

SOAH DOCKET NO. 582-15-2082

TCEQ DOCKET NO. 2015-0069-MSW

APPLICATION OF	)	BEFORE THE STATE OFFICE
130 ENVIRONMENTAL PARK,	)	
LLC, FOR PROPOSED	)	OF
PERMIT NO. 2383	)	
	)	ADMINISTRATIVE HEARINGS

HEARING ON THE MERITS

Wednesday, August 17, 2016

BE IT REMEMBERED THAT at 9:00 a.m., on Wednesday, the 17th day of August 2016, the above-entitled matter came on for hearing at the State Office of Administrative Hearings, William P. Clements, Jr., Building, 300 West 15th Street, Room 404, Austin, Texas, before KERRIE JO QUALTROUGH and CASEY BELL, Administrative Law Judges, and the following proceedings were reported by Jodi Cardenas and Lorrie A. Schnoor, Certified Shorthand Reporters.

## P R O C E E D I N G S

WEDNESDAY, AUGUST 17, 2016

(9:00 a.m.)

(Exhibit Applicant Nos. 24 and 25 marked)

(Exhibit Protestants No. 40 marked)

JUDGE QUALTROUGH: All right. This is SOAH Docket No. 582-15-2082; TCEQ Docket No. 2015-0069-MSW. It's August 17th, 2016. We're reconvening the hearing.

There's just a couple of preliminary matters that we need to discuss. We received a request for subpoena yesterday from TJFA and EPICC -- the issuance of a subpoena for Jessica Niemann.

MS. PERALES: It's Niemann.

JUDGE QUALTROUGH: Niemann. Is there any objection? I don't know if the other parties have seen this request for subpoena.

Is there any objection to that subpoena request?

MR. RYAN: No.

MR. TUCKER: No.

JUDGE QUALTROUGH: All right. So we will issue that subpoena. And it will be sent to the parties as is typical of SOAH-issued documents. However, I will bring the original to you at the break so you'll have

1 it.

2 MS. PERALES: Okay.

3 JUDGE QUALTROUGH: But everybody else will  
4 get it through fax, and it will be uploaded the way it  
5 always is.

6 All right. Any questions? Any other  
7 preliminary matters we need to discuss?

8 (No response)

9 JUDGE QUALTROUGH: All right. So I guess  
10 we'll start.

11 JUDGE BELL: All right. We're back to  
12 cross-examination from Plum Creek for Mr. Traw.

13 MR. WILSON: And I'll just stand up here  
14 and say I'm going to pass Mr. Traw at this time. I have  
15 no more questions for him on cross.

16 JUDGE BELL: All right. Very good. Thank  
17 you, Mr. Wilson.

18 Any cross-examination for Mr. Traw from  
19 the ED?

20 MR. TATU: Just a few questions, Your  
21 Honor.

22 JUDGE BELL: Go ahead.  
23  
24  
25

## 1 PRESENTATION ON BEHALF OF THE APPLICANT (CONTINUED)

2 TYSON L. TRAW, P.E.,

3 having been previously duly sworn, testified as follows:

## 4 CROSS-EXAMINATION

5 BY MR. TATU:

6 Q Good morning, Mr. Traw. For the record,  
7 Anthony Tatu on behalf of the Executive Director.

8 A Good morning.

9 Q Looking over your prefiled testimony, it looks  
10 like you've been doing this type of work for about 10  
11 years, since 2005. Is that right?12 A Well, I guess it would depend on what you mean  
13 by "this type of work."

14 Q Image analysis.

15 A Yes.

16 Q And so the two areas that you were focused on  
17 with this application would be with respect to drainage  
18 and floodplain issues. Is that correct?

19 A Yes.

20 Q And you testified in your prefiled testimony  
21 that you were familiar with the TCEQ MSW regulations as  
22 they relate to those issues. Is that correct?

23 A Yes.

24 Q Do you have a copy of the rules up there?

25 A I do.

1 Q Can you go ahead and pull them out and go to  
2 330.63(c), please? Just let me know when you're there.

3 A Okay. I think I see that.

4 Q Okay. And are you familiar with this  
5 regulation?

6 A Yes. This describes what is required of the  
7 application.

8 Q And can you look at the section under (c) which  
9 talks about sample calculations? It would be (c) --  
10 (c) (1) (c).

11 A Yes, I see that.

12 Q And can you tell me what that regulation  
13 states?

14 A It says, "Sample calculations provided to  
15 verify that existing drainage patterns will not be  
16 adversely altered."

17 Q Okay. And would you agree with me that the key  
18 phrase there is "adversely altered"?

19 A I believe that's an important part of that  
20 rule, yes.

21 Q Can you describe what -- how you would  
22 interpret that term?

23 A Which term?

24 Q "Adversely altered."

25 A Well, I think adversely would -- would mean in

1 a negative way, and altered would mean if it were to be  
2 changed. So I think those two together would mean a  
3 change in a negative way.

4 Q Okay. Well, so this regulation just tells you  
5 what it is that you need to show, but it doesn't tell  
6 you how to do it. Is that correct?

7 A Are we still talking about C?

8 Q I'm just talking about 330.63.

9 A In general, this is just describing what needs  
10 to go into the application and how that might be  
11 organized.

12 Q Okay. Can you go ahead and flip to 330.305 at  
13 this time?

14 A Okay.

15 Q And are you familiar with this regulation?

16 A Yes.

17 Q Could you just summarize for me what this  
18 regulation describes?

19 A This describes the drainage requirements for  
20 landfills.

21 Q And does it talk about what methods applicants  
22 should use to assess the drainage?

23 A Generally, yes.

24 Q And in doing your drainage analysis, what  
25 methods did you use?

1 A Ones that are described in the rules.

2 Q Can you specify which ones?

3 A Well, I could. It could take a while.

4 Q Well, let me ask you this: Did you use the  
5 rational method?

6 A For some portions of it, yes.

7 Q Okay. And was there another method in addition  
8 to that?

9 A Yes. We also used HEC-HMS modeling software in  
10 conjunction with the SCS method within that for other  
11 parts of the drainage analysis.

12 Q And that is one of the methods that is offered  
13 or specified in the regulation. Is that correct?

14 A Yes.

15 Q Do you have an exhibit that basically shows the  
16 pre-existing conditions that are contrasted with  
17 post-development conditions?

18 A I believe we have a full attachment that --  
19 that talks about the comparison of those if that's what  
20 you're referring to.

21 Q Okay. Let me ask you this: Can you look at  
22 130EP-2, Page 79?

23 A Okay.

24 Q I just want to make sure everyone is there.  
25 Okay. Can you describe -- this looks like charts. Can

1 you describe what these charts represent?

2 A Well, I would describe them as tables. And so  
3 what their purpose is, is to try to summarize the -- the  
4 differences in existing and post-development drainage  
5 and characterize the differences between those. And so  
6 the first table at the top, it -- it's talking about  
7 peak discharge for both the 25-year, which is required  
8 by the rules, and then also the 100-year.

9 Q Let me stop you there. When you're talking  
10 about "peak discharge" -- and I see that it says, "CFS."  
11 What does that actually mean?

12 A That's a unit of measure. It's cubic feet per  
13 second.

14 Q Okay. And did you -- why did you put both the  
15 25-year peak discharge and the 100-year peak discharge  
16 in your table?

17 A There's several places where we went above and  
18 beyond what the rules require. Most instances of that,  
19 that was requested by the client.

20 Q Okay. And so then moving on to the second  
21 table, what does that represent?

22 A Again, it's a similar table in that it  
23 summarizes the differences between existing and  
24 post-developed drainage patterns. This one specifically  
25 is speaking to the volume of run-off.

1 Q Okay. Can you explain the difference to me  
2 between the first table and the second table in terms of  
3 CFS and -- and the volume of run-off?

4 A Okay. So CFS, again, that is a rate of flow,  
5 and that's cubic feet per second. In the second table,  
6 we talk about volume. And that essentially is if you  
7 think -- well, first of all, the units are in acre feet.  
8 Those could also be expressed in cubic feet. That might  
9 be more comprehensible.

10 But really what we're talking about there  
11 is in a given storm, that's the volume of run-off that  
12 would occur from that storm. So that would be from the  
13 beginning of the storm until the end of the storm if you  
14 were to sum up all of that volume of rainfall that runs  
15 off, that's what's characterized in the second table or  
16 the middle table on --

17 Q Okay. And the first table would just be at its  
18 highest point during the storm?

19 A Well, that would be the peak discharge or the  
20 peak flow rate. So that's a measure of how much water  
21 would be moving through that water course at -- at a  
22 given time. In this case, it's the time that reflects  
23 the highest discharge.

24 Q And how about that last table when it talks  
25 about 25-year velocity or FPS, what are we actually

1 talking about there?

2 A Okay. So right. We're talking about velocity.  
3 And again, it's a comparison between the existing and  
4 the post-developed drainage patterns. FPS is feet per  
5 second. So, for example, if you were standing near a  
6 stream and you threw a floaty in the water, that would  
7 give you an idea of the velocity at least on the surface  
8 of that water. So that's kind of what that's talking  
9 about.

10 Q So how fast the water is moving?

11 A Correct.

12 Q Why is that a concern from the regulatory  
13 perspective?

14 A Well, I think you're asking me probably why  
15 that is a rule. And I'm really not sure, because, to  
16 me, the peak discharge, if we prove up that we -- that  
17 we don't have an increase in peak discharge or it's not  
18 adversely modified, then, really, velocity falls out on  
19 that. But I will say, I guess, there could be some  
20 instance where maybe the channels or something would be  
21 modified.

22 Q Well, wouldn't there be more erosion if the  
23 peak discharge is higher?

24 A Can you repeat that?

25 Q Well, if there's a higher level of velocity, is

1 there more discharge down the stream potentially?

2 A Not necessarily, because -- so the peak  
3 discharge and velocity are related, but they're related  
4 by the geometry at the actual location you're wanting to  
5 measure velocity. So they're not completely dependent  
6 upon one another, but I could see where perhaps the  
7 agency would be interested in knowing the velocity  
8 because of potential erosion.

9 Q Okay. So then looking at the -- let's just  
10 look at the first table. And it says, "Comparison  
11 Points, CPE1 through 12." Are you there?

12 A Yes.

13 Q Okay. So -- and I'm just looking at the  
14 25-year peak discharge portion, not the hundred-year.  
15 The difference that you've got in this third column,  
16 they're primarily all either negative or zeros. So does  
17 that mean that at post-development there is going to be  
18 less of a peak discharge than at current existing  
19 conditions?

20 A So -- so the column labeled "Difference" under  
21 the 25-year peak discharge, that is -- that is the --  
22 the difference, or, for example, like on CP1, if you  
23 look at the column labeled, "Existing," it says 37.9 CFS  
24 and then post-developed is 8. So the difference is  
25 29.9. So that means that the peak discharge at CP1 has

1 been reduced by 29.9 CFS.

2 Q Okay. So at CP12, that's the -- the only  
3 comparison point where you've got an increase in  
4 discharge, but it's just 0.1. Is that correct?

5 A CP12, the difference is 0.1.

6 Q Okay. So then moving on to the second table  
7 where you're talking about the acre feet, can you tell  
8 me which comparison points have an increase between CP1  
9 and CP12?

10 A Can you repeat the question, please?

11 Q Sure. I'm looking at the second table at this  
12 point, which is the 25-year volume. You've got 12  
13 comparison points. Are there any comparison points  
14 there where there is an increase in the differences?

15 A Increase in the difference between existing and  
16 post-developed?

17 Q Yes. Exactly.

18 A Yes, there are.

19 Q And which ones are those?

20 A They would be CP5, CP6, CP7, and CP12.

21 Q Okay. So looking at CP12, it's going from  
22 2524.1 to 2554.5. So that's -- the difference is  
23 represented as 30.4. Is that correct?

24 A Yes.

25 Q In terms of actual percentages, how much of an

1 increase is that?

2 A I'm not sure, but I -- I could calculate it if  
3 you would like.

4 Q Sure, if you don't mind.

5 A It's about 1 percent.

6 Q Okay. Let me ask you this about the term  
7 "adversely affected." If you have a significant  
8 decrease in either -- in any of these factors, whether  
9 you're talking about a 25-year peak discharge, the  
10 25-year volume or the velocity, could a significant  
11 decrease be considered an adverse effect?

12 A Well, I think if you're talking about all of  
13 those, it may or may not be. For example -- and if we  
14 can just take each one. For example, the peak  
15 discharge, if that is reduced, I don't really see a way  
16 that that would be an adverse modification, and the same  
17 way with velocity. But however, volume wouldn't  
18 necessarily be the case. There could be certain  
19 instances where a decrease in volume could perhaps  
20 impair habitat downstream so it wouldn't have the same  
21 amount of water; or if we were perhaps upstream of a  
22 water supply, it might deny that particular water body  
23 of supply that it would otherwise have that would be  
24 valuable. For example, you know, if there was a rancher  
25 who was trying to water his cattle out of a stock pond

1 that would be downstream of a landfill, and so he would  
2 be -- he would have less water to do that. That would  
3 be potentially adverse.

4 Q Okay. I've just got one last question for you.  
5 In getting back to this term of "adversely affected," as  
6 far as you know, is this term defined anywhere in the  
7 TCEQ rules or --

8 A Not that I'm aware of.

9 Q I'm sorry. I did have one more question still.  
10 Usually when I've seen this type of analysis, it's done  
11 by a hydrologist, but you're a professional engineer.  
12 Is that correct?

13 A I am.

14 Q And so you're qualified to perform this type of  
15 analysis, as well?

16 A Yes.

17 MR. TATU: No further questions. Thank  
18 you.

19 JUDGE BELL: All right. Thank you. Any  
20 cross-examination for Mr. Traw by OPIC?

21 MR. TUCKER: Yes. I have a few questions.

22 CROSS-EXAMINATION

23 BY MR. TUCKER:

24 Q Good morning, Mr. Traw. My name is Aaron  
25 Tucker with the Office of Public Interest Council.

1 A Good morning.

2 Q How are you?

3 A Very well.

4 Q Good. I have a few questions about the  
5 floodplain analysis, the flooding. In your testimony  
6 you talk about the flood insurance rate map prepared by  
7 FEMA. Correct?

8 A Likely. I'm not sure which part that --

9 Q And we can see the FEMA map on Applicant's  
10 Exhibit 130EP-2, Page 257.

11 A Okay.

12 Q And on this map, Zone A shows the floodway as  
13 determined by FEMA, correct, the dark shaded Zone A?

14 A Yes. It's shown on the -- FEMA berm as  
15 Zone A.

16 Q And in your testimony you said they used --  
17 FEMA has used approximating methodologies to estimate  
18 the 100-year floodplain?

19 A I don't recall exactly the wording on that.

20 Q But you say there's two ways that FEMA does  
21 these maps. One, they use approximating methodologies,  
22 and the other they use detailed modeling. Is that  
23 correct?

24 A That's generally true. Yeah. In some cases,  
25 they don't have -- they haven't determined, for example,

1 base flood elevations through detailed modeling  
2 approach.

3 Q And is that the only difference between those  
4 two methods of determining the floodplain?

5 A You know, to be honest, I'm really not familiar  
6 with how FEMA goes about determining some of their maps  
7 that aren't done with base flood elevations. I -- a lot  
8 of times, it's -- I would guess that they're relying  
9 upon some information, but it's limited in an extent. I  
10 really couldn't speak to how this one was prepared.

11 Q How accurate are -- do you have a sense of how  
12 accurate these flood insurance rate maps are prepared  
13 using what's called the approximating methodology, as  
14 you described it?

15 A Can you repeat the question?

16 Q Sure. Do you have a sense of how accurate  
17 these flood insurance rate maps are prepared using this  
18 methodology?

19 A I think it largely depends from -- from  
20 location to location. Some of the factors involved in  
21 that might be the available topographic data for that  
22 area. For instance, in this case, the floodplain was --  
23 the largest consideration is the Site 21 Reservoir,  
24 so -- and I'm not aware of what data they use to  
25 calculate this floodplain or if there were even

1 calculations made. But -- so it varies from site to  
2 site how accurate they may be.

3 Q And you prepared your own modeling. Correct?

4 A We did.

5 Q And what was the reason for preparing your own  
6 modeling?

7 A It was requested by the agency.

8 Q And where can I see the results of your  
9 modeling?

10 A So on Applicant's Exhibit 130EP-2, Page 260  
11 would be an example. There are likely others.

12 Q And on Applicant's Exhibit 130EP-2, Page 260,  
13 this the post-developed floodplain work map. Correct?

14 A Yes.

15 Q And can you tell me which -- which markings  
16 show your modeling and which ones show the -- the FEMA?

17 A Okay. If you -- if you look in the legend  
18 there, that's -- the FEMA Zone A line type is indicated  
19 by -- I guess I would call that orange. And where the  
20 100-year floodplain, which is the one we calculated, is  
21 identified as a blue, a dark blue, and that area is also  
22 hatched.

23 Q And how big of a difference would you say there  
24 is between the -- the floodplain identified by  
25 yourselves and the floodplain identified by FEMA?

1           A       Well, I guess first I would say that it -- that  
2 it varies from -- from location to location. But  
3 generally, the -- the floodplain that -- that we  
4 calculated has a less extent or is less extensive than  
5 the FEMA floodplain.

6           Q       Can you explain how you developed this model?  
7 Let's start with that. How did you develop your model?

8           A       We could be here a while.

9           Q       Let's start with just a brief summary.

10          A       Okay. So -- so first, let me turn you to  
11 Applicant's Exhibit 130EP-2, Page 258. So this is a map  
12 of the existing drainage conditions. You can see in red  
13 that's the drainage area. So one of the first things we  
14 would do if we're trying to do a hydrology study is  
15 determine what a watershed boundary is. Then it also --  
16 we would probably want to determine which -- which  
17 locations we want to have more information on the  
18 hydrology on. So we might divide that overall watershed  
19 boundary into subbasins. Once we have that, then we're  
20 going to characterize the watershed characteristics of  
21 each basin. I'll refer you to another page where that's  
22 done.

23          Q       Let me stop you real fast. If you can go back  
24 to Page 258, it looks like you identified seven drainage  
25 areas. Correct?

1           A       Yes. This drawing shows seven different  
2 subbasins.

3           Q       Can you explain the difference between why some  
4 are characterized as UNT and some are DC?

5           A       Oh, okay. That nomenclature was just  
6 determined -- you know, I guess DC means dry creek, and  
7 UNT means unnamed tributary.

8           Q       If you could --

9           A       So that's what it stands for.

10          Q       And if you look at the legend, do you -- I  
11 guess do you call it the legend? It's a drainage area  
12 chart. And there's the seven drainage areas listed. I  
13 see DC1 listed twice.

14          A       Okay.

15          Q       Should the bottom one be DC2?

16          A       I think that's -- it's likely that it should  
17 be. We could probably check in the other locations  
18 within here and make sure that area is right. Then I  
19 would probably say that it is DC2, if you give me that  
20 opportunity.

21          Q       Okay.

22          A       I'm looking at Applicant's Exhibit 130EP-2,  
23 Page 268. So this is a table of watershed  
24 characteristics. In the first column is a watershed  
25 name, so you can see those correspond to Page 258 of the

1 same exhibit.

2 Q Uh-huh.

3 A Then we have DC1 there as the watershed name,  
4 and the acreage is the next column over there. It says  
5 88860.64. So I believe that Page 258, that was just a  
6 typo.

7 Q Okay. And DC2 refers to the drainage area at  
8 the upper end of Dry Creek northeast of Homannville  
9 Trail?

10 A Generally, yes.

11 Q Generally. Okay. And so with that  
12 information, you used two -- two models to create your  
13 floodplain. You used HEC-RAS and HEC-HMS?

14 A So, again, it's a two-step process.

15 Q Okay.

16 A We identify those drainage areas. We identify  
17 the drainage characteristics. And then we use HEC-HMS  
18 in conjunction with the SCS method in this case to  
19 determine our flow rates. So once we have those, then  
20 we go to HEC-RAS, which is a hydraulic modeling software  
21 also developed by the Corps of Engineers. And so that  
22 helps us calculate the water surface elevation that  
23 corresponds to the geometry of the channels where we  
24 want to determine it. And we use the flow rates from  
25 HEC-HMS that were previously determined to end up with

1 this answer in the end, which is where the floodplain is  
2 and the -- the map that was submitted.

3 Q And in terms of the output, does -- what does  
4 the output look like? Does it tell you an elevation at  
5 a certain point? Does it tell you a range of elevation?  
6 Is there a -- I'll -- let me break that into pieces.  
7 What is the output -- can you tell us the output from  
8 the model?

9 A Which model?

10 Q The second one, HEC-RAS.

11 A HEC-RAS?

12 Q Yeah.

13 A Well, there are a lot of output as far as  
14 HEC-RAS goes. I think probably the one to focus on here  
15 would be the water surface elevation. And it gives you  
16 a water surface elevation at each cross section. So  
17 those cross sections are shown there on Applicant's  
18 Exhibit 130EP-2, 259. You'll see the red lines on the  
19 map. They might be designated like -- for example, I'm  
20 looking at A3.10. So that's a cross section where we  
21 determine the geometry of the stream, and then that  
22 cross section corresponds to a cross section in HEC-RAS,  
23 and a water service elevation was calculated in HEC-RAS  
24 for that location.

25 Q And so you ran the model, is it fair to say,

1 once for the -- to determine the floodplain with  
2 existing conditions and again to determine  
3 post-development?

4 A Yes.

5 Q And that's shown on maps -- existing is shown  
6 on 259. The post-developed floodplain is on Page 260.

7 A That's correct.

8 Q Okay. And turn to Page 260. If you look on --  
9 towards the left side -- left side of -- of the map, it  
10 says, "Limits of detailed study." Do you see that?

11 A I do.

12 Q And so that corresponds to basically with the  
13 edge of the property -- that Hunter Tract. Is that  
14 correct?

15 A I guess we -- it's beyond the Hunter Tract.

16 Q Okay.

17 A But we weren't necessarily interested in  
18 anything beyond the Hunter Tract especially in the  
19 upstream -- upstream of the Hunter Tract because we  
20 didn't feel like anything we were doing would impact  
21 that. So that -- the limits of detailed study was ended  
22 just beyond the Hunter Tract, just upstream of the  
23 Hunter Tract.

24 Q And I believe you just testified that what  
25 y'all were doing would not affect upstream. Would --

1 would future developments upstream affect your analysis?

2 A So what I was referring to was, in this case,  
3 the -- the flow regime is considered subcritical. So  
4 the backwater effects will limit the -- the study in  
5 this case. So -- and we could talk some more about  
6 that, but I'm not sure that would answer your question  
7 any better.

8 Q So earlier we were looking at the drainage  
9 areas. And we were talking about DC2, which is the  
10 drainage area upstream of -- of the property. Correct?

11 A I'm sorry. I was flipping -- trying to flip to  
12 that page.

13 Q Sorry. Okay. On Page 258, we were talking  
14 about drainage area DC2, which is the drainage area  
15 upstream of -- of the Hunter Tract and the facility?

16 A Yeah, I think we characterized that as  
17 generally upstream.

18 Q Okay. In determining the floodplain  
19 post-development, did you -- the elevations -- sorry.

20 In determining the elevation of the  
21 floodplain post-development, did you consider any  
22 development in that drainage area in the future?

23 A No. We considered the existing conditions out  
24 of our site.

25 Q Okay.

1           A       So in both cases, the post-developed and  
2 existing conditions, the -- outside of our site, we  
3 didn't consider any future development. Those were --  
4 it was strictly what's out there today.

5           Q       Could --

6           A       Or at the time of an analysis.

7           Q       And post-development, how many years out is  
8 that? What's your understanding of the site life?

9           A       So this analysis was for when the site is  
10 completed.

11          Q       And when would that be?

12          A       You know, I'm not sure. That was a different  
13 section of the study. So I didn't -- I wasn't  
14 particularly concerned with that. Mr. Adams could  
15 probably talk about the site life better than I can.

16          Q       But it's a number of decades in the future.  
17 Correct?

18          A       It's my understanding -- it wouldn't be  
19 completed tomorrow.

20          Q       Okay. And so my question is, if there was  
21 growth and development in that drainage area, would that  
22 affect the floodplain at the time of closure and  
23 post-development?

24          A       Well, I guess it depends on how that  
25 development was -- were to take place. Oftentimes

1 today, we have mitigation ordinances on -- similar to  
2 what we have to show here with -- with the TCEQ rules.  
3 So in most cases there are provisions and development  
4 ordinances to limit that. Some -- sometimes -- so I --  
5 so I guess it would be difficult to say.

6 Q Okay.

7 MR. TUCKER: I have no further questions.  
8 Thank you.

9 JUDGE BELL: Thank you, Mr. Tucker.  
10 Caldwell County next?

11 MR. MAGEE: Yes, Your Honor.

12 JUDGE BELL: All right.

13 CROSS-EXAMINATION

14 BY MR. MAGEE:

15 Q Good morning, Mr. Traw.

16 A Good morning.

17 Q I'm Eric Magee. I think you already know that.  
18 I met you during your deposition. Correct?

19 A Right.

20 Q I wanted to go over a couple of things briefly.  
21 I believe the Executive Director asked you about your  
22 experience and asked you about Traw Exhibit 2 which was  
23 your resumé. Correct?

24 A I don't recall him asking about my resumé.

25 Q Where he said you -- after reviewing your

1 resumé, you had approximately been in -- as an engineer  
2 for 10 years. Is that correct?

3 A I'm sorry. Again, I was digging out the  
4 resumé. Can you ask that again?

5 Q How long have you been an engineer?

6 A Well, I believe I was licensed in 2008. It  
7 could have been 2009 or 2007. I'm not sure. That may  
8 be on my resumé. I don't see it on my resumé, and quite  
9 frankly, I don't remember the exact year that I was  
10 licensed.

11 Q Okay. During your deposition, I recall some  
12 testimony that this is the first time that you've worked  
13 on a landfill project in this capacity. Is that  
14 correct?

15 A In this specific capacity, that's correct.

16 Q And this is also the first time you've ever  
17 prepared a final drainage facility design for a  
18 landfill. Is that correct?

19 A Yes.

20 Q And this is also the first time that you've  
21 ever prepared perimeter drainage channel design for a  
22 landfill?

23 A Yes.

24 Q And this is also the first time that you've  
25 prepared a detention and sedimentation pond design for a

1 landfill?

2 A Yes.

3 Q And also this is the first time you've ever  
4 prepared a sedimentation -- an erosion and sedimentation  
5 control plan for a landfill?

6 A Yes.

7 Q Okay. On your prefiled testimony -- I'm going  
8 to ask you -- that's Traw 1. If you will turn to  
9 Page 4, specifically I'm looking at Lines 16 through 19.  
10 Are you with me?

11 It says, "What's the understanding of the  
12 purpose of TCEQ's MSW regulations?"

13 And your answer was, "The MSW regulations  
14 provide standards for the design, permitting, and  
15 operation of the facility to protect human health and  
16 welfare and the environment."

17 My question is, what things are you  
18 reviewing, analyzing to protect human health and  
19 welfare? What are you looking at to meet that  
20 requirement?

21 A Well, certainly I'm guided by the rules. And  
22 we went over those earlier with Mr. Tatu, so those would  
23 be 330.305, among some others. So certainly those are  
24 the first place I would look. But then, I guess,  
25 generally my duties as an engineer is to protect the

1 health and safety of the general public.

2 Q And what things are you looking at? And I'll  
3 give you an example. Like the floodplain?

4 A I looked at the floodplain, yes.

5 Q Okay. And what are you looking at to see what  
6 happens that would give you concern about human -- the  
7 protection of human health and welfare? What would you  
8 be looking at to say this isn't a good idea?

9 A I guess it would depend upon which case we're  
10 talking about. In this case, the rules are pretty clear  
11 that when it talks to -- about the location of the  
12 landfill in regards to the floodplain, we're -- we're  
13 concerned about the washout or potential washout of  
14 waste and making sure that the waste is located outside  
15 of the floodplain. I believe that's 330.547 that talks  
16 about that.

17 Q So was part of your job determining where to  
18 site this landfill in relationship to the floodplain?

19 A No, it wasn't. I was tasked with determining  
20 where the floodplain location was. And then that  
21 information was passed on to Mr. Adams, who designed the  
22 landfill itself.

23 Q So any questions we would have about where the  
24 landfill footprint actually is in relationship to the  
25 floodplain, that was not part of your duties, only to

1 just figure out where your analysis shows the floodplain  
2 to be. Correct?

3 A Well, I'm kind of confused by your question  
4 there.

5 Q Okay. What confused you?

6 A Well, so previously, your previous question was  
7 asking was my responsibility to determine the design of  
8 the landfill. And -- and it certainly was not. But I'm  
9 certainly capable of determining where the landfill  
10 footprint is in relation to the floodplain.

11 MR. MAGEE: May I approach?

12 JUDGE QUALTROUGH: (Nods head).

13 Q (BY MR. MAGEE) Well, in this case, do you know  
14 where the footprint is?

15 A Yes, I do.

16 Q Okay. I'm going to come over here with you so  
17 we can share the microphone real quick.

18 A You're not going to hurt me, are you?

19 Q No. I can't carry my gun or knife in this  
20 building. This is the AG's office.

21 This is a copy of your deposition.  
22 Correct?

23 A I'm not sure. I see my name there, yes.

24 Q Okay. It says November 17, 2015. I'm not  
25 trying to trick you at all.

1 A Okay.

2 Q So on Page 64, the question by Ms. Perales was,  
3 "Okay. So what was your responsibility in relationship  
4 to the floodplain analysis."

5 Did I read that correct?

6 A Yes, you did.

7 Q We're at Page 64, Line 9 and 10.

8 What was your answer?

9 A It says, "I determined where the floodplain --  
10 I used modeling to determine where the floodplain was in  
11 conjunction with the available maps from FEMA."

12 Q And then the next question at Line 14 from  
13 Ms. Perales says, "Is it fair to say that the proposed  
14 landfill is pretty close and pretty much abuts the  
15 floodplain in several areas?"

16 And your answer was?

17 A "I'm not sure."

18 Q Then Ms. Perales asked at Line 18, "Okay. So  
19 that's not something you looked up. The proximity of  
20 the proposed landfill to the floodplain."

21 Your answer was?

22 A "I wasn't responsible for determining the  
23 footprint, no."

24 Q Okay. So what changed from your deposition to  
25 today that now you're giving testimony that you do know

1 where the landfill footprint is in proximity to the  
2 floodplain?

3 A Well, I -- I wish you would have left that up  
4 here, because I think it's important to read  
5 Ms. Perales' question there. And she had several words  
6 that talked about proximity and abut. So the question  
7 wasn't whether or not I know where the flood -- where  
8 the landfill footprint is in relation to the floodplain.  
9 It was more a qualitative question about how close it  
10 may or may not be.

11 Q Okay. So when you said you weren't sure if it  
12 abuts the landfill, what did you mean?

13 A I -- I wasn't necessarily responding to just  
14 that portion of her question. It was broader than that.

15 Q Okay. Okay.

16 "Is it fair to say that the proposed  
17 landfill is pretty close and pretty much abuts the  
18 floodplain in several areas?"

19 Your answer, "I'm not sure."

20 What did you mean by that?

21 A I'm -- can you refer me to what line that was  
22 again so I can read it?

23 Q Sure. I'll bring it back up there, because I  
24 don't think you have a copy.

25 A No, I'm not sure that I do.

1 MR. MAGEE: May I approach again?

2 JUDGE QUALTROUGH: Yes.

3 THE WITNESS: We need two copies of that,  
4 don't we?

5 Q (BY MR. MAGEE) Yes. Right here, 14. Do you  
6 remember my question?

7 A No, I don't.

8 Q Okay.

9 A I'm sorry.

10 Q That's okay. So what part of that question was  
11 different that you're not understanding my question  
12 today? I mean, at that time you said you're not sure  
13 whether it abuts the floodplain or is pretty close.

14 A I disagree with that's what I said.

15 Q Okay.

16 A I think her question is, "Is it fair to say  
17 that the proposed landfill is pretty close and pretty  
18 much abuts the floodplain in several areas."

19 Q And your answer was?

20 A "I'm not sure."

21 Q Okay. Why are you not sure?

22 A Well, I'm not sure what her definition of  
23 pretty close is. I can tell you what mine is, and I can  
24 show you on a map where the landfill footprint is in  
25 relation to the floodplain.

1 Q Okay. So the next question says, "Okay. So  
2 that's not something you'd look up, the proximity of the  
3 proposed landfill to the floodplain." Okay? Right?

4 A Well, in this context of this question, we're  
5 really talking about -- she asked a question similar to  
6 the one you previously did about how the landfill was  
7 sited in relation to the floodplain, which I did not do.  
8 I calculated the floodplain and then provided that  
9 information to Mr. Adams.

10 Q Okay.

11 A So I'm answering in context with the siting of  
12 the landfill.

13 Q Well, the word "siting" is not in there. It  
14 just says, "Okay. So that's not something you looked  
15 up, the proximity of the proposed landfill to the  
16 floodplain."

17 And your answer was?

18 A "I wasn't responsible for determining the  
19 footprint, no."

20 Q Okay. So to you there's a distinction in the  
21 word "proximity" and the landfill footprint. Right?

22 A Well, again, in the context of the greater  
23 discussion there, we were talking about whose  
24 responsibility it was to determine where the landfill  
25 footprint would be, in which that was not my

1 responsibility.

2 Q That's not the context. I'm going to read it  
3 again. I hate to keep going over it. She didn't ask  
4 you about whose responsibility it was. She asked you  
5 simply, "So that's not something you looked up, the  
6 proximity of the proposed landfill to the floodplain."  
7 She didn't ask if it was your responsibility or someone  
8 else's responsibility about the siting of it or the  
9 footprint of it. She just asked you whether you looked  
10 up, her words, "the proximity." And your answer was, "I  
11 wasn't responsible for determining the footprint, no."

12 A Right. And -- and what I'm saying is that in  
13 the previous questions, we were -- we were at -- we were  
14 talking about whose responsibility that was.

15 And so I was just making clear that it  
16 wasn't my responsibility to determine where the  
17 footprint was. In fact, it changed over the process  
18 because we would determine -- or I would determine where  
19 the floodplain was and then hand that information off to  
20 Mr. Adams.

21 Q Okay. Well, let's go back, then. On Page 64,  
22 Line 5, her question was, "So you can't say for sure  
23 whether the entire footprint is outside the floodplain?"

24 Do you see that question? Did I read that  
25 correctly?

1           A     Correct.

2           Q     Your answer was, "It wasn't my responsibility  
3 to determine the location of the footprint."

4                     Did she ask you something about whose  
5 responsibility it was to determine the footprint of the  
6 landfill to the floodplain?

7           A     I don't see it in this specific question.

8           Q     Okay. Then she followed up that question on  
9 Line 9. "So what was your responsibility in relation to  
10 the floodplain analysis?" Right? Because you've made  
11 it clear from the previous question it's not your  
12 responsibility about the footprint. Right?

13          A     Correct.

14          Q     Your answer is, "I determined where the  
15 floodplain -- I used modeling to determine where the  
16 floodplain was in conjunction with available maps from  
17 FEMA." Correct?

18          A     That -- that's what it says.

19          Q     Okay. Then she clarified one more time at  
20 Line 14, "Is it fair to say that the proposed landfill  
21 is pretty close or pretty much abuts the floodplain in  
22 several areas?"

23                     That's where you said, I'm not sure.

24                     And then she went back to a similar  
25 question like in Line 5 about the proximity, and you

1 made it clear it's -- "I wasn't responsible for  
2 determining the footprint, no." Correct?

3 A That's what it says.

4 Q Okay. So whose responsibility was it to  
5 determine the footprint?

6 A As I've previously said, Mr. Adams made that  
7 determination.

8 Q So when we look at the various maps that have  
9 been mentioned so far, we usually see an outline in  
10 places of where the footprint is proposed to be in the  
11 maps you've looked at today. Do you want me to give you  
12 an example of one?

13 A That would be great.

14 Q So look at Page 257 -- EP-2, Page 257.

15 A (Witness complies).

16 Q Are you with me?

17 A Yes, I am.

18 Q So the red line that indicates landfill  
19 footprint, who drew that line on this map?

20 A Well, the person that actually draws the map  
21 would have been addressed. I'm not sure who exactly  
22 drew this one. We use several different ones.

23 Q Okay. So you didn't draw the landfill  
24 footprint on any of these maps. Right?

25 A I didn't sit at the computer and place that on

1 there, no.

2 Q Okay. So you weren't determining where the  
3 footprint was and how it looks on this particular map?

4 A No. I don't believe that's what I said. I  
5 said I didn't sit at the computer and draw this or put  
6 this on the map.

7 Q So did you sit at the computer and determine  
8 that this is the shape of the footprint and what it  
9 should look like in correlation to this map?

10 A Well, I can talk about the process if that  
11 clears it up, how we would do this.

12 Q I'm just trying to understand whether the map  
13 that you sealed on Page 257 that shows the positioning  
14 of the landfill, what role you played in making that  
15 determination.

16 A Okay. Well, so this map would have been  
17 prepared by the draftsman. And then I would review the  
18 map. It may have been on -- on the computer, I might  
19 have reviewed it, or I might have done it on the paper  
20 copy. Then once I reviewed all of that, then I would  
21 affix my seal to it, and that's how we're here today.

22 Q Okay. And so what is your role in determining  
23 the landfill footprint? What responsibilities do you  
24 have concerning the positioning of that footprint on  
25 this map?

1           A       Excuse me. My mouth is getting dry. So in  
2 this case, the landfill footprint would have been  
3 provided to -- to me and the draftsman that I used by  
4 Mr. Adams. The same way that the floodplain that I  
5 determined would have been provided to him.

6           Q       So your responsibility had nothing to do --  
7 you're relying on Mr. Adams' work about this is what the  
8 landfill is going to look like, and you're just  
9 certifying, by placing your seal on it, that the data  
10 that Mr. Adams relayed to you about the landfill  
11 footprint, where it is in relationship to this  
12 floodplain?

13          A       Can you repeat that one more time for me?

14          Q       Sure. You mentioned that as far as the  
15 floodplain goes, you provided some analysis and you  
16 provided that data to Mr. Adams. Correct?

17          A       Yes.

18          Q       And then Mr. Adams is the responsible party for  
19 determining the landfill footprint. Correct?

20          A       Yes.

21          Q       And he relayed that data to you or a draftsman?

22          A       Yes.

23          Q       Okay. And so if we look at Page 257 of this  
24 exhibit, you're not providing any testimony about the  
25 landfill footprint. You're only acknowledging that's

1 where it is proposed to be based on Mr. Adams'  
2 information provided to you?

3 A I'm sorry. I lost track of your question a  
4 little.

5 Q Okay. Why is the landfill footprint on this  
6 map?

7 A The landfill footprint is on this map to  
8 demonstrate that the landfill footprint is outside of  
9 the floodplain.

10 Q And who made the determination to put the  
11 landfill footprint in that particular location on this  
12 map?

13 A Well, the landfill footprint was determined by  
14 Mr. Adams. So the preparation of this map was done  
15 under my supervision, using information that would have  
16 been supplied to me by Mr. Adams.

17 Q And so the determination of where to put the  
18 footprint on this particular map was not determined by  
19 you, nor was it your responsibility?

20 A I think the problem is we're confused about how  
21 this map gets prepared and how -- where that data comes  
22 from.

23 Q I'm not confused.

24 A Well, maybe it's just me, then. I guess I'm  
25 confused by your questions.

1 Q I just want to know if I can ask you questions  
2 about the landfill footprint and its position on this  
3 map, its shape, its design, and its relationship to the  
4 floodplain.

5 A Well --

6 Q If that's not your responsibility, I can save  
7 all of those questions for Mr. Adams.

8 A Well, it wasn't my responsibility to design or  
9 locate where the landfill footprint is. But again, I'm  
10 certainly capable of determining that the landfill  
11 footprint is outside of the floodplain in this case, and  
12 it's made fairly clear on this map.

13 Q But it's not your responsibility of the  
14 location of it?

15 A I didn't determine where the location would be  
16 in the design process, no, I did not.

17 Q Okay. I think that clears it up.

18 A Okay.

19 Q Yesterday, Mr. Wilson asked you some questions  
20 related to Site 21 Dam. Do you recall that line of  
21 questioning?

22 A Yes.

23 Q One of the questions he asked you was -- I  
24 can't remember the word he used about a landfill being  
25 sited so closely to a dam, but I wrote down what you

1 said. "It was unusual, but not a problem."

2 A I don't recall saying that, no.

3 Q Okay. Well, how would you describe a high-risk  
4 dam, Site 21, that Mr. Wilson asked you about yesterday,  
5 a landfill being sited so closely to that type of  
6 reservoir dam? Would that be unusual?

7 A I believe I said -- I don't think I used the  
8 word "unusual."

9 Q Okay.

10 A I think I used the word "uncommon" in the --  
11 you know, it's really kind of uncommon for any  
12 development to be near one of these reservoirs, because,  
13 quite frankly, they're not -- they're not that numerous,  
14 and this is not the only location, that I believe that a  
15 landfill is upstream of a reservoir like Site 21.

16 Q So would you agree with me that the presence of  
17 the dam and the reservoir near the site is unique to a  
18 landfill site?

19 A No, I don't think I would agree with that.

20 Q How would you know that answer?

21 A Well, I am aware of other -- at least one  
22 instance of another landfill that's immediately upstream  
23 of a reservoir.

24 Q Okay. Is there a dam on that reservoir?

25 A Well, yeah. I think that's -- a dam is part of

1 a reservoir, typically.

2 MR. MAGEE: May I approach again?

3 Q (BY MR. MAGEE) Again, reading from your  
4 deposition, Page 63, Line 16, Ms. Perales asked you,  
5 "Would you agree that the presence of a dam near the  
6 site is a unique landfill site characteristic?"

7 Did you -- did I read that correctly?

8 A You did.

9 Q And your answer was?

10 A "I wouldn't know."

11 Q Then she asked, "Do you know of other landfills  
12 that are adjacent to a dam?"

13 And your answer was?

14 A "Not that I am aware of."

15 Q Okay. So since your deposition on November 17,  
16 2015, when did you become aware of another landfill that  
17 has a reservoir close to it?

18 A I don't really recall the date that I became  
19 aware of that. But it was certainly after my -- my  
20 deposition triggered my interest. So I thought, well,  
21 you know, I might want to know that.

22 Q And where is that landfill?

23 A I don't remember the location of it.

24 Q Do you recall the name of it?

25 A I do not.

1 Q Do you recall the name of the reservoir?

2 A I do not.

3 Q Okay. Do you know if the landfill was  
4 permitted prior to the reservoir's development?

5 A I don't know that either.

6 Q So you don't know if the reservoir was built  
7 after the landfill had already been permitted?

8 A I guess I don't know that, no.

9 Q Okay. Is that landfill in Texas that you went  
10 and looked up?

11 A I believe it is.

12 Q Okay. But that's all you can tell me about it,  
13 it's somewhere in our state?

14 A Yeah. I didn't get into specifics about which  
15 one it was or, you know, what his number was or where it  
16 was located. I am aware that there is one, and perhaps  
17 others, I suppose, but I'm aware there is one.

18 Q Can you narrow it down to what part of the  
19 state it's in?

20 A You know, I really don't recall what part of  
21 the state it's in.

22 Q Yesterday Mr. Wilson also asked you some  
23 questions about drainage and the site access road. Do  
24 you recall that line of questioning?

25 A I think so.

1 Q Okay. One of the things I think he asked you  
2 to look at was EP-2, Page 75.

3 A Okay.

4 Q Okay. And then also, if you would just go  
5 ahead and find EP-2, 257, because we're going to talk  
6 about both of these maps.

7 So first on EP-2, Page 75, Mr. Wilson  
8 asked you a line of questioning about, "Are there  
9 portions of the landfill or your analysis on this  
10 exhibit that do not drain into Site 21 Reservoir?" Do  
11 you recall him asking you that?

12 A I'm going to have to ask you to clarify the  
13 question, because I'm not sure that I understand whether  
14 you're referring to the landfill or my analysis.

15 Q Okay. Well, I'm just asking about your  
16 analysis here. Are there parts of your analysis, this  
17 drainage area that you show, right, this map that's  
18 titled, "Existing Condition Off-Site Drainage Areas."  
19 Right?

20 A That is the title.

21 Q Are there drainage areas that you have  
22 identified that do not drain into the Site 21 Reservoir?

23 A This Page 75 does indicate drainage areas that  
24 do not drain in the Site 21 Reservoir.

25 Q And then I think he asked you not about the

1 landfill footprint or the permit boundary, but the  
2 Hunter Tract of land, and that's reflected on the  
3 red-dotted line that says, "Property Boundary."

4 Correct?

5 A Well, in this instance, both the property  
6 boundary and facility boundary are red-dotted lines.  
7 One has three dots, and one has two dots. So -- but the  
8 property boundary is generally outside of the facility  
9 boundary --

10 Q Right.

11 A -- if you want to refer to it that way.

12 Q So the three dots is the property boundary?

13 A Correct.

14 Q And he was asking you some questions about  
15 U.S. Highway 183, and that's where the site access road  
16 will come onto the Hunter Tract. Correct?

17 A That's my understanding.

18 Q Okay. So if we look at OS5, which is the  
19 southernmost drainage area that you've identified,  
20 correct?

21 A I'm not sure it's the southernmost, but I do  
22 see OS5.

23 Q Okay. Which one is more southern than OS5?

24 A Well, it's difficult to tell, but perhaps OS6  
25 or OS7.

1 Q Okay. So we'll talk about all three of those.  
2 OS5, OS6, and OS7, those three drainage areas. All  
3 three of those drainage areas cross the property  
4 boundary. Correct?

5 A That's correct.

6 Q Do those three areas drain into Site 21  
7 Reservoir?

8 A OS5, OS6, and OS7, those are the three we're  
9 talking about?

10 Q Yes.

11 A Okay. Those do not drain into the Site 21  
12 Reservoir.

13 Q Are there any other drainage areas associated  
14 with this map that do not drain into the Site 21  
15 Reservoir?

16 A Yes.

17 Q Can you tell me what those are?

18 A Well, OS14 is one.

19 Q Okay. Any others?

20 A Not that I see.

21 Q Okay. So all the other ones drain into the  
22 Site 21 Reservoir?

23 A I believe all of the other ones indicated here  
24 on this -- on this exhibit, Page 75, do.

25 Q Okay. Now, if you look at Page 257, although

1 it doesn't show the entire property boundary, it does  
2 show the area that is described as the floodplain.

3 Correct?

4 A This map shows the -- the flood insurance rate  
5 map prepared by FEMA.

6 Q Okay. And is this the floodplain that is shown  
7 on here as Zone A?

8 A Yes, it is a floodplain.

9 Q Okay. Earlier when Mr. Tucker asked you a  
10 question about this particular map, he referred to it as  
11 the floodway, I think. Is there a difference between  
12 floodway and floodplain?

13 A Well, I believe Mr. Tucker did mention the  
14 floodway, and then he rephrased his question. But, yes,  
15 there is a difference between the floodway and the  
16 floodplain.

17 Q What's the difference?

18 A Well, those are FEMA definitions. So  
19 generally, when we talk about floodplain, especially  
20 when it relates to FEMA, you're talking about the 100;  
21 there are other floodplains that I guess you could  
22 discuss whether it be a different frequency storm event.  
23 And so the floodplain is generally the extent of -- of  
24 the water during whatever storm event that is that we're  
25 talking about, whether it be 100- or 25-year.

1                   The floodway typically is only calculated  
2 for a 100-year storm. And so the floodway is -- I  
3 believe FEMA describes it as the area around the  
4 flooding source or the channel that can convey the  
5 100-year peak discharge with no increase of more than a  
6 foot if it were to be encroached upon.

7           Q       So I just want to make sure I'm using the right  
8 term when you and I are talking about Page 257. Should  
9 I be saying floodplain?

10          A       Yeah. I think -- this map shows the  
11 floodplain.

12          Q       Okay. So if we look in the bottom  
13 right-hand -- left-hand corner of Page 257, we see a  
14 purple-dotted line, three dots, that show a portion of  
15 the property boundary. Are you with me?

16          A       Yes, I see the -- the purple line with three  
17 dots.

18          Q       And then we see a little finger that shoots up  
19 there that's identified as Zone A? Do you see that?

20          A       I think I do.

21          Q       Do you want me to come show you so we're in the  
22 same spot?

23          A       That might be best.

24          Q       Okay.

25          A       We like each other by now any way.

1 Q Yeah. I like exercising.

2 A Yeah.

3 Q I'm talking about right here (indicating).

4 A Okay.

5 Q Then we'll go to right here (indicating).

6 A Okay.

7 Q Then I'm going to right here (indicating).

8 A Okay.

9 Q Then I'm going to go to right here  
10 (indicating).

11 A Okay.

12 Q But if you need me to come back, I'll come  
13 back.

14 A Oh, you might. That was a lot. I'm trying to  
15 remember that.

16 Q So just looking at the map so everybody is on  
17 the same page, it looks like it's divided up into six  
18 quadrants.

19 A I guess I'm not sure what you mean.

20 Q Are you talking about the -- the lines that are  
21 in the grid there?

22 A Yes.

23 Q Okay.

24 A I don't know anywhere those are identified on  
25 here.

1 Q Okay.

2 A But I believe I know the -- I guess you can  
3 call them quadrants or the grid. It's all --

4 Q Tell me what word you want me to use so we'll  
5 be on the same page.

6 A I think what those are is -- that's on the  
7 firm, and that's used to scale the firm and provide --  
8 it's the overall part of what would be a panel number  
9 or -- you know, sometimes if you have a firm map, it  
10 will have a whole county, and that's divided up into --  
11 a grid. It's just that -- you can't -- at this scale,  
12 we don't have the full map.

13 Q Okay. So I'm going to call these grid lines,  
14 and then we'll both know what we're talking about.

15 A Okay.

16 Q Okay. And it looks like each grid line makes a  
17 rectangular or a square shape. Correct?

18 A Well, I think generally that's true. Again,  
19 some of those are left off of this map to -- for  
20 clarity.

21 Q Right. And you can identify that there's six  
22 separate squares or portions of a square on this?

23 A Not -- I don't count six.

24 Q How many do you count?

25 A I count nine.

1 Q Oh, you're right. Thank you. Nine. I can't  
2 add. So the nine, looking in the bottom left-hand  
3 corner of the map, there is a Flood Zone A area that  
4 crosses the Hunter property. Right?

5 A Yes. I believe that's the one that you pointed  
6 to --

7 Q Okay.

8 A -- first.

9 Q Then in the grid right next to it, the middle  
10 one at the bottom of the page, there's another one that  
11 almost entirely crosses the Hunter Tract again.  
12 Correct?

13 A There's quite a bit of floodplain in -- in the  
14 grid, in the center bottom of -- of this exhibit.

15 Q Okay. The lowest word, Zone A, in that  
16 block -- do you see where I'm talking about?

17 A I do.

18 Q And that almost entirely crosses the Hunter  
19 Tract.

20 A Well, I'm not sure about entirely crosses or  
21 what you mean by that, but it's certainly the -- I can  
22 see where Zone A is, and that indicates the floodplain,  
23 and that is on the Hunter Tract.

24 Q Okay. And you see the property boundary.  
25 Correct?

1           A     I do.

2           Q     And you see where Zone A ends in accordance  
3 with the property tract?

4           A     Yes.

5           Q     Okay. Then if we look at the grid right above  
6 that, the middle grid of the page --

7           A     Okay.

8           Q     -- there is -- the bottom part of the  
9 floodplain crosses the entire Hunter Tract right there,  
10 correct, running east to west?

11          A     The bottom part of the floodplain?

12          Q     Do you see the word "Dry Creek" on the map?

13          A     I do.

14          Q     Okay. And if you go due west, it crosses the  
15 Hunter Tract. Correct?

16          A     What are you referring to, "it?" Is this the  
17 floodplain?

18          Q     The floodplain, Zone A.

19          A     Okay. I think I see where you're talking  
20 about.

21          Q     Okay. And then we see that the floodplain  
22 heads north. Are you following me? It curves north  
23 around the landfill footprint, and then forks in two  
24 locations and crosses the property boundaries. Do you  
25 see that?

1           A     I believe so.

2           Q     Okay.

3           A     I might describe it a little bit different.

4           Q     Okay. You describe it.

5           A     Okay. So I believe that your question is  
6 asking about the floodplain on the eastern portion -- or  
7 I'm sorry -- the western portion of the facility  
8 boundary, generally crossing a facility boundary and the  
9 property boundary to the north and west, and the  
10 landfill footprint is shown to the east of that flood --  
11 floodplain. Is that where you're talking about?

12          Q     Right. To the south or east of the landfill  
13 footprint, we've identified four areas where it  
14 crosses -- where there are floodplains in Zone A. Is  
15 that correct?

16          A     I'm not sure I'm understanding your question.

17          Q     Okay. How many areas cross the property  
18 boundary of the Zone A floodplain to the west or south  
19 of the landfill footprint?

20          A     Okay. I'm going to do my best here. So you're  
21 talking about to the west of the landfill footprint and  
22 to the south of the landfill footprint --

23          Q     Correct.

24          A     -- only?

25          Q     Correct.

1           A       And you want to know how many times the  
2 floodplain crosses the property boundary?

3           Q       That's right.

4           A       Okay. I would say five.

5           Q       Okay. Tell me -- if -- it doesn't matter.  
6 I'm -- I'm going to show you another map that shows you  
7 the site access road I think you and Mr. Wilson were  
8 going over yesterday. I believe it's shown on EP-2,  
9 126.

10          A       Okay.

11          Q       So on this map in the legend, there doesn't  
12 appear to be a icon that shows the access road. Would  
13 you agree with me there?

14          A       I don't see it listed in the legend, though.

15          Q       But there does appear to be an access road or a  
16 roadway shown on this map. Correct?

17          A       Yes.

18          Q       Is that your understanding of the access road  
19 into the facility?

20          A       Well, I think you're referring to the -- the  
21 two parallel lines that are in the -- the bottom  
22 left-hand corner that cross the property boundary and  
23 into the TxDOT right-of-way or what's shown here as --  
24 it's not indicated as -- as U.S. 130 or -- I'm sorry --  
25 U.S. 183 and 130, but I -- I think that's what you're

1 referring to. Right?

2 Q If you look in the very far bottom left-hand  
3 corner, there is something that says U.S. Highway 183.

4 A I see that.

5 Q Okay. And so there is a roadway that goes from  
6 west to east and then curves up and follows essentially  
7 the property boundary until what looks like the proposed  
8 landfill site. Is that correct?

9 A I believe we're looking at the same thing, yes.

10 Q Okay. So if we look at the map on 126 and your  
11 floodplain map on 257 -- are you with me so far?

12 A I think so.

13 Q Okay. Does it appear that the roadway crosses  
14 that first Flood Zone A in the bottom left-hand quadrant  
15 of 257?

16 A Yes. The access road will cross the floodplain  
17 and -- and the particular one that we're -- I think  
18 you're referencing is the one on Exhibit 257 at the  
19 bottom left-hand corner of the sheet there.

20 Q Okay. And then it looks like it crosses the  
21 floodplain again on 126, what's identified at drainage  
22 area OS7?

23 A It looks like it's close. To be honest, I'm  
24 not sure I can say for sure. But it -- it's close.

25 Q Okay. And then if you look in drainage area

1 P3 --

2 A What exhibit am I referring to?

3 Q 126 -- EP-2, 126, drainage area P3?

4 A Okay.

5 Q Does it appear to cross a floodplain there?

6 A Well, on this map, again, like you said, the  
7 floodplain isn't shown. But if I compare 126 with 257,  
8 it looks like we will cross a floodplain there.

9 Q Okay. And then again, if you look up in  
10 drainage area P2, and compare it back to 257, does it  
11 appear that you cross a floodplain there?

12 A So again P2 on 126. Right?

13 Q Right.

14 A Okay. Yeah. Near where P2 is indicated, it  
15 looks like we will cross a floodplain again there, as  
16 well.

17 Q Okay.

18 A With the access road.

19 Q So three -- approximately three or four places,  
20 it crosses a floodplain. Correct?

21 A Three for certain, and perhaps four.

22 Q Okay.

23 A It's hard to tell on the fourth one.

24 Q And two of those are within the property  
25 boundary but not in the facility boundary. Correct?

1           A       Well, not necessarily, because again, that's  
2 the one that we're -- I'm not sure that it actually  
3 crosses the floodplain.

4           Q       So one or two of those are in the property  
5 boundary but not in the facility boundary?

6           A       That's correct.

7           Q       Okay. And then the other two are within the  
8 facility boundary. Correct?

9           A       Yes.

10          Q       Do you know if you need any authorization or  
11 permit for construction of an access road in floodplain  
12 areas?

13          A       I believe in this case, the floodplain  
14 administrator is Caldwell County. And I'm somewhat  
15 familiar with their ordinances and what they require,  
16 and I believe that -- that will be something that would  
17 be sought out if this project is allowed to move  
18 forward.

19          Q       So when did you gain that knowledge that  
20 Caldwell County is the floodplain administrator?

21          A       I'm not sure.

22          Q       Was it prior to your deposition?

23          A       Could have been. I'm really not sure.

24          Q       Okay.

25          A       I've certainly become more familiar with the

1 Caldwell County ordinances since my deposition.

2 Q Okay. So it's possible you learned of the  
3 requirement to have those authorizations after your  
4 deposition?

5 A That's certainly possible.

6 Q Okay. And that would be in all three or four  
7 locations?

8 A I'm not sure that that would change the answer,  
9 whether it would be one or even some other site, if I'm  
10 understanding your question about when I -- when I  
11 realized that a permit or Caldwell County may require  
12 something for those crossings.

13 Q I think I understood this correctly yesterday.  
14 It's just a follow-up question that I wanted to ask you  
15 about something Mr. Wilson asked. On page 63 -- EP-2,  
16 63, he was asking you some questions about the perimeter  
17 drainage system design.

18 A Sorry. Did you say 63?

19 Q Yes.

20 A Okay.

21 Q Under 5.1. The perimeter you're referring to  
22 is the landfill footprint. Correct?

23 A No. This -- the perimeter drainage system  
24 is -- is the drainage system that's outside of the  
25 landfill footprint. So I can show you on a map and try

1 to describe the area that that's referring to.

2 Q Yes, please.

3 A Okay.

4 Q Tell me what map.

5 A Will do. Let me find one. There's so many.  
6 I'm referring to 130EP-2, Page 449. This is the  
7 drainage structure plan in Attachment C3 of the  
8 application. If you look at the -- if you look at  
9 the -- at the bottom of the page, in the middle, you'll  
10 see some writing there that says, "South Perimeter  
11 Channel," and it points to a channel. And so that's the  
12 perimeter channel that -- that is being described in the  
13 exhibit we were referencing earlier. And that goes  
14 around the entire landfill.

15 Q Okay. So if you would also keep this page  
16 right here and find EP-1 in Volume 1, Page 63. Are you  
17 with me?

18 A I think so.

19 Q Okay. So when you talk about the drainage  
20 structure plan and you refer to it as the one that goes  
21 around the landfill, you're talking about the actual  
22 landfill footprint, not the permit boundary. Correct?

23 A When I refer to drainage structure plan, that's  
24 this Exhibit 449. It's actually talking about a lot of  
25 other design features or control structures other than

1 just a perimeter channel.

2 Q Okay.

3 A As I said before, the -- so the -- the  
4 perimeter channel goes around the entire landfill  
5 footprint.

6 Q Okay. So the design structures that are in  
7 this exhibit that we were referring to that led us to  
8 the map -- do you want me to tell you what page I was  
9 referring to? It's Page 63 in Volume 2. That's the --

10 A Let me do a little housekeeping here.

11 Q Okay. There's two 63s, and it's going to get a  
12 little confusing. One is EP-1, and one is EP-2.

13 A Can you remind me of the page number?

14 Q 63.

15 A Okay.

16 Q So the top of EP-2, Page 63 says, "Proposed  
17 Drainage System Design."

18 Did I read that correctly?

19 A No. I don't see the word "design." I see the  
20 proposed drainage system for -- oh, I do see that. So  
21 the title --

22 Q Yes.

23 A Okay. Yes.

24 Q Okay. So when you're referring to the drainage  
25 system design, what boundary is this design system set

1 up for, the permit boundary or the landfill footprint  
2 boundary?

3 A Well, the -- the drainage system design really  
4 takes into account everything that's within the facility  
5 boundary.

6 Q Okay.

7 A And we analyze the -- you know, going back to  
8 the drainage patterns and adverse modifications -- so  
9 the entire facility boundary is taken into account  
10 there, and even beyond that, but the specific control  
11 structures are all within the facility boundary.

12 Q Okay. If you'll look at EP-1, the map,  
13 Page 63, this is the map you and Mr. Wilson went over  
14 yesterday.

15 A Okay, I have that out.

16 Q Okay. He specifically asked you a question  
17 about the scale house and scales. Do you see that  
18 location designated on this map?

19 A I do.

20 Q Okay. Do you know if the scale house and  
21 scales are inside the permit boundary?

22 A Well, looking at this map, it shows that they  
23 are within the facility boundary.

24 Q Okay.

25 A But I don't see anywhere that it refers to

1 permit boundary.

2 Q Okay. Well, we'll call it the facility  
3 boundary. Okay? What design structure or controls have  
4 you set up as far as drainage goes concerning the scale  
5 house and scales?

6 A So -- so the design of those specific  
7 structures --

8 Q And the drainage.

9 A Okay. So the design of those specific  
10 structures was outside of -- of what I analyzed. I did  
11 account for those -- the roads and the structures as  
12 being a modification to the land surface, like, for  
13 example, they're -- I assume they were impermeable in  
14 the calculations for the analysis. But I didn't get to  
15 the level of detail, for example, if they're -- some of  
16 these structures have containment basins. Some of them  
17 don't. Those would be items that Mr. Adams could  
18 address.

19 Q Okay. Same thing if we just follow the access  
20 road to the next one, the citizens convenience center.  
21 Do you see that?

22 A I do.

23 Q And did you design any drainage controls for  
24 that facility?

25 A Well, again, we considered that in the -- in

1 the analysis, but I did not design the -- the specific  
2 drainage of that facility. And let me -- let me explain  
3 a little bit. I think it might help.

4 So I considered the potential additional  
5 run-off from the improvements being that it's a road or  
6 an impermeable surface like a building. So those are  
7 accounted for in the analysis that demonstrates there's  
8 no adverse modification drainage patterns.

9 Now, how that works is that we selected  
10 these comparison points. One of them we talked about  
11 before was CP12, which is south of the reservoir, and  
12 everything within the facility boundary drains to that  
13 point. In addition, we have comparison points along the  
14 facility boundary. And so I think you have to take all  
15 of those into account, which CP12 really does best,  
16 because that shows that the -- there's no -- essentially  
17 there's no modification. I think it's a difference of  
18 .1 CFS at CP12.

19 Q Okay. I guess what I am trying to  
20 understand -- and maybe it's not coming across. Let's  
21 look at EP2, 63. Okay?

22 A Okay.

23 Q And the introductory paragraph says, "The  
24 proposed drainage system for 130 Environmental Park will  
25 consist of drainage swales, downshoots, perimeter

1 channels, detention ponds, and outlet structures."

2 Did I read that correctly?

3 A Can you refer me where you're reading from?

4 Q I'm going to stay on Page 63.

5 A Okay. There's two 63s, so I was confused.

6 Q Okay.

7 A Okay.

8 Q It's EP-2, 63, which is your proposed drainage  
9 system design. Are you with me?

10 A Got it.

11 Q The introductory paragraph says, "The proposed  
12 drainage system for 130 Environmental Park will consist  
13 of drainage swales, downshoots, perimeter channels,  
14 detention ponds, and outlet structures." Okay?

15 A That's correct. That's what it says.

16 Q So this whole document we're looking at is the  
17 drainage system design. Correct? This section, that --  
18 that's what you typed up for this section?

19 A Yeah, that's what it's titled. There are a lot  
20 of places in the application where it probably discusses  
21 additional things about drainage system design.

22 Q Okay.

23 A This probably isn't the only place.

24 Q Okay. So when you refer -- when we're  
25 referring to drainage system design, is there another

1 definition, so we don't confuse ourselves, as to what  
2 system you're referring to?

3 A Well, other than what is said here, I mean, you  
4 know, we're talking about swales, downshoots, perimeter  
5 channels, detention ponds, and outlet structures.

6 Q Okay. Describe for me every drainage swale,  
7 downshoot, perimeter channel, detention pond, or outlet  
8 structure that you designed within the facility boundary  
9 for the scale house and the scales.

10 A Okay. The -- there are none of those for the  
11 scale house and the scales.

12 Q Okay.

13 A They're -- there's not a swale or a downshoot  
14 or a perimeter channel or a detention pond or outlet  
15 structure --

16 Q Okay.

17 A -- specifically for the -- the -- and what I  
18 mean by that, the run-off doesn't go directly into one  
19 of these structures --

20 Q Okay.

21 A -- for the scale house, for example.

22 Q So the run-off would go directly into the Site  
23 21 Reservoir?

24 A Well, again, some of these, in their specific  
25 design, they may collect run-off, depending on where it

1 is. For example, the wheel wash is one.

2 Q Okay. Let me ask you this question before we  
3 move on to the wheel wash, because we're going to get  
4 there.

5 A Okay.

6 Q I just want to know if when you're referring to  
7 the proposed drainage system design, you're not  
8 referring to any drainage system design that you did  
9 related to the scale house or scales and that's not  
10 addressed in this section?

11 A Well, again, it's -- it's -- just because the,  
12 perhaps, surface run-off, let's say, from the access  
13 road doesn't go into a detention pond, doesn't mean that  
14 we're not mitigating the potential impacts of that  
15 stormwater. Because how it works is we might be  
16 mitigating more than we -- than we would need to some  
17 other place.

18 Q Okay.

19 A So, for example, we might say, "Well, you know,  
20 we're not going to have a pond at every location along  
21 the road, but we'll use this one large pond to mitigate  
22 the effects of if there were increased run-off from the  
23 road," for example.

24 Q Okay. Did you do any mitigation of the scale  
25 house and the scales?

1 A I would say, yes, we did.

2 Q Okay. Where is that going to?

3 A Well, it's a combination of the entire system.  
4 You have to look at it in a holistic way. For example,  
5 I can't point to you which pond may be mitigating those  
6 effects. In fact, really all of them probably are. So,  
7 for example, let's look at --

8 Q Okay. Well --

9 A -- post-development hydraulic calculations.

10 Q No. Let's look at your map that you showed us  
11 earlier, EP-2, Page 449.

12 A Okay.

13 Q So on EP-2, Page 449, I see a place where it  
14 says, "Pond 1." Are you with me?

15 A Yes, sir.

16 Q If we follow the landfill footprint around, we  
17 see Pond 2. Correct?

18 A Yes, sir.

19 Q Then we see Pond 5?

20 A Yes, sir.

21 Q Then Pond 6?

22 A Yes.

23 Q Pond 7?

24 A Uh-huh.

25 Q And we go all the way around to the other

1 corner and we see Pond 4. Correct?

2 A That's correct.

3 Q And Pond 3?

4 A That's correct.

5 Q Are there other detention ponds besides these  
6 seven ponds?

7 A No.

8 Q Okay. So explain for me how the development of  
9 the scale house on Exhibit EP-1, Page 63, how run-off  
10 from that scale house is making its way up to one of  
11 these seven detention ponds.

12 A I don't think I can explain that to you,  
13 because I don't think that's what's happening.

14 Q Okay. Maybe I misunderstood. What your  
15 example was, is you told me that the development of the  
16 scale house and the scales, right, that you had  
17 mitigated that by water winding up in a pond.

18 A No, I didn't say that at all.

19 Q Okay. Well, explain for me what you meant,  
20 because that's what my question means to me, if we're on  
21 a different place. Explain for me how the scale house  
22 and the scales -- your word was mitigated the  
23 development of that in your entire drainage system.  
24 Okay?

25 A Correct.

1 Q Have I misstated it?

2 A I don't think so.

3 Q Explain for me how you mitigated that.

4 A Okay. So -- so we're looking at 130EP-2,  
5 Page 449. Right?

6 Q Right.

7 A And like you said, that shows all of these  
8 ponds, these detention ponds.

9 Q Right.

10 A So these detention ponds are -- are oversized,  
11 so they are detaining water longer than they would need  
12 to to meet the rules. And a portion of why that is, is  
13 because there are potentially other impacts like the  
14 access road that you're bringing up. So we store the  
15 water longer in Pond -- let's just say 2, for example,  
16 than what we would ordinarily need to, and that is how  
17 those impacts, as small as they are, may be impacted --  
18 or may be mitigated.

19 And, again, the specific design of some of  
20 these -- you know, locations along the access road like  
21 the scale house, citizens convenience center, the wheel  
22 wash I mentioned, some of those contain a portion of the  
23 stormwater there. But the ones that don't, they -- they  
24 run off just like they naturally would in -- in the  
25 natural drainage course, but the -- the potential

1 impacts for increase discharge, let's say -- and we  
2 referred to that table earlier -- they're mitigated  
3 through the other ponds because we store other water  
4 longer than we necessarily would have to.

5 I hope I'm making that clear.

6 Q I just want to know what you mean by the  
7 proposed drainage system design. And it sounds like to  
8 me you mean something a lot more than what it says it  
9 means here. Because what it -- what it says is that  
10 the -- the drainage system is on EP-2, Page 63, that it  
11 consists of drainage swales, downshoots, perimeter  
12 channels, detention ponds, and outlet structures.

13 Correct?

14 A I think that's what it says.

15 Q Okay.

16 A I don't have that in front of me.

17 Q So at the scale house, there's none of those  
18 things. Correct?

19 A Again, the -- the -- the run-off that occurs at  
20 the scale house would not enter one of those control  
21 structures.

22 Q Okay. Those same control structures that we're  
23 talking about, do any of them enter or have any design  
24 factor with the citizens convenience center?

25 A Yes.

1 Q Okay.

2 A All of the -- the items within the facility  
3 boundary have been accounted for in the post-developed  
4 drainage analysis.

5 Q Okay. So show me where a drainage swale,  
6 downshoot, perimeter channel, detention pond, or outlet  
7 structure takes into consideration the citizens  
8 convenience center.

9 A Where it takes into --

10 Q Uh-huh.

11 A Okay. Well, so, for example, on 449, that --  
12 that would be all of the ponds that are -- that are  
13 shown there probably contribute to that mitigation. I  
14 can't tell you which one specifically.

15 Q Okay.

16 A But you have to look at it as an entire system.

17 Q Okay. You're talking about mitigation. I'm  
18 just asking you where have you designed -- show me in  
19 your application where this drainage system design  
20 addresses each one. We could go through all of them,  
21 the scale house and scales, the citizens convenience  
22 center, the wheel wash, the proposed transfer station,  
23 the maintenance building, the leachate storage tanks or  
24 facility, and the access road.

25 A Can you repeat the first part of that again?

1 Q Yes. Where in your proposed drainage system  
2 design does it take into account these drainage control  
3 systems -- that was your word -- for the scale house and  
4 scales, citizens convenience center, wheel wash,  
5 transfer station, maintenance building, leachate  
6 storage, and the access road?

7 A I believe I used drainage control structures.

8 Q Okay. Drainage control structures.

9 A So, again, the run-off from the access road and  
10 these other locations along the access road like you  
11 mentioned, the -- those items -- the run-off or -- is  
12 accounted for in the post-developed analysis.

13 Q Show me where.

14 A Okay.

15 JUDGE BELL: This might be a good time to  
16 take a break. We've been going for almost two hours.

17 MR. MAGEE: Okay.

18 JUDGE BELL: While he's looking for that,  
19 and when we come back on the record, he can answer that  
20 question.

21 MR. MAGEE: If I can remember.

22 JUDGE BELL: We'll come back at  
23 11 o'clock. Off the record.

24 (Recess: 10:50 a.m. to 11:15 a.m.)

25 JUDGE BELL: All right. We're back on the

1 record. And I believe there was a question pending, or  
2 do you know?

3 MR. MAGEE: If there was, I certainly  
4 don't remember what it was.

5 JUDGE BELL: Do you want to reask it?

6 MR. MAGEE: Sure.

7 JUDGE BELL: Do you want her to read it  
8 back, or do you want to reask it?

9 MR. MAGEE: That would be great.

10 THE REPORTER: It's going to take me a  
11 while to find it.

12 MR. MAGEE: Well, I kind of know what it  
13 is.

14 JUDGE BELL: You do? Okay. Good. Let's  
15 just re-ask. Thank you.

16 Q (BY MR. MAGEE) I think where we left off  
17 was -- I'm going to paraphrase a little bit, but I'll  
18 get to the question so we're on the same page. Okay?

19 A Okay.

20 Q We were talking about the scale house, scales,  
21 convenience center, wheel wash, proposed transfer  
22 station, maintenance building, and leachate storage  
23 system. You agree with me there. Right?

24 A Okay.

25 Q And we were talking about the drainage system

1 design that's been proposed?

2 A Right.

3 Q Okay. Specifically we were talking about the  
4 drainage system controls. That was your word. Right?

5 A Control structures.

6 Q Okay. And when we're referring to the drainage  
7 system control structures, you're referring to the  
8 drainage swales, the downshoots, the perimeter channels,  
9 the detention ponds, and the outlet structures.  
10 Correct?

11 A I think that's how it reads.

12 Q Okay. When I refer to it as the drainage  
13 system control structures, can we just assume that we're  
14 talking about those things --

15 A Sure.

16 Q -- or do you want me to go through that list  
17 every time?

18 A I don't think so.

19 Q Okay. In relationship to the drainage system  
20 control structures and those individual buildings or  
21 locations, the scale house, convenience center, wheel  
22 wash, that stuff -- okay --

23 A Okay.

24 Q -- where in your application, the part that you  
25 prepared, does it discuss proposed drainage system

1 design with the drainage system control structures for  
2 those locations?

3 A I'm not aware of anywhere in the narrative  
4 where it discusses that.

5 Q Okay.

6 A I can certainly -- I think I can show you how  
7 we accounted for it.

8 Q Okay. Tell me what page you're on.

9 A Okay. Well, there's going to be several.

10 Q Okay.

11 A Okay. So the first one would be at 130EP-2,  
12 Page 128.

13 Q What's the next one?

14 A Okay. We'll also need to refer to Page 126.  
15 It might be best to start there.

16 Q Okay. I'm not going to ask you a question  
17 about those two pages, because I think to sum it up,  
18 what the question actually is, is it your testimony that  
19 there will be no drainage system control structures  
20 outside of those shown on the map that you showed us on  
21 Page 449 -- EP-2, 449?

22 A Can you ask that again, please?

23 Q Yes. Is it your testimony that there will be  
24 no drainage system control structures outside of those  
25 shown on EP-2, Page 449?

1           A       Page 449, it shows all of the drainage  
2 structures that I considered. Again, there could be a  
3 portion of, for example, the wheel wash where some of  
4 that water may be contained.

5           Q       Okay.

6           A       So -- so I guess someone might consider those  
7 also control structures, but they weren't considered in  
8 my analysis.

9           Q       And so that's not -- and you would agree with  
10 me, on 449, those drainage control systems shown here,  
11 right --

12          A       Again, structures, yeah.

13          Q       Yes. Which we're referring to the drainage  
14 swales, downshoots, the perimeter channels, detention  
15 ponds, and outlet structures. Correct?

16          A       Yes.

17          Q       None of those shown here encompass the scale  
18 house. Correct?

19          A       Certainly they don't encompass the scale house.

20          Q       Okay. They don't encompass the citizens  
21 convenience center. Correct?

22          A       No, those structures do not encompass the  
23 citizens convenience center.

24          Q       They don't encompass the wheel wash?

25          A       No.

1 Q They don't encompass the proposed transfer  
2 station?

3 A No.

4 Q Okay. They don't encompass the maintenance  
5 building?

6 A No.

7 Q They don't encompass the leachate storage?

8 A No.

9 Q And the access road is not within that  
10 boundary, as well?

11 A The -- the boundary --

12 Q On Page 449, that shows the drainage structure  
13 plan.

14 A I guess I'm unfamiliar with what boundary  
15 you're talking about, but there may be a portion of the  
16 access road that's within the watershed, if you will,  
17 of -- of the drainage control structures.

18 Q Okay. But not very far. Correct?

19 A I don't think it would be a significant portion  
20 of it, no.

21 Q Okay. So you were using the word "mitigate"  
22 earlier. Okay?

23 A Correct.

24 Q And you were talking about drainage that comes  
25 off of the landfill footprint when it's developed.

1 Right?

2 A No.

3 Q Okay. Tell me what you were talking about,  
4 how -- what you meant by mitigate.

5 A I meant that -- specifically, in this case, the  
6 mitigation I'm referring to, is the -- the adverse  
7 effect to drainage patterns or adverse modification of  
8 drainage patterns.

9 Q Okay.

10 A So we do that for the entire facility boundary,  
11 not just the landfill, not just the wheel wash, not just  
12 the scale house, but everything within the facility  
13 boundary.

14 Q Okay. So show me -- or I'm not talking about  
15 where you account for the drainage. Okay? I would like  
16 you to show me a location in here where you discuss what  
17 drainage control system or structure you're using for  
18 run-off from any of those locations. Do you know what I  
19 mean by "any of those locations"?

20 A Well, I think I do.

21 Q Okay.

22 A But I'm not sure.

23 Q Okay. When I'm referring to the locations, I'm  
24 referring to those locations outside the landfill  
25 footprint, that's that long list. I'll go through them

1 one more time. The scale house and scales, the citizens  
2 convenience center, the wheel wash, the proposed  
3 transfer station, the maintenance building, and the  
4 leachate storage and the access road.

5 A Okay.

6 Q So can you tell me where you account -- where  
7 you have described or developed any drainage system  
8 control structures for those locations?

9 A So, for example, there wasn't a swale or  
10 perimeter drainage channel or pond that was designed  
11 specifically for each one of those locations.

12 Q Okay.

13 A But we accounted for all of them together --

14 Q Okay.

15 A -- as well as with the landfill.

16 Q Hold right there so we don't get confused. So  
17 where do all of the drainage for those locations go?  
18 What swale, pond, where does that drainage go in your  
19 drainage system controlled structures?

20 A On -- you mean, on Page 449?

21 Q I just want to know where the drainage is going  
22 for all of those locations --

23 A Okay.

24 Q -- and how you've accounted for that.

25 A Okay. I'll be happy to explain that.

1 Q Okay.

2 A So if you turn to Page 126 of 130EP-2, it shows  
3 the access road. And we kind of indicated earlier -- I  
4 don't know whether it was this map or another one, but  
5 it's very similar, the two parallel black lines. You  
6 can see the locations. They're not called out, but the  
7 locations of the scale house and transfer station and  
8 wheel wash and those kind of things. Specifically I  
9 want to talk about the area P2A that's approximately in  
10 the center of the map there.

11 Q Right.

12 A And CP6, that's Comparison Point 6.

13 Q Right.

14 A So Comparison Point 6, we calculate the -- the  
15 existing and the post-developed conditions or hydrology  
16 in terms of the discharge, the volume, and the velocity  
17 at CP6. So -- and on P2A, those -- those items like the  
18 access road, the wheel wash, those were accounted for in  
19 terms of surface water run-off in the watershed  
20 characteristics on Page 128 of EP-2, 130EP-2. So this  
21 is a table of watershed run-off curb numbers. And you  
22 see it says, "Pond 2A" under Watershed Name. So that's  
23 corresponding to the map we previously looked at. And  
24 if you look over at the far right-hand column, it says  
25 "Paved/impervious, CN equal to 98."

1 Q Right.

2 A And corresponding to Pond -- to P2A -- excuse  
3 me -- it says 4.21 acres. So there are 4.21 acres  
4 within watershed P2A -- or subbasin P2A. And that 4.21  
5 acres is an aggregate of the -- those items we've been  
6 discussing. Now, all of them aren't in P2A, but the  
7 other watersheds will be similar.

8 Q Okay. I think we are talking about two totally  
9 different things. I appreciate that.

10 JUDGE QUALTROUGH: You are.

11 Q (BY MR. MAGEE) You're talking about the  
12 drainage numbers and the calculations. Okay?

13 A Okay.

14 Q I'm asking you specifically -- we keep going  
15 back to this same page -- which is EP-2, 63, which is  
16 the drainage structure control systems that are all  
17 these different things, the swales, the shoots, all of  
18 those things we've identified in the map. Okay?

19 A Okay. I think I'm on Page 63.

20 Q Right. I'm talking about the drainage system  
21 design, not calculations or numbers of what access point  
22 you're running on to the facility and what access point  
23 you're running off the facility. Okay? I'm talking  
24 about the swales, the downshoots, the perimeter  
25 channels, detention ponds, and outlet structures. Are

1 you with me?

2 A Uh-huh.

3 Q Okay. Not your numerical calculations of where  
4 water is coming and leaving. Okay? I'm asking you what  
5 drainage system design or any of those system  
6 controls -- okay. Where is that accounted for in here?  
7 Are you with me so far?

8 A Well, I'm not sure about what you mean by  
9 "accounted for."

10 Q Okay. If water hits the scale house or scales  
11 or water hits the citizens convenience center, the  
12 proposed transfer station, the maintenance building, the  
13 leachate storage, or access road or the wheel wash,  
14 where does that water go?

15 A When you say "water," you mean rainfall.  
16 Right?

17 Q Right.

18 A Okay. So it -- in, I believe, all of those  
19 instances it would eventually drain to Site 21.

20 Q Okay.

21 A It would drain through, you know, either CP5 or  
22 CP6.

23 Q Okay. And it's not going into any of the  
24 proposed drainage system design or your drainage system  
25 control structures. Correct?

1 A That's correct.

2 Q Okay. So where in the application, if there's  
3 any, does it discuss any drainage control system  
4 structures for any of these locations?

5 A Can you repeat that? I'm confused by the  
6 question, I guess.

7 Q Okay. Where in the application is there any  
8 discussion of where these drainage -- I can't even --  
9 let me look it back up because I wrote it down.

10 Where in the application is there any  
11 discussion, if there's any at all, about drainage system  
12 control structures for these locations?

13 A I guess I would answer that by -- by -- these  
14 locations, the -- the long list, the ones we're talking  
15 about.

16 Q Right.

17 A So, again, the water doesn't flow from those --  
18 the run-off doesn't flow from those and into one of  
19 these control structures, but that doesn't mean that the  
20 other control structures don't mitigate the increased  
21 run-off from that long list of items.

22 Q Okay. So you would agree with me, there are  
23 none?

24 A No, I wouldn't agree with you.

25 Q There are no drainage control structures for

1 any of these locations?

2 A No, I wouldn't characterize --

3 Q Okay.

4 A Earlier we talked about -- there's certainly no  
5 drainage control structure that receives run-off from  
6 these locations. However, that doesn't mean that the --  
7 the run-off from these locations isn't mitigated. And I  
8 can try to explain that --

9 Q No.

10 A -- if you like.

11 Q All I'm asking is in the application, if  
12 there's any analysis or any reference to drainage  
13 control structures that have been designed for these  
14 locations, either collectively or individually?

15 A Yes, there is.

16 Q Okay. And where is that?

17 A Well, it would be on --

18 JUDGE BELL: I think we've gone over this  
19 many, many times.

20 JUDGE QUALTROUGH: Yeah.

21 JUDGE BELL: I'm -- I don't think the  
22 answer is going to change.

23 MR. MAGEE: Okay.

24 JUDGE BELL: I'm thinking maybe we should  
25 move on.

1 Q (BY MR. MAGEE) Can you just give me a page  
2 number?

3 A Yeah. I believe it's talked about on Page 63  
4 of 130EP-2. There may be some others.

5 Q Okay. Well, I can read this exhibit. It's  
6 already been admitted in. And if I have any questions  
7 about that, I may follow up with you later. Okay?

8 But on 163 you believe that it discusses  
9 the scale house and all these locations.

10 A Excuse me. 163?

11 Q Excuse me. Wait. EP-2, 63.

12 A Okay.

13 Q That's your testimony today?

14 A My testimony is that -- that Page 63 here of  
15 130EP-2 talks about the -- the drainage system design  
16 and the structures we've been referring to, which  
17 includes the detention ponds.

18 Q Okay.

19 A Which would be the specific portion that I  
20 would say includes or accounts for the scale house and  
21 that long list of items, including the access road.

22 Q Okay. Does -- does the access road change the  
23 topography of the landfill -- of the facility boundary  
24 or even the Hunter Tract, the construction of it?

25 A Well, of course -- you know, what's in the

1 application here are permit level drawings, and they  
2 wouldn't go as far as, say, for example, construction  
3 drawings.

4 Q Okay.

5 A I'm not sure there's a location that would show  
6 the exact elevation of what the access road would be.

7 Q Okay. Is there anywhere in the application  
8 where it shows how stormwater is managed due to the  
9 access road?

10 A Well, I mean, I think that the -- the  
11 post-developed run-off summary on Page 126 of 130EP-2  
12 shows some -- some subbasins and how they -- where they  
13 drain to.

14 Q Okay. And so it's your testimony today that  
15 126 discusses how the access road being in the location  
16 where it's listed on here, how that stormwater is  
17 managed from there being an access road there?

18 A I wouldn't say that Page 126 discusses  
19 anything. It's more of a -- you know, it's a map, it's  
20 a pictorial. So there is some interpretation to what it  
21 shows.

22 Q Okay. So besides Page 126, is there another  
23 area in the application where you discuss how stormwater  
24 will be managed from the access road?

25 A I can't think of one right off the top of my

1 head --

2 Q Okay.

3 A -- but there likely is.

4 Q All right. I'll move on to something else, but  
5 I need to put my notebook back together so I don't lose  
6 my pages.

7 Y Yesterday Mr. Wilson asked you some  
8 questions about run-off and run-off -- run-on and  
9 run-off.

10 A Okay.

11 Q Do you recall that?

12 A I do.

13 Q Okay. I think he was referring to Page -- in  
14 part, let's say EP-2, Page 55.

15 A Okay. I'm on 55.

16 Q Okay. See were it says, "Appendix C1-A  
17 Drainage Maps Existing Post-Condition Comparison"?

18 A I think it says, "Post-Development Comparison,"  
19 yes.

20 Q Okay. And then it says, "It includes drainage  
21 areas that delineate the drainage areas that contribute  
22 to surface water run-on and run-off at the facility and  
23 property boundaries."

24 Okay. Did I read that part correct?

25 A I think so.

1 Q Okay.

2 A Sorry. I didn't follow along.

3 Q What does run-on mean?

4 A Well, so I think run-on, in this sense, again,  
5 it uses the TCEQ definition. And so what I would think  
6 that means would be a place that surface water enters  
7 the facility boundary. So it comes from off the -- or  
8 out of the facility boundary on to the facility  
9 boundary.

10 Q Okay.

11 A Or into.

12 Q And so that's not things within your control.  
13 You're just determining what's coming on the facility  
14 and then how it flows through the facility and then runs  
15 off the facility. Correct?

16 A Well, there certainly are places where  
17 stormwater will enter the facility boundary, and that  
18 would be considered run-on.

19 Q Okay.

20 A And there are places that it discharges from  
21 the facility boundary.

22 Q Okay.

23 A And I think that would be considered run-off.

24 Q Okay. So when we look at, let's say, EP-2, 78,  
25 can you see in the table on the right-hand side, it

1 says, "Post-Developed Run-Off Summary." Correct?

2 A I see that.

3 Q And if you look at CP2, CP3, and CP4, the far  
4 right-hand corner says, "Type of Flow." And then it  
5 describes all three of those points as run-on. Correct?

6 A Yes, it does.

7 Q So if we look at CP1, CP2, and CP3's actual  
8 locations on the map, those are points of where water is  
9 running from an outside source onto the property  
10 boundary. Correct?

11 A No. I believe you included another comparison  
12 point there.

13 Q Okay. What are those?

14 A So originally you said CP2 --

15 Q I'm sorry.

16 A -- CP3, and CP4.

17 Q I did. I meant 2, 3, and 4. Not CP1.

18 A Okay.

19 Q Okay. So if you turn to the next page, 79, if  
20 you look at CP2, it shows the existing -- that's the  
21 run-off -- run-on point. Correct?

22 A Yes.

23 Q Okay. As 1214.1 CF -- wait. I can't even say  
24 it. CFS, the cubic feet per second. Correct?

25 A Yes.

1 Q And then it shows the post-developed as 1205.3.  
2 Okay? That's the run-on point. Right?

3 A Correct.

4 Q Why has that changed?

5 A That -- that is a change because of how we have  
6 to construct the subbasins to account for the  
7 post-developed conditions. So -- so the subbasin area  
8 for CP2 in the existing case is -- is different from the  
9 subbasins that make up the discharge at CP2 in the  
10 post-developed case. So if you flip over to Page 78,  
11 this shows a post-developed run-off summary.

12 Q Okay.

13 A And specifically we're talking about CP2.  
14 Right?

15 Q Right. I just want to know what have you done  
16 in CP2 -- outside -- I mean, this is a run-on point that  
17 runs onto the facility. What have you done off site  
18 that decreases that number?

19 A We haven't. And you should also see that CP1  
20 is run-off, and it drains to CP2.

21 Q Okay.

22 A Do you see that? So where you see CP1, you can  
23 see the -- there's an indicator for a -- primary rates  
24 there, the blue line with an arrow. So CP1 is run-off,  
25 and that drains onto this unnamed, you know, tributary

1 to the unnamed tributary. Then it enters again at CP2.

2 Q Okay. So what you're saying is if you look  
3 back at Page 79, the -- for CP1, we see that it's a  
4 run-off, and it went from 37.9 CFS down to 8  
5 post-development. Is that what you're saying? And then  
6 that is how you would then subtract the number out of  
7 CP2?

8 A I'm not sure that I'm following what you're  
9 saying.

10 Q So you're saying CP1 drains into CP2.

11 A It does.

12 Q Okay. And the reason for the decrease in CP2,  
13 that difference of negative 8.8. Right?

14 A There is a decrease of 8.8, yes.

15 Q And that's because there's a decrease at CP1  
16 essentially?

17 A That may not be the only factor.

18 Q Okay. So what other factors on site are you  
19 doing to effect run-on at either CP2, 3, or 4?

20 A Well, again, the -- between the -- the existing  
21 run-off summary and post-development run-off summary,  
22 the subbasin areas have to change. To account for what  
23 may or may not be occurring on the facility boundary.  
24 Just like the watershed characteristics will change  
25 because of, you know, the access road that we spoke

1 about earlier.

2 Q But those are the subbasins on the facility  
3 property. Right?

4 A Not necessarily because -- so -- so, for  
5 example -- so, for example, let's look at 130EP-2, 76.

6 Q Okay.

7 A So -- again, it's CP1 -- what drains at CP1 --  
8 this is the existing condition run-off summary. So what  
9 drains at CP1 is area one there. Do you see where  
10 that's shown.

11 Q Yes. A1.

12 A So A1 drains to CP1. Then in the  
13 post-developed conditions, we -- we designated what  
14 drains to CP1 as P1.

15 Q Uh-huh.

16 A The reason that's a different designation is  
17 because the subbasin is actually different because we  
18 changed where that water drains.

19 Q Right. I got that one. But you were talking  
20 about changes to other subbasins, and all -- I think the  
21 answer is just no, that there are no other changes  
22 within the facility boundaries that will affect CP2, 3,  
23 and 4 other than what you just described in that corner  
24 of CP1. Is that correct?

25 A I'm not sure that that's correct, no.

1 Q Okay. What other changes inside the facility  
2 boundary is affecting the run-on at CP2, 3, and 4?

3 A Well, again, like I said, I think most of that  
4 is due to the change in the subbasin area and shape  
5 between the existing run-off condition summary and the  
6 post-developed condition summary.

7 Q So if we're looking back at Page 76, we see CP1  
8 up in the corner and we see a little area entitled,  
9 "A1." Correct?

10 A Yes.

11 Q Okay. Outside of that little area right there,  
12 is there any other subbasin changes that you are making  
13 that will affect run-off at CP2, 3, and 4 -- run-on?

14 A Well -- and again, it's not -- it's not just  
15 the shape of the subbasins, but the characteristics of  
16 the -- of the subbasins change also.

17 Q Okay. So show me on 76 where you're talking  
18 about these other changes and characteristics that  
19 somehow affect run-on at CP2, 3, or 4?

20 A Well, I'm not sure that I can just show it on  
21 76.

22 Q Okay. Is there another place?

23 A Well, yeah. I mean, there's -- there's a lot  
24 of places. I mean, the -- the -- each one of these  
25 subbasins you'll see is different. And we -- we use

1 different nomenclature throughout the application to  
2 determine -- to indicate whether it is a subbasin in the  
3 existing conditions or post-developed conditions and  
4 each one of those has its own watershed characteristics  
5 that change relative to the -- the post-developed  
6 conditions that we're proposing.

7 Q Okay. What I've been trying to understand is  
8 the word "run-on" means it's the water running onto the  
9 property.

10 A That's my understanding.

11 Q That's a very simplistic way of saying it.  
12 Right? And then there's the run-off. I'm just  
13 interested in how these -- what off site was being  
14 conducted that changed the run-on. And then I think the  
15 answer somehow got changed to that there are internal  
16 changes in the subbasins, these characteristics, that  
17 are changing that run-off at CP2, 3, and 4. I'm just  
18 asking you to tell me what those changes, subbasin  
19 characteristics are that are changing run-on onto the  
20 facility.

21 A Okay. So -- so I'm -- I guess I'm confused.  
22 Can you ask that again or -- or break it down into  
23 separate questions?

24 Q Sure. The way I understood our discussion on  
25 run-on, was that was the water running onto the

1 property, the Hunter Tract. Correct?

2 A Well, actually it's run on to the facility.

3 Q Okay.

4 A Which is different from the property.

5 Q Okay. So the facility boundary is run on onto  
6 the facility boundary?

7 A Yes.

8 Q Okay. So what water at CP2, 3, and 4 are  
9 running onto the facility from the Hunter Tract?

10 A Well, it would be the stormwater from the  
11 specific drainage basins that drain to those locations.

12 Q And those are on the Hunter Tract?

13 A No, not entirely. Some of those -- in fact, a  
14 portion of those subbasins are on the Hunter Tract and  
15 off of the Hunter Tract.

16 Q Okay. So what changes are you making to the  
17 subbasins on the Hunter Tract that are contributing to  
18 the run-on numbers?

19 A Well, again, so the -- the subbasins for the  
20 post-developed condition have to be different because we  
21 are changing or proposing to change the -- the  
22 topography or land surface within the facility boundary.  
23 So that causes the subbasins to change, as well as the  
24 other watershed characteristics, for example run-off  
25 curb numbers and things such as that.

1 Q I'm not talking about run-off. I'm talking  
2 about run-on.

3 A Right.

4 Q I understand that you're developing something,  
5 a landfill. And there is a post-development analysis  
6 that you do that shows the effects on run-off. Correct?

7 A Yes. We performed that analysis.

8 Q Okay. So I'm not talking about run-off. I'm  
9 only talking about these points that you've identified  
10 as run-on.

11 And your answer was, "We've made changes  
12 to the subbasins and the characteristics of these basins  
13 and I want to know if there's been any changes to those  
14 run-on points."

15 And I think the answer is, "These are  
16 off-site points, so there's not been any changes."

17 A Well, certainly we're not proposing to put  
18 improvements on someone else's property or outside the  
19 facility. But I think if you'll look at, for example  
20 CP3 and 4 which were the other run-on points --

21 Q Right.

22 A -- so if you look at those and then you refer  
23 back to 79 which we've talked about earlier --

24 Q Right.

25 A -- and if you look at the difference on CP3 and

1 CP4 --

2 Q Right.

3 A -- it's zero.

4 Q So you've made no change that's affecting  
5 run-on?

6 A Right.

7 Q Okay.

8 A But CP1 is different because it actually  
9 includes run-off earlier.

10 Q Right.

11 A So CP1 drains to CP2.

12 Q Right. So what I said earlier -- my question,  
13 like, ten times ago, was if you look at the little  
14 section A1, CP on Page 76 --

15 A Okay.

16 Q Do you see that?

17 A I do.

18 Q I said the only change that we see referring  
19 back to Page 79 is the drainage from A1 at CP1 into CP2.  
20 Okay? And that's the only change there has been to  
21 run-on at CP2, 3, and 4?

22 A Well, certainly CP3 and 4 are not affected.

23 Q Okay. And your answer was, "No, that's not how  
24 I would characterize it" because you've made changes to  
25 the subbasins and the correct characteristics of those

1 subbasins. I just want to know is the only change A1  
2 from CP1 to CP2. And I think I have my answer, and  
3 that's yes.

4 A I'm sorry. Was that a question or --

5 Q Well, do you disagree with that?

6 A I do.

7 Q Okay. So what other changes were there, and  
8 can you identify them on Page 76 that would explain what  
9 changes there are to run-on at the facility boundary?

10 A Again, I -- I don't think I can use just  
11 Page 76 to explain that to you.

12 Q Okay. What other page?

13 A Okay. Well, I would defer to the -- the  
14 watershed characteristics, and -- and how those changed.

15 Q Okay. What page is that?

16 A Okay. So the existing watershed  
17 characteristics are shown on Page 130EP-2, Page 93.

18 Q Okay. Hold on just a second. I'm going to get  
19 over there. Okay. I think I can speed this up if you  
20 want me to help you out.

21 A Okay.

22 Q Okay. I think what you're referring to is  
23 130EP-2, Page 94, and EP-2, Page 129.

24 A Well, I haven't looked at 94, but that might  
25 help me. I don't know.

1 Q Okay. That's the page number you gave me. I  
2 just pulled it out.

3 A No, I think I said 93.

4 Q Okay. Well, can we go to 94 just to move it  
5 up? Okay. So the basins off the facility that you're  
6 referring to on Page 76 of EP-2, is the one shown at  
7 OS2, 3, and 4, which coordinate with CP2, CP3, and CP4.  
8 Correct?

9 A That was a long question, Eric. I'm sorry.  
10 Can you ask that again?

11 Q Sure. The subbasins that you're referring to  
12 off site, off the Hunter Tract and outside of the  
13 facility boundary, if we are looking at EP-2, Page 76 --  
14 and we also may have to refer to EP, 75. EP, 75 shows  
15 on the far west side west of the Hunter Tract basins  
16 described as OS2, OS3, and OS4. Correct?

17 A I see those.

18 Q Okay. And so when you look from Page 75 to  
19 Page 76, OS2 drains in -- as run-on at CP2. Correct?

20 A Well, I believe it does.

21 Q Okay.

22 A OS2 isn't labeled here.

23 Q Okay.

24 A Because this is really just a blow up of the  
25 previous map.

1 Q But you -- we can assume that's -- OS2 is going  
2 to CP2?

3 A I think that's reasonable.

4 Q And then we see OS3 is going to CP3. Right?

5 A Correct.

6 Q Then we see OS4 is going to CP4. Is that  
7 correct?

8 A Correct.

9 Q Okay. I made the assumption earlier that area  
10 A1 that drains as run-off to CP1 and then goes to CP2 as  
11 run-on, that was the only change that affected run-on.  
12 And you told me that that was not a correct assumption.  
13 Right? And you're referring to the characteristics in  
14 these other subbasins?

15 A I think what might help us straighten this  
16 out --

17 Q Okay.

18 A -- what might be missing -- is the other place  
19 is -- it's very difficult to tell on -- I'm looking at  
20 Page 77.

21 Q Okay.

22 A Actually, you know what? Let's look at the  
23 blow up of that, which is Page 78.

24 Q Okay. Okay.

25 A So the other basin that's different, the one

1 that I was talking about being changed, is also Pond 4.  
2 If you'll remember, Mr. Worrall's testimony earlier,  
3 this is a location in which there's a screening berm.  
4 So a portion of that screening berm drains on to our  
5 site, so that's an additional change in the watershed or  
6 subbasins in that area. So not only is all of -- can  
7 you just compare the difference in CP1, but also you  
8 need to look at the -- the -- the run-off from Pond 4 --  
9 the -- what's labeled as Pond 4A.

10 Q So Pond 4A, tell me if I'm understanding your  
11 point correctly, is that it's running off the facility  
12 and then running back on the facility at CP2?

13 A No.

14 Q Okay.

15 A That's not what I'm saying.

16 Q Okay. So what is -- I'm not asking about  
17 how -- what is affecting the run-off -- the run-on at  
18 CP2, 3, and 4?

19 A Well, so, again, as we talked earlier, CP3 and  
20 CP4, the run-on is identical. The difference is zero.

21 Q Okay. No change?

22 A No change. That's shown on 79.

23 Q Okay.

24 A So the run-on at CP2 is affected by the -- the  
25 landfill development because CP1, which is run-off,

1 drains to CP2. In addition, CP -- the -- let's see.  
2 P2, this drainage basin -- and it looks like perhaps  
3 drainage basin OS2 may have changed slightly out of --  
4 it's hard to tell from the map, but I do remember in  
5 this location is where the screening berm is located.

6 Q Okay.

7 A And -- and there's a portion of that screening  
8 berm that's outside the facility boundary.

9 Q Okay.

10 A So both of those changes to the water -- the  
11 subbasins --

12 Q Okay. Outside of those two things --

13 A -- affect CP2.

14 Q Outside of those two changes, are there  
15 anything else?

16 A There may be. I mean, it's -- you know, with  
17 such a small change, it could be something else. I  
18 mean, the -- the basins are certainly different from  
19 the existing conditions or the post-developed condition  
20 in both area and drainage -- the watershed  
21 characteristics.

22 Q You brought up another point that I'm about to  
23 move on to. If you look at Pond 2 on Page 78 and Pond 4  
24 on Page 78 --

25 A Yes.

1 Q -- what screening berm are you referring to  
2 that's outside the facility boundary?

3 A Well, it's very difficult to tell here because  
4 of the scale of this drawing. I think there are other  
5 drawings within the application that better define that.  
6 But when we draw these drainage areas, so we'll take  
7 the -- the proposed land surface, and we'll be able to  
8 zoom in, you know, closely to determine where that  
9 drainage area is approximately. But I don't really  
10 think that I can demonstrate that with -- you know, at  
11 this scale.

12 Q But it's your recollection that that's outside  
13 of the facility boundary?

14 A The -- the screening berm?

15 Q Yes.

16 A Yes, it is. And I specifically remember having  
17 to modify our drainage basins after it was determined by  
18 someone that that screening berm was going to be a part  
19 of the application.

20 MR. MAGEE: I'm moving on to another line  
21 of questioning.

22 JUDGE QUALTROUGH: How much more do you  
23 have?

24 MR. MAGEE: A pretty good bit.

25 JUDGE BELL: Let's go ahead and take

1 a lunch break now. It's noon. We can be back at  
2 1 o'clock.

3 (Lunch Recess: 12:02 p.m. to 1:06 p.m.)  
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## 1 AFTERNOON SESSION

2 WEDNESDAY, AUGUST 17, 2016

3 (1:06 p.m.)

4 JUDGE BELL: All right. We're back on the  
5 record, back from our lunch break, and we will continue  
6 with cross-examination of Mr. Traw by Caldwell County.

7 PRESENTATION ON BEHALF OF APPLICANT (CONTINUED)

8 TYSON L. TRAW, P.E.,

9 having been previously duly sworn, testified as follows:

10 CROSS-EXAMINATION (Continued)

11 BY MR. MAGEE:

12 Q I had another quick question on the drainage  
13 structure plan, on Page 130EP-2, Page 449 and 450.

14 JUDGE QUALTROUGH: 149 -- is it 149?

15 MR. MAGEE: 449 and 450.

16 Q (BY MR. MAGEE) Actually, back on Page 447, it  
17 identifies this portion of Attachment C3 as the drainage  
18 system plans and details. On 449 or 450, is there a map  
19 or something that's equivalent to this where we can look  
20 at where the floodplain is in relationship to the  
21 Drainage Structure Plan and the Perimeter Drainage Plan  
22 on 450?

23 A Can you repeat that one more time?

24 Q Sure. Looking at the map on 449, which is  
25 entitled the Drainage Structure Plan and the map on --

1 or the design on EP-2, 450, the Perimeter Drainage Plan,  
2 is there some way where we can determine the -- where  
3 the floodplain is in relationship to these two proposed  
4 plans?

5 A I'm sure there is. I'm not -- if you give me a  
6 second, maybe I can find one.

7 Q Okay.

8 A I'm not sure we'll find a map that shows the  
9 individual structures, if that's what you're wanting to  
10 see.

11 Q That is what I was -- I looked all through this  
12 book. And I see maps where it shows the floodplain, and  
13 I see maps where it shows the landfill footprint, but I  
14 don't see one in here that is a blowup to this same  
15 level that shows the Drainage Structure Plan or the  
16 Perimeter Drainage Plan with the floodplain on it like  
17 this.

18 A I think the scale of this one is enlarged, you  
19 know, to try to show the level of detail that's in all  
20 the swales and things. That gets pretty complicated.  
21 So it is a bit different than most of the others.

22 Q Okay. So we just agree, probably nowhere in  
23 the application is there one where I can do a comparison  
24 of these two plans with the floodplain in this level of  
25 detail?

1           A       That shows the swales and chutes, I don't think  
2 so.

3           Q       Okay.

4           A       There may be. I'm just not aware of it right  
5 now.

6           Q       Okay. On Page 130EP-62, Page 67.

7           A       I thought this was convenient to have all of my  
8 sections in one book, but I'm not sure it is, flipping  
9 back and forth. Did you say 67?

10          Q       Correct. And even if you'll flip back to Page  
11 65.

12          A       Okay.

13          Q       This portion of the application prepared by you  
14 deals with the erosion and sedimentation control.  
15 Correct?

16          A       That's correct.

17          Q       Yesterday Mr. Wilson was asking you some  
18 questions about contaminated water and uncontaminated  
19 water. Do you recall him asking that line of  
20 questioning?

21          A       Generally, I recall that.

22          Q       Okay. So if you'll look on Page 67, the second  
23 full sentence on that page says, Runoff from areas that  
24 have intact daily cover constructed of a well-compacted  
25 earthen material is considered uncontaminated stormwater

1 runoff.

2 Did I read that correctly?

3 A I'm not following.

4 Q Okay. On Page 67 --

5 A Okay.

6 Q -- it's the second full sentence.

7 A Okay.

8 Q I'll let you read it.

9 A (Witness complying.)

10 So you're talking about the part -- the  
11 sentence that starts with "Runoff"?

12 Q Yes.

13 A Okay. Runoff from areas that have intact daily  
14 cover constructed of a well-compacted earthen material  
15 is considered uncontaminated stormwater runoff.

16 Q So yesterday when -- I just want to make sure I  
17 understood that line of questioning between you and  
18 Mr. Wilson. I think the follow-up after he discussed  
19 the contaminated versus uncontaminated water is that  
20 there's no testing that you're aware of about that type  
21 of water as it leaves the facility site -- correct -- to  
22 test whether it's contaminated or uncontaminated?

23 A Well, so in this instance, contaminated water  
24 refers back to the definition in the TCEQ rules that's  
25 talking about water that's come in contact with waste.

1 So yesterday Mr. Wilson and I spoke about that, and we  
2 also spoke about -- I think he was talking about general  
3 stormwater or surface runoff. And so that would be  
4 handled under a separate general stormwater permit  
5 with -- that would be a Texas pollution -- a TPDES  
6 permit.

7 Q Okay. So what type of runoff is it referring  
8 to on Page 67?

9 A Well, it's talking about uncontaminated  
10 stormwater runoff. So that's stormwater runoff in this  
11 case that has not come in contact with waste.

12 Q Okay. And so my question was -- I think I just  
13 wanted to understand what your answer was to  
14 Mr. Wilson -- is there's no testing done on that water  
15 to make any determination of whether it's contaminated  
16 or not. It's just assumed that it's uncontaminated.  
17 Correct?

18 A I don't think that's correct, no.

19 Q Okay. What testing is being performed at the  
20 130 Environmental Park proposed landfill site to make  
21 that determination?

22 A I'm not aware of any place in the application  
23 where it sets out that what we will be testing for as  
24 far as stormwater runoff, because that will be handled  
25 in the general permit, which I think I testified to

1 yesterday you really won't know what constituents you're  
2 required to test for until you get that permit.

3 Q Okay. So what tests are you aware of today  
4 that are being proposed at the landfill site?

5 A Well, I think that what would be proposed at  
6 this point would probably be what's in the application.  
7 And I'm not aware of any tests in the application or  
8 testing protocols proposed in the application for  
9 stormwater runoff.

10 Q Okay. So it was not part of your design of any  
11 of these control structures to implement any form of  
12 testing that you're aware of?

13 A Can you repeat that, please?

14 Q As part of these drainage control structures,  
15 detention ponds, all the various things we talked about  
16 earlier today, no aspect of that involved testing of  
17 water, runoff?

18 A Well, so those items were designed for  
19 stormwater runoff, but they weren't designed for  
20 testing.

21 Q Okay.

22 A So I guess maybe I'm not understanding your  
23 question.

24 Q So there's no testing that you're aware of?

25 A Well, again, I'm not aware of any place in the

1 application where we set out testing of stormwater  
2 runoff.

3 Q Okay. That answers the question.

4 If you'll turn to EP-2, Page 63.

5 A Okay.

6 Q Section 5.2. Would you read that beginning  
7 sentence for us?

8 A Okay. Stormwater runoff will be collected in  
9 swales located near the upper grade break on the  
10 landfill and on the four-to-one, in parenthesis,  
11 horizontal to vertical side slopes, leading to drainage  
12 letdown structures, or chutes, and to the perimeter  
13 drainage system.

14 Q Okay. So what does it mean that it's on a  
15 four-to-one horizontal to vertical side slope?

16 A Well, that's talking about the side slopes of  
17 the landfill. And so four to one means that we'll just  
18 go ahead and put units to it in this case. So for every  
19 one foot vertically, you would have to go four feet  
20 horizontally, and then you could essentially, you know,  
21 draw that slope or side slope, if you will.

22 Q And then on top of that side slope, at a four  
23 to one, that's where these swales are being constructed.  
24 Right?

25 A Can you repeat that for me?

1 Q Is the four-to-one slope the swale, or is it  
2 the side slope of the proposed landfill?

3 A That's generally the side slope of the proposed  
4 landfill.

5 Q Okay. On top of that area that's generally the  
6 four to one side slope, are the swales being constructed  
7 on top of that?

8 A Yeah. So the swales are generally shown in I  
9 think one of the exhibits we referred to previously, I  
10 think 449 --

11 Q Okay.

12 A -- in the Drainage Structure Plan.

13 Q So if we turn to 449, this is what the  
14 completed landfill would look like with your drainage  
15 structure. Correct?

16 A Just a moment. Sorry. Okay.

17 Q Right. This is what the completed landfill  
18 would look like?

19 A Correct.

20 Q And all these lines that we have following the  
21 footprint boundary with the arrows on them are described  
22 in the legend as the drainage swales?

23 A I'm sorry, I don't see footprint boundary on  
24 here.

25 Q Okay. Do you know where the footprint boundary

1 is?

2 A Generally, I think I do. I was just -- I was  
3 looking for specifically -- you said the ones that were  
4 following it.

5 Q Okay. Are the drainage swales following  
6 something other than the footprint of the landfill?

7 A Well, they're generally perpendicular to the  
8 slope of the face.

9 Q They're parallel to the footprint?

10 A In some -- in some places they would be. And  
11 you might even say generally that they would be parallel  
12 to the footprint.

13 Q And so the area that we're referring to now is  
14 the line with the arrow in it, and those indicate the  
15 drainage swales. Correct?

16 A Yeah. So in the legend, it calls out drainage  
17 swale.

18 Q Okay.

19 A And so it's a line with little dots, and then  
20 it has an arrow there.

21 Q How many of these drainage swales are being  
22 proposed to be built at the completion of the landfill?

23 A You know, I could probably count all of those  
24 up, but we'd be here a good while. I mean, there are  
25 probably, you know, perhaps in the hundreds --

1 Q Okay.

2 A -- because they drain various different ways,  
3 so there's some that aren't connected or that are acting  
4 separately.

5 Q That's fine. If it's more than a hundred  
6 swales, I'm okay with that.

7 A I suspect it is. I mean, I'm just kind of  
8 estimating here.

9 Q Okay. So if you look over at 130EP-2, Page  
10 195 -- keep your finger on 449 in case we need to flip  
11 back to it.

12 A Okay. What was the first number again? I'm  
13 sorry.

14 Q 195. EP-2, 195, and we're going to refer back  
15 to the map on 449.

16 A Okay.

17 Q So this document is entitled the Drainage Swale  
18 Analysis For The Top Slopes. Is that correct?

19 A Yes, I see where it says that.

20 Q And then if we look back and compare it to 449,  
21 the Drainage Structure Plan --

22 A Uh-huh.

23 Q -- there is a line that is drawn that shows the  
24 top slope swale. Correct?

25 A There are several top slope swales drawn on

1 449.

2 Q Okay. So although it's only shown one time on  
3 here, there's more than one on here. Correct?

4 A You're going to have to be more specific than  
5 that. I'm not sure I understand.

6 Q Okay. I'm looking at just the word "top slope  
7 swale" at D7 and the arrow that's drawn showing that  
8 that's a top slope swale.

9 A Sorry. Where is D7?

10 Q It's kind of at the top of the page on 449.  
11 There is an indicator of northeast perimeter channel,  
12 and then directly below that it says "top slope swale."

13 A I see that.

14 Q Okay. So that's not the only one. There's  
15 more than one. Correct?

16 A Yeah. That's meant to identify a top slope  
17 swale.

18 Q Okay. So how many, do you think, top slope  
19 swales are there?

20 A Probably less than 20 shown here --

21 Q Okay.

22 A -- but something like that.

23 Q Okay. And so if you look back at 195 --

24 A Uh-huh.

25 Q -- it identifies that the right slope -- it's

1 about not quite halfway down -- you see that?

2 A I do.

3 Q As being two to one slopes. Correct?

4 A That's correct.

5 Q And actually the little diagram above that,  
6 although it's really small, shows you where it's  
7 referring to the two to one. Correct?

8 A Can you repeat that for me, please?

9 Q Sure. The diagram -- the only diagram on that  
10 page will indicate what it's referring to as the  
11 two-to-one slope for the right slope.

12 A I see a slope that -- I think it says two to  
13 one. That may have been lost in just copying this  
14 document, but generally, that's the -- two to one is the  
15 slope of the swale itself compared -- so in this  
16 diagram, it shows two slopes to form a swale or  
17 triangular channel, one being, in this case, the top  
18 dome final cover and then the other one being the  
19 upstream face of the swale.

20 Q So the right slope of these less than 20 top  
21 slope swales would be at a two to one. Correct?

22 A That's what's shown here, yes.

23 Q Okay. And then if you look at Page 196, this  
24 document shows the drainage swale analysis for side  
25 slopes. Correct?

1 A It does.

2 Q And if we look back at 449, there is also, you  
3 know, the same type of line indicating what you're  
4 referring to as a side slope swale. Correct?

5 A There is certainly a side slope swale called  
6 out. And, again, we point to a typical version of that.

7 Q And is that side slope swale the one that you  
8 say there's probably a hundred of?

9 A Yeah, maybe.

10 Q Okay.

11 A Again, a hundred is pretty rough. I mean, I'm  
12 not really sure how many there are. There are a lot.

13 Q Okay. I'm just not trying to pin you down on a  
14 number, just to get an idea of what we're talking about.

15 A Right.

16 Q If you look at Page 196, we'll see a very  
17 similar diagram on that page and also a description that  
18 the right slope is at a two to one. Is that correct?

19 A I see that, yes.

20 Q So do you know how much of the final cover will  
21 consist of these swales?

22 A I don't, no.

23 Q Okay. And do you know how much of that is at a  
24 two-to-one angle versus a four-to-one angle?

25 A No.

1 Q So when we look back over at Page 63, EP-2, 63,  
2 and the first sentence reads, Stormwater runoff will be  
3 collected in swales located near the upper grade break  
4 on the landfill and on a four-to-one horizontal to  
5 vertical side slope leading to the drainage letdown  
6 structures or chutes and to the perimeter drainage  
7 system. That four to one is not talking about those  
8 swales; that's just generally talking about the side  
9 slope of the landfill without the swales. Correct?

10 A Yes.

11 Q And doesn't take into consideration the two to  
12 one of the top slope and side slope swales?

13 A Are you referring to the two to one of the  
14 swales? You lost me --

15 Q Yes.

16 A -- when you said "top slope".

17 Q Right, the top slope and slide slope swales --  
18 I'm going to get tongue-tied at some point -- at the two  
19 to one.

20 A I'm not sure I understand your question.

21 Q Okay. That sentence has nothing to do with  
22 these two-to-one design of the side slope and the top  
23 slope. Correct?

24 A That's correct.

25 Q Okay. That four to one is referring only

1 generally to just the side slope?

2 A Yeah. So four to one, along face -- for  
3 example, if you were to take, you know, at the upper  
4 grade break and then -- and then if you were to take  
5 that elevation and the elevation near the perimeter  
6 road, the average slope there is going to be four to  
7 one.

8 Q Okay. And that doesn't take into consideration  
9 that two-to-one slope of the side slope swale?

10 A Well, no, that wouldn't -- the two-to-one slope  
11 of the -- of the swale wouldn't factor into that  
12 calculation of the average slope, no.

13 Q So if you didn't take into consideration the  
14 two-to-one slope -- correct -- and you told me today you  
15 don't know how much of the final cover these side slope  
16 swales and top slope swales consist of, how do you know  
17 the average is four to one?

18 A I'm sorry, there was a statement mixed with a  
19 question there. I'm not sure what I'm supposed to  
20 answer.

21 Q Okay. You just said that you weren't taking  
22 into consideration the swales. Right? And you came up  
23 with an average slope for the landfill at four to one.  
24 Did I misunderstand that?

25 A I was trying to describe how you could

1 calculate the average slope of the side slope of the  
2 landfill.

3 Q Okay. And that calculation you've come up with  
4 is four to one?

5 A Right.

6 Q Okay. Previously, ten minutes, 15 minutes ago,  
7 I started asking you questions about the number of  
8 swales that are on the side slope and the top slope  
9 swale. Okay? You with me so far?

10 A I remember that.

11 Q Okay. And we've looked at Page 195 and 196  
12 that describe the top slope -- the right slope for both  
13 of those as two to one. Is that correct?

14 A Well, I believe it's 195 and 194, I think.  
15 Those are the sample calculations to show that drainage  
16 control structure, the swales.

17 Q Okay. So my question earlier was: How much of  
18 the final landfill cover do those swales consist of,  
19 that two-to-one calculation?

20 A The two-to-one calculation?

21 Q Uh-huh.

22 A I'm not sure what percentage of the side slope  
23 consists of swales, if that's what you're asking.

24 Q Okay. So how did you -- if you didn't consider  
25 the two-to-one slope of the side slope and top slope

1 swales, how did you come up with the calculation that  
2 the landfill slopes at four to one, on average?

3 A Okay. I think I can explain that. Let me find  
4 the page that will help me illustrate what I'm talking  
5 about. I'm not finding what I need to show you in my  
6 section. It's probably in the general landfill design.  
7 So I'll just try to verbally describe what I'm talking  
8 about --

9 Q Okay.

10 A -- okay. So if I were to calculate an average  
11 slope, I would take the elevation -- in this case the  
12 side slope begins at the grade break line between the  
13 top slope and the side slope. Right.

14 Q Okay.

15 A So you take the elevation there --

16 Q Point A up here?

17 A Right. It could vary along the top of the  
18 landfill. Right. And then you would go directly in the  
19 steepest gradient, down in elevation, to approximately  
20 the perimeter road. That's where the next grade break  
21 is. And so I would take those two elevations, the  
22 difference between those elevations, divided by the  
23 horizontal distance between those two points, and that  
24 would help me calculate this slope.

25 Q Okay. So I just want to make sure I'm

1 understanding it correctly. You have your highest point  
2 of elevation here -- right -- and your other point of --  
3 lowest point over here, and you're drawing a straight  
4 line from one point to another point. Correct? And  
5 that's where you're taking your average to get the four  
6 to one?

7 A Yeah. That would be, by definition, the  
8 average slope.

9 Q Okay. So you're not taking into consideration  
10 the hundreds of swales that are on top of this side to  
11 determine if that four to one is accurate; you're just  
12 doing a Point A to a Point B. Correct?

13 A Well, if you're trying to calculate to average  
14 slope, and if I were going to go and account for each  
15 one of those swales, which I wouldn't do because the  
16 definition -- average definition is from one point to  
17 the other, then there would be a lot of places where I  
18 have a slope that is counter to the actual face of the  
19 landfill that would be going into the landfill.

20 Q Okay.

21 A You understand?

22 Q Right. Because you have these swales where --  
23 and water, it's my understanding, is draining around  
24 them to some form of chute. Correct?

25 A Yeah. The purpose of the swales is to capture

1 sheet flow and drain the face of the landfill in a  
2 controlled and organized manner to -- and I think our  
3 slope on those is .05 percent. So a very mild slope.  
4 We collect the water and take it to a chute or down  
5 chute. And then from there, the water will be drained  
6 off the face of the landfill into either perimeter  
7 channel or a pond.

8           Now -- and we take it to those chutes,  
9 because that's where we have erosion control structures  
10 in place, whether it be reticulated concrete mat or some  
11 of the other types we show in Attachment C3 of how we --  
12 how we let down that water off of the side slope of the  
13 landfill in a controlled manner.

14       Q     So when the landfill is finally constructed,  
15 and you have these swales and the final cover on, what's  
16 on top of that? Is it grass? Vegetation? What are you  
17 looking at?

18       A     I believe -- I believe we say it's a mixture of  
19 native and improved grasses, I believe.

20       Q     Okay. And then you also look at that in your  
21 erosion and sedimentation control plan. Correct? You  
22 take into consideration the final cover and the erosion  
23 that may occur with that?

24       A     We do.

25       Q     You just happen to know off the top where that

1 erosion and sedimentation control plan is? I can't read  
2 my own handwriting.

3 A I can't read my handwriting either most of the  
4 time. I'm not sure which one you want to look at. I  
5 think we talk about intermediate cover and final cover.

6 Q I need the postdevelopment one, but I think I  
7 can find it real quick. You know what? We can come  
8 back to it. I'll move on and if I can find it, I'll  
9 come back to it. I just had two or three questions on  
10 that.

11 When you were developing this portion of  
12 the landfill application, you became aware that Caldwell  
13 County had a development ordinance. Correct?

14 A What part of the application are you referring  
15 to?

16 Q Volume 2 that you have in front of you.  
17 That's -- this is your portion. Right?

18 A Primarily, yes.

19 Q Okay. Attachment C I think in your prefilled  
20 testimony, if we go to Page 2 of Traw 1, Line 15, your  
21 primary conclusions refer to the Attachment C, the  
22 Facility Surface Water Drainage Report in Exhibit  
23 130EP-2, Pages 46 through 468.

24 A I think that's correct, but I'm not sure where  
25 you're reading from. I certainly am responsible for

1 Attachment C --

2 Q Okay.

3 A -- of the application.

4 Q All right. So in preparing that attachment,  
5 you became aware of Caldwell County -- Caldwell County  
6 development ordinance. Right?

7 A I'm not sure when I became aware of Caldwell  
8 County's development ordinance or what -- at what point  
9 or when that happened.

10 Q And as part of that, what documentation did you  
11 submit to Caldwell County for -- was it a preliminary  
12 plat?

13 A We submitted a preliminary plat to Caldwell  
14 County, yes.

15 Q Okay. And what documentation did you submit to  
16 the county as part of that preliminary plat, just  
17 generally? You don't have to tell me each page.

18 A Well, I think generally, it was the items that  
19 comply with what's required of a preliminary plat. And  
20 I believe we -- that was approved. So I think we --

21 Q Is the original hydrologic and hydrologic  
22 information you submitted to Caldwell County the same  
23 data that you provided to TCEQ in the landfill  
24 application?

25 A Are you wanting to -- I guess I'm not sure

1 about your question, because we submitted several times  
2 to Caldwell County.

3 Q The original one. The very first time you ever  
4 sent documentation over to Caldwell County, was it the  
5 same hydrologic and hydraulic information that's  
6 contained in this information?

7 A You know, I don't believe it was the same --

8 Q Okay.

9 A -- because our scope changed. So most of the  
10 application is related to the facility boundary, because  
11 that's what the rules require. But when we moved over  
12 and started to try to do something for the preliminary  
13 plat, it was really more of a concern of the entire  
14 property. So, obviously, those look at different areas.

15 Q Okay. But, generally, the application -- we've  
16 gone through tons of maps today that show the existing  
17 drainage at the landfill site -- right -- run-on, runoff  
18 and what the existing drainage patterns are. Correct?

19 A We've gone through several of those exhibits,  
20 yes.

21 Q Okay. And so was that data somehow different  
22 than the original data you submitted to Caldwell County?

23 A Well, I don't know that -- I can't think of an  
24 instance where a particular place was specifically  
25 different, but again, the scope was different. So,

1 obviously, those didn't include the exact same items or  
2 analysis.

3 Q So tell me how the preexisting conditions in  
4 the application for drainage, right, how those are  
5 different from just the preexisting conditions that  
6 you're submitting as part of a preliminary plat. What  
7 different considerations do you go through?

8 A Well, so for the application, like we talked  
9 about earlier, we're trying to calculate or -- and  
10 analyze run-on and runoff. And we do that at the  
11 facility boundary, primarily. For the plat, Caldwell  
12 County wasn't interested in anything to do with the  
13 landfill -- or at least that was my opinion. They  
14 wanted to know about the property, because that's what  
15 you're platting is the property, not the facility  
16 boundary.

17 Q Okay. Well, that's a good point, because let  
18 me ask you: Do you know if there's any further  
19 submissions you're required to make before you construct  
20 the landfill?

21 A I believe there is, yes.

22 Q So kind of what we're talking about is the  
23 preliminary -- the existing conditions out at the  
24 landfill site today in order for you to get a  
25 preliminary plat. Right?

1           A     Right.

2           Q     And then there will be a -- in here, in the  
3 application it's called a postdevelopment, but you'll  
4 have to submit something similar to get a final plat to  
5 show you have had no effect -- right -- over these same  
6 drainage issues?

7           A     I'm not sure what you mean by "no effect."

8           Q     Well, I thought that was the purpose of all  
9 this drainage stuff, was to show what it is running on  
10 and running off doing so that you -- I can't remember if  
11 it was the ED or Mr. Wilson that asked the question  
12 about it adversely modifying or adversely changing --  
13 whatever those words were -- the drainage?

14          A     I think that's similar to what the rules  
15 require, yes.

16          Q     Okay. And so for the preliminary plat, I'm  
17 trying to understand. When you submitted that  
18 preliminary plat to Caldwell County, what was different  
19 in the data that you submitted from what's in the  
20 application, just the general drainage numbers? What  
21 was the two differences?

22          A     You know, I'm not sure. I couldn't -- if  
23 you're trying to -- are we trying to compare like flow  
24 rates or something? I don't know. I don't -- I don't  
25 have any of that information with me. I mean,

1 generally, for the preliminary plat, we were just  
2 looking at the property and just trying to get that  
3 platted regardless of whether it was going to be a  
4 landfill or whatever else.

5 Q So if you look at 130EP-2, Page 75, that's  
6 referred to as Existing Condition Offsite Drainage  
7 Areas. You see that?

8 A Right.

9 Q So when you supplied the initial information to  
10 Caldwell County, would you agree with me it's these same  
11 offsite drainage areas that we're generally looking at  
12 here that you submitted to Caldwell County as part of  
13 the preliminary plat?

14 A Well, as a whole, generally the area didn't  
15 change. Obviously, the watershed didn't change from,  
16 you know, when we submitted the plat to when we did the  
17 application. However, for the plat, we weren't really  
18 interested in what, you know, the runoff or run-on might  
19 be, like where these comparison points are.

20 And so the differences are, if we want to  
21 know information, for example, like at CP7 on Page 75,  
22 well, we have to calculate the runoff from that  
23 individual basin. So that basin, we don't need to know  
24 the information from that -- that that basin gives us  
25 for the plat, because that's really not of interest to

1 what is occurring, you know, in the center of the site.

2 Q I guess I'm just trying to understand if the  
3 preliminary plat is asking you for what the existing  
4 conditions are and all these numerical calculations in  
5 here that you've come up with, what the existing  
6 drainage is at the site -- you follow me so far?

7 A I think so.

8 Q Okay. And you do that same type of analysis  
9 for a landfill application or a construction of Walmart  
10 or whatever you're constructing, would you agree with me  
11 there's really no difference in what the existing  
12 drainage conditions are? They're exactly the same for  
13 if you're applying for a preliminary plat permit, a  
14 landfill application, or to construct a Walmart out  
15 there. Nothing's changing just because you've decided  
16 to go build something out there. You're only looking at  
17 the existing drainage conditions. Correct?

18 A Mr. Magee, I'm not sure what the question was.

19 Q Okay. Tell me how submitting drainage  
20 information on a preliminary plat, right, you're just  
21 determining what the existing condition is. Right?

22 A I believe -- well, I believe in the preliminary  
23 plat what we had to show was the extent of the  
24 floodplain.

25 Q Okay. And nothing regarding drainage?

1           A       Well, in terms of, you know, comparing  
2 predevelopment and postdevelopment, no.

3           Q       Just existing. I'm not talking about  
4 postdevelopment yet. I think we've already determined  
5 you hadn't done anything on postdevelopment drainage for  
6 the county. Correct?

7           A       We did not consider any improvements to the  
8 property --

9           Q       Okay.

10          A       -- for the -- for the plat to the county.

11          Q       So just so we're all clear, I'm not asking any  
12 questions about the improvements that are being proposed  
13 on this facility site. I'm just asking if there's any  
14 differences on when you are trying to determine what the  
15 floodplain is or what existing drainage is between an  
16 application for a landfill and a preliminary plat.

17          A       Well --

18          Q       Is there different data that you're submitting,  
19 or is it the same general data?

20          A       I would say generally it's the same, but --

21          Q       Okay. That's all I needed.

22          A       -- I just want to say that the subbasins may be  
23 different because we're looking for information that's  
24 within the property boundary at certain, you know, very  
25 critical points, for example, in the application, where

1 there's no need to look for that information --

2 Q Okay.

3 A -- when we're just trying to characterize the  
4 floodplain for a preliminary plat.

5 Q Just so we're perfectly clear, I understand  
6 that on -- like Page 75, you may have divided it up into  
7 subbasins differently than you divided it up for  
8 Caldwell County, okay. But there's nothing different.  
9 The land is still the same. Everything is exactly the  
10 same out there when you're doing it for a preliminary  
11 plat and when you're submitting an application to  
12 TCEQ -- correct -- same data, same information, same  
13 underlying calculations that you're doing?

14 A Well, I would only agree to the extent that the  
15 methodology is the same.

16 Q Okay.

17 A And we're trying to characterize the same area.

18 Q Okay.

19 A But --

20 Q That's fine. We can stop there. You're trying  
21 to characterize the same area and using the same  
22 methodology. Is that fair to say?

23 A Yes.

24 Q Okay. So as part of that process, you  
25 submitted the preliminary plat information to Caldwell

1 County, and they had several revisions to the data that  
2 you submitted to them. Is that a fair assessment?

3 A I recall -- I think three request revisions.  
4 It may have been two.

5 Q Okay.

6 A I don't know for sure.

7 MR. MAGEE: May I approach real quick?

8 THE WITNESS: This might be a good time.  
9 I don't know. I could really run to the restroom.

10 MR. MAGEE: Okay.

11 THE WITNESS: It won't take me long.

12 (Laughter)

13 JUDGE BELL: All right. How about five  
14 minutes?

15 THE WITNESS: Sure.

16 JUDGE BELL: Off the record.

17 (Recess: 1:50 p.m. to 1:54 p.m.)

18 JUDGE BELL: Back on the record.

19 Go ahead, Mr. Magee.

20 Q (BY MR. MAGEE) I think when we left off, we  
21 had talked about -- you remembered two or three  
22 discussions back and forth between Caldwell County and  
23 yourself concerning this preliminary plat data?

24 A I think we characterized it as comments. There  
25 were certainly more discussions than two or three.

1 Q Okay. The -- so comments, how are you taking  
2 that in a technical sense of some sort of written  
3 comment to you and then a response provided by you?

4 A I thought that's what we were talking about  
5 before.

6 Q Okay. I just want to make sure we're on the  
7 same page.

8 MR. MAGEE: May I approach now?

9 JUDGE BELL: Yes.

10 Q (BY MR. MAGEE) I'm just helping refresh your  
11 memory here, and I can go get the deposition stuff. But  
12 this is labeled as Tyson Traw Exhibit 5 from your  
13 deposition. It's February 19, 2015, and it refers to  
14 the third round of comments.

15 A I think it says Exhibit 7.

16 Q I'm sorry, what did I say?

17 A 5.

18 Q Oh, sorry. Exhibit 7. Okay. Third round of  
19 comments?

20 A Yeah, that's in the title or the reference of  
21 the letter.

22 Q Okay. So probably if we said there were three  
23 round of comments, then we'd be pretty accurate.  
24 Correct?

25 A I think that's right.

1 Q Okay. And as part of those comments and your  
2 response, you made corrections to the additional data,  
3 the original data, that was submitted to Caldwell  
4 County. Correct?

5 A Well, I would say that Mr. Bratton made  
6 comments -- or, actually, I'm not sure all of them came  
7 from Mr. Bratton, but from the county.

8 Q Okay.

9 A The county provided comments on my submission,  
10 and then I made revisions based upon their requests.

11 Q Okay. And of those revisions, I'll give you an  
12 example of one. The hydrology model was revised to  
13 include lag time inputs that assumed shallow  
14 concentrated flow became channel flow at or prior to a  
15 thousand feet in length. Does that ring a bell?

16 A I think I remember something like that. I  
17 can't remember which round of comments that came from.

18 Q But that's an example of one of the changes  
19 that you would have made. Right?

20 A Generally, yes.

21 Q Okay. So, for example, if you'll turn to  
22 130EP-2, 94. So in my example, you'll see at the top of  
23 the page of Page 94, if we turn it sideways, it says the  
24 Existing Watershed Characteristics. Correct?

25 A Yes.

1 Q And then there's a set of columns that deals  
2 with sheet flow.

3 A I see that.

4 Q You see that. What does sheet flow mean?

5 A Well, so this table was specifically talking  
6 about lag time.

7 Q Okay.

8 A And so sheet flow is used to calculate lag  
9 time. It's one of -- one of the methods -- or I should  
10 say one of the types or categories of how water travels  
11 in the watershed.

12 Q Okay. And then the next one is Shallow  
13 Concentrated Flow. Correct?

14 A Yes, sir.

15 Q And what does that mean?

16 A It's the same thing. It's another one of the  
17 categories of how water would move from somewhere in the  
18 watershed to the outlet.

19 Q And then the next set of numbers pretty much is  
20 channel flow. Correct?

21 A Yes, there's another -- another set of columns,  
22 and that's the same thing. So all three of those make  
23 up the categories of -- or types of flow along any path  
24 or a path in a watershed to the outlet.

25 Q And just using this as an example here, when

1 one of the comments and changes or revisions that you  
2 made based on the request of Caldwell County was that  
3 you change the hydrology model to revise -- that the  
4 revision include a lag time input that assumes shallow  
5 concentrated flow became channel flow at or prior to a  
6 thousand feet in length. Okay. If you look at the  
7 column under Shallow Concentrated Flow on Page 94, just  
8 using the first one as an example, where it says  
9 8,945 feet of watercourse length -- you with me so far?

10 A I think.

11 Q Okay. Under OS1 is the watershed name, and if  
12 we just move directly over to Shallow Concentrated Flow,  
13 does that mean that at that number, Caldwell County was  
14 asking, for example, you to change that from 8,945 down  
15 to a thousand feet?

16 A I think that's generally right. It might help  
17 if I can read what you're reading from.

18 Q Oh, I'm actually reading from Page 94.

19 A No, I'm talking about -- you're characterizing  
20 the nature of the comments.

21 Q Oh, yeah, I'll show you that same thing, same  
22 exhibit from your depo. Exhibit 7.

23 MR. MAGEE: May I approach?

24 JUDGE BELL: Yes.

25 A Can I hang on to that?

1 Q (BY MR. MAGEE) Sure.

2 A Okay. Great.

3 Q See that sentence right there? That's where I  
4 was reading from.

5 A The response or the comment?

6 Q Yes, your response.

7 A Okay.

8 Q You can read it out loud again for us.

9 A Okay. You'd like me to do that?

10 Q Sure.

11 A Okay. As requested, the hydrology model was  
12 revised to include lag time inputs that assume shallow  
13 concentrated flow became channel flow at or prior to  
14 1,000 feet in length.

15 Q Okay. So I was just using Page 94, looking at  
16 watershed OS1, that's watercourse length as an example.  
17 That would be an example of where they asked you to make  
18 a revision from 8,945 feet down to a thousand?

19 A I think that's correct, yeah.

20 Q Okay. Just like if we went down that entire  
21 column, anything that was over a thousand, they would be  
22 asking you to reduce those watersheds that you had  
23 identified in the information provided to them to the  
24 watercourse length to down to a thousand. Correct?

25 A Yes.

1 Q Okay. And when you make that change, what  
2 effect would that have on the remaining portions of the  
3 calculations?

4 A Well, it depends on how you -- how you  
5 characterize the flow and the locations that you take  
6 out of shallow concentrated flow.

7 Q Does that change the calculations at all?

8 A It could.

9 Q Okay.

10 A And in most cases, I mean, you'd certainly get  
11 a different -- a different number for time of  
12 concentration.

13 Q Okay. So if we look at that same Exhibit 7,  
14 the second comment -- you got that?

15 A I think so, yes.

16 Q Okay. The last sentence of your response says,  
17 As requested, the hydrology and hydraulics analysis has  
18 been revised to reflect an assumed Manning's roughness  
19 of .045 for all channels.

20 Did I read that correctly?

21 A Oh, you're talking about the last sentence of  
22 the last response?

23 Q Yeah.

24 A Okay. I think you read it correctly.

25 Q Okay. So they were asking you to reduce the

1 Manning's roughness number. Correct?

2 A Right.

3 Q To a lower number?

4 A Right.

5 Q And that was .045. Correct?

6 A Correct.

7 Q Okay. And when you changed that number, does  
8 that change the underlying information in your  
9 calculations?

10 A Absolutely, it does.

11 Q Okay.

12 MR. MAGEE: May I approach again?

13 JUDGE BELL: Yes.

14 MR. MAGEE: I tried to make this a little  
15 bit easier just so we wouldn't have to flip back and  
16 forth in the books.

17 Q (BY MR. MAGEE) If you'll look at Caldwell 6  
18 and Caldwell 7, I'll let you compare real quickly to  
19 130EP-2, Page 106 and Page 88, Mr. Traw. I just want to  
20 make sure -- both of these are already in the  
21 application, but I just wanted to pull them out as a  
22 separate exhibit to make this easier.

23 A Could you tell me the numbers again, please?

24 Q EP-2, 106, and EP-2, Page 88.

25 A 106 and 188?

1 Q Yes, the -- Caldwell 7, is that the same  
2 document as Page 88?

3 A Page 88 or 188?

4 Q Page 88.

5 A Oh, okay. Hang on. Sorry.

6 JUDGE BELL: Are we looking at 7 or 6  
7 right now?

8 MR. MAGEE: Caldwell 7.

9 JUDGE QUALTROUGH: And that's EP-2, 88?

10 MR. MAGEE: Yes, Your Honor.

11 Q (BY MR. MAGEE) You with me?

12 A I think so, yes.

13 Q Okay. So does Caldwell 7, it's the same  
14 document as EP-2, Page 88. Correct?

15 A I believe generally they're the same. They're  
16 a little bit different scale, but generally they show  
17 all the same things. I think they're meant to be  
18 identical.

19 MR. MAGEE: Okay. At this time we'd offer  
20 Caldwell 7.

21 JUDGE BELL: Any objections?

22 MR. RYAN: No.

23 JUDGE BELL: Caldwell 7 is admitted.

24 (Exhibit Caldwell No. 7 admitted)

25 Q (BY MR. MAGEE) Now, if you'd look at Caldwell

1 6, which is EP-2, Page 106. Does that appear to be the  
2 same as in 130EP-2, Page 106, Caldwell 6?

3 A Well, I think there are two pages.

4 Q Right, Page 1 and Page 2. Oh, Page 106 and  
5 107.

6 A It appears to be that they're the same.

7 MR. MAGEE: Okay. We'd offer Caldwell 6.

8 JUDGE BELL: Any objection to Caldwell 6?

9 MR. RYAN: No.

10 JUDGE BELL: Caldwell 6 is admitted.

11 (Exhibit Caldwell No. 6 admitted)

12 MR. MAGEE: May I approach one more time?

13 JUDGE BELL: Yes.

14 Q (BY MR. MAGEE) If you'll look at Caldwell 8.  
15 During your deposition, Exhibit No. 7, there was an  
16 exhibit that we went over. I'll let you compare one of  
17 the pages in Exhibit 7 to what's now been marked as  
18 Caldwell 6.

19 A Yeah, I think they're different.

20 Q Okay. How are they different?

21 A Well, you see here where it shows this compute  
22 time? Those are completely different dates.

23 Q Okay.

24 A So I'm not sure about --

25 Q Okay.

1           A       -- the rest of everything else.

2           Q       Okay.  So does this appear to be a document  
3 that you created in response to Caldwell County's  
4 comments?

5           A       It could be.

6           Q       Okay.

7           A       I'm not sure at what time it was produced or --  
8 they don't have page numbers on them, unfortunately.

9           Q       Okay.  Let me ask you this.  If you'll compare  
10 Caldwell 6, it provides certain drainage areas --  
11 correct -- that correlate with the map in Caldwell 7?

12          A       So Caldwell 6 is --

13          Q       From the application.  Right?

14          A       So Caldwell 6 is an output file from HEC-HMS.

15          Q       Okay.

16          A       So it has some -- some of the jargon from the  
17 model at the top there and then basically a table of  
18 hydrologic elements, drainage areas, peak discharge,  
19 time of peak, and -- and volumes.

20          Q       Okay.  And that appears to correlate with the  
21 drainage areas that are referenced in Caldwell 7?

22          A       I think that's correct.

23          Q       Okay.  And so earlier in your testimony when  
24 you ultimately presented your final documentation to  
25 Caldwell County, you described these subbasins shown in

1 Caldwell 7 as somewhat different when you did the  
2 preliminary plat for Caldwell County -- right -- because  
3 you were looking at two different things?

4 A I wouldn't say necessarily they're looking at  
5 two different things. I don't think I said that, but I  
6 certainly agree that the subbasins are different.

7 Q Okay. So when you prepared documentation for  
8 Caldwell County for the preliminary plat, you identified  
9 those subbasins in Exhibit 7 as part of your response on  
10 February 19, 2015. Okay? You see this?

11 JUDGE QUALTROUGH: We don't know what  
12 "this" is.

13 MR. MAGEE: Oh, I'm sorry, Exhibit 7 of  
14 his deposition.

15 A I'm sorry, what was the question?

16 Q (BY MR. MAGEE) You identified subbasins that  
17 you did analysis for for the preliminary plat. Correct?

18 A In this document here?

19 Q Yes.

20 A I would say that I identified them on Caldwell  
21 9.

22 Q Okay. So Caldwell 8 and Caldwell 9 is the  
23 preliminary plat information that you prepared for  
24 Caldwell County at some point during your analysis.  
25 Correct?

1           A       Well, certainly Caldwell 9 is. I'm not  
2 absolutely certain about Caldwell 8, whether that came  
3 from the application or the plat process.

4           Q       Okay. Well, if it had come from the  
5 application, would the identified hydrologic elements in  
6 Caldwell 8, would that have been from the preliminary  
7 plat, or would that have been from the application?

8           A       Oh, I see. So you're asking me to compare  
9 if --

10          Q       I'm asking you to compare Caldwell 8 with  
11 Caldwell 6 now and tell me if Caldwell 8 seems to be  
12 part of the application or part of the preliminary plat.

13          A       Well, Caldwell 6 certainly seems to be part of  
14 the application --

15          Q       Okay.

16          A       -- and Caldwell 8 is certainly different. So  
17 it's likely that it was part of the plat.

18          Q       Okay. Let me ask you if you'd look at Caldwell  
19 8 and compare it to Caldwell 9, which you've identified  
20 as part of the preliminary plat information. And does  
21 that appear to be referencing the same drainage  
22 subbasins?

23          A       Okay. It appears to be both of -- both  
24 Caldwell 9 and Caldwell 8 appear to be part of the  
25 preliminary plat. I'm not sure of which version.

1 Q Okay. And that's fine. I'm not asking for  
2 which version they are. This is just an example of the  
3 type of data that you prepared in response to their  
4 comments. That's all I'm trying to ask.

5 A It could be that, or it could have been the  
6 initial submission. I'm not sure.

7 Q Okay. So the date on Caldwell 8, January 30,  
8 2015, do you think that's the date of your initial  
9 submission?

10 A Are you talking about the compute time?

11 Q Yes.

12 A I don't think so. I think -- to be honest, I  
13 don't remember when this was originally submitted.

14 Q Okay. But this is an example of the type of  
15 documentation that you created as part of the  
16 preliminary plat application -- I mean permit. Correct?

17 A You said preliminary plat permit?

18 Q Yes, for Caldwell County.

19 A Well, it was certainly part of the preliminary  
20 plat application. I don't know that we received a  
21 permit.

22 Q Okay.

23 MR. MAGEE: I'm going to offer Caldwell 8  
24 and 9.

25 JUDGE BELL: Any objection to Caldwell 8

1 or 9?

2 MR. RYAN: No.

3 JUDGE BELL: Caldwell 8 and 9 are  
4 admitted.

5 (Exhibit Caldwell Nos. 8 and 9 admitted)

6 Q (BY MR. MAGEE) Okay. All I want to do is just  
7 a quick look at each one of these documents. First,  
8 we'll look at Caldwell 6 and 7, and I'm going to ask you  
9 to reference three points on there. You with me?

10 A 6 and 7?

11 Q Yes. If you'll look at hydrologic element A5.

12 A Okay.

13 Q And if you look at Caldwell 7, you'll be able  
14 to identify A5 as the area directly beneath Homannville  
15 Trail. Do you see that?

16 A I see A5, yes.

17 Q Okay. And then I'm going to ask you to also  
18 look at OS16, which is in the far eastern edge,  
19 southeastern edge, south of FM 1185 on Caldwell 7. Do  
20 you see that?

21 A OS16?

22 Q Yes.

23 A Yes, I do.

24 Q And then I'm going to ask you to also look at  
25 OS5, which is in the far left-hand or western border of

1 your drainage areas. Do you see that one?

2 A I do.

3 Q Okay. Now I'm going to ask you if you'll look  
4 at Caldwell 7 and Caldwell 9. And if you'll look at  
5 DC3, which is in the far eastern -- southeastern edge,  
6 and OS16 on Caldwell 7. Those appear to be very similar  
7 areas. Correct?

8 A Which ones am I comparing again?

9 Q OS16 on Caldwell 7 and DC3 on Caldwell 9.

10 A Well, actually they appear to be slightly  
11 different, but I'd say generally they're -- they're  
12 close.

13 Q Just generally similar. Right?

14 A Right. I can see differences.

15 Q Okay. And then I'm just asking if they're  
16 generally in the same location.

17 A Oh.

18 Q Yeah. Correct?

19 A Correct.

20 Q Same thing with A5 on Caldwell 7 and DC4 on  
21 Caldwell 9. There's some slight differences, but  
22 they're generally in that same area south of Homannville  
23 Trail Road. Correct?

24 A They're generally in the same region, yes.

25 Q Okay. Same thing with OS5 on Caldwell 7 and

1 TF1 on Caldwell 9, which is in the far southwestern  
2 corner of the drainage area?

3 A Again, those look fairly similar. Looks like  
4 there are some differences.

5 Q Okay. So then if you will look at now Caldwell  
6 6 and Caldwell 8. On A5 of Caldwell 6, it says the  
7 drainage area is .234. Correct?

8 A Yes, it does.

9 Q Okay. And it says the peak discharge is 550.5  
10 cfs. Correct?

11 A Yes.

12 Q Okay. If you compare that to that same general  
13 area on Caldwell 8, which we identified as DC4 on  
14 Caldwell 9 --

15 A Yes.

16 Q -- the drainage area consists of .233. Is that  
17 correct?

18 A Yes. That's in square miles.

19 Q Okay. Pretty similar to the .234 on Caldwell  
20 6. Right?

21 A Well, yeah. Again, in -- but in square miles,  
22 it's kind of -- I don't know. It's difficult for me to  
23 comprehend that difference, but there's not a large  
24 difference.

25 Q Okay. And the peak discharge at that site is

1 599.4 -- .1. Did I read that correct?

2 A On -- you're referencing Caldwell 8?

3 Q Yes.

4 A In DC4?

5 Q Yes.

6 A That's correct.

7 Q Okay. That same kind of comparison, if you'll  
8 flip to Caldwell 6, Page 2, also on EP-2, Page 107, if  
9 we look at OS16, the drainage area was .521 --  
10 correct -- on Caldwell 6?

11 A Correct.

12 Q And if we compare that to, as the map showed us  
13 in Caldwell 9, DC3, the drainage area is .51. And I  
14 know it's not exactly the same number, but they're  
15 close. Right?

16 A I think --

17 Q On Caldwell 8?

18 A I think that's correct.

19 Q Okay. And then if we compare Caldwell 6, the  
20 peak discharge was 1149.3. And now in Caldwell 8 at  
21 that area, it's 1164.6. Did I read that correct?

22 A I don't believe you did.

23 Q 1164.6?

24 A That's what Caldwell 8 says, yes.

25 Q Okay. So there was an increase in Caldwell 6

1 from 1149.3 to Caldwell 8 at this particular DC3 area of  
2 1164.6. Correct?

3 A No, I don't -- I don't believe so.

4 Q If we just compared -- oh, I'm sorry. I did  
5 get off there. It was 928.4 -- is that correct -- on  
6 Caldwell 6?

7 A For?

8 Q OS16.

9 A Yes.

10 Q And then that was the increase from 1164.6 on  
11 Caldwell 8 for DC3?

12 A Yes, Caldwell 8 says 1164.6 for DC3.

13 Q Okay. Then if we move down to OS5 on Caldwell  
14 6, that's that same general correlation area on Caldwell  
15 9 that was referred to as TF1. And if we move down on  
16 Caldwell 8 to TF1, we see that the drainage area in OS5  
17 is .527 on Caldwell 6. And then on Caldwell 8, the  
18 drainage area is also .527. Correct?

19 A Correct.

20 Q And then we see the peak discharge on Caldwell  
21 6 for OS5 is 1149.3 cfs, and then the peak discharge for  
22 TF1 on Caldwell 8 is 1253.6 cfs. Correct?

23 A Yes.

24 Q So was this the type of underlying data that  
25 was changed when Caldwell County asked for those

1 revisions and you changed those various -- the Manning  
2 roughness and the shallow concentrated flow numbers? Is  
3 that the type of data that's being shown ultimately on  
4 Caldwell 8, the results of those -- of that changes?

5 A I'm sorry, can you ask that again?

6 Q Sure. When Caldwell County asked for these  
7 revisions, like changing the Manning roughness from .065  
8 down to .045, and the shallow concentrated flow at --  
9 down to a thousand feet in length, are these results  
10 that are being shown in Caldwell 8 from those revisions?

11 A I think they probably are.

12 Q Okay.

13 A Again, I'm not sure about the date of when  
14 Caldwell 8 was done and what submission that  
15 corresponded with.

16 Q So if we look at the numbers in Site 21, for  
17 example, on Caldwell 6, it describes the drainage area  
18 as 8.737. Correct?

19 A Yes.

20 Q And then it describes the peak discharge of  
21 967.1 cfs. Did I read that correctly?

22 A Yes.

23 Q And then if we look at Caldwell 8, Site 21, it  
24 describes the drainage area as 8.736. Correct? And  
25 then it shows the peak discharge cfs as 2,329 cfs.

1           A       I think I'm with you, but if you can just  
2 repeat that last part. I had trouble finding Site 21 on  
3 Caldwell 8.

4           Q       Sure. On Caldwell 8, Site 21, it says the peak  
5 discharge is 2,329 cfs. Did I read that correctly?

6           A       You did.

7           Q       Okay. So comparing Caldwell 6, the peak  
8 discharge of 967.1 cfs, to the Site 21 peak discharge on  
9 Caldwell 8 at 2,329, do you have any idea of why that  
10 would have been such a significant increase?

11          A       I do.

12          Q       Okay. Why?

13          A       Okay. If you look at the top of Caldwell 8 and  
14 Caldwell 6 --

15          Q       Sure.

16          A       -- and, again, Caldwell 6 came out of the  
17 application. I forget the reference to that, what page  
18 that's identical to. But more importantly, if you look  
19 at the top of both Caldwell 8 and Caldwell 6, you'll see  
20 meteorological model --

21          Q       Okay.

22          A       -- there. Okay so on Caldwell 8, that says  
23 100-year, ten-day. And on Caldwell 6, it says the  
24 100-year, 24-hour.

25          Q       Okay.

1           A       So these are completely separate models.

2           Q       Okay.  And that's what would change the peak  
3 discharge for Site 21 by doing these two different  
4 analysis for the cfs.  Right?

5           A       Well, these two different analysis were for  
6 different reasons.  So, for example, Caldwell 8 was to  
7 characterize the floodplain, where Caldwell 6 was to  
8 illustrate that there were no adverse alteration in  
9 drainage patterns, and the TCEQ rules require that you  
10 use a 24-hour storm.

11          Q       So --

12          A       So we're comparing apples and oranges.

13          Q       Well, they're not both drainage?

14          A       They're absolutely both drainage, but they're  
15 for different reasons, so -- and they're different --  
16 they're different meteorological models.

17          Q       It's the same piece of property.  Right?  But  
18 it's the same piece of property, too.  Right?

19          A       It is.

20          Q       Okay.  Let me ask you this.  So it's my  
21 understanding that as a result of Caldwell County's  
22 technical comments, you agreed to change the shallow  
23 concentrated flow lengths provided from the original  
24 data that you submitted to them?

25          A       I believe that was one of the requested

1 revisions, yes.

2 Q So once you made those changes, were the  
3 revisions more protective of human health and the  
4 environment than the original analysis that you  
5 submitted?

6 A Can you repeat that one more time for me,  
7 please?

8 Q Yeah. When you made those changes, did that  
9 show that it was more protective of human health and the  
10 environment than your original submission?

11 A I don't think I would characterize it that way,  
12 no.

13 Q Okay. And as you're -- as a result of  
14 technical comments, you agreed -- the technical comments  
15 by Caldwell County -- you agreed to change the Manning's  
16 N values for some of the string segments. Correct?

17 A Yes. Again, that was a requested revision that  
18 we complied with.

19 Q Okay. And which of -- by making that change,  
20 do you believe that was more protective of human health  
21 and the environment than the documentation you  
22 originally submitted to Caldwell County?

23 A No. The result of all of those changes was  
24 fairly insignificant.

25 Q Okay. So as part of technical comments made by

1 Caldwell County, do you -- did you agree to reevaluate  
2 the flow velocity of some stream segments?

3 A I'm not really sure that I evaluated the flow  
4 velocity in terms of any of the results that were  
5 presented, no.

6 Q Okay. As a result of the technical comments  
7 that Caldwell County made, did you agree to change any  
8 drainage boundaries to accurately reflect conditions at  
9 different analysis points instead of the ones that you  
10 initially submitted?

11 A Can you repeat that, please?

12 Q Sure. I think you've talked in the application  
13 today about various drainage points, like CP1, CP2.  
14 We've looked at all of those. Right? And it's my  
15 understanding that you agreed to change some of those  
16 points in the information that you submitted to Caldwell  
17 County after they made some technical comments about the  
18 drainage analysis points that you made, and you changed  
19 them to some other points. Would you agree with that?

20 A Well, I'm not sure what you're referencing by  
21 "drainage points." And I'm not sure I recall any of the  
22 revisions.

23 Q Okay.

24 A If you can help me out with those.

25 Q If you don't recall, that's fine. If you don't

1 recall, that's fine.

2 Do you have an opinion as to whether the  
3 revisions that you made to Caldwell County, if there was  
4 a general increase or decrease in lag time?

5 A Which ones are we comparing here, I guess is my  
6 question? Are we comparing the application to Caldwell  
7 County or the previous submissions to Caldwell County to  
8 the one that was approved?

9 Q Just the previous submissions to Caldwell  
10 County.

11 A Okay.

12 Q Than the ones that were approved.

13 A Okay. Can you ask the question again?

14 Q Sure. The original submission to Caldwell  
15 County and then ultimately the end revisions that you  
16 submitted to Caldwell County was the result a general  
17 increase or decrease in the lag time?

18 A I generally don't recall --

19 Q Okay.

20 A -- what those were.

21 MR. MAGEE: Good news. I'm going to pass  
22 the witness.

23 JUDGE BELL: Thank you, Mr. Magee.

24 And we were going to break at three  
25 o'clock. Correct? So you can go ahead and get started.

1 MR. ALLMON: Right.

2 JUDGE BELL: All right. Cross-examination  
3 from TJFA.

4 CROSS-EXAMINATION

5 BY MR. ALLMON:

6 Q Good afternoon, Mr. Traw.

7 A Good afternoon.

8 Q My name is Eric Allmon. I represent certain  
9 Protestants in this matter, TJFA and EPICC. I do have  
10 questions for you but not quite as many as Mr. Magee.

11 A You might change your mind.

12 (Laughter)

13 Q (BY MR. ALLMON) All depends on the answers.

14 Now, could you turn with me -- we're going  
15 to go all the way back to some questioning by the  
16 Executive Director, to EP-2, Page 79. And, again, this  
17 is the page which indicates the comparison of some of  
18 our predevelopment, postdevelopment, volumes and  
19 velocities and peak discharge rates there. Is that  
20 correct?

21 A Yes. This is a -- these tables are meant to  
22 compare the existing and postdeveloped drainage  
23 analysis.

24 Q And these are in acre-feet. Could you -- what  
25 does an acre-feet -- what type of volume of water does

1 that describe?

2 A Well, so an acre-foot is volume.

3 Q Uh-huh.

4 A So if you think of an acre of land and the  
5 water on that acre being a foot deep, that would be  
6 approximately an acre-foot.

7 Q So the units here are no small amount of water.  
8 That's the units being measured?

9 A I wouldn't characterize it that way, no, not at  
10 all. I mean, you could convert acre-feet to cubic feet  
11 if you like. That might give you a better understanding  
12 of what volumes we're talking about.

13 Q Do you know that number off the top of your  
14 head?

15 A Yeah. So an acre is roughly 43,560 square  
16 feet.

17 Q Uh-huh. You're the engineer. I trust you if  
18 that is the case.

19 And one of the points was CP12. Is  
20 there -- how does the volume change at that point?

21 A Okay. CP12, again, is the comparison point  
22 downstream of the Site 21 reservoir. And so in the  
23 middle table, it shows that the difference in volume is  
24 30.4 acre-feet.

25 Q Okay. And let's turn to Page 78 quickly. And

1 CP12 is indicated there at the lower end of the property  
2 boundary --

3 A Yes.

4 Q -- correct?

5 Now, is the primary contributor to that  
6 comparison point the water which is exiting from the  
7 Reservoir 21?

8 A I'd say you could characterize that as  
9 primarily. I mean, also the OS14 is contributing to  
10 that flow rate and volume as well.

11 Q As well as OS -- so OS14 is the only watershed  
12 outside of the reservoir that's contributing Comparison  
13 Point 12?

14 A Well, I guess depends on what you mean by  
15 "outside of the reservoir."

16 Q Fair enough. The water basically -- well, I'll  
17 just jump right to it. If we have an increase of 30  
18 acre-feet there at Comparison Point 12, is it likely  
19 that that quantity of water is also increasing in the  
20 discharge from the reservoir?

21 A No, that doesn't mean that at all.

22 Q Well, where else would that water be coming  
23 from in between the reservoir spillway and that  
24 comparison point?

25 A Well, again, we're talking about a volume of

1 water, not rate.

2 Q Uh-huh. Yes. And so does that reflect a  
3 greater volume of water going through the reservoir?

4 A The 30.4?

5 Q Yes.

6 A Yes. So eventually a greater volume of water  
7 will flow through or past or at CP12.

8 Q And that water is primarily coming through the  
9 reservoir?

10 A Primarily, yeah. Again, some of the water that  
11 contributes to CP12 are other watersheds.

12 Q But that's relatively minor, the amount from  
13 watersheds that are not going through the reservoir?

14 A I think you could characterize it that way.

15 Q Thank you.

16 Did you do any evaluation of the direct  
17 impact on the reservoir, say the amount of water that  
18 would be going into the reservoir, how that would  
19 change?

20 A We absolutely included the reservoir in our  
21 entire drainage analysis. And CP12 is indicative of the  
22 scope of our study.

23 Q Okay.

24 A The reservoir is certainly within the drainage  
25 basin of CP12.

1 Q As we make that comparison at CP12, is it fair  
2 to say the reservoir is playing a role in mitigating  
3 potential changes in runoff?

4 A No, I wouldn't characterize it that way.

5 Q And why would you not characterize it that way?

6 A Well, if we look back at 78, we show some other  
7 comparison points that are upstream of the reservoir.

8 Q Yes.

9 A Like CP5 -- where we runoff. So CP5, CP6, CP7,  
10 and CP8. And if you turn back to Page 79, and you want  
11 to look at the peak discharge specifically in the  
12 25-year, which is what the rules require you to look at,  
13 I mean, there are reductions of 87, reductions of 101  
14 cfs and 45 cfs. So areas upstream in a reservoir, we're  
15 actually reducing the peak discharge considerably.

16 Q But let's look, for example, OS9. Do you see  
17 that on Page 78?

18 A Yes, I see where it says OS9.

19 Q Does that drain into the reservoir?

20 A It does.

21 Q Are you -- is the Applicant constructing an  
22 entrance road in that area?

23 A Yes.

24 Q Will that influence the runoff patterns there?

25 A Well, I guess it depends on what you mean by

1 "influence." The road could impact the amount of  
2 impervious cover in that basin.

3 Q So it could alter things like the volume or the  
4 peak discharge out of OS9?

5 A It could.

6 Q Is that accounted for in any way as we look at  
7 CP5, CP6, CP7, or CP8?

8 A No. OS9 is below those points.

9 Q And, likewise, OS10, do you have a roadway in  
10 that drainage area?

11 A Yes.

12 Q And is that accounted for in CP5, CP6, CP7, or  
13 CP8?

14 A No.

15 Q So that's another place where we might have an  
16 alteration in the flow that's not reflected in the  
17 points you just identified?

18 A Yeah, I would, you know, suggest that OS9 and  
19 OS10 are also outside of the facility boundary.

20 Q They are, but you -- it is the Applicant that  
21 is constructing that roadway. Correct?

22 A That's my understanding.

23 Q Okay. Now, as we look at this, look at  
24 comparison point -- Comparison Point 5. Is that the  
25 point downstream of the recycling center of the Citizens

1 Convenience Center?

2 A I'd have to refer to the other documents to  
3 know what those are. Just a moment. Okay. Can you  
4 repeat the question, please?

5 Q Yes. And part of it, if you look on Page 78,  
6 do you see there -- do you see the roadways indicated on  
7 that figure?

8 A I do.

9 Q And do you see where the southern portion of  
10 the facility boundary is indicated on that figure?

11 A I do.

12 Q And just immediately north of that, is there a  
13 certain area of the driveways that loop?

14 A Yes.

15 Q Is that your understanding of where the  
16 Citizens Convenience Center is?

17 A Yes, it is.

18 Q And does that drain into your Comparison Point  
19 5?

20 A It does.

21 Q Now, if that were to alter the flow, would that  
22 alter it at Comparison Point 5? If that Citizen  
23 Convenience Center were to influence the volume or  
24 velocity, is Comparison Point 5 where you would see that  
25 reflected?

1           A     I doubt very seriously you'd see any difference  
2 in velocity at CP5.

3           Q     But, say, volume?

4           A     Volume -- volume could perhaps increase  
5 slightly.

6           Q     And when we perform an evaluation to see if  
7 there is a significant alteration of drainage patterns,  
8 do we look at each comparison point to see if it's  
9 significant?

10          A     You know, I don't know that you necessarily  
11 would. Really, I think you should look at it as a -- on  
12 a holistic way, whether it be each comparison point,  
13 or in this case we tried to move downstream far enough  
14 that we had all of those together so we could best  
15 characterize the, you know, impacts that may or may not  
16 be there, even when stormwater leaves the property as  
17 opposed to just the facility boundary.

18          Q     But say when TCEQ was doing this evaluation  
19 normally, you're not allowed to have an adverse impact  
20 of one comparison point just because you don't have an  
21 adverse impact at another comparison point. Is that --

22          A     Well, I'm not sure I could speak to what TCEQ  
23 thinks or doesn't think.

24          Q     In other words, I can't -- if I've got an  
25 adverse impact at CP5, I can't somehow offset that

1 through a difference that might occur at CP7 or CP8?

2 A Well, I guess it would depend upon what that  
3 modification might impact. For example, though, at CP5  
4 and CP6, those are relatively close and combine into one  
5 stream, you know, within, I don't know, a couple of  
6 hundred feet after they leave the facility boundary.

7 Q And let's return to the reservoir. Is that  
8 reservoir required to be able to handle the probable  
9 maximum flood?

10 A It's my understanding that when it was created,  
11 that was not part of the criteria.

12 Q But at this point, is it required to handle the  
13 probable maximum flood?

14 A I believe the dam safety rules of the TCEQ  
15 which have been updated in, say, the last ten years, do  
16 require this dam to meet different criteria.

17 Q Is the probable maximum flood one of those  
18 criteria?

19 A You know, I'm not sure. I think that it is or  
20 certainly a high percentage of the probable maximum  
21 flood.

22 Q And what is the probable maximum flood?

23 A Well, for this area, I'm not sure exactly what  
24 that -- the --

25 Q And perhaps let me just make it easier for --

1 conceptually, what is the probable maximum flood? What  
2 does that indicate?

3 A Well, I think it indicates kind of about what  
4 you said. It's the probable maximum. And really it's  
5 related to the probable maximum precipitation. So it's  
6 the flood that results from the probable maximum  
7 precipitation which theoretically is the maximum  
8 precipitation one could ever expect at that location.

9 Q Did you do any evaluation of how this change in  
10 the flood patterns would influence the ability of that  
11 reservoir to handle the probable maximum flood?

12 A Can you ask that one more time, please?

13 Q Did you perform any evaluation to determine how  
14 the changes in runoff, for example, the volume increase  
15 we discussed, would impact the ability of that reservoir  
16 to handle the probable maximum flood?

17 A I don't think anything that's proposed in this  
18 application will have any sort of significant impact on  
19 whether or not the reservoir as it's built today can  
20 handle the probable maximum flood.

21 Q Did you do an evaluation to determine whether  
22 the changes resulting from this landfill would  
23 compromise the ability of this reservoir to handle the  
24 probable maximum flood?

25 A No. The probable maximum flood was not

1 incorporated into my analysis.

2 Q And you were asked questions regarding the --  
3 kind of the location of the reservoir near a landfill  
4 that you looked and maybe identified another site where  
5 you felt that was the case?

6 A I think it was asked the other way, because I  
7 think the landfill was going to go next to the  
8 reservoir, not the other way around.

9 Q You were asked questions regarding the  
10 approximate location of the landfill and a reservoir,  
11 that you said there was another area of the state where  
12 you felt like that was the case?

13 A I've been made aware that there is another  
14 landfill that's located either immediately adjacent or  
15 directly upstream of a reservoir similar to the one in  
16 this case.

17 Q In that case was the reservoir designated as a  
18 high hazard dam?

19 A I'm not sure.

20 Q So you don't know that there's any other  
21 instance where you've had a landfill located this close  
22 to a high hazard dam?

23 A Again, I'm not sure how that dam is classified.  
24 Probably -- it probably doesn't meet the requirements  
25 that are of today, knowing how these things have been --

1 most of them were constructed years ago.

2 Q So as you sit here, you can't identify that,  
3 yes, you are aware of another case where a landfill is  
4 located this near to a high hazard dam?

5 A Yeah, I guess that's true, because I don't know  
6 what that dam that I was mentioning earlier is  
7 classified as.

8 Q And that other case you are aware of, did it  
9 involve a reservoir located on the actual property of  
10 the facility?

11 A I'm not sure.

12 Q So that would be another thing that  
13 distinguishes -- potentially would distinguish that  
14 situation from this situation?

15 A I guess you're right.

16 Q You also had some questions regarding  
17 pollutants produced at this facility from Mr. Wilson.  
18 Could you turn to Exhibit EP-2, Page 34?

19 A Okay.

20 Q Does this state that contaminated water may be  
21 discharged into the surface water system at this  
22 facility?

23 A I don't see that it does. Perhaps it does. I  
24 haven't read all of it yet.

25 Q You want to take a second to review that?

1 Well, look with me in the second paragraph,  
2 approximately the third -- well, would you review the  
3 second paragraph on that page real quick?

4 A Okay. (Witness complying.)

5 Okay.

6 Q Does that state, looking at the middle of that  
7 paragraph, that, The contaminated water will be  
8 discharged to the surface water management system to be  
9 constructed at the site?

10 A Yes, I see that.

11 Q Now, what is contaminated water at this site?  
12 What is encompassed within that term?

13 A Well, I think the TCEQ definition describes  
14 water that's come into contact with waste.

15 Q Okay. And then further in that paragraph, does  
16 it indicate that notice of intent would be submitted to  
17 obtain authorization under Permit No. 050000?

18 A That's what it says, yes.

19 Q And as we look -- turn with me, please, to Page  
20 63 of EP-2.

21 A Okay.

22 Q And just to -- for context, if you'll look at  
23 Page 52. Is this a portion of the drainage analysis and  
24 design that you have sealed?

25 A Page 34 is certainly not.

1 Q And I'm making reference to Page 63.

2 A Oh, okay.

3 Q It's contained within the drainage analysis and  
4 design that starts on Page 52.

5 A Yeah, 63 is in a portion of the application  
6 that I prepared.

7 Q And, now, if you'll look with me back on Page  
8 63, in that second paragraph, does that again identify  
9 the TPDES permit as being No. TXR050000?

10 A That's what it says, yes.

11 MR. ALLMON: Your Honor, I do have an  
12 exhibit to distribute at this time.

13 JUDGE BELL: All right.

14 Q (BY MR. ALLMON) Okay. Mr. Traw, have you now  
15 been provided with what's marked as Exhibit P-40?

16 A Were you telling me or asking me?

17 Q I'm asking you.

18 A Oh, yes.

19 Q Have you had a second to review this document?

20 A A few seconds.

21 Q Okay.

22 A I certainly haven't reviewed the entire thing.

23 Q Understandably. Does this appear to you to be  
24 a copy of TPDES General Permit TXR050000? Well, let's  
25 look at the front page of P-40. Do you see there -- or

1 it's entitled General Permit to Discharge Under the  
2 Texas Pollutant Discharge Elimination System?

3 A I do.

4 Q Under that, kind of in the second paragraph  
5 under there, does this note that this permit supercedes  
6 and replaces TPDES General Permit TXR050000?

7 A I see that.

8 Q Would that be the same permit as that  
9 referenced in the application?

10 A Well, it looks to me like it uses the same  
11 nomenclature.

12 Q Yes. And it is the same permit number?

13 A Yes.

14 Q And this regards -- if you'll look at the next  
15 line under that, Facilities of discharge stormwater  
16 associated with industrial activity. Correct?

17 A Okay.

18 Q Now, if you could look with me at Page 25 of  
19 the document, which I think -- Page 25, as marked by the  
20 permit, I think it's Page 19 of the exhibit.

21 A Thanks for clearing that up for me. Okay.

22 Q Do you see Sector L listed there?

23 A I do.

24 Q And what is covered by sector -- what's labeled  
25 as Sector L here?

1 A It says Landfills and Land Application Sites.

2 Q And do you see a description of the industrial  
3 activity that falls within that?

4 A I do.

5 Q Could you take a quick second to review that?

6 A (Witness complying.)

7 Okay.

8 Q Does the landfill proposed by the Applicant in  
9 this case fall within Sector L?

10 A You know, I'm not -- I'm not real sure.

11 Q So far as you can tell -- well, this is a  
12 landfill. Correct?

13 A It is.

14 Q And Sector L covers landfills?

15 A It appears that it does.

16 Q And so it appears that Sector L would cover the  
17 facility proposed here?

18 A Again, I'm not sure that that's the case.

19 Q Okay. Well, let me ask you to assume that this  
20 landfill falls within a sector covering landfills. If  
21 you could turn with me to Page 18, as marked in the  
22 permit, and look at Section A under Roman Numeral II.

23 And under -- does 1 indicate which facilities -- if I  
24 look at 1A -- which facilities need to obtain a permit?

25 A I'm not sure I followed you.

1 Q We've got --

2 A I'm on Page 18.

3 Q Page 18, Part 2, Section A1 and then R. Lower  
4 case A indicates need for a permit.

5 A Okay. I see that.

6 Q And under that, do you see the Subparagraph 2?

7 A Yes.

8 Q And does that indicate that a facility needs a  
9 permit if it conducts an activity described by one or  
10 more industrial activity codes described in Sectors K  
11 and L as well as certain others?

12 A I'm sorry, I was trying to read and listen at  
13 the same time. Can I take a moment to read that?

14 Q Yes, you can take a moment to review.

15 A (Witness complying.)

16 Okay.

17 Q Does that indicate that a permit is required if  
18 a facility engages in activities falling within Sector  
19 L?

20 A Again, I'm not real sure. I've never applied  
21 for one of these general permits. That's done, you  
22 know, at the time of construction or after it's  
23 constructed by the operator. So I'm really kind of  
24 unfamiliar with how these are applied for. I just know  
25 that they're necessary for the facility.

1 MR. ALLMON: Your Honor, perhaps -- like I  
2 said, I asked for a break around 3:00. Perhaps we can  
3 take a break now. He can review the document, and I  
4 can -- can we go ahead and break at this point?

5 JUDGE BELL: Yes. Let's break now. And  
6 is 3:20 okay a time to come back?

7 MR. ALLMON: Yes.

8 JUDGE BELL: Okay. So we'll take a break  
9 now and reconvene at 3:20. Off the record.

10 (Recess: 3:01 p.m. to 3:25 p.m.)

11 JUDGE BELL: All right. We're back on the  
12 record after a midafternoon break, and we'll continue  
13 with cross-examination of Mr. Traw by TJFA and EPICC.

14 Q (BY MR. ALLMON) Mr. Traw, do you still have  
15 Exhibit P-40 there in front of you?

16 A Yes.

17 Q That is the general permit. If you could turn  
18 to page -- permit page -- well, what is Page 21 of the  
19 exhibit.

20 A Okay.

21 Q Do you see a definition at the top of  
22 contaminated stormwater?

23 A I do.

24 Q Could you please review that definition?

25 A (Witness complying.)

1                   Okay.

2           Q       Now, we looked a few minutes ago within the  
3 permit where it stated that contaminated water will be  
4 discharged into the surface water management system.

5                   Do you recall that?

6           A       I recall reading something. I'm not sure where  
7 that came from.

8           Q       Well, in the application.

9           A       Okay. I'm sorry. What was your question?

10          Q       We read on Page 34 of Exhibit EP-2, where it  
11 states, The contaminated water will be discharged to the  
12 surface water management system to be constructed at the  
13 site.

14                   Do you want to turn back to EP-2, Page 34,  
15 to refresh your memory?

16          A       Yes, I see that.

17          Q       Now -- and you said contaminated water is water  
18 that's been in contact with waste?

19          A       I mean, that's what I read or --

20          Q       I then asked you what contaminated water, in  
21 your understanding, is the contaminated water within the  
22 municipal solid waste rules is water that's been in  
23 contact with waste.

24          A       I think that's generally the case. But, I  
25 mean, really, I refer to the TCEQ definition. There may

1 be more or less of that. I can read that if you like.

2 Q So once this discharge occurs, if a discharge  
3 occurs as described on Page 34 of that contaminated  
4 water into the stormwater system, is that water in the  
5 stormwater system then what we would consider to be  
6 contaminated stormwater?

7 A I'm really not familiar with Page 34. That  
8 wasn't a part of the application I prepared. I can  
9 certainly read whatever you'd like me to, but I probably  
10 won't have an opinion about anything in those sections.

11 Q Well, then just let me ask you to assume that  
12 Page 34 -- what happens there would happen, that you  
13 would have contaminated water discharged into the  
14 stormwater system. Can you assume that with me?

15 A What happens there would happen?

16 Q Yeah, the description here, the contaminated  
17 water would be discharged to the stormwater management  
18 system to be constructed at the site.

19 A Okay.

20 Q If that were to occur, would the stormwater  
21 within the stormwater system then be contaminated  
22 stormwater?

23 A I'm not sure if it would be or not.

24 Q Would it contain water that had been in contact  
25 with waste, potentially?

1           A       I suppose if contaminated water were discharged  
2 to the stormwater management system, that the stormwater  
3 management system would contain contaminated water.

4           Q       Okay.  Could you turn with me to Page 22 of the  
5 exhibit?

6                    JUDGE QUALTROUGH:  Which exhibit?

7                    JUDGE BELL:  Exhibit 40.

8                    MR. ALLMON:  Exhibit 40, yes.  I  
9 apologize.

10           Q       (BY MR. ALLMON)  Do you see 3, Covered  
11 Stormwater Discharges?

12           A       What page again?  I'm sorry, I was at the other  
13 exhibit.

14           Q       Page 22 of Exhibit P-40.

15           A       Okay.

16           Q       And under Covered Discharges, 3A, does that  
17 state, The permit authorizes the discharge of  
18 noncontaminated stormwater and contaminated groundwater?

19           A       It does.

20           Q       So if this is contaminated stormwater, would it  
21 fall within that category?

22           A       If this --

23           Q       If this is contaminated stormwater, would it  
24 fall within that category?

25           A       I don't think so.  I think any contaminated

1 water will likely be handled as contaminated water and  
2 not assumed to be noncontaminated stormwater.

3 Q And now could you look with me at Limitations  
4 on Permit Coverage, 4, and could you please review 4A?  
5 Let me give you a second to review that.

6 A (Witness complying.)

7 Okay.

8 Q Okay. Now, under 4A -- well, 4A sets forth  
9 Limitations on Permit Coverage. Is that correct?

10 A That's what it's titled.

11 Q Yes. And in 4A, does that state, The general  
12 permit does not authorize the discharge of contaminated  
13 stormwater?

14 A It actually uses the word landfill wastewater.

15 Q And then further down in the list, does it list  
16 contaminated stormwater as a type of water that is not  
17 authorized?

18 A Yes.

19 Q And does it also list contact washwater from  
20 washing truck equipment and railcar exteriors?

21 A Yes, it does.

22 Q So you were asked questions by Mr. Wilson  
23 yesterday regarding the wheel wash. So if this is the  
24 case, then that discharge water could not be authorized  
25 under the general permit, under the terms as you've read

1 them?

2 A That's correct.

3 Q Do you have any measures other than those which  
4 may be contained -- do you have anything outside of this  
5 general permit in place to handle the washwater from the  
6 wheel wash?

7 A After Mr. Wilson's line of questioning  
8 yesterday, I felt unfamiliar with what occurs at the  
9 washwater since it was outside of the purview of my  
10 application. So I reviewed that, and what I found was  
11 that all of the water within the washwater area is  
12 contained and then either disposed of properly in a  
13 liquid form through a TPDES permit, not a general  
14 permit, or it's allowed to evaporate, and then the  
15 solids would be disposed of properly.

16 Q So you're saying this facility may obtain a  
17 discharge permit other than this permit in front of you  
18 right now?

19 A It may. Again, that's outside of what I  
20 prepared for the application.

21 Q Is it your belief that a different permit will  
22 also be obtained in addition to this permit?

23 A I really don't have any opinion on that.

24 Q Now, if you could turn with me to Page 24 of  
25 Exhibit P-40. Do you see at the bottom of that page

1 where it lists benchmark monitoring requirements?

2 A I do.

3 Q And what -- do you see, then, a table that  
4 lists certain parameters?

5 A Yes.

6 Q And what are the parameters identified there?

7 A So it says under Benchmark Parameter -- is that  
8 what you're asking me?

9 Q Yes, sir.

10 A It says TSS, iron, and then it has a total with  
11 a star.

12 Q And so that would mean total iron?

13 A Well, I think the star says that total iron is  
14 not required for discharges for municipal solid waste  
15 landfill areas that have been closed in accordance  
16 with --

17 Q I'm just -- I'm just saying the word "Total" is  
18 qualifying iron to reflect that's monitoring for total  
19 iron.

20 A Okay.

21 Q Is that what that -- would that be your  
22 understanding of this?

23 A I guess so.

24 Q And what does -- just to make the record clear,  
25 what does TSS stand for?

1           A       I believe that stands for total suspended  
2 solids.

3           Q       Does the facility have any plans for the  
4 monitoring for any other parameters?

5           A       Again, I'm not familiar with those other parts  
6 of the application or what's required or what's set out  
7 in the application.

8           Q       So from what you know, there is no requirement  
9 for any monitoring of the water discharge of the  
10 facility beyond what's in the general permit?

11          A       What general permit are we --

12          Q       The one that we're looking at that's in front  
13 of you right now.

14          A       I see. Can you ask that question again?

15          Q       To your knowledge, is there any requirement for  
16 any monitoring of water quality at the facility other  
17 than the monitoring required by this general permit?

18          A       Not that I'm aware of.

19          Q       So -- okay.

20                   MR. ALLMON: Your Honor, we would offer  
21 Exhibit P-40.

22                   JUDGE BELL: Any objections?

23                   MR. RYAN: Your Honor, I noticed that  
24 that's only a very few pages of the stormwater permit.

25                   MR. ALLMON: We would have no objection to

1 a reservation of optional completeness if they want  
2 to --

3 MR. RYAN: Okay.

4 MR. ALLMON: I will allow him to finish.

5 MR. RYAN: With that understanding, we  
6 don't have any objection to the admission of this.

7 JUDGE BELL: All right. Protestants  
8 Exhibit 40 is admitted.

9 (Exhibit Protestants No. 40 admitted)

10 Q (BY MR. ALLMON) Did you consider the potential  
11 for upstream development in your analysis of the  
12 floodplain?

13 A Well, I'm not sure what you mean by  
14 "potential," but we did not consider upstream  
15 development. We considered the existing conditions.

16 Q So you didn't consider any potential for the  
17 construction of additional houses or commercial  
18 establishment?

19 A Not -- not in the stormwater runoff analysis or  
20 the hydrological analysis, no.

21 Q If there were further residential development,  
22 could that add impermeable cover upstream of the  
23 landfill?

24 A It could.

25 Q And how would that potentially influence the

1 floodplain within the landfill?

2 A Well, I suspect it depends upon the manner of  
3 that development.

4 Q Uh-huh.

5 A I think this question was asked a little bit  
6 earlier. Any more, whether it be county regulations or  
7 municipal regulations, most development is required  
8 to -- to mitigate their stormwater runoff in some way.  
9 So it's possible that it would have little to no effect  
10 depending upon how that development takes place. It's  
11 my understanding that Caldwell County development  
12 ordinance has requirements for that mitigation.

13 Q Did you look in -- did you look into those  
14 requirements in any way?

15 A I was only made aware of the Caldwell County  
16 development ordinance after we prepared the analysis.

17 Q So did you consider how that ordinance would  
18 impact the runoff from potential future development?

19 A I did not.

20 Q Do you have any opinion as to whether there is  
21 development potential in the future in this area?

22 A I don't.

23 Q Do you know whether any ordinance would prevent  
24 the development of a greater volume of water in the  
25 future as a result of development?

1 A Sorry, can you ask that question again?

2 Q Let me just ask you: Is there the potential  
3 that future development would produce a greater -- a  
4 greater quantity of stormwater runoff?

5 A In terms of peak discharge?

6 Q In terms of what would be runoff from the  
7 development that then would be run-on onto this  
8 landfill.

9 A Yeah, again, I think that's the same answer --  
10 or the same question that I answered before. It just  
11 depends on how that development is -- is developed --

12 Q So there's --

13 A -- and what rules they're required to follow.

14 Q So there's the potential there for future  
15 development to increase the run-on?

16 A I suppose so.

17 Q And if the run-on were to increase, how would  
18 that increase impact the floodplain delineation on  
19 the -- on the landfill site?

20 A You know, it would depend upon where that  
21 development occurred as to the -- if it has an impact at  
22 all. It could -- it could increase it. It likely won't  
23 decrease the floodplain extents.

24 Q Well -- and maybe -- let me ask it in --  
25 putting aside the nature of the development, if we

1 assume that the run-on numbers are increased, that there  
2 is an increased volume of water running onto the  
3 facility, how would that impact the floodplain levels at  
4 the facility?

5 A Well, again, I think it would depend upon where  
6 that development was and then how it was developed. So  
7 there's certainly a potential that it could increase the  
8 floodplain. But, you know, in this case, the floodplain  
9 is just -- is largely determined based upon the  
10 reservoir --

11 Q Well --

12 A -- and the elevations of the control structures  
13 within the reservoir, not so much upon the quantity or  
14 discharge upstream of the reservoir.

15 Q Well, I'm not sure I got an answer. Maybe  
16 we're speaking past each other. But let me ask you to  
17 assume that the run-on is increased during the relevant  
18 stormwater event for analysis, so we're looking the  
19 25-year, 24-hour storm event. Is that correct?

20 A I guess --

21 Q So let me ask you to assume that that volume of  
22 water is increased. How would that impact the  
23 floodplain at this site?

24 A How it would impact the 25-year floodplain?  
25 The 25-year floodplain, you know, there could probably

1 be more significant impacts to that because the 25-year,  
2 the water service in the reservoir doesn't even reach  
3 the auxiliary spillway, and you have this very limited  
4 amount of discharge through the small structure there.  
5 But the 25-year is pretty small in its extents. It's  
6 far from the landfill.

7 Q What about the 100-year floodplain? Could an  
8 increase in run-on water alter the 100-year floodplain?

9 A It could. And I was assuming you were  
10 referring to the 100-year earlier. And that's what I  
11 meant, that the effects are really pretty small because  
12 once you engage the auxiliary spillway of the reservoir,  
13 you have a significant capacity to pass any additional  
14 flow than what's -- than what's shown in the floodplain  
15 analysis now.

16 Q So in that sense, you're relying on the  
17 reservoir to mitigate certain impacts?

18 A No, I wouldn't characterize it that way at all.  
19 What I'm saying is the reservoir is the largest player  
20 in -- in terms of defining the floodplain. You know, I  
21 mean -- and it stands to reason you have a -- some kind  
22 of a lake or something, typically it causes water to  
23 back up, and that's what happens here.

24 Q So, essentially, the presence of that reservoir  
25 is what prevents a significant change -- well, as -- let

1 me make clear, if I understand your opinion. As I  
2 understand your opinion, it's that the presence of that  
3 reservoir is what results in there being only a minor  
4 change in the floodplain as a result of these increases  
5 in water?

6 A No, that's really not my opinion. It's my  
7 opinion that the reservoir is -- is the most significant  
8 player in the extents of our current floodplain.

9 Q Uh-huh.

10 A So that's what causes the floodplain to be in  
11 its shape and form and extent for the most part now.  
12 And if you were to increase the run-on, like we're  
13 supposing could happen, all I'm saying is, if any  
14 increase were seen in that scenario, it would likely be  
15 pretty small because it's the significant capacity of  
16 the auxiliary spillway to pass any of those increases.

17 Q And so it's small not due to any type of  
18 installation the landfill is putting in place but small  
19 due to the reservoir that's already there?

20 A Yeah. I mean, the reservoir is there for --  
21 for flood mitigation, and I think it will do its job  
22 whether there was a landfill or some other development.

23 MR. ALLMON: Your Honor, that's all of my  
24 questions. I pass the witness.

25 JUDGE BELL: All right. Thank you.

1 Do you have any redirect from the  
2 Applicant for Mr. Traw?

3 MR. RYAN: Yes, Your Honor. If I could  
4 get a couple of exhibits that we had marked earlier.

5 JUDGE BELL: Sure.

6 REDIRECT EXAMINATION

7 BY MR. RYAN:

8 Q Mr. Traw, do you have in front of you what have  
9 been marked Exhibits 24 and 25?

10 A I do.

11 Q 130EP-24 and 25. Right?

12 A Yes.

13 Q Let's start with 130EP-24. What is that?

14 A It is a map titled Existing Conditions  
15 Floodplain Work Map, and I believe it's been --  
16 originally, a map like this was included in the  
17 application on C2, A3 of the application. However, this  
18 map has been revised as of the 12th day of this month,  
19 and the revision says that it was revised to include the  
20 landfill footprint.

21 Q Okay. And the drawing number that you just  
22 referenced from the application, is that in 130EP-2 at  
23 Page 259?

24 A Yes.

25 Q Okay. And what is Exhibit 130EP-25?

1           A       This is a map of generally the same area of the  
2 site, and it was originally -- or a map similar to this  
3 was originally submitted to Caldwell County in the  
4 platting process. And I believe this is the one that  
5 was approved by Caldwell County. And, again, it's  
6 been -- it's been revised as of this month to include  
7 the landfill footprint, and I signed that on August 12th  
8 of this year.

9           Q       So both of those exhibits show what's  
10 identified as the landfill footprint?

11          A       That's correct.

12          Q       And how is it shown there?

13          A       I think in both cases, it's shown in the --  
14 identified in the legend with a black dotted line or  
15 dashed line. And it's approximately in the center or  
16 upper portion of both exhibits.

17          Q       Okay. Is that -- is that landfill footprint --  
18 the dashed line that identifies that, is that  
19 approximately the limits of what's referred to as the  
20 waste management unit?

21          A       Yes, that's correct.

22          Q       And is the waste management unit slightly  
23 smaller than what's shown as the footprint there?

24          A       Well, the landfill footprint is, give or take,  
25 approximately 18 feet beyond the actual limit of where

1 waste would be placed.

2 Q Okay. And do you know why that is, why it  
3 extends beyond the area where waste will be placed?  
4 What's represented by that area that extends 18 feet  
5 farther out?

6 A Well, that's -- that's where the final cover  
7 and the liner meet, essentially, for lack of a better  
8 term.

9 Q Okay. And that location is farther from the  
10 center of the landfill than the limit of waste?

11 A Yes.

12 Q Okay. First, let me ask you to confirm that on  
13 both of these exhibits, 130EP-24 and 25, that what is  
14 shown as the landfill footprint is outside of the  
15 delineated 100-year floodplain?

16 A That's correct.

17 Q And I want to make clear that 130EP-25, I think  
18 you testified that that is based on the final version of  
19 the floodplain modeling that you submitted to Caldwell  
20 County with the preliminary plat. Is that right?

21 A That's correct. You can see it down in the  
22 revision block at the bottom of the page just to the  
23 left of the title block where it says Revision 2 --  
24 excuse me -- February 2015 Revised Hydraulic and  
25 Hydrology Models. I believe that corresponds with the

1 submission to the county that was approved.

2 Q So you were asked about changes to several of  
3 the inputs that were used in the modeling. I think, in  
4 particular, Mr. Magee mentioned a change to the  
5 Manning's roughness coefficient, a change in the assumed  
6 length of shallow concentrated flow, and then associated  
7 changes in what he referred to as lag time. Is that  
8 correct?

9 A Yes.

10 Q Does the floodplain, as shown on Exhibit  
11 130EP-25, is it based on the modeling that you did with  
12 all of the revisions to the inputs requested by Caldwell  
13 County?

14 A Yes.

15 Q In connection with the modeling you did for the  
16 hundred-year floodplain for the TCEQ MSW permit  
17 application, how did you go about selecting the  
18 Manning's roughness coefficient that you used in that  
19 modeling?

20 A I made several visits to the site, and I  
21 visually evaluated the streams that were on the site, in  
22 addition to some places off the site where access was  
23 allowed, for example, Homannville Trail and FM 1185,  
24 to -- to be able to, in my mind, characterize the  
25 condition of those streams and in particular in regards

1 to the roughness factors that would be appropriate.

2 Q And based on your observations of the stream  
3 channels, did you select the appropriate coefficient to  
4 use?

5 A Which analysis are we talking about?

6 Q In the analysis that you did for the TCEQ  
7 permit application.

8 A Yes.

9 Q Would you look in Exhibit 130EP-2 at Page 258?  
10 And did you testify in response to an earlier question  
11 over there on the drainage area chart on the right-hand  
12 side of the page, the second entry that says DC1 that  
13 should actually be DC2?

14 A Yes. I can't recall if it's this page or not,  
15 but it's -- it looks like a very similar issue. And  
16 certainly I recall that the area was 800 -- 884.64.  
17 That should be DC2.

18 Q Well, would you look at the -- at the table?

19 A I'm sorry, I have that backwards. The bottom  
20 number, the 2905.38, should correspond to DC2.

21 Q Okay. Do you have a pen you can relabel  
22 that --

23 A Yes.

24 Q -- drainage area DC2 on that drainage area  
25 chart?

1 A (Witness complying.)

2 Q Did you make that change?

3 A I did.

4 Q Thank you.

5 MR. RYAN: Your Honor, at this time I'd  
6 reoffer Exhibit 130EP-2 with that change.

7 JUDGE BELL: Any objection?

8 MR. ALLMON: No objection.

9 JUDGE BELL: All right. 130EP-2, Page  
10 258, is admitted with the revisions made by the witness.

11 (Exhibit Applicant No. 2 admitted)

12 MR. RYAN: I'd also offer Exhibits  
13 130EP-24 and 130EP-25.

14 JUDGE BELL: Any objections to either one  
15 of those witnesses -- or excuse me -- exhibits?

16 MR. ALLMON: Your Honor, these were only  
17 produced to the Protestants on Sunday evening, you know,  
18 I guess two or three days ago, immediately prior to the  
19 hearing. So we've only had very limited opportunity to  
20 perform any type of review of the exhibits. I guess we  
21 would ask if they are admitted, that upon an opportunity  
22 for review, we may need to ask further questions of this  
23 witness.

24 MR. MAGEE: I would also just add and join  
25 to that. Specifically, if you look at Exhibit EP130-24,

1 down there in the small portion where it says, Issued  
2 for permitting purposes only, it says that it's for the  
3 technically complete, I guess, application on 11/6/2014.  
4 I don't know what the 11/6/2014 technically complete  
5 application is. This one was October 28, 2014.

6 MR. RYAN: Well, Your Honor, if I could  
7 address --

8 JUDGE BELL: Can you explain that?

9 MR. RYAN: Yes. The drawing in the  
10 application that Mr. Traw said that is nearly identical  
11 to at Page 259 of 130EP-2 was sealed on 11/6/14. And as  
12 testified to, I think, yesterday, even though the  
13 application was declared technically complete on 10/28,  
14 what happens is after the agency declares it technically  
15 complete, Biggs & Mathews goes back and prepares a final  
16 version of the application and labels everything  
17 technically complete. And so that's not done on the  
18 exact day it was declared technically complete.

19 And in this case, this drawing on Page 259  
20 was actually signed and sealed on November 6th of 2014  
21 and was included in the technically complete version of  
22 the application.

23 JUDGE BELL: All right.

24 MR. RYAN: Now, with regard to the timing  
25 of this, as I said and as Mr. Traw explained, Exhibit

1 130EP-24 is exactly the same as Page 259 in the permit  
2 application that the parties have had for years. The  
3 only difference is, it has the landfill footprint added.  
4 And 130EP-25 is exactly the same as the floodplain map  
5 included with the approved preliminary plat. The only  
6 difference is, it has the landfill footprint added in.  
7 Plus, like Mr. Allmon said, they've had it since Sunday  
8 night. I don't know how long you can take to look at  
9 it.

10 MS. PERALES: Sunday night, I mean like  
11 10 p.m., which we weren't looking at this Sunday night  
12 at 10 p.m.

13 JUDGE BELL: Are you really going to have  
14 questions about these two things given that, as it  
15 sounded like the witness did testify, the only  
16 differences between these maps and the ones that are  
17 already in the application are that the landfill  
18 footprint was added? And based on everything I've seen,  
19 I think everybody already knew where that was.

20 MR. ALLMON: Well, Your Honor, and maybe  
21 we don't after further review, but if we're -- adding  
22 the landfill footprint is not simply a matter of putting  
23 on here. It's very important in this case that it be  
24 precise as to where that is, and we would just like the  
25 opportunity to review --

1 JUDGE BELL: You can have the opportunity  
2 to review it, I think. And if you have somebody that  
3 can testify that it's not put in the right place, then  
4 we might consider bringing him back, but I'm not going  
5 to order him to stay beyond his testimony just on a  
6 thought that it might not be where it's supposed to be.

7 MR. ALLMON: Certainly. We understand  
8 that approach.

9 JUDGE BELL: All right. So I'll  
10 exhibit -- or excuse me -- admit 130EP Exhibits 24 and  
11 25.

12 (Exhibit Applicant Nos. 24 and 25  
13 admitted)

14 MR. RYAN: Thank you, Your Honor. I'll  
15 pass the witness.

16 JUDGE BELL: All right. Any recross from  
17 Plum Creek?

18 MR. WILSON: I hate to do this, but I do  
19 have a couple of questions.

20 RE-CROSS-EXAMINATION

21 BY MR. WILSON:

22 Q Mr. Traw, I'm going to refer you first to EP-2,  
23 Page 79.

24 A Okay.

25 Q And, specifically, Mr. Traw, I'm looking at the

1 middle bracket for the 100-year volume from the existing  
2 where you show postdevelopment difference. And it shows  
3 at CP12, which is Control Point 12, an increase of 33.7  
4 acre-feet. Is that correct?

5 A Yeah, I think --

6 MR. RYAN: Objection. Your Honor, I  
7 believe this is beyond the scope of redirect.

8 JUDGE BELL: Mr. Wilson --

9 MR. WILSON: It is redirect, but I just  
10 have a question about -- I can tell you what my simple  
11 question is, if everybody is curious. If not, that's  
12 all right.

13 JUDGE BELL: Well, so you're not quibbling  
14 with the fact that it's outside the scope of redirect,  
15 it doesn't look like.

16 MR. WILSON: No.

17 JUDGE BELL: I'm going to have to sustain  
18 that objection.

19 MR. WILSON: All right. That's fine. I  
20 won't ask my question, then, about how you get that much  
21 increase with the area attributable to just the  
22 landfill. That was my -- going to be my only question,  
23 but I won't ask it.

24 JUDGE BELL: Oh, that was your only  
25 question?

1 MR. WILSON: That was my only question.

2 JUDGE BELL: I'm sorry. All right. Very  
3 good.

4 Any recross from the Executive Director?

5 MR. TATU: Not within the scope of  
6 redirect.

7 (Laughter)

8 JUDGE BELL: How about from OPIC?

9 MR. TUCKER: No questions.

10 JUDGE BELL: Caldwell County?

11 MR. MAGEE: I'm going to say five, but it  
12 depends on my answers.

13 JUDGE BELL: Fire away.

14 RECCROSS-EXAMINATION

15 BY MR. MAGEE:

16 Q In Exhibit 24 and 25 that were just handed to  
17 you by Mr. Ryan --

18 A Okay.

19 Q -- the dotted line -- and it's my understanding  
20 the only change you've made to these documents are the  
21 landfill footprint. Is that correct?

22 A That's correct.

23 Q Okay. So if you'll look at EP-2, Page 449 --

24 A Okay.

25 Q -- you would agree with me that none of the

1 drainage control structures, such as the ponds,  
2 perimeter channels, or anything like that, are depicted  
3 on either Exhibit 24 or 25. Correct?

4 A That's correct.

5 Q Okay. Another question Mr. Ryan asked you was  
6 about the Manning roughness coefficient and that you  
7 went out to the site and did an on-site -- I don't know  
8 what you said, but review of the property. Correct?

9 A Well, I think generally, yeah --

10 Q Okay.

11 A -- that's what I said.

12 Q When you went to do your site visit, did you  
13 communicate or have any discussions with the property  
14 owner?

15 A No.

16 Q Okay. Did you have any discussions with any  
17 local, elected officials?

18 A No.

19 Q Did you speak to anyone locally about existing  
20 conditions at the site?

21 A I guess it depends on what your definition of  
22 "locally" meant.

23 Q Okay. When you went out there and did your  
24 site visit, who did you speak with locally about  
25 existing conditions?

1           A       Well, perhaps not -- perhaps I didn't speak to  
2 anyone locally about the specific conditions related to  
3 roughness --

4           Q       Okay.

5           A       -- but certainly there were people that -- that  
6 are, I guess, the owners had located locally that we  
7 spoke -- or that I spoke to about the site many times.

8           Q       Now, when you went out there to begin your  
9 drainage analysis that you -- Mr. Ryan asked you about,  
10 and you said you did a site visit, did you speak to  
11 anyone locally about that?

12          A       Well, I mean, I think the first time I went  
13 on-site, there were -- I believe Mack Reynolds was  
14 there, for example. So I believe he does live or is  
15 familiar with the area.

16          Q       So he's an employee of Green Group. Correct?

17          A       That's my understanding.

18          Q       Okay. Did you speak to any representatives  
19 from Plum Creek Conservation District about the site?

20          A       I don't recall doing that, no.

21          Q       Okay.

22                   MR. MAGEE: No further questions.

23                   JUDGE BELL: Any recross from TJFA?

24                   MR. ALLMON: Yes, Your Honors.

25

## 1 RE-CROSS-EXAMINATION

2 BY MR. ALLMON:

3 Q Now, on redirect, you discussed that you made a  
4 site visit?

5 A I've made several site visits.

6 Q Did you take any field notes during those site  
7 visits?8 A No. I normally don't take notes. I think  
9 someone -- someone is afflicted earlier with the same  
10 thing I have, that my handwriting is extremely poor.11 Q So you made no notes of any type during your  
12 site visit?

13 A Not that I recall.

14 Q Did you take any photos during your site  
15 visits?16 A I don't think I did. At some point I reviewed  
17 some photos that other people had taken of the site.18 Q But, now, did you make any effort after you  
19 returned from the site visit to document the  
20 observations during your site visit in any way?21 A To document them, no. I mean, I certainly  
22 immediately -- after my first visit, I immediately  
23 started conducting the drainage analysis, which, you  
24 know, I would have -- at that point in time I would have  
25 assigned or made the assumptions about roughness that

1 we're talking about. And then I visited the site  
2 several other times throughout the process.

3 And I would think that same thing would be  
4 true for -- I mean, I would have visited the site, went  
5 back to the office, done whatever analysis it would have  
6 been.

7 Q And roughly how many times did you visit the  
8 site?

9 A I can't recall an exact number. I would say,  
10 you know, somewhere between three and eight.

11 Q And you made no documentation of any of those  
12 site visits?

13 A As far as taking notes or something like that,  
14 no.

15 Q Is it standard professional practice to  
16 document such site visits?

17 A Not in my opinion.

18 Q Is it standard professional practice to  
19 document the basis of your opinions?

20 A Yes.

21 Q And did the site -- when you were talking with  
22 Mr. Ryan before, did these site visits in any way inform  
23 your opinions in this case?

24 A When I was speaking with Mr. Ryan?

25 Q Under redirect you discussed the role of these

1 site visits in your analysis. Did they play a role in  
2 your analysis?

3 A The site visits?

4 Q Yes.

5 A Yes, they did.

6 Q And -- but you did not document in any way the  
7 manner in which they influenced your analysis?

8 A No, and I think that's a unfair  
9 characterization. We documented the -- specifically in  
10 this case, we're talking about roughness coefficient.  
11 So whenever I would do the analysis, those roughness  
12 coefficients would be documented both in the computer  
13 models that were submitted with the application and in  
14 some of the watershed drainage characteristic tables. I  
15 can go to those specifically, if you'd like for me to  
16 show you.

17 Q No. I mean, did you at any point document how  
18 those assumptions are related to the observations you  
19 made during your site visits?

20 A I'm not sure I understand the question.

21 Q You've said now that some of your assumptions  
22 were influenced by the site visit. Is that correct?

23 A That is correct.

24 Q Did you at any point document how those  
25 assumptions were influenced by your observations during

1 the site visit?

2 A Well, I'm still not sure I understand your  
3 question, but I'm going to try to answer it.

4 When I would go make a site visit -- for  
5 example, in this instance we're talking about roughness  
6 coefficient. So I would -- I spent quite a bit of time  
7 either crossing these creeks or walking up and down the  
8 creeks, and I would take a mental picture of what that  
9 looks like. Right? And then I would come back to the  
10 office, and I would say, Well, in this area, the stream  
11 looked like this.

12 And then I would consult -- for example,  
13 in this case I consulted a TxDOT drainage design manual,  
14 and it has a table of Manning's roughness and then it  
15 has, you know, descriptions, like, for example, weedy,  
16 sluggish reaches with deep pools, for example, and that  
17 will have a range of acceptable roughness coefficients  
18 for that description. And in this case that's what  
19 my -- that description best fit the mental picture of  
20 what I saw at the site.

21 Q But at any point did you actually document that  
22 process, document how your observations on a site visit  
23 influenced your assumptions for things such as the  
24 roughness coefficient?

25 A I guess -- I guess our definition of document

1 is different. Certainly, I've described the assumptions  
2 and what value I assumed in the application. I just  
3 don't take notes. And I understand some people don't  
4 understand that. My professors in college, they didn't  
5 like me because I didn't take notes, but it just doesn't  
6 work for me.

7 Q And with all due respect, I'm not just talking  
8 about taking notes; I'm talking about any documentation  
9 at any point of how your observations on the site visit  
10 related to and informed your assumptions on things such  
11 as the roughness coefficient. Did you document that  
12 thought process in any way?

13 A I guess, you know, I don't -- I don't write  
14 down things that I think all the time. So I certainly  
15 don't, you know, document everything that I think when  
16 I -- when I go on a site visit.

17 Q Well, the short answer is no, you did not  
18 document how those observations are related to your  
19 ultimate -- to the assumptions that you used?

20 A No, I really think that's a  
21 mischaracterization.

22 Q Then where is it that you did document how the  
23 site visit observations are related to the assumptions  
24 that you used?

25 A I'm not sure I can show you anything that's

1 going to satisfy your definition of documentation.

2 Q And I -- all I'm looking for is something where  
3 you refer to the site visit and say, This is how my  
4 particular assumption was informed by the site visit.  
5 Did you do that at any point?

6 A I could certainly refer you to the TxDOT  
7 drainage design manual, where I read down through the  
8 table -- I don't have that with me -- where I read down  
9 through the table and said, Yep, that fits. That's the  
10 roughness I need to use. And then I went directly to  
11 whether either it be the HEC-RAS model or my watershed  
12 characteristics and put that roughness in there.

13 Q So did you immediately produce any results or  
14 other data from the analysis you did immediately  
15 following any of these site visits?

16 A Did I -- did I produce? What do you mean by  
17 "produce"?

18 Q Yeah. Did you immediately perform any type of  
19 analysis following one of these site visits?

20 A Probably so. Normally -- normally, after I go  
21 on a site visit, I try to generally conduct whatever  
22 analysis that required the site visit immediately  
23 afterward.

24 Q And did you preserve those analysis done at  
25 that particular point?

1           A       Sure.  Yes.  And they're in this application  
2 here.

3           Q       So you're saying the analysis in the  
4 application is identical to the one you did immediately  
5 following each site visit?

6           A       I don't know if it's -- if it's in every way  
7 it's identical.  There may have been some revisions  
8 along the way.  But I never changed the roughness  
9 coefficients, for example, until they were requested be  
10 revised by Plum Creek -- or by the County.

11                   MR. ALLMON:  Your Honor, that's all my  
12 questions.  I pass the witness.

13                   JUDGE BELL:  All right.  Thank you.

14                   Mr. Traw, appreciate your time.  That's  
15 quite a lot of it.

16                   (Laughter)

17                   JUDGE BELL:  Mr. Ryan, do you have another  
18 witness you'd like to call?

19                   MR. RYAN:  Yes, sir.  If we could have  
20 just a minute to sort of reorganize here.

21                   JUDGE BELL:  Sure.  Let's go off the  
22 record.

23                   (Discussion off the record)

24                   JUDGE BELL:  All right.  We're back on the  
25 record.

1                   And I don't think we got it on the record,  
2 Mr. Ryan. You're ready to call your next witness?

3                   MR. RYAN: Yes, sir. We'll call Mr. Greg  
4 Adams.

5                   JUDGE BELL: Mr. Adams, would you raise  
6 your right hand, please?

7                   (Witness sworn)

8                   JUDGE BELL: All right. Thank you. If  
9 you'll have a seat.

10                   And whenever you're ready, Mr. Ryan.

11                   GREGORY W. ADAMS, P.E.,  
12 having been first duly sworn, testified as follows:

13                   DIRECT EXAMINATION

14 BY MR. RYAN:

15           Q        Would you state your name for the record,  
16 please?

17           A        Gregory Adams.

18           Q        Mr. Adams, do you have in front of you what's  
19 been marked as Exhibit Adams 1, which is in Volume 7 of  
20 Applicant's exhibits?

21           A        Yes.

22           Q        And what is Exhibit Adams 1?

23           A        It's the direct testimony of Gregory W. Adams.

24           Q        And that's you. Right?

25           A        That would be me.

1 Q Okay. Are there any corrections that need --  
2 that need to be made to that exhibit?

3 A Yes, there is.

4 Q Okay.

5 A That would be on Adams 1, Page 15, Line 31.  
6 The sentence that begins with, All tested samples.  
7 There's -- there is a -- that needs to be corrected.  
8 And after the word "all" should insert "but three."

9 Q Okay. Will you -- do you have a pen? Can you  
10 make that change?

11 A I have a pen.

12 Q Will you make that change on there?

13 A (Witness complying.)

14 JUDGE BELL: So we're just inserting the  
15 words "but three" between "all" and "tested"?

16 THE WITNESS: And would then read "all but  
17 three tested samples."

18 JUDGE BELL: All but three tested samples.  
19 Okay. Thank you.

20 Q (BY MR. RYAN) Mr. Adams, is that a revision  
21 that you conveyed to me during the process of working  
22 through drafts of this prefiled testimony?

23 A Yes.

24 Q And somehow or other, it didn't make it into  
25 this version?

1 A That's correct.

2 Q Can you -- just as a group, can you identify  
3 Exhibits Adams 2, Adams 3, Adams 4, and Adams 5?

4 A Yes. Those are attachments or exhibits that  
5 are part of my direct testimony.

6 MR. RYAN: Your Honor, at this time, I'd  
7 offer exhibits -- oh -- I'd offer Exhibits Adams 1  
8 through 5.

9 JUDGE BELL: All right. Any objections to  
10 Adams 1 through Adams 5?

11 MR. ALLMON: None other than those already  
12 filed.

13 JUDGE BELL: All right. Adams 1 through  
14 Adams 5 are admitted.

15 (Exhibit Applicant Adams Nos. 1 through 5  
16 admitted)

17 Q (BY MR. RYAN) Mr. Adams, are you aware of any  
18 other changes that need to be made?

19 A Yes.

20 Q How many?

21 A One.

22 Q Okay. Where is that?

23 A That would be in -- go to Applicant's Exhibit  
24 130EP-2. Okay, give us just a minute.

25 Q Okay. What page?

1 A Page 34.

2 Q Okay. What's the change?

3 A Okay. In the second paragraph, midway through  
4 the sentence that reads, The contaminated water will be  
5 discharged to the surface water management system to be  
6 constructed at the site, the word -- the contaminated --  
7 after "The contaminated water will" should insert the  
8 word "not."

9 Q Are there other places in the permit  
10 application that make it clear that contaminated water  
11 is not going to be discharged to the surface water  
12 system?

13 A Yes, there are.

14 Q Do you know how that error was made on this  
15 page?

16 A No. It's just a typo.

17 MR. RYAN: Your Honor, at this time I'd  
18 reoffer Exhibit 130EP-2.

19 JUDGE BELL: Any objections to the reoffer  
20 of 130EP-2?

21 (No response)

22 JUDGE BELL: Hearing none, 130EP-2, Page  
23 34 -- or, actually, just 130EP-2, the entire exhibit,  
24 re-admitted with the change on Page 34 as noted by the  
25 witness.

1 (Exhibit Applicant No. 2 admitted)

2 MR. RYAN: Thank you, Your Honor. I'll  
3 pass the witness.

4 JUDGE BELL: Thank you. Any  
5 cross-examination from Plum Creek?

6 MR. WILSON: Yes.

7 JUDGE BELL: Very good.

8 MR. WILSON: I hope I'm -- well, this is  
9 cross, so I can do it.

10 JUDGE BELL: Ask away.

11 (Laughter)

12 CROSS-EXAMINATION

13 BY MR. WILSON:

14 Q Mr. Adams, good afternoon. My name is Bob  
15 Wilson. I represent Plum Creek Conservation District,  
16 and I'm pleased you're here today. And I may ask you  
17 questions about documents in the application that I see  
18 under your seal --

19 A Okay.

20 Q -- if that's all right, sir. And I'll start  
21 with a document that starts at EP-3, Page 422.

22 A EP-3, 422.

23 Q Yes, sir. And if I -- if my notation is  
24 correctly, that's a document that's a -- Attachment D7  
25 in the Liner Quality Control Plan. Is that correct?

1 A That's correct.

2 Q All right. If you turn to Page 428, which is  
3 D7-5.

4 A D -- 428 on mine is D7-3.

5 Q Okay. Well, then I miscalculated. Must be  
6 D30? 430?

7 A Page 430 is D7-5.

8 Q Yes, sir. And I want to ask something about  
9 the liner. And you have in here a compacted soil liner.  
10 And this is under the provision on earth work for Liner  
11 Quality Control Plan. And it says it's soil that's free  
12 from debris, rubbish, solid waste, organic matter, and  
13 meet the requirements of Section 4.2. Is that correct?

14 A Yes.

15 Q And further -- and particularly a couple pages  
16 on, you talk about -- and this is at D7.7, and I don't  
17 have the right page number, but you can turn to the  
18 report. Are you there?

19 A I'm at D7.7, which is Exhibit 3, Page 432.

20 Q Yes, sir. And it says -- and it's got a table  
21 on it on materials, and the coefficient of permeability  
22 is the required property is one times ten to the minus  
23 seven centimeters per second or less --

24 A Correct.

25 Q -- is that correct?

1                   And I believe it's true, is it not, that  
2 all control structures for water and everything else  
3 have to meet that particular permeability requirement of  
4 the soils at a solid waste site?

5           A     All control structures?

6           Q     Yes.  If you're controlling water, for example,  
7 does the water preventing a run-on to a -- not only the  
8 liners, but --

9           A     No, I'm not familiar with that requirement.

10          Q     Okay.  Next page, D.78, Placement in  
11 Processing, in the first paragraph, 4.4, in the second  
12 paragraph, it says -- well, let me talk about the first  
13 paragraph.  It says, The material should be processed to  
14 a maximum particle size of one inch or less before water  
15 is added.  Do you see that paragraph?

16          A     Yes.

17          Q     How much water is going to be consumed in the  
18 construction of this site?  Do you know?

19          A     No, I do not know.  I would say the water in  
20 the construction of the liner will be required for the  
21 processing of the liner.  The volume will be dependent  
22 upon the moisture content of the soil as it comes from  
23 the borrow source, so different times of year different  
24 borrow sources, the amount of water that must be added  
25 would be different.

1 Q Who would -- have you -- have you done a water  
2 balance calculation to see if water is available for the  
3 construction and operation of this site?

4 A No. That would be the -- beyond the scope of  
5 this permit.

6 Q Has anybody done it, to your knowledge?

7 A Not that I know.

8 Q Is the availability of water something that  
9 is -- everybody is waiting on to see whether the permit  
10 is issued before water availability becomes an issue?

11 A From my point of view, it's not part of the  
12 permitting process. Now, I don't know that I will be  
13 the design engineer or the construction manager for some  
14 event in the future, so no, I've not considered the  
15 source of that water.

16 Q Okay. And it -- the reason I'm asking these  
17 questions is in the next paragraph of 4.4, it also talks  
18 about water used for soil liner compaction. And I  
19 understand that it depends upon the moisture content of  
20 the soil from the borrow area before you put it in the  
21 compact area. Is that correct?

22 A That would be correct.

23 Q All right. And depending upon the time of  
24 year, the soil could be really dry, could it not?

25 A Yes, it could.

1 Q Have you participated in the construction of  
2 municipal solid waste landfills or other types of  
3 material where water has to be added to the soils to  
4 make sure they meet the coefficient of permeability  
5 that's specified?

6 A Yes.

7 Q Does it take a lot of water to do that?

8 A Yes.

9 Q Do you know what the source of water projected  
10 for placement in processing of the liner material is?

11 A At this site?

12 Q Yes, sir.

13 A No, I do not.

14 Q Who could I ask?

15 A I would direct you to someone with the  
16 Applicant, with the owner.

17 Q The -- the reason I'm asking this is I noticed  
18 in the next paragraph, 4.5, Compaction, it also talks  
19 about moisture content and talks about adding more water  
20 in cases where the material does not fit the moisture  
21 content proximate density, coefficient of permeability  
22 that's specified -- that you have specified. Is that  
23 correct?

24 A I didn't follow you. Exactly where are we  
25 talking about? You said the next section?

1 Q Well, let's look at -- let me look -- refer you  
2 down to 4.6, because I'm just making a point here.

3 A Oh, okay.

4 Q It says, The completed compact soil liner must  
5 be protected from drying, desiccation, rutting, erosion,  
6 and ponded water until a geomembrane is installed. And  
7 then it says they have to be -- if it's damaged, they  
8 have to rework, recompact, and retest.

9 And I've been on landfills when they've  
10 been constructed before, and I have a pretty good idea  
11 about how much water is needed. And I'm just curious  
12 about anybody who has done a water balance calculation  
13 to see how much water is going to be required to  
14 construct this site. And you can't tell me the answer  
15 to that question?

16 A No, sir, I cannot.

17 Q I noticed that the site operating plan also  
18 calls for other water availability in addition to the  
19 water required for liner construction. For example,  
20 truck wash, tire washing, for example. Do you know what  
21 the current water supply situation is for this site?

22 A The water supply for the site?

23 Q Yes, sir.

24 A No, I do not.

25 Q And you couldn't answer any of my questions,

1 then, on water supply?

2 A No, sir. Unfortunately, I can't.

3 Q All right. Have you done a soil balance  
4 calculation to determine whether the soils on-site are  
5 available from borrow areas or other places that will be  
6 required to construct this facility?

7 A I don't recall doing a detailed soil balance.  
8 If you -- but if I could direct you to -- let's see --  
9 within Applicant's Exhibit 130EP-3.

10 Q Yes, sir.

11 A And I'm going to go back to the -- want to take  
12 you back to Attachment D5.

13 Q Yes, sir.

14 A Within D5, if we go to Page 061.

15 Q All right.

16 A Okay. If you look at the bottom of that page,  
17 there is a Table D5-3.

18 Q Yes, sir.

19 A It's titled Typical Soil Requirements for  
20 Landfill Construction.

21 Q Yes, sir.

22 A That page provides the minimum requirements for  
23 the different components that we'll use the soil for.  
24 You'll see for soil liner, the soil would have to have a  
25 liquid limit of 30, a PI of 15, at least 30 percent

1 passing a number 200 sieve, and we would have to be able  
2 to achieve -- this is a hydraulic conductivity of ten to  
3 the minus seven centimeters per second or less that  
4 would have to be achievable.

5           The same criteria would be for the  
6 infiltration layer, which is the compacted soil liner in  
7 the cover. The infiltration layer is just what they  
8 call it when you get to the cover, the top of the  
9 landfill. And so we have to -- so we have -- but it  
10 only has to achieve ten to the minus five; but if you'll  
11 look, we've identified protective cover. That is the  
12 soil that goes over the geosynthetics, the membrane and  
13 the composite, we put soil on top of those to protect  
14 those so we don't drive over them or damage them.  
15 There's different types of soils that can work for that.  
16 We see -- but we do put -- we don't want big rocks in  
17 that.

18           The erosion layer, that -- again, these  
19 are terms. They're from the regulations, infiltration  
20 layer and erosion layer. But the erosion layer is  
21 basically what's the very top layer in the final cover,  
22 and its requirement is it's got to be able to support  
23 plant growth. And then we have daily cover, and we have  
24 general fill. So we have some criteria for all of  
25 those. What I'm saying is, that's the criteria.

1                   If you go up above that, to Table D5-2, we  
2 have a summary of the average properties of the soils we  
3 found on-site.

4                   So all of the soils that we found on-site  
5 would be suitable for these purposes, with the exception  
6 of the large cobbles that could be damaging to the liner  
7 or we could use in the liner system. So what I'm saying  
8 is, there are soils on-site that fit these purposes.

9                   As far as the detailed soil balance of how  
10 much goes into each one, no, I've not done that, as far  
11 as excavation. And I'll just give you a typical rule of  
12 thumb. It doesn't fit a landfill this irregular. But,  
13 generally, if you dig -- if you're about one-third  
14 excavation and two-thirds aerial, it kind of works out.

15           Q       Okay. I appreciate that explanation. And I'm  
16 not disputing that soils might be available. If you  
17 went off the area that you're constructing to borrow  
18 them from, to use them to get them for the site, what  
19 would happen to those excavations?

20           A       If you go outside the area for construction?

21           Q       Yes, sir.

22           A       And -- and create a soil borrow?

23           Q       Yes, sir.

24           A       Within those areas, typically you would -- you  
25 mean what would happen to them eventually? Ultimately?

1 Q Would you leave them excavations or would you  
2 backfill them or what would you do?

3 A Typically, you would grade them to drain.

4 Q I'm a water guy, and I'm worried about are you  
5 going to create water ponds out there for cattle or  
6 other things like that?

7 A No. I mean, the only ponds I know of are the  
8 ponds that are shown to be excavated in the permit.

9 Q Yeah. The reason I'm asking these questions is  
10 Plum Creek has a site immediately downstream that  
11 depends upon a certain classification under Texas water  
12 rights laws for domestic and livestock use. And I'm  
13 trying to find out what areas away from the landfill,  
14 what they're going to be used for. Do you have any  
15 idea?

16 A No, sir. I mean, there's nothing in this -- in  
17 this section of the permit and design, the requirements  
18 I've laid forth, that would suggest they would violate  
19 any rights that Plum Creek has.

20 Q I'm not going to get into a discussion about  
21 that, because I'll betray more than I want to betray for  
22 this hearing, but other people may have a different view  
23 about the rights of Plum Creek Conservation District for  
24 its lake and whether it needs permits. That's what I'm  
25 concerned about, and that's why I'm asking these

1 questions.

2 A Okay.

3 Q All right. Have you ever been involved with a  
4 landfill application to be constructed in a small  
5 watershed protection area that is under the auspices of  
6 the Natural Resources Conservation Service?

7 A Not that I recall.

8 Q Do you know if there are requirements on Plum  
9 Creek as a local sponsor to take certain actions under a  
10 small watershed protection plan related to its dam and  
11 Site 21?

12 A I'm not aware of anything.

13 Q Okay.

14 MR. WILSON: I believe that's all the  
15 questions I have of this witness.

16 JUDGE BELL: Thank you, Mr. Wilson.

17 Any cross-examination for Mr. Adams from  
18 the Executive Director?

19 MR. TATU: Sure, just a few questions,  
20 Judge. Are we looking to stop at 5:00 again today?

21 JUDGE BELL: We don't have to stop at 5:00  
22 today, so I guess we'll just try to find a natural  
23 stopping point.

24 JUDGE QUALTROUGH: Unless --

25 JUDGE BELL: That's true. If anybody else

1 needs to stop at 5:00, we can.

2 MR. ALLMON: I don't think we'll be able  
3 to go past 5:00.

4 JUDGE BELL: All right. We'll stop at  
5 5:00, so we'll get as far as we can.

6 CROSS-EXAMINATION

7 BY MR. TATU:

8 Q Good afternoon, Mr. Adams. Anthony Tatu on  
9 behalf of the Executive Director.

10 A Yes, sir.

11 Q Looking at your prefiled testimony on Page 5 --

12 A Yes, sir. Can you give me just a second?

13 Q Sure.

14 A Okay.

15 Q Yes. On Lines 26 through 38, you list quite a  
16 few landfill projects that you've worked on. Is this  
17 all of them or just a representative sample or --

18 A It's the ones that I could remember.

19 Q Okay. And you also reference that you worked  
20 on the landfill in Jack County. Is that the same IESI  
21 application that Mr. Snyder discussed yesterday?

22 A Yes, sir, that would be the same.

23 Q And how many of these, if you know, were --  
24 went to contested case hearing?

25 A How many of this list?

1 Q Yeah, of that list.

2 A I don't know, because some of these I had  
3 smaller parts in, and they were a long time ago. So  
4 they may have gone to contested case, but I may not have  
5 been called.

6 Q Okay. But you've testified before at SOAH  
7 before. Correct?

8 A I remember that very well. I believe this is  
9 my fourth time.

10 Q Can you tell me what's the most recent landfill  
11 application that you worked on, obviously, besides this  
12 one?

13 A Application that I've worked on?

14 Q Yeah.

15 A Would be the Pintail.

16 Q Okay.

17 A No. You want a new application or an  
18 expansion?

19 Q Well, any.

20 A More recently I worked on the expansion for the  
21 New Boston Landfill.

22 Q Okay. But you did work on the Pintail  
23 application. You just said that a minute ago?

24 A Yes.

25 Q Yesterday, the Executive Director asked

1 Mr. Snyder if he thought it was a better site -- if he  
2 thought 130 was a better site than the Pintail site. So  
3 I want to ask you the same question from a geotechnical  
4 perspective. Do you think the 130 site is a better site  
5 than the Pintail site?

6 A My answer would be a little bit different from  
7 Mr. Snyder's from a geotechnical perspective. As the  
8 engineering -- sites are sites. Whatever the conditions  
9 are, that's what we design to.

10 Q Okay. Fair enough. So you don't have an  
11 opinion on whether one site is better than another?

12 A I don't have a preference.

13 Q How many of the sites that you've worked on  
14 have been greenfield sites? You can just estimate,  
15 also. I'm not asking you for a specific --

16 A Like five, six, somewhere in that range.

17 Q Okay. And if you could turn to Page 7 of your  
18 prefilled testimony. Looking at Lines 25 through 46, it  
19 looks to me like you worked on quite a few different  
20 parts of this application. Is that accurate?

21 A Yes, sir.

22 Q I'm just trying to get an idea of how this  
23 works. For example, did you -- with regard to your work  
24 with Mr. Snyder, do you report to Mr. Snyder, or do you  
25 consult with and assist him?

1           A       Consult with and assist -- I assist him. It  
2 is -- there's a lot of moving parts to a permit, and it  
3 takes different -- a lot of different professionals.  
4 Mr. Snyder and myself have worked together for well over  
5 20 years, and so there are parts of the landfill that we  
6 do in -- or the permit that we work on together. There  
7 are his specialty parts that he works on, parts that are  
8 overlapped.

9                       So I'd say -- mostly we work -- we each  
10 have different areas of expertise, and so we work on  
11 different parts, but they overlap so much, they're so  
12 intertwined, we have to work together on those.

13           Q       Okay. And how about how would you describe how  
14 you worked with Mr. Maroney on this permit application?

15           A       With Mr. Maroney? Mr. Maroney worked as the  
16 engineer of record, which basically we're required -- as  
17 I said, we have many parts and we have many  
18 professionals working on it. There has to be one person  
19 responsible for all of that happening, and so  
20 Mr. Maroney had to fill that role of being the overall  
21 to make sure each part was done.

22                       So in the portions -- if you'll notice in  
23 the things that I've done, a lot of overlap in a lot of  
24 things in the -- well, give you a few examples. In the  
25 Attachment D, the Waste Management Unit Design, there

1 are parts of that that then will be restated or  
2 addressed in the site operating plan, which I didn't  
3 prepare. So we have to be consistent on those.

4 Q So it was his job to -- basically, his job is  
5 one of kind of a project manager?

6 A Project manager, and then there are certain  
7 parts of it that he actually prepared, but -- and then  
8 he has to fit in all of these parts that we prepared  
9 into the whole -- into the whole permit.

10 Q Okay. And then would you and Mr. Snyder review  
11 work that Mr. Maroney prepared as well?

12 A Well, I wouldn't say that we -- I would. I  
13 mean, there were parts of that that he had prepared, and  
14 it would be -- it would be some -- for example, some  
15 drawings that he prepared may be illustrating some of  
16 the items from my part of the permit. So I would look  
17 at it to be sure that the right information was put on  
18 there.

19 Q Is there anyone I'm leaving out that you worked  
20 with closely during review of this application besides  
21 Mr. Maroney and Mr. Snyder?

22 A Anyone?

23 Q Yeah.

24 A Well, yes. Mr. Traw.

25 Q Okay.

1 A And Mr. Welch, also.

2 Q I want to just take a look at the correction  
3 you made to 130EP-2, Page 34. It was the typographical  
4 error.

5 A I have it.

6 Q I just want to make sure I'm getting it right.  
7 Can you read the sentence again with your correction  
8 made?

9 A The contaminated water will not be discharged  
10 to the surface water management system to be constructed  
11 at the site.

12 Q Okay. And at the bottom of this same page, on  
13 Page 34, there is a sentence that says, Refer to Part 3,  
14 Attachment D6, Leachate and contaminated water plan for  
15 discussion of contaminated water management.

16 A Yes.

17 Q Can you find that in the -- in the application?

18 A Yes.

19 Q I think that's 130EP-4, Page 221. Sorry, 214  
20 maybe.

21 JUDGE QUALTROUGH: Which volume?

22 MR. RYAN: Volume 3.

23 MR. TATU: It's in EP-4.

24 THE WITNESS: No, it's in EP-3.

25 Q (BY MR. TATU) I'm sorry, EP-3, Page 214. It

1 starts on 214, and then that specific discussion is on  
2 221 regarding contaminated water disposal?

3 A Yes, sir, that's correct.

4 Q Is this one section of the application that you  
5 were referencing in your discussion with Mr. Ryan about  
6 how contaminated water is --

7 A Yes --

8 Q -- disposed of?

9 A -- that's correct.

10 MR. TATU: No further questions. I'll  
11 pass the witness.

12 JUDGE BELL: All right. Thank you.

13 Any cross-examination for Mr. Adams from  
14 OPIC?

15 MR. TUCKER: I have no questions.

16 JUDGE BELL: All right. Are we moving to  
17 Caldwell County or TJFA first?

18 MR. MAGEE: TJFA.

19 MR. ALLMON: We would be moving to us  
20 first. This is perhaps -- do we want to go ahead and  
21 get to 5:00 or --

22 JUDGE BELL: Do you want to break now?

23 JUDGE QUALTROUGH: Yeah, I think so,  
24 because I assume you're going to have a lot.

25 MR. ALLMON: Yeah, we'll have a fair

1 amount.

2 JUDGE BELL: Okay. Then we'll start first  
3 thing in the morning, at 9 a.m., with TJFA and EPICC's  
4 cross-examination of Mr. Adams.

5 We are adjourned.

6 (Proceedings recessed at 4:53 p.m.)

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C E R T I F I C A T E

STATE OF TEXAS )  
COUNTY OF TRAVIS )

We, Jodi Cardenas and Lorrie A. Schnoor,  
Certified Shorthand Reporters in and for the State of  
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WE FURTHER CERTIFY THAT the proceedings of  
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