

1

2

COUNCIL OF THE CITY OF PHILADELPHIA

3

COMMITTEES ON THE ENVIRONMENT AND

4

PARKS, RECREATION AND CULTURAL AFFAIRS

5

- - -

6

Room 400, City Hall
Philadelphia, Pennsylvania
Tuesday, September 1, 2009
10:10 a.m.

7

8

- - -

9

10

PRESENT:

11

COUNCILMAN JAMES F. KENNEY, CHAIR

12

COUNCILWOMAN BLONDELL REYNOLDS BROWN, CHAIR

13

COUNCILMAN CURTIS JONES, JR.

14

COUNCILWOMAN DONNA REED MILLER

15

COUNCILMAN FRANK RIZZO

16

17

RESOLUTION 090269 - Resolution authorizing
City Council's Committees on the Environment
and Parks, Recreation and Cultural Affairs to
hold joint public hearings to investigate the
feasibility of installing sustainable
irrigation systems beneath City recreation
fields...

18

19

20

21

- - -

22

23

V A R A L L O Incorporated
Litigation Support Services
Eleven Penn Center

24

1835 Market Street, Suite 600
Philadelphia, Pennsylvania 19103
215.561.2220 215.567.2670

25

1

2

COUNCILMAN KENNEY: Good

3

morning, ladies and gentlemen. The joint

4

Committees on the Environment and Parks,

5

Recreation and Cultural Affairs is now in

6

session to hear testimony on an

7

exploratory situation relative to our

8

City's playing fields and athletic

9

facilities.

10

With me today is the

11

Chairperson of the Parks, Recreation and

12

Cultural Affairs Committee, Blondell

13

Reynolds Brown. We have a number of

14

other Councilmen who are going to come,

15

but they're en route, and since we're not

16

taking a vote today, this is an

17

informational hearing only, we do not

18

need a quorum. So in the interest of

19

time, we'd like to get started.

20

First I'd like to read the

21

resolution that was authorized for this

22

hearing. This is a resolution

23

authorizing City Council's Committees on

24

the Environment and Parks, Recreation and

25

Cultural Affairs to hold joint hearings

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 to investigate the feasibility of
3 installing sustainable irrigation systems
4 beneath City recreation fields to improve
5 the condition, reduce maintenance and
6 associated costs, and extend the lifespan
7 of the fields.

8 One of the things that
9 motivated this hearing is that -- and
10 it's not a fault of our Recreation
11 Department, because they work very
12 hard -- but a number of our green
13 athletic fields are sometimes in
14 deplorable condition because of the
15 amount of use that they get. We go from
16 football to baseball to soccer and there
17 never seems to be a period of time where
18 the fields are not in use, and despite
19 the best efforts of our Recreation
20 Department and Fairmount Park
21 Commission -- well, I guess they're all
22 the same now -- maintenance crews, they
23 really just can't get ahead of it.

24 We've had a number of fields
25 that we worked on individually in South

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 Philadelphia and a couple other places
3 where we've tried to reseed, get the
4 sprinkler systems fixed and do all the
5 things necessary to make sure that our
6 kids and our adults have the opportunity
7 to play on fields that are commensurate
8 with what the suburbs looks like, because
9 they have, I guess, more money in their
10 budget for those kinds of things.

11 We came across this system that
12 is going to be explained in a PowerPoint
13 at the end of the hearing relative to the
14 retention of rainwater below the surface
15 of the field, which precludes the need
16 for a sprinkler system, which precludes a
17 lot of the maintenance that's necessary.
18 And basically if you look at the amount
19 of water that we've gotten from the sky
20 in the last number of weeks, all that
21 water has runoff. With this system in
22 place -- and once it's explained,
23 hopefully you'll understand it -- is that
24 all of that water or a lot of that water
25 would have been retained underground and

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 leached out over a period of time as the
3 ground dried out. So the material that
4 it's made from is recyclable, the water
5 is natural, the process is sustainable,
6 and you wind up with a field -- and we've
7 seen some fields in Arizona and Southern
8 California, which is rain -- in need of
9 rain a lot -- the field conditions there
10 are just stupendous. One of the fields
11 is a university field in Arizona that
12 gets constant use and it's as green as
13 the Emerald City. It's beautiful.

14 So we want to get started and
15 just have this conversation.

16 I'd like to give the
17 opportunity for Councilwoman Reynolds
18 Brown to say a few words relative to her
19 position.

20 COUNCILWOMAN BROWN: Good
21 morning, and my brief remarks are simply
22 to commend the leadership of the
23 Committee on the Environment for
24 remaining forever vigilant and alert of
25 opportunities where we can honor the

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 Mayor's pledge to make Philadelphia a
3 more sustainable city. This, I believe,
4 is a giant step in that direction, and at
5 the end of the tunnel, it benefits the
6 Rec Department and all citizens who want
7 to use our recreation facilities.

8 So congratulations to the Chair
9 of this Committee for that effort, for
10 the idea and then for the follow-through
11 that comes with the start in a hearing.

12 Thank you, Mr. Chairman.

13 COUNCILMAN KENNEY: Thank you
14 very much.

15 And I'd also like to
16 acknowledge the presence of Councilman
17 Rizzo, who is a member of the Committee.

18 Our first witness is
19 Commissioner Susan Slawson from the
20 Recreation Department.

21 (Witnesses approached witness
22 table.)

23 COUNCILMAN KENNEY: Good
24 morning.

25 COMMISSIONER SLAWSON: Good

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 morning.

3 COUNCILMAN KENNEY: It's a

4 beautiful day, isn't it?

5 COMMISSIONER SLAWSON: It's a

6 beautiful day.

7 COUNCILMAN KENNEY: I love it

8 when the humidity went away. It's

9 stunning.

10 So please identify yourself for

11 the record and proceed.

12 COMMISSIONER SLAWSON: Good

13 morning. I'm Susan Slawson, Recreation

14 Commissioner.

15 COUNCILMAN KENNEY: Please

16 proceed.

17 COMMISSIONER SLAWSON: Good

18 morning, Councilman Kenney. Good

19 morning, Councilwoman Blondell Reynolds

20 Brown and members of the Committee on the

21 Environment and Parks, Recreation and

22 Cultural Affairs. My name is Susan

23 Slawson, Recreation Commissioner for the

24 City of Philadelphia. On behalf of Parks

25 and Recreation Commissioner, Michael

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 DiBerardinis, I am here to testify about
3 the feasibility of installing water
4 irrigation systems beneath our 275 plus
5 athletic fields. Thank you for this
6 opportunity to present our findings.

7 The Recreation Department is
8 responsible for 275 plus athletic fields.
9 Many of them serve youth and adult
10 populations for a variety of athletic
11 activities such as soccer, baseball,
12 softball and football. For an average
13 period of nine months per year, the
14 Department of Recreation Sports and
15 Athletics staff oversees, coordinates and
16 implements 30 programs, events and
17 activities each year, serving over 45,000
18 individuals, encompassing both youth and
19 adult league activity coordinated by
20 Recreation staff and numerous athletic
21 associations.

22 Currently, we have two active
23 irrigation systems beneath our fields.
24 The advisory councils at Fox Chase and
25 Murphy Recreation facilities have

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 installed these systems without City
3 funding. Today's testimony will focus on
4 installation, preventive maintenance and
5 other costs associated with utilizing
6 water irrigation systems for our athletic
7 facilities. The advantages of installing
8 the irrigation systems include providing
9 healthier fields, creating better playing
10 conditions for our users, preventing
11 accidents because of healthier fields,
12 and encouraging more citizens to use the
13 athletic fields because of the improved
14 appearance and the condition.

15 However, there are some
16 operational issues we would need to
17 address, which would include adding
18 additional cycles to the mowing
19 contract - the grass would grow faster
20 because of the irrigation system; having
21 responsibility for repairing and
22 replacing parts of the system once the
23 warranty has expired; monitoring water
24 consumption, which would increase -
25 currently we irrigate two athletic fields

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 that I mentioned; developing a training
3 program for staff who would utilize the
4 irrigation system; and needing additional
5 allocation for operating dollars to
6 support the system.

7 Additional funding would have
8 to be available in order to pay for
9 professional services necessary to
10 complete an assessment of our fields in
11 an effort to analyze the composition.
12 Many of the fields would need to be
13 excavated, filled with soil, aerated and
14 seeded, because some fields are presently
15 filled with mud, clay and cinder
16 materials. If this process is not
17 completed at select locations prior to an
18 irrigation system being installed, we
19 would create unsafe conditions. Those
20 conditions would include puddles of
21 water, which destroys grass, creates mud
22 and may increase the number of accidents
23 caused by slip and falls.

24 We took the opportunity to
25 gather some figures on the average cost

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 to install simple irrigation systems and
3 the costs associated with maintaining the
4 system. According to the Department of
5 Public Property, an average irrigation
6 system would cost approximately \$40,000
7 per field to install. This amount
8 equates to 95 cents per square foot for
9 installation, piping, pumps and sprinkler
10 heads. Therefore, we are estimating
11 costs at \$11 million to install the
12 irrigation system citywide. That's a
13 simple system.

14 COUNCILMAN KENNEY:
15 Commissioner, so you understand, what
16 we're talking about is not -- we're
17 talking about a passive irrigation
18 system. So there would be no need for
19 pumps or for piping. It's the material
20 that's installed that's self-sustaining,
21 and the additional -- and I think what I
22 need the Department to think about as we
23 go forward is the additional savings.
24 And, first of all, we don't have to use
25 treated water to irrigate the fields,

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 because the field would be irrigated by
3 the rainwater that's retained. And I do
4 agree with you relative to mowing,
5 because hopefully the grass will grow as
6 high as possible without being a dust
7 ball. So we will have to cut that on a
8 more regular basis. But I believe -- and
9 we can get more information as the
10 presentation goes on -- that it's really
11 not employee-resource centered. Once
12 it's in, it's pretty passive. Now,
13 granted, the cost of putting it in needs
14 to be weighed against what we do now, but
15 there really won't be any pipes and
16 sprinkler heads and all those things to
17 maintain or replace as we did at Murphy
18 and some of the other places.

19 COMMISSIONER SLAWSON: Right.
20 What I did is, I gave you a simple
21 system, and then I'm going to talk a
22 little bit about the system that you're
23 talking about.

24 COUNCILMAN KENNEY: Thank you
25 very much.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 COMMISSIONER SLAWSON: Okay.

3 So there are additional costs associated
4 with connecting the sprinkler system to
5 the water and sewage system. If a
6 recreation center has the ability to
7 support the system without causing a
8 significant decrease in water pressure
9 throughout the building, the cost,
10 according to the Philadelphia Water
11 Department, to install the meter would be
12 \$3,000.

13 This is the sprinkler system
14 I'm still talking about now.

15 If the building cannot support
16 the system, according to the Philadelphia
17 Water Department and the Department of
18 Public Property, each site will need a
19 two-inch water service line with a meter
20 and backflow prevention system. This
21 would be a one-time installation fee of
22 \$30,000 per field, with a grand total of
23 \$8.2 million systemwide. This does not
24 include the cost of the actual irrigation
25 system.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 In addition, we would assume
3 the responsibility of a monthly fee of
4 \$450. This fee would include stormwater
5 collection and treatment, meter costs,
6 industrial waste control, billing and
7 collecting costs. The estimated total
8 would be 1.5 million solely for the
9 system and does not include water
10 consumption.

11 The cost of water services
12 would depend on the usage of the system
13 and weather conditions. It would also
14 depend on the system's ability to recycle
15 and retain water. We have provided a
16 conservative estimate of \$666 per month
17 per field for water services and have
18 summarized the annualized costs to be
19 about \$1.1 million within a six-month
20 period.

21 Other factors in the cost
22 analysis include winterizing the
23 irrigation system and the preventive
24 maintenance costs to protect our
25 investment. In accordance with Fairmount

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 Park's assessment, their best run
3 irrigation systems cost approximately
4 \$1,500 per field per year with minimal
5 breakdown. If a pump goes down, the
6 charge is about \$3,500 more.

7 Now, the stormwater system that
8 you're talking about, we did a little
9 research on that.

10 Research was conducted
11 regarding the use of a more comprehensive
12 irrigation system including a stormwater
13 management system. This is a stormwater
14 management system that includes a passive
15 irrigation system. Further study
16 indicates that this type of system would
17 be cost effective during new
18 construction, as it requires the field to
19 be excavated, a liner system installed,
20 piping and sand inclusion. Based on our
21 research, the average cost for an
22 irrigation system with the stormwater
23 management feature is about \$5 to \$8 per
24 square foot to install. Our average
25 athletic field is approximately 48,000

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 square feet, a little over one acre. The
3 installation for each field using this
4 type of system could range from \$240,000
5 to about \$384,000 per field.

6 Over the years, we have
7 maintained the baseball diamonds that
8 have the greatest use in each district.
9 Currently, the fields are maintained by
10 internal maintenance staff. Some of the
11 advisory councils assist the Department
12 of Recreation by raising funds to
13 maintain our fields. The Recreation
14 Department maintains a total of 261
15 baseball diamonds. Within the past three
16 years, we have restored an average of 62
17 baseball diamonds on a rotating basis.
18 Our list of restoration duties include
19 cutting the infields, removing
20 vegetation, repairing fence lines and
21 batting cages, and adjusting pitching
22 mounds. The average cost is \$220,000 per
23 season. The cost reflects manpower,
24 equipment, gas consumption and infield
25 mix. If irrigation systems were

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 installed, we would have to reevaluate
3 the cost associated with maintaining the
4 growth of additional vegetation. Based
5 on the weather and usage of the
6 irrigation system, we would have to
7 increase our cycles 75 to 80 percent, as
8 you can see with the weather we've had
9 this summer with all the rain and how the
10 grass has looked a lot better than some
11 past years, to maintain the fields at
12 safe conditions.

13 In conclusion, the Department
14 of Recreation is supportive of exploring
15 and researching the feasibility of having
16 irrigation systems installed beneath our
17 275 plus athletic fields, and at this
18 time, I am here with key members of my
19 staff. Deputy Commissioner Michael
20 Johnson is to my right and Maintenance
21 Director Frank Fabey is to my left. So
22 if you have any questions.

23 COUNCILMAN KENNEY: Thank you
24 very much.

25 I'd also like to acknowledge

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 presence of Councilman Curtis Jones, who
3 is a member of the Committee.

4 COMMISSIONER SLAWSON: Good
5 morning, Councilman Jones.

6 COUNCILMAN KENNEY: What I
7 would like the Department to do is to
8 identify in their mind the ten worst
9 conditions that we have. I recognize
10 there's 261 or so fields and some of them
11 have been rehabilitated already, and I'm
12 not advocating that we start tearing up
13 stuff that we've already done, but the
14 ten dustiest, desolate places that we
15 have that really could use the water.

16 Some of the things that really
17 excite me about this -- and I know
18 there's costs associated with whatever we
19 do, whether we have an active system or a
20 passive system, cutting the grass,
21 maintaining it, it all adds cost, but the
22 one thing that's motivated me in this
23 issue is, sometimes when I attend
24 events -- and, again, your maintenance
25 people are here. You guys do a fabulous

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 job. Whatever we ask you to do, you do
3 to the best of your ability, but the
4 resources just aren't there. And
5 sometimes when I go to attend a football
6 game or a soccer game or a baseball game
7 somewhere and we have now that we're
8 mixing with the suburbs and our kids are
9 playing with the suburban kids, I mean,
10 it's just sometimes depressing to watch a
11 wind gust come by and everybody having to
12 cover up their eyes because the dust from
13 the field is killing them. And our kids
14 go out to the suburbs and play in lush,
15 college-style fields.

16 My goal, in addition to the
17 sustainability, the water management, all
18 that stuff, is to have fields that we all
19 can be proud of in the City as they are
20 in the suburbs or in certain other parts
21 of the City. So that's the first goal.

22 The second goal is trying to
23 balance the cost associated with it.

24 And the third goal for me is
25 this interesting sustainability stuff,

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 where once we put in a system, other than
3 cutting the grass, we really don't have
4 to do anything else to it and that we
5 don't have to pay for processed water to
6 be sprinklered onto the fields, that
7 nature provides that, and also gives us
8 the opportunity to make, as Councilwoman
9 Brown said, a greener city, a city that
10 manages its water resources better, that
11 has a better air environment because
12 we're not -- the supersite that the
13 School District did down in South Philly
14 and the one up in the Northeast are
15 fabulous, but they don't provide really
16 any type of environmental benefit. I
17 mean, it's a wonderful field to play on
18 and it's very maintenance free as far as
19 the grass cutting and stuff, but it
20 doesn't provide that environmental air
21 quality stuff we're looking for also. So
22 that's the long-term goal.

23 So what I want to do is look at
24 maybe the top ten of our biggest
25 offenders and then try to partner with

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 some corporate help, recognizing the
3 City's lack of funds. Maybe there's some
4 corporations in the City that have
5 expressed interest in sustainability and
6 greening that may want to partner with
7 the City on that.

8 So I'm looking to start slow
9 and not rip up anything that we've done
10 in the last three to five years, but kind
11 of look at the bad ones.

12 Councilwoman Brown.

13 COUNCILWOMAN BROWN: Now --

14 COMMISSIONER SLAWSON:

15 Councilman Kenney, would you like for me
16 to get you the list of the ten locations?

17 COUNCILMAN KENNEY: The ones
18 that your staff feel that are the worst.

19 COMMISSIONER SLAWSON: Okay.

20 COUNCILMAN KENNEY: One, for
21 example, that I know is really bad is 5th
22 and Washington Avenue, because it gets so
23 much use. Now, you have an active
24 advisory council there. You have people
25 that are in the neighborhood that are

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 working hard to maintain the pool areas
3 and the area to the west, the park area
4 that's been greened and flowered and all,
5 and then you have the athletic field that
6 gets so much use, from soccer primarily
7 but also from softball and baseball, that
8 it's a brown -- it's a dirt patch. So
9 those kinds of fields would be the ones.

10 COMMISSIONER SLAWSON: I'll
11 make sure I get you that information.

12 COUNCILMAN KENNEY: Thank you
13 very much.

14 Councilwoman Brown.

15 COUNCILWOMAN BROWN: Page 1 of
16 your testimony, last paragraph, you talk
17 about the two athletic fields that you
18 currently irrigate. How long has that
19 process been in place? What prompted
20 that initiative, and what take-away
21 lessons can you pull from this as we move
22 forward to the new effort proposed by
23 Councilman Kenney?

24 MR. FABEY: Councilwoman, Fox
25 Chase was done by the advisory council.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 It's probably only about two and a half
3 to three years old.

4 Murphy is a very antiquated
5 system that we actually, through the
6 Councilman's help, we were given some
7 funding. We brought it back to life, I
8 guess you have to say. We replaced the
9 heads. It's an old galvanized system.
10 It's probably 20 years old. We installed
11 a new pump. We just actually used what
12 was there and --

13 COUNCILWOMAN BROWN: Where is
14 Murphy located?

15 MR. FABEY: Murphy is between
16 3rd and 4th Street on Oregon Avenue.

17 COUNCILWOMAN BROWN: I see.
18 And so what are the takeaways in those
19 experiences that we can use that would be
20 beneficial looking forward?

21 MR. FABEY: It's created a
22 tremendous field. If you go to Fox
23 Chase, it's a well irrigated system. The
24 grass is very green.

25 Murphy, for the amount of play

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 on there this year, has probably looked
3 the best -- I have 35 years with the City
4 of Philadelphia. It's probably looked
5 better than it's ever looked because of
6 the Councilman's help. It does work.
7 It's a very beneficial thing for people
8 to play on. People are very happy with
9 the system. As antiquated as it is, it
10 works very well.

11 COUNCILMAN KENNEY: Let me just
12 one add-on to the Murphy situation,
13 because I was involved in it. Without
14 the staff help there, I mean, none of
15 that -- I mean, the people there were on
16 it all the time. And I know I was a
17 little anal about it, because when I'd
18 drive by and the sprinklers weren't on,
19 I'd run in the office, What's going on?

20 The pump is down, this is
21 happening. But they did stay on it. And
22 one of the problems we actually had --
23 and I think has been corrected before you
24 got here -- they were cutting the grass
25 based on their contractual need to cut

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 the grass regardless of whether the grass
3 needed to be cut or not, because the
4 outside contractor, the day to cut the
5 grass was the day, and even though there
6 was no grass there, I'd chase -- I didn't
7 chase the guy, but I made him stop,
8 because he was actually -- he was cutting
9 dirt, and we were trying to get -- we had
10 just seeded it. We were trying to get
11 the grass to grow.

12 So all that system and
13 scheduling got straightened out, and if
14 you drive by there today, the field is
15 really -- it really makes you feel good
16 to see that green. And I know football
17 season is coming and Mike Michele is
18 going to help us with getting the goal
19 posts up and the Eagles will come and
20 line the field for us and do those kinds
21 of things. So it's all working together
22 that makes it work. But I believe that
23 if we can get these systems installed, we
24 can free up our people to do other things
25 other than maintaining sprinkler systems

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 and replacing pumps.

3 COUNCILWOMAN BROWN: Which goes
4 to my last question. With the Fox Chase
5 experience, are they actually
6 maintaining, paying for the maintenance
7 of that as well?

8 MR. FABEY: Yes. The advisory
9 council pays for everything.

10 COUNCILWOMAN BROWN: Okay,
11 then. Thank you for your testimony.

12 COUNCILMAN KENNEY: Councilman
13 Jones.

14 COUNCILMAN JONES: Thank you,
15 Councilman, and thank you for putting
16 this bill together. It's another step
17 towards green and greening our city, and
18 I applaud you for your efforts.

19 Good morning, Commissioner and
20 respective deputies. I too want to echo
21 how wonderful I think the Recreation
22 Department is. In spite of respective
23 cuts, in spite of these things, our
24 facilities are doing their best and even
25 doing better than just average in some

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 instances, and I see the use at
3 playgrounds like the 21st Ward field or
4 Papa Playground where active leagues are
5 taking advantage of our facilities, and
6 every day it keeps a kid off of the
7 corner from doing bad things.

8 But on the specifics of
9 irrigation, I know the Water Department,
10 because of testimony, is doing a lot of
11 work in rain garden installation and
12 retention pools and things like that.
13 Have we put our heads together,
14 department to department, to try to
15 exchange information as to what some of
16 the best practices are as we start to
17 evolve our green fields concepts?

18 COMMISSIONER SLAWSON: We
19 actually are and we have 11 sites,
20 Councilman Jones, that have already had
21 the water irrigation, the stormwater
22 already installed. We have three sites
23 that are under construction and we
24 have --

25 COUNCILMAN JONES: Can you name

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 them?

3 COMMISSIONER SLAWSON: Yes, I

4 can. The ones that are completed?

5 Whichever.

6 COUNCILMAN JONES: Whichever

7 ones you choose.

8 COMMISSIONER SLAWSON: Okay.

9 47th and Grays Ferry has been completed,
10 Clark Park baseball court, Cliveden Park,
11 Jefferson Square, Waterview Recreation
12 Center, West Mill Creek tree trench, Mill
13 Creek basketball court, Gambrell football
14 field, Herron baseball court, Gambrell
15 basketball courts, Fitzpatrick play area.
16 I can give you a copy of this.

17 COUNCILMAN JONES: If you
18 submit that to the Chair, we all get a
19 copy for the Committee.

20 COMMISSIONER SLAWSON: I'll
21 make sure I submit it to the Chair.

22 COUNCILMAN JONES: I would like
23 to follow up with, how were those sites
24 selected versus the other 200 plus sites?
25 Were they in the greatest need? What was

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 the selection criteria?

3 COMMISSIONER SLAWSON: It has a
4 lot to do with the land that surrounds it
5 and whether or not it can capture the
6 stormwater, the level, where the water
7 actually runs. There's a whole lot of
8 environmental concerns and issues that
9 you have to take into account. And,
10 actually, I believe that I saw Mark Focht
11 walk in. He can probably give you a
12 better --

13 COUNCILMAN JONES: I see him in
14 the back.

15 COMMISSIONER SLAWSON: So
16 that's some of how these sites are
17 decided upon.

18 COUNCILMAN JONES: And in the
19 future, how will they be determined? I
20 think one of the things, worst case
21 first, or is it going to be based on
22 topography or whatever it is you're using
23 by way of selection? What will be your
24 criteria going forward?

25 COMMISSIONER SLAWSON: Well,

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 this isn't just --

3 COUNCILMAN KENNEY: Or one a
4 district?

5 COUNCILMAN JONES: Yeah. I was
6 getting to that. You know me,
7 Mr. Chairman.

8 COMMISSIONER SLAWSON: Yes,
9 sir. This isn't just a decision that the
10 Department of Recreation comes up with.
11 We work in conjunction with the Water
12 Department, who plays a major part in
13 deciding where the stormwater projects
14 are going to be. So we work together
15 with them as well as PHS to make some
16 determination about where we're going to
17 actually have our projects.

18 COUNCILMAN JONES: Now, are you
19 going to go with conversions or are you
20 going to -- how are you going to move
21 forward with this? Because I'm assuming
22 this is cost prohibitive at this point.

23 COMMISSIONER SLAWSON: This
24 from what I understand, if we're talking
25 about the stormwater project for our

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 fields, this is just a feasibility study,
3 not prepared to talk about how we're
4 going forward, because this for me was
5 just research based.

6 COUNCILMAN JONES: And in that
7 research, you will be able to -- over
8 what period of time will you determine
9 whether it's cost effective or not?

10 COMMISSIONER SLAWSON: We have
11 that information. Deputy Commissioner
12 Johnson can give you that information.
13 We've done some research on what it would
14 cost, if you'd like for us to share that.

15 COUNCILMAN JONES: I would love
16 to hear it.

17 DEPUTY COMMISSIONER JOHNSON:
18 We had information --

19 COUNCILMAN KENNEY: Deputy,
20 could you please just identify yourself
21 for the record.

22 DEPUTY COMMISSIONER JOHNSON:
23 Michael Johnson, Deputy Commissioner for
24 Operations.

25 What we looked at was the

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 annualized costs associated with both the
3 passive and a simple irrigation system.

4 We also looked at the initial
5 installation cost, and there's also costs
6 associated with the water and sewer
7 connection fees associated with the
8 simple system. So we got all that laid
9 out in a spreadsheet, and I'd be more
10 than willing to share that information.

11 COUNCILMAN KENNEY: Now,
12 there's a cost associated with what we
13 currently do, not what we might do?

14 DEPUTY COMMISSIONER JOHNSON:
15 Well, we got both. We have one with the
16 simple irrigation system and we also did
17 some research --

18 COUNCILMAN KENNEY: When you
19 say "simple," do you mean sustainable or
20 do you mean a regular sprinkler system?

21 DEPUTY COMMISSIONER JOHNSON:
22 Just a regular sprinkler system, and then
23 we also looked at the passive irrigation
24 system with the stormwater feature
25 attached to it.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 COUNCILMAN KENNEY: But that
3 does not include a need for sewer
4 connection and those kinds of things?

5 DEPUTY COMMISSIONER JOHNSON:
6 Yes.

7 COUNCILMAN KENNEY: It does or
8 it does not?

9 DEPUTY COMMISSIONER JOHNSON:
10 I'm sorry. It does not, yes.

11 So basically the price that we
12 got was somewhere around \$5 to \$8 per
13 square feet, and our average athletic
14 facility is about 47,000 square feet.

15 COUNCILMAN JONES: My final
16 question is, in the case of like
17 Windemere, we are putting in a passive
18 walking track. We're working with your
19 department and your consultants to do
20 that. In the specs of that passive walk,
21 is this included in that?

22 DEPUTY COMMISSIONER JOHNSON:
23 No.

24 COUNCILMAN JONES: Have we
25 given thought to that? And will you be

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 working with Councilpeople that are
3 trying to do these kinds of improvements
4 to recommend that in the future?

5 COMMISSIONER SLAWSON: This is
6 something that we can talk about when
7 these projects come up, because we do
8 work closely when we're talking about
9 doing projects in the various districts.
10 It definitely can be part of the
11 conversation in the future.

12 COUNCILMAN JONES: So are we
13 going to wait until the results of this
14 research and development or have we made
15 a decision that this is the way we're
16 going? Or where are we in the process?

17 COMMISSIONER SLAWSON: We are
18 not making a decision today about whether
19 or not this is going to be a practice
20 that we're going to embark on.

21 COUNCILMAN JONES: And,
22 finally, for a project like Windemere and
23 that passive, what would be the
24 difference in cost in maintenance if we
25 go with it or don't go with it? Can you

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 give a ball park estimate annually?

3 DEPUTY COMMISSIONER JOHNSON: A

4 simple irrigation system with the

5 installation, with the water and the

6 sewer connection is about 70,000 to

7 install. If you go with the passive

8 irrigation system with the stormwater

9 management feature, you're talking about

10 \$270,000 to install. Then when you look

11 at the annualized costs with the simple

12 system, it's about 11,000 on an

13 annualized basis for the connection fees,

14 the preventive maintenance and also a

15 conservative cost for water. So I don't

16 have fees yet for the passive system, but

17 that's what the regular irrigation system

18 cost would be.

19 COUNCILMAN KENNEY: I don't

20 know if there would be any fees.

21 DEPUTY COMMISSIONER JOHNSON:

22 It will.

23 COUNCILMAN KENNEY: On the

24 passive side.

25 DEPUTY COMMISSIONER JOHNSON:

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 On the passive side, I'm not sure. On
3 the simple irrigation side, it's about
4 \$11,000 a year.

5 COUNCILMAN KENNEY: Right.

6 COUNCILMAN JONES: Thank you,
7 Mr. Chairman.

8 COUNCILMAN KENNEY: Thank you.

9 I would suspect, from what I've
10 been able to gather from the research
11 we've been doing, is that once it's in,
12 there's no connections. It's in. And
13 because it's a recycled material, its
14 lifespan is undeterminable at this point.

15 So in your analyses, if you can
16 determine that there are annualized fees
17 on the passive, please include them, but
18 if they're not, then we've got to make
19 sure we make it clear that there aren't
20 any annualized fees.

21 DEPUTY COMMISSIONER JOHNSON:
22 Okay.

23 COUNCILMAN KENNEY: I'd like to
24 acknowledge the presence of Councilwoman
25 Miller and recognize her for a question.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 COUNCILWOMAN MILLER: Hi. Good
3 morning.

4 COMMISSIONER SLAWSON: Good
5 morning.

6 COUNCILWOMAN MILLER: On the
7 first page of your testimony, one of the
8 things that you talk about is the costs
9 associated with maintaining the system,
10 repairing and replacing once the warranty
11 has expired. How long is the average
12 warranty; do you know?

13 DEPUTY COMMISSIONER JOHNSON:
14 One year, parts and labor.

15 COUNCILWOMAN MILLER: Oh, one
16 year, okay.

17 And the other thing I was
18 wondering, would this project -- could
19 this project be funded, since it's green,
20 under stimulus dollars? Have you looked
21 into that?

22 COMMISSIONER SLAWSON: That's
23 something we have not looked into, but I
24 would imagine that since this is greening
25 and we're trying to green Philadelphia,

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 we would definitely look into building
3 that in to a stimulus package.

4 COUNCILWOMAN MILLER: Okay.

5 All right. Thank you.

6 Thank you, Mr. Chair.

7 COUNCILMAN KENNEY: Thank you.

8 And I also suspect that
9 whatever congressional representation in
10 each district would be the Congress --
11 and I guess there's no -- oh, Allyson
12 Schwartz. The Congress members would be
13 interested in trying to maybe help us
14 access some of that stimulus dollars for
15 fields that happen to be in their
16 district.

17 So the other issue, so
18 Councilwoman Miller raised the issue of
19 maintenance on sprinkler heads and
20 things, sadly we still have our problems
21 relative to access to the field in the
22 evening hours and you'll have
23 irresponsible people who will decide to
24 go on to one of our fields with a
25 four-wheel, take out some sprinkler

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 heads, cause some damage, and that's an
3 ongoing problem. And with a passive
4 system, I don't want them riding on it
5 either, but they're going to do less
6 damage than they would do if they were
7 knocking sprinkler heads over.

8 Any other questions for this
9 panel?

10 (No response.)

11 COUNCILMAN KENNEY: Thank you
12 very much.

13 COMMISSIONER SLAWSON: Thank
14 you.

15 COUNCILMAN KENNEY: And you
16 looked great on the field the other
17 night.

18 DEPUTY COMMISSIONER JOHNSON:
19 Say again.

20 COUNCILMAN KENNEY: You looked
21 great on the Linc field the other night.
22 That was you, wasn't it? I was waving to
23 you, but you couldn't see me.

24 DEPUTY COMMISSIONER JOHNSON:
25 Was I really up there?

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 COUNCILMAN KENNEY: You were
3 out there, weren't you?

4 DEPUTY COMMISSIONER JOHNSON:
5 Playing?

6 COUNCILMAN KENNEY: Were you
7 out there at the Eagles game?

8 DEPUTY COMMISSIONER JOHNSON:
9 Not on the field.

10 COUNCILMAN KENNEY: I thought
11 you did something before the game.
12 That's why you didn't wave back, it
13 wasn't you.

14 (Laughter.)

15 COUNCILMAN KENNEY: Thank you
16 very much.

17 COMMISSIONER SLAWSON: Thank
18 you very much.

19 COUNCILMAN KENNEY: The next
20 witnesses are Christine Marjoram and
21 Christopher Crockett from the Water
22 Department.

23 (Witnesses approached witness
24 table.)

25 COUNCILMAN KENNEY: Good

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 morning. Please identify yourself for
3 the record and proceed.

4 DR. CROCKETT: Good morning,
5 Councilman Kenney. My name is Dr. Chris
6 Crockett. I'm the Director of Planning
7 and Research for the Philadelphia Water
8 Department. I'm here to testify on
9 behalf of Commissioner Bernard Brunwasser
10 for the Water Department, and this is my
11 colleague.

12 MS. MARJORAM: Good morning,
13 Councilman.

14 COUNCILMAN KENNEY: Good
15 morning.

16 MS. MARJORAM: My name is
17 Christine Marjoram. I work for the
18 Philadelphia Water Department, Planning
19 and Research. I'm the Manager of the
20 Stormwater Management and Planner Review
21 Group.

22 COUNCILMAN KENNEY: Great.
23 Please proceed.

24 DR. CROCKETT: Good morning,
25 Councilman Kenney and members of the

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 Committees on the Environment and Parks,
3 Recreation and Cultural Affairs. My name
4 is Dr. Christopher Crockett, Director of
5 Planning and Research for the
6 Philadelphia Water Department. I am here
7 on behalf of the Philadelphia Water
8 Department Commissioner, Bernard
9 Brunwasser, to testify about sustainable
10 approaches for water irrigation systems
11 at recreation center properties. Thank
12 you for this opportunity to present our
13 information.

14 The Philadelphia Water
15 Department is responsible for providing
16 safe drinking water, treating the
17 wastewater, and managing the stormwater
18 runoff from the City. PWD is always
19 interested in new approaches and
20 technologies to help make our job more
21 cost effective, easier and better for the
22 environment. As the steward of the
23 City's streams and rivers, we've taken an
24 aggressive long term approach to
25 improving the health of our streams and

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 rivers by developing watershed plans,
3 increasing the stringency of our
4 stormwater regulations for development,
5 piloting new technologies to manage the
6 stormwater, partnering with agencies like
7 the Rec Department on new approaches, and
8 examining new ways to bill for stormwater
9 based on impervious area.

10 Since Philadelphia is an old
11 city -- and I'm sure Councilman Jones
12 from the hearing this spring is familiar
13 with all this now -- approximately 60
14 percent of the City's system is a
15 combined system. This means that the
16 stormwater and sanitary waste are
17 combined in the same pipe. Though at the
18 time the combined system provided health
19 benefits to the citizens of Philadelphia,
20 it now creates impacts on our streams and
21 rivers. Every year approximately 17
22 billion gallons of combined sewer
23 overflows discharge sewage into our local
24 streams and rivers. PWD is embarking on
25 a significant effort to reduce and

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 eliminate these overflows over the next
3 20 years, and every effort counts. We
4 believe that efforts for irrigation of
5 the City's recreational centers need to
6 consider ways it can complement our need
7 for stormwater management into a more
8 overall sustainable approach for the
9 City.

10 According to our records and
11 just briefly looking at the information
12 we have, the recreational centers make up
13 roughly 1.4 square miles of the City,
14 with roughly a third of a square mile of
15 impervious area. These areas potentially
16 contribute 32 million cubic feet or 239
17 million gallons of runoff per year to the
18 City's storm sewer system and combined
19 system and represent an opportunity for
20 management.

21 If we took that 239 million
22 gallons, to give you a visualization, and
23 we took the block of City Hall, dumped it
24 into it, it would make the block of City
25 Hall about 111 feet tall of water. So

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 we'd be 111 feet under the water here.

3 The capture and reuse of
4 stormwater runoff can be used as a
5 sustainable irrigation practice. As I
6 mentioned, there's a lot of water there.

7 Rainwater harvesting tanks can be
8 designed to accept runoff from impervious
9 surfaces on a site, such as roof,
10 pavement, et cetera, and store the runoff
11 for irrigation purposes. Linking this
12 concept to meeting our Stormwater
13 Management water quality requirement
14 would require a recreational center to
15 infiltrate or use the first inch of
16 runoff from all directly connected
17 impervious areas, where feasible, on
18 site. The potential for combining an
19 irrigation system into a dual-purpose
20 stormwater management system that manages
21 that first inch of runoff could be
22 beneficial for a number of reasons to the
23 City.

24 First, it reduces runoff that
25 could lead to combined sewer overflows

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 into local streams and rivers.

3 Second, it reduces the water
4 and wastewater usage and charges by using
5 stormwater instead of potable water for
6 irrigation.

7 And, third, if the dual
8 irrigation stormwater system manages that
9 first inch of runoff as described above,
10 there is potential for some partial
11 credit on the future stormwater bills for
12 those properties.

13 As an example of how a
14 recreational center can manage stormwater
15 is the planned management system for the
16 Simons Recreational Center. The Simons
17 Recreational Center project utilized rain
18 gardens and impervious disconnections to
19 get credits for its water quality
20 requirement. Through this approach, the
21 site can potentially receive six percent
22 off their impervious area bill, as well
23 as another 20 percent off their gross
24 area bill. Overall, this can result in a
25 14 percent reduction for that site's

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 stormwater charges. Now, imagine that if
3 that was citywide for all those centers.

4 In summary, the Philadelphia
5 Water Department is a willing partner to
6 examine looking at all sustainable ways
7 to combine stormwater management with
8 irrigation of the City's recreational
9 centers. We look forward to working with
10 City Council, the Mayor, all City
11 agencies and our customers to utilizing
12 the most sustainable practices to manage
13 stormwater and conserve our precious
14 drinking water.

15 Thank you.

16 COUNCILMAN KENNEY: Thank you
17 very much for your testimony.

18 Do you have anything to add or
19 you're here for questions?

20 MS. MARJORAM: Questions.

21 COUNCILMAN KENNEY: One of the
22 things I would like to come out of this
23 hearing -- and I know that you're doing
24 it. I don't know whether it's a formal
25 basis or not, but continuing cooperation

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 between Park, Rec and Water relative to
3 what your goals are in stormwater
4 management and what our needs are in
5 passive irrigation. Because I do think
6 that they're a perfect marriage for lots
7 of reasons, because we have the open
8 space, it needs the water to create a
9 better condition there, and we have our
10 statutory requirements to meet when it
11 comes to stormwater management. So I
12 think that having some type of formal
13 working group, if it doesn't exist
14 already, would be really a great thing,
15 and I'm going to probably ask the Mayor
16 to potentially to look at that as an
17 ongoing effort where we can get credits,
18 reduce our costs and improve our
19 conditions, and have a system that is low
20 maintenance or no maintenance, I mean, I
21 think is the best of all worlds. So I
22 would ask that you guys think about how
23 you would do that.

24 Any questions from any members
25 of the Committee?

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 (No response.)

3 COUNCILMAN KENNEY: Thank you
4 very much for your testimony.

5 DR. CROCKETT: Thank you.

6 COUNCILMAN KENNEY: Katherine
7 Gajewski, Director of Sustainability.

8 (Witness approached witness
9 table.)

10 COUNCILMAN KENNEY: Please
11 identify yourself for the record.

12 MS. GAJEWSKI: Good morning.

13 Katherine Gajewski, Director of the
14 Mayor's Office of Sustainability.

15 Councilman, just a point of
16 clarification, that was Deputy
17 Commissioner Carlton Williams you saw on
18 the field the other day.

19 COUNCILMAN KENNEY: I'm sorry.
20 Kind of like --

21 MS. GAJEWSKI: Being recognized
22 for the recycling efforts.

23 COUNCILMAN KENNEY: I knew it
24 was a deputy commissioner of one of our
25 departments. I'm sorry.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 Please identify yourself.

3 MS. GAJEWSKI: Good morning,
4 Councilman Kenney and members of the
5 Committees on the Environment and Parks,
6 Recreation and Cultural Affairs. My name
7 is Katherine Gajewski, Director of the
8 Mayor's Office of Sustainability.

9 The Mayor's Office of
10 Sustainability is charged with overseeing
11 the implementation of Greenworks
12 Philadelphia, the City's sustainability
13 plan. Greenworks considers
14 sustainability through five lenses:
15 energy, environment, equity, economy and
16 engagement. Stemming forth from these
17 five categories, the plan is organized
18 around 15 measurable targets and 169
19 specific initiatives designed to help
20 Philadelphia reach its core targets by
21 the year 2015. It is a plan that is
22 ultimately as ambitious as it is
23 comprehensive and will rely heavily on
24 active participation and partnerships
25 across government, as you were just

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 mentioning, Councilman Kenney, and beyond
3 as we work towards making Philadelphia
4 the greenest city in the country.

5 The concept of installing
6 sustainable irrigation systems at our
7 city's athletic fields directly relates
8 to Greenworks in two areas: First,
9 Target 8, which is to manage stormwater
10 to meet federal standards and, secondly,
11 Target 9, which lays out a plan to
12 provide park and recreation resources
13 within ten minutes of 75 percent of City
14 residents.

15 Target 8 of Greenworks states a
16 commitment to managing stormwater to meet
17 federal standards. As Chris Crockett
18 noted, green infrastructure solutions are
19 emerging as a way for the City to manage
20 stormwater. The Philadelphia Water
21 Department has become a national leader
22 in this regard, today submitting the
23 country's first stormwater management
24 plan to the EPA. Representing
25 significant open space assets, our 275

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 plus athletic fields as undeveloped,
3 pervious land can play an important role
4 in capturing the critical first inch of
5 runoff after a rain event. However, in
6 order to maximize their health, quality
7 and longevity, the fields ideally need to
8 be watered and maintained between natural
9 rain events. A sustainable irrigation
10 system would not only help to care for
11 the fields but could also serve a
12 secondary purpose of capturing runoff
13 from adjacent impervious surfaces to be
14 stored and then later applied to the
15 fields.

16 In addition to helping
17 stormwater management, these fields
18 provide neighborhood green spaces and
19 recreational amenities. Philadelphia is
20 clearly a city that values its open
21 spaces. Greenworks addresses the issues
22 of equitable distribution and access and
23 sets a goal of having all residents live
24 within a half mile of public parks and
25 recreation areas, which equals to about a

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 ten-minute walk, by the year 2025. In
3 order to do this, we will ultimately need
4 to create 500 acres of new space within
5 the next seven years. These new green
6 areas will come in many shapes and forms,
7 from reclaimed water spaces to pocket
8 parks. However, as we look to create and
9 plan for these new public lands, the
10 challenge will be to ensure that the
11 City's already existing parks and
12 recreation areas are well maintained.

13 As Commissioner Slawson
14 mentioned, given these challenging fiscal
15 times in particular, this is no easy
16 task, but it does not mean that we should
17 abandon efforts to explore the potential
18 feasibility of an irrigation system that
19 would both improve the quality of our
20 athletic fields while also setting them
21 up to serve as basins in our stormwater
22 management plan. As such, the Mayor's
23 Office of Sustainability is willing to
24 assist, as needed, in further
25 investigating the benefits of such a

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 system.

3 COUNCILMAN KENNEY: Is that the
4 end of your testimony?

5 MS. GAJEWSKI: Mm-hmm.

6 COUNCILMAN KENNEY: Thank you
7 very much.

8 Any questions for this witness?

9 Councilwoman Brown.

10 COUNCILWOMAN BROWN: Good
11 morning.

12 MS. GAJEWSKI: Good morning.

13 COUNCILWOMAN BROWN: When I
14 listen to testimony from various
15 departments and different entities in the
16 City, PHA, City of Philadelphia, School
17 District and the like, I'm always anxious
18 to discover where we might do
19 across-the-lines opportunities. And so
20 what comes to mind now is the School
21 District and the City of Philadelphia
22 with regards to this initiative. So as
23 we look forward, I guess my question is,
24 it may behoove us in these tough economic
25 times to look to see where we can

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 minimize dollars by sharing efforts. So
3 I'm curious to know -- and at some point
4 we may find out -- is the School District
5 doing this any place already? Are there
6 opportunities for the School District and
7 Rec to work together? Are there places
8 in the City where you have a School
9 District field and a Rec field in close
10 proximity where it makes sense to have
11 that activity?

12 So I just put that out there in
13 your new role when opportunities arise
14 for us to remember to look to see where
15 we might have some alliance activity.

16 MS. GAJEWSKI: Yeah, and in
17 response to that, one benefit of having a
18 really detailed comprehensive plan like
19 this is, it creates a good framework and
20 a good roadmap to start working off of.
21 And what I'm doing now with this is
22 really kind of taking the structure of
23 these 15 targets and then the initiatives
24 underneath them and starting to map out
25 in each target area -- so the stormwater

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 aspect being one of them, the recreation
3 being another -- starting to map out,
4 starting with City government, what the
5 lead department is, what the partnering
6 departments is outside of City
7 government, who our external stakeholder
8 partners are, other agencies, including
9 the School District, who touch on it, and
10 starting to really map out target by
11 target who touches it and then to
12 formalize these working groups, which I'm
13 calling project teams right now, that
14 we're going to bring together to really
15 encourage that collaboration, especially
16 so that we're sharing expertise, we're
17 sharing resources and we're doing a
18 coordinated plan, especially as it
19 relates to something as citywide and as
20 elaborate as our stormwater management
21 plan. I think those interconnections and
22 relationships are really key.

23 So we'll be looking to come to
24 Council in the next couple of weeks to
25 show you what we think of is this kind of

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 strategy and organizing structure around
3 the Greenworks plan.

4 COUNCILWOMAN BROWN: Very good.
5 Thank you.

6 MS. GAJEWSKI: Thank you.

7 COUNCILWOMAN BROWN: Thank you,
8 Mr. Chairman.

9 COUNCILMAN KENNEY: Councilman
10 Jones.

11 COUNCILMAN JONES: That was an
12 excellent point made by Councilwoman
13 Reynolds Brown, but before you leave,
14 before you go --

15 (Ms. Gajewski leaving witness
16 table.)

17 MS. GAJEWSKI: Sorry.

18 COUNCILMAN JONES: One of the
19 things that I would encourage all of our
20 departments green is the entrance to
21 cooperation, but it is not really the
22 final room. If we start working
23 together, one of the things that I was
24 encouraged by the Mayor in his campaign
25 platform in doing was coordinating

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 facilities management as a whole to kind
3 of look at neighborhoods and resources
4 within neighborhoods, whether it's ball
5 fields or athletic facilities, no matter
6 who owns them, in the realm of
7 government, quasi-government and kind of
8 looking at them as a neighborhood asset
9 as opposed to the individual silos in
10 which they're housed, and in so, we might
11 be able to have cost savings on
12 procurement, on environmental issues and
13 things alike.

14 So this is the kind of thing
15 this Council is going to give good grades
16 for, because if we can think about it in
17 the green sense, we can think about it in
18 a procurement sense, we can think about
19 it in capital purchases and improvement
20 sense, and I think we'll all be a lot
21 better off, neighborhoods and government,
22 and our bottom lines by doing that. So
23 let green be the first one, but we can
24 look at some other areas where we can
25 obviously cooperate in.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 MS. GAJEWSKI: I think those
3 conversations are starting to take place
4 in a really meaningful way, so we look
5 forward to continuing those.

6 COUNCILMAN JONES: Budget
7 deficits tend to do that.

8 MS. GAJEWSKI: I know. People
9 start working together.

10 COUNCILMAN JONES: Imagine
11 that.

12 COUNCILMAN KENNEY:
13 Councilwoman Miller.

14 COUNCILWOMAN MILLER: Good
15 morning. How are you?

16 MS. GAJEWSKI: Good morning.

17 COUNCILWOMAN MILLER: I guess
18 what caught my attention in your
19 testimony is this Greenworks, that you
20 have a goal, by 2025 to have people be
21 able to walk to an open space within ten
22 minutes, to create 500 acres of new open
23 space. I guess I'd like to hear about
24 that further later, not this morning, but
25 I don't know that we as Councilmembers

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 are up to date on what you're actually
3 doing in regards to this Greenworks plan,
4 and I'd be very interested in talking to
5 you at some point, because I actually
6 want to know where you're going to get
7 the money from, where you're going to
8 find the acreage. It kind of baffles me
9 right about now.

10 MS. GAJEWSKI: And speaking to
11 that -- well, I'll start out by saying
12 that we're planning -- we're working at
13 the staff level to plan some briefings
14 into the fall so that I can kind of
15 introduce myself and my plan to all of
16 you.

17 But specific to that, just to
18 make note that Greenworks, we call it a
19 living document. So this is our starting
20 point. This is not set in stone. We're
21 going to take our goals here very
22 seriously and our bottom line, but a lot
23 of the initiatives will be tweaked over
24 time. So that's -- this is a very
25 aspirational document, but we want to

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 shoot high and shoot big. So that goal
3 in particular ties into what will become
4 our comprehensive planning process that
5 will launch, I think, this fall going
6 through the next year. So a lot of
7 what's in Greenworks is also in other
8 places, like the zoning code process and
9 like the comprehensive planning process.
10 So we'll be looking to have a fuller
11 conversation over time about especially
12 some of these longer term goals that are
13 mentioned in Greenworks.

14 COUNCILWOMAN MILLER: Okay.

15 And I'm going to ask you the same
16 question I asked the Commissioner,
17 Commissioner Slawson, about this whole
18 irrigation system being funded through
19 stimulus dollars. So you guys got to
20 keep that in mind if we're going to do
21 this.

22 MS. GAJEWSKI: And I don't know
23 of a particular recovery funding source
24 that would -- I haven't seen one that
25 would be applicable. The details of all

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 of the application streams are generally
3 pretty strict and narrow. I haven't come
4 across an open funding opportunity that
5 would relate to this area, but I'll
6 certainly keep my eyes open in case
7 there's any new programs that open up in
8 this regard.

9 COUNCILWOMAN MILLER: These
10 types of projects are shovel ready. So
11 just keep it in mind.

12 MS. GAJEWSKI: Will do. Thank
13 you.

14 COUNCILMAN KENNEY:
15 Councilmember Jones.

16 COUNCILMAN JONES: Real quick.
17 One of the questions I get most often
18 from the public about these kinds of
19 fields but also rain gardens and others,
20 are they using a specific type of
21 vegetation? Is that vegetation -- what's
22 the maintenance level of that vegetation?
23 And the third part of it is, is there an
24 increase in insects, particularly
25 mosquitoes?

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 MS. GAJEWSKI: Well, my
3 colleagues at Rec and Water can probably
4 speak to this in a more detailed way. I
5 know that a lot of issues around
6 mosquitoes in particular is standing
7 water at the fields, which would be
8 resolved by having more grass coverage,
9 which kind of gets to the core of what
10 we're talking about today. I know that
11 there are some grass varieties that are
12 able to retain moisture and are able to
13 withstand heat on the other end in a more
14 ready fashion.

15 I don't know if you guys are
16 planting specific types of grasses at the
17 fields, but --

18 COUNCILMAN JONES: It won't be
19 necessary for me to hear it now, but if
20 you submit it to the Chair and get it to
21 us, that would be helpful, because often
22 in community meetings as we start talking
23 about this exciting rain garden, those
24 are the questions I get.

25 COUNCILWOMAN BROWN:

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 Mr. Chairman, I'd like to take this maybe
3 a step further and formally put on the
4 record that Chairman Kenney and myself as
5 Chair of this Committee will formally
6 convene Councilmembers for a briefing on
7 the Greenworks initiative.

8 MS. GAJEWSKI: That would be
9 great.

10 COUNCILWOMAN BROWN: Thank you.

11 MS. GAJEWSKI: Thank you.

12 COUNCILMAN KENNEY: Thank you
13 very much for your testimony.

14 MS. GAJEWSKI: Thank you.

15 COUNCILMAN KENNEY: Dr. Robert
16 Traver.

17 (Witness approached witness
18 table.)

19 DR. TRAVER: Hello.

20 COUNCILMAN KENNEY: Good
21 morning. Thanks for coming in. Please
22 identify yourself for the record.

23 DR. TRAVER: Thank you for the
24 invitation. I'm Professor Robert Traver
25 at Villanova University. I'm a professor

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 in civil and environmental engineering
3 and Director of the Villanova Urban
4 Stormwater Partnership, and I get
5 mosquito questions all the time, so I'd
6 be glad to help you with that a little
7 bit.

8 I appreciate being invited here
9 today, because this is our mission. I
10 mean, you're taking a problem and turning
11 it into an innovative solution, which we
12 really like. One of the hardest things
13 about the excess volume we get from
14 rainwater is frankly getting rid of it,
15 and here you got a possibility of use,
16 and I think that's a great thing.

17 What we're doing at Villanova,
18 we've been looking at porous concrete and
19 porous asphalts and wetlands and green
20 roofs. Bio-infiltration sites we've been
21 studying about seven or eight years, and
22 this fall we're going to be putting in a
23 lot of rain barrels and disconnecting
24 rooftops with stimulus funding through
25 the Pennvest program. My

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 understanding -- I'm not an expert on
3 that program, but my understanding is,
4 there is supplemental funding coming
5 through that, and if you want, I can try
6 to get the contacts that I have on that
7 for you.

8 Basically when you're
9 dealing -- if you go to the next slide,
10 please, really quick, I wasn't aware of
11 the systems that you were looking at
12 before coming here today, but when you're
13 looking at irrigation, first of all, you
14 have to worry about getting the water, do
15 you have enough water and the sources.
16 You do have to worry about storage,
17 because sometimes -- not this year, but
18 sometimes it just doesn't rain and you
19 have to tide over those particular
20 periods.

21 Energy is an issue. If it's
22 sustainability, you have to look at
23 everything, as you were pointing out
24 several times today. And you also need
25 to include the benefit, as talked about

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 earlier in the stormwater reduction in
3 the CSO program. You have to really take
4 a look at all aspects if you're really
5 going to evaluate these type of systems.

6 I've tried to pick examples as
7 far away from Philadelphia as I could,
8 just so I wouldn't get into any trouble
9 of any further speakers. The bottom
10 right is a Starbucks I visited in Austin,
11 Texas where they're capturing runoff.

12 The one on the upper right I
13 like is because that is a high school and
14 that is used for an irrigation system,
15 and the thought process here is, why do
16 you have a tank skinny and tall. Because
17 maybe that's going to reduce any pumping
18 you would have to do. It might not
19 eliminate it, but for an example, as you
20 were talking about partnerships, if you
21 had a corporation building a high rise
22 across the street, build that into the
23 plan. You can have a passive system with
24 sprinkler heads without using any pumps
25 or maybe some minor alterations.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 The bottom left one was the
3 underground system. That is an example
4 from Australia. And basically it's --
5 I'm not familiar with the other one
6 you're going to be talking about today,
7 but that's just a holding tank
8 underground that could be put under
9 porous concrete, porous asphalt. A lot
10 of different systems. Or something like
11 this could augment if you don't have
12 enough rainwater flow in the system that
13 you're looking at today.

14 Obviously we know rainwater --
15 everybody knows, when you pave, you got a
16 lot more runoff, and so one of the ideas
17 behind the Philadelphia's one inch
18 ordinance or stormwater regulations is
19 you're really trying to make it look more
20 like a woods. So basically just to give
21 you a flavor of this a little bit, in a
22 woods if you have an inch of rain, you
23 have really no runoff. So this is kind
24 of following this same concept.

25 From Chadds Ford looking at 53

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 years of record at Chadds Ford, for an
3 example, generally you're only going to
4 get about 12 inches, except for this
5 year, of storm events greater than one
6 inch. You really don't have that many
7 large storms in the Philadelphia region.
8 You have a lot of small storms. So it
9 really makes us perfect for the green
10 roofs and this type of infrastructure.

11 In fact, using the next slide,
12 if we take a look at from the Water
13 Department data -- they gave this to me a
14 couple years ago -- if I look at -- I
15 know, I keep away from grass. But if I
16 look at capturing one inch from every
17 storm that happens in Philadelphia,
18 you're getting about 80 percent of the
19 rain in a year. So that's pretty
20 powerful for using some kind of
21 irrigation system like this.

22 You got a lot of different
23 possibilities, and so there's a lot of
24 possibilities. You can collect extra
25 runoff from the grass, but really your

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 best bang for the buck is rooftops or
3 pavements. And the nice things about
4 rooftops we found at Villanova, they're
5 pretty clean. Our maintenance systems we
6 found -- we don't really have irrigation
7 yet. Ask me in six months we'll have it,
8 but, I mean, right now for rain gardens
9 and our porous concrete and porous
10 asphalt, we have very, very little
11 maintenance. In fact, the green systems
12 have a lot less maintenance than the
13 hardscape type systems we've been
14 finding. We've tried to follow the
15 maintenance programs of the rest of
16 Pennsylvania, which is very little in the
17 stormwater areas.

18 So really that's all I had,
19 except if you had any questions.

20 Mosquitoes, frankly, I think you're going
21 to find a lot more mosquitoes in mud
22 puddles on clay fields than you're going
23 to have in an active system where birds
24 and all the other stuff gobbling it up.
25 Mosquito larvae, I've been told, take

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 about seven days, I believe, to hatch.

3 So I would worry more about all the water
4 in the bottom of the inlets and in mud
5 puddles than I would in the grass system
6 that's designed to -- the root systems
7 keep them pretty active so you don't have
8 as much of a problem with that.

9 COUNCILMAN KENNEY: Thank you
10 very much for coming in and for your
11 testimony, and what we'd like to do is
12 make a request that we could maybe reach
13 out to you in the future.

14 DR. TRAVER: Any time.

15 COUNCILMAN KENNEY: Villanova
16 has been a wonderful institution in our
17 region and we would love to have you kind
18 of just help us along, sharing
19 information and what your experiences
20 have been and kind of helping us get to
21 where we want to be.

22 DR. TRAVER: It would be our
23 pleasure.

24 COUNCILMAN KENNEY: Great.
25 Thank you very much.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 Any questions for the doc?

3 (No response.)

4 COUNCILMAN KENNEY: Thank you
5 very much.

6 DR. TRAVER: Thank you.

7 COUNCILMAN KENNEY: Our last
8 witness is Mark Apfelbacher. Is he here?

9 MR. APFELBACHER: Yes.

10 COUNCILMAN KENNEY: Oh, I'm
11 sorry.

12 (Witness approached witness
13 table.)

14 COUNCILMAN KENNEY: Good
15 morning. Please identify yourself for
16 the record.

17 MR. APFELBACHER: I'm Mark
18 Apfelbacher, Director of Sustainability
19 for Solution Blue.

20 COUNCILMAN KENNEY: And let me
21 just frame the testimony. We had
22 Dr. Traver to talk about some of the
23 systems that they are experienced with
24 and some of the things that he has seen,
25 and we have Mark here to talk about

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 another possible solution.

3 There's not one solution to
4 this problem. There's all types of
5 different opportunities and different
6 iterations of what we can do to help us
7 get where we want to be, but this was one
8 that was extremely interesting to me and
9 I wanted to give the opportunity for the
10 Committee and for the people in
11 attendance to hear it.

12 So please proceed with your
13 testimony.

14 MR. APFELBACHER: Sure. Thank
15 you, Councilman. I appreciate it a lot.

16 COUNCILMAN KENNEY: Pull that
17 microphone close to you. Thank you.

18 MR. APFELBACHER: Thank you for
19 the opportunity to present our different
20 technologies and how we work. I just
21 wanted to start out just giving a brief
22 introduction as to what we do at Solution
23 Blue. I provide sustainable solutions
24 for development. I've been working for
25 the last 11 years in the public, private

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 and non-profit sectors dealing with water
3 management and site design.

4 I'm going to go through some of
5 the innovative technologies, park and
6 recreation field capabilities, touch a
7 little bit on LEED credit contributions,
8 as well as long-term park benefits using
9 some of these technologies.

10 So really what we deal with is
11 cost-effective solutions for water
12 management, infrastructure development
13 and environmental process. I'm glad you
14 guys touched on the different issues with
15 interactions between crossing silos of
16 the different camps who we have here in
17 the great City of Philadelphia. So we
18 really offer different resolutions for
19 design and opportunities with those.

20 I've been working -- I hail
21 from Minnesota. So I can drop into my
22 accent pretty quickly, if you'd like
23 that, but I also work in the UAE in a
24 variety of different places where it's
25 very hot. I currently work on a variety

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 of projects in the stead of southwest, as
3 well as in the midwest and over --
4 concerning issues at the Chesapeake Bay.

5 So basically we understand your
6 water management goals. We applaud
7 sustainable approaches, utilize the water
8 management technologies and provide an
9 economic solution. And we really talked
10 a lot about the costs of these both in
11 the maintenance as well as the practical
12 upfront costs for the installations of
13 these technologies. I hope to address
14 those issues as well.

15 So what you're seeing here now
16 is a video that describes how one piece
17 of technology, the EPIC chamber, works as
18 a subsurface irrigation system.
19 Basically it's built into the green
20 space, the landscape layer of these
21 systems. And if you will look here, this
22 is basically exposing the different
23 layers we have, essentially pulling back
24 the rind of an orange. It's a sand-based
25 system, essentially utilizing the

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 microorganisms and filtering capabilities
3 of sand. It's built into that sand-based
4 layer. Below that is a two-inch gravel
5 layer, which helps with lateral movement
6 and collection of water into green
7 spaces. Ultimately what happens in this
8 is either we cap a site or allow it to
9 infiltrate, depending upon what the
10 underlying soils are and what the goals
11 are for water management.

12 Now, how this system works in
13 section is that any time we'd have water
14 coming off of impervious surfaces,
15 whether it's your streets, your rooftops,
16 it's routed into green spaces, and when
17 it goes into a green space, it physically
18 is filtered by this sand-based profile.
19 So water actively is filtered by the
20 actual roots and microorganisms, is
21 routed then into the EPIC system itself.
22 This EPIC chamber is this half moon
23 shape, and this device actually controls
24 how water is moved through different
25 areas. Basically you have complete

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 control in how wet a soil profile is. So
3 instead of having water just run off and
4 polluted into our lakes, rivers and
5 streams, what happens is, is this filters
6 the water and retains it on the site.

7 Now, with any system, it's also
8 a subsurface irrigation system at the
9 same time. So basically it's subsurface
10 irrigation that capitalizes on capillary
11 rise, the natural phenomenon of water
12 moving against the flow of gravity,
13 straight up to plants' roots. This
14 actually has been tested by the
15 University of New Mexico and it's been
16 found that it's 50 to 85 percent more
17 efficient than the top-of-the-line spray
18 irrigation systems.

19 So that's kind of the general
20 overview of how this technology works,
21 and I'll go into some more, too.

22 So, again, just breaking this
23 down a little bit further, there's layers
24 of this system, depending on what your
25 water management goals are. Long story

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 short, this assists in reaching water
3 management goals for water quality,
4 removing phosphorus, removing nitrogen,
5 the lightest pollutants that cause
6 harmful downstream effects in the
7 Delaware. Again, this system is built
8 into that soil profile.

9 Another technology that we
10 utilize for recreational space durability
11 is Netlon Advanced Turf System.

12 Essentially, these are these small pieces
13 of mesh blended three-dimensionally into
14 a soil profile. What this does is, it
15 mimics root structure of vegetation so it
16 increases its durability.

17 If you go to the next slide,
18 I've got a video here, and this video is
19 actually an 80,000-pound fire truck
20 driving across turf grass. Now, normally
21 they would be axle deep in this. What
22 we're doing with this technology is both
23 for green parking, but also for field
24 durability. Right now I'm working on the
25 second field for the 2010 World Cup games

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 in South Africa. Really what this does
3 is, it prevents injury, increases the
4 infiltration rate of the soil, as well as
5 provides an opportunity to have a
6 multi-functional use of your green space.

7 COUNCILMAN KENNEY: Just let me
8 interrupt you for a second. Could you
9 envision a macadam or concrete parking
10 surface lot, utilizing that system, would
11 be able to have the green effects and the
12 water management effects but still have
13 the durability to be able to have daily
14 parking on it?

15 MR. APFELBACHER: The challenge
16 comes into the frequency of the use of
17 it. Again, it's living grass, and what
18 this does is, it protects the roots from
19 getting pinched off. If you're
20 constantly parking on top of it, what
21 happens is, it doesn't get sunlight.

22 COUNCILMAN KENNEY: So for our
23 daily parking situation, it's not good,
24 but for, say, a seasonal parking
25 situation, say something like at the Mann

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 where it's open for so many months, that
3 would be --

4 MR. APFELBACHER: Event
5 parking, overflow parking, if there's an
6 assembly, things like that, this is an
7 excellent tool for that, and that's
8 really what it's useful at. There's
9 other kinds of permeable parking
10 applications we deal with for continued
11 parking and frequency of use.

12 Next slide. This is just
13 showing what it would look like without
14 the actual Netlon product in the soil.
15 So, again, it happens a lot in a lot of
16 the parks. You had mentioned the
17 four-wheelers and people running around
18 in it.

19 So getting straight to park and
20 field capabilities, after introducing
21 this technology, basically you can use
22 less water and you can manage massive
23 stormwater volumes in your green space
24 but still have the function of a park.
25 Now, what this allows you to do then is

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 to reuse the stormwater. I'm actively
3 working on projects right now where we're
4 taking stormwater coming off of CSOs,
5 combined sewer overflows, and routing it
6 into green space for water treatment
7 before it's discharged. I work with the
8 city of LA on a very large park project
9 right now which does just that. And,
10 again, the big thing is that
11 multi-functional use of your green space.
12 You're placing a premium on its function
13 because you can do more things in your
14 parks.

15 This is introducing a couple
16 different projects we have happening
17 around the nation. The upper left is a
18 project where we're harvesting over two
19 million gallons of stormwater in the
20 winter months and reusing it in the
21 summer months. The Cambria Elementary
22 School is located along the California
23 coast, very seasonal rainfall, and with
24 this we were able to size the pipe so as
25 to hold enough water to sustain the plant

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 and vegetation life throughout the whole
3 summer without any other potable
4 resources, on an average year. Now, we
5 can't predict how seasonality is going to
6 change from year to year, but we can
7 provide some kind of capacity to hold the
8 water and reuse it.

9 A couple other projects working
10 with different institutions, universities
11 and schools, and I'm glad you guys
12 brought up before I came up the
13 opportunities of synergies between the
14 schools in Philadelphia, because there's
15 a lot of really great recreational
16 opportunities that can increase the
17 function and provide sustainability and
18 durability of parks with schools, too.

19 So just to show how this
20 technology works in terms of growing turf
21 grass, it's subsurface irrigation, and
22 you can't see on the bottom of this, but
23 essentially in 35 days, given the right
24 conditions, you can have over six inches
25 of root growth of turf grass from seed.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 Again, these are smart systems,
3 irrigation systems, that basically
4 irrigate when needed. We typically
5 install these with a moisture sensor. It
6 takes away the issues of people
7 irrigating, over-irrigating or not
8 irrigating. The moisture sensor says,
9 hey, it's dry over here at this level, we
10 need to dose some water into the site.
11 So the computerized system automatically
12 doses water to the optimum moisture
13 content that's needed. This really
14 improves the overall functionality of
15 your irrigation system, because it's not
16 on a regular timer. It senses how much
17 moisture, and that's the bottom line what
18 you need.

19 COUNCILMAN KENNEY: Hold on.
20 Councilman Rizzo has a question on this
21 point.

22 COUNCILMAN RIZZO: The growth,
23 it shows the different stages of growth.
24 Is there any -- I always wondered about
25 PennDOT, that they grow this grass in the

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 center islands so it doesn't need to be
3 cut. It only grows a certain height. Is
4 there any way to control so it doesn't
5 need a lot of maintenance? You may have
6 said it and I missed it.

7 MR. APFELBACHER: I deal with a
8 lot of different grass species. My
9 background is, I'm a landscape architect
10 by trade, and we do have a lot of
11 different vegetation for different design
12 opportunities. There's a lot of grass
13 varieties that can either be different
14 elevations in height or require less
15 mowing based upon what your use will be
16 in that space.

17 So yes is the answer to your
18 question. There are species that you can
19 use, depending upon where we are.

20 COUNCILMAN KENNEY: Also
21 depending upon the location in the
22 country?

23 MR. APFELBACHER: Correct.

24 COUNCILMAN KENNEY: Certain
25 grasses do better than others.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 MR. APFELBACHER: Warm season
3 versus cool season grasses.

4 COUNCILMAN KENNEY: In
5 Philadelphia, for example, would there be
6 a window of seasonal installation for
7 this? Does this have to be done at a
8 certain time of the year? Obviously if
9 the ground is frozen, it's not doable,
10 but are there times of the year where you
11 should do it as opposed to not doing it,
12 if you were going to conduct a pilot
13 program, for example?

14 MR. APFELBACHER: A big thing
15 is the use of the green space to allow it
16 to get established, the plants
17 themselves. With a lot of the parks I
18 was visiting here, they're loved to
19 death, is the challenge. Everybody uses
20 them just too much.

21 Now, what you'd want to do is
22 have it so it could have instant greening
23 or have it be functional at the complete
24 date. That's a challenge always, but
25 what this allows you to do is increase

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 the overall success of the plants because
3 you're maintaining the moisture properly.
4 Many times once the installation is
5 complete, it's over-irrigated or
6 under-irrigated and things die, and then
7 you have to fix them.

8 COUNCILMAN KENNEY: But I guess
9 with this example, the longest is 35 days
10 it would have to be out of service after
11 the completion of the work.

12 MR. APFELBACHER: This is from
13 seed. You can sod it as well.

14 COUNCILMAN KENNEY: How much
15 time getting it to day one?

16 MR. APFELBACHER: This project
17 itself was an 80,000 square foot soccer
18 field, varsity soccer field, in central
19 California. This one took, I believe,
20 two months.

21 COUNCILMAN KENNEY: Two months
22 to get to day one?

23 MR. APFELBACHER: Yes.

24 COUNCILMAN KENNEY: And then
25 35. So three months maybe out of

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 commission, which isn't -- I mean, even
3 if you sod a field with traditional sod,
4 you still have to keep people off it for
5 a period of time to let it take root.

6 MR. APFELBACHER: And this was
7 just with a labor crew of six people. If
8 you had more labor crew, you could do
9 this faster. It's quite simple to
10 install once you have the process down.

11 COUNCILMAN KENNEY: Okay.

12 Thank you. You can proceed.

13 Councilman Rizzo, were you
14 complete?

15 COUNCILMAN RIZZO: I'm good.

16 MR. APFELBACHER: Did I answer
17 your questions?

18 COUNCILMAN KENNEY: Yes.

19 MR. APFELBACHER: So with a lot
20 of these, we talked about taking away the
21 capacity of stormwater running off into
22 the Delaware, Schuylkill River. Now,
23 with this, there's a lot of different
24 technologies we work with to hold water
25 on sites, and that is contingent on the

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 goals we have for water management with
3 our clients. Again, I go back to the
4 story of Cambria where we harvested over
5 two million gallons of water for a public
6 project. So there are capacities out
7 there to hold water, depending upon what
8 we're doing.

9 Now, with this image here, I
10 took a park here in Philadelphia.

11 If you could click the arrow
12 again, please, Sarah.

13 What happens is, we're really
14 focusing on the green space. Now, the
15 opportunity is, you can take the water
16 coming off the impervious streets
17 adjacent to that and route it into the
18 park itself, basically filtering it.
19 Parks can become a giant kidney that
20 filters, store and reuse all the water
21 coming off of your impervious surfaces,
22 helping with water quality goals,
23 increasing the durability and
24 functionality of green spaces.

25 COUNCILMAN KENNEY: Does it

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 also keep it out -- I guess it also keeps
3 it out of our single system stormwater
4 drains, too?

5 MR. APFELBACHER: Correct.

6 COUNCILMAN KENNEY: And in
7 certain areas of the City, we've been
8 having -- obviously the Water Department
9 knows very clearly -- ongoing problems
10 with flash flooding.

11 So your contention is that in a
12 heavy downpour, short period of time, the
13 majority of that water would be captured
14 and not allowed into the normal
15 stormwater system?

16 MR. APFELBACHER: We've
17 frequently designed these systems to have
18 that capacity. Essentially if the field
19 is a depressed area, you can pool water
20 above that, and that will infiltrate as
21 quick as you want it to or get rid of it
22 at a slower time.

23 COUNCILMAN KENNEY: As we've
24 been talking about cross-departmental
25 issues, I mean, this is another one that

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 the Water Department has to deal with
3 when all of us are calling, because in a
4 two-inch rain in an hour, we have
5 residents that are flooded all over the
6 place, for lots of reasons, the age of
7 the sewer system, the way people have
8 dug -- I went to those meetings where
9 they dug down their basements and now the
10 stormwater inflow is easier to get into
11 the building than it was before.

12 So what you're saying is that
13 in a system like this, in a residential
14 neighborhood in Philly, with a large ball
15 field or soccer field, you could take a
16 lot of that rain stormwater out of the
17 system generally?

18 MR. APFELBACHER: Yeah.
19 Correct, and slowly release it at a
20 controlled rate.

21 COUNCILMAN KENNEY: Councilman
22 Jones.

23 COUNCILMAN JONES: Thank you,
24 Mr. Chairman.

25 One of the things that will be

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 helpful to this body and the Council at
3 large and I would assume also the
4 Administration is to get some engineers
5 in the room with some environmentalists,
6 botanists, this team, and quantify at
7 what level does the investment break-even
8 make sense and when we should infuse some
9 capital dollars to make a system like
10 this passive system and when there isn't
11 enough savings to come from the diversion
12 of stormwater and the processing that
13 goes with it. Somebody has to give us a
14 ruling guide that says under these square
15 footage, this amount of gallons, this
16 much rainfall, this is worth this
17 investment. So that math has to be done
18 for us so that we can be better guided as
19 to our capital dollars and when to make
20 improvements like that.

21 COUNCILMAN KENNEY: Well, the
22 other issue, piggybacking on that, is is
23 that you would think that private
24 insurance companies that are insuring
25 these residential dwellings that every

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 two years needs their basement ripped out
3 and reconditioned and put back together
4 again would be interested. And one of
5 the things I would like the Water
6 Department to do, since they're here,
7 because we've asked the Recreation
8 Department to maybe identify the top ten
9 or the worst ten athletic facility
10 fields, maybe we ought to do an
11 additional comparison as to neighborhoods
12 that are experiencing residential
13 basement flooding, and maybe one of those
14 kind of bad-conditioned fields coincides
15 with a neighborhood that's experiencing
16 the stormwater runoff and kill maybe
17 three birds with one -- I don't want to
18 kill anything. I want to solve three
19 problems. I don't want to talk about
20 killing. I'd be in trouble. Solve three
21 problems with one solution as opposed to
22 just -- what we started out was wanting
23 to green the fields. If we can green the
24 fields and keep people's basements dry at
25 the same time and keep from the outlay of

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 insurance payments that need to be made
3 when these events happen, I think
4 everybody would be pretty happy.

5 MR. APFELBACHER: And who knows
6 if it fits into the stormwater credit
7 fees as well with that whole structure.
8 There's a lot of opportunities.

9 COUNCILMAN KENNEY: Okay.
10 Please proceed.

11 MR. APFELBACHER: So this
12 example project is at University of
13 Minnesota's TCF's Bank Stadium.
14 Minnesota Gophers just built a new
15 LEED-certified building, and I played an
16 active role in the stormwater management
17 of this project. What you're looking at
18 here in the left side is, that blue area
19 is roughly four acres of a catchment area
20 that's being drained into, with these
21 technologies, a half-acre space. Now,
22 typically there would be a storm pond on
23 that site, because you're taking a large
24 volume of water and you have to put it
25 some place.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 What happens is, again, going
3 to the installation process here and the
4 design components of this, we're able to
5 create a functional green space that
6 serves for stormwater management,
7 subsurface irrigation and green parking,
8 too.

9 The lower right corner is the
10 finished installation. The first game,
11 I'm very proud to say, we play on in the
12 next coming weeks here for the University
13 of Minnesota, this is where all the media
14 vans are going to pull on to and
15 broadcast from, but it's also an active
16 stormwater management feature at the same
17 time. We can hold in this little
18 half-acre space, which is near the size
19 of some of your parks that you talked
20 about from the sizes from the earlier
21 testifiers, we can hold over 140,000
22 gallons of water. We can handle three
23 and a half inch rainfall events from that
24 four-acre area. So in terms of capacity
25 of green space but still provide parking

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 and functionality and drainage at the

3 same time, it's really incredible.

4 You're doing a great resource for the

5 green spaces.

6 This is just showing another

7 project we have in South Africa that's

8 utilizing just that Netlon technology

9 that you saw with the fire truck driving

10 across it. The reason why we're doing

11 this among other projects in South Africa

12 is for the increased use during the

13 actual events themselves, but also to

14 provide the capacity to do other things

15 post World Cup in South Africa.

16 So, again, green parking is

17 something we touched a little bit about

18 utilizing the technologies. And LEED

19 credit contribution, essentially with our

20 solutions, Blue Resolutions at Solution

21 Blue, you're going to assist in providing

22 up to 33 credits or more. And with the

23 new versions to get certified, it's 40

24 credits. So you're over three-quarters

25 of the way there, which is a large amount

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 if you're looking at things before you
3 even get in a building, even look at
4 inside the box literally. This is
5 outside the box, is what we're talking
6 about here.

7 COUNCILMAN KENNEY: Councilman
8 Jones has a question.

9 COUNCILMAN JONES: Yes,
10 Mr. Chairman. Thank you.

11 What's the life of an
12 infrastructure like that?

13 MR. APFELBACHER: It's really
14 contingent on how it's designed, but the
15 product itself is made from plastic.
16 Right now nothing eats plastic, even in
17 the ground. It decays at a very slow
18 rate. The only thing that basically
19 breaks down plastic is physical abrasion
20 and UV light. So once this stuff is in
21 the ground -- it's recycled content.
22 What happens is, it's protected. We have
23 a depth of profile to specification based
24 upon the manufacturer, RESI. This should
25 last over 50 years.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 COUNCILMAN JONES: If there are
3 three enemies to this system, what are
4 they? And I mean is it weight
5 restriction? Is it ferreting, animals?
6 What damage is this?

7 MR. APFELBACHER: We haven't
8 had any challenges with animals yet
9 really because they don't go where water
10 is and you have control of how much water
11 is in a field. The biggest challenge
12 we've had prior to our computerized
13 system was mismanagement, and we've kind
14 of closed that loop to have something
15 that's a smart system.

16 COUNCILMAN JONES: Please
17 describe.

18 MR. APFELBACHER: Well, what
19 happened was is, with projects we had
20 with earlier installations, people would
21 come and mess with the pipes, because
22 they were still exposed. So instead of
23 that, now we have computerized systems
24 that automatically do it and control it
25 by a computer instead of somebody

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 physically going in and changing the
3 elevation of a pipe. A lot of times it
4 is a paradigm shift in terms of thinking
5 and how you're irrigating and your
6 management practices are.

7 COUNCILMAN KENNEY: I'm sorry.
8 Can you just kind of pull that microphone
9 up.

10 MR. APFELBACHER: I'm fading
11 out?

12 COUNCILMAN KENNEY: Actually,
13 if you could pull it physically closer to
14 you, it would be helpful. Thanks.

15 MR. APFELBACHER: Is that
16 better?

17 COUNCILMAN KENNEY: Yes.

18 MR. APFELBACHER: What happens
19 is, it's a hard thing to grasp for many
20 turf managers, that you're irrigating
21 while somebody is playing a game on it.
22 So we have manuals basically to show how
23 this can work and function with their
24 goals. So the challenge was is that when
25 we had issues with these projects was

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 that people were monkeying with it, and
3 we've taken that out by having smart
4 systems.

5 The other thing was the weight
6 load capacity. You mentioned that. Now,
7 typically with the spec profiles we have
8 with these, you can drive a fire truck
9 across them with the Netlon product in
10 it.

11 The only other thing with it is
12 settling of the ground. In California
13 that's one thing, but here it's a little
14 bit different.

15 COUNCILMAN JONES: So in a case
16 where someone is trying to run a pipe
17 through that, has that ever happened
18 where --

19 MR. APFELBACHER: Yeah. What
20 happens is, these are not only made from
21 recycled content, they're reusable. So
22 what we've done before is, basically you
23 can dig this stuff up, set it on the
24 side, get access to your utilities, run
25 your water main, fix whatever you have to

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 do with your electrical site, but then
3 plug it back in again. It's basically
4 Lego pieces that you can take apart and
5 place back together.

6 COUNCILMAN JONES: Thank you,
7 Mr. Chairman.

8 COUNCILMAN KENNEY: Thank you.

9 MR. APFELBACHER: This slide is
10 okay. What I wanted to touch on is,
11 we've kind of talked around some of these
12 issues for long-term park benefits, and
13 2025 was the big year to have these
14 initiatives, Target 8 and 9, as mentioned
15 before. So the conservation reuse of
16 water is one big benefit that I can
17 present at this time. You're using less
18 water. You're using other alternative
19 resources of water.

20 Improved park durability is
21 huge, because you're going to have less
22 maintenance. And I will be honest with
23 you, the one increased maintenance you're
24 going to have is, this stuff is going to
25 look so good, you may have to cut it more

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 and you may have to aerate the grass
3 more, because this stuff grows so well in
4 this environment.

5 I can't speak directly to the
6 cost. That was one question for the
7 Parks Department in terms of the
8 maintenance costs on that. We can
9 discuss more at a later time, but it
10 really is contingent on the site and what
11 you're doing with management.

12 That multi-functional
13 capability is really promoting
14 stewardship too within the City of
15 Philadelphia. You're reusing water,
16 you're actively storing it, and the
17 long-term operational savings.

18 So kind of in closure here,
19 this is a graphic showing traditional
20 design with larger big box or other kinds
21 of developments that look at just running
22 water away. And this is not very
23 different from what we've done with
24 streets and street design. You get water
25 away as fast as you can, and you have to

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 have storm piles that are a liability or
3 you have overcapacity in your storm sewer
4 system.

5 Basically by utilization of
6 different management practices, whether
7 it's in your park space or green space,
8 the verges of streets, green roofs and
9 other technology I work with with this
10 technology, as well as applications to
11 sites, we can have sites that decrease
12 their overall impact on the environment,
13 cutting down impervious surfaces and
14 reusing water in any living green space.

15 So that's what I had for you
16 today. I'd love to hear any questions.

17 COUNCILMAN KENNEY: Thank you
18 very much. I appreciate your testimony
19 and just very innovative and interesting
20 process.

21 Is the EPIC system a -- it's a
22 sole source type of system? There's no
23 one else doing this kind of stuff?

24 MR. APFELBACHER: I work with
25 all the products across the world right

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 now and the EPIC is the only one that can
3 do this right now.

4 COUNCILMAN KENNEY: Are there
5 any other competitors to the EPIC?

6 MR. APFELBACHER: No. There's
7 other competitors that they can irrigate
8 subsurfacely, that can drain
9 subsurfacely. Drain tile, for example,
10 is a common competitor, but you don't
11 have a non-logging dual-wall subsurface
12 drainage and irrigation system at the
13 same time.

14 COUNCILMAN KENNEY: What was
15 your estimated cost -- I think our ball
16 fields generally are about an acre, which
17 is like a city block, four block city
18 square. Can you give me just kind of a
19 general ball park on what that would
20 cost?

21 MR. APFELBACHER: The primary
22 cost for this isn't the technology
23 itself. It's -- or the design for us to
24 figure out how this will work. It's the
25 cost of sand, is the primary medium for

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 it, and soil. Sand costs vary by both
3 trucking rates as well as availability
4 for the specification of sand. I priced
5 preliminarily here about \$15 a yard for
6 sand, and that was right on par with that
7 \$5 to \$8 a square foot that was mentioned
8 before.

9 COUNCILMAN KENNEY: Where is
10 the sand obtained from generally?
11 According to where you're at in the
12 country?

13 MR. APFELBACHER: Yeah. It's
14 available at quarries. So, for example,
15 in Minnesota I can get dredged sand
16 pulled from the Mississippi River and
17 reuse that, but when I'm working in
18 Aspen, Colorado, I have to truck it up
19 there to the mountains and it costs \$45 a
20 yard instead of 15.

21 COUNCILMAN KENNEY: Now, the
22 dredged sand out of the Mississippi, are
23 there any environmental issues associated
24 with that or is that treated prior to?

25 MR. APFELBACHER: What happens

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 is is that's Army Corps of Engineers does
3 that, and that's not my thing and I would
4 have issues with that, but it's available
5 as a resource and has been approved.

6 COUNCILMAN KENNEY: Well, we've
7 been talking about and getting closer and
8 closer to the dredging of the Delaware
9 and I'm wondering out loud whether or not
10 there's any potential resource. Because
11 part of the problem with the dredging
12 project was that communities, especially
13 in southern New Jersey, were concerned
14 about it being trucked there and
15 landfilled. If it's treatable and
16 environmentally safe, it would seem that
17 that would be kind of a close resource
18 available of soil. I don't know what the
19 sand quality of it is, but I know that
20 they got to do something with it and I'm
21 just wondering whether or not we need to
22 explore what potential reuses of that
23 are.

24 MR. APFELBACHER: It's really
25 contingent on the geomorphological

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 dynamics of the Delaware and what kind of
3 sand profiles and where it's found in a
4 river itself. I won't go that direction.

5 COUNCILMAN KENNEY: I'm not
6 getting -- I'm not a scientist or
7 biologist, but wouldn't it seem likely
8 that the quality or type of soil would be
9 somewhat similar since it's in the
10 proximity of this region? If you're at
11 Murphy Recreation Center at 4th and Shunk
12 and the river is four blocks away, it
13 would seem that there would be some
14 similarities in the soil and in the
15 dredge material that would make them
16 potentially compatible.

17 MR. APFELBACHER: Correct,
18 potentially. The quarries that we had
19 located were nearby too, so they would
20 truck for a very low rate.

21 COUNCILMAN KENNEY: All right.

22 Any other questions?

23 (No response.)

24 COUNCILMAN KENNEY: Thank you
25 very much.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269

2 MR. APFELBACHER: Thank you
3 very much.

4 COUNCILMAN KENNEY: Is there
5 anyone else to testify on this?

6 (No response.)

7 COUNCILMAN KENNEY: This was
8 intended to be and has been an
9 informational hearing of these two
10 committees. We intend to issue some type
11 of report relatively shortly and then
12 start moving forward on the process of
13 trying to come up with maybe a couple
14 pilot projects that we could maybe get
15 some assistance from the corporate
16 community in Philadelphia. And, again, I
17 think it's important that Water and Rec
18 coordinate to give us some fields in need
19 with some neighborhoods that are under
20 water from time to time, and maybe the
21 coordination of those two would be
22 helpful.

23 So thank you all for your
24 attendance. I appreciate you coming.
25 Thanks.

1 9/1/09 - ENVIRONMENT/PARKS - RES. 090269
2 (Committees on the Environment
3 and Parks, Recreation and Cultural
4 Affairs concluded at 11:35 a.m.)

5 - - -

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1

2

CERTIFICATE

3

I HEREBY CERTIFY that the

4

proceedings, evidence and objections are

5

contained fully and accurately in the

6

stenographic notes taken by me upon the

7

foregoing matter on September 1, 2009, and

8

that this is a true and correct transcript of

9

same.

10

11

12

13

14

15

16

MICHELE L. MURPHY

17

RPR-Notary Public

18

19

20

(The foregoing certification of this

21

transcript does not apply to any reproduction

22

of the same by any means, unless under the

23

direct control and/or supervision of the

24

certifying reporter.)

25

