

# Application for a Permit to Use Ground Water



Oregon Water Resources Department  
725 Summer Street NE, Suite A  
Salem, Oregon 97301-1266  
(503) 986-0900  
www.wrd.state.or.us

**RECEIVED**

JUN 3 2011

WATER RESOURCES DEPT  
SALEM, OREGON

## SECTION 1: APPLICANT INFORMATION AND SIGNATURE

### Applicant Information

NAME MULTNOMAH COUNTY FACILITIES AND PROPERTY MANAGEMENT - MICHAEL MCBRIDE		PHONE (HM) N/A	
PHONE (WK) (503) 988-3322	CELL N/A	FAX (503) 988-5082	
ADDRESS 401 NORTH DIXON STREET			
CITY PORTLAND	STATE OR	ZIP 97227	E-MAIL N/A

### Organization Information

NAME MULTNOMAH COUNTY FACILITIES AND PROPERTY MANAGEMENT		PHONE (503) 988-3322	FAX (503) 988-5082
ADDRESS 401 NORTH DIXON STREET		CELL N/A	
CITY PORTLAND	STATE OR	ZIP 97227	E-MAIL N/A

### Agent Information - The agent is authorized to represent the applicant in all matters relating to this application.

AGENT / BUSINESS NAME GEODESIGN, INC., C/O ERIK HEDBERG		PHONE (503) 968-8787	FAX (503) 968-3068
ADDRESS 15575 SW SEQUOIA PARKWAY, SUITE 100		CELL (503) 577-5232	
CITY PORTLAND	STATE OR	ZIP 97224	E-MAIL EHEDBERG@GEODESIGNINC.COM

Note: Attach multiple copies as needed

### By my signature below I confirm that I understand:

- I am asking to use water specifically as described in this application.
- Evaluation of this application will be based on information provided in the application.
- I cannot use water legally until the Water Resources Department issues a permit.
- Oregon law requires that a permit be issued before beginning construction of any proposed well, unless the use is exempt. Acceptance of this application does not guarantee a permit will be issued.
- If I get a permit, I must not waste water.
- If development of the water use is not according to the terms of the permit, the permit can be cancelled.
- The water use must be compatible with local comprehensive land-use plans.
- Even if the Department issues a permit, I may have to stop using water to allow senior water-right holders to get water to which they are entitled.



I (we) affirm that the information contained in this application is true and accurate.

Michael C. McBride  
Applicant Signature

Michael C. McBride  
Print Name and title if applicable

2-15-2011  
Date

\_\_\_\_\_  
Applicant Signature

\_\_\_\_\_  
Print Name and title if applicable

\_\_\_\_\_  
Date

For Department Use		
App. No. <u>9-17467</u>	Permit No. _____	Date _____

**SECTION 2: PROPERTY OWNERSHIP**

Please indicate if you own all the lands associated with the project from which the water is to be diverted, conveyed, and used.

- Yes
  - There are no encumbrances.
  - This land is encumbered by easements, rights of way, roads or other encumbrances. (SEE ATTACHED LEGAL DESC.)
- No
  - I have a recorded easement or written authorization permitting access.
  - I do not currently have written authorization or easement permitting access.
  - Written authorization or an easement is not necessary, because the only affected lands I do not own are state-owned submersible lands, and this application is for irrigation and/or domestic use only (ORS 274.040).
  - Water is to be diverted, conveyed, and/or used only on federal lands.

List the names and mailing addresses of all affected landowners (attach additional sheets if necessary).

\_\_\_\_\_

**SECTION 3: WELL DEVELOPMENT**

WELL NO.	NAME OF NEAREST SURFACE WATER	IF LESS THAN 1 MILE:	
		DISTANCE TO NEAREST SURFACE WATER	ELEVATION CHANGE BETWEEN NEAREST SURFACE WATER AND WELL HEAD
TW-1	Unnamed settling pond (gravel quarry)	2,130 feet (southeast)	36 feet
EW-1	Unnamed settling pond (gravel quarry)	1,935 feet (southeast)	36 feet
IW-1	Unnamed settling pond (gravel quarry)	2,300 feet (southeast)	36 feet

Please provide any information for your existing or proposed well(s) that you believe may be helpful in evaluating your application. For existing wells, describe any previous alteration(s) or repair(s) not documented in the attached well log or other materials (attach additional sheets if necessary).

See attached response

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 SALEM, OREGON

**SECTION 3: WELL DEVELOPMENT, CONTINUED**

Source (aquifer), if known: Troutdale Gravel Aquifer (TGA)

Total maximum rate requested: 200 gpm (each well will be evaluated at the maximum rate unless you indicate well-specific rates and annual volumes in the table below).

Complete the table below. If this is an existing well, the following information may be found on the applicable well log. *(If a well log is available, please submit it in addition to completing the table.)* If this is a proposed well, or well-modification, consider consulting with a licensed well driller, geologist, or certified water right examiner.

OWNER'S WELL NAME OR NO.	PROPOSED	EXISTING	WELL ID (WELL TAG) NO.* OR WELL LOG ID**	FLOWING ARTESIAN	CASING DIAMETER	CASING INTERVALS (IN FEET)	PERFORATED OR SCREENED INTERVALS (IN FEET)	SEAL INTERVALS (IN FEET)	MOST RECENT STATIC WATER LEVEL & DATE (IN FEET)	PROPOSED USE			
										SOURCE AQUIFER***	TOTAL WELL DEPTH	WELL-SPECIFIC RATE (GPM)	ANNUAL VOLUME (ACRE-FEET)
TW-1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	MULT 103417	<input type="checkbox"/>	8" ID 8.5" OD	+2 - 158	120 - 157	0-20 <i>NOTE ①</i>	64.1	TGA	159	100 extract	161.31 (+)
EW-1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	MULT 105451	<input type="checkbox"/>	10" ID 10.5"OD	+2 - 152 250 - 260	152 - 177 186 - 199 200-250	0-150	65.6	TGA	260	100 extract	161.31 (+)
IW-1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N/A	<input type="checkbox"/>	12" ID 12.5"OD	+2 - 200	200 - 350	0-150	N/A	TGA	350	200 inject	322.57 (-)
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>									
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>									
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>									
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>									
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>									

\* Licensed drillers are required to attach a Department-supplied Well Tag, with a unique Well ID or Well Tag Number to all new or newly altered wells. Landowners can request a Well ID for existing wells that do not have one. The Well ID is intended to serve as a unique identification number for each well.  
 \*\* A well log ID (e.g. MARI 1234) is assigned by the Department to each log in the agency's well log database. A separate well log is required for each subsequent alteration of the well.  
 \*\*\* Source aquifer examples: Troutdale Formation, gravel and sand, alluvium, basalt, bedrock, etc.

NOTE ① SEAL MAY BE EXTENDED BASED ON RESULTS OF FORTHCOMING VARIANCE REQUEST.

Revised 3/4/2010

Ground Water/5

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SALEM, OREGON

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**SECTION 4: WATER USE**

USE	PERIOD OF USE	ANNUAL VOLUME (ACRE-FEET)
Industrial/Commercial (open-loop heat exchange)	Year-round	161.26 (to be returned to source aquifer via injection well IW-1)
Pollution Abatement (& open-loop heat exchange)	Year-round	161.31 (to be returned after treatment to source aquifer via injection well IW-1)
Commercial	Year-round	0.05 (to augment rainwater harvesting tank for grey water use)

**Exempt Uses:** Please note that 15,000 gallons per day for single or group **domestic** purposes and 5,000 gallons per day for a single **industrial or commercial** purpose are exempt from permitting requirements.

**For irrigation use only:**

Please indicate the number of primary and supplemental acres to be irrigated (*must match map*).

Primary: \_\_\_\_\_ Acres                      Supplemental: \_\_\_\_\_ Acres

List the Permit or Certificate number of the underlying primary water right(s): \_\_\_\_\_

Indicate the maximum total number of acre-feet you expect to use in an irrigation season: \_\_\_\_\_

- If the use is **municipal or quasi-municipal**, attach **Form M**
- If the use is **domestic**, indicate the number of households: \_\_\_\_\_  
If the use is **mining**, describe what is being mined and the method(s) of extraction: \_\_\_\_\_

**SECTION 5: WATER MANAGEMENT**

**A. Diversion and Conveyance**

What equipment will you use to pump water from your well(s)?

Pump (give horsepower and type): TW-1: 10-HP submersible    EW-1: 15-HP submersible

Other means (describe): N/A

Provide a description of the proposed means of diversion, construction, and operation of the diversion works and conveyance of water. See attached for response.

**B. Application Method**

What equipment and method of application will be used? (e.g., drip, wheel line, high-pressure sprinkler)  
N/A

**C. Conservation**

Please describe why the amount of water requested is needed and measures you propose to: prevent waste; measure the amount of water diverted; prevent damage to aquatic life and riparian habitat; prevent the discharge of contaminated water to a surface stream; prevent adverse impact to public uses of affected surface waters.

See attached response.

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**SECTION 6: STORAGE OF GROUND WATER IN A RESERVOIR**

If you would like to store ground water in a reservoir, complete this section (*if more than one reservoir, reproduce this section for each reservoir*).

WATER RESERVOIR  
SALEM, OH

Reservoir name: \_\_\_\_\_ Acreage inundated by reservoir: \_\_\_\_\_

Use(s): \_\_\_\_\_

Volume of Reservoir (acre-feet): \_\_\_\_\_ Dam height (feet, if excavated, write "zero"): \_\_\_\_\_

*Note: If the dam height is greater than or equal to 10.0' above land surface AND the reservoir will store 9.2 acre feet or more, engineered plans and specifications must be approved prior to storage of water.*

**SECTION 7: USE OF STORED GROUND WATER FROM THE RESERVOIR**

If you would like to use stored ground water from the reservoir, complete this section (*if more than one reservoir, reproduce this section for each reservoir*).

Annual volume (acre-feet): \_\_\_\_\_

USE OF STORED GROUND WATER	PERIOD OF USE

**SECTION 8: PROJECT SCHEDULE**

Date construction will begin: January 2011

Date construction will be completed: February 2012

Date beneficial water use will begin: March 2012

**SECTION 9: REMARKS**

Use this space to clarify any information you have provided in the application (*attach additional sheets if necessary*).  
This application includes drawings providing additional detail related to the extraction and injection works, which are intended to support regulatory review of this application.

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### **Application Section 3**

*Please provide any information for your existing or proposed well(s) that you believe may be helpful in evaluating your application. For existing wells, describe any previous alteration(s) or repair(s) not documented in the attached well log or other materials (attach additional sheets if necessary).*

The existing well (TW-1) was installed as a test well to evaluate potential aquifer yield and to assess potential groundwater impacts. The site is characterized by a localized presence of tetrachloroethene (PCE) in the upper portion of the water table (Troutdale Gravel Aquifer), which dissipates laterally and vertically. As discussed and approved by the DEQ UIC Program, the existing TW-1 is intended to be pumped at a relatively low rate (to provide capture/containment of the localized PCE) and routed through treatment by activated carbon. Upon treatment, this component of pumped water from TW-1 shall augment the primary heating/cooling supply water originating from extraction well EW-1. After the heat exchange process, the pumped water from (extraction well) EW-1 and treated water from (extraction well) TW-1 will be routed to (proposed injection well) IW-1 in accordance with an Injection Plan approved by the DEQ UIC program. Approximately 18,000 gallons per year (0.05 AF/yr) of the treated water will be used to augment a rainwater harvesting tank.

### **Application Section 5A**

*Provide a description of the proposed means of diversion, construction, and operation of the diversion works and conveyance of water.*

Water will be diverted via extraction wells TW-1 and EW-1 and conveyed to the building heat exchanger via separate 4-inch-diameter Schedule 80 PVC conveyance pipes located in a trench. Within the building, the water will be routed through a double-wall heat exchanger and returned to injection well IW-1 via 4-inch-diameter Schedule 80 PVC conveyance pipe located in a trench. Extraction well EW-1 will require approximately 695 feet of conveyance line (to building); extraction well TW-1 will require approximately 410 feet of conveyance line (to building); injection well IW-1 will require approximately 135 feet of conveyance line (from building).

### **Application Section 5C**

*Please describe why the amount of water requested is needed and measures you propose to: prevent waste; measure the amount of water diverted; prevent damage to aquatic life and riparian habitat; prevent the discharge of contaminated water to a surface stream; prevent adverse impact to public uses of affected surface waters.*

The requested amount of water is required to service the needs of the ground-source heat pump (GSHP) for the heating/cooling demands of the building. The use of the GSHP is intended to capitalize on the renewable nature the thermal resource and to achieve sustainable practice goals for the facility.

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SALEM, OREGON

All water will be returned to the source aquifer. Within the open-loop system, waste prevention will be achieved through the use of variable frequency drives (VFDs) for the extraction well pumps; integrated with the thermal demand set-points of the heat exchanger. Therefore, the instantaneous pumping rate will be modified through the use of the VFD to accommodate the heat exchanger needs without pumping excess water.

Each wellhead will be equipped with a totalizing flow meter to measure the amount of water diverted/injected.

Groundwater will not be discharged to land surface or surface waters. The groundwater will be injected back into the source aquifer using the injection well. Protection of the source aquifer will be accomplished through granular-activated-carbon treatment of the component of flow originating from extraction well TW-1 (see Section 3) and other related components of the DEQ-approved UIC Injection Plan.

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G-17467

( ORIGINAL ROW )  
SE 185TH.

### Exhibit "A"

**LEGAL DESCRIPTION – PARCEL 'A'  
EAST COUNTY COURTHOUSE  
RIGHT-OF-WAY DEDICATION**

January 13, 2011

Page 1 OF 2

A PORTION OF LOT 10, OF THE PLAT OF "EASTWOOD", MULTNOMAH COUNTY PLAT RECORDS LOCATED IN THE NORTHWEST ONE QUARTER OF SECTION 5, TOWNSHIP 1 SOUTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, WITHIN THE CITY OF GRESHAM, MULTNOMAH COUNTY, OREGON, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE INTERSECTION OF THE WEST LINE OF SAID LOT 10 AND THE SOUTHERLY RIGHT OF WAY LINE OF SE STARK STREET, BEING 45.00 FEET FROM THE CENTERLINE THEREOF WHEN MEASURED PERPENDICULAR THERETO, THENCE ALONG SAID SOUTHERLY RIGHT OF WAY LINE OF SE STARK STREET, SOUTH 88°27'34" EAST, 162.58 FEET TO THE POINT OF BEGINNING; THENCE LEAVING SAID SOUTHERLY RIGHT OF WAY LINE SOUTH 00°50'48" WEST, 142.31 FEET; THENCE SOUTH 89°04'07" EAST, 10.33 FEET; THENCE NORTH 01°32'26" EAST, 127.71 FEET; THENCE NORTH 46°32'26" EAST, 20.48 FEET TO SAID SOUTHERLY RIGHT OF WAY LINE; THENCE ALONG SAID SOUTHERLY RIGHT OF WAY, NORTH 88°27'34" WEST, 26.53 FEET TO THE POINT OF BEGINNING.

CONTAINING 1,696 SQUARE FEET, MORE OR LESS.

THE BASIS OF BEARINGS WAS DERIVED FROM THE FOUND AND HELD MONUMENTS, #371 AND #89 PER THE PHOTOGRAMMETRIC CONTROL NETWORK FOR THE CITY OF GRESHAM DRAWING NO. GC53124-2.

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR



OREGON  
JULY 12, 2005  
ERIC D. LYNCH  
56544

RENEWS: 12/31/12

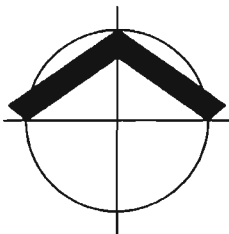
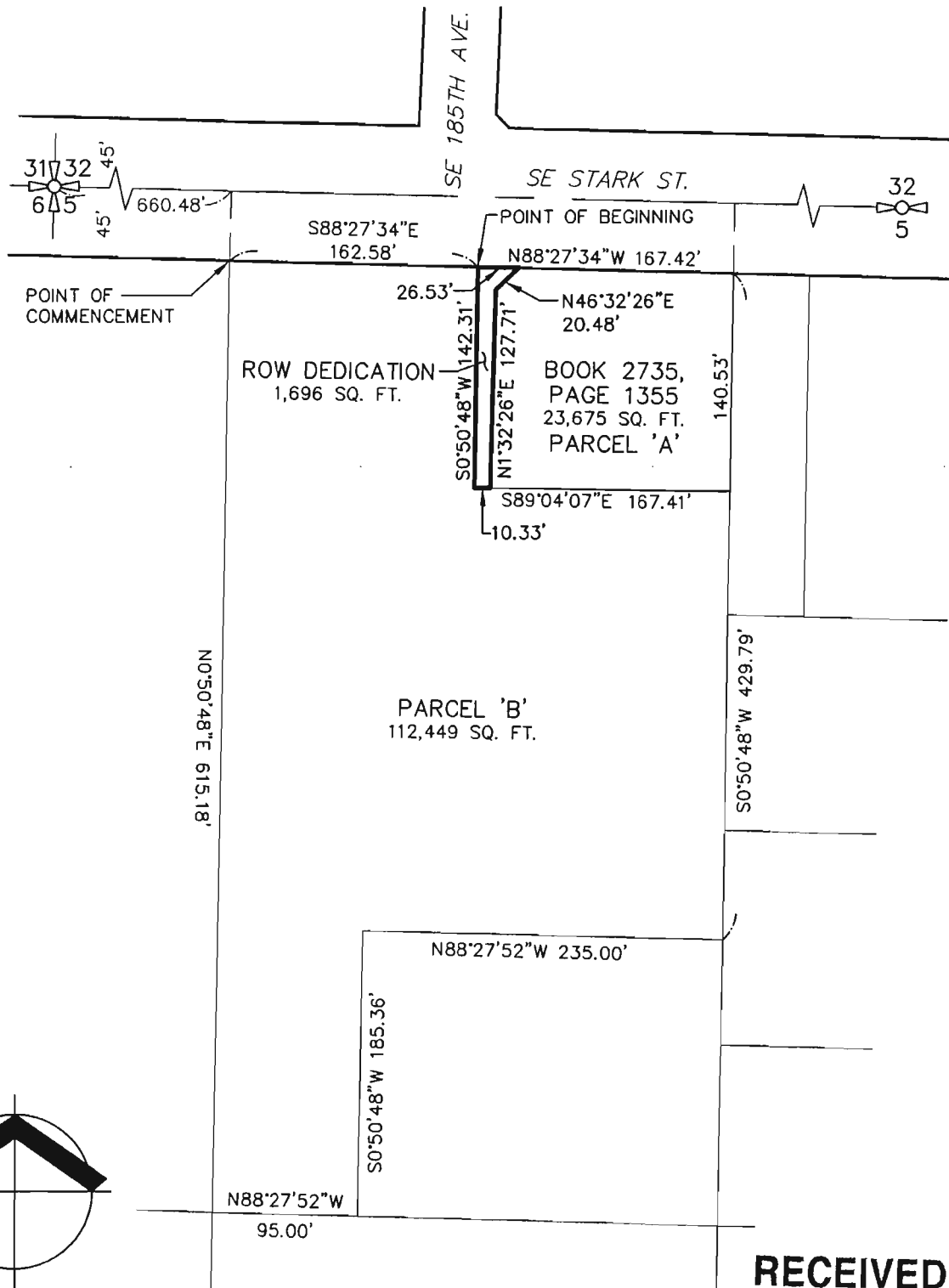
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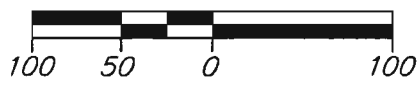
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SALEM, OREGON

GJ-174167





SCALE: 1" = 100 FEET



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 SALEM, OREGON

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**EXHIBIT "B"**  
**PARCEL 'A' ROW DEDICATION**  
 S. 5, T., 1S, R., 3 E, W.M.  
 City of Gresham, Oregon

PROJECT NO. 2099304  
 DATE: 1/13/2011  
 BY: EDL  
 SCALE: 1" = 100'  
 PAGE: 2 OF 2

G-17467

( NEW ROW )  
SE 1857H

## Exhibit "A"

**LEGAL DESCRIPTION – PARCEL 'B'  
EAST COUNTY COURTHOUSE  
RIGHT-OF-WAY DEDICATION**

January 13, 2011

Page 1 OF 2

A PORTION OF LOT 10, OF THE PLAT OF "EASTWOOD", MULTNOMAH COUNTY PLAT RECORDS LOCATED IN THE NORTHWEST ONE QUARTER OF SECTION 5, TOWNSHIP 1 SOUTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, WITHIN THE CITY OF GRESHAM, MULTNOMAH COUNTY, OREGON, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE WEST LINE OF SAID LOT 10 AND THE SOUTHERLY RIGHT OF WAY LINE OF SE STARK STREET, BEING 45.00 FEET FROM THE CENTERLINE THEREOF WHEN MEASURED PERPENDICULAR THERETO, THENCE ALONG SAID SOUTHERLY RIGHT OF WAY LINE, SOUTH 88°27'34" EAST, 162.58 FEET; THENCE LEAVING SAID SOUTHERLY RIGHT OF WAY LINE SOUTH 00°50'48" WEST, 142.31 FEET; THENCE SOUTH 89°04'07" EAST, 10.33 FEET; THENCE SOUTH 01°32'26" WEST, 287.58 FEET TO THE NORTHERLY LINE OF THAT TRACT OF LAND DESCRIBED IN DEED DOCUMENT NO. 95-74731, MULTNOMAH COUNTY DEED RECORDS; THENCE ALONG SAID NORTHERLY LINE, NORTH 88°27'52" WEST, 56.00 FEET; THENCE LEAVING SAID NORTHERLY LINE NORTH 01°32'26" EAST, 415.41 FEET; THENCE NORTH 43°27'34" WEST, 14.66 FEET; THENCE NORTH 88°27'34" WEST, 108.21 FEET TO THE WESTERLY LINE OF SAID LOT 10; THENCE ALONG THE WESTERLY LINE OF SAID LOT 10, NORTH 00°50'48" EAST, 4.00 FEET TO THE POINT OF BEGINNING.

CONTAINING 23,004 SQUARE FEET, MORE OR LESS.

THE BASIS OF BEARINGS WAS DERIVED FROM THE FOUND AND HELD MONUMENTS, #371 AND #89 PER THE PHOTOGRAMMETRIC CONTROL NETWORK FOR THE CITY OF GRESHAM DRAWING NO. GC53124-2.

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR



OREGON  
JULY 12, 2005  
ERIC D. LYNCH  
58544

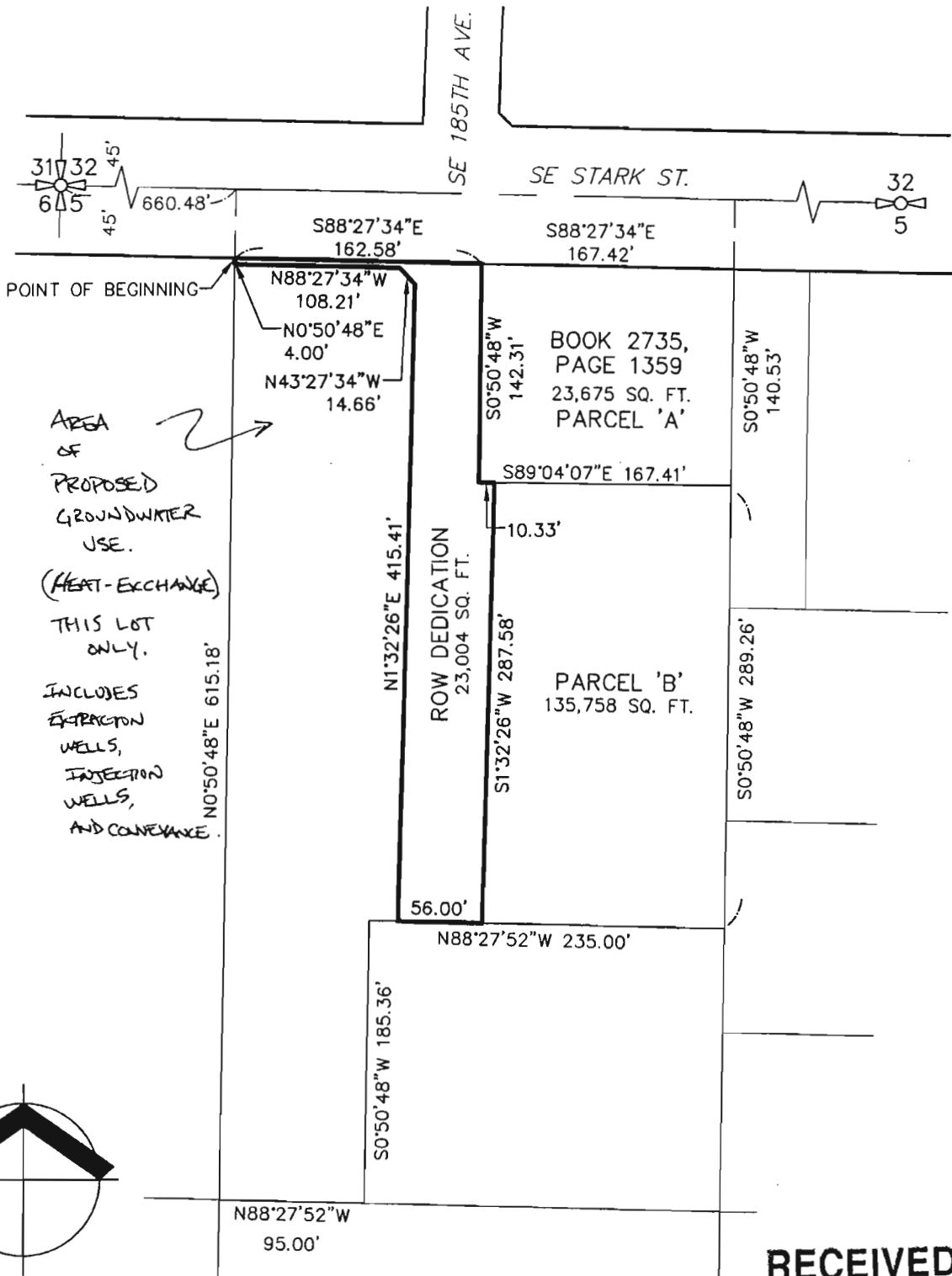
RENEWS: 12/31/12

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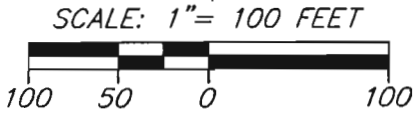
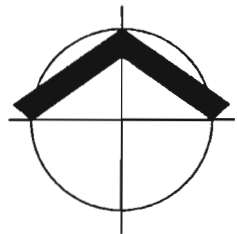
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WATER RESOURCES DEPT  
SALEM, OREGON



AREA  
OF  
PROPOSED  
GROUNDWATER  
USE.  
(HEAT-EXCHANGE)  
THIS LOT  
ONLY.  
INCLUDES  
EXTRACTION  
WELLS,  
INJECTION  
WELLS,  
AND CONVEYANCE.



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SALEM, OREGON

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**EXHIBIT "B"**  
**PARCEL 'B' ROW DEDICATION**

S. 5, T. 1S, R., 3 E, W.M.  
City of Gresham, Oregon

PROJECT NO. 2099304  
DATE: 1/13/2011  
BY: EDL  
SCALE: 1" = 100'  
PAGE: 2 OF 2

G-17467

SITE WHERE WATER  
TO BE EXTRACTED,  
USED, RE-INJECTED.

**Exhibit "A"**

**LEGAL DESCRIPTION – PARCEL 'B'  
EAST COUNTY COURTHOUSE  
RESULTANT PARCEL**

January 6, 2011  
Page 1 OF 2

A PORTION OF LOT 10, OF THE PLAT OF "EASTWOOD", MULTNOMAH COUNTY PLAT RECORDS LOCATED IN THE NORTHWEST ONE QUARTER OF SECTION 5, TOWNSHIP 1 SOUTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, WITHIN THE CITY OF GRESHAM, MULTNOMAH COUNTY, OREGON, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE INTERSECTION OF THE EAST LINE OF SAID LOT 10 AND THE SOUTHERLY RIGHT OF WAY LINE OF SE STARK STREET, BEING 45.00 FEET FROM THE CENTERLINE THEREOF WHEN MEASURED PERPENDICULAR THERETO, THENCE ALONG THE EASTERLY LINE OF SAID LOT 10, SOUTH 00°50'48" WEST, 140.53 FEET TO THE POINT OF BEGINNING;

THENCE CONTINUING ALONG SAID EASTERLY LINE SOUTH 00°50'48" WEST, 289.26 FEET TO THE NORTHERLY LINE OF THAT TRACT OF LAND DESCRIBED IN DEED DOCUMENT NO. 95-74731, MULTNOMAH COUNTY DEED RECORDS;

THENCE ALONG SAID NORTHERLY LINE, NORTH 88°27'52" WEST, 235.00 FEET;

THENCE SOUTH 00°50'48" WEST, 185.36 FEET TO THE SOUTHERLY LINE OF SAID LOT 10;

THENCE ALONG SAID SOUTHERLY LINE, NORTH 88°27'52" WEST, 95.00 FEET TO THE SOUTHWEST CORNER OF SAID LOT 10;

THENCE ALONG THE WESTERLY LINE OF SAID LOT 10, NORTH 00°50'48" EAST, 615.18 FEET TO THE SOUTHERLY RIGHT OF WAY LINE OF SE STARK STREET (BEING 45.00 FEET FROM THE CENTERLINE WHEN MEASURED PERPENDICULAR THERETO);

THENCE ALONG SAID SOUTHERLY RIGHT OF WAY, SOUTH 88°27'34" EAST, 162.58 FEET;

THENCE LEAVING SAID SOUTHERLY RIGHT OF WAY LINE, SOUTH 00°50'48" EAST, 142.31 FEET;

THENCE SOUTH 89°04'07" EAST, 167.41 FEET TO THE POINT OF BEGINNING.

CONTAINING 135,758 SQUARE FEET OR 3.117 ACRES.

THE BASIS OF BEARINGS WAS DERIVED FROM THE FOUND AND HELD MONUMENTS, #371 AND #89 PER THE PHOTOGRAMMETRIC CONTROL NETWORK FOR THE CITY OF GRESHAM DRAWING NO. GC53124-2.

9-17467

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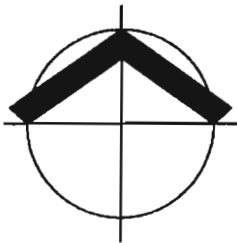
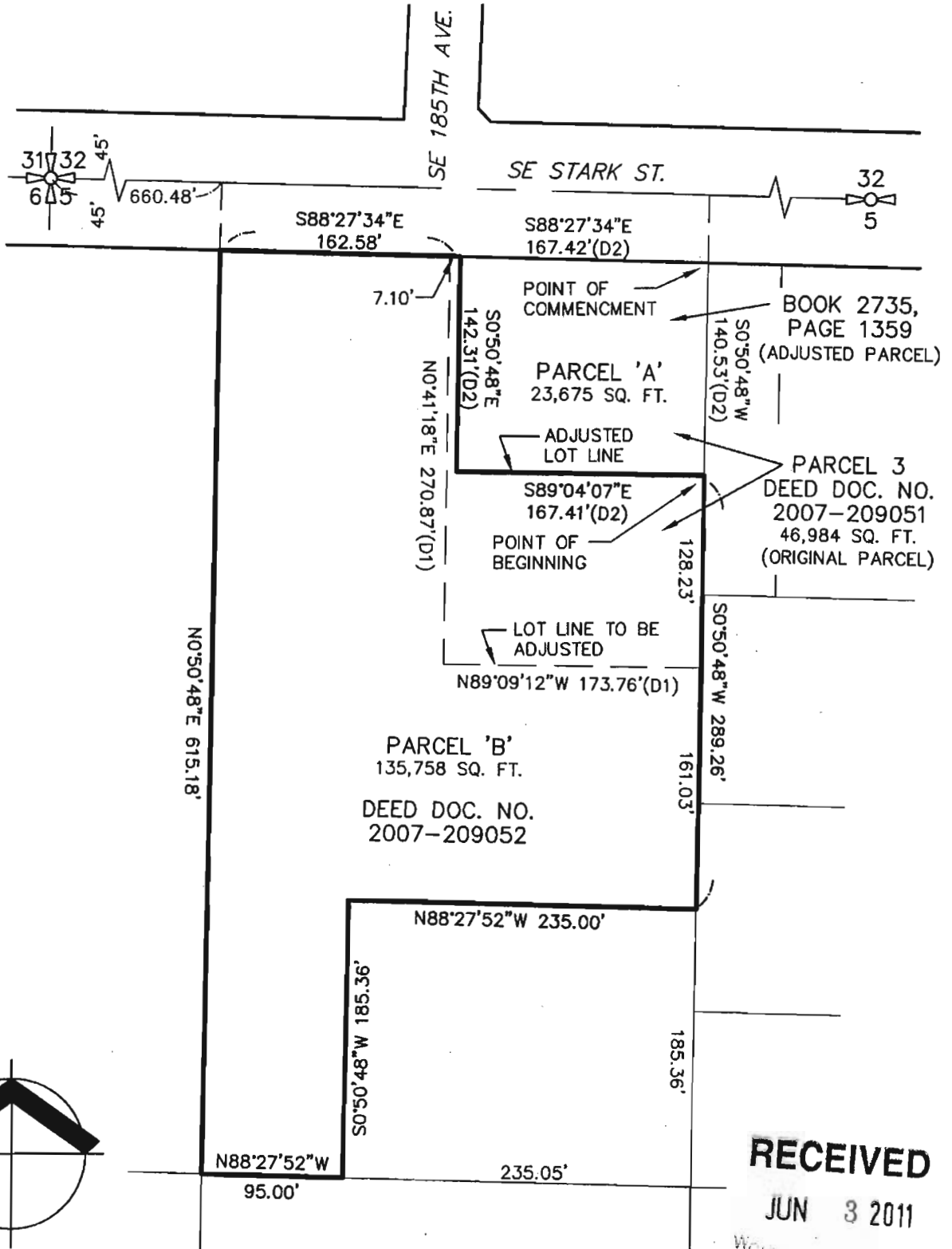
*E. D. Lynch*

OREGON  
JULY 12, 2005  
ERIC D. LYNCH  
58544

RENEWS: 12/31/12

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SALEM, OREGON



SCALE: 1" = 100 FEET



(D1) = PARCEL 3, DEED DOC. NO. 2007-209051  
(D2) = BOOK 2735, PAGE 1355

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WALL  
SALEM, ORE.



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**EXHIBIT "B"**  
**RESULTANT PARCEL**

S. 5, T., 1S, R., 3 E, W.M.  
City of Gresham, Oregon

PROJECT NO. 2099304  
DATE: 01/06/2011  
BY: EDL  
SCALE: 1" = 50'  
PAGE: 2 OF 2

G-17467

STATE OF OREGON  
**WATER SUPPLY WELL REPORT**  
 (as required by ORS 537.765)  
 Instructions for completing this report are on the last page of this form

**MULT 103417**  
**SKYLES DRILLING, INC.**  
 503-656-2683

WELL ID # L 102694  
 START CARD # W1011387

(1) OWNER: Well Number: 01  
 Name Multnomah County/Gao Design, Inc/East County Proj.  
 Address c/o Property Management, 401 N. Dixon St.  
 City Portland State OR Zip 97227-1885

(2) TYPE OF WORK:  
 New Well  Deepening  Alteration (repair/recondition)  Abandonment

(3) DRILL METHOD:  
 Rotary Air  Rotary Mud  Cable  Auger  
 Other Holts

(4) PROPOSED USE:  
 Domestic  Community  Industrial  Irrigation  
 Thermal  Injection  Livestock  Other Test

(5) BORE HOLE CONSTRUCTION:  
 Special Construction approval  Yes  No Depth of Completed Well 159 ft.  
 Explosives used  Yes  No Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE			SEAL			Amount	
Diameter	From	To	Material	From	To	sacks or pounds	
12	0	20	Cement w/3%		20		
9.6	20	159	Bentonite		0	23 Sacks	

How was seal placed: Method  A  B  C  D  E  
 Other  
 Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
 Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

(6) CASING/LINER:

Casing	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
	8	+2	158	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Liner: None

Drive Shoe used  Inside  Outside  None  
 Final location of shoe(s) \_\_\_\_\_

(7) PERFORATIONS/SCREENS:

Perforations Method Air Perforator  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_

From	To	Slot size	Number	Diameter	Tool/pipe size	Casing	Liner
120	157	1/8x1	1110			<input checked="" type="checkbox"/>	<input type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour  
 Pump  Baller  Air  Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
175		157	1 hr.

Temperature of Water 54.5 Depth Artesian Flow found \_\_\_\_\_  
 Was a water analysis done?  Yes By whom \_\_\_\_\_  
 Did any strata contain water not suitable for intended use?  Too little  
 Salty  Muddy  Odor  Colored  Other \_\_\_\_\_  
 Depth of strata: \_\_\_\_\_

(9) LOCATION OF WELL by legal description:  
 County Multnomah Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Township 1SOUTH N or S. Range 3EAST E or W. of WM.  
 Section 0888 NW 14 NW 14  
 Tax lot 2100 Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
 Street Address of Well (or nearest address) 18500 SE Stark St.  
Graham, OR

(10) STATIC WATER LEVEL:  
83.5 ft. below land surface. Date 9/15/2010  
 Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) WATER BEARING ZONES:  
 Depth at which water was first found 86'

From	To	Estimated Flow Rate	SWL
68	85	40	83.5
107	159	175	83.5

(12) WELL LOG:

Material	From	To	SWL
Ashphalt & gravel	0	.5	
Clay, brown w/ cobbles	.5	3	
Gravel, medium w/ boulders	3	13	
Gravel, medium, light @ times	13	107	
Conglomerate, multicolored	107	159	83.5

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WATER RESOURCES DEPT  
 SALEM, OREGON

**Skyles Drilling, Inc.**  
 21912 S. Beaver Creek Rd.  
 Oregon City, OR 97045  
 503-656-2683

Date started 9/8/2010 Completed 9/15/2010

(unbonded) Water Well Constructor Certification:  
 I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

Signed [Signature] WWC Number 1715  
Skyles Drilling, Inc. Date 9/15/2010

(bonded) Water Well Constructor Certification:  
 I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

Signed [Signature] WWC Number 1592  
Skyles Drilling, Inc. Date 9/15/2010

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WATER RESOURCES DEPT  
 SALEM, OREGON

G-17467

STATE OF OREGON WATER SUPPLY WELL REPORT

Page # 1 of WATER RESOURCES DEPT SALEM, OREGON WELL I.D. # L 103053 START CARD # 1012280

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number EW-1 Name Multnomah County C/O Howard S. Wright Address P.O. Box 5511 City Portland State OR Zip 97228

(2) TYPE OF WORK [X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD: [ ] Rotary Air [X] Rotary Mud [ ] Cable [ ] Auger [ ] Other

(4) PROPOSED USE: [ ] Domestic [ ] Community [ ] Industrial [ ] Irrigation [ ] Thermal [ ] Injection [ ] Livestock [X] Other Extraction

(5) BORE HOLE CONSTRUCTION: Heat Pump Well Special Construction approval [X] Yes [ ] No Depth of Completed Well 275 ft. Expusives used [ ] Yes [X] No Type Amount

Table with columns: HOLE, SEAL, Diameter, From, To, Material, From, To, Sacks or pounds. Includes entries for Cement Grout, Bentonite, and Chips.

How was seal placed: Method [ ] A [ ] B [X] C [ ] D [ ] E [ ] Other

Backfill placed from 260 ft. to 275 ft. Material pea gravel Gravel placed from 150 ft. to 260 ft. Size of gravel 6 x 9

(6) CASING/LINER: sand Table with columns: Diameter, From, To, Gauge, Steel, Plastic, Welded, Threaded. Includes entries for 10" casing and liner.

Final location of shoe(s) N/A

(7) PERFORATIONS/SCREENS: [X] Perforations Method Mills Knife [X] Screens Type Material Stainless Table with columns: From, To, Slot size, Number, Diameter, Tele/pipe size, Casing, Liner.

(8) WELL TESTS: Minimum testing time is 1 hour [X] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian Yield gal/min Drawdown Drill stem at Time SEE ATTACHED PUMP TEST SHEETS 1 hr.

Temperature of water 51° Depth Artesian Flow Found Was a water analysis done? [ ] Yes By whom Did any strata contain water not suitable for intended use? [ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other Depth of strata: APR 04 2011

(9) LOCATION OF WELL by legal description: County MULT Latitude Longitude Township 1 S N or (S) Range 3 E (E) or W. WM Section 5 NW 1/4 NW 1/4 Tax Lot 2100 Lot Block Subdivision Street Address of Well (or nearest address) 18480 SE Stark St., Portland, OR East County Courts Project

(10) STATIC WATER LEVEL: 65'7" ft. below land surface. Date 3-18-11 Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES: Depth at which water was first found 153'

Table with columns: From, To, Estimated Flow Rate, SWL. Includes entry for 153 to 260 ft with 100 gpm flow rate and 65'7" SWL.

(12) WELL LOG: Ground Elevation

Table with columns: Material, From, To, SWL. Lists materials like Asphalt fill gravel, Loose sand, Cemented gravel, etc. with depth ranges.

Date started 2-1-11 Completed 3-18-11 (unbonded) Water Well Constructor Certification: continued on page # 2 I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards.

(bonded) Water Well Constructor Certification: I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

G-17467

STATE OF OREGON WATER SUPPLY WELL REPORT

(as required by ORS 537.765)

WELL I.D. # L 103055

START CARD # 1012280

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number EW-1

Name Multnomah County C/O Howard S. Wright

Address P.O. Box 5511

City Portland State OR Zip 97228

(2) TYPE OF WORK

[X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD:

[ ] Rotary Air [X] Rotary Mud [ ] Cable [ ] Auger

[ ] Other

(4) PROPOSED USE:

[ ] Domestic [ ] Community [ ] Industrial [ ] Irrigation

[ ] Thermal [ ] Injection [ ] Livestock [X] Other Extraction

(5) BORE HOLE CONSTRUCTION: Heat Pump Well

Special Construction approval [ ] Yes [ ] No Depth of Completed Well \_\_\_\_\_ ft.

Explosives used [ ] Yes [ ] No Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE

SEAL

Table with columns: Diameter, From, To, Material, From, To, Sacks or pounds

How was seal placed: Method [ ] A [ ] B [ ] C [ ] D [ ] E

[ ] Other

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_

Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

(6) CASING/LINER:

Table with columns: Diameter, From, To, Gauge, Steel, Plastic, Welded, Threaded

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:

[ ] Perforations Method \_\_\_\_\_

[ ] Screens Type \_\_\_\_\_ Material \_\_\_\_\_

Table with columns: From, To, Slot size, Number, Diameter, Tele/pipe size, Casing, Liner

(8) WELL TESTS: Minimum testing time is 1 hour

[ ] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian

Table with columns: Yield gal/min, Drawdown, Drill stem at, Time

Temperature of water \_\_\_\_\_ Depth Artesian Flow Found \_\_\_\_\_

Was a water analysis done? [ ] Yes By whom \_\_\_\_\_

Did any strata contain water not suitable for intended use? [ ] Too little

[ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other \_\_\_\_\_

Depth of strata: \_\_\_\_\_

(9) LOCATION OF WELL by legal description:

County MULT Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

Township 1 S N or (S) Range 3 (E) (E) or W. WM

Section 5 NW 1/4 NW 1/4

Tax Lot 2100 Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_

Street Address of Well (or nearest address) 18480 SE. Stark St.

Portland, OR East County Courts Project

(10) STATIC WATER LEVEL:

\_\_\_\_\_ ft. below land surface. Date \_\_\_\_\_

Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(11) WATER BEARING ZONES:

Depth at which water was first found \_\_\_\_\_

Table with columns: From, To, Estimated Flow Rate, SWL

(12) WELL LOG:

Ground Elevation \_\_\_\_\_

Continued from page # 1 of 2

Table with columns: Material, From, To, SWL

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WATER RESOURCES DEPT SALEM, OREGON

Date started 2-1-11 Completed 3-18-11

(bonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards.

Signed \_\_\_\_\_ WWC Number 1917 Date 3-31-11

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above.

Signed \_\_\_\_\_ WWC Number 1445 Date 3-31-11



**MULT 105451**  
**Hansen Drilling Co., Inc.**

6711 N.E. 58th Avenue  
 Vancouver, WA 98661-1499

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Name: East County Courts C/O Howard S Wright Constructors  
 Job Location: 185<sup>th</sup> & Stark  
 Unit Description: Extraction Well  
 Depth: 260'                      Static Level: 70'10"

Date: 2-22-11  
 Phone: 503-220-0895  
 Motor: Hp: 30 Ph: 3  
 Well Size: 10"

**JUN 3 2011**  
 WATER RESOURCES DEPT  
 SALEM, OREGON

Time	Water Condition	Pumping Level	Water Temp.	GPM	Pressure Gauge Reading	Totalizer Reading
12:00		Start		100		
12:02	Cloudy	120'		100		
12:03	Cloudy	130'		100		
12:06	Clear	133'		100		
12:08	Clear	135'		100		
12:12	Clear	136'8"		100		
12:15	Clear	138'3"		100		
12:16	Clear	Pump Off				
12:25	Clear	Start		150		
12:35	Clear	163'2"		150		
12:40		166'		150		
12:41		185'		200		
12:43		190'		200		
12:44		Pump Off				
12:46		115' Recovery				
12:53		87'10" Recovery				
12:53		Pump On		200		
1:04		190'		200		
1:04		Pump Off				
1:14		87'10" Recovery				
1:14		Pump On		200		
1:25		190'				
1:25		Pump Off				
1:35		87'10" Recovery				
1:35		Pump On	Pumped	Down	To 190'	Slowed to 150'
2:40		Leveled Out	At 184			

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 WATER RESOURCES DEPT  
 SALEM, OREGON

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WATER RESOURCES DEPT  
SALEM, OREGON

MULT 105451

Preliminary Pumping Test Data  
Step Testing - EW-1  
East County Courts  
Gresham, OR

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WATER RESOURCES DEPT  
SALEM, OREGON

Date/Time	Total ET (min)	Step 1 ET (min)	Step 2 ET (min)	Step 3 ET (min)	Recovery ET (min)	VR	Depth to Water			Draw-Down (ft)	Recovery Distance (ft)	Flow Rate (gpm)	Remarks	
							ft	In	Ft					
3/18/11 9:51	0	0	--	--	--	--	68	7.0	68.58	--	--	70	Begin pumping, Step 1. Totalizer 1468700 gal	
3/18/11 9:52	1	1	--	--	--	--	81	7.0	81.58	13.00	--	70		
3/18/11 9:53	2	2	--	--	--	--	85	4.5	85.38	16.79	--	70		
3/18/11 9:54	3	3	--	--	--	--	87	3.5	87.29	18.71	--	70		
3/18/11 9:55	4	4	--	--	--	--	88	7.0	88.58	20.00	--	70		
3/18/11 9:56	5	5	--	--	--	--	89	5.5	89.46	20.88	--	--		
3/18/11 9:57	6	6	--	--	--	--	89	10.0	89.83	21.25	--	70		
3/18/11 9:58	7	7	--	--	--	--	90	2.5	90.21	21.63	--	--		
3/18/11 9:59	8	8	--	--	--	--	90	7.0	90.58	22.00	--	70		
3/18/11 10:00	9	9	--	--	--	--	90	10.0	90.83	22.25	--	--		
3/18/11 10:01	10	10	--	--	--	--	91	2.0	91.17	22.58	--	70		
3/18/11 10:02	11	11	--	--	--	--	91	6.0	91.50	22.92	--	--		
3/18/11 10:03	12	12	--	--	--	--	91	9.5	91.79	23.21	--	--		
3/18/11 10:04	13	13	--	--	--	--	92	1.0	92.08	23.50	--	--		
3/18/11 10:05	14	14	--	--	--	--	92	3.0	92.25	23.67	--	--		
3/18/11 10:06	15	15	--	--	--	--	92	6.0	92.50	23.92	--	--		
3/18/11 10:07	16	16	--	--	--	--	92	6.5	92.54	23.96	--	65-70		
3/18/11 10:08	17	17	--	--	--	--	92	7.5	92.63	24.04	--	65		
3/18/11 10:09	18	18	--	--	--	--	92	7.5	92.63	24.04	--	65		
3/18/11 10:10	19	19	--	--	--	--	92	8.0	92.67	24.08	--	65		
3/18/11 10:11	20	20	--	--	--	--	92	9.5	92.79	24.21	--	--		
3/18/11 10:12	21	21	--	--	--	--	99	4.0	99.33	30.75	--	120		Begin Step 2
3/18/11 10:13	22	--	--	--	--	--	105	7.0	105.58	37.00	--	120		
3/18/11 10:15	24	--	--	--	--	--	107	4.0	107.33	38.75	--	--		
3/18/11 10:16	25	--	--	--	--	--	107	9.0	107.75	39.17	--	120		
3/18/11 10:17	26	--	--	--	--	--	108	3.5	108.29	39.71	--	120		
3/18/11 10:18	27	--	--	--	--	--	108	10.0	108.83	40.25	--	120		Totalizer 1471200 gal
3/18/11 10:19	28	--	--	--	--	--	109	6.0	109.50	40.92	--	120		
3/18/11 10:20	29	--	--	--	--	--	110	0.0	110.00	41.42	--	--		
3/18/11 10:21	30	--	--	--	--	--	110	7.0	110.58	42.00	--	115		
3/18/11 10:22	31	--	--	--	--	--	110	4.5	110.38	41.79	--	115		
3/18/11 10:23	32	--	--	--	--	--	110	5.0	110.42	41.83	--	110-115		
3/18/11 10:24	33	--	--	--	--	--	110	8.5	110.71	42.13	--	115		Totalizer 1471900 gal

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WATER RESOURCES DEPT  
SALEM, OREGON

MULT 105451

Preliminary Pumping Test Data  
Step Testing - EW-1  
East County Courts  
Gresham, OR

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WATER RESOURCES DEPT  
SALEM, OREGON

	Total ET	Step 1 ET	Step 2 ET	Step 3 ET	Recovery ET	Depth to Water	Draw-Down	Recovery Distance	Flow Rate	
3/18/11 10:25	34	--	13	--	--	110 11.0	110.92	42.33	--	
3/18/11 10:26	35	--	14	--	--	111 2.0	111.17	42.58	--	115
3/18/11 10:27	36	--	15	--	--	111 6.0	111.50	42.92	--	115
3/18/11 10:28	37	--	16	--	--	111 8.5	111.71	43.13	--	
3/18/11 10:29	38	--	17	--	--	111 8.0	111.67	43.08	--	
3/18/11 10:30	39	--	18	--	--	111 5.5	111.46	42.88	--	110-115
3/18/11 10:31	40	--	19	--	--	111 4.0	111.33	42.75	--	110
3/18/11 10:32	41	--	20	--	--	111 1.0	111.08	42.50	--	100
3/18/11 10:33	42	--	21	--	--	111 0.0	111.00	42.42	--	100
3/18/11 10:34	43	--	22	--	--	111 0.0	111.00	42.42	--	100
3/18/11 10:35	44	--	23	--	--	111 0.0	111.00	42.42	--	100
3/18/11 10:36	45	--	24	--	--	111 5.5	111.46	42.88	--	105
3/18/11 10:37	46	--	25	--	--	111 6.5	111.54	42.96	--	100
3/18/11 10:38	47	--	26	--	--	111 8.0	111.67	43.08	--	100
3/18/11 10:39	48	--	27	--	--	111 8.0	111.67	43.08	--	100
3/18/11 10:40	49	--	28	--	--	111 9.0	111.75	43.17	--	100
3/18/11 10:41	50	--	29	--	--	111 11.5	111.96	43.38	--	100
3/18/11 10:42	51	--	30	--	--	112 1.5	112.13	43.54	--	100
3/18/11 10:44	53	--	32	--	--	112 9.0	112.75	44.17	--	100
3/18/11 10:45	54	--	33	--	--	112 10.5	112.88	44.29	--	100
3/18/11 10:46	55	--	34	--	--	112 11.0	112.92	44.33	--	100
3/18/11 10:47	56	--	35	--	--	112 11.5	112.96	44.38	--	100
3/18/11 10:48	57	--	36	--	--	113 1.0	113.08	44.50	--	100
3/18/11 10:49	58	--	37	--	--	113 2.5	113.21	44.63	--	100
3/18/11 10:50	59	--	38	--	--	113 3.5	113.29	44.71	--	100
3/18/11 10:51	60	--	39	--	--	113 5.0	113.42	44.83	--	100
3/18/11 10:52	61	--	--	1	--	116 1.5	118.13	49.54	--	140
3/18/11 10:53	62	--	--	2	--	121 3.0	121.25	52.67	--	135-140
3/18/11 10:54	63	--	--	3	--	123 6.0	123.50	54.92	--	140
3/18/11 10:55	64	--	--	4	--	124 1.5	124.13	55.54	--	140
3/18/11 10:56	65	--	--	5	--	124 8.5	124.71	56.13	--	140
3/18/11 10:57	66	--	--	6	--	125 3.0	125.25	56.67	--	140
3/18/11 10:58	67	--	--	7	--	125 9.0	125.75	57.17	--	140
3/18/11 10:59	68	--	--	8	--	126 1.0	126.08	57.50	--	140-145
										Totalizer 1476100 gal
										Totalizer 1476100 gal

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 SALEM, OREGON

MULT 105451

Preliminary Pumping Test Data  
 Step Testing - EW-1  
 East County Courts  
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 SALEM, OREGON

	Total ET	Step 1 ET	Step 2 ET	Step 3 ET	Recovery ET	Depth to Water	Draw-Down	Recovery Distance	Flow Rate	
3/18/11 11:02	71	--	--	11	--	127 6.0	58.92	--	140-145	
3/18/11 11:07	76	--	--	16	--	128 2.5	59.63	--	140	
3/18/11 11:11	80	--	--	20	--	128 11.5	60.38	--	140	
3/18/11 11:15	84	--	--	24	--	129 10.5	61.29	--	140	Totalizer 1478900 gal
3/18/11 11:21	90	--	--	30	--	130 8.0	62.08	--	140	
3/18/11 11:25	94	--	--	34	--	131 3.0	62.67	--	140	Water Temp = 51 F
3/18/11 11:31	100	--	--	40	--	132 6.5	63.96	--	140	
3/18/11 11:36	105	--	--	45	--	132 10.0	64.25	--	140	
3/18/11 11:41	110	--	--	50	--	133 3.0	64.67	--	140	
3/18/11 11:46	115	--	--	55	--	133 7.0	65.00	--	140	
3/18/11 11:51	120	--	--	60	--	134 1.0	65.50	--	140	
3/18/11 11:56	125	--	--	65	--	134 8.0	66.08	--	140	Totalizer 1485300 gal
3/18/11 12:01	130	--	--	70	--	135 1.0	66.50	--	140	
3/18/11 12:06	135	--	--	75	--	135 6.5	66.96	--	140	
3/18/11 12:10	139	--	--	79	--	135 10.0	67.25	--	140	Totalizer 1487700 gal
3/18/11 12:16	145	--	--	85	--	136 4.0	67.75	--	140	Switch e-tapes, battery dead
3/18/11 12:25	154	--	--	94	--	137 2.0	68.58	--	--	Turn off pump, begin recovery
3/18/11 12:26	155	--	--	--	1	155 113 3.5	44.71	23.88	--	
3/18/11 12:27	156	--	--	--	2	103 9.0	35.17	33.42	--	
3/18/11 12:28	157	--	--	--	3	100 11.5	32.38	36.21	--	
3/18/11 12:29	158	--	--	--	4	99 1.5	30.54	38.04	--	
3/18/11 12:30	159	--	--	--	5	97 11.0	29.33	39.25	--	
3/18/11 12:31	160	--	--	--	6	96 8.0	28.08	40.50	--	
3/18/11 12:32	161	--	--	--	7	95 7.0	27.00	41.58	--	
3/18/11 12:33	162	--	--	--	8	94 10.0	26.25	42.33	--	
3/18/11 12:34	163	--	--	--	9	94 2.0	25.58	43.00	--	
3/18/11 12:35	164	--	--	--	10	93 6.0	24.92	43.67	--	
3/18/11 12:36	165	--	--	--	11	92 11.0	24.33	44.25	--	
3/18/11 12:37	166	--	--	--	12	90 11.0	22.33	46.25	--	
3/18/11 12:38	167	--	--	--	13	91 11.0	23.33	45.25	--	
3/18/11 12:39	168	--	--	--	14	91 1.0	22.50	46.08	--	
3/18/11 12:40	169	--	--	--	15	90 11.0	22.33	46.25	--	
3/18/11 12:41	170	--	--	--	16	90 5.0	21.83	46.75	--	
3/18/11 12:42	171	--	--	--	17	90 0.0	21.42	47.17	--	

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Preliminary Pumping Test Data  
Step Testing - EW-1  
East County Courts  
Gresham, OR

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	Total ET	Step 1 ET	Step 2 ET	Step 3 ET	Recovery ET		Depth to Water	Draw- Down	Recovery Distance	Flow Rate	
3/18/11 12:43	172	--	--	--	18	10	89 9.0 89.75	21.17	47.42	--	
3/18/11 12:44	173	--	--	--	19	9	89 4.5 89.38	20.79	47.79	--	
3/18/11 12:45	174	--	--	--	20	9	89 0.0 89.00	20.42	48.17	--	
3/18/11 12:46	175	--	--	--	21	8	88 8.5 88.71	20.13	48.46	--	
3/18/11 12:47	176	--	--	--	22	8	88 5.0 88.42	19.83	48.75	--	
3/18/11 12:48	177	--	--	--	23	8	88 2.0 88.17	19.58	49.00	--	
3/18/11 12:49	178	--	--	--	24	7	87 10.0 87.83	19.25	49.33	--	
3/18/11 12:51	180	--	--	--	26	7	87 5.5 87.46	18.98	49.71	--	
3/18/11 12:57	186	--	--	--	32	6	86 3.0 86.25	17.67	50.92	--	
3/18/11 13:01	190	--	--	--	36	5	85 3.5 85.29	16.71	51.88	--	
3/18/11 13:06	195	--	--	--	41	5	84 4.5 84.38	15.79	52.79	--	
3/18/11 13:11	200	--	--	--	46	4	83 7.5 83.63	15.04	53.54	--	
3/18/11 13:16	205	--	--	--	51	4	82 11.0 82.92	14.33	54.25	--	
3/18/11 13:21	210	--	--	--	56	4	82 4.0 82.33	13.75	54.83	--	
3/18/11 13:27	216	--	--	--	62	3	81 8.5 81.71	13.13	55.46	--	End Test

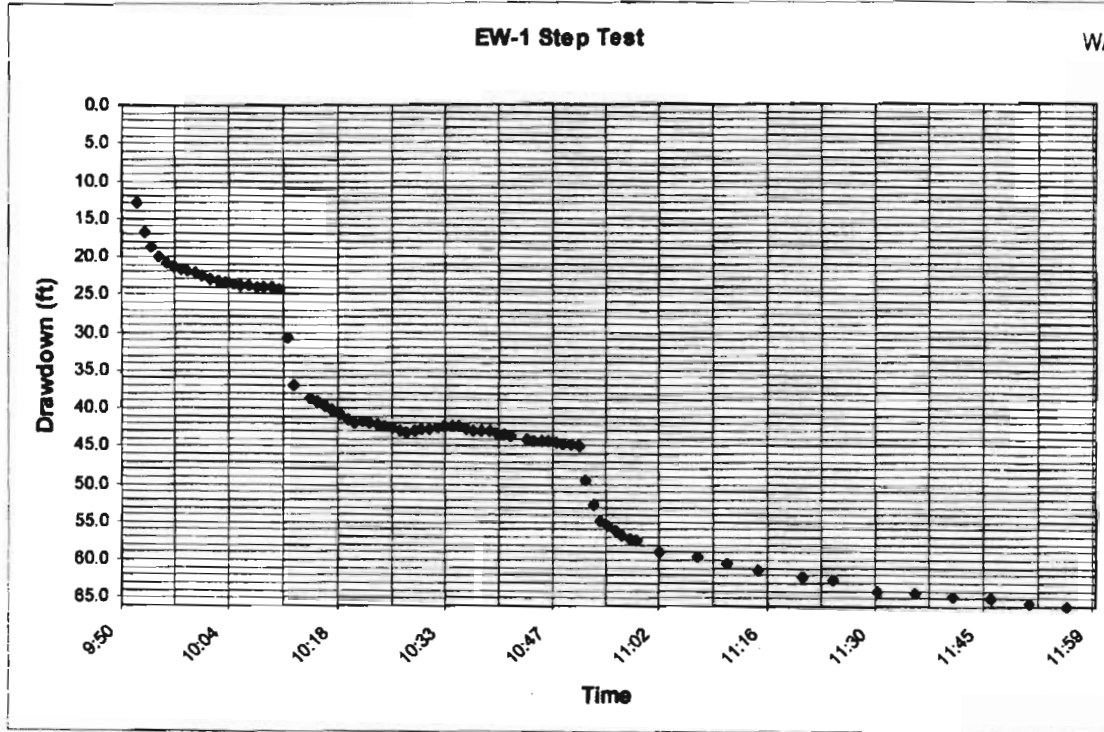
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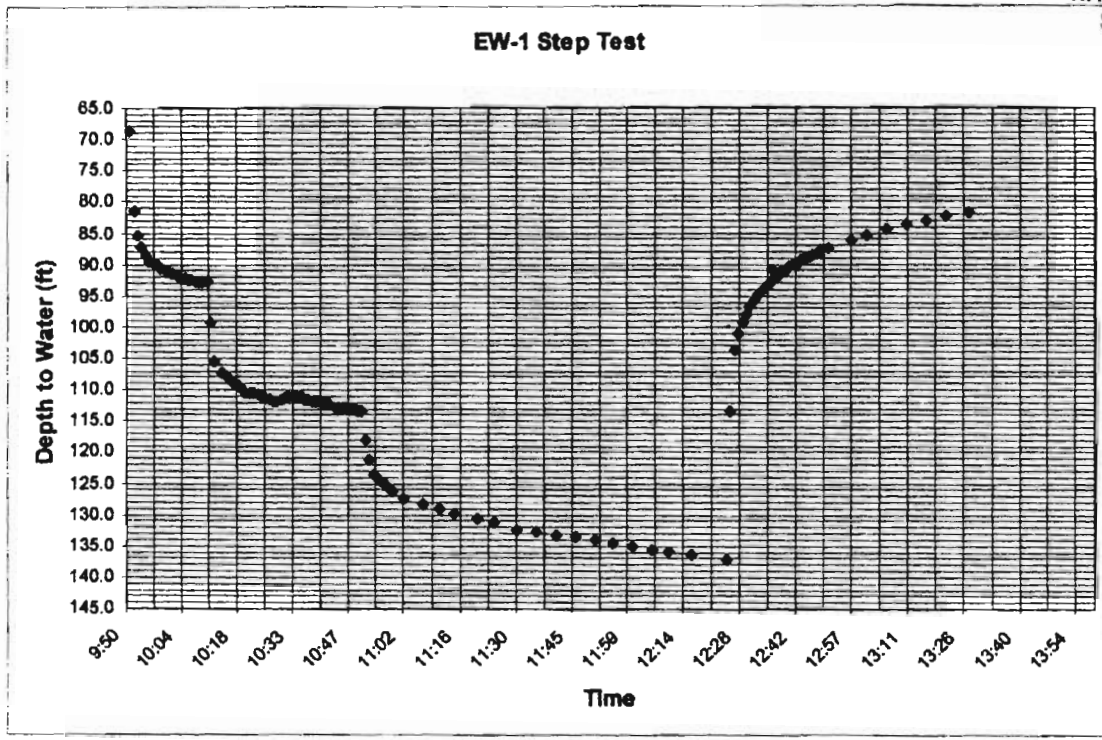
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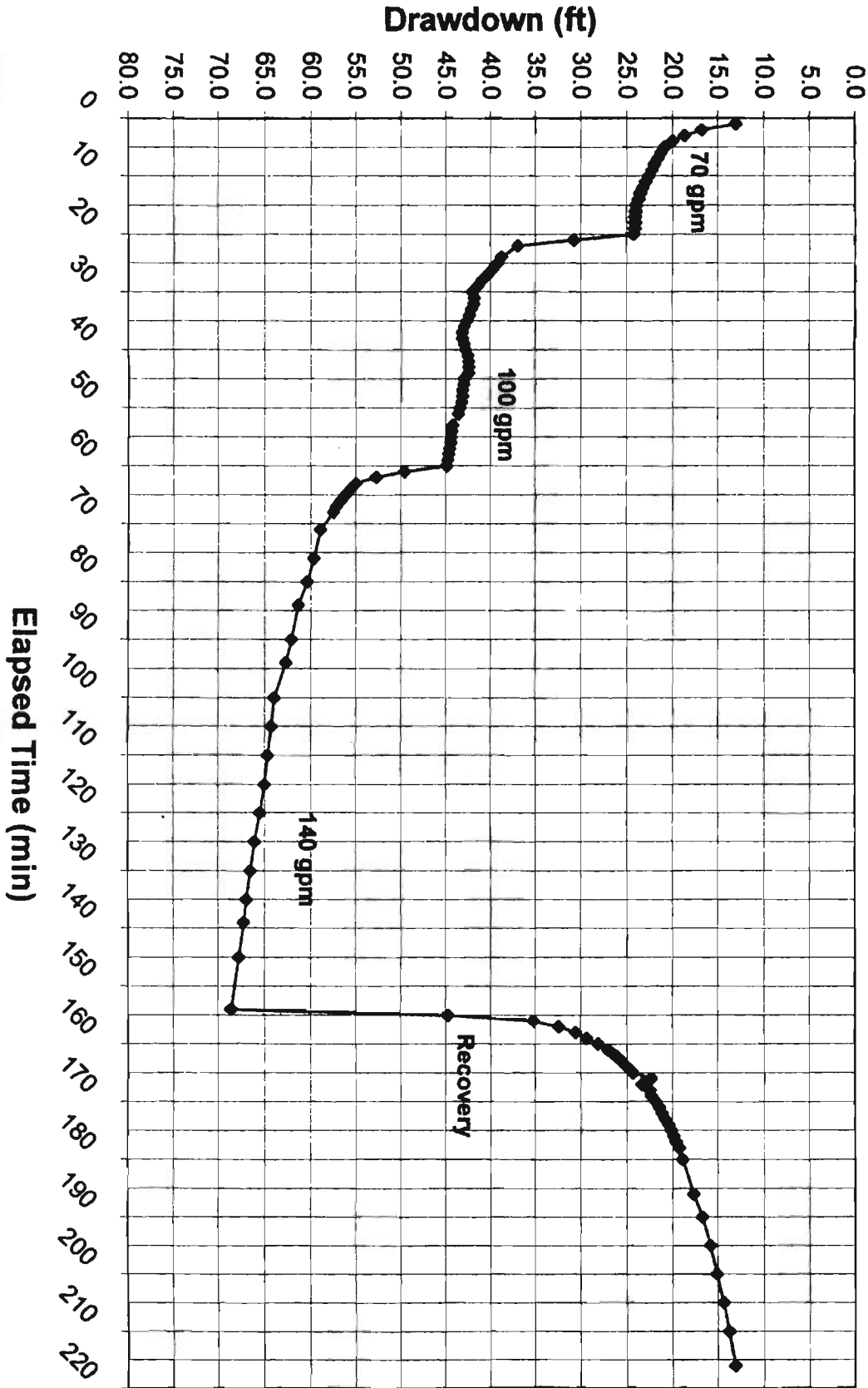
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East County Courts  
EW-1 Step Test  
18 March 2011



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City of Gresham - Permit Services

# Land Use Information Form



Oregon Water Resources Department  
725 Summer Street NE, Suite A  
Salem, Oregon 97301-1266  
(503) 986-0900  
www.wrd.state.or.us

Applicant: MULTNOMAH COUNTY FACILITIES AND PROPERTY MANAGEMENT  
First Last

Mailing Address: 401 NORTH DIXON STREET

PORTLAND OR 97227 Daytime Phone: (503) 988.5082  
City State Zip

### A. Land and Location

Please include the following information for all tax lots where water will be diverted (taken from its source), conveyed (transported), and/or used or developed. Applicants for municipal use, or irrigation uses within irrigation districts may substitute existing and proposed service-area boundaries for the tax-lot information requested below.

Township	Range	Section	1/4	Tax Lot #	Plan Designation (e.g., Rural Residential/RR-5)	Water to be:	Proposed Land Use:
1S	3E	5	SW 1/4	2100 2200 2300 2400	RTC	<input checked="" type="checkbox"/> Diverted <input checked="" type="checkbox"/> Conveyed <input checked="" type="checkbox"/> Used	GOVERNMENT
						<input type="checkbox"/> Diverted <input type="checkbox"/> Conveyed <input type="checkbox"/> Used	
						<input type="checkbox"/> Diverted <input type="checkbox"/> Conveyed <input type="checkbox"/> Used	
						<input type="checkbox"/> Diverted <input type="checkbox"/> Conveyed <input type="checkbox"/> Used	

List all counties and cities where water is proposed to be diverted, conveyed, and/or used or developed:

MULTNOMAH COUNTY, CITY OF GRESHAM

### B. Description of Proposed Use

Type of application to be filed with the Water Resources Department:

- Permit to Use or Store Water
- Water Right Transfer
- Permit Amendment or Ground Water Registration Modification
- Limited Water Use License
- Allocation of Conserved Water
- Exchange of Water

Source of water:  Reservoir/Pond  Ground Water  Surface Water (name) \_\_\_\_\_

Estimated quantity of water needed: 350  cubic feet per second  gallons per minute  acre-feet

Intended use of water:  Irrigation  Commercial  Industrial  Domestic for \_\_\_\_\_ household(s)  
 Municipal  Quasi-Municipal  Instream  Other HEAT-EXCHANGE

Briefly describe:

GROUNDWATER EXTRACTION AND INJECTION FOR GROUND-SOURCE HEAT EXCHANGE SYSTEM. NON-CONSUMPTIVE USE - NEW EAST COUNTY COURTHOUSE SITE.

Note to applicant: If the Land Use Information Form cannot be completed while you wait, please have a local government representative sign the receipt at the bottom of the next page and include it with the application filed with the Water Resources Department.

See bottom of Page 3. →

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18480 SE STARK ST PER STEVE CRUZEN  
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## For Local Government Use Only

The following section must be completed by a planning official from each county and city listed unless the project will be located entirely within the city limits. In that case, only the city planning agency must complete this form. This deals only with the local land-use plan. Do not include approval for activities such as building or grading permits.

**Please check the appropriate box below and provide the requested information**

- Land uses to be served by the proposed water uses (including proposed construction) are allowed outright or are not regulated by your comprehensive plan. Cite applicable ordinance section(s): \_\_\_\_\_
- Land uses to be served by the proposed water uses (including proposed construction) involve discretionary land-use approvals as listed in the table below. (Please attach documentation of applicable land-use approvals which have already been obtained. Record of Action/land-use decision and accompanying findings are sufficient.) If approvals have been obtained but all appeal periods have not ended, check "Being pursued."

Type of Land-Use Approval Needed (e.g., plan amendments, rezones, conditional-use permits, etc.)	Cite Most Significant, Applicable Plan Policies & Ordinance Section References	Land-Use Approval:	
CS3 10R.1LL 10-2600194		<input checked="" type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued
		<input type="checkbox"/> Obtained <input type="checkbox"/> Denied	<input type="checkbox"/> Being Pursued <input type="checkbox"/> Not Being Pursued

Local governments are invited to express special land-use concerns or make recommendations to the Water Resources Department regarding this proposed use of water below, or on a separate sheet.

No concerns

Name: James S. Wheeler Title: Senior City Planner  
 Signature: James S. Wheeler Phone: 503-618-2981 Date: 3/1/11  
 Government Entity: City of Graham

Note to local government representative: Please complete this form or sign the receipt below and return it to the applicant. If you sign the receipt, you will have 30 days from the Water Resources Department's notice date to return the completed Land Use Information Form or WRD may presume the land use associated with the proposed use of water is compatible with local comprehensive plans.

### Receipt for Request for Land Use Information

Applicant name: \_\_\_\_\_  
 City or County: \_\_\_\_\_ Staff contact: \_\_\_\_\_  
 Signature: \_\_\_\_\_ Phone: \_\_\_\_\_ Date: \_\_\_\_\_

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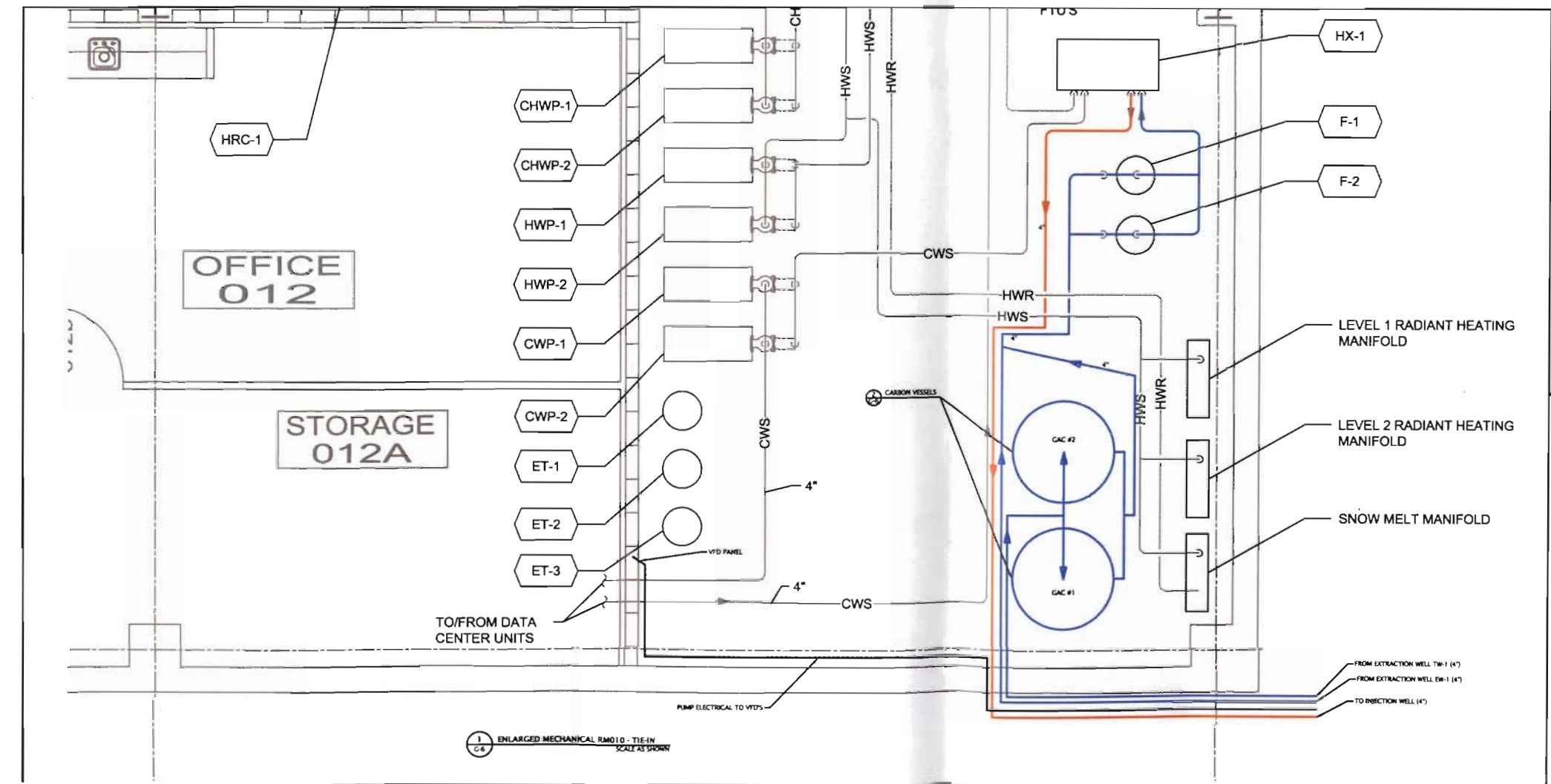
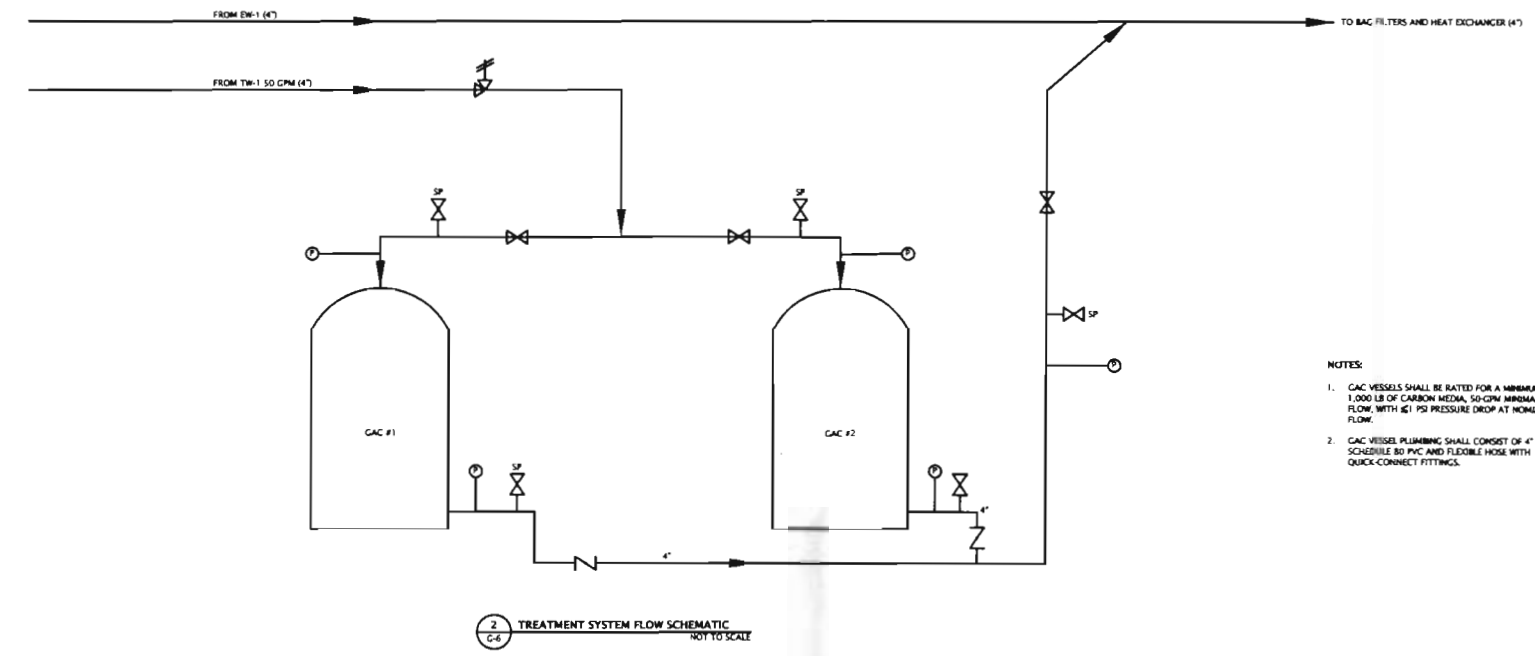




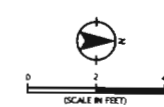


Rev	Date	Description of Revision	By

Consultant Project No: \_\_\_\_\_  
 CAD DWG File: \_\_\_\_\_ Drawn By: \_\_\_\_\_  
 Checked By: EAH Approved By: \_\_\_\_\_  
 M.C. Design: Proj# \_\_\_\_\_  
 Sheet Title: WATER TREATMENT AND MECHANICAL TIE-IN  
 Date: NOVEMBER 2010  
**FIGURE G-6**  
 Sheet \_\_\_\_\_



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