2004P047

Project No. 101885

October 2004

Addendum

To

Final Bridge Scour Analysis Report

Central Phoenix/East Valley Light Rail Transit Project

Submitted to:

Valley Metro Rail, Inc.

Submitted by:

Michael Baker Jr., Inc.
Phoenix, Arizona 85014

Central Phoenix/East Valley Light Rail Transit Project
A125.920

CENTRAL PHOENIX/EAST VALLEY LIGHT RAIL TRANSIT PROJECT

Addendum

To

Final Bridge Scour Analysis Report

Prepared for:

Valley Metro Rail, Inc.

Prepared by:

Michael Baker Jr., Inc.
1313 East Osborn Road
Suite 150
Phoenix, Arizona 85014

October 4, 2004

Registered Professional Engineer (Civil)
CERTIFICATE NO.
20957
BAILANG
SUN
Date Signed 10.05.04
ARIZONA, U.S.A.

Baker

PARSONS BRINCKERHOFF

Valley Metro RAIL

Table of Contents

ADDENDUM TO FINAL BRIDGE SCOUR ANALYSIS REPORT 1

APPENDIX A LETTER FROM THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY A-1

APPENDIX B HEC-RAS RESULTS FOR REVISED EXISTING CONDITIONS FOR THE SPF EVENT B-1

APPENDIX C HEC-RAS RESULTS FOR PROPOSED CONDITIONS FOR THE SPF EVENT C-1

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ADDENDUM

TO

FINAL BRIDGE SCOUR ANALYSIS REPORT

Central Phoenix/East Valley
Light Rail Transit Project

In February of 2004 a Draft Final Bridge Scour Analysis Report prepared by Michael Baker Jr., Inc. was issued for comment. No comments were received during the comment period and therefore this report was made final on May 21, 2004 by letter.

The purpose of this addendum is to address the comment made by Flood Control District of Maricopa County (FCDMC) in a letter dated July 20, 2004 (Letter included in Appendix A). The comment was that the design basis for the levee is the Standard Project Flood (SPF) event, or 250,000 cubic feet per second (cfs). Hydraulic analysis of the freeboard condition is required for the SPF event.

The FCDMC required minimum freeboard of one foot is satisfied at the levee location in the effected area for an SPF event (250,000 cfs). Table 5-3A lists South Bank Levee freeboard from cross sections 221.31 to 221.24.

Table 5-3A South Bank Levee Freeboard for an SPF Event

CROSS SECTION	LOCATION	SPF WSEL (EXISTING)	SPF WSEL (PROPOSED)	LEVEE CREST	FREEBOARD (MINIMUM)
		ft	ft	ft	ft
221.31	Upper end	1157.78	1157.92	1160.00	2.08
221.26		1157.90	1158.03	1160.00	1.97
221.24	Lower end	1157.50	1157.64	1160.00	2.36

Appendices B and C show the results of HEC-RAS models for the revised existing and proposed conditions under an SPF event, respectively.

In review of the results shown in Table 5-3A, the water surface elevations increase by 0.14 feet due to the proposed light rail transit bridge. It shows a minimum freeboard of 1.97 feet at the South Bank Levee for an SPF event that is greater than the minimum one foot of freeboard required by the FCDMC for the levee. Therefore, the proposed bridge does not have any significant adverse impact to the South Bank Levee.

APPENDIX A LETTER FROM THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

Valley Metro RAIL

FLOOD CONTROL DISTRICT of Maricopa County

07-22-04P03:29 RCVD

2801 West Durango Street • Phoenix, Arizona 85009-6399
Telephone (602) 506-1501
Fax (602) 506-4601
TT (602) 506-5897

BOARD OF DIRECTORS
Fulton Brock
Andrew Kunasek
Don Stapley
Mary Rose Garrido Wilcox
Max W. Wilson

July 20, 2004

William Gustafson, PE
Valley Metro Rail
411 N. Central Avenue, Suite 200
Phoenix, AZ 85004

Subject: Town Lake Bridge
District Permit Request 2004P047
Salt River Channel

Dear Mr. Gustafson:

The Flood Control District of Maricopa County (District) has reviewed the plans submitted for a proposed bridge at the referenced location. Before further consideration can be given, and a right-of-way permit issued, the following concerns must be addressed:

1. The design basis for the levee is the SPF event, 250,000 cfs. Analysis of the freeboard condition is required for this event and was not included in the submittal to the District.
2. The District's inspector must be on site during drilling activities through the CSA.
3. The District's General Notes must be included on the plans. (A copy is enclosed for your convenience.)
4. The District's access to the levees may not be blocked under any circumstances.

Thank you for the opportunity to review the referenced request. If you have any questions concerning these comments, please call the undersigned at 602-506-4583.

Sincerely,

Shelby Brown

Shelby Brown
Right-of-Way Permit Specialist

Enclosure

THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
GENERAL NOTES

1. All Construction within Flood Control District (District) Rights-of-way jurisdiction shall conform to the latest Maricopa Association of Governments' (MAG) Specifications, unless the structure involved is a dam. If the structure is a dam, special permit requirements will apply. Dam shall mean a structure that is under the jurisdiction of the Arizona Department of Water Resources and is defined in Arizona Revised Statues 45-1201.
2. Contractor must obtain necessary District Permit prior to commencement of construction within District right-of-way and maintain a copy of the permit on the project site at all times.
3. Notify the District's Permits Inspector at 602-506-4727 or 602-506-4723 at least 48 hrs prior to any work being performed in the District's rights-of-way.
4. Contractor performing excavation operations is responsible for locating and protecting all underground utilities.
5. All compaction and backfill within District's right-of-way shall conform to the latest MAG Specifications unless stipulated otherwise in the District's Permit.
6. Any damage to District's structures, equipment, materials, vegetation, and/or property shall be replaced and/or repaired in-kind to the satisfaction of the District.

APPENDIX B HEC-RAS RESULTS FOR REVISED EXISTING CONDITIONS FOR THE SPF EVENT

```
                    HEC-RAS Version 3.1 November 2002
                     U.S. Army Corp of Engineers
                    Hydrologic Engineering Center
                      609 Second Street, Suite D
                     Davis, California 95616-4687
                          (916) 756-1104

X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X      X   X     X  X    X
X     X  X        X           X   X    X    X   X
XXXXXXX  XXXX     X       XXX XXXX     XXXXXX    XXXX
X     X  X        X           X  X     X    X        X
X     X  X        X    X      X   X    X    X        X
X     X  XXXXXX    XXXX       X    X   X    X   XXXXX
```

Existing Conditions

****

PROJECT DATA
Project Title: LRT Bridge 100-yearFW&ScourAnalyses
Project File : Lrt100FW.prj
Run Date and Time: 09/27/2004 11:30:40 AM

Project in English units

Project Description:
Tempe Town Lake Light Rail Bridge

This model is prepared for Tempe Town Lake
Light Rail Bridge Project by Michael Baker Jr., Inc. in December, 2003
The
purpose of this modeling is to analize the impact of new bridge to FEMA
100-year floodplain and floodway boundary. 50 and 500-year event scour
ananlysis is also conduted.

Februaty 2001 FEMA LOMR model(North.prj) was
used as a base model. Addition cross sections were added at the new bridge
location.

100-Year Profile with Landscaping Plans Reflected and
Skews in cross sections.

```
*******************************************************************************

PLAN DATA

Plan Title: EX SPF FW
Plan File : t:\LRT Town Lake\Engfiles\Drainage\HecRas\Lrt100FW.p02

           Geometry Title: Revised Existing Condition
           Geometry File : t:\LRT Town Lake\Engfiles\Drainage\HecRas\Lrt100FW.g02

           Flow Title    : Existing Bridge Scour
           Flow File     : t:\LRT Town Lake\Engfiles\Drainage\HecRas\Lrt100FW.f03

Plan Description:
Existing 50-Year Event (145,000 cfs) and SPF Event (250,000 cfs)


Plan Summary Information:
Number of:  Cross Sections =  118    Mulitple Openings  =    0
            Culverts       =    0    Inline Structures  =    0
            Bridges        =   12    Lateral Structures =    0

Computational Information
    Water surface calculation tolerance =  0.01
    Critical depth calculaton tolerance =  0.01
    Maximum number of interations       =  20
    Maximum difference tolerance        =  0.3
    Flow tolerance factor               =  0.001

Computation Options
    Critical depth computed only where necessary
    Conveyance Calculation Method: At breaks in n values only
    Friction Slope Method:         Average Conveyance
    Computational Flow Regime:     Subcritical Flow

Encroachment Data
   Equal Conveyance = True
   Left Offset      =        0
   Right Offset     =        0

River = Salt River       Reach = Reach 4
RS      Profile           Method  Value1  Value2
223.08  PF#2                   1   19332   20356
223.02  PF#2                   119353.5720446.57
222.93  PF#2                   119406.3820352.33
222.83  PF#2                   119479.6820443.27
222.74  PF#2                   119531.3120569.62
```

222.70	PF#2	119591.7520559.75
222.695	PF#2	119591.7520559.75
222.69	PF#2	119591.7520559.75
222.67	PF#2	119591.7520559.75
222.66	PF#2	119591.7520559.75
222.65	PF#2	119561.4120640.75
222.55	PF#2	119524.82 20795
222.45	PF#2	119473.2120860.59
222.36	PF#2	119467.0420649.46
222.27	PF#2	119515.4420592.52
222.17	PF#2	119489.1420498.83
222.09	PF#2	1 19457.320524.35
222.08	PF#2	1 19457.320523.66
221.99	PF#2	119415.5920427.83
221.89	PF#2	119381.2920367.66
221.80	PF#2	119421.4720357.31
221.70	PF#2	119451.3720391.39
221.61	PF#2	119472.9520399.29
221.50	PF#2	119527.5120456.38
221.40	PF#2	119511.6620460.87
221.31	PF#2	119574.2620507.95
221.26	PF#2	119535.06 20417
221.24	PF#2	119524.2820423.14
221.2	PF#2	119496.8820375.14
221.19	PF#2	119495.0720368.44
221.068	PF#2	1 19545 20403
221.061	PF#2	1 19582.9 20404
221.06	PF#2	119571.2920400.39
221.05	PF#2	119584.7820398.81
221.02	PF#2	119511.5820381.47
220.92	PF#2	119547.3220410.59
220.82	PF#2	119505.8420374.17
220.756	PF#2	1 19547 20453
220.755	PF#2	1 19547 20453
220.752	PF#2	1 19547 20453
220.75	PF#2	1 19547 20453
220.74	PF#2	1 19547 20453
220.735	PF#2	1 19547 20453
220.73	PF#2	119490.1120495.14
220.63	PF#2	119531.1820437.64
220.54	PF#2	119531.3720446.62
220.45	PF#2	119539.67 20451.8
220.35	PF#2	119544.1320460.75
220.25	PF#2	119549.1220468.77
220.16	PF#2	119561.2420473.91
220.06	PF#2	119565.9120475.44
220.05	PF#2	119567.2120473.83
220.03	PF#2	119567.2120473.83

219.88	PF#2	119562.9620481.47
219.79	PF#2	119514.2320446.13
219.70	PF#2	119566.9120512.06
219.61	PF#2	119564.3220553.08
219.51	PF#2	119541.3920547.55
219.42	PF#2	119488.9720499.14
219.33	PF#2	119430.3720455.23
219.24	PF#2	119468.0920500.54
219.14	PF#2	119481.8420505.11
219.03	PF#2	119340.4520367.12
219.02	PF#2	119342.4120364.57
219.01	PF#2	119342.4120364.57
218.97	PF#2	119490.0620499.86
218.96	PF#2	119477.8720498.31
218.80	PF#2	119492.0120503.75
218.71	PF#2	119509.9120496.68
218.61	PF#2	119503.38 20500.7
218.52	PF#2	119500.4720508.59
218.42	PF#2	119506.7820514.58
218.33	PF#2	119490.0520541.51
218.24	PF#2	119418.1720453.03
218.14	PF#2	119389.5120421.91
218.04	PF#2	119390.1220428.81
217.95	PF#2	119437.7320479.87
217.86	PF#2	119497.4120541.23
217.76	PF#2	1 19555.720379.38
217.66	PF#2	119569.8920590.58
217.57	PF#2	119521.5120562.51
217.48	PF#2	119436.4220482.19
217.38	PF#2	119463.0120497.48
217.29	PF#2	119510.7820509.77
217.19	PF#2	119562.0520511.37
217.10	PF#2	119607.3520517.16
217.00	PF#2	119612.3420517.43
216.91	PF#2	119604.8920509.34
216.81	PF#2	1 19606.320501.51
216.72	PF#2	119596.8720494.78
216.62	PF#2	1 19591.620542.92
216.52	PF#2	1 19519.920519.62
216.49	PF#2	119567.4420516.46
216.42	PF#2	1 19535.320482.14
216.33	PF#2	119399.9120426.24
216.23	PF#2	1 19329.520413.21
216.13	PF#2	1 19324.320437.98
216.04	PF#2	119397.8520467.69
215.94	PF#2	119572.3520479.02
215.84	PF#2	119571.9820442.79
215.82	PF#2	119550.04 20410.9

```
215.81  PF#2                    119550.06 20410.9
215.75  PF#2                    1 19576.720431.51
215.65  PF#2                    119594.8420484.84
215.56  PF#2                    119587.3720495.25
215.46  PF#2                    119599.3720516.22
215.36  PF#2                    1   19618   20537
215.27  PF#2                    1 19610.6 20553.9
215.18  PF#2                    119683.2220277.12
215.09  PF#2                    1 19674.220293.22
214.99  PF#2                    119601.52 20329.1
214.9   PF#2                    119563.8820374.38
214.79  PF#2                    119461.7320518.14
214.785 PF#2                    119462.6420517.08
214.78  PF#2                    119462.6420517.08
214.71  PF#2                    119640.2920541.86
214.61  PF#2                    119685.1720477.61
214.52  PF#2                    119525.2620453.48
214.42  PF#2                    119382.0820423.77
214.33  PF#2                    119492.0720391.61
214.23  PF#2                    119614.3420352.34
214.14  PF#2                    119654.9820381.82


*******************************************************************************

FLOW DATA

Flow Title: Existing Bridge Scour
Flow File : t:\LRT Town Lake\Engfiles\Drainage\HecRas\Lrt100FW.f03

Flow Data (cfs)
*****************************************************************************
* River           Reach           RS      *           PF#1           PF#2 *
* Salt River      Reach 4         223.08  *         145000         250000 *
* Salt River      Reach 4         221.26  *         145000         250000 *
*****************************************************************************

Boundary Conditions
*******************************************************************************************************
* River           Reach           Profile         *           Upstream                Downstream    *
*******************************************************************************************************
* Salt River      Reach 4         PF#1            *                                Normal S = 0.0008 *
* Salt River      Reach 4         PF#2            *                                Normal S = 0.0008 *
*******************************************************************************************************


Profile Output Table - Standard Table 1
*******************************************************************************************************************************************
* Reach       * River Sta   * Profile     *     Q Total *Min Ch El *W.S. Elev *Crit W.S. *E.G. Elev *E.G. Slope * Vel Chnl *Flow Area *Top Width *Froude # Chl *
```

			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 4	223.08	PF#1	145000.00	1146.30	1161.92	1161.92	1166.32	0.008653	16.85	8607.60	971.56	1.00
Reach 4	223.08	PF#2	250000.00	1146.30	1165.87	1165.87	1172.00	0.007837	19.86	12586.94	1024.00	1.00
Reach 4	223.02	PF#1	145000.00	1140.00	1161.59	1153.19	1162.68	0.000960	8.38	17300.86	1072.19	0.37
Reach 4	223.02	PF#2	250000.00	1140.00	1168.47	1157.11	1170.05	0.000892	10.08	24801.99	1093.00	0.37
Reach 4	222.93	PF#1	145000.00	1137.70	1161.15	1150.93	1162.24	0.000812	8.41	17243.14	2028.35	0.34
Reach 4	222.93	PF#2	250000.00	1137.70	1167.85	1155.29	1169.59	0.000878	10.61	23570.54	945.95	0.37
Reach 4	222.83	PF#1	145000.00	1127.92	1160.99	1148.27	1161.84	0.000544	7.38	19649.94	1932.68	0.29
Reach 4	222.83	PF#2	250000.00	1127.92	1167.70	1152.56	1169.12	0.000646	9.58	26099.38	963.59	0.32
Reach 4	222.74	PF#1	145000.00	1134.16	1160.69	1149.38	1161.55	0.000618	7.45	19451.52	1968.28	0.30
Reach 4	222.74	PF#2	250000.00	1134.16	1167.39	1153.49	1168.78	0.000683	9.47	26399.85	1038.31	0.33
Reach 4	222.70	PF#1	145000.00	1141.75	1160.44		1161.47	0.000143	8.16	17763.70	968.00	0.34
Reach 4	222.70	PF#2	250000.00	1141.75	1167.03		1168.69	0.000156	10.36	24139.71	968.00	0.37
Reach 4	222.695	PF#1	145000.00	1143.33	1160.17		1161.45	0.000202	9.06	16006.14	968.00	0.39
Reach 4	222.695	PF#2	250000.00	1143.33	1166.71		1168.66	0.000201	11.19	22339.97	968.00	0.41
Reach 4	222.69	PF#1	145000.00	1143.33	1160.17	1152.38	1161.45	0.000202	9.06	16005.31	968.00	0.39
Reach 4	222.69	PF#2	250000.00	1143.33	1166.71	1156.35	1168.66	0.000201	11.19	22339.14	968.00	0.41
Reach 4	222.68		Bridge									
Reach 4	222.67	PF#1	145000.00	1143.33	1160.08		1161.37	0.000206	9.11	15918.10	968.00	0.40
Reach 4	222.67	PF#2	250000.00	1143.33	1166.62		1168.58	0.000204	11.24	22244.85	968.00	0.41
Reach 4	222.66	PF#1	145000.00	1141.75	1160.23		1161.29	0.000810	8.26	17563.77	968.00	0.34
Reach 4	222.66	PF#2	250000.00	1141.75	1166.79		1168.49	0.000877	10.45	23913.55	968.00	0.37
Reach 4	222.65	PF#1	145000.00	1138.75	1160.18	1150.59	1161.11	0.000738	7.71	18799.10	1935.62	0.32
Reach 4	222.65	PF#2	250000.00	1140.14	1166.82	1154.33	1168.26	0.000780	9.63	25954.84	1079.34	0.35
Reach 4	222.55	PF#1	145000.00	1139.60	1160.02	1150.46	1160.75	0.000459	6.88	21072.21	1783.33	0.30
Reach 4	222.55	PF#2	250000.00	1139.60	1166.75	1153.79	1167.85	0.000456	8.44	29614.95	1270.18	0.31
Reach 4	222.45	PF#1	145000.00	1139.54	1159.86	1150.04	1160.50	0.000412	6.43	22546.81	1597.44	0.28
Reach 4	222.45	PF#2	250000.00	1139.54	1166.64	1153.22	1167.59	0.000392	7.83	31940.25	1387.38	0.29
Reach 4	222.36	PF#1	145000.00	1138.87	1159.29	1150.63	1160.23	0.000625	7.77	18664.46	1345.08	0.34
Reach 4	222.36	PF#2	250000.00	1138.87	1165.93	1154.23	1167.32	0.000593	9.43	26505.46	1182.42	0.35
Reach 4	222.27	PF#1	145000.00	1139.19	1158.69	1150.77	1159.86	0.000796	8.68	16710.97	1062.83	0.39
Reach 4	222.27	PF#2	250000.00	1139.19	1165.24	1154.74	1166.96	0.000756	10.53	23743.02	1077.08	0.40
Reach 4	222.17	PF#1	145000.00	1137.16	1158.26	1149.91	1159.47	0.000776	8.84	16402.14	1131.95	0.38
Reach 4	222.17	PF#2	250000.00	1137.16	1164.71	1153.96	1166.56	0.000782	10.91	22908.18	1009.69	0.40
Reach 4	222.09	PF#1	145000.00	1136.00	1158.19	1147.65	1159.14	0.000560	7.85	18476.77	1234.59	0.33
Reach 4	222.09	PF#2	250000.00	1136.00	1164.70	1151.71	1166.20	0.000591	9.85	25385.69	1064.45	0.36
Reach 4	222.085		Bridge									
Reach 4	222.08	PF#1	145000.00	1136.00	1157.99	1147.59	1158.97	0.000573	7.92	18315.52	1228.49	0.33
Reach 4	222.08	PF#2	250000.00	1136.00	1164.45	1151.71	1165.98	0.000612	9.94	25148.02	1064.83	0.36
Reach 4	221.99	PF#1	145000.00	1138.14	1157.09	1150.01	1158.59	0.000990	9.85	15019.88	1016.76	0.43
Reach 4	221.99	PF#2	250000.00	1138.14	1163.34	1154.31	1165.58	0.000978	12.08	21338.71	1012.24	0.45
Reach 4	221.89	PF#1	145000.00	1136.20	1156.19	1150.36	1157.98	0.001305	10.77	13733.64	1097.23	0.49
Reach 4	221.89	PF#2	250000.00	1136.20	1162.41	1154.75	1164.99	0.001206	12.97	19864.17	986.37	0.50

Reach 4	221.80	PF#1	145000.00	1136.35	1155.59	1149.32	1157.35	0.001220	10.67	13748.37	1170.84	0.48
Reach 4	221.80	PF#2	250000.00	1136.35	1161.77	1153.78	1164.39	0.001185	13.07	19521.71	935.84	0.50
Reach 4	221.70	PF#1	145000.00	1134.30	1154.98	1148.37	1156.74	0.001162	10.67	13770.80	1431.61	0.47
Reach 4	221.70	PF#2	250000.00	1134.30	1161.13	1152.89	1163.79	0.001168	13.16	19534.36	940.02	0.49
Reach 4	221.61	PF#1	145000.00	1133.98	1154.05	1148.44	1156.08	0.001447	11.45	12870.71	1376.98	0.52
Reach 4	221.61	PF#2	250000.00	1133.98	1160.17	1153.10	1163.14	0.001379	13.91	18534.46	926.34	0.53
Reach 4	221.50	PF#1	145000.00	1134.08	1153.03	1147.95	1155.16	0.001780	11.72	12373.77	1304.79	0.56
Reach 4	221.50	PF#2	250000.00	1134.08	1159.40	1152.74	1162.30	0.001482	13.67	18286.76	928.87	0.54
Reach 4	221.40	PF#1	145000.00	1133.21	1152.09	1146.71	1154.12	0.002227	11.44	12673.12	1011.95	0.54
Reach 4	221.40	PF#2	250000.00	1133.21	1158.70	1151.28	1161.41	0.001848	13.21	18923.07	949.21	0.52
Reach 4	221.31	PF#1	145000.00	1131.43	1150.90	1145.52	1152.98	0.002285	11.56	12537.94	1018.73	0.55
Reach 4	221.31	PF#2	250000.00	1131.43	1157.78	1149.93	1160.49	0.001798	13.19	18957.57	933.69	0.52
Reach 4	221.26	PF#1	145000.00	1129.24	1151.06	1142.37	1152.36	0.001008	9.17	15812.28	1037.13	0.38
Reach 4	221.26	PF#2	250000.00	1129.24	1157.90	1146.68	1159.93	0.001042	11.44	21844.59	881.94	0.41
Reach 4	221.25		Bridge									
Reach 4	221.24	PF#1	145000.00	1129.24	1150.80	1142.39	1152.11	0.001041	9.19	15779.04	1031.70	0.39
Reach 4	221.24	PF#2	250000.00	1129.24	1157.50	1146.63	1159.54	0.001075	11.47	21799.41	898.86	0.41
Reach 4	221.2	PF#1	145000.00	1128.00	1150.66	1141.29	1151.91	0.000927	8.96	16179.15	904.59	0.37
Reach 4	221.2	PF#2	250000.00	1128.00	1157.34	1145.68	1159.34	0.001004	11.34	22040.42	878.26	0.40
Reach 4	221.195		Bridge									
Reach 4	221.19	PF#1	145000.00	1128.00	1150.40	1141.29	1151.69	0.000968	9.10	15939.65	909.40	0.38
Reach 4	221.19	PF#2	250000.00	1128.00	1156.89	1145.69	1158.97	0.001065	11.57	21603.41	873.37	0.41
Reach 4	221.068	PF#1	145000.00	1128.00	1149.95	1139.75	1151.13	0.000823	8.73	16603.71	1164.93	0.35
Reach 4	221.068	PF#2	250000.00	1128.00	1156.35	1144.24	1158.34	0.000963	11.31	22098.38	858.00	0.39
Reach 4	221.061	PF#1	145000.00	1128.00	1149.75	1139.95	1151.07	0.000919	9.22	15721.86	1163.41	0.37
Reach 4	221.061	PF#2	250000.00	1128.00	1156.03	1144.55	1158.26	0.001095	11.98	20862.54	821.10	0.42
Reach 4	221.06	PF#1	145000.00	1126.00	1149.77	1139.90	1151.05	0.000881	9.09	15952.07	1156.57	0.36
Reach 4	221.06	PF#2	250000.00	1126.00	1156.06	1144.39	1158.24	0.001081	11.85	21102.21	829.10	0.41
Reach 4	221.055		Bridge									
Reach 4	221.05	PF#1	145000.00	1126.00	1149.53	1139.91	1150.87	0.000925	9.29	15610.37	1053.92	0.37
Reach 4	221.05	PF#2	250000.00	1126.00	1155.67	1144.39	1157.97	0.001166	12.16	20563.25	814.03	0.43
Reach 4	221.02	PF#1	145000.00	1130.06	1149.22	1141.40	1150.68	0.001206	9.70	14943.55	1052.56	0.41
Reach 4	221.02	PF#2	250000.00	1130.06	1155.40	1145.68	1157.75	0.001311	12.30	20320.26	869.89	0.45
Reach 4	220.92	PF#1	145000.00	1129.16	1148.34	1141.42	1150.00	0.001453	10.32	14048.80	933.40	0.45
Reach 4	220.92	PF#2	250000.00	1129.16	1154.40	1145.83	1157.01	0.001537	12.97	19278.34	863.27	0.48
Reach 4	220.82	PF#1	145000.00	1129.56	1147.62	1140.68	1149.24	0.001426	10.23	14173.83	896.25	0.45
Reach 4	220.82	PF#2	250000.00	1129.56	1153.63	1144.93	1156.21	0.001517	12.89	19395.79	868.33	0.48
Reach 4	220.756	PF#1	145000.00	1129.00	1147.85		1149.04	0.000167	8.78	16507.10	906.00	0.36
Reach 4	220.756	PF#2	250000.00	1129.00	1153.96		1155.96	0.000192	11.34	22046.06	906.00	0.41
Reach 4	220.755	PF#1	145000.00	1132.00	1147.10	1141.62	1148.98	0.000348	10.97	13212.17	906.00	0.51
Reach 4	220.755	PF#2	250000.00	1132.00	1153.08	1145.80	1155.87	0.000335	13.43	18621.19	906.00	0.52
Reach 4	220.752		Bridge									

Reach 4	220.75	PF#1	145000.00	1131.67	1146.46		1148.42	0.000374	11.23	12914.83	903.77	0.52
Reach 4	220.75	PF#2	250000.00	1131.67	1152.36		1155.27	0.000357	13.69	18263.19	906.00	0.54
Reach 4	220.74	PF#1	145000.00	1129.00	1146.87		1148.21	0.000908	9.28	15626.89	905.56	0.39
Reach 4	220.74	PF#2	250000.00	1129.00	1152.85		1155.04	0.001020	11.88	21036.65	906.00	0.43
Reach 4	220.735	PF#1	145000.00	1129.00	1146.84		1148.18	0.001094	9.30	15593.62	905.43	0.39
Reach 4	220.735	PF#2	250000.00	1129.00	1152.80		1155.00	0.001227	11.91	20997.95	906.00	0.44
Reach 4	220.73	PF#1	145000.00	1127.69	1146.09	1140.03	1147.89	0.001707	10.78	13456.17	914.23	0.48
Reach 4	220.73	PF#2	250000.00	1127.69	1151.88	1144.33	1154.68	0.001811	13.43	18620.34	910.39	0.52
Reach 4	220.63	PF#1	145000.00	1127.10	1145.25	1139.24	1147.03	0.001692	10.72	13525.27	942.75	0.48
Reach 4	220.63	PF#2	250000.00	1127.10	1150.99	1143.47	1153.76	0.001790	13.36	18709.43	906.46	0.52
Reach 4	220.54	PF#1	145000.00	1127.32	1144.36	1138.49	1146.16	0.001770	10.78	13448.28	1039.46	0.49
Reach 4	220.54	PF#2	250000.00	1127.32	1150.07	1142.73	1152.86	0.001826	13.39	18670.43	915.25	0.52
Reach 4	220.45	PF#1	145000.00	1125.43	1143.51	1137.51	1145.30	0.001713	10.72	13523.54	1025.78	0.48
Reach 4	220.45	PF#2	250000.00	1125.43	1149.17	1141.77	1151.96	0.001822	13.39	18664.46	912.13	0.52
Reach 4	220.35	PF#1	145000.00	1123.99	1142.81	1136.11	1144.44	0.001493	10.26	14136.05	1009.72	0.46
Reach 4	220.35	PF#2	250000.00	1123.99	1148.41	1140.38	1151.03	0.001650	12.98	19255.71	916.62	0.50
Reach 4	220.25	PF#1	145000.00	1124.01	1141.75	1136.06	1143.60	0.001836	10.89	13313.34	1256.18	0.50
Reach 4	220.25	PF#2	250000.00	1124.01	1147.21	1140.31	1150.10	0.001953	13.64	18322.48	919.65	0.54
Reach 4	220.16	PF#1	145000.00	1124.58	1140.40	1135.91	1142.53	0.002354	11.72	12368.65	1134.73	0.56
Reach 4	220.16	PF#2	250000.00	1124.58	1145.72	1140.06	1148.99	0.002371	14.52	17221.30	912.67	0.59
Reach 4	220.06	PF#1	145000.00	1122.90	1139.38	1134.41	1141.38	0.002119	11.35	12778.43	905.58	0.53
Reach 4	220.06	PF#2	250000.00	1122.90	1144.68	1138.61	1147.81	0.002211	14.21	17591.01	909.53	0.57
Reach 4	220.05		Bridge									
Reach 4	220.03	PF#1	145000.00	1122.90	1138.46	1134.41	1140.75	0.002636	12.14	11940.03	900.74	0.59
Reach 4	220.03	PF#2	250000.00	1122.90	1143.50	1138.61	1147.06	0.002713	15.14	16514.40	906.62	0.63
Reach 4	219.88	PF#1	145000.00	1119.50	1136.18	1132.49	1138.55	0.002836	12.35	11737.42	1874.93	0.61
Reach 4	219.88	PF#2	250000.00	1119.50	1141.18	1136.61	1144.82	0.002867	15.31	16326.42	918.51	0.64
Reach 4	219.79	PF#1	145000.00	1119.30	1134.67	1131.29	1137.12	0.003051	12.55	11551.54	1964.89	0.63
Reach 4	219.79	PF#2	250000.00	1119.30	1139.76	1135.36	1143.42	0.002940	15.35	16286.95	931.90	0.65
Reach 4	219.70	PF#1	145000.00	1115.81	1133.30	1129.70	1135.63	0.002864	12.25	11838.69	1919.19	0.61
Reach 4	219.70	PF#2	250000.00	1115.81	1138.51	1133.73	1141.97	0.002727	14.92	16754.37	945.15	0.62
Reach 4	219.61	PF#1	145000.00	1112.39	1132.51	1127.58	1134.35	0.002019	10.88	13326.41	2720.06	0.52
Reach 4	219.61	PF#2	250000.00	1112.39	1137.84	1131.52	1140.65	0.002053	13.45	18582.33	988.76	0.55
Reach 4	219.51	PF#1	145000.00	1111.64	1131.58	1126.44	1133.33	0.001944	10.63	13637.02	1849.76	0.51
Reach 4	219.51	PF#2	250000.00	1111.64	1136.93	1130.34	1139.61	0.001945	13.15	19018.12	1006.16	0.53
Reach 4	219.42	PF#1	145000.00	1111.83	1130.64	1125.45	1132.37	0.001898	10.54	13757.28	2305.88	0.50
Reach 4	219.42	PF#2	250000.00	1111.83	1136.00	1129.33	1138.64	0.001905	13.04	19165.03	1010.17	0.53
Reach 4	219.33	PF#1	145000.00	1113.40	1129.74	1124.60	1131.47	0.001918	10.54	13750.67	2628.65	0.50
Reach 4	219.33	PF#2	250000.00	1113.40	1135.12	1128.53	1137.74	0.001912	12.99	19250.48	1024.86	0.53
Reach 4	219.24	PF#1	145000.00	1112.10	1128.80	1123.73	1130.55	0.001986	10.62	13656.99	2605.48	0.51
Reach 4	219.24	PF#2	250000.00	1112.10	1134.21	1127.62	1136.83	0.001941	13.00	19234.99	1032.45	0.53
Reach 4	219.14	PF#1	145000.00	1110.40	1127.84	1122.65	1129.55	0.001897	10.47	13843.88	2299.18	0.50
Reach 4	219.14	PF#2	250000.00	1110.40	1133.27	1126.52	1135.85	0.001865	12.89	19391.54	1023.27	0.52

Reach 4	219.03	PF#1	145000.00	1112,90	1126.41	1122.24	1128.36	0.002379	11.20	12947.17	1022.30	0.55
Reach 4	219.03	PF#2	250000.00	1112.90	1131.92	1126.06	1134.73	0.002150	13.44	18602.85	1026.67	0.56
Reach 4	219.02		Bridge									
Reach 4	219.01	PF#1	145000.00	1112.90	1124.90	1122.24	1127.41	0.003600	12.71	11409.81	1017.56	0.67
Reach 4	219.01	PF#2	250000.00	1112.90	1130.51	1126.06	1133.81	0.002807	14.59	17138.50	1022.16	0.63
Reach 4	218.97	PF#1	145000.00	1106.45	1125.30	1119.40	1126.87	0.001599	10.05	14429.83	992.50	0.46
Reach 4	218.97	PF#2	250000.00	1106.45	1130.90	1123.28	1133.31	0.001640	12.46	20066.09	1009.80	0.49
Reach 4	218.965		Bridge									
Reach 4	218.96	PF#1	145000.00	1106.31	1124.61	1119.77	1126.40	0.002028	10.74	13496.33	1076.96	0.52
Reach 4	218.96	PF#2	250000.00	1106.31	1130.11	1123.61	1132.77	0.001959	13.09	19093.13	1020.44	0.53
Reach 4	218.80	PF#1	145000.00	1105.70	1123.36	1117.32	1124.89	0.001544	9.92	14612.78	2154.11	0.46
Reach 4	218.80	PF#2	250000.00	1105.70	1128.85	1121.15	1131.24	0.001619	12.40	20154.42	1011.74	0.49
Reach 4	218.71	PF#1	145000.00	1105.38	1122.25	1117.15	1124.03	0.001951	10.72	13528.63	2972.33	0.51
Reach 4	218.71	PF#2	250000.00	1105.38	1127.61	1121.08	1130.35	0.001967	13.29	18813.68	986.77	0.54
Reach 4	218.61	PF#1	145000.00	1101.91	1121.24	1116.16	1123.03	0.001961	10.76	13475.80	2830.01	0.51
Reach 4	218.61	PF#2	250000.00	1101.91	1126.59	1120.10	1129.34	0.002002	13.30	18792.09	997.32	0.54
Reach 4	218.52	PF#1	145000.00	1101.37	1120.23	1115.25	1122.04	0.001997	10.79	13437.68	1903.87	0.51
Reach 4	218.52	PF#2	250000.00	1101.37	1125.58	1119.18	1128.32	0.002020	13.29	18815.15	1008.12	0.54
Reach 4	218.42	PF#1	145000.00	1101.56	1118.85	1114.79	1120.91	0.002499	11.51	12600.60	1559.67	0.57
Reach 4	218.42	PF#2	250000.00	1101.56	1124.23	1118.70	1127.22	0.002329	13.88	18017.43	1007.80	0.58
Reach 4	218.33	PF#1	145000.00	1099.30	1118.12	1112.74	1119.73	0.001755	10.18	14248.37	1035.01	0.48
Reach 4	218.33	PF#2	250000.00	1099.30	1123.63	1116.54	1126.05	0.001732	12.48	20026.01	1051.46	0.50
Reach 4	218.24	PF#1	145000.00	1097.97	1116.83	1112.48	1118.72	0.002273	11.04	13139.26	1172.41	0.54
Reach 4	218.24	PF#2	250000.00	1097.97	1122.36	1116.31	1125.09	0.002067	13.26	18855.95	1034.86	0.55
Reach 4	218.14	PF#1	145000.00	1096.58	1115.86	1111.02	1117.62	0.002016	10.65	13615.75	1265.44	0.52
Reach 4	218.14	PF#2	250000.00	1096.58	1121.49	1114.85	1124.06	0.001867	12.87	19430.68	1032.40	0.52
Reach 4	218.04	PF#1	145000.00	1095.51	1114.85	1109.98	1116.59	0.001999	10.60	13682.99	1032.48	0.51
Reach 4	218.04	PF#2	250000.00	1095.51	1120.60	1113.81	1123.11	0.001813	12.72	19650.40	1038.69	0.52
Reach 4	217.95	PF#1	145000.00	1092.47	1114.12	1108.25	1115.62	0.001571	9.84	14736.23	1036.40	0.46
Reach 4	217.95	PF#2	250000.00	1092.47	1119.95	1112.06	1122.19	0.001507	12.01	20808.20	1042.14	0.47
Reach 4	217.86	PF#1	145000.00	1088.60	1113.36	1107.44	1114.85	0.001549	9.79	14813.38	1194.92	0.46
Reach 4	217.86	PF#2	250000.00	1088.60	1119.23	1111.23	1121.45	0.001482	11.94	20937.44	1043.82	0.47
Reach 4	217.76	PF#1	145000.00	1092.19	1110.49		1113.53	0.003694	13.98	10373.21	818.01	0.69
Reach 4	217.76	PF#2	250000.00	1092.19	1115.35		1120.05	0.003783	17.39	14373.24	823.68	0.73
Reach 4	217.66	PF#1	145000.00	1088.14	1110.08	1105.10	1111.83	0.001974	10.63	13634.50	1013.52	0.51
Reach 4	217.66	PF#2	250000.00	1088.14	1115.48	1108.98	1118.13	0.001933	13.06	19144.18	1020.69	0.53
Reach 4	217.57	PF#1	145000.00	1089.90	1108.93	1104.43	1110.76	0.002182	10.87	13341.98	1034.93	0.53
Reach 4	217.57	PF#2	250000.00	1089.90	1114.45	1108.20	1117.12	0.002002	13.09	19091.68	1041.00	0.54
Reach 4	217.48	PF#1	145000.00	1090.80	1108.03	1103.04	1109.73	0.001934	10.46	13861.66	1476.36	0.50
Reach 4	217.48	PF#2	250000.00	1090.80	1113.66	1106.86	1116.15	0.001803	12.66	19743.16	1045.77	0.51
Reach 4	217.38	PF#1	145000.00	1090.70	1106.95	1102.18	1108.72	0.002053	10.69	13558.53	1084.48	0.52
Reach 4	217.38	PF#2	250000.00	1090.70	1112.66	1106.00	1115.22	0.001863	12.84	19469.75	1034.47	0.52

Reach 4	217.29	PF#1	145000.00	1089.70	1105.62	1101.38	1107.61	0.002388	11.34	12791.37	1202.43	0.56
Reach 4	217.29	PF#2	250000.00	1089.70	1111.42	1105.28	1114.23	0.002083	13.45	18587.32	998.99	0.55
Reach 4	217.19	PF#1	145000.00	1086.43	1103.50	1100.59	1106.09	0.003454	12.93	11215.38	1350.65	0.66
Reach 4	217.19	PF#2	250000.00	1086.43	1109.65	1104.61	1112.99	0.002599	14.66	17053.27	949.32	0.61
Reach 4	217.10	PF#1	145000.00	1083.00	1103.21	1096.08	1104.74	0.001363	9.92	14622.95	1497.04	0.43
Reach 4	217.10	PF#2	250000.00	1083.00	1109.39	1100.31	1111.76	0.001404	12.35	20240.29	909.81	0.46
Reach 4	217.00	PF#1	145000.00	1081.30	1102.63	1095.12	1104.09	0.001253	9.72	14914.93	1652.39	0.42
Reach 4	217.00	PF#2	250000.00	1081.30	1108.77	1099.33	1111.09	0.001328	12.21	20474.33	905.09	0.45
Reach 4	216.91	PF#1	145000.00	1082.32	1101.69	1095.32	1103.37	0.001568	10.39	13949.15	1805.67	0.46
Reach 4	216.91	PF#2	250000.00	1082.32	1107.76	1099.52	1110.33	0.001578	12.86	19440.76	904.45	0.49
Reach 4	216.81	PF#1	145000.00	1079.55	1101.16	1093.35	1102.60	0.001215	9.66	15010.96	1731.07	0.41
Reach 4	216.81	PF#2	250000.00	1079.55	1107.21	1097.65	1109.53	0.001328	12.24	20421.37	895.21	0.45
Reach 4	216.72	PF#1	145000.00	1080.17	1100.68	1092.13	1102.01	0.001051	9.26	15658.53	890.08	0.39
Reach 4	216.72	PF#2	250000.00	1080.17	1106.67	1096.44	1108.87	0.001197	11.88	21036.95	897.91	0.43
Reach 4	216.62	PF#1	145000.00	1078.33	1099.86	1092.62	1101.39	0.001343	9.91	14631.37	960.13	0.43
Reach 4	216.62	PF#2	250000.00	1078.33	1105.80	1096.92	1108.17	0.001472	12.37	20216.70	951.32	0.47
Reach 4	216.52	PF#1	145000.00	1083.20	1098.62	1093.22	1100.52	0.002083	11.08	13090.73	953.20	0.53
Reach 4	216.52	PF#2	250000.00	1083.20	1104.66	1097.53	1107.31	0.001894	13.09	19105.10	999.72	0.53
Reach 4	216.505		Bridge									
Reach 4	216.49	PF#1	145000.00	1083.20	1097.04	1093.22	1099.45	0.002823	12.45	11646.93	894.05	0.61
Reach 4	216.49	PF#2	250000.00	1083.20	1103.00	1097.53	1106.26	0.002487	14.50	17246.12	949.02	0.60
Reach 4	216.42	PF#1	145000.00	1082.00	1097.36	1092.10	1099.23	0.001973	10.98	13205.14	935.85	0.52
Reach 4	216.42	PF#2	250000.00	1082.00	1103.31	1096.26	1106.05	0.001848	13.27	18832.56	946.84	0.52
Reach 4	216.33	PF#1	145000.00	1080.80	1096.82	1090.45	1098.29	0.001462	9.72	14924.02	1117.82	0.45
Reach 4	216.33	PF#2	250000.00	1080.80	1102.94	1094.39	1105.10	0.001387	11.80	21193.75	1026.33	0.46
Reach 4	216.23	PF#1	145000.00	1078.50	1096.43	1088.40	1097.59	0.001056	8.62	16824.70	1371.42	0.38
Reach 4	216.23	PF#2	250000.00	1078.50	1102.64	1092.46	1104.39	0.001051	10.62	23540.18	1083.71	0.40
Reach 4	216.13	PF#1	145000.00	1078.00	1095.98	1087.79	1097.04	0.000948	8.25	17576.98	1856.89	0.36
Reach 4	216.13	PF#2	250000.00	1078.00	1102.21	1091.59	1103.83	0.000953	10.20	24507.08	1113.68	0.38
Reach 4	216.04	PF#1	145000.00	1077.50	1095.39	1087.54	1096.54	0.001034	8.59	16875.41	1428.25	0.38
Reach 4	216.04	PF#2	250000.00	1077.50	1101.55	1091.38	1103.31	0.001046	10.66	23461.89	1069.84	0.40
Reach 4	215.94	PF#1	145000.00	1077.80	1092.33	1089.70	1095.42	0.003954	14.10	10281.39	865.82	0.71
Reach 4	215.94	PF#2	250000.00	1077.80	1098.20	1094.39	1102.22	0.003310	16.09	15538.94	906.67	0.68
Reach 4	215.84	PF#1	145000.00	1075.80	1090.34	1087.69	1093.28	0.003812	13.78	10524.51	865.60	0.70
Reach 4	215.84	PF#2	250000.00	1075.80	1096.75	1091.96	1100.49	0.002812	15.52	16104.22	870.81	0.64
Reach 4	215.82	PF#1	145000.00	1076.00	1090.45	1085.99	1092.70	0.002419	12.03	12055.46	860.84	0.57
Reach 4	215.82	PF#2	250000.00	1076.00	1096.87	1090.26	1100.01	0.002086	14.22	17577.90	860.86	0.55
Reach 4	215.815		Bridge									
Reach 4	215.81	PF#1	145000.00	1076.00	1089.48	1085.99	1092.07	0.003069	12.93	11214.28	860.82	0.63
Reach 4	215.81	PF#2	250000.00	1076.00	1095.43	1090.26	1099.06	0.002651	15.30	16336.54	860.84	0.62
Reach 4	215.75	PF#1	145000.00	1073.60	1086.68	1085.73	1090.80	0.006235	16.29	8900.26	828.29	0.88
Reach 4	215.75	PF#2	250000.00	1073.60	1093.95	1090.16	1098.21	0.003381	16.56	15094.65	854.81	0.69
Reach 4	215.65	PF#1	145000.00	1068.30	1086.42	1081.33	1088.48	0.002127	11.51	12596.57	878.49	0.54

Reach 4	215.65	PF#2	250000.00	1068.30	1094.00	1085.68	1096.60	0.001571	12.93	19330.67	890.00	0.49
Reach 4	215.56	PF#1	145000.00	1066.10	1086.10	1078.15	1087.52	0.001180	9.56	15160.05	896.31	0.41
Reach 4	215.56	PF#2	250000.00	1066.10	1093.81	1082.47	1095.79	0.001026	11.29	22150.86	907.88	0.40
Reach 4	215.46	PF#1	145000.00	1064.60	1085.71	1076.64	1086.94	0.000947	8.91	16278.10	906.99	0.37
Reach 4	215.46	PF#2	250000.00	1064.60	1093.49	1080.91	1095.26	0.000867	10.68	23402.21	916.85	0.37
Reach 4	215.36	PF#1	145000.00	1063.00	1085.44	1074.33	1086.46	0.000693	8.11	17883.59	909.08	0.32
Reach 4	215.36	PF#2	250000.00	1063.00	1093.25	1078.70	1094.79	0.000692	9.98	25050.99	919.00	0.34
Reach 4	215.27	PF#1	145000.00	1063.50	1084.93	1074.95	1086.07	0.000860	8.56	16937.81	2232.80	0.35
Reach 4	215.27	PF#2	250000.00	1063.50	1092.78	1079.32	1094.42	0.000793	10.27	24341.26	943.30	0.36
Reach 4	215.18	PF#1	145000.00	1062.20	1080.45	1077.99	1084.92	0.004467	16.97	8544.66	648.89	0.78
Reach 4	215.18	PF#2	250000.00	1062.20	1086.73	1083.76	1093.18	0.004189	20.37	12269.97	593.90	0.79
Reach 4	215.09	PF#1	145000.00	1061.70	1079.66	1075.06	1082.86	0.002782	14.35	10101.94	613.80	0.62
Reach 4	215.09	PF#2	250000.00	1061.70	1086.24	1080.52	1091.07	0.002771	17.64	14169.37	619.02	0.65
Reach 4	214.99	PF#1	145000.00	1061.30	1078.41	1074.42	1081.32	0.002950	13.70	10581.96	721.29	0.63
Reach 4	214.99	PF#2	250000.00	1061.30	1085.61	1079.28	1089.49	0.002375	15.81	15814.87	727.58	0.60
Reach 4	214.9	PF#1	145000.00	1061.20	1076.05	1073.81	1079.48	0.004373	14.85	9762.57	797.08	0.75
Reach 4	214.9	PF#2	250000.00	1061.20	1084.76	1078.38	1088.19	0.002224	14.88	16805.25	810.50	0.58
Reach 4	214.79	PF#1	145000.00	1057.60	1076.14	1069.78	1077.56	0.001428	9.54	15199.00	1042.82	0.44
Reach 4	214.79	PF#2	250000.00	1057.60	1085.33	1073.65	1086.89	0.000850	10.05	24887.04	1056.41	0.36
Reach 4	214.785		Bridge									
Reach 4	214.78	PF#1	145000.00	1058.80	1075.76	1069.82	1077.26	0.001561	9.81	14781.79	1040.52	0.46
Reach 4	214.78	PF#2	250000.00	1058.80	1084.85	1073.66	1086.49	0.000911	10.27	24350.20	1054.44	0.38
Reach 4	214.71	PF#1	145000.00	1055.10	1075.16	1068.28	1076.78	0.001442	10.20	14219.10	888.38	0.45
Reach 4	214.71	PF#2	250000.00	1055.10	1084.23	1072.58	1086.17	0.000985	11.17	22373.67	901.57	0.40
Reach 4	214.61	PF#1	145000.00	1050.40	1074.95	1063.11	1076.14	0.000733	8.76	16544.71	778.68	0.34
Reach 4	214.61	PF#2	250000.00	1050.40	1083.95	1068.01	1085.69	0.000692	10.57	23662.14	792.44	0.34
Reach 4	214.52	PF#1	145000.00	1048.00	1075.03	1059.50	1075.75	0.000386	6.79	21357.61	912.65	0.25
Reach 4	214.52	PF#2	250000.00	1048.00	1084.15	1064.04	1085.24	0.000394	8.39	29804.48	928.22	0.26
Reach 4	214.42	PF#1	145000.00	1048.20	1074.99	1058.40	1075.53	0.000283	5.90	24557.17	1045.36	0.21
Reach 4	214.42	PF#2	250000.00	1048.20	1084.16	1062.51	1085.00	0.000293	7.33	34094.63	1041.69	0.23
Reach 4	214.33	PF#1	145000.00	1048.50	1074.58	1059.33	1075.34	0.000407	6.98	20772.40	978.92	0.25
Reach 4	214.33	PF#2	250000.00	1048.50	1083.63	1063.89	1084.79	0.000420	8.65	28890.41	899.54	0.27
Reach 4	214.23	PF#1	145000.00	1048.70	1073.69	1061.57	1075.01	0.000779	9.19	15774.56	723.57	0.35
Reach 4	214.23	PF#2	250000.00	1048.70	1082.46	1066.85	1084.43	0.000777	11.25	22229.28	738.00	0.36
Reach 4	214.14	PF#1	145000.00	1048.70	1073.27	1061.39	1074.61	0.000801	9.31	15568.65	714.01	0.35
Reach 4	214.14	PF#2	250000.00	1048.70	1082.01	1066.63	1084.03	0.000800	11.41	21909.43	726.84	0.37

APPENDIX C HEC-RAS RESULTS FOR PROPOSED CONDITIONS FOR THE SPF EVENT

```
                    HEC-RAS Version 3.1 November 2002
                      U.S. Army Corp of Engineers
                    Hydrologic Engineering Center
                      609 Second Street, Suite D
                     Davis, California 95616-4687
                          (916) 756-1104

          X     X  XXXXXX    XXXX        XXXX       XX      XXXX
          X     X  X        X    X       X   X     X  X    X
          X     X  X        X            X   X    X    X   X
          XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
          X     X  X        X            X  X     X    X        X
          X     X  X        X    X       X   X    X    X        X
          X     X  XXXXXX    XXXX        X    X   X    X   XXXXX
```

Proposed Conditions

****

PROJECT DATA
Project Title: LRT Bridge 100-yearFW&ScourAnalyses
Project File : Lrt100FW.prj
Run Date and Time: 09/27/2004 10:23:04 AM

Project in English units

Project Description:
Tempe Town Lake Light Rail Bridge

This model is prepared for Tempe Town Lake
Light Rail Bridge Project by Michael Baker Jr., Inc. in December, 2003
The
purpose of this modeling is to analize the impact of new bridge to FEMA
100-year floodplain and floodway boundary. 50 and 500-year event scour
ananlysis is also conduted.

Februaty 2001 FEMA LOMR model(North.prj) was
used as a base model. Addition cross sections were added at the new bridge
location.

100-Year Profile with Landscaping Plans Reflected and
Skews in cross sections.

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*******************************************************************************

PLAN DATA

Plan Title: Proposed SPF FW
Plan File : t:\LRT Town Lake\Engfiles\Drainage\HecRas\Lrt100FW.p10

           Geometry Title: Proposed Condition LRT in
           Geometry File : t:\LRT Town Lake\Engfiles\Drainage\HecRas\Lrt100FW.g03

           Flow Title    : SPF FW
           Flow File     : t:\LRT Town Lake\Engfiles\Drainage\HecRas\Lrt100FW.f04

Plan Description:
Proposed 100-Year Event and SPF Event (250,000 cfs)


Plan Summary Information:
Number of:  Cross Sections =  118    Mulitple Openings  =    0
            Culverts       =    0    Inline Structures  =    0
            Bridges        =   13    Lateral Structures =    0

Computational Information
    Water surface calculation tolerance =  0.01
    Critical depth calculaton tolerance =  0.01
    Maximum number of interations       =  20
    Maximum difference tolerance        =  0.3
    Flow tolerance factor               =  0.001

Computation Options
    Critical depth computed only where necessary
    Conveyance Calculation Method: At breaks in n values only
    Friction Slope Method:         Average Conveyance
    Computational Flow Regime:     Subcritical Flow

Encroachment Data
   Equal Conveyance = True
   Left Offset      =        0
   Right Offset     =        0

River = Salt River       Reach = Reach 4
RS      Profile           Method  Value1  Value2
223.08  PF#2                  1   19332   20356
223.02  PF#2                 119353.5720446.57
222.93  PF#2                 119406.3820352.33
222.83  PF#2                 119479.6820443.27
222.74  PF#2                 119531.3120569.62
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222.70	PF#2	119591.7	520559.75	
222.695	PF#2	119591.7	520559.75	
222.69	PF#2	119591.7	520559.75	
222.67	PF#2	119591.7	520559.75	
222.66	PF#2	119591.7	520559.75	
222.65	PF#2	119561.4	120640.75	
222.55	PF#2	119524.82	20795	
222.45	PF#2	119473.2	120860.59	
222.36	PF#2	119467.0	420649.46	
222.27	PF#2	119515.4	420592.52	
222.17	PF#2	119489.1	420498.83	
222.09	PF#2	1 19457.3	20524.35	
222.08	PF#2	1 19457.3	20523.66	
221.99	PF#2	119415.5	920427.83	
221.89	PF#2	119381.2	920367.66	
221.80	PF#2	119421.4	720357.31	
221.70	PF#2	119451.3	720391.39	
221.61	PF#2	119472.9	520399.29	
221.50	PF#2	119527.5	120456.38	
221.40	PF#2	119511.6	620460.87	
221.31	PF#2	119574.2	620507.95	
221.26	PF#2	119535.06	20417	
221.24	PF#2	119524.2	820423.14	
221.2	PF#2	119496.8	820375.14	
221.19	PF#2	119495.0	720368.44	
221.068	PF#2	1 19545	20403	
221.061	PF#2	1 19582.9	20404	
221.06	PF#2	119571.2	920400.39	
221.05	PF#2	119584.7	820398.81	
221.02	PF#2	119511.5	820381.47	
220.92	PF#2	119547.3	220410.59	
220.82	PF#2	119505.8	420374.17	
220.756	PF#2	1 19547	20453	
220.755	PF#2	1 19547	20453	
220.752	PF#2	1 19547	20453	
220.75	PF#2	1 19547	20453	
220.74	PF#2	1 19547	20453	
220.735	PF#2	1 19547	20453	
220.73	PF#2	119490.1	120495.14	
220.63	PF#2	119531.1	820437.64	
220.54	PF#2	119531.3	720446.62	
220.45	PF#2	119539.67	20451.8	
220.35	PF#2	119544.1	320460.75	
220.25	PF#2	119549.1	220468.77	
220.16	PF#2	119561.2	420473.91	
220.06	PF#2	119565.9	120475.44	
220.05	PF#2	119567.2	120473.83	
220.03	PF#2	119567.2	120473.83	

219.88	PF#2	119562.9620481.47
219.79	PF#2	119514.2320446.13
219.70	PF#2	119566.9120512.06
219.61	PF#2	119564.3220553.08
219.51	PF#2	119541.3920547.55
219.42	PF#2	119488.9720499.14
219.33	PF#2	119430.3720455.23
219.24	PF#2	119468.0920500.54
219.14	PF#2	119481.8420505.11
219.03	PF#2	119340.4520367.12
219.02	PF#2	119342.4120364.57
219.01	PF#2	119342.4120364.57
218.97	PF#2	119490.0620499.86
218.96	PF#2	119477.8720498.31
218.80	PF#2	119492.0120503.75
218.71	PF#2	119509.9120496.68
218.61	PF#2	119503.38 20500.7
218.52	PF#2	119500.4720508.59
218.42	PF#2	119506.7820514.58
218.33	PF#2	119490.0520541.51
218.24	PF#2	119418.1720453.03
218.14	PF#2	119389.5120421.91
218.04	PF#2	119390.1220428.81
217.95	PF#2	119437.7320479.87
217.86	PF#2	119497.4120541.23
217.76	PF#2	1 19555.720379.38
217.66	PF#2	119569.8920590.58
217.57	PF#2	119521.5120562.51
217.48	PF#2	119436.4220482.19
217.38	PF#2	119463.0120497.48
217.29	PF#2	119510.7820509.77
217.19	PF#2	119562.0520511.37
217.10	PF#2	119607.3520517.16
217.00	PF#2	119612.3420517.43
216.91	PF#2	119604.8920509.34
216.81	PF#2	1 19606.320501.51
216.72	PF#2	119596.8720494.78
216.62	PF#2	1 19591.620542.92
216.52	PF#2	1 19519.920519.62
216.49	PF#2	119567.4420516.46
216.42	PF#2	1 19535.320482.14
216.33	PF#2	119399.9120426.24
216.23	PF#2	1 19329.520413.21
216.13	PF#2	1 19324.320437.98
216.04	PF#2	119397.8520467.69
215.94	PF#2	119572.3520479.02
215.84	PF#2	119571.9820442.79
215.82	PF#2	119550.04 20410.9

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215.81  PF#2                    119550.06 20410.9
215.75  PF#2                    1 19576.720431.51
215.65  PF#2                    119594.8420484.84
215.56  PF#2                    119587.3720495.25
215.46  PF#2                    119599.3720516.22
215.36  PF#2                    1   19618   20537
215.27  PF#2                    1 19610.6 20553.9
215.18  PF#2                    119683.2220277.12
215.09  PF#2                    1 19674.220293.22
214.99  PF#2                    119601.52 20329.1
214.9   PF#2                    119563.8820374.38
214.79  PF#2                    119461.7320518.14
214.785 PF#2                    119462.6420517.08
214.78  PF#2                    119462.6420517.08
214.71  PF#2                    119640.2920541.86
214.61  PF#2                    119685.1720477.61
214.52  PF#2                    119525.2620453.48
214.42  PF#2                    119382.0820423.77
214.33  PF#2                    119492.0720391.61
214.23  PF#2                    119614.3420352.34
214.14  PF#2                    119654.9820381.82


*****************************************************************************

FLOW DATA

Flow Title: SPF FW
Flow File : t:\LRT Town Lake\Engfiles\Drainage\HecRas\Lrt100FW.f04

Flow Data (cfs)
*************************************************************************
* River          Reach          RS      *          PF#1          PF#2 *
* Salt River     Reach 4        223.08  *        172000        250000 *
* Salt River     Reach 4        221.26  *        169000        250000 *
*************************************************************************

Boundary Conditions
*****************************************************************************************************
* River          Reach          Profile         *          Upstream                Downstream    *
*****************************************************************************************************
* Salt River     Reach 4        PF#1            *                              Known WS = 1075.49 *
* Salt River     Reach 4        PF#2            *                               Known WS = 1075.5 *
*****************************************************************************************************
```

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach 4	223.08	PF#1	172000.00	1146.30	1163.05	1163.05	1167.91	0.008433	17.68	9726.08	1000.81	1.00
Reach 4	223.08	PF#2	250000.00	1146.30	1165.87	1165.87	1172.00	0.007837	19.86	12586.94	1024.00	1.00
Reach 4	223.02	PF#1	172000.00	1140.00	1163.51	1154.24	1164.73	0.000949	8.88	19377.84	1521.69	0.37
Reach 4	223.02	PF#2	250000.00	1140.00	1168.49	1157.11	1170.07	0.000890	10.07	24824.14	1093.00	0.37
Reach 4	222.93	PF#1	172000.00	1137.70	1163.01	1152.17	1164.29	0.000841	9.05	18997.97	2119.01	0.36
Reach 4	222.93	PF#2	250000.00	1137.70	1167.87	1155.29	1169.61	0.000876	10.60	23591.11	945.95	0.37
Reach 4	222.83	PF#1	172000.00	1127.92	1162.86	1149.46	1163.86	0.000582	8.02	21435.06	2182.90	0.30
Reach 4	222.83	PF#2	250000.00	1127.92	1167.72	1152.56	1169.14	0.000645	9.57	26120.79	963.59	0.32
Reach 4	222.74	PF#1	172000.00	1134.16	1162.54	1150.47	1163.55	0.000646	8.05	21370.43	2042.56	0.31
Reach 4	222.74	PF#2	250000.00	1134.16	1167.41	1153.49	1168.80	0.000681	9.46	26424.05	1038.31	0.33
Reach 4	222.70	PF#1	172000.00	1141.75	1162.27		1163.47	0.000148	8.81	19533.92	968.00	0.35
Reach 4	222.70	PF#2	250000.00	1141.75	1167.05		1168.71	0.000156	10.35	24163.23	968.00	0.36
Reach 4	222.695	PF#1	172000.00	1143.33	1161.99		1163.44	0.000202	9.68	17763.24	968.00	0.40
Reach 4	222.695	PF#2	250000.00	1143.33	1166.74		1168.68	0.000201	11.18	22364.54	968.00	0.41
Reach 4	222.69	PF#1	172000.00	1143.33	1161.99	1153.48	1163.44	0.000202	9.68	17762.41	968.00	0.40
Reach 4	222.69	PF#2	250000.00	1143.33	1166.74	1156.34	1168.68	0.000201	11.18	22363.72	968.00	0.41
Reach 4	222.68		Bridge									
Reach 4	222.67	PF#1	172000.00	1143.33	1161.89		1163.36	0.000206	9.73	17672.37	968.00	0.40
Reach 4	222.67	PF#2	250000.00	1143.33	1166.64		1168.60	0.000204	11.23	22270.13	968.00	0.41
Reach 4	222.66	PF#1	172000.00	1141.75	1162.05		1163.28	0.000833	8.90	19325.24	968.00	0.35
Reach 4	222.66	PF#2	250000.00	1141.75	1166.82		1168.51	0.000874	10.44	23938.25	968.00	0.37
Reach 4	222.65	PF#1	172000.00	1138.75	1162.02	1151.61	1163.09	0.000749	8.28	20778.32	2067.76	0.33
Reach 4	222.65	PF#2	250000.00	1140.14	1166.84	1154.33	1168.28	0.000777	9.62	25982.64	1079.34	0.35
Reach 4	222.55	PF#1	172000.00	1139.60	1161.88	1151.38	1162.72	0.000456	7.34	23435.54	1814.44	0.30
Reach 4	222.55	PF#2	250000.00	1139.60	1166.77	1153.79	1167.88	0.000454	8.43	29648.59	1270.18	0.31
Reach 4	222.45	PF#1	172000.00	1139.54	1161.74	1150.92	1162.46	0.000409	6.84	25140.06	1639.31	0.28
Reach 4	222.45	PF#2	250000.00	1139.54	1166.66	1153.22	1167.61	0.000391	7.82	31977.85	1387.38	0.29
Reach 4	222.36	PF#1	172000.00	1138.87	1161.13	1151.64	1162.19	0.000620	8.26	20825.20	1408.28	0.35
Reach 4	222.36	PF#2	250000.00	1138.87	1165.96	1154.23	1167.34	0.000590	9.42	26541.40	1182.42	0.35
Reach 4	222.27	PF#1	172000.00	1139.19	1160.50	1151.90	1161.82	0.000791	9.22	18645.09	1204.90	0.39
Reach 4	222.27	PF#2	250000.00	1139.19	1165.27	1154.74	1166.99	0.000752	10.51	23779.18	1077.08	0.39
Reach 4	222.17	PF#1	172000.00	1137.16	1160.04	1151.03	1161.43	0.000789	9.46	18185.43	1219.33	0.39
Reach 4	222.17	PF#2	250000.00	1137.16	1164.75	1153.96	1166.59	0.000778	10.90	22944.78	1009.69	0.40
Reach 4	222.09	PF#1	172000.00	1136.00	1159.98	1148.77	1161.09	0.000579	8.44	20367.34	1254.23	0.34
Reach 4	222.09	PF#2	250000.00	1136.00	1164.73	1151.71	1166.23	0.000588	9.83	25424.66	1064.46	0.35
Reach 4	222.085		Bridge									
Reach 4	222.08	PF#1	172000.00	1136.00	1159.77	1148.73	1160.89	0.000594	8.53	20175.63	1247.31	0.34
Reach 4	222.08	PF#2	250000.00	1136.00	1164.49	1151.71	1166.02	0.000609	9.93	25188.45	1064.84	0.36

Reach 4	221.99	PF#1	172000.00	1138.14	1158.79	1151.16	1160.50	0.001001	10.53	16744.60	1193.97	0.44
Reach 4	221.99	PF#2	250000.00	1138.14	1163.39	1154.31	1165.61	0.000971	12.05	21384.05	1012.24	0.45
Reach 4	221.89	PF#1	172000.00	1136.20	1157.88	1151.53	1159.89	0.001288	11.44	15406.36	1148.18	0.50
Reach 4	221.89	PF#2	250000.00	1136.20	1162.47	1154.75	1165.03	0.001196	12.93	19916.91	986.37	0.50
Reach 4	221.80	PF#1	172000.00	1136.35	1157.26	1150.51	1159.27	0.001224	11.41	15310.51	1215.80	0.49
Reach 4	221.80	PF#2	250000.00	1136.35	1161.83	1153.78	1164.44	0.001174	13.03	19578.04	935.84	0.49
Reach 4	221.70	PF#1	172000.00	1134.30	1156.63	1149.53	1158.66	0.001189	11.45	15304.09	1463.86	0.48
Reach 4	221.70	PF#2	250000.00	1134.30	1161.20	1152.89	1163.84	0.001155	13.12	19598.73	940.02	0.49
Reach 4	221.61	PF#1	172000.00	1133.98	1155.67	1149.67	1157.98	0.001457	12.24	14367.99	1401.39	0.53
Reach 4	221.61	PF#2	250000.00	1133.98	1160.26	1153.10	1163.19	0.001361	13.85	18611.80	926.34	0.53
Reach 4	221.50	PF#1	172000.00	1134.08	1154.71	1149.16	1157.07	0.001717	12.35	13925.67	1333.90	0.56
Reach 4	221.50	PF#2	250000.00	1134.08	1159.50	1152.74	1162.37	0.001457	13.60	18378.38	928.87	0.54
Reach 4	221.40	PF#1	172000.00	1133.21	1153.80	1147.93	1156.06	0.002213	12.05	14274.56	1064.16	0.55
Reach 4	221.40	PF#2	250000.00	1133.21	1158.81	1151.28	1161.49	0.001814	13.14	19031.87	949.21	0.52
Reach 4	221.31	PF#1	172000.00	1131.43	1152.64	1146.77	1154.93	0.002225	12.15	14150.56	1189.59	0.55
Reach 4	221.31	PF#2	250000.00	1131.43	1157.92	1149.93	1160.59	0.001759	13.10	19085.68	933.69	0.51
Reach 4	221.26	PF#1	169000.00	1129.24	1152.84	1143.44	1154.30	0.001002	9.72	17379.88	1260.08	0.39
Reach 4	221.26	PF#2	250000.00	1129.24	1158.03	1146.68	1160.04	0.001024	11.38	21962.80	881.94	0.40
Reach 4	221.25		Bridge									
Reach 4	221.24	PF#1	169000.00	1129.24	1152.57	1143.45	1154.04	0.001031	9.73	17364.24	1207.05	0.39
Reach 4	221.24	PF#2	250000.00	1129.24	1157.64	1146.63	1159.66	0.001055	11.40	21928.01	898.86	0.41
Reach 4	221.2	PF#1	169000.00	1128.00	1152.43	1142.34	1153.84	0.000934	9.53	17725.46	935.48	0.37
Reach 4	221.2	PF#2	250000.00	1128.00	1157.48	1145.68	1159.46	0.000985	11.28	22168.76	878.26	0.40
Reach 4	221.195		Bridge									
Reach 4	221.19	PF#1	169000.00	1128.00	1152.15	1142.36	1153.61	0.000973	9.68	17465.78	975.91	0.38
Reach 4	221.19	PF#2	250000.00	1128.00	1157.04	1145.69	1159.09	0.001044	11.50	21734.22	873.37	0.41
Reach 4	221.068	PF#1	169000.00	1128.00	1151.68	1140.86	1153.04	0.000845	9.34	18091.92	1318.25	0.36
Reach 4	221.068	PF#2	250000.00	1128.00	1156.52	1144.24	1158.48	0.000944	11.24	22236.94	858.00	0.39
Reach 4	221.064		Bridge									
Reach 4	221.061	PF#1	169000.00	1128.00	1151.35	1141.09	1152.88	0.000967	9.93	17022.97	1356.90	0.38
Reach 4	221.061	PF#2	250000.00	1128.00	1156.03	1144.55	1158.26	0.001095	11.98	20862.54	821.10	0.42
Reach 4	221.06	PF#1	169000.00	1126.00	1151.37	1141.02	1152.86	0.000926	9.80	17239.98	1328.28	0.37
Reach 4	221.06	PF#2	250000.00	1126.00	1156.06	1144.39	1158.24	0.001081	11.85	21102.21	829.10	0.41
Reach 4	221.055		Bridge									
Reach 4	221.05	PF#1	169000.00	1126.00	1151.10	1141.01	1152.66	0.000976	10.03	16849.59	1225.71	0.38
Reach 4	221.05	PF#2	250000.00	1126.00	1155.67	1144.39	1157.97	0.001166	12.16	20563.25	814.03	0.43
Reach 4	221.02	PF#1	169000.00	1130.06	1150.80	1142.44	1152.47	0.001228	10.36	16316.98	1177.43	0.42
Reach 4	221.02	PF#2	250000.00	1130.06	1155.40	1145.68	1157.75	0.001311	12.30	20320.26	869.89	0.45
Reach 4	220.92	PF#1	169000.00	1129.16	1149.90	1142.53	1151.77	0.001459	10.98	15392.57	1136.71	0.46
Reach 4	220.92	PF#2	250000.00	1129.16	1154.40	1145.83	1157.01	0.001537	12.97	19278.34	863.27	0.48
Reach 4	220.82	PF#1	169000.00	1129.56	1149.17	1141.74	1151.01	0.001437	10.89	15523.07	1147.11	0.45
Reach 4	220.82	PF#2	250000.00	1129.56	1153.63	1144.93	1156.21	0.001517	12.89	19395.79	868.33	0.48

Reach 4	220.756	PF#1	169000.00	1129.00	1149.42		1150.80	0.000173	9.42	17935.11	906.00	0.37
Reach 4	220.756	PF#2	250000.00	1129.00	1153.96		1155.96	0.000192	11.34	22046.06	906.00	0.41
Reach 4	220.755	PF#1	169000.00	1132.00	1148.65	1142.67	1150.73	0.000339	11.56	14614.52	906.00	0.51
Reach 4	220.755	PF#2	250000.00	1132.00	1153.08	1145.80	1155.87	0.000335	13.43	18621.19	906.00	0.52
Reach 4	220.752		Bridge									
Reach 4	220.75	PF#1	169000.00	1131.67	1147.99		1150.16	0.000364	11.81	14304.08	906.00	0.52
Reach 4	220.75	PF#2	250000.00	1131.67	1152.36		1155.27	0.000357	13.69	18263.19	906.00	0.54
Reach 4	220.74	PF#1	169000.00	1129.00	1148.42		1149.95	0.000931	9.92	17028.00	906.00	0.40
Reach 4	220.74	PF#2	250000.00	1129.00	1152.85		1155.04	0.001020	11.88	21036.65	906.00	0.43
Reach 4	220.735	PF#1	169000.00	1129.00	1148.38		1149.92	0.001121	9.94	16993.61	906.00	0.40
Reach 4	220.735	PF#2	250000.00	1129.00	1152.80		1155.00	0.001227	11.91	20997.95	906.00	0.44
Reach 4	220.73	PF#1	169000.00	1127.69	1147.59	1141.07	1149.62	0.001716	11.43	14781.46	1018.33	0.49
Reach 4	220.73	PF#2	250000.00	1127.69	1151.88	1144.33	1154.68	0.001811	13.43	18620.34	910.39	0.52
Reach 4	220.63	PF#1	169000.00	1127.10	1146.74	1140.26	1148.75	0.001735	11.38	14855.62	981.89	0.49
Reach 4	220.63	PF#2	250000.00	1127.10	1150.99	1143.47	1153.76	0.001790	13.36	18709.43	906.46	0.52
Reach 4	220.54	PF#1	169000.00	1127.32	1145.84	1139.56	1147.87	0.001789	11.42	14796.37	1107.03	0.50
Reach 4	220.54	PF#2	250000.00	1127.32	1150.07	1142.73	1152.86	0.001826	13.39	18670.43	915.25	0.52
Reach 4	220.45	PF#1	169000.00	1125.43	1144.97	1138.58	1146.99	0.001759	11.39	14837.15	1293.62	0.50
Reach 4	220.45	PF#2	250000.00	1125.43	1149.17	1141.77	1151.96	0.001822	13.39	18664.46	912.13	0.52
Reach 4	220.35	PF#1	169000.00	1123.99	1144.24	1137.16	1146.11	0.001554	10.95	15436.70	1375.58	0.47
Reach 4	220.35	PF#2	250000.00	1123.99	1148.41	1140.38	1151.03	0.001650	12.98	19255.71	916.62	0.50
Reach 4	220.25	PF#1	169000.00	1124.01	1143.14	1137.11	1145.23	0.001890	11.59	14576.29	1743.51	0.51
Reach 4	220.25	PF#2	250000.00	1124.01	1147.21	1140.31	1150.10	0.001953	13.64	18322.48	919.65	0.54
Reach 4	220.16	PF#1	169000.00	1124.58	1141.74	1136.93	1144.14	0.002358	12.43	13590.90	1469.68	0.57
Reach 4	220.16	PF#2	250000.00	1124.58	1145.72	1140.06	1148.99	0.002371	14.52	17221.30	912.67	0.59
Reach 4	220.06	PF#1	169000.00	1122.90	1140.72	1135.42	1142.99	0.002142	12.08	13991.98	909.53	0.54
Reach 4	220.06	PF#2	250000.00	1122.90	1144.68	1138.61	1147.81	0.002211	14.21	17591.01	909.53	0.57
Reach 4	220.05		Bridge									
Reach 4	220.03	PF#1	169000.00	1122.90	1139.74	1135.42	1142.32	0.002655	12.90	13098.31	906.62	0.60
Reach 4	220.03	PF#2	250000.00	1122.90	1143.50	1138.61	1147.06	0.002713	15.14	16514.40	906.62	0.63
Reach 4	219.88	PF#1	169000.00	1119.50	1137.45	1133.48	1140.11	0.002848	13.11	12892.66	2003.97	0.62
Reach 4	219.88	PF#2	250000.00	1119.50	1141.18	1136.61	1144.82	0.002867	15.31	16326.42	918.51	0.64
Reach 4	219.79	PF#1	169000.00	1119.30	1135.96	1132.29	1138.69	0.003007	13.26	12748.07	2039.46	0.63
Reach 4	219.79	PF#2	250000.00	1119.30	1139.76	1135.36	1143.42	0.002940	15.35	16286.95	931.90	0.65
Reach 4	219.70	PF#1	169000.00	1115.81	1134.64	1130.66	1137.22	0.002805	12.91	13092.72	2045.94	0.61
Reach 4	219.70	PF#2	250000.00	1115.81	1138.51	1133.73	1141.97	0.002727	14.92	16754.37	945.15	0.62
Reach 4	219.61	PF#1	169000.00	1112.39	1133.86	1128.54	1135.93	0.002050	11.54	14651.07	2912.71	0.53
Reach 4	219.61	PF#2	250000.00	1112.39	1137.84	1131.52	1140.65	0.002053	13.45	18582.33	988.76	0.55
Reach 4	219.51	PF#1	169000.00	1111.64	1132.93	1127.41	1134.90	0.001942	11.27	14994.46	1910.51	0.51
Reach 4	219.51	PF#2	250000.00	1111.64	1136.93	1130.34	1139.61	0.001945	13.15	19018.12	1006.16	0.53
Reach 4	219.42	PF#1	169000.00	1111.83	1132.00	1126.40	1133.94	0.001898	11.18	15122.62	2401.01	0.51
Reach 4	219.42	PF#2	250000.00	1111.83	1136.00	1129.33	1138.64	0.001905	13.04	19165.03	1010.17	0.53
Reach 4	219.33	PF#1	169000.00	1113.40	1131.10	1125.56	1133.04	0.001929	11.17	15132.27	2726.12	0.51

Reach 4	219.33	PF#2	250000.00	1113.40	1135.12	1128.53	1137.74	0.001912	12.99	19250.48	1024.86	0.53
Reach 4	219.24	PF#1	169000.00	1112.10	1130.16	1124.69	1132.12	0.001988	11.23	15052.39	2682.79	0.52
Reach 4	219.24	PF#2	250000.00	1112.10	1134.21	1127.62	1136.83	0.001941	13.00	19234.99	1032.45	0.53
Reach 4	219.14	PF#1	169000.00	1110.40	1129.20	1123.57	1131.11	0.001887	11.10	15231.01	2551.92	0.51
Reach 4	219.14	PF#2	250000.00	1110.40	1133.27	1126.52	1135.85	0.001865	12.89	19391.54	1023.27	0.52
Reach 4	219.03	PF#1	169000.00	1112.90	1127.80	1123.17	1129.95	0.002298	11.76	14371.22	1026.67	0.55
Reach 4	219.03	PF#2	250000.00	1112.90	1131.92	1126.06	1134.73	0.002150	13.44	18602.85	1026.67	0.56
Reach 4	219.02		Bridge									
Reach 4	219.01	PF#1	169000.00	1112.90	1126.36	1123.17	1129.03	0.003272	13.10	12899.13	1022.15	0.65
Reach 4	219.01	PF#2	250000.00	1112.90	1130.51	1126.06	1133.81	0.002807	14.59	17138.50	1022.16	0.63
Reach 4	218.97	PF#1	169000.00	1106.45	1126.74	1120.33	1128.50	0.001620	10.65	15870.10	1056.96	0.47
Reach 4	218.97	PF#2	250000.00	1106.45	1130.90	1123.28	1133.31	0.001640	12.46	20066.09	1009.80	0.49
Reach 4	218.965		Bridge									
Reach 4	218.96	PF#1	169000.00	1106.31	1126.03	1120.69	1128.02	0.002010	11.32	14930.77	1096.73	0.52
Reach 4	218.96	PF#2	250000.00	1106.31	1130.11	1123.61	1132.77	0.001959	13.09	19093.13	1020.44	0.53
Reach 4	218.80	PF#1	169000.00	1105.70	1124.77	1118.27	1126.50	0.001572	10.55	16024.59	2479.14	0.47
Reach 4	218.80	PF#2	250000.00	1105.70	1128.85	1121.15	1131.24	0.001619	12.40	20154.30	1011.74	0.49
Reach 4	218.71	PF#1	169000.00	1105.38	1123.63	1118.14	1125.63	0.001939	11.35	14891.05	3165.38	0.51
Reach 4	218.71	PF#2	250000.00	1105.38	1127.60	1121.08	1130.35	0.001967	13.29	18813.56	986.77	0.54
Reach 4	218.61	PF#1	169000.00	1101.91	1122.61	1117.13	1124.63	0.001987	11.40	14826.78	3020.68	0.52
Reach 4	218.61	PF#2	250000.00	1101.91	1126.59	1120.10	1129.34	0.002002	13.30	18791.97	997.32	0.54
Reach 4	218.52	PF#1	169000.00	1101.37	1121.59	1116.21	1123.62	0.002039	11.43	14788.46	2019.14	0.53
Reach 4	218.52	PF#2	250000.00	1101.37	1125.58	1119.18	1128.32	0.002020	13.29	18814.90	1008.12	0.54
Reach 4	218.42	PF#1	169000.00	1101.56	1120.20	1115.75	1122.48	0.002468	12.11	13954.49	1630.01	0.57
Reach 4	218.42	PF#2	250000.00	1101.56	1124.23	1118.70	1127.22	0.002329	13.88	18017.19	1007.80	0.58
Reach 4	218.33	PF#1	169000.00	1099.30	1119.49	1113.67	1121.29	0.001773	10.78	15672.70	1051.45	0.49
Reach 4	218.33	PF#2	250000.00	1099.30	1123.63	1116.54	1126.05	0.001732	12.48	20025.62	1051.46	0.50
Reach 4	218.24	PF#1	169000.00	1097.97	1118.20	1113.43	1120.30	0.002218	11.62	14549.14	1209.32	0.55
Reach 4	218.24	PF#2	250000.00	1097.97	1122.36	1116.31	1125.09	0.002067	13.26	18855.45	1034.86	0.55
Reach 4	218.14	PF#1	169000.00	1096.58	1117.25	1111.95	1119.21	0.001977	11.23	15052.18	1392.05	0.52
Reach 4	218.14	PF#2	250000.00	1096.58	1121.49	1114.85	1124.06	0.001867	12.87	19430.05	1032.40	0.52
Reach 4	218.04	PF#1	169000.00	1095.51	1116.27	1110.92	1118.20	0.001946	11.15	15159.64	1038.69	0.51
Reach 4	218.04	PF#2	250000.00	1095.51	1120.59	1113.81	1123.11	0.001814	12.72	19649.64	1038.69	0.52
Reach 4	217.95	PF#1	169000.00	1092.47	1115.56	1109.19	1117.24	0.001556	10.41	16240.07	1042.14	0.46
Reach 4	217.95	PF#2	250000.00	1092.47	1119.95	1112.06	1122.19	0.001507	12.02	20807.31	1042.14	0.47
Reach 4	217.86	PF#1	169000.00	1088.60	1114.82	1108.37	1116.48	0.001533	10.35	16329.44	1206.90	0.46
Reach 4	217.86	PF#2	250000.00	1088.60	1119.23	1111.23	1121.45	0.001482	11.94	20936.42	1043.82	0.47
Reach 4	217.76	PF#1	169000.00	1092.19	1111.71		1115.14	0.003729	14.86	11373.31	823.68	0.70
Reach 4	217.76	PF#2	250000.00	1092.19	1115.35		1120.05	0.003785	17.40	14371.22	823.68	0.73
Reach 4	217.66	PF#1	169000.00	1088.14	1111.41	1106.04	1113.39	0.001973	11.27	14996.01	1096.23	0.52
Reach 4	217.66	PF#2	250000.00	1088.14	1115.48	1108.98	1118.13	0.001934	13.06	19141.44	1020.69	0.53
Reach 4	217.57	PF#1	169000.00	1089.90	1110.29	1105.37	1112.33	0.002135	11.45	14759.94	1041.01	0.54
Reach 4	217.57	PF#2	250000.00	1089.90	1114.45	1108.20	1117.11	0.002004	13.10	19088.12	1041.00	0.54

Reach 4	217.48	PF#1	169000.00	1090.80	1109.43	1104.01	1111.32	0.001901	11.04	15313.32	1523.57	0.51
Reach 4	217.48	PF#2	250000.00	1090.80	1113.66	1106.86	1116.15	0.001804	12.67	19738.95	1045.77	0.51
Reach 4	217.38	PF#1	169000.00	1090.70	1108.36	1103.12	1110.33	0.002000	11.25	15019.58	1099.53	0.52
Reach 4	217.38	PF#2	250000.00	1090.70	1112.66	1106.00	1115.22	0.001865	12.84	19464.57	1034.47	0.52
Reach 4	217.29	PF#1	169000.00	1089.70	1107.06	1102.34	1109.25	0.002291	11.87	14233.94	1216.42	0.55
Reach 4	217.29	PF#2	250000.00	1089.70	1111.42	1105.28	1114.23	0.002086	13.45	18580.62	998.99	0.55
Reach 4	217.19	PF#1	169000.00	1086.43	1105.11	1101.54	1107.84	0.003099	13.26	12740.31	1366.69	0.64
Reach 4	217.19	PF#2	250000.00	1086.43	1109.64	1104.61	1112.98	0.002604	14.67	17043.30	949.32	0.61
Reach 4	217.10	PF#1	169000.00	1083.00	1104.84	1097.13	1106.55	0.001360	10.50	16092.61	1512.06	0.44
Reach 4	217.10	PF#2	250000.00	1083.00	1109.38	1100.31	1111.75	0.001407	12.36	20230.29	909.81	0.46
Reach 4	217.00	PF#1	169000.00	1081.30	1104.25	1096.16	1105.90	0.001261	10.32	16375.68	1667.39	0.43
Reach 4	217.00	PF#2	250000.00	1081.30	1108.76	1099.33	1111.08	0.001330	12.22	20463.28	905.09	0.45
Reach 4	216.91	PF#1	169000.00	1082.32	1103.31	1096.35	1105.17	0.001545	10.97	15407.07	1820.47	0.47
Reach 4	216.91	PF#2	250000.00	1082.32	1107.75	1099.52	1110.32	0.001582	12.87	19427.29	904.45	0.49
Reach 4	216.81	PF#1	169000.00	1079.55	1102.77	1094.42	1104.41	0.001231	10.27	16453.91	1747.46	0.42
Reach 4	216.81	PF#2	250000.00	1079.55	1107.19	1097.65	1109.52	0.001331	12.25	20406.62	895.21	0.45
Reach 4	216.72	PF#1	169000.00	1080.17	1102.29	1093.19	1103.80	0.001078	9.88	17098.29	897.91	0.40
Reach 4	216.72	PF#2	250000.00	1080.17	1106.65	1096.44	1108.85	0.001200	11.89	21020.72	897.91	0.43
Reach 4	216.62	PF#1	169000.00	1078.33	1101.44	1093.68	1103.15	0.001429	10.52	16066.52	1054.16	0.45
Reach 4	216.62	PF#2	250000.00	1078.33	1105.78	1096.92	1108.16	0.001476	12.38	20196.15	951.32	0.47
Reach 4	216.52	PF#1	169000.00	1083.20	1100.20	1094.30	1102.27	0.002072	11.53	14653.10	999.72	0.53
Reach 4	216.52	PF#2	250000.00	1083.20	1104.63	1097.53	1107.29	0.001904	13.11	19076.66	999.72	0.53
Reach 4	216.505		Bridge									
Reach 4	216.49	PF#1	169000.00	1083.20	1098.53	1094.30	1101.15	0.002871	12.99	13010.97	949.05	0.62
Reach 4	216.49	PF#2	250000.00	1083.20	1102.95	1097.53	1106.23	0.002507	14.53	17203.72	949.02	0.60
Reach 4	216.42	PF#1	169000.00	1082.00	1098.86	1093.08	1100.93	0.001943	11.56	14613.77	1034.26	0.52
Reach 4	216.42	PF#2	250000.00	1082.00	1103.27	1096.26	1106.02	0.001861	13.30	18792.91	946.84	0.53
Reach 4	216.33	PF#1	169000.00	1080.80	1098.36	1091.42	1099.99	0.001446	10.25	16490.19	1473.76	0.45
Reach 4	216.33	PF#2	250000.00	1080.80	1102.89	1094.39	1105.06	0.001397	11.82	21146.39	1026.33	0.46
Reach 4	216.23	PF#1	169000.00	1078.50	1097.99	1089.39	1099.28	0.001058	9.13	18502.61	1738.54	0.39
Reach 4	216.23	PF#2	250000.00	1078.50	1102.59	1092.46	1104.35	0.001058	10.64	23486.73	1083.71	0.40
Reach 4	216.13	PF#1	169000.00	1078.00	1097.54	1088.74	1098.73	0.000954	8.75	19304.38	2129.81	0.37
Reach 4	216.13	PF#2	250000.00	1078.00	1102.16	1091.59	1103.78	0.000960	10.23	24447.81	1113.68	0.38
Reach 4	216.04	PF#1	169000.00	1077.50	1096.93	1088.53	1098.22	0.001041	9.13	18516.63	1448.65	0.39
Reach 4	216.04	PF#2	250000.00	1077.50	1101.49	1091.38	1103.27	0.001056	10.68	23398.42	1069.84	0.40
Reach 4	215.94	PF#1	169000.00	1077.80	1093.70	1090.85	1097.08	0.004115	14.74	11462.80	984.02	0.73
Reach 4	215.94	PF#2	250000.00	1077.80	1098.07	1094.39	1102.15	0.003393	16.21	15422.06	906.67	0.69
Reach 4	215.84	PF#1	169000.00	1075.80	1091.72	1088.75	1094.94	0.003648	14.42	11721.69	870.82	0.69
Reach 4	215.84	PF#2	250000.00	1075.80	1096.56	1091.96	1100.38	0.002908	15.68	15938.82	870.81	0.65
Reach 4	215.82	PF#1	169000.00	1076.00	1091.84	1087.04	1094.37	0.002408	12.75	13249.74	860.86	0.57
Reach 4	215.82	PF#2	250000.00	1076.00	1096.68	1090.26	1099.88	0.002149	14.35	17418.28	860.86	0.56
Reach 4	215.815		Bridge									

Reach 4	215.81	PF#1	169000.00	1076.00	1090.81	1087.04	1093.71	0.003024	13.67	12363.78	860.84	0.64
Reach 4	215.81	PF#2	250000.00	1076.00	1095.28	1090.26	1098.98	0.002717	15.42	16213.28	860.84	0.63
Reach 4	215.75	PF#1	169000.00	1073.60	1088.45	1086.84	1092.56	0.005283	16.27	10385.48	854.81	0.82
Reach 4	215.75	PF#2	250000.00	1073.60	1093.71	1090.16	1098.09	0.003541	16.80	14883.04	854.81	0.71
Reach 4	215.65	PF#1	169000.00	1068.30	1088.28	1082.43	1090.46	0.001959	11.87	14233.05	890.00	0.52
Reach 4	215.65	PF#2	250000.00	1068.30	1093.75	1085.68	1096.41	0.001633	13.09	19105.78	890.00	0.50
Reach 4	215.56	PF#1	169000.00	1066.10	1087.99	1079.21	1089.55	0.001145	10.02	16860.06	907.88	0.41
Reach 4	215.56	PF#2	250000.00	1066.10	1093.55	1082.47	1095.57	0.001063	11.41	21911.80	907.88	0.41
Reach 4	215.46	PF#1	169000.00	1064.60	1087.61	1077.69	1088.98	0.000932	9.38	18010.01	916.86	0.37
Reach 4	215.46	PF#2	250000.00	1064.60	1093.21	1080.91	1095.02	0.000898	10.80	23147.93	916.85	0.38
Reach 4	215.36	PF#1	169000.00	1063.00	1087.34	1075.38	1088.49	0.000701	8.61	19624.38	3559.81	0.33
Reach 4	215.36	PF#2	250000.00	1063.00	1092.96	1078.70	1094.54	0.000717	10.09	24786.91	919.00	0.34
Reach 4	215.27	PF#1	169000.00	1063.50	1086.84	1076.05	1088.11	0.000846	9.02	18737.07	3991.57	0.36
Reach 4	215.27	PF#2	250000.00	1063.50	1092.48	1079.32	1094.15	0.000824	10.39	24050.39	943.30	0.36
Reach 4	215.18	PF#1	169000.00	1062.20	1081.87	1079.46	1086.91	0.004582	18.01	9383.28	686.95	0.80
Reach 4	215.18	PF#2	250000.00	1062.20	1085.26	1083.76	1092.74	0.005328	21.94	11393.92	593.90	0.88
Reach 4	215.09	PF#1	169000.00	1061.70	1081.09	1076.40	1084.77	0.002894	15.38	10986.15	619.02	0.64
Reach 4	215.09	PF#2	250000.00	1061.70	1084.38	1080.52	1090.10	0.003645	19.20	13020.19	619.02	0.74
Reach 4	214.99	PF#1	169000.00	1061.30	1079.92	1075.60	1083.17	0.002926	14.48	11673.56	727.59	0.64
Reach 4	214.99	PF#2	250000.00	1061.30	1083.09	1079.28	1088.06	0.003545	17.87	13986.33	727.58	0.72
Reach 4	214.9	PF#1	169000.00	1061.20	1078.13	1074.96	1081.52	0.003588	14.78	11435.69	934.52	0.69
Reach 4	214.9	PF#2	250000.00	1061.20	1080.60	1078.38	1085.97	0.004629	18.61	13432.45	810.50	0.81
Reach 4	214.79	PF#1	169000.00	1057.60	1078.39	1070.73	1079.83	0.001221	9.62	17558.59	1056.42	0.42
Reach 4	214.79	PF#2	250000.00	1057.60	1081.36	1073.65	1083.62	0.001557	12.08	20691.19	1056.41	0.48
Reach 4	214.785		Bridge									
Reach 4	214.78	PF#1	169000.00	1058.80	1078.06	1070.74	1079.56	0.001306	9.83	17191.94	1054.44	0.43
Reach 4	214.78	PF#2	250000.00	1058.80	1080.83	1073.66	1083.23	0.001707	12.43	20108.89	1054.44	0.50
Reach 4	214.71	PF#1	169000.00	1055.10	1077.48	1069.32	1079.15	0.001272	10.38	16287.08	901.57	0.43
Reach 4	214.71	PF#2	250000.00	1055.10	1079.73	1072.58	1082.62	0.001892	13.64	18322.55	901.57	0.53
Reach 4	214.61	PF#1	169000.00	1050.40	1077.25	1064.30	1078.56	0.000723	9.21	18346.35	792.44	0.34
Reach 4	214.61	PF#2	250000.00	1050.40	1079.30	1068.01	1081.73	0.001199	12.52	19972.54	792.44	0.44
Reach 4	214.52	PF#1	169000.00	1048.00	1077.35	1060.66	1078.15	0.000391	7.19	23492.42	928.22	0.25
Reach 4	214.52	PF#2	250000.00	1048.00	1079.53	1064.04	1081.02	0.000653	9.80	25517.46	928.22	0.33
Reach 4	214.42	PF#1	169000.00	1048.20	1077.32	1059.41	1077.93	0.000288	6.27	26966.84	1193.48	0.22
Reach 4	214.42	PF#2	250000.00	1048.20	1079.50	1062.51	1080.63	0.000483	8.55	29239.94	1041.69	0.28
Reach 4	214.33	PF#1	169000.00	1048.50	1076.88	1060.45	1077.73	0.000413	7.40	22823.47	1266.44	0.26
Reach 4	214.33	PF#2	250000.00	1048.50	1078.67	1063.89	1080.30	0.000724	10.23	24430.82	899.54	0.35
Reach 4	214.23	PF#1	169000.00	1048.70	1075.93	1062.88	1077.39	0.000784	9.71	17406.42	1126.00	0.35
Reach 4	214.23	PF#2	250000.00	1048.70	1076.61	1066.85	1079.63	0.001563	13.96	17909.47	738.00	0.50
Reach 4	214.14	PF#1	169000.00	1048.70	1075.49	1062.70	1076.99	0.000805	9.84	17171.67	1257.06	0.36
Reach 4	214.14	PF#2	250000.00	1048.70	1075.50	1066.63	1078.79	0.001759	14.55	17178.94	726.84	0.53