

STAFF REPORT

(Revised Preliminary Plat, Deferred 12/14/05)

CASE NUMBER: SUB 2005-141 -- NORTHGATE COMMERCIAL PARK 1ST ADDITION
(Formerly Meridian Valley Addition)

OWNER/APPLICANT: R & R Realty, LLC, 8100 E. 22nd St. North, Bldg 100, Wichita, KS
67226; Pearce Schnitzer Farms & Wilfred A. Pearce Trust, 319 N.
Belmont Pl., Wichita, KS 67208

ENGINEER: SMC Consulting Engineers, P.C., Attn: Terence L. Haynes 815 West
Main, Oklahoma City, OK 73106

SURVEYOR: George Frank Roberts, Smith Roberts Baldischwiler, LLC, 100 N.E.
5th Street, Oklahoma City, OK 73104

LOCATION: Northwest corner of 53rd St. North and Meridian

SITE SIZE: 28.8 acres

NUMBER OF LOTS

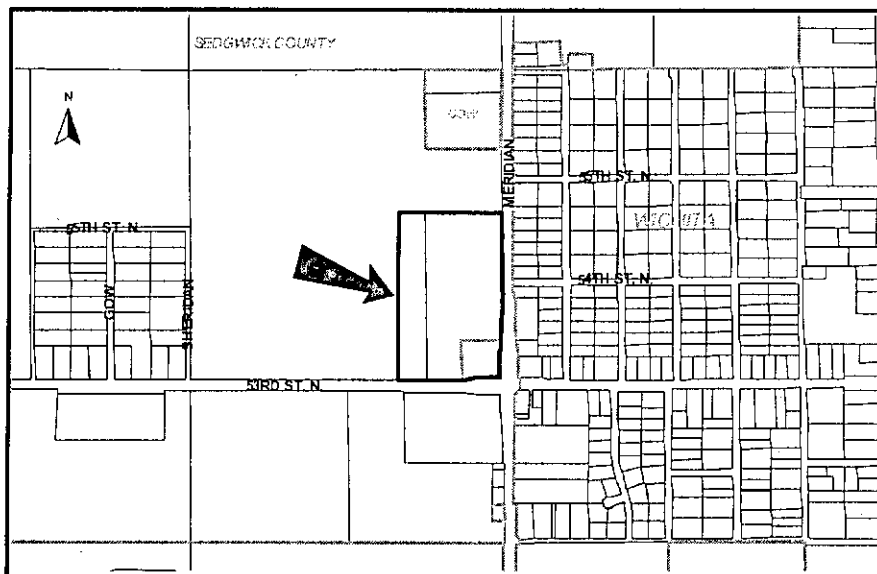
Residential:	
Office:	
Commercial:	3
Industrial:	
Total:	<u>3</u>

MINIMUM LOT AREA: 1.27 acres

CURRENT ZONING: SF-20, Single-Family Residential; LC, Limited Commercial

PROPOSED ZONING: LC, Limited Commercial

VICINITY MAP



NOTE: This is a replat of the Maize State Bank Addition in addition to unplatted property. The site has been approved for a zone change (ZON 2006-25) from SF-5, Single-Family Residential to LC, Limited Commercial subject to platting. The Northgate Commercial Park Community Unit Plan (CUP 2006-24, DP-299) was also approved for this site (Parcels 1, 2, 3).

STAFF COMMENTS:

- A. The applicant shall guarantee the extension of sanitary sewer (main and lateral) and City water (main and lateral) to serve the lots being platted.
- B. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- C. City/County Engineering needs to comment on the status of the applicant's drainage plan. City Engineering requests that the detention pond located along the north portion of the site be platted as Reserve.
- D. In accordance with the CUP approval, the following transportation improvements are required:
1. Guarantee signalization at the 54th Street and Meridian intersection.
 2. Guarantee a southbound right-turn lane and a fifth lane on Meridian from 54th to 53rd to allow left-turns.
 3. Guarantee the relocation of the existing signal to accommodate street improvements at the 53rd and Meridian intersection.
 4. Guarantee future signalization at major openings on 53rd Street when warrants are met.
 5. Guarantee a fifth lane along 53rd Street from driveway opening number three east to Meridian.
 6. Guarantee dual left-turn lanes on the west and south legs of the intersection of 53rd and Meridian, and provide separate right-turn lanes on all approaches. *7 sidewalk*
- E. Additional right-of-way along Meridian is needed to meet the 60-foot half-street standard. *8. closing of Drive*
- F. City/County Engineering needs to comment on the access controls. The plat denotes three openings along both 53rd St. North and Meridian. The final plat shall reference the dedication of access controls in the plat's text. The access controls are approved. *9. landscape in median along Meridian*
- G. In accordance with the CUP approval, a cross-lot circulation agreement is needed to assure internal vehicular movement between the lots.
- H. The joint access openings shall be established by separate instrument. Initial construction responsibilities and future maintenance of the driveway within the easement should also be addressed by the text of the instrument.
- I. A block shall be designated on the face of the plat.

- J. Provisions shall be made for ownership and maintenance of the proposed reserves. The applicant shall either form a lot owners' association prior to recording the plat or shall submit a covenant stating when the association will be formed, when the reserves will be deeded to the association and who is to own and maintain the reserves prior to the association taking over those responsibilities.
- K. For those reserves being platted for drainage purposes, the required covenant which provides for ownership and maintenance of the reserves shall grant, to the appropriate governing body, the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by the governing body.
- L. A note shall be placed on the final plat, indicating that this Addition is subject to the conditions of Northgate Commercial Park Community Unit Plan (CUP 2006-24, DP-299).
- M. The perimeters of the proposed lots and access controls shall match the perimeters of the CUP parcel boundaries. A CUP adjustment will need to be approved prior to City Council review of the plat.
- N. The City needs to annex the arterial streets.
- O. The plat's text shall include language that a drainage plan has been developed for the plat and that all drainage easements, rights-of-way, or reserves shall remain at established grades or as modified with the approval of the applicable City or County Engineer, and unobstructed to allow for the conveyance of stormwater.
- P. The applicant shall install or guarantee the installation of all utilities and facilities that are applicable and described in Article 8 of the MAPC Subdivision Regulations. (Water service and fire hydrants required by Article 8 for fire protection shall be as per the direction and approval of the Chief of the Fire Department.)
- Q. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.
- R. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (Phone: 316-946-4556) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.
- S. The applicant is advised that various State and Federal requirements (specifically but not limited to the Army Corps of Engineers, Kanopolis Project Office, Rt. 1, Box 317, Valley Center, KS 67147) for the control of soil and wind erosion and the protection of wetlands may impact how this site can be developed. It is the applicant's responsibility to contact all appropriate agencies to determine any such requirements.
- T. The owner of the subdivision should note that any construction that results in earthwork activities that will disturb one (1) acre or more of ground cover requires a Federal/State NPDES Storm Water Discharge Permit from the Kansas Department of Health and Environment in Topeka. Also, for projects located within the City of Wichita, erosion and sediment control devices must be used on ALL projects. For projects outside of the City of Wichita, but within the Wichita Metropolitan area, the owner should contact the appropriate governmental jurisdiction concerning erosion and sediment control device requirements.

- U. Perimeter closure computations shall be submitted with the final plat tracing.
- V. Recording of the plat within 30 days after approval by the City Council and/or County Commission.
- W. The representatives from the utility companies should be prepared to comment on the need for any additional utility easements to be platted on this property.
- X. A compact disc (CD), which will be used by the City and County GIS Departments, detailing the final plat in digital format in AutoCAD. If a disc is not provided, please send via e-mail to Cheryl Holloway (E-Mail address: cholloway@wichita.gov). Please include the name of the plat on the disc.

NORTHGATE COMMERCIAL PARK 1ST ADDITION
MAPCHECK
February 12, 2007

SMITH ROBERTS BALDISCHWILER LLC
100 NE 5th STREET
OKLAHOMA CITY, OK 73104
405 840 7094

Parcel name: PLAT LEGAL

North:	1720212.3293	East :	1637981.1812
Line Course:	N 89-57-37 W	Length:	540.61
	North: 1720212.7041	East :	1637440.5713
Line Course:	N 00-48-32 W	Length:	1454.00
	North: 1721666.5592	East :	1637420.0448
Line Course:	S 89-57-37 E	Length:	915.60
	North: 1721665.9245	East :	1638335.6446
Line Course:	S 00-48-32 E	Length:	1079.00
	North: 1720587.0320	East :	1638350.8771
Line Course:	N 89-57-37 W	Length:	60.01
	North: 1720587.0736	East :	1638290.8671
Line Course:	S 00-48-32 E	Length:	65.90
	North: 1720521.1802	East :	1638291.7975
Line Course:	S 13-13-03 W	Length:	61.85
	North: 1720460.9686	East :	1638277.6556
Line Course:	S 00-48-32 E	Length:	173.87
	North: 1720287.1160	East :	1638280.1102
Line Course:	N 89-57-37 W	Length:	173.87
	North: 1720287.2365	East :	1638106.2402
Line Course:	S 76-00-12 W	Length:	103.08
	North: 1720262.3050	East :	1638006.2207
Line Course:	N 89-57-37 W	Length:	25.75
	North: 1720262.3229	East :	1637980.4707
Line Course:	S 00-48-32 E	Length:	50.00
	North: 1720212.3278	East :	1637981.1765

Perimeter: 4703.53 Area: 1,283,846 sq. ft. 29.4730 acres

Mapcheck Closure - (Uses listed courses, radii, and deltas)

Error Closure: 0.0049 Course: S 72-12-28 W

Error North: -0.00150 East : -0.00467

Precision 1: 959,906.12

Parcel name: 53rd ST ROW

North:	1720212.3293	East :	1637981.1812
Line Course:	N 89-57-37 W	Length:	540.61
	North: 1720212.7041	East :	1637440.5713
Line Course:	N 00-48-32 W	Length:	60.01
	North: 1720272.7082	East :	1637439.7242
Line Course:	S 89-57-37 E	Length:	99.87
	North: 1720272.6389	East :	1637539.5941
Line Course:	S 89-57-37 E	Length:	239.77

North: 1720272.4727 East : 1637779.3641
 Line Course: S 89-57-37 E Length: 242.94
 North: 1720272.3043 East : 1638022.3040
 Line Course: S 89-57-37 E Length: 23.95
 North: 1720272.2877 East : 1638046.2540
 Line Course: S 76-00-12 W Length: 41.26
 North: 1720262.3083 East : 1638006.2190
 Line Course: N 89-57-37 W Length: 25.75
 North: 1720262.3261 East : 1637980.4690
 Line Course: S 00-48-32 E Length: 50.00
 North: 1720212.3311 East : 1637981.1749

Perimeter: 1324.15 Area: 32,895 sq. ft. 0.7551 acres

Mapcheck Closure - (Uses listed courses, radii, and deltas)
 Error Closure: 0.0066 Course: N 74-11-45 W
 Error North: 0.00178 East : -0.00631
 Precision 1: 200,630.30

Parcel name: LOT 1 BLK 1

North: 1720272.6355 East : 1637539.5989
 Line Course: N 89-57-37 W Length: 99.87
 North: 1720272.7047 East : 1637439.7289
 Line Course: N 00-48-32 W Length: 255.85
 North: 1720528.5292 East : 1637436.1170
 Line Course: N 89-11-28 E Length: 46.00
 North: 1720529.1786 East : 1637482.1124
 Line Course: N 00-48-32 W Length: 540.00
 North: 1721069.1248 East : 1637474.4891
 Line Course: S 89-11-28 W Length: 46.00
 North: 1721068.4754 East : 1637428.4936
 Line Course: N 00-48-32 W Length: 486.01
 North: 1721554.4370 East : 1637421.6325
 Line Course: S 89-57-37 E Length: 54.06
 North: 1721554.3995 East : 1637475.6925
 Curve Length: 133.28 Radius: 76.67
 Delta: 99-35-58 Tangent: 90.73
 Chord: 117.12 Course: N 81-53-58 E
 Course In: S 57-54-01 E Course Out: N 41-41-57 E
 RP North: 1721513.6575 East : 1637540.6415
 End North: 1721570.9030 East : 1637591.6439
 Line Course: N 89-11-28 E Length: 120.11
 North: 1721572.5986 East : 1637711.7419
 Line Course: N 44-11-28 E Length: 15.98
 North: 1721584.0566 East : 1637722.8808
 Line Course: N 89-11-28 E Length: 102.49
 North: 1721585.5035 East : 1637825.3606
 Line Course: S 45-48-32 E Length: 16.02
 North: 1721574.3367 East : 1637836.8473
 Line Course: N 89-11-28 E Length: 440.04
 North: 1721580.5488 East : 1638276.8434
 Line Course: S 00-48-32 E Length: 993.58
 North: 1720587.0678 East : 1638290.8701

Line Course: S 00-48-32 E Length: 51.47
 North: 1720535.6030 East : 1638291.5967
 Line Course: N 45-48-32 W Length: 21.21
 North: 1720550.3875 East : 1638276.3887
 Line Course: S 89-11-28 W Length: 257.98
 North: 1720546.7455 East : 1638018.4345
 Line Course: S 89-11-28 W Length: 242.91
 North: 1720543.3163 East : 1637775.5487
 Line Course: S 89-11-28 W Length: 206.23
 North: 1720540.4049 East : 1637569.3392
 Curve Length: 27.85 Radius: 19.33
 Delta: 82-33-11 Tangent: 16.97
 Chord: 25.50 Course: S 47-54-50 W
 Course In: S 00-48-35 E Course Out: N 83-21-46 W
 RP North: 1720521.0768 East : 1637569.6124
 End North: 1720523.3110 East : 1637550.4119
 Curve Length: 88.63 Radius: 418.58
 Delta: 12-07-52 Tangent: 44.48
 Chord: 88.46 Course: S 12-40-37 W
 Course In: N 83-23-19 W Course Out: S 71-15-27 E
 RP North: 1720571.5040 East : 1637134.6155
 End North: 1720437.0078 East : 1637530.9992
 Curve Length: 137.41 Radius: 407.24
 Delta: 19-19-58 Tangent: 69.36
 Chord: 136.76 Course: S 09-04-33 W
 Course In: S 71-15-28 E Course Out: S 89-24-34 W
 RP North: 1720306.1571 East : 1637916.6447
 End North: 1720301.9597 East : 1637509.4264
 Line Course: S 45-48-32 E Length: 42.08
 North: 1720272.6277 East : 1637539.5985

Perimeter: 4425.06 Area: 882,365 sq. ft. 20.2564 acres

Mapcheck Closure - (Uses listed courses, radii, and deltas)
 Error Closure: 0.0078 Course: S 02-35-37 W
 Error North: -0.00779 East : -0.00035
 Precision 1: 567,315.38

Parcel name: LOT 2 BLK 1

 North: 1720272.4693 East : 1637779.3732
 Line Course: N 89-57-37 W Length: 239.77
 North: 1720272.6355 East : 1637539.6033
 Line Course: N 45-48-32 W Length: 42.08
 North: 1720301.9675 East : 1637509.4311
 Curve Length: 137.41 Radius: 407.24
 Delta: 19-19-58 Tangent: 69.36
 Chord: 136.76 Course: N 09-04-33 E
 Course In: N 89-24-34 E Course Out: N 71-15-28 W
 RP North: 1720306.1649 East : 1637916.6495
 End North: 1720437.0156 East : 1637531.0039
 Curve Length: 88.63 Radius: 418.58
 Delta: 12-07-52 Tangent: 44.48
 Chord: 88.46 Course: N 12-40-37 E

Course In: N 71-15-27 W Course Out: S 83-23-19 E
RP North: 1720571.5118 East : 1637134.6203
End North: 1720523.3188 East : 1637550.4167
Curve Length: 27.85 Radius: 19.33
Delta: 82-33-11 Tangent: 16.97
Chord: 25.50 Course: N 47-54-50 E
Course In: S 83-21-46 E Course Out: N 00-48-35 W
RP North: 1720521.0846 East : 1637569.6171
End North: 1720540.4126 East : 1637569.3440
Line Course: N 89-11-28 E Length: 206.23
North: 1720543.3241 East : 1637775.5534
Line Course: S 00-48-32 E Length: 270.88
North: 1720272.4711 East : 1637779.3775

Perimeter: 1012.85 Area: 67,111 sq. ft. 1.5406 acres

Mapcheck Closure - (Uses listed courses, radii, and deltas)
Error Closure: 0.0046 Course: N 67-20-43 E
Error North: 0.00179 East : 0.00429
Precision 1: 220,184.78

Parcel name: LOT 3 BLK 1

North: 1720272.3008 East : 1638022.3098
Line Course: N 89-57-37 W Length: 242.94
North: 1720272.4693 East : 1637779.3699
Line Course: N 00-48-32 W Length: 270.88
North: 1720543.3223 East : 1637775.5458
Line Course: N 89-11-28 E Length: 242.91
North: 1720546.7515 East : 1638018.4316
Line Course: S 00-48-32 E Length: 274.48
North: 1720272.2989 East : 1638022.3065

Perimeter: 1031.21 Area: 66,236 sq. ft. 1.5205 acres

Mapcheck Closure - (Uses listed courses, radii, and deltas)
Error Closure: 0.0039 Course: S 59-13-58 W
Error North: -0.00198 East : -0.00333
Precision 1: 264,412.82

Parcel name: N MER ROW

North: 1720587.0320 East : 1638350.8818
Line Course: N 00-48-32 W Length: 1079.00
North: 1721665.9245 East : 1638335.6493
Line Course: N 89-57-37 W Length: 60.01
North: 1721665.9661 East : 1638275.6393
Line Course: S 00-48-32 E Length: 85.42
North: 1721580.5546 East : 1638276.8452
Line Course: S 00-48-32 E Length: 993.58
North: 1720587.0736 East : 1638290.8718

Line Course: S 89-57-37 E Length: 60.01
North: 1720587.0320 East : 1638350.8818

Perimeter: 2278.02 Area: 64,743 sq. ft. 1.4863 acres

Mapcheck Closure - (Uses listed courses, radii, and deltas)

Error Closure: 0.0000 Course: S 90-00-00 E

Error North: 0.00000 East : 0.00000

Precision 1: 2,278,020,000.00

Parcel name: RES A BLK 1

North: 1720287.1333 East : 1638255.1149

Line Course: N 89-57-37 W Length: 148.87

North: 1720287.2365 East : 1638106.2449

Line Course: S 76-00-12 W Length: 61.82

North: 1720272.2844 East : 1638046.2603

Line Course: N 89-57-37 W Length: 23.95

North: 1720272.3010 East : 1638022.3103

Line Course: N 00-48-32 W Length: 274.48

North: 1720546.7536 East : 1638018.4354

Line Course: N 89-11-28 E Length: 257.98

North: 1720550.3956 East : 1638276.3897

Line Course: S 45-48-32 E Length: 21.21

North: 1720535.6111 East : 1638291.5977

Line Course: S 00-48-32 E Length: 14.43

North: 1720521.1825 East : 1638291.8014

Line Course: S 13-13-03 W Length: 61.85

North: 1720460.9710 East : 1638277.6595

Line Course: S 00-48-32 E Length: 148.87

North: 1720312.1158 East : 1638279.7612

Line Course: S 44-36-55 W Length: 35.09

North: 1720287.1374 East : 1638255.1159

Perimeter: 1048.56 Area: 68,713 sq. ft. 1.5774 acres

Mapcheck Closure - (Uses listed courses, radii, and deltas)

Error Closure: 0.0043 Course: N 14-43-10 E

Error North: 0.00412 East : 0.00108

Precision 1: 243,848.84

Parcel name: RES B BLK 1

North: 1721665.9661 East : 1638275.6393

Line Course: S 00-48-32 E Length: 85.42

North: 1721580.5546 East : 1638276.8452

Line Course: S 89-11-28 W Length: 440.04

North: 1721574.3424 East : 1637836.8490

Line Course: N 45-48-32 W Length: 16.02

North: 1721585.5092 East : 1637825.3624
Line Course: S 89-11-28 W Length: 102.49
North: 1721584.0623 East : 1637722.8826
Line Course: S 44-11-28 W Length: 15.98
North: 1721572.6044 East : 1637711.7437
Line Course: S 89-11-28 W Length: 120.11
North: 1721570.9087 East : 1637591.6456
Curve Length: 133.28 Radius: 76.67
Delta: 99-35-58 Tangent: 90.73
Chord: 117.12 Course: S 81-53-58 W
Course In: S 41-41-57 W Course Out: N 57-54-01 W
RP North: 1721513.6632 East : 1637540.6433
End North: 1721554.4053 East : 1637475.6942
Line Course: N 89-57-37 W Length: 54.06
North: 1721554.4427 East : 1637421.6342
Line Course: N 00-48-32 W Length: 112.13
North: 1721666.5616 East : 1637420.0513
Line Course: S 89-57-37 E Length: 855.59
North: 1721665.9684 East : 1638275.6411

Perimeter: 1935.12 Area: 76,635 sq. ft. 1.7594 acres

Mapcheck Closure - (Uses listed courses, radii, and deltas)

Error Closure: 0.0029 Course: N 37-38-25 E
Error North: 0.00233 East : 0.00179
Precision 1: 667,282.76

Parcel name: RES C BLK 1

North: 1720528.5292 East : 1637436.1170
Line Course: N 00-48-32 W Length: 540.00
North: 1721068.4754 East : 1637428.4936
Line Course: N 89-11-28 E Length: 46.00
North: 1721069.1248 East : 1637474.4891
Line Course: S 00-48-32 E Length: 540.00
North: 1720529.1786 East : 1637482.1124
Line Course: S 89-11-28 W Length: 46.00
North: 1720528.5292 East : 1637436.1170

Perimeter: 1172.00 Area: 24,840 sq. ft. 0.5702 acres

Mapcheck Closure - (Uses listed courses, radii, and deltas)

Error Closure: 0.0000 Course: S 90-00-00 E
Error North: 0.00000 East : 0.00000
Precision 1: 1,172,000,000.00

Parcel name: SIGHT TRIANGLE

North: 1720287.1159 East : 1638280.1149
Line Course: N 89-57-37 W Length: 25.00
North: 1720287.1333 East : 1638255.1149

Line Course: N 44-36-56 E Length: 35.09
North: 1720312.1116 East : 1638279.7602
Line Course: S 00-48-32 E Length: 25.00
North: 1720287.1141 East : 1638280.1131

Perimeter: 85.09 Area: 312 sq. ft. 0.0071 acres

Mapcheck Closure - (Uses listed courses, radii, and deltas)
Error Closure: 0.0025 Course: S 42-42-10 W
Error North: -0.00187 East : -0.00173
Precision 1: 34,036.00

Addendum No. 1
Drainage Impact Analysis
For
Wal-Mart Supercenter #4321-00
N.W. 53RD Street North & N. Meridian Avenue
Wichita, Kansas

This addendum is in continuation to the previously approved Drainage Impact Analysis for the Northgate Commercial Part 1st Addition final plat (attached herewith as Doc.#28863554, dated March 9, 2007) located on the northeast corner of N.W. 53rd Street North and N. Meridian Avenue intersection, in the southeast quarter of Section 13, Township 26 South, Range 1 West, Sedgwick County, Wichita, Kansas.

There are three detention ponds provided for the onsite detention system. The south and the north detention ponds are located in Reserves 'A' & 'B' respectively, while the west detention pond is located in Reserve 'C'. Said final plat allows access driveway crossing across Reserve 'C'. The proposed driveway crossing is shown in the attached Figure No. 3-Proposed Drainage Plan. The west detention pond is subdivided by the proposed driveway crossing into two halves, the north and the south portions. The stage-storage capacity and stage-discharge routing of the west detention pond (north and the south portions) is updated to reflect the current approved conditions per said final plat.

The construction of the access driveway across the west detention pond is accommodated by installing 2-24" culvert drains to stabilize the north and the south portions of the west detention pond. The storm sewer runoff from the parking area flowing into the north portion would flow to south portion without any restrictions. The outlet structure is located in south portion of the west detention pond. The routing of the detention ponds located in Reserve 'A' and 'B' are not affected by this addendum.

The following table is a detention summary revised to update the results of the west detention pond routing data.

RECEIVED
JUL 17 2007
CITY - ENGINEERING

DETENTION SUMMARY

Table No. 1: Stage-Discharge Routing Summary of North, South and West Detention Ponds

Storm Freq.	Proposed Routed Runoff From North Pond to 2-8'x4' RCB Culvert (Appendix-D of Original Report)	Proposed Routed Runoff From South Pond to 2-8'x4' RCB Culvert (Appendix-D of Original Report)	Proposed Routed Runoff from West Pond to 2-8'x4' RCB Culvert (Appendix-D of Original Report)	Proposed Runoff from the site including the public right of way to 2-8'x4' RCB Culvert (Appendix-D of Original Report)	Proposed Bypass from the site including the public right of way to 4'x4' RCB Culvert (Appendix-D of Original Report)	Total Proposed Routed Runoff to public drainage system (Sum of Column 2, 3, 4 & 5)	Allowable Runoff to public drainage system (Appendix-C of Original Report)	Proposed Runoff Lower than Existing Runoff (Subtract Column 7 from 8)
(year)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
Q2	0.72 (Page 36 of Original Report)	2.18 (Page 42 of Original Report)	2.45 (Page 1)	6.52 (Page 54 of Original Report)	3.50 (Page 60 of Original Report)	15.37	15.01 (Page 6 of Original Report)	0.36
Q5	1.60 (Page 38 of Original Report)	3.47 (Page 44 of Original Report)	7.60 (Page 3)	9.50 (Page 58 of Original Report)	5.13 (Page 64 of Original Report)	27.30	28.83 (Page 10 of Original Report)	(1.53)
Q100	5.88 (Page 40 of Original Report)	18.84 (Page 46 of Original Report)	23.10 (Page 5)	19.87 (Page 56 of Original Report)	10.80 (Page 62 of Original Report)	78.49	86.10 (Page 8 of Original Report)	(7.61)

1. Existing flow to the existing 4-4'x2' RCB culvert in accordance with Northgate Addition plans = 450 cfs for 100 year frequency.

2. Proposed flow to a new 2-8'x4' RCB culvert in accordance with Northgate Addition plans = 370 cfs for 100 year frequency.
3. Additional flows from the site including the 53rd street right way (sum of above column 2, 3, 4 and 5) = 65.03 cfs for 100 year frequency. Therefore, the sum of total proposed flows to the 2-8'x4' RCB culvert are less than existing flows.
4. The outlet structures of the three detention ponds are not revised.

Table No. 2: West Detention Pond Summary

Line No.	Description	At Q2	At Q5	At Q100
1	Detention Volume Required (cft) (refer Note 1)	7,406 at Peak Time of 724 minutes (Page 2)	9208 at Peak Time of 721 minutes (Page 4)	12,531 at Peak Time of 717 minutes (Page 6)
2	Detention Volume Provided (cft) (refer Note 2)	22,931.25 (Page 8)	22,931.25 (Page 8)	22,931.25 (Page 8)
3	Peak Storage Elevation at Storm Interval (ft) (refer Note 1)	1331.43 (Page 1)	1331.67 (Page 3)	1332.05 (Page 5)
4	Berm Elevation (ft) (refer Note 2)	1333 (Page 7)	1333 (Page 7)	1333 (Page 7)
5	Freeboard Available (ft) (subtract line 3 from 4)	1.57	1.33	0.95
6	Peak Inflow to Pond (cfs) (refer Note 1)	10.61 (Page 28 of Original Report)	14.74 (Page 30 of Original Report)	28.46 (Page 32 of Original Report)
7	Peak Routed Outflow (cfs)	2.45 (Page 1)	7.60 (Page 3)	23.10 (Page 5)

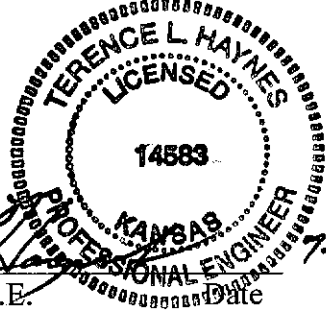
Note 1: Refer attached Stage-Storage Elevation Data at Time to Peak (Tp)

Note 2: Refer attached Reservoir Report for Maximum Storage Data

CONCLUSION

- The Addendum No. 1 to the Drainage Analysis of the project is completed using City and State Guidelines.
- The stage-storage and stage-discharge routing of the Reserve 'C' is completed to accommodate the construction of access driveway across the west detention pond.

The construction of the access driveway across the Reserve 'C' will not cause negative impact upstream or downstream of the project site.



Terence L. Haynes
Terence L. Haynes, P.E.
KS #14583
Date 7-12-07

User Name: muhammad
Project: DRAINAGE WM WICHITA(N)
Scenario: PROPOSED 176PROTO

Date: 07-16-07
Time: 14:49:43

FLOOD HYDROGRAPH REPORT

Hydrograph Number: 18
Name: ROUTE WEST DP, 2YR
Type: Reservoir: Storage Indication

[HYDROGRAPH INFORMATION]

Peak Flow (Qp) = 2.45 (cfs)
Time to Peak (Tp) = 724.00 (min)
Time of Base (Tb) = 1440.00 (min)
Volume = 0.48 (ac-ft)
Time Step = 1.00 (min)
Peak Elevation = 1331.43 (ft)
Detention Time = NA

[RESERVOIR STRUCTURE INFORMATION]

Number = 5
Name = WEST POND 061107
Storage Type = User-Defined Area
Maximum Storage = 22931.25 (cu ft)
Maximum Discharge = 83.04 (cfs)

[INFLOW HYDROGRAPH INFORMATION]

Number = 8
Name = PA'S TO WEST POND, CFH,
2YR
Peak Flow (Qp) = 10.61 (cfs)
Time to Peak (Tp) = 715.00 (min)
Time of Base (Tb) = 1445.00 (min)
Volume = 0.48 (ac-ft)
Flow Multiplier = 1.00

[EQUATION]

$$0.5(I1+I2)dt + S1 - 0.5(O2)dt$$

Where:

I1 = Previous Inflow
I2 = Current Inflow
dt = Time increment
S1 = Previous Storage
S2 = Current Storage
O1 = Previous Outflow
O2 = Current Outflow

$$A = 0.5 (I1+I2) dt$$

$$B = S1 - 0.5 (O1) dt$$

$$C = S2 + 0.5 (O2) dt$$

User Name: muhammad
 Project: DRAINAGE WM WICHITA(N)
 Scenario: PROPOSED 176PROTO

Date: 07-16-07
 Time: 14:49:43

FLOOD HYDROGRAPH REPORT

Computation of Reservoir Outflow Table of Storage Indication Method
 [The time interval is 1.00 min]

Intv	Time (min)	Inflow (cfs)	A (cfs)	B (cfs)	C (cfs)	Outflow (cfs)	Storage (cu ft)	Elev (ft)
713	713.00	8.93	17.02	6909.73	7781.92	1.26	3891.59	1330.86
714	714.00	9.77	18.70	7781.92	8749.25	1.32	4375.28	1330.95
715	715.00	10.61	20.39	8749.25	9811.50	1.37	4906.43	1331.04
716	716.00	9.72	20.34	9811.50	10865.04	1.41	5433.22	1331.13
717	717.00	8.83	18.55	10865.04	11806.49	1.45	5903.97	1331.21
718	718.00	7.94	16.77	11806.49	12630.25	1.59	6315.92	1331.27
719	719.00	7.05	14.99	12630.25	13322.13	1.86	6662.00	1331.32
720	720.00	6.15	13.20	13322.13	13877.24	2.08	6939.66	1331.36
721	721.00	5.21	11.37	13877.24	14299.13	2.25	7150.69	1331.39
722	722.00	4.27	9.49	14299.13	14591.17	2.37	7296.77	1331.41
723	723.00	3.33	7.61	14591.17	14759.43	2.43	7380.93	1331.42
724	724.00	2.39	5.73	14759.43	14809.67	2.45	7406.06	1331.43
725	725.00	1.45	3.85	14809.67	14747.41	2.43	7374.92	1331.42
726	726.00	1.43	2.88	14747.41	14631.35	2.38	7316.87	1331.41
727	727.00	1.40	2.82	14631.35	14517.51	2.34	7259.92	1331.41
728	728.00	1.37	2.77	14517.51	14405.77	2.29	7204.03	1331.40
729	729.00	1.34	2.71	14405.77	14296.03	2.25	7149.14	1331.39
730	730.00	1.32	2.66	14296.03	14188.20	2.21	7095.21	1331.38
731	731.00	1.29	2.60	14188.20	14082.17	2.17	7042.17	1331.38
732	732.00	1.26	2.55	14082.17	13977.82	2.12	6989.97	1331.37
733	733.00	1.23	2.49	13977.82	13875.07	2.08	6938.57	1331.36
734	734.00	1.20	2.44	13875.07	13773.84	2.04	6887.94	1331.35
735	735.00	1.18	2.38	13773.84	13674.07	2.00	6838.04	1331.35
736	736.00	1.15	2.33	13674.07	13575.66	1.96	6788.81	1331.34
737	737.00	1.12	2.27	13575.66	13478.53	1.92	6740.23	1331.33
738	738.00	1.09	2.21	13478.53	13382.61	1.89	6692.25	1331.32
739	739.00	1.06	2.16	13382.61	13287.84	1.85	6644.85	1331.32
740	740.00	1.04	2.10	13287.84	13194.19	1.81	6598.00	1331.31
741	741.00	1.01	2.04	13194.19	13101.56	1.77	6551.67	1331.30
742	742.00	0.98	1.98	13101.56	13009.90	1.74	6505.82	1331.30
743	743.00	0.95	1.93	13009.90	12919.15	1.70	6460.43	1331.29
744	744.00	0.92	1.87	12919.15	12829.28	1.67	6415.47	1331.28
745	745.00	0.89	1.81	12829.28	12740.24	1.63	6370.94	1331.28
746	746.00	0.86	1.76	12740.24	12651.99	1.60	6326.79	1331.27
747	747.00	0.83	1.70	12651.99	12564.45	1.56	6283.01	1331.27
748	748.00	0.81	1.64	12564.45	12477.62	1.53	6239.57	1331.26
749	749.00	0.78	1.58	12477.62	12391.43	1.49	6196.46	1331.25
750	750.00	0.75	1.52	12391.43	12305.04	1.47	6153.25	1331.25
751	751.00	0.73	1.48	12305.04	12217.25	1.47	6109.36	1331.24
752	752.00	0.71	1.44	12217.25	12127.79	1.46	6064.63	1331.23
753	753.00	0.69	1.41	12127.79	12036.64	1.46	6019.05	1331.22
754	754.00	0.68	1.37	12036.64	11943.84	1.46	5972.65	1331.22
755	755.00	0.66	1.34	11943.84	11849.37	1.45	5925.41	1331.21

User Name: muhammad
Project: DRAINAGE WM WICHITA(N)
Scenario: PROPOSED 176PROTO

Date: 07-16-07
Time: 14:49:48

FLOOD HYDROGRAPH REPORT

Hydrograph Number: 19
Name: ROUTE WEST DP, 5YR
Type: Reservoir: Storage Indication

[HYDROGRAPH INFORMATION]

Peak Flow (Qp) = 7.60 (cfs)
Time to Peak (Tp) = 721.00 (min)
Time of Base (Tb) = 1440.00 (min)
Volume = 0.68 (ac-ft)
Time Step = 1.00 (min)
Peak Elevation = 1331.67 (ft)
Detention Time = NA

[RESERVOIR STRUCTURE INFORMATION]

Number = 5
Name = WEST POND 061107
Storage Type = User-Defined Area
Maximum Storage = 22931.25 (cu ft)
Maximum Discharge = 83.04 (cfs)

[INFLOW HYDROGRAPH INFORMATION]

Number = 9
Name = PA'S TO WEST POND, CFH,
5YR
Peak Flow (Qp) = 14.74 (cfs)
Time to Peak (Tp) = 715.00 (min)
Time of Base (Tb) = 1445.00 (min)
Volume = 0.68 (ac-ft)
Flow Multiplier = 1.00

[EQUATION]

$$0.5(I1+I2)dt + S1 - 0.5(O2)dt$$

Where:

I1 = Previous Inflow
I2 = Current Inflow
dt = Time increment
S1 = Previous Storage
S2 = Current Storage
O1 = Previous Outflow
O2 = Current Outflow

$$A = 0.5 (I1+I2) dt$$

$$B = S1 - 0.5 (O1) dt$$

$$C = S2 + 0.5 (O2) dt$$

User Name: muhammad
 Project: DRAINAGE WM WICHITA(N)
 Scenario: PROPOSED 176PROTO

Date: 07-16-07
 Time: 14:49:48

FLOOD HYDROGRAPH REPORT

 Computation of Reservoir Outflow Table of Storage Indication Method
 [The time interval is 1.00 min]

Intv	Time (min)	Inflow (cfs)	A (cfs)	B (cfs)	C (cfs)	Outflow (cfs)	Storage (cu ft)	Elev (ft)
713	713.00	12.48	23.84	10596.49	11855.44	1.45	5928.45	1331.21
714	714.00	13.61	26.10	11855.44	13224.23	1.82	6613.03	1331.31
715	715.00	14.74	28.36	13224.23	14671.57	2.40	7336.99	1331.42
716	716.00	13.48	28.22	14671.57	16025.75	3.24	8014.49	1331.51
717	717.00	12.22	25.69	16025.75	17063.12	5.13	8534.13	1331.58
718	718.00	10.95	23.17	17063.12	17759.31	6.41	8882.86	1331.62
719	719.00	9.69	20.64	17759.31	18181.65	7.18	9094.41	1331.65
720	720.00	8.42	18.11	18181.65	18384.20	7.55	9195.87	1331.66
721	721.00	7.14	15.56	18384.20	18408.97	7.60	9208.28	1331.67
722	722.00	5.85	12.98	18408.97	18289.69	7.38	9148.53	1331.66
723	723.00	4.56	10.40	18289.69	18054.78	6.95	9030.86	1331.64
724	724.00	3.27	7.82	18054.78	17727.08	6.35	8866.71	1331.62
725	725.00	1.98	5.25	17727.08	17324.89	5.61	8665.25	1331.60
726	726.00	1.94	3.92	17324.89	16930.46	4.89	8467.68	1331.57
727	727.00	1.90	3.84	16930.46	16609.80	4.31	8307.05	1331.55
728	728.00	1.87	3.77	16609.80	16348.35	3.83	8176.09	1331.53
729	729.00	1.83	3.69	16348.35	16134.42	3.44	8068.93	1331.52
730	730.00	1.79	3.62	16134.42	15958.63	3.12	7980.87	1331.51
731	731.00	1.75	3.54	15958.63	15813.17	2.85	7908.01	1331.50
732	732.00	1.71	3.46	15813.17	15681.73	2.80	7842.26	1331.49
733	733.00	1.67	3.39	15681.73	15551.92	2.75	7777.33	1331.48
734	734.00	1.64	3.31	15551.92	15423.67	2.70	7713.19	1331.47
735	735.00	1.60	3.23	15423.67	15296.91	2.65	7649.78	1331.46
736	736.00	1.56	3.16	15296.91	15171.55	2.60	7587.08	1331.45
737	737.00	1.52	3.08	15171.55	15047.50	2.55	7525.02	1331.44
738	738.00	1.48	3.00	15047.50	14924.68	2.50	7463.59	1331.44
739	739.00	1.44	2.92	14924.68	14803.06	2.45	7402.76	1331.43
740	740.00	1.40	2.85	14803.06	14682.57	2.40	7342.49	1331.42
741	741.00	1.37	2.77	14682.57	14563.13	2.36	7282.75	1331.41
742	742.00	1.33	2.69	14563.13	14444.69	2.31	7223.50	1331.40
743	743.00	1.29	2.61	14444.69	14327.19	2.26	7164.73	1331.39
744	744.00	1.25	2.53	14327.19	14210.59	2.22	7106.40	1331.38
745	745.00	1.21	2.46	14210.59	14094.84	2.17	7048.51	1331.38
746	746.00	1.17	2.38	14094.84	13979.90	2.12	6991.01	1331.37
747	747.00	1.13	2.30	13979.90	13865.70	2.08	6933.89	1331.36
748	748.00	1.09	2.22	13865.70	13752.22	2.03	6877.13	1331.35
749	749.00	1.05	2.14	13752.22	13639.42	1.99	6820.70	1331.34
750	750.00	1.01	2.06	13639.42	13527.26	1.94	6764.60	1331.34
751	751.00	0.99	2.00	13527.26	13416.62	1.90	6709.26	1331.33
752	752.00	0.96	1.95	13416.62	13308.30	1.86	6655.08	1331.32
753	753.00	0.94	1.90	13308.30	13202.20	1.81	6602.01	1331.31
754	754.00	0.92	1.85	13202.20	13098.21	1.77	6549.99	1331.30
755	755.00	0.89	1.81	13098.21	12996.24	1.73	6498.99	1331.30

User Name: muhammad
Project: DRAINAGE WM WICHITA(N)
Scenario: PROPOSED 176PROTO

Date: 07-16-07
Time: 14:49:52

FLOOD HYDROGRAPH REPORT

Hydrograph Number: 20
Name: ROUTE WEST DP, 100YR
Type: Reservoir: Storage Indication

[HYDROGRAPH INFORMATION]

Peak Flow (Qp) = 23.10 (cfs)
Time to Peak (Tp) = 717.00 (min)
Time of Base (Tb) = 1440.00 (min)
Volume = 1.37 (ac-ft)
Time Step = 1.00 (min)
Peak Elevation = 1332.05 (ft)
Detention Time = NA

[RESERVOIR STRUCTURE INFORMATION]

Number = 5
Name = WEST POND 061107
Storage Type = User-Defined Area
Maximum Storage = 22931.25 (cu ft)
Maximum Discharge = 83.04 (cfs)

[INFLOW HYDROGRAPH INFORMATION]

Number = 10
Name = PA'S TO WEST POND, CFH,
100YR
Peak Flow (Qp) = 28.46 (cfs)
Time to Peak (Tp) = 715.00 (min)
Time of Base (Tb) = 1445.00 (min)
Volume = 1.37 (ac-ft)
Flow Multiplier = 1.00

[EQUATION]

$$0.5(I1+I2)dt + S1 - 0.5(O2)dt$$

Where:

I1 = Previous Inflow
I2 = Current Inflow
dt = Time increment
S1 = Previous Storage
S2 = Current Storage
O1 = Previous Outflow
O2 = Current Outflow

$$A = 0.5 (I1+I2) dt$$

$$B = S1 - 0.5 (O1) dt$$

$$C = S2 + 0.5 (O2) dt$$

User Name: muhammad
 Project: DRAINAGE WM WICHITA(N)
 Scenario: PROPOSED 176PROTO

Date: 07-16-07
 Time: 14:49:52

FLOOD HYDROGRAPH REPORT

=====
 Computation of Reservoir Outflow Table of Storage Indication Method
 [The time interval is 1.00 min]

Intv	Time (min)	Inflow (cfs)	A (cfs)	B (cfs)	C (cfs)	Outflow (cfs)	Storage (cu ft)	Elev (ft)
696	696.00	4.43	8.16	5479.16	5833.13	1.14	2917.13	1330.66
697	697.00	5.13	9.57	5833.13	6268.04	1.17	3134.61	1330.70
698	698.00	5.84	10.97	6268.04	6783.32	1.21	3392.27	1330.76
699	699.00	6.54	12.38	6783.32	7378.94	1.24	3690.09	1330.82
700	700.00	7.24	13.78	7378.94	8054.82	1.28	4028.05	1330.88
701	701.00	7.99	15.23	8054.82	8812.96	1.32	4407.14	1330.95
702	702.00	8.73	16.72	8812.96	9655.62	1.36	4828.49	1331.03
703	703.00	9.48	18.22	9655.62	10582.92	1.40	5292.16	1331.11
704	704.00	10.23	19.71	10582.92	11594.77	1.44	5798.11	1331.19
705	705.00	10.97	21.20	11594.77	12683.42	1.61	6342.51	1331.27
706	706.00	12.41	23.38	12683.42	13864.43	2.08	6933.25	1331.36
707	707.00	13.84	26.25	13864.43	15158.54	2.59	7580.57	1331.45
708	708.00	15.28	29.12	15158.54	16502.08	4.11	8253.09	1331.54
709	709.00	16.71	31.99	16502.08	17785.34	6.46	8895.90	1331.63
710	710.00	18.15	34.86	17785.34	18970.28	8.62	9489.45	1331.70
711	711.00	20.21	38.36	18970.28	20097.86	10.91	10054.38	1331.77
712	712.00	22.27	42.49	20097.86	21179.30	13.51	10596.40	1331.83
713	713.00	24.34	46.61	21179.30	22204.15	15.98	11110.06	1331.89
714	714.00	26.40	50.74	22204.15	23186.66	18.34	11602.50	1331.95
715	715.00	28.46	54.86	23186.66	24135.88	20.66	12078.27	1332.01
716	716.00	25.95	54.42	24135.88	24810.71	22.48	12416.59	1332.04
717	717.00	23.45	49.40	24810.71	25039.54	23.10	12531.32	1332.05
718	718.00	20.94	44.39	25039.54	24946.38	22.85	12484.61	1332.05
719	719.00	18.43	39.37	24946.38	24620.73	21.97	12321.35	1332.03
720	720.00	15.92	34.36	24620.73	24127.24	20.64	12073.94	1332.01
721	721.00	13.48	29.41	24127.24	23507.99	19.12	11763.55	1331.97
722	722.00	11.04	24.52	23507.99	22790.64	17.39	11404.02	1331.93
723	723.00	8.60	19.64	22790.64	21998.48	15.48	11006.98	1331.88
724	724.00	6.16	14.75	21998.48	21150.35	13.44	10581.90	1331.83
725	725.00	3.71	9.87	21150.35	20260.35	11.30	10135.82	1331.78
726	726.00	3.64	7.36	20260.35	19455.10	9.51	9732.31	1331.73
727	727.00	3.57	7.21	19455.10	18817.86	8.34	9413.10	1331.69
728	728.00	3.50	7.07	18817.86	18298.56	7.39	9152.98	1331.66
729	729.00	3.42	6.92	18298.56	17873.94	6.62	8940.28	1331.63
730	730.00	3.35	6.78	17873.94	17525.30	5.98	8765.64	1331.61
731	731.00	3.28	6.63	17525.30	17237.62	5.45	8621.54	1331.59
732	732.00	3.21	6.48	17237.62	16998.85	5.02	8501.93	1331.58
733	733.00	3.13	6.34	16998.85	16799.33	4.65	8401.99	1331.56
734	734.00	3.06	6.19	16799.33	16631.32	4.35	8317.83	1331.55
735	735.00	2.99	6.05	16631.32	16488.59	4.08	8246.34	1331.54
736	736.00	2.91	5.90	16488.59	16366.14	3.86	8185.00	1331.54
737	737.00	2.84	5.75	16366.14	16259.95	3.67	8131.81	1331.53
738	738.00	2.77	5.61	16259.95	16166.81	3.50	8085.15	1331.52

User Name: muhammad
Project: DRAINAGE WM WICHITA(N)
Scenario: PROPOSED 176PROTO

Date: 07-16-07
Time: 14:50:07

RESERVOIR REPORT

Reservoir Number: 5
Name: WEST POND Revised 061107

[RATING CURVE LIMIT]

Minimum Elevation = 1329.50 (ft)
Maximum Elevation = 1333.00 (ft)
Elevation Increment = 0.25 (ft)

[STAGE STORAGE INFORMATION]

Storage Method: User-Defined Storage

Input Method: Area

Number	Elevation (ft)	Area (sq ft)	Ave Area (sq ft)	Volume (cu ft)	Cumulative Volume (cu ft)
1	1329.50	0.00	0.00	0.00	0.00
2	1330.00	2429.00	1214.50	607.25	607.25
3	1331.00	5659.00	4044.00	4044.00	4651.25
4	1332.00	9090.00	7374.50	7374.50	12025.75
5	1333.00	12721.00	10905.50	10905.50	22931.25

[DISCHARGE INFORMATION]

Structure Number: 1
Type: Rectangular Orifice
Name: 6" WIDE RECT. ORIFICE, WEST DP

Structure Number: 2
Type: Rectangular Weir Suppressed
Name: RECT WEIR, WEST DP

[RESERVOIR STAGE STORAGE/DISCHARGE]

Elevation (ft)	Stage (ft)	Area (sq ft)	Storage (cu ft)	Discharge (cfs)
1329.50	0.00	0.00	0.00	0.00
1329.75	0.25	1214.50	151.81	0.21
1330.00	0.50	2429.00	607.25	0.60
1330.25	0.75	3236.50	1315.44	0.85
1330.50	1.00	4044.00	2225.50	1.04
1330.75	1.25	4851.50	3337.44	1.20
1331.00	1.50	5659.00	4651.25	1.35
1331.25	1.75	6516.75	6173.22	1.47
1331.50	2.00	7374.50	7909.62	2.86
1331.75	2.25	8232.25	9860.47	9.98
1332.00	2.50	9090.00	12025.75	20.38
1332.25	2.75	9997.75	14411.72	33.22
1332.50	3.00	10905.50	17024.62	48.10
1332.75	3.25	11813.25	19864.47	64.76
1333.00	3.50	12721.00	22931.25	83.04
Maximum Storage			=	22931.25 (cu ft)
Maximum Discharge			=	83.04 (cfs)