

Hamilton's Incredibly Shrinking Consent Ordered Project

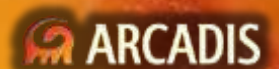
Do Court Decisions
in Parallel Districts and Regions
Affect Your Treatment Plant?

June 24, 2015

Peter Kube, ARCADIS



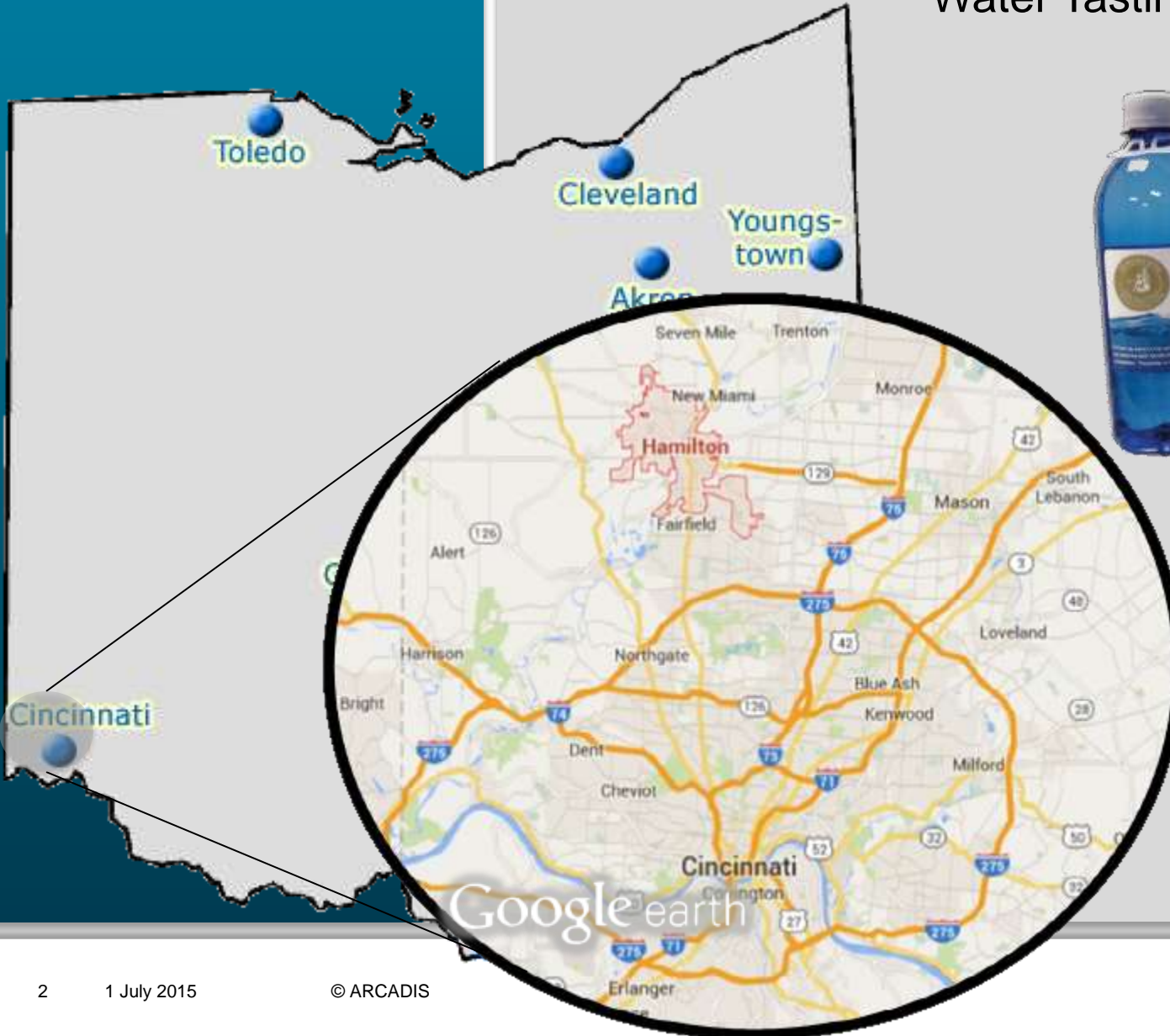
Imagine the result



Best Tasting Water in the World

Hamilton, OH

- Berkeley Springs International Water Tasting Competition



Hamilton, OH



- County Seat for Butler County
- 63,000 people
- Separate Sanitary Sewer System
- 32 MGD Water Reclamation Facility

- Not immune to economic duress that began in 2007
- Shrinking Wastewater flows:
ADF: 9 MGD

Closing Paper Plant =
30% Lost Wastewater
Annual Operating Revenue



Consent Order

Modified Consent Order

- No overflows for
 - 10 year-4 hour storm event
- WRF shall Treat
 - 10 year-24 hour event
- Create System Evaluation and Capacity Assurance Plan (SECAP)

OFFICE OF THE CLERK OF COURTS
MIDDLEBURY COUNTY, OHIO

STATE OF OHIO vs. JIMMYE J. BROWN
ATTORNEY GENERAL: DEBORAH R. HANCOCK
vs.
CITY OF MARIETTA
MARIETTA, OHIO

CASE NO. CV-18-114
MARIETTA CONSENT ORDER

WHEREAS, the Plaintiff filed a Complaint in violation of the defendant ("Plaintiff") being that a Complaint in this cause against Defendant, City of Marietta ("Defendant") as "City" or "Municipality" (Plaintiff and Defendant shall collectively be referred to as the "Parties") on behalf of the Division of the Environmental Protection Agency to enforce laws, rules, and regulations of Ohio's water pollution control laws and regulations and;

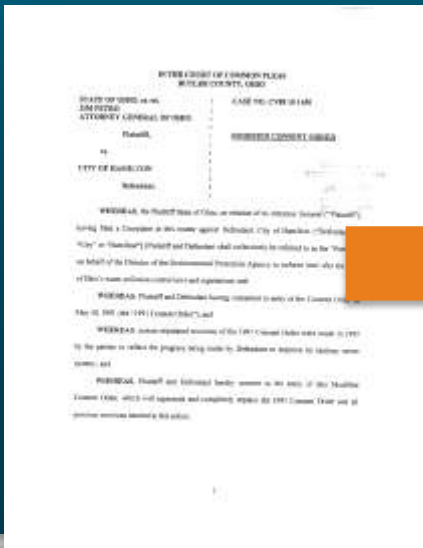
WHEREAS, Plaintiff and Defendant having stipulated to entry of the Consent Order as set forth in this Consent Order;

WHEREAS, certain stipulated provisions of the Consent Order have been made in full by the parties to reduce the ongoing litigation costs to Defendant as required by law; and

WHEREAS, Plaintiff and Defendant hereby agrees to the terms of this Modified Consent Order, which shall be signed and completed within 60 days of the date of the parties' execution of this Consent Order.

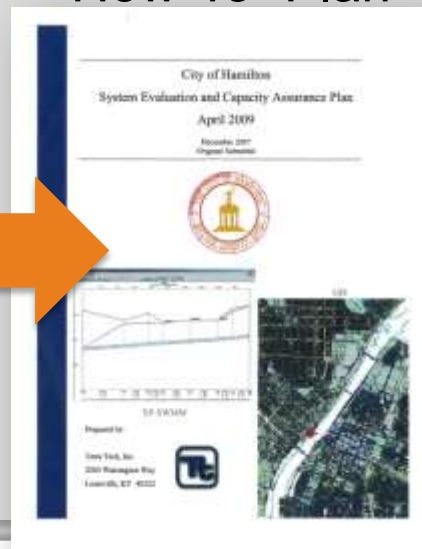
SECAP Plan: System Evaluation and Capacity Assurance Plan

Modified Consent Order



- Outlined projects to accomplish Consent Order compliance (“How-to”) – Became part of the Modified Consent Order
- Many Projects, Two major Projects
 1. Increased conveyance (Additional Interceptor)
 2. Increase treatment at WRF

SECAP: “How-To” Plan



SECAP 1. Interceptor Project

(Parallel Interceptor)

Paper
Plant

Paper
Plant's
Existing
Interceptor

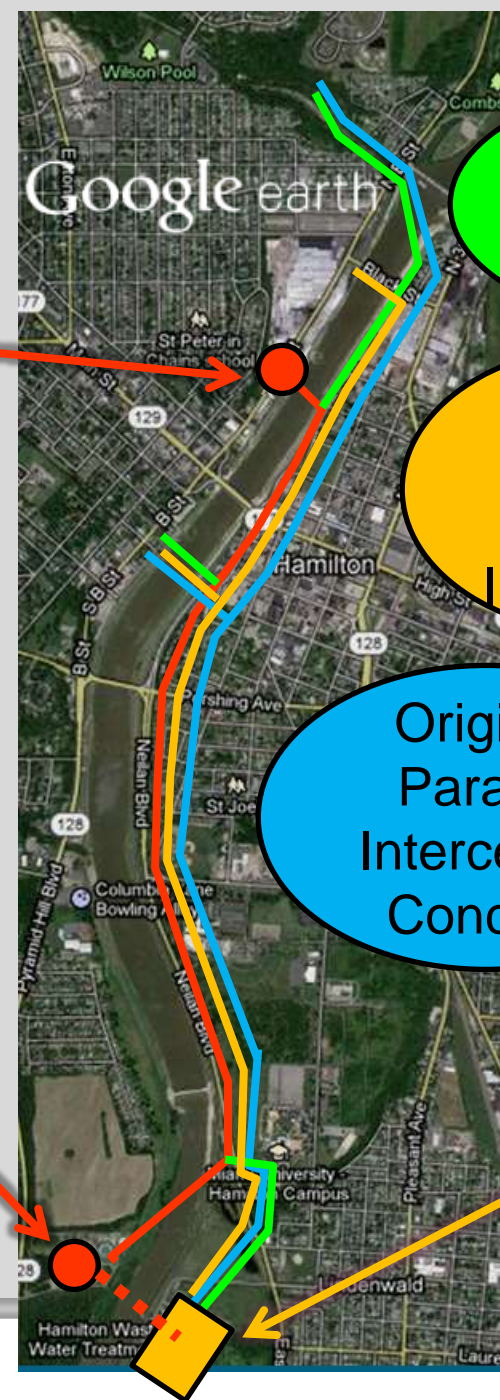
Paper Plant's
Pre-treatment
WWTP

Re-use
interceptor
concept

Existing
Sanitary
Sewer
Interceptor

Original
Parallel
Interceptor
Concept

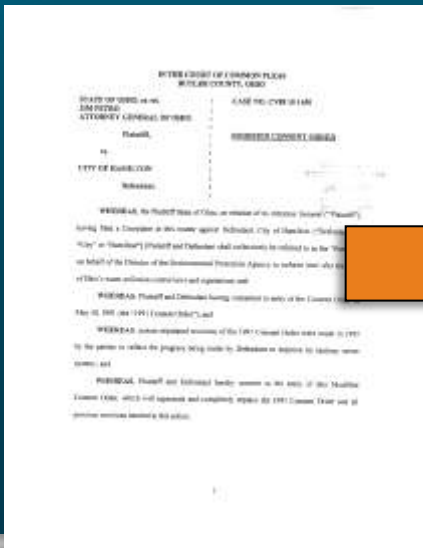
Water
Reclamation
Facility



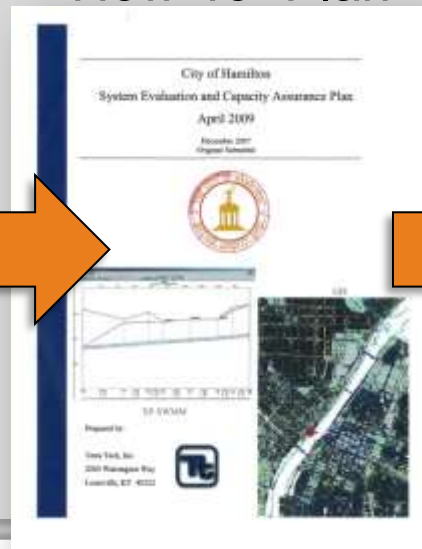
2. Increased Treatment at the Water Reclamation Facility

- SECAP Recommended Biological HRT
 - Biological Ballasted Flocculation
- City examined recommendation further via a
 - Preliminary Engineering Report

Modified Consent Order



SECAP: "How-To" Plan



Preliminary Engineering Report



Discussed Preliminary Engineering Report with OEPA

- Preliminary Engineer SECAP recommended Alternative (1)

While Keeping Constraints the same

- Preliminary Engineer Alternative 2
- Preliminary Engineer Alternative 3

Preliminary
Engineering
Report



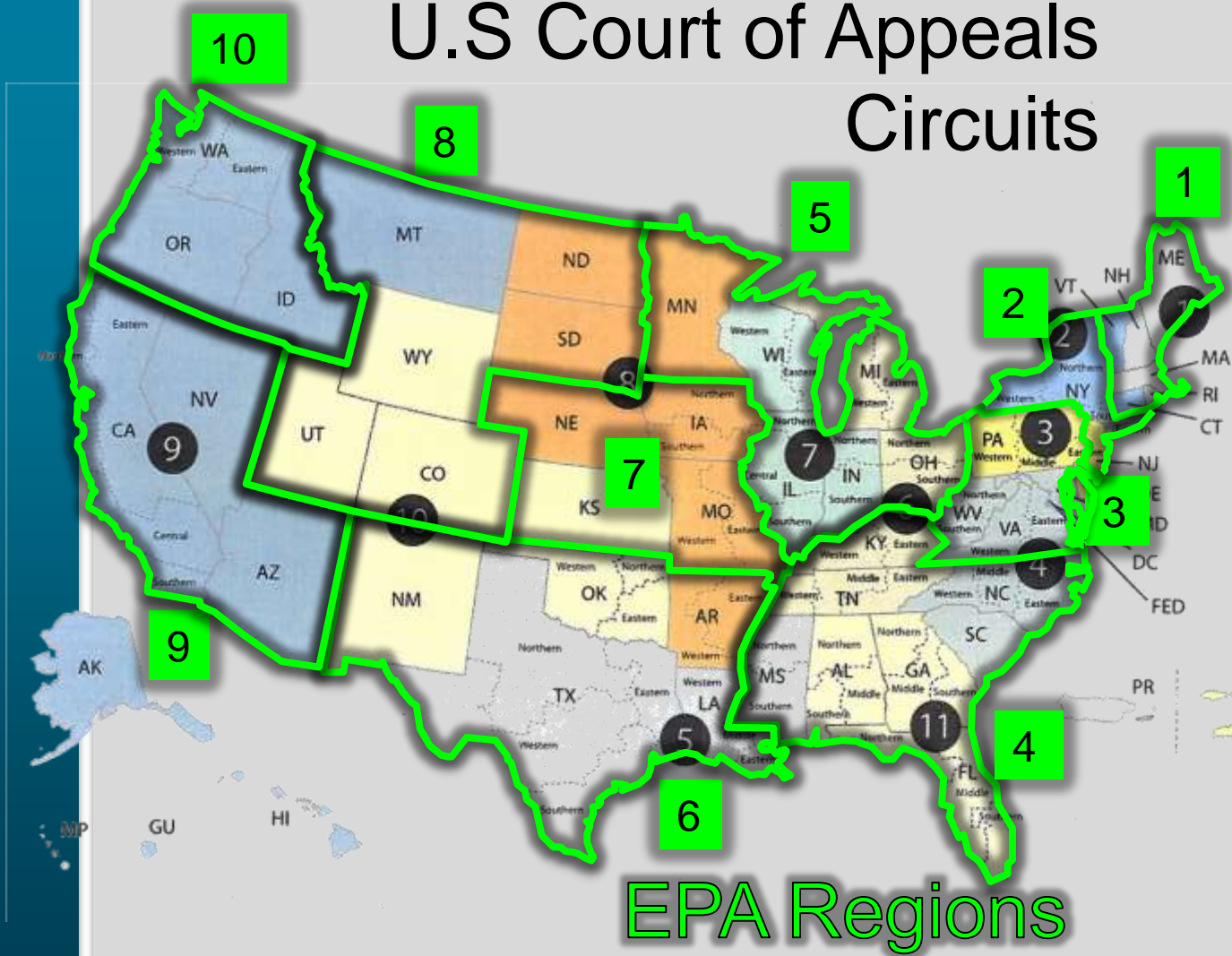
Design Progressed on Alternative 3

- Increased Influent Pumping
- Improvements to aeration tanks
- Addition of third secondary clarifier

Court
Decision
Occurs
Elsewhere

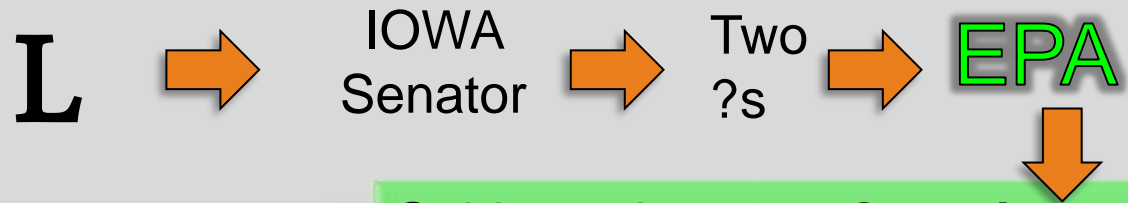
Iowa
League of
Cities
vs.
EPA
(8th Cir,
No 11-3412)

U.S Court of Appeals Circuits



Court
Decision
Occurs
Elsewhere

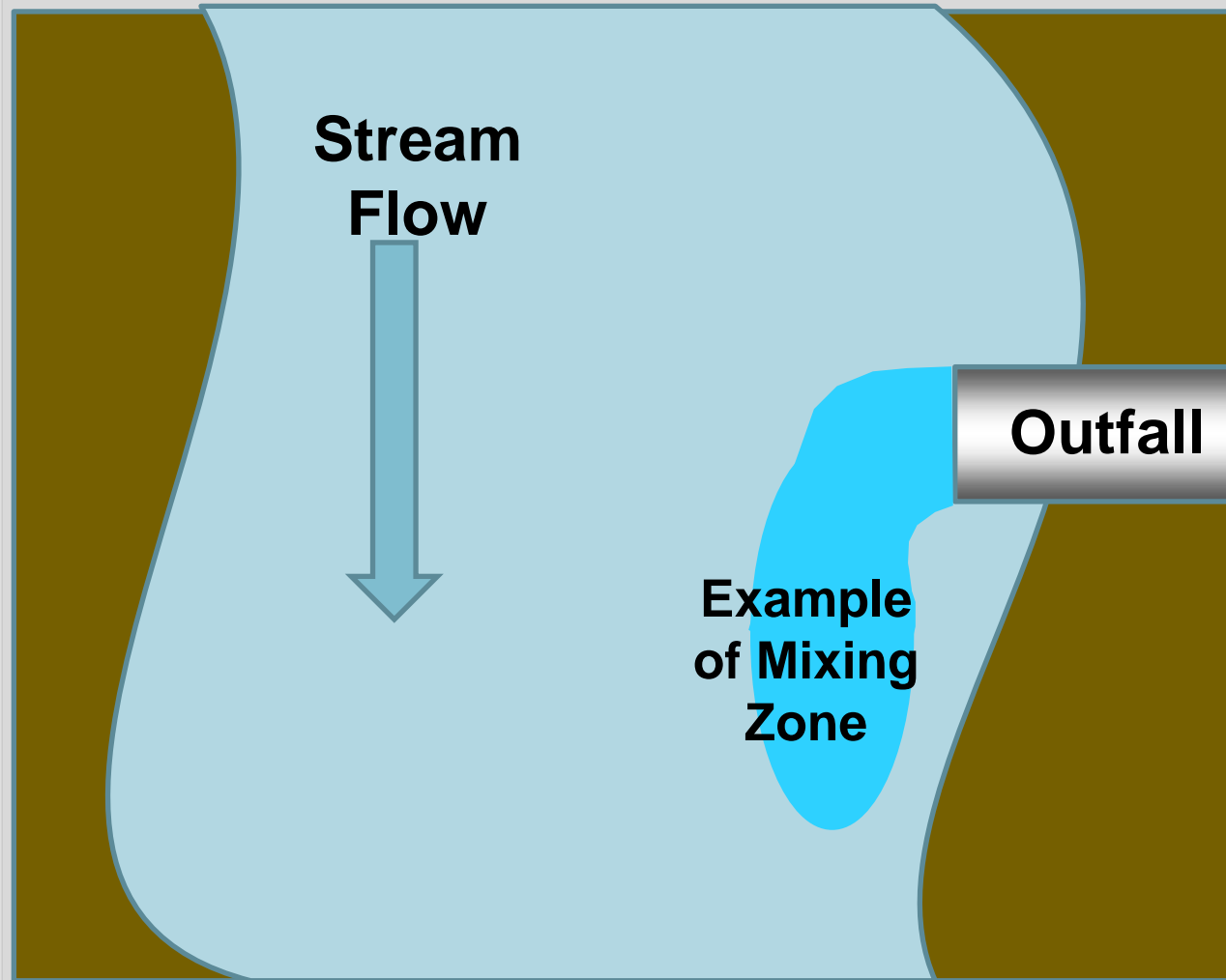
Iowa **L**
League of
Cities
vs.
EPA
(8th Cir,
No 11-3412)



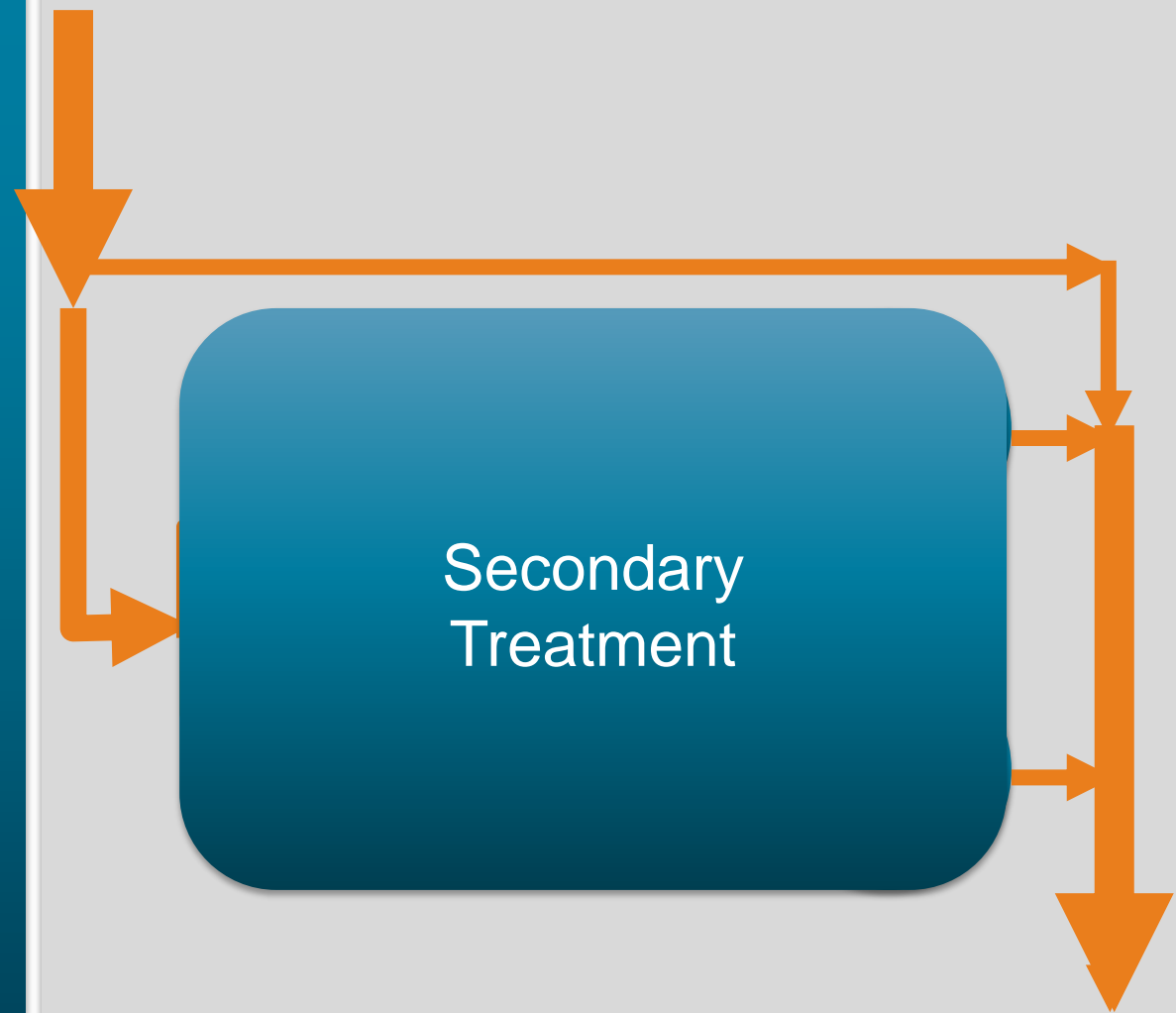
Guidance Letter to **Question #1:**
re: Mixing Zones

Guidance Letter to **Question #2:**
re: Blending

Guidance Letter to Question #1

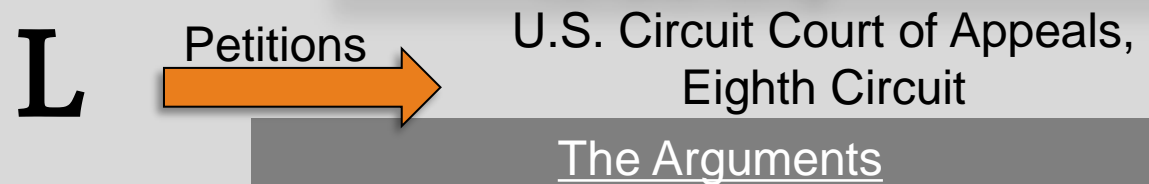
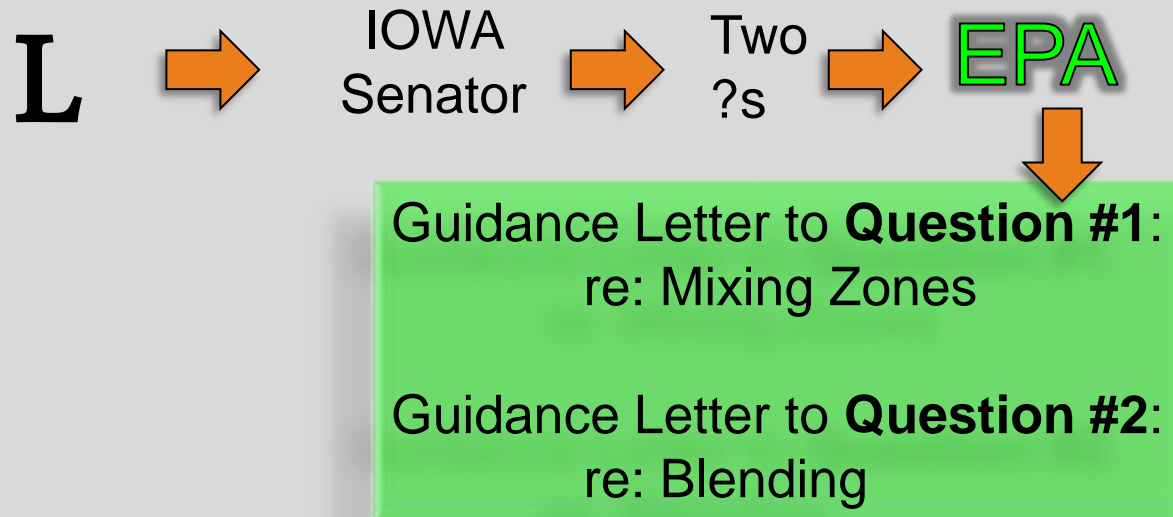


Guidance Letter to Question #2



Court
Decision
Occurs
Elsewhere

Iowa **L**
League of
Cities
vs.
EPA
(8th Cir,
No 11-3412)



- L**
- Letters were being used to establish rules
 - Rules not properly created per the Administrative Procedure Act

EPA

Dismiss outright as not rules but policies

Court Decision Occurs Elsewhere

Iowa League of Cities vs. EPA (8th Cir, No 11-3412)

The Ruling

- The EPA had used these specific guidance letters as rules without adhering to the Administrative Procedure Act.
- The guidance letter rules were vacated.
- However, The Court added that the EPA's guidance letter

“applies effluent limitations to a facility’s internal secondary treatment processes, rather than at the end of the pipe.” This “clearly exceeds the EPA’s statutory authority.....”

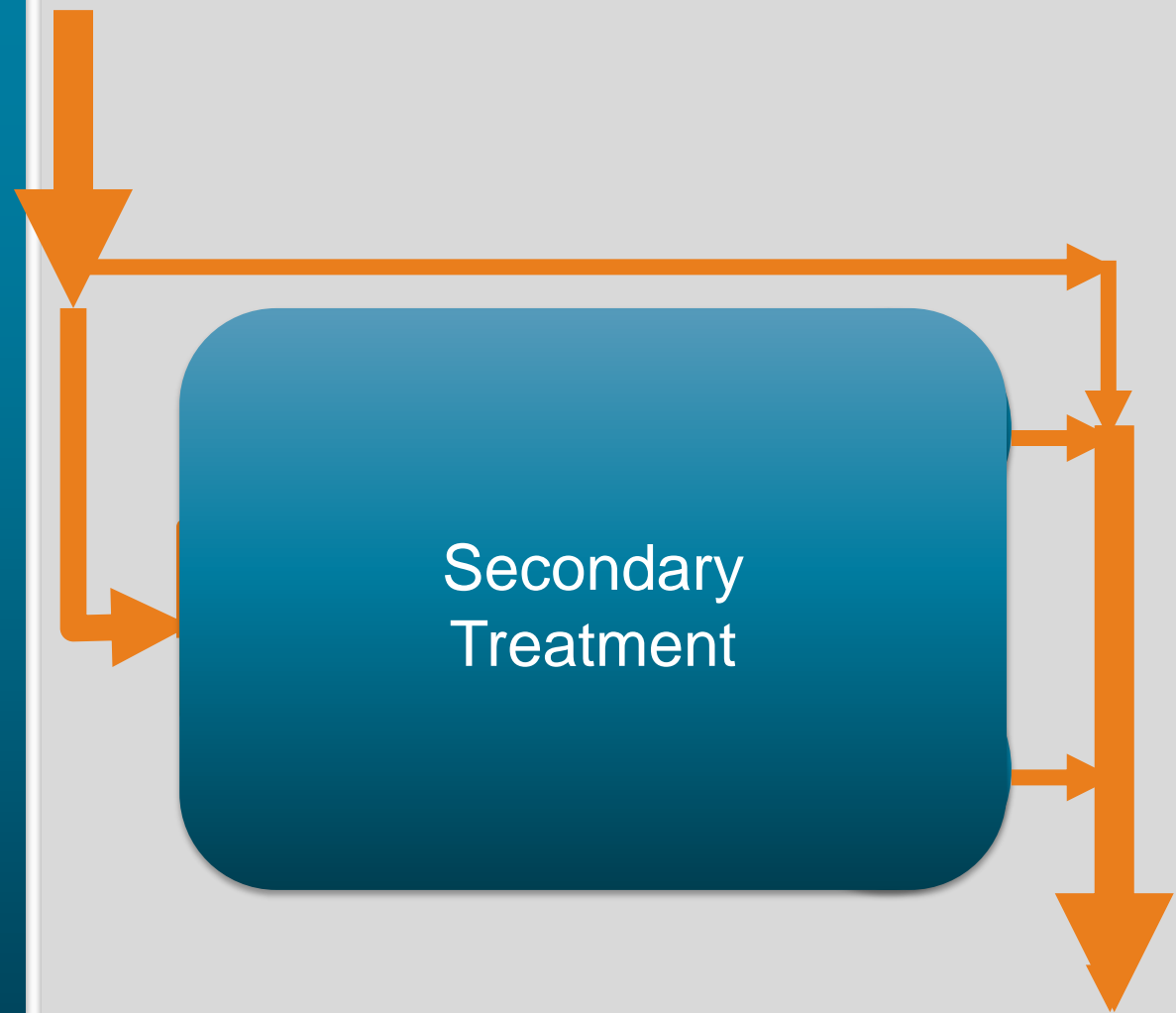
The Result

Use of Mixing Zones
reverted to previous regulations
and
blending can occur in some fashion

Previous Rules on Blending

- Prior to 2003- No Set Policy from EPA
- In 2003 – EPA proposed Blending would NOT be a “prohibited bypass”
- In 2005 – Blending was prohibited
- In 2011 – the League asked if High Rate Treatment Ballasted Flocculation qualified as treatment
 - EPA’s guidance letter said “NO”

Guidance Letter to Question #2



City went back to the Ohio EPA

- If we meet the modified consent order goals...
- With a revised approach
- that leverages all plant facilities to their full potential.....Would that be acceptable?



1950's

1990's

1970's

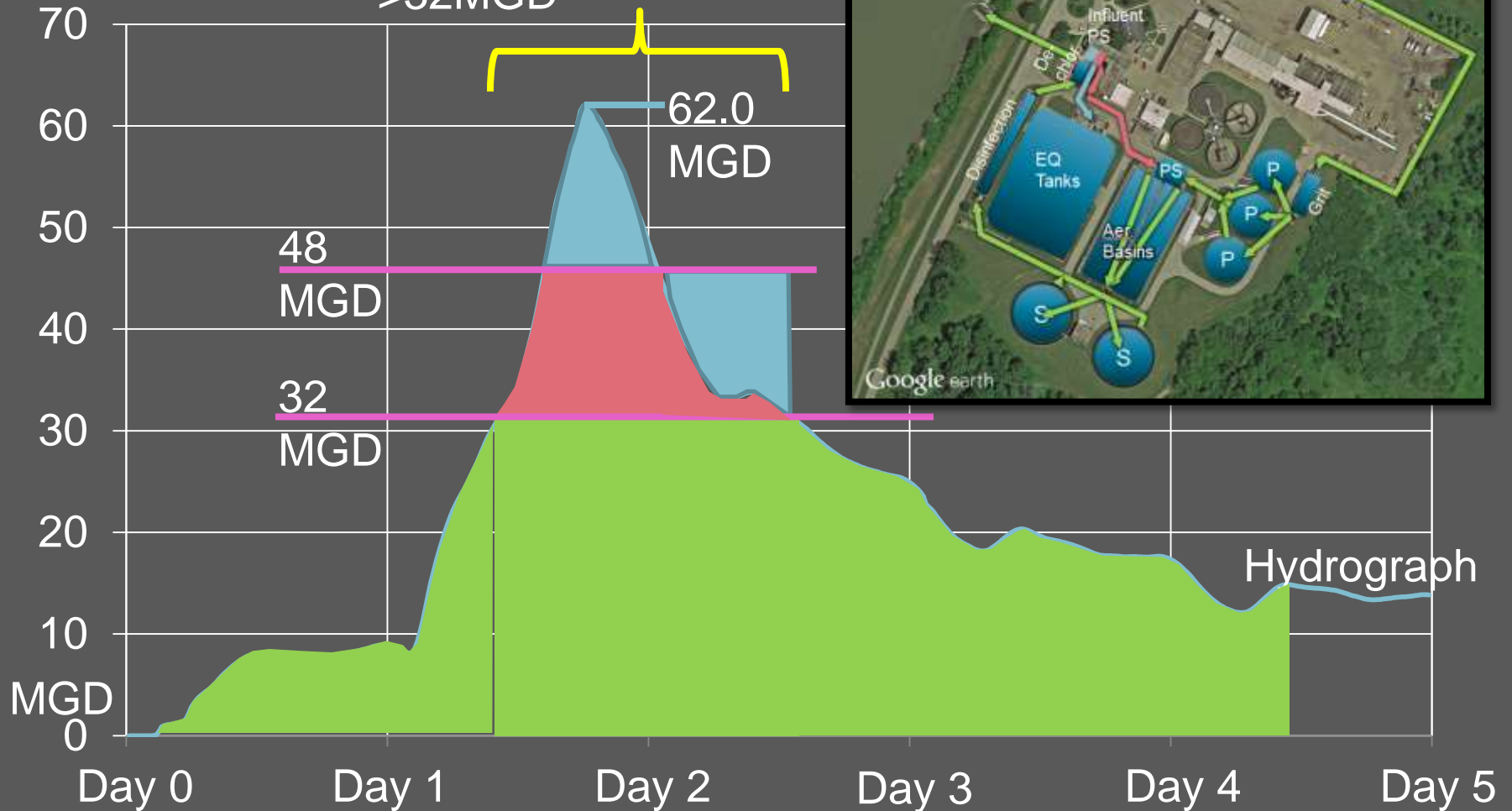
What
was
done at
the
plant?



Increased Pumping to meet Consent Order

Flow to Plant (MGD) - Atlas 14 10-year 24-hour Event

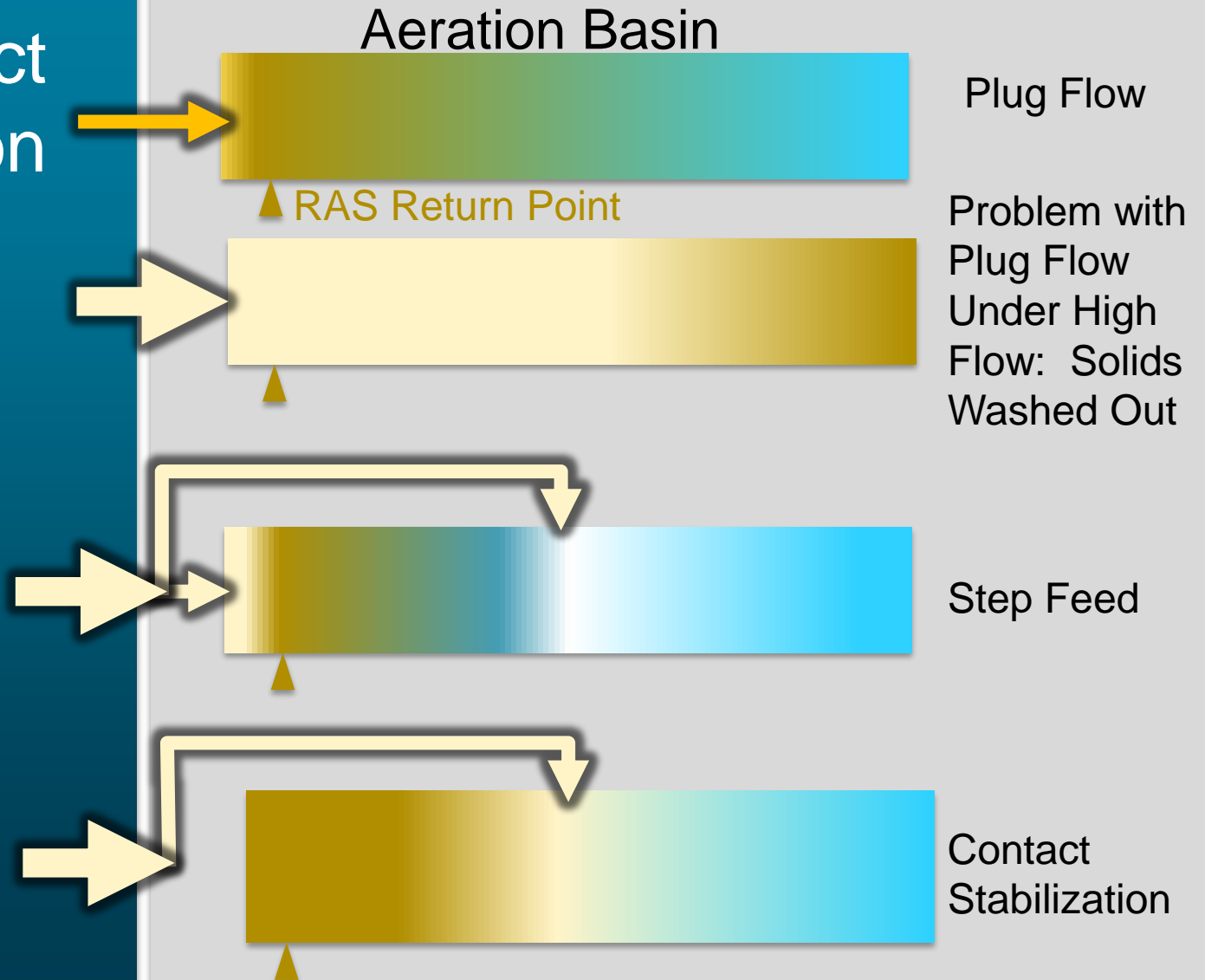
25 hours with flows
>32MGD



Increased Aeration Treatment Capacity

- Dry Weather flows have shrunk from 20 MGD to 9 MGD=
available capacity
- Plant recently changed from surface aerators to fine bubble diffusers
- This project installed step feed/contact stabilization for the aeration basins.

Step Feed and Contact Stabilization



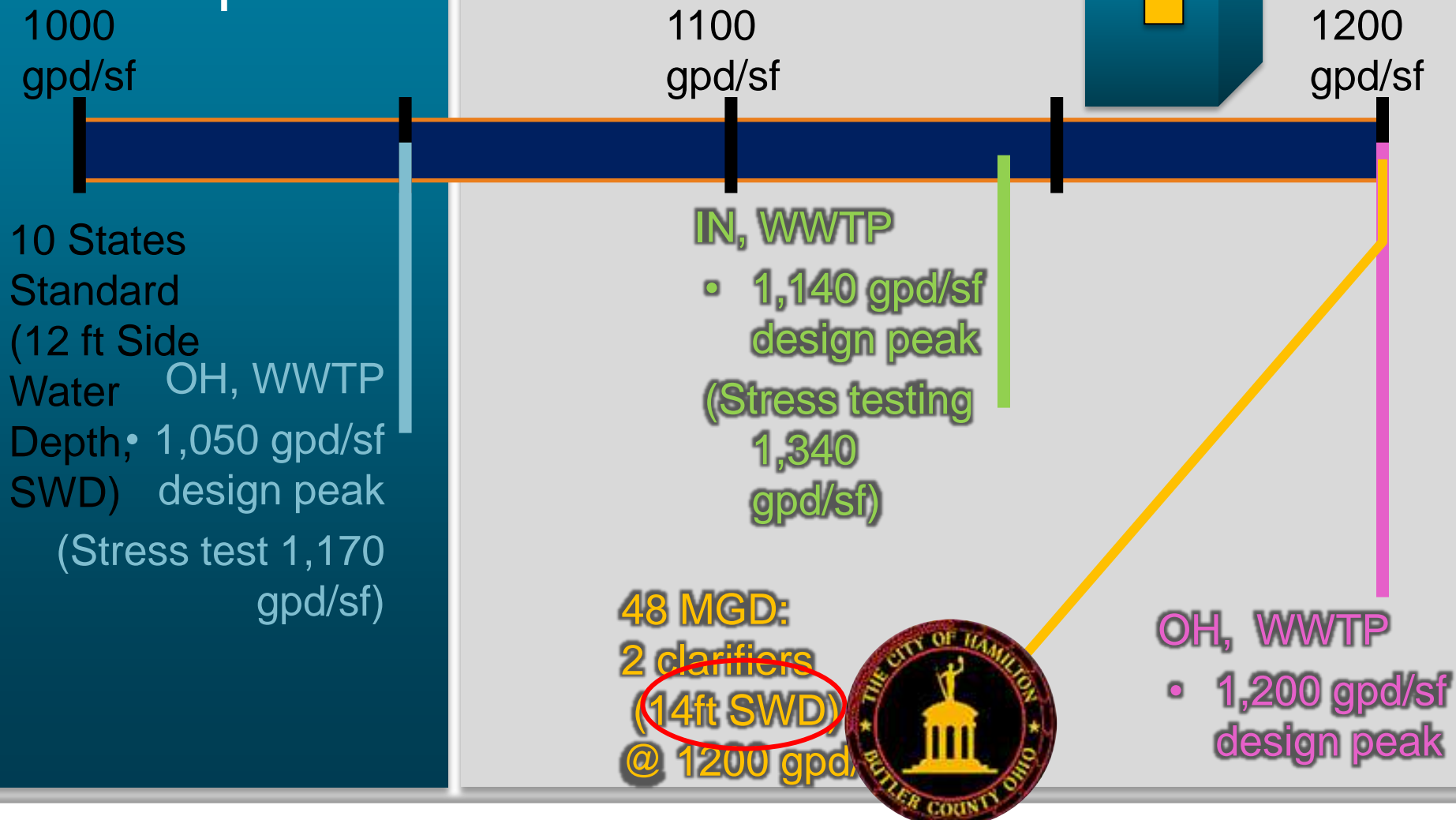
Secondary Clarifier Improvements

Density Current Baffles



Spiral Sludge Plows

Clarifier Overflow Rates Comparison



Shrinking Project

SECAP:
“How-To” Plan

Preliminary
Engineering
Report

Discussions
with EPA
Following
Court
Decision

Bid Price

Solution Cost (at the Plant only, not interceptor work)

\$29 M

\$21 M

\$7 M

\$5 M

Conclusions

Do Court Decisions in Parallel Districts and Regions affect your plant?

YES

It's good to monitor such cases to immediately act

The City leveraged every opportunity to meet consent order goals while upholding rate payers interests

- Repurposed existing Equalization Pump Station
- Salvaged abandoned (Interceptor) and Forcemain
- Re-used and increased treatment capacity
- Kept looking for the best alternate to accomplish goals
 - Project shrank from \$29 Million to \$5 Million (excluding the interceptor)

And ARCADIS Helped.

Questions

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ARCADIS

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Questions



Imagine the result