

DS #: 4520

APN: 138-15-510-005

PROJECT: MOUNTAIN VIEW HOSPITAL -
EMERGENCY & ICU ADDITIONS

SUBMITTAL: 2ND

SCANNED BY/DATE: _____

CHECKED BY/DATE: _____



CITY OF LAS VEGAS INTER-OFFICE MEMORANDUM		DATE: March 29, 2011
TO: Land Development Services Department of Public Works		FROM: Albert Sung, P.E. Flood Control Project Engineer Department of Public Works
SUBJECT:	Drainage Study for:	
	Mountain View Hospital – Emergency & ICU Additions	
Cross Streets:	SEC of Cheyenne Boulevard & Tenaya Way	
File Number:	F:\Depot\DSMemos\DS4520B.doc	
Parcel Number:	138-15-510-005	
Zoning Action:	SDR-40551 & SUP-40552	
FEMA Flood Zone	YES	NO X
Proposed Storm Drain	YES	NO X
COPIES TO:		Littlejohn Engineering Associates Sunrise Mountain View Hospital Bart Anderson, P.E., DevCo

HISTORY	DATE RECEIVED	DATE REVIEWED	COMMENTS	REVIEW FEES	FEES PAID Transaction #
1 st Submittal	2/9/2011	2/24/2011	Not Approved	\$400.00	162325: \$400
2 nd Submittal	3/16/2011	3/29/2011	See Comments Below	\$400.00	164589: \$400
			TOTAL FEES (LDDRS):	\$800.00	----

REMARKS:

The Drainage Study for the subject project has been reviewed and:

X	is approved subject to conformance to all City standards and the following conditions:
	must be resubmitted or supplemented including the following:
	is conditionally approved subject to Clark County Regional Flood Control District concurrence.
	is conditionally approved subject to NDOT concurrence.

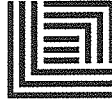
NOTE: Any future changes to the proposed design (or design assumptions) as outlined in the approved drainage study and attached preliminary grading plan which affect drainage must be addressed in a Drainage Study Amendment and accepted by the *City of Las Vegas Flood Control Section*. Additionally, conditional acceptance of a drainage study is valid for a period of one (1) year. If the proposed construction has not been completed in that time period, the *City of Las Vegas* reserves the right to require additional conditions and/or submission and acceptance of a complete drainage study update prior to further construction of a project.

NOTE: Please be advised that all land surface area disturbances over 1 acre or any area adjacent to a water way must submit to the *Nevada Division of Environmental Protection* a "Notice of Intent" to discharge that certifies a stormwater pollution prevention plan has been developed and is maintained on site; for inclusion in the Stormwater General Permit No. NVR100000. A phased construction unit in a contiguous subdivision is considered under construction until all stripped or disturbed surface areas have been covered by paving, building construction or planting. For more information, including forms and applications see <http://ndep.nv.gov/bwpc/storm01.htm> or call (775) 687-9429.

NOTE: This drainage study assumes that the project will be constructed in one phase. If improvement plans are submitted to break the project into separate phases, a drainage study update will be required for each phase addressing the interim condition.

END OF REMARKS
ays

T/R/S: T20S/R60E/15
AREA L-15



Rec'd: 3/16/11

LITTLEJOHN ENGINEERING ASSOCIATES

DS 4520

March 15, 2011

Mr. Albert Sung, P.E.
City of Las Vegas
333 N. Rancho Drive
Las Vegas, Nevada 89106

L-15

\$400

RE: MountainView Hospital (DS 1374)
Las Vegas, Nevada

Dear Mr. Sung:

Please consider this submittal as a formal response to comments received from your department in reference to our Drainage Study for the above referenced project. Below, you will find a summary of all comments, followed by a description of how each item has been addressed.

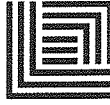
1. Provide a copy of the zoning/planning conditions associated with this site (SDR-40551 & SUP-40552) with the next submittal to verify compliance with conditions. Flood Control will not issue conditional approval of the drainage study without the associated zoning/planning conditions (issued by the City Council). Any associated conditions of approval that revise the site drainage parameters will require that the drainage study be revised and resubmitted.
 - ❖ *Included with this submittal, you will find the conditions handed down by the Planning Commission. The City Council will hear this project on Wednesday, March 15. If any additional conditions are applied to the project at that meeting, they will be sent to you when issued.*
2. City of Las Vegas does not allow HDPE pipe in public rights-of-way or public drainage easements. City of Las Vegas only allows the use of HDPE storm drain pipe for privately owned and privately maintained storm drain systems, which serve and are located exclusively on private property. Any proposed HDPE storm drain pipe must also meet all design criteria established by the Clark County Regional Flood Control District and must be installed per Clark County Regional Transportation Commission Uniform Standard Drawings and Specifications.
 - ❖ *Although all proposed storm sewer is to be privately owned and maintained, the proposed HDPE pipe has been removed from the drawings. RCP storm pipe is now proposed for all storm sewer lines.*
3. Provide a note on all construction drawings: "All onsite storm drain systems and the associated facilities are privately owned and maintained."
 - ❖ *The note has been added to all Grading and Drainage Plan sheets.*
4. Grading Plans and Drainage Plans are to be distinguished. Revised Sheet 6.0 to title "Drainage Plan" while Sheets 6.1 to 6.3 to title "Grading Plan." The drainage plan should clearly include drainage sub-basins delineation and provide a table for information such as sub-basin names and areas, 10-Year/100-Year peak flow values.
 - ❖ *The sheets have been re-titled accordingly, and a table has been added to the Drainage Plan to include all of the requested information.*
5. Provide specific manufacturer's name, type, and size of all proposed onsite storm drain inlets (catch basins) and manhole information in the description column of the construction notes.
 - ❖ *Notes have been added to the Grading Plan sheets to specify Jensen Precast products. Specific model numbers and sizes have also been provided in the notes for all inlets, the proposed manhole, and the proposed headwall. Furthermore, specific manufacturer information has been added to the details for these structures on sheet C8.1.*

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6. It is understood that the label of '15"ST' means 15" storm drain pipe. However, it is customary in the City of Las Vegas area to call out as '15"SD'. Review and revise accordingly.
 - ❖ *The storm drain pipe labels have been revised accordingly.*
7. Sheets C6.1 and C6.2: Provide proposed top of curb (TC) and finish grade (FG) elevations at all control points of curb & gutter such as BCR/ECR and angle points, grade breaks, etc. Contractor cannot construct per contour lines only. Label the finish floor elevation of the existing hospital building and the proposed helipad.
 - ❖ *TC and FG elevations have been added to the plans as requested. Additionally, finished floor elevations have been provided for the existing powerhouse, proposed powerhouse addition, existing hospital, proposed hospital addition, and the proposed helipad.*
8. Sheet C6.3: Clarify what are proposed in the southwest entrance in Tenaya Way. Provide the finish floor elevations of the existing and proposed powerhouse building. Provide TC and FG elevations as stated in comment #7.
 - ❖ *The work in the southwest entrance in Tenaya Way is to replace two handicap accessible ramps per a request from the City of Las Vegas. They have now been labeled to convey this information. Finished floor elevations have been provided for the existing powerhouse, proposed powerhouse addition, existing hospital, proposed hospital addition, and the proposed helipad. Additionally, TC and FG elevations have been added to the plans as requested.*

In addition to these changes, and per your phone conversation with George Huddleston in our office, we have revised our storm sewer network to discharge into the existing pond rather than into the existing drop inlet. There is an existing 18" pipe that leaves the pond, yet due to shallow slopes on our pipes, we had to use a 30" pipe to properly convey the discharge into the pond. Per your request, we modeled this pond to ensure that it would not overtop. Included in this submittal, you will find time vs. elevation routing information for the 10-, 50-, and 100-year storm events. All storms modeled are adequately contained within the existing pond.

Sincerely,

LITTLEJOHN ENGINEERING ASSOCIATES, INC.

James H. Littlejohn, PE

Type.... Time-Elev

Page 10.01

Name.... POND 10 OUT Tag: 10

Event: 10 yr

File.... G:\projects\2009\29187\Engineering\PondPack\29187.ppw

Storm... TypeII 24hr Tag: 10

TIME vs. ELEVATION (ft)

Time hrs	Output Time increment = .0500 hrs				
	Time on left represents time for first value in each row.				
4.8000	18.54	18.54	18.54	18.55	18.55
5.0500	18.55	18.56	18.56	18.56	18.57
5.3000	18.57	18.57	18.58	18.58	18.58
5.5500	18.58	18.59	18.59	18.59	18.60
5.8000	18.60	18.61	18.61	18.61	18.62
6.0500	18.62	18.62	18.63	18.63	18.63
6.3000	18.64	18.64	18.64	18.64	18.64
6.5500	18.64	18.65	18.65	18.65	18.65
6.8000	18.65	18.65	18.65	18.65	18.66
7.0500	18.66	18.66	18.66	18.66	18.66
7.3000	18.66	18.67	18.67	18.67	18.67
7.5500	18.67	18.67	18.67	18.67	18.68
7.8000	18.68	18.68	18.68	18.68	18.68
8.0500	18.69	18.69	18.69	18.69	18.69
8.3000	18.70	18.70	18.70	18.71	18.71
8.5500	18.71	18.72	18.72	18.72	18.73
8.8000	18.73	18.73	18.74	18.74	18.74
9.0500	18.74	18.75	18.75	18.75	18.75
9.3000	18.75	18.75	18.76	18.76	18.76
9.5500	18.76	18.76	18.76	18.76	18.77
9.8000	18.77	18.77	18.78	18.78	18.78
10.0500	18.79	18.79	18.80	18.80	18.81
10.3000	18.81	18.82	18.82	18.83	18.84
10.5500	18.84	18.84	18.85	18.85	18.86
10.8000	18.87	18.87	18.88	18.89	18.89
11.0500	18.90	18.91	18.92	18.93	18.94
11.3000	18.95	18.96	18.97	18.99	19.00
11.5500	19.02	19.06	19.12	19.21	19.33
11.8000	19.47	19.64	19.85	20.03	20.16
12.0500	20.22	20.19	20.11	20.02	19.94
12.3000	19.87	19.79	19.73	19.66	19.60
12.5500	19.55	19.50	19.45	19.40	19.36
12.8000	19.33	19.29	19.26	19.24	19.21
13.0500	19.19	19.16	19.14	19.13	19.11
13.3000	19.09	19.08	19.07	19.05	19.04
13.5500	19.03	19.02	19.01	19.00	18.99
13.8000	18.98	18.97	18.97	18.96	18.95
14.0500	18.95	18.94	18.93	18.93	18.92
14.3000	18.91	18.91	18.90	18.90	18.90
14.5500	18.89	18.89	18.89	18.88	18.88
14.8000	18.88	18.88	18.87	18.87	18.87
15.0500	18.87	18.87	18.86	18.86	18.86
15.3000	18.86	18.86	18.85	18.85	18.85

Type.... Time-Elev

Page 10.02

Name.... POND 10 OUT Tag: 10

Event: 10 yr

File.... G:\projects\2009\29187\Engineering\PondPack\29187.ppw

Storm... TypeII 24hr Tag: 10

TIME vs. ELEVATION (ft)

Time hrs	Output Time increment = .0500 hrs Time on left represents time for first value in each row.				
15.5500	18.85	18.85	18.84	18.84	18.84
15.8000	18.84	18.83	18.83	18.83	18.83
16.0500	18.82	18.82	18.82	18.82	18.82
16.3000	18.81	18.81	18.81	18.81	18.81
16.5500	18.81	18.81	18.81	18.81	18.81
16.8000	18.80	18.80	18.80	18.80	18.80
17.0500	18.80	18.80	18.80	18.80	18.80
17.3000	18.80	18.79	18.79	18.79	18.79
17.5500	18.79	18.79	18.79	18.79	18.79
17.8000	18.79	18.79	18.79	18.78	18.78
18.0500	18.78	18.78	18.78	18.78	18.78
18.3000	18.78	18.78	18.78	18.78	18.78
18.5500	18.77	18.77	18.77	18.77	18.77
18.8000	18.77	18.77	18.77	18.77	18.77
19.0500	18.77	18.77	18.76	18.76	18.76
19.3000	18.76	18.76	18.76	18.76	18.76
19.5500	18.76	18.76	18.76	18.76	18.75
19.8000	18.75	18.75	18.75	18.75	18.75
20.0500	18.75	18.75	18.75	18.75	18.75
20.3000	18.75	18.75	18.75	18.75	18.75
20.5500	18.75	18.75	18.74	18.74	18.74
20.8000	18.74	18.74	18.74	18.74	18.74
21.0500	18.74	18.74	18.74	18.74	18.74
21.3000	18.74	18.74	18.74	18.74	18.74
21.5500	18.74	18.74	18.74	18.74	18.74
21.8000	18.74	18.74	18.74	18.74	18.74
22.0500	18.74	18.74	18.74	18.74	18.74
22.3000	18.74	18.74	18.74	18.74	18.74
22.5500	18.74	18.74	18.74	18.74	18.74
22.8000	18.74	18.74	18.74	18.74	18.73
23.0500	18.73	18.73	18.73	18.73	18.73
23.3000	18.73	18.73	18.73	18.73	18.73
23.5500	18.73	18.73	18.73	18.73	18.73
23.8000	18.73	18.73	18.73	18.73	18.73
24.0500	18.72	18.70	18.67	18.65	18.59
24.3000	18.55	18.54			

Type.... Time-Elev

Page 10.03

Name.... POND 10 OUT Tag: 50

Event: 50 yr

File.... G:\projects\2009\29187\Engineering\PondPack\29187.ppw

Storm... TypeII 24hr Tag: 50

TIME vs. ELEVATION (ft)

Time hrs	Output Time increment = .0500 hrs				
	Time on left represents time for first value in each row.				
3.4000	18.54	18.54	18.55	18.55	18.55
3.6500	18.56	18.56	18.57	18.57	18.58
3.9000	18.58	18.59	18.59	18.60	18.60
4.1500	18.61	18.61	18.62	18.62	18.63
4.4000	18.63	18.64	18.64	18.64	18.64
4.6500	18.65	18.65	18.65	18.65	18.65
4.9000	18.65	18.66	18.66	18.66	18.66
5.1500	18.66	18.67	18.67	18.67	18.67
5.4000	18.67	18.68	18.68	18.68	18.68
5.6500	18.68	18.69	18.69	18.69	18.69
5.9000	18.70	18.70	18.70	18.70	18.70
6.1500	18.71	18.71	18.71	18.71	18.72
6.4000	18.72	18.72	18.72	18.72	18.73
6.6500	18.73	18.73	18.73	18.74	18.74
6.9000	18.74	18.74	18.74	18.74	18.74
7.1500	18.75	18.75	18.75	18.75	18.75
7.4000	18.75	18.75	18.76	18.76	18.76
7.6500	18.76	18.76	18.76	18.76	18.77
7.9000	18.77	18.77	18.77	18.77	18.77
8.1500	18.78	18.78	18.78	18.78	18.79
8.4000	18.79	18.79	18.80	18.80	18.81
8.6500	18.81	18.81	18.82	18.82	18.83
8.9000	18.83	18.84	18.84	18.84	18.84
9.1500	18.85	18.85	18.85	18.85	18.85
9.4000	18.86	18.86	18.86	18.86	18.86
9.6500	18.86	18.87	18.87	18.87	18.88
9.9000	18.88	18.89	18.89	18.90	18.90
10.1500	18.91	18.91	18.92	18.92	18.93
10.4000	18.94	18.94	18.95	18.96	18.96
10.6500	18.97	18.97	18.98	18.99	19.00
10.9000	19.01	19.02	19.03	19.04	19.05
11.1500	19.06	19.07	19.09	19.10	19.12
11.4000	19.14	19.16	19.18	19.21	19.26
11.6500	19.35	19.48	19.64	19.82	20.03
11.9000	20.31	20.58	20.77	20.86	20.82
12.1500	20.71	20.58	20.47	20.36	20.25
12.4000	20.16	20.06	19.98	19.90	19.82
12.6500	19.76	19.69	19.63	19.58	19.53
12.9000	19.49	19.45	19.41	19.38	19.35
13.1500	19.32	19.30	19.27	19.25	19.23
13.4000	19.21	19.20	19.18	19.17	19.15
13.6500	19.14	19.13	19.12	19.10	19.09
13.9000	19.08	19.08	19.07	19.06	19.05

Type.... Time-Elev

Page 10.04

Name.... POND 10 OUT Tag: 50

Event: 50 yr

File.... G:\projects\2009\29187\Engineering\PondPack\29187.ppw

Storm... TypeII 24hr Tag: 50

TIME vs. ELEVATION (ft)

Time hrs	Output Time increment = .0500 hrs Time on left represents time for first value in each row.				
14.1500	19.04	19.04	19.03	19.02	19.02
14.4000	19.01	19.01	19.00	19.00	18.99
14.6500	18.99	18.99	18.98	18.98	18.98
14.9000	18.97	18.97	18.97	18.96	18.96
15.1500	18.96	18.96	18.95	18.95	18.95
15.4000	18.95	18.94	18.94	18.94	18.93
15.6500	18.93	18.93	18.92	18.92	18.92
15.9000	18.91	18.91	18.91	18.90	18.90
16.1500	18.90	18.90	18.89	18.89	18.89
16.4000	18.89	18.89	18.89	18.88	18.88
16.6500	18.88	18.88	18.88	18.88	18.88
16.9000	18.88	18.87	18.87	18.87	18.87
17.1500	18.87	18.87	18.87	18.87	18.87
17.4000	18.87	18.86	18.86	18.86	18.86
17.6500	18.86	18.86	18.86	18.86	18.86
17.9000	18.85	18.85	18.85	18.85	18.85
18.1500	18.85	18.85	18.85	18.85	18.85
18.4000	18.84	18.84	18.84	18.84	18.84
18.6500	18.84	18.84	18.84	18.83	18.83
18.9000	18.83	18.83	18.83	18.83	18.83
19.1500	18.82	18.82	18.82	18.82	18.82
19.4000	18.82	18.82	18.81	18.81	18.81
19.6500	18.81	18.81	18.81	18.81	18.81
19.9000	18.80	18.80	18.80	18.80	18.80
20.1500	18.80	18.80	18.80	18.80	18.80
20.4000	18.79	18.79	18.79	18.79	18.79
20.6500	18.79	18.79	18.79	18.79	18.79
20.9000	18.79	18.79	18.79	18.79	18.79
21.1500	18.79	18.79	18.79	18.79	18.79
21.4000	18.79	18.79	18.79	18.79	18.79
21.6500	18.79	18.79	18.79	18.79	18.79
21.9000	18.79	18.79	18.79	18.79	18.79
22.1500	18.78	18.78	18.78	18.78	18.78
22.4000	18.78	18.78	18.78	18.78	18.78
22.6500	18.78	18.78	18.78	18.78	18.78
22.9000	18.78	18.78	18.78	18.78	18.78
23.1500	18.78	18.78	18.78	18.78	18.78
23.4000	18.78	18.78	18.78	18.78	18.78
23.6500	18.78	18.78	18.78	18.78	18.78
23.9000	18.78	18.78	18.78	18.77	18.75
24.1500	18.72	18.68	18.65	18.62	18.56
24.4000	18.55				

Type.... Time-Elev

Page 10.05

Name.... POND 10 OUT Tag: 100

Event: 100 yr

File.... G:\projects\2009\29187\Engineering\PondPack\29187.ppw

Storm... TypeII 24hr Tag: 100

TIME vs. ELEVATION (ft)

Time hrs	Output Time increment = .0500 hrs				
	Time on left represents time for first value in each row.				
3.1500	18.54	18.54	18.55	18.55	18.56
3.4000	18.56	18.57	18.57	18.58	18.59
3.6500	18.59	18.60	18.60	18.61	18.61
3.9000	18.62	18.62	18.63	18.64	18.64
4.1500	18.64	18.64	18.64	18.65	18.65
4.4000	18.65	18.65	18.65	18.66	18.66
4.6500	18.66	18.66	18.66	18.67	18.67
4.9000	18.67	18.67	18.68	18.68	18.68
5.1500	18.68	18.68	18.69	18.69	18.69
5.4000	18.69	18.70	18.70	18.70	18.70
5.6500	18.71	18.71	18.71	18.71	18.72
5.9000	18.72	18.72	18.72	18.73	18.73
6.1500	18.73	18.73	18.74	18.74	18.74
6.4000	18.74	18.74	18.74	18.74	18.75
6.6500	18.75	18.75	18.75	18.75	18.75
6.9000	18.76	18.76	18.76	18.76	18.76
7.1500	18.76	18.77	18.77	18.77	18.77
7.4000	18.77	18.77	18.77	18.78	18.78
7.6500	18.78	18.78	18.78	18.78	18.79
7.9000	18.79	18.79	18.79	18.79	18.80
8.1500	18.80	18.80	18.80	18.81	18.81
8.4000	18.81	18.82	18.82	18.83	18.83
8.6500	18.84	18.84	18.84	18.85	18.85
8.9000	18.85	18.86	18.86	18.86	18.87
9.1500	18.87	18.87	18.87	18.88	18.88
9.4000	18.88	18.88	18.88	18.89	18.89
9.6500	18.89	18.89	18.90	18.90	18.90
9.9000	18.91	18.91	18.92	18.93	18.93
10.1500	18.94	18.94	18.95	18.95	18.96
10.4000	18.96	18.97	18.98	18.98	18.99
10.6500	19.00	19.01	19.02	19.03	19.04
10.9000	19.05	19.05	19.06	19.08	19.09
11.1500	19.10	19.11	19.13	19.15	19.16
11.4000	19.18	19.20	19.22	19.26	19.32
11.6500	19.41	19.55	19.71	19.90	20.13
11.9000	20.44	20.73	20.94	21.04	21.00
12.1500	20.88	20.75	20.62	20.49	20.38
12.4000	20.28	20.18	20.08	20.00	19.92
12.6500	19.84	19.77	19.71	19.65	19.60
12.9000	19.55	19.51	19.47	19.43	19.40
13.1500	19.37	19.34	19.32	19.29	19.27
13.4000	19.25	19.23	19.22	19.20	19.19
13.6500	19.17	19.16	19.15	19.14	19.13

TIME vs. ELEVATION (ft)

Time hrs	Output Time increment = .0500 hrs Time on left represents time for first value in each row.				
13.9000	19.11	19.11	19.10	19.09	19.08
14.1500	19.07	19.06	19.06	19.05	19.05
14.4000	19.04	19.04	19.03	19.03	19.02
14.6500	19.02	19.01	19.01	19.01	19.00
14.9000	19.00	18.99	18.99	18.99	18.99
15.1500	18.98	18.98	18.98	18.97	18.97
15.4000	18.97	18.96	18.96	18.96	18.96
15.6500	18.95	18.95	18.95	18.95	18.94
15.9000	18.94	18.94	18.93	18.93	18.92
16.1500	18.92	18.92	18.92	18.91	18.91
16.4000	18.91	18.91	18.91	18.90	18.90
16.6500	18.90	18.90	18.90	18.90	18.90
16.9000	18.89	18.89	18.89	18.89	18.89
17.1500	18.89	18.89	18.89	18.88	18.88
17.4000	18.88	18.88	18.88	18.88	18.88
17.6500	18.88	18.88	18.87	18.87	18.87
17.9000	18.87	18.87	18.87	18.87	18.87
18.1500	18.87	18.86	18.86	18.86	18.86
18.4000	18.86	18.86	18.86	18.86	18.86
18.6500	18.85	18.85	18.85	18.85	18.85
18.9000	18.85	18.85	18.85	18.84	18.84
19.1500	18.84	18.84	18.84	18.84	18.84
19.4000	18.83	18.83	18.83	18.83	18.83
19.6500	18.83	18.83	18.82	18.82	18.82
19.9000	18.82	18.82	18.82	18.81	18.81
20.1500	18.81	18.81	18.81	18.81	18.81
20.4000	18.81	18.81	18.81	18.81	18.81
20.6500	18.81	18.81	18.81	18.81	18.81
20.9000	18.81	18.80	18.80	18.80	18.80
21.1500	18.80	18.80	18.80	18.80	18.80
21.4000	18.80	18.80	18.80	18.80	18.80
21.6500	18.80	18.80	18.80	18.80	18.80
21.9000	18.80	18.80	18.80	18.80	18.80
22.1500	18.80	18.80	18.80	18.80	18.80
22.4000	18.80	18.80	18.80	18.80	18.80
22.6500	18.79	18.79	18.79	18.79	18.79
22.9000	18.79	18.79	18.79	18.79	18.79
23.1500	18.79	18.79	18.79	18.79	18.79
23.4000	18.79	18.79	18.79	18.79	18.79
23.6500	18.79	18.79	18.79	18.79	18.79
23.9000	18.79	18.79	18.79	18.78	18.76
24.1500	18.74	18.69	18.66	18.64	18.57
24.4000	18.55	18.54			