3. The authorization of the variance will not be materially detrimental to the purposes and standards of this Code, will not be inconsistent with all other regulatory requirements, and will not conflict with the goals and policies of the West Linn Comprehensive Plan.

Response: The authorization of this variance will not be detrimental to the purposes and standards of this Code. On the contrary, authorization of the requested variance will serve many of the City's aspirations as expressed in: The CDC, the West Linn Comprehensive Plan ("Provide all citizens with a range of recreational opportunities; Provide park and recreation opportunities convenient to each of West Linn's neighborhoods; Assure the availability and the reasonable accessibility of recreational lands and facilities to all West Linn residents;" West Linn Comprehensive Plan 2008, PR-2)), and the Parks, Recreation and Open Space Plan ("West Linn residents recognize that parks and open space add to the quality of life and are essential components for a livable city. Parks and recreation also contribute to health and wellness, build stronger families, and reduce social service and justice costs. Creating places to recreate and enjoy nature will provide a number of benefits to the entire community." (Parks, Recreation and Open Space Plan 2008, p.1)). The use of this park as an active-oriented recreation facility is complimentary to the sprit of these goals and policies.

4. The variance request is the minimum variance, which would alleviate the exceptional and extraordinary circumstance.

Response: The specific variance request is to reduce the 24-foot access width (required per 48.040(A)(1)) to 14-feet, from the frontage on Rogue Way a distance of 6-feet southwest of the Rogue Way frontage (measured perpendicular to the frontage). Beyond the 6-foot distance, the access would gradually widen to 22 feet through the parking area as shown in the attached site plan.

5. The exceptional and extraordinary circumstance does not arise from the violation of this ordinance.

The exceptional circumstance is a result of an approved land use decision which is beyond the control of the applicant.

6. The variance will not impose physical limitations on other properties or uses in the area, and will not impose physical limitations on future use of neighboring vacant or underdeveloped properties as authorized by the underlying zoning classification.
(ORD. 1442)

Response: The variance will not impose physical limitations on other properties or uses in the area now or in the future. The impact is confined to a small portion of Tract A.

CONCLUSION

Compliance with all applicable criteria for development of a park containing wetland areas and having limiting topographical constraints affecting road standards have been demonstrated in this

narrative. The Applicant respectfully requests approval of this application for Class II Park Design Review, and Class II Variance for the subject site.

March 3, 2008

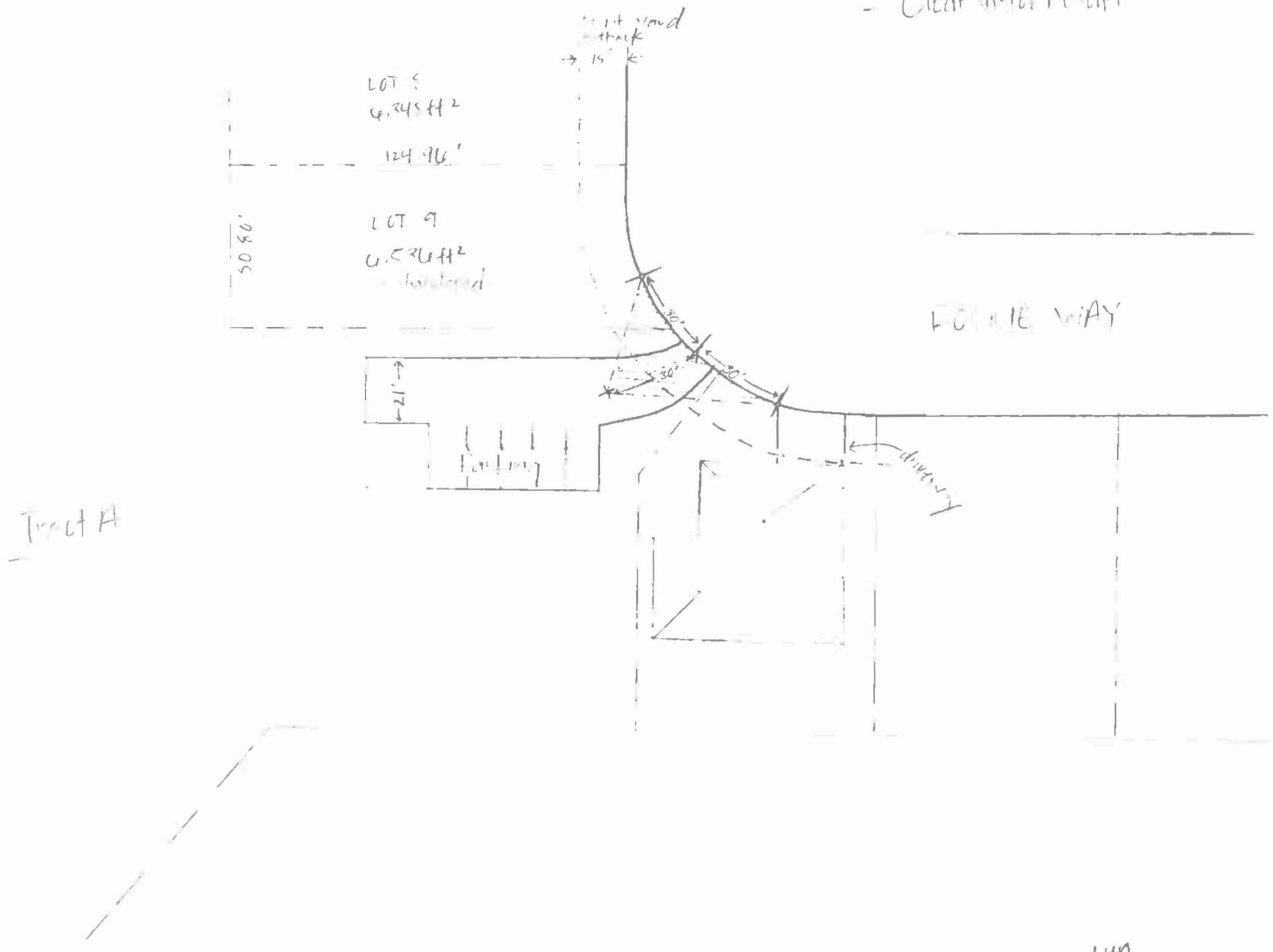
Dear Douglas Park Neighbor,

There is a new park property in your neighborhood and the West Linn Parks and Recreation department would like you to help us design it! The two acre parcel is located just off Haskins Rd. and Remington Dr. in the new Douglas Park development. We have included a site map for you if you want to make a preliminary visit. Our first meeting will be held in the West Linn City Hall Council Chambers on Tuesday, March 18th, at 7:00 p.m., so get your ideas together and join us for a creative discussion about the features you would like to see in your new park!

Sincerely,

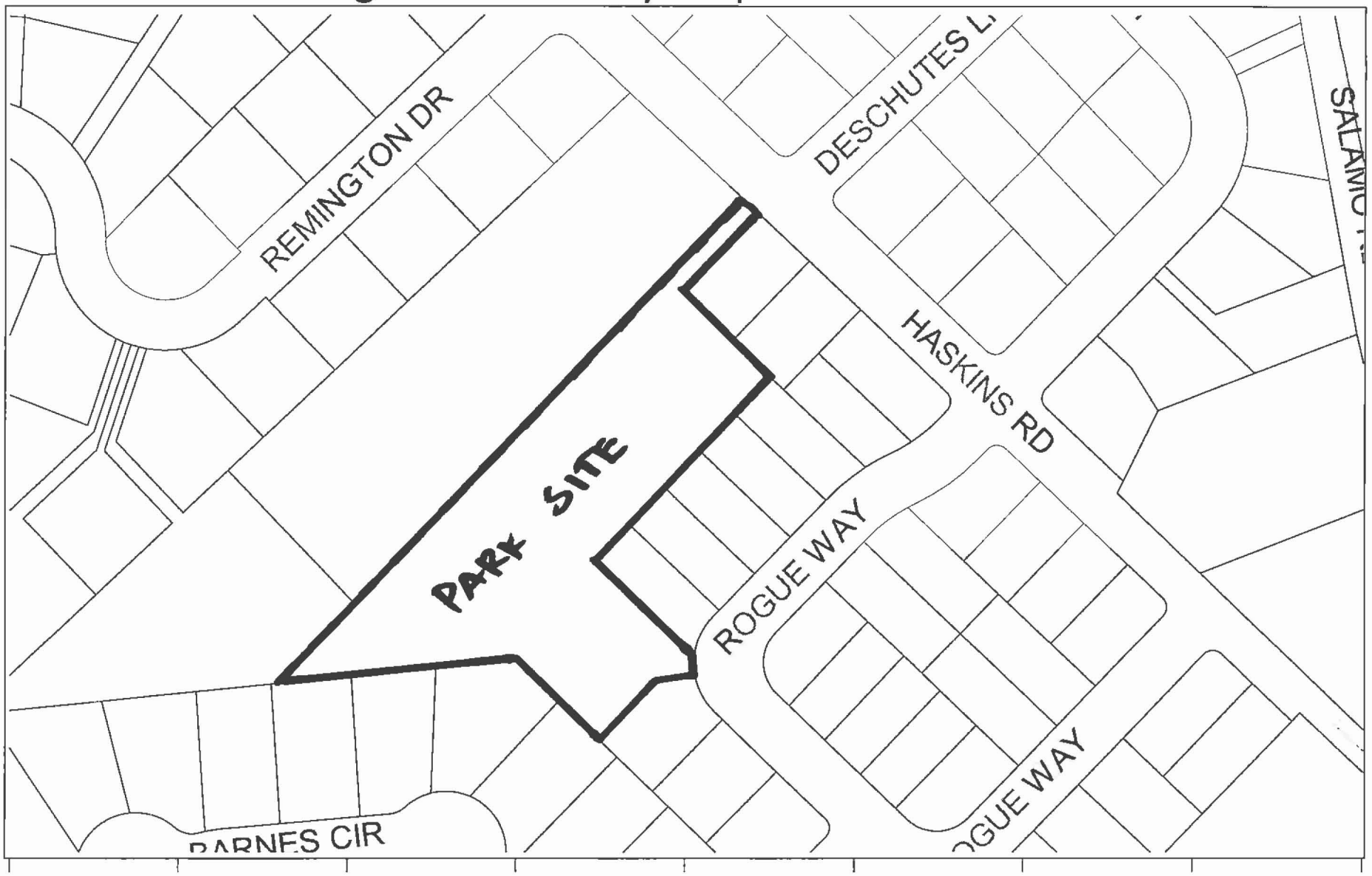
Mike Perkins, Park Development Coordinator

- Clear Vision Plan -



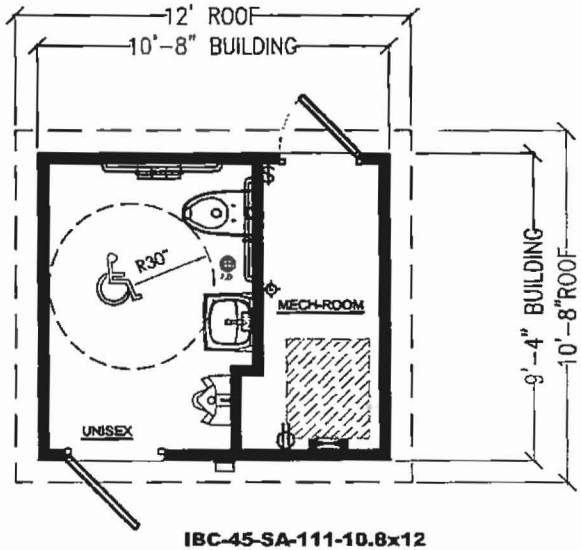
1.40

Douglas Pak Vicinity Map

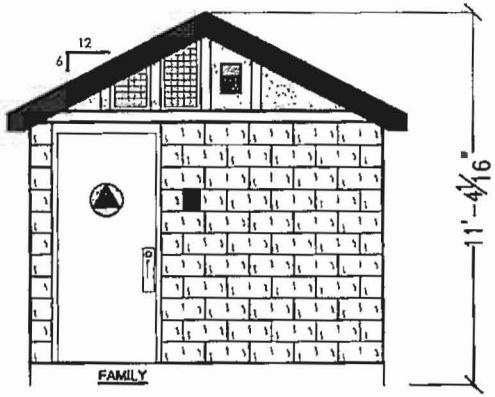


City of West Linn GIS (Geographic Information System), SnapMap Date: 1/26/2010

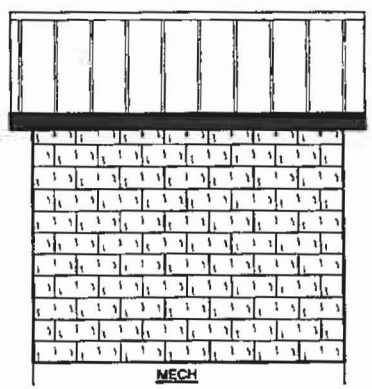
Scale: 167 Feet



IBC-45-SA-111-10.8x12
1 FLOOR PLAN
SCALE: 3/16"=1'-0"



2 FRONT ELEVATION
SCALE: 3/16"=1'-0"



3 SIDE ELEVATION
SCALE: 3/16"=1'-0"

BUDGET COST $50K-55K

REVISION By:	
REVISION DATE:	#:

Designing And Building Restrooms...Better

PUBLIC RESTROOM COMPANY

Ph. 888-888-2060 Fax 888-888-1448

BUILDING TYPE:

PROJECT:

OPTION 1-B
Douglas Park (West Linn, OR)

DATE: 05-29-09	DRAWN BY: KM
PROJECT #: -	
MAXIMUM PERSON AN HOUR: 45	

- NOT FOR CONSTRUCTION - PRELIMINARY DESIGN DRAWING ONLY - DO NOT SCALE, DIMENSIONS PRESIDE

Z:\DESIGN FILE FOLDERS\1-TPRC-DESIGN\2-PRELIM SETS\APPROVED\IBC-145-SA-111\10.4x12_091201.dwg, 12/1/2009 5:00:03 PM


City of West Linn
Fields Bridge Park
821 Willamette Drive

Site Analysis Page 2

EXISTING HOMES FOOTPRINTS

City of West Linn GIS (Geographic Information System), SnapMap Date: 1/28/2010

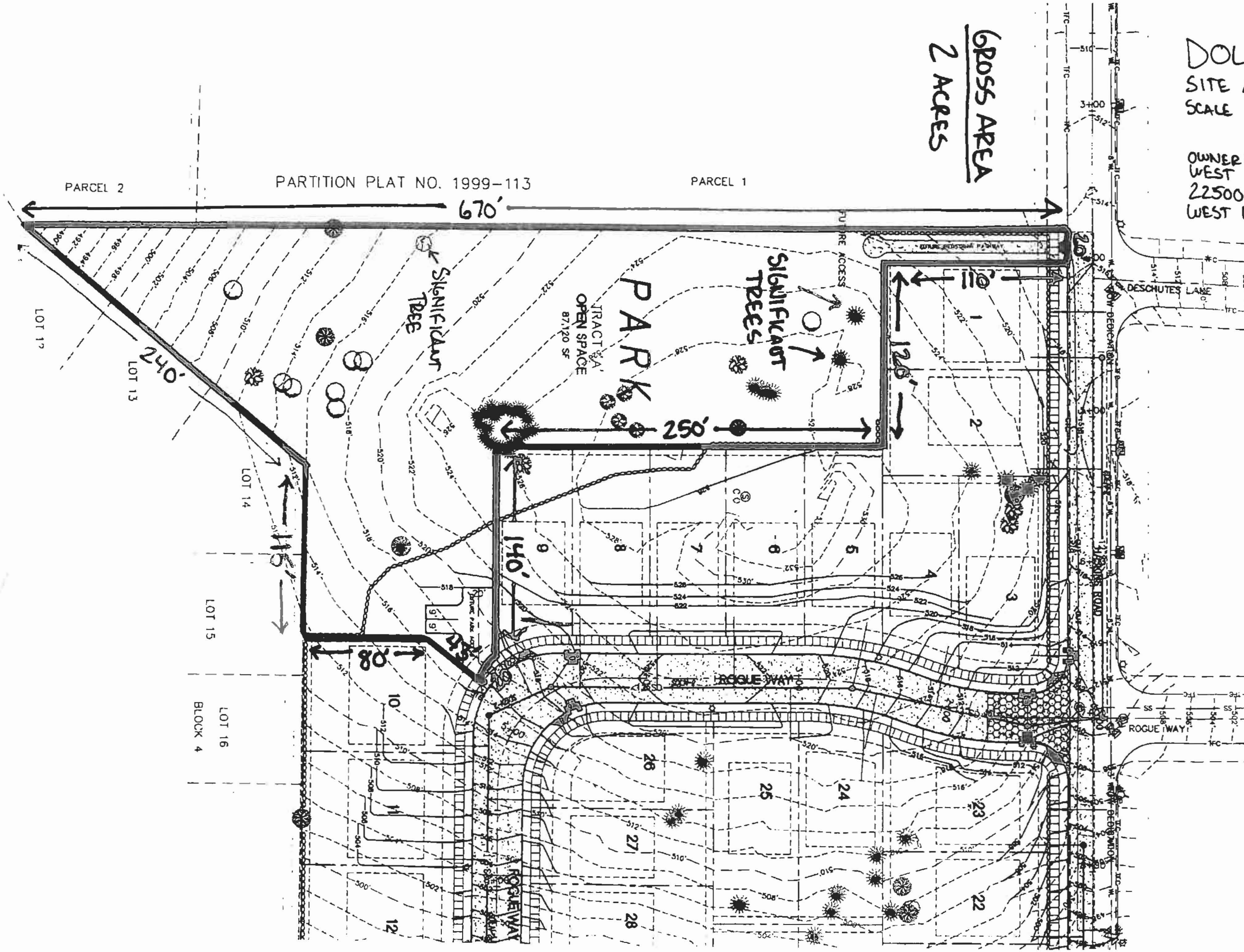
Scale: 122 Feet

DOUGLAS PARK

SITE ANALYSIS PAGE 1

SCALE 60'

OWNER AND DESIGNER:
WEST LINN PARKS & RECREATION
22500 SALAMO RD.
WEST LINN, OR 97068



INTERACTIVE WATER FEATURE
CONCRETE STAIRS
EX. MADRONE
PEDESTRIAN CONNECTION TO HASKINS RD
PARK SIGN
12" CONCRETE CURB PLAYGROUND BORDER
TOT PLAYGROUND
PLAYGROUND WITH SWINGS
SUNDIAL OR OTHER ART FEATURE
OPEN TURF
VIEWPOINT
CONCRETE STAIRS
PICNIC SHELTER
5' WIDE PLANTERS ABOVE WALLS
PICNIC SHELTER/RESTROOM
ALL LANDSCAPED AREAS WILL BE IRRIGATED
BOULDER RETAINING WALL 4' MAX
BOULDER RETAINING WALL 4' MAX
HASKINS RD
CONCRETE SIDEWALK @ 5% MAX SLOPE 12" THICKENED EDGE ON PLAYGROUND SIDE
EX FIR GROVE
SCREENING PLANTINGS (TYP)
BOLLARD
CONCRETE BASKETBALL PAD
EVERGREEN SCREENING PLANTS (TYP)
WATER QUALITY SWALE/RAIN GARDEN
PERVIOUS CONCRETE PARKING LOT WITH CURB
PERVIOUS CONCRETE ENTRY DRIVE
PARK SIGN
ROGUE WY

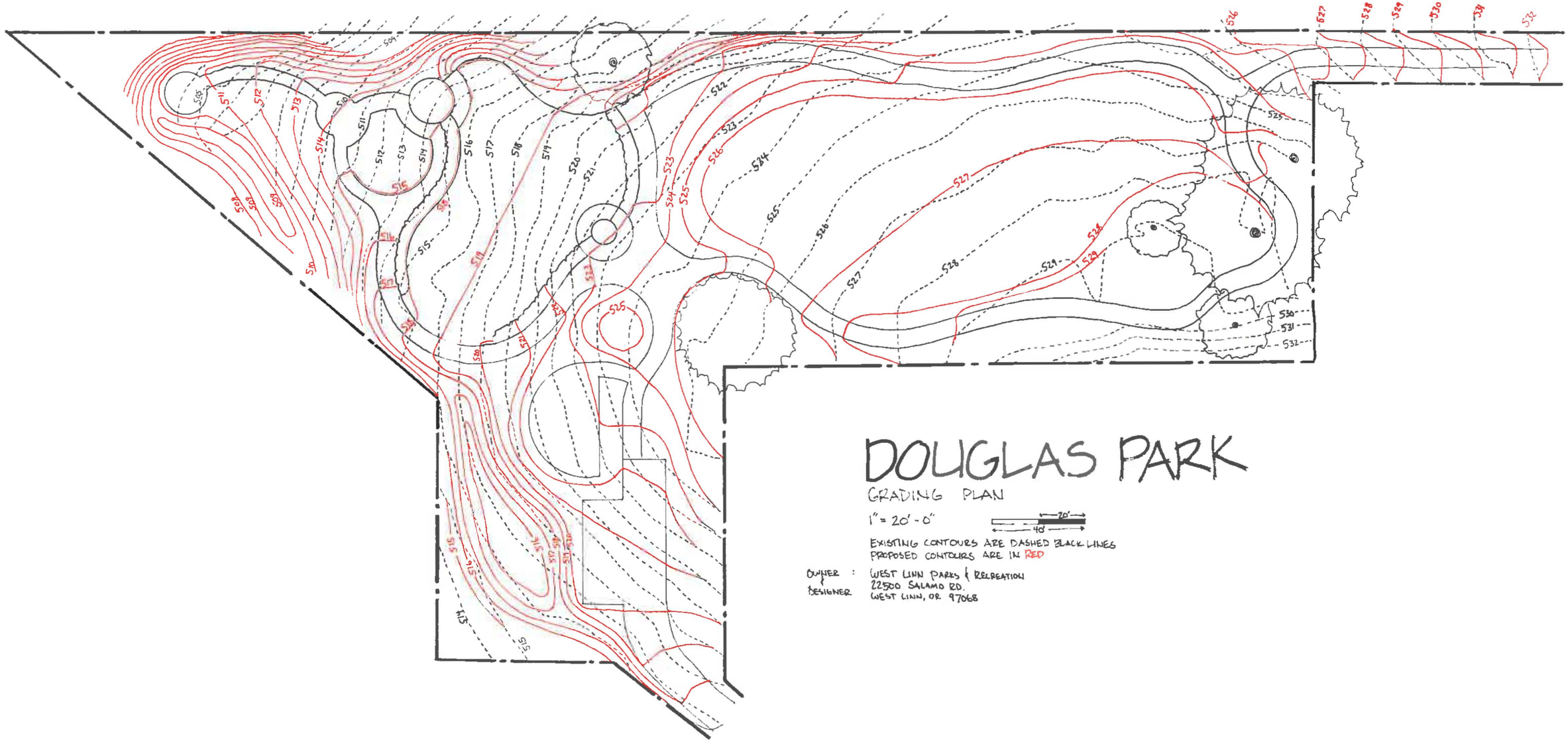
DOUGLAS PARK

NORTH

SITE PLAN/LANDSCAPE PLAN

CITY OF WEST LINN
22500 SALAMO RD
WEST LINN, OR 97068

DESIGNED BY: WEST LINN PARKS & REC



DOUGLAS PARK

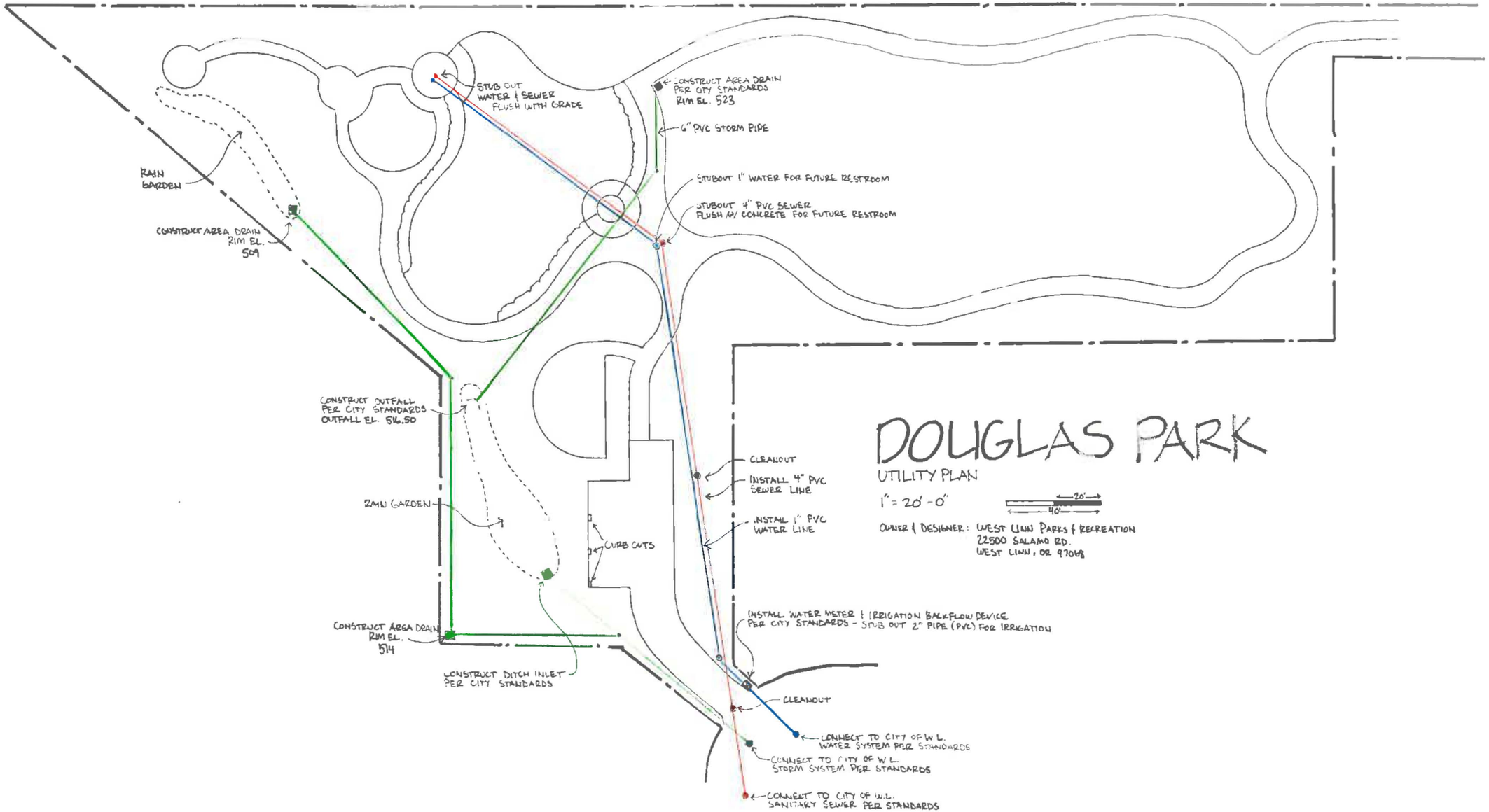
GRADING PLAN

1" = 20' - 0"

20' 40'

EXISTING CONTOURS ARE DASHED BLACK LINES
PROPOSED CONTOURS ARE IN RED

OWNER : WEST LINN PARKS & RECREATION
22500 SALAMO RD.
DESIGNER WEST LINN, OR 97068



DOUGLAS PARK

UTILITY PLAN

1" = 20' - 0"

20' 40'

OWNER & DESIGNER: WEST LINN PARKS & RECREATION
22500 SALAMO RD.
WEST LINN, OR 97068

Description of Nekia

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Nose slope, crest, interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium derived from basalt

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability (nonirrigated): 3e

Typical profile

0 to 19 inches: Silty clay loam
19 to 39 inches: Clay
39 to 43 inches: Unweathered bedrock

Data Source Information

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 5, Aug 12, 2009

.5 infiltration rate (.5 in/hr)

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

Clackamas County Area, Oregon

64C—Nekia silty clay loam, 8 to 15 percent slopes

Map Unit Setting

Elevation: 250 to 1,200 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days

Map Unit Composition

Nekia and similar soils: 80 percent

Physical Soil Properties (OR)

Clackamas County Area, Oregon

[Entries under "Erosion Factors--T" apply to the entire profile. Entries under "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer. Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*					
64C:														
Nekia	0-19	—	—	30-40	1.10-1.30	0.2-0.6	0.17-0.21	0.0-2.9	3.0-8.0	.28	.28	2	7	38
	19-39	—	—	40-50	1.10-1.30	0.2-0.6	0.09-0.16	3.0-5.9	1.0-4.0	.20	.24			
	39-43	—	—	—	—	—	—	—	—	—	—			

ENGINEERING 22500 Salamo Rd. West Linn Oregon 97068 telephone: (503) 722-5500 fax: (503) 656-4106

City of West Linn

February 11, 2010

Mr. Tom Soppe
Planning Department
City of West Linn
22500 Salamo Rd.
West Linn, OR 97068

Mr. Soppe:

I have reviewed the Douglas Park grading plan submitted by the City of West Linn Parks Department and find that there will be no adverse impacts from increased intensity of runoff off site. The attached Douglas Park Storm Drainage Report provides the empirical data to support these findings. Please feel free to contact me with questions or comments that relate to this matter

Courteously,

Khoi Le.

Khoi Le
Civil Engineer
City of West Linn
22500 Salamo Rd.
West Linn, OR 97068
(503) 722-5517
kle@westlinnoregon.gov

I. INTRODUCTION

This report represents the supportive calculations for the Conveyance, Water Quality, and Detention Analysis for Douglas Park City Park Development.

The purpose of this analysis is to indicate that the Douglas Park Development storm drainage facilities are in compliance with the City of West Linn Public Works Construction Standards.

II. SITE DESCRIPTION AND LOCATION

The site is located on Tract A in Douglas Park, West Linn. The site can be located using Clackamas County Tax Map under 2S 1E 35AC.

The proposed Development is City Park on a total area of 2.0 acres. The development will include various facilities consisting of a asphalt concrete path way weaving around the entire development, a parking lot located by the park access on Rouge Way, a couple of play grounds, and a storm drainage water quality and detention facility.

III. EXISTING CONDITIONS

In accordance with the recording drawings provided to the City by the Developer of Douglas Park, the project is currently vacant without structures except for a few significant trees on site.

Topography indicates that the Northern end of the project is elevated in comparison with the Southern end of the project. Slope of the site varies between 8% and 15%.

Majority of surface water under current conditions will travel from the Northern end of the project toward the Southwestern corner of the project where the lowest elevation is approximately 490' above sea level. Minority of surface water run-off will end up at the Southeast corner of the project where the lowest elevation is approximately 513' above sea level.

IV. SOIL INFORMATION

In accordance with the Soil Survey of Clackamas County, the soil on this site is Nekia Silty Clay Loam (64C). The Hydrologic Soil of this soil is B.

V. PROPOSED STORM DRAINAGE FACILITY

The development proposes to construct a storm drainage facility that will provide both treatment and detention for additional run-off generated by the new impervious area created from this particular development before discharging in the existing public storm system located in Rouge Way.

VI. HYDROLOGY METHODOLOGY

Hydrologic analysis for the site has been completed following the SCS, Type IA Hydrograph Method, with modeling by the Water Works Computer Program. This program enables user to develop runoff hydrographs and determine detention requirements under a variety of

stage storage options.

Followings are steps we taken in order to design the treatment and detention facilities.

- Determine the soil type and classification.
- Determine the curve number.
- Calculate pervious and impervious areas.
- Determine flow length and run-off slope.
- Determine the time of concentration.
- Calculate peak flow rates and volumes.
- Design water quality facility.
- Design detention facility.

Pervious and Impervious Area

The pervious and impervious surfaces of the pre-developed conditions and pos developed conditions are the actual areas taken from the site plan.

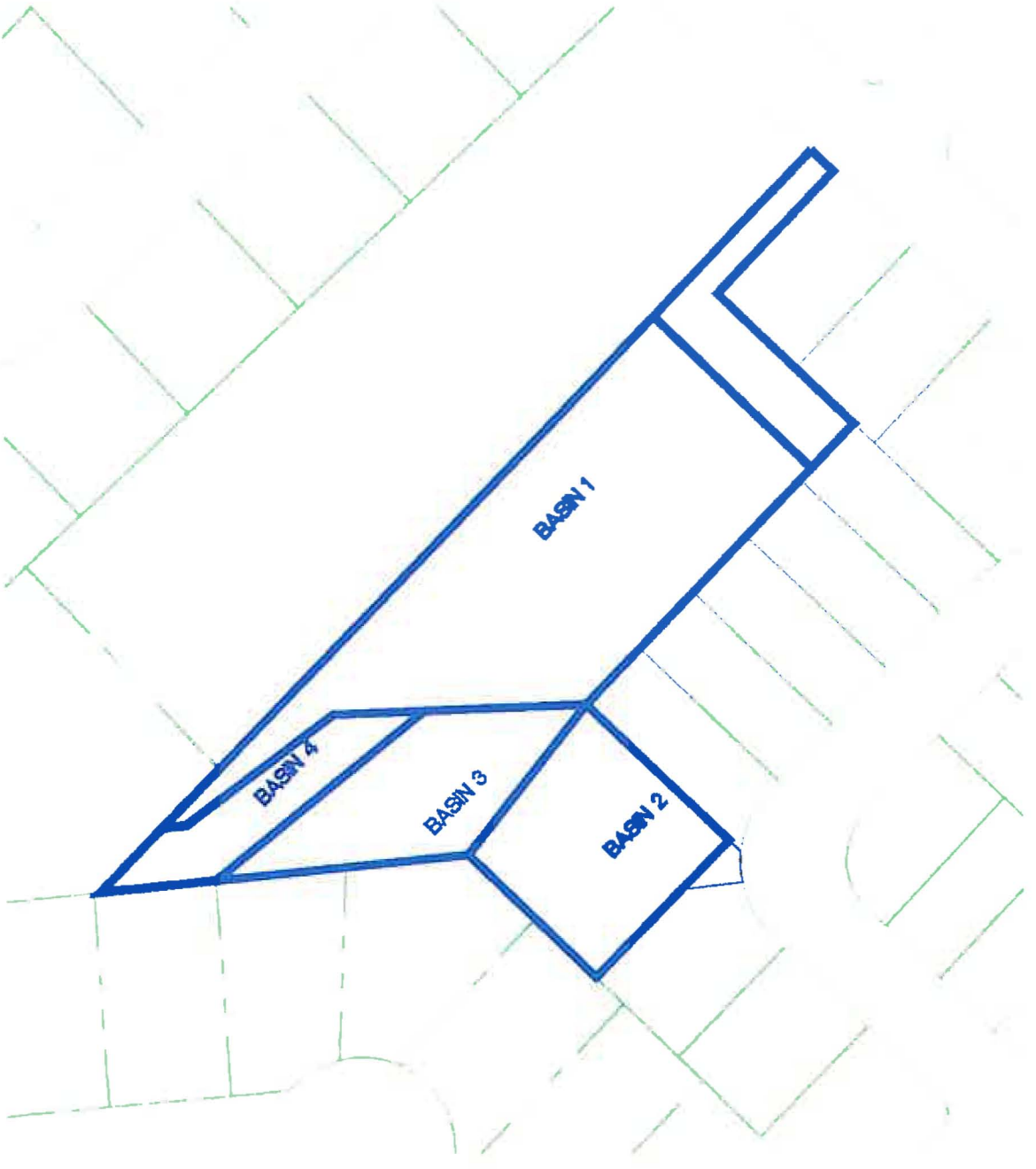
Description	Pre-developed Site (acre)	Post-developed Site (acre)
Pervious Surface	2.00	1.72
Impervious Surface	0	0.28
Total Basin Area	2.00	2.00

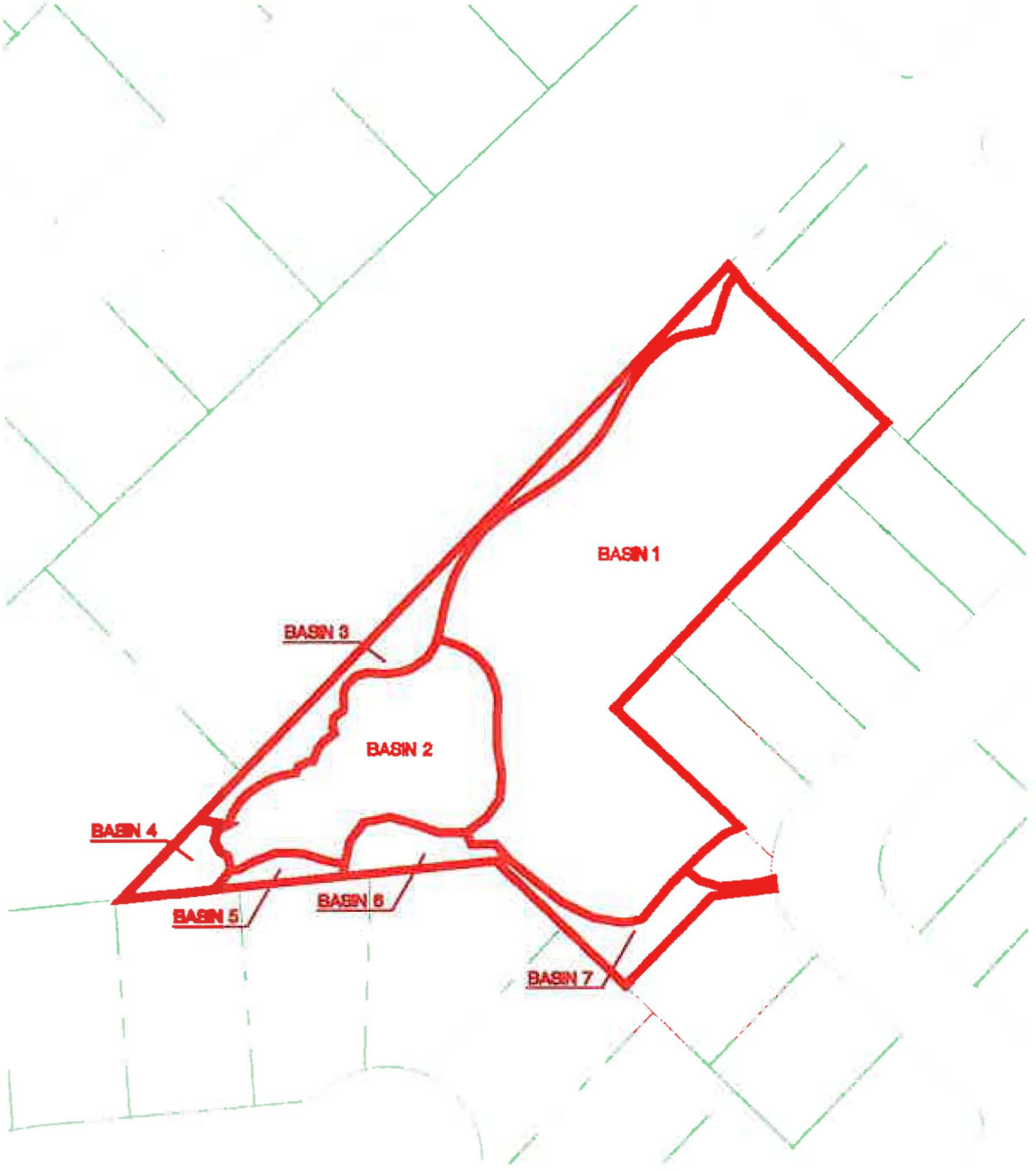
Curve Numbers

The site currently covers with grass. Parks Department mows the grass twice a year. After the site being developed, the park will be covered with well maintained grass. For type B soil, followings are curve numbers for both pre-developed and post developed conditions.

Description	Pre-developed Site CN	Post-developed Site CN
Pervious Area	58	61
Impervious Area	98	98

Basin Map


BASIN 1
BASIN 4
BASIN 3
BASIN 2


BASIN 1
BASIN 3
BASIN 2
BASIN 4
BASIN 5
BASIN 6
BASIN 7

VII. FLOW ANALYSIS

Pre-Developed Condition Basin Pervious and Impervious Area

Description	Pervious Area (acre)	Impervious Area (acre)
Basin 1	0.99	0.00
Basin 2	0.35	0.00
Basin 3	0.17	0.00
Basin 4	0.17	0.00

Pre-Developed Condition Basin Time of Concentration

Description	25 Year Storm Event Time of Concentration (min)
Basin 1	13.20
Basin 2	7.40
Basin 3	9.70
Basin 4	10.40

Pre-Developed Condition Basin 25 Year Storm Event Run-Off

Description	25 Year Storm Event Run-Off (cfs)	25 Year Storm Event Run-Off Volume (cft)
Basin 1	0.10	3342
Basin 2	0.04	1181
Basin 3	0.03	979
Basin 4	0.02	574

Post-Developed Condition Basin Pervious and Impervious Area

Description	Pervious Area (acre)	Impervious Area (acre)
Basin 3	0.16	0.00
Basin 4	0.04	0.00
Basin 5	0.03	0.00
Basin 6	0.06	0.00
Basin 7	0.08	0.00

Post-Developed Condition Basin Time of Concentration

Description	25 Year Storm Event Time of Concentration (min)
Basin 3	5.00
Basin 4	5.00
Basin 5	5.00
Basin 6	5.00
Basin 7	5.00

Post-Developed Condition Basin 25 Year Storm Event Run-Off

Description	25 Year Storm Event Run-Off (cfs)	25 Year Storm Event Run-Off Volume (cft)
Basin 3	0.02	540
Basin 4	0.00	135
Basin 5	0.00	101
Basin 6	0.01	505
Basin 7	0.01	270

VIII. STORM WATER QUALITY ANALYSIS

STORM WATER QUALITY ANALYSIS FOR POST DEVELOPED BASIN 1

Description	Value
Water Quality Flow (cfs)	0.02
Side Slope in Treatment Area (H:V)	4:1
Channel Slope	0.005
Bottom Width (ft)	2
Manning "n" Value	0.24
Velocity (ft/sec)	0.09
Hydraulic Residence Time (min)	9
Calculated Length (ft)	48.6
Required Length (ft)	100
Water Quality Treatment Depth (ft)	0.09

STORM WATER QUALITY ANALYSIS FOR POST DEVELOPED BASIN 2

Provide 0.4' depth at the bottom of the basin for treatment.

IX. STORM WATER DETENTION ANALYSIS

STORM WATER DETENTION ANALYSIS FOR POST DEVELOPED BASIN 2

Description	Pervious Area (acre)	Impervious Area (acre)
Pre-Developed Basin 2	0.34	0.00
Post-Developed Basin 2	0.28	0.06

Description	Pre-Developed Time of Concentration	Post Developed Time of Concentration
2 Year Storm Event	11.80	5.0
5 Year Storm Event	10.70	5.0
10 Year Storm Event	9.90	5.0
25 Year Storm Event	9.20	5.0

Description	Pre-Developed Flow Rate (cfs)	Post Developed Flow Rate (cfs)
2 Year Storm Event	0.01	0.03
5 Year Storm Event	0.01	0.04
10 Year Storm Event	0.02	0.05
25 Year Storm Event	0.04	0.06

Description	Pre-Developed Run-off Volume (cft)	Post Developed Run-off Volume (cft)
2 Year Storm Event	305	619
5 Year Storm Event	542	880
10 Year Storm Event	826	1181
25 Year Storm Event	1148	1515

STORM WATER DETENTION ANALYSIS FOR POST DEVELOPED BASIN 1

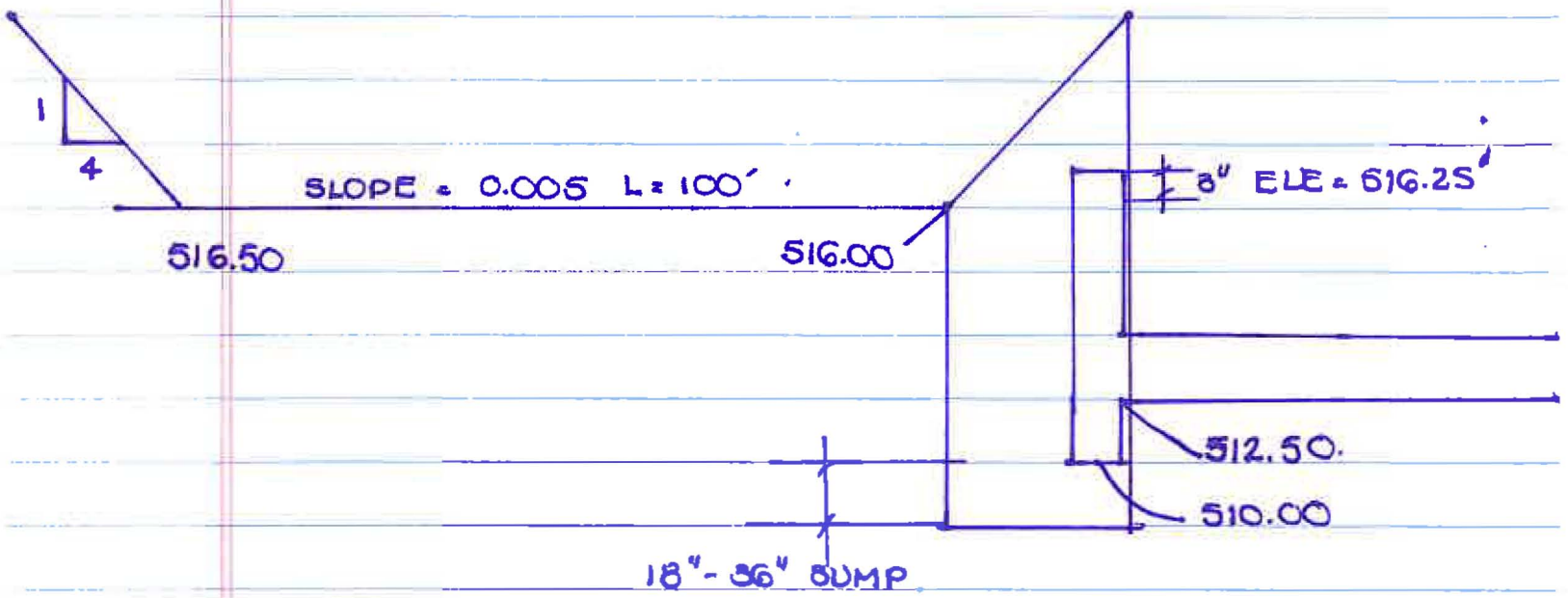
Description	Pervious Area (acre)	Impervious Area (acre)
Pre-Developed Basin 1	1.21	0.00
Post-Developed Basin 1	0.99	0.22

Description	Pre-Developed Time of Concentration	Post Developed Time of Concentration
2 Year Storm Event	13.00	5.0
5 Year Storm Event	11.80	5.0
10 Year Storm Event	10.90	5.0
25 Year Storm Event	10.20	5.0

Description	Pre-Developed Flow Rate (cfs)	Post Developed Flow Rate (cfs)
2 Year Storm Event	0.02	0.12
5 Year Storm Event	0.04	0.14
10 Year Storm Event	0.07	0.18
25 Year Storm Event	0.13	0.23

Description	Pre-Developed Run-off Volume (cft)	Post Developed Run-off Volume (cft)
2 Year Storm Event	1086	2248
5 Year Storm Event	1930	3185
10 Year Storm Event	2940	4263
25 Year Storm Event	4085	5457

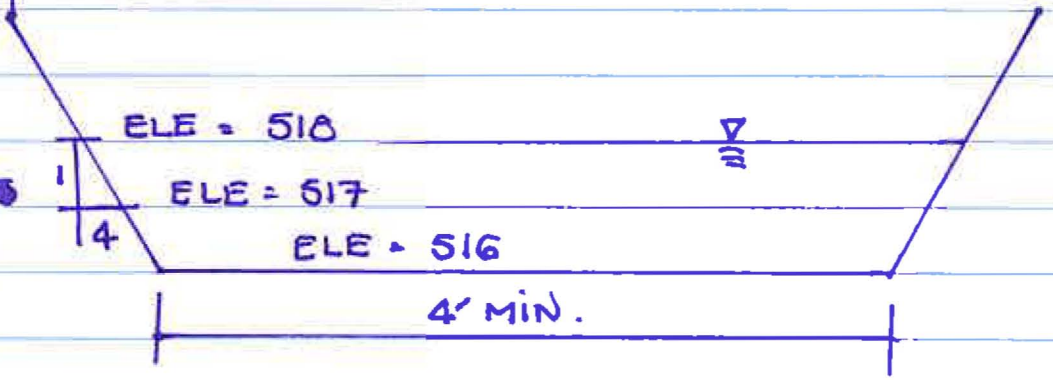
BASIN 1



516	A1	829	VOL = 1,203
517	A2	1577	VOL = 2,009.
518	A3	2441	
	A4		

TRIAL

516	A_1	342
517	A_2	1123
518	A_3	2081
519	A_4	3067



BASIN SUMMARY

BASIN ID: PRE10-B1 NAME: PRE 10YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 3.40 inches AREA..: 1.21 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 10.90 min 10.90 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.07 cfs VOL: 0.07 Ac-ft TIME: 530 min

BASIN ID: PRE2-B1 NAME: PRE 2YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 2.40 inches AREA..: 1.21 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 13.00 min 13.00 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.02 cfs VOL: 0.02 Ac-ft TIME: 1340 min

BASIN ID: PRE25-B1 NAME: PRE 25YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 3.90 inches AREA..: 1.21 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 10.20 min 10.20 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.13 cfs VOL: 0.09 Ac-ft TIME: 500 min

BASIN ID: PRE5-B1 NAME: PRE 5YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 2.90 inches AREA..: 1.21 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 11.80 min 11.80 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.04 cfs VOL: 0.04 Ac-ft TIME: 1040 min

DETENTION-BASIN-1
BASIN SUMMARY

BASIN ID: PST10-B1 NAME: PST 10YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 3.40 inches AREA..: 0.99 Acres 0.22 Acres
TIME INTERVAL....: 10.00 min CN....: 61.00 98.00
TC....: 5.00 min 5.00 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.18 cfs VOL: 0.10 Ac-ft TIME: 500 min

BASIN ID: PST2-B1 NAME: PST 2YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 2.40 inches AREA..: 0.99 Acres 0.22 Acres
TIME INTERVAL....: 10.00 min CN....: 61.00 98.00
TC....: 5.00 min 5.00 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.12 cfs VOL: 0.05 Ac-ft TIME: 500 min

BASIN ID: PST25-B1 NAME: PST 25YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 3.90 inches AREA..: 0.99 Acres 0.22 Acres
TIME INTERVAL....: 10.00 min CN....: 61.00 98.00
TC....: 5.00 min 5.00 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.23 cfs VOL: 0.13 Ac-ft TIME: 500 min

BASIN ID: PST5-B1 NAME: PST 5YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 2.90 inches AREA..: 0.99 Acres 0.22 Acres
TIME INTERVAL....: 10.00 min CN....: 61.00 98.00
TC....: 5.00 min 5.00 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.14 cfs VOL: 0.07 Ac-ft TIME: 490 min

STAGE STORAGE TABLE

DETENTION-BASIN-1

CUSTOM STORAGE ID No. DETN-B1
Description: DETENTION BASIN 2

□&k2S

STAGE (ft)	<----STORAGE----> ---cf---	--Ac-Ft-	STAGE (ft)	<----STORAGE----> ---cf---	--Ac-Ft-	STAGE (ft)	<----STORAGE----> ---cf---	--Ac-Ft-	STAGE (ft)	<----STORAGE----> ---cf---	--Ac-Ft-
516.00	0.0000	0.0000	516.60	721.80	0.0166	517.20	1605	0.0368	517.80	2810	0.0645
516.10	120.30	0.0028	516.70	842.10	0.0193	517.30	1806	0.0415	517.90	3011	0.0691
516.20	240.60	0.0055	516.80	962.40	0.0221	517.40	2007	0.0461	518.00	3212	0.0737
516.30	360.90	0.0083	516.90	1083	0.0249	517.50	2207	0.0507	518.00	3212	0.0737
516.40	481.20	0.0110	517.00	1203	0.0276	517.60	2408	0.0553			
516.50	601.50	0.0138	517.10	1404	0.0322	517.70	2609	0.0599			

□

STAGE DISCHARGE TABLE

MULTIPLE ORIFICE ID No. ORIF-B1
Description:
Outlet Elev: 512.50
Elev: 512.50 ft Orifice Diameter: 0.3000 in.
Elev: 514.30 ft Orifice 2 Diameter: 0.9000 in.

□&k2S

STAGE (ft)	<--DISCHARGE---> ---cfs--	-------	STAGE (ft)	<--DISCHARGE---> ---cfs--	-------	STAGE (ft)	<--DISCHARGE---> ---cfs--	-------	STAGE (ft)	<--DISCHARGE---> ---cfs--	-------
512.50	0.0000		513.90	0.0029		515.30	0.0261		516.70	0.0391	
512.60	0.0008		514.00	0.0030		515.40	0.0272		516.80	0.0398	
512.70	0.0011		514.10	0.0031		515.50	0.0283		516.90	0.0406	
512.80	0.0013		514.20	0.0032		515.60	0.0294		517.00	0.0413	

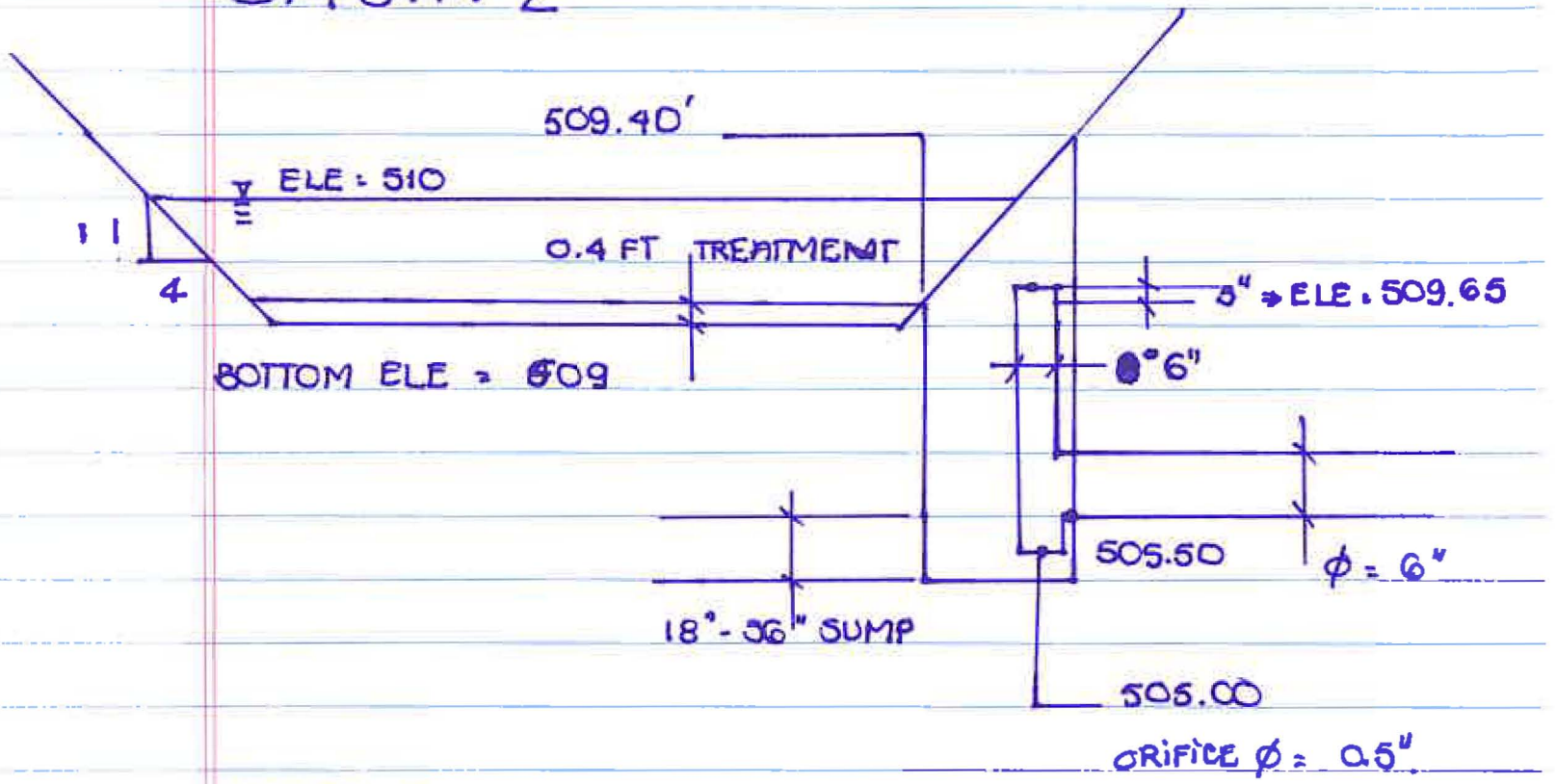
512.90	0.0015	514.30	0.0033	515.70	0.0304	517.10	0.0420
513.00	0.0017	514.40	0.0103	515.80	0.0314	517.20	0.0427
513.10	0.0019	514.50	0.0133	515.90	0.0323	517.30	0.0434
513.20	0.0020	514.60	0.0156	516.00	0.0332	517.40	0.0441
513.30	0.0022	514.70	0.0175	516.10	0.0341	517.50	0.0448
513.40	0.0023	514.80	0.0192	516.20	0.0350	517.60	0.0454
513.50	0.0024	514.90	0.0208	516.30	0.0358	517.70	0.0461
513.60	0.0026	515.00	0.0223	516.40	0.0367	517.80	0.0467
513.70	0.0027	515.10	0.0236	516.50	0.0375	517.90	0.0474
513.80	0.0028	515.20	0.0249	516.60	0.0383	518.00	0.0480

LEVEL POOL TABLE SUMMARY

&k2S

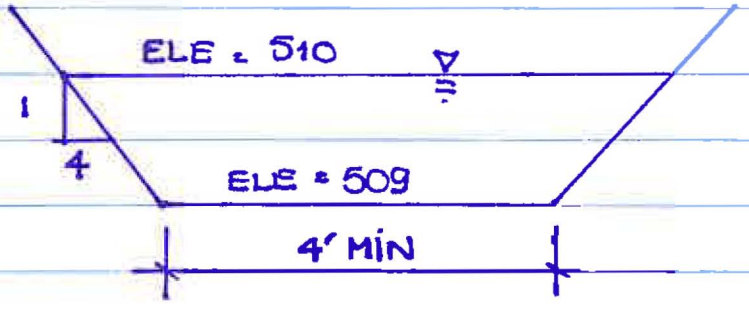
<--------DESCRIPTION--------->	MATCH (cfs)	INFLOW (cfs)	-STO- --id-	-DIS- --id-	<-PEAK-> <STAGE>	id	OUTFLOW (cfs)	STORAGE VOL (cf)
2YR STORM	0.02	0.12	DETN-B1	ORIF-B1	516.18	1	0.03	211.58 cf
5YR STORM	0.04	0.14	DETN-B1	ORIF-B1	516.48	2	0.04	579.77 cf
10YR STORM	0.07	0.18	DETN-B1	ORIF-B1	517.09	3	0.04	1383.73 cf
25YR STORM	0.13	0.23	DETN-B1	ORIF-B1	517.58	4	0.05	2363.22 cf

BASIN 2



AREA 509 = 435

AREA 510 = 1165.



BASIN SUMMARY

BASIN ID: PRE10-B2 NAME: PRE 10YR STM EVENT BASIN 2
SCS METHODOLOGY

TOTAL AREA.....:	0.34 Acres	BASEFLOWS:	0.00 cfs	
RAINFALL TYPE....:	TYPE1A		PERV	IMP
PRECIPITATION....:	3.40 inches	AREA..:	0.34 Acres	0.00 Acres
TIME INTERVAL....:	10.00 min	CN....:	65.00	98.00
		TC....:	9.90 min	9.90 min

ABSTRACTION COEFF: 0.20
PEAK RATE: 0.02 cfs VOL: 0.02 Ac-ft TIME: 530 min

BASIN ID: PRE2-B2 NAME: PRE 2YR STM EVENT BASIN 2
SCS METHODOLOGY

TOTAL AREA.....:	0.34 Acres	BASEFLOWS:	0.00 cfs	
RAINFALL TYPE....:	TYPE1A		PERV	IMP
PRECIPITATION....:	2.40 inches	AREA..:	0.34 Acres	0.00 Acres
TIME INTERVAL....:	10.00 min	CN....:	65.00	98.00
		TC....:	11.80 min	11.80 min

ABSTRACTION COEFF: 0.20
PEAK RATE: 0.01 cfs VOL: 0.01 Ac-ft TIME: 1340 min

BASIN ID: PRE25-B2 NAME: PRE 25YR STM EVENT BASIN 2
SCS METHODOLOGY

TOTAL AREA.....:	0.34 Acres	BASEFLOWS:	0.00 cfs	
RAINFALL TYPE....:	TYPE1A		PERV	IMP
PRECIPITATION....:	3.90 inches	AREA..:	0.34 Acres	0.00 Acres
TIME INTERVAL....:	10.00 min	CN....:	65.00	98.00
		TC....:	9.20 min	9.20 min

ABSTRACTION COEFF: 0.20
PEAK RATE: 0.04 cfs VOL: 0.03 Ac-ft TIME: 500 min

BASIN ID: PRE5-B2 NAME: PRE 5YR STM EVENT BASIN 2
SCS METHODOLOGY

TOTAL AREA.....:	0.34 Acres	BASEFLOWS:	0.00 cfs	
RAINFALL TYPE....:	TYPE1A		PERV	IMP
PRECIPITATION....:	2.90 inches	AREA..:	0.34 Acres	0.00 Acres
TIME INTERVAL....:	10.00 min	CN....:	65.00	98.00
		TC....:	10.70 min	10.70 min

ABSTRACTION COEFF: 0.20
PEAK RATE: 0.01 cfs VOL: 0.01 Ac-ft TIME: 1040 min

print

BASIN SUMMARY

BASIN ID: PST10-B2 NAME: PST 10YR STM EVENT BASIN 2
SCS METHODOLOGY

TOTAL AREA.....:	0.34 Acres	BASEFLOWS:	0.00 cfs	
RAINFALL TYPE....:	TYPE1A		PERV	IMP
PRECIPITATION....:	3.40 inches	AREA..:	0.28 Acres	0.06 Acres
TIME INTERVAL....:	10.00 min	CN....:	61.00	98.00
		TC....:	5.00 min	5.00 min

ABSTRACTION COEFF: 0.20
PEAK RATE: 0.05 cfs VOL: 0.03 Ac-ft TIME: 500 min

BASIN ID: PST2-B2 NAME: PST 2YR STM EVENT BASIN 2
SCS METHODOLOGY

TOTAL AREA.....:	0.34 Acres	BASEFLOWS:	0.00 cfs	
RAINFALL TYPE....:	TYPE1A		PERV	IMP
PRECIPITATION....:	2.40 inches	AREA..:	0.28 Acres	0.06 Acres
TIME INTERVAL....:	10.00 min	CN....:	61.00	98.00
		TC....:	5.00 min	5.00 min

ABSTRACTION COEFF: 0.20
PEAK RATE: 0.03 cfs VOL: 0.01 Ac-ft TIME: 500 min

BASIN ID: PST25-B2 NAME: PST 25YR STM EVENT BASIN 2
SCS METHODOLOGY

TOTAL AREA.....:	0.34 Acres	BASEFLOWS:	0.00 cfs	
RAINFALL TYPE....:	TYPE1A		PERV	IMP
PRECIPITATION....:	3.90 inches	AREA..:	0.28 Acres	0.06 Acres
TIME INTERVAL....:	10.00 min	CN....:	61.00	98.00
		TC....:	5.00 min	5.00 min

ABSTRACTION COEFF: 0.20
PEAK RATE: 0.06 cfs VOL: 0.03 Ac-ft TIME: 500 min

BASIN ID: PST5-B2 NAME: PST 5YR STM EVENT BASIN 2
SCS METHODOLOGY

TOTAL AREA.....:	0.34 Acres	BASEFLOWS:	0.00 cfs	
RAINFALL TYPE....:	TYPE1A		PERV	IMP
PRECIPITATION....:	2.90 inches	AREA..:	0.28 Acres	0.06 Acres
TIME INTERVAL....:	10.00 min	CN....:	61.00	98.00
		TC....:	5.00 min	5.00 min

ABSTRACTION COEFF: 0.20
PEAK RATE: 0.04 cfs VOL: 0.02 Ac-ft TIME: 490 min

STAGE STORAGE TABLE

CUSTOM STORAGE ID No. DETN-B2
Description: DETENTION BASIN 2

□&k2S

STAGE (ft)	<----STORAGE----> ---cf---	--Ac-Ft-	STAGE (ft)	<----STORAGE----> ---cf---	--Ac-Ft-	STAGE (ft)	<----STORAGE----> ---cf---	--Ac-Ft-	STAGE (ft)	<----STORAGE----> ---cf---	--Ac-Ft-
509.00	0.0000	0.0000	509.30	240.00	0.0055	509.60	480.00	0.0110	509.90	720.00	0.0165
509.10	80.000	0.0018	509.40	320.00	0.0073	509.70	560.00	0.0129	510.00	800.00	0.0184
509.20	160.00	0.0037	509.50	400.00	0.0092	509.80	640.00	0.0147			

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STAGE DISCHARGE TABLE

MULTIPLE ORIFICE ID No. ORIF-B2
Description:
Outlet Elev: 505.50
Elev: 505.50 ft Orifice Diameter: 0.5000 in.

□&k2S

STAGE (ft)	<--DISCHARGE---> ---cfs-- -------	STAGE (ft)	<--DISCHARGE---> ---cfs-- -------	STAGE (ft)	<--DISCHARGE---> ---cfs-- -------	STAGE (ft)	<--DISCHARGE---> ---cfs-- -------
505.50	0.0000	506.60	0.0071	507.70	0.0101	508.80	0.0123
505.60	0.0021	506.70	0.0074	507.80	0.0103	508.90	0.0125
505.70	0.0030	506.80	0.0077	507.90	0.0105	509.00	0.0127
505.80	0.0037	506.90	0.0080	508.00	0.0107	509.10	0.0129
505.90	0.0043	507.00	0.0083	508.10	0.0109	509.20	0.0130
506.00	0.0048	507.10	0.0086	508.20	0.0111	509.30	0.0132
506.10	0.0053	507.20	0.0088	508.30	0.0114	509.40	0.0134

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506.20	0.0057	507.30	0.0091	508.40	0.0116	509.50	0.0136
506.30	0.0061	507.40	0.0094	508.50	0.0118		
506.40	0.0064	507.50	0.0096	508.60	0.0119		
506.50	0.0068	507.60	0.0098	508.70	0.0121		

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LEVEL POOL TABLE SUMMARY

□&k2S

<--------DESCRIPTION--------->	MATCH (cfs)	INFLOW (cfs)	-STO- --id-	-DIS- --id-	<-PEAK-> <STAGE>	id	OUTFLOW (cfs)	STORAGE VOL (cf)
2YR STORM	0.01	0.03	DETN-B2	ORIF-B2	509.05	1	0.01	37.74 cf
5YR STORM	0.01	0.04	DETN-B2	ORIF-B2	509.09	2	0.01	71.77 cf
10YR STORM	0.02	0.05	DETN-B2	ORIF-B2	509.31	3	0.01	251.86 cf
25YR STORM	0.04	0.06	DETN-B2	ORIF-B2	509.67	4	0.01	538.55 cf

□

BASIN SUMMARY

BASIN ID: PRE10-B1 NAME: PRE 10YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 3.40 inches AREA..: 1.21 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 10.90 min 10.90 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.07 cfs VOL: 0.07 Ac-ft TIME: 530 min

BASIN ID: PRE10-B2 NAME: PRE 10YR STM EVENT BASIN 2
SCS METHODOLOGY
TOTAL AREA.....: 0.34 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 3.40 inches AREA..: 0.34 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 9.90 min 9.90 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.02 cfs VOL: 0.02 Ac-ft TIME: 530 min

BASIN ID: PRE10YR NAME: PRE 10YR STM EVENT
SCS METHODOLOGY
TOTAL AREA.....: 2.00 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 3.40 inches AREA..: 2.00 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 11.70 min 11.70 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.11 cfs VOL: 0.11 Ac-ft TIME: 540 min

BASIN ID: PRE2-B1 NAME: PRE 2YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 2.40 inches AREA..: 1.21 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 13.00 min 13.00 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.02 cfs VOL: 0.02 Ac-ft TIME: 1340 min

print

BASIN SUMMARY

BASIN ID: PRE2-B2 NAME: PRE 2YR STM EVENT BASIN 2
SCS METHODOLOGY
TOTAL AREA.....: 0.34 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 2.40 inches AREA..: 0.34 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 11.80 min 11.80 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.01 cfs VOL: 0.01 Ac-ft TIME: 1340 min

BASIN ID: PRE25-B1 NAME: PRE 25YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 3.90 inches AREA..: 1.21 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 10.20 min 10.20 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.13 cfs VOL: 0.09 Ac-ft TIME: 500 min

BASIN ID: PRE25-B2 NAME: PRE 25YR STM EVENT BASIN 2
SCS METHODOLOGY
TOTAL AREA.....: 0.34 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 3.90 inches AREA..: 0.34 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 9.20 min 9.20 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.04 cfs VOL: 0.03 Ac-ft TIME: 500 min

BASIN ID: PRE25YR NAME: PRE 25YR STM EVENT
SCS METHODOLOGY
TOTAL AREA.....: 2.00 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 3.90 inches AREA..: 2.00 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 10.90 min 10.90 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.21 cfs VOL: 0.16 Ac-ft TIME: 510 min

BASIN SUMMARY

BASIN ID: PRE2YR NAME: PRE 2YR STM EVENT
SCS METHODOLOGY
TOTAL AREA.....: 2.00 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 2.40 inches AREA..: 2.00 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 13.90 min 13.90 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.04 cfs VOL: 0.04 Ac-ft TIME: 1350 min

BASIN ID: PRE5-B1 NAME: PRE 5YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 2.90 inches AREA..: 1.21 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 11.80 min 11.80 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.04 cfs VOL: 0.04 Ac-ft TIME: 1040 min

BASIN ID: PRE5-B2 NAME: PRE 5YR STM EVENT BASIN 2
SCS METHODOLOGY
TOTAL AREA.....: 0.34 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 2.90 inches AREA..: 0.34 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 10.70 min 10.70 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.01 cfs VOL: 0.01 Ac-ft TIME: 1040 min

BASIN ID: PRE5YR NAME: PRE 5YR STM EVENT
SCS METHODOLOGY
TOTAL AREA.....: 2.00 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 2.90 inches AREA..: 2.00 Acres 0.00 Acres
TIME INTERVAL....: 10.00 min CN....: 65.00 98.00
TC....: 12.60 min 12.60 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.06 cfs VOL: 0.07 Ac-ft TIME: 1050 min

BASIN SUMMARY

BASIN ID: PST10-B1 NAME: PST 10YR STM EVENT BASIN 1

print

SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 3.40 inches AREA..: 0.99 Acres 0.22 Acres
TIME INTERVAL....: 10.00 min CN....: 61.00 98.00
TC....: 5.00 min 5.00 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.18 cfs VOL: 0.10 Ac-ft TIME: 500 min

BASIN ID: PST10-B2 NAME: PST 10YR STM EVENT BASIN 2
SCS METHODOLOGY
TOTAL AREA.....: 0.34 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 3.40 inches AREA..: 0.28 Acres 0.06 Acres
TIME INTERVAL....: 10.00 min CN....: 61.00 98.00
TC....: 5.00 min 5.00 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.05 cfs VOL: 0.03 Ac-ft TIME: 500 min

BASIN ID: PST10YR NAME: POST 10YR STM EVENT
SCS METHODOLOGY
TOTAL AREA.....: 2.00 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 3.40 inches AREA..: 1.72 Acres 0.28 Acres
TIME INTERVAL....: 10.00 min CN....: 61.00 98.00
TC....: 5.00 min 5.00 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.23 cfs VOL: 0.14 Ac-ft TIME: 500 min

BASIN ID: PST2-B1 NAME: PST 2YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.....: 1.21 Acres BASEFLOWS: 0.00 cfs
RAINFALL TYPE....: TYPE1A PERV IMP
PRECIPITATION....: 2.40 inches AREA..: 0.99 Acres 0.22 Acres
TIME INTERVAL....: 10.00 min CN....: 61.00 98.00
TC....: 5.00 min 5.00 min
ABSTRACTION COEFF: 0.20
PEAK RATE: 0.12 cfs VOL: 0.05 Ac-ft TIME: 500 min

BASIN SUMMARY

BASIN ID: PST2-B2 NAME: PST 2YR STM EVENT BASIN 2
SCS METHODOLOGY
TOTAL AREA.....: 0.34 Acres BASEFLOWS: 0.00 cfs

```
RAINFALL TYPE....:    TYPE1A                        PERV             IMP
PRECIPITATION....:   2.40 inches    AREA..:     0.28 Acres     0.06 Acres
TIME INTERVAL....:     10.00 min    CN....:    61.00          98.00
                                    TC....:     5.00 min      5.00 min
ABSTRACTION COEFF:   0.20
PEAK RATE:   0.03 cfs  VOL:   0.01 Ac-ft  TIME:    500 min

BASIN ID: PST25-B1       NAME: PST 25YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.......:   1.21 Acres     BASEFLOWS:   0.00 cfs
RAINFALL TYPE....:    TYPE1A                        PERV             IMP
PRECIPITATION....:   3.90 inches    AREA..:     0.99 Acres     0.22 Acres
TIME INTERVAL....:     10.00 min    CN....:    61.00          98.00
                                    TC....:     5.00 min      5.00 min
ABSTRACTION COEFF:   0.20
PEAK RATE:   0.23 cfs  VOL:   0.13 Ac-ft  TIME:    500 min

BASIN ID: PST25-B2       NAME: PST 25YR STM EVENT BASIN 2
SCS METHODOLOGY
TOTAL AREA.......:   0.34 Acres     BASEFLOWS:   0.00 cfs
RAINFALL TYPE....:    TYPE1A                        PERV             IMP
PRECIPITATION....:   3.90 inches    AREA..:     0.28 Acres     0.06 Acres
TIME INTERVAL....:     10.00 min    CN....:    61.00          98.00
                                    TC....:     5.00 min      5.00 min
ABSTRACTION COEFF:   0.20
PEAK RATE:   0.06 cfs  VOL:   0.03 Ac-ft  TIME:    500 min

BASIN ID: PST25YR       NAME: POST 25YR STM EVENT
SCS METHODOLOGY
TOTAL AREA.......:   2.00 Acres     BASEFLOWS:   0.00 cfs
RAINFALL TYPE....:    TYPE1A                        PERV             IMP
PRECIPITATION....:   3.90 inches    AREA..:     1.72 Acres     0.28 Acres
TIME INTERVAL....:     10.00 min    CN....:    61.00          98.00
                                    TC....:     5.00 min      5.00 min
ABSTRACTION COEFF:   0.20
PEAK RATE:   0.32 cfs  VOL:   0.19 Ac-ft  TIME:    500 min

□
□&kOS       2/11/10   2:23:38 pm          Shareware Release          page   6
====================================================================
                              BASIN SUMMARY

BASIN ID: PST2YR       NAME: POST 2YR STM EVENT
SCS METHODOLOGY
TOTAL AREA.......:   2.00 Acres     BASEFLOWS:   0.00 cfs
RAINFALL TYPE....:    TYPE1A                        PERV             IMP
PRECIPITATION....:   2.40 inches    AREA..:     1.72 Acres     0.28 Acres
```

```
                                          print
TIME INTERVAL....:     10.00 min    CN....:  61.00          98.00
                                    TC....:   5.00 min      5.00 min
ABSTRACTION COEFF:   0.20
PEAK RATE:   0.15 cfs  VOL:   0.07 Ac-ft  TIME:    500 min

BASIN ID: PST5-B1       NAME: PST 5YR STM EVENT BASIN 1
SCS METHODOLOGY
TOTAL AREA.......:   1.21 Acres     BASEFLOWS:   0.00 cfs
RAINFALL TYPE....:    TYPE1A                   PERV           IMP
PRECIPITATION....:   2.90 inches    AREA..:    0.99 Acres    0.22 Acres
TIME INTERVAL....:     10.00 min    CN....:  61.00          98.00
                                    TC....:   5.00 min      5.00 min
ABSTRACTION COEFF:   0.20
PEAK RATE:   0.14 cfs  VOL:   0.07 Ac-ft  TIME:    490 min

BASIN ID: PST5-B2       NAME: PST 5YR STM EVENT BASIN 2
SCS METHODOLOGY
TOTAL AREA.......:   0.34 Acres     BASEFLOWS:   0.00 cfs
RAINFALL TYPE....:    TYPE1A                   PERV           IMP
PRECIPITATION....:   2.90 inches    AREA..:    0.28 Acres    0.06 Acres
TIME INTERVAL....:     10.00 min    CN....:  61.00          98.00
                                    TC....:   5.00 min      5.00 min
ABSTRACTION COEFF:   0.20
PEAK RATE:   0.04 cfs  VOL:   0.02 Ac-ft  TIME:    490 min

BASIN ID: PST5YR        NAME: POST 5YR STM EVENT
SCS METHODOLOGY
TOTAL AREA.......:   2.00 Acres     BASEFLOWS:   0.00 cfs
RAINFALL TYPE....:    TYPE1A                   PERV           IMP
PRECIPITATION....:   2.90 inches    AREA..:    1.72 Acres    0.28 Acres
TIME INTERVAL....:     10.00 min    CN....:  61.00          98.00
                                    TC....:   5.00 min      5.00 min
ABSTRACTION COEFF:   0.20
PEAK RATE:   0.18 cfs  VOL:   0.10 Ac-ft  TIME:    490 min

□
□
□&k0S       2/11/10   2:23:38 pm            Shareware Release            page   7
       ===================================================================
                                STAGE STORAGE TABLE


       CUSTOM STORAGE       ID No. DETN-B1
       Description: DETENTION BASIN 2


□&k2S
             STAGE <----STORAGE---->   STAGE <----STORAGE---->   STAGE <----STORAGE---->   STAGE
```

print

<----STORAGE---->

(ft)	---cf---	--Ac-Ft-	(ft)	---cf---	--Ac-Ft-	(ft)	---cf---	--Ac-Ft-	(ft)	---cf---	--Ac-Ft-
516.00	0.0000	0.0000	516.60	721.80	0.0166	517.20	1605	0.0368	517.80	2810	0.0645
516.10	120.30	0.0028	516.70	842.10	0.0193	517.30	1806	0.0415	517.90	3011	0.0691
516.20	240.60	0.0055	516.80	962.40	0.0221	517.40	2007	0.0461	518.00	3212	0.0737
516.30	360.90	0.0083	516.90	1083	0.0249	517.50	2207	0.0507	518.00	3212	0.0737
516.40	481.20	0.0110	517.00	1203	0.0276	517.60	2408	0.0553			
516.50	601.50	0.0138	517.10	1404	0.0322	517.70	2609	0.0599			

□
□&k0S 2/11/10 2:23:38 pm Shareware Release page 8

STAGE DISCHARGE TABLE

MULTIPLE ORIFICE ID No. ORIF-B1
Description:
Outlet Elev: 512.50
Elev: 512.50 ft Orifice Diameter: 0.3000 in.
Elev: 514.30 ft Orifice 2 Diameter: 0.9000 in.

□&k2S

STAGE (ft)	<--DISCHARGE---> ---cfs-- -------	STAGE (ft)	<--DISCHARGE---> ---cfs-- -------	STAGE (ft)	<--DISCHARGE---> ---cfs-- -------	STAGE (ft)	---cfs-- -------
512.50	0.0000	513.90	0.0029	515.30	0.0261	516.70	0.0391
512.60	0.0008	514.00	0.0030	515.40	0.0272	516.80	0.0398
512.70	0.0011	514.10	0.0031	515.50	0.0283	516.90	0.0406
512.80	0.0013	514.20	0.0032	515.60	0.0294	517.00	0.0413
512.90	0.0015	514.30	0.0033	515.70	0.0304	517.10	0.0420
513.00	0.0017	514.40	0.0103	515.80	0.0314	517.20	0.0427
513.10	0.0019	514.50	0.0133	515.90	0.0323	517.30	0.0434

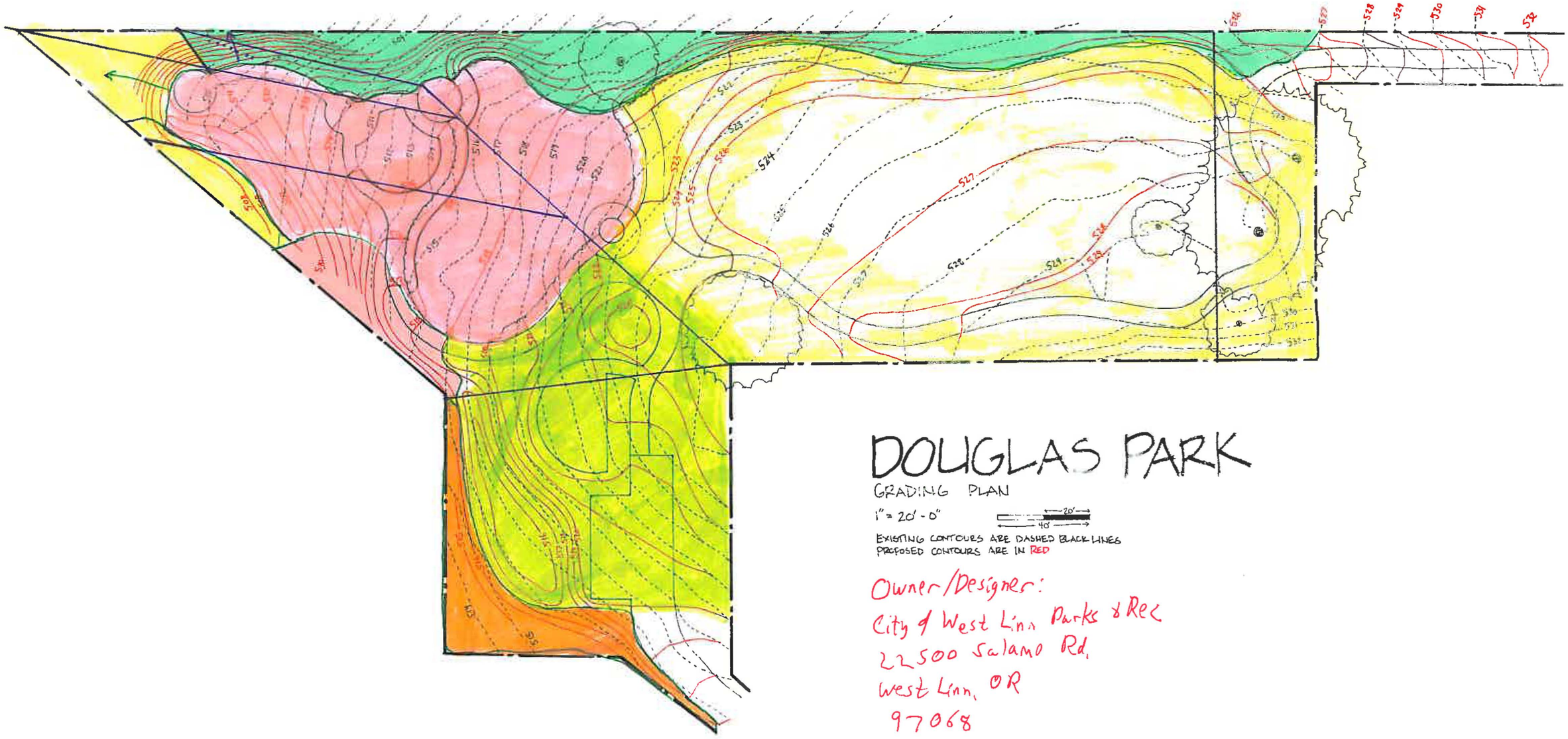
print

513.20	0.0020	514.60	0.0156	516.00	0.0332	517.40	0.0441
513.30	0.0022	514.70	0.0175	516.10	0.0341	517.50	0.0448
513.40	0.0023	514.80	0.0192	516.20	0.0350	517.60	0.0454
513.50	0.0024	514.90	0.0208	516.30	0.0358	517.70	0.0461
513.60	0.0026	515.00	0.0223	516.40	0.0367	517.80	0.0467
513.70	0.0027	515.10	0.0236	516.50	0.0375	517.90	0.0474
513.80	0.0028	515.20	0.0249	516.60	0.0383	518.00	0.0480

LEVEL POOL TABLE SUMMARY

&k2S

<--------DESCRIPTION--------->	MATCH (cfs)	INFLOW (cfs)	-STO- --id-	-DIS- --id-	<-PEAK-> <-STAGE>	id	OUTFLOW (cfs)	STORAGE VOL (cf)
2YR STORM	0.02	0.12	DETN-B1	ORIF-B1	516.18	1	0.03	211.58 cf
5YR STORM	0.04	0.14	DETN-B1	ORIF-B1	516.48	2	0.04	579.77 cf
10YR STORM	0.07	0.18	DETN-B1	ORIF-B1	517.09	3	0.04	1383.73 cf
25YR STORM	0.13	0.23	DETN-B1	ORIF-B1	517.58	4	0.05	2363.22 cf



DOUGLAS PARK

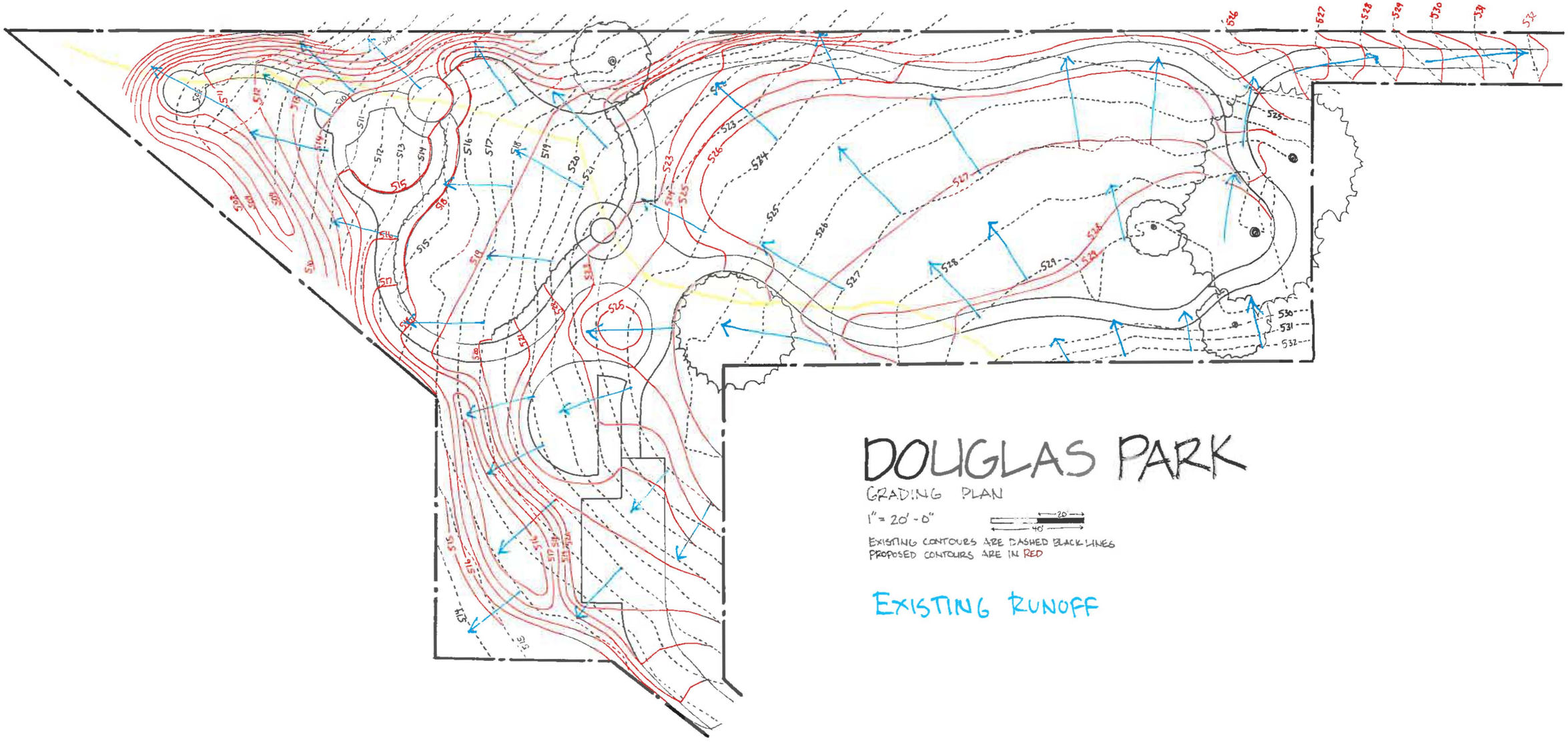
GRADING PLAN

1" = 20' - 0"

20' 40'

EXISTING CONTOURS ARE DASHED BLACK LINES
PROPOSED CONTOURS ARE IN RED

Owner/Designer:
City of West Linn Parks & Rec
22500 Salamo Rd.
West Linn, OR
97068



DOUGLAS PARK

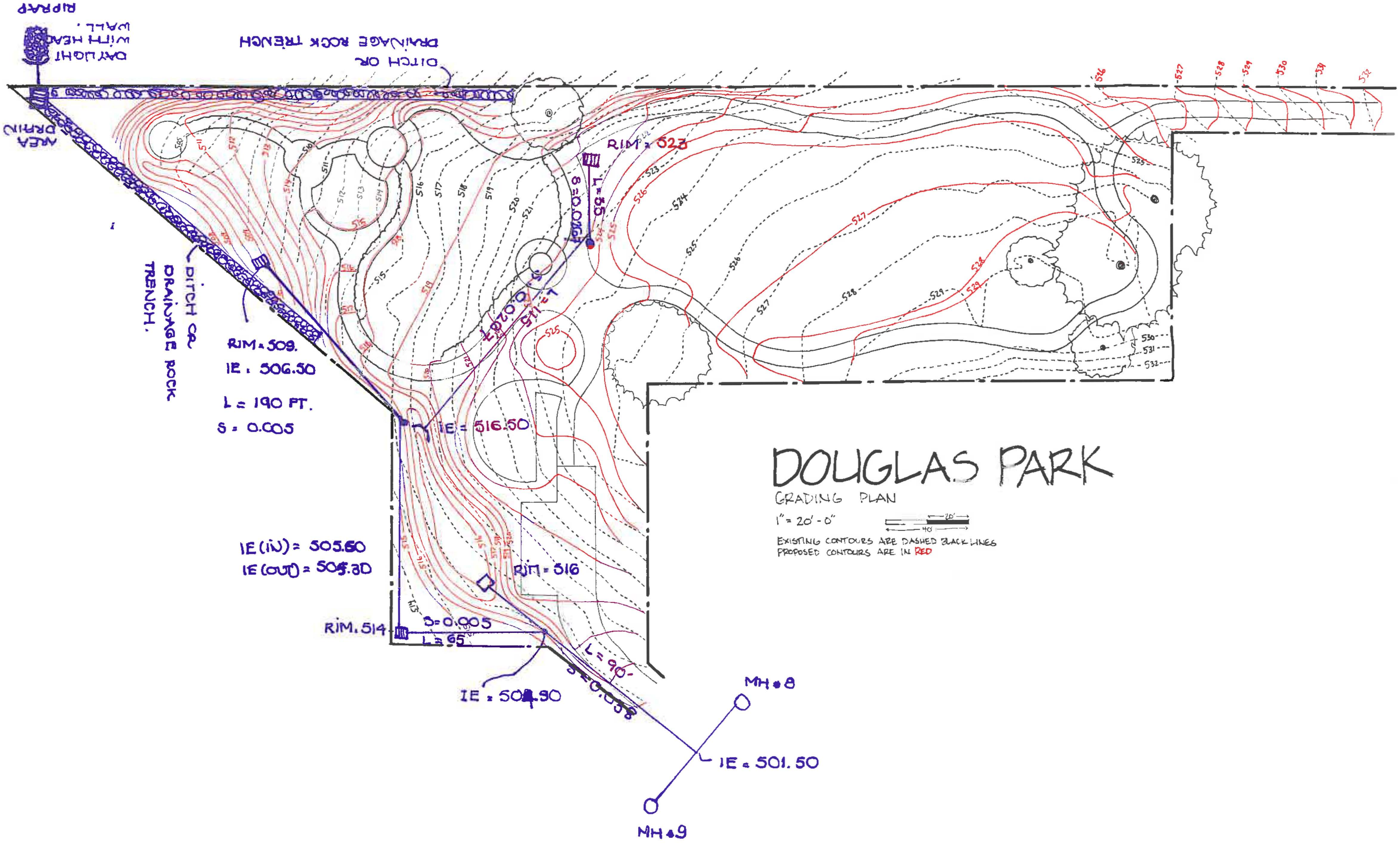
GRADING PLAN

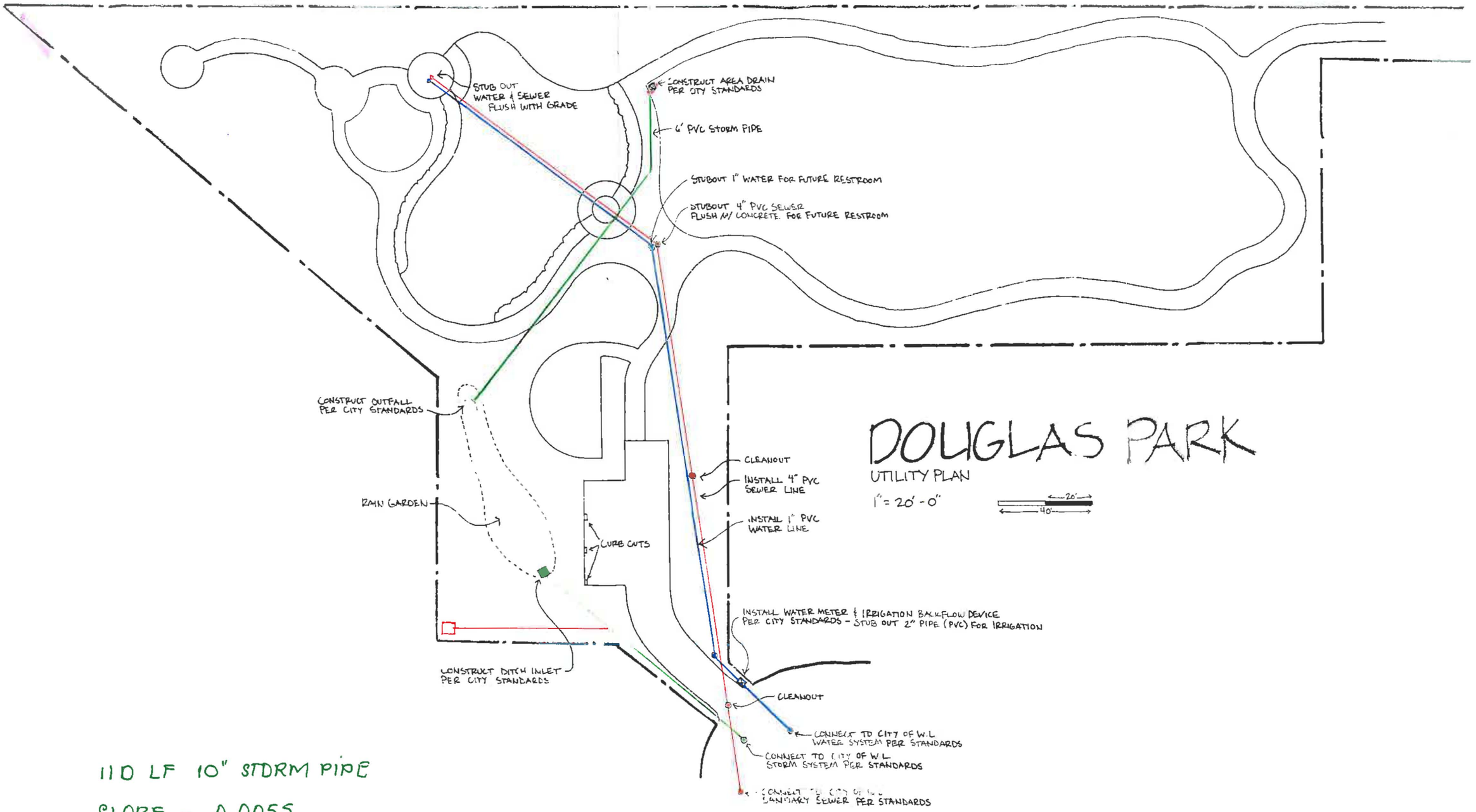
1" = 20' - 0"

20'
40'

EXISTING CONTOURS ARE DASHED BLACK LINES
PROPOSED CONTOURS ARE IN RED

EXISTING RUNOFF


DOUGLAS PARK
GRADING PLAN
1" = 20' - 0"
EXISTING CONTOURS ARE DASHED BLACK LINES
PROPOSED CONTOURS ARE IN RED
RIM = 523
L = 55
S = 0.026
RIM = 509.
IE = 506.50
L = 190 FT.
S = 0.005
IE = 516.50
IE (IN) = 505.50
IE (OUT) = 505.30
RIM = 516
RIM. 514
S = 0.005
L = 65
IE = 504.90
L = 90'
S = 0.038
MH # 8
MH # 9
IE = 501.50
DITCH OR DRAINAGE ROCK TRENCH.



110 LF 10" STORM PIPE

SLOPE = 0.0055.

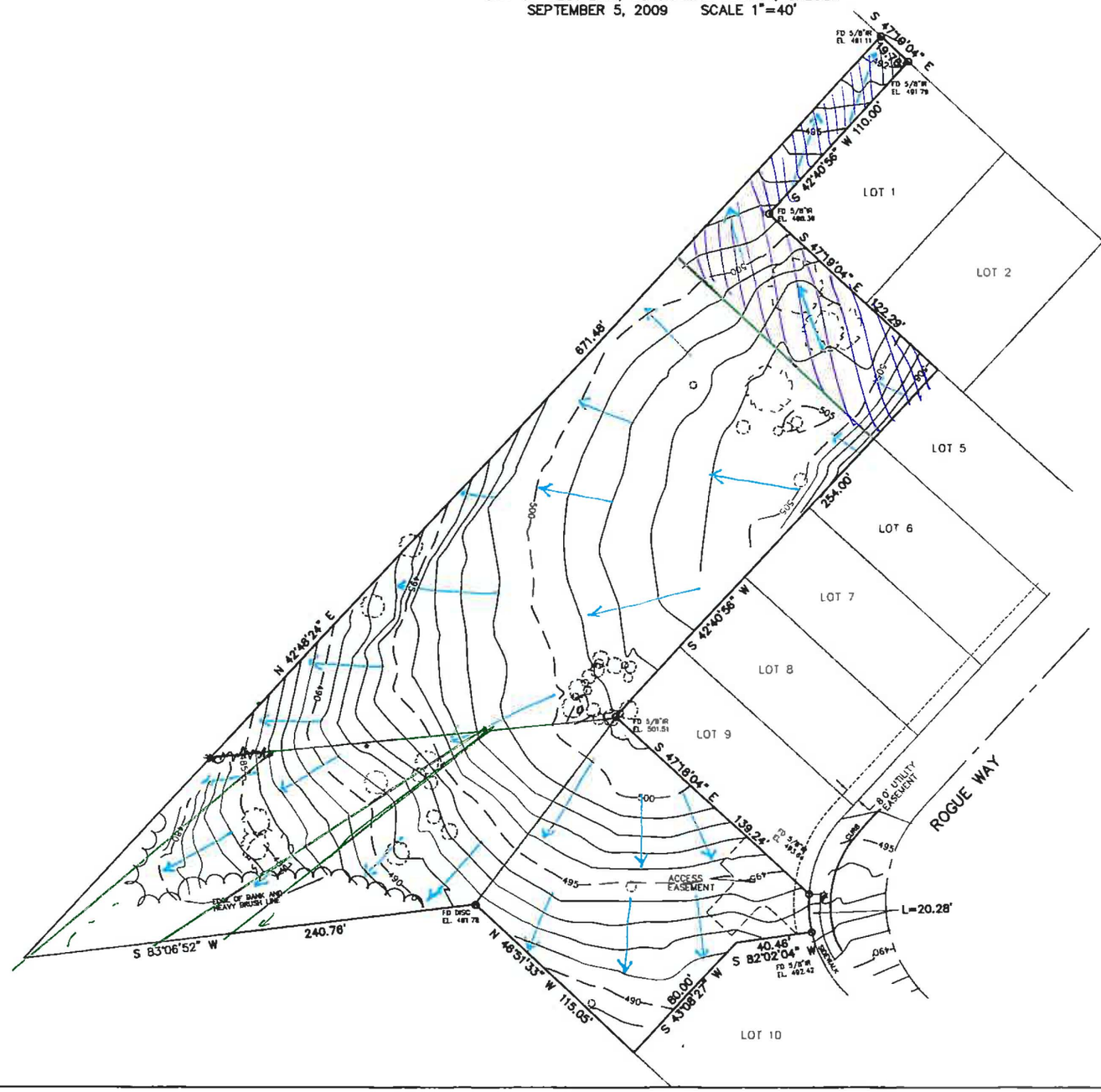
PRELIMINARY CALCULATIONS.

IE (IN) = 501.80.

IE (OUT) INLET = 501.30 + 0.61 = 501.91.

TOPOGRAPHIC SURVEY

TRACT "A", DOUGLAS PARK
S.E. 1/4 SECTION 35, T.2S., R.1E., W.M.,
CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON
SEPTEMBER 5, 2009 SCALE 1"=40'



--VERTICAL CONTROL FROM ASSUMED ELEVATION ON SITE SURVEY NOT RELATED TO CITY OR COUNTY BENCHMARK ELEVATION DATUM CLIENT SHALL VERIFY EXISTING CONDITIONS, GRADES, AND ELEVATIONS.

EXISTING SITE RUNOFF

Centerline Concepts Inc.

700 MOLALLA AVENUE, OREGON CITY, OREGON 97045
503 650-0188 FAX 503 650-0189

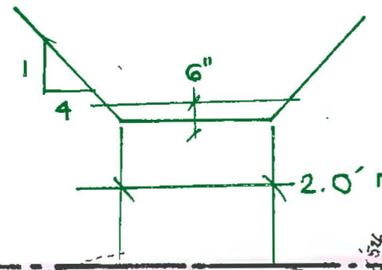
DRAWN BY MPW CHECKED BY WCDIII ACCOUNT # 1212
M:\PROJECTS\WESTLINN-TRACTA

FLOW DEPTH = 0.09 ft = 1.1"

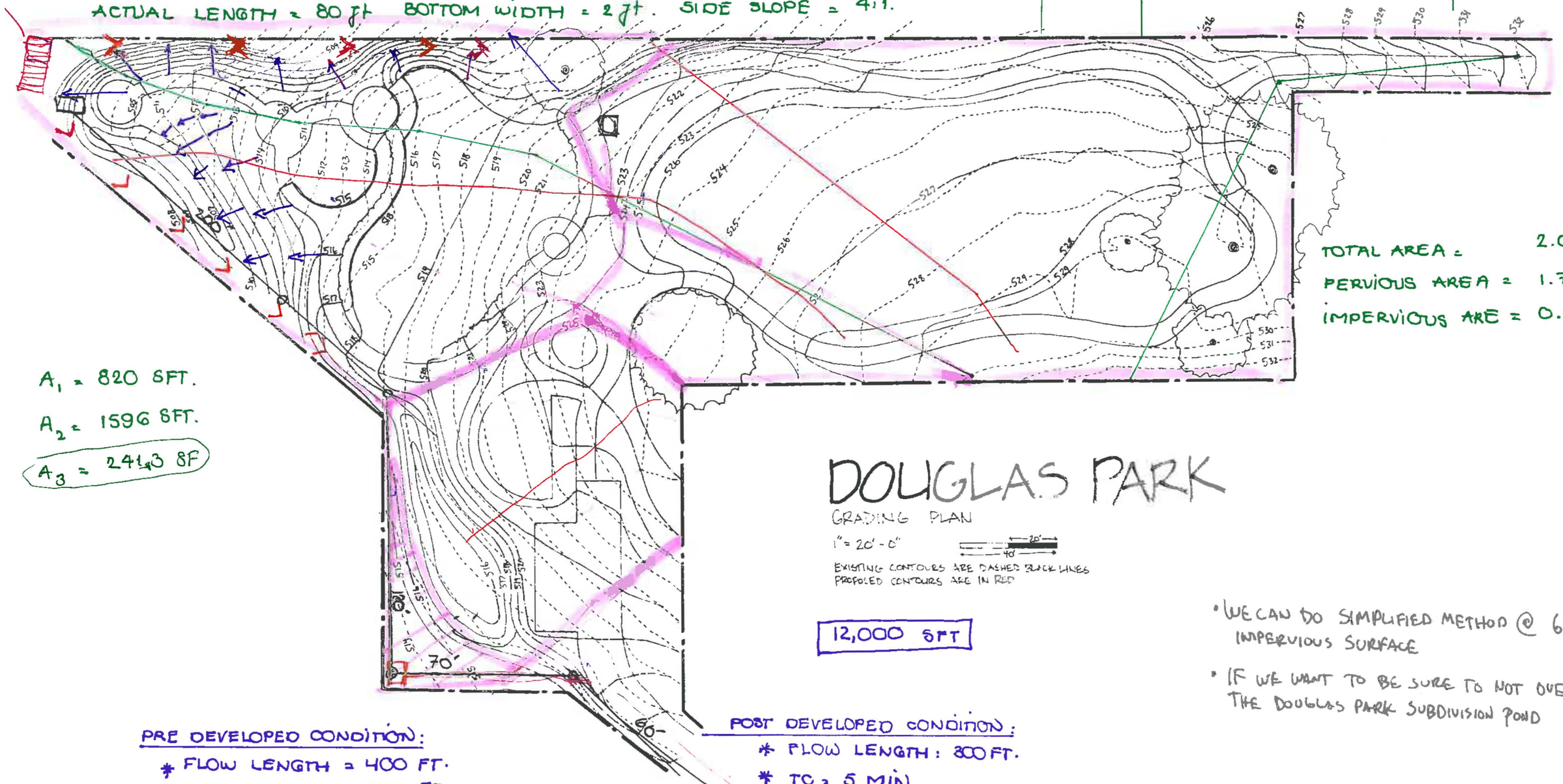
VELOCITY = 0.09 ft/sec

LENGTH = $0.09 \frac{ft}{sec} \times 9 \text{ min} \times \frac{60 \text{ sec}}{1 \text{ min}} = 48.6 \text{ ft.}$

ACTUAL LENGTH = 80 ft BOTTOM WIDTH = 2 ft. SIDE SLOPE = 4:1.



	PRE (CFS)	POST (CFS)
2YR	0.04	0.15
5YR	0.06	0.18
10YR	0.11	0.23
25YR	0.21	0.32



TOTAL AREA = 2.0 AC

PERVIOUS AREA = 1.72 AC

IMPERVIOUS ARE = 0.28 AC

A_1 = 820 SFT.

A_2 = 1596 SFT.

A_3 = 2413 SF

DOUGLAS PARK

GRADING PLAN

1" = 20' - 0"

EXISTING CONTOURS ARE DASHED BLACK LINES
PROPOSED CONTOURS ARE IN RED

12,000 SFT

PRE DEVELOPED CONDITION:

* FLOW LENGTH = 400 FT.
- SHEET FLOW = 300 FT.
- CONCENTRATED FLOW = 100 FT.

POST DEVELOPED CONDITION:

* FLOW LENGTH: 300 FT.
* TC = 5 MIN.

- WE CAN DO SIMPLIFIED METHOD @ 6% OF IMPERVIOUS SURFACE
- IF WE WANT TO BE SURE TO NOT OVERLOAD THE DOUGLAS PARK SUBDIVISION POND