Defining A Plan 8-13
Selecting Programs to Run 8-14
Simulation Time Window 8-18
Computation Settings 8-19
Simulation Options 8-20
Saving The Plan Information 8-31
Starting The Computations 8-32
Calibration of Unsteady Flow Models 8-33
Observed Hydrologic Data 8-33
River and Floodplain Geometry 8-35
Roughness Coefficients 8-36
River and Floodplain Storage 8-41
Hydraulic Structure Coefficients 8-43
Steps To Follow In The Calibration Process 8-44
General Trends When Adjusting Model Parameters 8-44
Calibration Suggestions and Warning's 8-46
Model Accuracy, Stability, and Sensitivity 8-47
Model Accuracy 8-47
Model Stability 8-47
Model Sensitivity 8-60

Chapter 9 Viewing Results 9-1
Cross Sections, Profiles, and Rating Curves 9-1
Viewing Graphics on the Screen 9-1
Graphical Plot Options 9-4
Plotting Velocity Distribution Output 9-6
Plotting Other Variables in Profile 9-8
Plotting One Variable Versus Another 9-8
Sending Graphics to the Printer or Plotter 9-9
Sending Graphics to the Windows Clipboard 9-10
Stage and Flow Hydrographs 9-10
X-Y-Z Perspective Plots 9-11
Tabular Output 9-13
Detailed Output Tables 9-13

DON002616

Detailed Output Table Options 9-17
Profile Summary Tables 9-17
User Defined Output Tables 9-20
Sending Tables to the Printer 9-21
Sending Tables to the Windows Clipboard 9-22
Viewing Results From the River System Schematic 9-22
Viewing Ice Information 9-24
Viewing Graphical Ice Information on the Screen 9-24
Viewing Tabular Ice Information 9-26
Viewing Data Contained in an HEC-DSS File 9-26
Exporting Results To HEC-DSS 9-30

Chapter 10 Performing a Floodway Encroachment Analysis ... 10-1
General 10-2
Entering Floodplain Encroachment Data 10-3
Performing the Floodplain Encroachment Analysis 10-6
Viewing the Floodplain Encroachment Results 10-7
Floodway Encroachments With Unsteady Flow 10-11

Chapter 11 Troubleshooting With HEC-RAS 11-1
Built in Data Checking 11-1
Checking The Data as it is Entered 11-1
Checking Data Before Computations are Performed 11-2
Errors, Warnings, and Notes 11-3
Log Output 11-6
Steady Flow Log Output 11-6
Unsteady Flow Log Output 11-7
Viewing The Log File 11-7
Reviewing and Debugging the Normal Output 11-8
Viewing Graphics 11-8
Viewing Tabular Output 11-8
The Occurrence of Critical Depth 11-8
Computational Program Does Not Run To Completion 11-9

Chapter 12 Computing Scour at Bridges 12-1
General Modeling Guidelines 12-2
Entering Bridge Scour Data 12-3
Entering Contraction Scour Data 12-4
Entering Pier Scour Data 12-6
Entering Abutment Scour Data 12-10
Computing Total Bridge Scour 12-13

Chapter 13 Performing Channel Modifications 13-1
General Modeling Guidelines 13-2
Entering Channel Modification Data 13-2
Performing the Channel Modifications 13-6
Comparing Existing and Modified Conditions 13-8

Chapter 14 Using GIS Data With HEC-RAS 14-1
General Modeling Guidelines 14-2

Importing GIS/CADD Data Into HEC-RAS 14-4
Completing The Data and Performing The Computations 14-7
Completing The Geometric Data 14-7
Entering Additional Cross Section Data 14-7
Performing The Computations and Viewing Results 14-9
Exporting Computed Results to The GIS or CADD 14-10

Chapter 15 Stable Channel Design Functions 15-1
General Modeling Guidelines 15-2
General Command Buttons 15-2
Uniform Flow Computations 15-2
Solving For Slope, Discharge, and W/S Elevation 15-2
Solving For Bottom Width 15-4
Applying Uniform Flow Data To The Geometry File 15-7
Saving Uniform Flow Data 15-7
Stable Channel Design 15-8
Copeland Method 15-8
Regime Method 15-12
Tractive Force Method 15-13
Sediment Transport Capacity 15-15

Chapter 16 Advanced Features For Unsteady Flow Routing 16-1
Mixed Flow Regime 16-2
Dam Break Analysis 16-6
Entering Dam Break Data 16-7
Estimating Dam Break Parameters 16-11
HEC-RAS Output For Dam Break Analyses 16-12
Levee Overtopping and Breaching 16-14
Modeling Pump Stations 16-21
Navigation Dams 16-25
Pool Only Control 16-26
Hinge Point Only Control 16-28
Hinge Point and Minimum Pool Operations 16-31
Hinge Point and Minimum and Maximum Pool Control 16-34

Appendix A References A-1

Appendix B HEC-RAS Import/Export Files For Geospatial Data B-1

Appendix C List of HEC-RAS Output Variables C-1

DON002618

Foreword

The U.S. Army Corps of Engineers' River Analysis System (HEC-RAS) is software that allows you to perform one-dimensional steady and unsteady flow river hydraulics calculations. The HEC-RAS software supersedes the HEC-2 river hydraulics package, which was a one-dimensional, steady flow water surface profiles program. The HEC-RAS software is a significant advancement over HEC-2 in terms of both hydraulic engineering and computer science. This software is a product of the Corps' Civil Works Hydrologic Engineering Research and Development Program.

The first version of HEC-RAS (version 1.0) was released in July of 1995. Since that time there have been several releases of this software package, including versions: 1.1; 1.2; 2.0; 2.1; 2.2; 2.21; 3.0, and now version 3.1 in September of 2002.

The HEC-RAS software was developed at the Hydrologic Engineering Center (HEC), which is a division of the Institute for Water Resources (IWR), U.S. Army Corps of Engineers. The software was designed by Mr. Gary W. Brunner, leader of the HEC-RAS development team. The user interface and graphics were programmed by Mr. Mark R. Jensen. The steady flow water surface profiles module and a large portion of the unsteady flow computations modules was programmed by Mr. Steven S. Piper. The unsteady flow equation solver was developed by Dr. Robert L. Barkau. The stable channel design functions were programmed by Mr. Chris R. Goodell. The routines that import HEC-2 and UNET data were developed by Ms. Joan Klipsch. The routines for modeling ice cover and wide river ice jams were developed by Mr. Steven F. Daly of the Cold Regions Research and Engineering Laboratory (CRREL).

Many of the HEC staff made contributions in the development of this software, including: Vern R. Bonner, Richard Hayes, John Peters, Al Montalvo, and Michael Gee. Mr. Darryl Davis was the director during the development of this software.

This manual was written by Mr. Gary W. Brunner. Chapter 15 was written by Mr. Chris R. Goodell.

DON002619

CHAPTER 8

Performing an Unsteady Flow Analysis

This chapter shows how to calculate unsteady flow water surface profiles. The chapter is divided into two parts. The first part explains how to enter unsteady flow data and boundary conditions. The second part describes how to develop a plan and perform the calculations.

Contents

- Entering and Editing Unsteady Flow Data
- Performing Unsteady Flow Calculations
- Calibration of Unsteady Flow Models
- Model Accuracy, Stability, and Sensitivity

Entering and Editing Unsteady Flow Data

Once all of the geometric data are entered, the modeler can then enter any unsteady flow data that are required. To bring up the unsteady flow data editor, select **Unsteady Flow Data** from the **Edit** menu on the HEC-RAS main window. The Unsteady flow data editor should appear as shown in Figure 8.1.

Unsteady Flow Data

The user is required to enter boundary conditions at all of the external boundaries of the system, as well as any desired internal locations, and set the initial flow and storage area conditions at the beginning of the simulation.

Boundary conditions are entered by first selecting the **Boundary Conditions** tab from the Unsteady Flow Data editor. River, Reach, and River Station locations of the external bounds of the system will automatically be entered into the table. Boundary conditions are entered by first selecting a cell in the table for a particular location, then selecting the boundary condition type that is desired at that location. Not all boundary condition types are available for use at all locations. The program will automatically gray-out the boundary condition types that are not relevant when the user highlights a particular location in the table. Users can also add locations for entering internal boundary conditions. To add an additional boundary condition location, select the desired River, Reach, and River Station, then press the **Add a Boundary Condition Location** button.

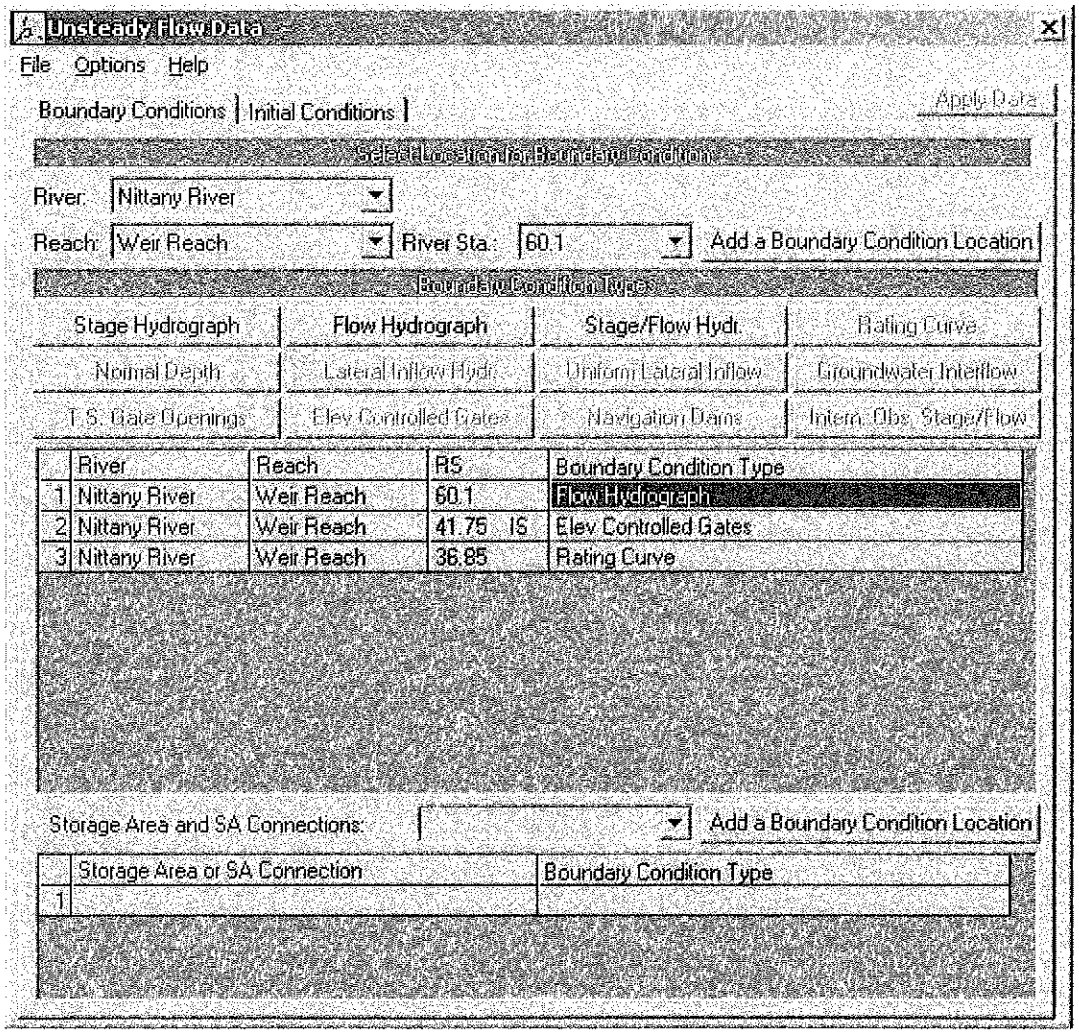


Figure 8.1 Unsteady Flow Data Editor

Boundary Conditions

There are several different types of boundary conditions available to the user. The following is a short discussion of each type:

Flow Hydrograph:

A flow hydrograph can be used as either an upstream boundary or downstream boundary condition, but is most commonly used as an upstream boundary condition. When the flow hydrograph button is pressed, the window shown in Figure 8.2 will appear. As shown, the user can either read the data from a HEC-DSS (HEC Data Storage System) file, or they can enter the hydrograph ordinates into a table. If the user selects the option to read the data from DSS, they must press the "**Select DSS File and Path**" button. When this button is pressed a DSS file and pathname selection screen will

DON002621

appear as shown in Figure 8.3. The user first selects the desired DSS file by using the browser button at the top. Once a DSS file is selected, a list of all of the DSS pathnames within that file will show up in the table. The user can use the pathname filters to reduce the number of pathnames shown in the table. The last step is to select the desired DSS Pathname and to close the window.

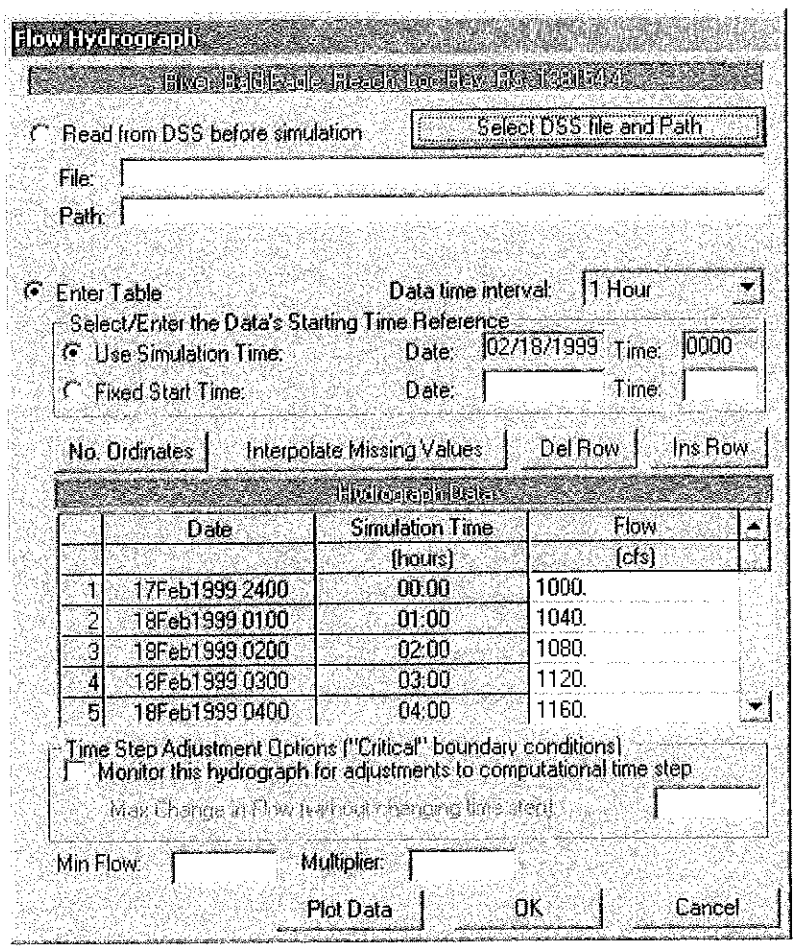


Figure 8.2 Example Flow Hydrograph Boundary Condition

The user also has the option of entering a flow hydrograph directly into a table, as shown in Figure 8.2. The first step is to enter a "**Data time interval**." Currently the program only supports regular interval time series data. A list of allowable time intervals is shown in the drop down window of the data interval list box. To enter data into the table, the user is required to select either "**Use Simulation Time**" or "**Fixed Start Time**." If the user selects "Use Simulation Time", then the hydrograph that they enter will always start at the beginning of the simulation time window. The simulation starting date and time is shown next to this box, but is grayed out. If the user selects "Fixed Start Time" then the hydrograph is entered starting at a user specified time and date. Once a starting date and time is selected, the user can

DON002622

then begin entering the data.

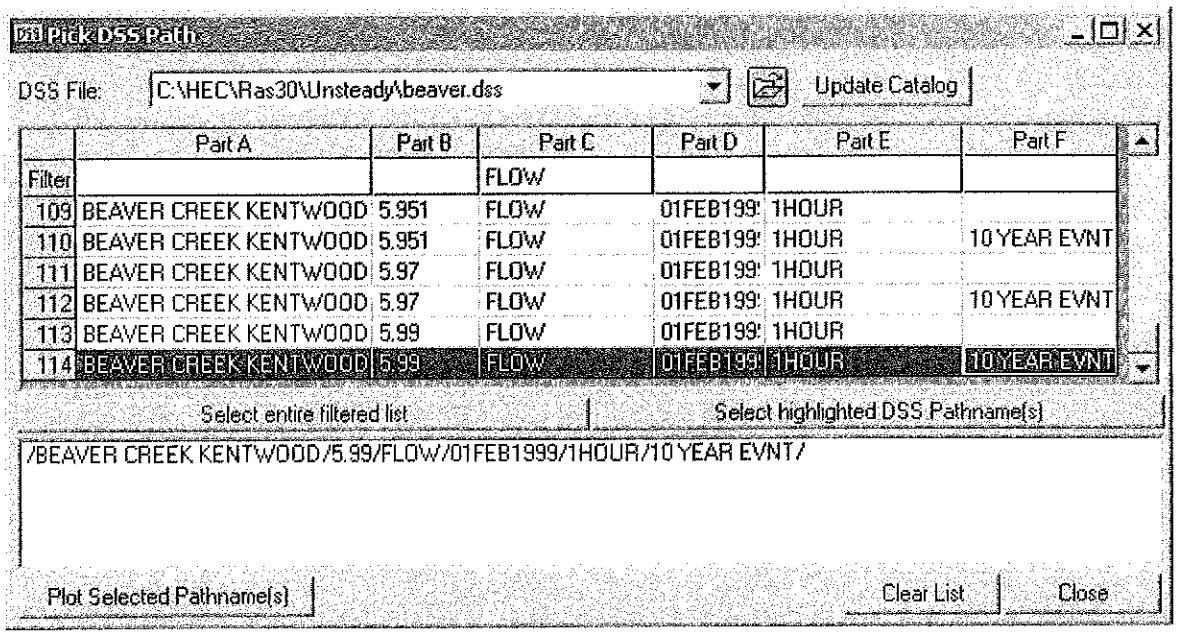


Figure 8.3 HEC-DSS File and Pathname Selection Screen

An option listed at the bottom of the flow hydrograph boundary condition is to make this boundary a "**Critical Boundary Condition.**" When you select this option, the program will monitor the inflow hydrograph to see if a change in flow rate from one time step to the next is exceeded. If the change in flow rate does exceed the user entered maximum, the program will automatically cut the time step in half until the change in flow rate does not exceed the user specified max. Large changes in flow can cause instabilities. The use of this feature can help to keep the solution of the program stable. This feature can be used at multiple hydrographs simultaneously. The software will evaluate all of the hydrographs, then calculate a time slice based on the hydrograph with the largest percentage increase over the user specified maximum flow change.

Two other options at the bottom of this editor are "**Min Flow**" and "**Multiplier.**" Both of these options apply to user entered hydrographs or hydrographs read from HEC-DSS. The "Min Flow" option allows the user to specify a minimum flow to be used in the hydrograph. This option is very useful when too low of a flow is causing stability problems. Rather than edit the user entered hydrograph or the DSS file (depending upon where the hydrograph is coming from), the user can enter a single value, and all values below this magnitude will be changed to that value. The "Multiplier" option allows the user to multiply every ordinate of the hydrograph by a user specified factor. This factor will be applied to the user-entered hydrograph or a hydrograph read from HEC-DSS.

Stage Hydrograph:

A stage hydrograph can be used as either an upstream or downstream boundary condition. The editor for a stage hydrograph is similar to the flow hydrograph editor (Figure 8.2). The user has the choice of either attaching a HEC-DSS file and pathname or entering the data directly into a table.

Stage and Flow Hydrograph:

The stage and flow hydrograph option can be used together as either an upstream or downstream boundary condition. The upstream stage and flow hydrograph is a mixed boundary condition where the stage hydrograph is inserted as the upstream boundary until the stage hydrograph runs out of data; at this point the program automatically switches to using the flow hydrograph as the boundary condition. The end of the stage data is identified by the HEC-DSS missing data code of "-901.0". This type of boundary condition is primarily used for forecast models where the stage is observed data up to the time of forecast, and the flow data is a forecasted hydrograph.

Rating Curve:

The rating curve option can be used as a downstream boundary condition. The user can either read the rating curve from HEC-DSS or enter it by hand into the editor. Shown in Figure 8.4 is the editor with data entered into the table. The downstream rating curve is a single valued relationship, and does not reflect a loop in the rating, which may occur during an event. This assumption may cause errors in the vicinity of the rating curve. The errors become a problem for streams with mild gradients where the slope of the water surface is not steep enough to dampen the errors over a relatively short distance. When using a rating curve, make sure that the rating curve is a sufficient distance downstream of the study area, such that any errors introduced by the rating curve do not affect the study reach.

DON002624

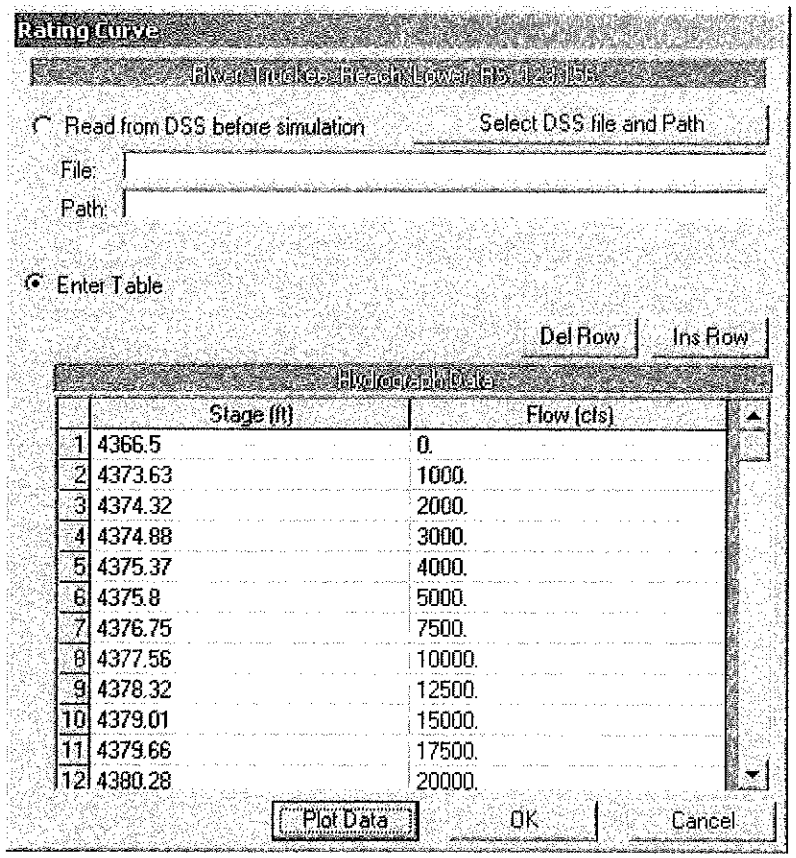


Figure 8.4 Example Rating Curve Boundary Condition Editor

Normal Depth:

The Normal Depth option can only be used as a downstream boundary condition for an open-ended reach. This option uses Manning's equation to estimate a stage for each computed flow. To use this method the user is required to enter a friction slope for the reach in the vicinity of the boundary condition. The slope of the water surface is often a good estimate of the friction slope.

As recommended with the rating curve option, when applying this type of boundary condition it should placed far enough downstream, such that any errors it produces will not affect the results at the study reach.

Lateral Inflow Hydrograph:

The Lateral Inflow Hydrograph is used as an internal boundary condition. This option allows the user to bring in flow at a specific point along the stream. The user attaches this boundary condition to the river station of the cross section just upstream of where the lateral inflow will come in. The actual change in flow will not show up until the next cross section downstream from this inflow hydrograph. The user can either read the hydrograph from DSS or enter it by hand.

DON002625

Uniform Lateral Inflow Hydrograph:

The Uniform Lateral Inflow Hydrograph is used as an internal boundary condition. This option allows the user to bring in a flow hydrograph and distribute it uniformly along the river reach between two specified cross sections. The hydrograph for this boundary condition type can be either read in from DSS, or entered by hand into a table.

Groundwater Interflow:

The Groundwater Interflow option allows the user to identify a reach of river that will exchange water with a groundwater reservoir. The stage of the groundwater reservoir is assumed to be independent of the interflow from the river, and must be entered manually or read from DSS. The groundwater interflow is similar to a uniform lateral inflow in that the user enters an upstream and a downstream river station, in which the flow passes back and forth. The computed flow is proportional to the head between the river and the groundwater reservoir. The computation of the interflow is based on Darcy's equation. The user is required to enter Darcy's groundwater loss coefficient (hydraulic conductivity), a time series of stages for the groundwater aquifer, and the distance between the river and the location of the user entered groundwater aquifer stages (this is used to obtain a gradient for Darcy's equation).

Time Series of Gate Openings:

This option allows the user to enter a time series of gate openings for an inline gated spillway, lateral gated spillway, or a gated spillway connecting two storage areas. The user has the option of reading the data from a DSS file or entering the data into a table from within the editor. Figure 8.5 shows an example of the Times Series of Gate Openings editor. As shown in Figure 8.5, the user first selects a gate group, then either attaches a DSS pathname to that group or enters the data into the table. This is done for each of the gate groups contained within the particular hydraulic structure.

DON002626

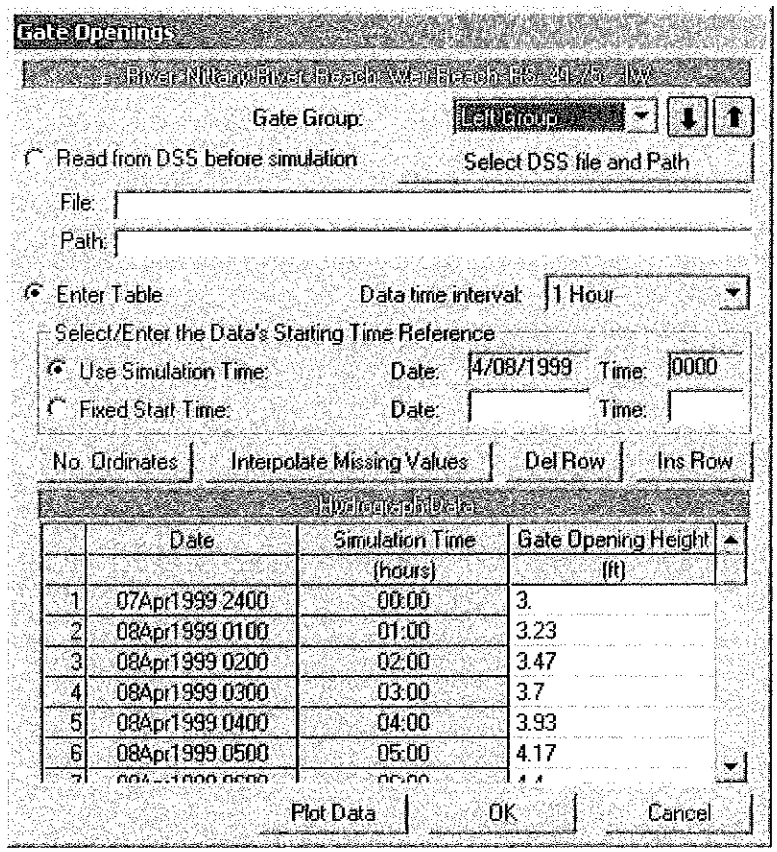


Figure 8.5 Example Time Series of Gate Openings Editor

Warning: Opening and closing gates to quickly can cause instabilities in the solution of the unsteady flow equations. If instabilities occur near gated locations, the user should either reduce the computational time step and/or reduce the rate at which gates are opened or closed.

Elevation Controlled Gate:

This option allows the user to control the opening and closing of gates based on the elevation of the water surface upstream of the structure. A gate begins to open when a user specified elevation is exceeded. The gate opens at a rate specified by the user. As the water surface goes down, the gate will begin to close at a user specified elevation. The closing of the gate is at a user specified rate (feet/min.). The user must also enter a maximum and minimum gate opening, as well as the initial gate opening. Figure 8.6 shows and example of this editor.

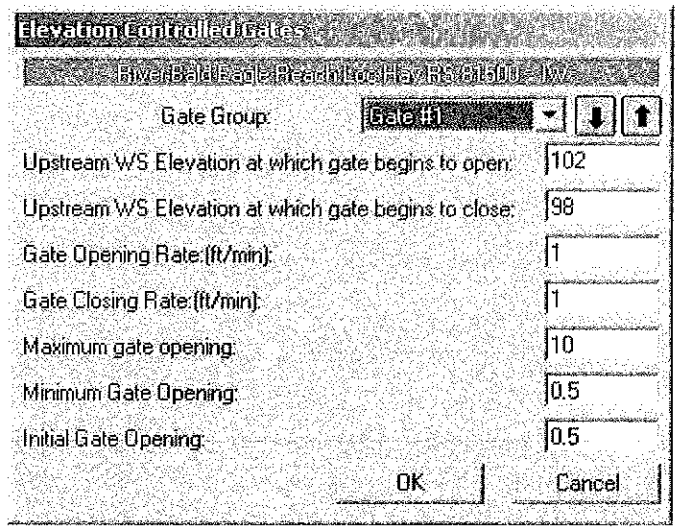


Figure 8.6 Elevation Controlled Gate Editor

Navigation Dam:

This option allows the user to define an inline gated structure as a hinge pool operated navigation dam. The user specifies stage and flow monitoring locations, as well as a range of stages and flow factors. This data is used by the software to make decisions about gate operations in order to maintain water surface elevations at the monitor locations. A detailed discussion about Navigation Dams can be found in Chapter 16 of the user's manual.

Internal Observed Stage and Flow Hydrograph:

This option allows the user to enter an observed stage hydrograph or a stage and flow hydrograph, to be used as an internal boundary condition just upstream of an inline structure (inline weir/spillway, bridge, or culvert). If only an observed stage hydrograph is entered, the user must have values to cover the complete simulation range. If a stage and flow hydrpograph is entered, the stage hydrograph is used as the observed boundary until the stage hydrograph runs out of data; afterward the flow hydrograph is used. The end of data in the stage hydrograph is identified by the HEC-DSS missing data code, -901.0. The stage and flow hydrographs can either be entered into a table or from HEC-DSS. The mixed boundary condition is primarily used for forecast models where the stage data is observed up to the forecast time and the flow hydrograph is the flow forecast.

Initial Conditions

In addition to the boundary conditions, the user must establish the initial conditions of the system at the beginning of the unsteady flow simulation. Initial conditions consist of flow and stage information at each of the cross sections, as well as elevations for any storage areas defined in the system. Initial conditions are established from within the Unsteady Flow Data editor

DON002628

by selecting the **Initial Conditions** tab. After the Initial Conditions tab is selected, the Unsteady Flow Data editor will appear as shown in Figure 8.7.

As shown in Figure 8.7, the user has two options for establishing the initial conditions of the system. The first option is to enter flow data for each reach and have the program perform a steady flow backwater run to compute the corresponding stages at each cross section. This option also requires the user to enter a starting elevation for any storage areas that are part of the system. This is the most common method for establishing initial conditions. Flow data can be changed at any cross section, but at a minimum the user must enter a flow at the upper end of each reach.

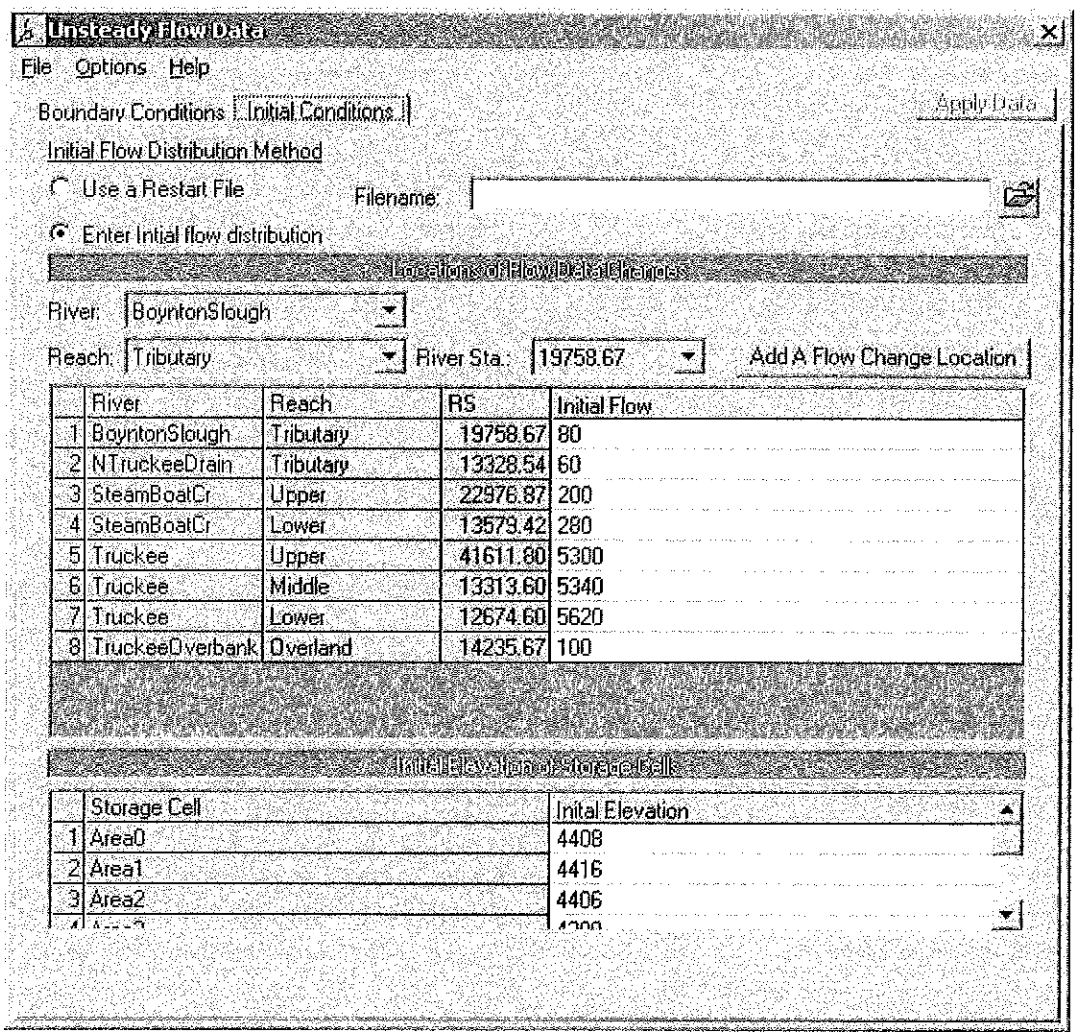


Figure 8.7 Initial Conditions Editor

A second method is to read in a file of stages and flows that were written from a previous run, which is called a "Restart File." This option is often used when running a long simulation time that must be divided into shorter periods. The output from the first period is used as the initial conditions for the next period, and so on. Additionally, this option may be used when the

DON002629

software is having stability problems at the very beginning of a run. Occasionally the model may go unstable at the beginning of a simulation because of bad initial conditions. When this happens, one way to fix the problem is to run the model with all the inflow hydrographs set to a constant flow, and set the downstream boundaries to a high tailwater condition. Then run the model and decrease the tailwater down to a normal stage over time (use a stage hydrograph downstream boundary to do this). Once the tailwater is decreased to a reasonable value, those conditions can be written out to a file, and then used as the starting conditions for the unsteady flow run.

Unsteady Flow Data Options

Several options are available from the Unsteady Flow Data editor to assist users in entering and viewing the data. These features can be found under the **Options** menu at the top of the window. The following options are available:

Delete Boundary Condition. This option allows the user to delete a boundary condition from the table. To use this option, first select the row to be deleted with the mouse pointer. Then select **Delete Boundary Condition** from the options menu. The row will be deleted and all rows below it will move up one. Only user inserted boundary conditions can be deleted from the table. If the boundary condition is an open end of the system, the system will not allow that boundary to be deleted. There must always be some type of boundary condition at all the open ends of the system.

Internal RS Initial Stages. This option allows the user to specify starting water surface elevations for any internal cross section within the system. A common application of this would be to specify the starting pool elevation for the first cross section upstream of a dam (modeled with the inline weir/spillway option). The user specifies locations and water surface elevations, which are then used to establish the initial conditions of the system at the beginning of a run.

Observed Data In DSS. This option allows the user to attach observed data pathnames from a HEC-DSS file to specific river stations within the model. When an observed data pathname is attached to a specific river station location, the user can get a plot of the observed flow or stage hydrograph on the same plot as the computed flow and stage hydrographs. Additionally the observed data will show up on profile and cross section plots.

To use this option, the user selects **Observed Data In DSS** from the **Options** menu of the Unsteady Flow Data editor. When this option is selected a window will appear as shown in Figure 8.8. As shown in the figure below, the user first selects a river, reach, and river station. Then the user presses the **Add selected location to table** button in order to select a location to attach observed data. This should be done for all the locations in which you have observed data. The next step is to open up the DSS file that contains the observed data. This is accomplished by pressing the open file button, which is next to the DSS filename field. When a DSS file is selected, a list of the available pathnames contained in that DSS file will show up in the lower

DON002630

table. To attach a DSS pathname to a particular river station, first select the river station row from the upper table. Then select the DSS pathname row from the lower table. Finally, press the button labeled **Select DSS Pathname**. Repeat this process for every location in which you wish to attach observed data. If you are going to have more than one data type (such as stage and flow) at a particular river station, you must have two entries in the upper table for that river station.

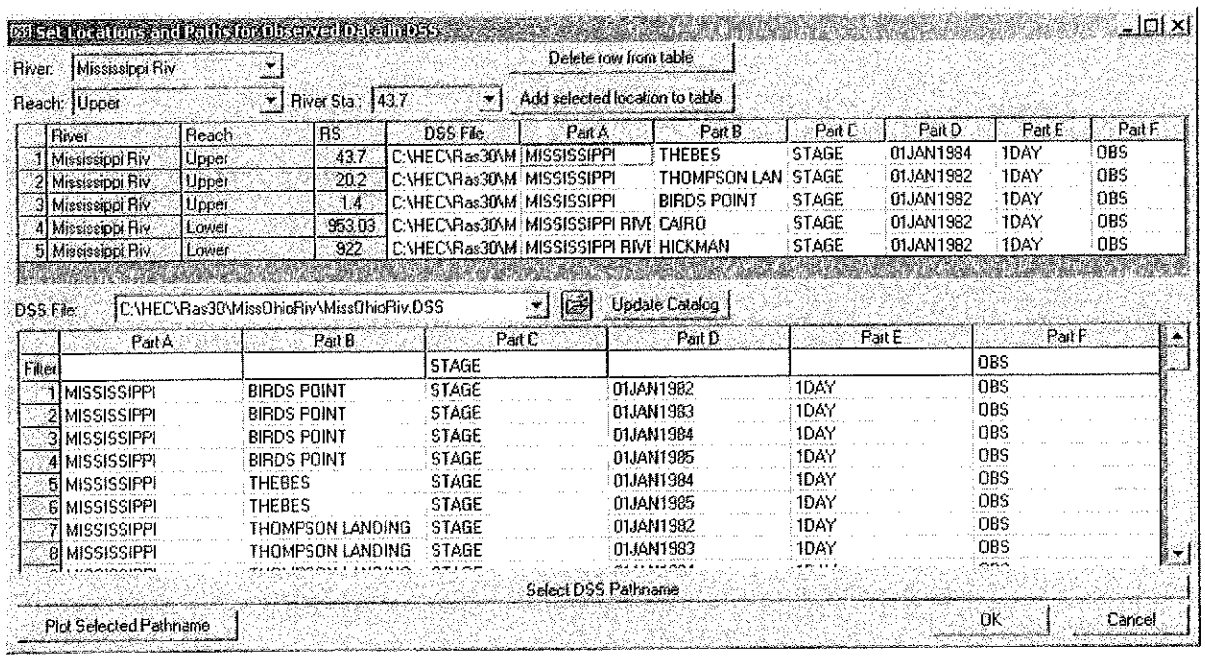


Figure 8.8 Editor for Establishing Locations of Observed Data

Minimum Flow and Flow Ratio Table. This option brings up a global editor that will show all the locations in which flow hydrographs have been attached as boundary conditions. The editor allows the user to enter a minimum flow or a flow factor for each flow hydrograph boundary condition. The minimum flow option will prevent any flow read from either HEC-DSS or a user entered hydrograph from going lower than the user specified minimum. Values that are lower than the minimum specified are automatically changed to the minimum value. The flow factor option allows the user to specify a factor to be multiplied by all ordinates of the flow hydrograph. This option is commonly used in planning type studies for performing sensitivity analysis (i.e. what if the flow were 20% higher?).

Saving The Unsteady Flow Data

The last step in developing the unsteady flow data is to save the information to a file. To save the data, select the **Save Unsteady Flow Data As** from the **File** menu on the Unsteady Flow Data editor. A pop-up window will appear prompting you to enter a title for the data.

DON002631

Performing Unsteady Flow Calculations

Once all of the geometry and unsteady flow data have been entered, the user can begin performing the unsteady flow calculations. To run the simulation, go to the HEC-RAS main window and select **Unsteady Flow Analysis** from the **Run** menu. The Unsteady Flow Analysis window will appear as in Figure 8.9 (except yours may not have a Plan title and short ID).

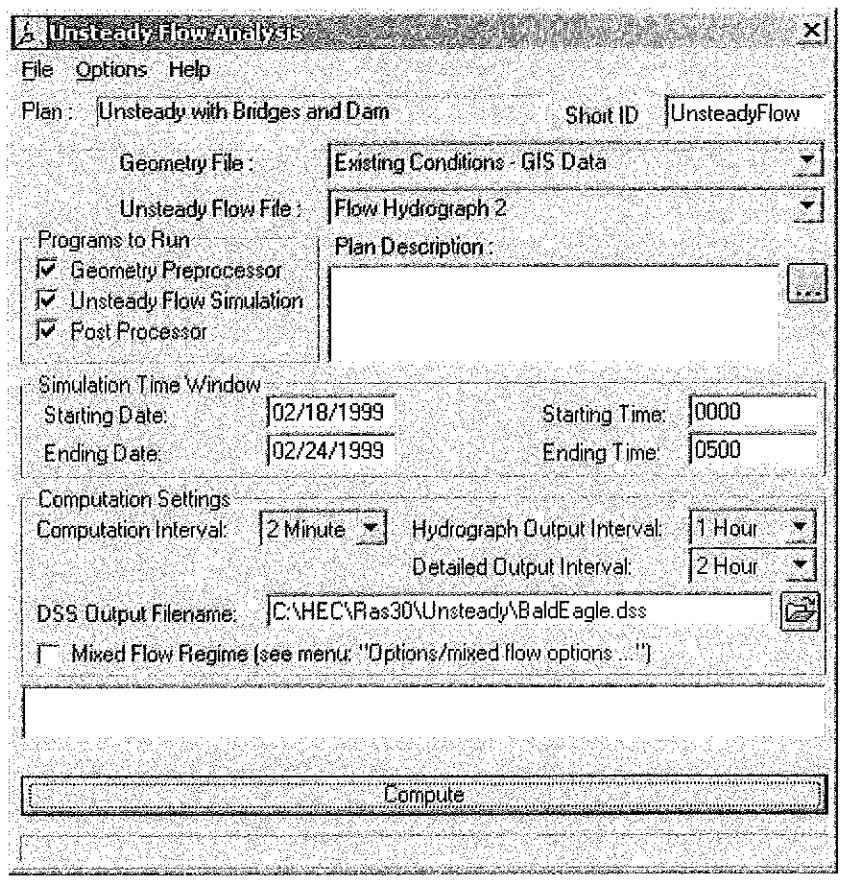


Figure 8.9 Unsteady Flow Analysis Window

Defining A Plan

The first step in performing a simulation is to put together a Plan. The Plan defines which geometry and unsteady flow data are to be used, as well as provides a description and short identifier for the run. Also included in the Plan information are the selected programs to be run; simulation time window; computation settings; and the simulation options.

Before a Plan is defined, the user should select which geometry and unsteady flow data will be used in the Plan. To select a geometry or unsteady flow file, press the down arrow button next to the desired data type. When this button is pressed, a list will appear displaying all of the available files of that type

DON002632

that are currently available for the project. Select the geometry and unsteady flow file that you want to use for the current Plan.

To establish a Plan, select **Save Plan As** from the **File** menu on the Unsteady Flow Analysis window. When **Save Plan As** is selected, a window will appear prompting you to enter a title for the Plan. After you enter the title, press the **OK** button to close the window and accept the title. The user will also be prompted to enter a short identifier for the Plan. The short identifier is limited to 12 characters. It is very important to enter a short identifier that is descriptive of the Plan. When viewing multiple plan output from the graphics and tables, the Short ID will be used to identify each Plan.

Selecting Programs to Run

There are three components used in performing an unsteady flow analysis within HEC-RAS. These components are: a geometric data pre-processor; the unsteady flow simulator; and an output post-processor.

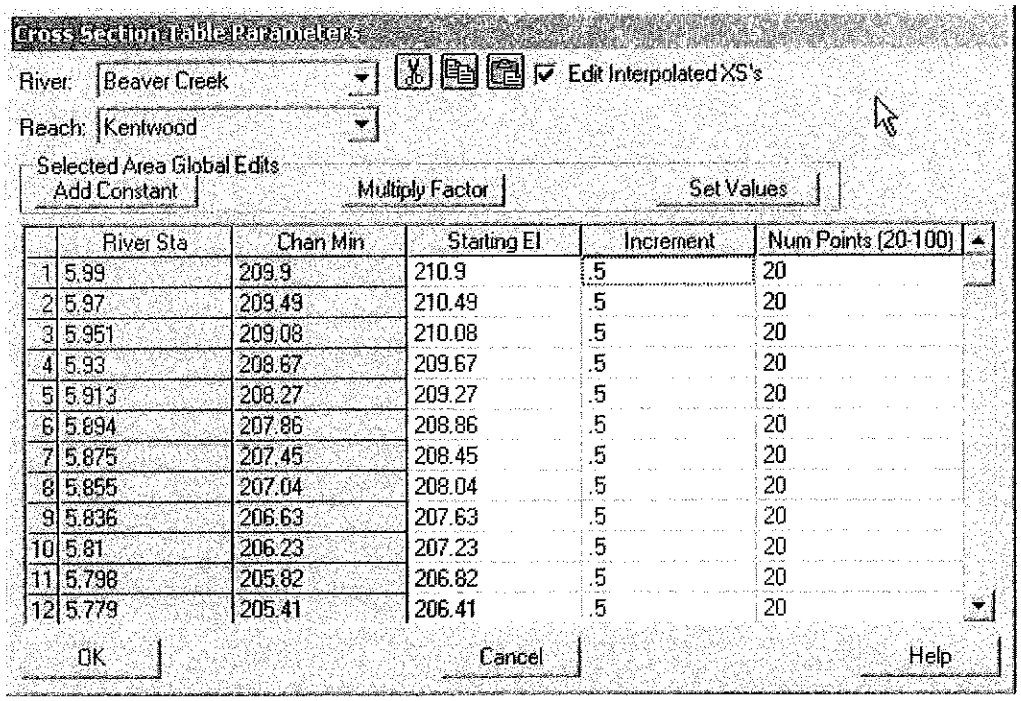
Geometric Pre-Processor

The pre-processor is used to process the geometric data into a series of hydraulic properties tables, rating curves, and family of rating curves. This is done in order to speed up the unsteady flow calculations. Instead of calculating hydraulic variables for each cross-section, during each iteration, the program interpolates the hydraulic variables from the tables. **The pre-processor must be executed at least once, but then only needs to be re-executed if something in the geometric data has changed.**

Cross sections are processed into tables of elevation versus hydraulic properties of areas, conveyances, and storage. Each table contains a minimum of 21 points (a zero point at the invert and 20 computed values), and can have up to a maximum of 100 points. The user is required to set an interval to be used for spacing the points in the cross section tables. The interval can be the same for all cross sections or it can vary from cross section to cross section. This interval is very important, in that it will define the limits of the table that is built for each cross section. On one hand, the interval must be large enough to encompass the full range of stages that may be incurred during the unsteady flow simulations. On the other hand, if the interval is to large, the tables will not have enough detail to accurately depict changes in area, conveyance, and storage with respect to elevation.

The interval for the cross section tables is defined as part of the geometric data. To set this interval, the user selects the **HTab Parameters** (**H**ydraulic **Tab**le Parameters) button from the Geometric Data editor. When this option is selected, a window will appear as shown in Figure 8.10.

DON002633



	River Sta	Chan Min	Starting El	Increment	Num Points (20-100)
1	5.99	209.9	210.9	.5	20
2	5.97	209.49	210.49	.5	20
3	5.951	209.08	210.08	.5	20
4	5.93	208.67	209.67	.5	20
5	5.913	208.27	209.27	.5	20
6	5.894	207.86	208.86	.5	20
7	5.875	207.45	208.45	.5	20
8	5.855	207.04	208.04	.5	20
9	5.836	206.63	207.63	.5	20
10	5.81	206.23	207.23	.5	20
11	5.798	205.82	206.82	.5	20
12	5.779	205.41	206.41	.5	20

Figure 8.10 Hydraulic Table Parameters for Cross Sections

As shown in Figure 8.10, the table contains three columns in which the user can enter a Starting Elevation, Increment, and Number of Points. The first time the user opens this editor all of the columns are automatically filled. The starting elevation columns are automatically filled to an elevation one foot higher than the invert, however, the user can change these values to whatever they want. The second and third columns are used for the table increment and the number of points. These two variables will describe the extent to which the table encompasses the cross section data. A default value will be set for the increment and the number of points. Normally the increment will be set to one foot, and the number of points will be set to a value that will allow the table to extend to the top of the cross section. If this combination would end up with less than 20 points, then the number of points is set to 20 and the increment is reduced to get the table to the top of the cross section. The user can set these values individually for each cross section, or they can highlight a series of cross sections and use the **Set Values** button to enter the value for all of the highlighted sections. Other options are available to multiply highlighted fields by a factor or add a constant to all of them. Additionally, cut, copy, and paste buttons are available for manipulating the data.

Hydraulic structures, such as bridges and culverts, are converted into families of rating curves that describe the structure as a function of tailwater, flow, and headwater. The user can set several parameters that can be used in defining the curves. To set the parameters for the family of rating curves, the user can select the **"HTab Parameters"** button from the Bridge and Culvert editor or from the Hydraulic connection editor. When this button is pressed, the window in Figure 8.11 will appear:

DON002634

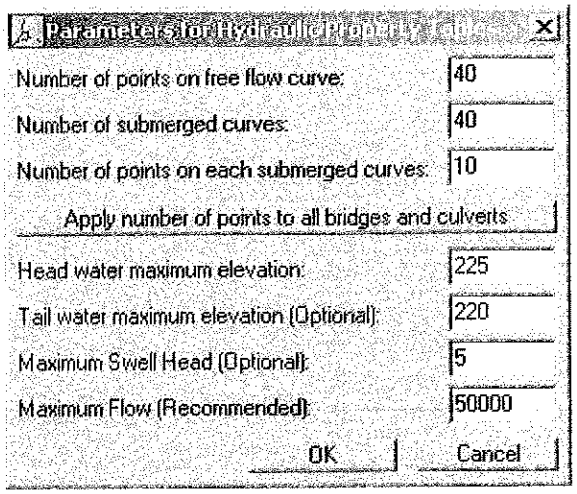


Figure 8.11 Hydraulic Properties Table for Bridges/Culverts

As shown in Figure 8.11, the user can set the number of points to be computed on the free-flow rating curve (maximum of 50 points); the number of submerged curves to be computed (maximum of 50); and the number of points on the submerged curves (maximum of 20). The default values for these parameters are 40, 40, and 10 respectively. Additionally, the user can refine the curves by setting limits on the extent of the curves. This can be accomplished by entering the head water maximum elevation (reguired), tail water maximum elevation, maximum swell head (difference between the head water and tailwater), and the maximum possible flow (recommended). **In general, the curves will come out better if the user enters a headwater maximum elevation and a maximum flow rate.**

Structures that are gated, such as gated spillways, are not converted into curves because it would require a new family of curves for each possible gate setting. The hydraulics through gated structures is calculated on the fly during the unsteady flow calculations. No hydraulic table parameters are required for gated structures.

Unsteady Flow Simulation

The unsteady flow computations within HEC-RAS are performed by a modified version of the UNET (Unsteady NETwork model) program, developed by Dr. Robert Barkau (Barkau, 1992) and modified by HEC. The unsteady flow simulation is actually a three-step process. First a program called RDSS (Read DSS data) runs. This software reads data from a HEC-DSS file and then converts all of the boundary condition time series data into the user specified computation interval. Next, the UNET program runs. This software reads the hydraulic properties tables computed by the pre-processor, as well as the boundary conditions and flow data from the interface and the RDSS program. The program then performs the unsteady flow calculations. The final step is a program called TABLE. This software takes the results from the UNET unsteady flow run and writes them to a HEC-DSS file.

Post-Processor

The Post-Processor is used to compute detailed hydraulic information for a set of user specified time lines during the unsteady flow simulation period. In general, the unsteady flow computations only compute stage and flow at all of the computation nodes, as well as stage and flow hydrographs at user specified locations. **If the Post Processor is not run, then the user will only be able to view the stage and flow hydrographs and no other output from HEC-RAS**. By running the Post Processor, the user will have all of the available plots and tables for unsteady flow that HEC-RAS normally produces for steady flow.

By default, the Post-Processor will compute detailed output for a maximum stage water surface profile. This profile does not represent any specific instance in time, but rather represents a profile of the maximum stage that occurred at each cross section during the entire simulation. This profile is often useful for getting a quick view of the maximum extent of flooding during a specific event.

In addition to the maximum water surface profile, the user can request the software to write out a series of instantaneous profiles at a specific time interval. This is accomplished from the **Computation Settings** section of the **Unsteady Flow Analysis** window. The user turns on this option by selecting an interval from the box labeled **Detailed Output Interval.** The Post-Processor will then compute detailed output for each of the instantaneous profiles requested (Note: the Post-Processor is limited to 500 profiles). When the unsteady flow program runs, flow and stage water surface profiles are written to DSS for the entire system, starting with the beginning of the simulation and then at the user specified time interval for the entire simulation.

DON002636

When the Post-Processor runs, the program reads from HEC-DSS the maximum water surface profile (stages and flows) and the instantaneous profiles. These computed stages and flow are sent to the HEC-RAS steady flow computation program SNET. Because the stages are already computed, the SNET program does not need to calculate a stage, but it does calculate all of the hydraulic variables that are normally computed. This consists of over two hundred hydraulic variables that are computed at each cross section for each flow and stage.

At hydraulic structures such as bridges and culverts, the unsteady flow program only reports the stage just upstream and downstream of the structure. During the Post-Processing of the results, the SNET program calculates the hydraulics of the structures by using the computed tailwater and flow, and then performing detailed hydraulic structure calculations. This is done so that the user can see detailed hydraulic information inside of the hydraulic structures for each of the profiles that are being post processed. However, this process can produce slightly different results for the upstream headwater elevation. Occasionally, you may notice a headwater elevation computed from the Post-Processor that is higher than the next upstream sections water surface. This difference is due to the fact that the unsteady flow simulation uses a pre-computed family of rating curves for the structure during the unsteady flow calculations. The program uses linear interpolation between the points of the rating curves to get the upstream headwater for a given flow and tailwater. The Post-Process performs the calculations through the structure and does not use rating curves (it solves the actual structure equations).

Once the Post-Processor is finished running, the user can view output from all of the HEC-RAS plots and tables. The maximum water surface profile and user specified instantaneous profiles can be viewed by selecting **Profiles** from the **Options** menu on each of the output windows (tables or plots). The overall maximum water surface profile will be labeled "**Max W.S.**", while the instantaneous profiles are labeled by the date and time. For example, a profile from January 5, 1999 at 1:00 p.m. would be labeled "**05Jan1999 1300**".

WARNING: Specifying a detailed output interval for post processing that is small can lead to long computational times and huge output files. Select this interval wisely, in that you only get detailed output when you really need it.

Simulation Time Window

The user is required to enter a time window that defines the start and end of the simulation period. The time window requires a starting date and time and an ending date and time. The date must have a four digit year and can be entered in either of the two following formats: **05Jan2000** or **01/05/2000**. The time field is entered in military style format (i.e. 1 p.m. is entered as 1300).

DON002637

Computation Settings

The Computation Settings area of the Unsteady Flow Analysis window contains: the computational interval; hydrograph output interval; detailed output interval; the name and path of the output DSS file, and whether or not the program is run in a mixed flow regime mode.

The **computation interval** is used in the unsteady flow calculations. This is probably one of the most important parameters entered into the model. Choosing this value should be done with care and consideration as to how it will affect the simulation. The computation interval should be based on several factors. First, the interval should be small enough to accurately describe the rise and fall of the hydrographs being routed. A general rule of thumb is to use a computation interval that is equal to or less than the time of rise of the hydrograph divided by 24. In other words, if the flood wave goes from its base flow to its peak flow in 24 hours, then the computation interval should be equal to or less than 1 hour.

Additional considerations must be made for hydraulic structures, such as bridges, culverts, weirs, and gated spillways. Within bridges and culverts, when the flow transitions from unsubmerged to submerged flow, the water surface upstream of the structure can rise abruptly. This quick change in water surface elevation can cause the solution of the unsteady flow equations to go unstable. One solution to this problem is to use a very small time step, on the order of 1 to 5 minutes. This allows the module to handle the changes in stage in a more gradual manner. Additionally, when gates are opened or when flow just begins to go over a lateral weir, the change in stage and flow can be dramatic. Again, these types of quick changes in stage and flow can cause the solution of the unsteady flow equations to go unstable. The only solution to this problem is to shorten the computational time step to a very short interval. This may require the user to set the value as low as 1 to 5 minutes. The time step should be adjusted to find the largest value that will still solve the equations accurately. Additional variables that affect stability are the number of iterations and the Theta weighting factor. These two variables are discussed under the calculation tolerances section below.

The **Hydrograph Output Interval** is used to define at what interval the computed stage and flow hydrographs will be written to HEC-DSS. This interval should be selected to give an adequate number of points to define the shape of the computed hydrographs without losing information about the peak or volume of the hydrographs. This interval must be equal to or larger than the selected computation interval.

The **Detailed Output Interval** field allows the user to write out profiles of water surface elevation and flow at a user specified interval during the simulation. Profiles are not written for every computational time step because it would require too much space to store all of the information for most jobs. Also, when the Post-Processor is run, the program will compute detailed hydraulic information for each one of the instantaneous profiles that are written. This option is turned on by selecting an interval from the drop-down

DON002638

box next to the detailed hydrograph output label. The selected interval must be equal to or greater than the computation interval. However, it is suggested that you make this interval fairly large, in order to reduce the amount of post-processing and storage required for a detailed hydraulic output. One example for selecting this variable would be, if the time window of the simulation was set at 72 hours, then one might want to set the instantaneous profiles to an interval of every 6 hours. This would equate to 13 profiles being written out and having detailed hydraulic information computed for them.

The field labeled **DSS Output Filename** is required before an execution can be made. The program will always write some results to a HEC-DSS file, so the user is required to select a path and filename to be used for this information.

Mixed Flow Regime. When this option is selected, the program will run in a mode such that it will allow subcritical flow, supercritical flow, hydraulic jumps, and draw downs (sub to supercritical transitions). **This option should only be selected if you actually have a mixed flow regime situation.** The methodology used for mixed flow regime analysis is called the **Local Partial Inertia (LPI)** solution technique (Fread, 1996). When this option is turned on, the program monitors the Froude number at all cross section locations for each time step. As the Froude number gets close to 1.0, the program will automatically reduce the magnitude of the inertial terms in the momentum equation. Reducing the inertial terms increases the models stability. When the Froude number is equal to or greater than 1.0, the inertial terms are completely zeroed out and the model is essentially reduced to a diffusion wave routing procedure. For Froude numbers close to 1.0, the program will use partial inertial effects, and when the Froude number is low, the complete inertial effects are used.

Note: more information about mixed flow regime calculations can be found in Chapter 16 of the HEC-RAS User's manual.

Simulation Options

From the **Options** menu of the Unsteady Flow Analysis window, the following options are available: stage and flow output locations; flow distribution locations; flow roughness factors; seasonal roughness factors; calculation options and tolerances; output options; checking data before execution, and viewing the computation log.

Stage and Flow Output Locations. This option allows the user to specify locations where they want to have hydrographs computed and available for display. By default, the program sets locations of the first and last cross section of every reach. To set the locations, the user selects **Stage and Flow Output Locations** from the **Options** menu of the Unsteady Flow Analysis window. When this option is selected a window will appear as shown in Figure 8.12.
As shown in Figure 8.12, the user can select individual locations, groups of

DON002639

cross sections, or entire reaches. Setting these locations is important, in that, after a simulation is performed, the user will only be able to view stage and flow hydrographs at the selected locations.

Flow Distribution Locations. This option allows the user to specify locations in which they would like the program to calculate flow distribution output. The flow distribution option allows the user to subdivide the left overbank, main channel, and right overbank, for the purpose of computing additional hydraulic information.

The user can specify to compute flow distribution information for all the cross sections (this is done by using the Global option) or at specific locations in the model. The number of slices for the flow distribution computations must be defined for the left overbank, main channel, and the right overbank. The user can define up to 45 total slices. Each flow element (left overbank, main channel, and right overbank) must have at least one slice. The flow distribution output will be calculated for all profiles in the plan during the computations.

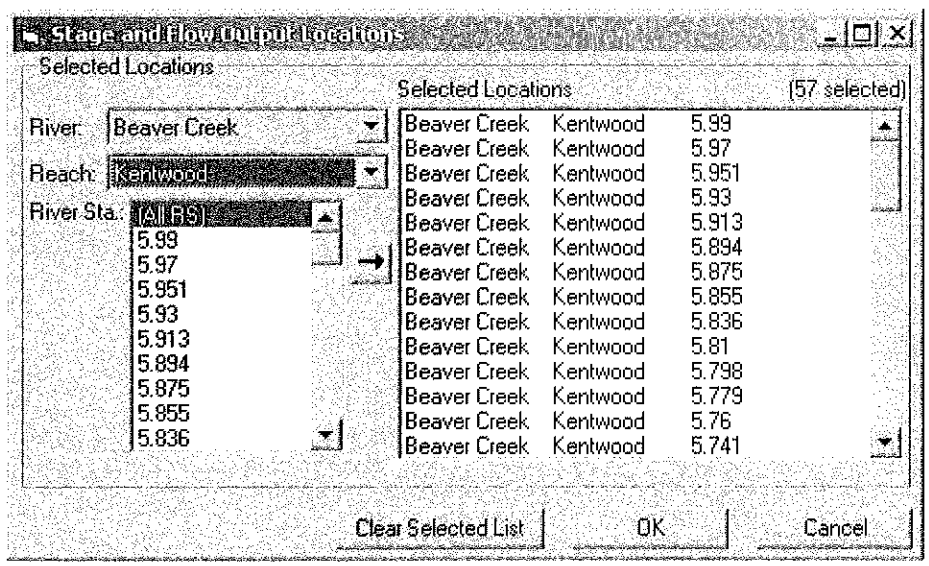


Figure 8.12 Stage and Flow Hydrograph Output Window

Flow Roughness Factors. This option allows the user to adjust roughness coefficients with changes in flow. This feature is very useful for calibrating an unsteady flow model for flows that range from low to high. Roughness generally decreases with increases flow and depth. This is especially true on larger river systems. This feature allows the user to adjust the roughness coefficients up or down in order to get a better match of observed data. To use this option, select **Flow Roughness Factors** from the **Options** menu of the Unsteady Flow Simulation manager. When this option is selected, a window will appear as shown in Figure 8.13.
As shown in Figure 8.13, the user first selects a river, reach, and a range of cross sections to apply the factors to. Next a starting flow, flow increment,

DON002640

and a number of increments is entered. Finally, a roughness factor is entered into the table for each of the flows. The user can create several sets of these factors to cover a range of locations within the model. However, one set of factors cannot overlap with another set of factors. Hence, you can only apply one set of roughness change factors to any given cross section.

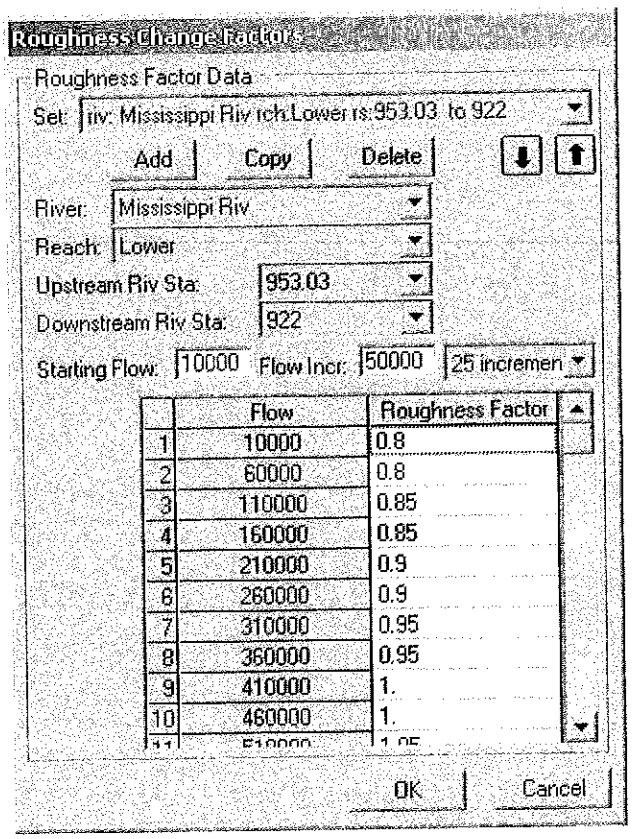


Figure 8.13 Flow versus Roughness Change Factors Editor

Seasonal Roughness Change Factors. This option allows the user to change roughness with time of year. This feature is most commonly used on larger river systems, in which temperature changes can cause changes in bed forms, which in turn causes changes in roughness. This factor can be applied in conjunction with the flow roughness change factors. When applying both, the seasonal roughness factor gets applied last.

To use this option, select **Seasonal Roughness Factors** from the **Options** menu of the Unsteady Flow Simulation manager. When this option is selected a window will appear as shown in Figure 8.14.

As shown in Figure 8.14, the user first selects a river, reach, and range of river station to apply the factors to. Next the user enters the day and month in the Day column, for each time that a new roughness factor will be entered. By default the program will automatically list the first of each month in this column. However, the user can change the day to whatever they would like. The final step is to then enter the roughness change factors.

DON002641

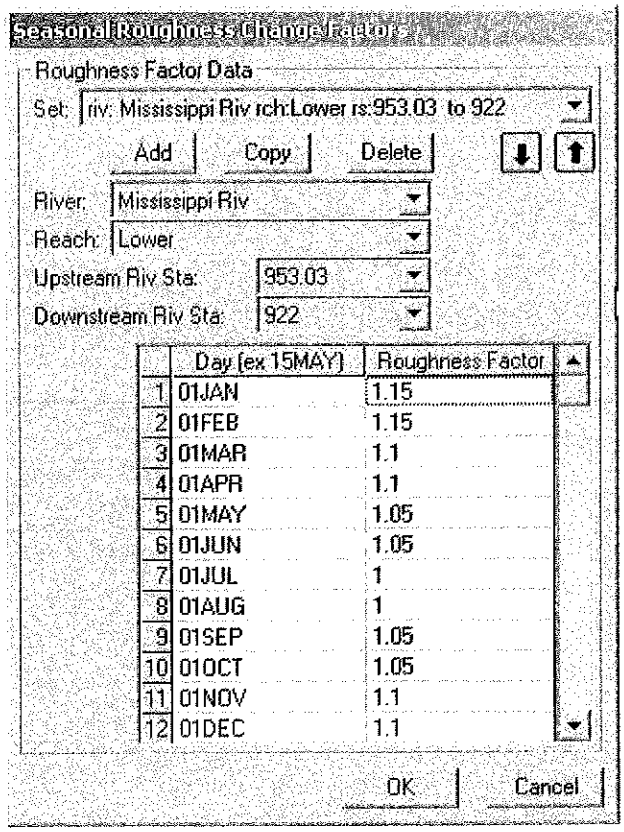
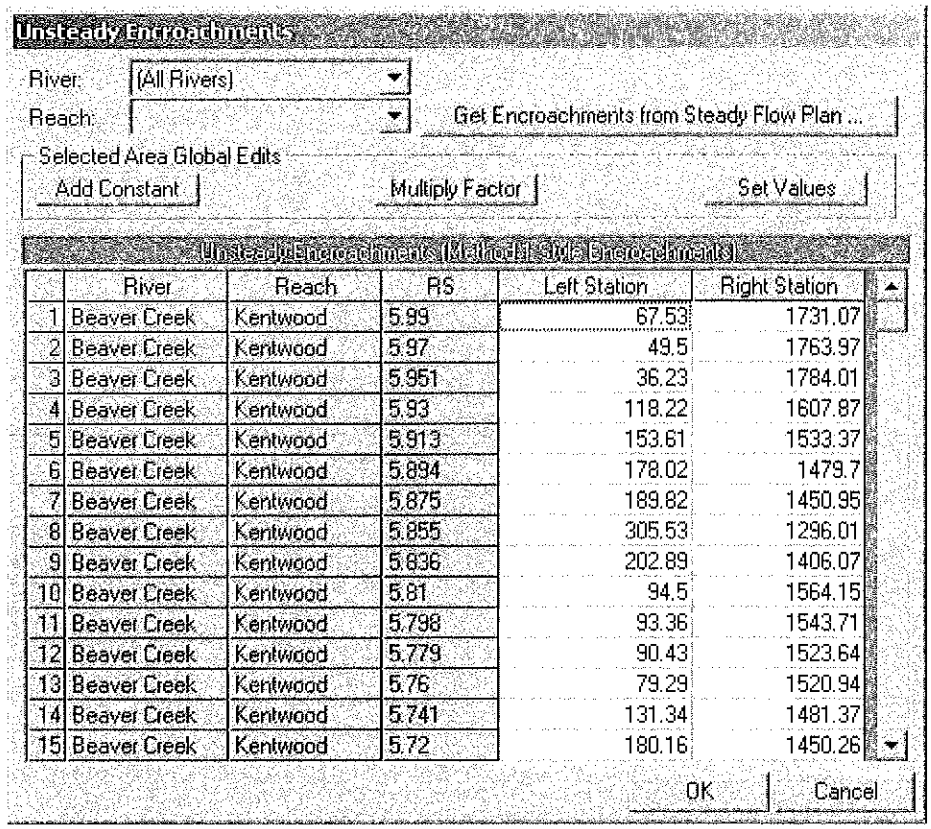


Figure 8.14 Seasonal Roughness Factors Editor

Unsteady Flow Encroachments. This option allows the user to perform an encroachment analysis using the unsteady flow simulation option. Currently, encroachments are limited to method 1 within the unsteady flow analysis module. In general the user should first perform the encroachment analysis with the steady flow computations module, as documented in Chapter 10 of this manual. Once a good steady flow encroachment analysis is completed, the final encroachments can be imported into the unsteady flow plan for further analysis and refinement. The user will need to have two unsteady flow plans, one without encroachments (representing the base flood) and one with encroachments (representing the encroached floodplain).

To add encroachments to an unsteady flow plan, the user selects **Unsteady Encroachments** from the **Options** menu of the Unsteady Flow Simulation editor. When this option is selected the following window will appear:

DON002642



	River	Reach	RS	Left Station	Right Station
1	Beaver Creek	Kentwood	5.99	67.53	1731.07
2	Beaver Creek	Kentwood	5.97	49.5	1763.97
3	Beaver Creek	Kentwood	5.951	36.23	1784.01
4	Beaver Creek	Kentwood	5.93	118.22	1607.87
5	Beaver Creek	Kentwood	5.913	153.61	1533.37
6	Beaver Creek	Kentwood	5.894	178.02	1479.7
7	Beaver Creek	Kentwood	5.875	189.82	1450.95
8	Beaver Creek	Kentwood	5.855	305.53	1296.01
9	Beaver Creek	Kentwood	5.836	202.89	1406.07
10	Beaver Creek	Kentwood	5.81	94.5	1564.15
11	Beaver Creek	Kentwood	5.798	93.36	1543.71
12	Beaver Creek	Kentwood	5.779	90.43	1523.64
13	Beaver Creek	Kentwood	5.76	79.29	1520.94
14	Beaver Creek	Kentwood	5.741	131.34	1481.37
15	Beaver Creek	Kentwood	5.72	180.16	1450.26

Figure 8.15 Unsteady Flow Encroachment Data Editor.

As shown in Figure 8.15, the user can enter a left station and a right station for the encroachments at each cross section. Additionally, the user has the option to import the encroachments calculated from a steady flow plan. This is accomplished by pressing the button labeled **Get Encroachments from Steady Flow Plan**, which is shown in the upper right part of the editor. When this button is pressed the user is asked to select a previously computed steady flow plan, and a specific profile from that plan. When the user presses the **OK** button, the program will go and get the final computed encroachments from that particular steady flow plan and profile.

Once all of the encroachments are entered, the user presses the **OK** button to have the interface accept the data. However, this information is not stored to the hard disk, the user must save the currently opened plan file for that to happen. The next step is to run the unsteady flow analysis with the encroachment data. The user should have two unsteady flow plans, one without encroachments and one with encroachments. Once both plans have been successfully executed, then comparisons between the plans can be made both graphically and in a tabular format.

Dam (Inline Structure) Breach. This option allows the user to perform a Dam Break analysis. The breach data is stored as "Plan" information. This is done so the user can try different breach locations, sizes, etc, without having to re-run the geometric pre-processor. Storing the data as Plan data is not that

important in a planning study, but it is very important when doing real time river forecasting. However, the user can get to the breach data in two different ways. First there is a button on the Inline Structure editor that is labeled **Breach** (Plan Data). Second, from the Unsteady Flow Simulation Manager, the user can select **Dam (Inline Weir) Breach** from the Options menu. When either option is selected, the following window will appear.

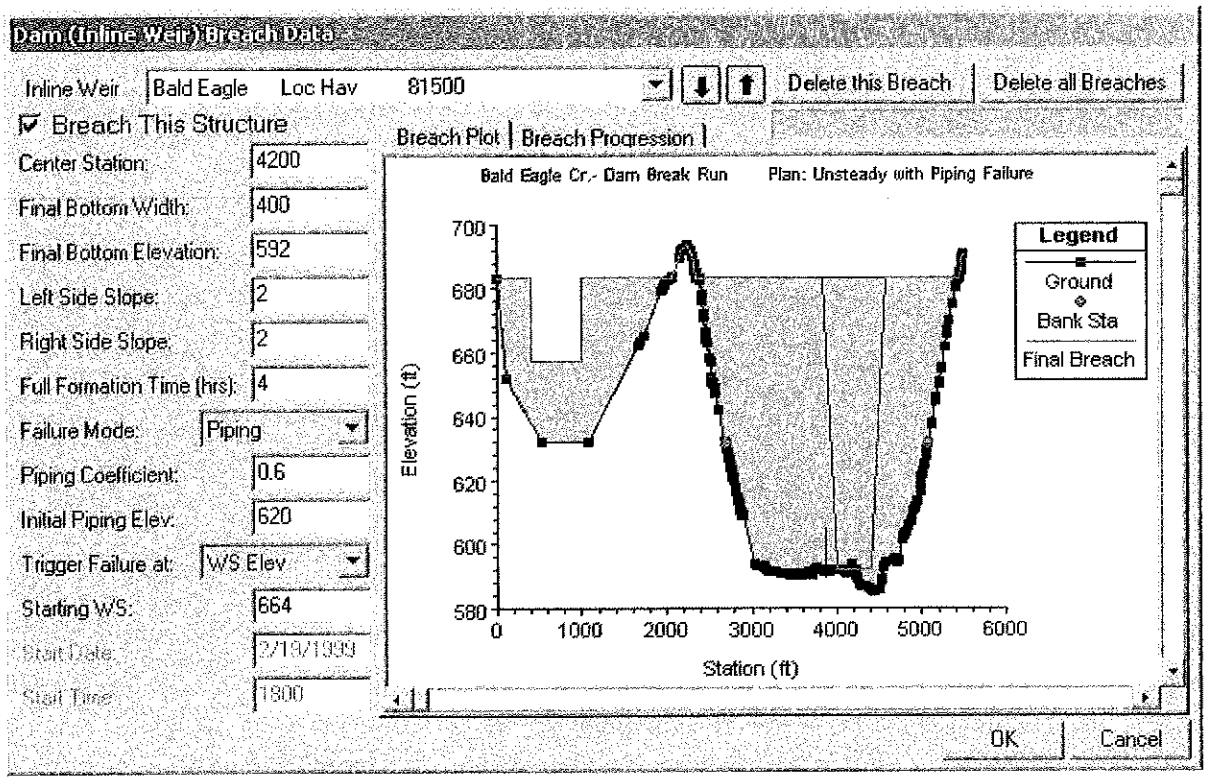


Figure 8.16 Dam Breach Editor.

As shown in Figure 8.16, the user selects a particular Inline Structure to perform the breach on. The following data must be entered for a breach:

Breach This Structure - This check box is used to decide if the program will perform the breach or not. In order for the breach to occur this box must be checked. This box was added to allow the user to turn certain breaches on or off, without loosing the user entered breach information.

Center Station - This field is used for entering the centerline stationing of the final breach.

Final Bottom Width - This field is used to enter the bottom width of the breach at its maximum size.

Final Bottom Elevation - This field is used to enter the elevation of the bottom of the breach after it has been fully developed.

DON002644

Left Side Slope - This is the left side slope of the trapezoidal breach.

Right Side Slope - This is the right side slope of the trapezoidal breach.

Full Formation Time (hrs) - This field is used to enter the breach development time in hours. This time represents the duration from when the breach begins to have some significant erosion, to the full development of the breach.

Failure Mode - This option allows the user to choose between two different failure modes, an Overtopping failure and a Piping failure.

Piping Coefficient - If a piping failure mode is selected, the user must enter a piping coefficient. This coefficient is an Orifice coefficient, which is used while flow is coming out of the dam in a piping mode. Typical Orifice coefficients for a true designed orifice are around 0.8. However, for a piping breach, the coefficient should be lower to represent all of the additional energy losses occurring.

Initial Piping Elev. - If a piping failure mode is selected the user must enter an initial piping elevation. This elevation should be entered as the center of the piping flow while the breach develops.

Trigger Failure At - This field is used to select one of two trigger methods for initiating the breach. The two trigger methods are a water surface elevation or a specific time and date.

Starting WS - If the user selects water surface elevation for the failure trigger mode, then this field must be entered. This field represents the water surface elevation at which the breach should begin to occur.

Start Date - If the user selects a starting date and time as the failure trigger mode, then this field must be entered. This field is used to enter the date at which the breach will begin to occur.

Start Time - If the user selects a starting date and time as the failure trigger mode, then this field must be entered. This field is used to enter the time at which the breach will begin to occur.

In addition to all of the main breach information, the user also has the option to enter a user specified Breach Progression curve. By default the breach progression is assumed to be linear between the breach initiation and the full breach size (Full Formation Time). The user enters their breach progression curve by selecting the Breach Progression tab. When this tab is selected, the editor will now look like the following:

DON002645

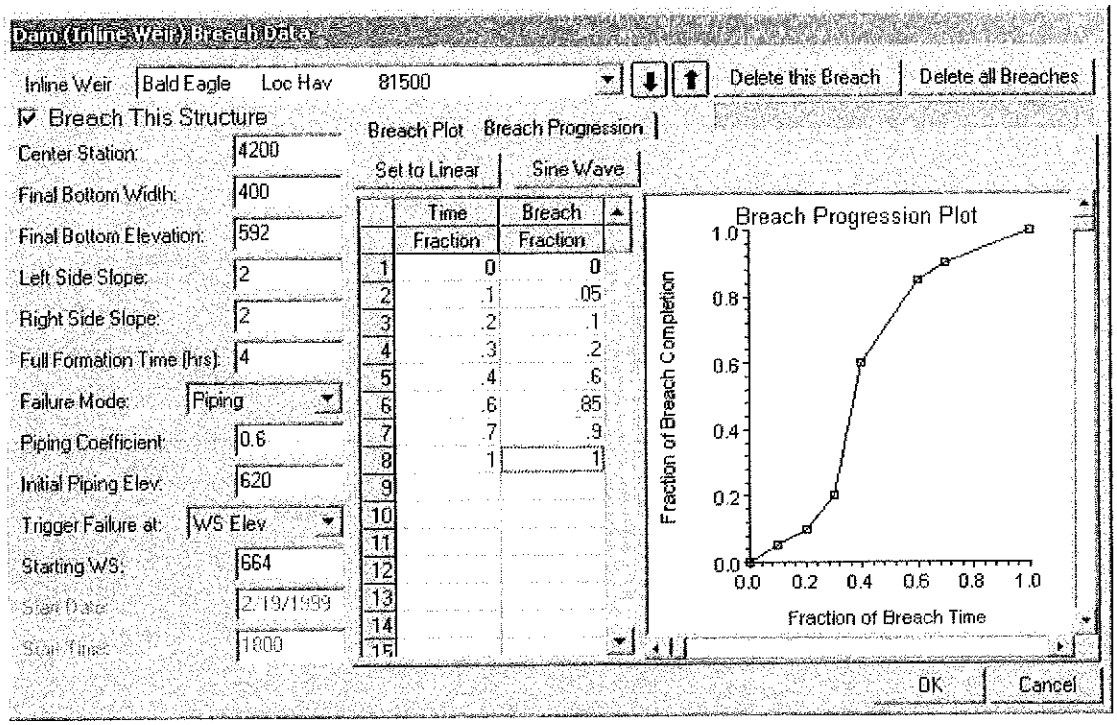


Figure 8.17 Dam Breach Editor with User Specified Breach Progression.

As shown in Figure 8.17, the user enters a Time Fraction (from zero to 1.0) and a Breach Fraction (from zero to 1.0). The user-entered data is plotted in the graphic next to the table. The breach progression curve is then used during the breach formation time to adjust the growth rate of the breach.

Note: More detailed information on performing a breach analysis can be found in the HEC-RAS User's Manual, chapter 16.

Levee (Lateral Structure) Breach. This option is very similar to the Dam Break option described previously. The only difference is that the breaching is performed on a levee. The options and data entered to describe the breach is the same as a Dam Break.

In order to use this option, the user must first define the levee as a lateral structure within HEC-RAS. The lateral weir profile is used to describe the top of the levee along the stream both at and between the cross sections. Second, a weir coefficient is entered for calculating the flow that may go overtop of the levee if the water surface gets high enough. Entering breach data for the levee can be accomplished from the lateral weir editor or from the **Levee (lateral structure) Breach** option from the Unsteady Flow Simulation window. The levee breaching data is stored as part of the unsteady flow plan file, just as it is for a dam break. When the levee breach option is selected, a breach editor will appear as shown in Figure 8.18.

DON002646

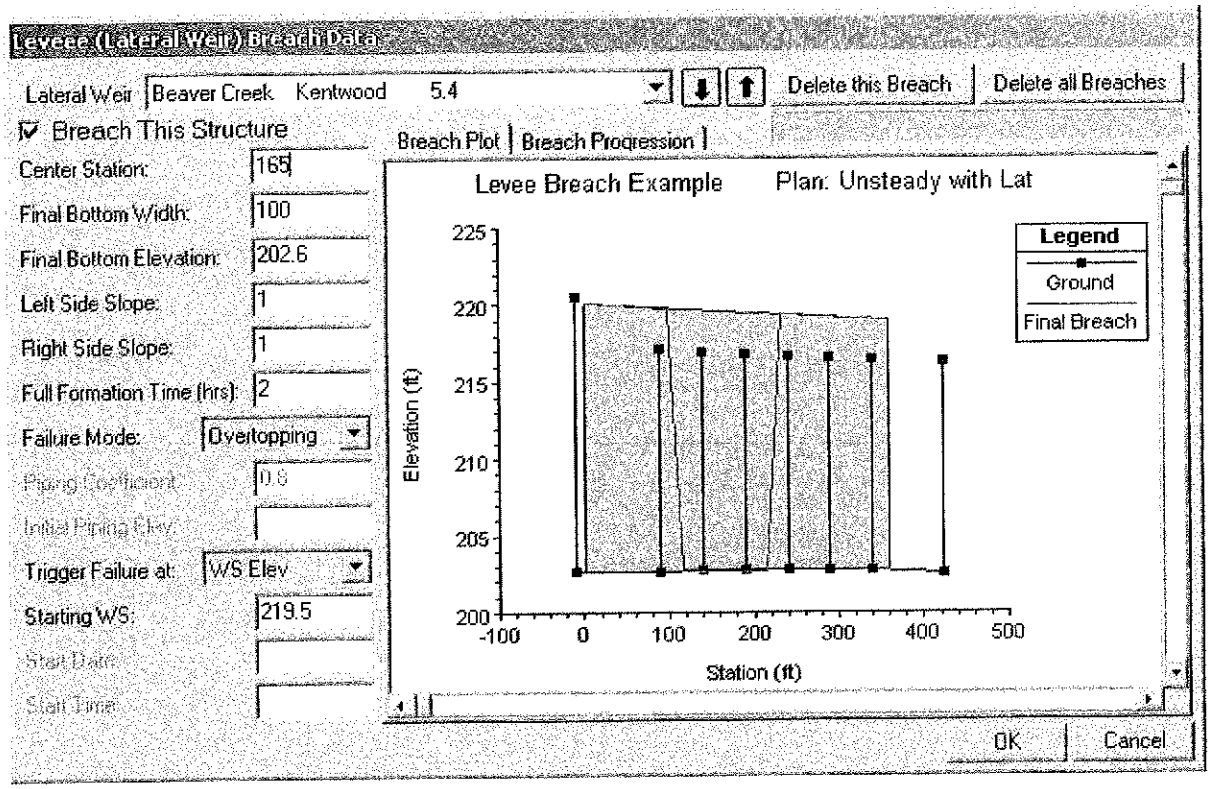


Figure 8.18 Levee Breaching Editor.

As shown in Figure 8.18, this editor contains the same information as the Dam Breach editor. For a description of the variables please review the section on Dam Breaching above. More detailed information about levee breaching can be found in Chapter 16 of this manual.

Mixed Flow Options. This option allows the user to change the parameters that control the computations of mixed flow regime within the unsteady flow simulation. This option was described previously in this chapter, under the section titled **Computational Settings.** Please review that section of this chapter for the details of how to use the mixed flow regime option and controlling the parameters.

Calculation Options and Tolerances. This option allows the user to set some computation options and to override the default settings for the calculation tolerances. These tolerances are used in the solution of the momentum equation. **Warning !!!** - Increasing the default calculation tolerances could result in computational errors in the water surface profile. The tolerances are as follows:

Theta implicit weighting factor: This factor is used in the finite difference solution of the unsteady flow equations. The factor ranges between 0.6 and 1.0. A value of 0.6 will give the most accurate solution of the equations, but is more susceptible to instabilities. A value of 1.0 provides the most stability in the solution, but may not be as accurate for some data sets. The default

DON002647

value is set to 1.0. Once the user has the model up and running the way they want it, they should then experiment with changing theta towards a value of 0.6. If the model remains stable, then a value of 0.6 should be used. In many cases, you may not see an appreciable difference in the results when changing theta from 1.0 to 0.6. However, every simulation is different, so you must experiment with your model to find the most appropriate value.

Water surface calculation tolerance: This tolerance is used to compare the difference between the computed and assumed water surface elevations at cross sections. If the difference is greater than the tolerance, the program continues to iterate for the current time step. When the difference is less than the tolerance, the program assumes that it has a valid numerical solution. The default value is set to 0.02 feet.

Storage area elevation tolerance: This tolerance is used to compare the difference between computed and assumed water surface elevations at storage areas. If the difference is greater than the tolerance, the program continues to iterate for the current time step. When the difference is less than the tolerance, the program can go on to the next time step. The default tolerance for storage areas is set to 0.1 feet.

Maximum number of iterations: This variable defines the maximum number of iterations that the program will make when attempting to solve the unsteady flow equations using the specified tolerances. The default value is set to 20, and the allowable range is from 0 to 40.

Maximum number of warm-up time steps: Before the dynamic simulation, the program runs a series of time steps with constant inflows. This is called a warm-up period. This is done in order to smooth the profile before allowing the inflow hydrographs to progress. This helps to make a more stable solution at the beginning of the simulation. The default number of warm-up time steps is set to 20. This value ranges from 0 to 40.

Time step during warm-up period: During the warm-up period described in the previous paragraph, it is sometimes necessary to use a smaller time step than what will be used during the unsteady flow calculations. The initial conditions from the backwater analysis uses a flow distribution in the reaches which is often different than that computed by unsteady flow. This can cause some instabilities at the beginning of the simulation. The use of a smaller time step during the warm-up period helps to get through these instabilities. The default is to leave this field blank, which means to use a time step that is the same as for the unsteady flow simulation period.

Minimum time step for interpolation: The program has an option to interpolate between time steps when it finds a very steep rise in an inflow hydrograph, or a rapid change in stage at any cross section. This option allows the user to set a minimum time step to use during interpolation. This prevents the program from using to small of a time step during time slicing.

Maximum number of interpolated time steps: This option defines the

DON002648

maximum number of interpolated time steps that the program can use during time slicing, as described in the previous paragraph.

Weir flow stability factor: This factor is used to increase the stability of the numerical solution in and around a weir. This factor varies from 1.0 to 3.0. As the value is increased, the solution is more stable but less accurate. A value of 1.0 is the most accurate, but is susceptible to oscillations in the computed weir flow. The default value is 1.0. If you observe oscillations in the computed flow over the weir, you should first check to see if you are using a small enough computation interval. If the computation interval is sufficiently small, you should then try increasing this coefficient to see if it solves the problem.

Spillway flow stability factor: This factor is used to increase the stability of the numerical solution in and around a gated spillway. This factor varies from 1.0 to 3.0. As the value is increased, the solution is more stable but less accurate. A value of 1.0 is the most accurate, but is susceptible to oscillations in the computed spillway flow. The default value is 1.0. If you observe oscillations in the computed flow over the spillway, you should first check to see if you are using a small enough computation interval. If the computation interval is sufficiently small, you should then try increasing this coefficient to see if it solves the problem.

Weir flow submergence decay exponent: This coefficient is used to stabilize the solution of flow over a weir for highly submerged weirs. This factor varies from 1.0 to 3.0. As the headwater and tailwater stages become closer together, occasionally oscillations in the solution can occur. This exponent will prevent this from happening. The default value of one has no effect. As you increase the coefficient, dampening of the oscillations will occur. See the section called Model Accuracy, Stability, and Sensitivity later in this chapter for greater detail on this factor.

Spillway flow submergence decay exponent: This coefficient is used to stabilize the solution of flow over a gated spillway for highly submerged flows. This factor varies from 1.0 to 3.0. As the headwater and tailwater stages become closer together, occasionally oscillations in the solution can occur. This exponent will prevent this from happening. The default value of 1.0 has no effect. As you increase the coefficient, dampening of the oscillations will occur. See the section called Model Accuracy, Stability, and Sensitivity later in this chapter for greater detail on this factor.

Convert energy method bridges to cross-sections with lids: This option is used to convert bridges to normal cross sections, instead of being processed as a family of rating curves. If you have a bridge in which you are using the energy solution method for high and low flow solutions, there is no need to process this as a family of rating curves. Instead, you can have the program treat the two internal bridge cross sections as any other normal cross section. If you turn this option on, the program will create a separate table of elevation versus area and conveyance for each of the two bridge sections.

DON002649

Output Options. This option allows the user to set some additional output flags. The following is a list of the available options:

Write Initial Conditions file: This option allows the user to write out a "Hot Start" file. A hot start file can be used to set the initial conditions of the system for a subsequent run. This is commonly done in real time forecasting, where you want to use the results at a specific time from a previous run to be the initial conditions of the next run. The user is require to enter a time in hours from the beginning of the current simulation, which represents the time at which the conditions of the system will be written to the "Hot Start" file.

Write Detailed Output for Debugging: This option allows the user to turn on detailed output that is written to a log file. The user has the option to set a specific time window in which the program will only output information within this time. This option is used when there is a problem with the unsteady flow solution, in that it may be oscillating or going completely unstable. When this occurs, the user should turn this option on and re-run the program. After the run has either finished or blown up, you can view the log file output by selecting **View Computation Log File** from the **Options** menu of the Unsteady Flow Simulation window. This log file will show what is happening on a time step by time step basis. It will also show which cross section locations the program is having trouble balancing the unsteady flow equations, as well as the magnitude of the errors.

Check Data Before Execution. This option provides for comprehensive input data checking. When this option is turned on, data checking will be performed when the user presses the compute button. If all of the data are complete, then the program allows the unsteady flow computations to proceed. If the data are not complete, or some other problem is detected, the program will not perform the unsteady flow analysis, and a list of all the problems in the data will be displayed on the screen. If this option is turned off, data checking is not performed before the unsteady flow execution. The default is that the data checking is turned on.

View Computation Log File. This option allows the user to view the contents of the unsteady flow computation log file. The interface uses the Windows Notepad program to accomplish this. The log file contains detailed information of what the unsteady flow computations are doing on a time step by time step basis. This file is very useful for debugging problems with your unsteady flow model.

Saving The Plan Information

To save the Plan information to the hard disk, select **Save Plan** from the **File** menu of the simulation window. Whenever any option is changed or modified on the Unsteady Flow Analysis window, the user should Save the Plan.

DON002650

Starting the Computations

Once all of the data have been entered, and a Plan has been defined, the unsteady flow computations can be performed by pressing the **Compute** button at the bottom of the Unsteady Flow Simulation window. When the compute button is pressed, a separate window will appear showing you the progress of the computations (Figure 8.19). The information that appears in the window is there as an indicator of the programs progress during the computations, and to display any computational messages. When the computations have been completed, the user can close the computations window by clicking the upper right corner of the window, or the close button at the bottom. If the computations ended normally (i.e. all of the processes ran with no error messages), then the user can begin to look at the output. If the program does not finish normally, then the user should turn on the detailed log file output option and re-run the program. Then view the log file output to begin debugging the problem.

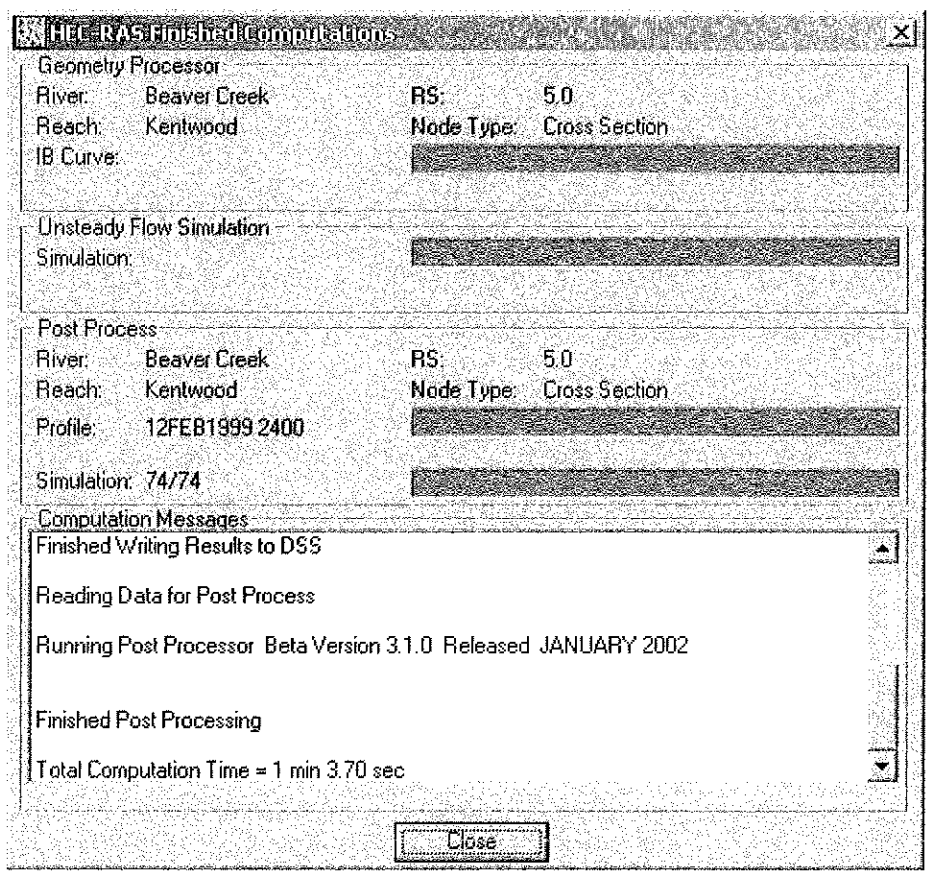


Figure 8.19 Unsteady Flow Computations Window

Calibration of Unsteady Flow Models

Calibration is the adjustment of a model's parameters so that it reproduces observed data to an acceptable accuracy. The following is a list of common problems and factors to consider when calibrating an unsteady flow model.

Observed Hydrologic Data

Stage Records. In general, measured stage data is our most accurate hydrologic data. Measured stage data is normally well within +/- 1.0 feet of accuracy. However, errors can be found in measured stage data. Some common problems are:

1. The gages float gets stuck at a certain elevation during the rise or fall of the flood wave.

2. The recorder may systematically accumulate error over time.

3. The gage reader of a daily gage misses several days and guesses at the stage recordings.

4. There is an error in the datum of the gage.

Flow Records. Flow records are generally computed from observed stages using single valued rating curves. These rating curves are a best fit of the measured data. The USGS classifies good flow measurements from Price current meters to be within ±5% of the true value. Some believe that this assumed error is optimistic. In any case, ±5%, on many river systems, translates into a stage error of ±1 foot. Acoustic velocity meters (AVM) provide a continuous record, but the current USGS technique calibrates these meters to reproduce measurements from Price current meters, so the AVM is as accurate as the current meter. Boat measurements are almost always suspect. In general it is very difficult to get accurate velocity measurements using a price current meter from a boat. Newer techniques using acoustic velocity meters with three beams mounted on boats are thought to be much better.

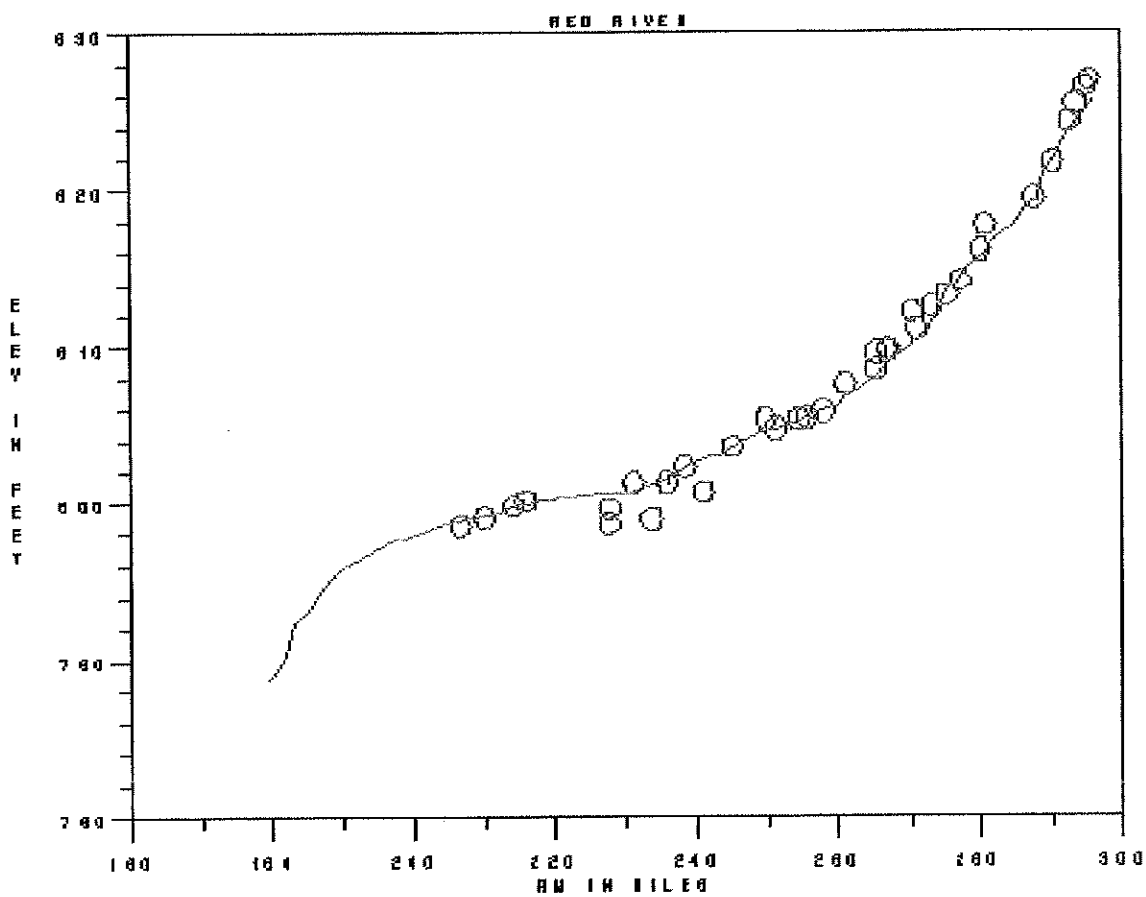
Published discharge records should also be scrutinized. Continuous discharge is computed from discharge measurements, usually taken at bi-weekly or monthly intervals and the continuous stage record. The measurements are compiled into a rating curve and the departures of subsequent measurements from the rating curve are used to define shifts. The shifts are temporary changes in the rating curve due to unsteady flow effects (looped rating curve) and short term geomorphic changes. The quality of the record depends on the frequency of discharge measurements and the skill of the hydrologist. The only way to depict the quality of the published flow data is to compare the measured flow values to the currently published rating curve. However, if the flow measurements are infrequent, one can only apply the flow record to the model and see how well the stage record is reproduced. Remember! Most

DON002652

published flow records for large streams are in mean daily flow. The modeler must somehow assign time values to these records.

High Water Marks. High water marks are estimated from the upper limit of stains and debris deposits found on buildings, bridges, trees, and other structures. Wind and wave actions can cause the debris lines to be higher than the actual water surface. Capillary action can cause stains on buildings to migrate upward, depending on the material used for the building walls. High water marks in the overbank area are often higher than in the channel. The overbank water is moving slower and may be closer to the energy gradeline. High water marks on bridge piers are often equal to the energy gradeline, not the average water surface. This is due to the fact that the water will run up the front of the pier to an elevation close to the energy gradeline.

Shown in the Figure 8.20 below is a comparison between high water marks and the computed maximum water surface profile. Note the scatter in the high water marks, particularly around river station 230. Which mark is



accurate?

Figure 8.20 Computed Water Surface Profile Versus Observed High Water Marks.

DON002653

Ungaged Drainage Area. For an unsteady flow model to be accurate, it must have flow input from all of the contributing area. In many studies a significant portion of the area is ungaged. Discharge from ungaged areas can be estimated from either hydrologic models or by taking flow from a gaged watershed with similar hydrologic characteristics and multiplying it by a simple drainage area ratio.

An example of accounting for ungaged drainage area is shown below for the Red River of the North.

Stream	Station	River Mile	Gaged Drainage (Sq. Miles)
Red River	Grand Forks	296	30,100
Turtle River	Manvel	272.9	613
Forest River	Minto	242.5	740
Snake River	Alvarado	229.9	309
Middle River	Argyle	9.72	265
Park River	Grafton	221.9	695
	Total of Gaged Tributaries		2,622
Red River	Drayton	206.7	34,800
		Total Ungaged	2,078

Stream	River Mile	Ungaged Drainage (Sq. Miles)	Pattern Hydrograph	Drainage Area Ratio
Grand Marais Creek	288.6	298	Middle River	1.12
Tamarac River	218.5	320	Middle River	1.21
Remaining		1,460	Middle River	5.51

Figure 8.21 Example Drainage Area Accounting for Red River of the North.

As shown in Figure 8.21, ungaged areas can be accounted for by using a pattern hydrograph of a similar watershed (Middle River), then calculating a drainage area ratio of contributing areas (Ungaged area divided by pattern hydrograph area).

River and Floodplain Geometry

It is essential to have an adequate number of cross sections that accurately depict the channel and overbank geometry. This can be a great source of

DON002654

error when trying to calibrate. Additionally, all hydraulic structures must be accurately depicted. Errors in bridge and culvert geometry can be significant sources of error in computed water surface profiles. Another important factor is correctly depicting the geometry at stream junctions (flow combining and splitting locations). This is especially important at flow splits, and areas in which flow reversals will occur (i.e. flow from a main stem backing up a tributary).

Also, a one-dimensional model assumes a constant water surface in each cross section. For some river systems, the water surface may vary substantially between the channel and the floodplain. If this is the case in your model, it may be necessary to separate the channel and the floodplain into there own reaches or model the overbank area as a series of storage areas.

Roughness Coefficients

Roughness coefficients are one of the main variables used in calibrating a hydraulic model. Generally, for a free flowing river, roughness decreases with increased stage and flow (Figure 8.22). However, if the banks of a river are rougher than the channel bottom (do to trees and brush), then the composite n value will increase with increased stage. Sediment and debris can also play an important role in changing the roughness. More sediment and debris in a river will require the modeler to use higher n values in order to match observed water surfaces.

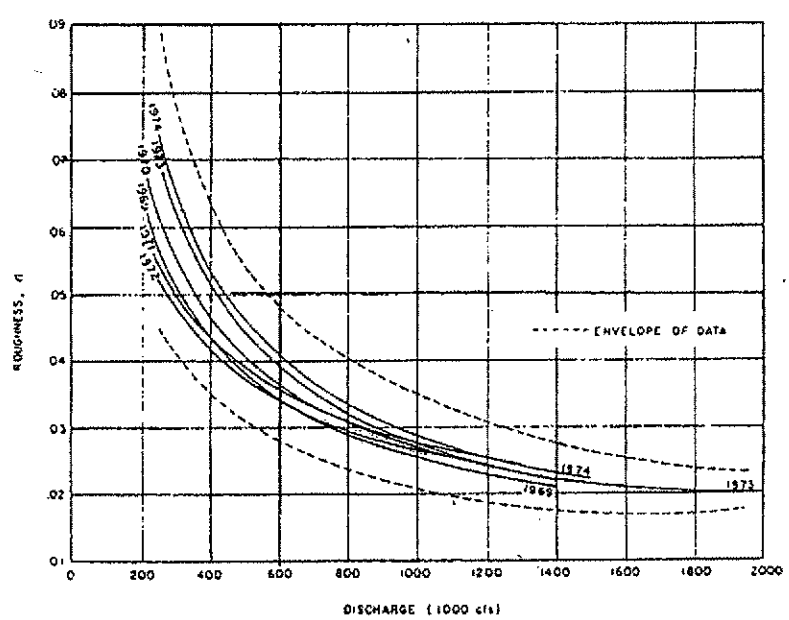


Figure 8.22 Roughness Versus Discharge for the Mississippi River at Arkansas City.

DON002655

Looped Rating Curves. Excluding cataclysmic events such as meander cutoffs or a new channel, the river will pass any given flow within a range of stages. The shift in stage is a result of the following: shifts in channel bedforms; the dynamics of the hydrograph (how fast the flood wave rises and falls); backwater (backwater can significantly change the stage at a given cross section for a given flow); and finally, the slope of the river (flatter streams tend to have greater loops in the rating curve). Figure 8.23 below shows a looped rating for a single event. Generally, the lower stages are associated with the rising side of a flood wave, and the higher stages are associated with the falling side of the flood wave.

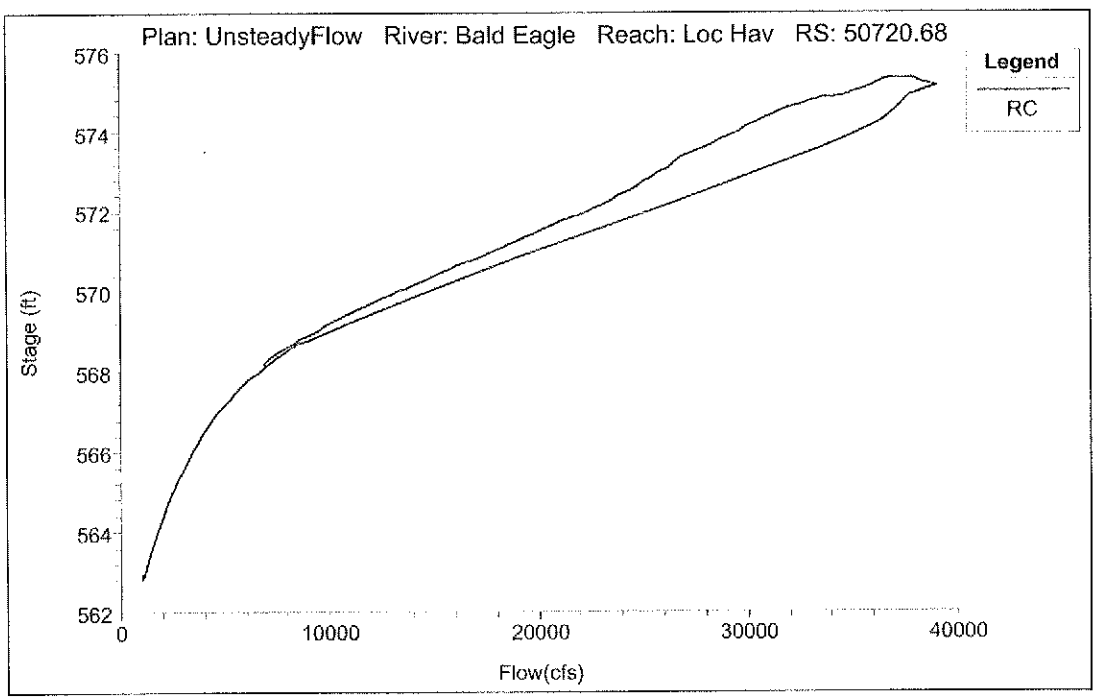


Figure 8.23 Looped Rating Curve Example

DON002656

Alluvial Rivers. In an alluvial stream the channel boundary, as well as the meandering pattern of the stream, are continuously being re-worked by the flow of water. Alluvium is unconsolidated granular material, which is deposited by flowing water. An alluvial river is incised into these alluvial deposits. The flow characteristics of the stream are defined by the geometry and roughness of the cross-section below the water surface. The reworking of the cross section geometry and meander pattern is greatest during high flow, when the velocity, depth of water, and sediment transport capacity are the greatest. For some streams, which approach an equilibrium condition, the change in morphology (landforms) is small. For other streams, the change in morphology is much larger. The change can be manifest as changes in roughness or a more dynamic change such as the cut-off of a meander loop, which shortens the stream and starts a process which completely redefines the bed.

A typical meandering river is shown in Figure 8.24 below. Pools are at the outside of bends, and a typical pool cross-section is very deep. On the inside of the bend is a point bar. Crossings are between the meander bends. A typical crossing cross-section is much shallower and more rectangular than a pool cross-section.

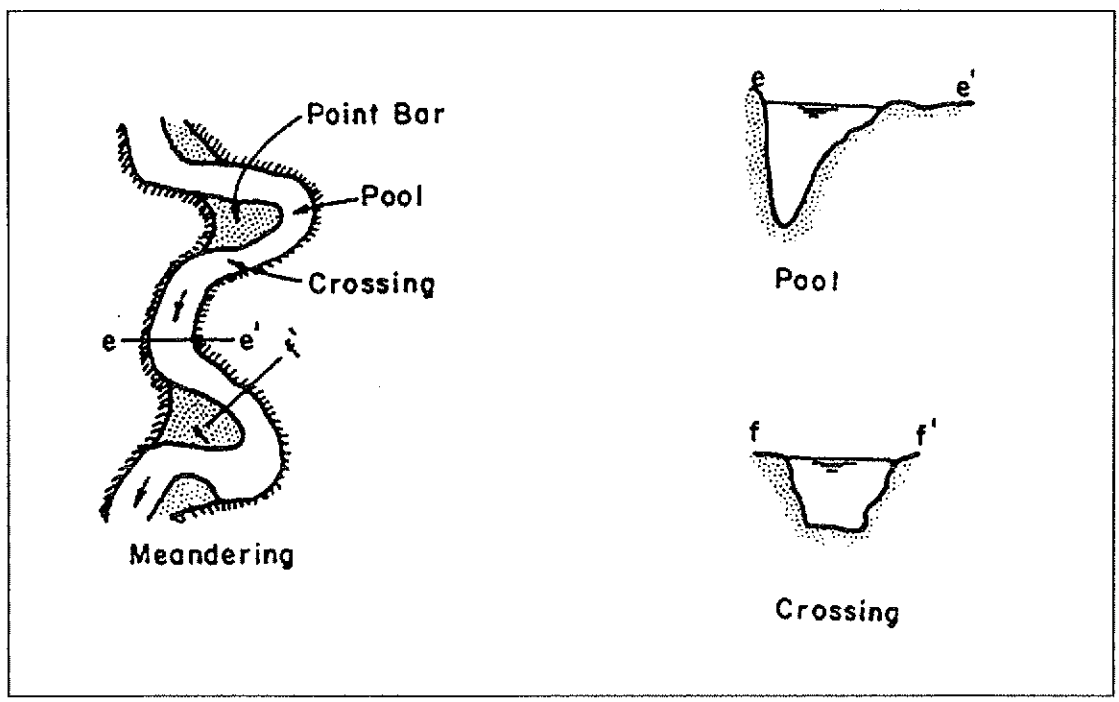


Figure 8.24 Morphology of a Meandering River

An invert profile for the Mississippi River is shown in the Figure 8.25. Note the pools and crossings. The water surface profile is controlled by the crossing cross-sections, particularly at low flow. The conveyance properties of pool cross-sections are only remotely related to the water surface. This poses a significant problem when calibrating a large river.

DON002657

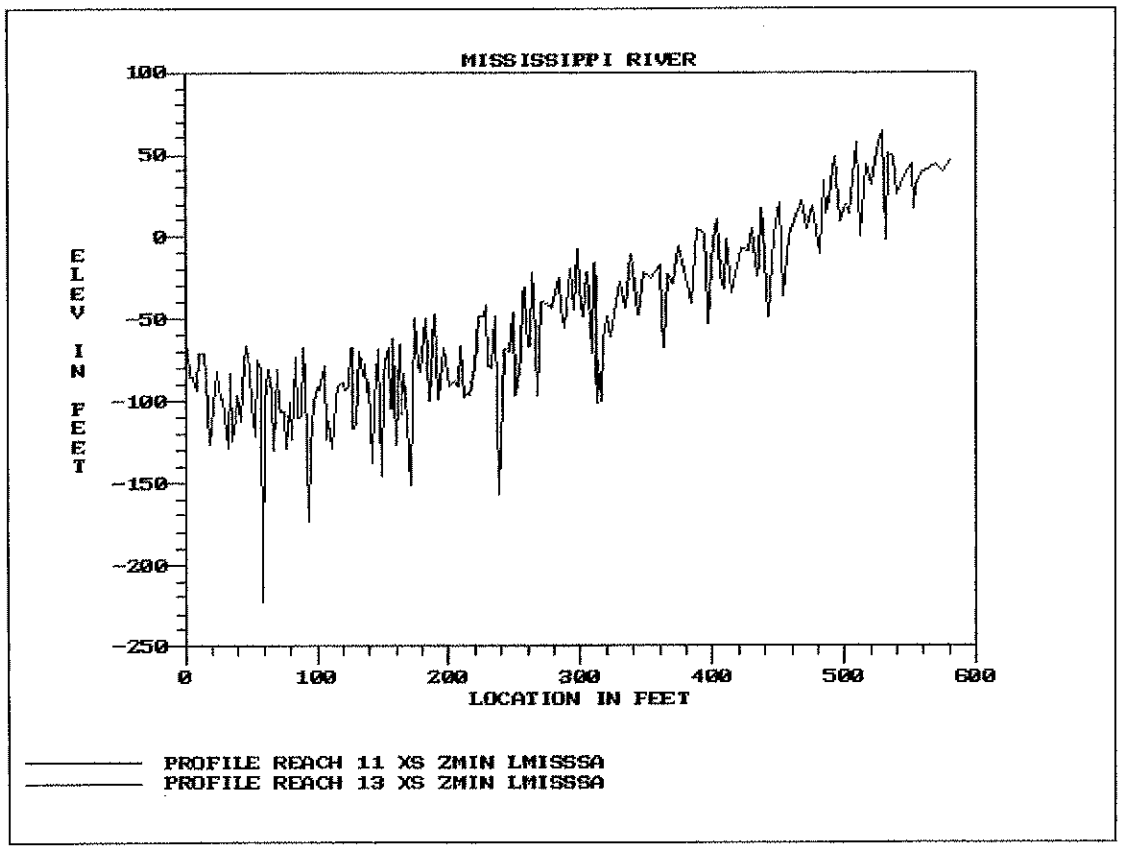


Figure 8.25 Invert Profile for Lower Mississippi River

As stage and flow increase you have an increase in stream power (stream power is a function of hydraulic radius, slope, and velocity). The bed forms in an alluvial stream tend to go through the following transitions:

1. Plane bed without sediment movement.
2. Ripples.
3. Dunes.
4. Plane bed with sediment movement.
5. Anti-dunes.
6. Chutes and pools.

Generally, anti-dunes and chutes and pools are associated with high velocity streams approaching supercritical flow. The bed form process is shown graphically in Figure 8.26.

DON002658

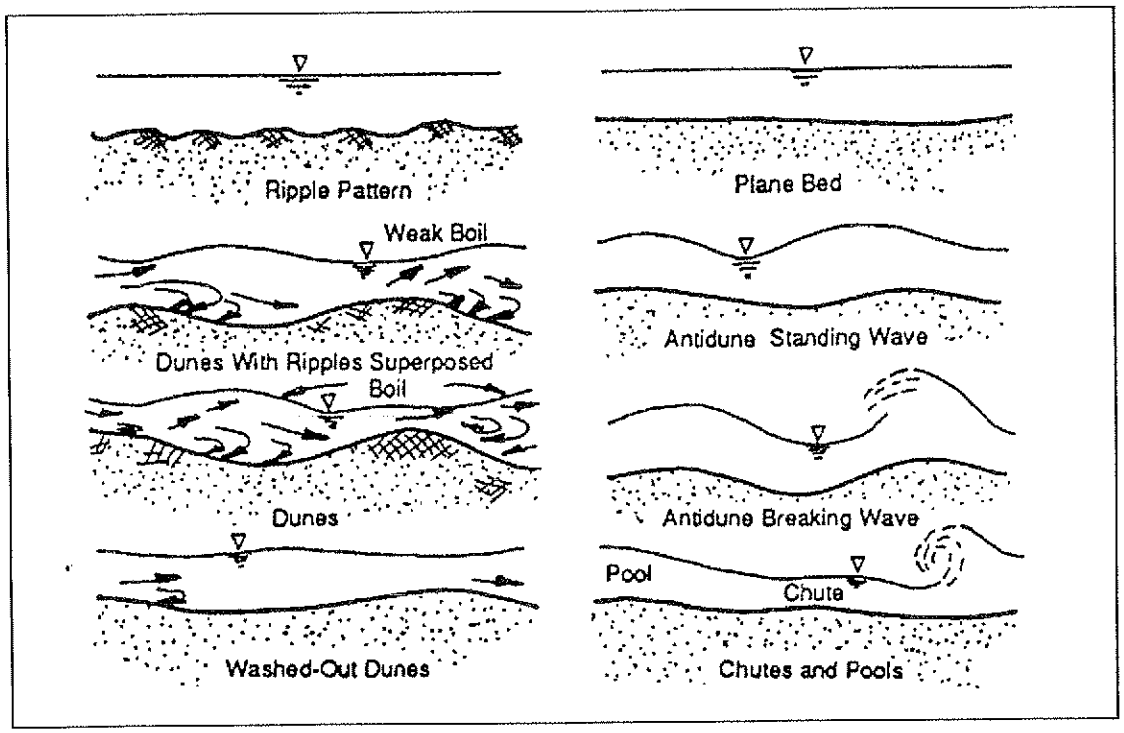


Figure 8.26 Transitions of Bed Forms in an Alluvial Stream

Typical Manning's roughness coefficients for the different bed forms presented above are shown in the following table:

Table 8-1 Roughness Variations for Alluvial Streams

Bed Forms	Range of Manning's n
Ripples	0.018 – 0.030
Dunes	0.020 – 0.035
Washed Out Dunes	0.014 – 0.025
Plane Bed	0.012 – 0.022
Standing Waves	0.014 – 0.025
Antidunes	0.015 – 0.031

Note: This table is from the book "Engineering Analysis of Fluvial Streams", by Simons, Li, and Associates.

DON002659

Bed forms also change with water temperature. Because water is more viscous at lower temperatures, it becomes more erosive, reducing the height and the length of the dunes. At higher temperatures, when the water is less viscous, the dunes are higher and of greater length. Since the larger dunes are more resistant to flow, the same flow will pass at a higher stage in the summer than in the winter. Larger rivers such as the Mississippi River and the Missouri River show these trends. Figure 8.27 shows the seasonal shift for the Mississippi River at St. Louis.

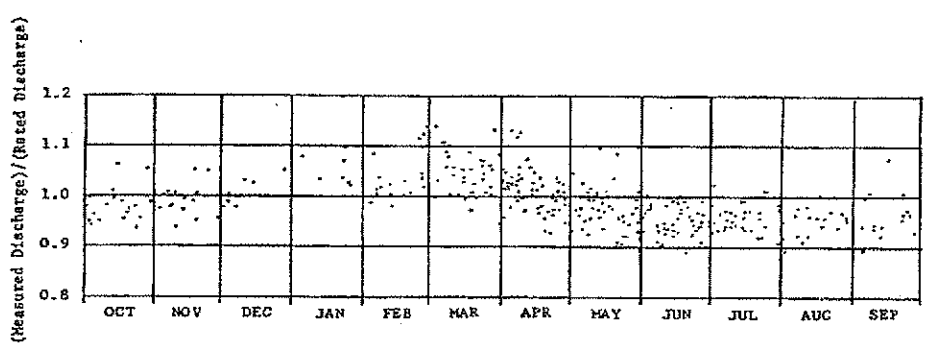


Figure 8.27 Changes in Roughness due to Temperature in The Mississippi River.

River and Floodplain Storage

Cross Sectional Storage. The active flow area of a cross section is the region in which there is appreciable velocity. This part of the cross section is conveying flow in the downstream direction. Storage is the portion of the cross section in which there is water, but it has little or no velocity. Storage can be modeled within a cross section by using the ineffective flow area option in HEC-RAS. The water surface elevation within the cross section storage is assumed to have the same elevation as the active flow portion of the cross section.

The storage within the floodplain is responsible for attenuating the flood hydrograph and, to some extent, delaying the flood wave.

DON002660

Effects of Overbank Storage. Water is taken out of the rising side of the flood wave and returned on the falling side. An example of the effects of overbank storage is shown in Figure 8.28. In this example, the water goes out into storage during the rising side of the flood wave, as well as during the peak flow. After the peak flow passes, the water begins to come out of the storage in the overbank and increases the flow on the falling side of the floodwave.

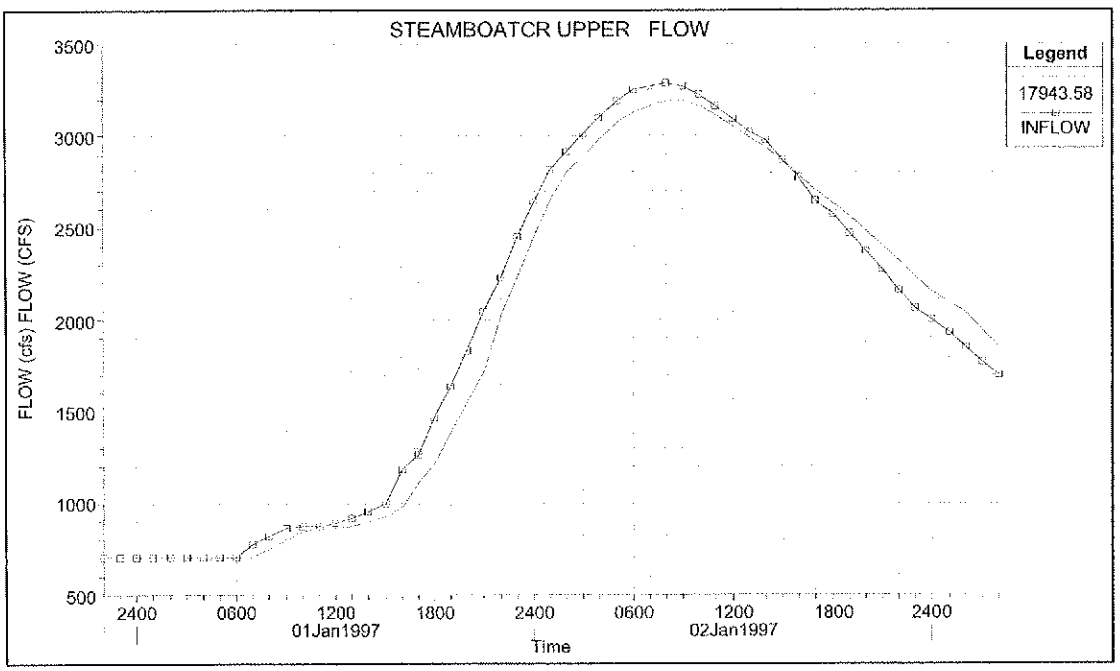


Figure 8.28 Example of The Effects of Overbank Storage

Off Line Storage. Off line storage is an area away from the main river in which water can go from the main river to the ponding area. The connection between the ponding area and the river may be a designed overflow, or it may just be a natural overflow area. The water in the ponding area is often at a different elevation that the main river, therefore, it must be modeled separately from the cross sections describing the main river and floodplain. Within HEC-RAS, ponding areas are modeled using what we call a storage area. Storage areas can be connected hydraulically to the river system by using a lateral weir/spillway option in HEC-RAS.

The effect that off line storage has on the hydrograph depends on the available volume and the elevation at which flow can get into and out of the storage area. Shown in Figure 8.29 is an example of an off-line storage area that is connected to the river through a lateral weir/spillway. The flow upstream and downstream of the offline storage area remains the same until the water surface elevation gets higher than the lateral weir. Water goes out into the lateral storage facility the whole time it is above the weir (i.e. the storage area elevation is always lower than the river elevation in this example). This continues until later in the event, when the river elevation is

DON002661

below the lateral weir and flow can no longer leave the river. In this example, the flow in the storage area does not get back into the river system until much later in the event, and it is at a very slow rate (possible drained by culverts to a downstream location).

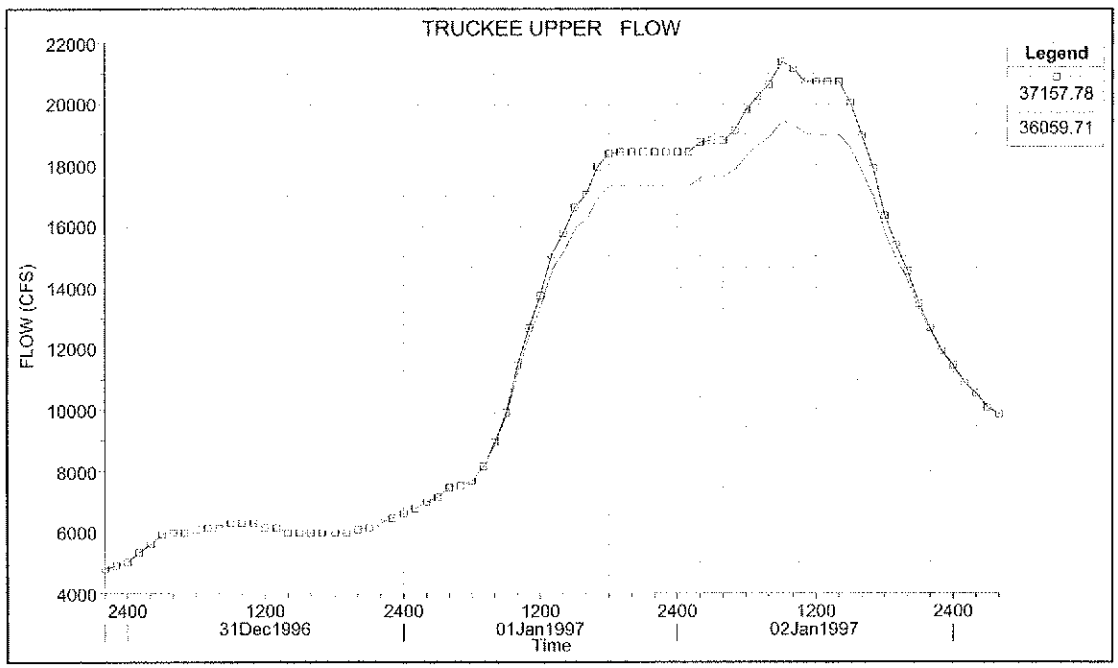


Figure 8.29 Example effects of off-line Storage

Hydraulic Structure Coefficients

Bridges and culverts tend to have a local effect on stage, and a minimum affect on the flow hydrograph (this depends on the amount of backwater they cause). The coefficients that are important in bridge modeling are: Manning's n values; contraction and expansion coefficients; pier loss coefficients, and pressure and weir flow coefficients for high flows. Culvert hydraulics are dependent upon the size of the culverts and shape of the entrance. Additional variables include Manning's n values and contraction and expansion coefficients.

The effects of Inline weirs/spillways can be substantial on both the stage and the flow attenuation of the hydrograph. The effects on the hydrograph will depend upon the available storage volume in the pool upstream of the structure, as well as how the structure is operated. Lateral weir/spillway structures can have a significant impact on the amount of water leaving the river system. Therefore gate and weir coefficients for these structures can be extremely critical to getting the right amount of flow leaving the system.

DON002662

Steps To Follow in The Calibration Process

The following is a general list of steps to follow when calibrating an unsteady flow model:

1. Run a range of discharges in the Steady-Flow mode, and calibrate n values to established rating curves at gages and known high water marks.

2. Select specific events to run in unsteady flow mode. Ensure each event goes from low flow to high flow, and back to low flow.

3. Adjust storage and lateral weirs to get good reproduction of flow hydrographs (Concentrate on timing, peak flow, volume, and shape).

4. Adjust Manning's n values to reproduce stage hydrographs.

5. Fine tune calibration for low to high stages by using "Discharge-Roughness Factors" where and when appropriate.

6. Further refine calibration for long-term modeling (period of record analysis) with "Seasonal Roughness Factors" where and when appropriate.

7. Verify the model calibration by running other flow events or long term periods that were not used in the calibration.

8. If further adjustment is deemed necessary from verification runs, make adjustments and re-run all events (calibration and verification events).

General Trends When Adjusting Model Parameters

In order to understand which direction to adjust model parameters to get the desired results, the following is a discussion of general trends that occur when specific variables are adjusted. These trends assume that all other geometric data and variables will be held constant, except the specific variable being discussed.

Impacts of Increasing Manning's n. When Manning's n is increased the following impacts will occur:

1. Stage will increase locally in the area where the Manning's n values were increased.

2. Peak discharge will decrease (attenuate) as the flood wave moves downstream.

DON002663

3. The travel time will increase.

4. The loop effect will be wider (i.e. the difference in stage for the same flow on the rising side of the flood wave as the falling side will be greater). An example of this is shown in Figure 8.30.

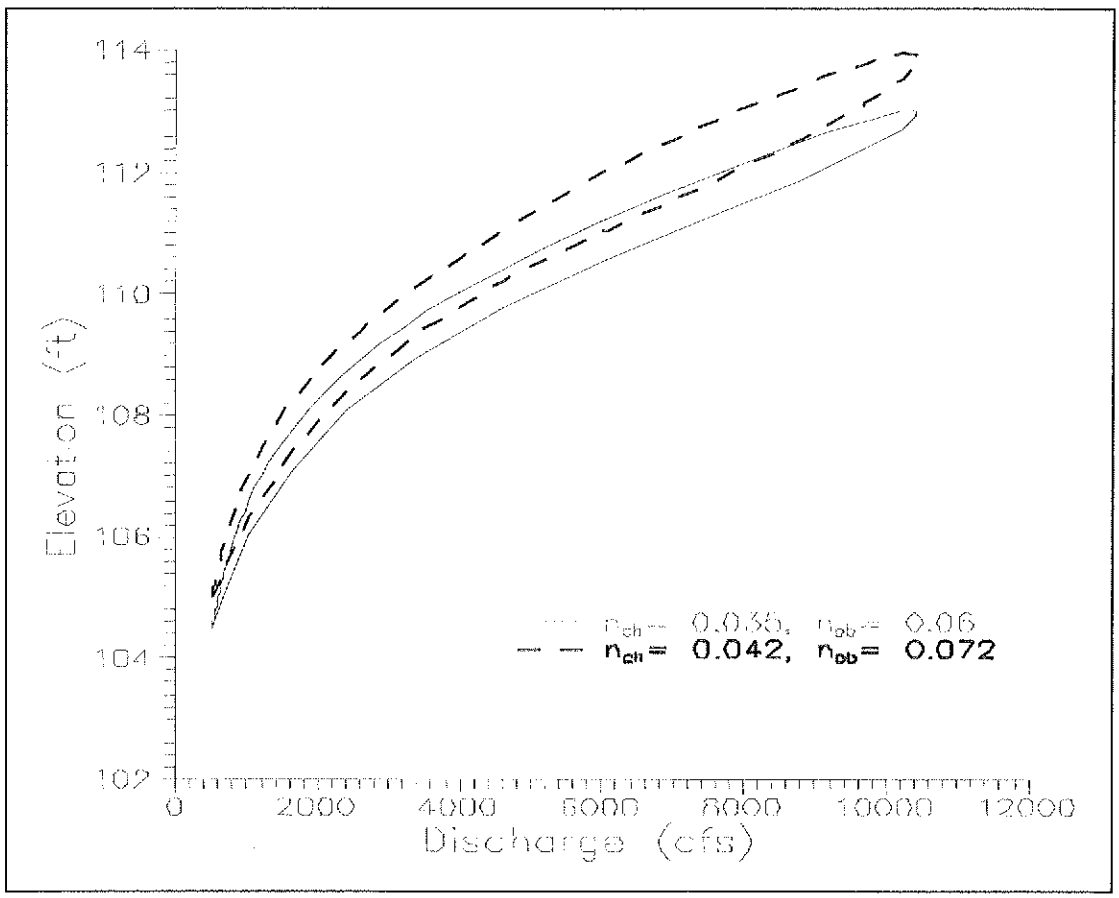


Figure 8.30 Example of Wider Loop for Higher Manning's n

Impacts of Increasing Storage. When storage within the floodplain is increased, the following impacts will occur:

1. Peak discharge will decrease as the flood wave moves downstream.

2. The travel time will increase.

3. The tail of the hydrograph will be extended.

4. The local stage (in the area of the increased storage) may increase or decrease. This depends upon if you are trading conveyance area for storage area, or just simply increasing the amount of storage area.

DON002664

Calibration Suggestions and Warnings

The following is a list of suggestions and warnings to consider when calibrating an unsteady flow model:

1. Calibrate mostly to stages. Flow data is derived from stage. Be wary of discharge derived from stage using single value rating curves.

2. Do not force a calibration to fit with unrealistic Manning's n values or storage.

3. If using a single-valued rating curve at the downstream boundary, move it far enough downstream so it doesn't effect the results in the study reach.

4. Discrepancies may arise from a lack of quality cross-section data.

5. The volume of off-channel storage areas is often underestimated, which results in a flood wave that travels to fast.

6. Be careful with old HEC-2 and RAS studies done for steady flow only. The cross sections may not depict the storage areas. Defining storage is not a requirement for a steady flow model.

7. Calibration should be based on floods that encompass a wide range of flows, low to high.

8. For tidally influenced rivers and flows into reservoirs, the inertial terms in the momentum equation are very important. Adjusting Manning's n values may not help. Check cross sectional shape and storage.

9. You must be aware of any unique events that occurred during the flood. Such as levee breaches and overtopping.

DON002665

Model Accuracy, Stability, and Sensitivity

This section of the manual discusses model accuracy, stability, and sensitivity. In order to develop a good unsteady flow model of a river system, the user must understand how and why the solution of the unsteady flow equations becomes unstable. This knowledge will help you figure out why your particular model may be having stability problems. Additionally, it is important to understand the trade-offs between numerical accuracy (accurately solving the equations) and model stability. Finally, model sensitivity will be discussed in order to give you an understanding of what parameters affect the model and in what ways.

Model Accuracy

Model accuracy can be defined as the degree of closeness of the numerical solution to the true solution. Accuracy depends upon the following:

1. Assumptions and limitations of the model (i.e. one dimensional model, subcritical flow only for unsteady flow).

2. Accuracy of the geometric Data (cross sections, Manning's n values, bridges, culverts, etc…).

3. Accuracy of the flow data and boundary conditions (inflow hydrographs, rating curves, etc…).

4. Numerical Accuracy of the solution scheme (solution of the unsteady flow equations).

Numerical Accuracy. If we assume that the 1-dimensional unsteady flow equations are a true representation of flow moving through a river system, then only an analytical solution of these equations will yield an exact solution. Finite difference solutions are approximate. An exact solution of the equations is not feasible for complex river systems, so HEC-RAS uses an implicit finite difference scheme.

Model Stability

An unstable numerical model is one for which certain types of numerical errors grow to the extent at which the solution begins to oscillate, or the errors become so large that the computations can not continue. This is a common problem when working with an unsteady flow model of any size or complexity. The following factors will affect the stability and numerical accuracy of the model:

1. Cross section spacing.

DON002666

2. Computation time step.

3. Theta weighting factor for numerical solution.

4. Solution iterations.

5. Solution tolerances.

6. Weir and spillway stability factors.

7. Weir and spillway submergence factors.

Cross-Section Spacing. Cross sections should be placed at representative locations to describe the changes in geometry. Additional cross sections should be added at locations where changes occur in discharge, slope, velocity, and roughness. Cross sections must also be added at levees, bridges, culverts, and other structures.

Bed slope plays an important role in cross section spacing. Steeper slopes require more cross sections. Streams flowing at high velocities may require cross sections on the order of 100 feet or less. Larger uniform rivers with flat slopes may only require cross sections on the order of 1000 ft or more. However, most streams lie some where in between these two spacing distances.

The general question about cross section spacing is "How do you know if you have enough cross sections." The easiest way to tell is to add additional cross sections (this can be done through the HEC-RAS cross section interpolation option) and save the geometry as a new file. Then make a new plan and execute the model, compare the two plans (with and without interpolated cross sections). If there are no significant differences between the results (profiles and hydrographs), then the original model without the additional cross sections is ok. If there are some significant differences, then additional cross sections should be gathered in the area where the differences occur. If it is not possible to get surveyed cross sections, or even cross sections from a GIS, then use the HEC-RAS interpolated cross sections. However, at least check the reasonableness of the interpolated cross sections with a topographic map. Edit any cross sections that do not look reasonable.

Computational Time Step. Stability and accuracy can be achieved by selecting a time step that satisfies the Courant Condition:

$$C_r = V_w \frac{\Delta t}{\Delta x} \leq 1.0$$

Therefore:

$$\Delta t \leq \frac{\Delta x}{V_w}$$

Where: V_w	=	Flood wave speed, which is normally greater than the average velocity.
V	=	Average velocity of the flow.
Δx	=	Distance between cross sections.
Δt	=	Computational time step.

For most rivers the flood wave speed can be calculated as:

$$V_w = \frac{dQ}{dA}$$

However, an approximate way of calculating flood wave speed is to multiply the average velocity by a factor. Factors for various channel shapes are shown in the table below.

Table 8-2 Factors for Computing Wave Speed From Average Velocity

Channel Shape	Ratio Vw/V
Wide Rectangular	1.67
Wide Parabolic	1.44
Triangular	1.33
Natural Channel	1.5

Practical Time Step Selection. For medium to large rivers, the Courant condition may yield time steps that are too restrictive (i.e. a larger time step could be used and still maintain accuracy and stability). A practical time step is:

$$\Delta t \leq \frac{Tr}{20}$$

Where: T_r = Time of rise of the hydrograph to be routed.

However, you may need to use a smaller time step when you have lateral weirs/spillways and hydraulic connections between storage areas and the river system. Also, if you are opening and closing gates quickly, or modeling a Dam or Levee breach, you will need to use very small time steps (less than a minute, maybe even as low as 5 seconds).

Theta Weighting Factor. Theta is a weighting applied to the finite difference approximations when solving the unsteady flow equations. Theoretically Theta can vary from 0.5 to 1.0. However, a practical limit is from 0.6 to 1.0
Theta of 1.0 provides the most stability. Theta of 0.6 provides the most accuracy. The default in HEC-RAS is 1.0. Once you have your model developed, reduce theta towards 0.6, as long as the model stays stable.

Larger values of theta increase numerical diffusion, but by how much? Experience has shown that for short period waves that rapidly rise, theta of 1.0 can produce significant errors. However, errors in the solution can be reduced by using smaller time steps.

When choosing theta, one must balance accuracy and computational robustness. Larger values of theta produce a solution that is more robust, less prone to blowing up. Smaller values of theta, while more accurate, tend to cause oscillations in the solution, which are amplified if there are large numbers of internal boundary conditions. Test the sensitivity of theta to your data set. If reducing theta does not change the solution, then the larger value should be used to insure greater stability.

Solution Iterations. At each time step derivatives are estimated and the equations are solved. All of the computation nodes are then checked for numerical error. If the error is greater than the allowable tolerances, the program will iterate. The default number of iterations in HEC-RAS is set to 20. Iteration will generally improve the solution. This is especially true when your model has lateral weirs and storage areas.

Solution Tolerances. Two solution tolerances can be set or changed by the user: water surface calculation (0.02 default) and Storage area elevation (0.10 default). The default values should be good for most river systems. Only change them if you are sure! Making the tolerances larger can reduce the stability of the solution. Making them smaller can cause the program to go to the maximum number of iterations every time.

DON002669

Weir and Spillway Stability Factors. Weirs and Spillways can often be a source of instability in the solution. Especially lateral structures, which take flow away or bring it into the main river. During each time step, the flow over a weir/spillway is assumed to be constant. This can cause oscillations by sending too much flow during a time step. One solution is to reduce the time step. Another solution is to use Weir and spillway stability factors, which can smooth these oscillations by damping the computed flows. However, using these stability factors can reduce the accuracy of the computed values.

The weir and spillway stability factors can range from 1.0 to 3.0. The default value of 1.0 is essentially no damping of the computed flows. As you increase the factor you get greater dampening of the flows (which will provide for greater stability), but less accuracy.

Weir and Spillway Submergence Factors. When you have a weir or spillway connecting two storage areas, or a storage area and a reach, oscillations can occur when the weir or spillway becomes highly submerged. The program must always have flow going one way or the other when the water surface is above the weir/spillway. When a weir/spillway is highly submerged, the amount of flow can vary greatly with small changes in stage on one side or the other. This is due to the fact that the submergence curves, which are used to reduce the flow as it becomes more submerged, are very steep in the range of 95 to 100 percent submergence. The net effect of this is that you can get oscillations in the flow and stage hydrograph when you get to very high submergence levels. The program will calculate a flow in one direction at one time step. That flow may increase the stage on the receiving side of the weir, so the next time step it sends flow in the other direction. This type of oscillation is ok if it is small in magnitude. However, if the oscillations grow, they can cause the program to go unstable.

To reduce the oscillations, the user can increase the Weir/Spillway Submergence Factor. This factor can vary from 1.0 to 3.0. A factor of 1.0 leaves the submergence criteria in its original form. Using a factor greater than 1.0 causes the program to use larger submergence factors earlier, and makes the submergence curve less steep at high degrees of submergence. A plot of the submergence curves for various factors is shown in Figure 8.31.

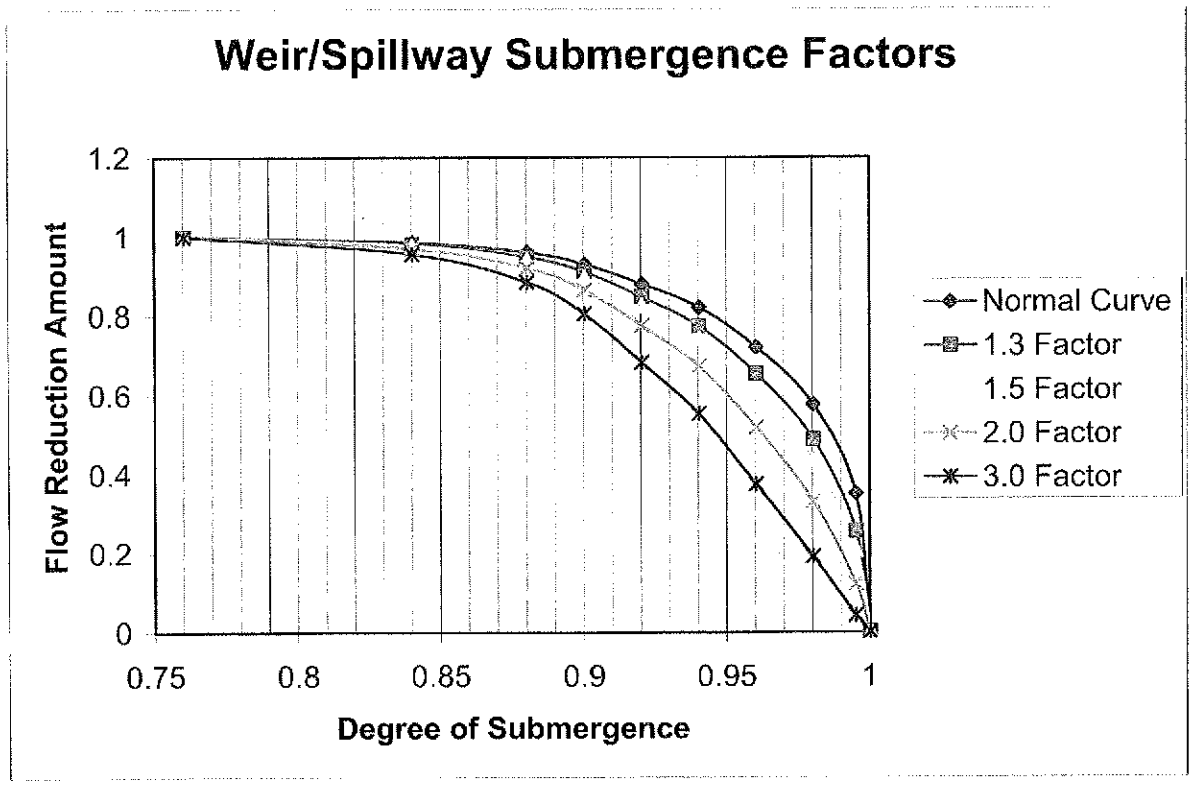


Figure 8.31 Weir/Spillway Submergence Factors

Common Stability Problems. The following is a list of some of the most common reasons for instabilities occurring in an unsteady flow model like HEC-RAS:

Too large of a time step: When the solution scheme solves the unsteady flow equations, derivatives are calculated with respect to distance and time. If the changes in hydraulic properties at a give cross section are changing rapidly with respect to time, the program will go unstable. The solution to this problem is to decrease the computational time step.

Not enough cross sections: When cross sections are spaced far apart, and the changes in hydraulic properties are great, the solution can become unstable. In situations where the flow area, depth, and/or velocity are changing rapidly, it is necessary to add additional cross sections to keep the solution stable.

Model goes to critical depth: The default solution methodology for unsteady flow routing within HEC-RAS is generally for subcritcal flow. However, the software does have an option to run in a mixed flow regime mode. This option should not be used unless you truly believe you have a mixed flow regime river system. If you are running the software in the default mode (subcritical only, no mixed flow), and if the program goes down to critical depth at a cross section, the changes in area, depth, and velocity are very high. This sharp increase in the water surface slope will often cause the

DON002671

program to overestimate the depth at the next cross section upstream, and possible underestimate the depth at the next cross section downstream (or even the one that went to critical depth the previous time step). One solution to this problem is to increase the Manning's n value in the area where the program is first going to critical depth. This will force the solution to a subcritical answer and allow it to continue with the run. Obviously, this is creating a solution that may be higher than the true solution, but it may be necessary in order to allow the program to continue with the run. If you feel that the true water surface should go to critical depth, or even to a supercritical flow regime, then the mixed flow regime option should be turned on.

Bad downstream boundary condition: If the user entered downstream boundary condition causes abrupt jumps in the water surface, or water surface elevations that are too low (approaching or going below critical depth), this can cause oscillations in the solution that may lead to it going unstable and stopping. Examples of this are rating curves with not enough points or just simply to low of stages; and normal depth boundaries where the user has entered to steep of a slope.

Bad cross section properties: All of the cross sections get converted to tables of hydraulic properties (elevation versus area, conveyance, and storage). If the curves that represent these hydraulic properties have abrupt changes with small changes in elevation, this can also lead to instability problems. This situation is commonly caused by: levees being overtopped with large areas behind them (since the model is one dimensional, it assumes that the water surface is the same all the way across the entire cross section); and ineffective flow areas with large amounts of storage that are turned on at one elevation, and then turn off at a slightly higher elevation (this makes the entire area now used as active conveyance area). There are many possible solutions to these problems, but the basic solution is to not allow the hydraulic properties of a cross section to change so abruptly. If you have a levee with a large amount of area behind it, model the area behind the levee separately from the cross section. This can be done with either a storage area or another routing reach, whichever is most hydraulically correct for the flow going over the levee or if the levee breaches. With large ineffective flow areas, the possible solutions are to model them as being permanently on, or to put very high Manning's n values in the ineffective zones. Permanent ineffective flow areas allow water to convey over top of the ineffective area, so the change in conveyance and area is small. The use of high Manning's n values reduces the abruptness in the change in area and conveyance when the ineffective flow area gets turned off and starts conveying water.

Cross section property tables that do not go high enough: The program creates tables of elevation versus area, conveyance, and storage area for each of the cross sections. These tables are used during the unsteady flow solution to make the calculations much faster. By default, the program will create tables that extend up to the highest point in the cross section, however, the user can override this and specify their own table properties (increment and number of points). If during the solution the water surface goes above the

highest elevation in the table, the program simply extrapolates the hydraulic properties from the last two points in the table. This can lead to bad water surface elevations or even instabilities in the solution.

Not enough definition in cross section property tables: The counter problem to the previous paragraph is when the cross section properties in a given table are spread too far apart, and do not adequately define the changes in the hydraulic properties. Because the program uses straight-line interpolation between the points, this can lead to inaccurate solutions or even instabilities. To reduce this problem, we have increased the allowable number of points in the tables to 100. With this number of points, this problem should not happen.

Bad Bridge/Culvert Family of rating curves. The program creates a family of rating curves to define all the possible headwater, tailwater, and flow combinations that can occur at a particular structure. One free flow curve (headwater versus flow, with no influence from the tailwater) is calculated with fifty points to define it, then up to fifty submerged curves (headwater versus flow, staring at a particular tailwater) are calculated with up to 20 points to define each curve. The user can control how many submerged curves get calculated, how many points in each curve, and the properties used to define the limits of the curves (maximum headwater, maximum tailwater, maximum flow, and maximum head difference). By default, the software will take the curves up to an elevation equal to the highest point in the cross section just upstream of the structure. This may lead to curves that are too spread out and go up to a flow rate that is way beyond anything realistic for that structure. These type of problems can be reduced by entering specific table limits for maximum headwater, tailwater, flow, and head difference.

Wide and flat Lateral Weirs/Spillways: During the computations, there will be a point at which for one time step no flow is going over the lateral weir, and then the very next time step there is flow going over the weir. If the water surface is rising rapidly, and the weir is wide and flat, the first time the water surface goes above the weir could result in a very large flow being computed (i.e. it does not take a large depth above the weir to produce are large flow if it is very wide and flat). This can result in a great decrease in stage from the main river, which in turn causes the solution to oscillate and possibly go unstable. This is also a common problem when having large flat weirs between storage areas. The solution to this problem is to use smaller computational time steps. If this is not sufficient, there is also the option to use weir/spillway stability factors, as described previously in the chapter.

Opening gated spillways to quickly: When you have a gated structure in the system, and you open it quickly, if the flow coming out of that structure is a significant percentage of the flow in the receiving body of water, then the resulting stage, area and velocity will increase very quickly. This abrupt change in the hydraulic properties can lead to instabilities in the solution. To solve this problem you should use smaller computational time steps, or open the gate a littler slower, or both if necessary.

DON002673

Very shallow depths of water: When starting a simulation it is very common to start the system at low flows. If you have some cross sections that are fairly wide, the depth will be very small. As flow begins to come into the river, the water surface will change quickly. The leading edge of the flood wave will have a very steep slope. Sometimes this steep slope will cause the solution to reduce the depth even further downstream of the rise in the water surface, possibly even producing a negative depth. This is due to the fact that the steep slope gets projected to the next cross section downstream when trying to solve for its water surface. The best solution to this problem is to use what is called a pilot channel. A pilot channel is a small slot at the bottom of the cross section, which gives the cross section a greater depth without adding much flow area. This allows the program to compute shallow depths on the leading edge of the flood wave without going unstable. Another solution to this problem is to use a larger base flow at the beginning of the simulation.

Detecting Stability Problems. One of the hardest things about using an unsteady flow model is to get the model to be stable, as well as accurate, for the range of events to be modeled. When you first start putting together an unsteady flow model, undoubtedly you will run in to some stability problems. The question is, how do you know you are having a stability problem? The following is a list of stability problem indicators:

1. Program stops running during the simulation with a math error, or states that the matrix solution went unstable.

2. Program goes to the maximum number of iterations for several time steps in a row (this is not always a stability problem).

3. There are oscillations in the computed stage and flow hydrographs, or the water surface profiles.

If you detect a possible stability problem, in order to find the location of the problem you will need to turn on the detailed log output for debugging. Detailed log output is turned on by selecting **Options** and then **Output Options** from the Unsteady Flow Simulation manager. When this option is selected the following window will appear:

DON002674

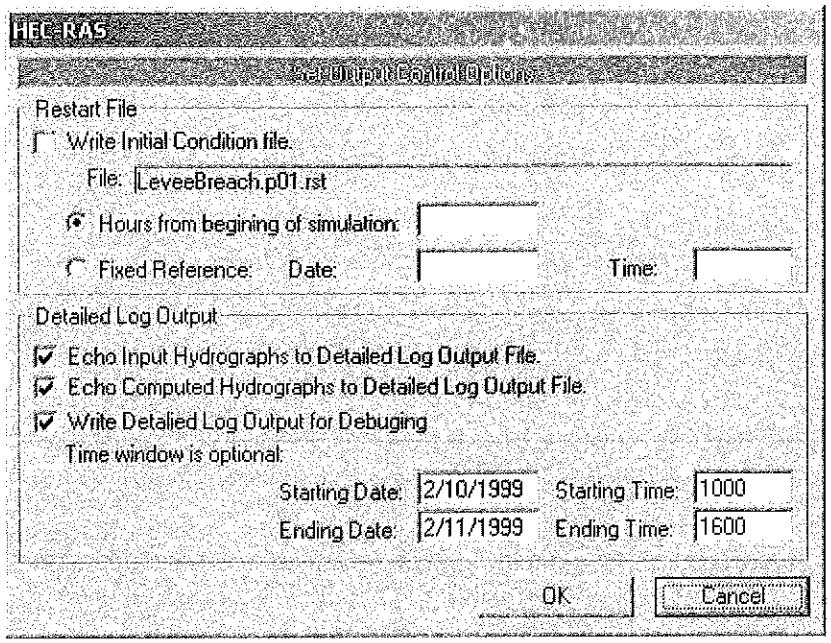


Figure 8.32 Detailed Log Output Control

As shown in Figure 8.32, the section at the bottom half of this editor is used for controlling the detailed log output. Three check boxes are listed. The first box can be used to turn on an echo of the hydrograph input to the model. This can be used to ensure that the model is receiving the correct flow data. The second check box can be used to turn on an echo of the computed hydrographs that will be written to the HEC-DSS. This is a good option for checking what was computed. However, if the user has selected to have hydrographs computed at many locations, this could end up taking a lot of file and disk space. The third check box is used to control the detailed output of results from the unsteady flow simulation. Selecting this options will cause the software to write detailed information on a time step by time step basis. This option is useful when the unsteady flow simulation is going unstable or completely blowing up (stopping). Checking this box turns on the detailed output for every time step. The user has the option to limit this output to a specific time window during the unsteady flow simulation. Limiting the log output is accomplished by entering a starting date and time and an ending date and time.

Viewing Detailed Log Output. After the user has turned on the detailed log output option, re-run the unsteady flow simulation. The user can then view the detailed log output by selecting **View Computational Log File** from the **Options** menu of the Unsteady Flow Simulation window. When this option is selected the detailed log output file will be loaded into the default text file viewer for your machine (normally the NotePad.exe program, unless you have changed this option within HEC-RAS).

DON002675

The detailed log output file will contain the following output:

RDSS Output: Shows all of the hydrograph data that will be used as input to the model, including data read from HEC-DSS.

UNET Output: Detailed unsteady flow calculations including:

- Job control parameters
- Initial conditions calculations
- Detailed output for each time step

Table Output: Final computed hydrographs that are written to HEC-DSS.

The program lists the computed initial conditions from a backwater calculation for each of the river/reaches. They are listed in the order they were computed during the backwater analysis, which is downstream to upstream. An example of the initial conditions output is shown in Figure 8.33 below.

Levelpreadhbro - Notepad

File Edit Format Help

Initial Conditions from Backwater

RIVER NAME	REACH NAME	RIVER STATION	FLOW	WSEL	CRIT DEPTH	EG SLOPE	AREA
Beaver Creek	Kentwood	5.0	3000.00	209.30	207.02	0.0012071	2178.84
Beaver Creek	Kentwood	5.016	3000.00	209.40	207.13	0.0011585	2036.65
Beaver Creek	Kentwood	5.032	3000.00	209.49	207.23	0.0011494	1950.81
Beaver Creek	Kentwood	5.048	3000.00	209.58	207.30	0.0011500	1913.43
Beaver Creek	Kentwood	5.065	3000.00	209.67	207.36	0.0011672	1874.69
Beaver Creek	Kentwood	5.081	3000.00	209.75	207.40	0.0012010	1834.46
Beaver Creek	Kentwood	5.097	3000.00	209.82	207.41	0.0013485	1788.69
Beaver Creek	Kentwood	5.113	3000.00	209.92	207.46	0.0013873	1773.18
Beaver Creek	Kentwood	5.13	3000.00	210.03	207.46	0.0014094	1757.82
Beaver Creek	Kentwood	5.146	3000.00	210.17	207.90	0.0014358	1769.25
Beaver Creek	Kentwood	5.162	3000.00	210.31	208.27	0.0014840	1781.84
Beaver Creek	Kentwood	5.178	3000.00	210.45	208.61	0.0015081	1801.07
Beaver Creek	Kentwood	5.194	3000.00	210.60	208.86	0.0015066	1824.42
Beaver Creek	Kentwood	5.21	3000.00	210.75	209.17	0.0014833	1847.64
Beaver Creek	Kentwood	5.226	3000.00	210.89	209.50	0.0014471	1869.46
Beaver Creek	Kentwood	5.242	3000.00	211.02	209.68	0.0013911	1887.72
Beaver Creek	Kentwood	5.258	3000.00	211.15	209.74	0.0013163	1900.66
Beaver Creek	Kentwood	5.274	3000.00	211.26	209.76	0.0012231	1905.77
Beaver Creek	Kentwood	5.29	3000.00	211.37	209.67	0.0010797	1900.07
Beaver Creek	Kentwood	5.31	3000.00	211.36	210.30	0.0021558	1609.68
Beaver Creek	Kentwood	5.33	3000.00	211.38	210.22	0.0025166	1330.87
Beaver Creek	Kentwood	5.35	3000.00	211.48	209.15	0.0018303	1197.09
Beaver Creek	Kentwood	5.37	3000.00	211.60	208.10	0.0011982	1217.80
Beaver Creek	Kentwood	5.39	3000.00	211.70	207.21	0.0007646	1353.02
Beaver Creek	Kentwood	5.41	3000.00	211.77	207.22	0.0007778	1049.97
Beaver Creek	Kentwood	5.425	3000.00	211.77	208.41	0.0012525	898.97
Beaver Creek	Kentwood	5.44	3000.00	211.82	209.15	0.0016949	999.32
Beaver Creek	Kentwood	5.457	3000.00	211.96	209.44	0.0018008	1016.67
Beaver Creek	Kentwood	5.474	3000.00	212.11	209.77	0.0018442	1069.78
Beaver Creek	Kentwood	5.491	3000.00	212.29	210.14	0.0017970	1161.52
Beaver Creek	Kentwood	5.508	3000.00	212.46	210.99	0.0016890	1267.34
Beaver Creek	Kentwood	5.525	3000.00	212.61	211.22	0.0016485	1365.06
Beaver Creek	Kentwood	5.542	3000.00	212.76	211.29	0.0015495	1478.80
Beaver Creek	Kentwood	5.559	3000.00	212.90	211.25	0.0014375	1598.43

Figure 8.33 Example of Initial Conditions Output

DON002676

During the unsteady flow computations, the program will output detailed information for cross sections, bridges/culverts, inline weir/spillways, lateral weir/spillways, storage areas, and storage area connections. This information should be reviewed closely when the software is having stability problems. An example of the detailed output for cross sections is shown in Figure 8.34 below.

beaver.bco - Notepad

File Edit Format Help

```
COMPUTED STAGES AND DISCHARGES AT T =      0.1167 HOURS -  2/10/1999 AT 0007 HOURS

              Beaver Creek      Kentwood

Riv. Station      Z        Q        V        Riv. Station      Z        Q        V        Riv. Station      Z        Q        V
    5.99     213.03     599.     1.09           5.97     212.94     588.     1.22           5.951     212.83     579.     1.37
    5.93     212.71     571.     1.56          5.913     212.56     564.     1.79           5.894     212.38     558.     2.04
   5.875     212.19     552.     2.34          5.855     211.98     547.     2.65           5.836     211.74     543.     2.91
    5.81     211.52     540.     2.96          5.798     211.36     536.     2.45           5.779     211.24     532.     1.76
    5.76     211.17     528.     1.18          5.741     211.07     523.     1.64            5.72     210.91     521.     2.15
   5.703     210.75     519.     2.31          5.685     210.61     517.     2.30           5.666     210.48     516.     2.19
   5.647     210.37     515.     1.92          5.628     210.27     514.     1.62            5.61     210.21     513.     1.31
   5.593     210.13     512.     1.52          5.576     210.03     511.     1.80           5.559     209.93     511.     2.06
   5.542     209.85     510.     2.23          5.525     209.78     510.     2.24           5.508     209.72     510.     2.14
   5.491     209.67     510.     1.94          5.474     209.64     510.     1.76           5.457     209.61     510.     1.60
    5.44     209.58     510.     1.47          5.425     209.58     509.     1.11            5.41     209.57     509.     0.88
    5.39     209.54     509.     0.88           5.37     209.52     509.     1.11            5.35     209.48     509.     1.46
    5.33     209.40     510.     1.67           5.31     209.28     510.     1.67            5.29     209.15     510.     1.47
   5.274     208.95     510.     1.66          5.258     208.68     511.     1.95           5.242     208.29     511.     2.55
   5.226     207.85     511.     3.05           5.21     207.46     512.     3.29           5.194     207.15     512.     3.13
   5.178     206.95     513.     2.68          5.162     206.83     513.     2.16           5.146     206.75     514.     1.75
    5.13     206.71     514.     1.45          5.113     206.65     515.     1.50           5.097     206.59     515.     1.56
   5.081     206.53     516.     1.60          5.065     206.46     517.     1.63           5.048     206.39     517.     1.65
   5.032     206.31     518.     1.66          5.016     206.23     519.     1.66             5.0     206.13     519.     1.64


                        Solving for T =      0.133

Iter  River          Station    Elev       DZ        River          Station        Q        DQ
  0 Beaver Creek      5.99      213.07   0.03530   Beaver Creek      5.99        613       14
  1 Beaver Creek      5.0       206.13  -0.00050   Beaver Creek      5.93        584        1
```

Figure 8.34 Detailed Output at a Cross Section.

When the program has stability problems, it will generally try to solve them by iterating. An example of a stability problem is shown in Figure 8.35. In this example the program did not solve the equations to the specified tolerances, and therefore it was iterating to improve the solution. As shown in Figure 8.35, the program iterated to the maximum number of iterations. At the end of the iterations a warning message states **"WARNING USED COMPUTED CHANGES IN FLOW AND STAGE AT MINIMUM ERROR. MINIMUM ERROR OCCURRED AT ITERATION XX."** This message means that the program could not solve the unsteady flow equations to the required tolerance within the specified number of iterations (default number of iterations is 20). Therefore it used the iteration that had the least amount of error in the numerical solution.

DON002677

```
Leveebreach.lco - Notepad
File  Edit  Format  Help

                    Solving for T =      3.250

Iter  River          Station    Elev       DZ      Storage          Zsa        DZsa    River          Statio
  0 Beaver Creek     5.0        211.53   1.03961   STO #1           205.00   0.00000 Beaver Creek     5.0
  1 Beaver Creek     5.0        210.86  -0.95941   STO #1           205.00   0.00000 Beaver Creek     5.0
  2 Beaver Creek     5.0        210.22  -0.90790   STO #1           205.00   0.00000 Beaver Creek     5.0
  3 Beaver Creek     5.0        209.60  -0.89442   STO #1           205.00   0.00000 Beaver Creek     5.0
  4 Beaver Creek     5.0        208.96  -0.91305   STO #1           205.00   0.00000 Beaver Creek     5.0
  5 Beaver Creek     5.0        208.28  -0.96582   STO #1           205.00   0.00000 Beaver Creek     5.0
  6 Beaver Creek     5.0        207.56  -1.03982   STO #1           205.00   0.00000 Beaver Creek     5.0
  7 Beaver Creek     5.016      211.95   2.44811   STO #1           205.00   0.00000 Beaver Creek     5.0
  8 Beaver Creek     5.032      216.98   7.38552   STO #1           205.00   0.00000 Beaver Creek     5.0
  9 Beaver Creek     5.0        203.31  -1.34783   STO #1           205.00   0.00000 Beaver Creek     5.0
 10 Beaver Creek     5.162      218.46   7.18687   STO #1           205.00   0.00000 Beaver Creek     5.0
 11 Beaver Creek     5.0        198.49  -0.83206   STO #1           205.00   0.00000 Beaver Creek     5.0
 12 Beaver Creek     5.0        198.30  -0.26222   STO #1           205.00   0.00000 Beaver Creek     5.0
 13 Beaver Creek     5.0        198.25  -0.07942   STO #1           205.00   0.00000 Beaver Creek     5.0
 14 Beaver Creek     5.016      223.05  19.42409   STO #1           205.00   0.00000 Beaver Creek     5.0
 15 Beaver Creek     5.0        196.38  -0.88486   STO #1           205.00   0.00000 Beaver Creek     5.0
 16 Beaver Creek     5.0        195.82  -0.79409   STO #1           205.00   0.00000 Beaver Creek     5.0
 17 Beaver Creek     5.0        195.36  -0.66080   STO #1           205.00   0.00000 Beaver Creek     5.0
 18 Beaver Creek     5.065      210.10   3.19042   STO #1           205.00   0.00000 Beaver Creek     5.0
 19 Beaver Creek     5.081      210.03   1.40783   STO #1           205.00   0.00000 Beaver Creek     5.0
 20 Beaver Creek     5.0        193.35  -0.92478   STO #1           205.00   0.00000 Beaver Creek     5.0

 !WARNING, USED COMPUTED CHANGES IN FLOW AND STAGE AT MINIMUM ERROR.  MINIMUM ERROR OCCURED DURING ITERATION

                  Lateral Weirs

RIVER            STATION      QTOTAL      QWEIR     QGATE   SUBMERGENCE      Q PER CROSS SECTION
Beaver Creek     5.4            0.00       0.00      0.00    0.000          0.00        0.00        0.00

Hydrographs written at      3.25hours.

 Optimal time step for the next   15 minutes is     15.00 minutes; NSTEPS =

 THETA=1.000

      COMPUTED STAGES AND DISCHARGES AT T =      3.2500 HOURS -  2/10/1999 AT 0315 HOURS

              Beaver Creek     Kentwood
```

Figure 8.35 Example Detailed Time step Output for Cross Sections.

One way to find and locate potential stability problems with the solution is to do a search in the file for the word "**WARNING**". The user then needs to look at the detailed output closely to try and detect both where and why the solution is going bad.

The variables that are printed out during the iterations are the following:

Iter = Iteration Number
River = The name of the river in which the largest stage error is occurring.
Station = River station with the largest error in the calculated stage.
ELEV = Computed water surface elevation at that river station
DZ = The "Numerical Error" in the computed stage at that location
Storage = Name of the storage area.
Zsa = Computed elevation of the storage area
Dzsa = The "Numerical Error" in the computed storage area elevation.
River = The name of the river in which the largest flow error is occurring.
Station = River station with the largest error in the calculation of flow
Q = Computed flow
DQ = The "Numerical Error" in the computed flow at the listed river station

After the iterations output, the program will show the computed stages and flows for all of the cross sections in which the user has selected to have

hydrographs computed. This is also useful information for detecting model stability problems. It is not always obvious as to which cross section or modeling component is causing the problem. Sometimes the program may blow up at one cross section, but the real problem is caused by a cross section upstream or downstream from this location. Detecting, finding, and fixing stability problems will require lots of experience to become proficient at it. Good luck, and don't get to discouraged!!!

Model Sensitivity

Model sensitivity is an important part of understanding the accuracy and uncertainty of the model. There are two types of sensitivity analysis that should be performed, Numerical Sensitivity and Physical Parameter Sensitivity.

Numerical Sensitivity. Numerical Sensitivity is the process of adjusting parameters that affect the numerical solution in order to obtain the best solution to the equations, while still maintaining model stability. The following parameters are typically adjusted for this type of sensitivity analysis:

Computational Time Step - The user should try a smaller time step to see if the results change significantly. If the results do change significantly, then the original time step is probably too large to solve the problem accurately.

Theta Weighting Factor - The default value for this factor is 1.0, which provides the greatest amount of stability for the solution, but may reduce the accuracy. After the user has a working model, this factor should be reduced towards 0.6 to see if the results change. If the results do change, then the new value should be used, as long as the model stays stable. Be aware that using a value of 0.6 gives the greatest accuracy in the solution of the equations, but it may open the solution up to stability problems.

Weir/Spillway Stability Factors – If you are using these factors to maintain stability, try to reduce them to the lowest value you can and still maintain stability. The default value is 1.0, which is no stability damping.

Weir/Spillway Submergence Exponents – In general these parameters will not affect the answers significantly, they only provide greater stability when a spillway/weir is at a very high submergence. Try reducing them towards 1.0 (which is no factor) to see if the model will remain stable.

Physical Parameter Sensitivity. Physical Parameter Sensitivity is the process of adjusting hydraulic parameters and geometric properties in order to test the uncertainty of the models solutions. This type of sensitivity analysis is often done to gain an understanding of the possible range of solutions, given realistic changes in the model parameters. Another application of this type of sensitivity analysis is to quantify the uncertainty in the model results

DON002679

for a range of statistical events (2, 5,10, 25, 50, 100 yr, etc...). The following data are often adjusted during this type of sensitivity analysis:

Manning's n Values – Manning's n values are estimated from physical data about the stream and floodplain. Sometimes Manning's n values are calibrated for a limited number of events. Either way, the values are not exact! The modeler should estimate a realistic range that the n values could be for their stream. For example, if you estimated an n value for a stream as 0.035, a realistic range for this might be 0.03 to 0.045. The modeler should run the lower Manning's n values and the higher Manning's n values to evaluate their sensitivity to the final model results.

Cross Section Spacing – Cross section spacing should always be tested to ensure that you have enough cross sections to accurately describe the water surface profiles. One way to test if you have enough cross sections is to use the HEC-RAS cross section interpolation routine, and interpolate enough cross sections to cut the average distance between cross sections in half. Re-run the model, if the results have not changed significantly, then your original model was probably fine. If the results do change significantly, then you should either get more surveyed cross sections or use the interpolated cross sections. If you use the interpolated cross sections, then you should at least look at a topographic map to ensure that the interpolated cross sections are reasonable. If the interpolated cross sections are not reasonable in a specific area, then simply edit them directly to reflect what is reasonable based on the topographic map.

Cross Section Storage – Portions of cross sections are often defined with ineffective flow areas, which represents water that has no conveyance. The extent of the storage within a cross section is an estimate. What if the ineffective flow areas were larger or smaller? How would this effect the results? This is another area that should be tested to see the sensitivity to the final solution.

Lateral Weir/Spillway Coefficients – Lateral weir/spillway coefficients can have a great impact on the results of a simulation, because they take water away or bring water into the main stream system. These coefficients can vary greatly for a lateral structure, depending upon their angle to the main flow, the velocity of the main flow, and other factors. The sensitivity of these coefficients should also be evaluated.

Bridge/Culvert Parameters – In general, bridge and culvert parameters normally only effect the locally computed water surface elevations just upstream and downstream of the structure. The effect that a bridge or culvert structure will have on the water surface is much greater in flat streams (a small increase in water surface can back upstream for a long distance if the river is flat). However, the sensitivity of the water surface elevations around a bridge or culvert may be very important to localized flooding. The bridge and culvert hydraulic parameters should also be evaluated to test their sensitivity.

DON002680

EXHIBIT G

TO

AFFIDAVIT OF JAMES R. MOIR P.ENG IN RESPONSE TO

THE STANTEC REPORTS

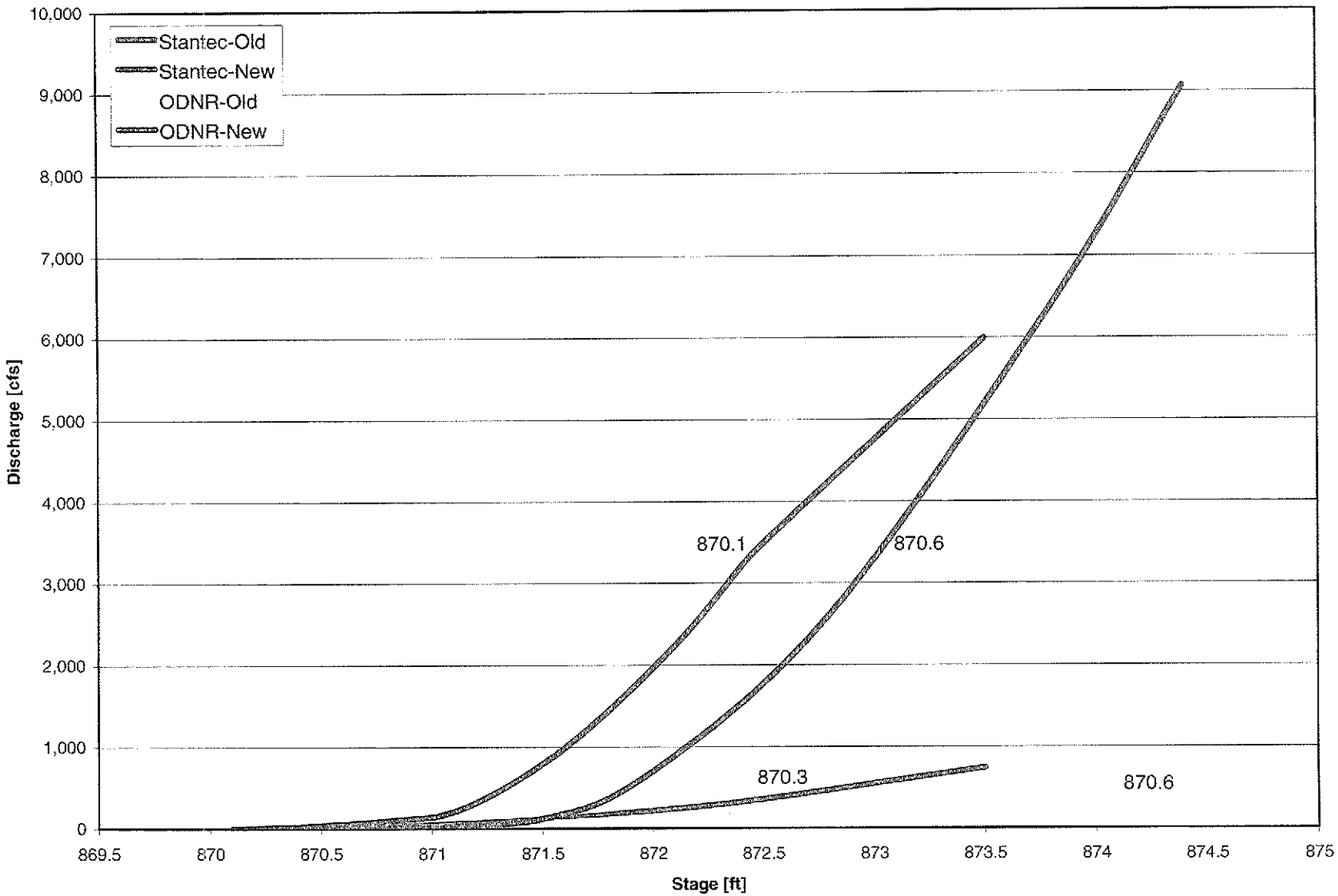
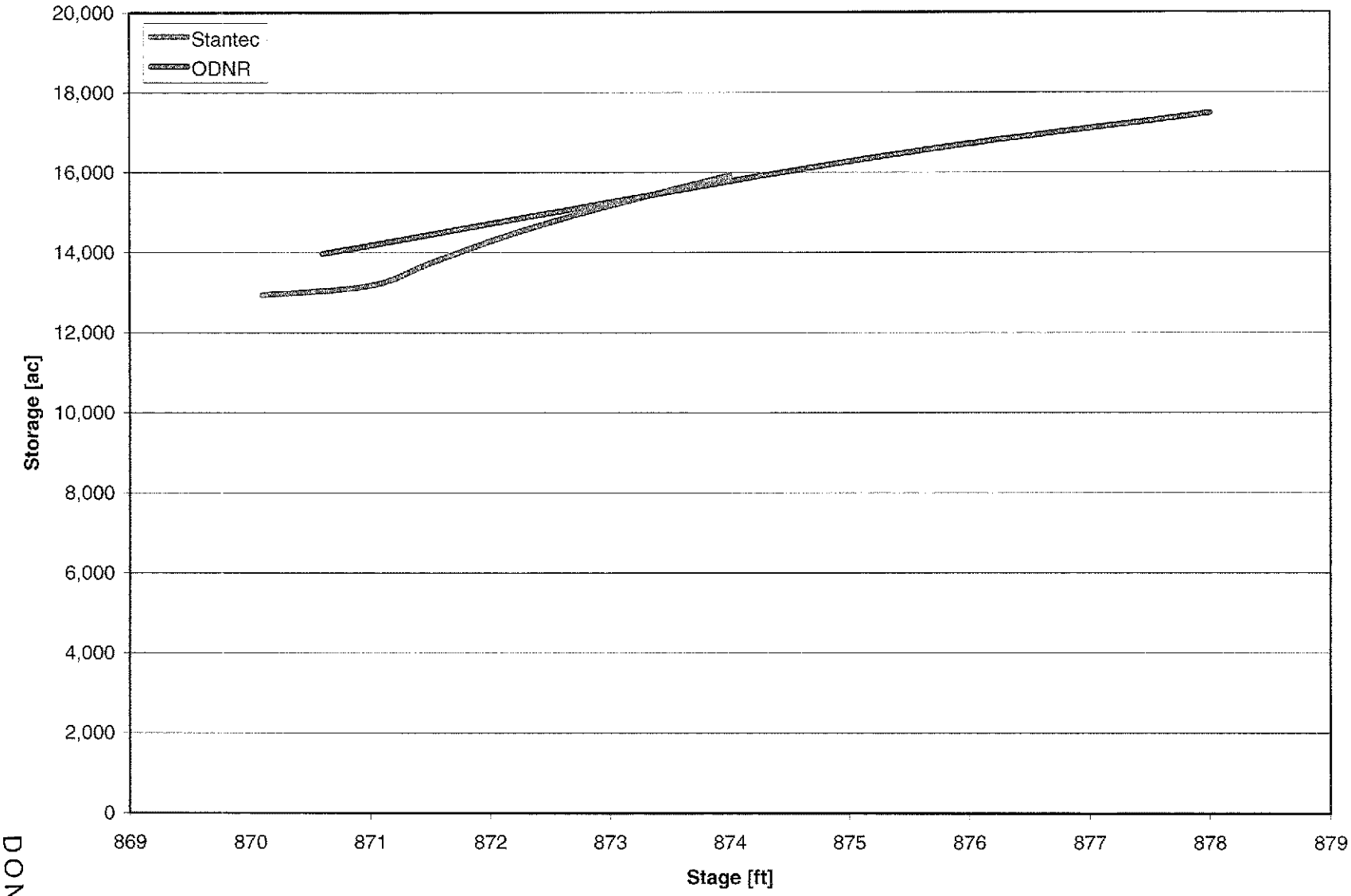


EXHIBIT
G

DON002682


Stantec
ODNR
Storage [ac]
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
869
870
871
872
873
874
875
876
877
878
879
Stage [ft]

DON002683

CERTIFIED TRANSCRIPT

IN THE SUPREME COURT OF OHIO

STATE ex rel. WAYNE T. DONER, et al.,	)	
Relators,	)	
vs.	)	Case No. 2009-1292
SEAN D. LOGAN, Director, Ohio Department of Natural Resources, et al.,	)	
Respondents.	)	

- - -

DEPOSITION OF KEITH EARLEY

DATE: May 21, 2010 at 10:04 a.m.

PLACE: Office of the Attorney General
One Government Center
Suite 1240
Toledo, Ohio

REPORTER: Casey G. Schreiner, RMR-RDR
Notary Public

- - -

1 APPEARANCES:

2 On behalf of the Relators:

3 VORYS, SATER, SEYMOUR & PEASE, LLP:
Joseph R. Miller
4 52 East Gay Street
Columbus, Ohio 43216
5 (614) 462-6480

6

On behalf of the Respondents:

7 OFFICE OF THE ATTORNEY GENERAL OF
8 THE STATE OF OHIO:
Jennifer S.M. Croskey, Assistant
9 Attorney General
30 East Broad Street, 26th Floor
10 Columbus, Ohio 43215
(614) 466-2980

11

12 and

13 OFFICE OF THE ATTORNEY GENERAL OF
THE STATE OF OHIO:
14 Daniel J. Martin, Assistant Attorney
General
15 2045 Morse Road, #D2
Columbus, Ohio 43259
16 (614) 265-6870

17

On behalf of the Witness:

18 LUCAS COUNTY PROSECUTOR'S OFFICE:
19 Karlene D. Henderson
700 Adams Street, Suite 250
20 Toledo, Ohio 43604
(419) 213-2001

21

22 - - -

23

24

I N D E X

EXAMINATION

Witness Name	Page	Line
KEITH EARLEY		
Examination By Ms. Croskey	5	5
Examination By Mr. MIller	71	23

EXHIBITS

Exhibit	Description	Page	Line
EX A	Letter - Goettemoeller to Earley - 2-5-92	27	14
EX B	Letter - Morris to Earley - 12-22-93	28	20
EX C	Letter - Cupp to Bucholzer - ... 9-20-04	29	21
EX D	Letter - Early to Bucher - 10-31-07	32	2
EX E	Affidavit of Keith G. Earley, .. P.E., P.S.	35	10
EX F	Letter - Mercer County ..... Commissioners to To Whom It May Concern - 11-22-91	72	17
EX G	Letter - Hellwarth to Chief - .. 2-28-92	72	17

OBJECTIONS

By	Page	Line
Mr. Miller	5	23
Mr. Miller	11	3
Mr. Miller	19	8
Mr. Miller	19	14
Mr. Miller	20	5
Mr. Miller	21	3
Mr. Miller	24	23
Mr. Miller	25	24
Mr. Miller	26	13
Mr. Miller	31	3
Mr. Miller	31	9
Mr. Miller	39	24
Mr. Miller	40	16
Mr. Miller	41	12
Mr. Miller	44	15
Mr. Miller	46	2
Mr. Miller	46	20
Mr. Miller	47	12
Mr. Miller	48	2

Mr. Miller	54	22
Mr. Miller	55	11
Mr. Miller	57	1
Mr. Miller	57	24
Mr. Miller	58	13
Mr. Miller	58	21
Mr. Miller	62	9
Mr. Miller	62	23
Mr. Miller	66	5
Mr. Miller	66	10
Mr. Miller	67	2
Mr. Miller	69	14
Mr. Miller	69	18
Mr. Miller	70	11

- - -

1 KEITH EARLEY,
2 a Witness herein, called by the Respondents as if upon
3 Examination, was by me first duly sworn, as
4 hereinafter certified, deposed and said as follows:
5 EXAMINATION
6 BY MS. CROSKEY:
7 Q. Mr. Earley, my name is Jennifer Croskey.
8 I'm an assistant attorney general for the State of
9 Ohio. I'm here on behalf of Sean D. Logan, director
10 of the Ohio Department of Natural Resources, and the
11 department itself. We're here today for a deposition
12 in the case that's captioned State ex rel, Wayne T.
13 Doner and others versus Sean D. Logan and others.
14 Have you ever heard of that case before?
15 A. Not by that name, no.
16 Q. Okay. Do you know what case is pending
17 and why you're here for a deposition?
18 A. I believe, basically, it's mainly the
19 farmers, is that the one that's bringing the suit?
20 Q. I guess why don't you tell me what your
21 understanding is of the lawsuit, why we're taking your
22 deposition today?
23 MR. MILLER: Objection to form.
24 I'll do that from time to time.

1 You may still answer. I apologize.
2 THE WITNESS: Well, I was County
3 engineer in Mercer County when they built
4 the new spillway, and I wrote several
5 letters to ODNR and others about my
6 concerns for the spillway, and flooding
7 that could occur downstream afterwards,
8 and I was told of the lawsuit against
9 ODNR because of the flooding that did
10 occur.
11 So that's basically what I know
12 about it.
13 BY MS. CROSKEY:
14 Q. Okay. And you are here today for a
15 deposition by agreement. Are you aware of that?
16 A. I guess so, yeah. I agreed to come.
17 Q. Okay.
18 A. I wasn't -- I didn't have to be deposed.
19 All right, yes.
20 Q. Okay. And are you represented by counsel
21 today?
22 A. I believe so.
23 Q. All right. And you have counsel here
24 with you. Have you ever been -- had your deposition

1 taken before?
2 A. Yes.
3 Q. Can you briefly tell me when those
4 depositions happened?
5 A. Well, I had one taken in Mercer County on
6 the same issue, and it was regarding Mercer County
7 trying to get improvements done to the Beaver Creek,
8 likely the same project. I think in October I had a
9 deposition down there.
10 Q. October of 2009?
11 A. Right.
12 Q. And was that in the same case or a
13 different case, do you know?
14 A. A different case, but it was related to
15 the -- they're trying to get money from ODNR to
16 improve the Beaver Creek and do the maintenance on it.
17 Q. The --
18 A. Mercer County, Mercer County
19 Commissioners.
20 Q. Other than that deposition, have you had
21 any other depositions taken?
22 A. In regard to this, no.
23 Q. In regard to anything?
24 A. Yes.

1 Q. Okay. How many other depositions?
2 A. Two.
3 Q. What were -- when were those depositions?
4 A. One was in -- around 1990, and involving
5 a crash on a county road in Mercer County; and one was
6 a lawsuit here where an employee -- I made an employee
7 remove a sign from his vehicle, and he claimed that it
8 infringed upon his freedom of speech so --
9 Q. Do you recall when that was?
10 A. About 2002 or 2003.
11 MS. HENDERSON: Yeah, around
12 then.
13 THE WITNESS: I think that's
14 it.
15 BY MS. CROSKEY:
16 Q. Now, the one in 1990 --
17 A. Approximately '90s. I don't know when.
18 Q. Okay. 1990s, was that when you were
19 Mercer County engineer?
20 A. Correct.
21 Q. And the one in 2002 or 2003, was that
22 when you were a Lucas County engineer?
23 A. Yes.
24 Q. Was the one in the 1990s, were you

1 deposed in your capacity as Mercer County engineer?
2 A. Yes.
3 Q. And in 2002 or 2003, was that in your
4 capacity as Lucas County engineer?
5 A. Yes.
6 Q. We are going to be having a series of
7 questions and answers today. You're familiar with
8 that. And the court reporter, of course, is trying to
9 take down everything we say. So I know it's not
10 natural in terms of conversation, but if you could,
11 try to wait until I finish a question.
12 A. Okay.
13 Q. I'll try to wait until you finish
14 answering before I throw the next question out to you.
15 The only other instruction I have for
16 you, or request, I guess, if you need to take a break,
17 we can break. Whenever you want to take a break, just
18 let me know.
19 If you do have a question posed to you, I
20 want you to answer the question before we take a
21 break.
22 A. Okay.
23 Q. We've talked a little bit about your
24 knowledge of the case. You've described it as farmers

1 that have sued ODNR. Did I say that correctly?
2 A. That's my understanding, but I really
3 don't know the details.
4 Q. Is that the extent of your knowledge
5 about it, then?
6 A. Yes.
7 Q. You did sign an affidavit. Were you
8 aware that that affidavit was submitted to ODNR as
9 part of the process of this case?
10 A. I expected it would be, yes.
11 Q. Okay. So you knew that the -- that the
12 affidavit was part of this -- or was for this case?
13 A. Yes.
14 Q. All right. Other than the affidavit,
15 have you had any other involvement with this case?
16 A. Just a couple phone conversations with
17 Mr. Miller.
18 Q. Okay. Have you had any -- you've
19 described this as the farmers filing suit against
20 ODNR. In legal terms, we call those people
21 "relators."
22 A. Okay.
23 Q. Okay. So that -- or you might think of
24 them as plaintiffs, I guess.

1 So these farmers, plaintiffs, relators,
2 do you know them?
3 MR. MILLER: Objection.
4 Form.
5 THE WITNESS: Some of the names
6 that he mentioned, I've recognized some
7 of the names, yes. I knew some of the
8 families so --
9 BY MS. CROSKEY:
10 Q. Do you know any of them personally?
11 A. Well, yeah. I haven't seen them probably
12 in 10 or 15 years. But I do know -- I think
13 Dick Baucher was one of them.
14 MR. MILLER: Unfortunately, you
15 get to testify, so you have to answer.
16 THE WITNESS: He mentioned his
17 name, and I do know him. He was a
18 Township trustee while I was the engineer
19 there.
20 BY MS. CROSKEY:
21 Q. Have you had any contact with any of the
22 relators?
23 A. No.
24 Q. Do you know a man by the name of Press

1 Campbell, Pressley Campbell?
2 A. No.
3 Q. Do you know a man by the name of
4 Jim Morris?
5 A. I don't believe so.
6 Q. Okay. What about a woman by the name of
7 Phaedra Cameron (phonetic)?
8 A. No.
9 Q. Have you ever talked to anybody with
10 Conestoga-Rovers & Associates?
11 A. No.
12 Q. Were you asked to do any work relating to
13 this case, other than sign an affidavit?
14 A. No.
15 Q. Has your affidavit been updated in any
16 way? Have you signed more than one?
17 A. No.
18 Q. Are you aware of any potential future
19 possibility that the affidavit be updated?
20 A. Not aware of any.
21 Q. Okay. Prior to coming here today, did
22 you talk to anyone about having your deposition taken?
23 A. Not in any detail, other than I had to be
24 here. That was it.

1 Q. Okay. And without --
2 A. They arranged the time. That was just
3 arranging the time to come here. That was the only
4 discussion.
5 Q. Okay. Did you review any documents
6 before coming here today?
7 A. Yes.
8 Q. What documents did you review?
9 A. My deposition and the letters that I had
10 written in regard to the case.
11 Q. Your deposition. Which deposition?
12 A. Or affidavit, I'm sorry. Affidavit.
13 Q. All right. And when you mentioned
14 letters that you had written, do you mean specifically
15 the letters that are attached to your affidavit?
16 A. Yes.
17 Q. Okay. Were there any other letters that
18 you reviewed?
19 A. No.
20 Q. Could you just tell me a little bit about
21 your education after high school?
22 A. I'm a graduate of Ohio State University
23 with a Bachelor of Science in civil engineering.
24 Q. Any other education beyond that?

A. Some additional courses towards a BS in surveying, but I didn't get a degree in that. Didn't get the dual degree. Took all the courses I needed to get both licenses.

Q. What licenses?

A. Professional engineer and professional surveyor. You have to pass the tests, similar to the bar.

Q. And so you took sufficient courses to get the license of professional surveyor, but you did not get a Bachelor's degree in surveying?

A. That's correct.

Q. Did you have to take exams to get the license for professional engineer?

A. Yes.

Q. And an exam for professional surveyor?

A. Yes, and have eight years of experience in each.

Q. You have to have eight years of experience in both?

A. Schooling and education, yes, combination of both.

Q. How long have you held your professional engineer's license?

A. I think I got it in '77.

Q. How about professional surveyor's license?

A. '76.

Q. Do you still hold those licenses?

A. Yes.

Q. They're current?

A. Yes.

Q. Are you required to do continuing education or training for your professional engineer's license?

A. Yes.

Q. Is that a yearly requirement or something different?

A. It's yearly.

Q. What is that requirement?

A. It's 15 hours per year for each, I think. Well, maybe the two's 20 combined, I think.

Q. Is there a -- a general subject matter that you typically take for that education?

A. Well, it varies. It just has to be related to the work. I mean, it can be -- I don't believe I've had any recently in hydraulics, if that what's your question.

1 Q. I guess in the last year, what was the
2 training you've taken?
3 A. Well, most of them have been put on
4 through County Engineers' Association of Ohio. Or you
5 can have some of your credits by attending
6 professional organization meetings, such as American
7 Society of Civil Engineers or American Society of
8 Highway Engineers and so on.
9 I've gotten some of them that way; some
10 of them have been on -- you know, last year I had a
11 couple on surveying related, which I hadn't had in a
12 while. Boundary surveying and government surveying
13 type things last year.
14 Q. Can you tell me a little bit about your
15 employment experience after high school?
16 A. I worked, I think, about 12 years in the
17 private sector for consultants in Ohio and California,
18 and then 27 years as a County engineer.
19 Q. When you say 12 years in the private
20 sector as a consultant, do you mean doing consulting
21 work as an engineer?
22 A. Right.
23 Q. Were there any particular areas that you
24 focused on in that consulting?

A. That was highway design, subdivision design, storm drainage, storm sewers, sanitary sewers -- the last few years were mainly in regard to private development in California was last, subdivisions.

Q. And you said 27 years as a County engineer. Is that in two different counties?

A. Yes. 16 in Mercer, and one as a deputy here, chief deputy, and 10 as County engineer here.

Q. When did you live in Mercer County?

A. 1983 to 1999.

Q. Were you appointed or elected as Mercer County engineer?

A. I was appointed first and elected three or four times, between three and four -- four times.

Q. Did you have to move to Mercer County when you were appointed?

A. (Witness nods head.) Yes, yes. Yeah, I moved before I was appointed.

Q. Okay. Then when have you lived in Lucas County?

A. Since March of '99 to the present.

Q. And were you elected or appointed as the County engineer?

A. I was appointed first, and then elected three times here.

Q. Do you have any publications in the area of engineering?

A. I've written a couple minor articles for magazines, so nothing major.

Q. About how many?

A. Two.

Q. Do you recall when?

A. They were in the '90s. I don't recall exactly when.

Q. Do you recall the general subject?

A. One of them was in regard to privatization, were it to come; and the other was on survey-related issues. Nothing on hydraulics.

Q. And you said that they were for magazines?

A. Well, they used to have -- County Engineers' Association of Ohio used to have a magazine, and I think they posted it first in that. And then I think the Ohio contractors put it in their magazine also.

Q. Have you ever testified in court before?

A. No. Well, other than -- other than when

1 I was sued there by the employee. That's it.
2 Q. That lawsuit was against you?
3 A. That lawsuit, yes.
4 Q. And was that in Lucas County?
5 A. Yes.
6 Q. Do you consider yourself to be an expert
7 in engineering?
8 MR. MILLER: Objection to
9 form.
10 THE WITNESS: On some issues,
11 yes.
12 BY MS. CROSKEY:
13 Q. What issues?
14 MR. MILLER: Same objection.
15 THE WITNESS: Well, I have
16 certainly some expertise in -- in the
17 areas that are being questioned, in the
18 hydraulics part of that, the drainage,
19 and I was familiar with the drainage
20 there, and the effects of increased flow.
21 I had enough training to be
22 somewhat of an expert. I didn't do the
23 calculations; I just reviewed others'
24 calculations.

1 BY MS. CROSKEY:
2 Q. What do you mean by you have some
3 education? What education specifically?
4 A. Well, I have --
5 MR. MILLER: Objection to
6 form.
7 THE WITNESS: Well, I had the
8 normal hydraulics courses, and maybe one
9 or two that weren't required; and fluid
10 dynamics, and done the necessary
11 hydraulic calculation to design bridges
12 and culverts and storm drainage. Never
13 designed a spillway.
14 BY MS. CROSKEY:
15 Q. Are those courses that you took in
16 connection with your Bachelor's degree in civil
17 engineering?
18 A. Yes.
19 Q. Any of those courses that you refer to,
20 would they be continuing education training?
21 A. No, they weren't.
22 Q. They were all your courses for civil
23 engineering?
24 A. That's correct.

1 Q. Okay. Did you ever visit the properties
2 that are involved in this lawsuit?
3 MR. MILLER: Objection to
4 form.
5 THE WITNESS: I'm not sure
6 specifically which properties they are,
7 and I have not visited anything since --
8 since I left Mercer County.
9 BY MS. CROSKEY:
10 Q. Okay. Do you have any understanding what
11 properties are involved in this case?
12 A. Well, I would assume it's the properties
13 along the Beaver Creek, and maybe even some along the
14 Wabash River.
15 Q. Would you have ever visited any of those
16 properties before you left Mercer County?
17 A. Well, I've certainly been by them from
18 time to time.
19 Q. What do you mean by "been by them," like
20 driving on a road --
21 A. Driving on a road, and we maintained --
22 we were responsible for the maintenance of the Beaver
23 Creek, so visited that to inspect some of the needed
24 improvements, maintenance improvements required along

1 the Beaver.
2 Q. You say "we" were responsible for
3 maintaining --
4 A. Mercer County was responsible for
5 maintaining it.
6 Q. For maintaining --
7 A. For maintaining Beaver Creek.
8 Q. And then you said you would have visited
9 that for that purpose. You mean visited Beaver Creek?
10 A. Yeah. Like look at erosion and the
11 improvements that needed to be done.
12 Q. And when you say "improvements that
13 needed to be done," what do you mean by that?
14 A. Well, there was -- of course, the Beaver
15 Creek was the outlet for Grand Lake St. Marys, and it
16 would have long-term outflows, and the vegetation
17 would not establish on the side of the banks, and it
18 would erode, and we would have to dip the banks out or
19 put rip-rap in there to try to correct the problems.
20 Q. And these were things that you knew at
21 the time you were County engineer?
22 A. That's correct.
23 Q. And when were you County engineer?
24 A. From '83 to '99 in Mercer. ODNR paid

1 for, I think, a third of the maintenance, and the rest
2 was assessed to property owners.
3 Q. Now, when you say "maintenance," is that
4 something that happens on a yearly basis; is it a
5 single project?
6 A. It's as needed. It would be inspected
7 yearly or when you would get calls that something was
8 needed.
9 Q. I guess when was the first time in terms
10 of years, as Mercer County engineer, you would have
11 ever done any work on Beaver Creek?
12 A. 1983, there was major improvements right
13 after 1983.
14 Q. What do you mean by "major improvements"?
15 A. Well, it was petitioned for improvement,
16 and it was enlarged and rip-rap installed. It was a
17 major maintenance project. It was a multi-county
18 project, I think three counties that were being
19 assessed.
20 And it was -- it was -- it had been
21 initiated before I came, but the construction was done
22 while I was there.
23 Q. Why would it involve multiple counties?
24 A. Because it was all of the -- all of the

1 drainage area. Everybody in the drainage area is
2 assessed for a portion of the improvements.
3 Q. Does the creek itself run through
4 multiple counties?
5 A. No, but the drainage area does.
6 Q. Now, you mentioned that it had been
7 petitioned before you became Mercer County engineer.
8 When was the improvement work actually done?
9 A. 1983, I think, '83 or '84, soon after I
10 got there. Probably '84. I'm not sure exactly.
11 Somewhere in there.
12 Q. Okay. How long is Beaver Creek?
13 A. It's 10.6 miles.
14 Q. All right. And you say that it was
15 enlarged. What do you mean by that?
16 A. It was -- we dipped out the sides and the
17 bottoms, and we widened it in some places and laid the
18 bank back so they're flatter so they wouldn't erode as
19 much.
20 Q. So by and large, do you mean that the
21 bottom -- like the bottom of the ditch was increased
22 in size?
23 MR. MILLER: Objection to
24 form.

1 THE WITNESS: There was silt
2 taken out of the bottom, and the
3 ditches -- the ditches were -- the slope
4 was flattened on the ditches. I don't
5 remember whether the bottom was widened,
6 or if it was just the slopes flattened,
7 for sure. It's been a while.
8 BY MS. CROSKEY:
9 Q. Was it straightened at that time, as
10 well?
11 A. It was already straight.
12 Q. Had it been petitioned before?
13 A. Yes.
14 Q. All right. The affidavit that you have,
15 you have your copy sitting in front of you, did you
16 talk to anyone about that?
17 A. Mr. Miller.
18 Q. All right. And when would you have
19 discussed it with Mr. Miller?
20 A. After he wrote it and for my review and
21 approval.
22 Q. Why would you sign an affidavit like
23 that?
24 MR. MILLER: Objection to

1 form.
2 THE WITNESS: Because I
3 didn't -- basically I didn't find
4 anything incorrect in what I had written
5 in the letters.
6 BY MS. CROSKEY:
7 Q. I think you said before that you're
8 knowledgeable about Grand Lake St. Marys?
9 A. Yes.
10 Q. Do you get that knowledge from your
11 tenure as Mercer County engineer?
12 A. Yes.
13 MR. MILLER: Objection to form.
14 He was Mercer County engineer for 16
15 years.
16 THE WITNESS: She said "tenure."
17 MR. MILLER: I'm sorry. I
18 thought you said 10 years.
19 MS. CROSKEY: I was trying to
20 figure out -- I'm sorry. I'll try to
21 speak more clearly.
22 BY MS. CROSKEY:
23 Q. Do you have a good memory for events that
24 occurred during your time as Mercer County engineer?

1 A. Relatively good. I don't know how
2 detailed you need.
3 Q. All right. Were you in Mercer County for
4 any period of time before 1983?
5 A. No.
6 Q. Were you in Mercer County for any period
7 of time after 1999?
8 A. No. I mean, I visited a few times, but
9 that was it.
10 Q. What did you visit in Mercer County?
11 A. Well, I went with some friends and went
12 to a few events and Democratic events, picnics and
13 things.
14 (Court Reporter marked
15 Deposition Exhibit A.)
16 BY MS. CROSKEY:
17 Q. Mr. Earley, we're identifying a document
18 here as Deposition Exhibit A. I'd like you to review
19 it, and after you've had enough time to look at it,
20 let me know that you're finished.
21 A. Okay.
22 Q. Do you recognize that letter?
23 A. Yes.
24 Q. Do you remember receiving that letter at

1 some point in time?
2 A. Yes.
3 Q. Okay. In the first paragraph, it says,
4 I'm writing with a more detailed response to your
5 November 19th, 1991, letter.
6 Do you recall writing a letter on that
7 date?
8 A. Yes, yes.
9 Q. So this letter that we have identified as
10 Exhibit A is in response to your letter?
11 A. That's correct.
12 Q. The letter that's mentioned in Exhibit A,
13 is that a letter that's attached to your affidavit?
14 A. Yes.
15 MS. CROSKEY: I'm going to hand
16 you another one in a minute to see if you
17 remember it. You can take your time and
18 look at it.
19 THE WITNESS: Okay.
20 (Court Reporter marked
21 Deposition Exhibit B.)
22 BY MS. CROSKEY:
23 Q. Do you remember getting that letter?
24 A. Yes.

1 Q. Was that letter in response to a letter
2 that you wrote?
3 A. Yes.
4 Q. Is the letter that you wrote attached to
5 your affidavit?
6 A. Yes.
7 Q. Can you tell me which letter attached to
8 your affidavit this is in response to?
9 A. I guess it would be the February 12th,
10 1992, letter -- or, no, it's probably after the
11 September 24th letter. Maybe to the both of them. I
12 don't know if I got one between the two. I don't
13 think I did.
14 Q. Okay.
15 A. Maybe to both of those, I guess.
16 Q. Do you remember specifically which letter
17 this would have been in response to?
18 A. It looks primarily to the September 24th,
19 1993, letter. I addressed some of the same concerns
20 in an earlier letter.
21 (Court Reporter marked
22 Deposition Exhibit C.)
23 BY MS. CROSKEY:
24 Q. Mr. Earley, if you would, take a look at

1 what we've handed you that's marked as Exhibit C.
2 It's actually two letters. When you've had enough
3 time, let me know.
4 A. Okay.
5 Q. Do you recognize either one of those
6 letters?
7 A. Yes.
8 Q. Okay. The letter dated September 20th of
9 1994 actually says that you just received a courtesy
10 copy; is that your memory?
11 A. Yes.
12 Q. Was that in response to anything that you
13 had written?
14 A. Yes.
15 Q. Do you recall what that was in response
16 to?
17 A. In response to the letter I wrote to
18 Senator Cupp. I wrote a letter to Senator Robert Cupp
19 in 1994.
20 Q. Okay. The second letter is dated
21 September 6th, 1994. Is that your letter to Robert
22 Cupp?
23 A. Yes.
24 Q. Did you believe that Senator Cupp would

be able to assist you with regard to Grand Lake St. Marys?

MR. MILLER: Objection to form.

THE WITNESS: Possibly.

BY MS. CROSKEY:

Q. Okay. What did you believe he might be able to assist with?

MR. MILLER: Same objection.

THE WITNESS: Well, possibly with getting a direct answer on some of my concerns and possibly funding towards some of the things I felt needed to be done.

And I don't know if I expected necessarily -- I thought it was my duty to notify the appropriate people of my concerns, and I didn't think I was getting an appropriate response from ODNR, so I let other people know my concerns.

BY MS. CROSKEY:

Q. You thought it was your duty as Mercer County engineer?

1 A. That's correct.
2 (Court Reporter marked
3 Deposition Exhibit D.)
4 BY MS. CROSKEY:
5 Q. You've been provided with another letter,
6 and again, if you could take a look at that and let me
7 know when you've had enough time to look at it.
8 A. Okay.
9 Q. Do you recognize that letter?
10 A. Yes.
11 Q. Is that a letter that you wrote?
12 A. Yes.
13 Q. Okay. Now, the copy that we have here is
14 not signed. Did you ever send it to Representative
15 Jim -- I don't know how you say that name.
16 A. "Buchy." I would imagine. I don't know
17 if I did or not, for sure.
18 Q. All right. Now, in this letter, you
19 mention -- and this is at the bottom of the first
20 page.
21 A. I think I probably spoke with him if I
22 didn't --
23 Q. You mean if you didn't send a letter, you
24 might have called him on the phone?

A. Or talked to him personally. I see him occasionally.

Q. All right. At the bottom of page 1, it says, "The Beaver Creek has a flat gradient with only about one foot of fall per mile."

What do you mean by that?

A. It's very flat. I don't know how to say it much different than that. The slope is very small. It's like very, very flat. Very flat.

Q. Does having a flat gradient have any particular significance?

A. I mean, it reduces the capacity of it, and it also makes it more subject to silt depositing, more than if it had a better slope.

Q. What do you mean by it reduces the capacity of it? Reduces the capacity of what?

A. The amount of water that it will carry -- the cubic feet per second or the gallons per minute that it will carry; you know, the steeper that you would have, the more water it could carry per second.

It can't carry as much water in the same period of time as it could if it was steeper. The flows are much faster on steeper slopes. It's a very slow-flowing creek, ditch, whatever you want to call

it.

Q. And I think you also mentioned that having a flat gradient has something to do with silt?

A. Right.

Q. What do you mean by that?

A. It means it doesn't have the water, doesn't have enough velocity to make the -- like if the banks erode some and it goes down in the bottom of the bank, there's not sufficient velocity to push it on downstream. It just stays there, and we have to dip it out. We had to continually dip it out so that it would flow. And the farmers have their field tiles going into it, if you don't dip it out, their field tiles won't flow, and they can't get the adequate drainage from their farm fields.

Q. And when you were Mercer County engineer -- and again, that was from 1983 to 1999?

A. Correct.

Q. -- how often would Beaver Creek be -- I'm sorry, what did you say, dipped out?

A. Right.

Q. Is that what you call it?

A. Well, on various lots, it would probably be done some every year, I would think, probably

1 mostly. There was other people that actually did the
2 work that would probably give you a better answer.
3 But I think probably some every year, not
4 the same spot every year, but various spots every
5 year.
6 Q. And we've talked a little bit about your
7 affidavit today.
8 Let's go ahead and have this marked as
9 well.
10 (Court Reporter marked
11 Deposition Exhibit E.)
12 BY MS. CROSKEY:
13 Q. Just take a look at that. Take however
14 much time you need, and let me know when you're
15 finished.
16 A. I reviewed it before, and I'm basically
17 familiar with it.
18 Q. Does what we have marked as Exhibit E, is
19 that a true and accurate copy of the affidavit that
20 you signed?
21 A. I believe so.
22 Q. And attached to that affidavit are a
23 number of letters that are -- I believe they're
24 identified as exhibits with numbers, like 1 through 6;

1 is that correct?
2 A. Yes.
3 Q. Paragraph 3 of your affidavit says, "I
4 was knowledgeable concerning the flow of water from
5 Grand Lake St. Marys."
6 What do you mean by "knowledgeable
7 concerning flow of water"?
8 A. I saw what occurred in the 16 years I was
9 there, and I studied the Corps of Engineers' study
10 that they did on it, plus the study that ODNR did.
11 Q. What you mean by the Corps of Engineers'
12 study?
13 A. In 1981, they did a very significant
14 study of the various options and costs and benefits
15 for the various options for improving Grand Lake
16 St. Marys and Beaver Creek.
17 Q. So it was a study on Grand Lake St. Marys
18 and Beaver Creek?
19 A. Yes.
20 Q. And did you say it was a study of various
21 options?
22 A. Right.
23 Q. Do you recall what options the Corps of
24 Engineers looked at?

1 A. Regulation of the lake, enlarging the
2 Beaver Creek were certainly a couple of the options.
3 Those were the ones I paid the most attention to.
4 Q. Okay. In that study, did the Corps of
5 Engineers make any recommendations for any of those
6 options?
7 A. I'm not sure which were the -- yes, they
8 did, right.
9 Q. Do you recall what the recommendation
10 was?
11 A. Not in detail. I mean, I know that
12 they -- they analyzed the -- basically, there were
13 three benefits of the spillway: Basically one of them
14 was for recreation; water supply; and one of them was
15 for flood control.
16 And basically -- some of them were
17 offsetting benefits. Of course, if you had -- the
18 higher lake levels you have for recreation, the less
19 flow it has and the more flooding it would cause on
20 the south side of the lake.
21 And I think basically it analyzed that
22 the -- getting the water out, there were -- there was
23 less damage along the Beaver by increasing the flow
24 out of the lake than there was from flooding on the

1 south side. So they recommended enlarging the
2 outflow.
3 Q. Do you know what was the purpose of this
4 particular study?
5 A. Well, to determine what was -- what was
6 the best -- what was the best measures to take with
7 regulating or improving the lake for all those various
8 purposes, the recreation, the water supply, and the
9 flood control, and the various possible sources of
10 funding for it.
11 Q. Now, when you mentioned water supply as
12 one of them, what do you mean by water supply?
13 A. Well, the city of Celina got their water
14 supply -- they used the lake water for drinking water
15 and supplied to the homes and --
16 Q. Not directly, right?
17 A. No, they treated it first. They had a
18 reverse osmosis treatment that they did to treat the
19 water.
20 Q. Okay.
21 A. Just like Toledo gets their water supply
22 from Lake Erie here, intake from Lake Erie. Potable
23 water.
24 Q. Now, in paragraph 4, you say,

1 "Specifically I believed that, as a result of the new
2 design, there would be greater flooding downstream in
3 the areas surrounding Beaver Creek."
4 A. Correct.
5 Q. How did you arrive at that conclusion?
6 A. Because the peak outflow was much greater
7 than it was with the previous spillway.
8 Q. How do you know that?
9 A. Well, they increased the width of the
10 spillway considerably, and, plus, they provided
11 calculations showing what those outflows were.
12 Q. Who provided calculations?
13 A. ODNR.
14 Q. Okay. Did you do any calculations of
15 your own?
16 A. No.
17 Q. These calculations that ODNR did, would
18 you also refer to those calculations as hydraulic
19 data?
20 A. Yes.
21 Q. Is there something that you can do with
22 hydraulic data to determine whether or not there's
23 greater flooding?
24 MR. MILLER: Objection to

1 form.
2 THE WITNESS: Yes.
3 BY MS. CROSKEY:
4 Q. What can you do with the data to make
5 that determination?
6 A. Well, they -- one of the things that I
7 requested is that they revise the floodplain study
8 using that hydraulic data that they had to determine
9 what the base flood elevations would be specifically
10 along that lower 3 miles. And they claimed that that
11 wouldn't be done until after the project was done.
12 So I didn't do the steps; I requested
13 that that be done prior to the construction.
14 Q. Now, you mentioned the floodplain study.
15 What's that exactly?
16 MR. MILLER: Objection to
17 form.
18 THE WITNESS: Well, they -- ODNR
19 calculated the amount of flow coming out
20 of the spillway for specific flood
21 rainfall events, like 10-year storm,
22 25-year storm, 50-year storm, 100-year
23 storm.
24 And then the next step, you have

to analyze the hydraulic capacity of the stream downstream and any obstructions that would hinder that flow and determine what level the water would reach if that water, with the amount of flow that they calculated, would be coming out of the spillway, plus the flow that comes in from other sources along the stream.

BY MS. CROSKEY:

Q. So the floodplain study, is that something that ODNR did?

MR. MILLER: Objection to form.

THE WITNESS: No, they did not. I requested that they do that.

BY MS. CROSKEY:

Q. Okay. Did anyone do a floodplain study?

A. Not that I'm aware of.

Q. What is it that the Army Corps of Engineers did in 1981? What would you call that?

A. They did a major study of Grand Lake St. Marys and Beaver Creek and possible alternatives for improvement.

Q. Now, you mentioned that the spillway was

1 enlarged. Could you just tell me what you mean by
2 that again, because I don't remember exactly what you
3 said.
4 A. Well, there was a -- I don't remember
5 what the dimensions were, but it was something like
6 maybe a 26- or a 30-some-foot wide spillway before,
7 and then they replaced it with a huge spillway, they
8 call it an ogee, type spillway, and where there's
9 hundreds of feet for the water flow instead of 20-some
10 or 40-some feet, whatever it was before.
11 Q. Do you know what the height of the old
12 spillway was?
13 A. I think they -- I don't remember the
14 numbers, but I think they put the new spillway at the
15 same height that they put -- when they did the
16 improvements to the Beaver Creek in '99 or whatever,
17 they put some boards on top of the spillway to hold
18 back the flow in the lakes.
19 And I think they found that after they
20 raised that spillway with those additional boards, I
21 don't know, 8 inches or whatever it was, that it
22 provided better recreation benefits on the lake.
23 Because it was a lake that was built as a feeder
24 canal -- feeder for the canals, Miami and Erie Canals,

1 and when they did it, they just cut off trees and had
2 stumps, and water would get low, the boaters would hit
3 stumps, so that extra height made it for better
4 recreation.
5 And I think when they built the new
6 spillway, it was the same height that it was after
7 they put the boards on, which I think was 8 inches or
8 so higher than what the spillway was when it was
9 built.
10 Q. Now, you said when "they" improved Beaver
11 Creek.
12 A. The contractor that -- it was done under
13 this maintenance contract.
14 Q. So is that a Mercer County project?
15 A. Yeah. It was that petition project, that
16 multi-county petition project that I was referring to
17 that the flows started before I came and under
18 construction soon after I came.
19 Q. Okay. Because I thought I heard you say
20 1999. Is that when --
21 A. Well, no, that was when I left. It was
22 about maybe early '84 is about when it was done.
23 Q. Okay. That's what I was trying to clear
24 up. Now, the new spillway, is that the same height

1 throughout the entire length of the spillway?
2 A. No, no. I believe it gets higher over
3 portions of it. So the higher the water gets, the
4 more area it flows over.
5 Q. Do you know what the different heights
6 are along this --
7 A. I don't know, no.
8 Q. Okay.
9 A. But they provided the outlets on what --
10 they provided the data on what the outflow was. I
11 didn't do the calculations.
12 Q. Okay. So these calculations that were
13 provided by ODNR, is that something that you could put
14 through a hydraulic model?
15 MR. MILLER: Objection to
16 form.
17 THE WITNESS: Yes.
18 BY MS. CROSKEY:
19 Q. Did you put that data through a hydraulic
20 model?
21 A. No. They did that. I mean, it's a
22 hydraulic model that they used to come up with that
23 data, and then used that data for other hydraulic
24 studies. I don't know what you mean by "model" or

1 "study," Like the study I wanted, suggested that they
2 do, to determine the base flood elevations downstream.
3 Q. Was that study ever done?
4 A. No, I don't believe so. Maybe as of now,
5 I don't know.
6 Q. Now, when you say "greater flooding,"
7 greater flooding compared to what?
8 A. Compared to when the previous spillway
9 was there.
10 Q. Okay.
11 A. That was a question between the farmers
12 over years. "Greater flooding," you're talking about
13 greater flooding compared to when the lake was there
14 or compared to when the new spillway was there? I'm
15 talking about when the new spillway was there.
16 Q. So was there flooding before the new
17 spillway?
18 A. Yes.
19 Q. But it's your opinion that there would be
20 greater flooding after the new spillway?
21 A. Correct. Downstream, not around the
22 lake, but downstream. Less flooding around the lake,
23 more flooding downstream.
24 Q. What was the extent of flooding before

1 the new spillway?
2 MR. MILLER: Objection to
3 form.
4 THE WITNESS: Downstream or on
5 the lake?
6 BY MS. CROSKEY:
7 Q. Yes, downstream.
8 A. It would occasionally -- like at the
9 Lakefront Racket Club, it would get into the parking
10 lot. It never got up into the building, I believe.
11 And it would go over the road. It would flood the
12 parking lot. It flooded it several times while I was
13 there, I don't know, maybe three, four times in the 16
14 years I was there. Maybe more. I don't know.
15 Q. And you say it would go over the road.
16 What road do you mean?
17 A. US 127. Rarely, but occasionally.
18 Q. And what would you say was the extent of
19 flooding downstream after the new spillway?
20 MR. MILLER: Objection to
21 form.
22 THE WITNESS: Well, I wasn't
23 there much after it was built. I know
24 there was the one huge flood where it did

1 get in the building, the Lakefront Racket
2 Club, which was my primary concern, which
3 I thought would cause millions of dollars
4 of damage, and it did happen.
5 BY MS. CROSKEY:
6 Q. When was that?
7 A. I don't know, ma'am, what year it was.
8 It was after I left. It was fairly soon after the
9 spillway was built.
10 Q. Do you recall any flooding events between
11 1983 and 1997?
12 MR. MILLER: Objection.
13 Form.
14 THE WITNESS: Sure. You're
15 talking about along the Beaver Creek
16 or --
17 BY MS. CROSKEY:
18 Q. Yes.
19 A. Yeah, it would flood relatively
20 regularly. It would get out of its banks. It
21 certainly never -- didn't hold all of the flows in its
22 banks, and sometimes it would even back up in the
23 Wabash River. Yes, it flooded some before.
24 Q. How often would you say Beaver Creek

1 would be out of its banks between 1983 and 1997?
2 MR. MILLER: Objection.
3 Form.
4 THE WITNESS: It was fairly
5 often. I don't know if it was annually
6 or every four or five years. I don't
7 know. Pretty often.
8 BY MS. CROSKEY:
9 Q. Do you know why the spillway was changed?
10 A. I think because the old spillway was
11 deteriorated, and they were very concerned about the
12 safety, about what would happen if that would fail.
13 And it was a much-needed project, and I was a hundred
14 percent in favor of them doing the project. It was a
15 very necessary project.
16 Q. In paragraph 8 of your affidavit --
17 A. Yes.
18 Q. I apologize, I think my notes must be
19 wrong.
20 A. Not 8, huh?
21 Q. Yeah. Never mind. With regard to
22 paragraph 10 in your affidavit, it says that you wrote
23 a letter to Jones & Stuckey, an engineering firm
24 performing work for ODNR.

1 Do you know what work Jones & Stuckey was
2 doing?
3 A. I think they designed the spillway.
4 Q. Was your letter before or after that
5 design?
6 MR. MILLER: Objection to
7 form.
8 THE WITNESS: I don't know if it
9 was completely done. I think it was
10 basically done, the design. From what I
11 had seen of the design, I don't know if
12 that was the final design or not.
13 BY MS. CROSKEY:
14 Q. Now, in paragraph 12, you say, "ODNR
15 chose to serve recreational users of Grand Lake."
16 What do you mean by that? Why did you
17 believe that?
18 A. Well, there was significant economic
19 benefit to having the recreational use of the lake,
20 and the Chamber of Commerce and all the people wanted
21 it to be a lake that was usable for boating and
22 fishing.
23 And that would -- to do that, they needed
24 to maintain lake levels near the spillway to have it

1 be satisfactory for recreation. And the higher you
2 keep the lake, the less flood-control ability it has.
3 Q. So was the lake not used for recreational
4 purposes before the spillway modification?
5 A. Oh, no, it was but they did draw it down
6 some. They did for a while. They had a policy for
7 the winter draw-down. And they did say that they
8 would consider that again after it was constructed.
9 Q. Do you mean that ODNR had a policy for
10 winter draw-down?
11 A. For a while they did anyway.
12 Q. What do you mean by that?
13 A. If you keep the lake before the spillway
14 crest, it has some storage capacity there. If it
15 rains, then the water can flow there, and so it fills
16 up to the level before it starts flowing out over the
17 top. And so the more capacity, the more room you keep
18 there, the more flood control it has.
19 And so they would -- when the lake was
20 not being used by boaters in the winter, they would
21 draw it down, so it would have that available capacity
22 for storage.
23 But then what they were concerned about,
24 if they drew it down too much, they wouldn't get

1 enough rain so that it would be up to the levels that
2 they wanted it to be come recreation season.
3 Q. Is that policy one that existed, to your
4 knowledge, when you became Mercer County Engineer in
5 1983?
6 A. I don't believe there was a written
7 policy. I think local farmers and others would go to
8 the park manager and try to persuade him to do it or
9 not do it. And I think they wanted to try to get away
10 of these -- some people coming saying do it, and some
11 people coming saying don't do it, and these competing
12 concerns on it.
13 But I think they did talk about there was
14 a possibility that they could come up with a defined
15 regulation policy that would instruct the park manager
16 on how to do it.
17 Q. Was there a period of time when ODNR
18 stopped doing a winter draw-down?
19 A. Yes. I don't believe they did it -- I
20 believe -- yeah, I'm not aware of them -- I think
21 the -- what the -- with the -- near the end, I don't
22 even think the outlets were offerable. I don't think
23 they could do it.
24 Q. Do you know when that draw-down was

1 stopped?
2 A. Not exactly, no.
3 Q. Do you know approximately?
4 A. I think they did it rarely. I don't
5 think it was done very often in the time -- most of
6 the time I was there. Maybe it was done early on and
7 that, but I don't know the approximate year. I
8 don't -- I don't know for sure when -- whether they
9 did do any or not.
10 MR. MILLER: Jennifer, we have
11 been going about an hour. Do you mind if
12 we take just a five-minute break?
13 MS. CROSKEY: Oh, sure.
14 (A brief recess was had.)
15 BY MS. CROSKEY:
16 Q. Now, in Exhibit 1 that's attached to your
17 affidavit -- I believe it's the first letter that's
18 attached to your affidavit. In the third paragraph on
19 the first page, you talk about, "even if ODNR figures
20 are correct." What figures were you referring to at
21 that time, if you remember?
22 A. Their calculated outflows.
23 Q. Was that -- do you recall whether those
24 figures were in any particular type of document?

1 A. Well, they had had some tables and some
2 charts, yes.
3 Q. Well, previously, you mentioned a study
4 that the Army Corps of Engineers did, and you also
5 mentioned a study that ODNR did.
6 Are these figures something that was in
7 ODNR's study?
8 A. Yes. They had -- they had -- they
9 showed -- both showed the flow in the Beaver Creek,
10 and ODNR's figures were different than the Corps of
11 Engineers', and the next letter they stated why.
12 Q. And what do you mean, "the next letter
13 they stated why"?
14 A. The letter from them that you had
15 earlier, they explained why some of the difference
16 occurred.
17 Q. Do you mean the document that we marked
18 as Exhibit A?
19 A. It probably was A. Let's see. Right.
20 The first -- yeah, which was the response for that
21 first letter, February 5th, 1992. And after -- after
22 this response, I did -- I did understand why -- why
23 they did some of the things they did.
24 And so my letters after that addressed

1 different concerns, or considered their response.
2 Q. Okay.
3 A. I changed my thoughts somewhat after this
4 response.
5 Q. Okay. Are you familiar with something
6 called a stage discharge curve?
7 A. Yes.
8 Q. Can you describe your understanding about
9 it?
10 A. It shows the outflow for various lake
11 levels.
12 Q. Is it also sometimes referred to as a
13 rating curve?
14 A. Yes.
15 Q. Now, you mentioned that there was some --
16 or did you say that there was conflicting information
17 between the Corps' report and ODNR's study?
18 A. Correct.
19 Q. Would you say that that conflicting
20 information could be explained by stage discharge
21 curve?
22 MR. MILLER: Objection to
23 form.
24 THE WITNESS: Not because of

that. It was because there had been some -- the Corps' study was done in 1981, and there were some improvements done after 1981 to Beaver Creek.

So that would affect the -- the flood levels in the creek, because it had been enlarged some.

BY MS. CROSKEY:

Q. How does the stage discharge curve relate to the peak discharge?

MR. MILLER: Objection to form.

THE WITNESS: Well, you pick -- you pick the lake levels that would -- that would occur for various storms, and you correspond them to that, like with hundred-year storms, they would calculate that that lake would be at a certain level. So you got to correspond those to the frequency of the events.

BY MS. CROSKEY:

Q. Exhibit 3 that's attached to your affidavit, there are some numbered paragraphs starting about the middle of that letter.

1 A. Okay.
2 Q. Those numbered paragraphs, those are
3 items that you thought should be done; is that
4 correct?
5 A. Yes.
6 Q. Okay.
7 A. Well, studies and -- yes.
8 Q. No. 1 says, "A revised Flood Insurance
9 study for areas surrounding Grand Lake St. Marys."
10 What do you mean by a flood insurance
11 study?
12 A. Federal Emergency Management Association,
13 FEMA, does studies of major streams to determine the
14 base flood elevations for the hundred-year storms and
15 the lower storms. And that's basically what I wanted
16 them to determine, what would be the flood levels
17 downstream from the outlet after the new spillway.
18 And they claimed that that wouldn't be
19 done by them until after that was the existing
20 condition, and so they couldn't get FEMA to do it
21 before.
22 Q. Okay. So there was a flood insurance
23 study before the spillway?
24 A. Right.

1 MR. MILLER: Objection.
2 BY MS. CROSKEY:
3 Q. Do you recall --
4 A. Yeah, based on the old spillway, yes.
5 Q. Okay. Do you recall when that flood
6 insurance study was done?
7 A. I think there were two different ones.
8 One was for the unincorporated part of the county and
9 one was for the city of Celina. And I think maybe '79
10 or late '70s, somewhere in there. I don't know.
11 Q. And who dose those studies?
12 A. FEMA, Federal Emergency Management
13 Association.
14 Q. Do you know whether or not a flood
15 insurance study was done after the spillway was put
16 in?
17 A. No, I do not. I would hope so.
18 Q. Do you know if FEMA has a schedule that
19 they do these with any regularity?
20 A. They have limited staff and limited
21 funding, and based on their evaluation of priorities.
22 Q. Okay. So to your knowledge, there's no
23 specific schedule that FEMA follows?
24 MR. MILLER: Objection to

1 form.
2 THE WITNESS: Correct.
3 BY MS. CROSKEY:
4 Q. Exhibit 4 that's attached to your
5 affidavit --
6 A. Oh, Exhibit 4.
7 Q. In this letter, correct me if I'm wrong,
8 you're suggesting enlarging the upper 3 miles of
9 Beaver Creek; is that correct?
10 A. That's correct.
11 Q. Was that a recommendation of something
12 that you thought should be done?
13 MR. MILLER: Objection to
14 form.
15 THE WITNESS: I thought it
16 certainly warranted study.
17 BY MS. CROSKEY:
18 Q. Warranted study. What type of study
19 would be necessary to make a determination whether or
20 not to enlarge the upper 3 miles?
21 MR. MILLER: Objection.
22 Form.
23 THE WITNESS: Part of the
24 other -- the other things that I

1 requested was those base-flood elevations
2 and what it would flood and the damage of
3 that would be -- would be part of what
4 you would need -- would justify the
5 reason for doing the study.
6 The upper 3 miles is a lot
7 smaller than once you get past that.
8 BY MS. CROSKEY:
9 Q. You must be really good at anticipating
10 my questions, because my next question was going to be
11 what is the significance of the upper 3 miles of
12 Beaver Creek.
13 Would you say that it's different than
14 the rest of it?
15 A. Yes, it's smaller. It's smaller, and
16 that's where the structures are that were in the
17 floodplain that would be subject to study, and once
18 you get down below that, there's nothing but farmland.
19 Q. What do you mean by it's smaller?
20 A. It's not as wide. And it has -- the
21 bridges, I imagine, were restrictions in it. I told
22 them we were going to be replacing those, and I would
23 like them to give me the data on how big we should
24 make them.

1 Q. You would like who to give you --
2 A. ODNR.
3 Q. So essentially, and again, correct me if
4 I'm wrong, in this letter, you're asking ODNR to study
5 what to do with the upper 3 miles of Beaver Creek?
6 A. That's correct.
7 Q. I think previously you testified that
8 Beaver Creek was a County-maintained ditch?
9 A. That's correct.
10 Q. Okay.
11 A. It was petitioning for improvement.
12 Q. Uh-huh. Would the County have had
13 authority to do a study like that?
14 A. We would have authority. I don't know if
15 it was our responsibility or we had the money for it,
16 but --
17 Q. Exhibit 5 attached to your affidavit, in
18 the first paragraph, you say, "We have received the
19 construction drawings relating to the proposed bridge
20 and found them to be satisfactory."
21 What bridge are you talking about there?
22 Do you remember?
23 A. That was the bridge over West Bank Road.
24 Q. Why did you receive construction drawings

1 for the bridge at West Bank Road?
2 A. I'm not sure why we did. I believe that
3 was in the city of Celina. I think it was just
4 complimentary for our review. I don't think it was
5 required that we receive them.
6 Q. Is this particular bridge --
7 A. It was not the County's.
8 Q. Okay. Is it a bridge over Beaver Creek?
9 A. Yes.
10 Q. Okay. So is it the bridge that
11 essentially carries West Bank Road over Beaver Creek?
12 A. Right. I believe that's the one that
13 we're referring to here.
14 Q. Do you recall whether ODNR did some
15 construction work on this West Bank bridge?
16 A. Yes.
17 Q. Now, you mentioned some bridges in this
18 upper 3 miles of Beaver Creek. Is this one of those
19 bridges?
20 A. No, not that I was referring to, no.
21 Q. Where is West Bank Road?
22 A. It's immediately adjacent to the lake. I
23 don't know if you've been there. It's right along the
24 lake.

1 Q. You can see the spillway as you're
2 driving along West Bank Road?
3 A. Yes.
4 Q. Now, previously you mentioned -- let me
5 go back and find it -- there was a road, US 127, and
6 that that would sometimes flood. Do you recall how
7 many times that would have flooded between 1983 and
8 1997?
9 MR. MILLER: Objection to
10 form.
11 THE WITNESS: Not very often.
12 Maybe once or twice.
13 BY MS. CROSKEY:
14 Q. Is US 127 one that the County engineer
15 would be responsible for closing?
16 A. No.
17 Q. Who would be responsible for closing --
18 A. ODOT.
19 Q. Do you recall whether there were any
20 other roads near Beaver Creek that would flood?
21 A. Yes.
22 Q. Do you recall what roads would flood?
23 MR. MILLER: Objection to form.
24 What time frame are we talking about,

1 Jennifer?
2 BY MS. CROSKEY:
3 Q. Do you recall any flooding between 1983
4 and 1997 of any roads other than US 127?
5 A. Yes.
6 Q. Which roads do you recall there being
7 flooding between 1983 and 1997?
8 A. Meyer Road was certainly one of them. I
9 think pretty much the ones that -- the three
10 bridges -- was there three that I recommended? I
11 mean, those were the smallest ones.
12 Not the bike path, which wasn't a road,
13 but the other -- Meyer and the next one west, I think.
14 Q. You said Meyer Road, and the next -- you
15 mean the next road going west after Meyer?
16 A. Right, downstream, next road downstream.
17 I think Meyer was the smallest.
18 Q. What do you mean, the smallest?
19 A. Smallest waterway opening. It was the
20 most restrictive of our County-maintained bridges.
21 Q. Do you recall how many times Meyer Road
22 would have flooded between 1983 and 1997?
23 A. Several. I don't know. I don't know how
24 many.

1 Q. All right. Meyer Road, is that a county
2 road, Meyer Road?
3 A. It's Township maintained, but we --
4 County maintains the bridges on the county roads.
5 Q. So if that road had to be closed, would
6 it be the County engineer's office that would do it?
7 A. Township trustees, Jefferson Township.
8 Q. Okay. Were there any county roads along
9 Beaver Creek? Were there any roads that you were
10 responsible for maintaining as County engineer along
11 Beaver Creek?
12 A. Yes.
13 Q. Okay. Did any of those roads that you
14 were responsible for maintaining, did they ever flood
15 between 1983 and 1997?
16 A. Yes.
17 Q. Okay. Do you remember which roads?
18 A. Not for sure. I mean, usually the
19 approach to the bridges were lower than the bridges,
20 and those would be underwater. Sometimes they would
21 not be deep enough that you needed to close them. I
22 mean, you could drive through, maybe a foot or so of
23 water. But I don't remember which ones we had to do
24 that with.

1 Q. Okay. Is that -- whether or not a county
2 road is closed, is that something that the County
3 engineer keeps a record of?
4 A. Probably not. I mean, we did -- we did
5 occasionally measure peak flood levels, high-water
6 marks so you would know how high the water gets. For
7 the big events, we would go out and measure those.
8 Q. Okay. So like with respect to Beaver
9 Creek, did you ever go out and measure high-water
10 marks when you were County engineer?
11 A. Yes.
12 Q. Do you recall --
13 A. I don't recall how often or how high they
14 were. They probably still have that data.
15 Q. So that would be something that the
16 County engineer's office would -- a record that the
17 County engineer would maintain?
18 A. Right.
19 Q. Okay. So between 1983 and 1997, do you
20 know if there were ever any times when you went out to
21 record a high-water mark along Beaver Creek?
22 A. I think so. I'm not positive. I think
23 we probably did.
24 Q. Okay. During your time as County

1 engineer, did any of the -- you referred to them as
2 farmers, they're relators in this case. Did they ever
3 come and talk to you, as County engineer, regarding
4 the spillway modification?
5 MR. MILLER: Objection to
6 form.
7 THE WITNESS: Yes.
8 BY MS. CROSKEY:
9 Q. Do you recall who came to talk to you?
10 MR. MILLER: Same objection.
11 THE WITNESS: Some of them I
12 recall.
13 BY MS. CROSKEY:
14 Q. Do you recall any particular people who
15 talked to you about the spillway modification?
16 A. John Zumberge was the one that came the
17 most often.
18 Q. Do you know if there was anyone else?
19 A. Yes, there were. Sometimes there were
20 groups of two or three, a couple others with him. I
21 know he was the leader of the group.
22 Q. Okay. Do you know approximately how many
23 times you would have talked to him, to John Zumberge?
24 A. Half a dozen, roughly. Several times.

1 He was pretty persistent.
2 MR. MILLER: Let me just
3 register a standing objection, if it's
4 all right, with reference to did any
5 relators come talk to him. He's never
6 been shown any list in this deposition of
7 any relators.
8 I presume his testimony is
9 speaking more generally about farmers
10 that he spoke with.
11 If I could have that standing
12 objection, that's fine.
13 MS. CROSKEY: Sure. That's why
14 I was asking for names.
15 BY MS. CROSKEY:
16 Q. I do have a list of the relators in this
17 case; however, I've not removed people who have been
18 eliminated at some point in time.
19 But if you want to, take a look at this
20 list of names and see if you recall having any
21 discussions with any of these people.
22 A. Well, you have a couple Zumberges on
23 there: Charles, the name Jennifer is not familiar to
24 me. He had a son, Norm, I think. Z-Farms, I assume,

1 and you have Baucher Farms. John Zumberge and
2 Dick Baucher Were both Jefferson Township trustees and
3 farmers along the Beaver, and I had discussions with
4 both of them at various times.
5 Q. But you don't know what relationship, if
6 any, John Zumberge has to Charles Zumberge or
7 Jennifer Zumberge?
8 A. No. I think he had a son Norm, is the
9 only one I recall. I don't recall those names.
10 Q. Okay. Do you know whether or not
11 John Zumberge has any affiliation with Z-Farms, Inc.?
12 A. Probably. I think John is dead now,
13 but --
14 Q. And you mentioned Baucher -- I'm sorry,
15 what was the Baucher name that you mentioned?
16 A. Richard Baucher, Dick.
17 Q. Okay. Do you know whether or not
18 Dick Baucher has any --
19 A. I don't know. I would imagine he does.
20 Q. Okay.
21 A. His family now, I don't --
22 Q. Do you know where Dick Baucher lives or
23 where his office address is?
24 A. I think it was on 20 -- right on State

1 Route 29, I believe. What was the address there? Was
2 that State Route 29?
3 Q. No.
4 A. He has a barn, distinctive barn. I won't
5 say what it is.
6 Q. All right. None of these other names
7 that you looked at, did any of them ring a bell?
8 A. Not that I recall. I may have. I don't
9 recall it.
10 Q. All right. With regard to your
11 affidavit, I think previously you said that Mr. Miller
12 prepared it?
13 A. Yes.
14 MR. MILLER: Objection to
15 form.
16 BY MS. CROSKEY:
17 Q. Did you draft the affidavit initially?
18 MR. MILLER: Same objection.
19 THE WITNESS: No.
20 BY MS. CROSKEY:
21 Q. Did you have discussions about the
22 affidavit?
23 A. Yes.
24 Q. How many times did you discuss the

1 affidavit with Mr. Miller?
2 A. Once or twice.
3 Q. Was that by telephone or --
4 A. Yes, by telephone.
5 Q. Uh-huh. And approximately how long were
6 those telephone conversations?
7 A. A minute or two. Very short.
8 Q. Were there any documents that you
9 reviewed or relied upon in expressing the opinions
10 that you have in your affidavit?
11 MR. MILLER: Objection.
12 Form.
13 THE WITNESS: Yes.
14 BY MS. CROSKEY:
15 Q. What documents would those be?
16 A. The copies of the letters that I had
17 written earlier, like the five attached.
18 Q. I was going to say, anything that's not
19 attached to the affidavit?
20 A. No, not -- that, and just memory of the
21 events.
22 MS. CROSKEY: I think I'm very
23 close to being done, if we could just
24 take a short break.

(A brief recess was had.)

BY MS. CROSKEY:

Q. Mr. Earley, between 1997 and, I believe you said that you left Mercer County engineering in 1999 --

A. Correct.

Q. -- do you recall getting any correspondence from anyone along Beaver Creek regarding any concern about the spillway, the spillway modification?

A. Not correspondence. I got a phone call or two from the current County engineer.

Q. Okay. And I said through '97 and '99.

A. Through '97, no, I -- while I was still there?

Q. Yeah, yeah. Did you get any?

A. I don't recall.

MS. CROSKEY: All right. I don't have any other questions.

MR. MILLER: I have precious few.

- - -

EXAMINATION

BY MR. MILLER:

1 Q. Mr. Earley, Exhibit E, your affidavit.
2 Is it fair to say that sets forth your concerns
3 regarding increased flooding as a result of the new
4 spillway for ODNR?
5 A. Exhibit E?
6 Q. Yes, your affidavit.
7 A. Yes.
8 Q. And did you believe that at that time in
9 the 1990s, prior to replacement of the spillway, that
10 increased flooding as a result of the new spillway as
11 designed for ODNR was foreseeable?
12 A. Downstream, yes.
13 Q. And were you aware that the County
14 Commissioners and Mercer County Soil & Water had
15 similar concerns?
16 A. Yes.
17 (Court Reporter marked
18 Deposition Exhibits F and G.)
19 BY MS. CROSKEY:
20 Q. Mr. Earley, I should be more clear. When
21 I say "increased flooding," I'm referring specifically
22 to increased flooding west of Grand Lake St. Marys as
23 a result of the redesigned spillway.
24 Is that similar to your understanding?

1 A. Yes.
2 Q. Looking at Exhibit F, does this appear to
3 be a November 22nd, 1991, document from the Mercer
4 County Commissioners?
5 A. Yes.
6 Q. Have you seen this document before?
7 A. I don't recall it.
8 Q. Does it confirm your understanding that
9 you had in the 1990s, however, that the commissioners
10 shared your concern regarding the redesigned spillway
11 and increased flooding that could result?
12 A. Yes.
13 Q. Take a look at Exhibit G, if you would.
14 Does this appear to be a February 28th, 1992, letter
15 from Sam Hellwarth of the Mercer County Soil & Water
16 Conservation District to the Ohio Department of
17 Natural Resources?
18 A. That's the signature.
19 Q. And you knew Mr. Hellwarth at the time?
20 A. Yes.
21 Q. Taking a look at the first page of
22 Exhibit G, have you seen this document before?
23 A. I don't recall it.
24 Q. But it does appear as though Mercer

1 County Soil & Water Conservation District was
2 expressing concern to ODNR at the same time you were,
3 as shown by the letters attached to your affidavit; is
4 that fair to say?
5 A. Addressed some of the same concerns.
6 Q. Including, if you look at the first
7 paragraph of Exhibit G, Mr. Hellwarth, on behalf of
8 the Soil & Water Conservation District, wrote, "We, as
9 a board of supervisors, feel the proposed spillway at
10 Grand Lake St. Marys needs several things addressed or
11 further studied to protect the cropland along Beaver
12 Creek."
13 Do you see that?
14 A. Yes.
15 Q. And you agreed with that concern prior to
16 replacement of the spillway?
17 A. Yes.
18 Q. Similarly, looking at the third paragraph
19 on the first page of Exhibit G, the first sentence
20 begins, "We feel the Department of Natural Resources
21 has forgotten the farmer."
22 Do you see that?
23 A. Yes.
24 Q. And you shared that concern, as well,

1 with regard to ODNR's plan for replacement of the
2 spillway in 1997?
3 A. I don't know if they forgot him, but I
4 was concerned about the effects.
5 Q. Including the effects of increased
6 flooding on farmland, correct?
7 A. Right, right.
8 MR. MILLER: I have nothing
9 further. Thank you, Mr. Earley.
10 MS. CROSKEY: Well, thank you,
11 Mr. Earley, for coming here and providing
12 some testimony.
13 We are going to order an
14 expedited transcript. Did you talk to
15 John Borell about signature at all?
16 MS. HENDERSON: No.
17 MR. MILLER: You have the
18 opportunity to read and review your
19 transcript to make sure it's accurate if
20 you choose.
21 MS. CROSKEY: Did Mr. Borell
22 talk to you about signature? I had a
23 discussion with Mr. Borell about
24 signature.

1 MS. HENDERSON: Okay.
2 MS. CROSKEY: But he's not here
3 today.
4 MS. HENDERSON: Well, we'll
5 review for now, but I'll let you know if
6 that is different.
7 MS. CROSKEY: Before we go off
8 the record, we are going to order an
9 expedited transcript. I would ask if he
10 is going to read and sign, can we get a
11 date certain?
12 MS. HENDERSON: I can let you
13 know later this afternoon. John is in
14 depositions, as well, which is why he is
15 not here.
16 MS. CROSKEY: Okay. I'll leave
17 it at that.
18 (Signature reserved at time of
19 deposition. Signature later waived on
20 instruction of Ms. Henderson to the court
21 reporter.)
22 (Deposition concluded and
23 witness excused at 12:00 noon.)
24 - - -

1 C E R T I F I C A T E

2

3 I, Casey G. Schreiner, a Notary Public in and
4 for the State of Ohio, duly commissioned and
5 qualified, do hereby certify that the within-named
6 witness was by me first duly sworn to tell the truth,
7 the whole truth, and nothing but the truth in the
8 cause aforesaid; that the testimony then given was by
9 me reduced to stenotype in the presence of said
10 witness and afterwards transcribed; that the foregoing
11 is a true and correct transcription of the testimony
12 so given as aforesaid.
13 I do further certify that this deposition was
14 taken at the time and place in the foregoing caption
15 specified.
16 I do further certify that I am not a
17 relative, employee of or attorney for any of the
18 parties in this action; that I am not a relative or
19 employee of an attorney of any of the parties in this
20 action; that I am not financially interested in this
21 action, nor am I or the court reporting firm with
22 which I am affiliated under a contract as defined in
23 the applicable civil rule.
24

1
2 IN WITNESS WHEREOF, I have hereunto set
3 my hand and affixed my seal of office at Toledo, Ohio
4 on this 24th day of May, 2010.
5
6 CASEY G. SCHREINER, RMR-RDR
7 Notary Public
in and for the State of Ohio
8
9 My Commission expires December 8, 2011.
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

Concordance Report

- - -

Unique Words: **1,037**

Total Occurrences: **3,642**

Total Words In File: **11,427**

- - -

Single File Concordance

- - -

Case Insensitive

- - -

Cover Pages = **4**

- - -

Includes **ALL** Text Occurrences

- - -

Dates **ON**

- - -

Includes Pure Numbers

- - -

Possessive Forms **ON**

- - 1 - -

1 [4] 33:3; 35:24; 52:16; 56:8
10 [4] 11:12; 17:9; 26:18; 48:22
10-year [1] 40:21
10.6 [1] 24:13
100-year [1] 40:22
12 [3] 16:16, 19; 49:14
127 [4] 46:17; 62:5, 14; 63:4
12:00 [1] 76:23
12th [1] 29:9
15 [2] 11:12; 15:17
16 [4] 17:8; 26:14; 36:8; 46:13
1981 [4] 36:13; 41:20; 55:3, 4
1983 [15] 17:11; 23:12, 13; 24:9; 27:4; 34:17; 47:11; 48:1; 51:5; 62:7; 63:3, 7, 22; 64:15; 65:19
1990 [2] 8:4, 16
1990s [4] 8:18, 24; 72:9; 73:9
1991 [2] 28:5; 73:3
1992 [3] 29:10; 53:21; 73:14
1993 [1] 29:19
1994 [3] 30:9, 19, 21
1997 [10] 47:11; 48:1; 62:8; 63:4, 7, 22; 64:15; 65:19; 71:3; 75:2
1999 [5] 17:11; 27:7; 34:17; 43:20; 71:5
19th [1] 28:5

- - 2 - -

20 [2] 15:18; 68:24
20-some [1] 42:9
2002 [3] 8:10, 21; 9:3
2003 [3] 8:10, 21; 9:3
2009 [1] 7:10
2010 [1] 78:4
2011 [1] 78:9
20th [1] 30:8
22nd [1] 73:3
24th [3] 29:11, 18; 78:4
25-year [1] 40:22
26 [1] 42:6
27 [2] 16:18; 17:6
28th [1] 73:14
29 [2] 69:1, 2

- - 3 - -

3 [9] 36:3; 40:10; 55:22; 58:8, 20; 59:6, 11; 60:5; 61:18
30-some-foot [1] 42:6

- - 4 - -

4 [3] 38:24; 58:4, 6
40-some [1] 42:10

- - 5 - -

5 [1] 60:17
50-year [1] 40:22
5th [1] 53:21

- - 6 - -

6 [1] 35:24
6th [1] 30:21

- - 7 - -

70s [1] 57:10
76 [1] 15:4
77 [1] 15:1
79 [1] 57:9

- - 8 - -

8 [5] 42:21; 43:7; 48:16, 20; 78:9
83 [2] 22:24; 24:9
84 [3] 24:9, 10; 43:22

- - 9 - -

90s [2] 8:17; 18:10
97 [2] 71:13, 14
99 [4] 17:22; 22:24; 42:16; 71:13

- - A - -

ability [1] 50:2
able [2] 31:1, 8
accurate [2] 35:19; 75:19
action [3] 77:18, 20, 21
additional [2] 14:1; 42:20
address [2] 68:23; 69:1
addressed [4] 29:19; 53:24; 74:5, 10
adequate [1] 34:14
adjacent [1] 61:22
affect [1] 55:5
affidavit [35] 10:7, 8, 12, 14; 12:13, 15, 19; 13:12, 15; 25:14, 22; 28:13; 29:5, 8; 35:7, 19, 22; 36:3; 48:16, 22; 52:17, 18; 55:23; 58:5; 60:17; 69:11, 17, 22; 70:1, 10, 19; 72:1, 6; 74:3
affiliated [1] 77:22
affiliation [1] 68:11
affixed [1] 78:3
aforesaid [2] 77:8, 12
afternoon [1] 76:13
afterwards [2] 6:7; 77:10
agreed [2] 6:16; 74:15
agreement [1] 6:15
alternatives [1] 41:22
american [2] 16:6, 7
amount [3] 33:17; 40:19; 41:5
analyze [1] 41:1
analyzed [2] 37:12, 21
annually [1] 48:5
answer [5] 6:1; 9:20; 11:15; 31:11; 35:2
answering [1] 9:14
answers [1] 9:7
anticipating [1] 59:9
anybody [1] 12:9
anyway [1] 50:11
apologize [2] 6:1; 48:18
appear [3] 73:2, 14, 24
applicable [1] 77:23
appointed [6] 17:12, 14, 17, 19, 23; 18:1
approach [1] 64:19
appropriate [2] 31:17, 19
approval [1] 25:21
approximate [1] 52:7
approximately [4] 8:17; 52:3; 66:22; 70:5
area [5] 18:3; 24:1, 5; 44:4
areas [4] 16:23; 19:17; 39:3; 56:9
army [2] 41:19; 53:4
arranged [1] 13:2
arranging [1] 13:3
arrive [1] 39:5
articles [1] 18:5
asking [2] 60:4; 67:14
assessed [3] 23:2, 19; 24:2
assist [2] 31:1, 8
assistant [1] 5:8
associates [1] 12:10
association [4] 16:4; 18:19; 56:12; 57:13
assume [2] 21:12; 67:24
attached [13] 13:15; 28:13; 29:4, 7; 35:22; 52:16, 18; 55:22; 58:4; 60:17; 70:17, 19; 74:3
attending [1] 16:5
attention [1] 37:3
attorney [3] 5:8; 77:17, 19
authority [2] 60:13, 14
available [1] 50:21
aware [7] 6:15; 10:8; 12:18, 20; 41:18; 51:20; 72:13

- - B - -

bachelor [1] 13:23
bachelor's [2] 14:11; 20:16
bank [8] 24:18; 34:9; 60:23; 61:1, 11, 15, 21; 62:2
banks [6] 22:17, 18; 34:8; 47:20, 22; 48:1
bar [1] 14:8
barn [2] 69:4
base [3] 40:9; 45:2; 56:14
base-flood [1] 59:1
based [2] 57:4, 21
basically [10] 5:18; 6:11; 26:3; 35:16; 37:12, 13, 16, 21; 49:10; 56:15
basis [1] 23:4
baucher [8] 11:13; 68:1, 2, 14, 15, 16, 18, 22
beaver [39] 7:7, 16; 21:13, 22; 22:1, 7, 9, 14; 23:11; 24:12; 33:4; 34:19; 36:16, 18; 37:2, 23; 39:3; 41:22; 42:16; 43:10; 47:15, 24; 53:9; 55:4; 58:9; 59:12; 60:5, 8; 61:8, 11, 18; 62:20; 64:9, 11; 65:8, 21; 68:3; 71:8; 74:11
begins [1] 74:20
behalf [2] 5:9; 74:7
believe [21] 5:18; 6:22; 12:5; 15:23; 30:24; 31:7; 35:21, 23; 44:2; 45:4; 46:10; 49:17; 51:6, 19, 20; 52:17; 61:2, 12; 69:1; 71:3; 72:8
believed [1] 39:1
bell [1] 69:7
benefit [1] 49:19
benefits [4] 36:14; 37:13, 17; 42:22
bike [1] 63:12
bit [4] 9:23; 13:20; 16:14; 35:6
board [1] 74:9
boards [3] 42:17, 20; 43:7
boaters [2] 43:2; 50:20
boating [1] 49:21
borell [3] 75:15, 21, 23
bottoms [1] 24:17
boundary [1] 16:12
break [6] 9:16, 17, 21; 52:12; 70:24
bridge [8] 60:19, 21, 23; 61:1, 6, 8, 10, 15
bridges [9] 20:11; 59:21; 61:17, 19; 63:10, 20; 64:4, 19
brief [2] 52:14; 71:1
briefly [1] 7:3
bringing [1] 5:19
bs [1] 14:1
buchy [1] 32:16
building [2] 46:10; 47:1
built [6] 6:3; 42:23; 43:5, 9; 46:23; 47:9

- - C - -

calculate [1] 55:17
calculated [3] 40:19; 41:6; 52:22
calculation [1] 20:11
calculations [9] 19:23, 24; 39:11, 12, 14, 17, 18; 44:11, 12
california [2] 16:17; 17:4
call [6] 10:20; 33:24; 34:22; 41:20; 42:8; 71:11
calls [1] 23:7
cameron [1] 12:7
campbell [2] 12:1
canal [1] 42:24
canals [2] 42:24
capacity [9] 9:1, 4; 33:12, 16; 41:1; 50:14, 17, 21
caption [1] 77:14
captioned [1] 5:12
carries [1] 61:11
carry [4] 33:17, 19, 20, 21
case [15] 5:12, 14, 16; 7:12, 13, 14; 9:24; 10:9, 12, 15; 12:13; 13:10; 21:11; 66:2; 67:17
casey [2] 77:3; 78:6
celina [3] 38:13; 57:9; 61:3
certified [1] 5:4
certify [3] 77:5, 13, 16
chamber [1] 49:20
changed [2] 48:9; 54:3
charles [2] 67:23; 68:6
charts [1] 53:2
chief [1] 17:9
choose [1] 75:20
chose [1] 49:15
city [3] 38:13; 57:9; 61:3

civil [5] 13:23; 16:7; 20:16, 22; 77:23
claimed [3] 8:7; 40:10; 56:18
clear [2] 43:23; 72:20
closed [2] 64:5; 65:2
closing [2] 62:15, 17
club [2] 46:9; 47:2
combination [1] 14:21
combined [1] 15:18
coming [7] 12:21; 13:6; 40:19; 41:6; 51:10, 11; 75:11
commerce [1] 49:20
commission [1] 78:9
commissioned [1] 77:4
commissioners [4] 7:19; 72:14; 73:4, 9
compared [4] 45:7, 8, 13, 14
competing [1] 51:11
completely [1] 49:9
complimentary [1] 61:4
concern [6] 47:2; 71:9; 73:10; 74:2, 15, 24
concerned [3] 48:11; 50:23; 75:4
concerning [2] 36:4, 7
concerns [10] 6:6; 29:19; 31:12, 18, 21; 51:12; 54:1; 72:2, 15; 74:5
concluded [1] 76:22
conclusion [1] 39:5
condition [1] 56:20
conestoga-rovers [1] 12:10
confirm [1] 73:8
conflicting [2] 54:16, 19
connection [1] 20:16
conservation [3] 73:16; 74:1, 8
consider [2] 19:6; 50:8
considerably [1] 39:10
considered [1] 54:1
constructed [1] 50:8
construction [6] 23:21; 40:13; 43:18; 60:19, 24; 61:15
consultant [1] 16:20
consultants [1] 16:17
consulting [2] 16:20, 24
contact [1] 11:21
continually [1] 34:11
continuing [2] 15:9; 20:20
contract [2] 43:13; 77:22
contractor [1] 43:12
contractors [1] 18:21
control [3] 37:15; 38:9; 50:18
conversation [1] 9:10
conversations [2] 10:16; 70:6
copies [1] 70:16
copy [4] 25:15; 30:10; 32:13; 35:19
corps [9] 36:9, 11, 23; 37:4; 41:19; 53:4, 10; 54:17; 55:2
correctly [1] 10:1
correspond [2] 55:16, 19
correspondence [2] 71:8, 11
costs [1] 36:14
counsel [2] 6:20, 23
counties [4] 17:7; 23:18, 23; 24:4
county [63] 6:2, 3; 7:5, 6, 18; 8:5, 19, 22; 9:1, 4; 16:4, 18; 17:6, 9, 10, 13, 16, 21, 24; 18:18; 19:4; 21:8, 16; 22:4, 21, 23; 23:10; 24:7; 26:11, 14, 24; 27:3, 6, 10; 31:24; 34:16; 43:14; 51:4; 57:8; 60:12; 62:14; 64:1, 4, 6, 8, 10; 65:1, 2, 10, 16, 17, 24; 66:3; 71:4, 12; 72:13, 14; 73:4, 15; 74:1
county's [1] 61:7
county-maintained [2] 60:8; 63:20
couple [6] 10:16; 16:11; 18:5; 37:2; 66:20; 67:22
course [3] 9:8; 22:14; 37:17
courses [7] 14:1, 3, 9; 20:8, 15, 19, 22
court [10] 9:8; 18:23; 27:14; 28:20; 29:21; 32:2; 35:10; 72:17; 76:20; 77:21
courtesy [1] 30:9
crash [1] 8:5
credits [1] 16:5
creek [39] 7:7, 16; 21:13, 23; 22:7, 9, 15; 23:11; 24:3, 12; 33:4, 24; 34:19; 36:16, 18; 37:2; 39:3; 41:22; 42:16; 43:11; 47:15, 24; 53:9; 55:4, 6; 58:9; 59:12; 60:5, 8; 61:8, 11, 18; 62:20; 64:9, 11; 65:9, 21; 71:8; 74:12
crest [1] 50:14
cropland [1] 74:11
croskey [57] 5:6, 7; 6:13; 8:15; 11:9, 20; 19:12; 20:1, 14; 21:9; 25:8; 26:6, 19, 22; 27:16; 28:15, 22; 29:23; 31:6, 22; 32:4; 35:12; 40:3; 41:9, 16; 44:18; 46:6; 47:5, 17; 48:8; 49:13; 52:13, 15; 55:8, 21; 57:2; 58:3, 17; 59:8; 62:13; 63:2; 66:8, 13; 67:13, 15; 69:16, 20; 70:14, 22; 71:2, 18; 72:19; 75:10, 21; 76:2, 7, 16
cubic [1] 33:18
culverts [1] 20:12
cupp [4] 30:18, 22, 24
current [2] 15:7; 71:12
curve [4] 54:6, 13, 21; 55:9
cut [1] 43:1

- - D - -

damage [3] 37:23; 47:4; 59:2
data [10] 39:19, 22; 40:4, 8; 44:10, 19, 23; 59:23; 65:14
date [2] 28:7; 76:11
dated [2] 30:8, 20
day [1] 78:4
dead [1] 68:12
december [1] 78:9
deep [1] 64:21
defined [2] 51:14; 77:22
degree [4] 14:2, 3, 11; 20:16
democratic [1] 27:12
department [4] 5:10, 11; 73:16; 74:20
deposed [3] 5:4; 6:18; 9:1
depositing [1] 33:13
deposition [22] 5:11, 17, 22; 6:15, 24; 7:9, 20; 12:22; 13:9, 11; 27:15, 18; 28:21; 29:22; 32:3; 35:11; 67:6; 72:18; 76:19, 22; 77:13
depositions [5] 7:4, 21; 8:1, 3; 76:14
deputy [2] 17:8, 9
describe [1] 54:8
described [2] 9:24; 10:19
design [8] 17:1, 2; 20:11; 39:2; 49:5, 10, 11, 12
designed [3] 20:13; 49:3; 72:11
detail [2] 12:23; 37:11
detailed [2] 27:2; 28:4
details [1] 10:3
deteriorated [1] 48:11
determination [2] 40:5; 58:19
determine [7] 38:5; 39:22; 40:8; 41:3; 45:2; 56:13, 16
development [1] 17:4
dick [5] 11:13; 68:2, 16, 18, 22
difference [1] 53:15
dimensions [1] 42:5
dip [4] 22:18; 34:11, 13
dipped [2] 24:16; 34:20
direct [1] 31:11
director [1] 5:9
discharge [4] 54:6, 20; 55:9, 10
discuss [1] 69:24
discussed [1] 25:19
discussion [2] 13:4; 75:23
discussions [3] 67:21; 68:3; 69:21
distinctive [1] 69:4
district [3] 73:16; 74:1, 8
ditch [3] 24:21; 33:24; 60:8
ditches [3] 25:3, 4
document [6] 27:17; 52:24; 53:17; 73:3, 6, 22
documents [4] 13:5, 8; 70:8, 15
doesn't [2] 34:6, 7
dollars [1] 47:3
doner [1] 5:13
dose [1] 57:11
downstream [15] 6:7; 34:10; 39:2; 41:2; 45:2, 21, 22, 23; 46:4, 7, 19; 56:17; 63:16; 72:12
dozen [1] 66:24
draft [1] 69:17
drainage [8] 17:2; 19:18, 19; 20:12; 24:1, 5; 34:15
draw [2] 50:5, 21
draw-down [4] 50:7, 10; 51:18, 24
drawings [2] 60:19, 24
drew [1] 50:24
drinking [1] 38:14
drive [1] 64:22
driving [3] 21:20, 21; 62:2
dual [1] 14:3
duly [3] 5:3; 77:4, 6
duty [2] 31:16, 23
dynamics [1] 20:10

- - E - -

earley [9] 5:1, 7; 27:17; 29:24; 71:3; 72:1, 20; 75:9, 11
early [2] 43:22; 52:6
economic [1] 49:18
education [8] 13:21, 24; 14:21; 15:10, 20; 20:3, 20
effects [3] 19:20; 75:4, 5
eight [2] 14:17, 19
elected [4] 17:12, 14, 23; 18:1
elevations [4] 40:9; 45:2; 56:14; 59:1
eliminated [1] 67:18
emergency [2] 56:12; 57:12
employee [5] 8:6; 19:1; 77:17, 19
employment [1] 16:15
end [1] 51:21
engineer [32] 6:3; 8:19, 22; 9:1, 4; 11:18; 14:6, 14; 16:18, 21; 17:7, 9, 13, 24; 22:21, 23; 23:10; 24:7; 26:11, 14, 24; 31:24; 34:17; 51:4; 62:14; 64:10; 65:3, 10, 17; 66:1, 3; 71:12
engineer's [4] 14:24; 15:10; 64:6; 65:16
engineering [7] 13:23; 18:4; 19:7; 20:17, 23; 48:23; 71:4
engineers [11] 16:4, 7, 8; 18:19; 36:9, 11, 24; 37:5; 41:20; 53:4, 11
enlarge [1] 58:20
enlarged [4] 23:16; 24:15; 42:1; 55:7
enlarging [3] 37:1; 38:1; 58:8
erie [3] 38:22; 42:24
erode [3] 22:18; 24:18; 34:8
erosion [1] 22:10
essentially [2] 60:3; 61:11
establish [1] 22:17
evaluation [1] 57:21
events [8] 26:23; 27:12; 40:21; 47:10; 55:20; 65:7; 70:21
everybody [1] 24:1
ex [1] 5:12
exactly [5] 18:11; 24:10; 40:15; 42:2; 52:2
exam [1] 14:16
examination [3] 5:3, 5; 71:23
exams [1] 14:13
excused [1] 76:23
exhibit [23] 27:15, 18; 28:10, 12, 21; 29:22; 30:1; 32:3; 35:11, 18; 52:16; 53:18; 55:22; 58:4, 6; 60:17; 72:1, 5; 73:2, 13, 22; 74:7, 19
exhibits [2] 35:24; 72:18
existed [1] 51:3
existing [1] 56:19
expected [2] 10:10; 31:15
expedited [2] 75:14;

76:9
experience [3] 14:17, 20; 16:15
expert [2] 19:6, 22
expertise [1] 19:16
expires [1] 78:9
explained [2] 53:15; 54:20
expressing [2] 70:9; 74:2
extent [3] 10:4; 45:24; 46:18
extra [1] 43:3

- - F - -

fail [1] 48:12
fair [2] 72:2; 74:4
fairly [2] 47:8; 48:4
fall [1] 33:5
familiar [5] 9:7; 19:19; 35:17; 54:5; 67:23
families [1] 11:8
family [1] 68:21
farm [1] 34:15
farmer [1] 74:21
farmers [10] 5:19; 9:24; 10:19; 11:1; 34:12; 45:11; 51:7; 66:2; 67:9; 68:3
farmland [2] 59:18; 75:6
farms [1] 68:1
faster [1] 33:23
favor [1] 48:14
february [3] 29:9; 53:21; 73:14
federal [2] 56:12; 57:12
feeder [2] 42:23, 24
feel [2] 74:9, 20
feet [3] 33:18; 42:9, 10
felt [1] 31:13
fema [5] 56:13, 20; 57:12, 18, 23
field [2] 34:12, 13
fields [1] 34:15
figure [1] 26:20
figures [5] 52:19, 20, 24; 53:6, 10
filing [1] 10:19
fills [1] 50:15
final [1] 49:12
financially [1] 77:20
find [2] 26:3; 62:5
fine [1] 67:12
finish [2] 9:11, 13
finished [2] 27:20; 35:15
firm [2] 48:23; 77:21
first [18] 5:3; 17:14; 18:1, 20; 23:9; 28:3; 32:19; 38:17; 52:17, 19; 53:20, 21; 60:18; 73:21; 74:6, 19; 77:6
fishing [1] 49:22
five [2] 48:6; 70:17
five-minute [1] 52:12
flat [6] 33:4, 7, 9, 10; 34:3
flattened [2] 25:4, 6
flatter [1] 24:18
flood [23] 37:15; 38:9; 40:9, 20; 45:2; 46:11, 24; 47:19; 50:18; 55:6; 56:8, 10, 14, 16, 22; 57:5, 14; 59:2; 62:6, 20, 22; 64:14; 65:5
flood-control [1] 50:2
flooded [4] 46:12; 47:23; 62:7; 63:22
flooding [25] 6:6, 9; 37:19, 24; 39:2, 23; 45:6, 7, 12, 13, 16, 20, 22, 23, 24; 46:19; 47:10; 63:3, 7; 72:3, 10, 21, 22; 73:11; 75:6
floodplain [5] 40:7, 14; 41:10, 17; 59:17
flow [15] 19:20; 34:12, 14; 36:4, 7; 37:19, 23; 40:19; 41:3, 5, 7; 42:9, 18; 50:15; 53:9
flowing [1] 50:16
flows [4] 33:23; 43:17; 44:4; 47:21
fluid [1] 20:9
focused [1] 16:24
follows [2] 5:4; 57:23
foot [2] 33:5; 64:22
foregoing [2] 77:10, 14
foreseeable [1] 72:11
forgot [1] 75:3
forgotten [1] 74:21
form [28] 5:23; 11:4; 19:9; 20:6; 21:4; 24:24; 26:1, 13; 31:4; 40:1, 17; 41:13; 44:16; 46:3, 21; 47:13; 48:3; 49:7; 54:23; 55:12; 58:1, 14, 22; 62:10, 23; 66:6; 69:15; 70:12
forth [1] 72:2
found [2] 42:19; 60:20
four [5] 17:15; 46:13; 48:6
frame [1] 62:24
freedom [1] 8:8
frequency [1] 55:20
friends [1] 27:11
front [1] 25:15
funding [3] 31:12; 38:10; 57:21
future [1] 12:18

- - G - -

gallons [1] 33:18
gets [4] 38:21; 44:2, 3; 65:6
give [3] 35:2; 59:23; 60:1
given [2] 77:8, 12
goes [1] 34:8
gotten [1] 16:9
government [1] 16:12
gradient [3] 33:4, 10; 34:3
graduate [1] 13:22
grand [11] 22:15; 26:8; 31:1; 36:5, 15, 17; 41:21; 49:15; 56:9; 72:22; 74:10
greater [8] 39:2, 6, 23; 45:6, 7, 12, 13, 20
group [1] 66:21
groups [1] 66:20
guess [8] 5:20; 6:16; 9:16; 10:24; 16:1; 23:9; 29:9, 15

- - H - -

hadn't [1] 16:11
half [1] 66:24
hand [2] 28:15; 78:3
handed [1] 30:1
happens [1] 23:4
haven't [1] 11:11
he's [2] 67:5; 76:2
head [1] 17:18
heard [2] 5:14; 43:19
height [5] 42:11, 15; 43:3, 6, 24
heights [1] 44:5
held [1] 14:23
hellwarth [3] 73:15, 19; 74:7
henderson [6] 8:11; 75:16; 76:1, 4, 12, 20
hereby [1] 77:5
herein [1] 5:2
hereinafter [1] 5:4
hereunto [1] 78:2
high [4] 13:21; 16:15; 65:6, 13
high-water [3] 65:5, 9, 21
higher [5] 37:18; 43:8; 44:2, 3; 50:1
highway [2] 16:8; 17:1
hinder [1] 41:3
hit [1] 43:2
hold [3] 15:5; 42:17; 47:21
homes [1] 38:15
hope [1] 57:17
hour [1] 52:11
hours [1] 15:17
huge [2] 42:7; 46:24
huh [1] 48:20
hundred [1] 48:13
hundred-year [2] 55:17; 56:14
hundreds [1] 42:9
hydraulic [9] 20:11; 39:18, 22; 40:8; 41:1; 44:14, 19, 22, 23
hydraulics [4] 15:23; 18:15; 19:18; 20:8

- - I - -

i'd [1] 27:18
i've [6] 11:6; 15:23; 16:9; 18:5; 21:17; 67:17
identified [2] 28:9; 35:24
identifying [1] 27:17
imagine [3] 32:16; 59:21; 68:19
immediately [1] 61:22
improve [1] 7:16
improved [1] 43:10
improvement [4] 23:15; 24:8; 41:23; 60:11
improvements [10] 7:7; 21:24; 22:11, 12; 23:12, 14; 24:2; 42:16; 55:3
improving [2] 36:15; 38:7
inc [1] 68:11
inches [2] 42:21; 43:7
incorrect [1] 26:4
increased [9] 19:20; 24:21; 39:9; 72:3, 10, 21, 22; 73:11; 75:5
increasing [1] 37:23
information [2] 54:16, 20
infringed [1] 8:8
initially [1] 69:17
initiated [1] 23:21
inspect [1] 21:23
inspected [1] 23:6
installed [1] 23:16
instruct [1] 51:15
instruction [2] 9:15; 76:20
insurance [5] 56:8, 10, 22; 57:6, 15
intake [1] 38:22
interested [1] 77:20
involve [1] 23:23
involved [2] 21:2, 11
involvement [1] 10:15
involving [1] 8:4
issue [1] 7:6
issues [3] 18:15; 19:10, 13
items [1] 56:3

- - J - -

jefferson [2] 64:7; 68:2
jennifer [5] 5:7; 52:10; 63:1; 67:23; 68:7
jim [2] 12:4; 32:15
john [8] 66:16, 23; 68:1, 6, 11, 12; 75:15; 76:13
jones [2] 48:23; 49:1
justify [1] 59:4

- - K - -

keep [3] 50:2, 13, 17
keeps [1] 65:3
keith [1] 5:1
knowledge [5] 9:24; 10:4; 26:10; 51:4; 57:22
knowledgeable [3] 26:8; 36:4, 6

- - L - -

laid [1] 24:17
lake [37] 22:15; 26:8; 31:1; 36:5, 15, 17; 37:1, 18, 20, 24; 38:7, 14, 22; 41:21; 42:22, 23; 45:13, 22; 46:5; 49:15, 19, 21, 24; 50:2, 3, 13, 19; 54:10; 55:14, 18; 56:9; 61:22, 24; 72:22; 74:10
lakefront [2] 46:9; 47:1
lakes [1] 42:18
large [1] 24:20
last [5] 16:1, 10, 13; 17:3, 4
late [1] 57:10
lawsuit [6] 5:21; 6:8; 8:6; 19:2, 3; 21:2
leader [1] 66:21
leave [1] 76:16
legal [1] 10:20
length [1] 44:1
let's [2] 35:8; 53:19
letter [39] 27:22, 24; 28:5, 6, 9, 10, 12, 13, 23; 29:1, 4, 7, 10, 11, 16, 19, 20; 30:8, 17, 18, 20, 21; 32:5, 9, 11, 18, 23; 48:23; 49:4; 52:17; 53:11, 12, 14, 21; 55:24; 58:7; 60:4; 73:14
letters [12] 6:5; 13:9, 14, 15, 17; 26:5; 30:2, 6; 35:23; 53:24; 70:16; 74:3
level [3] 41:4; 50:16; 55:19
levels [8] 37:18; 49:24; 51:1; 54:11; 55:6, 14; 56:16; 65:5
license [5] 14:10, 14, 24; 15:3, 11
licenses [3] 14:4, 5; 15:5
limited [2] 57:20
list [3] 67:6, 16, 20
live [1] 17:10
lived [1] 17:20
lives [1] 68:22
local [1] 51:7
logan [2] 5:9, 13
long-term [1] 22:16
looks [1] 29:18
lot [3] 46:10, 12; 59:6
lots [1] 34:23

low [1] 43:2
lower [3] 40:10; 56:15; 64:19
lucas [4] 8:22; 9:4; 17:20; 19:4

- - M - -

ma'am [1] 47:7
magazine [2] 18:20, 22
magazines [2] 18:6, 17
mainly [2] 5:18; 17:3
maintain [2] 49:24; 65:17
maintained [2] 21:21; 64:3
maintaining [6] 22:3, 5, 6, 7; 64:10, 14
maintains [1] 64:4
maintenance [7] 7:16; 21:22, 24; 23:1, 3, 17; 43:13
major [6] 18:6; 23:12, 14, 17; 41:21; 56:13
man [2] 11:24; 12:3
management [2] 56:12; 57:12
manager [2] 51:8, 15
march [1] 17:22
mark [1] 65:21
marked [10] 27:14; 28:20; 29:21; 30:1; 32:2; 35:8, 10, 18; 53:17; 72:17
marks [2] 65:6, 10
marys [10] 22:15; 26:8; 31:2; 36:5, 16, 17; 41:22; 56:9; 72:22; 74:10
matter [1] 15:19
mean [37] 13:14; 15:22; 16:20; 20:2; 21:19; 22:9, 13; 23:14; 24:15, 20; 27:8; 32:23; 33:6, 12, 15; 34:5; 36:6, 11; 37:11; 38:12; 42:1; 44:21, 24; 46:16; 49:16; 50:9, 12; 53:12, 17; 56:10; 59:19; 63:11, 15, 18; 64:18, 22; 65:4
means [1] 34:6
measure [3] 65:5, 7, 9
measures [1] 38:6
meetings [1] 16:6
memory [3] 26:23; 30:10; 70:20
mention [1] 32:19
mentioned [16] 11:6, 16; 13:13; 24:6; 28:12; 34:2; 38:11; 40:14; 41:24; 53:3, 5; 54:15; 61:17; 62:4; 68:14, 15
mercer [33] 6:3; 7:5, 6, 18; 8:5, 19; 9:1; 17:8, 10, 12, 16; 21:8, 16; 22:4, 24; 23:10; 24:7; 26:11, 14, 24; 27:3, 6, 10; 31:23; 34:16; 43:14; 51:4; 71:4; 72:14; 73:3, 15, 24
meyer [8] 63:8, 13, 14, 15, 17, 21; 64:1, 2
miami [1] 42:24
middle [1] 55:24
mile [1] 33:5
miles [8] 24:13; 40:10; 58:8, 20; 59:6, 11; 60:5; 61:18
miller [46] 5:23; 10:17; 11:3, 14; 19:8, 14; 20:5; 21:3; 24:23; 25:17, 19, 24; 26:13, 17; 31:3, 9; 39:24; 40:16; 41:12; 44:15; 46:2, 20; 47:12; 48:2; 49:6; 52:10; 54:22; 55:11; 57:1, 24; 58:13, 21; 62:9, 23; 66:5, 10; 67:2; 69:11, 14, 18; 70:1, 11; 71:20, 24; 75:8, 17
millions [1] 47:3
mind [2] 48:21; 52:11
minor [1] 18:5
minute [3] 28:16; 33:18; 70:7
model [4] 44:14, 20, 22, 24
modification [4] 50:4; 66:4, 15; 71:10
money [2] 7:15; 60:15
morris [1] 12:4
mostly [1] 35:1
move [1] 17:16
moved [1] 17:19
mr [58] 5:7, 23; 10:17; 11:3, 14; 19:8, 14; 20:5; 21:3; 24:23; 25:17, 19, 24; 26:13, 17; 27:17; 29:24; 31:3, 9; 39:24; 40:16; 41:12; 44:15; 46:2, 20; 47:12; 48:2; 49:6; 52:10; 54:22; 55:11; 57:1, 24; 58:13, 21; 62:9, 23; 66:5, 10; 67:2; 69:11, 14, 18; 70:1, 11; 71:3, 20, 24; 72:1, 20; 73:19; 74:7; 75:8, 9, 11, 17, 21, 23
ms [62] 5:6; 6:13; 8:11, 15; 11:9, 20; 19:12; 20:1, 14; 21:9; 25:8; 26:6, 19, 22; 27:16; 28:15, 22; 29:23; 31:6, 22; 32:4; 35:12; 40:3; 41:9, 16; 44:18; 46:6; 47:5, 17; 48:8; 49:13; 52:13, 15; 55:8, 21; 57:2; 58:3, 17; 59:8; 62:13; 63:2; 66:8, 13; 67:13, 15; 69:16, 20; 70:14, 22; 71:2, 18; 72:19; 75:10, 16, 21; 76:1, 2, 4, 7, 12, 16, 20
much-needed [1] 48:13
multi-county [2] 23:17; 43:16
multiple [2] 23:23; 24:4

- - N - -

name [9] 5:7, 15; 11:17, 24; 12:3, 6; 32:15; 67:23; 68:15
names [6] 11:5, 7; 67:14, 20; 68:9; 69:6
natural [4] 5:10; 9:10; 73:17; 74:20
needs [1] 74:10
nods [1] 17:18
noon [1] 76:23
norm [2] 67:24; 68:8
normal [1] 20:8
notary [2] 77:3; 78:7
notes [1] 48:18
notify [1] 31:17
november [2] 28:5; 73:3
number [1] 35:23
numbered [2] 55:23; 56:2
numbers [2] 35:24; 42:14

- - O - -

objection [35] 5:23; 11:3; 19:8, 14; 20:5; 21:3; 24:23; 25:24; 26:13; 31:3, 9; 39:24; 40:16; 41:12; 44:15; 46:2, 20; 47:12; 48:2; 49:6; 54:22; 55:11; 57:1, 24; 58:13, 21; 62:9, 23; 66:5, 10; 67:3, 12; 69:14, 18; 70:11
obstructions [1] 41:2
occasionally [4] 33:2; 46:8, 17; 65:5
occur [3] 6:7, 10; 55:15
occurred [3] 26:24; 36:8; 53:16
october [2] 7:8, 10
odnr [26] 6:5, 9; 7:15; 10:1, 8, 20; 22:24; 31:20; 36:10; 39:13, 17; 40:18; 41:11; 44:13; 48:24; 49:14; 50:9; 51:17; 52:19; 53:5; 60:2, 4; 61:14; 72:4, 11; 74:2
odnr's [4] 53:7, 10; 54:17; 75:1
odot [1] 62:18
offerable [1] 51:22
office [4] 64:6; 65:16; 68:23; 78:3
offsetting [1] 37:17
ogee [1] 42:8
oh [3] 50:5; 52:13; 58:6
ohio [11] 5:9, 10; 13:22; 16:4, 17; 18:19, 21; 73:16; 77:4; 78:3, 7
okay [64] 5:16; 6:14, 17, 20; 8:1, 18; 9:12, 22; 10:11, 18, 22, 23; 12:6, 21; 13:1, 5, 17; 17:20; 21:1, 10; 24:12; 27:21; 28:3, 19; 29:14; 30:4, 8, 20; 31:7; 32:8, 13; 37:4; 38:20; 39:14; 41:17; 43:19, 23; 44:8, 12; 45:10; 54:2, 5; 56:1, 6, 22; 57:5, 22; 60:10; 61:8, 10; 64:8, 13, 17; 65:1, 8, 19, 24; 66:22; 68:10, 17, 20; 71:13; 76:1, 16
old [3] 42:11; 48:10; 57:4
ones [5] 37:3; 57:7; 63:9, 11; 64:23
opening [1] 63:19
opinion [1] 45:19
opinions [1] 70:9
opportunity [1] 75:18
options [6] 36:14, 15, 21, 23; 37:2, 6
order [2] 75:13; 76:8
organization [1] 16:6
osmosis [1] 38:18
outflow [4] 38:2; 39:6; 44:10; 54:10
outflows [3] 22:16; 39:11; 52:22
outlet [2] 22:15; 56:17
outlets [2] 44:9; 51:22
owners [1] 23:2

- - P - -

page [5] 32:20; 33:3; 52:19; 73:21; 74:19
paid [2] 22:24; 37:3
paragraph [10] 28:3; 36:3; 38:24; 48:16, 22; 49:14; 52:18; 60:18; 74:7, 18
paragraphs [2] 55:23; 56:2
park [2] 51:8, 15
parking [2] 46:9, 12
part [6] 10:9, 12; 19:18; 57:8; 58:23; 59:3
parties [2] 77:18, 19
pass [1] 14:7
path [1] 63:12
peak [3] 39:6; 55:10; 65:5
pending [1] 5:16
people [10] 10:20; 31:17, 20; 35:1; 49:20; 51:10, 11; 66:14; 67:17, 21
percent [1] 48:14
performing [1] 48:24
period [4] 27:4, 6; 33:22; 51:17
persistent [1] 67:1
personally [2] 11:10; 33:1
persuade [1] 51:8
petition [2] 43:15, 16
petitioned [3] 23:15; 24:7; 25:12
petitioning [1] 60:11
phaedra [1] 12:7
phone [3] 10:16; 32:24; 71:11
phonetic [1] 12:7
pick [2] 55:13, 14
picnics [1] 27:12
place [1] 77:14
places [1] 24:17
plaintiffs [2] 10:24; 11:1
plan [1] 75:1
plus [3] 36:10; 39:10; 41:7
point [2] 28:1; 67:18
policy [5] 50:6, 9; 51:3, 7, 15
portion [1] 24:2
portions [1] 44:3
posed [1] 9:19
positive [1] 65:22
possibility [2] 12:19; 51:14
posted [1] 18:20
potable [1] 38:22
potential [1] 12:18
precious [1] 71:20
prepared [1] 69:12
presence [1] 77:9
present [1] 17:22
press [1] 11:24
pressley [1] 12:1
presume [1] 67:8
pretty [3] 48:7; 63:9; 67:1
previous [2] 39:7; 45:8
previously [4] 53:3; 60:7; 62:4; 69:11
primarily [1] 29:18
primary [1] 47:2
prior [4] 12:21; 40:13; 72:9; 74:15
priorities [1] 57:21
private [3] 16:17, 19; 17:4
privatization [1] 18:14
problems [1] 22:19
process [1] 10:9
professional [9] 14:6, 10, 14, 16, 23; 15:2, 10; 16:6
project [11] 7:8; 23:5, 17, 18; 40:11; 43:14, 15, 16; 48:13, 14, 15
properties [5] 21:1, 6, 11, 12, 16
property [1] 23:2

proposed [2] 60:19; 74:9
protect [1] 74:11
provided [7] 32:5; 39:10, 12; 42:22; 44:9, 10, 13
providing [1] 75:11
public [2] 77:3; 78:7
publications [1] 18:3
purpose [2] 22:9; 38:3
purposes [2] 38:8; 50:4
push [1] 34:9

- - Q - -

qualified [1] 77:5
question [7] 9:11, 14, 19, 20; 15:24; 45:11; 59:10
questioned [1] 19:17
questions [3] 9:7; 59:10; 71:19

- - R - -

racket [2] 46:9; 47:1
rain [1] 51:1
rainfall [1] 40:21
rains [1] 50:15
raised [1] 42:20
rarely [2] 46:17; 52:4
rating [1] 54:13
reach [1] 41:4
read [2] 75:18; 76:10
reason [1] 59:5
recall [33] 8:9; 18:9, 10, 12; 28:6; 30:15; 36:23; 37:9; 47:10; 52:23; 57:3, 5; 61:14; 62:6, 19, 22; 63:3, 6, 21; 65:12, 13; 66:9, 12, 14; 67:20; 68:9; 69:8, 9; 71:7, 17; 73:7, 23
receive [2] 60:24; 61:5
received [2] 30:9; 60:18
receiving [1] 27:24
recently [1] 15:23
recess [2] 52:14; 71:1
recognize [3] 27:22; 30:5; 32:9
recognized [1] 11:6
recommendation [2] 37:9; 58:11
recommendations [1] 37:5
recommended [2] 38:1; 63:10
record [4] 65:3, 16, 21; 76:8
recreation [7] 37:14, 18; 38:8; 42:22; 43:4; 50:1; 51:2
recreational [3] 49:15, 19; 50:3
redesigned [2] 72:23; 73:10
reduced [1] 77:9
reduces [3] 33:12, 15, 16
refer [2] 20:19; 39:18
reference [1] 67:4
referred [2] 54:12; 66:1
referring [5] 43:16; 52:20; 61:13, 20; 72:21
regard [9] 7:22, 23; 13:10; 17:3; 18:13; 31:1; 48:21; 69:10; 75:1
regarding [5] 7:6; 66:3; 71:9; 72:3; 73:10
register [1] 67:3
regularity [1] 57:19
regularly [1] 47:20
regulating [1] 38:7
regulation [2] 37:1; 51:15
rel [1] 5:12
relate [1] 55:9
related [3] 7:14; 15:22; 16:11
relating [2] 12:12; 60:19
relationship [1] 68:5
relative [2] 77:17, 18
relatively [2] 27:1; 47:19
relators [7] 10:21; 11:1, 22; 66:2; 67:5, 7, 16
relied [1] 70:9
remember [12] 25:5; 27:24; 28:17, 23; 29:16; 42:2, 4, 13; 52:21; 60:22; 64:17, 23
remove [1] 8:7
removed [1] 67:17
replaced [1] 42:7
replacement [3] 72:9; 74:16; 75:1
replacing [1] 59:22
report [1] 54:17
reporter [8] 9:8; 27:14; 28:20; 29:21; 32:2; 35:10; 72:17; 76:21
reporting [1] 77:21
representative [1] 32:14
represented [1] 6:20
request [1] 9:16
requested [4] 40:7, 12; 41:15; 59:1
required [4] 15:9; 20:9; 21:24; 61:5
requirement [2] 15:13, 16
reserved [1] 76:18
resources [3] 5:10; 73:17; 74:20
respect [1] 65:8
respondents [1] 5:2
response [13] 28:4, 10; 29:1, 8, 17; 30:12, 15, 17; 31:19; 53:20, 22; 54:1, 4
responsibility [1] 60:15
responsible [7] 21:22; 22:2, 4; 62:15, 17; 64:10, 14
rest [2] 23:1; 59:14
restrictions [1] 59:21
restrictive [1] 63:20
result [5] 39:1; 72:3, 10, 23; 73:11
reverse [1] 38:18
review [7] 13:5, 8; 25:20; 27:18; 61:4; 75:18; 76:5
reviewed [4] 13:18; 19:23; 35:16; 70:9
revise [1] 40:7
revised [1] 56:8
richard [1] 68:16
right [32] 6:19, 23; 7:11; 10:14; 13:13; 16:22; 23:12; 24:14; 25:14, 18; 27:3; 32:18; 33:3; 34:4, 21; 36:22; 37:8; 38:16; 53:19; 56:24; 61:12, 23; 63:16; 64:1; 65:18; 67:4; 68:24; 69:6, 10; 71:18; 75:7
ring [1] 69:7
rip-rap [2] 22:19; 23:16
river [2] 21:14; 47:23
rmr-rdr [1] 78:6
road [23] 8:5; 21:20, 21; 46:11, 15, 16; 60:23; 61:1, 11, 21; 62:2, 5; 63:8, 12, 14, 15, 16, 21; 64:1, 2, 5; 65:2
roads [9] 62:20, 22; 63:4, 6; 64:4, 8, 9, 13, 17
robert [2] 30:18, 21
room [1] 50:17
roughly [1] 66:24
route [2] 69:1, 2
rule [1] 77:23
run [1] 24:3

- - S - -

safety [1] 48:12
sam [1] 73:15
sanitary [1] 17:2
satisfactory [2] 50:1; 60:20
saying [2] 51:10, 11
schedule [2] 57:18, 23
school [2] 13:21; 16:15
schooling [1] 14:21
schreiner [2] 77:3; 78:6
science [1] 13:23
seal [1] 78:3
sean [2] 5:9, 13
season [1] 51:2
second [3] 30:20; 33:18, 20
sector [2] 16:17, 20
senator [3] 30:18, 24
send [2] 32:14, 23
sentence [1] 74:19
september [4] 29:11, 18; 30:8, 21
series [1] 9:6
serve [1] 49:15
sets [1] 72:2
sewers [2] 17:2, 3
shared [2] 73:10; 74:24
showing [1] 39:11
shows [1] 54:10
sides [1] 24:16
sign [5] 8:7; 10:7; 12:13; 25:22; 76:10
signature [6] 73:18; 75:15, 22, 24; 76:18, 19
signed [3] 12:16; 32:14; 35:20
significance [2] 33:11; 59:11
significant [2] 36:13; 49:18
silt [3] 25:1; 33:13; 34:3
single [1] 23:5
sitting [1] 25:15
size [1] 24:22
slope [3] 25:3; 33:8, 14
slopes [2] 25:6; 33:23
slow-flowing [1] 33:24
smaller [4] 59:7, 15, 19
smallest [4] 63:11, 17, 18, 19
society [2] 16:7
soil [4] 72:14; 73:15; 74:1, 8
somewhat [2] 19:22; 54:3
somewhere [2] 24:11; 57:10
son [2] 67:24; 68:8
sorry [5] 13:12; 26:17, 20; 34:20; 68:14
sources [2] 38:9; 41:8
south [2] 37:20; 38:1
speak [1] 26:21
speaking [1] 67:9
specific [2] 40:20; 57:23
specifically [7] 13:14; 20:3; 21:6; 29:16; 39:1; 40:9; 72:21
specified [1] 77:15
speech [1] 8:8
spillway [51] 6:4, 6; 20:13; 37:13; 39:7, 10; 40:20; 41:7, 24; 42:6, 7, 8, 12, 14, 17, 20; 43:6, 8, 24; 44:1; 45:8, 14, 15, 17, 20; 46:1, 19; 47:9; 48:9, 10; 49:3, 24; 50:4, 13; 56:17, 23; 57:4, 15; 62:1; 66:4, 15; 71:9; 72:4, 9, 10, 23; 73:10; 74:9, 16; 75:2
spoke [2] 32:21; 67:10
spot [1] 35:4
spots [1] 35:4
st [10] 22:15; 26:8; 31:2; 36:5, 16, 17; 41:22; 56:9; 72:22; 74:10
staff [1] 57:20
stage [3] 54:6, 20; 55:9
standing [2] 67:3, 11
started [1] 43:17
starting [1] 55:23
starts [1] 50:16
state [7] 5:8, 12; 13:22; 68:24; 69:2; 77:4; 78:7
stated [2] 53:11, 13
stays [1] 34:10
steeper [3] 33:19, 22, 23
stenotype [1] 77:9
step [1] 40:24
steps [1] 40:12
stopped [2] 51:18; 52:1
storage [2] 50:14, 22
storm [7] 17:2; 20:12; 40:21, 22, 23
storms [4] 55:15, 17; 56:14, 15
straight [1] 25:11
straightened [1] 25:9
stream [2] 41:2, 8
streams [1] 56:13
structures [1] 59:16
stuckey [2] 48:23; 49:1
studied [2] 36:9; 74:11
studies [4] 44:24; 56:7, 13; 57:11
study [33] 36:9, 10, 12, 14, 17, 20; 37:4; 38:4; 40:7, 14; 41:10, 17, 21; 45:1, 3; 53:3, 5, 7; 54:17; 55:2; 56:9, 11, 23; 57:6, 15; 58:16, 18; 59:5, 17; 60:4, 13
stumps [2] 43:2, 3
subdivision [1] 17:1
subdivisions [1] 17:5
subject [4] 15:19; 18:12; 33:13; 59:17
submitted [1] 10:8
sued [2] 10:1; 19:1
sufficient [2] 14:9; 34:9
suggested [1] 45:1
suggesting [1] 58:8
suit [2] 5:19; 10:19
supervisors [1] 74:9
supplied [1] 38:15
supply [6] 37:14; 38:8, 11, 12, 14, 21
surrounding [2] 39:3; 56:9
survey-related [1] 18:15
surveying [5] 14:2, 11; 16:11, 12
surveyor [3] 14:7, 10,

16
surveyor's [1] 15:2
sworn [2] 5:3; 77:6

- - T - -

tables [1] 53:1
talk [9] 12:22; 25:16; 51:13; 52:19; 66:3, 9; 67:5; 75:14, 22
talked [6] 9:23; 12:9; 33:1; 35:6; 66:15, 23
talking [5] 45:12, 15; 47:15; 60:21; 62:24
telephone [3] 70:3, 4, 6
tenure [2] 26:11, 16
terms [3] 9:10; 10:20; 23:9
testified [2] 18:23; 60:7
testify [1] 11:15
testimony [4] 67:8; 75:12; 77:8, 11
tests [1] 14:7
thank [2] 75:9, 10
there's [5] 34:9; 39:22; 42:8; 57:22; 59:18
they're [5] 7:15; 15:7; 24:18; 35:23; 66:2
third [3] 23:1; 52:18; 74:18
thoughts [1] 54:3
three [9] 17:14, 15; 18:2; 23:18; 37:13; 46:13; 63:9, 10; 66:20
throw [1] 9:14
tiles [2] 34:12, 14
times [13] 17:15; 18:2; 27:8; 46:12, 13; 62:7; 63:21; 65:20; 66:23, 24; 68:4; 69:24
toledo [2] 38:21; 78:3
towards [2] 14:1; 31:12
township [5] 11:18; 64:3, 7; 68:2
training [4] 15:10; 16:2; 19:21; 20:20
transcribed [1] 77:10
transcript [3] 75:14, 19; 76:9
transcription [1] 77:11
treat [1] 38:18
treated [1] 38:17
treatment [1] 38:18
trees [1] 43:1
true [2] 35:19; 77:11
trustee [1] 11:18
trustees [2] 64:7; 68:2
truth [3] 77:6, 7
twice [2] 62:12; 70:2
two's [1] 15:18
type [4] 16:13; 42:8; 52:24; 58:18
typically [1] 15:20

- - U - -

uh-huh [2] 60:12; 70:5
understand [1] 53:22
understanding [6] 5:21; 10:2; 21:10; 54:8; 72:24; 73:8
underwater [1] 64:20
unfortunately [1] 11:14
unincorporated [1] 57:8
university [1] 13:22
updated [2] 12:15, 19
upper [6] 58:8, 20; 59:6, 11; 60:5; 61:18
usable [1] 49:21
users [1] 49:15

- - V - -

varies [1] 15:21
vegetation [1] 22:16
vehicle [1] 8:7
velocity [2] 34:7, 9
versus [1] 5:13
visit [2] 21:1; 27:10
visited [6] 21:7, 15, 23; 22:8, 9; 27:8

- - W - -

wabash [2] 21:14; 47:23
wait [2] 9:11, 13
waived [1] 76:19
wanted [5] 45:1; 49:20; 51:2, 9; 56:15
warranted [2] 58:16, 18
water [29] 33:17, 20, 21; 34:6; 36:4, 7; 37:14, 22; 38:8, 11, 12, 13, 14, 19, 21, 23; 41:4, 5; 42:9; 43:2; 44:3; 50:15; 64:23; 65:6; 72:14; 73:15; 74:1, 8
waterway [1] 63:19
wayne [1] 5:12
we'll [1] 76:4
we're [4] 5:11, 21; 27:17; 61:13
we've [3] 9:23; 30:1; 35:6
weren't [2] 20:9, 21
west [9] 60:23; 61:1, 11, 15, 21; 62:2; 63:13, 15; 72:22
what's [2] 15:24; 40:15
whenever [1] 9:17
whereof [1] 78:2
wide [2] 42:6; 59:20
widened [2] 24:17; 25:5
width [1] 39:9
winter [4] 50:7, 10, 20; 51:18
within-named [1] 77:5
witness [39] 5:2; 6:2; 8:13; 11:5, 16; 17:18; 19:10, 15; 20:7; 21:5; 25:1; 26:2, 16; 28:19; 31:5, 10; 40:2, 18; 41:14; 44:17; 46:4, 22; 47:14; 48:4; 49:8; 54:24; 55:13; 58:2, 15, 23; 62:11; 66:7, 11; 69:19; 70:13; 76:23; 77:6, 10; 78:2
woman [1] 12:6
won't [2] 34:14; 69:4
work [9] 12:12; 15:22; 16:21; 23:11; 24:8; 35:2; 48:24; 49:1; 61:15
worked [1] 16:16
wouldn't [4] 24:18; 40:11; 50:24; 56:18
writing [2] 28:4, 6
written [7] 13:10, 14; 18:5; 26:4; 30:13; 51:6; 70:17
wrong [3] 48:19; 58:7; 60:4
wrote [9] 6:4; 25:20; 29:2, 4; 30:17, 18; 32:11; 48:22; 74:8

- - Y - -

yeah [13] 6:16; 8:11; 11:11; 17:18; 22:10; 43:15; 47:19; 48:21; 51:20; 53:20; 57:4; 71:16
year [10] 15:17; 16:1, 10, 13; 34:24; 35:3, 4, 5; 47:7; 52:7
yearly [4] 15:13, 15; 23:4, 7
years [15] 11:12; 14:17, 19; 16:16, 18, 19; 17:3, 6; 23:10; 26:15, 18; 36:8; 45:12; 46:14; 48:6
you've [8] 9:24; 10:18; 16:2; 27:19; 30:2; 32:5, 7; 61:23
yourself [1] 19:6

- - Z - -

z-farms [2] 67:24; 68:11
zumberge [7] 66:16, 23; 68:1, 6, 7, 11
zumberges [1] 67:22

ODNR
OHIO DEPARTMENT OF
NATURAL RESOURCES

Fountain Square
Columbus, Ohio 43224

February 5, 1992

Keith G. Earley, P.E., P.S.
Mercer County Engineer
101 N. Main Street - Court House - Room 205
Celina, Ohio 45822

Dear Mr. Earley:

I am writing with a more detailed response to your November 19, 1991 letter to Director Francis Buchholzer. In that letter, you listed several of Mercer County's concerns with respect to the planned spillway improvement at Grand Lake St. Marys. Over the past few years, the Division of Water and our consultants have completed extensive studies of Grand Lake St. Marys and its watershed. These studies show the absolute necessity of undertaking the proposed improvements in order to protect the integrity of the dam.

Our consultant developed a model for routing floods through the lake and dam using a method developed by the Corps of Engineers for calculating synthetic unit hydrographs. The Probable Maximum Precipitation distribution was developed using a National Weather Service procedure. This model compared favorably to two historical storms for the Grand Lake watershed. I agree that the Corps of Engineers 1981 study shows peak lake levels higher than our levels for their period of record. Since the Corps study does not describe how the recurrence intervals were determined, we cannot comment on their applicability. However, we are confident that we have used the best available data and modeling procedures, and that the results provide a reliable representation of flooding conditions.

Our modeling of flood profiles in Beaver Creek show that the discharge from the improved spillway for a 25-year flood, 352 cubic feet per second (cfs), will be contained within the banks of the creek. This amount does not take into account any base flow or backwater effects from the Wabash River. Discharge from the 50-year flood, 520 cfs, will not be contained within the banks of Beaver Creek in an area approximately 0.2 to 0.3 mile downstream of the dam. The difference in calculated stream capacity for the creek between our data and the Corps study can be attributed to the undefined base flow noted in the Corps study and the fact that Beaver Creek has been improved since 1981.

DEPOSITION
EXHIBIT
A
5-21-10

You are correct that peak lake levels will not be significantly lower for relatively small storms with the improved spillway. The large capacity available for flood storage reduces the peak stages for these types of storms, i.e. 10 to 100-year flooding events. The difference in peak stage is clearly evident for the Probable Maximum Flood (PMF), the design flood for this dam. The improved spillway will allow for safe passage of the PMF without any flows over the proposed crest of the earthen embankment, elevation 876.6 feet above MSL. The peak lake stage would reach an elevation of 877.7 feet above MSL with the existing spillway. This would allow flow over the embankment for 90 hours which would surely result in failure of the dam.

As you have suggested, regulation of the lake level to provide additional flood storage is a possibility to relieve some flooding along Beaver Creek. The proposed design includes the installation of two 48-inch gated outlet pipes which could be used for this purpose. However, the effectiveness of attempting to regulate the lake is questionable due to the massive storage of the lake and the size of the watershed. It would take several days or possibly weeks to lower the lake level a significant amount. There certainly would not be sufficient time to provide additional flood storage in response to a forecast for heavy rains. Also, a regulation policy cannot be used as a substitute for increasing the size of the uncontrolled spillway due to the unpredictability of the hydrologic conditions and the limited capacity of the pipes.

The sole purpose of this project is to improve the safety of the dam. In order to bring the dam and spillway into compliance with state safety standards, the length of the spillway must be increased. The Department of Natural Resources has attempted to incorporate the concerns of all affected parties into the design as best as possible. The proposed improvement is the best alternative to accomplish this goal.

I have enclosed with this letter an entire file containing all of the hydrologic and hydraulic studies completed for this project. Members of my staff would welcome the opportunity to discuss these analyses and their results.

Sincerely,

Robert L. Goettemoeller

Robert L. Goettemoeller
Chief, Division of Water

RLG:bj

Enclosure

OHIO
Department of Natural Resources

Copy given to Farm Bureau rep. at mtg. 1/10/94.

George V. Voinovich • Governor
Frances S. Buchholzer • Director

December 22, 1993

Keith G. Earley, P.E., P.S.
Mercer County Engineer
Court House
Celina, Ohio 45822

RECEIVED
DEC 22 1993
DEPT. OF NATURAL RESOURCES
CHIEF ENGINEER

Dear Mr. Earley:

My staff has completed additional studies showing the effects of the improved spillway on Beaver Creek. These were completed in response to your letter of September 28, 1993 and the most recent local meeting concerning the proposed improvements to the spillway at Grand Lake St. Marys. We have modeled the upper three miles of the Beaver Creek watershed and combined the resulting hydrograph with outflow hydrographs from Grand Lake for both the existing and improved conditions. The model shows that for a 100-year flood, there is no appreciable increase in the peak flood discharge at the three mile point with the improved spillway. The model estimates a peak discharge of 1413 cubic feet per second (cfs) with the existing spillway and 1452 cfs with the improved spillway. An increase of less than three percent. As the attached hydrographs show, the reason the improved spillway has such a minimal effect on the downstream peak discharge is that the peak from the Beaver Creek local watershed is significantly higher and occurs much quicker. The flood storage capability of Grand Lake attenuates the peak discharge amount over the spillway. This reduces the peak discharge from the dam and spreads the total discharge over a longer period of time. The result is a sustained, but moderate discharge over the spillway. This is in stark contrast to the high and quick peak discharge from the local watershed. You would be more than welcome to visit our office and review the modeling results.

Your letter address several specific studies which you believe would be beneficial prior to construction of the improved spillway. I would like to address them in the order you have listed in your letter.

1. The division has already made contact with FEMA about revising the Flood Insurance Study maps and we will be continuing with this process.

2. We have determined the outflow hydrographs from the improved spillway for both the 10-year and 100-year flood events. We would be happy to provide you with this information for your use in obtaining BRO funding.

DEPOSITION EXHIBIT
B
5/21/95

RECYCLED PAPER
SOY BASED INK
DNR 0001

3. The modeling we have completed suggests that the peak flood elevation is controlled by the runoff local to Beaver Creek, not from flows over the spillway. The type of study you suggest would be mostly dependent on these local peak flows, and not relevant to the spillway improvement project.

4. The 1981 Corps of Engineers study of Beaver Creek determined that enlarging the creek would not be a cost effective solution to the flooding problem. Our modeling supports this determination.

5. The Division of Parks and Recreation has expressed a willingness to develop a lake regulation policy. We have explored the possibility of enlarging the gated discharge capacity at the improved spillway in order to more effectively regulate the lake level. The gated capacity proposed for the improvements is about 500 cfs. This is the approximate bank-full flow in Beaver Creek. Therefore increasing the discharge would only cause additional flooding. The proposed gated capacity will be adequate for the implementation of the regulation policy.

I want to express my thanks for the statement of support contained in your letter. I also want to express my appreciation for your concerns about this project and for your constituents along Beaver Creek. I would like to invite you to visit the Buckeye Lake spillway, a design very similar to the proposed Grand Lake St. Marys structure, if we can arrange a convenient time. Scott Zody will be contacting you to discuss the visit.

Sincerely,

James R. Morris

James R. Morris, P.E.
Chief, Division of Water

JRM/pjb

c: Senator Robert Cupp
Representative James Buchy
Board of Mercer County Commissioners
J. Bruce Pickens, Chief Engineer

Robert R. Cupp
Statehouse
Columbus, Ohio 43266-0604
614/466-7584

Ohio Senate
12th Senate District

Committees:
Commerce and Labor, Chairman
Agriculture
Ways and Means
Education, Retirement, and Aging
Legislative Ethics

September 20, 1994

Frances S. Buchholzer, Dir.
Dept. of Natural Rescources
Fountain Square
Columbus, OH 43224-1387

Dear Director Buchholzer:

In an effort to help resolve the concerns of increased flooding that may be caused by the impending replacement of the west bank spillway and dam at Grand Lake St. Mary's, the Mercer County Engineer surveyed the stream and structures downstream of the dam to see if widening it would be helpful. A copy of this letter is enclosed for review by your department.

Please let me know what funding would be available to repair and rebuild these bridges and to test whether water flow could be improved by widening areas of Beaver Creek.

Your response into these matters is appreciated.

Sincerely,

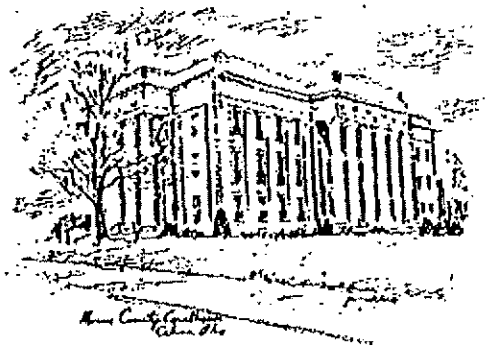
Robert R. Cupp

cc: Bruce Pickens
Scott Zody
Jim Buchy
Kieth Early

RRC:ah

DEPOSITION EXHIBIT
C
5-21-10 S

RECEIVED
SEP 30
ADMIN.



KEITH G. ..ARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
COURT HOUSE
CELINA, OHIO 45822
PHONE 419-586-7750
419-586-7759

September 6, 1994

Senator Robert Cupp
3003 West Hume Road
Lima, Ohio 45806

RE: Grand Lake St. Marys Spillway Replacement Outletting into Beaver Creek

Dear Senator Cupp,

Thank you for your efforts and concerns regarding the spillway replacement project. The Ohio Department of Natural Resources has designed a spillway replacement with outflow capacity necessary to meet nationally accepted dam safety standards. Dam safety has been the paramount concern of the department as well it should be, while they have attempted to balance other sometimes competing concerns. The new spillway has a much larger outlet capacity than the existing structure and many local people are concerned about the downstream effects. I am especially concerned regarding the possible increased flood damage to buildings close to the spillway on the south edge of Celina. Although the flood plain study has not been completed, I expect that the flood elevations and extent of the 100 year flood plain will increase and very expensive flood damage could occur that would not have occurred with the old outlet structure.

I am not certain what improvements downstream would need to be done so that the boundary of the flood plain and the base flood elevations in the urban area are not increased. That might be accomplished by only replacing the bike path bridge and the Meyer Road bridge, which would probably cost around $200,000.00. The width of the existing channel is not very uniform. I believe it is wider in many places than the plans show, and widening a few spots might improve flow considerably.

Looking at the current flood plain cross sections, it appears that the Mud Pike embankment and bridge cause quite a bottleneck under current conditions. The new spillway could worsen the situation and it might be cost effective to put in an overflow structure at Mud Pike.

Mercer County maintains ten bridges over the Beaver Creek. Five of those bridges are in very poor condition and need replaced. The bike path bridge and the Meyer Road bridge are in relatively good condition. Two of the five bridges in poor condition were damaged by heavy traffic while S.R. 29 was closed and are currently closed to traffic. All of these five are bottlenecks and should be replaced with larger bridges. It would at least be helpful if the hydraulic analysis included the effect of enlarging those waterway openings. We intend to replace all five of those bad structures using 80% federal funding on the engineering and construction costs of those structures. Right-of-way cost will be 100% local. The local share will probably be around $200,000.00 Our current plans estimate construction to begin in about six years.

Another problem we are going to have to deal with sometime is the maintenance of Beaver Creek. The continual outflow from the lake prevents vegetation from being established on the bottom four or five feet of the ditch and the banks have sloughed in. Rip-rap over the entire length would prevent this, but be very expensive, probably at least $50,000.00 per mile. The total length is 10.6 miles, but the upper four miles are the worst. If the water was held back during construction, the sloughed in area could be filled with dirt but it probably would not remain in place very long. Another option would be to lay back the remainder of the bank every ten or twenty years, making the ditch larger and larger. I do not know what the best solution to the bank erosion problem is. Other minor maintenance is needed. The State of Ohio paid two-thirds of the Beaver Creek Improvement cost, but did not make a written commitment to maintenance.

Mercer County has hundreds of other bridges that currently need replaced, and it is going to be difficult to handle all of those problems. Any assistance you can provide would be greatly appreciated. Assistance in the following areas is needed on the Beaver Creek problems:

1. Immediate revision of the FEMA flood plain analysis along Beaver Creek for the new spillway along with:
    a. Recommended waterway openings for the bike path bridge and the Meyer Road bridge.
    b. Recommended waterway openings for the other five bridges we intend to replace (Wabash Road, Burrville Road, Erastus-Durbin Road, Township Line Road, and Gause Road.)
    c. Recommended waterway opening of an overflow structure on Mud Pike.
    d. Revised Flood Plain analysis after the recommended improvements.
2. Financial assistance in the local share of making the recommended bridge improvements along Beaver Creek.
3. Recommendations and assistance on erosion control measures along Beaver Creek.

We certainly want to prevent expensive flood damage from increased outflow that could have been predicted and reasonably accommodated. Many of the bridges need replaced soon even if nothing is done to the spillway. The additional cost of enlarging these structures and the accelerated replacement of others along with necessary stream improvements should be thoroughly investigated as soon as possible.

I do not pretend to have all the answers. I am merely suggesting alternatives that I believe should be investigated further. Some of these studies may be beyond the scope of what should be expected at ODNR on the spillway replacement project, but could be very beneficial.

Thanks again for your concerns. I hope we can all work together to provide the public the needed studies and improvements.

Sincerely,

Keith Earley

Keith G. Earley, P.E., P.S.
Mercer County Engineer

KGE/an

cc: Board of Mercer County Commissioners

KEITH G. EARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
101 N. MAIN ST. - COURT HOUSE - ROOM 205
CELINA, OHIO 45822
PHONE 419-586-7759

October 31, 1997

Representative Jim Buchy
Ohio State Representative
281 Dogwood Drive
Greenville, Ohio 45331

Re: Beaver Creek Maintenance

Dear Jim,

The construction of Beaver Creek was completed in 1985. Those improvements cost $686,410.00 and the State of Ohio paid sixty-six percent of that cost, since this stream serves as the outlet to Grand Lake St. Marys. We were told at that time the state could not commit to regular maintenance fees, but funds could be requested as maintenance is needed. We assesed the individual property owners ten per cent maintenance in 1988 and an additional ten percent in 1995. Twenty percent over that ten years equates to an average maintenance cost of two percent per year. If the state would pay an equivalent two per cent per year, then the maintenance cost from 1985 thru 1999 would be fourteen years at two per cent per year times the states original $453,030.60 cost share equals $126,848.56.

Beaver Creek, when outletting flows from the lake, sometimes flows three to five feet deep for weeks at a time drowning most vegetation below that level. In 1985 we improved 10.6 miles, flow has been much improved but bank erosion will cause problems if not properly maintained. One solution would be to place rip-rap along the entire length of the stream, but this would be quite expensive. Normally rip-rap is placed at least eighteen inches thick to about a foot above the erosion line. The Beaver Creek has a flat gradient with only about one foot of fall per mile, thus flow velocities are.

DEPOSITION EXHIBIT
D
5-21-10 SR

low, less than three feet per second and erosion protection would not be needed if we could maintain vegetation. Since the velocities are low, we could probably get by with reshaping the banks and placing smaller stone only twelve inches thick, but that would probably cost over $100,000 per mile. The upper three miles currenly has the worst erosion and will continue unless something is done. The most immediate erosion concern is in the upper two miles especially near WCSM radio station and at the bridges and at the sharp 10/31/97 curves. I have spoken with Kevin Elder at the Ohio Department of Natural Resources about possible solutions. He is scheduled to look at the stream on November 12. He plans to meet at our office at 9:00 A.M. We did discuss the situation over the phone and Kevin suggested that I estimate the cost of what I felt was needed, then revise that estimate later if needed, because of the resticted time frame. The work needed extends beyond maintaining the improvements constructed in 1985, and the funds needed will exceed maintenance funds. If the state would allocate their maintenance share of $126,848.56 which would be combined with our current balance of $15,000 maintenance funds to provide maintenance through 1999, we could construct some test improvements to determine what would be the most cost effective long term remedy. You could require the use of all state funds be approved by ODNR prior to construction, if you so desire. This method should meet our immediate needs and insure that we do not spend funds on improvements that are not cost effective.

A seperate but related issue is the flood levels along Beaver Creek and possible improvements which could reduce flood potential flood damage. In a December 22, 1993 letter from ODNR they stated "The division has already made contact with FEMA about revising the Flood Insurance Study maps and we will be continuing this process." This updated study is needed. ODNR also stated in this letter "The 1981 Corps of Engineers study of Beaver Creek determined that enlarging the creek would not be a cost effective solution to the flooding problem. Our modeling supports that determination." My biggest concern for flooding is within the very top mile. It appears to me that there are three bottlenecks within that mile which restrict flow from the new and enlarged spillway which could cause very expensive flood damage. The bike path bridge, a farm bridge, and the Meyer Road bridge are the three bottlenecks I am referring to. The new spillway simply has to have increased that potential for flooding and I imagine it would be cost effective to remove the farm bridge, replace one abutment of the bike path bridge farther back and replace those beams with longer beams, and replace the Meyer Road with a larger structure.

I know that the spillway replacement was a very expensive project, but a very necessary project. Mercer County maintains eight other bridges over the Beaver and five of those are ninety year old trusses in serious or critical condition, with one already closed. These trusses span between sixty and seventy-five feet and should be replaced with structures that are each about twenty-five feet longer. We have at least a hundred other bridges that should be replaced very soon, but our funds are quite limited. I know that the State of Ohio and ODNR has many needs and desires but limited funds also. Any assistance you can provide would be greatly appreciated.

Sincerely,

Keith G. Earley, P.E., P.S.
Mercer County Engineer

AFFIDAVIT OF KEITH G. EARLEY, P.E., P.S.

STATE OF INDIANA)
) ss:
COUNTY OF ADAMS)

My name is Keith G. Earley. I am over the age of 21, and I am competent to make this affidavit. The facts stated herein are within my personal knowledge and are true and correct. I state as follows:

1. I am the County Engineer for Lucas County, Ohio. I am also a licensed Professional Engineer and a licensed Professional Surveyor.

2. I have served as the Lucas County Engineer since January 2000. Prior to that, from March 1983 to March 1999, I served as the County Engineer for Mercer County, Ohio.

3. In my position as Mercer County Engineer, I was knowledgeable concerning the flow of water from Grand Lake St. Mary's ("Grand Lake") in Mercer County into the Beaver Creek on Grand Lake's western side and ultimately to the Wabash River. In the early 1990s, in my position as Mercer County Engineer, I became aware that the Ohio Department of Natural Resources ("ODNR") intended to build a new spillway on the western side of Grand Lake in Mercer County.

4. As the Mercer County Engineer at the time, I had serious concerns and reservations related to ODNR's design for the spillway. Specifically, I believed that, as a result of the new design, there would be greater flooding downstream in the areas surrounding Beaver Creek. I was concerned both about structures near the western side of Grand Lake and farmers further downstream on the western side of Grand Lake. I believed that the new spillway, without any remedial measures such as lake draw downs or widening the upper 3 miles of the Beaver Creek, would certainly cause deeper and more extensive flooding than had been experienced

DEPOSITION EXHIBIT
6
5/21/10

before in western Mercer County.

5. I wrote a series of letters to ODNR officials and other state officials, as well as met at times with ODNR officials during the 1990s, to express these concerns.

6. Attached hereto as Exhibit 1 is a true and accurate copy of a November 19, 1991 letter that I wrote to Francis Bucholzer, then ODNR Director. I offered my opinion at that time that "it appears to me that enlarging the spillway crest would cause more damage than good, even if O.D.N.R. figures are correct." I also stated that "[i]t appears desirable for a lake regulation policy which balances the value and probability of attaining the desired recreation pool during desired periods with the cost of flood damages likely to occur around the lake and along the Beaver Creek."

7. Attached hereto as Exhibit 2 is a true and accurate copy of a February 12, 1992 letter I wrote to Bob Goetemoeller, an ODNR official, to again express concern about increased flooding on the western side of Grand Lake that would result if the new spillway was constructed.

8. Attached hereto as Exhibit 3 is a true and accurate copy of a September 24, 1993 letter I wrote to Jim Morris, then ODNR Chief of the Division of Water, to again express these concerns. I asked that ODNR study and consider the new spillway's effects upon, among other things, downstream agriculture and asked that ODNR study the possibility of at least drawing down lake levels as necessary to try to prevent the flooding on the western side of Grand Lake that I believed would result from the new spillway.

9. Attached hereto as Exhibit 4 is a true and accurate copy of a February 15, 1994 letter I wrote to Mr. Morris of ODNR to clarify my concerns related to the new spillway.

10. Attached hereto as Exhibit 5 is a true and accurate copy of a May 31, 1994 letter I

wrote to Dave Jones of Jones & Stuckey Ltd., an engineering firm performing work for ODNR related to the new spillway, to again express concerns related to the likelihood of flooding on the western side of Grand Lake as a result of the increased outflow from the new spillway.

11. Attached hereto as Exhibit 6 is a true and accurate copy of a September 6, 1994 letter I wrote to then Senator Robert Cupp to express these concerns.

12. Ultimately, I believe that ODNR did not listen to or take any specific actions as a result of my concerns. In its design of the spillway, ODNR chose to serve recreational users of Grand Lake by maintaining a constant lake level and to avoid any flooding on the southern end of Grand Lake to the detriment of the owners of structures and farmers on the western side of Grand Lake.

FURTHER AFFIANT SAYETH NAUGHT.

Keith G. Earley

Keith G. Earley, P.E., P.S.

Sworn to before me and subscribed in my presence this 26th day of ~~January~~ February, 2010.

Notary Public

SCOTT B. BERNHARD
STATE OF OHIO
MY COMMISSION EXPIRES
MARCH 29, 2011

KEITH G. EARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
101 N. MAIN ST. - COURT HOUSE - ROOM 205
CELINA, OHIO 45822
PHONE 419-586-7759

EXHIBIT
1

November 19, 1991

Francis Buchholzer
Director, Ohio Department of Natural Resources
Building 3D
Fountain Square
Columbus, Ohio 43224

RE: Grand Lake West Spillway Replacement

Dear Ms. Buchholzer,

The replacement of the west spillway is an important safety related project. I have reviewed information supplied by O.D.N.R., and I have reviewed the 1981 "Survey Report for Flood Control and Allied Purposes" prepared by the Louisville, Kentucky District of the Army Corps of Engineers. There are wide discrepancies between the two sources of data and I believe additional detailed analysis should be performed.

The Corps Report indicates an observed bankful flow of the Beaver Creek outlet being about 250 c.f.s. O.D.N.R. indicates a capacity of over 700 c.f.s. The Corps report indicates peak stage lake levels for the ten year through 100 year storms being approximately one foot higher than O.D.N.R. based on 51 years of record measurements. If the Corps report is correct, larger outflow will pass uncontrolled for long periods over the proposed 40 percent enlarged spillway to an outletting stream of very limited capacity. This situation could cause very costly damages especially to structures such as the Lakefront Racket and Health Club.

It appears to me that enlarging the spillway crest would cause more damage than good, even if O.D.N.R. figures are correct. Outlet graphs supplied by O.D.N.R. indicate no reduction in lake peak stage elevations for storms smaller than a 50 year storm. Even the 100 year storm only shows a 0.2 foot peak stage reduction. It appears that this minute rarely occurring reduction would be more than offset by increased damages along the Beaver Creek outlet. According to O.D.N.R. charts, the peak discharge is quadrupled for all storms larger than a ten year event and smaller storms were not analyzed.

It appears desirable for a lake regulation policy which balances the value and probability of attaining the desired recreation pool during desired periods with the cost of flood damages likely to occur around the lake and along the Beaver Creek

outlet. Perhaps the Beaver Creek outlet could economically be improved to safely handle increased outflows. Perhaps combining this increased capacity with a lake regulation policy, that includes the benefits of weather forecasting, could allow routing of peak flows through the Beaver Creek outlet at times when the outlet can handle the flow, and allow holding back flows during short periods while the peak from local storms subsides. Widening the upper three miles by approximately six feet is one alternative I believe should be studied.

A detailed study such as those designed by the Corps of Engineers Hydraulic Engineering Center (HEC) would be time consuming and expensive, but valuable. It is quite possible that such a study could not only provide much improved results, but even reduce construction cost. The study should include detailed damage analysis around the lake and along the outlet including acres inundated, crop damage, structure damage, transportation and utility damage, along with benefit analysis for different alternatives along with an optimization procedure.

Mercer County maintains ten bridges over the Beaver Creek outlet and has long range plans to replace six of these structures. We intend to utilize federal highway off system funds known as BRZ funds. Perhaps enlarging those structures should also be studied.

I sincerely hope that O.D.N.R. gives these items adequate consideration.

Sincerely,

Keith Earley

Keith Earley, P.E., P.S.
Mercer County Engineer

KGE/arn

cc: Mercer County Commissioners
Senator Robert Cupp
Representative Jim Davis

KEITH G. EARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
101 N. MAIN ST. - COURT HOUSE - ROOM 205
CELINA, OHIO 45822
PHONE 419-586-7759

EXHIBIT
2

February 12, 1992

Bob Goetemoeller
Ohio Department of Natural Resources
Building 3D
Fountain Square
Columbus, Ohio 43224

RE: Grand Lake West Spillway Replacement

Dear Mr. Goetemoeller,

The additional information which you provided to me was helpful and the meeting was also helpful. The improved lakeside flood relief of the proposed spillway is quite valuable and evidently the dam safety requirements do not allow any reduction in outlet capacity. It also appears that any additional flooding along the Beaver Creek is negligible in the lower portions of the Beaver Creek. However, I still have concerns regarding flooding near the spillway especially at the Lakefront Racquet and Health Club. The ground floor elevation at that facility is 858.8 and the lowest floor elevation is about three feet lower, where there are two racquet ball courts, locker rooms, saunas, whirlpools, tanning beds, baby sitting room, laundry room, and a furnace room, much of which is carpeted. If flood elevations get above 859 there could be some very expensive damage.

It appears certain that the new spillway will increase the likelihood of very damaging flooding to this facility. Perhaps this increased flooding could be eliminated by removing bottlenecks in the upper three miles of the Beaver Creek without any damage to the downstream owners. Perhaps a capacity equal to a twenty-six foot wide bottom width could be obtained at a reasonable price. I believe that floodplain elevations should be determined for the proposed spillway with the existing channel and for the proposed spillway with an enlarged channel. Those elevations should then be compared to the existing floodplain elevations.

The proposed spillway without the enlarged outlet stream will probably be a benefit to many people, but a detriment to a few. With the enlarged outlet stream, it could be a benefit to all. Since FEMA evaluated the current floodplain in 1989, it should be revised for any significant changes in the watershed. It shouldn't take that much additional work to elevate an enlarged channel condition at the same time. If it is relatively certain that the effects of this study would not change the spillway design, then this would not delay that project and could prevent future delays.

We appreciate the work and commitment that you have devoted to this project. It is to our mutual benefit that all aspects are adequately studied.

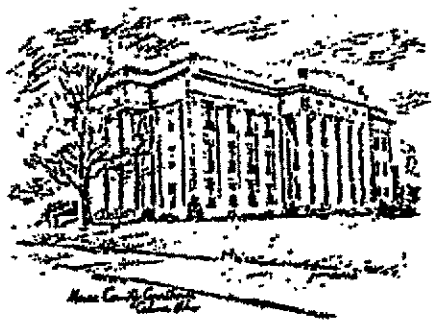
Sincerely,

Keith Earley

Keith G. Earley, P.E., P.S.
Mercer County Engineer

KGE/an

cc: file



KEITH G. EARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
COURT HOUSE
CELINA, OHIO 45822
PHONE 419-586-7750
419-586-7759

September 24, 1993

RECEIVED
SEP 29 1993
Dept. of Natural Resources
Division of Water

Jim Morris
Chief, Division of Water
Ohio Department of Natural Resources
1939 Fountain Square
Columbus, Ohio 43224

Dear Mr. Morris,

The replacement of the west bank outlet structure to Grand Lake St. Marys is an urgently needed project. This project will significantly affect surrounding public and private property. A detailed analysis of that effect should be a part of the design process. I realize that certain dam safety requirements must be met, and the basic design of the outlet structure as currently proposed may be the best design possible; however, minor modifications to the structure and the receiving stream may be necessary. It is my understanding that at the last local meeting on the project, it was agreed that more study on downstream effects will be conducted. I believe the studies should consider the effects on downstream agriculture, and the potential effect to the Lake Front Racquet and Health Club, the Celina Wastewater Treatment Facility, and the local bridges.

Listed below is a summary of the information that I believe is necessary. These studies would certainly require some time and expense, but this is a major project that impacts many people. I believe we will all be better off thoroughly studying the effects prior to proceeding.

1. A revised Flood Insurance Study for areas surrounding Grand Lake St. Marys and for the western outlet channel which includes 10.6 miles of Beaver Creek and 2.7 miles of the Wabash River. The revised flood profiles along with floodway widths, sections area, mean velocities and base flood elevations will be needed.

2. Hydraulic calculations necessary for federal approval to replace the county maintained Beaver Creek bridges using Federal Bridge Replacements Offsystem (BRO) funding. These calculations include both 10 year and 100 year flood profiles, the discharge at each structure, backwater calculations, and mean velocities along with the expected storm frequencies that would overtop the existing structures.

EXHIBIT
3

Mercer County - - Rich in History, a Leader in Agriculture and Outdoor Recreation

3. Comparison of the improved spillway to the existing spillway with regard to estimated average annual flood damages along the Beaver Creek Flood plain.

4. Feasibility study to determine effectiveness of enlarging the upper three miles of the Beaver Creek and possibly construct levees to protect existing buildings. Since we intend to replace several of these bridges soon, this would be the proper time to study the feasibility of enlarging the outlet stream.

5. A study to determine the optimum lake regulation policy. The Corps of Engineers in the 1980 study analyzed the potential benefits of certain drawdown policies under current conditions. I realize that even with the proposed structure, the lake regulation ability is limited and all flooding cannot be eliminated; however, this seems to be the proper time to analyze what benefits could be obtained. Possibly some modifications could be made at little or no additional cost if the analysis was done prior to constructing a new structure. I believe various levels and durations of winter drawdowns should be studied along with a policy on lake drawdowns during summer months when lake levels exceed recreation pool levels. A detailed study using historic lake levels and synthetic storms may be expensive, but by using modern computer methods, development of an optimum operating rule for lake regulation will be cost effective and prevent future losses.

It is not my desire to hold up the project or make it more difficult, but I believe these local concerns need to be thoroughly addressed.

Sincerely,

Keith Earley

Keith G. Earley, P.E., P.S.
Mercer County Engineer

KGE/an

cc: Jim Buchy, Ohio State Representative
Board of Mercer County Commissioners

KEITH G. EARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
101 N. MAIN ST. - COURT HOUSE - ROOM 205
CELINA, OHIO 45822
PHONE 419-586-7759

EXHIBIT
tabbies 4

RECEIVED
FEB 28 1994
DEPT. OF NATURAL RESOURCES
CHIEF ENGINEER

RECEIVED
FEB 16 1994
DEPT. OF NATURAL RESOURCES
WATER RESOURCES DEVELOPMENT

February 15, 1994

James Morris, P.E.
Chief, Division of Water
Ohio Department of Natural Resources
Building 3D
Fountain Square
Columbus, Ohio 43224-1387

Dear Mr. Morris,

After receiving your December 22, 1993 reply to my inquiries, I feel that I should clarify my concerns.

In my previous letter, I addressed concerns regarding flooding in the upper three miles of the Beaver Creek after replacement of the existing spillway with a larger structure. My biggest concern was not at the three mile point but upstream from constrictions such as bridges in the upper three miles. The flooding is affected by not only the peak outflow, but by the duration of any outflows above the capacity of those restrictions. Very long periods of uncontrolled outflow could cause significantly more flooding than shorter periods of peak outflow. In addition, the peak outflow upstream from the bikeway bridge is most certainly significantly increased.

The 1981 Corps of Engineers study of Beaver Creek did not study enlarging only the upper three miles and it did not study the proposed conditions. Your last point stated that increasing the gated capacity of the outlet structure would increase flooding, since the proposed capacity approximates the bank full flow of the Beaver Creek. This would not hold true if the capacity of the Beaver Creek was increased.

I still believe that it would be worth studying the costs and benefits of enlarging the upper three miles to a twenty-six foot wide bottom width and enlarging the controlled outlet capacity of the structure. I have no desire to oppose the Ohio Department of Natural Resources on this project. I am simply suggesting an area that I feel deserves further study.

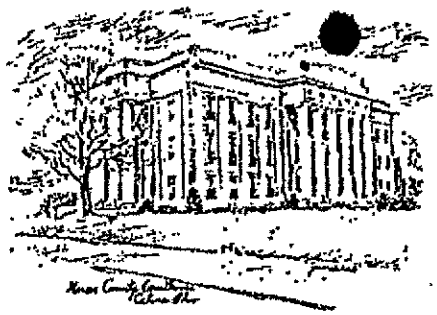
Sincerely,

Keith Earley

Keith G. Earley, P.E., P.S.

KGE/an
cc: file

Mercer County - - Rich in History, a Leader in Agriculture and Outdoor Recreation



KEITH G. EARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
COURT HOUSE
CELINA, OHIO 45822
PHONE 419-586-7750
419-586-7759

May 31, 1994

Dave Jones
Jones & Stucky LTD
1641 W. Fifth Avenue
Columbus, Ohio 43212

RE: Grand Lake St. Marys Spillway Bridge

Dear Mr. Jones,

We have received the construction drawings relating to the proposed bridge and found them to be satisfactory.

I still have concerns regarding the effect of increased outflow from the spillway immediately downstream and have relayed those concerns to ODNR. My recommendation to them was to seriously consider enlarging the capacity of the upper three miles of the Beaver Creek.

Sincerely,

Keith Earley

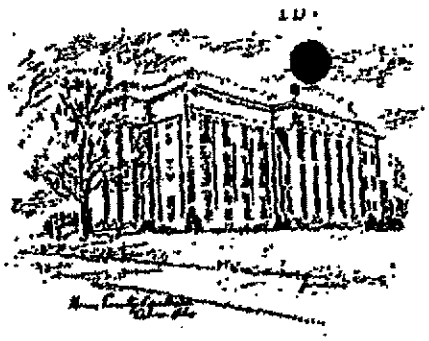
Keith G. Earley, P.E., P.S.
Mercer County Engineer

KGE/an

copy: file

EXHIBIT
tabbies
5

Mercer County - - Rich in History, a Leader in Agriculture and Outdoor Recreation
Established January 8, 1862



KEITH G. [illegible]ARLEY, P.E., P.S.
MERCER COUNTY ENGINEER
COURT HOUSE
CELINA, OHIO 45822
PHONE 419-586-7750
419-586-7759

EXHIBIT 6

September 6, 1994

Senator Robert Cupp
3003 West Hume Road
Lima, Ohio 45806

RE: Grand Lake St. Marys Spillway Replacement Outletting into Beaver Creek

Dear Senator Cupp,

Thank you for your efforts and concerns regarding the spillway replacement project. The Ohio Department of Natural Resources has designed a spillway replacement with outflow capacity necessary to meet nationally accepted dam safety standards. Dam safety has been the paramount concern of the department as well it should be, while they have attempted to balance other sometimes competing concerns. The new spillway has a much larger outlet capacity than the existing structure and many local people are concerned about the downstream effects. I am especially concerned regarding the possible increased flood damage to buildings close to the spillway on the south edge of Celina. Although the flood plain study has not been completed, I expect that the flood elevations and extent of the 100 year flood plain will increase and very expensive flood damage could occur that would not have occurred with the old outlet structure.

I am not certain what improvements downstream would need to be done so that the boundary of the flood plain and the base flood elevations in the urban area are not increased. That might be accomplished by only replacing the bike path bridge and the Meyer Road bridge, which would probably cost around $200,000.00. The width of the existing channel is not very uniform. I believe it is wider in many places than the plans show, and widening a few spots might improve flow considerably.

Looking at the current flood plain cross sections, it appears that the Mud Pike embankment and bridge cause quite a bottleneck under current conditions. The new spillway could worsen the situation and it might be cost effective to put in an overflow structure at Mud Pike.

Mercer County maintains ten bridges over the Beaver Creek. Five of those bridges are in very poor condition and need replaced. The bike path bridge and the Meyer Road bridge are in relatively good condition. Two of the five bridges in poor condition were damaged by heavy traffic while S.R. 29 was closed and are currently closed to traffic. All of these five are bottlenecks and should be replaced with larger bridges. It would at least be helpful if the hydraulic analysis included the effect of enlarging those waterway openings. We intend to replace all five of those bad structures using 80% federal funding on the engineering and construction costs of those structures. Right-of-way cost will be 100% local. The local share will probably be around $200,000.00 Our current plans estimate construction to begin in about six years.

Another problem we are going to have to deal with sometime is the maintenance of Beaver Creek. The continual outflow from the lake prevents vegetation from being established on the bottom four or five feet of the ditch and the banks have sloughed in. Rip-rap over the entire length would prevent this, but be very expensive, probably at least $50,000.00 per mile. The total length is 10.6 miles, but the upper four miles are the worst. If the water was held back during construction, the sloughed in area could be filled with dirt but it probably would not remain in place very long. Another option would be to lay back the remainder of the bank every ten or twenty years, making the ditch larger and larger. I do not know what the best solution to the bank erosion problem is. Other minor maintenance is needed. The State of Ohio paid two-thirds of the Beaver Creek Improvement cost, but did not make a written commitment to maintenance.

Mercer County has hundreds of other bridges that currently need replaced, and it is going to be difficult to handle all of those problems. Any assistance you can provide would be greatly appreciated. Assistance in the following areas is needed on the Beaver Creek problems:

1. Immediate revision of the FEMA flood plain analysis along Beaver Creek for the new spillway along with:
    a. Recommended waterway openings for the bike path bridge and the Meyer Road bridge.
    b. Recommended waterway openings for the other five bridges we intend to replace (Wabash Road, Burrville Road, Erastus-Durbin Road, Township Line Road, and Gause Road.)
    c. Recommended waterway opening of an overflow structure on Mud Pike.
    d. Revised Flood Plain analysis after the recommended improvements.
2. Financial assistance in the local share of making the recommended bridge improvements along Beaver Creek.
3. Recommendations and assistance on erosion control measures along Beaver Creek.

We certainly want to prevent expensive flood damage from increased outflow that could have been predicted and reasonably accommodated. Many of the bridges need replaced soon even if nothing is done to the spillway. The additional cost of enlarging these structures and the accelerated replacement of others along with necessary stream improvements should be thoroughly investigated as soon as possible.

I do not pretend to have all the answers. I am merely suggesting alternatives that I believe should be investigated further. Some of these studies may be beyond the scope of what should be expected at ODNR on the spillway replacement project, but could be very beneficial.

Thanks again for your concerns. I hope we can all work together to provide the public the needed studies and improvements.

Sincerely,

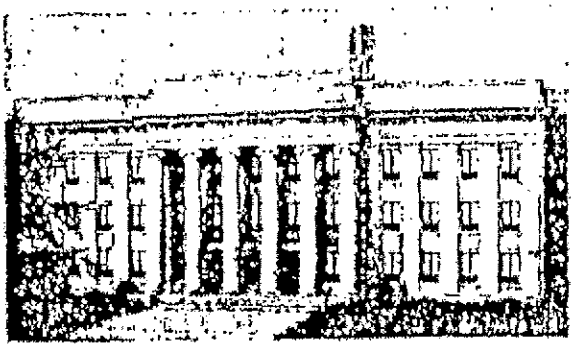
Keith Earley

Keith G. Earley, P.E., P.S.
Mercer County Engineer

KGE/an

cc: Board of Mercer County Commissioners

HERBERT MUHLENKAMP, CHAIRMAN RONALD PUTHOFF JERRY LAFFIN



BOARD OF
MERCER COUNTY
COMMISSIONERS
CELINA, OHIO 45822
Phone (419) 586-3178 — FAX (419) 586-1714
JOAN BOLLENBACHER, CLERK/ADM. OF THE BOARD

November 22, 1991

TO WHOM IT MAY CONCERN:

We the Mercer County Commissioners believe that any possible adverse affects that could occur along the Beaver Creek outlet should be thoroughly evaluated before proceeding further.

BOARD OF COUNTY COMMISSIONERS
MERCER COUNTY, OHIO

Herbert Muhlenkamp, Chairman

Ronald Puthoff, Vice Chairman

Jerry Laffin, Member

DEPOSITION EXHIBIT
F
5/21/95

MERCER COUNTY
SOIL & WATER CONSERVATION DISTRICT

717 W. Logan Street • Celina, Ohio 45822

Telephone: (419) 586-2548

3/9/92 Parks

February 28, 1992

Ohio Dept. of Natural Resources
Division of Water
Fountain Square, Bldg, E-3
Columbus, OH 43224

RECEIVED
MAR 0 2 1992
SOIL & WATER CONSERVATION

Dear Chief,

We, as a board of supervisors, feel the proposed spillway at Grand Lake St. Mary's needs several things addressed or further studied to protect the cropland along Beaver Creek.

We understand the weir is being raised by 4" to the plank, that is now across the existing weir. If this is done, we request that the lake draw down be kept at the original weir level and the plank be used as a buffer zone. We feel the management of the lake level is a very important issue. A written management plan needs to be developed before spillway is built.

We feel the Department of Natural Resources has forgotten the farmer, as the Q10 design of the spillway will put 4 feet in Beaver Creek itself. The past year we had Q25 storms which puts out additional 3 feet of water in to Beaver. The increased flood over a dam of this nature will cause higher peak flows in Beaver Creek. We have a total of 7 feet of water into Beaver without any consideration of drainage into the Beaver Creek. The charts ODNR has, does not reflect a true picture of the banks. There is a difference between spoil bank and field levels. The average dept of Beaver Creek without spoil banks is approximately 8 feet.

We as a board of supervisors requested our staff to calculate the design of Beaver Creek with drainage from farm land into Beaver at State Route 118. There are 6828.40 acres. The ditch design used was the counties as built of Beaver Creek. The design used was as follow:

(a) 2:1 side slope
(b) 24' bottom
(c) 0.0003 slope ft/ft
(d) 0.040 n' value
(e) capacity 383.14 CFS Required for 6828.40

DEPOSITION EXHIBIT
G
5/21/92

The Beaver Creek, itself, would have 6.4 feet of water in it. The ditch itself is approximately 8' deep average. Therefore, in a peak rainfall all the drainage is going to be much greater with a 500 foot dam with a 50' weir 11" deep. Sure the spillway will handle Q10, but if not kept down below the buffer zone there will be no protection for the farmers downstream. We need to know what the new peak flood elevations will be and their duration.

Another thing we would like to address is the states water. If a landowner uses water from the lake for anything, they must have permission and pay for it. We feel, if you claim ownership of the water then you have an obligation when the water enters into Beaver Creek. There has been no maintenance money paid to the county for the permanent county maintenance as of this date. It can't be all a one way street. The state assumed 2/3 of the cost of clean out and should include in their budget on a continuing basis an amount for 2/3 of the annual maintenance. We realize their will be flooding at times, but sometimes measures can be taken to prevent these things before the get out of hand.

Sincerely,

Sam Hellwarth Jr.

Sam Hellwarth Jr.
Chairman
Mercer S.W.C.D.

cc: Jim Davis
Mercer Co. Commissioners
Bob Bash
Senator Cupp

IN THE SUPREME COURT OF OHIO

STATE OF OHIO EX REL. WAYNE T. DONER, ET AL.,	:	
Relators,	:	
v.	:	Case No.: 2009-1292
SEAN D. LOGAN, DIRECTOR OHIO DEPARTMENT OF NATURAL RESOURCES, ET AL.,	:	Master Commissioner Campbell
Respondents.	:	

AFFIDAVIT OF THOMAS H. FUSONIE

STATE OF OHIO)
) ss:
COUNTY OF FRANKLIN)

My name is Thomas Fusonie, I am over the age of 21, and I am competent to make this affidavit. The facts stated herein are within my personal knowledge and are true and correct. I state as follows:

1. I am an associate attorney with the law firm of Vorys, Sater, Seymour and Pease, LLP, counsel for the Relators in this mandamus action. I am making this affirmation as part of Relators' Presentation of Evidence in this matter.

2. Attached hereto as Exhibit A are true and accurate copies of web pages I printed

on May 22, 2010 from the Ohio Department of Natural Resources' website.

FURTHER AFFIANT SAYETH NAUGHT.

Thomas Fusonie

Sworn to before me and subscribed in my presence this 31st day of May, 2010.

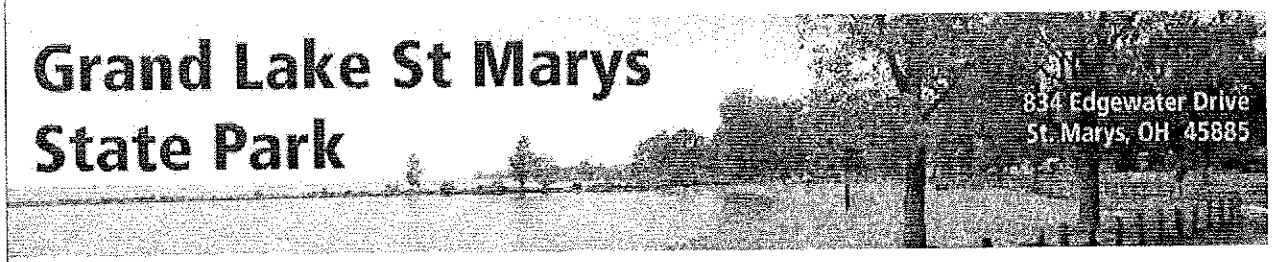
ROBERT JOSEPH KRUMMEN
Attorney at Law
Notary Public, State of Ohio
My Commission Has No Expiration
Section 147.03 R.C.

Notary Public

EXHIBIT A TO AFFIDAVIT OF THOMAS H. FUSONIE

EXHIBIT A

Grand Lake St Marys State Park



Grand Lake St Marys State Park

834 Edgewater Drive
St. Marys, OH 45885

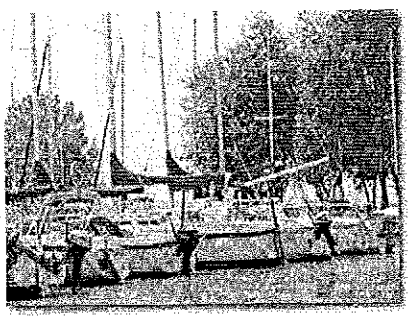
Park Office	419.394.3611
Camp Office	419.394.2774
Camping, Getaway Rental, & Shelter Reservations	866.644.6727

Reserve Online: RESERVE CAMPSITES RESERVE GETAWAYS RESERVE SHELTERS

Park Map | Campground Map

Lake Improvement Association for Grand Lake St. Marys

Get Directions | Check the Weather



Originally constructed as a feeder reservoir for the Miami-Erie Canal, Grand Lake St. Marys was for many years recognized as the largest man-made reservoir in the world. This large lake is the gateway to swimming, boating, camping and fishing in one of Ohio's oldest state parks.

ANNOUNCEMENTS

New Fur-Ever Friends Dog Park is now open, thanks to the efforts of the volunteers of the Friends of the Fur-Ever Dog Park and the **Celina Rotary Dog Park of the West Bank** posted (7/15/2009)

Grand Lake St Marys is in the emerald ash borer quarantine zone • Do not remove firewood from the park

Camping RESERVE CAMPSITES

- 176 electric sites
- 28 non-electric sites
- Facilities include flush toilets, laundry, showers and a dump station.
- Pets are permitted except for the area in and around the Getaway Rentals
- Free WiFi for registered campers
- "Camper's only" swimming beach, boat launch and boat docks/tie-ups are available
- Seasonal naturalist programs are offered on weekends Memorial Day through Labor Day

Activity	Facilities	Quantity
Resource	Land, acres	591
	Water, acres	13,500
Activities	Fishing	yes
	Hunting	yes
	Picnicking	yes
	Picnic Shelters, #	7
	Swimming Beaches	5
	Nature Center	yes
	Naturalist (seasonal)	yes
Boating	Boat Rental	yes

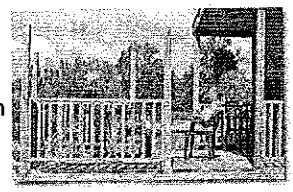
Find a Park
Rewards Card
For Kids - Park Pals
Accessible Facilities
FAQs
Bring Your Pet
Order Brochures
About Us
Support Your Parks
Canal Lands Program
Nature Preserves
Ohio Trails Program
Other Resources

Mailing Address:
Ohio State Parks
2045 Morse Rd, C-3
Columbus, OH
43229-6693

Email us

- Full-service camp store loans games, fishing and sporting equipment to registered campers
- Bike rentals and miniature golf course

Getaway Rentals RESERVE GETAWAYS



- 5 air-conditioned Camper Cabins may be rented April through October
- 2 spacious Cedar Cabins with all the amenities of a fully-equipped RV are also available for daily or weekly rental
- Pets are not permitted in the Getaway Rental units or area

Boating

- Boats of unlimited horsepower are permitted on the lake
- 8 state-operated launch ramps provide access to the lake
- Several private launch ramps also exist along the shallow shoreline
- Fuel, boat rentals and seasonal dock rentals are available
- A 300 foot no-wake zone has been established and is enforced around the lake's 52 miles of shoreline
- The state wildlife refuge, located on the southwest corner, is off limits to boats at all times

Fishing

- Year-round fishing offers crappie, bass, bluegill, walleye and yellow perch
- Valid Ohio **fishing license** is required

Swimming

- 4 public swimming beaches as well as other swimming areas provided for boaters
- Check for **water quality advisories**

Picnicking RESERVE SHELTERS

- 9 Picnic areas with tables and grills are located in scenic areas around the lake
- 4 picnic shelters are reservable **online** or by calling (866)-644-6727

Hunting

- Limited hunting is permitted in designated areas, hunting maps are available in the park office
- 70 seasonal duck blinds are available by a lottery administered by ODNR Division of Wildlife
- Valid Ohio **hunting license** is required

More To Do

- Basketball and volleyball courts
- Horseshoe pits
- Playground equipment
- Fur-Ever Friends Dog Park , thanks to the efforts of the volunteers of the Fur-Ever Friends Dog Park and the **Celina Rotary Dog Park of the West Bank**, is open and offers a place for your pets to frolick without a leash

	Boating Limits	UNL
	Fuel For Sale	yes
	Seasonal Dock Rental, #	111
	Launch Ramps, #	8
Winter	Snowmobiling	yes
	Cross-Country Skiing	yes
	Ice Fishing	yes
Camping	Non-electric Campsites	38
	Campsites with Elec., #	166
	Pets Permitted	yes
	Campground Beach	yes
	Showers	yes
	Laundry Facilities	yes
	Flush Toilets	yes
	Dumpstation	yes
	Miniature Golf	yes
	Group Camp, capacity	100
	Camper Cabins	5
	Cedar Cabins, #	2

Area Attractions

- **Lake Loramie State Park**, southeast of Grand Lake St. Marys, offers fishing, boating, swimming and camping.
- The Miami-Erie Trail, a 47-mile portion of the statewide **Buckeye Trail**, begins at Lake Loramie and passes within a mile and a half of Grand Lake St. Marys State Park • The Miami-Erie Trail terminates at Delphos, approximately 22 miles north of St. Marys
- St. Marys Fish Hatchery, located on the lake's eastern shore is operated by the ODNR Division of Wildlife • The hatchery raises saugeye, walleye, channel catfish and bass for distribution in the public fishing waters of the state
- The **Neil Armstrong Air and Space Museum** is located in Wapakoneta, Armstrong's boyhood home
- The **Auglaize-Mercer County Convention/Visitors Bureau** is located next to the park office. For more information on area attractions, stop by or call 800-860-4726

Nature of the Area

Although hard to imagine, at one time the Grand Lake St. Marys region was part of a vast forest wilderness that stretched from the Allegheny Mountains of Pennsylvania to the prairies of Illinois • Today, in place of this forest are fields of corn, soybeans and wheat

In addition to forests, pre-settlement Ohio contained large prairies and wetlands • The land which now lies beneath St. Marys reservoir was once a vast wet prairie • Today, the park contains varying habitats including woodlands, wetlands, and prairies in addition to the surrounding croplands

Grand Lake St. Marys lies along one of the country's major migration routes • Water birds using the lake as a resting stop include Canada geese, ducks, grebes, swans, egrets, loons, herons, cormorants and ospreys • Many ducks, geese and heron also nest here • Bald eagles, magnificent birds long absent from the area, have again nested on the southwest corner of the lake at the wildlife refuge • Other animals of the park include fox squirrel, mink, raccoon, beaver, coyote, white-tailed deer and many others

History of the Area

The area in and around Grand lake St. Marys State Park played an important part in the development of the Northwest territory • The St. Marys River served as a vital link between the Great Lakes and the Ohio River • Because of this heavy water traffic, the renegades Simon and James Girty established a trading post, which eventually evolved into the town of St. Marys • General "Mad" Anthony Wayne passed through the area in 1794 during this march to drive out the Shawnee, which culminated in the Battle of Fallen Timbers • Some of Wayne's men returned here to make their homes

In 1837, work commenced on a reservoir for the Miami-Erie canal to maintain the canal's five-foot water depth • Workers using hand tools were paid 35 cents a day and a jigger of whiskey to keep malaria away • At its completion in 1845, 13,500-acre Grand Lake was the largest man-made lake in the world • The lake was connected to the canal by a three-mile feeder

The canal prospered until the coming of the railroads in the 1870s • The area experienced another boom in the late 1890s when oil was discovered • For a time the lake was dotted with oil derricks • Today a pile of rocks near the center of the lake marks the spot of the last producing well

Grand Lake St. Marys and other canal feeder lakes in the state were the first areas to be dedicated as Ohio state parks in 1949

Ohio State Parks On-Line Reservations

Parks Home | Contact Parks | ODNR Home

Ohio.gov

Ohio State Parks

Reservation Home
Search By Map / facility
I Know My Park
Check Facility Availability
Find a Map
Gift Card

Log On
My Account
Reservation Details
Change Profile
Change Log In/Email
Change Password
My Points
State Dock Renewal

Shopping Cart
Policies & Discounts
Rewards Program
Troubleshooting
Privacy
Contact Us

There is a water quality advisory for Grand Lake due to an algae toxin. For more information call the EPA at 614-644-2160 or see www.epa.ohio.gov. This does not impact drinking water in the camp.

Search Criteria

Selected Park: GRAND LAKE ST. MARYS STATE PARK

Selected Recreational Facility: Getaway Rentals

Select Campground: GRAND LAKE ST. MARYS CEDAR CABIN

Arrival Date: May 23 2010

Directions

(Arrive between 5/23/2010 and 10/31/2010)

Amenities

Number Of Nights: 2 Stay Limits

Cancellation/Changes

Equipment: Cedar Cabin

Number of People: - Please Select -

Preferences

Pet: Yes No No Preference

Check Availability (Next)

Season Type	Season Start Date	Season End Date	Check In Time	Check Out Time	Nightly Rate	Max Days Per Stay	Capacity	Max Days Per Season
Specific	4/1/2010	10/31/2010	4:00 PM	11:00 AM	* $90.00	14	6	

* Prices are subject to change without notice.

Driving Directions

FROM STATE ROUTE 29 EXIT AT ROUTE 364/KOENIG ROAD, GO SOUTH APPROXIMATELY1/2 MILE TO ROUTE 703 AND TURN LEFT. DRIVE EAST ON 703 ABOUT 1/2 MILE. THE PARK ENTRANCE WILL BE ON THE RIGHT/SOUTH SIDE OF THE ROAD. THE CAMP ENTRANCE IS 100 YARDS INTO PARK.

Proximity

WEST CENTRAL OHIO BETWEEN THE TOWNS OF CELINA AND ST. MARYS. INDIAN LAKE AND LAKE LORAMIE STATE PARK ARE WITHIN 1/2 HOUR DRIVE.

Facility Amenities

- CAMP STORE:
- NATURALIST PROGRAMS:
- PLAYGROUND:
- CANOE RENTAL:
- BASKETBALL COURT:
- VOLLEYBALL COURT:
- PUTT PUTT GOLF:

Cancellation/Transfer Policy

For changes or cancellations, please contact the reservation center at 1-866-644-6727. You may also cancel your reservation online by logging on to your account and viewing reservation details. Changes or cancellations made up to the close of business 31 days or more prior to your scheduled arrival date will result in the loss of the $8.25 reservation fee. Changes or cancellations made 4 to 30 days prior to your arrival will result in the loss of the $8.25 reservation fee and a $10 cancellation fee. Changes or cancellations made 3 days or less prior to your arrival will result in the loss of the $8.25 reservation fee and one night's rental fee. For changes or cancellations made on or after the day of arrival, please contact the park directly. If you cancel a reservation, the cancelled site or Getaway Rental will not be available for reservation until 7am the following morning when new inventories are released. For changes and cancellations of reservations paid by credit card, you will be required to verify the card number. For each reservation, except those booked on the first day of availability, you will be allowed to make one change or modification per reservation with no penalty. These changes are limited to an occupant change, a site change (which may result in a fee adjustment based on the cost per night of the site), adding a discount, or changing dates as long as the new arrival date is not within the dates of original stay. If at any point, you would like to change or modify this reservation, please contact the Call Center at 1-866-644-6727 for more information. When you complete a reservation the first day it is available, you may not

make any changes to that reservation. If you want to modify the reservation, you must cancel the entire reservation and rebook the following day when new site inventories are available.

Topic	Conditions
FIREWOOD ALERT!	OHIO STATE PARKS ARE TRYING TO HELP STOP THE EMERALD ASH BORER. TO OBTAIN DETAILED INFORMATION ON QUARANTINED AREAS AND RULES OF TRANSPORTING FIREWOOD PLEASE CALL OHIO DEPARTMENT OF AGRICULTURE AT 888-644-6322 OR LOG ONTO WWW.AGRI.OHIO.GOV
GENERAL INFORMATION	EMERGENCIES-PAY PHONE LOCATED NEAR NATURE CENTER. PERSONS UNDER 18 MUST HAVE WRITTEN PERMISSION FROM A PARENT. ALCOHOLIC BEVERAGES PROHIBITED. DAMAGE OF TREES, BRANCHES, OR ANY PLANTS PROHIBITED. SPEED LIMIT IN CAMP IS 10 MPH.
GIFT CARD	GUESTS WHO CANCEL A RESERVATION OR ASK FOR A REFUND FOR UNUSED NIGHTS MAY BE OFFERED THEIR REFUND IN THE FORM OF AN OHIO STATE PARK GIFT CARD. THE CARD CAN BE USED FOR FUTURE OVERNIGHT STAYS, TO MAKE A RESERVATION, OR USED AS CASH AT ANY OHIO STATE PARK OR STATE OPERATED RETAIL LOCATION.
GIFT CARD II	GIFT CARDS CAN ALSO BE PURCHASED AT ANY OHIO STATE PARK CAMPGROUND OFFICE OR ANY OHIO STATE OPERATED RETAIL LOCATION.
LATE ARRIVAL	IF ARRIVING MORE THAN 24 HOURS LATE, PLEASE CONTACT THE PARK OFFICE AT 419-394-3611.
LOCAL ATTRACTIONS AND SPECIAL EVENTS	AUGLAIZE AND MERCER COUNTIES, CONVENTION AND VISITORS BUREAU 1-800-860-4726. INTERNET:WWW.SEEMORE.ORG E-MAIL SEEMORE@BRIGHT.NET.
MUST READ	A 12' X 32' CABIN WITH A 14' X 12' COVERED DECK, FULL KITCHEN AND FULL BATH, SLEEPS 6 PEOPLE ; 1 BEDROOM WITH DOUBLE BED AND CLOSET, FULL SIZE SLEEPER SOFA, 2 BUNK BEDS AND A SMALL LOFT WITH LADDER.
MUST READ -- WATER QUALITY ADVISORY	THERE IS A WATER QUALITY ADVISORY FOR GRAND LAKE DUE TO AN ALGAE TOXIN. FOR MORE INFORMATION CALL THE EPA AT 614-644-2160 OR SEE WWW.EPA.OHIO.GOV. THIS DOES NOT IMPACT DRINKING WATER IN THE CAMP.
MUST READ II	CABIN IS AIR CONDITIONED AND IS HEATED. TABLE AND TWO CHAIRS, MICROWAVE, COFFEEMAKER, TOASTER, CLOCK RADIO, ELECTRIC CAN OPENER. FIRE RING, GAS GRILL, PICNIC TABLE, 2 DECK CHAIRS. NO LINENS OR COOKING SUPPLIES PROVIDED, NO SMOKING ALLOWED. NO PETS ARE PERMITTED IN OR AROUND THE CABINS.
NO SHOW POLICY	FAILURE TO ARRIVE ON THE DATE OF RESERVATION DOES NOT CONSTITUTE GROUNDS FOR A REFUND. FEES FOR ANY UNUSED NIGHTS WILL BE FORFEITED.
PET INFORMATION	PETS ARE NOT PERMITTED IN OR AROUND THE CABINS.
PRICES	PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.
QUIET HOURS	10 PM TO 8 AM
SPECIFIC INFORMATION	2 GROUP CAMPS AVAILABLE BY CONTACTING PARK. RESERVATIONS FOR 4 PICNIC SHELTERS AVAILABLE THRU DAY USE FACILITIES.BOAT LAUNCH IN CAMPGROUND FOR REGISTERED CAMPERS ONLY. CAMPGROUND BOAT DOCKS FIRST COME FIRST SERVED & FOR CAMPERS ONLY. THERE IS 1 LAKE BEACH AREA IN THE CAMPGROUND & 2 OUTSIDE CAMP.
VEHICLES PER SITE	TWO VEHICLES PER SITE. $3 CAR PASS REQUIRED FOR EACH ADDITIONAL VEHICLE. ASPHALT DRIVEWAY AND PARKING LOT.
WINTER AVAILABILITY	NOT ALL FACILITIES AND AMENITIES ARE OPEN OR AVAILABLE DURING THE WINTER MONTHS. IF YOU HAVE ANY QUESTIONS ABOUT WHAT IS AVAILABLE PLEASE CONTACT THE PARK DIRECTLY.

powered by activeNETWORK

Ohio State Parks On-Line Reservations

Parks Home | Contact Parks | ODNR Home

Ohio.gov

Ohio State Parks

Reservation Home
Search By Map / facility
I Know My Park
Check Facility Availability
Find a Map
Gift Card

Log On
My Account
Reservation Details
Change Profile
Change Log In/Email
Change Password
My Points
State Dock Renewal

Shopping Cart
Policies & Discounts
Rewards Program
Troubleshooting
Privacy
Contact Us

There is a water quality advisory for Grand Lake due to an algae toxin. For more information call the EPA at 614-644-2160 or see www.epa.ohio.gov. This does not impact drinking water in the camp.

Search Criteria

Selected Park: GRAND LAKE ST. MARYS STATE PARK

Selected Recreational Facility: Getaway Rentals

Select Campground: GRAND LAKE ST. MARYS LARGE CAMPER CABIN

Arrival Date: --- - -- - ---

Directions

(Arrive between 5/23/2010 and 10/31/2010)

Amenities

Number Of Nights: 2 Stay Limits

Cancellation/Changes

Equipment: Camper Cabin

Number of People: - Please Select -

Preferences

Pet: Yes No No Preference

Check Availability (Next)

Season Type	Season Start Date	Season End Date	Check In Time	Check Out Time	Nightly Rate	Max Days Per Stay	Capacity	Max Days Per Season
Specific	4/1/2010	10/31/2010	4:00 PM	11:00 AM	* $50.00	14	5	

* Prices are subject to change without notice.

Driving Directions

FROM STATE ROUTE 29 EXIT AT ROUTE 364/KOENIG ROAD, GO SOUTH APPROXIMATELY1/2 MILE TO ROUTE 703 AND TURN LEFT. DRIVE EAST ON 703 ABOUT 1/2 MILE. THE PARK ENTRANCE WILL BE ON THE RIGHT/SOUTH SIDE OF THE ROAD. THE CAMP ENTRANCE IS 100 YARDS INTO PARK.

Proximity

WEST CENTRAL OHIO BETWEEN THE TOWNS OF CELINA AND ST. MARYS INDIAN LAKE AND LAKE LORAMIE STATE PARKS ARE WITHIN 1/2 HOUR DRIVE

Facility Amenities

- CAMP STORE:
- NATURALIST PROGRAMS:
- CANOE RENTAL:
- BASKETBALL COURT:
- VOLLEYBALL COURT:
- PLAYGROUND:

Cancellation/Transfer Policy

For changes or cancellations, please contact the reservation center at 1-866-644-6727. You may also cancel your reservation online by logging on to your account and viewing reservation details. Changes or cancellations made up to the close of business 31 days or more prior to your scheduled arrival date will result in the loss of the $8.25 reservation fee. Changes or cancellations made 4 to 30 days prior to your arrival will result in the loss of the $8.25 reservation fee and a $10 cancellation fee. Changes or cancellations made 3 days or less prior to your arrival will result in the loss of the $8.25 reservation fee and one night's rental fee. For changes or cancellations made on or after the day of arrival, please contact the park directly. If you cancel a reservation, the cancelled site or Getaway Rental will not be available for reservation until 7am the following morning when new inventories are released. For changes and cancellations of reservations paid by credit card, you will be required to verify the card number. For each reservation, except those booked on the first day of availability, you will be allowed to make one change or modification per reservation with no penalty. These changes are limited to an occupant change, a site change (which may result in a fee adjustment based on the cost per night of the site), adding a discount, or changing dates as long as the new arrival date is not within the dates of original stay. If at any point, you would like to change or modify this reservation, please contact the Call Center at 1-866-644-6727 for more information. When you complete a reservation the first day it is available, you may not make any changes to that reservation. If you want to modify the reservation, you must cancel the entire reservation and

rebook the following day when new site inventories are available.

Topic	Conditions
FIREWOOD ALERT!	OHIO STATE PARKS ARE TRYING TO HELP STOP THE EMERALD ASH BORER. TO OBTAIN DETAILED INFORMATION ON QUARANTINED AREAS AND RULES OF TRANSPORTING FIREWOOD PLEASE CALL OHIO DEPARTMENT OF AGRICULTURE AT 888-644-6322 OR LOG ONTO WWW.AGRI.OHIO.GOV
GENERAL INFORMATION	EMERGENCIES-PAY PHONE LOCATED NEAR NATURE CENTER. PERSONS UNDER 18 MUST HAVE WRITTEN PERMISSION FROM A PARENT. ALCOHOLIC BEVERAGES PROHIBITED. DAMAGE OF TREES, BRANCHES, OR ANY PLANTS PROHIBITED. SPEED LIMIT IN CAMP IS 10 MPH.
GIFT CARD	GUESTS WHO CANCEL A RESERVATION OR ASK FOR A REFUND FOR UNUSED NIGHTS MAY BE OFFERED THEIR REFUND IN THE FORM OF AN OHIO STATE PARK GIFT CARD. THE CARD CAN BE USED FOR FUTURE OVERNIGHT STAYS, TO MAKE A RESERVATION, OR USED AS CASH AT ANY OHIO STATE PARK OR STATE OPERATED RETAIL LOCATION.
GIFT CARD II	GIFT CARDS CAN ALSO BE PURCHASED AT ANY OHIO STATE PARK CAMPGROUND OFFICE OR ANY OHIO STATE OPERATED RETAIL LOCATION.
LATE ARRIVAL	IF ARRIVING MORE THAN 24 HOURS LATE, PLEASE CONTACT THE PARK OFFICE AT 419-394-3611
LOCAL ATTRACTIONS AND SPECIAL EVENTS	AUGLAIZE AND MERCER COUNTIES, CONVENTION AND VISITORS BUREAU 1-800-860-4726. INTERNET;WWW.SEEMORE.ORG E-MAIL SEEMORE@BRIGHT.NET.
MUST READ	A 13'X15' STRUCTURE WITH 6'X13' COVERED PORCH, AIR COND + HEAT, SLEEPS 5 PEOPLE, FUTON SOFA, 2 BUNK BEDS, REFRIGERATOR, MICROWAVE, TABLE AND CHAIRS, ELECTRICAL OUTLETS, FIRE RING, PICNIC TABLE, GAS GRILL. NO INDOOR PLUMBING BUT A RESTROOM IS NEARBY. NO LINENS OR COOKING SUPPLIES PROVIDED
MUST READ – WATER QUALITY ADVISORY	THERE IS A WATER QUALITY ADVISORY FOR GRAND LAKE DUE TO AN ALGAE TOXIN. FOR MORE INFORMATION CALL THE EPA AT 614-644-2160 OR SEE WWW.EPA.OHIO.GOV. THIS DOES NOT IMPACT DRINKING WATER IN THE CAMP.
NO SHOW POLICY	FAILURE TO ARRIVE ON THE DATE OF RESERVATION DOES NOT CONSTITUTE GROUNDS FOR A REFUND. FEES FOR ANY UNUSED NIGHTS WILL BE FORFEITED.
PET INFORMATION	PETS ARE NOT PERMITTED.
PRICES	PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.
QUIET HOURS	10 PM TO 8 AM
SPECIFIC INFORMATION	NO SMOKING. NO PETS PERMITTED IN OR AROUND THE CABINS.
SPECIFIC INFORMATION II	2 GROUP CAMPS AVAILABLE BY CONTACTING PARK. RESERVATIONS FOR 4 PICNIC SHELTERS AVAILABLE THRU DAY USE FACILITIES.BOAT LAUNCH IN CAMPGROUND FOR REGISTERED CAMPERS ONLY. CAMPGROUND BOAT DOCKS FIRST COME FIRST SERVED & FOR CAMPERS ONLY. THERE IS 1 LAKE BEACH AREA IN THE CAMPGROUND & 2 OUTSIDE CAMP.
VEHICLES PER SITE	2 VEHICLE PER SITE. $3 CAR PASS REQUIRED FOR EACH ADDITIONAL VEHICLE.
WINTER AVAILABILITY	NOT ALL FACILITIES AND AMENITIES ARE OPEN OR AVAILABLE DURING THE WINTER MONTHS. IF YOU HAVE ANY QUESTIONS ABOUT WHAT IS AVAILABLE PLEASE CONTACT THE PARK DIRECTLY.

powered by active NETWORK

Ohio State Parks On-Line Reservations

Parks Home | Contact Parks | ODNR Home

Ohio.gov

Ohio State Parks

Reservation Home
Search By Map / facility
I Know My Park
Check Facility Availability
Find a Map
Gift Card

Log On
My Account
Reservation Details
Change Profile
Change Log In/Email
Change Password
My Points
State Dock Renewal

Shopping Cart
Policies & Discounts
Rewards Program
Troubleshooting
Privacy
Contact Us

There is a water quality advisory for Grand Lake due to an algae toxin. For more information call the EPA at 614-644-2160 or see www.epa.ohio.gov. This does not impact drinking water in the camp.

Search Criteria

Selected Park: GRAND LAKE ST. MARYS STATE PARK

Selected Recreational Facility: Getaway Rentals

Select Campground: GRAND LAKE ST. MARYS SMALL CAMPER CABINS

Arrival Date: __ . __ . ____ Directions

(Arrive between 5/23/2010 and 10/31/2010) Amenities

Number Of Nights: 2 Stay Limits Cancellation/Changes

Equipment: Camper Cabin

Number of People: - Please Select -

Preferences

Pet: Yes No No Preference

Check Availability (Next)

Season Type	Season Start Date	Season End Date	Check In Time	Check Out Time	Nightly Rate	Max Days Per Stay	Capacity	Max Days Per Season
Specific	4/1/2010	10/31/2010	4:00 PM	11:00 AM	* $40.00	14	4	

* Prices are subject to change without notice.

Driving Directions

FROM STATE ROUTE 29 EXIT AT ROUTE 364/KOENIG ROAD, GO SOUTH APPROXIMATELY 1/2 MILE TO ROUTE 703 AND TURN LEFT. DRIVE EAST ON 703 ABOUT 1/2 MILE. THE PARK ENTRANCE WILL BE ON THE RIGHT/SOUTH SIDE OF THE ROAD. THE CAMP ENTRANCE IS 100 YARDS INTO PARK.

Proximity

WEST CENTRAL OHIO BETWEEN THE TOWNS OF CELINA AND ST. MARYS. INDIAN LAKE AND LAKE LORAMIE STATE PARK ARE WITHIN 1/2 HOUR DRIVE.

Facility Amenities

- CAMP STORE:
- NATURALIST PROGRAMS:
- CANOE RENTAL:
- BASKETBALL COURT:
- VOLLEYBALL COURT:
- PLAYGROUND:

Cancellation/Transfer Policy

For changes or cancellations, please contact the reservation center at 1-866-644-6727. You may also cancel your reservation online by logging on to your account and viewing reservation details. Changes or cancellations made up to the close of business 31 days or more prior to your scheduled arrival date will result in the loss of the $8.25 reservation fee. Changes or cancellations made 4 to 30 days prior to your arrival will result in the loss of the $8.25 reservation fee and a $10 cancellation fee. Changes or cancellations made 3 days or less prior to your arrival will result in the loss of the $8.25 reservation fee and one night's rental fee. For changes or cancellations made on or after the day of arrival, please contact the park directly. If you cancel a reservation, the cancelled site or Getaway Rental will not be available for reservation until 7am the following morning when new inventories are released. For changes and cancellations of reservations paid by credit card, you will be required to verify the card number. For each reservation, except those booked on the first day of availability, you will be allowed to make one change or modification per reservation with no penalty. These changes are limited to an occupant change, a site change (which may result in a fee adjustment based on the cost per night of the site), adding a discount, or changing dates as long as the new arrival date is not within the dates of original stay. If at any point, you would like to change or modify this reservation, please contact the Call Center at 1-866-644-6727 for more information. When you complete a reservation the first day it is available, you may not make any changes to that reservation. If you want to modify the reservation, you must cancel the entire reservation and

rebook the following day when new site inventories are available.

Topic	Conditions
FIREWOOD ALERT!	OHIO STATE PARKS ARE TRYING TO HELP STOP THE EMERALD ASH BORER. TO OBTAIN DETAILED INFORMATION ON QUARANTINED AREAS AND RULES OF TRANSPORTING FIREWOOD PLEASE CALL OHIO DEPARTMENT OF AGRICULTURE AT 888-644-6322 OR LOG ONTO WWW.AGRI.OHIO.GOV
GENERAL INFORMATION	EMERGENCIES-PAY PHONE LOCATED NEAR NATURE CENTER. PERSONS UNDER 18 MUST HAVE WRITTEN PERMISSION FROM A PARENT. ALCOHOLIC BEVERAGES PROHIBITED. DAMAGE OF TREES, BRANCHES, OR ANY PLANTS PROHIBITED. SPEED LIMIT IN CAMP IS 10 MPH.
GIFT CARD	GUESTS WHO CANCEL A RESERVATION OR ASK FOR A REFUND FOR UNUSED NIGHTS MAY BE OFFERED THEIR REFUND IN THE FORM OF AN OHIO STATE PARK GIFT CARD. THE CARD CAN BE USED FOR FUTURE OVERNIGHT STAYS, TO MAKE A RESERVATION, OR USED AS CASH AT ANY OHIO STATE PARK OR STATE OPERATED RETAIL LOCATION.
GIFT CARD II	GIFT CARDS CAN ALSO BE PURCHASED AT ANY OHIO STATE PARK CAMPGROUND OFFICE OR ANY OHIO STATE OPERATED RETAIL LOCATION.
LATE ARRIVAL	IF ARRIVING MORE THAN 24 HOURS LATE, PLEASE CONTACT THE PARK OFFICE AT 419-394-3611.
LOCAL ATTRACTIONS AND SPECIAL EVENTS	AUGLAIZE AND MERCER COUNTIES, CONVENTION AND VISITORS BUREAU 1-800-860-4726. INTERNET;WWW.SEEMORE.ORG E-MAIL SEEMORE@BRIGHT.NET.
MUST READ	A 10' X 12' HARD SIDED A FRAME STRUCTURE AIR COND./NO HEAT, SLEEPS 4 PEOPLE; FUTON SOFA BED SLEEPS 2, 2 COTS WITH FOAM PADS, CEILING LIGHT/FAN, ELECTRICAL OUTLETS, FIRE RING, SHELTERED PICNIC TABLE. LOCKING FRONT DOOR, COOLER, GAS GRILL. NO LINENS OR COOKING SUPPLIES PROVIDED. NO SMOKING.
MUST READ -- WATER QUALITY ADVISORY	THERE IS A WATER QUALITY ADVISORY FOR GRAND LAKE DUE TO AN ALGAE TOXIN. FOR MORE INFORMATION CALL THE EPA AT 614-644-2160 OR SEE WWW.EPA.OHIO.GOV. THIS DOES NOT IMPACT DRINKING WATER IN THE CAMP.
MUST READ II	NO INDOOR PLUMBING IN SMALL CAMPER CABINS 1 AND 2 BUT THERE IS A RESTROOM NEARBY.
NO PETS ALLOWED	PETS NOT PERMITTED IN OR AROUND CAMPER CABINS.
NO SHOW POLICY	FAILURE TO ARRIVE ON THE DATE OF RESERVATION DOES NOT CONSTITUTE GROUNDS FOR A REFUND. FEES FOR ANY UNUSED NIGHTS WILL BE FORFEITED.
PRICES	PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.
QUIET HOURS	10 PM TO 8 AM
SPECIFIC INFORMATION	2 GROUP CAMPS AVAILABLE BY CONTACTING PARK. RESERVATIONS FOR 4 PICNIC SHELTERS AVAILABLE THRU DAY USE FACILITIES.BOAT LAUNCH IN CAMPGROUND FOR REGISTERED CAMPERS ONLY. CAMPGROUND BOAT DOCKS FIRST COME FIRST SERVED & FOR CAMPERS ONLY. THERE IS 1 LAKE BEACH AREA IN THE CAMPGROUND & 2 OUTSIDE CAMP.
VEHICLES PER SITE	2 VEHICLE PER SITE. $3 CAR PASS REQUIRED FOR EACH ADDITIONAL VEHICLE. CAMPER CABIN HAS A GRAVEL DRIVEWAY.
WINTER AVAILABILITY	NOT ALL FACILITIES AND AMENITIES ARE OPEN OR AVAILABLE DURING THE WINTER MONTHS. IF YOU HAVE ANY QUESTIONS ABOUT WHAT IS AVAILABLE PLEASE CONTACT THE PARK DIRECTLY.

powered by activeNETWORK

Ohio State Parks On-Line Reservations

Parks Home | Contact Parks | ODNR Home

Ohio.gov

Ohio State Parks

Reservation Home
Search By Map / facility
I Know My Park
Check Facility Availability
Find a Map
Gift Card

Log On
My Account
Reservation Details
Change Profile
Change Log In/Email
Change Password
My Points
State Dock Renewal

Shopping Cart
Policies & Discounts
Rewards Program
Troubleshooting
Privacy
Contact Us

There is a water quality advisory for Grand Lake due to an algae toxin. For more information call the EPA at 614-644-2160 or see www.epa.ohio.gov. This does not impact drinking water in the camp.

Search Criteria

Selected Park: GRAND LAKE ST. MARYS STATE PARK

Selected Recreational Facility: Day Use

Select Facility: GRAND LAKE ST. MARYS DAY USE

Arrival Date: May · 25 · 2010 ·

(Arrive between 5/25/2010 and 5/22/2011)

Number Of Days: 1 · Stay Limits

Equipment: Dayuse

Number of People: - Please Select -

Check Availability (Next)

Directions

Amenities

Cancellation/Changes

Season Type	Season Start Date	Season End Date	Check In Time	Check Out Time	Nightly Rate	Max Days Per Stay	Capacity	Max Days Per Season
Specific	4/1/2010	10/31/2010	6:00 AM	11:00 PM	* $50.00	1	100	
Specific	4/1/2011	10/31/2011	6:00 AM	11:00 PM	* $50.00	1	100	

* Prices are subject to change without notice.

Driving Directions

EAST BANK SHELTERHOUSE 1 -- FROM STATE ROUTE 29, EXIT AT STATE ROUTE 364/KOENIG ROAD, GO SOUTH APPROXIMATELY 1/2 MILE TO ROUTE 703 AND TURN LEFT. DRIVE EAST ON 703 ABOUT 1/2 MILE. AND THEN TURN RIGHT INTO THE PARK ENTRANCE. FOLLOW THIS ROAD UNTIL THERE IS A Y IN THE ROAD -- TAKE RIGHT FORK, APPROX. 1/4 MILE THERE IS A SIGN FOR THE EAST BANK ROAD. TURN RIGHT ONTO EAST BANK ROAD AND THE 1ST SHELTERHOUSE WILL BE APPROX. 1/2 MILE ON THE RIGHT HAND SIDE OF THE ROAD.

Proximity

Facility Amenities

Cancellation/Transfer Policy

For changes or cancellations, please contact the reservation center at 1-866-644-6727. You may also cancel your reservation online by logging on to your account and viewing reservation details. Changes or cancellations made up to the close of business 15 days or more prior to your arrival date will result in the loss of the $8.25 reservation fee for each reservation. Changes or cancellations made 14 days or less prior to your scheduled arrival date will result in the loss of the rental fee and the $8.25 reservation fee. If you cancel a reservation, the cancelled facility will not be available for reservation until 7am the following morning when new inventories are released. For changes and cancellations of reservations paid by credit card, you will be required to verify the card number. If you reserve a day use facility for the first day it is available for a reservation, you may not make any changes to that reservation, except for the number of occupants, so long as the maximum capacity of the facility is not exceeded.

Topic	Conditions
ALCOHOL	NO ALCOHOL IS PERMITTED.
GIFT CARD	GUESTS WHO CANCEL A RESERVATION MAY BE OFFERED THEIR REFUND IN THE FORM OF AN OHIO STATE PARK GIFT CARD, WHICH CAN BE USED FOR FUTURE RESERVATIONS OR AS CASH AT ANY OHIO STATE PARK RETAIL LOCATION AND SELECT CONCESSION OPERATED LOCATIONS.

MUST READ -- WATER QUALITY ADVISORY	THERE IS A WATER QUALITY ADVISORY FOR GRAND LAKE DUE TO AN ALGAE TOXIN. FOR MORE INFORMATION CALL THE EPA AT 614-644-2160 OR SEE WWW.EPA.OHIO.GOV. THIS DOES NOT IMPACT DRINKING WATER IN THE CAMP.
NO SHOW POLICY	FAILURE TO ARRIVE ON THE DATE OF THE RESERVATION DOES NOT CONSTITUTE GROUNDS FOR A REFUND. FEES FOR THE UNUSED RESERVATION WILL BE FORFEITED.
OPEN FIRES	NO FIRES ARE PERMITTED EXCEPT IN DESIGNATED AREAS
PET INFORMATION	PETS MUST REMAIN ON A LEASH AT ALL TIMES. PETS MUST BE ATTENDED AT ALL TIMES.
RULES	ALL PARK RULES APPLY TO THE DAY USE AREAS.

powered by activeNETWORK

Ohio State Parks On-Line Reservations

Parks Home | Contact Parks | ODNR Home

Ohio.gov

Ohio State Parks

Reservation Home
Search By Map / facility
I Know My Park
Check Facility Availability
Find a Map
Gift Card

Log On
My Account
Reservation Details
Change Profile
Change Log In/Email
Change Password
My Points
State Dock Renewal

Shopping Cart
Policies & Discounts
Rewards Program
Troubleshooting
Privacy
Contact Us

There is a water quality advisory for Grand Lake due to an algae toxin. For more information call the EPA at 614-644-2160 or see www.epa.ohio.gov. This does not impact drinking water in the camp. From January 1, 2010 to March 31, 2010 camping is Local Sale only. Camping is available with limited facilities open. Please contact the park directly for more details.

Search Criteria

Selected Park: GRAND LAKE ST. MARYS STATE PARK

Selected Recreational Facility: Campsites

Select Campground: GRAND LAKE ST.MARYS NON ELECTRIC

Arrival Date: -- - -- - ---- Directions

(Arrive between 5/22/2010 and 11/22/2010) Amenities

Number Of Nights: 1 Stay Limits Cancellation/Changes

Equipment: - Please Select -

Number of People: - Please Select -

Preferences

Pet: Yes No No Preference

Check Availability (Next)

Season Type	Season Start Date	Season End Date	Check In Time	Check Out Time	Nightly Rate	Max Days Per Stay	Capacity	Max Days Per Season
Specific	4/1/2010	10/31/2010	3:00 PM	1:00 PM	* $22.00	14	6	
Specific	11/1/2010	12/6/2010	3:00 PM	1:00 PM	* $18.00	14	6	

* Prices are subject to change without notice.

Driving Directions

FROM STATE ROUTE 29 EXIT AT ROUTE 364/KOENIG ROAD, GO SOUTH APPROXIMATELY1/2 MILE TO ROUTE 703 AND TURN LEFT. DRIVE EAST ON 703 ABOUT 1/2 MILE. THE PARK ENTRANCE WILL BE ON THE RIGHT/SOUTH SIDE OF THE ROAD. THE CAMP ENTRANCE IS 100 YARDS INTO PARK.

Proximity

WEST CENTRAL OHIO BETWEEN THE TOWNS OF CELINA AND ST. MARYS. INDIAN LAKE AND LAKE LORAMIE STATE PARK ARE WITHIN 1/2 HOUR DRIVE.

Facility Amenities

- FLUSH TOILETS:
- SHOWERS:
- DRINKING WATER:
- PLAYGROUND:
- NATURALIST PROGRAMS:
- PUTT PUTT GOLF:
- BASKETBALL COURT:
- VOLLEYBALL COURT:
- CANOE RENTAL:
- CAMP STORE:
- DUMP STATION:

Cancellation/Transfer Policy

For changes or cancellations, please contact the reservation center at 1-866-644-6727. You may also cancel your reservation online by logging on to your account and viewing reservation details. Changes or cancellations made up to the close of business 31 days or more prior to your scheduled arrival date will result in the loss of the $8.25 reservation fee. Changes or cancellations made 4 to 30 days prior to your arrival will result in the loss of the $8.25 reservation fee and a $10 cancellation fee. Changes or cancellations made 3 days or less prior to your arrival will result in the loss of the $8.25 reservation fee and one night's rental fee. For changes or cancellations made on or after the day of arrival,

please contact the park directly. If you cancel a reservation, the cancelled site or Getaway Rental will not be available for reservation until 7am the following morning when new inventories are released. For changes and cancellations of reservations paid by credit card, you will be required to verify the card number. For each reservation, except those booked on the first day of availability, you will be allowed to make one change or modification per reservation with no penalty. These changes are limited to an occupant change, a site change (which may result in a fee adjustment based on the cost per night of the site), adding a discount, or changing dates as long as the new arrival date is not within the dates of original stay. If at any point, you would like to change or modify this reservation, please contact the Call Center at 1-866-644-6727 for more information. When you complete a reservation the first day it is available, you may not make any changes to that reservation. If you want to modify the reservation, you must cancel the entire reservation and rebook the following day when new site inventories are available.

Topic	Conditions
CANCELLATION/TRANSFER POLICY	EACH RESERVATION, EXCEPT THOSE BOOKED ON THE 1ST DAY OF AVAILABILITY, YOU WILL BE ALLOWED TO MAKE ONE CHANGE OR MODIFICATION PER RESERVATION WITH NO PENALTY. THESE CHANGES ARE LIMITED TO OCCUPANT, SITE, DISCOUNT, OR DATES (NEW ARRIVAL DATE CANNOT BE W/IN THE DATES OF ORIG. STAY).
FIREWOOD ALERT!	OHIO STATE PARKS ARE TRYING TO HELP STOP THE EMERALD ASH BORER. TO OBTAIN DETAILED INFORMATION ON QUARANTINED AREAS AND RULES OF TRANSPORTING FIREWOOD PLEASE CALL OHIO DEPARTMENT OF AGRICULTURE AT 888-644-6322 OR LOG ONTO WWW.AGRI.OHIO.GOV
GENERAL INFORMATION	EMERGENCIES-PAY PHONE LOCATED NEAR NATURE CENTER. PERSONS UNDER 18 MUST HAVE WRITTEN PERMISSION FROM A PARENT. ALCOHOLIC BEVERAGES PROHIBITED. DAMAGE OF TREES, BRANCHES, OR ANY PLANTS PROHIBITED. SPEED LIMIT IN CAMP IS 10 MPH.
GIFT CARD	GUESTS WHO CANCEL A RESERVATION OR ASK FOR A REFUND FOR UNUSED NIGHTS MAY BE OFFERED THEIR REFUND IN THE FORM OF AN OHIO STATE PARK GIFT CARD. THE CARD CAN BE USED FOR FUTURE OVERNIGHT STAYS, TO MAKE A RESERVATION , OR USED AS CASH AT ANY OHIO STATE PARK OR STATE OPERATED RETAIL LOCATION.
GIFT CARD II	GIFT CARDS CAN ALSO BE PURCHASED AT ANY OHIO STATE PARK CAMPGROUND OFFICE OR ANY OHIO STATE OPERATED RETAIL LOCATION.
LATE ARRIVAL	IF ARRIVING MORE THAN 24 HOURS LATE, PLEASE CONTACT THE PARK OFFICE AT 419-394-3611.
LOCAL ATTRACTIONS AND SPECIAL EVENTS	AUGLAIZE AND MERCER COUNTIES, CONVENTION AND VISITORS BUREAU 1-800-860-4726. INTERNET:WWW.SEEMORE.ORG E-MAIL SEEMORE@BRIGHT.NET.
MUST READ -- WATER QUALITY ADVISORY	THERE IS A WATER QUALITY ADVISORY FOR GRAND LAKE DUE TO AN ALGAE TOXIN. FOR MORE INFORMATION CALL THE EPA AT 614-644-2160 OR SEE WWW.EPA.OHIO.GOV. THIS DOES NOT IMPACT DRINKING WATER IN THE CAMP.
NO SHOW POLICY	FAILURE TO ARRIVE ON THE DATE OF RESERVATION DOES NOT CONSTITUTE GROUNDS FOR A REFUND. FEES FOR ANY UNUSED NIGHTS WILL BE FORFEITED.
PET INFORMATION	2 PETS PER SITE. ALL PETS MUST BE ON A LEASH NO LONGER THAN 6 FEET. PETS MAY NOT BE LEFT UNATTENDED. MUTT MUTTS PROVIDED FOR CLEAN-UP.
PRICES	PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.
QUIET HOURS	10 PM TO 8 AM
RESTROOM FACILITIES	SEVEN RESTROOMS IN CAMP, TWO OF WHICH ALSO HAVE SHOWERS. FLUSH TOILETS AND SINKS WITH HOT AND COLD WATER IN THE TWO SHOWER HOUSES. THE OTHER FIVE RESTROOMS ARE COLD WATER ONLY.
SPECIFIC INFORMATION	2 GROUP CAMPS AVAILABLE BY CONTACTING PARK. RESERVATIONS FOR 4 PICNIC SHELTERS AVAILABLE THRU DAY USE FACILITIES.BOAT LAUNCH IN CAMPGROUND FOR REGISTERED CAMPERS ONLY. CAMPGROUND BOAT DOCKS FIRST COME FIRST SERVED & FOR CAMPERS ONLY. THERE IS 1 LAKE BEACH AREA IN THE CAMPGROUND & 2 OUTSIDE CAMP.
VEHICLES PER SITE	ONE VEHICLE PER SITE IN ADDITION TO THE CAMPING UNIT (TRAILER, MOTOR HOME, ETC.). $3 CAR PASS REQUIRED FOR EACH ADDITIONAL VEHICLE.
VISITORS	VISITING HOURS ARE FROM 8 AM UNTIL 10 PM. VISITORS MUST CHECK IN AT THE CAMPGROUND OFFICE.
WATER/ELECTRIC/SEWER	NO FULL HOOKUP SITES. WATER SPIGOTS AVAILABLE IN ALL PARTS OF CAMP. TRAILER DUMP STATION FREE TO REGISTERED CAMPERS, AND $10 TO NON REGISTERED.
WINTER AVAILABILITY	NOT ALL FACILITIES AND AMENITIES ARE OPEN OR AVAILABLE DURING THE WINTER MONTHS. IF YOU HAVE ANY QUESTIONS ABOUT WHAT IS AVAILABLE PLEASE CONTACT THE PARK DIRECTLY.

powered by activenetwork

Buy a Fishing License

Fishing Regulations

Fishing Maps

Fishing Forecast and Current Reports

Fish Ohio

Go Fish! (When, Where, & How)

Fishing Basics: Getting Started

Angler Programs

Pond Management

Fisheries Management

Stream Conservation

Private Fish Suppliers

Aquaculture

Aquatic Invasive Species

Wildlife Publications

A-Z Species Guide

Photo Gallery

WildOhio Cookbook

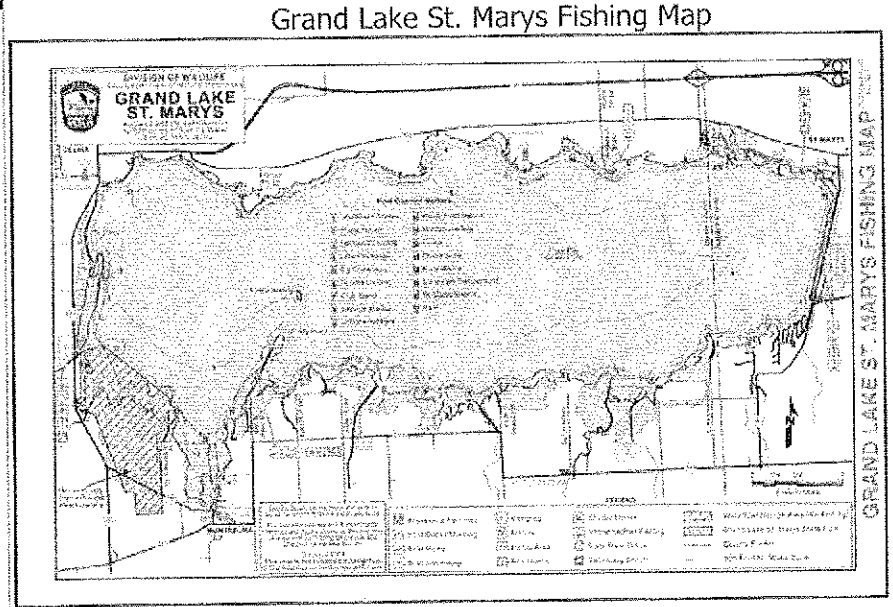
Calendar of Events

Support Ohio's Wildlife

WildOhio Shop

About the Division
- Our Mission
- Wildlife Council
- Wildlife Careers
- Contact Us
- Turn In a Poacher

Grand Lake St. Marys Fishing Map



Grand Lake St. Marys Fishing Map (282 KB)
Enhanced Grand Lake St. Marys Fishing Map (1.3 MB)

Major Sportfish Life Histories

Black Crappie

Bluegill

Bullhead

Channel Catfish

Common Carp

Flathead Catfish

Green Sunfish

Hybrid Striped Bass

Largemouth Bass

Longear Sunfish

Muskellunge

Northern Pike

Pumpkinseed Sunfish

Rainbow Trout

Redear Sunfish

Saugeye

Smallmouth Bass

Walleye

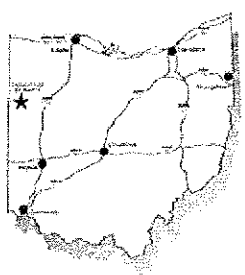
White Bass

White Crappie

Yellow Perch

LOCATION
Grand Lake St. Marys is located in west central Ohio. The city of St. Marys is located near the northeast corner of the lake and Celina is on the northwest corner. State Routes 29, 364, and 703 provide access on the north side of the lake; State Route 364 on the east; State Routes 219 and 703 on the south; and US Route 127 on the west.

Directions to Grand Lake St. Marys (via mapquest)



HISTORY AND DESCRIPTION
Grand Lake St. Marys was constructed from 1837 – 1845 to store water for the Miami-Erie Canal. Two earthen dams were built on the headwaters of two major drainage systems flooding the area between them. The spillway on the west end discharges water into the Wabash and Ohio River drainage systems; water from the east end spillway flows into the St. Marys River, and from there into the Maumee River and Lake Erie. The lake covers approximately 12,680 acres and is Ohio's largest inland lake entirely within state borders.

Most of the lake is less than 7 feet deep with a soft bottom of silt. Some isolated areas of sandy or clay bottoms exist where wave action keeps the bottom cleaner. Lots of rock rip rap has been added to reduce shoreline erosion; these rocky shorelines provide cover for several species of fish. Numerous boat docks, shoreline brush, and fallen trees provide cover for fish.

The lake is approximately 9 miles long and 3 miles wide. The prevailing westerly winds commonly create whitecaps; strong winds can create dangerous wave conditions. Small boat operators should exercise extreme caution when traveling across the lake.

FISHES OF INTEREST TO ANGLERS
Largemouth bass, white and black crappies, bluegills, walleye, channel and flathead catfish, yellow perch, bullheads, carp, and suckers are found in the lake. Gizzard shad is the primary forage species for predators.

METHODS OF FISHING AND BEST FISHING SITES
Crappies are taken throughout the lake by fishing around shoreline brush, fallen trees, or around boat docks. Live minnows or small jigs with plastic bodies are good baits. Largemouth bass are taken along rip rap shorelines or near shoreline brush and boat docks using spinner baits, crank baits, jigs, plastic baits, and live night crawlers. Bluegills can be taken around shoreline structure using red worms or wax worms on small hooks. For bass, bluegills, and crappies, the numerous tributaries and boat channels along the south shore are popular locations. Channel catfish are taken by bottom fishing with night crawlers, chicken liver, shrimp, or cut fish bait. Flathead catfish are usually caught while bottom fishing with large live bait, such as chubs, bluegill, or green sunfish. The best bullhead fishing occurs in the spring using red worms or night crawlers fished near the bottom. Walleye can be taken with lead head jigs and plastic curly tails, live night crawler rigs, or crank baits. The tailwater below the West Bank spillway is a productive walleye location. Yellow perch are caught using live minnows or red worms fished near the bottom. Ice fishing can be productive for crappies, bluegills, and perch.

RECREATIONAL FACILITIES AND OPPORTUNITIES
The ODNR Division of Parks & Recreation operates and maintains 7 boat ramps, a marina with rental boats, seasonal rental docks, two swimming beaches, picnic areas and picnic shelters (some shelters can be reserved), handicap accessible shoreline fishing piers, and a campground. The Class A campground offers 204 campsites with electricity, camper cabins, cedar cabins, flush toilets, showers, a trailer waste dump station, a nature center, and a boat ramp with overnight courtesy docks.

FISH OHIO
Anglers who catch big fish should enter their prize in the Fish Ohio angler recognition program. A fish qualifies for an award if it meets the minimum size requirements set for the Fish Ohio program. Applications are available online at FishOhio.org.

FISH MANAGEMENT ACTIVITIES
Fish management activities by the Division of Wildlife include monitoring the fish populations with sampling equipment and studying water quality. The walleye fishery is maintained by annual stockings of walleye fingerlings.

ADDITIONAL INFORMATION
The nearest district office is located at Wildlife District Five, 1076 Old Springfield Pike, Xenia, Ohio 45385; telephone (937) 372-9261. To get other maps or publications call toll free 1-800-WILDLIFE.

For information on state park facilities, contact Grand Lake St. Marys State Park, 834 Edgewater Dr., St. Marys, Ohio 45885; telephone (419) 394-3611.

TURN IN A POACHER
Ohio's TIP, "Turn In a Poacher," program is helping to control poaching throughout the state. TIP is designed to involve the public in reporting wildlife violations. Citizens who observe wildlife violations should call the TIP toll-free hotline, 1-800-POACHER.

Return to the Lake Maps Listing Page

Hunting & Fishing Regulations

License & Permit Finder

Hunting Regulations

Trapping Regulations

Fishing Regulations

Apprentice Hunting

Season Dates and Bag Limits

Sunrise & Sunset Charts

Buy Licenses or Permits

Find a Checkstation

View Ohio Wildlife Laws and Rules

Historical License Sales Information

Based on your selections, here are your license and permit options for **Fishing**.

YOUR LICENSE OPTIONS

License Type	Cost	Action
For persons age 16 through 65 who have resided in Ohio for the past 6 months.		
Resident Fishing License	$19.00	Select this option
For residents and non-residents the One-Day Fishing License may be exchanged for credit towards the purchase of an annual fishing license (minus writing fee). Good for date of purchase only.		
One-day Fishing License (over age 15)	$11.00	Select this option

WHEN YOU CAN FISH

Fishing Season	Opening Date	Closing Date
Fish	Year-Round	
Frog Season	June 15, 2009 (6 p.m.)	April 30, 2010
Snapping and Softshell Turtle Season	June 15, 2009 (6 p.m.)	April 30, 2010

SHOW ME A SUMMARY

What It Costs to Register a Boat

The fees you pay to register your boat are deposited in the Waterways Safety Fund, which is used to operate Ohio's boating program. Ohio's boat registrations are renewed triennially, which means **decals are valid for three years.**

All registration fees include a $3 writing fee which goes to the agent where you buy your registration.

Fees do NOT include the 3-inch block letters that are displayed on a traditional registration. It is the boat owner's responsibility to display the boat's "OH" numbers in accordance with federal law. The Alternative Registration for hand-powered vessels does not require the display of "OH" numbers.

Beginning with registrations issued for 2010, non-motorized boats are assessed a $5 Waterway Conservation Fee.

NOTE: If you attach a motor (permanently or not) to a vessel registered as "hand-powered," you must change the Type of Propulsion on your registration. See **Add-a-Motor Proration Fees** below. The proration is only valid for traditional registrations that are adding a motor, and the change must be made at a watercraft registration agent's office.

Powered By Motor	Fee
Boats less than 16' long	$33.00
Boats 16' long but less than 26' long	$48.00
Boats 26' long but less than 40' long	$63.00
Boats 40' long but less than 65' long	$78.00
Boats 65' long and longer	$93.00

Powered By Sail Only (no motor)	Fee
Boats less than 16' long	$38.00
Boats 16' long but less than 26' long	$53.00
Boats 26' long but less than 40' long	$68.00
Boats 40' long but less than 65' long	$83.00
Boats 65' long and longer	$98.00

Hand Powered (canoes, kayaks, rowboats, inflatables, racing shells, rowing sculls, pedal boats)	Fee
Traditional Registration (two decals provided; you supply OH numbers)	$20.00
Alternative Registration (one decal provided; no OH numbers required; see details about where you can obtain one)	$25.00

Add-A-Motor Proration Fees

Fee is prorated based on time remaining on current registration

Boat Length	Years Remaining on Current Registration		
	3 Years	2 Years	1 Year
Under 16' and all canoes	$21.00	$15.00	$9.00
16' less than 26'	$36.00	$25.00	$14.00
26' less than 40'	$51.00	$35.00	$19.00
40' less than 65'	$66.00	$45.00	$24.00
Over 65'	$81.00	$55.00	$29.00

Cost to Transfer Title to a New Owner: $5

A title is required for all boats 14' and greater in length (except canoes and kayaks), outboard motors of 10 or more horsepower, and Personal Watercraft (PWC). Titles are handled by county Clerks of Court. Contact the Clerk of Court in your area for more information on obtaining title information. The title must reflect the current/new owner of a boat before a registration can be written to that person.

Cost to Transfer Registration to Another Owner: $5

For unexpired registrations only.

Mailing Address:
2045 Morse Road
Building A
Columbus, OH
43229

Mercer County

BODY OF WATER	ACREAGE	HP LIMIT	LAUNCH RAMP	FISHING	SAILING	CANOEING	SKIING	PICNIC AREA	RENTAL DOCKS	FUEL	RENTAL BOATS	SCUBA DIVING	SWIMMING	ICE BOATING	SPECIAL NOTES
Grand Lake St. Marys Grand Lake St. Marys State Park 419/394-3611	13,849	U	X	X	X	X	X	X	X	X	X		X	X	airboats, hovercraft in ski/open zones

Mercer County Map (PDF) of Boat Access Sites

Register Your Boat
Where to Boat
Ohio Boat Access Sites GIS
A List by County
Rivers & Streams
Water Trails
Water Releases
Lake Erie
Ohio River
Education
Boating Laws
Scenic Rivers
News & Events
Publications & Data
Safety Tips
Common Questions
Clean Boating
Grants
Forms

Mailing Address:
2045 Morse Road
Building A
Columbus, OH
43229

back to Areas by County

Key

E - Electric Motors Only
Fee - Ramp-use fee may be collected
NM - No Motors
U - Unlimited
***** - Horsepower unlimited, but craft may be restricted due to water depth

Online Resources

Boat Access Sites GIS - database-driven, on-the-fly maps

Download a KML file (680K) for use with Google Earth - Ohio Boat Access KML

Auglaize County

back to Areas by County

Register Your Boat

Where to Boat

Ohio Boat Access Sites GIS

A List by County

Rivers & Streams

Water Trails

Water Releases

Lake Erie

Ohio River

Education

Boating Laws

Scenic Rivers

News & Events

Publications & Data

Safety Tips

Common Questions

Clean Boating

Grants

Forms

BODY OF WATER	ACREAGE	HP LIMIT	LAUNCH RAMP	FISHING	SAILING	CANOEING	SKIING	PICNIC AREA	RENTAL DOCKS	FUEL	RENTAL BOATS	SCUBA DIVING	SWIMMING	ICE BOATING	SPECIAL NOTES
Auglaize R.	river	*	X	X		X		X			X				
Grand Lake St. Marys Grand Lake St. Marys State Park 419/394-3611	13,849	U	X	X	X	X	X	X	X	X	X		X	X	airboats, hovercraft in ski/open zones

Auglaize County Map (PDF) of Boat Access Sites

Key

E - Electric Motors Only
Fee - Ramp-use fee may be collected
NM - No Motors
U - Unlimited
*** -** Horsepower unlimited, but craft may be restricted due to water depth

Online Resources

Boat Access Sites GIS - database-driven, on-the-fly maps

Download a KML file (680K) for use with Google Earth - Ohio Boat Access KML

Mailing Address:
2045 Morse Road
Building A
Columbus, OH
43229

Ohio State Parks On-Line Reservations

Parks Home | Contact Parks | ODNR Home

Ohio.gov

Ohio State Parks

Reservation Home
Search By Map / facility
I Know My Park
Check Facility Availability
Find a Map
Gift Card

Log On
My Account
Reservation Details
Change Profile
Change Log In/Email
Change Password
My Points
State Dock Renewal

Shopping Cart
Policies & Discounts
Rewards Program
Troubleshooting
Privacy
Contact Us

There is a water quality advisory for Grand Lake due to an algae toxin. For more information call the EPA at 614-644-2160 or see www.epa.ohio.gov. This does not impact drinking water in the camp. From January 1, 2010 to March 31, 2010 camping is Local Sale only. Camping is available with limited facilities open. Please contact the park directly for more details.

Search Criteria

Selected Park: GRAND LAKE ST. MARYS STATE PARK

Selected Recreational Facility: Campsites

Select Campground: GRAND LAKE ST. MARYS ELECTRIC

Arrival Date: May 22 2010

Directions

(Arrive between 5/22/2010 and 11/22/2010)

Amenities

Number Of Nights: 1 Stay Limits

Cancellation/Changes

Equipment: - Please Select -

Number of People: - Please Select -

Preferences

Pet: Yes No No Preference

Check Availability (Next)

Season Type	Season Start Date	Season End Date	Check In Time	Check Out Time	Nightly Rate	Max Days Per Stay	Capacity	Max Days Per Season
Specific	4/1/2010	10/31/2010	3:00 PM	1:00 PM	* $26.00	14	6	
Specific	11/1/2010	12/6/2010	3:00 PM	1:00 PM	* $22.00	14	6	

* Prices are subject to change without notice.

Driving Directions

FROM STATE ROUTE 29 EXIT AT ROUTE 364/KOENIG ROAD, GO SOUTH APPROXIMATELY1/2 MILE TO ROUTE 703 AND TURN LEFT. DRIVE EAST ON 703 ABOUT 1/2 MILE. THE PARK ENTRANCE WILL BE ON THE RIGHT/SOUTH SIDE OF THE ROAD. THE CAMP ENTRANCE IS 100 YARDS INTO PARK.

Proximity

WEST CENTRAL OHIO BETWEEN THE TOWNS OF CELINA AND ST. MARYS. INDIAN LAKE AND LAKE LORAMIE STATE PARK ARE WITHIN 1/2 HOUR DRIVE.

Facility Amenities

- DRINKING WATER:
- SHOWERS:
- FLUSH TOILETS:
- PLAYGROUND:
- NATURALIST PROGRAMS:
- PUTT PUTT GOLF:
- BASKETBALL COURT:
- VOLLEYBALL COURT:
- CANOE RENTAL:
- CAMP STORE:
- DUMP STATION:
- BIKE RENTAL:
- HORSESHOE PITS:

Cancellation/Transfer Policy

For changes or cancellations, please contact the reservation center at 1-866-644-6727. You may also cancel your reservation online by logging on to your account and viewing reservation details. Changes or cancellations made up to the close of business 31 days or more prior to your scheduled arrival date will result in the loss of the $8.25 reservation fee. Changes or cancellations made 4 to 30 days prior to your arrival will result in the loss of the $8.25 reservation fee

and a $10 cancellation fee. Changes or cancellations made 3 days or less prior to your arrival will result in the loss of the $8.25 reservation fee and one night's rental fee. For changes or cancellations made on or after the day of arrival, please contact the park directly. If you cancel a reservation, the cancelled site or Getaway Rental will not be available for reservation until 7am the following morning when new inventories are released. For changes and cancellations of reservations paid by credit card, you will be required to verify the card number. For each reservation, except those booked on the first day of availability, you will be allowed to make one change or modification per reservation with no penalty. These changes are limited to an occupant change, a site change (which may result in a fee adjustment based on the cost per night of the site), adding a discount, or changing dates as long as the new arrival date is not within the dates of original stay. If at any point, you would like to change or modify this reservation, please contact the Call Center at 1-866-644-6727 for more information. When you complete a reservation the first day it is available, you may not make any changes to that reservation. If you want to modify the reservation, you must cancel the entire reservation and rebook the following day when new site inventories are available.

Topic	Conditions
CANCELLATION/TRANSFER POLICY	EACH RESERVATION, EXCEPT THOSE BOOKED ON THE 1ST DAY OF AVAILABILITY, YOU WILL BE ALLOWED TO MAKE ONE CHANGE OR MODIFICATION PER RESERVATION WITH NO PENALTY. THESE CHANGES ARE LIMITED TO OCCUPANT, SITE, DISCOUNT, OR DATES (NEW ARRIVAL DATE CANNOT BE W/IN THE DATES OF ORIG. STAY).
FIREWOOD ALERT!	OHIO STATE PARKS ARE TRYING TO HELP STOP THE EMERALD ASH BORER. TO OBTAIN DETAILED INFORMATION ON QUARANTINED AREAS AND RULES OF TRANSPORTING FIREWOOD PLEASE CALL OHIO DEPARTMENT OF AGRICULTURE AT 888-644-6322 OR LOG ONTO WWW.AGRI.OHIO.GOV
GENERAL INFORMATION	EMERGENCIES-PAY PHONE LOCATED NEAR NATURE CENTER. PERSONS UNDER 18 MUST HAVE WRITTEN PERMISSION FROM A PARENT. ALCOHOLIC BEVERAGES PROHIBITED. DAMAGE OF TREES, BRANCHES, OR ANY PLANTS PROHIBITED. SPEED LIMIT IN CAMP IS 10 MPH.
GIFT CARD	GUESTS WHO CANCEL A RESERVATION OR ASK FOR A REFUND FOR UNUSED NIGHTS MAY BE OFFERED THEIR REFUND IN THE FORM OF AN OHIO STATE PARK GIFT CARD. THE CARD CAN BE USED FOR FUTURE OVERNIGHT STAYS, TO MAKE A RESERVATION , OR USED AS CASH AT ANY OHIO STATE PARK OR STATE OPERATED RETAIL LOCATION.
GIFT CARD II	GIFT CARDS CAN ALSO BE PURCHASED AT ANY OHIO STATE PARK CAMPGROUND OFFICE OR ANY OHIO STATE OPERATED RETAIL LOCATION.
LATE ARRIVAL	IF ARRIVING MORE THAN 24 HOURS LATE, PLEASE CONTACT THE PARK OFFICE AT 419-394-3611.
LOCAL ATTRACTIONS AND SPECIAL EVENTS	AUGLAIZE AND MERCER COUNTIES, CONVENTION AND VISITORS BUREAU 1-800-860-4726. INTERNET;WWW.SEEMORE.ORG E-MAIL SEEMORE@BRIGHT.NET.
MUST READ – WATER QUALITY ADVISORY	THERE IS A WATER QUALITY ADVISORY FOR GRAND LAKE DUE TO AN ALGAE TOXIN. FOR MORE INFORMATION CALL THE EPA AT 614-644-2160 OR SEE WWW.EPA.OHIO.GOV. THIS DOES NOT IMPACT DRINKING WATER IN THE CAMP.
NO SHOW POLICY	FAILURE TO ARRIVE ON THE DATE OF RESERVATION DOES NOT CONSTITUTE GROUNDS FOR A REFUND. FEES FOR ANY UNUSED NIGHTS WILL BE FORFEITED.
PET INFORMATION	2 PETS PER SITE. ALL PETS MUST BE ON A LEASH NO LONGER THAN 6 FEET, PETS MAY NOT BE LEFT UNATTENDED. MUTT-MITTS PROVIDED FOR CLEAN-UP
PRICES	PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.
QUIET HOURS	10 PM TO 8 AM
RESTROOM FACILITIES	SEVEN RESTROOMS IN CAMP, TWO OF WHICH ALSO HAVE SHOWERS. FLUSH TOILETS AND SINKS WITH HOT AND COLD WATER IN THE TWO SHOWER HOUSES. THE OTHER FIVE RESTROOMS ARE COLD WATER ONLY.
SPECIFIC INFORMATION	2 GROUP CAMPS AVAILABLE BY CONTACTING PARK. RESERVATIONS FOR 4 PICNIC SHELTERS AVAILABLE THRU DAY USE FACILITIES.BOAT LAUNCH IN CAMPGROUND FOR REGISTERED CAMPERS ONLY. CAMPGROUND BOAT DOCKS FIRST COME FIRST SERVED & FOR CAMPERS ONLY. THERE IS 1 LAKE BEACH AREA IN THE CAMPGROUND & 2 OUTSIDE CAMP.
VEHICLES PER SITE	ONE VEHICLE PER SITE IN ADDITION TO THE CAMPING UNIT (TRAILER, MOTOR HOME, ETC.). $3 CAR PASS REQUIRED FOR EACH ADDITIONAL VEHICLE.
VISITORS	VISITING HOURS ARE FROM 8AM UNTIL 10PM. VISITORS MUST CHECK IN AT THE CAMPGROUND OFFICE.
WATER/ELECTRIC/SEWER	NO FULL HOOKUP SITES. WATER SPIGOTS AVAILABLE IN ALL PARTS OF CAMP. TRAILER DUMP STATION FREE TO REGISTERED CAMPERS, AND $10 TO NON REGISTERED.
WINTER AVAILABILITY	NOT ALL FACILITIES AND AMENITIES ARE OPEN OR AVAILABLE DURING THE WINTER MONTHS. IF YOU HAVE ANY QUESTIONS ABOUT WHAT IS AVAILABLE PLEASE CONTACT THE PARK DIRECTLY.

powered by active NETWORK

AFFIDAVIT OF MARTHA C. BREWER

STATE OF OHIO,)
) ss:
COUNTY OF FRANKLIN,)

My name is Martha C. Brewer. I am over the age of 21, and I am competent to make this affidavit. The facts stated herein are within my personal knowledge and are true and correct. I state as follows:

1. I am an associate attorney with the law firm of Vorys, Sater, Seymour and Pease LLP, counsel for the Relators in this action.

2. I prepared the document entitled "Addendum A: Summary of Damages" by reviewing the affidavits and deposition transcripts of the Relators, Michael D. Highley, Michael Post, and Gary Uhlenhake. Attached as Exhibit 1 is a true and accurate copy of Addendum A: Summary of Damages.

3. I prepared the document entitled "Addendum B: Evidence in Support of Claims," by reviewing the affidavits and deposition transcripts of the Relators, Michael D. Highley, Michael Post, Gary Uhlenhake, Pressley L. Campbell, Ph.D., P.E., Richard M. Vannatta, James Moir, Keith Earley, P.E., and Jay Gould, the affidavit of Jeanelle Braun, and the deposition transcript of James Garret (including exhibits). Attached as Exhibit 2 is a true and accurate copy of Addendum B: Evidence in Support of Claims.

4. I prepared the document entitled "Addendum C: ODNR's Admissions" by reviewing the affidavits, deposition transcript, and deposition exhibits of Tadd Henson along with the Stantec Report entitled, "Grand Lake St. Marys and Beaver Creek Hydrologic and Hydraulic Analysis – Discussion of Results and other Analysis," Tables 1-7 and the maps

located at Appendix A. Attached as Exhibit 3 is a true and accurate copy of Addendum C: ODNR's Admissions.

5. I prepared the document entitled "Addendum D: Stantec's Serial Revisions to Data and Mapping," by reviewing affidavits, deposition transcript, in particular pages 30-42, and deposition exhibits, in particular Exhibit L, of Tadd Henson along with the Stantec Report entitled, "Grand Lake St. Marys and Beaver Creek Hydrologic and Hydraulic Analysis – Discussion of Results and other Analysis," Tables 1-7 and the maps located at Appendix A. Attached as Exhibit 4 is a true and accurate copy of Addendum D: Stantec's Serial Revisions to Data and Mapping.

FURTHER AFFIANT SAYETH NAUGHT.

Martha C. Brewer

Sworn to before me and subscribed in my presence this 31st day of May, 2010.

NOTARIAL SEAL STATE OF OHIO

ROBERT JOSEPH KRUMMEN
Attorney at Law
Notary Public, State of Ohio
My Commission Has No Expiration
Section 147.03 R.C.

Notary Public

EXHIBIT A TO AFFIDAVIT OF MARTHA C. BREWER

EXHIBIT tabbies A

ADDENDUM A: SUMMARY OF DAMAGES

Owner	Parcel No.	Acres Impacted	Increased Frequency	Greater Duration	Greater Acres Impacted	Damage Suffered[1]
Janet K. Doner; Wayne T. Doner; David M. Doner; Karen S. Doner	28-011700.0000 28-012200.0000	35.5 67	Yes	Yes	Yes	CL, FE, BE, DSS, D, TF, SC, DF, DMV, LTA
Janet K. Doner; Wayne T. Doner	28-012300.0000	17	Yes	Yes	Yes	CL, FE, BE, DSS, D, TF, SC, DF, DMV, LTA
Wayne T. Doner	28-010500.0000	57	Yes	Yes	Yes	CL, FE, DSS, D, TF, SC, DF, DMV
Janet K. Doner; Wayne T. Doner; David M. Doner	28-011300.0000	29.46	Yes	Yes	Yes	CL, FE, BE, DSS, D, TF, SC, DF, DMV, LTA
Richard L. Adams; Nancy L. Adams	42-005800.0000 42-003700.0000	7.5 7	Yes	Yes	Yes	CL, FE, D, TF, DMV, LTA
The Baucher Farms, Inc.	26-043100.0000 42-017300.0000	8.5 7	Yes	Yes	Yes	CL, FE, DSS, D, TF, SC, DMV
Joyce A. Dwenger; Lawrence J. Dwenger	26-041200.0100	6	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, TF, DMV
Stanley M. Ebbing; Vicki L. Ebbing	26-041000.0000 26-047200.0100	25 8	Yes	Yes	Yes	FE, DSS, D, SC, TF, DMV
Carman R. Ellis; Jill E. Ellis	26-049300.0100	0.902	Yes	Yes	Yes	DF, DSS, D, DMV
H. Edward Gilbert; Mary E. Gilbert	26-041200.0000	27.8	Yes	Yes	Yes	CL, FE, BE, DSS, D, DMV, LTA
David L. Granger, Trustee of the David L. Granger and Esther L. Granger Living Trust	42-004100.0000	44.5	Yes	Yes	Yes	CL, FE, BE, DSS, D, DF, DMV
Patricia L. Highley; Robert E. Highley	26-041400.0000 42-003500.0000 42-004500.0000	77 } 39 total	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, TF, DF, DMV, LTA

[1] CL: crop loss and/or loss of crop yield; TF: drainage tile failure; FE: field erosion; BE: bank erosion; DSS: deposit of sand, silt, and/or stones; D: other debris; DF: destruction of foliage, including trees, shrubs, vines and/or bushes; SC: soil compaction; DMV: decrease in market value; LTA: indefinite loss of tillable acres.

ADDENDUM A: SUMMARY OF DAMAGES

Owner	Parcel No.	Acres Impacted	Increased Frequency	Greater Duration	Greater Acres Impacted	Damage Suffered[1]
Emily A. Hines; Jason E. Hines	26-049300.0200	1.1	Yes	Yes	Yes	DMV, flooding of and damage to residence, loss of flood insurance, loss of mortgage, and inability to sell property
Daniel W. Johnsman	26-038300.0200	13	Yes	Yes	Yes	CL, FE, BE, DSS, D, TF, SC, DMV
David A. Johnsman	26-029500.0100 26-048600.0000	2 36	Yes	Yes	Yes	CL, FE, BE, DSS, D, TF, SC, DF, DMV
David A. Johnsman, self and as Trustee of Ruth M. Johnsman Irrevocable Trust and as a Trustee of the Leroy J. Johnsman Irrevocable Trust and the Leroy J. Johnsman Irrevocable Trust	26-024700.0000 26-038300.0000	0.25 30	Yes	Yes	Yes	CL, FE, BE, DSS, D, TF, SC, DF, DMV
Jean A. Karr; William Ransbottom	28-013500.0000 28-013400.0000	22 142	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, TF, DF, DMV
Andrea M. Knapke; Chad M. Knapke	29-003600.0000 29-003500.0000	All 50 All 31	Yes	Yes	Yes	CL, BE, DSS D, SC, TF, DMV
Mark L. Knapke as Trustee of the Mark L. Knapke Revocable Living Trust	29-002400.0000	All 34.5	Yes	Yes	Yes	CL, FE, DSS, D, SC, TF, DMV
Timothy A. Knapke	29-003700.0000	93	Yes	Yes	Yes	CL, BE, DSS D, SC, TF, DMV, LTA
Thomas L. Krick; Candace L. Krick	27-012600.0000 27-013500.0000	} 0.7 total	Yes	Yes	Yes	DSS, D, DMV, flooding of retail appliance store causing temporary closure and relocation, destroying carpeting, drywall, and insulation
Darrell D. Kuhn	42-001200.0000	64	Yes	Yes	Yes	CL, FE, BE, DSS, SC, TF, DMV, flooding of and damage to a hog house and manure pit
Marvin E. Kuhn	28-017400.0100	9	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, TF, DMV
Estate of Marilyn M. Kuhn	42-000200.0000	109	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, TF, DMV

[1] CL: crop loss and/or loss of crop yield; TF: drainage tile failure; FE: field erosion; BE: bank erosion; DSS: deposit of sand, silt, and/or stones; D: other debris; DF: destruction of foliage, including trees, shrubs, vines and/or bushes; SC: soil compaction; DMV: decrease in market value; LTA: indefinite loss of tillable acres.

ADDENDUM A: SUMMARY OF DAMAGES

Owner	Parcel No.	Acres Impacted	Increased Frequency	Greater Duration	Greater Acres Impacted	Damage Suffered[1]
Linda B. Linn; Lee A. Fenning	29-002200.0000	10	Yes	Yes	Yes	CL, DSS, D, DMV
David J. McDonough; Deborah A. McDonough	26-038100.0000	25	Yes	Yes	Yes	CL, FE, BE, DSS, D, TF, DMV
David J. McNeilan	26-027300.0500 26-027400.0000	45 17	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, DF, DMV
David J. McNeilan; Laura B. McNeilan	26-027500.0000	26	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, DF, DMV
Lois J. McNeilan	26-027200.0000	65	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, DF, DMV
Charles J. Meier	26-052600.0000 26-052700.0000	All 18.72 58.6	Yes	Yes	Yes	CL, BE, D, SC, TF, DMV, flooding of and damage to barn and residence
Charles J. Meier; Mary K. Meier	26-052700.0100	1	Yes	Yes	Yes	CL, BE, D, SC, TF, DMV, flooding of and damage to barn and residence
Jerome L. Meyer; Amy L. Meyer	42-001000.0000 42-019700.0000 42-019800.0000	26.5 20 28	Yes	Yes	Yes	CL, FE, BE, DSS, D, TF, DF (including apple orchard) , DMV
William M. Muhlenkamp	29-003300.0000 29-004400.0000	All 70 30.2	Yes	Yes	Yes	CL, DSS, D, DMV
Carolyn J. Pierstorff; Thomas D. Rasawehr; Timothy Rasawehr	42-001300.0000	55	Yes	Yes	Yes	CL, FE, BE, D, SC, TF, DMV, LTA
Opal L. Post	29-004200.0000 28-011400.0000	124 All 45	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, TF, DF, DMV
Jerry W. Powell, Betty L. Powell, Trustees of the Powell Living Trust dated December 22, 2005; Paul A. Agnello; Rhonda E. Powell	28-010400.0000 42-014000.0000	19 1.5	Yes	Yes	Yes	CL, FE, DSS, D, SC, DMV

1 CL: crop loss and/or loss of crop yield; TF: drainage tile failure; FE: field erosion; BE: bank erosion; DSS: deposit of sand, silt, and/or stones; D: other debris; DF: destruction of foliage, including trees, shrubs, vines and/or bushes; SC: soil compaction; DMV: decrease in market value; LTA: indefinite loss of tillable acres.

ADDENDUM A: SUMMARY OF DAMAGES

Owner	Parcel No.	Acres Impacted	Increased Frequency	Greater Duration	Greater Acres Impacted	Damage Suffered[1]
Jerry W. Powell, Betty L. Powell, Trustees of the Powell Living Trust dated December 22, 2005	28-010400.0000 42-014000.0000 42-024200.0000 42-016900.0000	19 1.5 31 41	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, DMV
M. Leone Powell; Larry V. Pugsley	42-003800.0000 42-003400.0000	All 18.2 All 44.2	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, DMV
Brenda S. Powell; Thomas L. Powell	28-010400.0100 42-014000.0100	8 0.25	Yes	Yes	Yes	CL, FE, BE, DSS, D, TF, SC, DMV, severe damage to residence
Carl. W. Rose; Lucile M. Rose	42-018500.0000	31	Yes	Yes	Yes	CL, BE, D, TF, DMV
Dorothy K. Schroyer	42-005700.0000	21	Yes	Yes	Yes	CL, FE, D, TF, DMV
Bonita S. Searight; Robert E. Searight	26-011900.0000 26-030700.0200 26-030700.0000 26-030700.0300	1.25 36.5 1 0.75	Yes	Yes	Yes	CL, FE, D, TF, SC, DMV, LTA
Duane R. Sheets	28-010900.0000 28-012900.0000	} 45 total	Yes	Yes	Yes	CL, FE, BE, D, DMV
Linda J. Sheets; Rodney R. Sheets	28-011000.0000	39.25 (includes 28-011100.0000)	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, DMV, damage to structures, including two hog houses, pole barn, and feed shed
Rodney R. Sheets	28-011100.0000	39.25 (includes 28-011000.0000)	Yes	Yes	Yes	CL, FE, BE, DSS D, SC, DMV, and damage to structures, including two hog houses, pole barn, and feed shed
Jeff A. Siefring	26-044100.0100 26-044100.0200	} 24 total	Yes	Yes	Yes	CL, FE, DSS, D, SC, DMV
Mark A. Siefring; Ronald J. Siefring	42-020000.0000	17	Yes	Yes	Yes	CL, FE, BE, D, SC, DMV
Mark A. Siefring; Carol L. Siefring	42-001000.0100	13	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, TF, DMV
Neil J. Siefring; Mary K. Siefring	26-041500.0000	25	Yes	Yes	Yes	DSS, SC, DMV

[1] CL: crop loss and/or loss of crop yield; TF: drainage tile failure; FE: field erosion; BE: bank erosion; DSS: deposit of sand, silt, and/or stones; D: other debris; DF: destruction of foliage, including trees, shrubs, vines and/or bushes; SC: soil compaction; DMV: decrease in market value; LTA: indefinite loss of tillable acres.

ADDENDUM A: SUMMARY OF DAMAGES

Owner	Parcel No.	Acres Impacted	Increased Frequency	Greater Duration	Greater Acres Impacted	Damage Suffered[1]
Ronald J. Siefring; Carol L. Siefring	42-000100.0000	19.5	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, TF, DMV
David J. Suhr; Rita K. Suhr	26-040900.0000 26-039200.0200	1.5 21	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, DMV
Rita K. Suhr	26-039100.0500 26-004200.0101	33 4	Yes	Yes	Yes	CL, FE, BE, DSS, D, SC, DMV
Carl A. Sutter; Judith A. Sutter	28-015300.0000	67	Yes	Yes	Yes	CL, FE, D, DMV
Gale A. Thomas; Nelda G. Thomas	28-013800.0000	81	Yes	Yes	Yes	CL, FE, BE, D , DMV, LTA
Marilyn L. Uhlenhake	26-042900.0100	All 21.61	Yes	Yes	Yes	CL, FE, BE, D, TF, SC, DMV, LTA
Jerry Weisman; Vicki L. Weisman	42-000300.0100	61	Yes	Yes	Yes	CL, D, SC, DMV
Charles F. Zumberge, Trustee of the Virginia L. Zumberge dated January 31, 1990 & Trustee of the John H. Zumberge Trust dated January 31, 1990	26-022600.0000 26-051000.0000 26-052900.0000	} 142 total	Yes	Yes	Yes	CL, BE, DSS, D, SC, DMV
Jennifer M. Zumberge	26-042800.0000	1.85	Yes	Yes	Yes	D, BE, DMV, yard damage, flooding of and damage to garage, crawl space under residence, personal property loss
Z-Farms Inc.	26-051400.0000 26-049500.0000	6 72	Yes	Yes	Yes	CL, BE, DSS, D, SC, DMV

[1] CL: crop loss and/or loss of crop yield; TF: drainage tile failure; FE: field erosion; BE: bank erosion; DSS: deposit of sand, silt, and/or stones; D: other debris; DF: destruction of foliage, including trees, shrubs, vines and/or bushes; SC: soil compaction; DMV: decrease in market value; LTA: indefinite loss of tillable acres.

EXHIBIT B TO AFFIDAVIT OF MARTHA C. BREWER

EXHIBIT
tabbies
B

ADDENDUM B: EVIDENCE IN SUPPORT OF CLAIMS

Parcel No.	Owner	Affidavit cites[1]	Deposition cites[2]
28-011700.0000 28-012200.0000	Janet K. Doner; Wayne T. Doner; David M. Doner; Karen S. Doner	Relators' Presentation of Evidence ("P.E.") P.E. Tab 1, Aff. of Janet K. Doner; P.E. Tab 2, Aff. of Wayne T. Doner; P.E. Tab 3, Sup. Aff. of Wayne T. Doner; P.E. Tab 4, Second Sup. Aff. of Wayne T. Doner.	Joint Exhibit ("J.E.") Tab 8, Dep. of Wayne T. Doner at p. 13-15, 18-21, 23-25, 34, 39-41, 42-44, 45-48, 49-51, 52-64, 66-68, 70-75; J.E. Tab 6, Dep. of Janet K. Doner at p. 15-21, 24-29, 38-44, 47-57, 61-64 ; J.E. Tab 7, Dep. of Karen S. Doner at p. 14-15, 19, 24, 26-27, 30; J.E. Tab 8, Dep. of David M. Doner at p. 15-18, 20-24, 26-27, 33.
28-012300.0000	Janet K. Doner; Wayne T. Doner	P.E. Tab 1, Aff. of Janet K. Doner; P.E. Tab 2, Aff. of Wayne T. Doner; P.E. Tab 3, Sup. Aff. of Wayne T. Doner; P.E. Tab 4, Second Sup. Aff. of Wayne T. Doner.	J.E. Tab 8, Dep. of Wayne T. Doner at p. 13-15, 30-31, 39-41, 52-54, 55-56, 59-60, 65-67, 71-75; J.E. Tab 6, Dep. of Janet K. Doner at p. 34-37, 38-44, 49-57, 62-64.
28-010500.0000	Wayne T. Doner	P.E. Tab 1, Aff. of Janet K. Doner; P.E. Tab 2, Aff. of Wayne T. Doner; P.E. Tab 3, Sup. Aff. of Wayne T. Doner; P.E. Tab 4, Second Sup. Aff. of Wayne T. Doner.	J.E. Tab 8, Dep. of Wayne T. Doner at p. 27, 37, 39-41, 52-56, 59-60, 64-67, 73-75; J.E. Tab 6, Dep. of Janet K. Doner at p. 27-28, 29-34, 38-44, 49-57, 62-64.
28-011300.0000	Janet K. Doner; Wayne T. Doner; David M. Doner	P.E. Tab 1, Aff. of Janet K. Doner; P.E. Tab 2, Aff. of Wayne T. Doner; P.E. Tab 3, Sup. Aff. of Wayne T. Doner; P.E. Tab 4, Second Sup. Aff. of Wayne T. Doner.	J.E. Tab 8, Dep. of Wayne T. Doner at p. 21-23, 39-41, 43-44, 48, 51-58, 60, 63, 66-70, 73-75; J.E. Tab 6, Dep. of Janet K. Doner at p. 21-23, 27-28, 38-44, 49-57, 62-64; J.E. Tab 5, Dep. of David M. Doner at p. 15-18, 20-24, 26-27, 33
42-005800.0000 42-003700.0000	Richard L. Adams; Nancy L. Adams	P.E. Tab 5, Aff. of Richard L. Adams; P.E. Tab 6, Sup. Aff. of Richard L. Adams.	J.E. Tab 2, Dep. of Richard L. Adams at p. 15-24, 27-29, 31-33, 47, 52, 57-61; J.E. Tab 1, Dep. of Nancy L. Adams at p. 9-10.
26-043100.0000 42-017300.0000	The Baucher Farms, Inc.	P.E. Tab 7, Aff. of Wayne Baucher.	J.E. Tab 4, Dep. of Wayne Baucher at p. 7-8, 9-10, 38-42, 46-49, 52-57, 60-61, 65-68.

---

1 P.E. Tab 98, Aff. of Jeanelle Braun, P.E. Tab 99, Aff. of Pressley L. Campbell, Ph.D., P.E., P.E. Tab 102, Aff. of Richard M. Vannatta, P.E. Tab 125 Aff. of James Moir, P.E. Tab 100, Aff. of Keith Earley, and P.E. Tab 101 Aff. of Jay H. Gould support the claims of all Relators.

2 J.E. Tab 76, Dep. of Pressley L. Campbell, Ph.D., P.E., J.E. Tab 80, Dep. of James Moir and J.E. Tab 126, Dep. of Keith Earley, P.E., P.S., P.E. Tab 122 Dep. of James Garret (including exhibits) support the claims of all Relators.

ADDENDUM B: EVIDENCE IN SUPPORT OF CLAIMS

Parcel No.	Owner	Affidavit cites[1]	Deposition cites[2]
26-041200.0100	Joyce A. Dwenger; Lawrence J. Dwenger	P.E. Tab 8, Aff. of Joyce A. Dwenger; P.E. Tab 9, Aff. of Lawrence J. Dwenger; P.E. Tab 10, Sup. Aff. of Lawrence J. Dwenger.	J.E. Tab 10, Dep. of Lawrence J. Dwenger at p. 12-18, 20-23, 25-27; J.E. Tab 9, Dep. of Joyce A. Dwenger at p. 7-9, 14-16, 20-24, 31-32.
26-041000.0000 26-047200.0100	Stanley M. Ebbing; Vicki L. Ebbing	P.E. Tab 11, Aff. of Stanley M. Ebbing; P.E. Tab 12, Aff. of Vicki L. Ebbing; P.E. Tab 81, Aff. of Mark A. Siefring.[3]	J.E. Tab 11, Dep. of Stanley M. Ebbing at p. 7-11, 16-17, 25-29, 31-32, 39-42, 46, 51-52; J.E. Tab 12, Dep. of Vicki L. Ebbing at p. 12-14, 19-24; J.E. Tab 53, Dep. of Mark A. Siefring at p. 153-155, 159-160, 162-167, 172, 179-180, 182, 185.
26-049300.0100	Carman R. Ellis; Jill E. Ellis	P.E. Tab 13, Aff. of Carman R. Ellis; P.E. Tab 14, Aff. of Jill E. Ellis.	ODNR did not request to depose these Relators.
26-041200.0000	H. Edward Gilbert; Mary E. Gilbert	P.E. Tab 16, Aff. of H. Edward Gilbert; P.E. Tab 17, Aff. of Mary E. Gilbert.	J.E. Tab 15, Dep. of H. Edward Gilbert at p. 36-43,49-64; J.E. Tab 14, Dep. of Mary E. Gilbert at p. 11-12, 26-28, 30-46.
42-004100.0000	David L. Granger, Trustee of the David L. Granger and Esther L. Granger Living Trust	P.E. Tab 18, Aff. of David L. Granger; P.E. Tab 19, Aff. of Michael Highley (8/24/09).	J.E. Tab 16, Dep. of David L. Granger at p. 19, 21-23, 30-33, 36-37, 40-41; J.E. Tab 71, Dep. of Michael E. Highley at p. 85-99, 152, 155-156, 160, 162.
26-041400.0000 42-003500.0000 42-004500.0000	Patricia L. Highley; Robert E. Highley	P.E. Tab 21, Aff. of Patricia L. Highley; P.E. Tab 22, Sup. Aff. of Patricia L. Highley; P.E. Tab 23, Second Sup. Aff. of Patricia L. Highley; P.E. Tab 24, Aff. of Robert E. Highley; P.E. Tab 25, Sup. Aff. of Robert E. Highley; P.E. Tab 4, Second. Sup. Aff. of Wayne T. Doner.	J.E. Tab 18, Dep. of Robert E. Highley at p. 7-8, 12-15, 24-25, 28, 31-35, 40-41, 43; J.E. Tab 17, Dep. of Patricia L. Highley at p. 13-15, 21-25, 26, 43-44, 50-51, 52-56; J.E. Tab 71, Dep. of Michael E. Highley at p. 101-110, 112-124, 127, 152, 157-162.
26-049300.0200	Emily A. Hines; Jason E. Hines	P.E. Tab 26, Aff. of Emily A. Hines; P.E. Tab 27, Sup. Aff. of Emily A. Hines; P.E. Tab 28, Aff. of Jason E. Hines; P.E. Tab 29, Sup. Aff. of Jason E. Hines.	ODNR did not request to depose these Relators.

[3] The text of Mr. Siefring's affidavit had a typo in identifying the tax parcel number for 26-041000.0000, which inadvertently read 26-044100.0000. However, the aerial attached as Exhibit 2 to the affidavit, as confirmed by Mr. Siefring during his deposition, correctly identifies the parcel at issue as 26-041000.0000. Mr. Siefring's deposition testimony confirms that his statements in his affidavit were intended for 26-041000.0000.

ADDENDUM B: EVIDENCE IN SUPPORT OF CLAIMS

Parcel No.	Owner	Affidavit cites[1]	Deposition cites[2]
26-038300.0200	Daniel W. Johnsman	P.E. Tab 30, Aff. of Daniel W. Johnsman; P.E. Tab 31, Sup. Aff. of Daniel W. Johnsman; P.E. Tab 32, Second Sup. Aff. of Daniel W. Johnsman.	J.E. Tab 19, Dep. of Daniel W. Johnsman at p. 8, 11-13, 17-18, 20-22, 24.
26-029500.0100 26-048600.0000	David A. Johnsman	P.E. Tab 33, Aff. of David A. Johnsman; P.E. Tab 34, Sup. Aff. of David A. Johnsman; P.E. Tab 31, Sup. Aff. of Daniel W. Johnsman.	ODNR did not request to depose this Relator.
26-024700.0000 26-038300.0000	David A. Johnsman, as Trustee of Ruth M. Johnsman Irrevocable Trust and as a Trustee of the Leroy J. Johnsman Irrevocable Trust and the Leroy J. Johnsman Irrevocable Trust	P.E. Tab 33, Aff. of David A. Johnsman; P.E. Tab 34, Sup. Aff. of David A. Johnsman; P.E. Tab 31, Sup. Aff. of Daniel W. Johnsman.	ODNR did not request to depose this Relator.
28-013500.0000 28-013400.0000	Jean A. Karr; William J. Ransbottom	P.E. Tab 68, Aff. of William J. Ransbottom; P.E. Tab 21, Aff. of Patricia L. Highley; P.E. Tab 22, Sup. Aff. of Patricia Highley; P.E. Tab 23, Second Sup. Aff. of Patricia Highley; P.E. Tab 24, Aff. of Robert E. Highley; P.E. Tab 25, Sup. Aff. of Robert E. Highley; P.E. Tab 4, Second. Sup. Aff. of Wayne T. Doner.	J.E. Tab 41, Dep. of William J. Ransbottom at p. 11-12, 17-19, 22-25, 28-33; J.E. Tab 18, Dep. of Robert E. Highley at p. 35-38, 40-41, 43; J.E. Tab 17, Dep. of Patricia L. Highley at p. 43-48, 53-57; J.E. Tab 71, Dep. of Michael E. Highley at p. 22, 134-152, 155-157, 159-162.
29-003600.0000 29-003500.0000	Andrea M. Knapke; Chad M. Knapke	P.E. Tab 35, Aff. of Andrea M. Knapke; P.E. Tab 36, Aff. of Chad M. Knapke; P.E. Tab 47, Sup. Aff. of Linda B. Linn.	J.E. Tab 20, Dep. of Andrea M. Knapke at p. 12-21, 35-38; J.E. Tab 21, Dep. of Chad M. Knapke at p. 12-20, 28-29, 33-35; J.E. Tab 23, Dep. of Timothy A. Knapke at p. 15-18.
29-002400.0000	Mark L. Knapke as Trustee of the Mark L. Knapke Revocable Living Trust	P.E. Tab 37, Aff. of Mark L. Knapke; P.E. Tab 35, Aff. of Andrea M. Knapke; P.E. Tab 36, Aff. of Chad M. Knapke; P.E. Tab 47, Sup. Aff. of Linda B. Linn.	J.E. Tab 22, Dep. of Mark L. Knapke at p. 11, 13-28, 30-34; J.E. Tab 20, Dep. of Andrea M. Knapke at p. 31-35; J.E. Tab 21, Dep. of Chad M. Knapke at p. 26-28, 30-32.
29-003700.0000	Timothy A. Knapke	P.E. Tab 38, Aff. of Timothy A. Knapke; P.E. Tab 39, Sup. Aff. of Timothy A. Knapke; P.E. Tab 4, Second. Sup. Aff. of Wayne T. Doner.	J.E. Tab 23, Dep. of Timothy A. Knapke at p. 13, 16-23, 26, 32, 34, 36-43; J.E. Tab 20, Dep. of Andrea M. Knapke at p. 27-31, 38; J.E. Tab 21, Dep. of Chad M. Knapke at p. 23-26.

ADDENDUM B: EVIDENCE IN SUPPORT OF CLAIMS

Parcel No.	Owner	Affidavit cites[1]	Deposition cites[2]
27-012600.0000 27-013500.0000	Thomas L. Krick; Candace L. Krick	P.E. Tab 40, Aff. of Thomas L. Krick; P.E. Tab 41, Sup. Aff. of Thomas L. Krick.	ODNR did not request to depose these Relators.
42-001200.0000	Darrell D. Kuhn	P.E. Tab 42, Aff. of Darrell D. Kuhn; P.E. Tab 43, Sup. Aff. of Darrell D. Kuhn; P.E. Tab 44, Second Sup. Aff. of Darrell D. Kuhn.	J.E. Tab 24, Dep. of Darrell D. Kuhn at p. 12-24, 37-38.
28-017400.0100	Marvin E. Kuhn	P.E. Tab 45, Aff. of Marvin E. Kuhn; P.E. Tab 44, Second Sup. Aff. of Darrell D. Kuhn.	J.E. Tab 25, Dep. of Marvin E. Kuhn at p. 8, 11-22.
42-000200.0000	Estate of Marilyn M. Kuhn	P.E. Tab 42, Aff. of Darrell D. Kuhn; P.E. Tab 44, Second Sup. Aff. of Darrell D. Kuhn.	J.E. Tab 24, Dep. of Darrell D. Kuhn at p. 27-37.
29-002200.0000	Linda B. Linn; Lee A. Fenning	P.E. Tab 46, Aff. of Linda B. Linn; P.E. Tab 47, Sup. Aff. of Linda B. Linn; P.E. Tab 15, Aff. of Lee A. Fennig.	J.E. Tab 26, Dep. of Linda B. Linn at p. 12-15, 19-24, 34-35, 40-41; J.E. Tab 13, Dep. of Lee A. Fennig 24-26, 29-38, 41-42, 45; J.E. Tab 31, Dep. of William Muhlenkamp at p. 17-18, 35-37.
26-038100.0000	David J. McDonough; Deborah A. McDonough	P.E. Tab 48, Aff. of David J. McDonough; P.E. Tab 49, Aff. of Deborah A. McDonough.	ODNR did not request to depose these Relators.
26-027300.0500 26-027400.0000	David J. McNeilan	P.E. Tab 50, Aff. of David J. McNeilan; P.E. Tab 51, Sup. Aff. of David J. McNeilan; P.E. Tab 52, Aff. of Laura B. McNeilan.	J.E. Tab 27, Dep. of David J. McNeilan at p. 12-16, 20, 24-26 30-31; J.E. Tab 28, Dep. of Laura B. McNeilan at p. 9-11.
26-027500.0000	David J. McNeilan; Laura B. McNeilan	P.E. Tab 50, Aff. of David J. McNeilan; P.E. Tab 51, Sup. Aff. of David J. McNeilan; P.E. Tab 52, Aff. of Laura B. McNeilan.	Dep. of David J. McNeilan at p. 12-16, 20, 24-26 30-31; Dep. of Laura B. McNeilan at p. 9-11.
26-027200.0000	Lois J. McNeilan	P.E. Tab 53, Aff. of Lois J. McNeilan.	ODNR did not request to depose this Relator.
26-052600.0000 26-052700.0000	Charles J. Meier	P.E. Tab 54, Aff. of Charles J. Meier; P.E. Tab 55, Aff. of Mary K. Meier.	ODNR did not request to depose this Relator.
26-052700.0100	Charles J. Meier; Mary K. Meier	P.E. Tab 54, Aff. of Charles J. Meier; P.E. Tab 55, Aff. of Mary K. Meier.	ODNR did not request to depose these Relators.

ADDENDUM B: EVIDENCE IN SUPPORT OF CLAIMS

Parcel No.	Owner	Affidavit cites[1]	Deposition cites[2]
42-001000.0000 42-019700.0000 42-019800.0000	Jerome L. Meyer; Amy L. Meyer	P.E. Tab 56, Aff. of Amy L. Meyer; P.E. Tab 57, Aff. of Jerome L. Meyer; P.E. Tab 58, Sup. Aff. of Jerome L. Meyer; P.E. Tab 71, Aff. of Carl W. Rose (8/25/09).	J.E. Tab 30, Dep. of Jerome L. Meyer at p. 11-15, 20, 22-35; J.E. Tab 29, Dep. of Amy L. Meyer at p. 10-11, 16-17, 19-22, 27-28; J.E. Tab 44, Dep. of Carl W. Rose at p. 32-36, 38-49, 54-58, errata sheet; J.E. Tab 45, Dep. of Lucile M. Rose at p. 30-37; J.E. Tab 53, Dep. of Mark A. Siefring at p. 46, 74-75, 85-94, 98-99, 101-102, 105-106, 119-123, 170, 183, 185.
29-003300.0000 29-004400.0000	William M. Muhlenkamp	P.E. Tab 59, Aff. of William M. Muhlenkamp; P.E. Tab 60, Sup. Aff. of William M. Muhlenkamp.	J.E. Tab 31, Dep. of William M. Muhlenkamp at p. 12-19, 32-33.
42-001300.0000	Carolyn J. Pierstorff; Thomas D. Rasawehr; Timothy Rasawehr	P.E. Tab 69, Aff. of Thomas D. Rasawehr; P.E. Tab 20, Aff. of Michael Highley (8/25/09); P.E. Tab 23, Second Sup. Aff. of Patricia L. Highley; P.E. Tab 4, Second. Sup. Aff. of Wayne T. Doner.	J.E. Tab 32, Dep. of Carolyn J. Pierstorff at p. 12-20; J.E. Tab 42, Dep. of Thomas D. Rasawehr at p. 16-23, 25-27, 28-32, 37-40; J.E. Tab 43, Dep. of Timothy Rasawehr at p. 27, 33-38, 40-49, 50-54; J.E. Tab 71, Dep. of Michael E. Highley at p. 39-58, 151-156, 159-160, 162.
29-004200.0000 28-011400.0000	Opal L. Post	P.E. Tab 61, Aff. of James Post, Attorney-in-Fact for Opal L. Post (8/24/09); P.E. Tab 62, Aff. of James Post (3/31/10); P.E. Tab 63, Aff. of Michael Post; P.E. Tab 21, Aff. of Patricia L. Highley; P.E. Tab 23, Second Sup. Aff. of Patricia L. Highley; P.E. Tab 24, Aff. of Robert E. Highley.	J.E. Tab 33, Dep. of James Post, Attorney-in-Fact for Opal L. Post at p. 11-16, 28, 33-34; J.E. Tab 73, Dep. of Michael Post at p. 21-23, 26-28, 29-40, 42, 44-48; J.E. Tab 18, Dep. of Robert E. Highley at p. 35, 40-41, 43; J.E. Tab 17, Dep. of Patricia L. Highley at p. 17, 44, 48-49, 55-56; J.E. Tab 71, Dep. of Michael E. Highley at p. 22-24, 131-132.
28-010400.0000 42-014000.0000	Jerry W. Powell, Betty L. Powell, Trustees of the Powell Living Trust dated December 22, 2005; Paul A. Agnello; Rhonda E. Powell	P.E. Tab 66, Aff. of Jerry W. Powell; P.E. Tab 65, Aff. of Brenda S. Powell (3/31/10).	J.E. Tab 36, Dep. of Jerry W. Powell at p. 5-6, 10-11, 14, 16-17, 36-40, 54-55, 57-58; J.E. Tab 34, Dep. of Betty L. Powell at p. 17-18, 31-33, 47, 49-50; J.E. Tab 38, Dep. of Rhonda E. Powell at p. 13-15, 20-21; J.E. Tab 3, Dep. of Paul A. Agnello at p. 29.

ADDENDUM B: EVIDENCE IN SUPPORT OF CLAIMS

Parcel No.	Owner	Affidavit cites[1]	Deposition cites[2]
42-024200.0000 42-016900.0000	Jerry W. Powell, Betty L. Powell, Trustees of the Powell Living Trust dated December 22, 2005	P.E. Tab 66, Aff. of Jerry W. Powell.	J.E. Tab 36, Dep. of Jerry W. Powell at p. 5-6, 10-11, 14, 18, 36-38, 39-40, 54-55, 57-58; J.E. Tab 34, Dep. of Betty L. Powell at p. 17-18, 31-33, 46, 48-50.
42-003800.0000 42-003400.0000	M. Leone Powell; Larry V. Pugsley	P.E. Tab 20, Aff. of Michael Highley (8/25/09).	J.E. Tab 37, Dep. of M. Leone Powell at p. 10, 14-15, 18; J.E. Tab 40, Dep. of Larry V. Pugsley at p. 17-19, 27-28, 29-30, 34, 37, 39-40; J.E. Tab 71, Dep. of Michael E. Highley at p. 11, 59-81, 152, 154-155, 160, 162.
28-010400.0100 42-014000.0100	Brenda S. Powell; Thomas L. Powell	P.E. Tab 64, Aff. of Brenda S. Powell (10/15/09); P.E. Tab 65, Aff. of Brenda S. Powell (3/31/10); P.E. Tab 67, Aff. of Thomas L. Powell.	J.E. Tab 39, Dep. of Thomas L. Powell at p. 18-19, 21-23, 25-27, 30-31, 33-35, 37-38, 40, 42-44; J.E. Tab 35, Dep. of Brenda S. Powell at p. 10-11, 12, 13-15, 18-19, 21-31.
42-018500.0000	Carl. W. Rose; Lucile M. Rose	P.E. Tab 70, Aff. of Carl W. Rose (8/25/09); P.E. Tab 72, Aff. of Lucile M. Rose.	J.E. Tab 36, Dep. of Jerry W. Powell at 46-47, 49; J.E. Tab 44, Dep. of Carl W. Rose at p. 17-29, 54-58, errata sheet; J.E. Tab 45, Dep. of Lucile M. Rose at p. 8-9. 17-30, 40-41.
42-005700.0000	Dorothy K. Schroyer	P.E. Tab 5, Aff. of Richard L. Adams; P.E. Tab 6, Sup. Aff. of Richard L. Adams.	J.E. Tab 2, Dep. of Richard L. Adams at p. 24-28, 31-33, 47, 52, 57-61.
26-011900.0000 26-030700.0200 26-030700.0000 26-030700.0300	Bonita S. Searight; Robert E. Searight	P.E. Tab 73, Aff. of Bonita S. Searight; P.E. Tab 74, Aff. of Robert E. Searight; P.E. Tab 75, Sup. Aff. of Robert E. Searight.	J.E. Tab 46, Dep. of Bonita S. Searight at p. 24-25, 29-33, 38-40, 43-51, 53-54; J.E. Tab 47, J.E. Tab 47, Dep. of Robert E. Searight at p. 37-45, 50-55, 57-63.
28-010900.0000 28-012900.0000	Duane R. Sheets	P.E. Tab 76, Aff. of Duane R. Sheets.	J.E. Tab 48, Dep. of Duane R. Sheets at p. 7-8, 18-40.
28-011000.0000	Linda J. Sheets; Rodney R. Sheets	P.E. Tab 77, Aff. of Linda J. Sheets; P.E. Tab 78, Aff. of Rodney R. Sheets; P.E. Tab 79, Sup. Aff. of Rodney R. Sheets.	J.E. Tab 50, Dep. of Rodney R. Sheets at p. 10-16, 18-19, 22, 25-27, 29-30; J.E. Tab 49, Dep. of Linda J. Sheets at p. 11-14, 16-19, 21.
28-011100.0000	Rodney R. Sheets	P.E. Tab 78, Aff. of Rodney R. Sheets.	J.E. Tab 50, Dep. of Rodney R. Sheets at p. 10-16, 18-19, 22, 25-27, 29-30; J.E. Tab 49, Dep. of Linda J. Sheets at p. 14-15, 21.

ADDENDUM B: EVIDENCE IN SUPPORT OF CLAIMS

Parcel No.	Owner	Affidavit cites[1]	Deposition cites[2]
26-044100.0100 26-044100.0200	Jeff A. Siefring	P.E. Tab 81, Aff. of Mark A. Siefring (12/15/09).	J.E. Tab 52, Dep. of Jeff A. Siefring at p. 18, 27-38, 40-42; J.E. Tab 53, Dep. of Mark A. Siefring at p. 109-115, 173-175, 180-182, 185.
42-020000.0000 McMillan	Mark A. Siefring; Ronald J. Siefring	P.E. Tab 80, Aff. of Mark A. Siefring (8/24/09); P.E. Tab 82, Aff. of Ronald J. Siefring (8/24/09).	J.E. Tab 56, Dep. of Ronald J. Siefring at p. 27-29, 29-31, 37, 38-40, 43-45; J.E. Tab 53, Dep. of Mark A. Siefring at p. 7-10, 32, 65, 75, 85-94, 98-99, 101-102, 105-106, 109-115, 117-118, 119-123, 141-145, 170, 177-179, 182-187
42-001000.0100 Corner of 29	Mark A. Siefring; Carol L. Siefring	P.E. Tab 81, Aff. of Mark A. Siefring (8/24/09).	J.E. Tab 53, Dep. of Mark A. Siefring at p. 7-10, 45-46, 75-76, 87-94, 98-99, 101-102, 105-106, 109-115, 117-118, 119-123, 141-145, 170, 176-177, 181-182-187; J.E. Tab 51, Dep. of Carol L. Siefring at p. 7-8, 15-17.
26-041500.0000	Neil J. Siefring Mary K. Siefring	P.E. Tab 84, Sup. Aff. of Neil J. Siefring; P.E. Tab 57, Aff. of Jerome L. Meyer; P.E. Tab 9, Aff. of Lawrence J. Dwenger.	J.E. Tab 55, Dep. of Neil J. Siefring at p. 10-14, 16-22; J.E. Tab 54, Dep. of Mary K. Siefring at p. 8-10, 13-15; J.E. Tab 30, Dep. of Jerome L. Meyer at p. 16-17.
42-000100.0000	Ronald J. Siefring; Carol L. Siefring	P.E. Tab 82, Aff. of Ronald J. Siefring (8/24/09); P.E. Tab 83, Aff. of Ronald J. Siefring (3/31/10).	J.E. Tab 56, Dep. of Ronald J. Siefring at p.10-13, 29-31, 33-35, 38-40, 43-45; J.E. Tab 51, Dep. of Carol L. Siefring at p. 7-8, 15-17; J.E. Tab 53, Dep. of Mark A. Siefring at p. 109-115, 171-172, 175-176, 182, 185.
26-040900.0000 26-039200.0200	David J. Suhr; Rita K. Suhr	P.E. Tab 85, Aff. of David J. Suhr; P.E. Tab 86, Aff. of Rita K. Suhr.	J.E. Tab 57, Dep. of David J. Suhr at p. 13-18, 22-28; J.E. Tab 58, Dep. of Rita K. Suhr at p. 17-18, 21-22, 27-28, 42-45, 47, 50-54.
26-039100.0500 26-004200.0101	Rita K. Suhr	P.E. Tab 86, Aff. of Rita K. Suhr.	J.E. Tab 58, Dep. of Rita K. Suhr at p. 22-26, 27-35, 40-45, 51-54.
28-015300.0000	Carl A. Sutter; Judith A. Sutter	P.E. Tab 87, Aff. of Carl A. Sutter; P.E. Tab 88, Sup. Aff. of Carl A. Sutter; P.E. Tab 4, Second. Sup. Aff. of Wayne T. Doner.	J.E. Tab 59, Dep. of Carl A. Sutter at p. 9-10, 13-17; J.E. Tab 60, Dep. of Judith A. Sutter at p. 7-12.
28-013800.0000	Gale A. Thomas; Nelda G. Thomas	P.E. Tab 89, Aff. of Gale A. Thomas; P.E. Tab 90, Aff. of Nelda G. Thomas.	J.E. Tab 57, Dep. of Gale A. Thomas at p. 11-25, 27-29, 31, 51; J.E. Tab 62, Dep. of Nelda G. Thomas at p. 18-21, 24-27.

ADDENDUM B: EVIDENCE IN SUPPORT OF CLAIMS

Parcel No.	Owner	Affidavit cites[1]	Deposition cites[2]
26-042900.0100	Marilyn L. Uhlenhake	P.E. Tab 91, Aff. of Gary E. Uhlenhake.	J.E. Tab 63, Dep. of Marilyn L. Uhlenhake at p. 14-17, 21; J.E. Tab 75, Dep. of Gary E. Uhlenhake at p. 11, 12-13, 16-33, 35-42
42-000300.0100	Jerry Weisman; Vicki L. Weisman	P.E. Tab 92, Aff. of Jerry Weisman; P.E. Tab 93, Sup. Aff. of Jerry Weisman; P.E. Tab 94, Aff. of Vicki L. Weisman; P.E. Tab 4, Second. Sup. Aff. of Wayne T. Doner.	J.E. Tab 64, Dep. of Jerry Weisman at p. 23-24, 26-30, 39-40, 42-52, 55-59, 62-66; J.E. Tab 65, Dep. of Vicki L. Weisman at p. 6, 15-29, 32-35.
26-022600.0000 26-051000.0000 26-052900.0000	Charles F. Zumberge, Trustee of the Virginia L. Zumberge dated January 31, 1990 & Trustee of the John H. Zumberge Trust dated January 31, 1990	P.E. Tab 95, Aff. of Charles F. Zumberge.	ODNR did not request to depose this Relator.
26-042800.0000	Jennifer M. Zumberge	P.E. Tab 96, Aff. of Jennifer Zumberge.	J.E. Tab 66, Dep. of Jennifer Zumberge at p. 15-16, 22-26, 28-29, 32-34.
26-051400.0000 26-049500.0000	Z-Farms Inc.	P.E. Tab 97, Aff. of Michael Zumberge.	J.E. Tab 67, Dep. of Michael Zumberge at p. 13-20, 22, 26-30, 42-44, 46.

EXHIBIT C TO AFFIDAVIT OF MARTHA C. BREWER

ADDENDUM C: ODNR'S ADMISSIONS

Parcel	Flooded by New Spillway[1]	Flooding Duration Increased	New Spillway Caused Increased '03 flooding	Owners[2]
28-011700.0000	Yes	Yes	Yes	Janet K. Doner; Wayne T. Doner; David M. Doner; Karen S. Doner
28-012200.0000	Yes	Yes	Yes	
28-012300.0000	Yes	Yes	Yes	Janet K. Doner; Wayne T. Doner
28-010500.0000	Yes	Yes	Yes	Wayne T. Doner
28-011300.0000	Yes	Yes	Yes	Janet K. Doner; Wayne T. Doner; David M. Doner
42-005800.0000	Yes	Yes	Yes	Richard L. Adams; Nancy L. Adams
42-003700.0000	Yes	Yes	Yes	
26-043100.0000	Yes	Yes	Yes	The Baucher Farms, Inc.
42-017300.0000	No	No	No	
26-041200.0100	Yes	Yes	Yes	Joyce A. Dwenger; Lawrence J. Dwenger
26-041000.0000	Yes	Yes	Yes	Stanley M. Ebbing; Vicki L. Ebbing
26-047200.0100	Yes	Yes	Yes	
26-049300.0100	Yes	Yes	Yes	Carman R. Ellis; Jill E. Ellis
26-041200.0000	Yes	Yes	Yes	H. Edward Gilbert; Mary E. Gilbert
42-004100.0000	Yes	Yes	Yes	David L. Granger, Trustee of the David L. Granger and Esther L. Granger Living Trust
26-041400.0000	Yes	Yes	Yes	Patricia L. Highley; Robert E. Highley
42-003500.0000	Yes	Yes	Yes	
42-004500.0000	Yes	Yes	Yes	
26-049300.0200	Yes	Yes	Yes	Emily A. Hines; Jason E. Hines
26-038300.0200	Yes	Yes	Yes	Daniel W. Johnsman
26-029500.0100	Yes	Yes	Yes	David A. Johnsman
26-048600.0000	No	No	No	
26-024700.0000	Yes	Yes	Yes	David A. Johnsman, as Trustee of Ruth M. Johnsman Irrevocable Trust and as a Trustee of the Leroy J. Johnsman

---

1 ODNR's admissions are drawn from the Stantec Report entitled, "Grand Lake St. Marys and Beaver Creek Hydrologic and Hydraulic Analysis – Discussion of Results and other Analysis," Tables 1-7, maps located at Appendix A, and Joint Exhibit Tab 79, Dep. of Tadd Henson, including Exhibit L and pages 30-42.

2 The documents referenced in FN 1 reflect ODNR's admission that the following Relators experienced increased frequency of flooding on their properties as a result of the new spillway: Carman R. Ellis and Jill E. Ellis (26-049300.0100); Emily A. Hines and Jason E. Hines (26-049300.0200); David A. Johnsman (26-029500.0100); Thomas L. Krick and Candice L. Krick (27-013500.0000); Charles J. Meier and Mary K. Meier (26-052700.0100); Bonita S. Searight and Robert E. Searight (26-030700.0200); Charles F. Zumberge, Trustee of the Virginia L. Zumberge dated January 31, 1990 & Trustee of the John H. Zumberge Trust dated January 31, 1990 (26-051000.0000); Jennifer M. Zumberge (26-042800.0000); Z-Farms Inc. (26-051400.0000, 26-049500.0000).

EXHIBIT
tabbies
C

ADDENDUM C: ODNR'S ADMISSIONS

Parcel	Flooded by New Spillway[1]	Flooding Duration Increased	New Spillway Caused Increased '03 flooding	Owners[2]
26-038300.0000	Yes	Yes	Yes	Irrevocable Trust and the Leroy J. Johnsman Irrevocable Trust
28-013500.0000	Yes	Yes	Yes	Jean A. Karr; William Ransbottom
28-013400.0000	Yes	Yes	Yes	
29-003600.0000	Yes	Yes	Yes	Andrea M. Knapke; Chad M. Knapke
29-003500.0000	Yes	Yes	Yes	
29-002400.0000	Yes	Yes	Yes	Mark L. Knapke as Trustee of the Mark L. Knapke Revocable Living Trust
29-003700.0000	Yes	Yes	Yes	Timothy A. Knapke
27-012600.0000	Yes	Yes	Yes	Thomas L. Krick; Candice L. Krick
27-013500.0000	Yes	Yes	Yes	
42-001200.0000	Yes	Yes	Yes	Darrell D. Kuhn
28-017400.0100	No	No	No	Marvin E. Kuhn
42-000200.0000	Yes	Yes	Yes	Estate of Marilyn M. Kuhn
29-002200.0000	Yes	Yes	Yes	Linda B. Linn; Lee A. Fennig, Trustee of the Calvin A. Fennig Trust, dated March 20, 1993
26-038100.0000	Yes	Yes	Yes	David J. McDonough; Deborah A. McDonough
26-027300.0500	Yes	Yes	Yes	David J. McNeilan
26-027400.0000	Yes	Yes	Yes	
26-027500.0000	Yes	Yes	Yes	David J. McNeilan; Laura B. McNeilan
26-027200.0000	Yes	Yes	Yes	Lois J. McNeilan
26-052600.0000	Yes	Yes	Yes	Charles J. Meier
26-052700.0000	Yes	Yes	Yes	
26-052700.0100	Yes	Yes	Yes	Charles J. Meier; Mary K. Meier
42-001000.0000	Yes	Yes	Yes	Jerome L. Meyer; Amy L. Meyer
42-019700.0000	No	No	No	
42-019800.0000	No	No	No	
29-003300.0000	Yes	Yes	Yes	William M. Muhlenkamp
29-004400.0000	Yes	Yes	Yes	
42-001300.0000	Yes	Yes	Yes	Carolyn J. Pierstorff; Thomas D. Raswehr; Timothy Raswehr
29-004200.0000	Yes	Yes	Yes	Opal L. Post
28-011400.0000	Yes	Yes	Yes	
28-010400.0000	Yes	Yes	Yes	Jerry W. Powell and Betty L. Powell, Trustees of the Powell Living Trust dated December 22, 2005; Paul A. Agnello; Rhonda E. Powell Agnello
28-014000.0000	Yes	Yes	Yes	
42-024200.0000	No	No	No	Jerry W. Powell and Betty L. Powell, Trustees of the Powell Living Trust dated December 22, 2005
42-016900.0000	Yes	Yes	Yes	
42-003800.0000	Yes	Yes	Yes	M. Leone Powell; Larry V. Pugsley

ADDENDUM C: ODNR'S ADMISSIONS

Parcel	Flooded by New Spillway[1]	Flooding Duration Increased	New Spillway Caused Increased '03 flooding	Owners[2]
42-003400.0000	Yes	Yes	Yes	
28-010400.0100	Yes	Yes	Yes	Brenda S. Powell; Thomas L. Powell
42-014000.0100	Yes	Yes	Yes	
42-018500.0000	Yes	Yes	Yes	Carl. W. Rose; Lucile M. Rose
42-005700.0000	Yes	Yes	Yes	Dorothy K. Schroyer
26-011900.0000	No	No	No	Bonita S. Searight; Robert E. Searight
26-030700.0200	Yes	Yes	Yes	
26-030700.0000	No	No	No	
26-030700.0300	Yes	Yes	Yes	
28-010900.0000	Yes	Yes	Yes	Duane R. Sheets
28-012900.0000	Yes	Yes	Yes	
28-011000.0000	Yes	Yes	Yes	Linda J. Sheets; Rodney R. Sheets
28-011100.0000	Yes	Yes	Yes	Rodney R. Sheets
26-044100.0100	No	No	No	Jeff A. Siefring
26-044100.0200	No	No	No	
42-020000.0000	No	No	No	Mark A. Siefring; Ronald J. Siefring
42-001000.0100	Yes	Yes	Yes	Mark A. Siefring Carol L. Siefring
26-041500.0000	Yes	Yes	Yes	Neil J. Siefring; Mary K. Siefring[3]
42-000100.0000	Yes	Yes	Yes	Ronald J. Siefring; Carol L. Siefrin
26-040900.0000	Yes	Yes	Yes	David J. Suhr; Rita K. Suhr
26-039200.0200	Yes	Yes	Yes	
26-039100.0500	Yes	Yes	Yes	Rita K. Suhr
26-004200.0101	Yes	Yes	Yes	
28-015300.0000	Yes	Yes	Yes	Carl A. Sutter; Judith A. Sutter
28-013800.0000	Yes	Yes	Yes	Gale A. Thomas; Nelda G. Thomas
26-042900.0100	Yes	Yes	Yes	Marilyn L. Uhlenhake
42-000300.0100	Yes	Yes	Yes	Jerry Weisman; Vicki L. Weisman
26-022600.0000	Yes	Yes	Yes	Charles F. Zumberge, Trustee of the Virginia L. Zumberge dated January 31, 1990 & Trustee of the John H. Zumberge Trust dated January 31, 1990
26-051000.0000	Yes	Yes	Yes	
26-052900.0000	Yes	Yes	Yes	
26-042800.0000	Yes	Yes	Yes	Jennifer M. Zumberge
26-051400.0000	Yes	Yes	Yes	Z-Farms Inc.
26-049500.0000	Yes	Yes	Yes	

[3] Stantec did not identify the parcels of Relators Neil J. Siefring and Mary K. Siefring (26-041500.0000), Ronald J. Siefring and Carol L. Siefring (42-000100.0000), or Marilyn Uhlenhake (26-042900.0100) in either its March 1, 2010 or April 29, 2010 modeling or mapping. However, its mapping clearly shows these Relators' parcels are impacted by flooding caused by ODNR, which is reflected in this Addendum.

EXHIBIT D TO AFFIDAVIT OF MARTHA C. BREWER

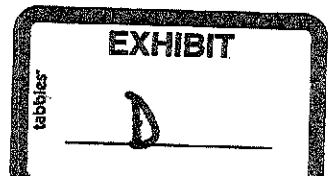
ADDENDUM D: STANTEC'S SERIAL REVISIONS TO DATA AND MAPPING

Table 1: Comparison between existence of flooding reflected in March 1, April 29, and May 27, 2010 Mapping and Modeling[1]						
Parcel	**Owner**	**15 Year Flood (3/1/10)[2]**	**100 Year Flood (3/1/10)**	**100 Year Flood at Winter Pool (4/29/10)**	**15 Year Flood (5/27/10)**	**100 Year Flood at Winter Pool[3] (5/27/10)**
42-003700.0000	Richard L. Adams; Nancy L. Adams	F	F	F	NF	NF
42-004100.0000	David L. Granger, Trustee of the David L. Granger and Esther L. Granger Living Trust	NF	F	F	NF	NF
42-003500.0000	Patricia L. Highley; Robert E. Highley	F	F	F	NF	NF
42-004500.0000	Patricia L. Highley; Robert E. Highley	F	F	F	NF	NF
42-003800.0000	M. Leone Powell; Larry V. Pugsley	F	F	F	NF	NF
42-003400.0000	M. Leone Powell; Larry V. Pugsley	F	F	F	NF	NF
42-005700.0000	Dorothy K. Schroyer	NF	F	F	NF	NF
26-030700.0200	Bonita S. Searight; Robert E. Searight	NF	NF	F	NF	NF
26-051400.0000	Z-Farms Inc.	NF	NF	F	NF	NF

1 The information contained in Tables 1 and 2 is drawn from Aff. of Tadd Henson, Aff. of Tadd Henson (5/27/10), Joint Exhibit Tab 79, Dep. of Tadd Henson, including Exhibit L and p. 30-42.

2 F: Flooded; NF: Not Flooded

3 The May 2010 100 year flood is modeled at "winter pool," i.e., during the winter months when ODNR use to drawdown the lake, and thus, the lake would be at a lower elevation. The March 1, 2010 report did not have an initial lake elevation at the drawdown level, and thus, not surprisingly, more acres were inundated in the modeling and mapping of the 100 year flood than May 2010 (or April 29, 2010) modeling and mapping.



ADDENDUM D: STANTEC'S SERIAL REVISIONS TO DATA AND MAPPING

Table 2: Comparison between acres flooded as reflected in March 1, April 29, and May 27, 2010 Mapping				
Parcel	**Owner**	**100 Year Flood (3/1/10)[4]**	**100 Year Flood (4/29/10)**	**100 Year Flood (5/27/10)**
28-010500.0000	Wayne T. Doner	I	NI	NI
42-004100.0000	David L. Granger, Trustee of the David L. Granger and Esther L. Granger Living Trust	I	I	NI
29-002200.0000	Linda B. Linn; Lee A. Fennig, Trustee of the Calvin A. Fennig Trust, dated March 20, 1993	I	NI	NI
29-004200.0000	Opal L. Post	I	I	NI
42-003800.0000	M. Leone Powell; Larry V. Pugsley	I	I	NI
42-003400.0000	M. Leone Powell; Larry V. Pugsley	I	I	NI
42-005700.0000	Dorothy K. Schroyer	I		NI
26-030700.0200	Bonita S. Searight; Robert E. Searight	NI	I	NI
28-012900.0000	Duane R. Sheets	I	I	NI
26-051400.0000	Z-Farms Inc.	NI	I	NI

4 I: Increased acres flooded; NI: No Increased Acres Flooded