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**RECEIVED**

Oct 17, 2007

OCT 19 2007

To Tanya Durkee, President  
Timberhill Corp.

**Community Development  
Planning Division**

Ref. Meadowridge landscape and irrigation remediation

Tanya,

As per our meeting with the city planning staff, I have prepared several drawings and lists to suggest procedures to meet the intent of the landscape planting commitments that are a part of the PIPC contracts and the current requests from the city for additional plantings.

The first, and I agree with the city, most critical issue to gain establishment of plantings on the exposed cut banks above Honeysuckle Drive is the installation of the irrigation piping to the city water meters. I have discussed this with the city building official, Aaron Amoth, and obtained the required service request applications. Mr. Amoth said that the one existing water stub at the base of Lot 79 should be adequate for a meter to serve Lots 79 thru 82.

We could not find any existing stub on the 'as built' PIPC drawings in the vicinity of Lots 52 thru 55. These lots will be served by a new stub to the water line in Honeysuckle Drive. The installation of both meters and the excavation and repair of the street will be done by city crews. The installation cost cited by Mr. Amoth was \$495 each for the meter installation and there would be no additional charge for the excavation and street/sidewalk repairs. There will also be SDC charges based on the water volume required.

Mr. Amoth said that the City Building Dept. would inspect the site and make any final determinations and they would calculate SDC's from the irrigation plan volume calculations. I have made the plan and the calculation and these are attached.

The planting schedule for the cut banks are in the form of two maps with reference to notes and plant names (attached). I have noted on the maps some areas where jute netting may be of some use in providing a hold for plants. This treatment is not needed in all areas and may be detrimental in some. The areas where jute netting is not recommended, the plants, grasses and forbs are largely established and placing netting over them will be problematic. These areas were all treated with a biodegradable netting at the beginning of this project. A problem then and now is the heavy use of these areas by deer. These cut banks are crossed by several well worn deer paths. The deer got tangled in the previously placed netting. This will happen again if netting is placed on these slopes. The areas where netting is indicated on my maps are very steep and are less used by deer. In all areas there is no significant soil slippage or raveling. Netting is primarily used to stabilize loose raveling soil.

I have included the slope on lot 81 which is not one of the very steep cut slopes for the reason that the home owner has placed heavy layers of bark mulch on the slope and the bark is raveling down to the sidewalk and street. The bark has smothered out the previously established grasses that provided good holding on these slopes.

I have not recommended a general covering of new bark on the established grassy slopes for the same reasons demonstrated in the above instance. I have required mulching of the recommended new plants and the addition of some bark, where needed, around previously established shrubs. This mulching will need to be done by hand at the time of planting. I do not recommend the application of bark mulch by power pump from a truck. The increased irrigation watering and the beneficial value of the established grasses and forbs plus recent seeding of grasses and legumes will accelerate the growth of the woody ground cover and shrub planting to meet the objective.

Recommended re-planting and treatments sloped in Phase I of Meadowridge subdivision. The following notes and plant lists are reference to areas noted (A thru E) on the attached maps.

#### Area A

This is a very steep slope at the bottom of lot 57 and a portion of lot 52. The lot 52 section is mostly exposed rock but does have a few woody plants in niches. The home owner has planted two trees at the top of the slope. The lot 57 portion has several Madrone trees and Manzanita plus some Kinnickinick and juniper. It also has a good stand of Lupine that has produced seed.

I recommend the following plants and quantities for this area.

- 50 1 gal. Arctostaphylos uva-ursi
- 30 1 gal. Juniperous conferta
- 5 5 gal Rhus glabra
- 10 1 gal. Ceanothus gloriosa
- 5 B&B Arctostaphlos patula
- 2 2 gal. Parthenocissus quinquefolia

These plants should be placed after jute netting has been installed over the entire area (A only). Netting will be cut out around existing plants. Cut out and slits in the netting will be required for the new plantings. All existing plants and new plants will receive hand placed bark mulch around the base.

#### Area B

This area is of moderate slope and has a well established mix of grasses, forbes, woody ground covers and several shrubs. Several incense cedars have been planted and several Madrone are established.

I recommend the following plants and quantities for this area;

- 10 1 gal. Arctostaphylos uva-usa
- 10 1 gal. Juniperous conferta
- 2 5 gal. Rhuus glabra
- 6 1 gal. Ceanothus gloriosa
- 1 2 gal. Parthenocissus qinquefolia

This area (B) should not receive any jute netting. New and established plants will receive hand placed bark mulch at the base.

#### Area C

This area includes the lower portion of Lot 81 and Lot 82 plus a portion of Common Area Tract B. The portion on Lot 82 and the Common area is very steep and rocky. It has few plants on the slope but the vines planted at the base are beginning to spread upward.

The portion on Lot 81 is heavily bark mulched and has several shrubs and small trees growing on it.

I recommend the following plants and quantities for this area;

- 2 2 gal. Parthenocissus quinquefolia (At top of rock face).
- 3
- 10 1 gal. Juniperus horizontalis 'Wiltoni' (in rock face and at top).
- 60 1 gal. Arctostaphylos uva-ursi (Lot 81)
- 2 5 gal. Rhus glabra
- 5 1 gal Ceanothus gloriosa

These plantings should be placed after jute netting has been installed over the entire area (C only). Netting will be cut out around existing plants. Cut out slits in netting will be required for the new plantings.

#### Area D

This area has well established grass and forbs plus considerable Kinnickinick on the lower portions. There are several Manzanita and Madrone growing here. There are many Oregon grape that have been stripped by the deer but are still alive and show growth.

I recommend the following plants and quantities for this area;

- 100 1 gal Arctostaphylos uva-ursi
- 5 5 gal. Rhus glabra
- 20 1 gal. Ceanothus gloriosa
- 5 B&B Arctostaphylos patula

This area (D) should not receive any jute netting. New and established plants will receive hand placed bark mulch at the base.

#### Area E

This is a near vertical cut bank along the upper side of the 'Private Drive West' (Sparrow Place). There is no growing soil on the bank itself. A flat area at the bottom of the slope can be planted with the plants that may creep up the slope in time.

I recommend the planting of the following plants and quantities:

40 1 gal, *Arctostaphylos uva-ursi*  
40 1 gal *Vinca minor*  
½ lb. 'Roadside flower mix- shade'

A very light covering of fine, aged bark mulch should be placed over the entire planting area (flat base not cut slope).

Timing;

All of the above recommended plantings should occur during the fall months of this year. The entire area has been weeded and groomed this week and the area has been over-seeded with legumes and grass this week also. The irrigation system can be repaired and extended as indicated prior to the city installing the water service. The main irrigation line running up from the street and from the new meters must be buried in shallow trenches prior to installing the jute netting. These vertical trenches must be back filled with hand place stone, similar to the existing water service line trenches.

The remaining fill slopes in Phase II will be planted as per the PIPC plan with some changes in the tree species as per the city forester.

J. S.

PRIVATE DRIVE "B"

56

BOUNDERS FILL BY LOT OWNER

CHEDGE

HONEY SUCKLE DRIVE

55

57 RE-PLANT (X)  
DUTE NET THIS AREA

52

RE-PLANT (B)

59

PRIVATE DRIVE "D"

60

61

58

51

TRACT F

62

PRIVATE DRIVE "A"

65

64

63

50

ARBONOOD CIRCLE

53

(SS)

(SL)

(SG)

(SL)

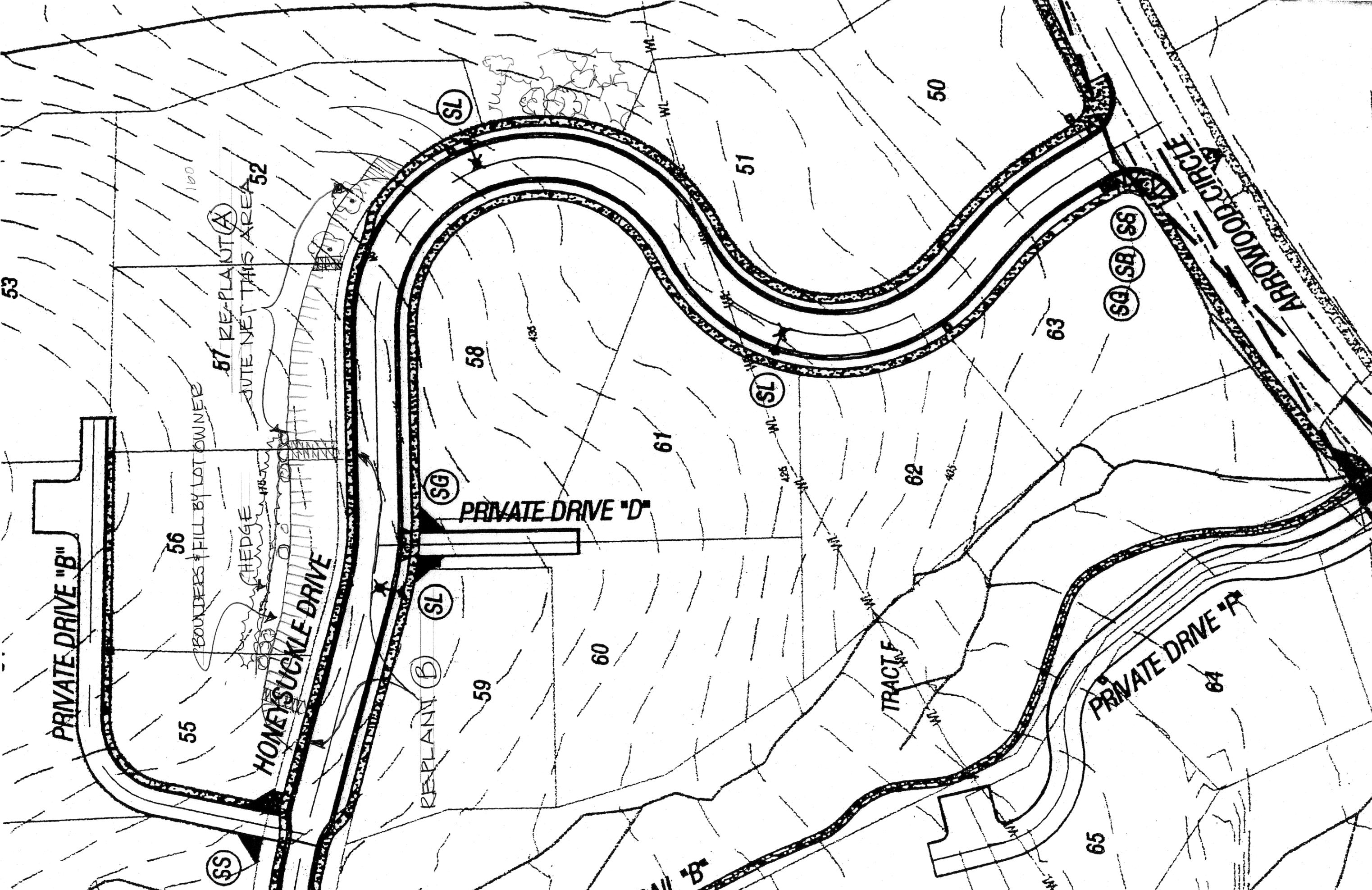
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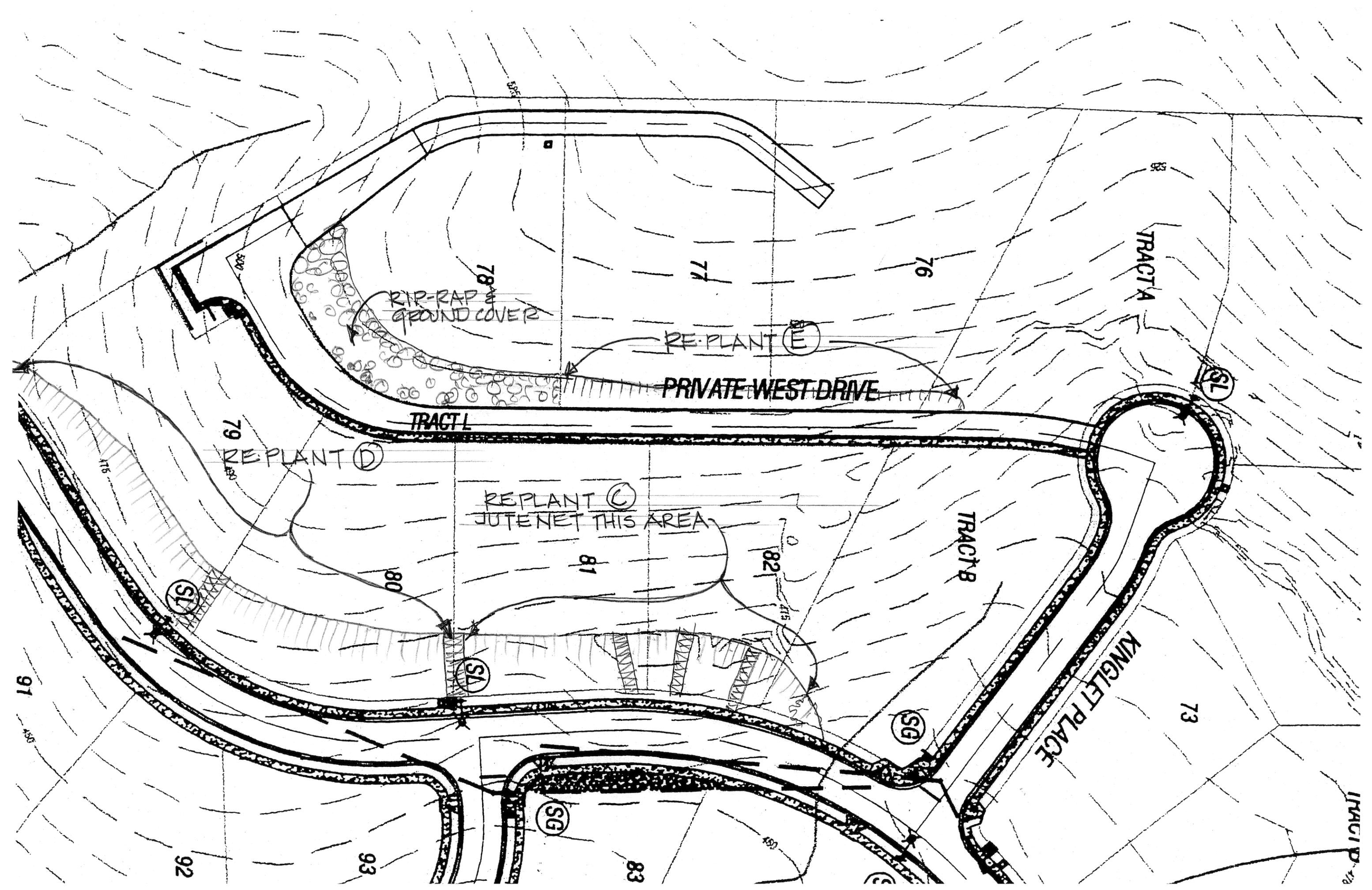
(SS)

(SB)

(SS)

RAIL "B"





TRACT A

PRIVATE WEST DRIVE

TRACT L

TRACT B

KINGLET PLACE

REPLANT (C)  
JUTENET THIS AREA

RIP-RAP  
GROUND COVER

REPLANT (D)

RE-PLANT (E)

91

92

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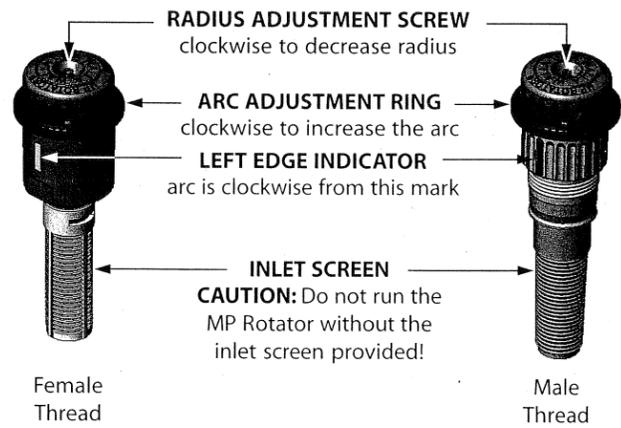
SG

SG

SJ

SJ

SL



MODEL      ARC

Specification Example: **MP2000 90-210**

MODEL:

**MP1000** (for male thread specify **MP1000T**)  
**MP2000** (for male thread specify **MP2000T**)  
or **MP3000** (for male thread specify **MP3000T**)

ARC:

**90-210** = adjustable arc 90° to 210° 

**210-270** = adjustable arc 210° to 270° 

or **360** = fixed arc 360° 

Arc	MP1000*					MP2000					MP3000																																																																																															
	PSI	Rad. Ft.	GPM	in/hr. ■	in/hr. ▲	PSI	Rad. Ft.	GPM	in/hr. ■	in/hr. ▲	PSI	Rad. Ft.	GPM	in/hr. ■	in/hr. ▲																																																																																											
90°	25	-	-	-	-	25	17	0.31	0.41	0.48	MAROON = 90-210°	25**	25	0.69	0.43	0.49	30	12.0	0.16	0.43	0.50	30	17	0.31	0.41	0.48	30	27	0.74	0.39	0.45	35	13.0	0.18	0.40	0.46	35	18	0.33	0.39	0.45	35	28	0.80	0.39	0.45	40	13.5	0.19	0.39	0.45	40	19	0.37	0.39	0.46	40	30	0.86	0.37	0.43	45	14.0	0.20	0.39	0.45	45	20	0.40	0.39	0.44	45	30	0.91	0.39	0.45	50	14.5	0.21	0.38	0.43	50	22	0.44	0.35	0.40	50	30	0.96	0.41	0.47	55	15.0	0.22	0.37	0.43	55	22	0.47	0.37	0.43	55	30	1.01	0.43	0.50
	180°	25	-	-	-	-	30	12.0	0.32	0.43		0.50	BLACK = 90-210°	25	25	1.44	0.44	0.51	30	13.0	0.35	0.40	0.46	30	17	0.63	0.42	0.49	35	13.0	0.35	0.40	0.46	35	18	0.69	0.41	0.47	40	13.5	0.37	0.39	0.45	40	19	0.74	0.39	0.45	45	14.0	0.40	0.39	0.45	45	20	0.78	0.38	0.43	50	14.5	0.41	0.38	0.43	50	21	0.83	0.36	0.41	55	15.0	0.43	0.37	0.43	55	21	0.85	0.37	0.43																												
		210°	25	-	-	-	-	35	13.0	0.41		0.40		0.46	BLUE = 90-210°	25	25	1.68	0.44	0.51	40	13.5	0.43	0.39	0.45	40	19	0.86	0.39	0.45	40	30	1.82	0.39	0.45	45	14.0	0.46	0.39	0.45	45	20	0.92	0.38	0.43	45	30	1.93	0.41	0.48	50	14.5	0.48	0.38	0.43	50	21	0.97	0.36	0.41	50	30	2.04	0.44	0.50	55	15.0	0.50	0.37	0.43	55	21	1.01	0.37	0.43	55	30	2.13	0.46	0.53																										
			270°	25	-	-	-	-	45	14.0		0.46		0.39		0.45	YELLOW = 210-270°	25	25	2.19	0.45	0.52	50	14.5	0.48	0.38	0.43	45	20	0.92	0.38	0.43	45	30	2.25	0.41	0.48	50	14.5	0.48	0.38	0.43	50	21	0.97	0.36	0.41	50	30	2.37	0.43	0.50	55	15.0	0.50	0.37	0.43	55	21	1.01	0.37	0.43	55	30	2.49	0.46	0.53																																							
				360°	25	-	-	-	-	50		14.5		0.48		0.38		0.43	GRAY = 360°	25	25	2.88	0.44	0.51	55	15.0	0.50	0.37	0.43	50	21	1.23	0.36	0.41	50	30	2.55	0.42	0.48	50	21	1.23	0.36	0.41	50	30	2.55	0.42	0.48	55	21	1.30	0.37	0.43	55	30	2.73	0.39	0.45	55	21	1.30	0.37	0.43	55	30	2.89	0.41	0.48																																					
					25	-	-	-	-	55		15.0		0.50		0.37		0.43		55	21	1.30	0.37	0.43	55	30	3.06	0.44	0.50	55	21	1.30	0.37	0.43	55	30	3.06	0.44	0.50	55	30	3.22	0.46	0.53	55	30	3.22	0.46	0.53																																																									
25					-	-	-	-	55	15.0	0.50	0.37		0.43		55		21		1.30	0.37	0.43	55	30	3.22	0.46	0.53	55	21	1.30	0.37	0.43	55	30	3.22	0.46	0.53	55	30	3.22	0.46	0.53	55	30	3.22	0.46	0.53																																																											
25	-				-	-	-	55	15.0	0.50	0.37	0.43	55	21		1.30		0.37		0.43	55	30	3.22	0.46	0.53	55	21	1.30	0.37	0.43	55	30	3.22	0.46	0.53	55	30	3.22	0.46	0.53	55	30	3.22	0.46	0.53																																																													
25	-	-			-	-	55	15.0	0.50	0.37	0.43	55	21	1.30	0.37	0.43		55		30	3.22	0.46	0.53	55	21	1.30	0.37	0.43	55	30	3.22	0.46	0.53	55	30	3.22	0.46	0.53	55	30	3.22	0.46	0.53																																																															

\* The MP1000 is available in the 90-210° model only. If a design requires an MP1000 360° or MP1000 210-270°, specify the equivalent MP2000. It can be adjusted down to an 8' radius when installed on a pressure regulating spray head body.

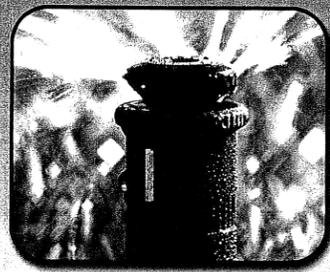
\*\* For the MP3000 sprinkler, at 25 PSI and 90° arc, rotation speed and radius reduction capability decrease significantly.

Radius measured on a 4" high riser. Precipitation rates are based on head-to-head throw coverage. The MP Rotator® covers a radius of 8-30' (including the 25% radius reduction capability). To achieve maximum radius reduction with any MP Rotator model use a 30 PSI regulating spray head body. **Best performance can be achieved by avoiding a combination of lowest adjustment limits and the lowest pressure.**

**W** Walla Walla Sprinkler Company      Walla Walla Sprinkler Company — 848 Airport Road, Walla Walla, WA 99362-2271, U.S.A.  
Tel: 509.525.7660 — Fax: 509.525.7907 — info@mprotator.com — www.mprotator.com

Walla Walla Sprinkler Company is a subsidiary of Nelson Irrigation Corporation, a worldwide leader in water application solutions for agriculture.

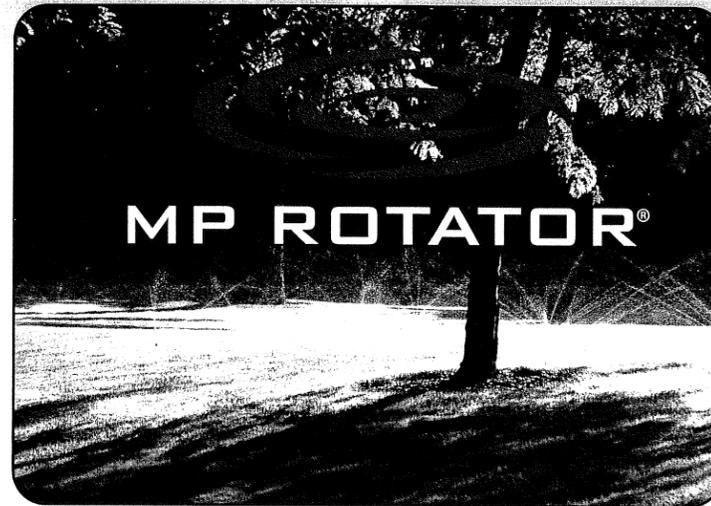
**WARRANTY AND DISCLAIMER:** Walla Walla Sprinkler Company MP Rotators® are warranted for one year from date of original sale to be free of defective materials and workmanship when used within the working specifications for which the products were designed and under normal use and service. The manufacturer assumes no responsibility for installation, removal or unauthorized repair of defective parts. The manufacturer's liability under this warranty is limited solely to replacement or repair of defective parts and the manufacturer will not be liable for any crop or other consequential damages resulting from defects or breach of warranty. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSES AND OF ALL OTHER OBLIGATIONS OR LIABILITIES OF MANUFACTURER. No agent, employee or representative of the manufacturer has authority to waive, alter or add to the provisions of this warranty, nor to make any representations or warranty not contained herein. THE SELLER UNDERTAKES NO RESPONSIBILITY FOR THE QUALITY OF THE GOODS EXCEPT AS OTHERWISE PROVIDED IN THIS CONTRACT, AND THE SELLER ASSUMES NO RESPONSIBILITY THAT THE GOODS WILL BE FIT FOR ANY PARTICULAR PURPOSE FOR WHICH YOU MAY BE BUYING THESE GOODS, EXCEPT AS OTHERWISE PROVIDED IN THIS CONTRACT. This product may be covered by one or more of the following U.S. Patent Nos. Re.33823, 4842201, 4867379, 4898332, 4967961, 5058806, 5288022, 6244521, 6499672, 6651905, 6688539, 6736332 and other U.S. Patents pending or corresponding issued or pending foreign patents.



# THE IDEAL 8-30' solution

## ULTIMATE DESIGN FLEXIBILITY

Compared to fixed-arc sprays, single-stream rotors or a system comprised of both, MP Rotators deliver significant performance advantages, great design flexibility and for those applications requiring 6" or 12" high-pop rotors — impressive cost savings. The **MP1000** (8-15'), the **MP2000** (13-21') and the **MP3000** (22-30') can be combined on the same zone, maintain a matched precipitation rate — even after arc and radius adjustment. MP Rotators perform better in the wind and virtually eliminate runoff due to their low precipitation rate. **Save water, solve problems.**



### MP1000/MP2000 ADVANTAGES VS. CONVENTIONAL SPRAYS

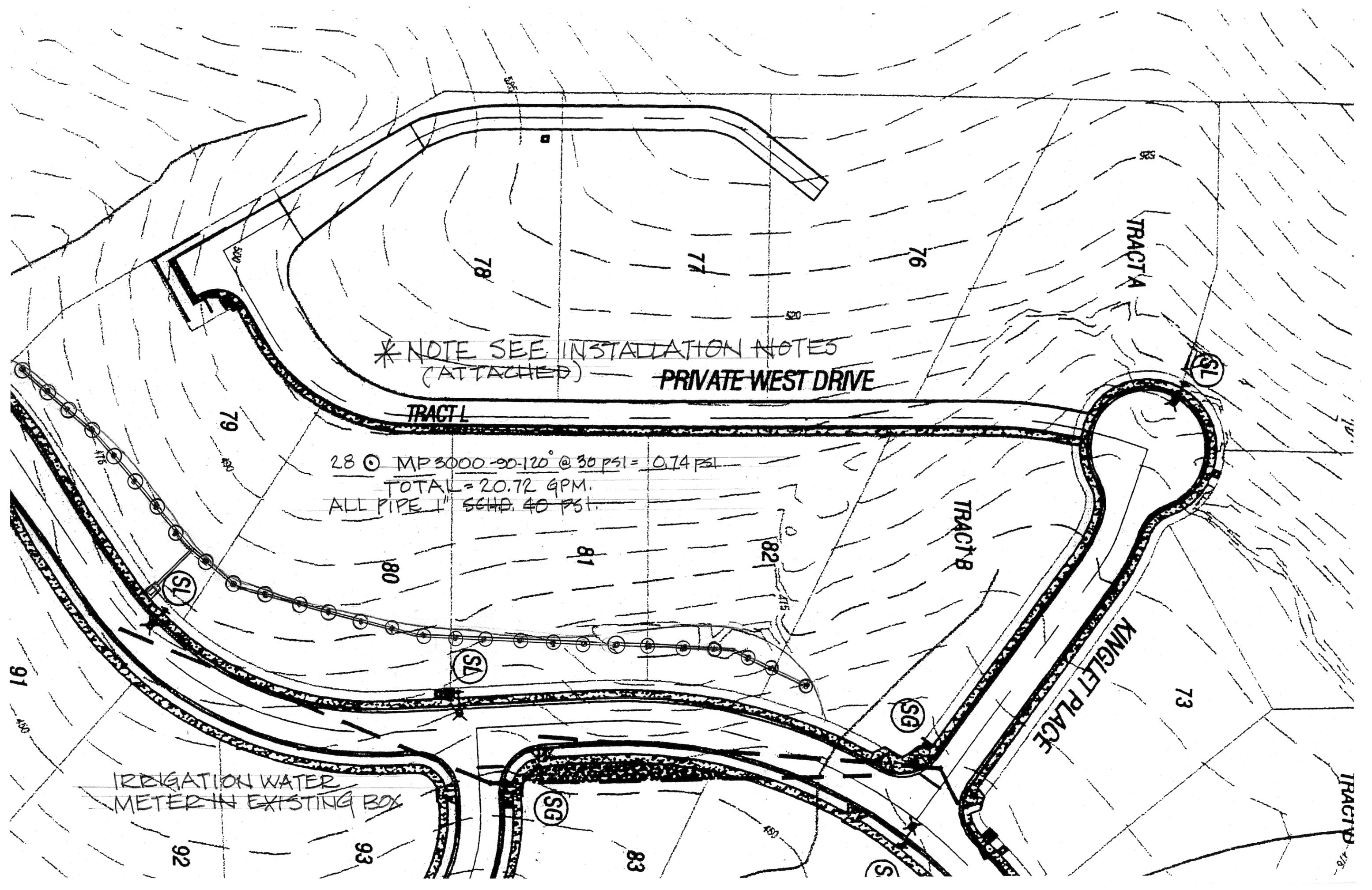
- Higher uniformity — even after radius reduction
- Superior wind resistance
- Reduced misting at higher pressure
- Outstanding close-in water
- Lower application rate — radically less runoff
- Wider operating pressure range
- Lower system cost — ability to put more heads per zone or use smaller pipe, valve and water meter sizes

### MP3000 ADVANTAGES VS. CONVENTIONAL ROTORS

- Better performance in wind with tight, high-energy 30' streams
- Faster installation because nozzle trees are eliminated; left/right edges are always visible
- Matched precipitation between arc settings and after radius reduction
- Better uniformity after radius reduction — no diffuser screw to cause stream distortion
- Lower cost — especially for shrub, 6" and 12" pop-up models

MP1000 8-15' radius		MP2000 13-21' radius		MP3000 22-30' radius	
					
white	light blue	white	light blue	light green	tan
<b>MP1000</b> (Female Thread)	<b>MP1000T</b> (Male Thread)	<b>MP2000</b> (Female Thread)	<b>MP2000T</b> (Male Thread)	<b>MP3000</b> (Female Thread)	<b>MP3000T</b> (Male Thread)

The MP Rotator® covers a radius of 8-30' (including the 25% radius reduction capability). To achieve maximum radius reduction with any MP Rotator model use a 30 PSI regulating spray head body.



\* NOTE SEE INSTALLATION NOTES  
(ATTACHED) — PRIVATE WEST DRIVE

28 @ MP 3000-90-120° @ 30 PSI = 0.74 PSI  
TOTAL = 20.72 GPM.  
ALL PIPE 1" SCHD. 40 PSI

IRRIGATION WATER  
METER IN EXISTING BOX

53

\* SEE INSTALLATION NOTES ATTACHED

16- 1" MP 3000 90-210° @ 30 PSI = 0.74 GPM  
TOTAL = 11.84 GPM  
ALL PIPE 1" SCH. 40 PSI.

57

NEW LANDSCAPE IRRIGATION WATER METER - BY CITY

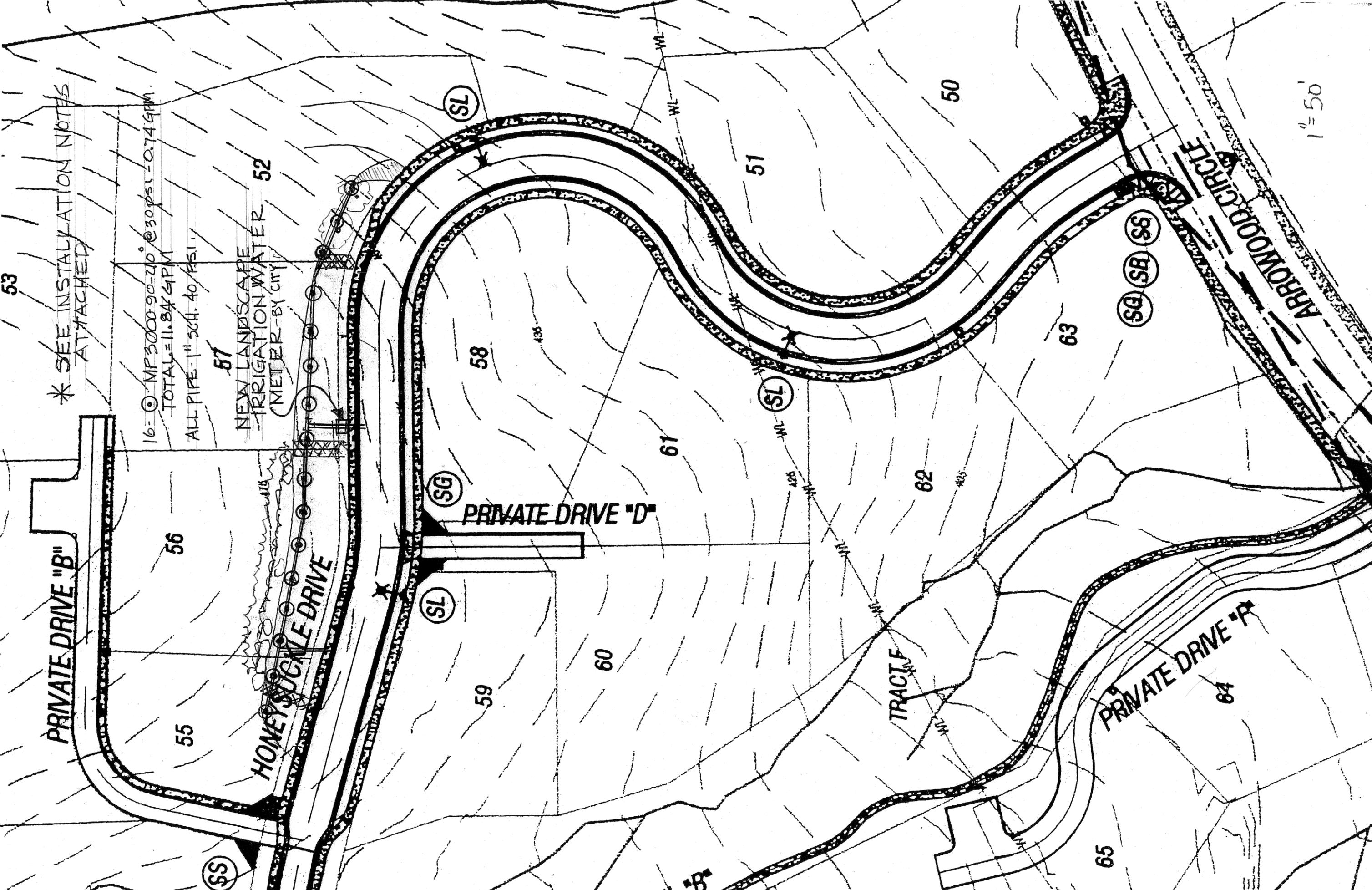
HONEY SUCKLE DRIVE

PRIVATE DRIVE "B"

PRIVATE DRIVE "D"

PRIVATE DRIVE "P"

ARROWOOD CIRCLE



1" = 50'