

File
Southernside
Apartments

GRATING
STRUCTURE PER MANUFACTURER

SLOT
1/16"
ON OTHER SIDE
ELEVATION=522.43

TOP ~~524.50~~
524.44

1" ALUMINUM GR

522.37 (N)
522.43 (S)
~~WEIR 522.00~~
3'-9"
(ONE EACH SIDE)

96" DIA. CONCRETE
MANHOLE

PLASTIC MANHOLE
STEPS (Typical)
16" O.C.

48" RCP DISCHARGE
PIPE

96" DIA. CONCRETE
MANHOLE

48" ϕ
RCP

SLOPE

GROUT FILLED

SECTION OUTFLOW STRUCTURE

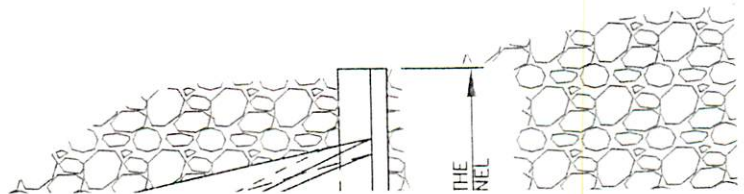
SECTION A
N.T.S.



FINAL GRADE

0"

A



SILL - 524.56
524.44

1" ALUMINUM
FASTEN TO

WIDTH OF
= 3'-10"
LOW WATER
ELEVATION

NOTE:

INTERMEDIATE WEIR TO BE CUT INTO
THE FACE OF STRUCTURE BY CONTRACTOR.
NO BRICK WILL BE ALLOWED TO ADJUST
WEIR ELEVATION TO FINAL ELEVATION.

WEIR - 522.99
522.37

1.9'

3'-9-5/8"
(ONE EACH SIDE)

FL - 512.56
FL = 512.43

BOTTOM TO BE
FILLED WITH GROUT AND SLOPED
TO FLOWLINE OF RCP PIPE

ISOMETRIC VIEW
N.T.S.

DETAIL

STONE REVETMENT
(SEE NOTE)

4' 0"

10'-0"

4'

AS-BUILT STRUCTURE

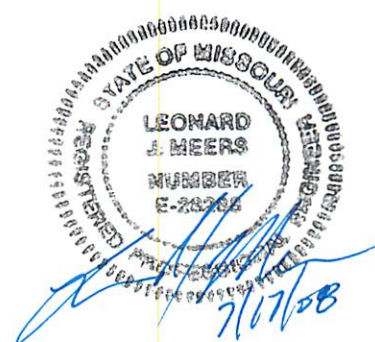
REQUESTED POND WS ELEVATIONS:

Min. Elev.= 521.00 ft
Increment = .05 ft
Max. Elev.= 526.00 ft

OUTLET CONNECTIVITY

---> Forward Flow Only (UpStream to DnStream)
<--- Reverse Flow Only (DnStream to UpStream)
<---> Forward and Reverse Both Allowed

Structure	No.	Outfall	E1, ft	E2, ft
Weir-Rectangular	W1	---> TW	522.430	526.000
Inlet Box	30	---> TW	524.440	526.000
Weir-Rectangular	W2	---> TW	522.370	526.000
TW SETUP, DS Channel				



OUTLET STRUCTURE INPUT DATA

Structure ID = W1
Structure Type = Weir-Rectangular

of Openings = 1
Crest Elev. = 522.43 ft
Weir Length = 3.89 ft
Weir Coeff. = 3.330000

Weir TW effects (Use adjustment equation)

Structure ID = 30
Structure Type = Inlet Box

of Openings = 1
Invert Elev. = 524.44 ft
Orifice Area = 50.2600 sq.ft
Orifice Coeff. = .600
Weir Length = 17.44 ft
Weir Coeff. = 3.330
K, Reverse = 1.000
Mannings n = .0000
Kev,Charged Riser = .000
Weir Submergence = No
Orifice H to crest = Yes



OUTLET STRUCTURE INPUT DATA

Structure ID = W2
Structure Type = Weir-Rectangular

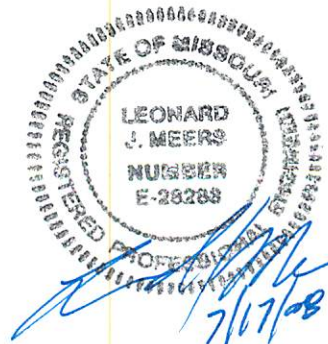
of Openings = 1
Crest Elev. = 522.37 ft
Weir Length = 3.80 ft
Weir Coeff. = 3.330000

Weir TW effects (Use adjustment equation)

Structure ID = TW
Structure Type = TW SETUP, DS Channel

FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...
Maximum Iterations= 10
Min. TW tolerance = .01 ft
Max. TW tolerance = .01 ft
Min. HW tolerance = .01 ft
Max. HW tolerance = .01 ft
Min. Q tolerance = .10 cfs
Max. Q tolerance = .10 cfs



AS-BUILT

MASTER DESIGN STORM SUMMARY

Network Storm Collection: Storms

Return Event	Total Depth in	Rainfall Type	RNF ID
2	3.5000	Synthetic Curve	TypeII 24hr
15	5.2000	Synthetic Curve	TypeII 24hr
25	5.7000	Synthetic Curve	TypeII 24hr
100	7.2000	Synthetic Curve	TypeII 24hr

ICPM CALCULATION TOLERANCES

Target Convergence= .100 cfs +/-
 Max. Iterations = 35 loops
 ICPM Time Step = .0500 hrs
 Output Time Step = .0500 hrs
 ICPM Ending Time = 24.0000 hrs

MASTER NETWORK SUMMARY
 SCS Unit Hydrograph Method
 Hydrograph File Import Option Used For 2 node(s)

(*Node=Outfall; +Node=Diversion;)
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
AUTOMALL #2	HYG	2	5.332		13.2800	8.21		
AUTOMALL #2	HYG	15	8.935		13.0800	19.99		
AUTOMALL #2	HYG	25	10.017		13.0800	22.35		
AUTOMALL #2	HYG	100	13.299		12.7200	58.78		



ICPM CALCULATION TOLERANCES

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 ICPM Time Step = .0500 hrs
 Output Time Step = .0500 hrs
 ICPM Ending Time = 24.0000 hrs

MASTER NETWORK SUMMARY
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 Hydrograph File Import Option Used For 2 node(s)

(*Node=Outfall; +Node=Diversion;)
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
BYPASS-DEVELOPED AREA		2	.220		12.1500	2.35		
BYPASS-DEVELOPED AREA		15	.486		12.1500	5.57		
BYPASS-DEVELOPED AREA		25	.573		12.1500	6.61		
BYPASS-DEVELOPED AREA		100	.850		12.1000	9.94		
DEV K40	HYG	2	.545		.5000	8.42		
DEV K40	HYG	15	.781		.5000	10.02		
DEV K40	HYG	25	.963		.5000	13.35		
DEV K40	HYG	100	1.232		.4998	19.04		
K-B LAKE	POND	2	15.345	R	12.3000	50.21		
K-B LAKE	POND	15	27.187	R	12.3000	86.04		
K-B LAKE	POND	25	30.935	R	12.3000	96.91		
K-B LAKE	POND	100	42.095	R	12.7000	161.63		
K-B LAKE	OUT POND	2	13.529	R	14.3500	20.62	527.65	5.196
K-B LAKE	OUT POND	15	24.546	R	13.8000	52.61	529.10	8.363
K-B LAKE	OUT POND	25	28.056	R	13.7000	63.77	529.43	9.123
K-B LAKE	OUT POND	100	38.581	R	13.2000	120.90	530.05	10.568
KB-LAKE	AREA	2	.134		12.0000	2.08		
KB-LAKE	AREA	15	.348		11.9500	6.09		
KB-LAKE	AREA	25	.422		11.9500	7.48		
KB-LAKE	AREA	100	.664		11.9500	11.98		



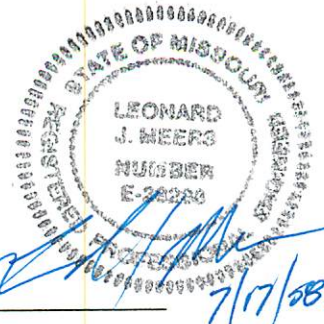
ICPM CALCULATION TOLERANCES

 Target Convergence= .100 cfs +/-
 Max. Iterations = 35 loops
 ICPM Time Step = .0500 hrs
 Output Time Step = .0500 hrs
 ICPM Ending Time = 24.0000 hrs

MASTER NETWORK SUMMARY
 SCS Unit Hydrograph Method
 Hydrograph File Import Option Used For 2 node(s)

(*Node=Outfall; +Node=Diversion;)
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
KELLEN-BECK	AREA	2	3.790		12.2500	33.16		
KELLEN-BECK	AREA	15	6.230		12.2500	53.48		
KELLEN-BECK	AREA	25	6.957		12.2000	59.44		
KELLEN-BECK	AREA	100	9.152		12.2000	77.27		
*NET-OUT	JCT	2	14.745		14.4000	21.91		
*NET-OUT	JCT	15	27.311		14.0000	54.76		
*NET-OUT	JCT	25	31.290		13.9000	65.89		
*NET-OUT	JCT	100	43.304		13.3000	125.64		
OFFSITE	AREA	2	5.793		12.9500	23.08		
OFFSITE	AREA	15	11.304		12.9500	46.92		
OFFSITE	AREA	25	13.035		12.9500	54.34		
OFFSITE	AREA	100	18.411		12.9500	77.19		
SOUTH LAKE	POND	2	15.137	R	14.1500	21.86		
SOUTH LAKE	POND	15	27.527	R	13.7500	55.28		
SOUTH LAKE	POND	25	31.460	R	13.6500	66.90		
SOUTH LAKE	POND	100	43.287	R	13.1500	127.63		
SOUTH LAKE	OUT POND	2	14.512	R	14.4000	21.72	523.31	1.704
SOUTH LAKE	OUT POND	15	26.804	R	14.0000	54.34	524.10	2.287
SOUTH LAKE	OUT POND	25	30.694	R	13.9000	65.38	524.33	2.457
SOUTH LAKE	OUT POND	100	42.425	R	13.3000	124.67	525.00	2.951



ICPM CALCULATION TOLERANCES

 Target Convergence= .100 cfs +/-
 Max. Iterations = 35 loops
 ICPM Time Step = .0500 hrs
 Output Time Step = .0500 hrs
 ICPM Ending Time = 24.0000 hrs

MASTER NETWORK SUMMARY
 SCS Unit Hydrograph Method
 Hydrograph File Import Option Used For 2 node(s)

(*Node=Outfall; +Node=Diversion;)
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
SOUTHERNSIDE	AREA	2	1.622		12.2500	15.26		
SOUTHERNSIDE	AREA	15	3.002		12.2000	28.42		
SOUTHERNSIDE	AREA	25	3.428		12.2000	32.44		
SOUTHERNSIDE	AREA	100	4.738		12.2000	44.63		



ORIGINAL
DETENTION
ROUTING
REPORT

MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID EXPERSMN.RNQ EX-STORMS

Return Event	Total Depth in	Rainfall Type	RNF File	RNF ID
Pre..2	3.5000	Synthetic Curve	SCSTYPES	TypeII 24hr
Pre.15	5.2000	Synthetic Curve	SCSTYPES	TypeII 24hr
Pre.25	5.7000	Synthetic Curve	SCSTYPES	TypeII 24hr
Pre100	7.2000	Synthetic Curve	SCSTYPES	TypeII 24hr

MASTER NETWORK SUMMARY
 SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
*ALLOWABLE	JCT	2	10.665		13.8000	22.32		
*ALLOWABLE	JCT	15	22.621		13.5000	57.24		
*ALLOWABLE	JCT	25	26.498		13.3000	73.09		
*ALLOWABLE	JCT	100	38.775		13.0000	122.00		
EX. LAKE #1	IN POND	2	1.301		12.4000	8.80		
EX. LAKE #1	IN POND	15	2.975		12.3000	22.78		
EX. LAKE #1	IN POND	25	3.530		12.3000	27.46		
EX. LAKE #1	IN POND	100	5.308		12.3000	42.35		
EX. LAKE #1	OUT POND	2	1.301		13.0000	3.45	551.46	.321
EX. LAKE #1	OUT POND	15	2.975		13.3000	5.61	551.99	1.083
EX. LAKE #1	OUT POND	25	3.530		13.3000	6.05	552.13	1.370
EX. LAKE #1	OUT POND	100	5.308		13.5000	7.32	552.57	2.338
EX. LAKE #2	IN POND	2	10.222		12.7000	38.73		
EX. LAKE #2	IN POND	15	21.568		12.5000	88.11		
EX. LAKE #2	IN POND	25	25.240		12.5000	104.19		
EX. LAKE #2	IN POND	100	36.856		12.5000	154.58		
EX. LAKE #2	OUT POND	2	10.222		13.9000	21.83	523.11	2.487
EX. LAKE #2	OUT POND	15	21.568		13.5000	56.02	524.47	5.465
EX. LAKE #2	OUT POND	25	25.240		13.3000	71.51	524.65	5.917

STATE OF MISSOURI
 LEONARD J. BEERS
 REGISTERED PROFESSIONAL ENGINEER
 NUMBER E-26228
 7/17/08

MASTER NETWORK SUMMARY
 SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond Storage ac-ft
EX. LAKE #2	OUT POND	100	36.856		13.0000	119.06	525.13	7.098
J-1	JCT	2	10.222		12.7000	38.73		
J-1	JCT	15	21.568		12.5000	88.11		
J-1	JCT	25	25.240		12.5000	104.19		
J-1	JCT	100	36.856		12.5000	154.58		
OFFSITE AREA	AREA	2	5.793		13.0000	23.01		
OFFSITE AREA	AREA	15	11.304		13.0000	46.62		
OFFSITE AREA	AREA	25	13.035		13.0000	53.96		
OFFSITE AREA	AREA	100	18.411		13.0000	76.55		
SOUTHERNSIDE	AREA	2	.443		12.2000	4.21		
SOUTHERNSIDE	AREA	15	1.053		12.1000	11.59		
SOUTHERNSIDE	AREA	25	1.258		12.1000	14.09		
SOUTHERNSIDE	AREA	100	1.919		12.1000	22.12		
TO EX. LAKE #1	AREA	2	1.301		12.4000	8.80		
TO EX. LAKE #1	AREA	15	2.975		12.3000	22.78		
TO EX. LAKE #1	AREA	25	3.530		12.3000	27.46		
TO EX. LAKE #1	AREA	100	5.308		12.3000	42.35		
TO EX. LAKE#2	AREA	2	3.127		12.4000	19.41		
TO EX. LAKE#2	AREA	15	7.288		12.4000	51.90		
TO EX. LAKE#2	AREA	25	8.676		12.4000	62.70		
TO EX. LAKE#2	AREA	100	13.138		12.4000	97.16		

S/N: 721701406A81 J R GRIMES CONSULTING
 PondPack Ver: 7.5 (767) Compute Time: 16:38:53 Date: 08-06-2002

