

**TRAVERSE MOUNTAIN
ROAD IMPROVEMENTS
PRELIMINARY ENGINEER'S ESTIMATE
6/13/2012**

2011 Area Plan					
Item	Quantity	Unit	Unit Cost		Total Cost
Additional Road Improvements Needed To Meet 5812 Units					
500 West (Half Width Equals 40')					
Pavement (3" Asphalt over 6" Road Base)(29' Pavement)	43,500	Square Feet	\$	3.13	\$ (135,938)
Curb, Gutter, and Sidewalk (one side)	1,500	Linear Feet	\$	37.50	\$ (56,250)
Frontage Road					
Pavement (3" Asphalt & 6" Road Base)(Upsize from 22' to 42' Pavement)(7,500 LF)	150,000	Square Feet	\$	3.13	\$ (468,750)
Overlay (24')	180,000	Square Feet	\$	1.56	\$ (281,250)
Flight Park Road					
Pavement (3" Asphalt & 6" Road Base)(40' Pavement)(4,500 LF)	180,000	Square Feet	\$	3.13	\$ (562,500)
Traverse Mountain Blvd Extension to East Frontage Road (North of Pilgrim's Landing Facility)					
Pavement (3" Asphalt & 6" Road Base)(66' Pavement)(1500 LF)	99,000	Square Feet	\$	3.13	\$ (309,375)
Curb, Gutter, and Sidewalk (Both Sides)	1,500	Linear Feet	\$	75.00	\$ (112,500)
Railroad Crossing	1	Lump Sum	\$	1,625,000.00	\$ (1,625,000)
Regionally Significant Improvements (1200 West, 2300 West, etc...)	1	Lump Sum	\$	1,716,000.00	\$ (1,716,000)
Onsite Signals/Round-Abouts	9	Each	\$	260,000.00	\$ (2,340,000)
Total Roadway Improvements for Oversizing & Overlays					\$ (7,607,563)

ROADWAY IMPACT FEE					
Item	Quantity	Unit	ERU	Fee/Unit	Total Impact Fee
Residential	4,612	Units		\$ 1,435.00	\$ 6,618,220
Commercial Area	270	Acres	728	\$ 1,435.00	\$ 1,044,178
Total Impact Fee					\$ 7,662,398
Net Impact Fee					\$ 54,835

Notes:

1. Costs include all engineering, surveying, and contingency fees.
2. It is assumed that the above improvements can be built as development occurs.
3. Costs do not include Right Of Way.
4. There is no oversizing reimbursement to be paid by Lehi City.

TRAVERSE MOUNTAIN
SANITARY SEWER IMPROVEMENTS
PRELIMINARY ENGINEER'S ESTIMATE
6/13/2012

2011 Area Plan

Item	Quantity	Unit	Unit Cost	Total Cost
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The Existing Sewer discharges into the West Side Sewer at Thanksgiving Point. The Existing Sewer consists of: A bore under I-15 and sewer lines along the East frontage road and SR-92

1700 West Outfall

Additional Sewer Improvements Needed To Meet 5812 Units

1900 So. To 300 No. Upsizing & Dewatering (24" RCP)	9,500	Linear Feet	\$ 81.25	\$ (771,875)
5' Diameter Manholes (12' Deep)	32	Each	\$ 6,250.00	\$ (200,000)
Main Street Bore	200	Linear Feet	\$ 450.00	\$ (90,000)
Pioneer Crossing Bore	200	Linear Feet	\$ 450.00	\$ (90,000)
Dry Creek Crossing	1	Lump Sum	\$ 37,500.00	\$ (37,500)
Road Repair	9,500	Linear Feet	\$ 62.50	\$ (593,750)
Remove Material	9,500	Linear Feet	\$ 8.75	\$ (83,125)
Import Material	9,500	Linear Feet	\$ 8.75	\$ (83,125)
300 No. to 900 No. Upsizing & Dewatering (24" RCP)	2,700	Linear Feet	\$ 81.25	\$ (219,375)
5' Diameter Manholes (12' Deep)	10	Each	\$ 6,250.00	\$ (62,500)
Waste Ditch Crossing	1	Lump Sum	\$ 37,500.00	\$ (37,500)
Road Repair	2,700	Linear Feet	\$ 62.50	\$ (168,750)
Remove Material	2,700	Linear Feet	\$ 8.75	\$ (23,625)
Import Material	2,700	Linear Feet	\$ 8.75	\$ (23,625)
1500 No. to Ashton Blvd. & Dewatering (New 24" pipe)	2,080	Linear Feet	\$ 81.25	\$ (169,000)
5' Diameter Manholes (12' Deep)	7	Each	\$ 6,250.00	\$ (43,750)
Road Repair	2,080	Linear Feet	\$ 62.50	\$ (130,000)
Remove Material	2,080	Linear Feet	\$ 8.75	\$ (18,200)
Import Material	2,080	Linear Feet	\$ 8.75	\$ (18,200)
Ashton Blvd. Along West Frontage Road (12" RCP)	3,280	Linear Feet	\$ 50.00	\$ (164,000)
5' Diameter Manholes (12' Deep)	12	Each	\$ 6,250.00	\$ (75,000)
Road Repair	3,280	Linear Feet	\$ 50.00	\$ (164,000)
Remove Material	3,280	Linear Feet	\$ 8.75	\$ (28,700)
Import Material	3,280	Linear Feet	\$ 8.75	\$ (28,700)

Total Sanitary Sewer Costs **\$ (3,324,300)**

SANITARY SEWER IMPACT FEE					Total Impact
Item	Quantity	Unit	ERU	Impact Fee	Fee
Residential	4,612	Units		\$ 460.00	\$ 2,121,520
Commercial Area	270	Acres	728	\$ 460.00	\$ 334,719
Private Recreational Area			11	\$ 460.00	\$ 5,060
Total Estimated Impact Fees					\$ 2,461,299

Net Impact Fee **\$ (863,001)**

Notes:

1. Costs include all engineering, surveying, and contingency fees.
2. Base pipe costs (dry) include manholes, laterals, and bedding.
4. Road repair includes 12" subbase, 8" base, 3" asphalt, 20' wide.
5. Road repair in wet includes 18" subbase.
6. See Map/Report for Master plan Upsizing.
7. It is assumed that existing facilities will be adequate until 1700 West system is built. The additional dollars required to build along 1700 W should be resolved through other developments along the line.

**TRAVERSE MOUNTAIN
CULINARY WATER IMPROVEMENTS
PRELIMINARY ENGINEER'S ESTIMATE
6/13/2012**

2011 Area Plan					
Item	Quantity	Unit	Unit Cost	Total Cost	
Existing Facilities Include:					
Oak Hollow Tank & Well					
Oak Hollow Booster Station					
Vialetto Tank					
Pilgrim's Landing Booster					
Additional Culinary Water Improvements Needed To Meet 5812 Units					
Wells					
Flight Park Well (1400 GPM)	1	each	\$ 1,125,000.00	\$	(1,125,000)
14" Transmission Line	400	Linear Feet	\$ 50.00	\$	(20,000)
Vialetto Well (1200 GPM)	1	each	\$ 1,500,000.00	\$	(1,500,000)
14" Transmission Line	400	Linear Feet	\$ 50.00	\$	(20,000)
Tanks					
West Canyon Tank (250,000 Gal)	250,000	Gallon	\$ 2.19	\$	(546,875)
18" Culinary Transmission Line	600	Linear Feet	\$ 75.00	\$	(45,000)
Access Road	600	Linear Feet	\$ 31.25	\$	(18,750)
Flight Park Tank (750,000 Gal)	750,000	Gallon	\$ 1.40	\$	(1,050,000)
16" Culinary Transmission Line (Flight Park To West Canyon)	3,500	Linear Feet	\$ 62.50	\$	(218,750)
Property from State of Utah	1	Lump Sum	\$ 100,000.00	\$	(100,000)
Zone Transmission Lines					
12" Culinary Transmission line (upper central canyon)	3,000	Linear Feet	\$ 37.50	\$	(112,500)
8" Culinary Transmission line (central canyon)	2,900	Linear Feet	\$ 31.25	\$	(90,625)
16" Culinary Transmission line (West Canyon)	4,984	Linear Feet	\$ 62.50	\$	(311,500)
12" Culinary Transmission line (East Canyon)	1,100	Linear Feet	\$ 35.00	\$	(38,500)
8" Culinary Transmission line (East Canyon)	3,500	Linear Feet	\$ 31.25	\$	(109,375)
Prv (East Canyon to Morning Glory)	1	each	\$ 100,000.00	\$	(100,000)
Outstanding Certificates*					
Oak Hollow				\$ 1,680.00	\$ (1,680)
Vialetto				\$ 992,823.94	\$ (992,824)
Total Water Improvements					\$ (6,401,379)

CULINARY WATER IMPACT FEE					
Item	Quantity	Unit	ERU	Impact Fee	Total Impact Fee
Residential	4,612	Units		\$ 1,200.00	\$ 5,534,400
Commercial Area	270	Acres	728	\$ 1,200.00	\$ 873,180
Private Recreational Area			11	\$ 1,200.00	\$ 13,200
Total Estimated Impact Fees					\$ 6,420,780
Net Impact Fee					\$ 19,401

*Outstanding Certificates are water system improvements that have all ready been constructed. (Booster Station, PI Reservoir, & Vialetto Water Tank)

Notes:

1. Costs include all engineering, surveying, and contingency fees.
2. There is no over sizing reimbursement to be paid by Lehi City.
3. Only the transmission lines are included in this cost analysis.
4. New facilities will be built as needed. Funds to be provided by developer with reimbursement through certificates that can only be used on Traverse Mountain Development.
5. The Developer will dedicate property without cost to the city for tank, booster station, & well Facilities.

**TRAVERSE MOUNTAIN
PRESSURE IRRIGATION IMPROVEMENTS
PRELIMINARY ENGINEER'S ESTIMATE**

6/13/2012

2011 Area Plan				
Item	Quantity	Unit	Unit Cost	Total Cost
Existing Facilities				
Oak Hollow Reservoir				
Additional Pressurized Irrigation Improvements Needed To Meet 5812 Units				
Reservoirs				
Reservoir - (Violetto)	5	Acre-feet	\$ 125,000.00	\$ (625,000)
Reservoir - (West Canyon)	2.1	Acre-feet	\$ 150,000.00	\$ (315,000)
Reservoir (Flight Park)	5	Acre-feet	\$ 115,000.00	\$ (575,000)
20" Pressure Irrigation Transmission Line (Flight Park to Oak Hollow Zone)	3,500	Linear feet	\$ 75.00	\$ (262,500)
Booster Pumps				
Booster Pump Station (Murdock Canal to Oak Hollow) (1500 GPM)	1	Each	\$ 312,500.00	\$ (312,500)
14" Pressure Irrigation Transmission Line (Murdock Canal to Oak Hollow)	2,450.0	Linear feet	\$ 50.00	\$ (122,500)
14" Pipe Through 24" Bore Under Murdock Canal	50	Linear Feet	\$ 437.50	\$ (21,875)
Booster Pump Station @ Pilgrims Landing Reservoir (1,200 GPM)	1	Each	\$ 187,500.00	\$ (187,500)
16" Pressure Irrigation Transmission Line	4,300	Each	\$ 62.50	\$ (268,750)
16" Pipe Through 24" Boring Under Railroad	80	Linear Feet	\$ 437.50	\$ (35,000)
16" Pipe Through 24" Boring Under Murdock Canal	50	Linear Feet	\$ 437.50	\$ (21,875)
Booster Pump Station (Flight Park to West Canyon) (1200 GPM)	1	Each	\$ 187,500.00	\$ (187,500)
12" Pressure Irrigation Transmission Line	3,200	Linear Feet	\$ 37.50	\$ (120,000)
Install Booster Pump in Exist. Facility (Oak Hollow to Violetto Reservoir)	1	Each	\$ 100,000.00	\$ (100,000)
Wells				
Equip & Improve Pilgrim's Landing Well (1,200 GPM) (50%)	1	Each	\$ 170,000.00	\$ (170,000)
12" Pressure Irrigation Transmission Line (50%)	400	Linear Feet	\$ 18.75	\$ (7,500)
Flight Park Well (1,200 GPM)	1	Each	\$ 480,000.00	\$ (480,000)
12" Pressure Irrigation Transmission Line	400	Linear Feet	\$ 37.50	\$ (15,000)
Morning Glory Well (1,200 GPM)	1	Each	\$ 480,000.00	\$ (480,000)
12" Pressure Irrigation Transmission Line	400	Linear Feet	\$ 37.50	\$ (15,000)
Zone Transmission Lines				
18" Pressure Irrigation Transmission Line (West Canyon)	4,984	Linear Feet	\$ 68.75	\$ (342,650)
14" Pressure Irrigation Transmission Line (Central Canyon)	2,900	Linear Feet	\$ 50.00	\$ (145,000)
12" Pressure Irrigation Transmission Line (Central Canyon)	2,900	Linear Feet	\$ 37.50	\$ (108,750)
Outstanding Certificates*				
Fox Hollow			\$ 44,440.00	\$ (44,440)
Violetto			\$ 338,397.50	\$ (338,398)
Total Water Improvements				\$ (5,301,738)

PRESSURIZED IRRIGATION IMPACT FEE					
Item	Quantity	Unit	ERU	Impact Fee	Total Impact Fee
Residential	4,612	Units		\$ 1,067.50	\$ 4,923,310
Commercial Area	54	Acres		\$ 5,338.00	\$ 287,718
Private Recreational Area	17	Acres		\$ 5,338.00	\$ 90,746
Total Estimated Impact Fees					\$ 5,301,774
Net Impact Fee					\$ 37

*Outstanding Certificates are water system improvements that have all ready been constructed. (Booster Station, PI Reservoir, & Violetto Water Tank)

Notes:

1. Costs include all engineering, surveying, and contingency fees.
2. There is no over sizing reimbursement to be paid by Lehi City.
3. Only the transmission lines are included in this cost analysis.
4. New facilities will be built as needed. Funds to be provided by developer with reimbursement through certificates that can only be used on Traverse Mountain Development.
5. The Developer will dedicate property without cost to the city for reservoir, booster station, & well etc. facilities.

**TRAVERSE MOUNTAIN
STORM DRAIN IMPROVEMENTS
PRELIMINARY ENGINEER'S ESTIMATE
6/13/2012**

2012 Area Plan					
Item	Quantity	Unit	Unit Cost	Total Cost	
Storm Drain Improvements Needed To Meet 5812 Units					
Bypass Chapel Ridge to Fox Canyon					
24" Trunkline	820.0	Linear Feet	\$ 50.00	\$	(41,000)
Parallel Line From Triumph to Adobe Way (Constructed with Removal of Temp. Pond A)					
36" Trunkline To Traverse Mnt Blvd to Fashion Outlet	2,400	Linear Feet	\$ 100.00	\$	(240,000)
42" Trunkline	2,700.0	Linear Feet	\$ 120.00	\$	(324,000)
Morning Glory to Triumph Along Traverse Mountain blvd.					
30" Trunkline	3,600.0	Linear Feet	\$ 80.00	\$	(288,000)
Road C to Morning Glory Road					
36" Trunkline	1,400.0	Linear Feet	\$ 100.00	\$	(140,000)
Parallel Fox Canyon to Pond B					
48" Trunkline	2,650.0	Linear Feet	\$ 140.00	\$	(371,000)
Pond B Disconnect (By Pass Piping)					
48" Trunkline	730.0	Linear Feet	\$ 150.00	\$	(109,500)
60" Trunkline	1,320.0	Linear Feet	\$ 215.00	\$	(283,800)
60" Bore Under Canal	50	Linear Feet	\$ 600.00	\$	(30,000)
Lambert Basin Connections					
60" Connection from Pond B to Lambert Basin	700	Linear Feet	\$ 215.00	\$	(150,500)
60" Connection from Lambert To Existing I-15 Crossing	1,400	Linear Feet	\$ 215.00	\$	(301,000)
Lehi Offsite Piping Pilgrims Landing 72" Participation					
	1	Lump Sum	\$ 210,000.00	\$	(210,000)
Total Storm Drain Improvements					\$ (2,488,800)

STORM DRAIN IMPACT FEE					
Item	Quantity	Unit	ERU	Impact Fee	Total Impact Fee
Residential	1,632	Acres		\$ 1,300.00	\$ 2,122,185
Commercial Area	269	Acres		\$ 1,300.00	\$ 349,700
Private Recreational Area	17	Acres		\$ 1,300.00	\$ 22,100
Total Estimated Impact Fees					\$ 2,493,985
Net Impact Fee					\$ 5,185

Notes:

1. Costs include all engineering, surveying, and contingency fees.
2. There is no reimbursement to be paid by Lehi City for piping systems not shown above.
3. New facilities will be built as needed. Funds to be provided by developer with reimbursement through certificates that can only be used on Traverse Mountain