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DEPARTMENT OF
WATER RESOURCES

John M. Marshall (ISB #5628)
Michael P. Lawrence (ISB #7288)
Givens Pursley LLP.
601 W. Bannock
P.O. Box 2720
Boise, ID 83701
Telephone: (208) 388-1200
Facsimile: (208) 388-1300

Attorneys for East Hills Development LLC and Lexington Hills, Inc.

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT
OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re: SRBA

Case No. 39576

Subcase Nos. 63-00123D, 63-00123F &
63-00123G

**REBUTTAL TESTIMONY OF TERRY
M. SCANLAN, P.E., P.G.**

REBUTTAL TO OPINION THAT FULL RIGHT IS DIVERTED TO SUBDIVISION

Q. Have you read the Expert Report of David B. Shaw dated March 2008 that was filed in this case?

A. Yes.

Q. Do you recall the opinion expressed in Mr. Shaw's report that the Lexington Hills Homeowners' irrigation system beneficially uses all the water delivered to it by the Farmer's Union Ditch Company without waste?

A. Yes.

Q. Do you agree with this opinion?

A. I agree that the system appears to be using all of the water delivered to it through headgate No. 39, as evidenced by the fact that there is no overflow, but I disagree with any conclusion that the Homeowners are using all of the water allocated to the Subdivision.

Q. Please explain.

A. In the explanation for his opinion that the Subdivision uses all of the water delivered by Farmer's Union Ditch Company, Mr. Shaw summarizes the quantity of water that is appurtenant to the Subdivision on the books of Farmer's Union, and states "[t]he records of Farmers Union indicate the water for headgate no. 39, i.e., the entire right, has been delivered, when available." The attachments to Mr. Shaw's report do not include any delivery records from Farmers Union, nor are we aware of any actual measurements of delivery through the headgate, nor are we aware of any functioning measuring device. Accordingly, Mr. Shaw's conclusion that the Subdivision is using all of the water historically appurtenant to the Subdivision appears to be based on the presumption that all of the water is actually being delivered.

Q. How much water is delivered by Farmers Union to the Subdivision?

A. As I stated in my direct testimony, there is no way of knowing because there is no measuring device to measure water from the Farmers Union canal into the subdivision. Based on my observations and understanding of the system design, the water surface of the pond within the Subdivision from which water is diverted into the pressurized irrigation system is at the same elevation as the water surface of the Farmers Union Canal. Consequently, the amount of water leaving the Farmers Union Canal and flowing into the Subdivision ponds matches the quantity of water that is leaving the ponds through pumping into the irrigation system, seepage, and evaporation. Any water diverted from the Boise River into the Farmers Union Canal under the Homeowners water rights that is not lost from the Subdivision ponds through seepage,

evaporation, or irrigation pumping simply flows down the down the Farmers Union Canal (past headgate No. 39 and the Subdivision).

Q. Is the lack of overflow from the ponds an indication that the Subdivision is using all of the water allocated to it?

A. No. It is my understanding that the overflow structure from the pond is set at a higher elevation than the surface of the canal. In other words, the fact that there is no overflow from the ponds is no indication of the quantity of water being delivered into the Subdivision, nor is it an indication that the Subdivision is using all of the water that is allocated to it. If the Subdivision did not use any irrigation water from the ponds, there still would be no overflow. Overflow can occur only if the headgate from the canal is closed and excess water from another source is added to the pond system, thereby raising the pond level to the elevation of the overflow structure.

Q. Under these circumstances, how would you measure the quantity of water actually used by the Subdivision?

A. The only ways are to (1) install a measuring device at or near the headgate or (2) measure the quantity of water leaving the pumping station using a flow meter. No such measuring devices currently exist. A pumping station flow meter would be the best device to measure actual water use because installation of a measuring device at the headgate might require that the ponds be operated at a slightly lower water surface elevation to allow for some fall over a weir or through a flume.

REBUTTAL TO OPINION THAT IDWR WILL NOT ALLOW TRANSFER

Q. Do you recall the portion of David Shaw's report where he states that "It is unlikely the IDWR would consider allowing any of the surface water to be removed from the Lexington Hills

Subdivision when ground water levels in area west of the subdivision continue to respond as well in Attachment 6.”?

A. Yes.

Q. Do you agree with this opinion?

A. Not necessarily. First the condition on the permit does not appear to be an absolute bar on moving water off of the Subdivision ground. It states that moving the water “will be cause for the Department to further limit the use of this right.” Although no one can say with any certainty what IDWR would do in response to a proposal to transfer unused portions of the surface rights historically diverted to the Subdivision, based on my experience working with the Department on numerous transfers and mitigation, if Lexington Hills Inc. can demonstrate that significant portions of the surface rights are no longer (or never were) needed, it is certainly possible that the Department would not see the need to further condition the use of the ground water right at issue. I believe that the intent of the condition is to require the Subdivision to utilize surface water for irrigation at times when water can be delivered from the canal. To the extent that the subdivision has adequate water rights to supply irrigation when the canal is operating without resorting to use of groundwater to supplement the canal supply, I believe the intent is accomplished. I do not believe that the intent of the condition would be for the subdivision to be required to abandon water rights that they do not use by allowing the water to flow past the Subdivision headgate for the benefit of other users in the Farmer’s Union Canal.

REBUTTAL TO OPINION THAT FULL RIGHT IS DIVERTED TO SUBDIVISION

Q. Do you recall the opinion expressed in David Shaw’s report that the irrigation water requirement for the Lexington Hills Subdivision is 0.0226 cfs/acre, or 1.13 inches/acre?

A. Yes.

Q. Do you agree with this opinion?

A. I do not. While I agree that the theoretical analysis that Mr. Shaw uses, which is the same analysis I used to support the opinions in my direct testimony, shows that in excess of one inch per acre is necessary to support a vigorous turf with no stress during the hottest 3-day period within a five-year period, I don't think that this number is the same as the irrigation requirement for the subdivision.

Q. Why not?

A. As I indicated in my direct testimony, there are a number of variables that go into the theoretical calculation, variations of which can cause relatively large swings in the outcome.

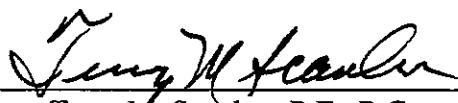
These include the following:

- Mr. Shaw's analysis assumes only turf. Significant portions of the irrigated ground within the Subdivision are less consumptive shrubs beds and other types of vegetation.
- Mr. Shaw uses a 3-day 20% exceedance number for turf. This is a theoretical number used to ensure a stress free crop in unusually hot conditions. In my opinion, a 7-day 20% exceedance provides adequate supply to prevent excessive stress. As I stated in my earlier testimony, turf is resilient to heat stress, and most lawns in this region experience stress in the peak summer heat. Stress in these situations means the grass may look slightly wilted for a few of days. It is important to remember that the grass is still receiving irrigation during this period, but the amount of applied irrigation is slightly less than the grass can potentially utilize for optimum growth. If you were a farmer, this stress could affect your yields, but that is not a consideration for turf.
- The site soils likely have adequate water holding capacity to make up for any short-term deficits in irrigation supply. The Soil Survey for the Ada County Area (USDA, Soil

Conservation Service) shows that the soils in the Subdivision are primarily Purdam and Purdam-Power silt loams. These soils are classified as generally deep with moderately slow permeability and high to very high water capacity. Soil moisture held in silt loam soils is available to support irrigation deficits that extend for a few days. The available soil moisture in the top 22 inches of these soils is 0.2 inches of water per inch of soil. Assuming that 50% of the soil moisture in the upper 6-inches of soil is available to the turf, there is a total of 0.6 inches of soil water available to meet irrigation deficits. Over a 5-day period, the 0.6 inches of soil water is equivalent to an additional application of 0.36 miner's inches per day at 70% irrigation efficiency. Thus, a short-term peak irrigation requirement of 1.13 miner's inches per day for five days can be met through an average irrigation application of 0.77 miner's inches per day plus soil moisture. As a result, short-term irrigation deficits can be mitigated by soil moisture.

- Irrigation deficits could potentially also be mitigated through short-term storage in the pond system. For example, assuming 2 acre feet of available storage, the ponds provide an additional 0.1 miner's inch per acre for three days over the 170 acre irrigated area.

DATED this 18th day of March, 2008.


Terry M. Scanlan, P.E., P.G.

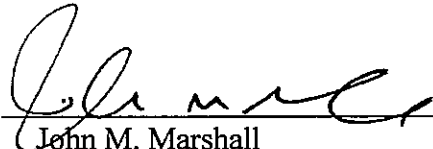
CERTIFICATE OF SERVICE

I certify that a true and correct copy of the foregoing document was mailed on March 19, 2008, with sufficient first-class postage to the following:

Lexington Hills Homeowners Association
2354 N. Stonecrest Place
Eagle, ID 83616
Phone: 208-364-8624

Lexington Hills Homeowners
John K. Simpson
1010 W. Jefferson Street, Ste. 102
PO Box 2139
Boise, Idaho 83701-2139
Phone: 208-336-0700

Director of IDWR
PO Box 83720
Boise, Idaho 83720-0098

By: 
John M. Marshall