Vancouver Island Vipassana Association
Trust Meeting

Date: Sunday, April 22, 2012 **Location:** 80 High Street
Meeting Time: 12:00 noon

1. **Meditation** – 3 min

2. **Opening Formalities**
   - Round of introductions
   - Attendance
   - Review the agenda, add any needed items & prioritize
   - Set time for meeting & agenda items
   - Read trust meeting guidelines

Facilitator: Harry Mensink **Secretary:** Robert Baker
Speakers' List: Evie Chauncey **Timekeeper:** Greg Lundh
Task List: Hope Funk

Trust Members Present	Trustee Regrets	AT's Present	Friends of Trust	Trust Members Attending Remotely
Hope Funk	Ken Sommerville	Evie Chauncey	Kyle Althaus	Doug Cooper
Steve Armstrong	Doug Child	Bob Jeffs	Greg Lundh	
Linda Armstrong		Jenny Jeffs	John Waters	
Carl Wolford		Michael Gelber		
Harry Menzink				
Robert Baker				

Quorum: 7 of 9 trust members in attendance

3. **Announcements:** none

4. **E-mail decisions made between meetings:** none

5. **Corrections and approval of past minutes:** Were approved by the AT's and sent directly to the web master for posting on the web site

6. **Review of task minutes from previous meeting**

COMMITTEE REPORTS

COMMITTEE	COORDINATOR	MEMBERS	A.T. ADVISOR	REPORT
Operations	Steve	Tim, Robert, Carl, Harry, Doug Ch.	Bob	n/a
Outreach	Robert	Harry, Bob, Jenny, Linda	Evie	n/a
Design	Michael	Evie, John, Steve	Jenny	yes
Finance	Hope		Evie	yes
Website	Steve	Becca, Kyle, Evie	Jenny	n/a
Non Centre	Harry		Jenny	n/a
Children's	Linda		Jenny	n/a

The following reports can viewed as attachments:

- VIVA Treasurer's Financial Report
- Road Project Report
- Well Report and Pump house Report
- Design Committee Meeting March 28, 2012
- Website Report
- BC Hydro Report and Recommendations
- Pacific Homes Building Report
- Building Construction Review
- Email correspondence with Evie and the Toronto Centre Design Committee

7. **AT/Executive:** no report

DISCUSSIONS AND NEW BUSINESS

Discussion around building material

- Greg and Michael both reiterated that immediate payback is the most important issue, not the initial cost of building to a higher R value.
- Carl suggested the possibility of using different design options for different buildings. Then we can change methods if we are not happy or have problems.
- Doug – best way to benefit is through high amounts of insulation. Initial cost for extra insulation is high but we can pay off a loan faster since we will have less monthly energy costs. Given that we insulate the building as best as possible, then how to do we protect it from moisture build up? i.e How do we protect a high insulated building from moisture problems?

- Evie – what do we want to do for the future? Greg – what is our time line, when do the decisions have to be made? What decisions we make, re: Hydro, will impact this decision. Answer from Evie – “there is no time crunch”.
- Carl – has it been determined that we have a building professional provide input. For code info, inspection… At what point do we need a professional?
- Evie – It is important to have a strong, clear design committee decision first, and agreement from the Trust and then we can approach a professional.
- Harry – feels that we need to let things percolate for a while. There may be new developments coming that can influence our decision
- Michael – we need to make a decision first regarding building to a specific R value and then we can choose the building design, HVAC, roof design
- Steve – how comfortable are people about building materials? – for him it’s moisture and long term life.
- Kyle – how important is it to everyone to choose a building type based on the carbon footprint?
- Consensus is that the building needs to be well insulated, yet breathable.

PROPOSALS

- Evie proposed we proceed with single phase construction to be built and maintained by BC Hydro.
- Bob made a recommendation that we proceed with Gord Tuck’s bid.
- Evie proposed using Patrick (Chee Wai Tang) as our web designer.
- Evie proposed using Stephanie Bower to provide drawings for the web pages.

DECISIONS OF THE TRUST

- Decision was made to proceed with Tuck Contracting for the road construction.
- Approval was given to proceed with single phase power line construction by Hydro.
- Trust approved using Pat rick (Chee Wai Tang) as our web designer.
- Trust approved using Stephanie Bower to provide drawings for the web pages.

TASK LIST

- **Kyle**
  - To explore with Lyndon, the architect who is working on the Toronto building, optimum R value required for our needs now that we have agreed to a higher standard.

- **Jenny**
  - To revise expenses spreadsheet to $150/sq ft., to reflect our agreement to building to a higher standard

- **Evie**
  - To adjust expense figures on website.
  - To call re Camp Pringle 10-Day Course rental quote
  - **Carried over -** Evie ask Bill re min capacity in building codes or other govt standards. Where did OSI get the capacity numbers?

- **Hope, Harry, Greg, Kyle, Carl**
  - To send respective reports presented at Trust meeting to Robert for inclusion in Minutes.

8. **Review New Tasks**

9. **Evaluation of Meeting**

10. **Future Meeting**: June 3rd in Duncan

11. **Meditation** (3 minutes)

April 22, 2012 VIVA TREASURER'S FINANCIAL REPORT

VanCity Balances – April 21, 2012

• Membership shares	61.25
• Community Service Account 00001 (chequing)	5977.47
• Community Service Account 00002 (monthly dana)	0.00 (to chequing)
• Escalator Term Deposit	
▪ Cashable (30 day lockout)	140,000.00
▪ Started Feb 11, 2012	
▪ Maturing Feb 11, 2013	
▪ Interest rates: 1.2%	
▪ Interest compounded every 12 months	
	$146,038.72

Tasks completed since October 2011 Financial Report

▪ Processed	
o Canada Helps dana	48.05
o Monthly VISA dana	1,818.00
o Day Sitting dana	740.00
o Between Course dana	3,695.00
o 10-Day Course dana	14,231.09
o Paul Fleischman Tour dana	1,699.07
	$22,231.21

- Paperwork for Sep 2011 through Feb 2012 delivered to bookkeeper
- Cashed in $160,000 term deposit (received $3,600 interest) and arranged with VanCity for new $140,000 Cashable 30-day lockout term deposit
- Set up requests for new monthly dana: 1 Visa and 2 monthly direct debit
- Sent out 2011 monthly dana income tax receipts and thank you letters
- Prepared Shawnigan Lake10-Day Course Financial Report and sent out to Trust
- Arranged Old Student loan of $15,000 in order to pay outstanding bills on time and to avoid losing interest on Term Deposit which matured on Feb 11, 2012
- Repaid old student loans x 2: $10,000 + $15,000 = $25,000 + $110.55 interest = $25,110.55
- Returned unused 10-Day Costco purchases for refund of $130.61
- Received from TimberWest 4 payments for log purchases totaling $65,112.31
- Received from VF payment for tent purchase: $300
- Ongoing work with Bill Simoes to changes in our accounting practices (see below)

Invoices approved and paid as received:

Paymentech	Preauthorized Visa/MC fees	350.89
Eileen Henthorn	Bookkeeping fees	430.08
Harry Mensink	Truck Storage Insurance	60.00
CL District Chamber of Com	2012 Membership fees	80.00
Ken Sommerville	Hall rental Paul Fleischman (PF) event	46.50
Linda Armstrong	PF travel $494.35 / Trustee travel $156.30	650.65

Steve Armstrong	PF travel	42.42
Evie Chauncey	PF event newpaper ad	195.27
	P. Desmond Land Development Travel	322.84
University of Victoria	PF Event hall rental	638.40
Hope Funk	10-Day Course groceries	3,873.67
	10-Day Course travel	45.02
	Lake Cowichan Gazette annual subscription	54.00
	Visa/MC sales drafts	35.84
	First Aid Kit for Dhamma Modana	33.59
Bob Jeffs	10-Day Course groceries	278.68
	Survey equipment rental/travel	121.87
John Waters	10-Day Course groceries/travel	153.72
Doug Child	10-Day Printing	41.78
Abe Murley	10-Day Truck Rental	165.49
Don Williams	10-Day Truck Rental (fuel)	40.94
Italian Bakery	10-Day bread	177.00
Carl Wolford	Travel / 10-Day supplies / stapler	272.10
Camp Pringle	Rental balance for Nov 2011 10-Day course	6,645.00
Bob Crandall	DFO/Hydro measurements	582.40
Ted Burns	Monitor Hydro clearing	336.00
On-Site Systems, OSI	Waste Water Report,	2,139.20
	Revised cost est, new test holes, meetings	1,015.84
Tuck Brothers	Land Clearing	71,820.00
Kyle Althaus	Oversee Land Clearing (returned as dana)	1,200
Doug Cooper	Trustee travel	97.40
Generous Electric	Hydro infrastructure	13,370.56
Michael Gelber	Travel design committee	173.41
Greg Lundh	Back Jacks x 2	70.00

What's Ahead

The financial statements will be changed, hopefully in June, to separate the Operations Budget from the Capital Expenditures. The Operations Budget gives us an estimate of the costs we incur on an annual basis, such as bookkeeping, accounting costs, Trustee travel, and course costs. Capital items, on the other hand, provide benefit for more than one year. So capital expenditures would include the land development, such as the building of roads, installation of the well, etc.

Right now we pay the accountant to separate out the Capital Expenses from the Operating Expenses, and prepare the report to be filed with Revenue Canada. Capital items are depreciated each year by the accountant. Once the financial statements are changed, we will be able to file with Revenue Canada ourselves. Also, instead of printing out the entire financial statements category by category for the Trust Meetings, we will present a summarized shortened version.

ROAD PROJECT REPORT

In order to prepare for the road project, we needed to know more about the topography, as our initial contour survey completed a couple of years ago appeared to be questionable in some places. To do this, Bob rented a survey transit and rod, and, with help from Kyle and Steve (formerly "Sven"), they did some cross sections in key places around the building site in order to confirm the elevations. We gave this data to Bill Simoes who prepared a draft contract (wherein we required completion on or before June 15), which we fine tuned with Paul's help, and sent it to 3 contractors: Tuck Contracting and Johal Brothers of Lake Cowichan, and Kevin Sinclair of Cobble Hill. We received bids from all 3 of them. Johal and Tuck were very close:

> Gord's including Mobilization = $10897, culverts $80.58 per metre x 36 = 2900 plus grass seed 3500 = total approx. **$17,300**
> Johel's including Mobilization = $10981, culverts $65 per metre x 36 = 2340 plus grass seed 3500 = Total approx **$16,821**.
> Kevin's bid was approx **$36,500** including materials and mobilization.

However, Bill did a different kind of analysis of the bids, where he used the same number of hours for all contractors, in this case Kevin's very high estimate of time, and the bids came out much closer. I have attached this below. This shows Kevin's bid much closer to the others but Gord's much lower than all of them.

In summary, the group recommends Gord Tuck. His bid estimate was almost the same as Johal's; he is more familiar with the property and presumably more able to give accurate estimates; and most importantly he is someone with whom we have a proven track record. Kyle has again kindly offered to oversee the work and to make sure we are not going significantly over the estimated hours. We still have to lay out the road right-of-way by putting in offset stakes. Bob should be able to do this with survey equipment after May 7. If required before that time, Kyle should be able to do it well enough without the use of survey equipment.

> Hello Folks:
>
> Below is the bid spreadsheet. In order to make the bids comparable, it is necessary to assume the same number of hours for each contractor. To be conservative, the highest number of hours bid (by Kevin) was assumed. The calculation used to compare bids is called the Total Contract Amount (TCA). It includes mobilization, equipment, labour, materials and HST.

CONTRACT SUMMARY

	TCA	Other Considerations
Kevin	$39,146	Using a subcontractor, 2 hours round trip from site

Tuck	$29,607	Have had good experience with, busy
Johel	$34,371	Unknown

Dhamma Modana
Road Tender

April 19, 2012

EQUIPMENT AND LABOUR

	Hours	Kevin		Tuck Brothers		Johel	
Excavator	64	$ 135	$ 8,640	40	$ 125	$ 8,000	30	$ 110	$ 7,040
Dump Truck	40	$ 95	$ 3,800	8	$ 85	$ 3,400	5	$ 85	$ 3,400
Dozer	56	$ 165	$ 9,240	20	$ 100	$ 5,600	20	$ 198	$ 11,088
Grader	16	$ 135	$ 2,160	8	$ 115	$ 1,840	6	$ 120	$ 1,920
Labour	0	$ -	$ -	20	$ 30	$ 600	20	$ 30	$ 600
Mobilization			$ 1,600			$ 594			$ 800
			$ 25,440			$ 20,034			$ 24,848
		HST	$ 3,053			$ 2,404			$ 2,982
			$ 28,493			$ 22,438			$ 27,830

MATERIALS

	Amount	per unit	Kevin	Tuck Brothers		Johel
Culvert (1) - metres	36	$ 167	$ 6,012	$ 81	$ 2,901	$ 65	$ 2,340
Grass Seed - Kilograms	100	$ 35	$ 3,500	$ 35	$ 3,500	$ 35	$ 3,500
			$ 9,512		$ 6,401		$ 5,840
		HST	$ 1,141		$ 768		$ 701
			$ 10,653		$ 7,169		$ 6,541
Total Contract Amount			$ 39,146		$ 29,607		$ 34,371

(1) Assume 4 culverts each 9 metres long. Road is 5 metres wide, shoulders are 1 metres each and allow 1 metres on each side for stick-out giving 36 metres of culverts

(2) Kevin quoted $1,500 for a culvert. Assuming 9 metres long, he is charging $167/metre

(3) Kevin did not quote a price for grass seed. Assume the same price as other two contractors.

(4) In order to make bids comparable, assume the maximum number of hours quoted by Kevin.

Well Report and Pumphouse Report

Well: Kyle and Evie met with Dave Slade of Drillwell on March 28, to look at 2 sites that fit the requirements for a well, to see if he had a preference for drilling one or the other, and what we needed to do to prepare the chosen site for drilling. We decided to drill the well on the eastern side of the property, about half way between the Dining Hall and the Men's Residence, down in the slightly marshy area. Dave went over the specifications-40 feet of clearance in back of the rig and packing of ground towards the well. Attached is the estimate for cost. He is ready to drill whenever the access is provided.

Drillwell comments: It is the same as the prices you were quoted last year, I have just revised the date. There is no rock drilling in the quote which is based on the previous well that was drilled for you across the Rd. If the guestimate of 140 ft. of overburden drilling as quoted is near correct, then we will not be drilling bedrock, and thus "fractures" do not enter into the picture. Rather, we would be looking at pre-glacial sand and gravel formations which are not at all uncommon.

Pumphouse: Until we have a Development Permit, we are only allowed to build one 10' x 10' structure, for a pump house. Because we already have an unauthorized building on the site, it would be better if we do not make this into a living space. To use it for the three-day course, we could put in simple counters, a stove and fridge. It would be handy to build a loft for storage. Piping from the well could run into the house, but we wouldn't have a septic line to drain, so we may want to have water outside beside the house?

Greg is leaving approximately June 25 to go to a long course, so the pumphouse will need to be built before then. It cannot be constructed down at his site, because they already have built one unpermitted 10 x 10 building, and do not want to be seen building another! The road should be finished by June 15, or earlier. The building site where the pumphouse will go will be the last part of the road project, so that soil can be drier when moved around. This means waiting until fairly soon before Greg's departure to do the construction. Another option is that Greg takes material up in his van, builds it on skids, near the existing Dhamma Hall, rents a generator for construction, and moves it over to the final site when the road work is done. This would mean it would not have a concrete foundation.

Hopefully there will be lots of volunteers to help Greg.

Discussion topics:
concrete foundation or on skids?
Plumbing?
Finishing-insulation and drywall, or unfinished?
Volunteers?

QUOTATION

21/05/2012

DRILLWELL ENTERPRISES LTD.
4994 Polkey Rd., Duncan,
B.C., V9L 6W3

Ph:(250)746-5268 e: drill@drillwell.com Fax:(250)746-8404

Date: 28 March 2012

ATTENTION: Evie Chauncey

Vancouver Island Vipassana Ass.
5379 Parker Ave. Victoria, BC evie.chauncey@gmail.com
V8Y 2N1
Ph. 250-479-5499
Estimate / Quotation: For the construction of a 6" domestic water well near lake Cowichan

Street Address of Property: 8293 Youbou Road
Legal Description: Block 450, Cowichan Lake Land District, PID 009-781-803

Item	Item Description	Units	Estimated Quantity	Price per Unit	Totals
1	Mobilize and de-mobilization	lump sum	1	$200.00	$200.00
2	Install Sanitary Surface seal	lump sum	1	$600.00	$600.00
3	Drill and case 6" diameter	feet	140	$42.00	$5,880.00
4	Supply and weld 6" casing drive shoe	each	1	$300.00	$300.00
5	Supply install and develop 6" telescopic, stainless steel well screen (if required)	4' sections	1	$2,000.00	$2,000.00
6	Drill open hole through rock	feet		$22.00	
7	Supply and install 4" CSA potable PVC plastic liner (if required)			$8.00	

TOTAL ESTIMATED WELL CONSTRUCTION COST	$8,980.00

Prices do not include GST.

Quantities listed are estimates.

Actual cost will be determined by quantities required, multiplied by the cost per unit as above.

Terms are payment in full within 30 days of completion. 2% per month charged on overdue amounts.

NOTE: Site access and location are the clients responsibilty, INCLUDING offset from septic and property line.

If you wish to proceed with this project, please fill in legal address above, and sign and date below.

The undersigned agrees to pay for the work at the rates and terms outlined above.

Please sign at x and print name below

x _____ David Slade

DRILLWELL ENTERPRISES LTD

print: _____ date: _____

History: Carl's original recommendation was to put in single phase power, with a BC Hydro takeover. This is what we signed a contract with Darwin Generous to install. In October, at the long course meeting, Sasha, the HVAC installer for many centers, said that it would be much better to use triple phase, because HVAC systems are designed to run on triple phase.

What became clear was that we actually needed to do a load calculation to decide how much power we really need. To do that, we need to know the way we are going to do construction, the equipment that will be in the buildings, and how we will need the buildings.

Given that we will not be able to make all those decisions now, Bill and I have looked out a number of different ways of approaching this problem.

1st of all, we considered putting in the poles and the brackets necessary for triple phase, but running only one single wire. Because BC Hydro will not maintain anything larger than is needed, this would require private ownership.

When one has private ownership, the private owner needs to have a switch that can be turned off and on to repair the line, which costs $10,000. They are responsible for paying for yearly inspection with BC Hydro, which cost $400, plus hiring a class I electrician, who must remain on retainer at all times. With private ownership, one is responsible for replacing the line, which has a 25 year life expectancy, as well as maintaining the poles. They also responsible for preparing any damage to the line.

What you will see is that single phase private ownership costs about $43,000 but one would be facing replacement costs over $100,000, including inflation.

Single phase with BC Hydro cost $38,000.

Triple phase Pvt. ownership costs $58,000, with the same replacement costs ($100,000) BC Hydro takeover for triple phase is not a possibility.

The only thing that is not included in this calculation is the cost of the converter for the HVAC system from triple phase to single phase. They cost 3-6K. We will not know how many we need until we know how well insulated the building is built.

Bill has written the following report about his investigations and our recommendation.

I have spoken to Darwin and Evan of BC Hydro extensively in the last few days. After going in circles, I am back to what Carl recommended: single phase power and BC Hydro takeover. The reason is that the alternative (private ownership and three phase) is just too expensive both initially and in

ongoing maintenance. I think it makes much more financial sense to upgrade to three phase when we know we need it.

The reason for three phase power is that it is more efficient and there is a limit to the size of the motor you can run on single phase. However, there is an alternative and that is to buy equipment which converts single phase to three phase power for the geothermal. I looked at this equipment and it is not expensive compared to the cost of installing three phase. The trade-off is that we lose some efficiencies and hence will have higher electrical bills. At this point in time, we just don't know.

Background:

The Hydro take-over option is cheaper to build and cheaper to operate. As shown below, I estimate that the costs of putting in three phase now as opposed to when we need at about $55,000. This is much higher than the original estimate ($20,000) because I grossly underestimated the maintenance costs. This is explained in detail below, but the big item is that we are responsible for replacing the line if it is privately owned and we are forced into private ownership if we want to put in 3 phase now as Hydro will not accept a three phase line before we need it.

a) It would seem that the only reason to own the line is because upgrading to three phase using a private contractor is cheaper. Darwin feels that Hydro charges 3 to 5 times the price of a private contractor. I have no way of confirming this. However, the costs of private ownership are high as shown below.

b) The biggest upgrade will be three phase power. **Hydro will not take over the line if we put three phase now** as they don't want to maintain stuff that isn't needed. So if we want three phase we have to go with private ownership. The difference in price ($20,000) is the switch plus the extra cost of three phase poles and lines which is almost double the cost of the single phase Hydro Take over option.

	Single Phase Hydro Take-over	
	$37,960	
	Three Phase Private Ownership	$58,409
	- Hydro will not accept 3 phase until we can demonstrate we need it so we have to go with Private ownership	
	Extra Capital Cost	
	$20,449	
	Maintenance Costs	
	$30,000	
(see note)		
Extra Costs of three phase		$55,449

Note: The thing that I had missed earlier is that if VIVA owns the line, we will have to pay for replacing the line when it rots. The lifetime is estimated to be 25 years. The annual cost is $500 for safety inspection. We will also pay if a tree falls on the line or if a transformer malfunctions so allow $500 per year for that. We also have to take into account the replacement cost ($58,000). In 25 years at 3% inflation, this will be over $100,000. I was rigorous about this calculation and used a Net Present Value (NPV) analysis. Over 25 years the total cost of maintenance is $125,000. The NPV cost of maintenance cost over 25 years is about $30,000. The NPV analysis takes into account of the fact that money spend today is worth more than money spent in 25 years.

c) I think Evan is willing to accept that we put in a 75 KVA transformer based upon our loads at DS. We have a 50 KVA for the centre and 25 KVA for the trailer. Hopefully that is all the load calculations he needs. I was honest with him and told we needed temporary power before we build our centre and that we haven't done the design for the centre so could not give him any load calculations. If we end up with a 50 KVA transformer, upgrading the transformer is not a big deal. A 75 KVA transformer costs $2,700 while a 50 KVA costs about $2,000. These are the private costs.

d) I would put in the extra pole for the septic if we are going to go with a BC Hydro takeover. Remember in the take-over case, BC Hydro puts in the transformers and meter, not Darwin.

e) The only other thing I would add is that we do should not sign a blanket easement. The easement should only be for the specified right of way. This will cost more in legal and survey work, but it restricts BC Hydro's legal access to just the power line. If we ever want to do more development on the property, a blanket easement will be a big problem.

	Single	**3 phase**
Base Price	$ 33,835	$ 48,335
Installation Costs (1)	$ 3,000	$ 3,000
75 KVA Transformer	$ 3,000	$ 3,000
Temporary Service for Centre	$ 825	$ 825
Pump House Service	$ 200	$ 200
	$ 40,860	$ 55,360
45.9% of HST	$ 2,251	$ 3,049
Private Ownership	$ 43,111	$

			58,409
Less switch(inc 49.5% of HST)	-$	10,551	-$ 14,244
Inspection (5)	$	400	$ 400
Survey and Legal for Easement	$	5,000	$ 5,000
BC Hydro Takeover	$	37,960	$ 49,565

(1) Digging holes and anchors not included in Generous quote

(2) Private ownership it will costs about $500 per year plus any repairs. When line needs re be at VIVA cost

(3) Upgrades will cost 3-5x private contractor amount if Hydro owned

(4) DS has a 400 Amp transformer for the centre and 200 Amp transformer for the trailer (25 KVA)

(5) Hydro Inspection is $120 for first pole and $20/pole thereafter

(6) Cost for 75 vs. 50 KVA transformer is about $700 extra based upon private installation. will be more?

(7) If Hydro owned they install transformer and it is unclear what they will charge.

Presentation on ICF - by Greg Lundh

"The way to save money is not to spend it." – Ben Franklin

The added cost of super-insulating is paid for right away by monthly energy cost savings. The walls constitute only a small % of the total cost of the building project.

Advantages of ICF over other super-insulated walls:

1. Lower energy costs due to thermal mass, assuming $ values are the same.
   Thermal mass stores heat and cools against exterior temperatures. All other systems allow some infiltration of air and water. This is an advantage during power outages.

2. Protection against natural disasters: wind, earthquakes, floods, etc.
   Concrete is 10 to 100% stronger than other materials

3. Protection against insects
   This is a big problem on Vancouver Island. We therefore SAVE the bugs.

4. Protection against mildew, mould, and moisture
   No rain screen is necessary and possibly no vapour barrier. Moisture hours in ICF is reduced to 0. Replacement not necessary for 500 years.

5. Sound insulation

Lots of expertise available

Plumbers report no increase if well laid out

Electrical installation is slightly higher.

Cabinets and siding can be hung directly

Cost is $0.50 to $4.00 or more per sq ft above ground, depending on ICF manufacturers

Below ground work is slightly cheaper.

Sources of information:

1. Quad-Lock quotes about $500 for delivery from Vancouver to Lk Cowichan for a full 30000 sq ft house, about a 50 ft trailer
2. Called Brian at CVRD re need for rain guard if stucco and vapour barrier for inside
3. Waiting to hear from Matt re electrical installation costs

4. Waiting to hear from Michael re installer he likes
5. Vancouver Island, BC Residential ICF Project
6. BC Ready Mix Concrete Association – ICF Builders in BC
7. ICF Builder Magazine – How-To Exterior Finishes
8. Insulated Concrete Forms (ICF) – Benefits: video for owners
9. Quad-Lock ICF Contacts for BC
10. Mike Holmes (Holmes on Homes) – The Globe and Mail

Pacific Homes Building Report

Report for a Bldg Package from Pacific Homes, a pre-built wall system and mat'ls for modular installation

I submitted the latest women's accomodation building floor plan to Pacific Homes in Cobble Hill. Since it is similar to the floor plan and elevations that I priced out last yr, we added 3% to the original quote of $112,263. Also I changed the wall thickness from 6" (R29) to 8" (R40), and added mold and fire resistance matls applied to the wood framing in the walls.

These walls are manufactured in their Cobble Hill factory as modular components, delivered in sequence to and assembled on site. Their package price includes all framimg and finish woods, sheeting, drywall products, insulation for floor and cellings, roofing shingles and matls, windows and doors, exterior Hardy Board for the exterior finish, etc.

Price: $129,500

This building system is good to consider, perhaps you might say a middle road between 'regular' framing, and ICF. R40 in the walls is twice the BC Bldg Code. Construction on site is easy and very fast, which means enclosure is completed sooner. The interior wall surfaces are easy to finish out with drywall, trims, and with cupboards and shelving. Same ease for the exterior wood and siding.

Pacific Homes provided me with a contractor who's built 100+ of these homes/bldgs. I asked for a lock up price. The complete framing inside and out, windows and doors installed, Tyvec plastic exterior weather barrier applied to walls, finished roof.

Price: $18,000

In got a labor and matls quote from Rick Brubaker, Triosh Contracting, for a finished, "engineered" foundation, meaning earthquake designed requirements anticipated (engineering would first be required). It includes insulated and damp proofed foundation walls, a center line footing and curb, footing and roof drainage pipes installed , all rock and fill completed, etc, etc.

Price: $26,208

Total: $173,708 plus HST

Excavation for the foundation would be another cost done by somebody else.

Dhamma Modana - Wall Construction Review

By Kyle Althaus – April 22 2012

Information taken from the reports by buildingscience.com
RR-1014 High-R Walls for the Pacific Northwest -A Hygrothermal Analysis of Various Exterior Wall Systems
BSI-001 – The Perfect Wall

Modana Buildings under consideration
KDDH – Phase 1 Kitchen, Dining Hall and Dhamma Hall 7000sqft
MD – Phase 1 Men's Dorm – 2500sqft
WD – Phase 1 Women's Dorm -2900sqft
ATQ – At Quarters – 900sqft

Goals for Buildings
Be an efficient use of Dana
Last a long time
Not cost a lot to build or maintain

Condition of Lake Cowichan
The area around Lake Cowichan is considered to be a percolating Rainforest
It has high levels of annual precipitation (avg of 1700mm/year over past 5 years = 67inches)
Due to the rainfall and soil conditions creeks and springs are known to move frequently and seem to have a fondness for popping up under buildings.
Heating Degree days over the last 5 years average 3225*C 5800*F

Passive House Levels
Passive houses are houses that have enough Insulation in the floor, walls and ceiling that with a Heat Recovery Ventilator, they don't require a heating system and can stay warm based on body heat and cooking. Insulation levels for a house in this area are approximately R30,R40,R80. Building to this standard may not be effective for our building types where mixed use and occupancy occur. However achieving higher insulation levels will help us to decrease our heating demand and minimise our power usage.

Windows

Windows are a pivotal part of an Energy efficient design as they can count for up to 25% of energy loss in a High R Value Building
Typical windows on the market offer an insulation level of R3 and cost $20/sqft
The best locally made windows are R5 and cost $30/sqft
At Passive House levels we'd need to buy windows that are R9 that can cost up to $50/sqft
This adds to an increased cost of up to $360/window

Foundations
Slabs are discouraged as they can be washed out from underneath, leading to collapse of the building
Perimeter footing to the hard pan are preferred, with insulated concrete crawl spaces.

Walls

Methods of wall construction are varied this info is taken from RR-1014
Only Relevant Wall systems are outlined here

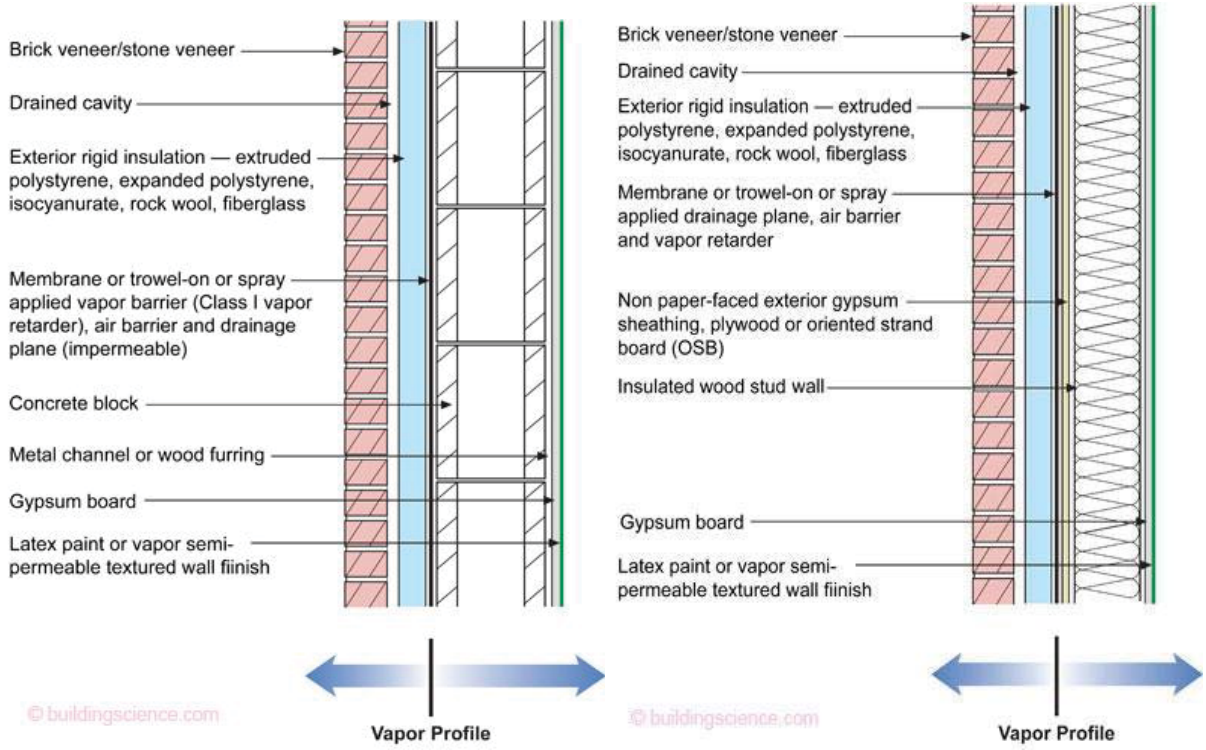
Wall #1 Standard 2x6
Wall #2 Advance Framing
Wall #3 Advance Framing with 1"XPS
Wall #4 Advance Framing with 2"XPS
Wall #5 Advance Framing with 4"XPS
Wall #13 Advanced Framing with 2.0 pcf spray foam and Fibreglass batt
Wall # 14 Double Stud Exterior Structural wall
Wall #16 Structural Insulated Panels (SIPS)
Wall #17 Insulated Concrete Forms (ICF)

Wall #	Insulation R-Value	Whole Wall R-Value	Hours of Potential Air Condensation	Cost/Sqft	Cost Increase 10750sqft
1	21	16.2	2851	6.79	0
2	21	17.2	2851	6.67	-1290
3	26	22.2	997	7.92	12150
4	31	27.2	214	8.85	22150
5	41	37.3	0	11.68	52500
13	28	18.5	56	8.60	19500
14	34	29.9	3015	11.47	50300
16	24	21.5	-	10.61	41000
17	16	16.4	-	19.31	134600

In this climate we need to plan for the rain and humid winter months, if not planned for our buildings will quickly rot and become a health hazard. This is where the hours of potential air condensation come in. The worst options are double stud walls and standard construction which allow moisture to condense inside the structure for over 120 days out of the year. The best options involve putting insulation on the outside of the structure, which keeps the structural portion warm enough that air leakage can not condense.

From the report about the perfect wall according to building sciences.com

Commercial/Institutional Wall Residential Wall



Roof

Cheapest and Best roof is the most common Trusses with Fiberglass/Cellulose Insulation and Asphalt Shingles. It should be well vented and have large overhangs 36” to protect the walls.

Insulation cost

	10750 sqft		10750 sqft
Fiberglass R30	8000	Cellulose R30	6500
Fiberglass R40	10750	Cellulose R40	8600
Fiberglass R50	13500	Cellulose R50	11300
Fiberglass R60	16000	Cellulose R60	13900
Fiberglass R80	21500	Cellulose R80	18000

Cellulose is cheaper, made from more recycled material and has a much lower embodied energy. However if the roof ever leaks and the cellulose gets wet it becomes garbage.
Fiberglass is slightly more expensive, and more energy intensive to produce but it is lighter and if it gets wet it can dry out without much loss in performance.

Design committee meeting March 28, 2012

Present: Jenny, Steve, Evie, Michael, John

Topics:
1. VMC plans, and how to adapt them to our situation
2. review our general progress

Discussion:
1-VMC plan.
Michael had brought the actual drawings for the men's building at VMC, which has a basement level like a house on a slope with a walkout basement and a main story. This model we will call C building. This building gets it's light on the lower level from normal windows above ground level on the south side and from window wells, if necessary, on the north side.

The proposal was that if you build one building, it is cheaper than 2, because you built off the basement space-rather than 2 completely separate foundations.

After the meeting, where we further investigated and priced out the building, we decided not to consider this for the 1st phase, because it was far more expensive, due to the extra space roughed in for bathrooms.
Below Point 2 are our discussion notes, for reference.

2.We reviewed the **general progress** that we are making.

The Design Committee has reviewed the steps that the Trust is taking towards the development of the center. The Trust has been proceeding in a 3-pronged approach to move towards a development permit that are interwoven and rely on each other:

- designing the infrastructure such as the septic system, the well and the power
- designing the optimal amount layout of the buildings
- seeing how infrastructure and buildings fit together on the available building site

Involved in this process has been the costing out of infrastructure as well as buildings.

We agreed at the last meeting to put in the infrastructure of the road, well and power, so that we could offer three-day meditation on the land.

Task list:
Review task list from last meeting-DONE.

From the Trust meeting February, 2012
1. Jenny will do an artistic rendering of the foyer with coat racks, shoes, etc.
2. Jenny will do drawings of main building with and without clear storey.

From the Design Committee meeting

1. Jenny will call Steve Voeller and ask about our submission to the RAA
2. Jenny will do a C building drawing-unnecessary
3. Jenny will redo the site drawing.-Unnecessary
4. Michael will call a code consultant to see if we can have multi-rooms on one side of a firewall, and call this a dormitory, so that the only fire separations will be on the outside of the walls.-Unnecessary

Notes about the VMC discussion:
We talked about how to deal with 2 genders in one building-whether to separate the building vertically, or horizontally. After much discussion, including movable hall walls on each floor, we decided to separate them horizontally, putting the women on the upper level, and the men down below. This was decided upon because there are less bedrooms in the lower level, and we always plan for less men students.

This would allow for a total of 34 women, 22 in singles, and 12 in 4 rooms with triple accommodation. On the lower level, there would be a total of 16 men, 10 in singles, and 2 triple rooms. Then we would change the bottom of the basement of the kitchen/Dhamma Hall, to have 4 women servers, 4 men servers, and 8 men students. This would make a total of 24 men students.

Jenny was more comfortable with this total number of students-58, rather than the 50 accommodated in the A dorms. It was reviewed that when the number crunching for a minimum number of students was done, both independently by Bill Simoes, and Evie, Bill found you need 60 students, but that was including the capital projects that were being done at Dhamma Surabhi that year. Evie did it on the same numbers the year before, and the year that Bill did it, deleting the capital projects, and found that 50 was a minimum. The rationale is that you do not need capital projects such as extra insulation, or adding gutters, in a new building. Martin Stevens said 60 is a general number, but we were looking at specific costs here in BC, including insurance and heating. This is something that can not be readily generalized.

To accommodate the extra number of students, the Dhamma Hall would need to be bigger. We will not redraw this building for the website, but would for the architect.

We discussed different methods of **heating the building.** Michael suggested using a hot water boiler, which could be fueled with propane, wood, or heat exchanger. Instead of running the water through copper tubing, in the cement floors, the water would go to individual radiators in each room. Michael likes this idea because of the price, the personal control, and the simplicity of service.

This led to a discussion on **heat sources.** Evie talked about Kyle's idea to use the water from Oliver Creek. John pointed out that he doesn't think there's any flow and Oliver Creek in the summer. You have to bring the water up from somewhere else.

The AT building would still need to be built. Right now it is at the end of the women's a dorm. It would need to be relocated for interviews.

Email correspondence with Evie and the Toronto Centre Design Committee

Below is a letter from Lyndon Than, who is on the Center Design Committee in Toronto, where they are constructing a double wall building. I was directed to contact him by Sasha, our HVAC installer.

Sasha has sent a recent e-mail which said in part:

1. the subject of construction type in relation to efficiency, functionality and economy - long term saving of dana.

Each construction type has its pros and cons. So far, after working on development of 13 centers around the world, I learned that across the board we are faced with similar set of requirement and challenges. While one center might have somewhat more unique environment than others, the big picture is very much alike. It is very clear (after many centers tried and repeatedly failed) that trying to save upfront by cutting corners is HUGE MISTAKE!!! Over and over again, we see how much dana is wasted and how many logistical issues arise from "cheap construction" approach. While being careful with spending dana and saving as much as possible is in fact a truly noble intention, it proved to be a trap which caused exactly the opposite. I hope that dhamma Modana will have the least amount of such mistakes.

From energy efficiency point of view (which directly translates in saving dana), the formula is very simple:

Poorly built and not sufficiently insulated building (cheapest building) = WASTE!!! - on maintenance and energy bills! Aside from that there are other issues like discomfort to students and extra work for management etc.

Less insulation = more need for heating/cooling = more expensive mechanical systems + higher energy bills

CLARIFICATION: Double wall construction is actually not necessarily a stand alone type. It can be applied to ICF, stick frame, cement block etc. Double wall is a simple and less expensive way to create a large enough cavity for the right amount of insulation.

Dear Evie,

Thanks for contacting me and Dhamma Torana. I am not actually 'in charge' of construction of the Dhamma Hall, but I am on the Centre development committee, and work closely with Bill and Virginia Hamilton, Alan Nicholson, Bob Wagester, and Carole Boucher and Jacob Lalonde. Sasha is also involved and we are presently in planning and design development for the new Dhamma Hall, as you know.

In recent years, a revolution has begun and is gaining strength in the building industry. This revolution of materials, methods, and thought is fueled by recent enlightenments in building

design and building science, and now ever more by the increasing energy and climate insecurity being felt worldwide. There are numerous building categorization and grading systems, of which LEEDS, HERs, Energy Star, R-2000, are well known. A somewhat recent new standard called the Passive House standard, is where my own attention has been focused in the last few years, and this standard is becoming widely acclaimed and accepted globally, although it is a radically higher standard than most others.

The standard places emphasis on building energy performance, and I would encourage everyone involved in making new buildings to read more about the standard - perhaps starting here http://en.wikipedia.org/wiki/Passive_house .

A Passive House uses only 10% the heating or cooling energy of a regular modern house built today. It costs in general only about 10% more to construct - often less.

However, this cost premium is yet to be borne out in Canada - but is well established in Europe and getting established in the US. Design costs may be higher due to the lack of knowledge in the North American building industry. In Canada there are only about 2 or 3 Passive House buildings certified to date - it happens that I have designed and am building one right now, which will be certified soon.

Studies show energy costs are 80% of the cost of building ownership over a 40 year lifespan, even taking into account the initial cost of construction. I expect maintenance consumes much of the remaining 20%. Cutting out some 72 of those 80 percentage points by constructing a PH, (at a 10% initial premium) represents an important opportunity to make wise use of Dana both now and for years to come. Financial analysis will in general show the PH-designed building will be a significantly better financial outcome both in short, medium, and long term scenarios. All of this information is on the internet, and there is much more, of course. Other, less tangible benefits play a large role in the choice to build PH also. They tend to be significantly more durable, significantly simpler in maintenance, and much more comfortable and quieter inside. The air quality is also much better inside a Passive House building.

Re your questions:

First, I would like to caution against the use of ICF construction, mainly due to the strong reliance on rigid foams, which are quite poor for indoor health and for environmental stewardship. However, if termites are a significant concern, I would suggest concrete construction be considered, and if ICF, perhaps go with a vertical ICF system which uses foam only on one side. Commonly available ICF constructions such as Amvic or Nudura do not have high R-values (their R-values are only as good as a 2x6 wood wall), although manufacturers' literatures often cite high values in phrases such as "..performs to R50+. " Actual R value is R22.

I am not yet intimately familiar with the climate in your region, and therefore not ready to cite the required R-values to achieve Passive House on your project, however, I expect R40 walls and R70 to R80 Roofs will do. Something like R30 in the floor/foundation would be in the ballpark. These values will need confirmation through energy modelling. There are other aspects that are important: Compact building shape, thermal-bridge free design, building orientation and high-performance windows are central to achieving PH levels of energy performance. For a Dhamma

Hall, airlocks may be useful, or other means of dealing effectively with the higher traffic flows anticipated every hour for some minutes. Double-stud wall constructions are practical in Ontario where weather is somewhat more harsh than in mild, but cloudy Vancouver (and we are using R70 in the walls, R100 in the roof). But R40 values can be achieved practically using other techniques as well as double-stud systems.

Passive House has unique advantages for Dhamma Halls, in which mechanical noises are unwelcome. The radically reduced energy requirements can significantly simplify the mechanical systems and reduce noise and maintenance.

There is lots to know, and I encourage you to read as much as you can on the subject. Bowever, I am willing and privileged to continue with sharing and serving in whatever way I can with you and your team. I am also in touch with colleagues in the Vancouver area who may be of much use, except I am not familiar with any PH-certified consultants who are meditators.

Feel free to call or email again - weekdays evenings after 9:30pm local time is good, and weekends, and often weekday afternoons about 1 to 5 as well at 416-633-5153.My Cell phone is 647-567-6260.

Much Metta to you all,

Lyndon

On Sun, Dec 18, 2011 at 1:27 PM, Evie Chauncey <evie.chauncey@gmail.com> wrote:

Hi Lyndon,

I understanding you are in charge of the construction of the Dhamma Hall at Dhamma Toronto. I am the area teacher for the center on Vancouver Island. We do not have the money at this point, but we are drawing plans, and we have involved Sasha to design the HVAC system.

We have been looking at either conventional construction, or ICF.

Sasha strongly suggested that we contact you to hear more about double wall construction. Could you tell us a little bit more about it?

How much more expensive is it? What are the Rvalues? I noticed some flexibility in this given how much spatially between the 2 walls and what kind of insulation you fill it with. Any information would be appreciated. Metta, Evie

Lyndon Than, P. Eng.

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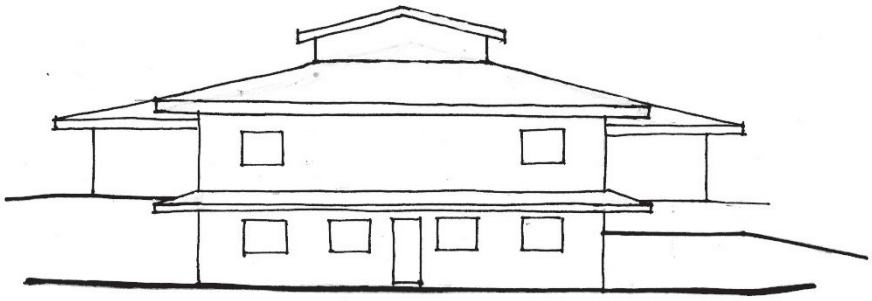
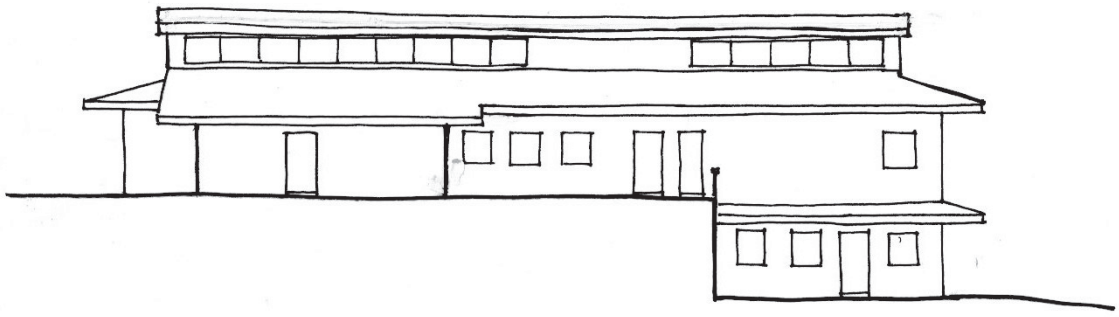


EAST ELEVATION KITCHEN/DINING/DHAMMA HALL



SOUTH ELEVATION KITCHEN/DINING/DHAMMA HALL
DHAMMA MODANA PHASE 1 APRIL 2012

History:
Brihas originally implemented our current website, written in part by Bill Simoes and designed to introduce us to the community of Lake Cowichan, Duncan, and the Cowichan Valley. This was prior to our rezoning. It was a very useful introductory site.

In 2009, a meditator volunteered to redo the site. However, it was very difficult to contact him, and in the end, he didn't return e-mails.

Then in the fall of 2010, a committee was struck and talked to several different web designers and meditators –to create a site aimed at old students. Connie Rock, a meditator, was chosen to work on the site. She began an initial layout, but was quite busy with other work, and there were difficulties both with communication, how the layout blurred on the page, and lack of content. She had said she would be unavailable after September, 2011.

In the spring/early summer of 2011, Steve then suggested that we use the Dhamma Kunja site. This involves using Dreamweaver. Before Steve left for India in December, 2011, directions for modifying the WA site for our use were posted for review. The content was not created.

I said that I would be willing to carry on with the website project in his absence. I then spoke to Brihas about using Dreamweaver, and the Washington site template. He said that that program requires intensive training to use, and that we want to move in the direction of more independent access to our sites. He suggested that we use WordPress. He recommended a man in Malaysia, Chee Wai Tang, known as Patrick, whom he has worked with recently, developing the Vipassana International Newsletter Site. Brihas was very satisfied with Patrick's work.

At the Sati course, a 3 course meditator talked to Kyle about doing the DM website. The fellow actually isn't doing websites anymore, but used to do them. Brihas said it would be much better to stick with Patrick, the web designer in Malaysia who has done the VNL newsletter site than to try again to use a meditator like the 2009 experience, or Connie Rock. Patrick is good in both design and implementation.

I have contacted Patrick, and send him quite a bit of information about a site. The cost will be approximately $1700. A meditator has offered to donate this. I made an agreement with him to produce our website. So the schedule is to start in the beginning of May. The website should be done mid-June.

Patrick's comments: A normal cycle will consist of:

1. Concept and mockup - 2 weeks (including amendments / feedback)
2. Development - 3 to 4 weeks

This is broken down into 1. Concept & Ideation of the look-and-feel of the new site

2. Customized theme development for Wordpress, a Content Management System

2. A custom work on a donation thermometer.

On the other hand, there is one aspect that I (Patrick) would like to comment: *A counter, to know the visits that each page is getting*.

A good solution to this feature request is to get Google Analytics (GA) to track the whole website activities. Through GA, you will be able to know simple statistic (visits per page) to in-depth visits (eg average pages per visit, where does most traffic come from). Furthermore it is a free product by Google.

I studied a number of websites, including Washington, Israel, 2 California sites and Texas. Drawing on these, I have written all of the content for each of the pages, as well as figuring out which pages should have sidebars, and the content in the tabs. The New Student page is very short, and hopefully draws Old Students quickly into the Old Student section.

All of the writing has now been edited by 3 different people from 3 different angles. We have looked at interest, brevity, and repeated links to the donation page.

Header for each page of the website-I would like to see a painting of our vision, like the California site. I spoke at length to Stephanie Bower in Seattle. She did the drawings for the Washington site plan, many years ago, and for Green Gulch and Tassajara, among many others. She used to be an architect, and is very familiar with doing drawings for fundraising and site plans. She scans in her painting at high resolution, and we can use it on the website, for cards, for brochures, and we can blow it up into a poster. She does a very loose and airy drawing

The process is that we send her the site plan, some pictures of the site, and any drawings we like. She then establishes a view. To do this, she sends us several sketches. Once we establish the view, she does a line drawing, which more carefully depicts the context. She expects a lot of back-and-forth at this stage. She is very used to working with committees. Occasionally at this stage she needs to go back to the view stage again, but not very often. She is a very experienced at blocking in buildings with very little information. If we tell her West coast style, that is sufficient for her. She asked if we had any particularly emblematic design, like the pagoda. I said that we didn't.

Once the line drawings are agreed upon-and she's used to working with committees on this, then she paints the painting. Once the painting is done,

and she scans it into us. She decides upon a fixed price, between $1200 and $1800, at the beginning. She is free in May to work on this. A meditator has offered to donate for this drawing.

I have already contacted Patrick, the web designer and send him a sample of the California site drawing. He liked it very much. He suggested that we use a ‘panoramic view’.

So I will be coordinating with them, in the beginning of May, and we should have an end product by the middle of June.

Here is a copy of the California vision drawing: