

EWRI Ethics Workshop Session:
*The Water Resources Engineer
as Expert Witness*

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A copy of this presentation can be downloaded at:
www.hydrologyexpert.com/EWRI2025.pdf



Experience in Litigation Support

- Worked on well over 400 pieces of litigation
- Been deposed well in excess of 100 times
- Testified in trial (either jury or judge [bench] trials) 31 times
- Litigation support makes up all of my paid business
 - My typical cases are regarding:
 1. Flooding and floods: individual properties as well as class action suits
 2. Storm drain system design, construction and O&M;
 3. Reservoir operations during flood events;
 4. Hydraulic impacts of bridges, structures, construction projects and maintenance operations;
 5. Highway drainage design (injury, wrongful death, etc.)
 6. Drownings: modeling the hydraulics surrounding....



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Part 2: The Litigation Process

Part 3: Deposition vs Trial Testimony

Part 4: Six Strategies for Trial Testimony

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Types of Witnesses

- In a legal proceeding there are three types of witnesses that can be called up in deposition or trial:
 1. A lay witness is a person who watched certain events and describes what they saw.
 2. A character witness is someone who knew the victim, the defendant, or other people involved in the case.
 3. An expert witness is a specialist — someone who is educated in a certain area.
- In order to testify, all witnesses must take an oath to agree, or affirm, to tell the truth.

Types of Experts

1. Participating

- Treating Physician
- Public Utility Maintenance Worker
- Flood Operations Manager

2. Experiential

- FEMA Region Representative
- State Floodplain Manager

3. **Hypothetical or Specially Retained Expert** ✓

- Their opinions are entirely based upon assumptions from provided material (Discovery) in the case
- No prior direct knowledge of case (Conflict of Interest)

* PMK

(designated)



What Is an Expert Witness?

Qualifications:

- Expert should have knowledge, skill, experience, training and/or education in a specific field of work or study
- Expert should have sufficient credentials or experience in a field to be considered to have valuable opinions on issues pertaining to that field
- The purpose of the Expert's Testimony is to "assist" the judge or jury in making decisions on legal questions in a trial
- Generally, it is someone with "Specialized Knowledge," applied liberally, anyone can be an Expert



Federal Rule of Evidence 702

" [in order to] **assist** the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training or education may testify thereto in the form of **an opinion or otherwise.**

➔ i.e., **The Testifying Expert**



Federal Rule of Civil Procedure 26

“an expert who has been retained or specially employed by another party in anticipation of litigation or preparation for trial and who is not expected to be called as a witness at trial.”

➔ **i.e., The Consulting Expert**



Consulting vs. Testifying Experts

Confidentiality of information shared by the Attorney with the Expert:

- a lawyer shall “not reveal information relating to the representation of a client,” i.e., attorney-client privileged information
- Consulting Expert’s work product is protected from *discovery* by the opposing side, i.e., in “Discovery”
- Testifying Expert’s work product (and files) are *discoverable* by interrogatory, request for production, or deposition



Expert Testimony Is Evidence

Types of Evidence:

- Physical Evidence
- Circumstantial Evidence
- Expert Opinion Evidence - the personal professional opinion based upon facts of record



Conflicts of Interest

- Involve whether a party may be prejudiced by a previous conversation, or relationship, with a party involved in the case
- Should be the first topic covered in an initial conversation with an attorney on a new case
- Don't talk to any involved parties, opposing attorneys, or other experts without permission from your client attorney – and then, still be careful
- Even *Perceived* Conflicts of Interest can result in Expert Disqualification



The Perfect Expert Witness

- Professional
- Knowledgeable
- Fair and Honest
- Thorough
- Sincere
- Communicates well
- Personable and Authentic
- Trustworthy



Characteristics of Bad Experts

1. Jack-of-all-Trades (but expert in none)
2. Report Writers (but don't make me testify!)
3. Ideologues - Sincerely biased, but biased
4. Honest but minimally qualified
5. Honest but overqualified (intellectualizing)
6. Honest but willing to exaggerate
7. Factually mistaken or misled
8. Selectively uses facts
9. “Hired Guns” – too willing to shape their opinions around their attorney’s case theory



The Biased Expert

Advocate vs. Expert Witness

- Who are you working for, and where is your allegiance?
- Do all assumptions swing one way?
- Emphasize the good and suppress the bad?



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Retention of an Expert

Your Initial Contact

- Description of services to be performed by the expert, or fields of expertise to opine in
- The rate of compensation to be paid for the expert's services, including whether the fee will vary depending upon the services rendered (e.g., research, examination, travel, testimony, etc.)
- Whether advance payments or retainers are required and, if so, under what circumstances

Your Contract

Always have a signed contract before beginning any work!

Contracts will be covered in detail in Dr. Williams's afternoon presentation

The Discovery Process

- Discovery is pre-trial phase in which each party through civil procedures can request documents and other evidence from other parties; can extend for weeks or months
- You should work with the attorney to help in this process; Provide them with a “Wish List” of documents and data, if applicable
- Your emails or other correspondence is discoverable, so make sure that preliminary opinions, personal comments, strategies, etc. are not written down
- Only communicate substantive questions, comments and findings via phone call unless instructed otherwise
- All your notes, hand calculations and presentations in your file are discoverable so make sure that they are not in contradiction to your opinions in the case. Only keep draft versions as needed

Declarations and Affidavits

- Expert witness Declarations and Affidavits state certain facts, your findings and/or your opinions in the case prior to your Deposition testimony.
- Affidavits are written declarations made under oath, usually certified by a notary public .
- You would normally be asked to write a declaration stating your opinions on the case and the reasons for your opinions. They are often used in connection with a motion (e.g., Motion for Summary Judgment, or MSJ)
- Your attorney will look at your drafts and make suggestions on improvements. They may also formalize it for submittal to the court.
- Don't change your statements if you feel they are already correct, even though your attorney may ask you to change/"bend" them
- Your line of questions given during your deposition will often follow, line-by-line, the statements you made in your declarations and affidavits.

The Expert Report

- An Expert Report can be produced, and in some jurisdictions is required. This document is wide ranging, depending on the needs of your client or the court.
- The Expert Report defines the issues, states your opinions and points out the short comings of the other side's argument.
- A report provides a more extensive statement of facts, research done, presentation of analyses and opinions arrived at than a declaration.
- A Federal case will require the submittal of an Expert Report in a very specific format.
- Amendments to the report that you produced can also be submitted.
- The Expert Report becomes evidence once submitted and is part of the court record

The Deposition

- A deposition is witness testimony given under oath and recorded by a court reporter for use in court at a later date. The opposing attorney questions you in real-time.
- It is usually taken at a mutually agreed upon location, usually the opposing attorney's office, but can be done via Zoom or Webex.
- The person being deposed (questioned) is the deponent. Both side's experts are generally deposed (try to get the other side's experts to be deposed first).
- Attorneys from all sides can be in attendance and ask questions. The opposing side's experts can also be in attendance but can not directly ask questions.
- Copies of the deposition are made available to everyone after you have made corrections to the transcripts. Your trial testimony will only cover the material covered in your deposition, and nothing else.
- Your cross-examination at trial will usually stem from your answers given in your deposition.

Settling the Case

- Settlement Agreement
 - The two sides confidentially agree upon a cash, or other form of, settlement.
- Mediation
 - A procedure in which the parties discuss their case with the assistance of a trained impartial third person(s) who assists them in reaching a settlement. The mediator is a facilitator who has no power to render a resolution to the conflict.
 - An expert witness may be called upon to attend a mediation to make a presentation, to provide technical backup to their client or simply as a spectator.
- Arbitration
 - The process of bringing the case before a disinterested third party for resolution. The third party, an arbitrator, hears the evidence brought by both sides and makes a decision. Sometimes that decision is binding on the parties.
 - Expert witness testimony can be called for in an Arbitration, just like in a trial
- Trial
 - Two types of trial – Jury and Bench (solely before a judge).

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Deposition vs. Trial Testimony

- Both are forms of testimony and part of the permanent record
- Most cases result in your deposition testimony, fewer cases result in your trial testimony
- Deposition testimony is “less holds barred” testimony; it can get nasty
- Trial testimony has the judge present to act as “referee”
- All trial testimony will be based on your deposition testimony



Deposition Testimony

- Information from each side's experts' depositions is often used to predict the outcome of a trial and therefore the basis for a settlement
- Take only the documents you will need for the deposition – they will enter in the records what you bring. Do bring a copy of your curriculum vitae, or CV (resume).
- You may be asked by your attorney to help with questioning of the other side's experts
- The other side's experts may be present and feed questions to their attorney. Don't be intimidated.
- There are two types of objections by your attorney to the questions posed to you
 - Privilege – they are asking questions that are protected under law
 - Object to the form of the question asked – note that this generally means your attorney is warning you to be careful!
- If you need time to think, don't feel shy in taking a breather (e.g., bathroom, early lunch, need water)

Depositions – Some Suggestions

- If you do not fully understand the question, ask for it to be repeated
- If the question is ambiguous, ask to repeat the questions using different phrasing or words
- If the question is still ambiguous, rephrase it yourself so that you can answer it with no misinterpretation
- Use short phrases, answer directly to the question and do not expound or give opinions voluntarily
- Give opinions only when directly asked to and for specific topics
- Don't be evasive, but use every opportunity to make your own points

Trial Testimony

Prior to Trial

- Take all the time needed for trial preparation, and get paid for it,
- Manage your lawyer as far as planning your line of direct questioning; go through your intended testimony with them first
- Make sure that your attorney understands the science, the analytical method and the engineering involved in your, and your opposing expert's, analysis.
- Offer assistance in preparing your attorney for cross-examining the opposing expert; prepare questions for them



Trial Preparation

- Study:
 - Review your entire file before testifying.
 - Review, and re-review, the transcript of your deposition(s) as close to trial as possible.
 - Be prepared, and fully familiar with specific technical concepts and issues your evidence will relate to.
 - Be fully familiar with the opinion and methodology of the opposing expert; the cross-examining lawyer will attempt to destroy credibility of your conclusions and replace them with those of opposing expert.
- ➔ Study the opposing expert's deposition transcript



Trial Preparation

- Know Your Testimony
 - Review your planned testimony with your attorney. Know what they will be asking you in direct examination.
 - Review with your attorney the types of questions that can be expected from your cross-examiner (from counsel's perspective).
 - Be fully prepared for obvious questions that will surface in cross-examination (you will know these by studying your own deposition transcript).



Jury Charge of Credibility

Before deliberations, the Judge will instruct the jury something to the effect of:

“You are the only judges of the credibility of the witnesses and their testimony. This means you must judge the truthfulness and accuracy of each witness' testimony and decide whether to believe all, or part, or none of the testimony.”



Jury Instructions

- How well does the testimony of the witness square with the other evidence in the case?
- Did the witness have any interest in the outcome of the case, or any bias that might have affected their testimony?
- Was their testimony supported or contradicted by the other evidence or testimony?
- Does their testimony make sense to you?



Jury Instructions

- Did the witness testify in a convincing manner?
- How did the witness look, act and speak while testifying?
- Was the testimony uncertain, confused, self contradictory?
- Was the testimony presented in any kind of evasive manner?



Jury Instructions

Falsus In Uno, Falsus In Omnibus
"false in one thing, false in everything."

- "Should you determine that a witness intentionally testified falsely on an important matter, you may for that reason alone decide to disbelieve the rest of that same witness' testimony. "
- i.e., Impeachment of the Witness
- Make sure your trial testimony *absolutely* matches your deposition testimony.



Your Testimony

1. What are your qualifications (training, education experience) in acting as an expert here?
→ Court admits you as an expert in trial
2. When were you contacted and what were you told to do/investigate/determine?
3. What you did next...
 - a. Reports / plans/data reviewed
 - b. Site evaluation / field work done
 - c. Evaluation of Data / Technical Analysis / Computer Modeling
4. Formulation of your conclusions based on data / analysis
Hypothesis → Theory → Conclusion



Delivery of Testimony

- During questioning:
 - Engage eye contact with the questioning attorney
 - Listen carefully to the questions; pause before answering
 - Answer the questions directed toward the Judge or Jury
- Be prepared for the questions you will likely be asked
- Don't become anxious over the line of questions
- Keep an even pace to your answers; don't rush them
- Don't lie, exaggerate or make up an answer just to support your clients case
 - If you don't know the answer to a question, say so
- Remember: Your job is only to assist the judge and jury in understanding the complicated issues *within your expertise*; you need not be an expert in everything
 - If a question is outside of your field of expertise, say so



Delivery of Testimony

- Watch Your Audience
 - Is the judge/jury listening?
 - Are they taking notes?
 - Are they watching you?
 - Is the judge asking questions?
 - Are they nodding their heads up and down or side to side?



Delivery of Testimony

Remember: The Expert is there to educate the jury.

Therefore, transform yourself:

From: a technically oriented professional speaking to the jury...

Into: a "teacher" speaking to his or her classroom

You need to be an *interesting* teacher, who is teaching a Science course to Art students.



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Six Strategies for Making the Complex Understandable

Use of:

1. Language
2. Analogies
3. Examples
4. Demonstrations
5. "Real World" Examples
6. Visuals



Six Strategies:

#1 Language

- Simple - Speak in terms of 6th grade education (K.I.S.S)
- Concise - “Need to know” (critical) information vs. “Nice to know” (non-essential) information
- Clear – Use *layman terms* vs *professional jargon*
 - If you need to use a technical term, define that term



Six Strategies:

#1 Language

Example from a Storm Drain System Assessment Report:

Professional Jargon

" I tracked the hydraulic grade line within the pipe network by running a hypothetical design storm through the computer model and determined that there were several locations of significant surcharge."

Layman Terms

"I modeled the design storm's impact on the storm drain system and found that many of the manhole covers would blow."



Six Strategies:

#2 Analogies

An analogy is simply a comparison of two different things that are alike in some way.

Examples:

- Reservoirs with low-level outlets are like bathtubs
- Pipes systems with design bottlenecks are like a hose with a “kink” in it, or a freeway going from 6-lanes to 2-lanes.
- Analogies need to be *current* and *widely common*
 - The "audience" needs to be able to relate
- Analogies need to be planned ahead
 - Brainstorm beforehand to develop the analogy



Six Strategies:

#3 Use of Examples

- Supplement your testimony with: "For example"
- Relate the example to concepts the jury will understand
- Remember "K.I.S.S."
- Example (of using examples)
 - Time of Concentration (concept)



Six Strategies:

#4 Demonstrations

- Gives the jury/court "hands on" experience with the evidence or concept
- Practice, practice, practice (the demonstration NEEDS to work)
 - Remember the glove in O.J. Simpson's murder trial?
- Follow K.I.S.S.
- Example: Use of Physical Models



Six Strategies:

#5 "Real World" Examples

- Makes the testimony relevant
- Jurors can relate the testimony and its significance to the question being decided by the court
- Produces a mental image for the court
- Examples:
 - Flood damages are independent of flood duration
 - Runoff produced by a fully developed watershed



Six Strategies:

#6 Visuals

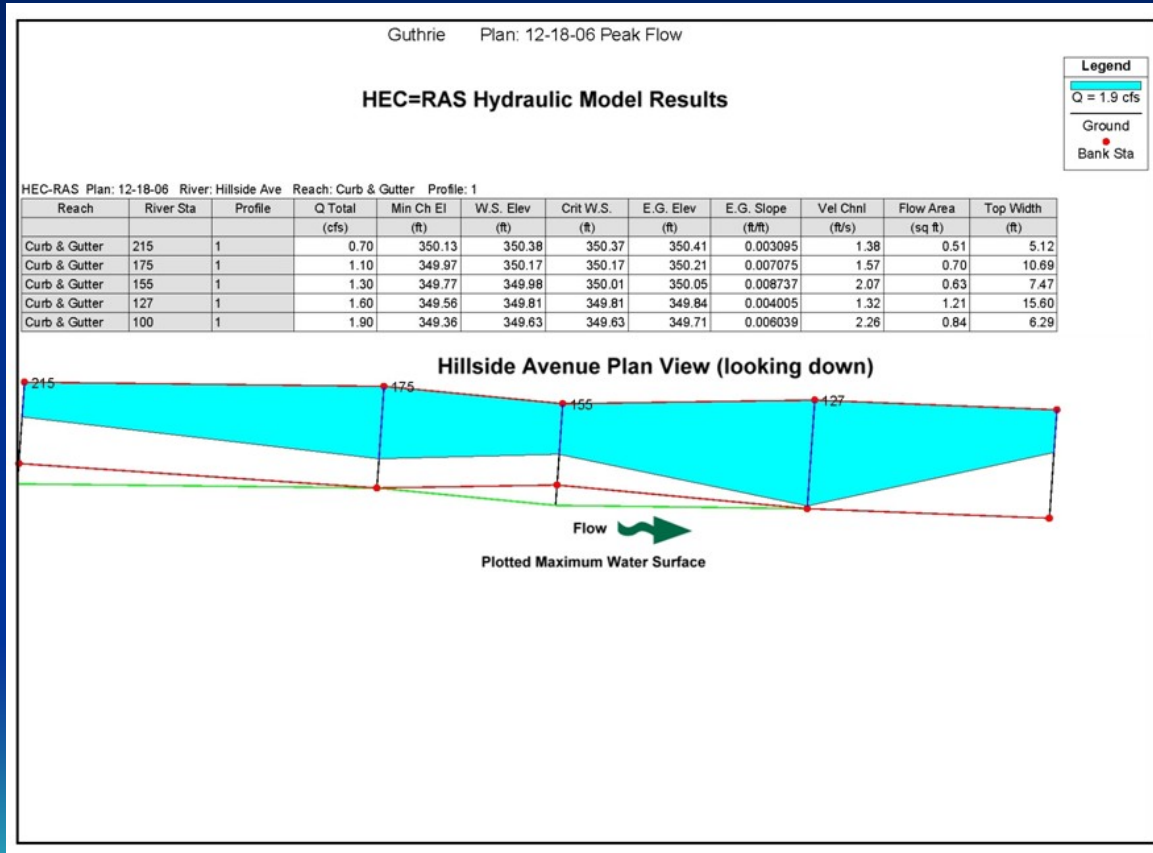
- Powerful tool: "a picture is worth a 1000 words," but "a video is worth a library"
- Needs to follow the guiding principles, especially KISS
- Can be presented in various media
 - Drawing
 - Picture
 - Diagram
 - Video
- Examples:
 - Use of Drawings in the courtroom
 - Tables vs. Graphics vs. Animations



Six Strategies:

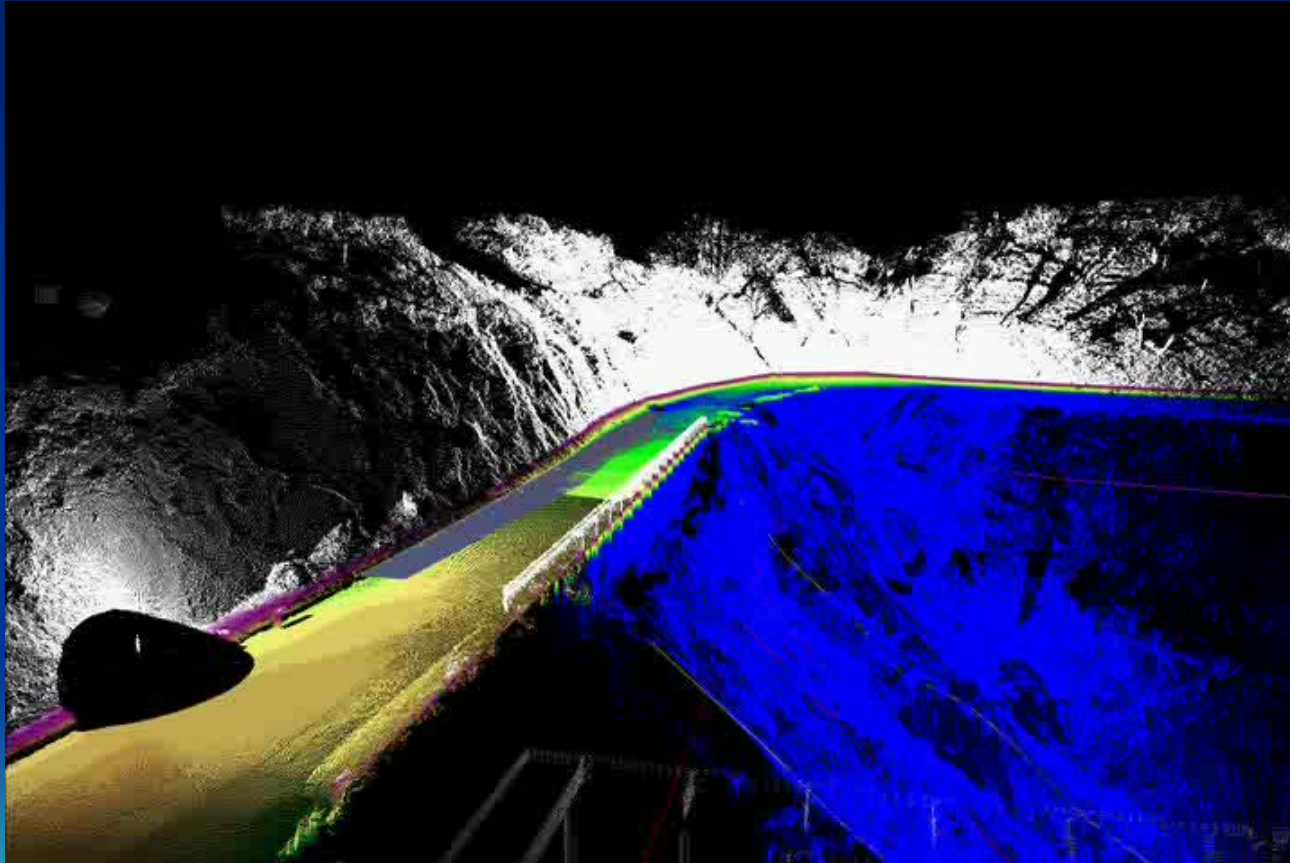
#6 Visuals

Not-so Good Visual: HEC-RAS Summary Table and Plan View



Six Strategies: #6 Visuals

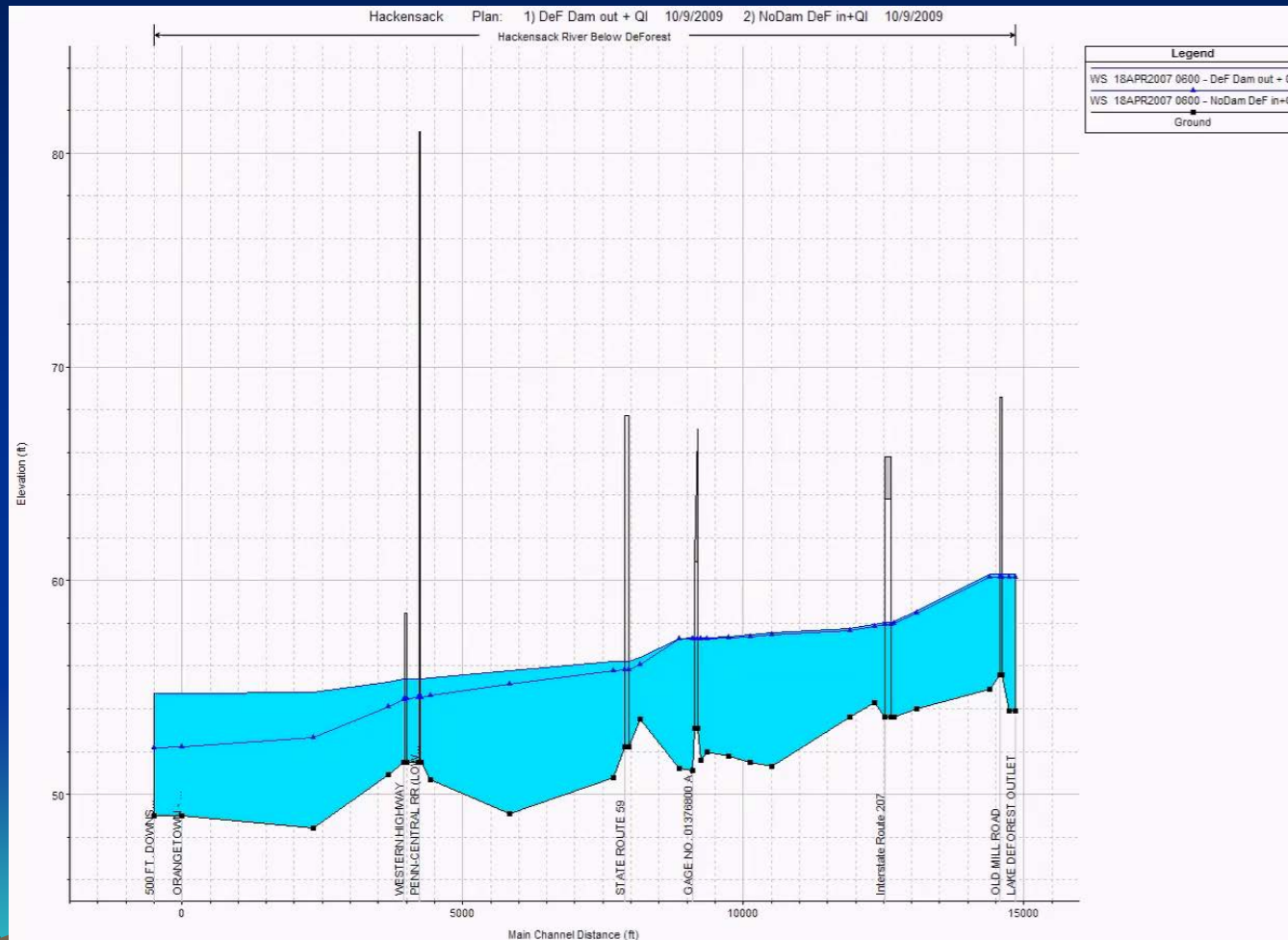
Much Better Visual: Use of Animation Incorporating HEC-RAS Results



Six Strategies:

#6 Visuals

Good Visual: HEC-RAS 1-D Time-Variant Profile



Six Strategies: #6 Visuals

Much Better Visual: Use of Animation Incorporating 2-D HEC-RAS Results



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