



- 1 Detroit, Michigan
- 2 Wednesday, May 24, 2023
- 3 (At about 2:11 p.m.)
- 4

5 MS. BATESON: I believe our court

6 reporter is set up and ready. One thing that she

7 requests is that anyone who speaks to clearly state

8 their name for the record each time they speak for

9 the public hearing.

10 So my name is Nicolette Bateson, Chief

11 Financial Officer and Treasurer for the Great Lakes

12 Water Authority. And the matter before us is a

13 public hearing as it relates to the FY 2024 drinking

14 water state revolving fund project. With us today

15 is Tim Minor from Applied Science, who is going to

16 walk through a presentation on the screen as it

17 relates to this project. As a -- to set up any

18 public comment and to provide context for this item.

- 19 I would also introduce today
- 20 Chandan Sood, who is a GLWA leader. This
- 21 initiative, as well as Nick Bedewal, our acting
- 22 public finance manager who is working with this
- 23 cross functional team for the financing.
- 24 So with that let me turn it over to
- 25 Tim Minor, and again on via Zoom is Phyllis Walsh



1	who is driving the presentation. So, Tim, just let			
2	Phyllis know how you would like her to proceed.			
3	MR. MINOR: Good afternoon, everyone.			
4	As Nickie said, I am Tim Minor with Applied Science.			
5	I'm here to share with you some details about the			
6	state revolving fund project plan that's been			
7	prepared for FY 2024. Ultimately the goal of this			
8	presentation is to receive public comment and then			
9	receive board approval to submit this project plan			
10	officially.			
11	So the project is part of GLWA's annual			
12	effort to maximize the use of the available DWSRF			
13	funds. This is a low interest fund program the			
14	state runs, and it allows us to make capital			
15	investments with state funding and at advantageous			
16	interest rates. The deadline to apply for this is			
17	June 1st, so it's coming up very quickly. In fact			
18	we've already been working with the state to have			
19	draft materials reviewed, so we're very much ready			
20	to meet that June 1st deadline. Today's discussion			
21	is part of that overall deadline. We need to submit			
22	the court recorder document as part of that			
23	documentation, so I appreciate your patience waiting			
24	for that to get set up today.			
25	Like Legid today's public bearing is			

25 Like I said, today's public hearing is



1 part of that process, and Eagle will review the 2 project plan along with the minutes of this 3 discussion. There's one project we're talking about today for your consideration for FY 2024. 4 5 Phyllis, go ahead, next slide. Thank 6 you. 7 So we have in the room today a project manager for this work, Chandan Sood, and this 8 9 pertains to three communities within the GLWA 10 drinking water system, Detroit, Dearborn and 11 Highland Park. These are communities that we 12 consider to be nonmaster metered communities. So 13 currently their water use is only measured as it 14 leaves the water treatment plants, whereas other 15 communities are what we call master metered 16 communities. There are flow meters at their points 17 of connection to the GLWA water system. So by 18 initiating this project for transmission, meaning 19 water metering for those three communities, we're 20 taking a huge leap forward in monitoring the flow 21 rates from those communities. 22 So the scope of the project is twofold. 23 One is the actual installation of the water meters. 24 Those water meters will be equipped with water 25 quality monitors which will give information that we



1 don't currently have out in the transmission system

2 right now.

3 The other piece of the project is to 4 develop a new meter method. It uses the data from 5 those new devices and the devices that we have today 6 to better account for the water use throughout the 7 regional system. Go next slide. 8 An overview. In order to do this, really 9 the map over on the side is pre-illustrative. 10 know it's small, but you can see a few borders 11 there. You can probably make out the Dearborn 12 border, the Highland Park border, and you can see 13 some dots on that map. Those dots are these 14 transmission meter locations. There's 25 in total. 15 By adding those 25 we would be able to monitor flow 16 into Highland Park. We also billed a monitor flow 17 at the Detroit Dearborn border, and what this will 18 do is let us identify the total flow at those points 19 in the system. Currently those flows are estimated, 20 state of the art estimates, but still estimates. 21 When we go to metering, our overall accuracy will 22 increase and in addition to, you know, get a better 23 sense of what each community's consumption is will 24 also let us hunt down this topic of non-revenue

25 water. Simply you can think of non-revenue water as



	00/1 // 2010		
1	leakage from the system. This is water that's made		
2	at a water treatment plant, but it's never delivered		
3	to a customer. So by adding these transmission		
4	meters, it will let us hunt down that topic. So		
5	that's a value add to the entire system. We can		
6	minimize non-revenue water, we can right size our		
7	production and not waste that water. Also we		
8	mitigate the issues that non-revenue water can		
9	create. You know, if it's leaking underground, it		
10	can undercut roadways and other assets. So we'd		
11	like to find and eliminate that non-revenue water		
12	wherever we can.		
13	Another thing that we'll be able to do at		
14	these locations is install a MeriNet integrated		
15	water quality monitoring system. This will give us		
16	water quality data at each of these 25 locations.		
17	These are points where we don't have water quality		
18	measurements today. So that will improve our		
19	understanding of quality throughout the system.		
20	And then like I said on the previous		
21	side, we'll develop meter math. What we mean by		
22	meter math is the equation, the additions and		
23	subtractions of the metered flow rates to properly		
24	account for the volumes.		
25	Benefits of the project, it will simplify		

25 Benefits of the project, it will simplify



1 these estimates. You know, we'll know the flow at 2 more locations, plain and simple. That will let us 3 estimate less and it will let us focus in on certain 4 areas in the system when we're hunting for things 5 like non-revenue water or trying to allocate flows 6 to a particular community. It will also greatly 7 increase our knowledge of water quality through addition of those monitors. And one thing that we 8 9 always ask ourselves when we're adding a new 10 appurtenance on our water system, is this going to 11 affect the service that that water system can offer, 12 being does it create a hydraulic restriction, and 13 these locations are not expected to create any 14 hydraulic restriction. So we get more information 15 without diminishing the level of service. Next 16 slide, please.

17 So a quick high level summary of this 18 project. Estimated project cost, we have 25 new 19 facilities going in. The estimated cost is about 20 forty-six and a half million dollars. When you boil 21 it down to per user, actually I have to apologize, 22 there is a little bit of a unit issue on this slide. 23 The \$2.32 you see is actually a per person per year 24 value. And so the per household per month that you 25 see there, if you were to translate to per household



1	per month, that would be a little less than fifty		
2	cents per household per month or \$2.32 per person		
3	per year, so a little mismatch there. I apologize		
4	for that. Construction will take about five years.		
5	It will start in Q4 of 2024 and end in Q4 of 2029.		
6	Next slide.		
7	Project impact. So as part of the SRF		
8	process, we needed to evaluate projects impacts, and		
9	they have a few categories they ask for that		
10	evaluation to happen in. One is environmental and,		
11	you know, looking at the area we don't expect any		
12	issues with species of concern. That's a		
13	requirement of SRF to evaluate that, but we didn't		
14	find any concern for that. If, in fact, we do find		
15	a species of concern unexpectedly, we have a plan to		
16	pause the work, understand the impact of that		
17	species and then move forward in the appropriate		
18	way.		
19	As far as impacts to the environment		
20	other than that, it's expected to be very minimal.		
21	These sites are relatively small. It's a new meter		
22	pit with a meter in it, and it's working probably in		
23	existing right-of-ways. So we don't expect a		
24	significant short-term impacts, and once the sites		
25	are restored and construction is finished, virtually		



1 no long-term impacts.

2	So as far as social impacts, another		
3	requirement is to evaluate impacts to tribal		
4	historic sites. Again, we don't anticipate any, but		
5	we will be submitting those letters to the		
6	appropriate authorities to evaluate that.		
7	We have already submitted a draft of the		
8	project plan to the State, and they've started to		
9	look at what we've identified as impacts, and we've		
10	gotten no comments from them, so we're thinking that		
11	they're in agreement with us, but we'll find out		
12	when we officially submit on June 1st. Next slide,		
13	please.		
14	All right, we're on to the public		
15	comment. I don't know if we want to administer it		
16	the same way as before.		
17	THE CHAIRMAN: Any questions on the		
18	presentation?		
19	UNKNOWN SPEAKER: I've got a couple,		
20	Mr. Chair. It's the first time that I've heard the		
21	State has no comment, I think you said, means that		
22	they agree with that. I'm just not quite sure I		
23	agree with that statement.		
24	THE CHAIRMAN: So we do expect that we		
_			

25 will get official comments from then, but in the



1 draft they've had no comments, meaning that we're 2 okay to submit the official submittal and get their 3 official comments. 4 UNIDENTIFIED SPEAKER: Okay. As I 5 recall, so refresh my memory, we spent quite a lot 6 of money with the Veolia contract to look into this 7 master metering issue. And as I recall there's 8 a way to compare the current metering purchases 9 versus the actual retail sales to get similar data. 10 I know this will get us the most acc -- this is the 11 most accurate way to do it, but my concern is we're 12 spending \$46,000,000 to do this, and is it going to 13 make the data three percent more accurate, a little 14 bit more accurate or is the juice worth the sqeeze 15 on spending \$46,000,000 to do this? I admit it will 16 be more accurate than it is today, but we've been 17 measuring this without master meters for decades. 18 And so that's what my concern is, number 1. 19 And number 2, more importantly, is that 20 Detroit does not want to be committed to doing this 21 if the State is not going to fund a large portion of 22 it. So right now I don't even know what it's going 23 to cost me. So I'm willing to agree and sign on to

- 24 moving this resolution forward as long as everyone
- 25 understands that I'm going to need to do a cost



1 analysis before I can sign off on master meter. 2 UNIDENTIFIED SPEAKER: Yeah, so I think 3 that's good. So we had a similar comment I think the last time we brought this to the board, and I 4 5 think it's good. I'll take your second comment first. It's completely understood and we have it on 6 7 record. We will see what it is that the State comes 8 back with. We're hopeful that we will get some 9 grant money associated with this project. At that 10 point in time we will go back to each of the 11 communities. The intent is that each community 12 contributes a portion of this; GLWA contributes a 13 portion. Once we know what it is -- so first off we 14 have to make the list. It has to be in the priority 15 list, and then we may get some principle forgiveness 16 or grant money, and when we do we will come back to 17 the community, such as Detroit, Detroit, Dearborn, 18 Highland Park, and talk about what that looks like. 19 So if we do not receive funding, we may 20 not move forward with the project. But if we don't 21 shoot the shot, right, we'll never get the points, 22 so we're going to give it a go. We're going to see 23 if we can get some money. There seems to be an 24 awful lot of infrastructure dollars out there. And 25 every year we do hear from the customers, the



1	nonmaster metered customers and the master metered		
2	customers, that they would like to see GLWA move to		
3	a more accurate method of measurement.		
4	As Tim indicated, you know, we had a big		
5	study, you know, you were part of the study. We all		
6	probably heard much about this units of service for		
7	non master metered customers. We brought in Black		
8	and Veatch, we spent a lot of time. This was part		
9	of the standup at GLWA. This was required.		
10	So we did the best we can analytically,		
11	but every year we hear from member partners about		
12	how they would like to see us make these numbers		
13	better. Because it is an equity question in the		
14	end, right. So I think we're doing a good job.		
15	This will do better. This will also be responsive		
16	to our member partners. And that kind of goes to		
17	the second one.		
18	I do think the juice is worth the		
19	squeeze, to use your comment there. The reason I		
20	say that is studies are great. We love studies.		
21	Studies are not perfect. Things can change		
22	over time. At some point in time I'd like to stop		
23	doing studies and start actually getting the work		
24	done, and that's what we're doing with this one. I		
25	don't want to have to do another large non-master		



meter customer study and spend millions of dollars 1 2 on another study that will have to be updated in, 3 say, another five years. So for me it's worth 4 seeing what we get from the state, and then we'll 5 have more conversation on it. 6 UNIDENTIFIED SPEAKER: Yeah, but my question was partly what Gary asked, and that is can 7 8 anybody quantify the accuracy or how much of a 9 difference it makes to have this metered system in 10 versus how we've been doing it conventionally? 11 UNIDENTIFIED SPEAKER: So we can't 12 quantify it now. All we can say is we used our best 13 analytical method. So last time when we did the 14 quantification the best we could, we actually set up 15 district metered areas in Detroit, we isolated them, 16 we measured the flow into those areas, there's more 17 than one subdivision, into those areas and out of 18 those areas, and we estimated nonrevenue water. We 19 extrapolated that field data to the rest of the 20 city. So I'm certain that communities who are 21 non-master metered, Detroit, Dearborn and Highland 22 Park, have done work and they have fixed leaks, so 23 that was a few years ago we did that study. That 24 changes with time. Likewise might have fixed leaks, 25 might have more leaks. So those studies are the



1 best that we can do, but there's no -- you can tell 2 the meters are in the ground and we start getting 3 measurements. There's no way for us to tell how far 4 off we are at our analytical methods. All we can 5 say is we did a very good, thorough analytical 6 method right now. 7 THE CHAIRMAN: So how is this proposed 8 metering system compared to other communities that 9 are currently metered? 10 UNIDENTIFIED SPEAKER: So this metering 11 system meters all the flow into a community and the 12 flow out of a community. So Dearborn and Detroit 13 have volumes of flow that go into and out of, like 14 many other communities do. I would say the 15 difference here is that there are more meters in 16 this meter math. Tim Minor talked about meter math. 17 So there are more potential additions and 18 subtractions what introduces more error. There's no 19 doubt about it, but we still think it's the most 20 accurate, affordable methods, speaking to 21 affordability. The idea of directly metering 22 Dearborn and Highland Park, very, very expensive, 23 and we think this is a good solution, perhaps a

- 24 difference of, you know, percentage points, right,
- 25 not 10, 20, 30%, but single digit percentage points



	03/24/2023		
1	and accuracy. So that's the difference between		
2	where we will be with them and where we are with		
3	others. So we feel like it's the best we can do.		
4	It's a compromise, there's no doubt about it.		
5	Direct metering would be better, but it would be		
6	\$800,000,000 perhaps, right. It's a very, very		
7	expensive proposition to do direct metering with the		
8	number of interconnections that we have in our		
9	transmission system of Dearborn and Highland Park		
10	I mean, excuse me, Dearborn and Detroit.		
11	Now Highland Park's metering, the		
12	solution here for Highland Park is direct metering.		
13	There are no subtraction meters for Highland Park.		
14	There are three meters that go into the community,		
15	and that would be just like every other master		
16	metered community.		
17	THE CHAIRMAN: Other questions on this?		
18	UNIDENTIFIED SPEAKER: Mr. Chairman, I		
19	was glad you spoke about the induction meters and		
20	deductions meters and subtraction meters. Because		
21	just looking at that map that Tim was showing, it		
22	was to me obvious that there was water coming into		
23	Dearborn, for instance, and leaving Dearborn, water		
24	coming into Dearborn and leaving Dearborn; water		
25	coming into Detroit and leaving Detroit. So having		



Page	16
------	----

1	worked in communities that have both metered water	
2	coming in and out of it, being deducted and going to	
3	another community, I'm in favor of getting it as	
4	close to accurate as you can possibly get. And if	
5	this helps, it's not over a hundred million like you	
6	were talking about it's 46. That's serious money,	
7	obviously. But if we can get a better picture for	
8	Detroit or Dearborn and to some degree Highland Park	
9	and all the member partners, I'm in favor of this.	
10	I understand where Mr. Brown and Mr. Hendricks were	
11	coming from in terms of can we quantify how close we	
12	came, and that remains to be seen.	
13	UNIDENTIFIED SPEAKER: That's exactly	
14	right, it remains to be seen. Thank you.	
15	MR. BAKER: Brian Baker. Susan, and	
16	metering for these is really important. Weren't	
17	those in the foundation documents of starting of	
18	GLWA that that was agreed to? I don't think there's	
19	any specific time frame.	
20	UNIDENTIFIED SPEAKER: It was, 40 years.	
21	UNIDENTIFIED SPEAKER: Oh, was it?	
22	UNIDENTIFIED SPEAKER: Yeah.	
23	UNIDENTIFIED SPEAKER: Silent on that.	
24	It didn't say when. But we started paying the first	
25	year, right? It's in the documents, right; it's	



- 1 just no time frame. And then secondly have we
- 2 decided if we're going to include GLWA's cost in the
- 3 SRF submission or just the three local chair?
- 4 UNIDENTIFIED SPEAKER: I think we're
- 5 still working through that.
- 6 UNIDENTIFIED SPEAKER: They're
- 7 significantly overburdened, these three, all three
- 8 of them are. But that would hopefully, if it ranks
- 9 high enough, it should promote forgiveness.
- 10 UNIDENTIFIED SPEAKER: Agreed.
- 11 UNIDENTIFIED SPEAKER: Free money is
- 12 good. We'll see what happens.
- 13 UNIDENTIFIED SPEAKER: It's lots of
- 14 priorities.
- 15 THE CHAIRMAN: Any other comments or
- 16 questions for the public hearing?
- 17 UNIDENTIFIED SPEAKER: No.
- 18 UNIDENTIFIED SPEAKER: At this point,
- 19 Mr. Chairman, it is appropriate to call for the
- 20 members of the public, anyone who wishes to address
- 21 the board.
- 22 UNIDENTIFIED SPEAKER: Anyone from the
- 23 public either in the room or virtually? We have a
- 24 gentleman who just raised his hand. Come on up to
- 25 the microphone. Tim, if you could step aside.



1 State your name for the record and make 2 your comment. 3 MR. SMALLEY: Good afternoon, Sam 4 Smalley, Chief Operating Officer, Detroit Water and 5 Sewage Department. 6 To follow on what Mr. Brown said, we 7 believe in transparency. We've always provided the 8 best standard that we have available. GLWA, with 9 the implementation of this system, there will still 10 be unknowns. There are significant number of large 11 diameter variable transmission mains that flow 12 through Detroit and Dearborn. That loss of water 13 will still be estimated. 14 So to help improve the overall accuracy 15 of the metering of the entire system, we have been 16 asking them, we'll continue to ask that all of the 17 wholesale customers purchase wholesale water be 18 compared, transparently and not anonymously to their 19 retail water sales. This is publicly available 20 information. It is a recommendation from our 21 expert, Veolia, to help improve the overall accuracy 22 and transparency of the water issue in southeast 23 Michigan. Thank you. 24 THE CHAIRMAN: Anyone else for public

25 comment?



	05/24/2025		
1	UNIDENTIFIED SPEAKER: Mr. Chairman, I do		
2	not see any hands up. This is the second call for		
3	public comment. So at this point a third and final		
4	call for public comment would be appropriate.		
5	THE CHAIRMAN: Final call for public		
6	comment either in the room or virtually.		
7	UNIDENTIFIED SPEAKER: Again,		
8	Mr. Chairman, there are no hands up virtually, so at		
9	this point it would be appropriate for the Board to		
10	close the public hearing.		
11	THE CHAIRMAN: We'll close the public		
12	hearing.		
13	(Hearing concluded about 2:34 p.m.)		
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			



1 CERTIFICATE OF NOTARY PUBLIC - COURT REPORTER

- 2
- 3 I do certify that the attached proceeding 4 was taken before me in the above-entitled matter: 5 that the proceeding contained herein was by me 6 reduced to writing by means of stenography, and 7 afterwards transcribed upon a computer. The 8 attached pages are a true and complete transcript of 9 the proceedings. 10 I do further certify that I am not 11 connected by blood or marriage with any of the 12 parties, their attorneys or agents, and that I am 13 not an employee of either of them, nor interested, 14 directly or indirectly, in the matter of 15 controversy. IN WITNESS WHEREOF, I have hereunto set 16 17 my hand and affixed my notarial seal at West 18 Bloomfield, Michigan, County of Oakland, this 29th 19 day of May 2023. Theresa J. Roberto 20 21 Theresa L. Roberts, CSR 22 23 Certified Shorthand Reporter - CSR-4870
- 24 Notary Public Oakland County, MI
- 25 My commission expires 10-04-2027



\$		
\$2.32 7:23 8:2		
\$46,000,000 10:12,15		
\$800,000,000 15:6		
1		
1 10:18		
10 14:25		
1st 3:17,20 9:12		
2		
2 10:19		
20 14:25		
2023 2:2		
2024 2:13 3:7 4:4 8:5		
2029 8:5		
24 2:2		
25 5:14,15 6:16 7:18		
2:11 2:3		
2:34 19:13		
3		
30% 14:25		
4		
40 16:20		
46 16:6		
Α		
acc 10:10		
account 5:6 6:24		
accuracy 5:21 13:8 15:1 18:14,21		

accurate 10:11,13,14,16 12:3 14:20 16:4 acting 2:21 actual 4:23 10:9 add 6:5 adding 5:15 6:3 7:9 addition 5:22 7:8 additions 6:22 14:17 address 17:20 administer 9:15 admit 10:15 advantageous 3:15 affect 7:11 affordability 14:21 affordable 14:20 afternoon 3:3 18:3 agree 9:22,23 10:23 agreed 16:18 17:10 agreement 9:11 ahead 4:5 allocate 7:5 analysis 11:1 analytical 13:13 14:4,5 analytically 12:10 annual 3:11 anonymously 18:18 anticipate 9:4 apologize 7:21 8:3 Applied 2:15 3:4 apply 3:16 approval 3:9 appurtenance 7:10 area 8:11 areas 7:4 13:15,16,17,18

art 5:20 assets 6:10 authorities 9:6 Authority 2:12 awful 11:24

#### В

back 11:8,10,16 Baker 16:15 Bateson 2:5,10 Bedewal 2:21 Benefits 6:25 big 12:4 billed 5:16 bit 7:22 10:14 Black 12:7 board 3:9 11:4 17:21 19:9 boil 7:20 border 5:12,17 borders 5:10 Brian 16:15 brought 11:4 12:7 Brown 16:10 18:6

### С

call 4:15 17:19 19:2,4,5 capital 3:14 categories 8:9 cents 8:2 chair 9:20 17:3 Chairman 9:17,24 14:7 15:17, 18 17:15,19 18:24 19:1,5,8,11 Chandan 2:20 4:8 change 12:21



Chief 2:10 18:4 city 13:20 close 16:4,11 19:10,11 comment 2:18 3:8 9:15,21 11:3,5 12:19 18:2,25 19:3,4,6 comments 9:10,25 10:1,3 17:15 committed 10:20 communities 4:9,11,12,15,16, 19,21 11:11 13:20 14:8,14 16:1 community 7:6 11:11,17 14:11,12 15:14,16 16:3 community's 5:23 compare 10:8 compared 14:8 18:18 completely 11:6 compromise 15:4 concern 8:12,14,15 10:11,18 concluded 19:13 connection 4:17 consideration 4:4 construction 8:4,25 consumption 5:23 context 2:18 continue 18:16 contract 10:6 contributes 11:12 conventionally 13:10 conversation 13:5 cost 7:18,19 10:23,25 17:2 couple 9:19 court 2:5 3:22 create 6:97:12,13 cross 2:23 current 10:8

customer 6:3 13:1 customers 11:25 12:1,2,7 18:17

#### D

data 5:4 6:16 10:9,13 13:19 deadline 3:16,20,21 Dearborn 4:10 5:11,17 11:17 13:21 14:12,22 15:9,10,23,24 16:8 18:12 decades 10:17 decided 17:2 deducted 16:2 deductions 15:20 degree 16:8 delivered 6:2 Department 18:5 details 3:5 Detroit 2:1 4:10 5:17 10:20 11:17 13:15,21 14:12 15:10, 25 16:8 18:4,12 develop 5:4 6:21 devices 5:5 diameter 18:11 difference 13:9 14:15,24 15:1 digit 14:25 diminishing 7:15 direct 15:5,7,12 directly 14:21 discussion 3:20 4:3 district 13:15 document 3:22 documentation 3:23 documents 16:17,25 dollars 7:20 11:24 13:1 dots 5:13

doubt 14:19 15:4 draft 3:19 9:7 10:1 drinking 2:13 4:10 driving 3:1 DWSRF 3:12

#### Е

Eagle 4:1 effort 3:12 eliminate 6:11 end 8:5 12:14 entire 6:5 18:15 environment 8:19 environmental 8:10 equation 6:22 equipped 4:24 equity 12:13 error 14:18 estimate 7:3 estimated 5:19 7:18,19 13:18 18:13 estimates 5:20 7:1 evaluate 8:8,13 9:3,6 evaluation 8:10 excuse 15:10 existing 8:23 expect 8:11,23 9:24 expected 7:13 8:20 expensive 14:22 15:7 expert 18:21 extrapolated 13:19

F

facilities 7:19



fact 3:17 8:14 favor 16:3,9 feel 15:3 field 13:19 fifty 8:1 final 19:3,5 finance 2:22 Financial 2:11 financing 2:23 find 6:11 8:14 9:11 finished 8:25 fixed 13:22,24 flow 4:16,20 5:15,16,18 6:23 7:1 13:16 14:11,12,13 18:11 flows 5:19 7:5 focus 7:3 follow 18:6 forgiveness 11:15 17:9 forty-six 7:20 forward 4:20 8:17 10:24 11:20 foundation 16:17 frame 16:19 17:1 Free 17:11 functional 2:23 fund 2:14 3:6,13 10:21 funding 3:15 11:19 funds 3:13 FY 2:13 3:7 4:4

### G

Gary 13:7 gentleman 17:24 give 4:25 6:15 11:22 glad 15:19 GLWA 2:20 4:9,17 11:12 12:2, 9 16:18 18:8 GLWA's 3:11 17:2 goal 3:7 good 3:3 11:3,5 12:14 14:5,23 17:12 18:3 grant 11:9,16 great 2:11 12:20 greatly 7:6 ground 14:2 Н half 7:20 hand 17:24 hands 19:2,8 happen 8:10 hear 11:25 12:11 heard 9:20 12:6 hearing 2:9,13 3:25 17:16 19:10,12,13 helps 16:5 Hendricks 16:10 high 7:17 17:9 Highland 4:11 5:12,16 11:18 13:21 14:22 15:9,11,12,13 16:8 historic 9:4 hopeful 11:8 household 7:24,25 8:2 huge 4:20 hundred 16:5 hunt 5:24 6:4 hunting 7:4 hydraulic 7:12,14

L idea 14:21 identified 9:9 identify 5:18 impact 8:7,16 impacts 8:8,19,24 9:1,2,3,9 implementation 18:9 important 16:16 importantly 10:19 improve 6:18 18:14,21 include 17:2 increase 5:22 7:7 induction 15:19 information 4:25 7:14 18:20 infrastructure 11:24 initiating 4:18 initiative 2:21 install 6:14 installation 4:23 instance 15:23 integrated 6:14 intent 11:11 interconnections 15:8 interest 3:13,16 introduce 2:19 introduces 14:18 investments 3:15 isolated 13:15 issue 7:22 10:7 18:22 issues 6:8 8:12 item 2:18



J		
job 12:14		
juice 10:14 12:18		
June 3:17,20 9:12		
К		
kind 12:16		
knowledge 7:7		
L		
Lakes 2:11		
large 10:21 12:25 18:10		
leader 2:20		
leakage 6:1		
leaking 6:9		
leaks 13:22,24,25		
leap 4:20		
leaves 4:14		
leaving 15:23,24,25		
letters 9:5		
level 7:15,17		
Likewise 13:24		
list 11:14,15		
local 17:3		
locations 5:14 6:14,16 7:2,13		
long 10:24		
long-term 9:1		
loss 18:12		
lot 10:5 11:24 12:8		
lots 17:13		
love 12:20		
low 3:13		

Μ made 6:1 mains 18:11 make 3:14 5:11 10:13 11:14 12:12 18:1 makes 13:9 manager 2:22 4:8 map 5:9,13 15:21 master 4:15 10:7,17 11:1 12:1, 7 15:15 materials 3:19 math 6:21,22 14:16 matter 2:12 maximize 3:12 meaning 4:18 10:1 means 9:21 measured 4:13 13:16 measurement 12:3 measurements 6:18 14:3 measuring 10:17 meet 3:20 member 12:11,16 16:9 members 17:20 memory 10:5 Merinet 6:14 meter 5:4,14 6:21,22 8:21,22 11:1 13:1 14:16 metered 4:12,15 6:23 12:1,7 13:9,15,21 14:9 15:16 16:1 metering 4:19 5:21 10:7,8 14:8,10,21 15:5,7,11,12 16:16 18:15 meters 4:16,23,24 6:4 10:17 14:2,11,15 15:13,14,19,20 method 5:4 12:3 13:13 14:6

methods 14:4,20 Michigan 2:1 18:23 microphone 17:25 million 7:20 16:5 millions 13:1 minimal 8:20 minimize 6:6 Minor 2:15,25 3:3,4 14:16 minutes 4:2 mismatch 8:3 mitigate 6:8 money 10:6 11:9,16,23 16:6 17:11 monitor 5:15,16 monitoring 4:20 6:15 monitors 4:25 7:8 month 7:24 8:1,2 move 8:17 11:20 12:2 moving 10:24

#### Ν

needed 8:8 Nick 2:21 Nickie 3:4 Nicolette 2:10 non-master 12:25 13:21 non-revenue 5:24,25 6:6,8,11 7:5 nonmaster 4:12 12:1 nonrevenue 13:18 number 10:18,19 15:8 18:10 numbers 12:12

0

obvious 15:22



offer 7:11 Officer 2:11 18:4 official 9:25 10:2,3 officially 3:10 9:12 Operating 18:4 order 5:8 overburdened 17:7 overview 5:8

Р

p.m. 2:3 19:13 Park 4:11 5:12,16 11:18 13:22 14:22 15:9,12,13 16:8 Park's 15:11 part 3:11,21,22 4:1 8:7 12:5,8 partly 13:7 partners 12:11,16 16:9 patience 3:23 pause 8:16 paying 16:24 percent 10:13 percentage 14:24,25 perfect 12:21 person 7:23 8:2 pertains 4:9 Phyllis 2:25 3:2 4:5 picture 16:7 piece 5:3 pit 8:22 plain 7:2 plan 3:6,9 4:2 8:15 9:8 plant 6:2 plants 4:14 point 11:10 12:22 17:18 19:3,9 points 4:16 5:18 6:17 11:21 14:24,25 portion 10:21 11:12,13 possibly 16:4 potential 14:17 pre-illustrative 5:9 prepared 3:7 presentation 2:16 3:1,8 9:18 previous 6:20 principle 11:15 priorities 17:14 priority 11:14 proceed 3:2 process 4:1 8:8 production 6:7 program 3:13 project 2:14,17 3:6,9,11 4:2,3, 7,18,22 5:3 6:25 7:18 8:7 9:8 11:9,20 projects 8:8 promote 17:9 properly 6:23 proposed 14:7 proposition 15:7 provide 2:18 provided 18:7 public 2:9,13,18,22 3:8,25 9:14 17:16,20,23 18:24 19:3, 4,5,10,11 publicly 18:19 purchase 18:17 purchases 10:8 Q Q4 8:5 quality 4:25 6:15,16,17,19 7:7

quantification 13:14 quantify 13:8,12 16:11 question 12:13 13:7 questions 9:17 15:17 17:16 quick 7:17 quickly 3:17

#### R

raised 17:24 ranks 17:8 rates 3:16 4:21 6:23 ready 2:6 3:19 reason 12:19 recall 10:5,7 receive 3:8,9 11:19 recommendation 18:20 record 2:8 11:7 18:1 recorder 3:22 refresh 10:5 regional 5:7 relates 2:13,17 remains 16:12,14 reporter 2:6 requests 2:7 required 12:9 requirement 8:13 9:3 resolution 10:24 responsive 12:15 rest 13:19 restored 8:25 restriction 7:12,14 retail 10:9 18:19 review 4:1 reviewed 3:19



revolving 2:14 3:6 right-of-ways 8:23 roadways 6:10 room 4:7 17:23 19:6 runs 3:14

#### S

sales 10:9 18:19 Sam 18:3 Science 2:15 3:4 scope 4:22 screen 2:16 sense 5:23 service 7:11,15 12:6 set 2:6,17 3:24 13:14 Sewage 18:5 share 3:5 shoot 11:21 short-term 8:24 shot 11:21 showing 15:21 side 5:9 6:21 sign 10:23 11:1 significant 8:24 18:10 significantly 17:7 Silent 16:23 similar 10:9 11:3 simple 7:2 simplify 6:25 Simply 5:25 single 14:25 sites 8:21,24 9:4 size 6:6 slide 4:5 5:7 7:16,22 8:6 9:12 small 5:10 8:21 Smalley 18:3,4 social 9:2 solution 14:23 15:12 Sood 2:20 4:8 southeast 18:22 speak 2:8 SPEAKER 9:19 10:4 11:2 13:6,11 14:10 15:18 16:13,20, 21,22,23 17:4,6,10,11,13,17, 18,22 19:1,7 speaking 14:20 speaks 2:7 species 8:12,15,17 specific 16:19 spend 13:1 spending 10:12,15 spent 10:5 12:8 spoke 15:19 sqeeze 10:14 squeeze 12:19 SRF 8:7,13 17:3 standard 18:8 standup 12:9 start 8:5 12:23 14:2 started 9:8 16:24 starting 16:17 state 2:7,14 3:6,14,15,18 5:20 9:8,21 10:21 11:7 13:4 18:1 statement 9:23 step 17:25 stop 12:22 studies 12:20,21,23 13:25 study 12:5 13:1,2,23 subdivision 13:17

submission 17:3 submit 3:9,21 9:12 10:2 submittal 10:2 submitted 9:7 submitting 9:5 subtraction 15:13,20 subtractions 6:23 14:18 summary 7:17 Susan 16:15 system 4:10,17 5:1,7,19 6:1,5, 15,19 7:4,10,11 13:9 14:8,11 15:9 18:9,15 Т taking 4:20 talk 11:18 talked 14:16 talking 4:3 16:6 team 2:23 terms 16:11 thing 2:6 6:13 7:8 things 7:4 12:21 thinking 9:10 Tim 2:15,25 3:1,4 12:4 14:16 15:21 17:25 time 2:8 9:20 11:4,10 12:8,22 13:13,24 16:19 17:1 today 2:14,19 3:24 4:4,7 5:5 6:18 10:16 today's 3:20,25 topic 5:24 6:4 total 5:14,18 translate 7:25 transmission 4:18 5:1,14 6:3 15:9 18:11

transparency 18:7,22

HANSON RENAISSANCE COURT REPORTERS & VIDEO 313.567.8100

transparently 18:18	
Treasurer 2:11	W
treatment 4:14 6:2	waiting 3:23
tribal 9:3	walk 2:16
turn 2:24	Walsh 2:25
twofold 4:22	waste 6:7
U	water 2:12,14 4:10,13,14,17, 19,23,24 5:6,25 6:1,2,6,7,8, 11,15,16,17 7:5,7,10,11 13:18
Ultimately 3:7	15:22,23,24 16:1 18:4,12,17,
undercut 6:10	19,22
underground 6:9	Wednesday 2:2
understand 8:16 16:10	wholesale 18:17
understanding 6:19	wishes 17:20
understands 10:25	work 4:8 8:16 12:23 13:22
understood 11:6	worked 16:1
unexpectedly 8:15	working 2:22 3:18 8:22 17:5
UNIDENTIFIED 10:4 11:2 13:6,11 14:10 15:18 16:13,20, 21,22,23 17:4,6,10,11,13,17, 18,22 19:1,7	worth 10:14 12:18 13:3
unit 7:22	year 7:23 8:3 11:25 12:11 16:25
units 12:6	years 8:4 13:3,23 16:20
UNKNOWN 9:19	years 0.4 10.0,20 10.20
unknowns 18:10	Z
updated 13:2	Zoom 2:25
user 7:21	
V	
variable 18:11	
Veatch 12:8	
Veolia 10:6 18:21	
versus 10:9 13:10	
virtually 8:25 17:23 19:6,8	
volumes 6:24 14:13	

HANSON RENAISSANCE COURT REPORTERS & VIDEO 313.567.8100