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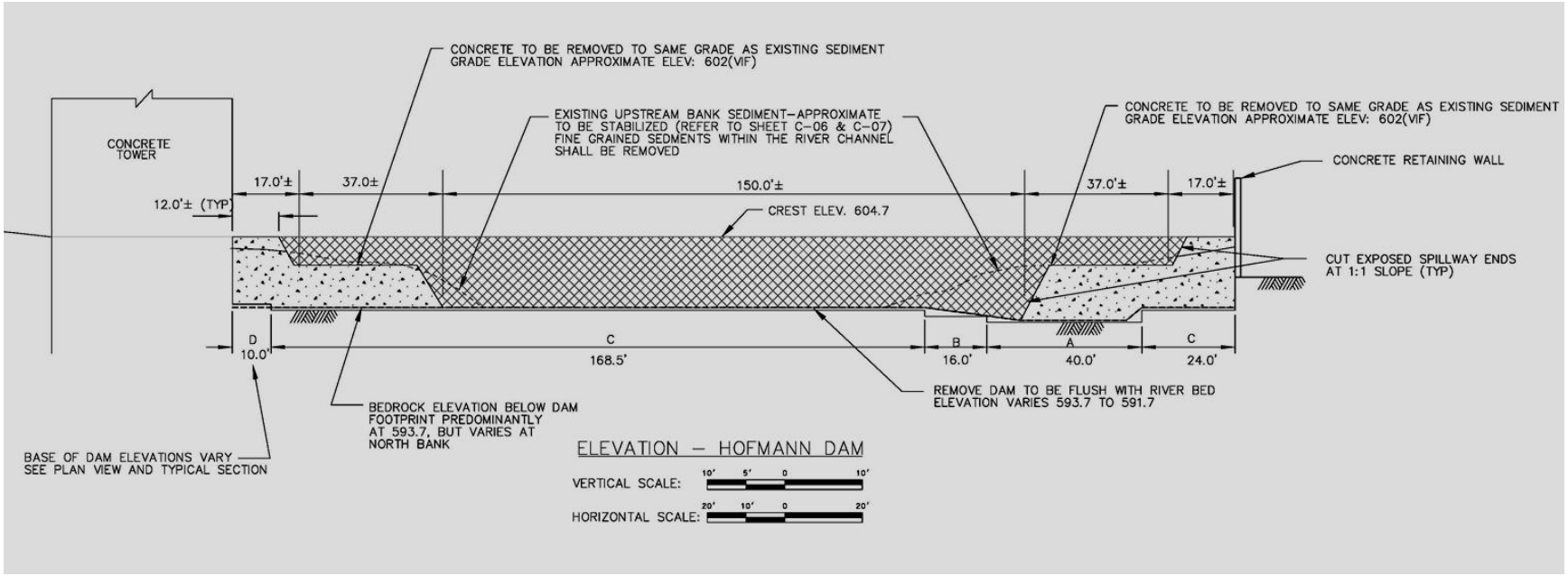
Salt Creek
Des Plaines River
Village of Riverside
Hofmann Dam
Village of Lyons


AUG 24 2006

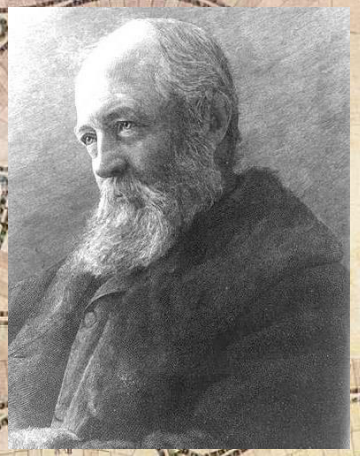

CONCRETE TO BE REMOVED TO SAME GRADE AS EXISTING SEDIMENT GRADE ELEVATION APPROXIMATE ELEV: 602(VIF)
EXISTING UPSTREAM BANK SEDIMENT–APPROXIMATE TO BE STABILIZED (REFER TO SHEET C–06 & C–07) FINE GRAINED SEDMENTS WITHIN THE RIVER CHANNEL SHALL BE REMOVED
CONCRETE TO BE REMOVED TO SAME GRADE AS EXISTING SEDIMENT GRADE ELEVATION APPROXIMATE ELEV: 602(VIF)
CONCRETE TOWER
CONCRETE RETAINING WALL
17.0'±
37.0±
150.0'±
37.0'±
17.0'±
12.0'± (TYP)
CREST ELEV. 604.7
CUT EXPOSED SPILLWAY ENDS AT 1:1 SLOPE (TYP)
D
10.0'
C
168.5'
B
16.0'
A
40.0'
C
24.0'
REMOVE DAM TO BE FLUSH WITH RIVER BED ELEVATION VARIES 593.7 TO 591.7
BEDROCK ELEVATION BELOW DAM FOOTPRINT PREDOMINANTLY AT 593.7, BUT VARIES AT NORTH BANK
BASE OF DAM ELEVATIONS VARY SEE PLAN VIEW AND TYPICAL SECTION
ELEVATION – HOFMANN DAM
VERTICAL SCALE:
10' 5' 0 10'
HORIZONTAL SCALE:
20' 10' 0 20'

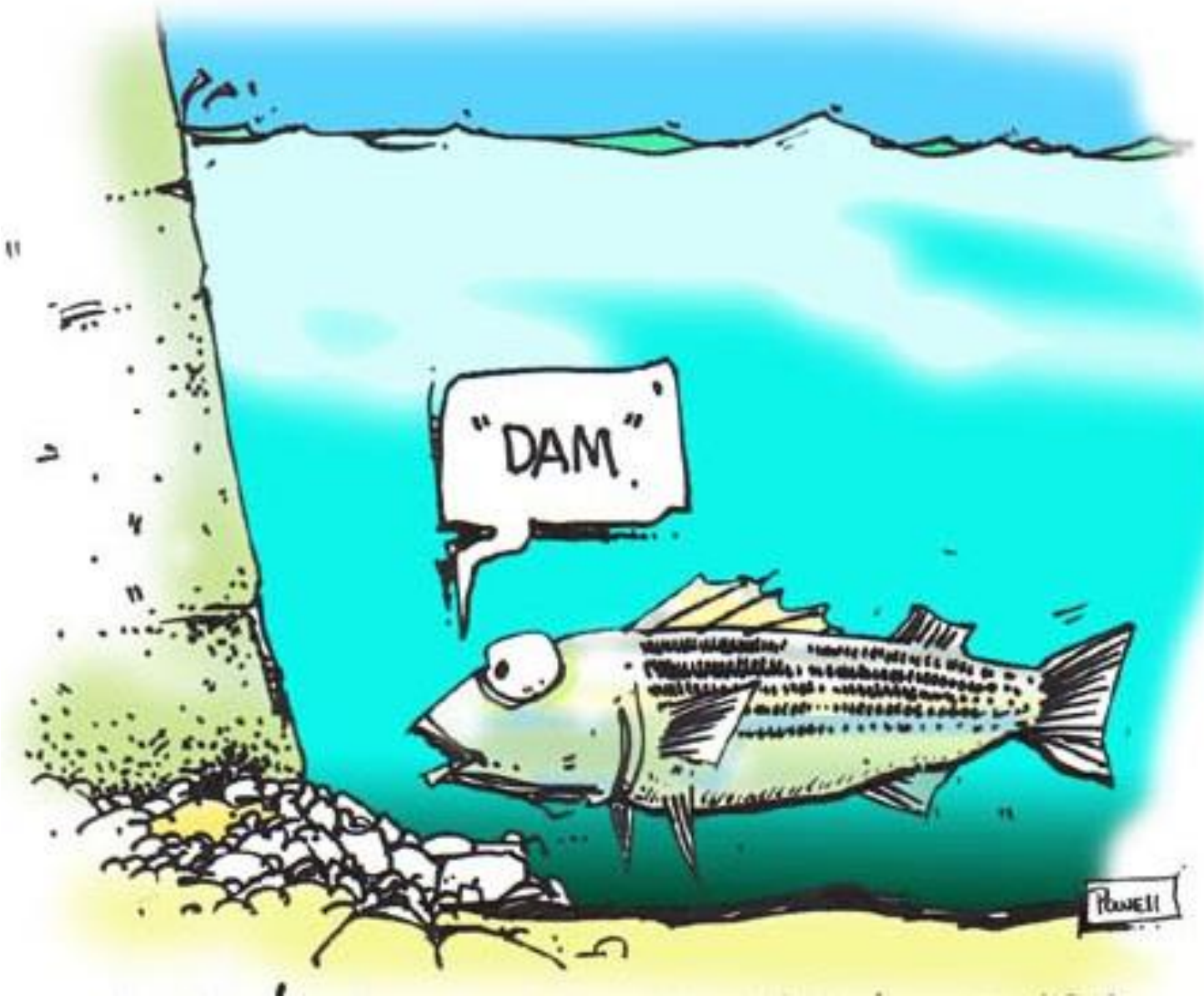
GENERAL PLAN OF RIVERSIDE

OLMSTED, VAUX & CO. LANDSCAPE ARCHITECTS

1869.

Scale 400 feet to an inch.




"DAM."

Discharge = 12 cfs

Des Plaines River at Riverside

% of time discharge is less than given value

	All Data	**1940's**	1950's	1960's	1970's	1980's	1990's	2000's
	Discharge	Discharge	Discharge	Discharge	Discharge	Discharge	Discharge	Discharge
Minimum Value for Time Period	0	1.6	0.5	0	28	134	126	101
Date of Minimum Discharge	8/23/1962	8/14/1944	10/21/1953	8/23/1962	8/31/1974	10/4/1982	9/20/1996	9/4/2005
Percentage								
1%	9	4.9	4.3	18	50	148	147	134
2%	13	6	6.5	21	54	155	156	145
3%	16	6.8	10	24	58	161	164	154
4%	19	7.2	12	25	61	167	169	162
5%	23	8	14	27	65	172	174	170
6%	26	9	16	29	68	177	180	175
7%	30	10	17	30	72	182	185	179
8%	34	10	18	32	75	188	190	183
9%	38	11	20	34	77	192	193	188
10%	43	11	21	34	79	197	198	193
20%	114	15	34	54	122	240	243	246
30%	185	23	55	88	161	290	310	319
40%	246	38	101	135	233	350	396	407
50%	330	**64**	158	195	318	431	501	507
60%	446	113	236	269	466	546	626	659
70%	619	215	357	379	685	707	809	856
80%	888	423	562	610	976	974	1080	1170
90%	1420	889	1000	1060	1570	1530	1630	1770
100%	9180	6230	6210	5330	5460	9180	6770	8910

Des Plaines River at Riverside

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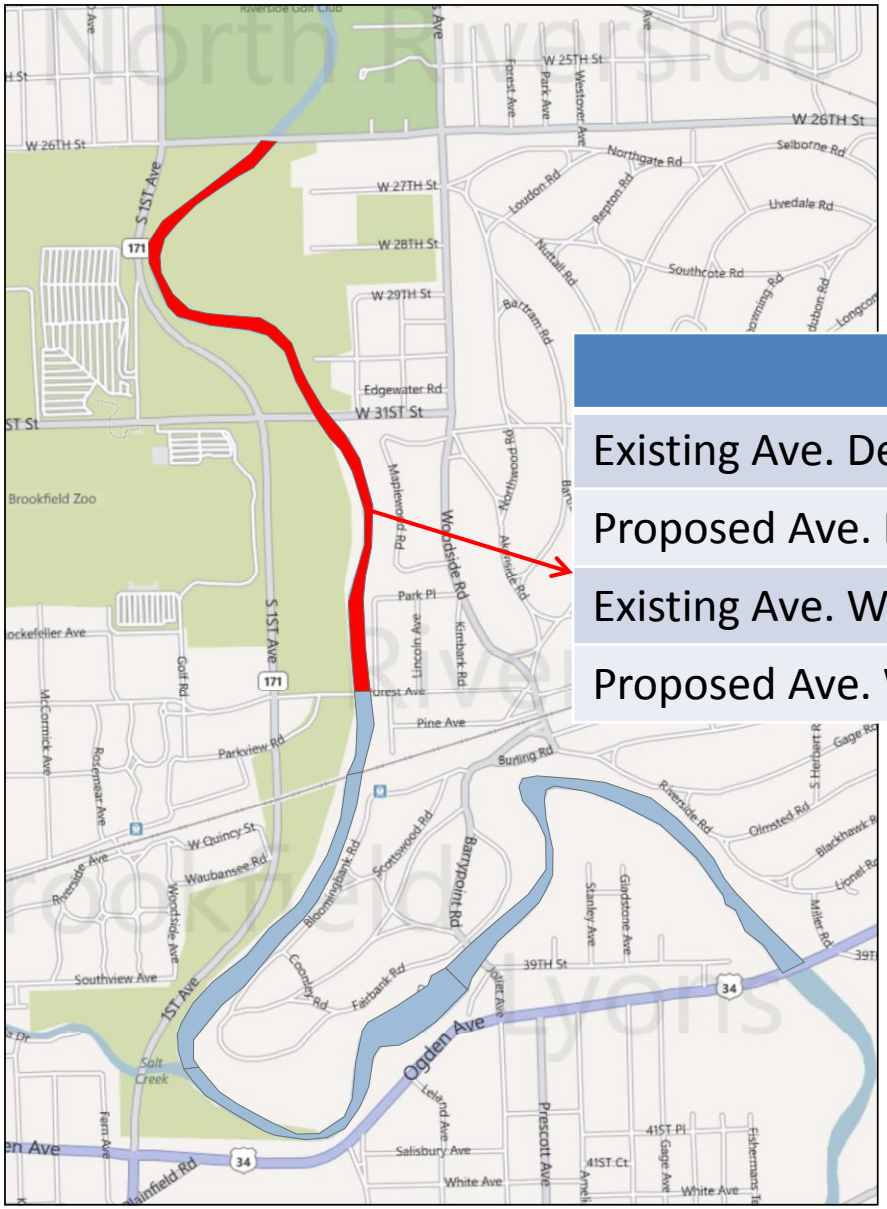
August 2003 (+ 2 months)


August 2004 (+14 months)



26th Street to Forest Avenue

	7Q10 Flow	80% Exceedance
Existing Ave. Depth	4.10 ft.	5.54 ft.
Proposed Ave. Depth	2.55 ft.	4.89 ft.
Existing Ave. Width	135.48 ft.	150.53 ft.
Proposed Ave. Width	117.35 ft.	143.90 ft.

Consultants value of 80% flow was 582 cfs

Des Plaines River at Riverside: [illegible] ysis

Time Period	Number of Records in Time Period	Days Less than 139 cfs (7Q10)	% of Days Below	% of Days Above	Days Less than 582 cfs (80% Flow)	% of Days Below	% of Days Above	Days Less than 827 cfs (20% flow)	% of Days Below	% of Days Above
1940's	2284	1464	64.1%	35.9%	1927	84.4%	15.6%	2043	89.4%	10.6%
1950's	3652	1718	47.0%	53.0%	2941	80.5%	19.5%	3177	87.0%	13.0%
1960's	3653	1494	40.9%	59.1%	2895	79.2%	20.8%	3133	85.8%	14.2%
1970's	3652	908	24.9%	75.1%	2393	65.5%	34.5%	2761	75.6%	24.4%
1980's	3653	7	0.2%	99.8%	2286	62.6%	37.4%	2755	75.4%	24.6%
1990's	3652	11	0.3%	99.7%	2076	56.8%	43.2%	2588	70.9%	29.1%
2000's	3653	58	1.6%	98.4%	2052	56.2%	43.8%	2499	68.4%	31.6%
2010's (1)	775	5	0.6%	99.4%	353	45.5%	54.5%	461	59.5%	40.5%

(1) Up to 4/15/2012

Analysis shows 582 cfs was closer to 50% value for the recent time period

- I would like to know on just what criteria will this evaluation be based. Where does this data that will be used come from - the river or a computer program?

Look at the numbers below. They come from the USGS web site. Every fifteen minutes the USGS publishes a new number for the depth and flow of the Desplaines River at Riverside. But how are these numbers generated and how do we know these numbers are accurate?

05/01 05:45 3.07ft 0.911kcfs
05/01 05:30 3.07ft 0.911kcfs
05/01 05:15 3.07ft 0.911kcfs
05/01 05:00 3.08ft 0.921kcfs
05/01 04:45 3.08ft 0.921kcfs

Well, one would assume that the USGS, the agency which certifies these numbers and which has been asked to evaluate the ACE's new data, would only certify correct data, right? They publish - day after day, four times an hour, the numbers that are used for all manner of projects, and one would assume that they are accurate.

The USGS seems to think they are very accurate, as they say, for instance, that on 5/01 at a certain time the depth of the river at the bridge just below Hofmann Dam, where the monitoring station is now located, was 3.07 ft. and the river was flowing at 911 cubic feet per second (written as 0.911 kcfs.) This certainly sounds like an accurate measurement, doesn't it?

Forty-five minutes earlier their data shows the river at a depth of 3.08 ft. and flowing at 921 cubic feet per second. These are very small differentiations so one might suspect that their monitoring equipment is extremely sensitive. Or, of course, all these flow numbers could just be some computer generated number. Which do you think it is?

If you look at the gage li ed correct. But in watching the gage I have seen some things that I thought were od s jump several hundred cfs in just fifteen minutes, and I saw the scale on the graph have watched this thing change (for the 3.0 ft. depth, for instance, from 0.2 kcfs t ct, that when the water level is at 3.ft. depth they say the river is flowi is when their is no visible change in the river?

I e's what they wrote me.

m the National Weather Service. I manage the Northern . While I can't answer all of your questions, specifically n of the stream gage.

s case water level (gage height), and use those data to the site periodically, physically measure the discharge, and r d does change when the features in the channel controlling the el, debris (such as tree limbs) buildup, etc... In the case of River out 700 ft downstream. When this dam was removed, the control features ere no longer accurate, especially at lower flows where the dam had the most im to account for this change in control."

Well that's a clear ans es a discharge (flow rate) at the site., and the numbers upon which the validity of this project will be decided are taking a depth reading and then occasionally factoring in a real reading and then applying some some "rating curve" that they can tweak at will. So, in other words, it's an educated "guesstimate."

You wouldn't accept a speeding ticket if the cop said "In my experience I think you were going sixty" instead of having a timing device. So why are we going to destroy this very useful historic dam based on this kind of data and decided by the folks that generate it? I think we should have at least a year of real data - better a decade - before we let this happen.

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t for the last several years I have watched this thing change
at 0.8 kcfs! This means, if the scale is correct, that when the
ly, at the same height. What could possibly cause this when

it. And here's what they wrote me.

"M
You
North
questio

e by Bill Morris from the National Weather Service. I manage the
perate and maintain this gage. While I can't answer all of your
e, I can give you information on the operation of the stream gage.

First of all, r
data to compu
the discharge, an
features in the channe
tree limbs) buildup, etc... In
downstream. When this dam was re
were no longer accurate, especially at lower flows where the dam had the most imp
rating curve to account for this change in control."

ect other data, in this case water level (gage height), and use those
rve). Our technicians visit the site periodically, physically measure
blem is that his relationship can and does change when the
ude basic scour and fill of sediment in the channel, debris (such as
ing feat
proximately Feb. 1) the concrete dam located about 700 ft
atures changed drama
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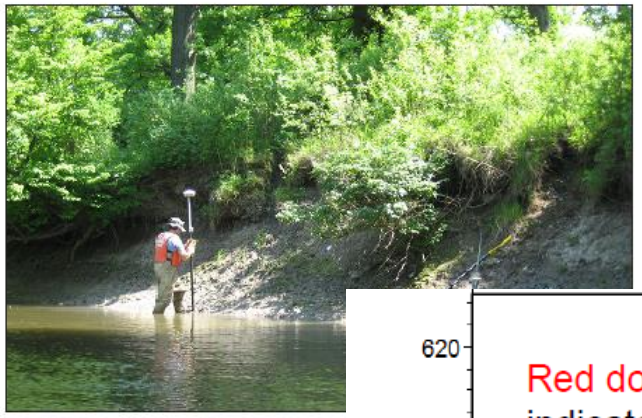
USGS to the rescue

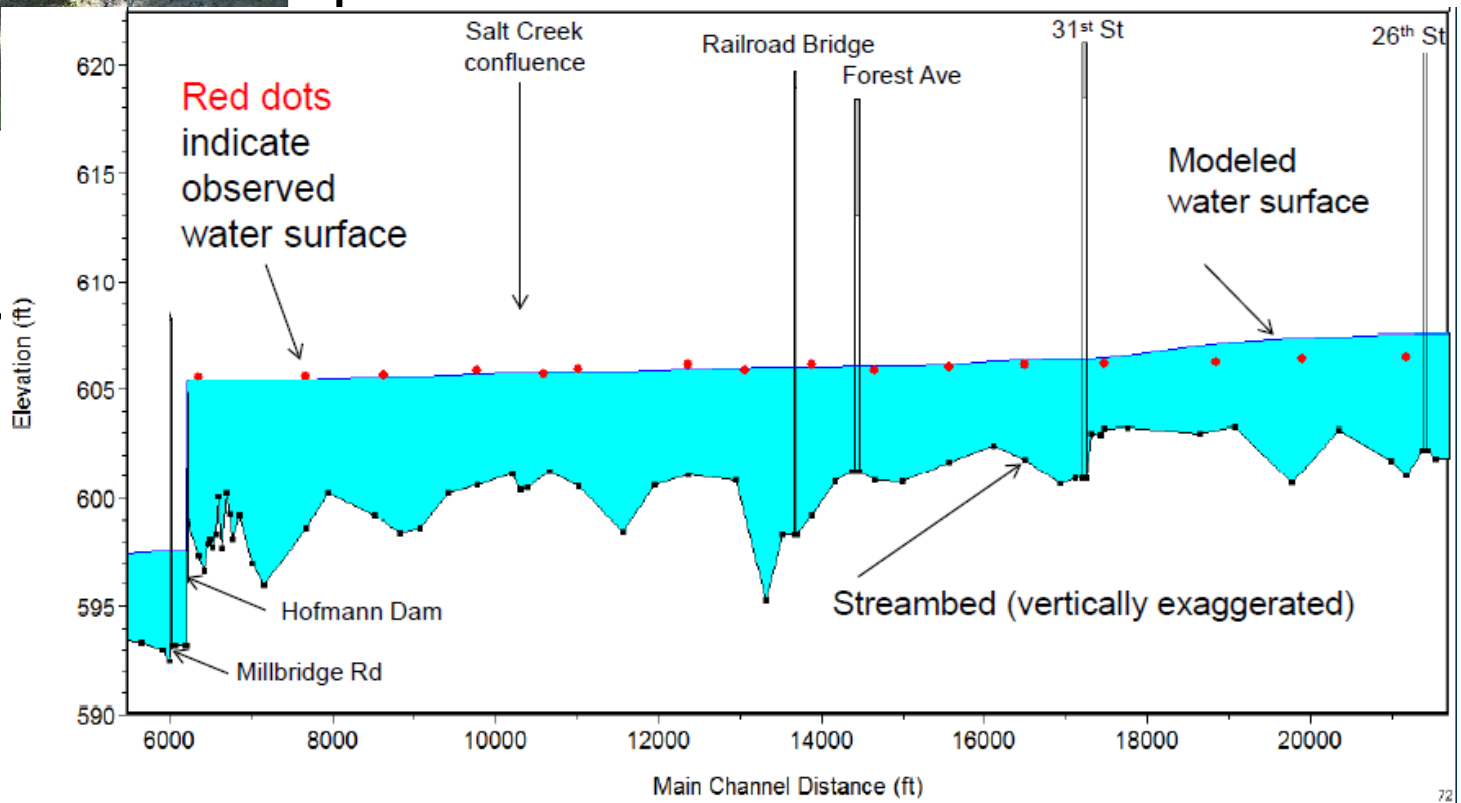
USGS
science for a changing world

Independent Technical Review and Analysis of Hydraulic Modeling and Hydrology Under Low-Flow Conditions of the Des Plaines River Near Riverside, Illinois



Open-File Report 2012–1143

U.S. Department of the Interior
U.S. Geological Survey



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